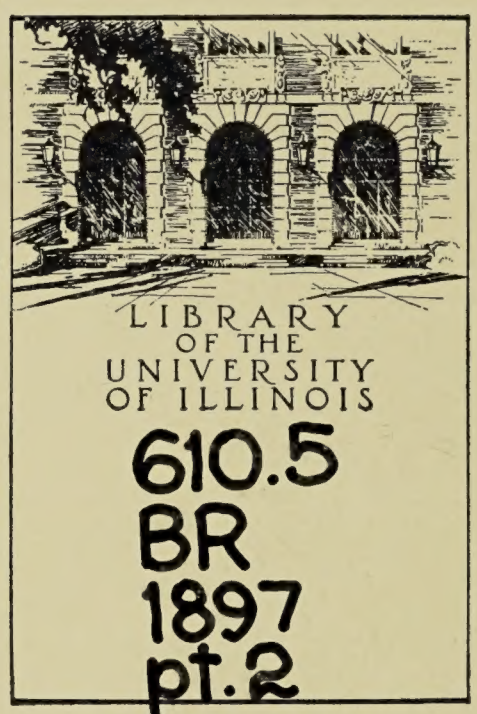

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REMARKS
ON TUMOURS AND ENLARGEMENTS OF THE THYROID GLAND TREATED SURGICALLY.*

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Having during the last few years operated upon twenty-three cases of various forms of enlargement of the thyroid gland, I hope it may prove of interest to give a short sketch of the cases so treated. They arrange themselves in three groups—tumours, parenchymatous goître, and exophthalmic goître; of the first 12 cases, of the second 5 cases, and of the last 6 cases.[1] Tumours and parenchymatous goître are frequently confounded—a reasonable error, since structurally they are often identical, and not rarely are present together. Even Graves's disease in its early stages may be difficult to distinguish from some cases of tumour, as several similar symptoms may be presented by each before exophthalmos is fully developed. Here pathological anatomy is of service to us. The structural changes in Graves's disease are in a way unique, being neither inflammatory, degenerative, nor neoplastic, but more evolutionary as in the lactating mamma. This serves to distinguish it from all other affections of the thyroid. The pathological anatomy explains, too, on the theory that the symptom-complex of Graves's disease is due to the toxic secretions of the altered gland, how it is that similar symptoms may be met with in totally different affections of the gland, if the tissue changes are in any way allied.

General Structural Changes.

The remarks contained in this paper are based upon the cases operated on, together with some half dozen cases of cancer. A careful examination has been made of each specimen, and whether speaking generally or in regard to a special point, I wish to be understood as referring to the results obtained from the examination of my own material, and not as quoting from the work of others, with which in most instances these results are in accord. In this sense the following are the structural changes met with in the epithelium, the connective tissue, and the vascular supply of the gland in the three groups of cases. The epithelium: New gland follicles originate in three ways. 1. By the enlargement of old follicles, and the budding into them of branching epithelial growths from their walls until a complete lobule takes the place of what was previously only a follicle. (Fig. 9.) This intrafollicular hypertrophy is characteristic of Graves's disease, except that it is closely mimicked by typical thyroid carcinoma. 2. By the development of new follicles from gland cells lying between the old follicles. (Fig. 4.) This intrafollicular mode of growth is usual in parenchymatous goître and adenomata. 3. By the budding growth of fœtal thyroid tissue (Fig 6), sometimes met with in adenoma, and possibly originating in "rests," or parathyroid tissue. Normal gland follicles are lined with cubical epithelium. This may become flatter and less active when the follicles distend with colloid matter, and no clear fluid secretion is present, which is the case in parenchymatous goître and the colloid forms of adenoma. (Figs. 3 and 7.) Or the epithelium may elongate and become more active when in the less advanced condition colloid is present in the follicles, but there are droplets of fluid secretion between it and the cells (Fig. 11); and in the more advanced condition colloid is absent and the follicles contain fluid secretion only. (Fig 8.) Elongation and increased activity of the epithelium occurs in Graves's disease and in the soft vascular forms of adenoma. The connective tissue of the gland may increase in the form of a tumour as fibro-adenoma—(Fig. 4)—(as well as pure fibroma and sarcoma, which are both probably very rare). It is also increased in ordinary goître (Fig. 7), and is abundant, highly nucleated, and vascular in Graves's disease. (Fig. 10.) In the later stages of the latter, as in myxœdema, it may be present as a sclerosis. The thyroid is always well supplied with blood, but in the markedly colloid enlargements the vascular supply is relatively lessened. On the other hand, it is increased in Graves's disease, and in some forms of adenoma. (Fig. 8.) Hæmorrhages into the tissue occur frequently in parenchymatous goître and adenoma, but appear rare in Graves's disease, in which I have only once seen it. The vessels may also increase in the form of cavernous tissue, which was present in one of the cases of adenoma. (Fig. 5.)

Minute Structure and Classification of the Adenomata.

Without pretending that these twelve cases of thyroid adenoma cover the entire field, I believe I am fortunate enough to include amongst them what are probably the leading types of innocent glandular growth in this organ. They remind one of other and better known adenomata in their general characters, but they present special features of which the following are amongst the more important:—1. Their structure is generally purely glandular. 2. They are often multiple. 3. They are frequently cystic. 4. Hæmorrhages into them are very common. At first one is inclined to divide them into two chief groups, the cystic and the solid, but such a classification is unscientific, as the cysts are not derived from distended follicles, but except in rare instances are produced by the continuous breaking down of the walls of the follicles, until more or less of the tumour is converted into a cyst. (Fig. 1.) I have only met with one case in which the wall of the cyst was not composed of the remains of what had once been a solid adenoma, and in this case the cyst may have been derived from a blood clot. It is better, therefore, in classifying the adenomata to disregard the presence or absence of cysts, and to take into consideration only those features which constitute a fundamental distinction. My cases suggest the four following types:—1. The colloid type. 2. The mucous type. 3. The fibrous type. 4. The cavernous type. Colloid adenoma is an encapsuled tumour fairly firm to the touch and easily enucleated. It may be multiple and grow to a considerable size, but sets up no symptoms except such as depend upon mechanical causes. Patients generally seek surgical help on account of some impediment to free respiration, perhaps accompanied with giddiness and congestion of the head; or on account of appearance alone. To the naked eye the tumour is very transparent, and has on section a netlike structure, the meshes of which are filled with colloid matter. Small hæmorrhages are common, though this is the least vascular form of goître. This tumour is constantly, or at least generally solid. Under the microscope (Fig. 3) the gland follicles are very large; they are lined with a flattened epithelium, and there are no droplets of clear secretion between the cells and the colloid. Frequently the entire ground substance is composed of colloid matter, and the follicles are only distinguishable as rings of brightly stained nuclei. New follicles are developed from cells which lie between the old ones. Mucous adenoma is soft and fleshy; it is also encapsuled and easily enucleated. It is usually more or less cystic, and frequently contains hæmorrhages. Except in the form of old cysts (bronchocele) it is generally a smaller tumour than colloid

* Being a paper read before the Liverpool Medical Institution.

adenoma; perhaps for the same reason, whatever it may be, that exophthalmic goître, which it resembles, is smaller than parenchymatous goître, which resembles colloid adenoma. These soft glandular adenomata, except when very small or almost entirely cystic, are generally associated with neurotic symptoms, palpitation, and debility, and sometimes even slight exophthalmos. Surgical aid is more sought for these reasons than for mechanical trouble, which is significant. Under the microscope these tumours often also present in parts large follicles filled with colloid matter, but the lining epithelium is longer, and there are droplets of clear secretion between the colloid and the cells, as in Fig. 11. In other parts of the tumour smaller follicles may be found with probably still longer epithelium (short columnar) and no colloid at all. (Fig. 2.) Occasionally fœtal thyroid tissue is present in abundance. (Fig. 6.) In mucous adenoma the gland elements apparently increase both by the development of new follicles from cells lying between the old ones and by the branching growth of fœtal thyroid tissue, but I have seen nothing to suggest that any of the new gland tissue is produced by intrafollicular budding. Fibro-adenoma of the thyroid is a rare tumour, of which I have met with only one example. It occurred as a dense hard tumour, the size of a medium orange, in the thyroid of a woman, aged 47, with a goîtrous family history. It had been growing twelve years. Histologically (Fig. 4) it consisted of dense fibrous tissue in which were dispersed gland vesicles, sometimes near and sometimes far apart. The vesicles commenced as single cells lying loose in the tissue, which divided and subdivided until full-sized follicles filled with colloid matter were formed. A similar appearance as regards the isolated vesicles may be seen occasionally in parts of a mucous adenoma, but the intervening tissue is then of a delicate myxomatous nature, and may originally have been a blood clot. Cavernous growths, whether adenomatous or otherwise, are also rare. The case I met with occurred in a woman, aged 35, as a cyst about two inches in diameter and a second smaller tumour. The latter was entirely composed of fibrous trabeculæ containing cavernous spaces and with fœtal thyroid tissue between them. (Figs. 5 and 6.) The wall of the cyst was composed of a thick layer of young connective tissue having a decidedly sarcomatous appearance, and directly outside it were patches of fœtal thyroid. I shall watch this patient with interest in case it may possibly prove malignant, and related to those rare pulsating tumours of bone occurring in connection with an enlargement of the thyroid gland.[2]

I cannot pass by the tumours of the thyroid without noticing those of a malignant nature, though they are rarely, if ever, remediable by surgical measures. Once in my wards an attempt was made to excise a cancerous thyroid, but it had to be abandoned as impracticable. At different times I have come across about half-a-dozen cases of malignant disease of the thyroid. All proved to be carcinoma, and of the same type: villous growths culminating in imperfect gland follicles, filled with colloid matter. Large tracts of the tumours may have an indifferent structure consisting of unequal-sized cells (possibly chiefly connective tissue), exactly resembling sarcoma; and I think it is chiefly owing to the imperfect examination of specimens that sarcoma of the thyroid has come to be regarded as a form of tumour, at any rate not excessively rare. The more carefully and thoroughly we examine tumours of glandular organs, the less frequently do we find them to be sarcomata. Carcinoma of the thyroid is generally of the scirrhus type, though sometimes it grows abundantly. It has great penetrating power, and a special liability to cause malignant thrombosis of the internal jugular veins. Its metastases are not numerous; beyond the neighbouring glands small patches in the lungs are all I have met with, but the latter are almost constant.

Structural Changes in Parenchymatous Goître.

These, so far as my cases go, resemble the appearances seen in colloid adenoma, though the colloid matter is more limited to the interior of the follicles. The epithelium is flattened, and droplets of clear secretion are absent, or almost absent. (Fig. 7.) The gland, though so large, appears to be functionally quiet. Sometimes the collections of colloid are very large, apparently owing to the coalescence of several follicles. New follicles are developed between the old ones; I have only once seen intrafollicular growth. Partial thyroidectomy was performed in all the cases for mechanical reasons only.

Structural Changes in Exophthalmic Goître.

These are very different. They are characterised by the evident activity of the gland epithelium. When thyroidectomy has been performed at an early stage of the disease plenty of colloid matter is found in the follicles, and it would seem that the first effect of the increased activity of the gland is to distend the enlarging follicles with colloid matter. (Figs. 9 and 11.) The process however does not rest here at all, for the lining epithelium continues to grow and multiply, being in some instances shed into the follicles till they are full of cells, but generally the growth takes a villous character protruding into the enlarged follicle, and growing, branching, and coalescing again, until what was originally a single vesicle becomes a definite lobule composed of glandular acini lined with columnar epithelium and containing only a clear secretion and no colloid matter. (Figs. 9 and 10.) This latter description is evidently the usual structural expression of the increased activity of the gland, but it is not quite constant, and it is puzzling to meet with different appearances. Some specimens are markedly colloid (Fig. 11), and others have myriads of follicles filled with catarrhal-like cells. (Fig. 12.) Perhaps there are colloid, catarrhal, and villous forms, all mere structural varieties or different stages of a pathological change indicating greater secreting energy. The colloid form is not like colloid but like mucous adenoma. The lining cells are elongated and there are clear droplets of fluid secretion between the cells and the colloid matter. (Fig. 11.) There are also tracts where the follicles are small and contain no colloid. Still I have met with one case in which all the clinical features were most marked, yet the gland was translucent from end to end, and I have had another gland sent to me for examination with almost similar characters. New follicles in exophthalmic goître are typically produced by intrafollicular budding, but possibly they originate in other ways as well. In regard to the vascularity of the gland in Graves's disease, as I have already stated, I am of opinion that it is decidedly greater than in other forms of goître, and I have seen some specimens in which the vascularity was in excess of what should be required to meet any increased functional activity sufficient I should say to constitute a condition which might present the clinical features of a vascular tumour. (Fig. 8.) In considering this matter it should be remembered that surgical specimens may differ considerably from *post-mortem* specimens, since the evolutionary changes tend to end in sclerosis, and therefore the more advanced the disease beyond the full development of the affection, the less likely is it to show excessive vascularity.

Relation of Structural Changes to Symptoms.

The theory that the symptoms in Graves's disease are due to toxic products derived from the abnormally abundant secretion of the gland, receives confirmation from a study of the structural changes in adenoma and parenchymatous goître. The five cases of the latter presented no constitutional symptoms, and applied for treatment for conditions the result of mechanical interference alone. In all, the epithelium was flattened, the follicles were filled with colloid, and droplets of fluid secretion were absent, or almost entirely absent. Some of the adenoma cases presented symptoms of mechanical obstruction only; these were the colloid cases, with structure, as in the preceding. Others had constitutional symptoms, which resembled the early stages of Graves's disease—nervousness, instability of the vaso-motor centres, with palpitation, quickened pulse, and sometimes slight exophthalmos. In all these cases the epithelium was elongated or greatly multiplied, and large droplets of fluid secretion were visible in the follicles, containing colloid, whilst many small follicles contained no colloid. The symptoms were relieved by the removal of the tumour in most instances, though in some originally neurotic subjects the cure was less complete. The six cases of Graves's disease presented the characteristic symptoms in various stages. They were all seen by physicians—Drs. Caton, Barron, Abram, and others—and there is no question as to the correctness of the diagnosis. If there were on clinical grounds the pathological specimens would decide the

Fig. 1. Cystic Adenoma; ½ in.

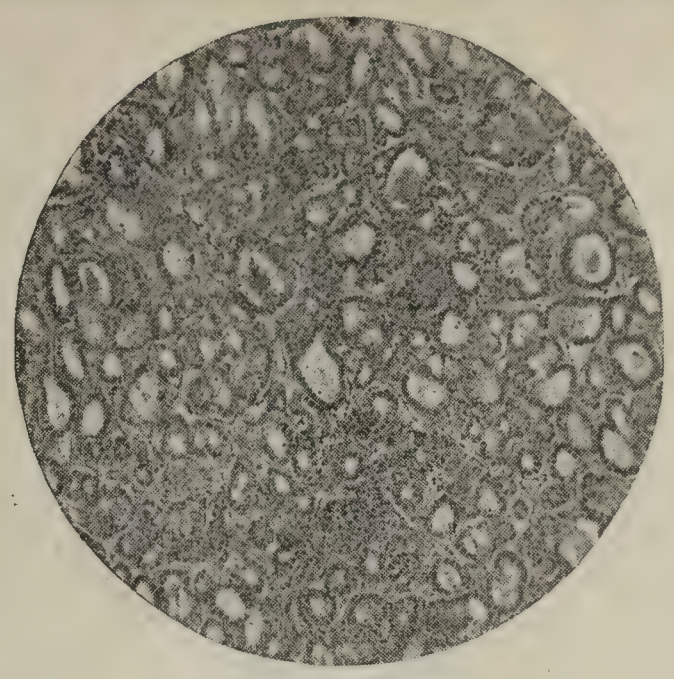


Fig. 2. Mucous adenoma in.

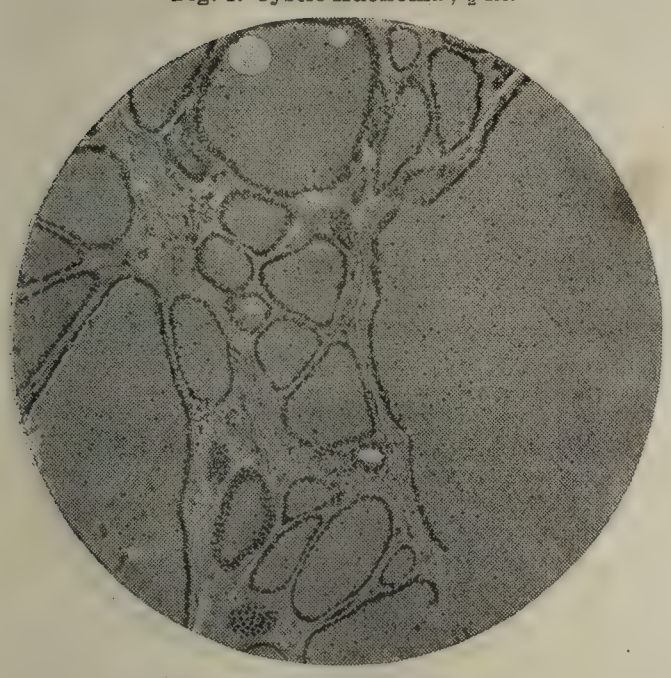


Fig. 3. Colloid Adenoma; ½ in.

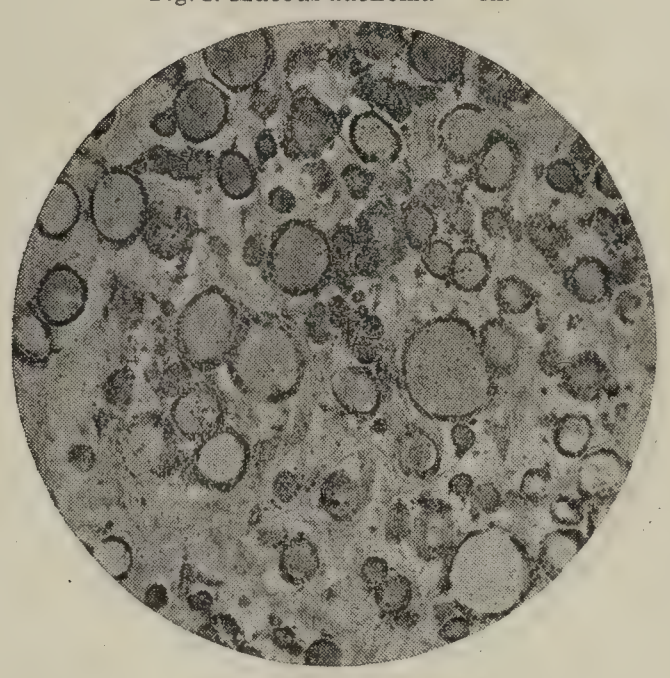


Fig. 4. Fibro-adenoma; ½ in.

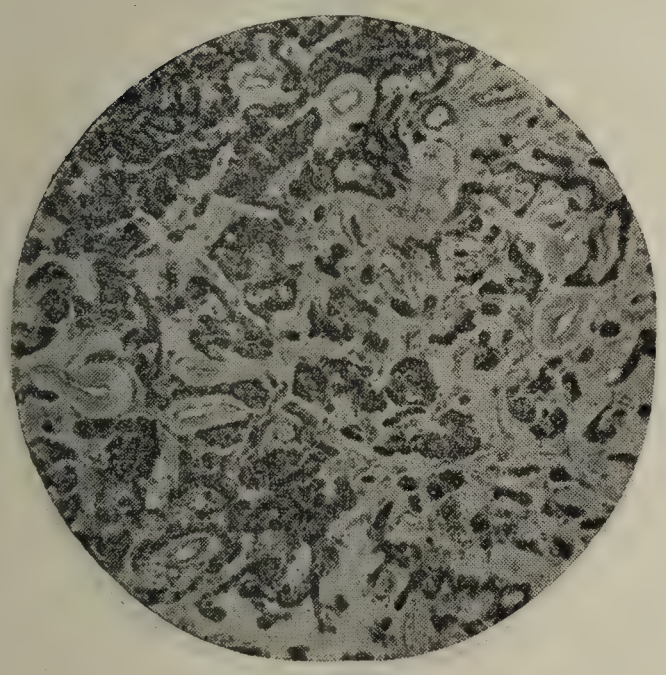


Fig. 5. Cavernous Adenoma; 1 in.

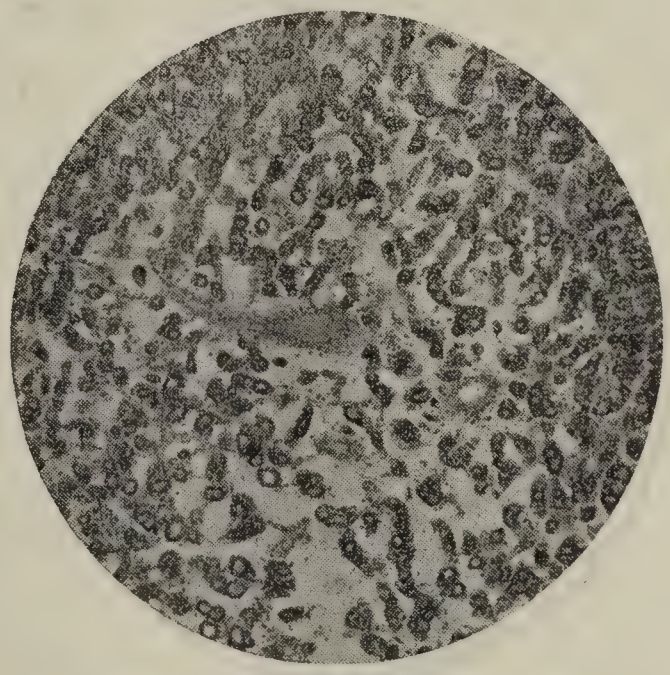


Fig. 6. Fœtal tissue in Adenoma; 1 in.

point in all except the colloid case, and that was such an advanced and striking case clinically, that no room was left for doubt as to the correctness of the diagnosis. The conclusion that constitutional symptoms accompany any large increase in the active glandular elements of the thyroid, whether in Graves's disease or adenoma, is, I think, irresistible.

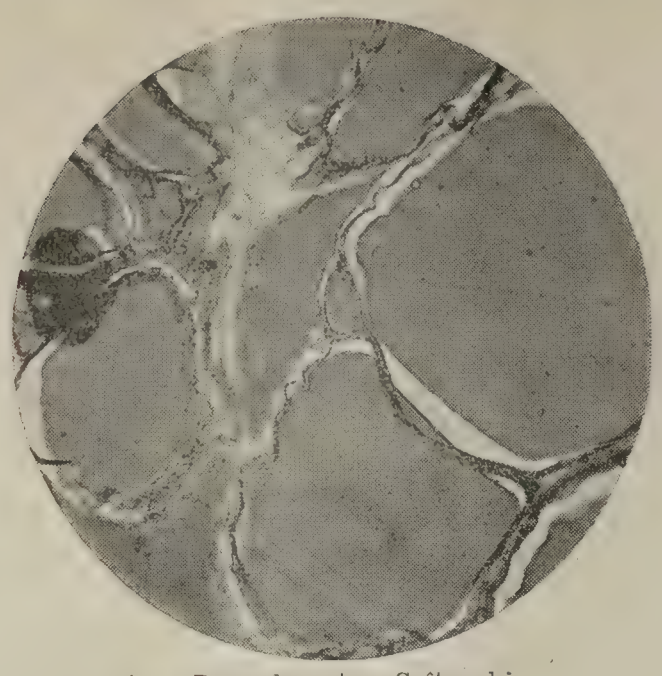


Fig. 7. Parenchymatous Goître; ½ in.

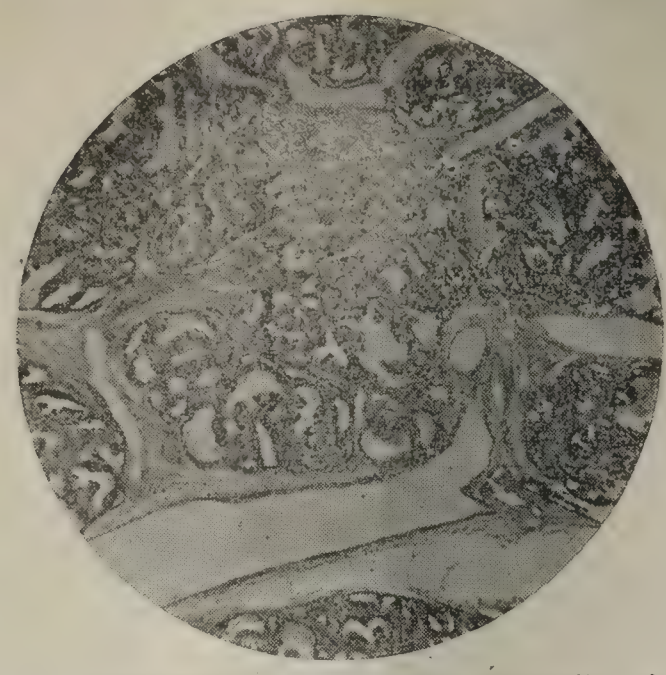


Fig. 8. Exophthalmic Goître, excessive vascularity; 2 in.

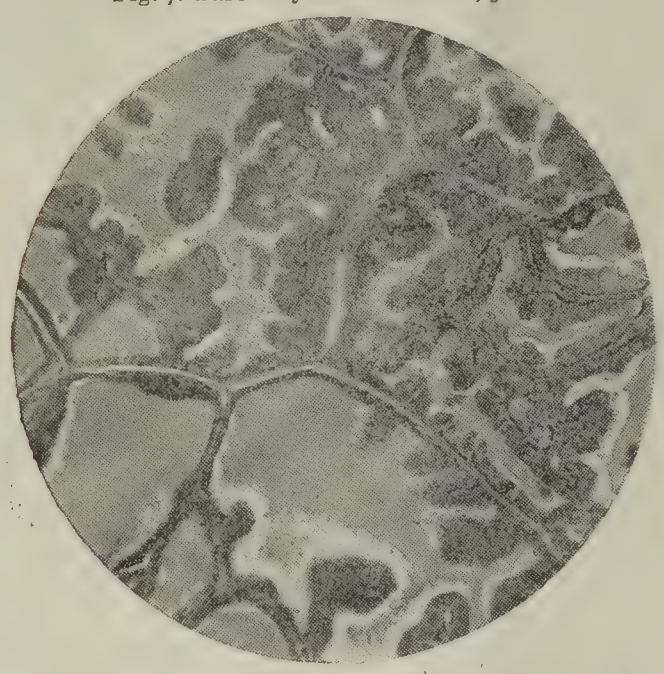


Fig. 9. Exophthalmic Goître, intrafollicular growth; ½ in

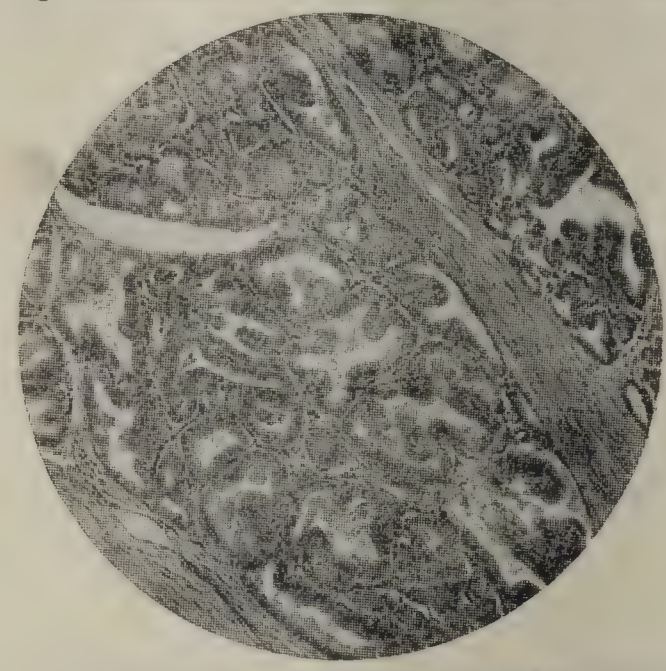


Fig. 10. Exophthalmic Goître, a stage more advanced than Fig. 9; ½ in.

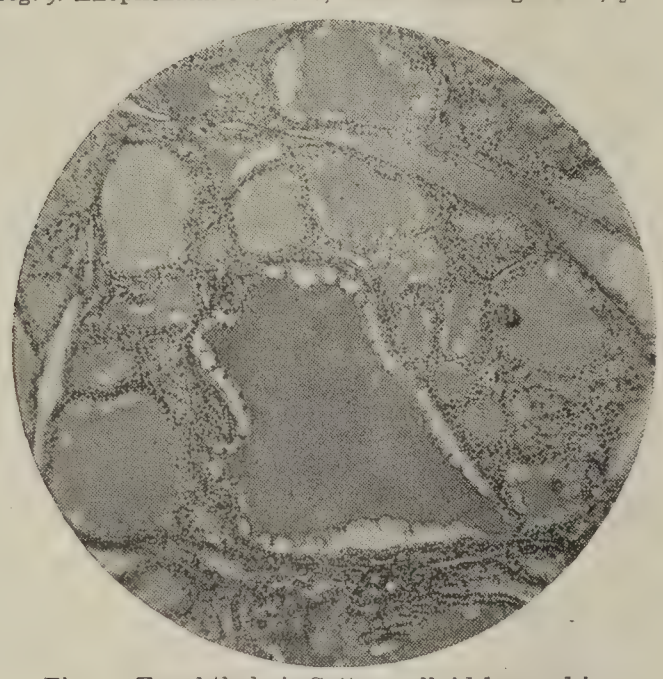


Fig. 11. Exophthalmic Goître, colloid form; ½ in.

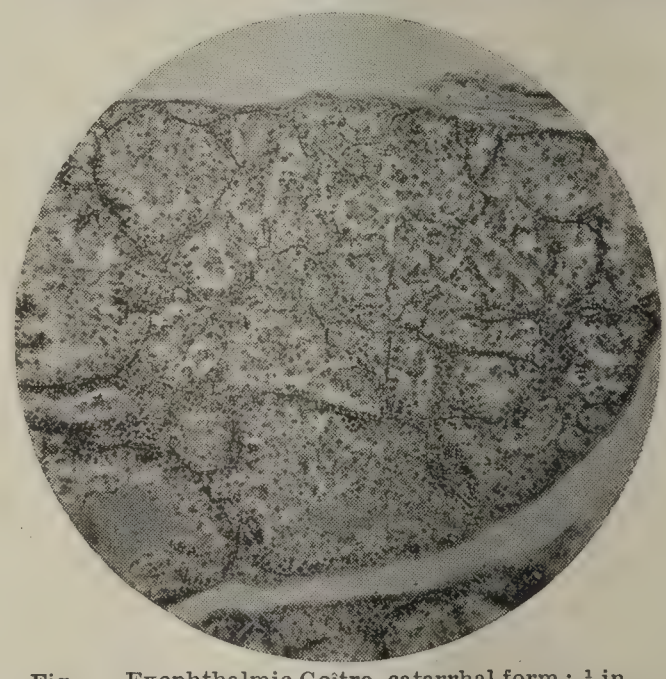


Fig. 12. Exophthalmic Goître, catarrhal form; ½ in.

Surgical Treatment.

I now come to deal with the surgical treatment. This may be divided into cutting operations and other methods, such as counter-irritants, setons, drainage, and injections. In regard to these latter it is not necessary, nor does time permit me to go into detail respecting them. They are either

less efficient or more dangerous than the former, and I have not recently made use of them. Of the major operations there are four varieties:—Thyroidectomy, partial and complete; ligature of the thyroid arteries; exothyropexy, or exposure of the gland with the object of inducing atrophy; and enucleation. Complete thyroidectomy is very rarely employed. It may sometimes be used in cancer involving the whole gland, though there are few places in which cancer is less remediable by operation than in the thyroid. In no other affection do I think it either desirable or justifiable to completely extirpate the gland. Partial thyroidectomy, ligature of the arteries, and exothyropexy are employed in Graves's disease, and in some cases of parenchymatous goître; enucleation only applies to the removol of adenomata. I have only undertaken partial thyroidectomy and enucleation, as these have seemed to be the best means by which to attain the end in view; but I can quite believe that exothyropexy may be usefully employed in some advanced cases of Graves's disease, in which it would be unsafe to attempt excision. Enucleation is the simplest of the operations. It is employed for the removal of all innocent tumours of the thyroid, most of which are encapsuled and shell out easily. In such cases an incision is made, either across the neck in the line of the skin folds as recommended by Kocher, or obliquely as is more usual and generally more convenient. Superficial veins if in the way are divided, the expanded throat muscles displaced or partly divided if necessary, and the surface of the gland exposed. The capsule is now incised and the tumour shelled out, which is generally done without difficulty, and without hæmorrhage. Hæmorrhage is never troublesome in the smaller cases. When the tumour is very large the remains of the gland are lost sight of, and the operation is practically the same as thyroidectomy for parenchymatous goître. In either, with ordinary skill and care, if the respiration is free, and the tumour is limited to the neck, the operation is fairly simple when you have learnt to deal with the hæmorrhage. By fearing this too much one loses time in trying to secure every vessel, and the end is not gained for more blood is lost also. I like to make a free and convenient incision, fully expose the surface of the tumour and work quickly round it, keeping clear as far as possible of the large vessels running in the capsule. When these must be cut, first clamp them on the distal side, and if convenient do so on the tumour side as well. All large vessels except the main arteries bleed chiefly from the tumour side, but unfortunately the tissues of the capsule are liable to be so delicate that the compression forceps tear away, and then perhaps two or three branches are opened and the trouble is increased. I have found that hæmorrhage from the gland side is best arrested by grasping the tumour, as will be referred to again shortly, pending the securing of the arteries. One has to remember that these large capsular veins are very thin walled, and when dragged on are empty and invisible, and if carelessly cut bleed copiously before they can be secured. On the distal side they may perhaps not bleed until the wound has been closed and the patient put to bed, when coughing or vomiting may cause a sudden or copious hæmorrhage. Hence it is a good thing, when the tumour is large and vascular, if the patient can be made to strain before the sutures are put in, and for this as well as other reasons I have never objected to the use of ether in these operations and have often preferred it in Graves's disease. When dealing with a tumour, one first works beneath which ever side comes out easiest. In goître the upper and lower horns are first cleared and dislocated out of the wound, the superior and inferior thyroid arteries being secured at the same time. As one gets near the trachea it is necessary to keep close to the tumour in order that the recurrent laryngeal nerve may not be injured. At this stage I sometimes continue to work in the same direction, that is on the under side of the tumour turning it across the neck and dividing the isthmus from beneath, but in other cases it is easier after clearing the outer part of the tumour to replace it, cut the isthmus, and remove it from the trachea in the opposite direction. No doubt, one should be very careful of the recurrent laryngeal nerve, but I very rarely see it during the operation, and have certainly never injured it. As regards the isthmus I used to ligature before dividing it, but this is not often necessary.[3] In exophthalmic goître thyroidectomy is undoubtedly a more serious operation, and I never undertake any but quite early cases without a feeling of anxiety. There are three reasons for greater difficulty in Graves's disease:—1. The patients are much less fitted to bear a serious operation. 2. The gland usually has no tendency to shell out, but requires dissecting from the neighbouring tissues. 3. The hæmorrhage is much more difficult to control. In the first place patients must be selected with due care, and division or excision of the isthmus, or possibly exothyropexy (of which I have no experience) substituted for thyroidectomy when the latter seems too severe. The close connection of the enlarged thyroid with the surrounding tissues not only prolongs the operation, but is the chief cause of the greater difficulty in controlling hæmorrhage. To recommend the surgeon to keep well outside the capsule is good advice, but in those cases in which the capsule is blended with the surrounding tissues the advice is practically meaningless. To clear the gland the vessels must be cut, and though they are easily controlled on the distal side, neither ligatures nor forceps will stop on the gland side, they often only tear the capsule and make the bleeding worse. The way to deal with it is simply to take the gland in the left hand, squeeze it dry like a sponge, and continue to squeeze it until the thyroid arteries are secured. Of course, this leaves only one hand free to operate with, but that is sufficient when you have, as is always necessary, an assistant. Apart from the greater difficulty in securing vessels in exophthalmic goître there are many more to secure, and it is well when a surgeon is able to train himself in thyroidectomy for other purposes before he is called upon to undertake the operation in an advanced case of Graves's disease. The other necessary details are not special to thyroidectomy, and, therefore, need not be described. In regard to these cutting operations enucleation is simple and in every way satisfactory. It may always be recommended with the same confidence that we would recommend the excision of an adenoma of the breast. Thyroidectomy is a more severe operation. In small parenchymatous goîtres it is quite straightforward, and almost devoid of danger; but it becomes both difficult and dangerous in large or awkwardly situated goîtres. In exophthalmic goître it is certainly dangerous, and is perhaps not to be recommended in advanced cases, at any rate until the milder measures of division or removal of the isthmus or exothyropexy have been tried and failed. It is assumed, though I rather doubt it, that either of them would render a subsequent thyroidectomy more easy and safe.

CASES.

Adenoma.

I. Mrs. C., 39, 8 children. No goître in family. Small lump growing in right lobe of thyroid for four months without symptoms. Enucleated September 1891. Tumour was a cyst the size of a walnut with thin muco-adenomatous wall. (Fig. 1.) No recurrence. Now in excellent health.

II. Mrs. H., 36, children. No goître in family. Noticed lump growing in right lobe of thyroid for two years. Patient of neurotic type; debility; tight sensation in throat. Enucleated May 1895. Mucous adenoma size of small egg, partly cystic. Health improved at first, but neurotic symptoms continued. Recently albuminuria. The only unsatisfactory case of adenoma.[4]

III. K. J., 13, born at Cape Town. Delicate type of girl. Swelling in middle line of neck low down coming six months; gradually increasing dyspnœa, general health failing, nervous, excitable, quick pulse. Enucleated May 1895. Mucous adenoma size of an egg, partly cystic. (Fig. 2.) Marked improvement rapidly followed the operation. Health excellent, since become quite a strong girl.

IV. Mrs. G., 47, goîtrous family. Had a swelling in the right lobe of the thyroid since a girl. Growing more rapidly recently and obstructing respiration. General health good. Enucleated September 1895. A dense hard fibro-adenoma size of an orange. (Fig. 4.) Quite well since.

V. Mrs. C., 37, 12 children. No goître in family. Lump growing on left side of neck for 12 years, recently more rapidly. Obstructing respiration and circulation, but no constitutional symptoms. Enucleated September 1895. Large solid colloid adenoma 12 inches in circumference. (Fig. 3.) November 1896 writes is in best of health.

VI. M. F., 28, servant. Small adenoma in left lobe of thyroid. Some neurotic symptoms. Enucleated December 1895. Solid, mostly colloid, small follicles with numerous cells between them. Writes been in very good health since the operation.

VII. L. P., 39. No goître in family. Soft adenoma in left lobe of thyroid growing 5 or 6 years. Health steadily getting worse, neurotic symptoms, debility. Enucleated January 1896. Solid mucous adenoma size of small egg. Marvellous improvement rapidly followed operation, then health fell off somewhat owing to home trouble, but improved again later.

VIII. Mrs. B., 53. No goître in family. Lump in middle line of neck 13 years. Increasing last 2 years. Tumour pulsates violently. No constitutional symptoms except some debility, has had home worries lately. Enucleated February 1896. A large cyst with old adenomatous wall partly calcified, measured 5 by $3\frac{1}{2}$ inches. No difficulty with hæmorrhage,

pulsation all communicated. Her doctor writes she has been altogether better since the operation.

IX. J. B., 39. Goîtrous family history. Goître noticed since 12, slowly increasing. During last year grown rapidly and pressed on trachea. No constitutional symptoms. A large parenchymatous goître with encapsuled adenomata in the middle line. June 1896 enucleated three adenomata, largest size of orange. All colloid type. The goître was not interfered with. The doctor reports much relieved, general health better, no obstruction to respiration, but not quite gained original health yet.

X. E. L., 25. No goître in family. Soft tumour growing in left lobe of thyroid last five years. Marked constitutional symptoms, giddiness, palpitation, flushing, headache, general nervousness, and incapacity to attend to her duties. September 1896 enucleated a soft vascular mucous adenoma, size of a large egg, and partly cystic. Doctor writes some symptoms almost completely relieved, in others marked improvement.

XI. M. P., 35. No goître in family. Adenoma growing in left lobe of thyroid near middle line for five years. Slight constitutional symptoms. Enucleated September 1896. Cyst size of small egg with smaller tumour adjacent. The cyst had sarcoma like wall, outside which were thyroid remains, and small masses of fœtal thyroid tissue. (Fig. 6.) The smaller tumour was a soft, spongy, cavernous growth, with fœtal thyroid tissue scattered through it. (Fig. 5.) Discharged well in a fortnight, and remains well up to the present.

XII. M. S., 31. No goître in family. Adenoma growing in left lobe of thyroid near middle line during last 5 years. No constitutional symptoms. Enucleated November 1896. A solid colloid adenoma the size of an orange. Discharged well.

Parenchymatous Goitre.

I. E. J., 24. No goître in family. Good health until four years ago when tonsils enlarged. More recently thyroid has been enlarging with slight dyspnœa, and a sense of fulness in the neck. A small goître. December 1895 right half removed. Usual colloid type with flattened epithelium. States now that she has been well ever since the operation. Married last April. Looks well. Opposite lobe has atrophied, and is not much larger than normal, just noticeable.

II. A. G., 39. No goître in family. A very large parenchymatous goître coming since 14. Increased more rapidly last 12 months. No constitutional symptoms. Difficulty in breathing on exertion, and faintness or rather giddiness on stooping. July 1896 isthmus and right lobe removed. The usual colloid goître with flattened epithelium. (Fig. 7.) Now health much improved, considers herself quite well, and is able to do all her household work. The opposite lobe, which was also very large, has diminished remarkably in size, being only about one-fifth what it was.

III. M. G., 17. No goître in family. Had the lump as long as she remembers. Getting larger lately and causing dyspnœa on exertion. No constitutional symptoms. A rather small parenchymatous goître. October 1896 excised left lobe. Recovered well.

IV. Mrs. S., 26, children. No goître in family. Tumour in neck coming last 2 years. Recently middle lobe grown considerably; grown upwards as a pyramid. No symptoms. October 1896 exised middle and left lobes each about three inches long. Typical colloid goître. Opposite lobe underwent atrophy at once, and was only just visible when she left the hospital three weeks after the operation.

V. Mrs. B., 33. A healthy woman with goîtrous family history. Tumour coming five or more years. Dyspnœa, no other symptoms. A large goître, nearly as large as A. G., measured 17¼ inches round neck. November 1896 excised right lobe. Usual colloid type. Recovering.

Exophthalmic Goitre.

I. J. B., 23, school-teacher. A subacute case, symptoms only moderately severe, coming on about two years. Thyroid rather large for Graves's disease, exophthalmos only moderately marked. Getting worse and becoming unfitted for her work. December 1893 a small isthmus was excised. Healed quickly, and at once went back to work. Improvement very slow, but gained instead of losing ground. Has remained at her post ever since, and Dr. Barron who sent her to me states that she is now very much better, nervous symptoms almost gone, and able to do her work quite well.

II. Miss F., 20. An acute case. Symptoms coming on two years, now all very marked. Temperature often 101°, pulse 140° to 160°. October 1895 right lobe excised. Recovered well. Immediate marked improvement in all symptoms. Left lobe rapidly declined in size, and within a week slept with eyes closed. Temperature fallen to normal, and pulse to 100°. This case was the colloid type of exophthalmic goître previously referred to. (Fig. 11.) She is now considered very fairly well by her friends, and has put on a good deal of flesh, but she is very nervous, and has decided exophthalmos, also there is some suspicious firm œdema of the legs. The left half of the thyroid has remained about the size of a bantam's egg. This case is much the least satisfactory of the six.

III. A. W., 33. A fireman on board a P.S.N.C. steamer. Symptoms coming on three years, started by a great fright owing to the wrecking of his steamer. Symptoms all decidedly marked without being of a very severe type. Had to knock off work three weeks before reaching home, and was told by the doctor that he could not be taken again. February 1896 excised right lobe. Recovered well. Was very pleased with himself, and determined that he would go back to his old work. Seen in November. Has been two voyages and worked as a fireman throughout the whole of each. During the first the work was trying, but managed it easily during the second. Still has slight exophthalmos, but looks strong, and says he is quite well.

IV. Miss R., 36. Symptoms coming on three years. Augmented by influenza a year ago, and again later by the extraction of several teeth. Now a typical case with marked exophthalmos, worse than I. or III. but not as bad as II. February 1896 excised right lobe. Healed rapidly and went home in a fortnight. Seen in July. Much stronger, no palpitation, gaining weight, less exophthalmos. In November writes "I now feel almost my old self again." (Fig. 8.)

V. C. McC., 29. Symptoms coming on two years following an attack of bronchitis. Thyroid large for Graves's disease, especially isthmus. All chief symptoms present including *bruit* over tumour and heart. July 1896 removed the large isthmus size of a walnut. Discharged sixteen days later, general condition improved, left lobe already much smaller, right not much altered. November, seen at her home laid up with feverish cold. Exophthalmos much less. Two lobes of gland separated 1½ inches, both much smaller but several times their normal size. States that her general health has much improved, is able to do house work, and feels that she is gradually getting all right again. (Fig. 9.)

VI. E. W., 22, travelling saleswoman. Always had very good health until six months ago, and looks as though she had been a robust girl. Now becoming unfitted for her work at which she is greatly distressed as she has a good post. All the characteristic symptoms including *bruit*, but not in a severe form. Thyroid moderately enlarged and very hard in parts, the only case in which the gland was hard. July 1896 excised right lobe. Very little blood lost, report says not an ounce. Discharged on ninth day with wound healed. Seen recently after travelling through South Wales. She has been fully employed in responsible work, is bright and cheerful, and very pleased with the improvement in her health. Left lobe much atrophied, but still visible. Exophthalmos not very noticeable now. Nerves strong. *Bruit* and von Graefe's sign disappeared. (Fig. 10.)

Conclusions.

To sum up the results of the treatment, we have it first as a fact that in twelve cases, tumours weighing up to ¾ lb. were removed, and in eleven cases, portions of the gland, some of considerable size, were removed without a fatality.[5] Healing was rapid in all, only a few patients being under surgical treatment more than about a fortnight. There were six cases of adenoma in which the patients complained of constitutional symptoms, and in all of them young, active gland tissue was present; and six in which the symptoms were *nil* or of mechanical obstruction only. In these the tumour was very small, colloid, fibrous, or almost entirely cystic, that is to say, they were tumours in which there was little or no active secreting epithelium. The patients suffering from mechanical obstruction only were of course entirely relieved by the operation, whilst those suffering from both mechanical and constitutional symptoms were cured of the former and relieved or very much improved in regard to the latter. I consider the operation for the removal of thyroid adenoma a complete success and worthy to be recommended in all cases. Of the five cases of parenchymatous goître only two have been operated on sufficiently long to pronounce an opinion. These were a class of cases in which I was not at all disposed to urge operation, unless the mechanical interference was such as to render relief imperative, as there are no constitutional symptoms; but if the result obtained in these two is maintained—that is perfect health and atrophy of the opposite lobe—I shall be willing to go further in parenchymatous goître than my original position. If a patient can be relieved of the unsightly mass without serious danger, and without risk of myxœdema, why should it not be done to improve appearance? Finally, in regard to exophthalmic goître, I consider the operation in these cases as still on its trial. At best, perhaps it is only worthy of a position like that we accord to operations for cancer. It is a case of treating symptoms. No doubt a very proper thing to do when nothing better is available, but never altogether satisfactory. In regard to the danger of thyroidectomy in Graves's disease, although my six cases have recovered, I certainly do not shut my eyes to the fact that this element has to be contended with. It is present in every case in which the disease is at all advanced, and, though experience helps us to meet it, I feel sure, from what I have seen, that we may all expect on occasion to have to reckon unsuccessfully with it. In regard to the results, they seem to be satisfactory. This is a new disease to the surgeon, and my previous acquaintance with it is slight. The immediate effect of the operation is a marked amelioration in all the symptoms. In some cases the first improvement is so decided, little short of remarkable, that I think there can be no doubt it is directly due to removal of thyroid tissue. If one only followed such cases for a month one would observe the results as "cures;" but, after the temporary rapid improvement, the progress may be slow, and up to the present the whole of the symptoms have not completely disappeared in a single case. I feel one must wait three or four years before passing a final judgment, both on the score of permanency as to benefits obtained, and as to the possibility of encouraging a tendency to myxœdema. The six cases have all been unquestionably benefited. The teacher has continued her work for three years uninterruptedly since the operation. The fireman has had two three months' voyages without knocking off work for a day, and felt much stronger the second voyage. The saleswoman is also back at

work in a responsible position, and able to acquit herself well. Of the other three, one, in which only a middle lobe or enlarged isthmus was removed, has improved very slowly, and only does housework at home. The other two are young ladies; one, the younger and more delicate type, is quite pleased with herself, but is evidently far from well yet; the older and stronger lady is certainly very much improved, and considers that she has regained her old health. I think this is putting matters at their best; and, although it is not quite as definite and satisfactory as one would like, it is sufficient to encourage me to continue the operation in all suitable cases. In adenoma the success is all one could wish, and I believe one might almost say the same in regard to parenchymatous goître; but in Graves's disease the circumstances are different, and I should be sorry if, by painting the results in too glowing colours, I encouraged anything like reckless operating in so serious a condition.[6]

NOTES.

[1] These have since been doubled. [2] It has not recurred. [3] Have since had reason to believe it to be very necessary. [4] Just seen accidentally, looking very well, and says she is very well; so there may be some mistake in regard to the unsatisfactory report. [5] Since writing this paper, I have had the misfortune to lose a case of parenchymatous goitre, which I will report later. The case was complicated by advanced idiopathic cirrhosis of the liver. [6] Since this was written the improvement has been very marked in all the cases of Graves's disease.

A LECTURE ON YELLOW FEVER, WITH A DESCRIPTION OF THE BACILLUS ICTEROIDES.

Delivered before the University of Montevideo on June 10th, 1897.

BY PROFESSOR G. SANARELLI,
Director of the Institute of Experimental Hygiene of the University of Montevideo.

[TRANSLATION.]

[AFTER some preliminary observations on the history of yellow fever and on its clinical symptoms, Professor Sanarelli proceeded to give the results of his own investigations as follows:]

CLINICAL AND ANATOMICAL INVESTIGATIONS.

The material of my studies I procured partly at the lazzaretto of the Island of Flores, where during last summer I installed a small laboratory for the investigations on the sick, or on the cadavers of individuals coming from the Brazilian ports, and who were taken ill during the voyage; in part at the hospital of St. Sebastian of Rio Janeiro, where, thanks to the kindness of the excellent director, Dr. C. Seidl, and of his able colleagues, Drs. Fajardo and Couto, I was able to instal myself conveniently, and to devote more than a month to clinical, anatomical, and bacteriological researches.

BACTERIOLOGICAL INVESTIGATIONS.

The bodies of those who die of yellow fever (icteroid typhus) are either altogether sterile, or are entirely invaded, by certain microbic species, such as the streptococcus, the staphylococcus pyogenes, the coli bacillus, the protei, etc., which cannot in any way be considered as the cause of the malady, or by a mixture of microbes, of which the isolation alone, the classification, and the study require such an amount of labour as to render accurate systematic research impossible.

I believe it superfluous, then, to recount the ways by which I arrived at the recognition of the microbe of yellow fever; I owe this good fortune to the second case of yellow fever I met with in the Island of Flores. This case presented, in a state of relative purity, the specific microbe to which I subsequently gave the name, not altogether proper, but sufficiently expressive, of "bacillus icteroides," because yellow fever is also called icteroid typhus.

I have said in a state of relative purity, because yellow fever presents the prototype of diseases with mixed infections. In the eleven necropsies that I made, I have never met with the bacillus icteroides alone; it was at least associated with the coli bacillus, staphylococci, or the streptococcus. In the second case, at the Island of Flores, it was only associated with a small quantity of coli bacilli, and in the eighth, studied at Rio Janeiro, with staphylococcus aureus.

In all the other cases, I either found it mixed, in a large minority, amongst numerous common microbic species, or I was not able to find it owing to the cadavers being completely invaded by other microbes, which, as we shall subsequently see, after having succeeded, owing to the action of the bacillus icteroides, in invading the organism, eventually injure or cause the total disappearance of the specific microbe.

I would briefly premise that the bacillus icteroides must be sought for in the blood and tissues, and not in the gastro-intestinal cavity, where, contrary to what might *a priori* be supposed, it is never found. In fact, in yellow fever the digestive canal becomes the seat, as in typhoid fever, of an exaggerated pullulation of the coli bacillus, which is met with in a state of almost absolute purity.

According to the results of my researches, the isolation of the specific microbe of yellow fever is only possible in 58 per cent. of the cases, and in some rare cases may be effected also during life. The reasons why in every case of yellow fever one cannot isolate the specific agent are easy to understand. In the first place, at the beginning of the disease the bacillus icteroides multiplies very little in the human organism, a small quantity of the toxin, as we shall see later, being sufficient to develop in man the very grave picture of the complete disease. In the second place, the toxin, either by itself, or indirectly by means of the profound lesions that it determines, above all in the digestive mucosa and the liver, facilitates in an exceptional way secondary infections of every kind. Such secondary infections may sometimes assume the type of true and special septicæmiæ, with coli bacillus, streptococcus, staphylococcus, etc., capable of killing the patient by themselves alone. At other times they occur mixed, so that, in the last stages of life, they may transform the individual into a true culture of almost all the intestinal microbic species.

Finally, as the result of my observations, that the bacillus icteroides is found in the circulating blood and in the interior of the tissues, and that it is never found in the gastro-intestinal contents, it must be held, contrary to what is at present supposed, that the virus of yellow fever does not reside in the digestive tube, and that therefore its poison, instead of being absorbed through the intestinal walls, is manufactured in the interior of the organs, and in the blood itself.

THE BACILLUS ICTEROIDES.

This bacillus at first sight presents nothing morphologically characteristic. It is a little bacillus with rounded extremities, for the most part united in pairs in the culture, and in small groups in the tissues, from two to four-thousandths of a millimetre in length, and as a rule two or three times longer than broad. It is very pleomorphous. A search for it in the tissues does not give good results, excepting in the cases in which the death of a patient occurs without secondary septicæmias. Even in the cases which on bacteriological examination give the purest results, it is not easy to see it in the sections of the tissues owing to the number being sometimes extremely small. Yet, by employing suitable methods, one can find it in the organs, usually united in little groups, always situated in the small capillaries of the liver, kidneys, etc. The best means for demonstrating not only its presence, but also the special tendency it has to be localised in small groups in the blood capillaries, is to place a fragment of liver obtained from the body whilst fresh, in the incubator at 37°C. for twelve hours; this favours the multiplication of the specific microbes.

The bacillus of yellow fever develops sufficiently well on all the ordinary nutritive substances. In plate culture in ordinary gelatine it forms roundish colonies, transparent and granular, which during the first three or four days prevent the appearance of leucocytes. The granulation of the colony becomes continuously more marked, and usually a central or peripheric nucleus, completely opaque, is delineated. With time the entire colony becomes opaque, but does not liquefy gelatine. Streak cultures on gelatine solidified obliquely, forming brilliant opaque little drops similar to drops of milk.

In meat broth it develops slowly, without forming a pellicle or flocculent deposits. On solidified blood serum it grows in an almost imperceptible manner.

The culture on agar-agar, unlike what is observed with the greater part of the known pathogenic microbes, presents for the bacillus icteroides a diagnostic means of the first importance. When the colonies develop in the incubator they assume an aspect which does not differ from that of many other microbic species—that is, they are roundish, grey, a little iridescent, transparent, with a smooth surface and regular margins. If instead of making them grow at a temperature of 37° C. they are left to grow at a temperature of 20° to 22° C., the colonies are like drops of milk, opaque, prominent, and with pearly reflections, completely different from those developed in the incubator. This different manner of development can be utilised by exposing the cultures for the first 12 to 16 hours to the temperature of the incubator, and then keeping them for 12 to 16 hours more in that of the room. The colonies then show a flat central nucleus, transparent and bluish, and surrounded by a prominent and opaque zone, the whole resembling a drop of sealing wax. As this character, which for the present may be considered specific, can fortunately be obtained, even in 24 hours, it serves to establish, in the most rapid and certain manner, the bacteriological diagnosis of the bacillus icteroides.

Besides these morphological characters, which are sufficient to differentiate the microbe of yellow fever from all those that are at present known, the bacillus icteroides is endowed with some interesting biological properties. It is a facultative anäerobe, does not resist Gram's stain, slowly ferments lactose, more actively glucose and saccharose, but is not capable of coagulating milk; it strongly resists drying, dies in water at 60°, and is killed in 7 hours by the solar rays, but lives for a long time in sea water.

Pathogenic Properties in Animals.

The specific microbe of yellow fever is pathogenic for the majority of domestic animals. In fact, whilst birds are completely refractory, all the mammals with which I have experimented are more or less sensitive to the pathogenic action of the bacillus icteroides.

It kills *white mice* in 5 days, causing a general septicæmia, with fatty degeneration of the liver.

In *guinea-pigs* it produces, in very small or large doses, a cyclical febrile disease, which always ends in death after 8 to 12 days. The infection can take place by any path, even by the respiratory passage. The microbes, as soon as they penetrate into the organism, chiefly collect in the spleen, where they remain during the evolutionary cycle of the malady, without notably multiplying. After 6 to 7 days they suddenly invade the circulation, enter into a period of active proliferation, and kill by septicæmia. The lesions found *post mortem* are hypertrophy of the thymus gland, splenic tumour, axillary and inguinal adenitis, and hepatic lesions, solely in chronic cases, which are very rare. Less frequently, enteritis, nephritis, and albuminuria are encountered; finally, hæmorrhagic effusion of the serous membranes is observed very rarely.

The *rabbit* is still more sensitive than the guinea-pig to the action of the icteroid virus. Whatever be the dose of this virus, and in whatever way it penetrates into the organism, it infallibly kills after a cyclical disease, which lasts 4 to 5 days after infection by the subcutaneous tissue; 2 days only if the inoculation was made directly into the blood. The evolution of the infective process is in this case identical with that described above in the guinea-pig. In regard to the constant anatomical lesions, they are represented, as in the guinea-pig, by splenic tumour, hypertrophy of the thymus gland, and adenitis. Besides this, the icteroid virus is capable of determining in the rabbit nephritis, enteritis, albuminuria, hæmoglobinuria, and various hæmorrhagic manifestations in the serous cavities.

But the animal that lends itself better than any other to exhibit the strict anatomical and symptomatological analogies of experimental yellow fever with human yellow fever is the dog. Injection must be effected by the veins, and the diseased process which results is almost immediately manifested with such violent symptoms and such complex lesions as to recall the clinical and anatomical picture of human yellow fever. The most prominent symptom in experimental yellow fever of the dog is vomiting, which begins directly after the penetration of the virus into the blood, and continues for a long time, as if the animal were under the influence of an energetic emetic. After the vomiting hæmorrhages appear, the urine is scanty and albuminous, or there is suppression, which precedes death a little. Once I observed grave jaundice. At the necropsy highly-interesting lesions are met with, inasmuch as they are almost identical with those that are observed in man. Above all, the profound steatosis of the liver strikes the attention. The hepatic cells, even when examined fresh by means of a little osmic acid, appear completely degenerated into fat, like those of individuals who die of yellow fever. The amarylligenous toxin is in reality, as we shall see later on, a true specific poison of the hepatic cells, like phosphorus and arsenic. A complete steatosis of the organ can be produced by injecting directly into it, through the abdominal walls, a fresh culture of the specific bacillus. Besides the liver, the renal tissue, which is the seat of an acute parenchymatous nephritis, and which must be considered as the immediate cause of the anuria and the uræmic intoxication, presents a grave fatty degeneration. In fact the blood of dogs which die of experimental yellow fever contains a quantity of urea equal to that which is met with in animals completely nephrotomised, or in the severest cases of human yellow fever. The whole digestive apparatus is the seat of the gravest hæmorrhagic gastro-enteritis that can be imagined; comparable solely to that provoked by poisoning with cyanide of potassium. This hæmatogenous gastro-enteritis is then perfectly analogous to, perhaps more severe than, that which is observed in man. In the majority of cases the bacillus icteroides is always found in the blood and organs, in variable quantities, but in a state of absolute purity. Sometimes, however, I found it associated with the coli bacillus and the streptococcus, as in man.

As I have also observed this tendency to secondary microbic invasions in studying amarylligenous intoxication in dogs, obtained with filtered cultures alone, it must be concluded that the amarylligenous poison either by itself, or through the alterations that it provokes in the different viscera, and above all in the liver, which, as is known, is universally considered as an organ of defence against microbes, favours the secondary infections in the dog, having perhaps their point of departure in the intestinal canal itself. This constitutes an important point of bacteriological contact between yellow fever in the dog and in man.

The experiments performed in *monkeys* also present great interest, inasmuch as they demonstrated the possibility of obtaining in these animals fatty degeneration of the liver, still more grave than that observed in man. In one case the liver was completely transformed into a mass of fatty substance similar to wax. In the monkey, as in the dog and man, the disease frequently ends with the bacteriological appearance of a mixed infection, with staphylococcus or streptococcus.

Goats and *sheep* are also very sensitive to the icteroid virus, and the same complex phenomena, indicated as specific in other animals, are repeated in them. Besides the grave fatty degeneration of the liver, which is never absent, nephritis, anuria, uræmic intoxication, and mixed infection are observed.

From the results of this first part of the research regarding solely the morphology, biology, and the comparative pathology of the bacillus icteroides, certain fundamental conclusions concerning the etiology and the pathogeny of human yellow fever may be drawn:—

1. Yellow fever is an infective disease due to a well-defined micro-organism, capable of being cultivated in our ordinary artificial nutritive media.

2. This micro-organism, which I have provisionally called bacillus icteroides, can be isolated not only from the cadaver, but also during the life of the patient suffering from yellow fever.

3. Its isolation generally presents almost insurmountable difficulties, due partly to the constant intervention of secondary infections, and partly to the relative scarcity with which it is encountered in the organism.

4. Such secondary infections, nearly always due to determinate microbic species, as the coli bacillus, the streptococcus, the staphylococcus, etc, may burst into the organism even a long time before the death of the patient, and thus death is sometimes due more to them than to the action of the bacillus icteroides.

5. It is probable that one of the causes which give to the yellow fever of man its protean character is the nature and the manner of development of these secondary infections.

6. The yellow fever infection, as much in man as in the lower animals, represents a disease with a cyclical course. During this period the specific microbe is found in the organs in very small numbers, and it is solely at the end of the cycle, about the seventh or eighth day, that it multiplies rapidly, and invades almost suddenly the whole organism, generally accompanied by other microbes, probably coming from the intestines.

7. Only in cases which terminate in this manner—that is to say, which regularly complete the disease cycle—can the specific microbe, diffused in the blood and organs, be found with comparative facility. When an intercurrent septicæmia, or a precocious uræmic poisoning, puts an early end to this disease cycle, it is extremely difficult, if not altogether impossible, to isolate the bacillus icteroides.

Visceral Lesions.

The bacillus icteroides, when it has once penetrated into the organism, not only determines a general intoxication, but produces specific alterations: In the liver, rapid fatty degeneration of the histological element; in the digestive canal hæmatogenous gastro-enteritis; in the kidney acute parenchymatous nephritis, which is one of the earliest lesions, and that to which the anæmia which is very quickly established must be attributed.

Causes of Death in Yellow Fever.

The patient suffering from yellow fever is in fact contem-

poraneously threatened by three imminent dangers, and the bacteriological examination of the cadaver may approximately place in evidence the principal cause of death:

1. It may be due to the specific infection principally, when the bacillus icteroides is found in the cadaver in a certain quantity, and in a state of relative purity. This happens only in the cases which run their special disease cycle to the end.

2. It may be due to the septicæmias successively established during the course of the disease, when the cadaver presents an almost pure culture of other microbes.

3. It may also be due, in great part, to renal insufficiency, when the cadaver is found almost sterile; the percentage of urea in the blood is very high, and death takes place before the malady has reached the end of its evolutionary cycle.

It is difficult to pronounce during the life of the patient on the prevalence or not of the uræmic symptoms over the specific, because the most salient symptoms of the yellow fever intoxication are easily confounded with those of renal insufficiency.

This frequent and inevitable complication is perhaps the principal cause why there is no typical pyrexial curve. It is indeed very probable that certain normal and subnormal temperatures observed with great frequency during the state of delirium or in the full evolution of the disease, and some sudden and inexplicable terminations of the diseased process are due, besides the action of the amarylligenous poison, in great part, to the intervention of uræmic intoxication.

The so-called "black vomit" is due to the action of the gastric acidity in the blood which is extravasated in the stomach, in consequence of the grave toxic lesions of its mucosa. The act of vomiting is directly provoked by the specific emetic action, that the toxic products of the bacillus icteroides circulating in the blood possess.

The hæmorrhagic symptoms are due above all to the hæmorrhagiparous property possessed by the bacillus icteroides in common with other microbes, and in the second place to the profound and rapid fatty degeneration produced in the vessel walls.

Toxins.

The small numbers in which the bacillus icteroides is usually found in the human organism, and the violence of the symptoms which are immediately provoked in dogs by injections of cultures relatively little abundant, into the veins, make me suspect the existence of a very active specific poison. This poison is obtained, like the diphtherial, by simply filtering the broth culture of the bacillus icteroides 24 days old.

The amarylligenous poison bears heating to 70° almost with impunity, but boiling sensibly attenuates it. If cultures sterilised with ether are employed, the toxic power is much more active.

Action of the Toxins on Animals.

I have studied the action of this specific poison in guinea-pigs, rabbits, dogs, cats, goats, the ass, horses, and man. It has an action little marked and little characteristic in those animals in which the reaction to living virus is little specific; such are the small rodents, in whom death is caused only by strong doses of the poison; small quantities, as a rule, only cause transitory loss of flesh. In dogs the toxins, introduced into the veins, produces the same lesions as the virus. Ten to fifteen minutes after the injection a general rigor occurs, an abundant lachrymal secretion begins, and is followed by impetuous and continuous vomiting, at first of food and then of mucus, so that in a short time the stomach is completely emptied, and the animal lies extended and helpless. Frequently hæmaturia is observed. If the dose was moderate the dog recovers quickly from the violent attack, which may be compared to the poisoning produced by an active emetic, but if the quantity of toxin be very large, or it is repeated in successive days, continuously increasing the doses, the dog finally succumbs, presenting the same anatomical lesions that have been described as due to the action of the living virus. Bacteriological examination demonstrates the existence of mixed infections due as usual to coli bacilli, to streptococci, or to staphylococci.

The *cat* is very resistent to the icteroid toxin, as to the virus. In fact, truly formidable doses of either the one or the other can be injected without obtaining other consequences than a diminution of weight, more or less marked, followed by inflammatory processes in the part. This animal is the most resistent of those I have so far had occasion to experiment upon.

In the *goat* the icteroid toxin exactly produces, with the exception of vomiting, the same lesions as those described in dogs and in man. The great tendency to hæmatolysis (hæmoglobinic exudations, hæmoglobinuria), and the extreme sensibility of the kidneys to the amarylligenous toxin are noticeable above all in the goat. The death of the animal is due in great part to the profound lesion of this viscus, since the notable quantity of urea which is met with in the fluids represents an important presumptive evidence in favour of a grave uræmic intoxication.

My experiments on the *ass* were limited to one only. The same pathogenic mechanism, with very few differences, was observed; that is, there were inflammatory and degenerative processes in the liver and kidneys, lesions of the mucosa, hæmorrhagiparous phenomena in the parenchyma, the serous cavities, the mucosa, the glandular organs, as the mamma, and lastly the final picture dominated by uræmic intoxication, and by the invasion of the microbes in the organism.

The *horse* is extraordinarily sensitive even to injections of small quantities of the toxin. It may be said, then, in a general way that the higher we ascend in the zoological scale the more developed is the sensitiveness of animals towards this potent and strange poison. Subcutaneous injections, even of small doses of the filtered culture, always determine much local tumefaction, followed by fever, which lasts twelve to twenty-four hours. The swelling is extremely painful, and disappears slowly. When the injection is more abundant, or if, instead of injecting the filtered culture, cultures sterilised with ether, which are much more active, are injected, the tumefaction produced becomes voluminous, and is always followed by the appearance of vast subcutaneous œdemas which extend in the sloping parts of the belly, reach the limbs, and sometimes end by disturbing for several days the movements of the joints. Sanguinolent ulcerations, which suppurate and are difficult to heal, are nearly always determined in the surface of the enormously distended skin. Both the œdemas, and the tumefactions which are produced in the part injected, do not disappear for many days, during which the animals very frequently present an almost continuous fever. Endovenous injections are much more easily tolerated, but have grave inconveniences. After each injection the animal regularly has a violent attack of dyspnœa, and has a general trembling, which obliges it to lie down. Fever appears, and for some hours the animal remains somewhat dejected. However, the following day the temperature becomes normal, and, as a rule, there is no other incident. In the course of my vaccination experiments I have had to lament the death of some of the horses; one of them was of the creole race, which is much less resistent than the half-breeds to toxins in general, and above all to the diphtherial and amarylligenous toxins. The necropsy of this creole horse, which a little before death had some slight hæmorrhages, showed much tumefaction of the spleen, slight degeneration of the liver and kidneys, albuminuria, and some foci of enteritis.

Trials on Man.

In 1816 Dr. Chervin, of Pointe-à-Pitre (Antilles) drank repeatedly large quantities of black vomit without feeling the least disturbance. Some years before other North American colleagues, Drs. Potter, Firth, Cathrall, and Parker, did everything possible to inoculate themselves with yellow fever. After having uselessly attempted experiments on animals they experimented on themselves, inoculating the black matter at the very moment in which the moribund patient rejected it, placing this matter in their eyes, or in wounds made in their arms, injecting it more than twenty times in various parts of the body, respiring the effluvia of its evaporation, making pills of it which they swallowed, inoculating themselves with the saliva or the sweat of the patients, in short, devising every sort of daring means for experimentally transmitting yellow fever. All these experiments were without result, and in the United States during many years it was believed that this terrible malady was non-contagious. We are now in the position to explain perfectly the cause of such surprising failures. We have seen that the bacillus icteroides has not its seat in the stomach, and that if it accidentally reaches it, carried with the hæmorrhages, it is certainly found there in very great dilution as in the blood.

My experiments on man amount to five. For reasons readily understood I have not employed living cultures, but simply cultures in broth of fifteen to twenty days, filtered through a Chamberland bougie, and then for greater precaution sterilised with a few drops of formic aldehyde. In two individuals I have experimented on the effects of subcutaneous injections, in the other three the effect of endovenous injections. These few but very successful experiments have been sufficient to illuminate with a truly unforeseen light all the pathogenic mechanism until now so obscure and badly interpreted.

The injection of the filtered cultures in relatively small doses reproduced in man typical yellow fever, accompanied by all its imposing anatomical and symptomatological retinue. The fever, congestions, hæmorrhages, vomiting, steatosis of the liver, cephalagia, rachialgia, nephritis, anuria, uræmia, icterus, delirium, collapse; in short, all that complex of symptomatic and anatomical elements which in their combination constitute the indivisible basis of the diagnosis of yellow fever. This fact is not only striking evidence in favour of the specific nature of the bacillus icteroides, but it places the etiological and pathogenic conception of yellow fever on an altogether new basis.

The Pathology of Yellow Fever.

The dominating theory which represented the digestive canal, especially the stomach, as the crucible of amaryllism

solely because the gastro-intestinal phenomena were those which more vividly struck the clinician, being eliminated at a blow; it being once demonstrated that all these striking phenomena are due only to the specific poison manufactured by the microbe circulating in the blood, yellow fever immediately enters into the same class of diseases as that in which, some time since, I placed another great disease process, which before my researches had always been very badly understood—typhoid fever.

All the symptomatic phenomena, all the functional alterations, all the anatomical lesions of yellow fever are only the consequence of an eminently steatogenous, emetic, and hæmolytic action of the toxic substances manufactured by the bacillus icteroides.

It is perhaps for this reason that, owing to its general symptoms, the ataxo-adynamic characteristic manifestations, the tendency to hæmorrhages, the icterus, etc., yellow fever has been also compared to poisoning by the poison of certain serpents.

Another point of contact between the two diseased processes is in the hæmotogenous gastro-enteritis, which, in cases of poisoning, is up to now erroneously considered to be due to a kind of eliminating effort of the organism.

The Mode of Infection.

By what way the specific microbe can enter the organism, where it manufactures its poison in it, is very difficult to establish. In countries where yellow fever prevails, evidence sufficiently demonstrative to establish the transmission by water has not been collected. On the contrary, there exists an inexhaustible series of facts, which point strongly to atmospheric transmission. The solitary example, always quoted by authors, in relation to the diminution of yellow fever in Vera Cruz, after that city was furnished with good potable water, can have only a relative value, like all affirmations of the kind.

The remarkable resistance to drying which I have demonstrated in the bacillus icteroides warrants us in assuming a diffusion of the amarylligenous virus, both by means of the air and by means of water. Further, contagion by the respiratory passages has been demonstrated to be possible by the same experiment in animals. As to the mechanism of contagion by water it is now placed beyond doubt that the epithelium of the digestive passages, when it is intact, does not as a rule, permit the passage of any species of pathogenic germs.

But it must be remembered that in countries subject to yellow fever, the slightest disturbances of the digestive functions, as the abuse of alcoholic and iced drinks, the abuse of fruit, etc., above all in the newly arrived, constitute, like depressing causes in general, so many points of entrance of yellow fever.

Moreover, one must not forget that the newly arrived in tropical countries are subject to a slight catarrh of the biliary passages, which, together with the inevitable overwork of the liver that accompanies it, may also facilitate the attachment of the bacillus icteroides arrived in the intestines, in some part of the hepatic organ. Now that we know well the formidable effects of the amarylligenous poison, we can readily understand how its producer can find, without much difficulty, a mode of resisting, and of diffusing itself in whatever organ it penetrates, with or without other co-operating causes. Nothing, in fact, is more easy than the penetration of the bacillus icteroides into the intestines, from the moment that it forms a part of the microbic flora of the yellow fever localities.

The extreme tendency to lesions of the hepatic organ in warm countries is not only one of the conditions very readily disposing to amaryllism, but, this once established, it will be the principal cause of those secondary infections which impress a physiognomy, sometimes strangely intricate, on the bacteriological conditions of yellow fever, and which undoubtedly contribute in a notable manner to augment the frightful mortality of this disease.

Secondary Affections.

The experimental study of these secondary infections has enabled us to observe a series of biological phenomena which throw an altogether new light on the reciprocal relations between the agent of amaryllism and those of the secondary infections.

The icteroid bacillus, either through the action of its specific poison or through the grave hepatic lesion which is its more immediate consequence, favours at a given moment the entrance into the organism of the septic microbes, which not only end the disease long before the specific agent would, but are also injurious to this latter, immediately invading its dominions, suppressing its vegetative faculty, and perhaps also its vitality.

It is for this reason that these phenomena of the microbic antagonism between the amarylligenous bacillus and those of septic infections, instead of being useful to the patient, who represents the field of action, have the effect instead of hastening the end.

Yellow Fever on Ships.

The behaviour of yellow fever on board ship differs from that of cholera, as when once introduced on board, it explodes, rapidly attacking all those who, so to speak, can be attacked. The gravity of this explosion varies according to the quantity and energy of the cholera vibrio, and according to the predisposition of the subjects; but having once produced this explosion, the cholera vibrios do not seem to encounter in the ordinary conditions of materials on ship-board, a very favourable ground for their existence. This species of intermediary between man and the cholerigenous agent being wanting, especially if a good measure of disinfection has been practised, the disease is extinguished.

Yellow fever, on the contrary, once installed on board a vessel, is there long and tenaciously maintained, more particularly in the hold, magazines, merchandise, and in all close and restricted parts. The notion, indeed, is commonly held that old and dirty ships are the most unfit to use in countries where yellow fever is endemic.

Those who specially occupy themselves with naval hygiene consider as yellow fever vessels ships insufficiently aërated, provided with very small openings, where in the upper parts the vitiated air stagnates, and in the lower there is a fœtid humidity. Humidity, heat, and want of light and ventilation, therefore, seem the coefficients special to the preservation of the bacillus icteroides.

But in the present state of our knowledge it is not possible to attribute to these various coefficients any specific value, inasmuch as they represent so many conditions which may militate in favour of all microbes in general. It is, therefore, necessary to seek in some other concomitant element the cause which favours in an almost specific manner the nautical habitat of the bacillus icteroides. A simple phenomenon, which at various times during these studies, has occupied all my attention, has afforded a new explanation of the probable cause of this mysterious longevity and resistance of the bacillus icteroides on board ships. This is in the fact that the common moulds of the atmosphere are the great protectors of the bacillus icteroides.

The microbe of yellow fever, although it is endowed with a great resistance towards the natural physico-chemical agents, nevertheless is not indifferent to the substances necessary for its nutrition. It is certain that during its saprophytic existence outside the organism, as in the hold of a ship, it would not be able to obtain nutritive principles of great value; this is so true that very frequently it is not even capable of multiplying on a plate of ordinary gelatine.

The Influence of Moulds on the Bacillus.

But if it happens that a mould develops near it, the products of material exchange of this hyphomycete or the transformation affected by it are sufficient to nourish the bacillus icteroides, and to enable it to live and multiply, otherwise it would be condemned to a more or less early death.

This property of moulds can be experimentally demonstrated, by simply depositing the spores of any mould in the midst of a gelatine plate, previously sown with icteroid microbes, but which has remained for a long time completely sterile, as often happens. Directly the mould commences to develop its mycelium, a crown of little punctiform colonies of the bacillis icteroides immediately appears around it in the gelatine. In proportion to the increase of the mould, these colonies continuously become more numerous, rapidly

extending their zone around the central thicket formed by the mould. After some days the gelatine plates, where the moulds are accidentally or artificially developed, present an extremely curious aspect. Around each mould the colonies of the bacillus icteroides, which might be thought dead, or totally incapable of developing after so long a time, constitute a species of constellation, the more innumerable the nearer to the mould. It may be said, then, that moulds exercise a kind of radial influence, within which only the development of the icteroid colonies is possible. This radius of influence is more or less extensive according to the species of mould, and the space it occupies, but it is always perfectly regular, uniformly distributed, and equidistant from the centre represented by the thicket of the mould.

Outside this radius of influence, which is always strictly limited, the development of the microbic colony sharply ceases, and the remainder of the gelatine remains sterile until some new spore causes the formation of new mycelia, which in their turn are immediately surrounded and enclosed by a new pullulation of icteroid colonies.

It is very probable that such a faculty constitutes a specific character possessed by all the moulds in general, since the six species that I have accidentally isolated from the air of the laboratory have shown themselves, although in diverse degrees, equally capable of favouring the revival and multiplication of icteroid microbes otherwise incapable of development. Further, it is possible that there exists in Nature, especially in localities where yellow fever is installed with great vigour, some mould at present unknown, endowed with a helping power truly specific and much more notable. This strange phenomenon of parasitism, this strange form of microbic saprophytism possibly represents the principal cause of the ready acclimatisation of yellow fever on board ships.

It is, indeed, highly probable that, especially in the holds of badly ventilated vessels, the constant heat and humidity, considered in their physico-chemical effects, are the conditions which maintain so long in life the microbes of yellow fever accidentally arrived there. In the hold of vessels, notwithstanding the heat and humidity, other pathogenic microbes, as those of cholera, typhus, etc., do not prosper nor maintain their activity for a long time. In respect to yellow fever, heat and humidity and scanty aëration may therefore be considered above all as the conditions indispensable for the development of moulds, and then as indirectly favourable to the vitality of the bacillus icteroides.

This phenomenon of commensalism, very analogous to that which Metchnikoff has already some time ago indicated for the cholera vibrio, also explains, and agrees with many other well-known practical observations furnished by the epidemiological history of yellow fever, and on which I believe it is useless to dwell further.

We must then consider moulds as the natural protectors of the specific agent of yellow fever, because it is solely through their intervention that the latter can find the force to live and multiply, whereas the unsuitableness of the nutritive means or the unfavourable action of the developing temperature would render its existence altogether impossible. The intervention of this factor, apparently so insignificant, constitutes perhaps the principal cause of the acclimatisation of yellow fever, not only on board ships, but also in certain localities where it appears to find conditions extraordinarily propitious to its sad dominion. In fact one of the conditions considered indispensable to the development of yellow fever, that is, humidity, is, together with heat, the condition most propitious to the development of moulds. It is above all to the defect of ventilation and the excessive hygrometric state of the atmosphere that the unhealthiness of Rio Janeiro is held to be due. During the great epidemic of yellow fever of Montevideo in 1872 the inhabitants of houses looking north only were attacked with an inexplicable preference. Both the houses and the side of the streets looking north in Montevideo are distinguished for their truly exceptional humidity.

It is, then, probable that the factor of humidity, whether on board ships or on the coasts or the interior of countries, represents the principal coefficient of a biological phenomenon rather than that common meteorological influence, the action of which is always identical in the etiology of almost all the epidemic diseases. On the other hand, the notable resistance presented by the bacillus icteroides towards the principal factor of natural disinfection, that is to say, drying, and its great longevity in sea water sufficiently explain the ready acclimatisation of icteroid typhus and its obstinate persistence, especially in the maritime localities afflicted by the immigration of its specific agent.

This is the point to which I have had the fortune to bring our knowledge, after a year and a half of indefatigable work, concerning a terrible disease, the most grave and most urgent sanitary problem in all America. Much more still remains to be accomplished. To-day we can recognise the specific agent of yellow fever; we have it in our hands; we have minutely studied its life, customs, necessities, relations with external agents, and with other minute beings; we have succeeded in revealing the very complicated mechanism of all the numerous diseased manifestations that it determines in the human organism; finally we have placed this malady, which up to a few months ago represented a fearful mystery, on the same level as all the other great infective diseases.

The useful results for public prophylaxis, and for clinical treatment, it is not necessary to indicate here. The principal basis of social defence against diseases is the knowledge of their specific cause.

Asiatic cholera, typhoid fever, and many other grave diseases no longer inspire the terror of other kinds, because science, founded on the study of their specific agents, can nowadays protect us against their diffusion and their acclimatisation, adopting wise sanitary measures, and effecting hygienic improvements of various kinds, from whose good effects some cities have been almost restored from death to life.

However, besides the prophylactic ideal, which hygienically speaking is far superior, because it is always better and easier to prevent maladies than to cure them, or to make them disappear when they have manifested themselves, there exists another ideal—therapeutics.

Well, given the nature of the diseased process which we have studied, I do not believe it is difficult to realise also this ideal, and I have a firm conviction that very soon it will be possible to apply to man a preventive and curative treatment of yellow fever.

THE CROONIAN LECTURES

ON

THE MEANS BY WHICH THE TEMPERATURE OF THE BODY IS MAINTAINED IN HEALTH AND DISEASE.

Delivered before the Royal College of Physicians of London,

By W. HALE WHITE, M.D., F.R.C.P.Lond.,

Physician to and Lecturer on Pharmacology and Therapeutics at Guy's Hospital.

LECTURE III.

[ABSTRACT.]

Calorimetry.

Dr. Hale White in his third lecture dealt with the calorimetrical method of studying the question whether the production of heat is increased in fever. He described the ordinary water and air calorimeters, and pointed out their defects and the fallacies to which they were apt to give rise. He then described the form of differential air calorimeter which he had devised in co-operation with Dr. Haldane, Dr. Washbourn, and Mr. F. G. Hopkins. In principle it consisted of two chambers exactly similar, in one of which hydrogen was burnt, while in the other the animal on which the experiment was to be made was placed. Each chamber had a double wall. The space between the two skins was air-tight and filled with air. Each of these air spaces was connected with a manometer of special design. During an experiment, the jet of hydrogen gas was kept burning in the one chamber while in the other the animal was placed. At the beginning of an experiment a note was made of the upper level of the fluid in the manometer. During an experiment the heat given off from the animal warms its chamber, and

thus increases the pressure of the air in the air-space between the two copper walls of its chamber. This would lead to movement of the fluid in the manometer, but that the heat given off by burning the hydrogen increases at the same time the pressure in the space between the walls of the other chamber. This latter increase of pressure tends to make the fluid move in the other direction. If the fluid in the manometer is stationary the amount of heat given off by the animal is, other things being equal, equal to that produced by the burning of the hydrogen. During an experiment the manometer is kept stationary by turning up or down the hydrogen flame. The amount of hydrogen burnt is estimated, and knowing the heat of combustion of hydrogen the calories produced by the quantity used in the experiment, which equal those given off by the animal, can be calculated. Dr. Hale White discussed at length the precautions which must be taken in the construction of the calorimeter, and those which must be observed in its working. He summed up his experience on these heads in the following words:—

1. No animal calorimeter that holds out any prospect of being workable can give exactly the amount of heat produced by an animal, for when it shows an alteration in the number of calories lost it does not show what proportion of them have been lost because the radiating power has been altered, and what proportion have been lost because the production has varied; but if we know the variation in the internal temperature of the animal, its weight and its specific heat, we can often say whether or not the production of heat is increased or diminished. In other words, we can get a qualitative but not an accurate quantitative result. 2. As in man alterations of loss of heat probably depend sometimes almost entirely on variation of production, and at other times almost entirely on variations in radiating and conducting power of the skin, we must be very careful in drawing conclusions from animals to man. 3. A differential instrument is very much better than one which has been standardised. 4. But the source of heat in the differential instrument must in shape resemble the animal which is to be observed, and the instrument, before the results it yields can be trusted, be proved to register equally on both sides heat lost by radiation, conduction, and convection. I think it follows that no instrument has yet been devised which gives trustworthy results. I need hardly add that I say this with great regret, for I have for the last six years devoted all my spare time to the subject. Before leaving this subject I should like to remind my hearers of two facts that are frequently lost sight of. The first is that we are too apt to talk of fever as though the process were the same whatever the cause of the fever, while really (as I have shown in the case of man) it is extremely probable that with all animals in some fevers the rise of temperature is chiefly due to variations in the production of heat, and in others it is chiefly due to variations in the loss, and any set of experiments only hold good for the particular animal and for the particular fever under consideration. Secondly, no calorimeter can register heat which is in the body converted into some other form of energy—for example, motion. For instance, if we were to light a fire in a little locomotive, and set it running up a spiral in our calorimeter, the instrument would only register such of the heat as is lost from the locomotive by radiation, conduction, and convection; it would not show that which was produced in the engine but at once converted into motion. If any heat in the living body is converted into motion we have no means of estimating it.

Many attempts, he continued, have been made to make calorimetrical observations on parts of the human body, and as a rule the results are of little value; but lately Rumpel[1] has published some results which are so very interesting that it will be well to give an account of them. His experiments were all carried out on an arm placed in an air calorimeter for it. From what I have already said it follows that I do not think the results have more than a rough qualitative value. Rumpel shows, by putting first the clothed and then the unclothed arm in the calorimeter, that the loss of heat is greatly diminished by clothing, and he says that Rubner, working with a thermopile, has shown that if the radiation of heat from the naked skin be taken at 100, with a vest on it is 73; shirt and vest, 60; waistcoat, shirt, and vest, 46; and coat, waistcoat, shirt, and vest, 33; and if a guinea-pig's hair is cut off its loss of heat increases 33 per cent. In the next series of experiments a contrast was made between the arm clothed with dry clothes, that clothed with wet clothes, and the naked arm:—

No. of Experiment.	Naked Arm gives off Calories per Hour.	Arm Clothed with Two Layers of Dry Flannel gives off Calories per Hour.	Arm Clothed with Two Layers of Wet Flannel gives off Calories per Hour.
1	7.92	4.25	—
2	7.41	—	7.45
3	8.39	—	7.96

These figures strikingly confirm the well-known fact that wet clothing is of no use in keeping the body warm. Indeed, it is worse than no clothing at all, for, in addition to the loss by radiation, there is the loss of heat from the evaporation of the water in the wet flannel, which in each of the above two cases was 15 calories, so that the total loss of heat was in the second experiment 7.45—15—22.45; and in the third experiment it was 7.96—15—20.96. The arm lost, therefore, when covered with wet clothing about three times as much heat as it would have done if it had been naked. The next experiments proved that the loss of heat in water is much greater than that in air at the same temperature:—

Temperature of Air or Water Centigrade.	Calories Lost per Hour when the Arm is Naked in Water.	Calories Lost per Hour when the Arm is Naked in Air.	Calories Lost per Hour when the Arm is Clothed but in Air.
11.5°	157.0	12.5	8.4
15.2	103.0	10.9	7.6
20.9	81.0	7.8	5.6
24.7	54.0	7.9	5.0

If to the figures representing the loss of heat to the air we add the loss which is due to the evaporation of the perspiration, it works out that at least eight times as much heat is lost in cold water as in air. As might be expected, cold water is worse than wet clothes. In one experiment in which the arm was clothed in wet clothes of a temperature of 20.6° C. the loss per hour was 29.8 calories, but in a bath of a temperature of 20.9° C. the loss per hour was 81 calories.

Another experiment confirmed the well-acknowledged fact that the lower the temperature of the air the more value has clothing in saving heat. When the temperature of the air was 6.6° C. the number of calories given off hourly by the unclothed arm was 14.27, by the clothed arm 10.69, a difference of 3.58; when the temperature of the air was 29.6° C. the number of calories given off by the unclothed arm was 4.92, by the clothed arm 4.23, a difference of 0.69. In another experiment it was shown that a linen vest was of no use in saving warmth.

REFERENCE.

1 Ueber den Werth der Bekleidung und ihre Rolle bei der Warmeregulation, *Arch. f. Hyg.*, Bd. ix, s. 51.

PROFESSOR TH. W. ENGELMANN, of the Utrecht University, has, it is stated, accepted the invitation of the German Government to accept the Chair of Physiology rendered vacant by the death of the late Professor Du Bois-Reymond at the University of Berlin. His departure from Utrecht is a great loss for the University to which he was attached for twenty-five years.

THE CHARTERED NURSES' SOCIETY.—The first report of this Society shows that it is doing a sound, remunerative business on the co-operative principle. The balance-sheet is not issued, but in the report it is stated that all the working expenses have been met, leaving a small profit. The fees are such as will suit only the pockets of the wealthy; but, conceding that the nurses supplied are of the best, those who engage them will know how much they will have to pay for their services.

MULTIPLE CUTANEOUS GANGRENE OF THE SCALP IN A CACHECTIC CHILD.

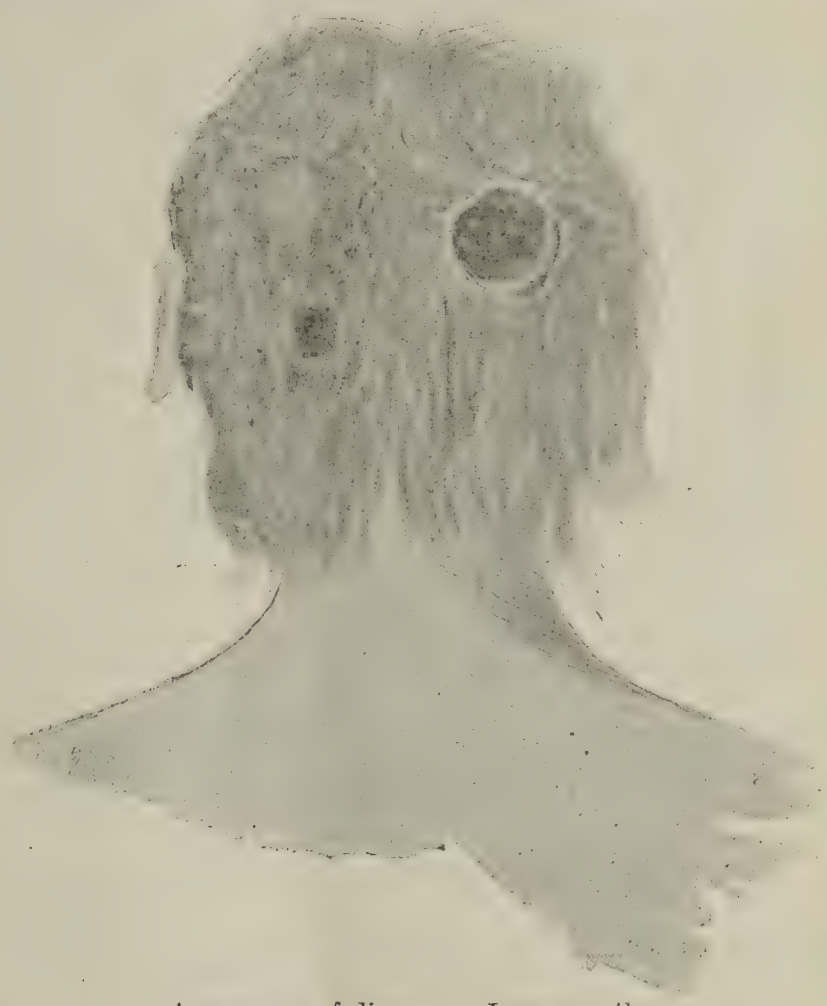
By A. DOUGLAS HEATH, M.D.Lond.,
Birmingham.

Some details of the following case may perhaps be of interest not only because this variety of gangrene is not commonly met with, but also from the fact that it appears to differ in some particulars from the types of gangrenous dermatitis most frequently seen in infants and young children, which have been described by well-known observers under the names of varicella gangrænosa, rupia escharotica, and dermatitis gangrænosa infantum. With regard to predisposing causes in this case it would seem that whooping-cough and bronchitis were the only illnesses that the child had suffered from previous to the onset of the gangrene, and these had begun three or four weeks before the first patch of gangrene became visible on the scalp, and had evidently produced a very marked effect on the patient, as the loss of strength and weight had been rapid throughout. The gangrene when once started ran its course to a fatal termination in four weeks, but the disease was much more rapid in its spread during the last seven days of the patient's life than in the previous three weeks. The gangrenous patches were entirely confined to the hairy scalp, which in the intervening areas appeared to be perfectly healthy, and no skin lesions of any kind were present on the rest of the body. No discharge from the nose or ears could be seen, nor could I find any other source from which infection of the scalp might have taken place. There was no previous history of varicella either in the patient or in his brothers and sisters, and I examined all the children in the family for that disease with a negative result. I could also detect no signs of syphilis in the patient nor the other children, and the examination of the father and mother also revealed no evidence of that disease. There was no history of miscarriages in the latter, and all her children were living and, with the exception of the patient, healthy. Vaccination had been performed when the child was under three months of age. There was no family history of tubercle.

T. H., aged 2 years, was brought to me on January 11th, 1897. He was very emaciated. He showed no signs of rickets, and the mother said that before he developed whooping-cough six weeks previously he was quite plump and healthy-looking. He was drowsy, looked very ill, and had a sallow colour. The breathing was a little quickened, but there was no evidence of broncho-pneumonia, and the lungs, except for a few bronchitic *râles*, were free from abnormal physical signs. The tongue was dry, and covered with a thick brown fur, and the teeth and gums were thickly crusted with sordes. The temperature was 101.4° F. On the scalp in the upper part of the occipital region on the right side, as shown in both drawings, was a deeply punched-out ulcer, as large as a five shilling piece, with edges sloping down suddenly to a moist black slough, which completely covered its floor. The skin of the scalp forming the margin of the ulcer was pale in colour, and seemingly somewhat drawn down towards the cavity of the ulcer, so that very little of the actual red edge could be seen. The slough was quite a quarter of an inch below the surface of the healthy scalp at the edge of the ulcer, and at the centre deeper still. It appeared to be made up almost entirely of necrosed skin, and there was practically no secretion on its surface, either moist or dry. On raising the slough with a probe a little watery and slightly blood-stained fluid exuded. No bare bone could be felt, and a thin, unhealthy-looking fatty tissue appeared to be covering the aponeurosis over the skull, and to form the floor of the ulcer. Taken as a whole, the deeply excavated ulcer would remind one more strongly of the appearof a case of cancrum oris than anything else. The odour emitted from the slough was most pungent and sickening. About an inch below and two inches to the left side of the ulcer just described was a deeply-coloured patch of skin about the size of a shilling, black in the centre and purple at the edges. The centre of the gangrenous area was a little below the level of the healthy scalp, and when the whole patch was gently pressed between the tips of the fingers it felt distinctly soft, and gave one the impression of fluctuating from side to side. A little behind the left parietal eminence, and nearly two inches above this last gangrenous area was a slightly raised fluctuating swelling half an inch in diameter. The skin over it was of a very pale pink colour, and a few small silvery scales due to a very slight desquamation of the epidermis were also visible. The hairs springing from this area were quite long and normal in appearance, and did not seem to be loosened. There was also no visible heaping up of epithelium around their bases, and no points of suppuration could be seen. This small spot had evidently been the last to appear, and had not been noticed by the child's mother before I drew her attention to it, which is not surprising, so little had the superficial layers of the epidermis over this softened area altered in appearance. The uppermost of the glandulæ concatenatæ on the left side had broken down and formed pus, and a slight swelling in this region is shown in the first drawing. No reddening of the skin in this region had, however, taken place.

The description of the first appearance and early course of the gangrene as given by the child's mother is interesting. The oldest lesion of the scalp, which afterwards became the largest area of gangrene, began as a large "pimple" three weeks before the case came under my notice. I very soon, so the mother said, became exactly like the small pink swelling I had drawn her attention to on January 11th, and, after further enlargement, began to subside, and shortly afterwards to turn black, and the large slough reached the size it had attained when I saw it in about ten days. During the next week the black slough had sunk deeper and deeper into the cavity of the ulcer, and had also become detached at its edges. The second gangrenous area began in exactly the same way three days after the first, and had progressed more slowly, having, as I said before, still a purple-red zone around its black centre when I first examined it. The glandular swelling in the neck commenced about a week after the lesions of the scalp had appeared.

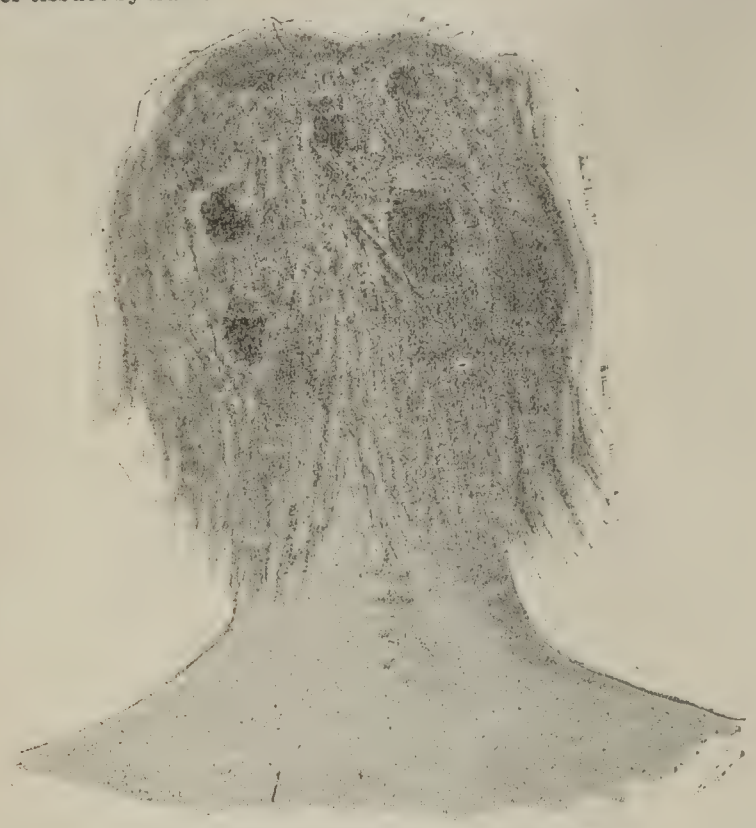
During the eight days that I was enabled to watch the patient the two large gangrenous patches remained practically *in statu quo*, the only change being that the black centre in the smaller of the two increased in size by extension of the gangrene into the darkly coloured zone around it. The small pink fluctuating swelling behind the left parietal eminence that I noted on January 11th, at first increased in size, and on January 13th covered an area as large as a shilling, but was only very slightly raised above the level of the healthy scalp, and still retained its light pink colour. The small thin scales on the surface of the swelling were more numerous, and the hairs, unaltered in appearance, were still unloosened. A fairly rapid deepening of colour over the whole of the softened area now took place, and on January 14th this discoloration had approached almost to black in the centre around two or three hair follicles, and at the same time this portion of the surface had commenced to sink more rapidly than the peripheral portions below the level of the scalp, so that a slightly concave hollow had been produced. The hitherto dry surface now became more and more moist in the centre of this depressed area where the colour was deepest, but no vesication took place, and the necrosed skin, except for its black colour and sodden appearance, seemed otherwise unaltered. On January 15th the black patch in the centre



Appearance of disease on January 13th.

was as large as a sixpence, and the whole area was still more deeply sunk below the level of the scalp. The hairs were now easily removed from the slough, a little clear bloodstained fluid following their removal. This black gangrenous portion had increased to the size of a shilling by January 18th, and was still firmly adherent to the surrounding darkly coloured skin at its edges. During the interval between January 13th and January 18th, five more small swellings appeared on the scalp, and ran exactly the same course even more rapidly than the previous ones had done, gangrene starting in four out of the five fresh lesions before they were larger than a sixpence. None of these appeared close together, and there was quite an inch between the two nearest. No points of suppuration were visible in any of these small swellings, and the hairs did not seem to be loosened until gangrene set in. By a comparison of my two drawings made on January 13th and January 18th respectively the progress of the case can be seen. Three fresh gangrenous areas are shown in the second drawing, the remaining two being more on the top of the head do not appear in the view taken from behind. The second sketch does not show the swelling on the left side of the neck as the abscess had been opened and a quantity of pus drained off. The large black slough covering the floor of the large ulcer when removed appeared to be made up of the whole thickness of the skin. It was about 1-8th of an inch thick at its margin, and quite double that thickness in its centre. Although

the whole was soft and sodden with moisture, the cuticle was still adherent to the parts beneath, and those in their deepest levels seemed spongy and netlike, and the detached lower border had a ragged appearance from its outline being broken by shreds of blood-stained tissue of varying sizes and lengths. In the other gangrenous patches no natural separation of the sloughs had taken place, but pieces of black tissue cut away from the centres of two of the patches were one-eighth of an inch or more in thickness, and appeared to the naked eye similar in structure to the large slough above described. The blood-stained appearance of the lower levels of the sloughs would give rise to the suspicion that there had been hæmorrhage into the swellings before they became gangrenous, but there was nothing outwardly in the colour of these to support such a view, and the fluid contained in them was clear, and only very faintly coloured. No attempt at scabbing was visible in any of the gangrenous areas, although five at least were either exposed to the air, or covered by dry dressings, and the black patch in the centre of each was finally as large as a sixpence. A purple-red zone, fading to pink at its edge, was visible around each black centre, except in the large ulcer, where separation of the slough had taken place, and in all but this the gangrene was still extending up to the time of the patient's death. As far as one could tell in such small areas, the spread of the gangrene peripherally was preceded by a softening of the purple-red zone, apparently by undermining of its deeper tissues by fluid.



Appearance of disease on January 18th.

On January 18th the temperature was 102° F.; the slight bronchitic signs had not increased, and there was still no evidence of bronchopneumonia, the whole aspect of the patient being that of one dying from septic intoxication. The odour from the gangrenous areas, in spite of the very free use of antiseptics, was most disagreeable. The child died on January 19th. I was unable to obtain permission from the parents either to excise one of the patches from the scalp, or to make a *post-mortem* examination.

REMARKS.

The following points are perhaps the most noteworthy in the case just described. First, varicella did not precede the onset of the gangrene, even remotely, as has been observed in the majority of cases of gangrenous dermatitis occurring in infants and young children, of which I had the opportunity of seeing a very rapidly fatal instance, through the kindness of Dr. Meredith Richards, at the Birmingham City Hospital, about eighteen months ago.

Secondly, the child had been vaccinated when under three months of age, and was just two years old when attacked with the gangrene, so that vaccinia obviously cannot have had a causal relation to it.

Thirdly, the limitation of the gangrenous areas to the scalp is an uncommon feature in cases not following either varicella or vaccinia, the lower half of the body being more frequently attacked.

Fourthly, no formation of any scab was visible on any of the gangrenous patches, although these were, in the earlier lesions, of considerable size, and in two instances had existed for three weeks, the necrosed skin remaining moist throughout, and this fact is all the more noteworthy as in the large majority of these cases of gangrenous dermatitis a scab resulting from the drying of the central portion of the gangrenous area is formed under which ulceration still goes on in rupia-like fashion. It may be, however, that this scabbing was only prevented by an unusual amount of moisture keeping the dead skin continually saturated, and the more usual appearances of such lesions were absent from that circumstance alone.

The mode of origin in my case was more like that seen in the formation of the multiple subcutaneous abscesses not infrequently met with in ill-nourished children, in which the cutis over the abscess appears at first to be very little affected whilst the disease progresses in the subcutaneous fat, and the surface of the skin over quite large areas may look pale, or at the most show only a little desquamation and slight reddening. When this process had gone on for a certain time, and a slightly raised swelling covering an area as large as a sixpence or shilling had been produced, a deepening in colour, slow in the earlier but rapid in the later lesions took place, and the subsequent rapidity in the development of the gangrene in the latter seemed due to an increased virulence of the disease, and not to any accidental concomitant like hæmorrhage into their cavities, which has been noted by Dr. Crocker[1] in a few rapidly fatal cases. The large conical ulcer conformed exactly to the characteristic appearances described in most cases of gangrenous dermatitis in infants, and, as is usually the case, the spread of the gangrene stopped when the slough had become separated. The swelling and subsequent breaking down of the adjacent lymphatic gland in the neck into pus is also interesting, and I am not aware that this adenitis in the neighbouring glands has been observed in these cases before. In the absence of any material from the scalp for pathological examination one can unfortunately only surmise as to where the disease started in this particular case. The appearances were, however, all in favour of the primary focus of the mischief lying either very deeply in the skin or beneath it, as it is otherwise difficult to see why no formation of pustules or vesicles took place, and why the cutis over moderately large areas remained comparatively unaffected for so long.

Finally, the patient showed no signs of ordinary pyæmia, nor of ulcerative endocarditis; there were no rigors, the joints were not swollen, the skin remained dry, and the temperature was never higher than 102.4° F. It would also be difficult to imagine multiple emboli from these causes producing eight distinct lesions of the scalp without the rest of the skin of the body showing any signs of similar embolic infection.

REFERENCE.

1 *Diseases of the Skin*, p. 277.

ANTISTREPTOCOCCIC SERUM IN THE TREATMENT OF PUERPERAL FEVER.

BY J. F. L. WHITTINGDALE, M.B.,
Sherborne.

I am led to report the following cases, because they show, I think, the value of the serum treatment in a case of puerperal septicæmia, and at the same time its harmlessness when used in a case which subsequently proved to be scarlet fever.

CASE I.—Mrs. L., aged 27, primipara, was delivered on February 16th by my assistant with forceps, on account of rigidity of the perineum, which was rather badly torn and required sutures. A vaginal douche of Condy was ordered to be given thrice daily. On February 18th, within forty-eight hours of delivery, slight rigors occurred. On February 19th the temperature was 102.4°, and the pulse 100. Lochia scanty, noises in the ears, constipation, some tympanites, but no abdominal tenderness. Calomel gr. v was given, and followed the next morning by ol. ricini ℥j, which produced a copious evacuation of the bowels. On the evening of February 20th the temperature had reached 103°, and became even higher in the night, and was accompanied by delirium. On the morning of February 21st, when I first saw her, the temperature was 102.4°, and the pulse 120. The lochia were scanty, the wound gaping and covered with a thin grey discharge, the stitches having given way. She had had no sleep since delivery. In the evening the temperature was 103°, when I injected 10 c.cm. of Bullock's antistreptococcic serum into the right buttock (the serum having been prepared on February 4th). A draught of bromidia was given at bedtime, and the wound ordered to be kept stuffed with iodoform gauze. The temperature two hours after the injection was 102.8°. On the 22nd the morning temperature was 101°, pulse 108. Skin perspiring profusely. Had a better night. Rather constipated; considerable tympanites present. Had no more serum, so gave a quinine and hydrobromic acid mixture. The evening temperature was 102°. On the 23rd temperature was 100.4°, pulse 96 in the morning. Abdomen still tympanitic; perspiration profuse, no headache, moderate amount of

milk, lochia more copious. I injected 10 c.cm. antistreptococcic serum prepared on February 19th. The next day the temperature became normal, the wound took on a healthy action, and all the serious symptoms disappeared. For several days, however, the skin continued to perspire profusely, the result apparently of the serum injections.

CASE II.—Mrs. S., 2-para, delivered February 15th. Breech presentation. Twelve hours after delivery she had a severe rigor, and diarrhœa accompanied by violent sickness set in. On the 17th the morning temperature was 105°, pulse 150, diarrhœa and sickness still continuing; lochia scanty, uterus tender. Fearing that some of the placenta might be retained, as I was not present at the delivery, I dilated up the uterus and removed a small portion of placenta, but not sufficient to account for the serious symptoms. I then gave a uterine douche of biniodide of mercury 1:2,000. The evening temperature was 102.8°, skin dry, tongue parched; ordered Warburg's tincture, but she could not retain it. On the 18th, morning temperature 102.4°; had a fair night: lochia more profuse, abdomen slightly tympanitic. I injected 10 c.cm. antistreptococcic serum. Evening temperature 103.2°; lochia more scanty, face very flushed, a very little milk in the breasts. Ordered quin. sulph. gr. v, and cold sponging to be resorted to if fever rises. On the 19th, morning temperature 102.8°; slight scarlet rash on buttocks; breasts fuller; diarrhœa slight; lochia scanty, but good colour and not offensive. Injected 10 c.cm. of serum. Evening temperature 104°. Had a bad day. Perspires freely, has slight rigors, scarlet fever rash present over abdomen and thighs, accompanied by soreness of throat and commencing desquamation of tongue. She was very feverish and delirious during the night, and required frequent sponging. but on the morning of the 20th the temperature had fallen to 100.8°, and she expressed herself as feeling much better. The fever gradually subsided without more serious symptoms occurring, and at the present time (March 2nd) she is desquamating freely.

My reason for detailing the case of Mrs. S. is because it is well nigh impossible in the early stages to distinguish between septic and other causes of fever during the puerperium, and that if we wait until they declare themselves, valuable time may be lost, and, as this case shows, no harm is done by treating the case at once as a septic one.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

WALCHER'S POSITION IN LABOUR.

I HAVE had a case recently in which I used with great advantage Walcher's position in parturition, the use of which was advocated at the Carlisle meeting last August, and in the BRITISH MEDICAL JOURNAL of October 31st, 1896. The details were as follows:—

Mrs. P. had menstruated regularly and without pain since the age of 15, and had been married two years. At her first confinement on December 28th, 1895, she was delivered with forceps, after great difficulty, of a child, which was dead when born.

On January 11th, 1897, she was at full term. Pains began in the night and the waters broke at noon the following day. During the afternoon and evening of January 12th she had severe pains. Early the next morning the midwife, who was in charge, sent for me, and I thus first saw the patient at 6 A.M. on January 13th. I found dilatation complete, the head presenting in the L.O.A. position but arrested above the brim of the pelvis. I at once gave chloroform and applied Professor A. R. Simpson's axis traction forceps in the left lateral position, and made three separate and prolonged attempts to pull the head past the brim, using much more force than I ordinarily find necessary for that purpose.

I then decided to try Walcher's position. Having put the patient in the lithotomy posture, with the buttocks well over the edge of the bed, I allowed the legs to hang down. The feet then rested on the floor. I therefore raised the pelvis by placing two pillows under the buttocks, and then found that the feet swung clear of the floor, so that the whole weight of the legs pulled the pelvis down and away from the sacrum. I then applied traction, and, though I was using less force than before, the head began to enter the pelvis, and passed the brim almost suddenly. Delivery was completed deliberately, and without further difficulty. After artificial respiration, the child breathed freely, and has developed no head symptoms, though the right frontal bone was bulged to an extent that suggested fracture.

The following measurements indicate the degree of disproportion between the head and the brim:—The circumferences of the child's head were—occipito-mental, 15½ inches; occipito-frontal, 14¼ inches; sub-occipito-bregmatic, 13½ inches. The diameters of the pelvis were—interspinous, 10 inches; intercristal, 11 inches; external conjugate, 7¼ inches; diagonal conjugate, 4¼ inches; estimated true conjugate, 3¾ inches. The pelvis was generally contracted with a somewhat projecting promontory. In this case the advantages of Walcher's position were very great, as but for it I am sure the life of the child could not have been saved without symphysiotomy, which, like craniotomy, would have exposed the mother to grave risk, exhausted as she was by prolonged labour.

Manchester. G. H. MITCHELL, M.B.

ON EFFUSION INTO THE KNEE-JOINT.

THE following simple manner of ascertaining the presence of a very small quantity of fluid in the knee-joint I have not seen previously described:

The knee-joint being slightly flexed, and laid on its outer side with the inner side in a good light, on making pressure with the hand above the patella, the skin on the inner side of the patella will be seen to rise. In this way a small quantity of fluid which will not give a sense of fluctuation to the hands may be clearly demonstrated.

C. DUER, Surg.-Capt. I.M.S., M.B., F.R.C.S.,
Rangoon. Junior Civil Surgeon.

RUPTURE OF GENITAL CANAL: PROLAPSE OF INTESTINES: EXHAUSTION: DEATH.

AT 6 A.M. on May 11th I was called to attend the wife of a Boer farmer. The woman was 40 years of age. At her two preceding labours she had been delivered of dead children. In the present instance she had been in labour for thirty-six hours, and three hours before my arrival had been delivered of a normal living child. For a short time preceding the birth of the child the pains appeared to have been of a most acute character, and to have caused intense suffering. The delivery of the child was attended and followed by profuse hæmorrhage. After the delivery of the child the pains ceased entirely, but the hæmorrhage continued. On examination, I found that the patient was a well-built and well-nourished woman of middle age. The abdominal walls were exceedingly lax. The condition of the patient was one of marked collapse—pulse lost, pupils dilated, and surface cold and clammy.

The uterus (contracted) could be felt high up in the abdomen. The pelvis was roomy, and the canal was found to be full of large blood clots. On clearing out these, and introducing nearly the whole of the hand, the os could be felt, and the uterus was found to be tightly contracted upon the contained placenta, the funis having been apparently torn away by the midwife in attendance in her efforts to deliver the placenta.

Lying in the lower part of the vagina and posteriorly were several loops of small intestine, on one of which was a laceration of about an inch in length, and penetrating deeply into the wall of the gut. The prolapsed intestine was deeply congested. The rupture was then found to be one of extensive dimensions, passing transversely across at about the level of the junction of the cervix with the vagina posteriorly. The upper edge of the rupture could be distinctly traced.

Death occurred from exhaustion about three-quarters of an hour after my arrival. I could obtain no information regarding the presentation, and the cause of the protracted labour does not, therefore, seem apparent.

Transvaal. DAVID HORWICH, M.R.C.S., L.R.C.P.Lond.

LANDRY'S PARALYSIS.

As I believe the following to be a case of the above disease, which is exceedingly rare in the British Islands, details may interest your readers.

Mrs. G., aged 55, with five children, the youngest about 10, suddenly developed epilepsy two years ago, without any cause, and became hopelessly demented. The family history was good; there was no neurotic tendency. The menses ceased six years ago, she had always been a temperate, hard working woman.

In January, 1897, she had an attack of fever (influenza?) and since then has "run down in health." She came under my care on May 10th. She was a very stout woman, the skin was harsh and dry, the tongue clean, the pulse weak but

regular, the hair grey and scanty, the pupils equal but contracted, the bowels regular, the urine scanty, specific gravity 1030, loaded with urates, no sugar, no albumen. The heart sounds were feeble, percussion and auscultation of the lungs revealed nothing abnormal. I was unable to detect any disease of the abdominal viscera. She complained of great weakness in the feet and legs and also of "pins and needles." In a few days complete paralysis of the lower limbs ensued and loss of deep reflexes, but no loss of sensation and no wasting.

On May 15th "pins and needles" began in the hands, followed by complete paralysis of both arms, without loss of sensation or wasting.

On May 26th the respiratory muscles became involved, and death ensued on May 27th. The temperature throughout was subnormal. To the last she retained control over the bladder and rectum.

On May 25th I satisfied myself that the spleen was enlarged and tender. Westphal mentions this as a diagnostic point. I did not attempt any treatment.

Owing to objection by relations, both necropsy and consultation were refused.

Devonport. R. P. Ryan, F.R.C.S.

THE EXTIRPATION OF HIGH RECTAL CANCER.

H. B., aged 57, coachman, applied on May 5th, 1896, with an advanced cancerous infiltration, apparently of four to five years' duration, high up the rectum. The forefinger could barely touch the lower border of a hard, woody mass, implicating the entire circumference of the gut; the growth was, however, very mobile. Cutting down on this in the usual way with gentle traction, I made a small longitudinal incision through the diseased part, passed my left forefinger within the bowel, and was thus enabled to pull down the mass, dividing the healthy tissues above upon the finger-tip as a guide. Six inches were removed. The man made an uneventful recovery, and though troubled with fæcal incontinence remains free from any trace of "recurrence."

Remarks.—If a malignant lesion high up the rectum be fixed, no operation will effect its extirpation; if movable, it will, I think, nearly always be found possible to radically excise it by the above plan without resort to the very severe measure which bears the name of Kraske, as I ventured to point out in a recent discussion at the Medical Society. Volsellæ always tear through, whereas the finger thus used brings down without difficulty the lesion, while also controlling hæmorrhage. There can be no more risk of sepsis than is involved by section of the bowel in any other mode.

Gloucester Place, W. Herbert Snow, M.D.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

DORSET COUNTY HOSPITAL.

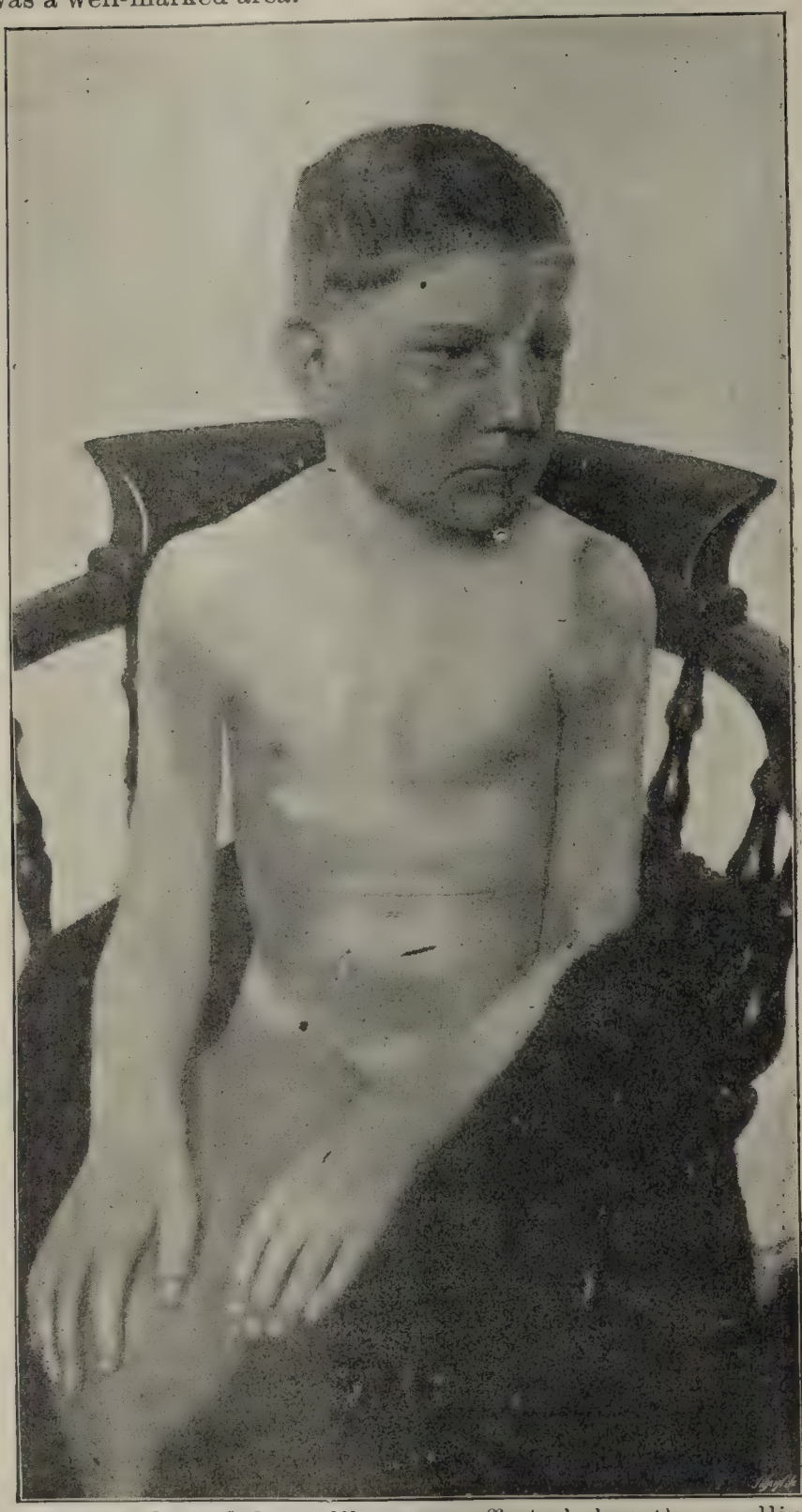
CASE OF LEPRA LEONTINA.

(Under the care of Dr. Vawdrey Lush.)

[Reported by Pelham-Wykesmith, L.R.C.P.Edin., etc., late House-Surgeon, Dorset County Hospital.]

T. S., aged 8, was admitted on September 7th, 1896. He was a fairly well-grown boy, moderately developed and had fair hair and brown eyes. The skin was very dry and cold to the touch. The face had a peculiar reddish brown pigmented appearance; the skin over the whole of the face was hypertrophied, nose very much thickened, the lips large. The ears projected and were markedly infiltrated, the lobe being enlarged but soft.

Neither the scalp nor the hair were in any way affected. The skin at the upper part of the forehead was nearly normal in tint, but towards the nose the colour deepened, whilst the cheeks were swollen and in places slightly nodulated. The nose was uniformly enlarged and thickened, as also the upper lip. The mouth was fissured slightly at the edges The pigmentation extended as far as the chin, below which the colour shaded off to the normal. The skin over the whole body was infiltrated, in some places hypertrophied, notably at the shoulders, feet, and hands; whilst to the touch it was in some places hard, in others doughy. The neck was not infiltrated in front, but at the back were some small scattered pig-patches. The trunk on the whole was nearly free from pigmentation, but over the buttocks and lower lumbar region was a well-marked area.



The hands and feet alike were affected, but the swelling was more œdematous than hypertrophic in character, and the pigmentation was not so marked as in the face.

The abdomen was prominent, but there was no marked dulness or glandular enlargement. The penis was large and the extremity swollen, the skin being pigmented to a marked extent, especially on the dorsal aspect. There were a few scattered nodules on dorsum.

The fingers and toes showed no tendency to contract. The skin, especially where it was exposed to friction from clothes, etc., tended to break down and ulcerate. These abrasions were very obstinate in healing.

There was no marked anæsthesia over the whole of the body, but the patient although able to localise very fairly well was unable to tell the character of the instrument touching him (for instance, a pin caused the same sensation as a test tube).

There was nothing to note about the eyes, the fundi being normal; but the patient was unable to bear a strong light.

His mother noticed, about six months before admission, that his legs began to swell; then his hands; and lastly, his face—the swelling being accompanied by a tingling sensation all over; this sensation had passed away. The swelling seemed to have gone to some extent before the pigmentation appeared. The patient also became listless, and incapable of any sustained mental or bodily exertion. He was born in Singapore. Both parents are English, and are perfectly healthy. He has several brothers and sisters, all in good health. His mother states that whilst in Singapore they used to eat a great deal of fish. She also states that there were several lepers in the colony, who, however, were completely isolated from the general community. The patient had returned to England some eighteen months ago, when (his mother states) he was absolutely healthy, and did not develop any symptoms till six months ago. He has slept in the same bed as his brother since his return to England, his brother being apparently in good health.

Chaulmoogra oil, gr.x, three times a day, in milk, was prescribed; and a lotion, composed of Gurjun oil ℥j, aq. calcis ℥ij, to be well rubbed all over body twice a day.

On October 7th, 1896, the patient, who had had a month of this treatment, did not appear to have derived any benefit. He had had several obstinate attacks of diarrhœa.

On October 14th anæsthesia was very marked, commencing in the feet, and extending upwards as far as the knees, the hands being slightly affected. Examination of the urine showed no abnormal constituent. Examination of pus from a sore over the shin revealed quantities of lepra bacillus.

On October 20th the patient was discharged from the hospital.

On April 20th, 1897, I visited the patient at his home, and found a marked change in him, the most prominent symptoms being the anæsthesia, which was almost total. He was totally unable to feel the prick of a pin in both arms and legs; the feet and hands were more œdematous and cyanosed in appearance, and both fingers and toes showed a tendency to contract. He had lost weight, and had during the winter been subject to several attacks of bronchitis. The pigmentation had spread nearly all over the body, the scalp being still free, whilst the nodules in the skin were very much increased both in number and size. His mother told me that three weeks ago he took up a red hot iron, and apparently felt nothing.

REPORTS OF SOCIETIES.

EDINBURGH OBSTETRICAL SOCIETY.

Wednesday, June 9th, 1897.

Alexander Ballantyne, M.D., President, in the Chair.

Puerperal Fever.

Dr. F. W. N. Haultain read a paper on The Culture, Diagnosis, and Serum Treatment of Puerperal Fever. The following illustrative cases were related. (1) Primipara, confined October 28th, 1896; prolonged labour, low forceps. First ten days of puerperium were normal, but strength was regained slowly. On rising on the twelfth day the patient fainted, and had to return to bed for a week. Temperature remained below 100°; pulse 95 to 105. No pain, no sign of local mischief. On the twenty-sixth day severe pain and swelling in the right thigh, with temperature 101°, and pulse 110°, which all passed away. On the thirtieth day intense pain in the left thigh and calf, swelling of limb, vomiting, fainting; temperature 102°, pulse 120; somewhat fœtid discharge. A culture was taken from the interior of the cervical canal, and from blood drawn from the finger tip. The uterine cavity was washed out with corrosive sublimate solution, 1 in 4,000. The agar tube showed next day a typical culture of the Loeffler bacillus, and 10 c.cm. of antidiphtheria serum were injected. In the evening the temperature had fallen from 103.8° to 99.6°, and the pulse from 130 to 95. On the fourth day from the first injection, as the temperature was again slowly rising, 10 c.cm. were injected on two successive days, after which all symptoms disappeared and the patient made an uninterrupted recovery. No evidence of contagion direct, indirect, or remote could be found, but the sanitary condition of the house was imperfect. (2) Primipara, normal confinement on March 4th; forty-eight hours later rigor, followed by marked feverish symptoms. Temperature 103.6°; pulse 120. Uterine douching was at once carried out and continued. March 8th, abdomen distended and painful, erythematous patches on legs, marked septic look. Temperature 101.8°; pulse 140. Agar culture from cervix, which next day showed a growth of streptococcus and bacillus coli. Ten c.cm. of antistreptococcus serum (made by British Institute of Preventive Medicine) were injected with a negative result. Next day 10 c.cm. more, and a day later 30 c.cm., with no good effect. Persistent diarrhœa set in, left knee-joint became swollen, pulmonary complications supervened, right parotitis, and exophthalmos followed in succession. A culture taken from the blood twenty hours before death gave a pure growth of bacillus coli. There was just a week between the onset of symptoms and the fatal issue. The patient was confined in a room immediately above a stable. (3) Primipara, normal confinement attended by a neighbour. On third day a rigor, and fever on the four following days, pain in the abdomen, delirium at times. On the eighth day temperature 103°, pulse 124, abdomen distended and painful, anxious expression, rapid breathing, uterus enlarged and tender, discharge offensive. Cover-glass specimens of the discharge showed many streptococci. On the ninth day 10 c.cm. of antistreptococcus serum were injected, uterus washed out with 1 in 40 carbolic acid, and packed with gauze soaked in the antitoxin. The temperature fell a degree. Next day 10 c.cm. again injected, followed in the evening by a further fall of a degree and a half in temperature. A cover-glass preparation still showed many streptococci, and the uterine washing was continued for two days. The condition then became favourable, and continued so. These three cases showed then three distinct varieties of infection, the first an intrauterine diphtheria, probably localised to the placental site, giving rise to a dangerous state without external evidence of its true character, or evidence deducible from ordinary clinical signs. The second case was a mixed infection, showed the virulence of the bacillus coli communis, and the absolute inefficacy of the antistreptococcus serum in those circumstances as had already been done by Chantemesse, Bosc, and Marmorek. The third case was of less value, since it was probably a simple toxin poisoning or sapræmia, which as a rule yields to antiseptic intrauterine douching. In this case it had to be noted that improvement only set in after the douching was combined with the serum treatment. The culture method was the most effective diagnostic yet advanced. Even the microscope gave no idea of the vitality or virulence of the organism. In Case III, for example, streptococci were found in the discharge after the disappearance of symptoms. Probably they were then either dead or so crippled as to be innocuous. It was to be hoped that the close observation of a number of cases would lead to the association of certain clinical symptoms with each variety of infection. Diarrhœa and erythematous patches seemed more or less characteristic of infection with bacillus coli communis. From a prognostic point of view the culture method was invaluable, because the prognosis varied greatly, according to the organisms present. Thus Marmorek has shown that in 15 cases of puerperal fever in which the serum method was employed, 7 were due to pure streptococcus infection, and these all recovered; 5 were due to a mixed infection of streptococcus and staphylococcus, and of these 2 died; 3 cases were due to a mixed infection of streptococcus and bacillus coli commune, and all died. It was thus evident that in cases of mixed infection the prognosis was much graver, particularly so when the bacillus coli commune was present. Charpentier recorded 16 cases of streptococcus infection, with 7 deaths, a vastly different result from Marmorek's; yet the prognosis was distinctly more favourable when the case was one of simple streptococcus infection.

The prognosis in pure diphtheritic conditions seemed encouraging; saprophytic organisms appeared to owe their virulence to association with other organisms. Haphazard injection of antistreptococcus serum in all cases of puerperal fever was mere empiricism, and could give no valid deductions. Anxious symptoms sometimes resulted from the mere injections. All other methods should be conjointly used with the serum treatment, antiseptic douching, curetting, packing the uterus with antiseptic gauze, etc. Packing with gauze soaked in antitoxin seemed worthy of more extended trial, since the serum was said to have a bactericidal as well as an antitoxic action. The first indication of beneficial effects from serum injection was the marked fall of the pulse rate, the temperature falling later. Dr. Haultain concluded by urging every possible preventive measure against septic infection, and said that Godson's recent statistics showed that it could be avoided. He urged douching after all labours, once for all, with 1 in 40 carbolic solution, which, acting but for one minute on streptococci and staphylococci, has been shewn by the experiments of Geppert, Behring, and Crookshank, to be sufficient to destroy them, and a weaker solution to have a similar effect on spore-less bacilli such as the bacillus coli commune. Corrosive sublimate (1 in 1,000) failed after an hour's immersion to destroy the vitality of similar cocci.

Remarks were made by the President, by Drs. Berry Hart, Milne Murray, Freeland Barbour, Keppie Paterson, McPhie, and others; and Dr. Haultain replied.

The Morphology of the Vaginal Segment of the Genital Tract.

Dr. D. Berry Hart read a paper on this subject. The conclusions he advanced were as follows: (1) The human vagina is derived from the ducts of Müller only in its upper two-thirds; the lower third is due to a blending of the upper portion of the urino-genital sinus and the Wolffian ducts. (2) The hymen is formed between the third and fourth months of fœtal life, and is due to the development of two bulbs of epithelium from the lower ends of the Wolffian ducts. These coalesce, break down in the centre, and with an upward involution from the urino-genital sinus form the hymeneal opening. (3) The "colliculus seminalis" of man is the analogue of the lower third of the vagina. (4) In the marsupials the lateral canals are the persistent Wolffian element, the central blind pouch the Müllerian element. The paper was illustrated by a full series of lantern views of microscopic sections and diagrammatic drawings.

The President complimented Dr. Berry Hart at the close.

Apostoli's Method in Uterine Fibroid.

Dr. R. Milne Murray's paper on the further course of a case of fibroid tumour of the uterus treated by Apostoli's method was, on account of the lateness of the hour, taken as read.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Medicine.

G. F. Duffey, M.D., P.R.C.P.I., President, in the Chair.

Friday, May 21st, 1897.

Charcot's Disease.

Dr. Conolly Norman related a case of Charcot's disease, exhibited the patient, and also exhibited skiagraphs showing the condition of the bones.

Professor Bennett said his knowledge of Charcot's disease was very small, having only seen one specimen in that city. He had seen Charcot's specimens exhibited in London, at the International Medical Congress. The destruction of bone was specially great in Charcot's disease, much greater than in chronic articular rheumatism. He was inclined to think that the disease was essentially the same as chronic articular rheumatism in pathological detail, except that there was a great deal of effusion.

Dr. Finny said that in his limited experience of Charcot's disease he had not found the cases quite the same as Dr. Norman's. The effusion in the joints which he had seen was very much greater, and the backward movement of the leg was one of the remarkable features. He was very much in a difficulty as to the disease being tabetic, because of the mental condition of the patient, and it was not easy to test for knee-jerk. If it was a case of tabes, it was interesting to note that the patient was unaffected in the upper limbs; of course the disease might be limited to the lower extremities for a long time, but there seemed to be none of the other occasional symptoms. The case was one which, he was sure, must remain for a certain time in an unknown category.

Dr. Norman, in reply, said that everyone was familiar with the doctrine that Charcot's disease was merely a variety of chronic articular rheumatism. He thought, perhaps, that a truer view to take was that some nervous disorder with which they were at present unfamiliar was associated with chronic articular rheumatism. With regard to the absence of backward displacement to which Dr. Finny had referred, he thought it possible that the condition of disturbance in the joints had been arrested before the cu-tomary destruction of the posterior ligaments. He could not say how long the condition had lasted, but it did not exist in 1890, but did in 1896, and, according to the patient's own statement, the disease would have commenced in 1895. The only sign of tabes which she exhibited—excepting the condition of her legs—was the Argyll-Robertson phenomenon. There was a great deal of anæsthesia still in her legs, which, of course, was in favour of alcoholic neuritis. He thought it likely that the condition was still undescribed.

A Fatal Case of Alcoholism.

Dr. Knott read a paper on a Fatal Case of Alcoholism.

Section of State Medicine.

J. M. Redmond, M.D., President, in the Chair.

Monday, May 10th, 1897.

The Recent Failure of Hospital Accommodation in Dublin.

Sir Charles Cameron read a paper on this subject. In 1895 he proposed the institution of a Hospitals Board for Dublin City and County on the lines of the London Asylums Board. The scheme was discussed and was approved of by the representatives of several of the local authorities, particularly by those from the North Dublin Board of Guardians, but opposition to the scheme was soon manifested. Three arguments were used against the scheme: First, that it would be enormously costly; secondly, that there was ample accommodation for the treatment of infectious diseases in existing hospitals; thirdly, that it would interfere with medical education. The author took exception to these reasons, and gave reasons for so doing. He said the recent failure of hospital accommodation in Dublin justified him in bringing the subject of isolation hospitals and convalescents' home again before the Academy. In 1894 the Public Health Committee made the strongest representations to the Boards of Guardians as to the absolute necessity for providing accommodation for small-pox, which was at the time threatening to assume an epidemic form. It was, however, not until Cork Street and the Hardwicke Hospitals were overcrowded with small-pox patients that the South Dublin Board of Guardians erected sheds at Kilmainham, not far from the workhouse. Last year, when it became evident that measles and scarlet fever were becoming epidemic, the Public Health Committee made strong representations to the Boards of Guardians as to the urgent necessity for making provision to meet the epidemics; but it was not until long after the hospitals had ceased to afford sufficient accommodation for infectious cases that hospital accommodation was provided at Kilmainham, and the congestion of the hospitals diminished. At the period when the congestion of the hospitals had attained its maximum a case of small-pox occurred on the south side of the city. Small-pox broke out, and no hospital was in a position to admit the first three patients. Fortunately the disease did not spread. Recent events had proved that if more than one disease was extensively epidemic in Dublin the hospital accommodation was insufficient. It must be admitted that, in any future epidemic of small-pox it would be desirable to provide hospital accommodation outside the city. As regards measles there would always be a difficulty in providing accommodation for its victims on account of the great number of patients. In Glasgow a determination had recently been arrived at to provide full accommodation to meet the wants of the largest epidemic of this

disease. In Edinburgh the foundation stone of a fever hospital had just been laid. It would accommodate 600 patients (including measles cases). The author contended that a small-pox or other infectious diseases hospital, established by a conjoint Board, would be used by both rich and poor. No one would feel pauperised by being an inmate of a Board's hospital, and those who could afford to pay for it might have separate rooms and special attendance. Towards the support of such a hospital and the maintenance of a home for convalescents for fever, the funds derived from the poor-rate could be applied. He was, therefore, still of opinion that an Infectious Diseases Hospitals Board should be constituted for the metropolitan districts, and that the Board should establish a small hospital, a home for convalescents, and make provision for epidemics of measles or scarlet fever.

Dr. FALKINER said that there ought to be no doubt in the minds of the citizens of Dublin that the hospital accommodation was quite insufficient in the event of three or four epidemics occurring at the same time.

Dr. J. W. MOORE strongly advocated an isolation hospital for small-pox, and thought it a burning disgrace that Dublin did not possess such a hospital. He also thought it a shame that the local authorities had never availed themselves of the full powers given them in 1878 to establish convalescent homes for the treatment of those recovering from infectious diseases. It was not necessary to keep measles or scarlatina in a ward for three and six weeks respectively, as it endangered the other patients in the ward, but a convalescent home was required to which to send them. He agreed with Dr. Falkiner that the early isolation of children where measles had broken out—provided the children had not been brought into actual contact with infection—was a check on their being attacked with the disease.

Dr. DOYLE thought that an isolation hospital was necessary. He thought that ground for the purpose of erecting temporary institutions should be taken, and said that the best results in the treatment of infectious diseases had been obtained in such buildings. It was a question whether it would not be better for the community at large that all hospitals should be built in such a condition that after a certain number of years they should be burnt down.

Remarks were also made by Dr. DELAHOYDE, Dr. POTTER, and Sir C. CAMERON.

The following resolution was proposed by Sir C. CAMERON, seconded by Dr. J. W. MOORE, and passed:

That the Section of State Medicine of the Academy of Medicine is of opinion that the sanitary authority of the Dublin district should provide accommodation for convalescents from infective diseases, with the twofold object of checking the spread of such diseases and of relieving the congestion of hospitals during epidemics. The Section is further of opinion that provision should be made by the above authorities to provide like accommodation for small-pox cases.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—The second general meeting was held at the rooms of the Medical Society of London on June 9th; the PRESIDENT (Dr. S. Myrtle, Harrogate), in the chair.—The officers for the ensuing year were elected, William V. Snow, M.D., M.R.C.P., Bournemouth, being the President-elect.—Dr. S. HYDE read the report of the Council, and mentioned among the features which had marked the year's progress a sustained interest in the papers and discussions, well-attended meetings, the establishment of a quarterly journal, and a steady increase of membership; 117 gentlemen had been added to the roll of the Society, the total number of Fellows being now 340. The journal had been well received, and was likely soon to be self-supporting. The finances of the Society were in a satisfactory condition. The report was unanimously adopted. An ordinary meeting of the Society was then held. Fourteen gentlemen were elected Fellows. The adjourned discussion on Dr. Snow's paper dealing with the Climatic Treatment of Phthisis was resumed. The following gentlemen took part in the discussion: Dr. SYMES THOMPSON, Dr. WILLIAM EWART, Dr. CARL RUEDI, Dr. ROBERT LEE, Dr. ST-CLAIR THOMSON, and Dr. SEPTIMUS SUNDERLAND. Dr. SNOW, in replying, said he did not think the whole subject was going to be settled by mere statistics. It was scarcely possible to compare a hundred cases sent to the Engadine with a hundred of the different class of cases for which the South of France was suited; still less was it possible to compare these with such as were sent to the English resorts. He believed that treatment by altitude in suitable cases would secure more permanent and better results than by treatment in the South of France, England, or anywhere else. With reference to South Africa he would emphasise the necessity of sending patients to farms and keeping them clear of the towns. There were few cases he would send to South Africa other than young men whose friends could provide moderate means, and who were likely to be satisfied with the open-air life on farm land. In the case of English health resorts the most reliable deductions were to be drawn from patients who took up their permanent residence in them. In such cases remarkably good results had been obtained, in a large proportion the disease being sufficiently arrested for the patients to be able for a good many years to earn their own living, and in a by no means ignoble proportion complete cure resulting. The open-air treatment was the most important of all. His only fear was that it might be prejudiced by its indiscriminate adoption, for some patients required time to get gradually accustomed to it. With regard to the request that he would give details of his results in different classes of cases at Bournemouth, he would make a communication to the Society at some future date.—The PRESIDENT then read a paper entitled Gouty Liver and Sulphur Spas, giving the results of his treatment of certain cases of enlarged liver occurring in gouty subjects by the use of the Harrogate sulphur waters. In reply to Drs. SYMES THOMPSON, EWART, DOUGLAS KERR of Bath, and ROBERT LEE, the PRESIDENT said he never resorted to deep massage until the liver congestion and enlargement had been much relieved by the waters.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At a clinical meeting of this Society on June 4th, Mr. BRUCE CLARKE, President, in the chair, Dr. HENRY SUTHERLAND showed (1) a case of Epilepsy, the disease having commenced after a miscarriage at the fifth month; (2) a girl, aged 9 years, with Congenital Absence of the Iris.—Mr. MCADAM ECCLES showed (1) a woman, aged 48, with Symmetrical Nodules of a Fibrous Nature on the Posterior Aspects of both Ulnæ. She was affected with chronic rheumatoid arthritis. (2) A man, aged 75, with a Rodent Ulcer of the Left Axilla. There was extensive superficial ulceration, with "rolled edges," serosanious discharge, induration slight. A microscopic section of the ulcer showed the usual appearance of rodent ulcers.—Dr. H. P. POTTER showed a man, aged 59, with Scurvy due to privation. He had extravasations on the dorsum of each foot, in the calf of one leg, ecchymoses and purpura of the legs and arms, spongy and bleeding gums and marked fœtor of the breath. Under a liberal diet, including potatoes, he was recovering.—Mr. L. A. BIDWELL showed (1) a woman, aged 51, with a Swelling connected with the Left Wrist and another on the Outer Side of the Right Elbow. They were probably of a tuberculous nature. (2) A man, aged 34, with a Primary Sore affecting the Right Cheek. (3) A girl, aged 17, who had had a swelling just above the hyoid bone for ten months. This swelling had gradually increased to the size of a hazel nut.—Dr. BURRELL showed two cases of Leucodermia.—Dr. SEYMOUR TAYLOR showed a man, aged 50, who had had an Injury to his Head twelve weeks ago, when he was admitted to the hospital in a comatose condition with hæmorrhage from the right ear. He now had facial palsy, loss of taste in right side of tongue, paresis of right side of soft palate; no deafness. Diagnosis: Fracture of petrous bone or hæmorrhage into the aqueduct of Fallopius.

NOTTINGHAM MEDICO-CHIRUGICAL SOCIETY.—At a meeting on May 19th, Dr. RANSOM, President, in the chair, Dr. MILNES showed a case of Molluscum Fibrosum in a woman, aged 57.—Mr. TRESIDDER showed a woman, aged 45, with Pigmented Spots on the Nose. He suggested that it might be case of melanosis lenticularis progressiva.—Dr. WESLEY read a paper on Submaxillary Cellulitis. After referring to the anatomical relations of the submaxillary cellular tissue and the distribution of the areola planes in continuity with it, the bacterial element of the disease was discussed. The micro-organism seemed to have been different in individual cases, the most

common variety, however, being a streptococcus, this tending to prove that the disease cannot be truly looked upon as a specific one. Numerous cases were detailed, which showed most of the varieties and the chief complications of the affection. The cases grouped themselves into, first, the very acute ones in which the constitutional symptoms were severe, and which often rapidly ended fatally; secondly, the less acute cases, which had arisen from extension of inflammation from the lymphatic glands, the general symptoms being less severe, and almost always resulting in recovery. Free and early incision was insisted on in all cases, and the most favourable position was discussed. For the anæsthetic chloroform was to be preferred, a local anæsthetic such as ethyl chloride being occasionally useful. In the acuter cases the use of antistreptococcus serum was advocated, in addition to incision. Dr. Ransom and Mr. Anderson discussed the matter, and Dr. Wesley replied.—Dr. Bell Taylor read a paper on the Contagious Diseases Act from a Sanitary Aspect. He said in the Army reports of those cases classified as syphilis and invalided as such, two thirds were due to gonorrhœa, nine-tenths of the remainder were due to non-syphilitic sores, neither of which classes presented constitutional symptoms. In the remainder the disease did not present serious symptoms, tertiary symptoms being rarely seen nowadays. After quoting numerous authorities in support of his hypothesis that exceptional legislation on this subject was not required, Sir H. Campbell-Bannerman and Mr. Shaw Lefevre were quoted as legislators who had expressed views antagonistic to the Acts. He thought the Acts failed because the disease in women is often so dormant and with such difficulty detected. He advocated voluntary hospitals. The subject was discussed by Drs. Ransom, Anderson, Handford, Wood, Bolton, O'Mullane, and Tresidder, and Dr. Bell Taylor replied.—The following resolution was finally proposed by Mr. Anderson, seconded by Dr. Geraty, and carried:

That this Society having considered the question of the prevalence of venereal disease in the Army, hopes that the Government will take immediate steps to check its spread.

North of England Gynæcological and Obstetrical Society.—At a meeting held in the Board Room of the Medical School, Leeds, on May 27th, 1897, Mr. H. Briggs, President, in the chair, Professor C. J. Wright (Leeds) showed: (1) Some Molar Masses removed from a Uterus four weeks after the birth of a living child. There had probably been a twin conception, with one ovum blighted, and the masses consisted of granulation tissue, and contained a few bits of placental structure; (2) the Placenta from a case of triplets; this was one large placenta, with two cords and a smaller one, with œdematous funis. The amniotic sacs were separate.—Mr. W. A. Stott (Leeds) showed: (1) Carcinomatous Ovaries removed from a single woman, aged 42, who died four months later from intestinal obstruction and perforation produced by secondary growths; (2) Double Hydrosalpinx from a woman, aged 27; specimen preserved in formol and salt solution; (3) Double Pyosalpinx, with Ovarian Cyst; (4) Microscopic Specimens of Uterine Cast from a case of Membranous Dysmenorrhœa.—Mr. Croft (Leeds) showed: (1) Ruptured Female Bladder. The patient had been operated upon for piles; there was no subsequent retention of urine or catheterisation. On the eighth day there was abdominal pain and distension, followed by a diminution in the quantity of urine passed, and symptoms of uræmia. The patient died of uræmia, and *post mortem* there was no evidence of peritonitis, adhesions, tubercle, or abscess in the pelvis or abdomen. (2) Uterus, removed by vaginal hysterectomy, for cancer of the cervix.—Dr. Braithwaite (Leeds) read a paper entitled Some Points in the Treatment of Puerperal Septicæmia, including the use of Antistreptococcic Serum, and based upon 63 cases seen in the last eight years. Two cases originated in the retention of bits of placenta which had been forcibly expressed. In one case a small piece of membrane, and in eleven cases laceration of the perineum alone, was the cause. In one case the thick matted hair of the vulva seemed to be the source of infection. Several cases were late puerperal fever, and associated with pelvic cellulitis. In discussing the treatment, Dr. Braithwaite divided the cases into those with more or less acute peritonitis, and those with little or no peritonitis. In the former, which were the more serious, calomel in 6-10 g. doses was recommended as the first remedy after washing out of the uterus and vagina, on the assumption that it was not the streptococcus itself, but its toxin, which produces the symptoms, and this toxin was run off by the bowels. As to reduction of temperature, the writer recommended that the patient should be placed on a cold water bed and a wet pack applied, and as to drugs he considered phenacetin the most useful. In the second class of cases a good plan was to commence the treatment by a dose of castor oil shaken up with hot milk, then give tr. ferri perchlor. combined with potash and glycerine, creasote in 1-minim doses being a valuable adjunct. Dr. Braithwaite related four cases in which he had used the antistreptococcic serum, and in three out of the four a considerable reduction of temperature followed, but it is uncertain how much of this was due to douching, purgatives, and other treatment; still, however, there is sufficient evidence to justify the continuance of the use of the serum; but it should be employed at the onset of the fever. A discussion followed, in which the President, Messrs. Wright, Croft, Richardson, Hellier, and Gemmell took part.

Kidderminster Medical Society.—At a meeting held at the Kidderminster Infirmary on April 2nd, Mr. W. Moore, President, in the chair, Mr. J. L. Stretton showed (1) a Murphy's Button with portions of tissue from a case of Cholecystenterostomy; it was passed on the fourteenth day, and the patient was doing well. (2) Two Phosphatic Calculi removed by suprapubic operation from a man aged 78. He had been sounded by several surgeons in London and the provinces with a negative result, and it was not until three months after double castration had been performed, and considerable shrinkage of the prostate had resulted, that the stones were struck. The patient made a good recovery. (3) A boy, aged 9, upon whom he had performed the radical cure of Hernia three months previously with a satisfactory result. —Mr. Davies showed a boy, aged 6 years, with Crepitations over the bases of both Lungs posteriorly, more especially just below the angle of the scapula on the right side. The boy had been under constant observation for three months; there were no constitutional symptoms, and he had gained weight, but no form of local or general treatment had any effect upon the physical signs. No expectoration had been obtained.—Mr. E. P. Hasluck read a paper on the Treatment of Chronic Ailments.—At a meeting on May 28th, Mr. S. Stretton in the chair, Dr. Thompson sent notes of the following cases: (1) Punctured Wound of Abdomen, with Prolapse of the Gut, in a girl aged 4 years. A pair of rusty harrows supported a door without hinges, the sharp points being outwards; the child climbed up, pulling the harrows, together with the door, over on herself; some of the spikes entered the left of the abdomen at the centre of a line drawn from the umbilicus to the middle of Poupart's ligament, causing protrusion of about 8 inches of gut. She was brought from the country four miles in a spring cart, with the protruded bowel covered by a wet cloth. In order to return the bowel chloroform was administered and the opening enlarged; the wound was stitched up and a pad and bandage applied. The child was then driven home in the pouring rain. She had no bad symptoms, but two days later she was sent to the Kidderminster Infirmary, under the care of Mr. J. L. Stretton, in case any complications might arise. She there made an uneventful recovery. (2) Seventeen Biliary Calculi removed *post mortem* from a woman aged 36. When first seen she had intense pain over the hepatic region. The following day, symptoms of severe peritonitis supervened, and before arrangements could be made for her removal to hospital she died. On opening the abdomen and exposing the gall bladder, a portion of a stone was visible through a recent perforation, and the peritoneum around was intensely inflamed. There were sixteen more stones within the gall bladder, and they exhibited a remarkable appearance, being perfetly white and polished, the surface resembling porcelain.—Mr. J. L. Stretton showed: (1) A patient upon whom he had performed Cholecystenterostomy. The Murphy's

button passed on the fourteenth day; there was a considerable discharge of bile and fæces through the gall bladder, to allay which it was plugged with iodoform gauze, when it appeared to cease. The second operation was then performed. On examining the gall bladder, it was impossible to detect any opening between it and the intestine, but on opening the peritoneum they were found to be in close contact. An elliptical incision including the fistulous opening was made, the edges of the opening were then freshened, and it was closed with deep sutures, the elliptical opening being brought together over it. The wound healed without any trouble, and the fæces continued to contain bile, which they had not done prior to operation, showing that there was some communication between the gall bladder and intestine. Although in this case the operation has been divided, Mr. J. L. Stretton thought it would be better in future cases to perform it at one time for fear of the contraction of the newly-formed opening. (2) Seven Urethral Calculi weighing 60 grains in the dry state, removed from the urethra of a youth. Mr. J. P. Holyoake mentioned a case he had met with in an elderly man, and exhibited the Calculus. Mr. E. H. Addenbrooke mentioned a case in which retention was due to a similar cause.—Mr. E. P. Hasluck showed: (1) A Sequestrum removed by J. L. Stretton from the Tibia of a man, who suffered a fracture two years previously. (2) A Caterpillar, species Pieris Brassicæ, vomited by a child aged 5 years, who had been eating some raw cabbage, and the parents asserted that the caterpillar was vomited alive.—Mr. P. E. Davies read "Notes on Anæsthetics."

Manchester Therapeutical Society.—On Wednesday, June 16th, the first general meeting of this Society was held at the Owens College.—Professor Leech delivered an address upon the objects of the Society, the considerations which had led to its formation, and the lines of future work.—A number of new drugs and preparations were exhibited, rules for the management of the Society were adopted, and the following officers elected for the session 1897-98:—*President:* Professor D. J. Leech, M.D., D.Sc., F.R.C.P. *Vice-Presidents:* Professor Dixon Mann and Professor Delépine. *Honorary Treasurer:* Dr. R. T. Williamson. *Honorary Secretary:* Dr. R. B. Wild. *Committee:* Drs. Bury, Coutts, Hopkinson, Kelynack, Stall, and Wilkinson.

REVIEWS.

A Short Practice of Midwifery, embodying the Treatment Adopted at the Rotunda Hospital, Dublin. By Henry Jellett, B.A., M.D., B.A.O.Dublin University, Assistant Master, Rotunda Hospital; with a Preface by W. J. Smyly, M.D., F.R.C.P.I., late Master of the Rotunda Hospital, and an Appendix containing the Statistics of the Hospital for the last seven years. London: J. and A. Churchill. 1897. (Cr. 8vo, pp. 343. 6s.)

This is a small work which puts forward no claim to exhaust the subject. It is written in a clear, simple style, and is practical and unambiguous. Brief though it is, it is more than a mere student's cram book. Its special claim is to represent the practice of the Rotunda, and therefore it is incumbent upon us to notice the points on which the practice diverges from that usually taught. We learn from the preface that there are two points upon which the author expects criticism. The first is the treatment of accidental hæmorrhage. Dr. Smyly in the first two years of his mastership treated these cases in the customary way, by rupture of the membranes, followed, if this was not effectual, by turning and rapid delivery, that is, the *accouchement forcé*. He now treats all such cases in which the membranes are intact and pains absent or feeble by plugging the vagina. The statistics at the end of the book, we think, confirm the author's opinion that plugging and then leaving the case to Nature is better than the *accouchement forcé*. The other is the treatment of puerperal eclampsia. Dr. Smyly has abandoned chloroform and adopted instead the morphine treatment recommended by G. Veit. The wonderfully favourable statistics in which Veit's practice has resulted are ample justification of the change of practice; but as since this change he has only had seven cases we cannot say that his results much strengthen the conclusions of Veit. Dr. Smyly's modification of his treatment may, however, lead others to study, to the advantage of their patients, the brilliant results obtained by Veit. Dr. Smyly was led to abandon chloroform and chloral on account of their depressing effect on the heart.

The information given is on the whole accurate and the advice sound. May we point out some venerable errors, long copied from textbook to textbook, the life of which this work will tend further to prolong? The oblique diameters are given (p. 8) as taken from either sacro-iliac synchondrosis to the opposite pectineal eminence. A glance at a pelvis will show that this is not a diameter—that it does not bisect the pelvis, but is behind and shorter than the line which does do so. The oblique diameter may be taken either from a point about a finger's breadth in front of the sacro-iliac synchondrosis to the pectineal eminence (Galabin) or from the sacro-iliac synchondrosis to a point above the middle of the obturator foramen, and about a finger's breadth in front of the pectineal eminence (Herman). At page 14 it is said that the suboccipito-bregmatic diameter of the head is the greatest diameter of the head that has to pass the brim in a vertex presentation. This is not so; measurement of a fœtal head will show that the suboccipito-frontal is the largest in the plane of the suboccipito-bregmatic. It is said that the cervico-bregmatic is the greatest diameter that has to pass the brim in a face presentation. Measurement of the fœtal head will show that this is incorrect; the greatest diameter is one from the junction of the neck and chin, not to the bregma, but to a point on the sagittal suture behind the bregma—the cervico-vertical, not the cervico-bregmatic. The occipito-mental diameter is correctly defined as being from the chin to the most distant part, but incorrectly named; for the part of the head most distant from the chin is not the occiput but a point on the sagittal suture above the occiput, and should be called the vertico-mental. We trust Dr. Jellett will take these suggestions in good part, for we have no doubt that he as much as anyone appreciates the importance of scientific accuracy.

Picturesque Burma: Past and Present. By Mrs. Ernest Hart. London: J. M. Dent and Co. 1897. With Illustrations. (£1 1s. net.)

In this sumptuous volume are recorded the impressions and observations of a traveller who, like Ulysses of old, *mores hominum multorum vidit et urbes*, and who, with an artist's feeling for the picturesque, has a thorough understanding of the practical. Mrs. Hart has the feminine sureness of eye for externals, but she has the much rarer gift of sympathetic insight, which enables her to see through all the outer wrappings of colour and creed to the elemental humanity underneath. Her book, therefore, is a living literary organism, not the result of mere accretion, like the random jottings of the ordinary globe-trotter or the hasty notes of a politician in search of "facts."

A most interesting account is given of the country; and the people, their character, their customs, their marrying and giving in marriage, their funeral rites, their religion, and their superstitions are described so vividly and so sympathetically that in reading about them, and looking at the admirable photogravures and sketches—many of them from the author's own accomplished brush—with which Mrs. Hart's book is profusely illustrated, one almost feels as if one were "on the road to Mandalay," and catches oneself humming:

> For the temple bells are callin', and it's there that I would be—
> By the old Moulmein Pagoda, looking lazy at the sea.

A chapter of special interest to our readers is that on "Doctors and Doctoring, Burmese and British." Burmese medicine, according to Mrs. Hart, takes no account of such trifles as physiology and pathology; its professors are content to be guided by tradition. Why should a man trouble himself with the ideas of the Western barbarian as to the bones, the nerves, and the blood vessels?

Gautama himself enumerated them all ages ago, and it would be an impiety to add to his catalogue. The body is composed of four elements—earth, water, fire, and air—and when anything disturbs the "concert" of these powers there is disease. There are just ninety-six ills that flesh is heir to. For the treatment of these the Burmese has various drugs—cathartics, anthelmintics, hot peppers, fungi from bamboo roots, croton seeds, vegetable soots, and some mineral salts. He dispenses his own medicines, and seems to be given to polypharmacy. Mrs. Hart mentions "a certain green pill, stated to be infallible in its effect," which contains no fewer than 160 ingredients. This throws the famous "Antidotum Mithridatium," which was composed of 72 substances, altogether into the shade. The Burmese physician has such belief in his pills that he will force open the mouth of a dying man with a stick to make him swallow them.

The Burmese patient believes that in the multitude of counsellors there is safety. If a rich man is taken ill he sends for all the doctors within reach one after the other, and takes the remedies they prescribe. It says much for the natural strength of the Burman constitution that patients sometimes recover from their physicians. Witchcraft, it need hardly be said, plays a large part both in the pathology and in the therapeutics of the Burmese.

They have no notion of surgery, and do not know how to set a broken limb or stop bleeding. So completely, says Mrs. Hart, was amputation unknown before the English came to Burma that when in the first Burmese war the army surgeons had occasion to remove the limbs of wounded Burmans, the natives thought that was the English way of mutilating prisoners. Now all surgical cases are taken to the British hospitals. The Burmans, like nearly all Orientals, bear operations remarkably well. Shampooing in Burma has reached the perfection of a fine art. Women are the operators, and in cases of rheumatism and stiffness their manipulations are said to give great relief. Small-pox used to ravage the country, but with British rule vaccination has been introduced. Leprosy is still rife, the number of the victims of this scourge in Mandalay alone being estimated at 2,000.

It is satisfactory to learn that science is fast taking the place of superstition in the treatment of disease in Burma. Hospitals have been established at Rangoon and Mandalay, Western medicine and surgery are making their beneficial effects felt throughout the land, and the people are being gradually awakened to a sense of sanitary decency. The chief credit of this good work must be awarded to British medical officers.

The chapters on Burmese opium smoking as compared with Indian opium eating are highly interesting. They sum up the results of intelligent personal observation and analyses of accrued testimony; the conclusions are of national as well as medical value. The authoress is in favour of the Indian practice, but much opposed to that of Burma.

Another chapter of particular interest to the medical reader is that entitled "A Royal Race of Homicidal Maniacs." The misfortunes of Burma in the past have been very largely due to the inhuman cruelty of its rulers. Mrs. Hart's view is that the kings of Burma of the dynasty of Alompra, which held sway for nearly a century and a-half before the British intervention, were in fact homicidal maniacs, the mental disorder being propagated and intensified by the system of incestuous marriages whereby it was sought to ensure the succession to heirs of the royal blood. The historical facts given by Mrs. Hart certainly go far to bear out her contention.

Space will not allow a fuller notice of this highly attractive book. For those who wish to learn all that it concerns most people to know about Burma—and the present is a time that should inspire such a wish in every citizen of Greater Britain—there could be no better guide. Style, a literary critic has said, is the great antiseptic; may we, without too strong a flavour of professional pedantry, say that Mrs. Hart's style is an intellectual peptone, making easy the assimilation of the solid facts which she has to convey?

It need only be added in conclusion that the publisher has brought out the work in a worthy form, and that it has at once taken its place as a literary classic on the subject treated.

Lectures on the Treatment of Fibroid Tumours of the Uterus, Medical, Electrical, and Surgical. By Franklin H. Martin, M.D., Professor of Gynæcology, Post-Graduate Medical School of Chicago. Chicago: The W. T. Keener Co. (Demy 8vo, pp. 174. One dollar.)

The author of this work was the first to advocate and perform vaginal ligature of the base of the broad ligaments for the cure of uterine fibroids. The first operation was done on November 15th, 1892, and reported in the *American Journal of Obstetrics* for the succeeding year. Hence these lectures are chiefly of interest on account of the seventh, which includes a consideration at length of the author's operation. The steps are demonstrated by clear though rough woodcuts. Dr. Martin informs us that the cases in which the most satisfactory results may be expected are incipient or small fibroids of the interstitial variety which show themselves late in menstrual life. He also practises his operation in cases of continuous and profuse hæmorrhage, where the patients have become so exhausted that no radical procedure can be thought of until a less severe operation has checked waste of blood and allowed of recuperation. In two of his own cases the gain of strength was rapid, and though it seems that a more radical operation was originally intended it was never required, as the tumour in both instances shrank up. Dr. Martin furnishes his readers with notes of thirteen cases where he had operated over one year before the lecture was given. All recovered, the after-histories are fairly satisfactory, and there were no absolute failures. The results remind us of similar series of oöphorectomies for the same disease, which when skilfully performed have given good results.

That operation is not, after the usual fashion of advanced gynæcologists at the present moment, absolutely rejected. Dr. Martin rightly admits that "the very enlightenment which it has created helps to make it obsolete." He allows that expert abdominal surgeons rightly practise it in cases of small bleeding tumours in weak women who are near the menopause, and in similar cases of fibroid where abdominal section would not ordinarily be indicated, but which are complicated with disease of the appendages. His directions for securing the pedicle in this operation are excellent, and well explained by diagrams. There is always risk of slipping of the ligature, and he explains how this peril may be avoided.

The lectures on hysterectomy are less satisfactory; in another, on the electrical treatment, the author states that it never interferes with the success of a future operation if it fails to afford a cure. This statement is too sweeping. On the other hand, as in many similar American manuals, a very good chapter is devoted to surgical environments, the operating-room, sterilisers, ligatures and sutures, cleansing of the hands, and preparation and after-treatment of the patient. Let authors and editors of British "Manuals" and "Practices" of surgery think on Dr. Martin's treatment of these questions. If well taught in such matters, even a clumsy pupil may operate without absolutely disastrous results.

Etude sur L'Aspergillose chez les Animaux et chez L'Homme [Aspergillosis in Animals and Man]. Par le Dr. Rénon. 2 figures dans le texte. Paris: Masson et Cie. 1897. (Demy 8vo, pp. 312.)

As the number of observations on any special form of disease accumulates some one is usually found to collect and collate them, and to add such information and generalisation as will enable those interested to obtain a fairly comprehensive view of the subject. For some time past the pathogenic effects of the aspergilli, especially of the aspergillus fumigatus, have been studied by medical men, but much more frequently has the attention of veterinary surgeons been called to this subject, as in the broncho-pneumonias of animals it has for a long time been recognised as an important etiological factor. As early as 1815, A. C. Mayer observed fungi in the bronchi, lungs, and air sacs of the jay, and from time to time similar observations have been made on the air passages and reservoirs of birds. In 1857 similar fungi were observed in the lungs of the horse, and since then numerous cases of asper-

gillus disease have been found in animals; whilst several cases have also from time to time been recorded in the human subject. At first these fungi were supposed by Virchow, by Spring, and by Robin to be simply secondary phenomena and to have nothing to do with the causation of pulmonary processes with which they were associated; but latterly, especially in the French school, the view has been taken that these aspergilli, especially the one mentioned, have a distinct pathogenic action.

In Dr. Rénon's work the history of the aspergillus fumigatus and its appearance in mammals, birds, and incubated eggs, the spontaneous aspergillosis of animals experimental aspergillosis, and aspergillosis in man, are very fully reviewed.

As regards aspergillosis in man, the author considers that the aspergillus fumigatus plays, not a secondary part merely developing in previous lesions as a true saprophyte, but acts also as a primary cause of disease, being as truly parasitic as the actinomyces or the tubercle bacillus. This is also the case in birds and in mammals, in which it gives rise to bronchial and pulmonary disease, and in the latter sets up a process almost identical with the hæmorrhagic septicæmias. The organism may be experimentally inoculated when it sets up pathogenic process having a very marked resemblance to bacillary tuberculosis. It is interesting to notice that in certain cases, especially in the human subject, the aspergillus appears to take on an actinomycotic form, and M. Rénon draws attention to the fact that certain cases which hitherto have been looked upon as of tuberculous or actinomycotic origin are really of aspergillic origin. Here, too, the aspergillus fumigatus is not a simple saprophyte but a true parasite. A full bibliography, which will be of considerable use to those who take an interest in this subject, is appended.

A System of Dental Surgery. By the late Sir John Tomes, F.R.S. Revised and Enlarged by C. S. Tomes, M.A., F.R.S. Fourth Edition. London: J. and A. Churchill. 1897. (Demy 8vo, pp. 728, 289 illustrations, 16s.)

We can speak with almost unqualified praise of this Manual. To the dental practitioner it is invaluable, and although it may lack that dogmatism that is essential in a successful manual for students, every dental student would be the better for having read it. The fourth edition has been re-written almost entirely, and new chapters added, bringing the work up to date. That on the bacteriology of the mouth is, perhaps, one of the best in the book; but it is difficult to particularise where all are good.

The chapters deal with teething, normal and abnormal dentition, irregularities of the teeth and the methods employed for regulating the teeth, bacteriology of the mouth, dental caries and its treatment, materials used for filling teeth, methods of introducing gold, treatment of exposed pulp, inflammation of the alveolar periosteum, antiseptics, necrosis of the jaws, diseases of the antrum, dental exostosis, absorption of the roots of permanent teeth, erosion of the teeth, the operations of extraction, anæsthesia, odontalgia and neuralgia, reflex affections due to the irritation of diseased teeth, fracture of the teeth, dislocation of the teeth, odontomes, the saliva and salivary calculus, absorption of the alveoli and pyorrhea, hypertrophies of the alveolar portion of the jaw, diseases of the gums, affections of the tongue, immobility of the jaws, injuries to the jaws, pivoting teeth.

NOTES ON BOOKS.

Transactions and Reports.

The *Report of the Obstetric Department of the Brooklyn Hospital, Low Maternity, and Gynecological Clinic for the Year 1896*, by Francis H. Stuart, A.M., M.D., Obstetrician to the Hospital, consists mainly of a brief report of cases of complicated or difficult labours occurring in the hospital during 1896. As such it will be of use to those in search of material for the compilation of statistics. The reports are too brief to be of much service in other ways; and the number of cases is too small (109 deliveries) for one year's experience to demonstrate any important conclusion.

Technik und praktische Bedeutung der Asepsis bei der Behandlung der Harnleiden [The Technique and Practical Importance of Asepsis in the Treatment of Urinary Affections]. Von Dr. Robert Kutner. (Berlin: August Hirschwald. 1897. Demy 8vo, pp. 42. Eight illustrations. M. 1.).—This pamphlet has been written with the objects of pointing out the great practical importance in the treatment of urinary affections, of a conscientious observance of asepsis, and of describing the means by which the practitioner can apply aseptic principles in the simplest and, at the same time, most effectual way. As the chief danger in passing instruments into the bladder is the introduction of pathogenic organisms from without, the author lays much stress on the careful sterilisation of catheters and bougies, and also of urethral and vesical injections. The precautions here described are very complicated and minute, and seem apt to prove very irksome both to surgeon and patient, and in cases of urgency might prove impracticable. The application of aseptic measures in urinary surgery is attended with more or less difficulty, and there can be no doubt that for some time to come, the means for rendering urethral instruments quite pure will in ordinary practice be found wanting. The author has done his best to overcome such difficulty, and a perusal of his work will show the necessity for strict precautions in the use of the catheter, and also suggest effectual means for preventing such evil results from this treatment as might prove worse than the original disease.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

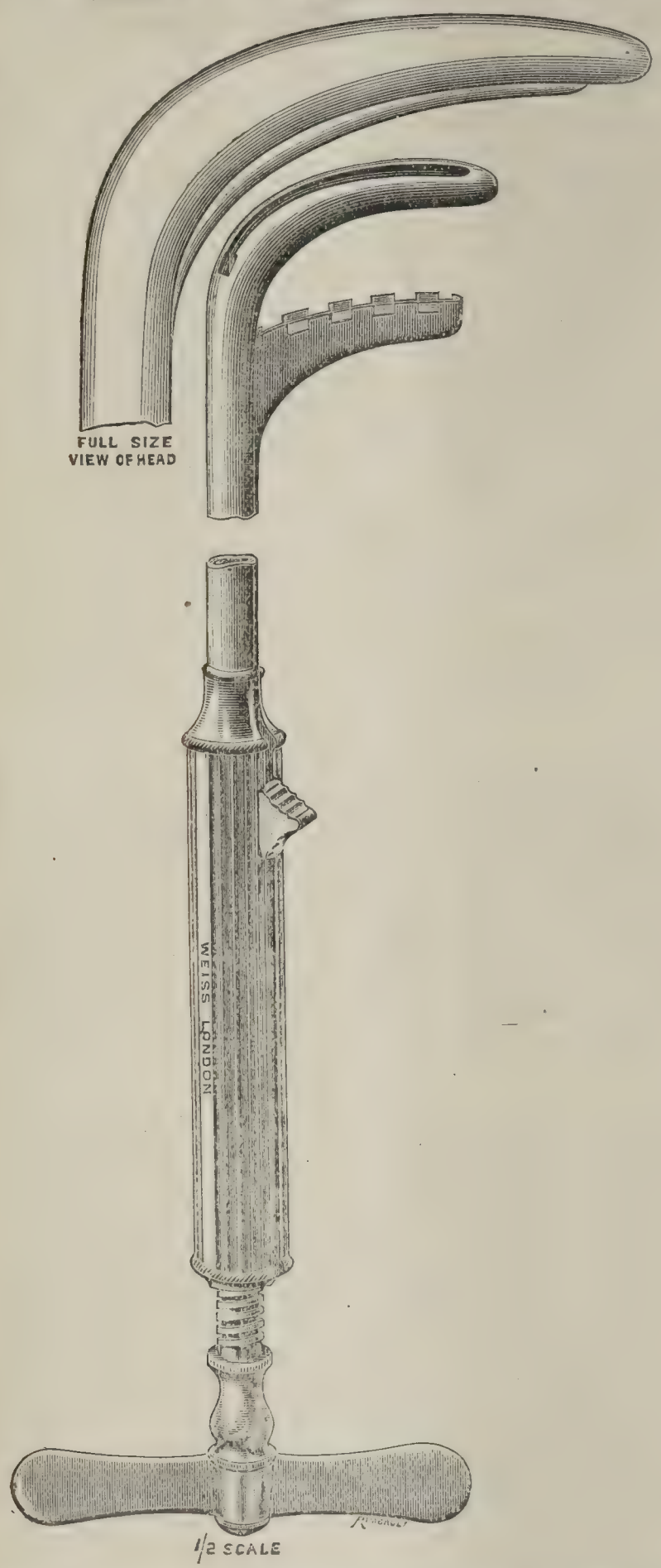
PIG-BILE TABLOIDS.

The late Dr. George Harley suggested that pig bile should prove more suitable than ox bile for administration in the treatment of jaundice. The pig being omnivorous like the human being, its bile contains, it was argued, exactly the ingredients necessary to supply the place of those absent from the digestive canal in cases of jaundice. Messrs. Burroughs, Wellcome, and Co. (Snow Hill Buildings, E.C.) have prepared compressed tabloids of pig bile. They are coated with keratine, a substance unaffected by acids, but readily acted upon by alkalies, so that they pass through the stomach unchanged. We notice that the tabloids, although coated, have the fœtid odour associated with fel bovinum.

AN IMPROVED PATTERN OF "GIANT" LITHOTRITE.

Brigade-Surgeon-Lieutenant-Colonel Keegan, F.R.C.S., desires to direct the attention of those who are interested in the surgery of stone in the bladder to an improved "giant" lithotrite, which, at his suggestion, Messrs. Weiss and Son have devised and constructed for dealing with very large calculi by perineal lithotrity. Surgeon-Captain Henry Smith, Civil Surgeon of Jullundur, when stationed at Guzerat, in the Punjab, devised a "giant" lithotrite; but some defects were found in this instrument, which have been remedied in the improved pattern figured in the annexed plate. Brigade-Surgeon-Lieutenant-Colonel Keegan observes that experience has taught that suprapubic lithotomy has not fulfilled the early promise of the days of its revival, for the mortality which has followed it in cases of very large calculi occurring among males at the middle period of life is very considerable. There is, therefore, a growing consensus of opinion among surgeons practising in the East, where cases of very large calculi are of frequent occurrence, that perineal lithotrity, whether median or lateral, will in the near future supersede suprapubic lithotomy in dealing with this very important class of cases of stone in the bladder. There need, however, he continues, be no rivalry between perineal lithotrity and litholapaxy; rather should they be considered complementary one to the other.

The improved instrument is made on the model of an ordinary Thompson's lithotrite, with the following exceptions. The male blade, instead of being joined to the screw at the handle end, is for greater strength left in two parts, the one terminating at the button by means of which it is withdrawn, the other or screw portion working independently



through a fixed collar at the end of the handle, instead of by means of the usual forceps catch. In place of the wheel it has a large winged handle $4\frac{1}{4}$ inches across, which gives an extra purchase in working.

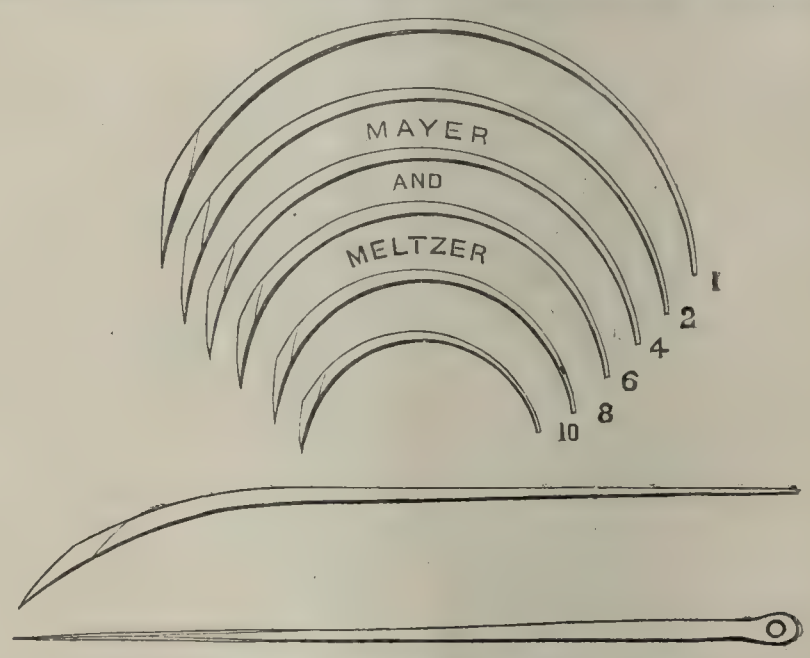
The dimensions of the instrument when closed are: Size over all, 18 inches; of blades, 11 inches; of hollow handle, 5 inches; of stem, No. 20; of stem at angle, No. $25\frac{1}{2}$; of point, No. 16.

The jaws stand $2\frac{1}{4}$ inches for female, and 2 inches for male blade, above the shaft, and open sufficiently wide to take a stone of a diameter of over 4 inches. This instrument can be readily passed into the bladder through a small lateral incision in the prostate, or through an incision made as in median lithotomy, and it will readily break up a hard calculus weighing between 6 and 8 ounces. The calculus thus crushed can be withdrawn from the bladder by forceps or removed by means of an aspirator attached to a very large evacuating cannula, according to the predilection of the surgeon. The operation is completed in a short space of time—a matter of vital importance in such cases—and the neck of the bladder and prostate are not strained and bruised in an endeavour to extract a large calculus whole through the perineum.

Brigade-Surgeon-Lieutenant-Colonel Keegan adds that he feels confident that the mortality which has hitherto followed suprapubic lithotomy in dealing with very large calculi occurring among men at the middle and advanced periods of life will be greatly diminished by carrying out a perineal lithotrity in such cases.

NEW FORM OF HAGEDORN'S NEEDLES.

MESSRS. MAYER AND MELTZER have introduced a very practical and efficient modification into the usual form of Hagedorn's needles. The modification retains all the advantages of the needle as usually made, with an important addition. The point is flat, but the eye is reversed, that is, put in in a direction at right angles to the plane of the flattened point. By this simple modification the needle can be firmly



held by any of the usual forms of needle holders, and the necessity for an expensive and complicated form of holder dispensed with. The portion of the shank adjacent to the eye is in addition flattened for about half the length of the needle, and in the same plane as the eye. This simple modification ought to prove a very useful one. The old form of needle holder was expensive, and difficult to keep in order; but with these needles there is no difficulty in holding them firmly, even in an ordinary pair of pressure forceps.

A HYPODERMIC CASE.

MESSRS. OPPENHEIMER SONS AND CO., LIMITED, of 14, Worship Street, London, E.C., have devised a hypodermic case for the pocket which presents certain advantages. The case is of aluminium, shaped like a cigarette case; it is fitted inside with a movable frame which contains a hypodermic syringe two ordinary hypodermic needles, an exploring needle, and twelve small glass tubes containing various soluble hypodermics. As the frame is movable all the bottles are easily reached, and the whole case can at any time be thoroughly cleansed and rendered aseptic. The apparatus is portable, cleanly, and well arranged.

STATISTICS OF SMALL-POX AND VACCINATION.

At a meeting of the Royal Statistical Society held on Tuesday, June 15th, at the Royal United Service Institution, the President, Mr. A. E. Bateman, C.M.G., in the chair, a paper on Statistics of Small-pox and Vaccination, with special reference to Age-Incidence, Sex-Incidence, and Sanitation, was read by Mr. Alfred Milnes, M.A.

Mr. Milnes commenced with a brief statement of the logical method proper to be observed in the investigation of such a question, and a sketch of the history of past enactments with a view to establishing a correct chronological division of the phenomena to be investigated; and showed that vaccination was as stringently enforced immediately on the passing of the 1867 law as ever since. The statistics of vaccination and small-pox from 1872 onwards were then cited to show that the greatest decline of small-pox had been coincident with the greatest amount of refusal to comply with the Vaccination Acts; and incidental allusion was made to the striking increase of medical postponements of vaccination, as showing that even medical men are less willing than they used to be to vaccinate any child under any conditions. By comparison of the history of other diseases, both epidemic and endemic, it was shown that these others have, without vaccination, diminished as fast, and as far as small-pox has done with it. And, moreover, as the proportion of vaccinated persons had increased in the population as a whole, so also the proportion of vaccinated patients had increased in the small-pox hospitals. Not the most stringent revaccination can protect armies from small-pox, our troops in India experiencing a proportion of deaths to total small-pox cases double as high as that of unvaccinated Leicester in the recent outbreak there. Comparison by localities went to show that the highest development to which compulsion can force the vaccination of a community will never really protect that community from devastating epidemics of small-pox. Hence there was no one now to be found to deny that small-pox attacks the vaccinated; but this admission was the diametrical contradiction of the promises that passed the law. On the question of age-incidence, Mr. Milnes devoted much care to the development of the argument that sanitary measures were capable not only of reducing greatly the general mortality of an epidemic disease, but of still more largely reducing the children's share of such portion of it as remained. Numerous tables and a diagram were devoted to enforcing the view that, judged by both the tests as to reduction of general mortality and the reduction of the children's share of what remains of that general mortality, the amenability of small-pox to sanitary measures is very high, in fact second only amongst the zymotics to diarrhœa. Moreover, of late years the change in age-incidence has been greater in the case of typhus and typhoid, to which vaccination has not been applied, than in the case of small-pox, to which it has. And in the case of small-pox itself the reduction of the children's share of it was shown to have been as great amongst the special class of unvaccinated as amongst the general population, taking all vaccinal conditions together. And the same changes which, when occurring in small-pox are held to have proved the efficacy of vaccination, were shown by Mr. Milnes to have occurred to an extent at least as striking in respect of influenza. Lastly, as to sex-incidence, it was shown that inasmuch as primary vaccination applies to both sexes alike, and revaccination in great preponderance to the young adult male, we ought to find small-pox, whilst equally incident on both sexes of children, attacking in adult life a great preponderance of females. The facts, however, were the other way. In children it was true both sexes suffered about alike; but amongst adults the mortality of small-pox fell almost twice as heavily on the males. The paper concluded with a strong appeal for the exclusion of the vaccination question from the purview of the criminal law.

Mr. Noel Humphreys said he was much surprised that the author of the paper had carefully avoided all but an incidental reference to the recent remarkable epidemic in Gloucester, as the inter-relation of vaccination and small-pox could not statistically be treated with success without reference to that outbreak. Neither had he referred to the hospital statistics, which showed such marked contrasts between the effect of small-pox on the unvaccinated and the vaccinated; nor to the differences in the type and severity of the disease among the vaccinated and unvaccinated; nor to the efficiency of revaccination in conferring comparatively absolute protection to the doctors and nurses in small-pox hospitals. A great point was sought to be made in the paper, and a lesson drawn from it, by asserting that vaccination and small-pox attained their maximum together, and that together they steadily declined. That statement was not strictly accurate, and it was, moreover, misleading. Did Mr. Milnes bear in mind that an annual defect of infant vaccination equal to 15 per cent. signified an annual addition of only 5 unvaccinated persons to 10,000 of the English population, and that this proportional defect of vaccination must be maintained for many years before the unvaccinated proportion of the population would be materially affected? Mr. Milnes blamed the Registrar-General for not publishing statistics of vaccination which he does not receive, and which the law does not require to be given. No one, however, regretted more than he (Mr. Humphreys) did the omission of certifying practitioners to give in their medical certificates the vaccinal condition of all persons dying from small-pox, and he would hail with satisfaction any change in the law that would enable the Registrar-General to publish more complete statistics on the subject. In support of the theory of the opponents of vaccination that small-pox is governed by sanitation rather than by vaccination, Mr. Milnes points to the fact that small-pox is far less fatal in healthy districts than in Liverpool, and appears to lose sight of the fact that in another part of his paper he admits that small-pox prevalence and mortality is a question of exposure to infection. Can it be reasonably asserted that the risk of exposure to infection in healthy rural districts is comparable with that which exists in such a seaport town as Liverpool? The assertion, too, that because typhus and typhoid mortality have in recent years declined almost as much as small-pox mortality, the decline of small-pox cannot fairly be attributed to vaccination is more specious than logical.

Dr. Hadwen spoke in support of Mr. Milnes's views, especially with regard to Gloucester.

Mr. Shirley Murphy said the first point which interested him was the proportion of unvaccinated to vaccinated persons admitted into the London small-pox hospitals. Mr. Milnes evidently thought that the proportion of unvaccinated was not greater in the hospitals than in the outside population. Mr. Milnes had, however, drawn his deductions from the statistics of the Highgate Small-pox Hospital; but Mr. Murphy pointed out that this hospital was exceptional, inasmuch as it excluded children under 7 years, and inasmuch as the patients admitted were drawn from a different class from that which supplied the other small-pox hospitals of London. Mr. Murphy said if he wished to learn from hospital statistics he would rather take the proportion of unvaccinated to vaccinated in the hospitals of the Metropolitan Asylums Board. Of 4,839 cases admitted into the hospital ships, there were 68 per cent. vaccinated, and if all the cases for which there was no evidence as to vaccination were included among the vaccinated, the percentage then became 77.4. If, however, cases under 10 years of age were considered, then of 789 of such cases only 15.5 per cent. were vaccinated, or, including the no-evidence cases, 20.5 per cent., no one could allege that these percentages represented the proportion of the vaccinated in the London population under 10 years of age. After commenting on the fact that Mr. Milnes had referred to the small-pox statistics of the Prussian army without a word of reference to those of the Austrian and French armies, which were published for the purposes of contrast in the book from which Mr. Milnes had derived his information, Mr. Murphy commented on Mr. Milnes's proposals to add to the deaths of vaccinated persons in the Registrar-General's statistics the deaths of those included under the heading "no statement as to vaccination." Mr. Murphy showed that in London the proportion of such unstated cases was much smaller than in England, as a whole, namely, 35.4 per cent., instead of 56.4 per cent., and this he attributed to the fact that the deaths in London occur so largely in the small-pox hospitals. If the percentages of vaccinated, unvaccinated, and "no-statement" cases had in

England in 1881-95 been the same as in London, 3,351 deaths under the heading "no-statement" would have to be distributed among the vaccinated and unvaccinated, and he found that of these 1,460 would go to the vaccinated and 1,891 to the unvaccinated. More exact proportions of the vaccinated and unvaccinated deaths could be obtained from the London figures, particularly those of the Metropolitan Asylums Board Hospitals, which for 1891-5 give the following proportions at all ages: Vaccinated, 25.9 per cent.; unvaccinated, 53.6 per cent.; and no evidence as to vaccination, 20.5 per cent. The figures relating to London, given by the Registrar-General for the corresponding period, show vaccinated, 29.8 per cent.; unvaccinated, 41.4 per cent.; and no statement, 28.8 per cent. Dealing with deaths under 5 years of age, the Metropolitan Asylums Board reports show that out of 120 deaths 118 were unvaccinated, while in the case of the remaining 2 there was no evidence as to vaccination. The corresponding figures in the Registrar-General's report give 7.2 per cent. vaccinated, 80.8 per cent. unvaccinated, and 12 per cent. no statement. Again, among children under 1 year of age, 43 deaths occurred in the hospitals of the Metropolitan Asylums Board, all unvaccinated, while of 51 deaths shown in the reports of the Registrar-General, 5.9 per cent. were vaccinated, 78.4 per cent. unvaccinated, and in 15.7 per cent. of the deaths there was no statement as to vaccination.

Dr. Edwardes said with reference to the German army, Mr. Milnes had stated that there had been 300 deaths, while the official statistics for 1874 gave only 1 death.

Mr. Milnes, in reply, said that the reason he did not treat Gloucester in his paper was because the vaccination and anti-vaccination parties were in dispute as to the statistics, and neither body would believe the other. The law of compulsory vaccination in Germany dated from 1835.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.

The monthly meeting of the Executive Committee of the Medical Sickness and Accident Society was held at 429, Strand, London, W.C., on June 25th. There were present the Chairman (Dr. de Havilland Hall), Dr. G. E. Herman, Treasurer; Dr. J. B. Ball, Medical Examiner; Mr. J. Brindley James, Dr. W. Knowsley Sibley, Dr. F. J. Allan, Dr. J. Pickett, and Dr. Alfred Gubb.

The accounts presented showed that the sickness claims, which have been exceptionally heavy during the spring of this year, are now becoming less numerous and of shorter average duration. As usual, during the early part of the year, a large number of the members have been incapacitated by bronchial affections, a form of malady to which medical men, and especially those whose practice is in the country, seem specially liable, and as fine weather sets in these cases naturally become fewer. The accident cases are also less numerous than usual, and there is every reason to anticipate that during the next few weeks the Society will be able to save up a solid amount to meet the heavy claims expected in the winter and spring.

At the last general meeting the question of providing sickness pay in cases of partial incapacity was raised, and the Chairman promised to again bring the matter before the Committee. Accordingly at the meeting on June 25th the question was once more carefully discussed, but the Committee unanimously resolved that they could not recommend the members to undertake so far-reaching an extension of the business of the Society. The Medical Sickness and Accident Society was founded for a definite purpose—namely, to enable members of the medical profession to make provision against sickness or accidents which might incapacitate them from performing their professional work. So far the Society has done this economically and well, and it is felt that its future success ought not to be jeopardised by an extension of its functions which was not anticipated when the business was started, and for which its present constitution might not be found to be suitable.

Prospectuses and all information may be obtained on application to Mr. F. Addiscott, Secretary Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

HARBEN LECTURES.

At King's College, on June 23rd, Dr. G. Sims Woodhead, under the auspices of the British Institute of Public Health, gave the first of a series of Harben lectures, the subject of which was the bearing of recent bacteriological investigations on public health work. Beginning with a discussion of diphtheria the lecturer pointed out the importance of the presence of the diphtheria bacillus as a means of diagnosis. The organism was found very near the surface, the toxin being produced principally on the surface of the membrane. After an account of its microscopic characteristics he proceeded to say that it had never been claimed that bacteriological diagnosis was infallible, for there were some few cases in which special circumstances might prevent the detection of the organism. But the percentage of error was very low; in over two years' work he had found it in the positive cases to be just over 5 per cent. Bacteriological examination was very important when the clinical diagnosis was negative. In cases of mild sore throat, for instance, where the diphtheria bacillus was present, there was great danger of spreading diphtheria, and persons whose throats were apparently healthy, or who were suffering from mild throat mischief, or who were apparently convalescent from diphtheria, might become very important centres of infection. The bacillus might remain in the throat, retaining its virulence, for a considerable time, for months even in certain conditions. It was often present in the throats of healthy children of families in which a case of diphtheria existed; hence the importance of the examination of the throats of those exposed to infection. The possibility of conveying the disease through a healthy person who had been so exposed was a real danger, for one who had been near a patient might be almost as much a source of infection as the patient himself. By attending to mild but infectious cases the physician, apart from the use of antitoxin, might be able to modify the disease-rate and therefore the death-rate. Preventive measures were not sufficiently observed, and he himself thought that no patient should be allowed to return to his ordinary daily life until his throat was absolutely clear of all forms of diphtheria bacillus.

UNION HOSPITAL ADMINISTRATION.

An inquiry lasting eleven days has recently been held by the Inspector of the Local Government Board, Ireland, into charges and counter charges preferred against each other by the resident officers of the Newry (county Down) Workhouse. With these charges we have nothing to do, but the evidence given at the inquiry discloses a state of things which deserves consideration by the responsible authorities.

The Newry guardians are evidently not of the cheese-paring order, for in charge of the fifty-five or sixty inmates of the infirmary there appear to be three trained nurses and two paid attendants for lunatics. Each paid officer seems to have one or more pauper assistants, but whether these assistants are supposed to do any nursing the evidence does not disclose. The most peculiar part of the system is that in lieu of one head nurse being in charge of the whole infirmary one nurse has the male wards, another the female wards; the male and female lunatics have their own attendants, and one night nurse has to look after the entire hospital. We gather further that the master and matron have the supervision of the infirmary; that the matron considers herself entitled to decide what beds patients shall occupy; that the master superintends the transfer of female patients (undressed) from one ward to another, and that the medical officer finds it necessary to transmit his orders to the nurses through the master. There is no evidence to show that either the master or the matron possesses any special knowledge qualifying them to undertake the administration of a hospital.

No one appreciates more than we do the efforts of the Irish Local Government Board to improve the workhouse infirmaries under their charge, and to make of them genuine hospitals; but we regard a hospital as a factory for the repair of damaged human machinery, and the firm who should try to run a factory with skilled mechanics under the control and supervision of persons entirely ignorant of the nature of the work to be done

and the proper system of doing it, would soon find themselves in bankruptcy. Of course, the cases are not quite parallel, because if our workhouse hospitals are financial failures the ratepayer has to make good the loss.

Medical officers and trained nurses are costly to the ratepayers, and it appears to be impolitic to impair their efficiency by compelling them to work under conditions which more or less nullify their best efforts. We contend that if a nurse's life is made intolerable or unhappy she will not put forth her best efforts for the restoration of the patients under her care, and in so far as she falls short of this the ratepayers are the losers.

The dual control system did well enough when there were only pauper nurses for the sick and when the infirmary was only distinguished from the rest of the house as that part of the building where inmates were sent to die; but if the new departure is to succeed, if our union hospitals are to be worked economically and efficiently for the relief of sickness in the community, not as charities but as places of business, new methods of administration will have to be adopted in consonance with the ordinary business principles which guide modern hospital management, and the longer these new methods are delayed the heavier will be the tax imposed upon the taxpayers; and we hold that it is the duty of that department of the Government which has the oversight and control of these institutions to see that the salaries of doctors and nurses is not wasted any more than the expense of provisions and clothing. The mismanagement is not confined to Newry workhouse, it prevails more or less in every union in the country, and must continue so long as the existing general regulations remain unrevised.

OYSTERS AND INFECTIOUS DISEASE.

THE report of the Subcommittee on the Oyster Question to the Kent and Essex Sea Fisheries Committee does full justice to Sir R. Thorne Thorne's report to the Local Government Board on Oyster Culture in Relation to Disease, and the members of the Committee point out that whilst they cannot agree with the report in all its details, it is "almost needless to say that everybody would prefer oysters away from, rather than those laid in proximity to, sewage water." In regard to Southend, which was one of the places adversely reported upon, they find: "(1) That the Corporation's drainage scheme east of the pier is in an active, forward state, and ere midsummer three-fourths of the town's sewage will be carried out to the main stream, clear of all danger. (2) The obnoxious 'floating boxes' (six in number) have at last been entirely removed, through the instrumentality of Dr. Waters, the medical officer of health. (3) The oysters themselves, at the time of our visit, had been reduced to an insignificant number, with the prospect of the rest being soon taken away." With regard to the West layings, it has been decided by the proprietors to close them temporarily, and not to allow of any of the oysters to be sold for the present, such closure dating back to January 15th, 1897, and until such time as the Corporation can take all the sewage from the oyster beds. With regard to the Leigh cockle layings, the conditions they say "cannot be looked upon as satisfactory," and they suggest various methods for getting rid of the sewage at this point. They announce improvements at West Mersea, where the Victory oyster pit has been removed and the oysters taken seawards, where there is abundant water and a good tidal flow.

The Wyvenhoe pits, which were adversely reported upon, have also been removed to a more suitable station, and the Wyvenhoe Parish Council has taken into consideration the improvement of its drainage. They point out that the Brightlingsea oyster dealers' rights are of long standing, and that the sewage has been brought to them, and not their oysters to the sewage. A drainage scheme has been drawn up which is calculated to cost nearly £6,000, and it is hoped that both at Wyvenhoe and Brightlingsea the measures taken are such that "ere summer wanes" their oyster sanitation will be beyond criticism.

Some of the subcommittee have advocated bolder measures suggested by Dr. Wood in our columns, and they suggest that the Local Government Board should take the matter into their own hands, obtaining power to close suspicious beds, and should, by inspectors, etc., regulate the oyster trade on the lines of the Milk Act.

It is evident that those directly concerned in the oyster trade are as anxious as are the public to have matters placed on a thoroughly satisfactory footing, and it appears from this and other reports that have from time to time appeared in the local papers, that the difficulty will be, not so much with those actually engaged in oyster culture as with the district councils, who, in the matter of new drainage schemes, are exceedingly difficult to move. If for this reason alone it would be well if the Local Government Board could see its way to take the matter under its charge and insist on the district councils co-operating with those engaged in oyster culture to divert the sewage from oyster beds and layings. The matter must not be allowed to drop, and we take this opportunity of expressing our satisfaction that the Sea Fisheries Committee has taken such a sensible and farseeing view on this question.

THE MINIMUM FATAL PERCENTAGE OF CARBONIC OXIDE.

IN his annual report for 1896, which has just been published, Mr. W. N. Atkinson, Her Majesty's Inspector of Mines for North Staffordshire, gives a detailed account of an accident which unfortunately led to the death by carbonic oxide poisoning of a young mining engineer of great promise, the manager of Stutton Rosshurst Colliery. The cause of death was investigated with great skill and thoroughness by Mr. Atkinson, and is of special medical interest on account of the smallness of the percentage of carbonic oxide which proved fatal. The manager, who was accompanied by the undermanager, James Redhead, had to examine a disused part of the mine, and in the course of this work endeavoured to pass along a passage nearly half a mile in length leading to one of the shafts. When within about a hundred yards of the fresh air at the end of this passage both men began to feel much exhausted, and the manager was unable to get further. After doing all he could to help him Redhead struggled on alone into the fresh air. As soon as he had recovered sufficiently to be able to walk he returned and succeeded in helping the manager to within ten or fifteen yards of the fresh air, but he again fell, and was only able to crawl out. With undaunted courage he went back a second time, but the manager was now unconscious, and Redhead had not strength to move him, and on returning to the fresh air he himself became unconscious, and remained so for some time. When he came to himself he succeeded in summoning assistance, but the manager was found to be dead.

Mr. Atkinson was at the pit when the body was brought up, and noticed the characteristic pink colour of the lips, etc. To make certain as to the nature of the accident, however, he procured a mouse, and took it into the poisonous air. Only a few hours had passed, and the ventilation was unaltered. On seeing the mouse fall over, Mr. Atkinson obtained a sample of the air, and at once retired. Again venturing in, he obtained another sample, this time leaving the mouse, which about twenty minutes later was found to be dead. The samples of air and the body of the mouse were sent to Dr. Haldane for examination. The latter reported that the hæmoglobin of the mouse's blood was 72.5 per cent., saturated with carbonic oxide, and that the samples had the following composition:

Oxygen	18.05	Oxygen	17.75
Carbonic acid	1.51	Carbonic acid	1.74
Nitrogen	88.67	Nitrogen	78.66
Fire damp	1.60	Fire damp	1.69
Carbonic oxide ...	0.17	Carbonic oxide... ...	0.16
	100 00		100 00

It thus appeared that along with the carbonic oxide there was a reduction of about 4 per cent. in the oxygen. The effect of this would be to diminish very considerably the mass influence of the oxygen on the hæmoglobin passing through the pulmonary capillaries, and so to increase to a corresponding extent the effect of the carbonic oxide. That this actually occurs in the living body, as well as *in vitro*, was recently demonstrated by Dr. Haldane. In pure air 0.17 per cent. of carbonic oxide would not have proved actually fatal, to judge

from the experimental data hitherto obtained. As the lamps of the manager and under-manager were not extinguished by the air, and as a lamp goes out when the oxygen percentage falls to 17.3, which is very little less than what was present in the samples, it seems hardly possible that the air which proved fatal could have been appreciably more vitiated than the samples themselves.

This case, therefore, appears to show that as little as about 17 per cent. of carbonic oxide may prove fatal to a man when the oxygen percentage is at the same time so far diminished as just to allow a candle or lamp to burn. The fact that Redhead lost consciousness on returning, for the third time, into the fresh air is in accordance with what has been very frequently observed in similar cases; but no satisfactory evidence has yet been obtained as to the reason why sudden exposure to fresh or cool air so frequently produces dangerous effects.

We believe that this is the first recorded case in which mice have been used, as recommended by Dr. Haldane, for the detection of carbonic oxide in the air of mines. The test was in this case successful; but it must clearly be borne in mind by those using it that the principle is simply that a mouse is far more rapidly affected by carbonic oxide than a man—not that the mouse is in the long run more seriously affected than the man. Hence it may easily happen that a mouse will show no very evident outward symptoms in an atmosphere which will after a time produce headache, dizziness, etc., in a man. Mr. Atkinson himself noticed that the poisonous air had a very distinct effect on his head and respiration.

Not only the nature but also the source of the poisonous gas was carefully investigated, and the result of a series of analyses seems to leave no doubt that the carbonic oxide was due to spontaneous heating of the coal in presence of a restricted supply of oxygen. There was, however, no smell of smoke.

The case is one which illustrates vividly one of the dangers to which miners are exposed, and at the same time exemplifies the great value of the work done by the inspectors of mines.

WATERBORNE CHOLERA AND THE DONGOLA EXPEDITION.

The report issued by the Principal Medical Officer of the Egyptian army on the occurrence of cholera in the Frontier Mudiria and the Dongola expeditionary force contains some valuable material and statistics. Contrasted with the epidemic of 1883, it will be seen that there was a radical difference between the two outbreaks. Thus in 1883 the disease lasted four months, and caused about 58,000 deaths, while in 1896 it lasted a year, and caused 18,000 deaths.

That this enormous difference must not entirely be attributed to improved methods of sanitation is evident on comparing the type of the disease on the two occasions. The absence of vomiting, diarrhœa, and cramp, the kind of cholera known as "dry cholera," the most fatal of all forms, stamp this epidemic as peculiar. The death-rate among cases in Egypt was 80 per cent.—much higher than those in any previously-recorded epidemic. The comparative absence of vomiting and purging explains the slow rate of spread observed, and the extraordinary freedom from attack of the attendants of patients during the epidemic. On the frontier not a single attendant contracted the disease.

The cause of invasion seems fairly clear. Owing to some delay in establishing the quarantine station at Korosko, one steamer left Shellal on June 24th, passed Korosko and arrived at Halfa on June 28th. Although this steamer had undergone careful inspection a black passenger was found dead on the Nile bank on July 1st. This case probably infected the river on June 28th, for on July 1st cholera broke out at Halfa, all the cases occurring below the point where the steamer discharged cargo, except one, a syce of the commandant's. This syce, however, probably drank water down stream, but this could not be definitely ascertained.

South of Halfa the army probably became infected in the following way. The men (blacks) working on the railway received food and drink by rail, sent to them by their women living in infected Soudanese villages and huts. In spite of strict orders issued to prevent this, evasion frequently occurred, as the whole way along the line was open for the introduction of all kinds of parcels, etc. Full advantage of this was taken, and an irregular trade carried on, not only with the people engaged on the railway, but with the bulk of the army south. There is no doubt, then, that as far as Halfa the disease spread by water; south of this an independent source of infection was, unfortunately, present, and effective means to prevent its carriage could not be taken. Thus the history of the epidemic points to the conclusions so often reiterated in these columns, that cholera is a water-borne disease, and can only be kept in check by controlling the water and food supply.

THE MOTOR CAR QUESTION.

A visit to the exhibition of "Voitures automobiles," held at St. Stephen's Hall, Westminster, served to recall the recent boom in motor cars and to suggest an inquiry into the causes which prevented the more general introduction of self-propelled carriages into general use, a question in which medical practitioners in some districts are much interested.

Four methods of power production are at present available for use in a portable motor—steam, gas, petroleum, and electricity. Their respective advantages depend on its adaptability to the conditions under which the motor is to be used and, in the case of motor cars, to the locality and the means of attention and recharging available.

Electricity.

Electricity has had a fair trial, but with only partial success. To carry electric energy in such a condition as to be available for working a motor involves the use of accumulators of one form or another. These are for the most part constructed of lead plates and glass containers, materials which do not suggest themselves as well designed for lightness and portability; hence the more or less general failure of vehicles propelled by electricity to come into general use. Moreover, the charge from an accumulator only lasts a limited time, and the necessity of recharging at a properly-equipped station is another bar to facility in working.

Coal Gas.

Coal gas, as is well known, can advantageously be used as a source of power, and the lightness of this product would suggest it as a convenient form of portable energy, but its great bulk necessitates it being compressed into vessels of convenient dimensions, and this involves the use of massive steel holders to withstand the great pressure of the compressed gas. Here again, then, we are brought to a consideration of the same objections as in the case of electricity—great weight of accessory mechanism necessary, and the establishment of special charging stations along the line of route.

Benzine or Petroleum.

Some form of explosive gas which could be carried in a light vessel would therefore seem to meet the case, and for this purpose benzine or petroleum was tried. Both the substances are light fluids readily convertible into gas suitable for working a motor. But here the mechanical difficulties are so great that at present they have not been satisfactorily overcome.

In the first place a gas or oil gas engine must be kept continually running, for they will not start sufficiently quickly to conform to the sudden exigencies of traffic. In the second place there are difficulties in the matter of hill climbing. A gas engine must work at a certain minimum rate of speed, for if the explosive mixture in the cylinder of the engine were restrained from expanding by the car going more slowly in ascending a hill, the force of the explosion would necessarily spend itself in shattering the engine. And thirdly, but by no means least, petroleum is an inflammable substance, and is liable, unless kept cool, to set fire to the whole car.

These difficulties, it is true, have been so far overcome as to render a motor car worked by a benzine engine a practicable machine. The vibration owing to the continual running of the engine can be reduced by suitable springs, the hill-

climbing difficulties can be partly overcome by the use of suitable gearing, and the heating effects in the engine by the use of water circulation. But all these means add to the weight, cost, and complexity of the mechanism, which as at present constructed can only be worked and repaired by a skilled mechanic.

Steam.

Our only other available source of power is steam. A steam engine is free from all the risks and difficulties involved in a gas or oil engine, but the weight of the mechanism and fuel is a serious drawback. But here means exist of overcoming these disadvantages. Fuel can be carried in a liquid form, the working parts can be reduced in weight by the use of steel tube framing, and finally the use of the Serpollet boiler, which is light, a rapid steam producer, and self-cleansing seems to point to a practicable solution of the many difficulties which stand in the way of the use of that at first sight most fascinating dynamic agent—oil.

MEDICAL EDUCATION IN SHEFFIELD IN THE QUEEN'S REIGN.

By Simeon Snell, F.R.C.S.Edin.,
Ophthalmic Surgeon to the Sheffield Royal Infirmary.

A Link with the Past.

In the very month in which the Diamond Jubilee of Her Majesty is being celebrated there has passed away in Sheffield one who had been actively engaged in the practice of his profession for some seven years before the Queen ascended the throne. Dr. Law, who died on June 2nd, was born in February, 1807, and has special interest for us here; for, though he subsequently went to Dublin and Edinburgh, he was a student in the Twenties at the old medical school in Sheffield, which will presently be mentioned as Mr. Overend's. Quite recently he described to the writer the manner and style assumed by Mr. Wilson Overend, the Lecturer in Anatomy. Dr. Law was destined afterwards himself to take a part as a lecturer and teacher in the medical school.

Early Clinical Teaching.

The history of medical education in Sheffield goes back to the end of the last century. The General Infirmary was opened for the reception of patients in October, 1797, and in the first rules of the institution it was provided that each surgeon and physician might introduce pupils to the practice of the infirmary.

Overend's School of Anatomy and Medicine.

It was some time later that a medical school was founded, but when Her Majesty ascended the throne, there had been one in vigorous existence for many years, and as will be seen is in close competition with the Pine Street School in Manchester for the seniority among provincial schools. The first medical school was founded about 1826 by Mr. Hall Overend, and was called the School of Anatomy and Medicine. This gentleman, a most successful practitioner, collected an extensive natural history museum, which was afterwards presented to the Literary and Philosophical Society, and subsequently to the Weston Park Public Museum. It was in Overend's museum that lectures on anatomy were delivered.

It is a little uncertain whether quite as early as this there was a regularly constituted course of instruction other than in anatomy and surgery. But the prospectus of the session 1827 or 1828, printed as an addendum to this article, shows that at this period there was a staff of lecturers, and that a complete medical education, as was then required, was to be obtained at Overend's or the Church Street Medical School. The date of the origin of the Sheffield Medical School is usually given as 1828, but the foregoing facts rather point to its actual foundation as being earlier. The active spirits of this old medical school, in addition to Mr. Hall Overend, the founder, were his son, Mr. Wilson Overend, and Dr. Corden Thompson. Later they were joined by Mr. Henry Jackson. Mr. Wilson Overend was a man of great energy, of acknowledged skill, and devotion to his profession. Later he became a surgeon to the infirmary (1830-1853), enjoyed a lucrative practice, and considerable reputation; occupied a prominent position as a public man, was an active magistrate, a D.L. for two counties, and his portrait, painted at the instance of his townsmen, now hangs with those of other local celebrities in the Cutlers' Hall. Dr. Corden Thompson also became physician to the infirmary shortly after the appointment of Overend as surgeon. He was elected in 1831, and held office until 1866, when he resigned, but lived many years afterwards, and died over 80 years of age. Mr. Jackson also became a surgeon to the infirmary in 1832, and continued in that office until his death in 1866. He maintained his interest in this school, but subsequently he became closely connected with its successor. Overend's or the Church Street School was established in the resurrection days, and it was notorious that Overend obtained subjects for his students at great personal risk from the law and populace. The *locale* of the school was later changed to Eyre Street, where in 1835 it was burnt down by an infuriated mob, who believed it to be the place where the "resurrected" bodies were taken.

The Foundation of the Present Medical School.

Whilst this school of Overend's was still in existence another was called into being, and this latter institution has continued until the present day. In February, 1828, a meeting was held to consider the propriety of forming a medical school. Funds were forthcoming, among the contributors outside the profession being the Duke of Norfolk, Earl Fitzwilliam, the Town Trustees, and many others. The foundation stone was laid in July of the same year by Dr. (afterwards Sir Arnold) Knight, by whom also it was opened in the corresponding month of the succeeding year. The building then erected in Surrey Street was suitable to the times, and served, though in more recent years very inadequately, the purposes of a medical school until the much more commodious premises in Leopold Street were built and opened in 1888. The fortunes of the school have fluctuated at different times, but for a long time it has been evident that a new era has dawned, and the Jubilee year of the Queen finds it in circumstances full of promise for the future.

University College.

The incorporation of the school with Firth College and the Technical School to form a University College is complete, and a charter has been granted to the new Sheffield University College. There only remains to be accomplished the reception of the college as a constituent college of the Victoria University. Interest in the University College has been testified to recently by the raising of a large sum of money to increase the endowment, and only as it were to-day it is the object for which the Jubilee commemoration funds are to be applied, and already more than £25,000 has been collected for this purpose. The medical faculty of the University College will receive its share of these funds. Beside this, however, the Chair of Anatomy has been endowed in memory of the late Mr. Arthur Jackson, from funds provided for that purpose by his widow, and which have been added to by a few of his friends. The physiological laboratory also is being completely reconstructed from moneys contributed to make it a memorial of the late Mr. W. F. Favell, who was at his decease the President of the school. As at the commencement, in 1826 or 1827, the medical school is to-day fortunate in a band of young, enthusiastic, and capable workers.

The Sheffield Royal Infirmary.

The General Infirmary was opened for the reception of patients on October 4th, 1797, and is therefore about to celebrate its centenary. By the Queen's favour and in commemoration of her recent visit to the city, it is to be known as the Royal Infirmary. From its earliest days it has been open for clinical teaching, and as long since as 1831 attendance on its practice was recognised by the Royal College of Surgeons. In 1874 the beds numbered 180, and a few years later they were increased to 200. The centennial buildings now in progress will raise the number of beds to about 240. They comprise a new block for ophthalmic cases, and a separate home for the nurses.

Sheffield Royal Hospital.

The Public Hospital and Dispensary was founded in 1832 as a dispensary, and in 1857 beds were commenced to be added

to it, and for many years it has been recognised as a teaching hospital. Recently efforts have been made to obtain funds for its complete rebuilding. Success has so far attended these endeavours that part has already been completed, and was opened by the Duke and Duchess of York in 1895. When finished it will be a well-constructed modern hospital with 150 beds.

JESSOP HOSPITAL FOR WOMEN.

Another institution is the Jessop Hospital for Women with 40 beds.

HOSPITAL PRACTICE.

The Royal Infirmary and Royal Hospital are united for clinical purposes, and students can also attend the practice of the Hospital for Women. At present for clinical purposes 400 beds are available, and before long the number will be increased to 450 or more. Additional clinical opportunities are afforded at the Wadsley Asylum and the Fever Hospitals; there is also a Children's Hospital with close upon 30 beds.

THE Sheffield Medical School can boast of many well-known names in the past. Some have been referred to. Mention need only now be made of Sir Arnold Knight, Calvert Holland, and John Charles Hall, whose labours were among the earliest in showing the deleterious effects of certain occupations upon health, and notably that of the grinders and file cutters. Among recent names may be mentioned Bartolome, William F. Favell, Arthur Jackson, the latter two maintaining an hereditary interest, not only in the medical school to which they were endeared by many associations, but in the profession beyond it.

The following is the prospectus referred to in the text, with a circular letter issued with it by Mr. Wilson Overend:

SHEFFIELD SCHOOL OF ANATOMY AND MEDICINE.

SIR,—Having made very complete and highly convenient arrangements for all purposes connected with the study of practical anatomy, and such as are calculated to afford every facility for the uninterrupted cultivation of this most important and fundamental branch of the medical profession, on terms as economical as possible to the pupil, and having determined to increase the utility of this establishment by including instruction in other branches of medical education so as to form a complete School of Anatomy and Medicine, which had now been favoured with the sanction of the Court of Examiners at Apothecaries' Hall, I have the honour to forward you a prospectus of the lectures about to be delivered in this place during the ensuing winter.—I remain, Sir, your obedient humble servant,

WILSON OVEREND.

Church Street, Sheffield.

PROSPECTUS.

ANATOMY AND OPERATIVE SURGERY.

By Mr. W. Overend.

On Mondays, Wednesdays, and Fridays, from Ten to Eleven o'Clock A.M. The Introductory Lecture will be delivered on Monday, the 20th of October.

Demonstrations will also be given daily, and the Dissections superintended by Mr. W. O., assisted by an able Demonstrator. Mr. W. O. will conclude the Anatomical Course, by taking a view of the principal Operations in Surgery, indicating the most approved method of performing them, and at the same time exhibiting each on the dead subject.

Terms.

Anatomical Lectures.

	£	s.	d.
One course	3	3	0
A second course	2	2	0
Perpetual	6	6	0

Dissections.

To those who take Tickets for the Lectures.

	£	s.	d.
Each, for one season	1	11	6
Each, for a second	1	1	0

To those who do not attend the Lectures.

	£	s.	d.
Each, for one season	2	12	6
Each, perpetual	6	6	0

PHYSIOLOGY, HUMAN AND COMPARATIVE, INCLUDING THE NATURAL HISTORY OF MAN.

By Corden Thompson, M.D.

Every Monday evening at Seven o'Clock. The Prelusory Lectures on the Natural History of Man will commence on Monday, October 20th.

Terms.

	£	s.	d.
One course	2	2	0
Two courses	3	3	0
Perpetual	4	4	0

THEORY AND PRACTICE OF MEDICINE.

By Corden Thompson, M.D.

On Wednesdays and Fridays, at 7 P.M. The first lecture will be delivered on Wednesday, November 5th.

Terms.

	£	s.	d.
One course	2	12	6
Two courses	3	13	6
Perpetual	5	0	0

In each of these departments of medical science the most recent and important researches made on the Continent, as well as in this country, will be carefully noticed, so as to present the student with a concise view of the present improved state of these branches of the medical profession. The rapid advances lately made by the French in the study of pathology will, in particular, constitute an object of attention in the course on practical medicine. The Physiological Lectures will be illustrated by preparations, and a very ample collection of large anatomical drawings and diagrams.

MATERIA MEDICA.

By Mr. James Farewell Wright.

On Thursdays, at 10 A.M.; and on Saturdays, at 7 P.M.

In this course it is proposed to classify the various remedial agents according to their effects on the living body. In describing each substance of the materia medica, its botanical and chemical characters—the influences which the climate, constitution, and disease exert over its operation on the animal economy, together with the modifications produced by credulity, superstition, and other moral and physical causes, will be duly noticed. The different articles will be illustrated by carefully-preserved specimens, their doses, mode of prescription, and incompatible substances, will be pointed out. The Introductory Lecture, containing a brief sketch of the rise and progress of materia medica, as a branch of medical science, will be delivered on Thursday, November 6th, at 10 A.M.

Terms.

	£	s.	d.
One course	2	2	0
Two courses	3	3	0
Perpetual	4	4	0

CHEMISTRY.

By Mr. Edward Barker.

On Tuesdays and Thursdays, at 7 P.M., commencing on Tuesday, November 11th.

This course will comprise a general outline of the principles of chemistry, together with their particular application to medicine and other branches of the useful arts.

Terms.

	£	s.	d.
One course	2	2	0
Two courses	3	3	0
Perpetual	4	4	0

N.B.—Certificates of attendance on these courses are admitted by the Court of Examiners at Apothecaries' Hall.

The session terminates in April.

☞ As candidates, in other respects perfectly qualified to pass their examinations, have of late been frequently rejected at Apothecaries' Hall simply on account of their deficient knowledge of the Latin language, it becomes highly important that this branch of education should not be neglected. In order, therefore, to meet the wants of pupils who attend the lectures delivered at this school, a class will be formed which Dr. Thompson will meet twice a week for the purpose of reading and explaining those Latin medical authors, both ancient and modern, with whose writings it is necessary the student should be acquainted.

All the lectures are open to gentlemen engaged in practice.

PUBLIC HEALTH (SCOTLAND) BILL.

THE Glasgow Eastern Medical Society held a special meeting on Wednesday, June 23rd (Dr. WILLIAM FINDLAY, Vice-President, in the chair) to consider certain points about the above Bill of great moment to the profession at large.

The Bill, in the clauses hereafter mentioned, proposes to give to sanitary officers the same power as to medical officers of health to certify that which is dangerous or injurious to health: thus giving to men who have no special training (or hardly any), but have likely, before becoming sanitary officers, been common tradesmen, the same power and authority as men of whom is demanded a course of training both in general medicine and in public health.

The meeting held that this would be distinctly derogatory to the profession, and not only so, but would likely prove, often unnecessarily, hurtful to the interests of owners of property. A sanitary officer's work and duty was to find and point out defects, but as regards whether such were dangerous or injurious to health, that should be left to the judgment of a trained authority.

The following resolutions were agreed to by the meeting:

1. That this Society views with indignation and dismay the provisions contained in Clauses 22, 36, and 84 of the Public Health (Scotland) Bill; whereby in Clauses 22 and 36 sanitary inspectors are to be statutorily empowered, equally with medical officers of health, to certify regarding danger or injury to health; and whereby in Clause 84 the certificate of a sanitary inspector is to be of equal effect with that of any two medical practitioners.

2. That the Bill contains many provisions, excellent in themselves and yet requiring, in the course of their enforcement, such discrimination and discretion as are likely to result only from a combination of general education with special training in all that relates to the public health; and that therefore in every district the qualified medical officer of health should be made definitely responsible to the local authority for the proper administration of the Bill when it becomes law.

3. That it is important alike in the interests of the general public and of the medical profession that Clauses 22, 36, and 84 should be amended by deletion of the sanitary inspector as a certifying authority, and that in Clause 15 effect should be given to the views set forth in the second resolution.

4. That a copy of these resolutions be sent to the Secretary for Scotland, the Lord Advocate, and all members of Parliament for Scotland.

5. That a petition embodying the resolutions be presented to both Houses of Parliament.

THE BATTLE OF THE CLUBS.

THE PROFESSION AND MEDICAL AID ASSOCIATIONS.

THE *Manchester Guardian*, in a recent issue, states that "there is at last a prospect of the quarrel between the professional medical associations and the medical aid clubs being settled by a compromise. Two suggestions have been made—first, that the clubs and the medical aid societies generally should forbid the canvassing of patients of other medical men on behalf of their own medical officers; and next that these societies and clubs should not canvass, and should not accept as members persons whose means enable them to pay ordinary medical fees, or who are themselves chronic invalids. Several of the more important societies have indicated their willingness to accept these proposals."

Although doubtless the loyal carrying out of these suggestions would remove most of the evils complained of, there is another reform, not mentioned, that must be dealt with at a no distant date, and that is to settle what remuneration is to be paid in the future to the doctor for attendance on those fairly entitled to be treated as club patients.

Thirty years ago, when the present tariff was established a penny a week meant more both to the doctor and to the patient, and taking into consideration the rise in wages since then, it is only just that the ordinary payment to the club doctor should be proportionately increased.

The cost of medical education is greater, and the public health is better. A revision of club fees therefore must shortly take place, and it is as much to the interest of the clubs as of the doctors that a *modus vivendi* should be established in this respect, for the members as practical men must be aware that if good work is wanted it must be reasonably well paid for.

If the present payment of one penny a week were to be increased to twopence, is it conceivable that any great hardship would be likely to accrue to the working classes? It would be fully as reasonable to conclude that they who cannot contribute twopence a week ought not to be asked to pay one, but should be considered proper recipients of Poor-law relief.

When a man and his family belonged to a provident institution a suitable reduction might be made in the contribution according to the number of his children, and a maximum payment might be arranged. But that a working man, unmarried, and earning from 20s. to 30s. per week, cannot afford to contribute twopence per week to the club doctor is scarcely to be believed.

CLUB RATES.

SALOPIAN, who is a surgeon to a local lodge of Oddfellows, which pays him 3s. per annum per member, writes that he has applied to have his remuneration increased to 5s. per member. He wishes to know whether he would be justified in holding out for this amount. Also, whether a juvenile lodge ought to pay the same as an adult one, or less?

"Salopian" is perfectly justified in holding out for this increase, if he can get it. Five shillings a member is by no means a high rate of remuneration, although it is to be regretted that the average at present paid by friendly societies is considerably lower. It is also very customary for juvenile lodges to pay the doctor less than adult ones, but the practice is founded on no reasonable grounds, and should be resisted strenuously.

LITERARY NOTES.

THE *Revue Médicale* (69, Boulevard Saint-Michel, Paris) has just published a full report of the trial of Drs. Boisleux and La Jarrige, which recently excited so much interest in Paris, and indeed throughout Europe.

Dr. E. Perier has commenced the publication of a new periodical devoted to the diseases of children, under the title of *La Médecine Infantile*. This title, already used for a short-lived publication started by Dr. Comby, has been conceded by that gentleman, who is one of the contributors to the new venture. A special feature of *La Médecine Infantile* will be reports of the practice of the Paris hospitals, and already several very interesting clinical lectures have been published; among these mention may be made of one by Dr. E. Potherat on a very acute form of appendicitis, presenting symptoms which are apt to be misunderstood. The new periodical will contain also ordinary articles and abstracts of papers published in French and foreign periodicals. The offices of the review are at 71, Avenue d'Antin, Paris.

The June number of the *Phonographic Record of Clinical Teaching and Medical Science* contains an article by Mr. T. B. Beale on Cases of Ulceration of the Vermiform Appendix, with very Acute Symptoms; Dr. J. C. M. Given relates a case of Paralysis of the Second, Fifth, and Sixth Cranial Nerves in a lady. In Notes on Medical Work in China Dr. W. W. Colborne gives an interesting account of his eye operations under difficulties on the Chinese of the Quang-tong Province, South China.

Mr. Stephen Paget has written a book entitled *Ambroise Paré and His Times*, which will be published in the autumn by G. P. Putnam's Sons. It will contain a large number of illustrations, and will include a translation, with what Carlyle would have called "elucidations," of Paré's "journeys in diverse places," in which he gives an account—more interesting than most historical novels—of his adventures in the various wars in which he accompanied the French army.

OBITUARY.

MATTHEW CHARTERIS, M.D.EDIN., L.R.C.S.EDIN., F.F.P.S.GLASG., F.R.S.EDIN.

THE death of Professor Charteris, of Glasgow University, was somewhat unexpected, though he had been off duty for some time in consequence of an attack of influenza.

He was born at Wamphray, in Dumfriesshire, in 1840; and from the Wamphray schoolhouse went to Edinburgh University, where he graduated in medicine in 1863. After some study in foreign schools, he began private practice in Airdrie, and subsequently in Glasgow. He was for some time Physician to the Glasgow Royal Infirmary, and in 1876 was appointed to the chair of Clinical Medicine in Anderson's College Medical School, Glasgow. In 1880 he was appointed by the Crown to the chair of Materia Medica and Therapeutics in the University. A prolonged illness unfortunately interrupted his career at the time its possibilities seemed greatest, and greatly impeded the continuity of his work.

He was the author of a small textbook of the practice of medicine, which was very popular among students, and of a handbook on health resorts. He wrote various articles on the treatment of disease by climate, and numerous other contributions. Among his later work, the most important are his investigations referring to salicylic acid. A few months ago he was elected a Fellow of the Royal Society of Edinburgh. He leaves a widow and three sons, one of whom is just on the point of completing his medical course. A brother of the late Dr. Charteris is the distinguished Professor of Biblical Criticism and Biblical Antiquities in the University of Edinburgh.

J. LEWIS SMITH, M.D.,

New York.

JOB LEWIS SMITH, whose name is well known to all interested in the study of children's diseases as that of a leading authority on the subject, died in New York on June 9th. He was born in Onondaga County, New York, on October 15th, 1827, and was therefore in the 70th year of his age. After graduating in Arts at Yale he devoted himself to the study of medicine under Austin Flint the elder, Frank H. Hamilton, and other eminent teachers, and took his degree at the College of Physicians and Surgeons of New York in 1853. He settled in New York, and almost from the outset of his career determined to take up children's diseases as a speciality. He was First Curator to the Nursery and Child's Hospital in Lexington Avenue, where he made some important original investigations. In 1868 he was appointed

Visiting Physician to the New York Infant Asylum, and soon after to the Foundling Asylum, maintaining his connection with both these institutions, which together have a total population of more than 2,500 children, to the end of his life. In them he tested every new "food for infants," and every new remedy for the diseases of children which was brought to his notice.

For more than twenty years Dr. Smith was Clinical Professor of Diseases of Children in Bellevue Hospital Medical College. His first contribution to the literature of his profession was made in 1854 in the form of a paper entitled A Review of Epidemic Small-Pox as it Prevailed in New York at Different Periods during the last Fifty Years, which was published in the *New York Journal of Medicine*. The object of the paper was to illustrate the value of vaccination in saving human life. From 1858 till his death he contributed more than a hundred papers to medical periodicals, besides writing largely in Ashhurst's *International Encyclopædia of Surgery*, Keating's *Cyclopædia of Children's Diseases*, Pepper's *System of the Practice of Medicine*, and several other works. In 1869 appeared the first edition of his own treatise, *Diseases of Children*. Speaking of this work in tracing the evolution of the literature of children's diseases in the United States, the President of the American Pediatric Society said at the recent meeting at Washington: "It is a work on diseases of children that has immortalised his name, and his heart must throb with pride upon realising that he has been able, after twenty-seven years of active professional life, to issue the eighth edition."

Dr. Lewis Smith had a very high sense of professional honour and duty. In his private character he was straightforward, genial, modest, and unobtrusive, loyal to his professional brethren, and exemplary in all relations of life.

W. T. LUSK, M.D.,

New York.

Dr. William Thompson Lusk, the well-known American obstetrician, died suddenly on June 12th of cerebral hæmorrhage. He was born in 1838, and after a year at Yale he went to Germany, where he studied medicine for three years. Returning to his native country in 1861 he enlisted as a private in the Federal Army, but speedily rose to be Assistant-Adjutant-General. After serving three years he resumed his medical studies, and took his Doctor's degree at Bellevue Hospital Medical College in 1864. In 1868 he was appointed Professor of Physiology in the Long Island College Hospital, and in 1870-71 he was also Lecturer on Physiology in the Harvard Medical School. During these years Lusk gained a reputation as a brilliant physiologist and a most interesting lecturer. In 1871 he was elected to the Professorship of Obstetrics and Gynæcologist at Bellevue Hospital Medical College, a position which he retained till his death. He soon won for himself a great reputation in this new field of activity. His treatise, the *Science and Art of Midwifery*, achieved an almost unexampled popularity, being translated into French, Italian, Spanish, and even Arabic. He was also the author of numerous other contributions to medical literature. From 1871 till 1873 he was the editor of the *New York Medical Journal*.

Dr. Lusk was a man of a lovable, gentle, and most open nature. He was an ex-President of the American Gynecological Society and of the New York Obstetrical Society, a corresponding Fellow of the London and Edinburgh Obstetrical Societies, and one of the founders of the International Congress of Obstetrics and Gynæcology.

The death is reported of Dr. Frederick Richard Webster, who for a great many years practised in St. Albans like his father and his grandfather before him. He had been a sufferer for some time from gout, but succumbed somewhat suddenly to peritonitis. The deceased was a student of Guy's Hospital, and became a Member of the Royal College of Surgeons in 1859. He held a high position in the "Halsey" Lodge of Freemasons, and was at one time a member of the St. Albans City Council. For twenty-seven years he was an Honorary Consulting Surgeon at the St. Albans Hospital, and was formerly Medical Officer of Health for the city. The deceased leaves a widow and one son.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently passed away may be mentioned Dr. Alfred Stocquart, Chief Demonstrator of Anatomy in the University of Brussels, and Secretary of the Anatomo-Pathological Society, aged 41, of septic poisoning, contracted in making a *post-mortem* examination; Professor K. R. Fresenius, of Wiesbaden, the distinguished chemist, aged 75; Dr. Guérault, for many years Professor of Midwifery in the Medical School of Tours; Dr. B. E. Cotting, for fifty-five years Curator of the Lowell Institute, Boston, U.S., Consulting Physician to the Boston City Hospital, and a former President of the Massachusetts Medical Society; Dr. Gustav Braun, Senior Surgeon to the Ophthalmological Institute of Moscow, and Professor in the University of that city; Dr. Juan Creus, of Granada, a prominent Spanish surgeon; and Dr. T. de Carvalho, Professor in the Medical Faculty of Lisbon, and a Senator of Portugal, aged 78.

The Association of British Postal Medical Officers.—The annual general meeting of this Association was held on June 1st in London, Dr. Henry FitzGibbon of Dublin, the President, being in the chair. There was a large attendance of members. After the usual secretarial and financial reports had been received and adopted, the meeting unanimously passed a resolution of thanks to the Duke of Norfolk, Her Majesty's Postmaster-General, for his recent concession of a fee to postal medical officers for the examination of candidates for the postal service in response to an application from the Association. A letter was read by the President which he had received from the Postmaster-General, expressive of his appreciation of the work of the Association. Subsequently there was a prolonged discussion on a proposed code of regulations regarding the examination of candidates for the various branches of the postal service which had been compiled by Mr. Ritchie-Giddings, the honorary general secretary, and approved by the executive of the Association, with the view to securing as nearly as possible uniformity amongst postal medical officers in their decisions when determining as to the eligibility or otherwise of candidates. Finally, it was agreed that before this Association made any definite application to the Postmaster-General on this subject, this suggested code should be circulated to all the members for their opinion, and that it should be left to a special subcommittee to report thereon at a future meeting. Other business having followed, the officers were elected for the ensuing year with these results:—*President:* Dr. Henry Fitzgibbon, Dublin. *Vice-Presidents:* Mr. Frank Iliffe, Derby; Mr. Halton, J.P., Barnsley; Mr. J. Watson, Manchester; Dr. Coates, London; Mr. Thornton, J.P., Margate; Dr. Campbell, Dundee; Mr. Higgs, Dudley; Mr. Goss, Bath. *Honorary Secretary for Scotland:* Dr. Dougan, Glasgow. *Honorary Secretary for Ireland:* Dr. Walton Browne, Belfast. *Honorary General Secretary and Honorary Treasurer:* Mr. Giddings, Nottingham. *Committee:* Mr. McVeagh, J.P., Coventry; Mr. Walker, Middlesbrough; Dr. Paramore, London; Mr. Lansdown, Bristol; Dr. Taylor, J.P., Cardiff; Dr. Morton, London; Dr. Nelson, Birmingham. *Auditors:* Dr. Dougan, Glasgow; Dr. West Symes, Halifax. In the evening, the annual dinner of the Association was held in the Café Monico, London, when the attendance was a very large one. Amongst the guests present were the Duke of Abercorn, Lord Compton, M.P., Sir Walter Foster, M.P., Sir J. Leng, M.P., Sir Thomas Roe, Dr. Farquharson, M.P., Mr. Edward Bond, M.P., Mr. R. M. Dane, Q.C., M.P., Mr. Alfred Arnold, M.P., Sir W. Mac Cormac (President Royal College of Surgeons of England), and many others.

Antirabic Inoculations at Turin.—The number of persons bitten by dogs either rabid or suspected of being so who presented themselves for treatment at the Municipal Antirabic Institute of Turin was 672. Of these 470 were treated, the animals which inflicted the bites in the other 202 having been clearly shown to be free from rabies. The mortality among those treated was 0.21 per cent. The total number treated in the institution since its establishment on September 30th, 1886, is 3,024, with a mortality of 0.76 per cent.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, JULY 3RD, 1897.

THE ROYAL STATISTICAL SOCIETY AND VACCINATION.

It is an interesting illustration of what may be called the infectious nature of the vaccination controversy that even so sedate and unemotional a body as that which usually assembles within the meeting-room of the Royal Statistical Society has not been able to escape it. Two evenings during the present session have been devoted by the Society to a discussion of papers illustrative of the subject from its two opposite standpoints. The first inoculation of the virus took place in February when Mr. Noel Humphreys read an interesting and elaborate paper from the pro-vaccinist point of view. It must be admitted that although the paper was in the main purely statistical in form, it contained matter of an obviously controversial character. But, even if it had not done so, a very little experience of the vaccination controversy would suffice to show that Mr. Humphreys's statistics would be as hotly disputed as the *obiter dicta* by which they were accompanied. Nor need we be surprised that on this occasion, the anti-vaccinists, some of the leading representatives of whom appear to think that the mystic initials, F.S.S., when appended to their names, carry with them great weight, mustered strongly, and encouraged, with an applause which is unwonted in the Society's usually unimpassioned atmosphere, the rhectorical deliverances of their chiefs.

We need hardly say that Mr. Humphreys's paper displayed a masterly marshalling of facts, drawn from the statistical side of the question, with which he is so competent to deal. It would be impossible for us to give here an outline of his argument, and we must refer those of our readers who may desire to acquaint themselves with it to the original paper as published in the *Journal* of the Society. We trust that it may be found practicable to give it a wider circulation than it can enjoy amongst the select public by whom that periodical is ordinarily perused.

More recently it was the turn of the antivaccinists to make the running, and Mr. Alfred Milnes was selected for them for the purpose. It was expected that Mr. Milnes's paper would deal, primarily at least, with Mr. Humphreys's statistics and the deductions which he drew from them. But so far was this from being the case that most of Mr. Humphreys's points remained unnoticed, his antagonist, as is generally the case in these logomachies, being apparently more interested in making points of his own. We are not disposed to complain of this; for it may be assumed that if Mr. Humphreys's statistics and the deductions he drew from them were not answered it was because they could not be. It must also be admitted that some of the points which Mr. Milnes made were, to say the least of them, ingenious and deserving of consideration, as embodying the most formidable evidence against vaccination, from the statistical side, which one who is professionally in the habit of handling figures can bring forward. We do not propose on the present occasion to deal with the purely statistical aspect of Mr. Milnes's paper, which can be more appropriately left to another occasion, but only to examine a few of his statements, the value of which can be easily appreciated without any special experience in the handling of statistics.

It is rather singular that a writer who particularly deprecates the "special pleading" with which the purely scientific features of the vaccination question have been overlaid should himself illustrate, as he has done, the difficulty of distinguishing between what are questions of opinion and of fact. Mr. Milnes appears to consider it an argument which makes for the *a priori* credibility of the antivaccinist side of the question that "all dissentients from the orthodox vaccine faith down to the humblest, have at least this in common, that they conceive themselves to have arrived by a route of perfectly impartial and disinterested investigation at conclusions justified by reasons sufficient to themselves." But of what creed, we may venture to ask, whether it be religious, scientific, or what not, cannot it be said that those who dissent from it equally believe in the impartiality and disinterestedness of their disbelief? Mr. Milnes thinks it wise to cite Drs. Creighton and Crookshank specifically as instances of men "in the happy possession of every mental instrument that faculty could provide," who have been led to see the error of their early orthodox instruction, and to defer to the overwhelming force of the evidence against vaccination. We have no desire to depreciate either the intellectual capabilities or the mental rectitude of the gentlemen whom Mr. Milnes thus quotes to illustrate his argument, but if we are to discuss the question on the basis of authority, we may be permitted to cite on the other side, two distinguished members of the Royal Commission, Lord Herschell and Professor Michael Foster, who have left us in no doubt as to the openness of mind with which they commenced their inquiries into the vaccination problem, and whose conviction as to the overwhelming force of the evidence in favour of vaccination will probably not be considered by the intelligent portion of Society less weighty than that of the two gentlemen referred to by Mr. Milnes, even when supplemented by the story of his own personal conversion, to which he so pathetically alludes. It is certainly, as he says, a misfortune that instead of investigating a scientific problem he should have to appear as pleading a cause; but those of his audience and readers who do not happen to be of his own way of thinking will, no doubt, be able to apply the appropriate corrective.

After this general prelude Mr. Milnes proceeds to discuss what he considers to be "the logical position" of the vaccination question; and he does so for what will probably have appeared to the more statistically minded of his audience a somewhat curious reason. They had met to dis-

cuss the vaccination question from a purely statistical point of view. Dr. Guy, as Mr. Milnes reminded them, even went so far as to assert that there was no other point of view than the statistical. This was certainly taking too narrow a view of the matter, for there are clearly considerations involved which cannot be stated in a purely numerical form. One would have thought that it would have been sufficient merely to indicate this fact, and to leave the "logical" position of the question to be discussed by those who have better claim to do so than have mere statisticians. But Mr. Milnes evidently could not resist the temptation to score on this aspect of the question as well as on that of statistics, and he accordingly attacks it as stated thus by himself: "Is vaccination a proven preventive of small-pox, and, on the issue so stated, does the evidence in its favour attain to so high a probability as to acquire that character of practical certainty whereby alone compulsory provisions can be justified?"

Now we take it that the major premiss of Mr. Milnes's implied syllogism is, "no legislation is justifiable unless for a purpose the object of which can be certainly attained." If this assumption be correct it cuts at the root of all punitive legislation except that which involves capital punishment. For the object of all such legislation is not only to prevent crime but to reform the criminal. But is there any one single law which can be said certainly fully to achieve either of these results? Assuredly not one. The only hope of the legislator in adopting repressive laws is to so draft them that they shall prevent crime and reform the criminal as much as possible, without violating public feeling for the criminal or encouraging public sympathy with crime. To assume that compulsory vaccination can be justified only by ensuring that no person who has been once vaccinated shall ever take small-pox, for that is what the antivaccinist position assumes, is to make an assumption which is, on the face of it, absurd. We hope that we have done Mr. Milnes no injustice by misunderstanding his meaning, but we cannot see what other interpretation is to be placed upon his words.

But Mr. Milnes's "logical position" involves considerations which appear to be rather of the pathological than the logical order. "It must never be forgotten," he urges, "that if the benefits of vaccination are as alleged, then we are confronted with a phenomenon absolutely unique. In no other case is it proposed or pretended by the inoculation of one disease to prevent another. We have then to seek for and estimate the evidence for a fact which, if true, is quite without a parallel; and this dominant feature of the case needs to be kept in view at every step in the investigation." Mr. Milnes thinks that this claim is an "inherent pathological improbability." So do we. The evidence in favour of vaccination being only a modified form of variola, produced by a method with which the discoveries of Pasteur and others have made us familiar, is so incontrovertible that we can only assume that Mr. Milnes's want of acquaintance with the subject has led him to create a "logical" bogey which really does not exist.

After this consideration of the "logical position" of vaccination, Mr. Milnes treats us to a discussion on "vaccination legislation," which, again, does not seem a particularly appropriate subject for a statistical society. Here also he exhibits an inability to escape a fallacy when it lies in his way, which is somewhat singular in a professed logician. The medical profession, he in effect says, introduced, or at any rate promoted, the practice of inoculation.

In 1840 Parliament passed an Act by which inoculation was made a penal offence, *ergo*, "rightly or wrongly, Parliament, by this Act, deliberately pronounced the medical profession guilty of a life-destroying error." "It must never be forgotten," he adds, "that vaccination is not the first, but the second, method of small-pox prevention advocated by a practically unanimous profession," and he then lectures the medical profession on their want of modesty in advocating the compulsory practice of vaccination, which may hereafter be discovered to be as indefensible as inoculation is admitted to be. This is an argument which is constantly being used by antivaccinists, and therefore deserves a little attention.

Now it is unquestionable that as between the risks of taking small-pox in the natural way and by inoculation, in the perfected form to which that procedure was ultimately brought, the advantage to the individual was greatly in favour of the latter. So strongly convinced were the public on this point, both in this country and abroad, that, in spite of the mortality which attended the operation when first introduced, thousands insisted on undergoing it, because, even at its worst, it was better than small-pox. There was, therefore, no discredit to the medical profession—by whom, as a matter of fact, the operation was neither introduced into this country nor at first much promoted—in taking up a procedure which had very distinct merits.

It was the mischief which inoculation did in diffusing infection, at a time when the resources for arresting the spread of infection were practically non-existent, which procured its authoritative condemnation. For, in this as in other matters, established practices die hard; and even when the great superiority of vaccination, as a non-infectious operation, had been well established, there were people who still clung, from unreasoning prejudice, to inoculation. The very same argument which Mr. Milnes uses in the case of inoculation would apply equally to bleeding, purgatives, and other forms of therapeutic practice which, having been at one time much belauded, have since ceased to be trusted. But no one with any sense of propriety thinks of calling them "life-destroying errors." Even when discussing legislation Mr. Milnes cannot avoid the temptation to diverge into pathology. He thinks that inoculation presents much more analogy with the modern methods of treatment by "attenuated virus" than does vaccination. It is difficult to understand how anyone who has any knowledge as to what the difference between inoculation and vaccination really is could formulate such a statement. But then, Mr. Milnes is not a pathologist, though he talks as if he were.

We have a good deal more from Mr. Milnes on the subject of vaccination legislation and other cognate subjects before we get to the heading of "Statistics of Vaccination and Small-pox." Here we must for the present leave him. If we have devoted so much attention to arguments which to many of our readers may seem so "attenuated" as to contain little effective virus in them, it is because the fact of the paper having been admitted by the Statistical Society will invest it with an importance which it would not have otherwise acquired. It is also well to be able to measure the calibre of an enemy's guns when an opportunity offers for doing so; and as Mr. Milnes seems to be considered at the present

time the strong man of the antivaccination platform, we may fairly assume that in gauging the profundity of his logic we can form a good estimate of what passes muster as such amongst the rank and file of the party generally.

OUR POSITION TO CHILD PAUPERISM.

We do not wish to claim more than our due share of perspicuity, nor yet to exaggerate the public influence that the British Medical Journal exerts on matters of social and medical importance; it is sufficient to point out that the reform which we have patiently and persistently advocated is beginning to be adopted by those bodies who have the practical work to do.

The Metropolitan Asylums Board have issued a report concerning the five classes of children which Mr. Chaplin's recent Order has placed in their care, and in this document their future policy and methods are laid down. They propose that the children suffering from ophthalmia should be provided for in three institutions, not exceeding 400 patients in each; that the convalescent homes belonging to the St. Pancras Board at Margate, and the South Metropolitan School District at Herne Bay, should be taken over by the Central Board, and that all further provision should be in the form of small homes, at the seaside or in the country, for 25 children each. For the children of defective intellect dwelling houses to contain not more than eight children in each should be provided in the close vicinity of the special classes for these children which have been established by and do such excellent work under the London School Board. The remanded children (who, we still contend, had better not come under the Metropolitan Asylums Board at all, but are more appropriately left to the London School Board) are to be housed in three conveniently situated houses, two on the north and one on the south side of the Thames.

So much for the report; and except that we should demur as to countenancing ophthalmic schools for so many as 400 children, we would warmly commend it as wisely and sympathetically conceived. But unfortunately there exists no power to induce the guardians to take advantage of these benefits when they are provided; and that there is considerable ground for apprehension that they will not do so is shown by the fact that, according to the most recent figures supplied by Dr. Downes and Mr. Lockwood, there are now 970 children suffering from ophthalmia, and yet only 288 have been sent to the ophthalmic schools at Hanwell, leaving some 700 in the undesirable conditions of the barrack schools. To meet this need, Lord Peel, as Chairman of the State Children's Aid Association, has issued a memorial to the President of the Local Government Board, in which it is urged that "the Metropolitan Asylums Board should have compulsory powers to inspect the children in the existing schools, workhouses, and infirmaries, and so transfer to their own care all the children to whom the Order extends."

It will be remembered that the Parliamentary Bills Committee of the British Medical Association recently published a statement which was extensively circulated to M.P.'s and among the executive bodies, advocating that the boarded-out children and the children in the probationary wards should also be placed under the Metropolitan Asylums Board, with a view to fostering the former system, and by judicious classification to minimise the chances of infection among the latter. To this scheme Lord Peel's memorandum gives countenance, his Committees going, however, two steps further with the proposal that to the same Central Board should be entrusted the duty of providing for the "ins and outs," and the elder boys and girls who need technical training as well as those suitable for emigration.

From divergent quarters come welcome reinforcements to this principle. We refer to the Camberwell guardians and the Hanwell managers. The latter have issued a report stating that in their opinion all classes of diseased children now in the infirmaries, and all children suffering from diphtheria, typhoid, and scarlet fever now in the schools, should be handed over to the Metropolitan Asylums Board. The Camberwell Board register the opinion that nothing will be really satisfactory except a Central London Board dealing with all classes of children.

Slowly thus, and in different ways and by divers bodies, are our principles being adopted, and we are yet hopeful of seeing the reform which we have so earnestly endeavoured to bring before the public adopted. All ways of attaining this improvement we welcome, although every way must be more expensive than the simple one of a Metropolitan Central Board, with possession of all the buildings and appliances, but the ratepayers are to us a secondary consideration. Our interest has been the children, and our endeavour is to use such influence as we possess to remove them from large aggregated schools where their health, as well as their moral and mental development, is below what should be reasonably expected.

THE SEASONAL FLUCTUATIONS OF EPIDEMIC DISEASES.

It is probable that a knowledge of the causes of the seasonal fluctuations of epidemic disease would throw much light upon the problems as to the wider cyclical phenomena—whether historical or secular, or variations in virulence—with which the study of epidemiology is beset. The study of the seasonal fluctuations of epidemic diseases obviously presents different problems in different members of this group. An explanation which might suffice for soil-derived diseases like yellow fever or enteric fever would not throw much light on the causation of diseases like small-pox and measles, whose presumptive micro-organisms are, so far as is known, solely obligatory (parasitic). Hence, in his thoughtful and suggestive paper, read at a recent meeting of the Epidemiological Society, Dr. Andrew Davidson very properly confined his attention to small-pox and measles as forming the crux of the whole problem of the seasonal fluctuations of epidemic diseases.

Measles and small-pox are not known to be favoured by any condition of soil. Their infective micro-organisms live and multiply, so far as is known, solely in connection with the patients suffering from these diseases. If we accept this thesis, it is difficult to understand why there should be any regular seasonal fluctuation of such diseases. However comprehensible the seasonal fluctuation of diseases caused by micro-organisms having a saprophytic or extra-corporeal stage of existence, it is difficult to conceive the *rationale* of the special seasonal activity of purely obligatory or intra-corporeal parasites. What are the explanations usually advanced? Flügge adopts a social explanation, which has also

been advanced by other writers. But it is more than doubtful whether the increase of small-pox in the winter months can be explained by the more intimate association of individuals, the longer wearing of personal apparel, and the diminished personal cleanliness associated with this season, though such conditions may help the spread of infection when established by more potent influences.

The climatic explanation, advanced many years ago by Dr. Ransome, is endorsed by Dr. Davidson, who gives detailed facts in support of this hypothesis, applicable to both hemispheres. They regard the seasonal recrudescences of small-pox and measles as caused by the increased susceptibility of the human subject in winter and spring to receive these specific infections; rather than as caused by the action of climatic agencies on the virus outside the body. It must be admitted, as already stated, that there is no evidence of a saprophytic stage of existence of these micro-organisms, and that the first explanation is therefore more probable than the second. This view is supported by the extreme differences in the meteorological conditions under which at various times small-pox has become epidemic.

The increased susceptibility of the human subject may mean simple vulnerability of the respiratory mucous membrane, by which the infection enters; or a lessened refractoriness of the whole system to infection. The climatic explanation of greater susceptibility is evidently more favourable to the hypothesis of a special vulnerability of the respiratory mucous membrane, which is the view taken by Drs. Ransome and Davidson. It is not without significance, furthermore, that in London the mortality from small-pox and measles begins to increase in the fortieth week, and bronchitis in the forty-first week of the year. Dr. Ransome's observation that the chief undulations of the measles curve rose with the fall of temperature and *vice versâ* also favours the view that susceptibility of the population is increased by lowered temperature. It is unfortunate that Dr. Davidson has not advanced more detailed proof of this highly probable conclusion, on the basis of cases in towns and districts where the notification of measles is enforced, as it is evident that cold may act by increasing the fatality in addition to increasing its prevalence. In every part of the world it would appear that measles and whooping-cough begin to increase in the month when the first decided fall in the temperature occurs. There are few, if any, exceptions to this rule. The climatic explanation which ascribes the winter incidence of small-pox and measles to increased susceptibility caused by the effect of lowered external temperature has to be extended to explain the spring rise in the prevalence of small-pox and measles with the intervening decline during January and February. This is done by the assumption that as winter advances the system gradually adapts itself to the new conditions; consequently respiratory diseases, as well as small-pox and measles, decline in frequency in January and February. With the great ranges and sudden fluctuations of the temperature in spring, these diseases again increase; and "the same line of argument connecting the winter rise with the fall of temperature, and by which the fall of temperature is inferred to act by increasing the susceptibility of the body to infection, applies to the spring rise as determined by extreme ranges of temperature."

We are now in a position to contemplate the limitations and defects of the purely climatic view of the cause of the seasonal fluctuations of small-pox and measles, as given above. In the first place, the complete or partial failure hitherto experienced to isolate or grow in artificial media the micro-organisms of measles or whooping-cough, implies a very scant knowledge of the life-history of the contagia of these diseases. To describe these contagia as solely facultative is to set up a definition which, although the available evidence strongly supports it, is not certainly based on fact. A few years ago, exactly the same definition would have been applied to scarlet fever, and would even now be so applied by the majority of physicians; but Dr. Davidson, probably quite correctly, places the scarlatinal micro-organism among those having a saprophytic or extra-corporeal phase of life. If we were to suppose that one phase of the life-history of measles and small-pox is saprophytic, a very different hypothesis would be practicable from that based on the view that the contagia of these diseases are constantly parasitic.

In the second place, apart from this remotely possible supposition, is it certain that the seasonal fluctuations of small-pox and measles can be explained only on the hypothesis of increased vulnerability of the human subject? May it not be equally explicable on the hypothesis that the micro-organisms of these diseases have a special seasonal periodicity analogous to the periodicity which characterises the whole vegetable world? This explanation, although it leaves the cause of the periodicity unsolved, at least presents an alternative worthy of consideration. If snowdrops, primroses, campions, and other wild flowers reappear each year with exactitude, being only slightly retarded or hastened and increased or decreased in number by climatic conditions, may not an analogous explanation hold for the contagia of diseases like small-pox and measles? If so, the seasonal recurrence of small-pox and measles in the winter and spring, of epidemic diarrhœa in the summer, of scarlet fever, diphtheria, and enteric fever in the autumn, may have a "botanical" explanation, and the influence of temperature and other climatic conditions be considered as operating within the narrow limits of retardation or acceleration and of magnitude of any given seasonal manifestation of disease.

Dr. Davidson advanced the opinion that we cannot hope fully to understand the nature of the great epidemic waves of disease "until the causes of the seasonal fluctuations are better understood." It may be that the converse of this will be the truth, and that we shall be in a position to give a more rational explanation of the regular seasonal fluctuations of small-pox and measles, when we more completely understand the causes of the biennial epidemics of measles in towns, and of the occasional pandemics of small-pox, as in 1869-72. The biennial epidemics of measles may of course be ascribed to mere aggregation of a susceptible population, though this will not explain the more virulent epidemics with which at intervals the milder epidemics are interspersed. To explain completely a pandemic of small-pox like that of 1869-72 more than aggregation of susceptible persons and neglect of vaccination are required, though these factors undoubtedly had a potent effect. What was the *tertium quid* required to produce such a pandemic as that already instanced still remains a mystery.

The paper on which the preceding remarks are based forms a most useful contribution to our knowledge of ascertainable facts as to the seasonal fluctuations of epidemic diseases. It is even more valuable for its suggestiveness. It will, we

hope, stimulate the systematic compilation of exact epidemiological data in every quarter of the world; as, without such data, the problems briefly discussed in the preceding remarks cannot be expected to obtain their solution.

THE President and Fellows of the Royal College of Surgeons of Edinburgh gave a reception on the afternoon of Tuesday, June 22nd, in honour of her Majesty's Diamond Jubilee.

THE kindly help of our readers is invoked by a letter published in another column, and we feel in many cases will not be invoked in vain, for assistance in the way of information as to holiday homes for town children in country cottages where they will be received for a reasonable payment, and will be cared for.

OWING to his engagements at the University, the President of the University of Durham College of Medicine, Newcastle-upon-Tyne, Professor George Ware Philipson, D.C.L., was unable to be present at St. Paul's Cathedral on Jubilee Day to represent the University of Durham at the royal progress, but the University was represented by the Rev. Henry Ellershaw and Dr. James Murphy.

THE first annual dinner of the Hospital Reform Association will take place at the Holborn Restaurant on Monday, July 26th, at 7.30 P.M. The chair will be taken by Dr. Ward Cousins. The price of the dinner tickets will be 5s. 6d., and we are asked to state that Dr. Ernest Snape, of 41, Welbeck Street, London, is acting as Secretary, and will answer all communications.

PAUPER NURSING.

DR. JOSEPH SMYTH, coroner for co. Kildare, has been devoting much time and labour to the work of collecting and making known to the public through the press instances of the maltreatment of the sick in Irish workhouse infirmaries by pauper nurses. Dr. Smyth's arguments are all the more valuable and effectual because, not being in the Poor-law service, he cannot be accused of prejudice. We wish him every success. It is only by bringing before the public and keeping constantly before them the horrors of the Irish workhouse system that radical reforms can be hoped for. Patchwork will not do. The system is rotten to its foundations, and like a worn-out building, it would be cheaper to rebuild it than repair it.

GRANTS TO UNIVERSITY COLLEGES.

IN 1895 the Chancellor of the Exchequer was requested by a deputation to increase the grants made from public funds to University Colleges. In March, 1896, a Committee, consisting of Mr. T. H. Warren, President of Magdalen College, Oxford; Professor D. G. Liveing, F.R.S.; and Mr. Robert Chalmers, of the Treasury, was appointed to visit the Colleges and to investigate their financial position and the work done by each. Upon the report of this Committee, recently made, the Chancellor of the Exchequer and the Lords of the Treasury have agreed that the total grant should be raised from £15,000 to £25,000 a year. The maximum sum to be granted to any one University College was fixed by the Treasury, we are reminded by *Nature*, so recently as last April, at £3,000 a year; on the present occasion, however, it is recommended that a grant of £3,500 should be made "in recognition of the pre-eminence of the Owens College." The maximum grant of £3,000 each is made to the University Colleges of London and Liverpool; Mason College, Birmingham, is to receive £2,700; while King's College, London; the Yorkshire College, Leeds; and the Durham College of Science, are to receive each £2,200; University College, Nottingham, £1,500; Firth College, Sheffield, £1,300; and University College, Bristol, and Bedford College, London, £1,200 each. This absorbs £24,000. The remaining £1,000 a year it is intended to pay to University College, Dundee, as a temporary grant, owing to the exceptional position in which that College is now placed in regard to St. Andrews University; it is expressly stipulated that when the relations between St. Andrews University and the Dundee College are settled, the matter of the grant should be reconsidered, as the claim of the College to share permanently in the grant to University Colleges is not admitted. It is proposed that these allocations of the Treasury grant should hold for five years. Before the end of that term it is intended that the Colleges should again be inspected, and that this inspection should extend to the University Extension Colleges at Reading and Exeter, to the Hartley Institute at Southampton, and to any other College in a populous district which may claim to be treated as a fully equipped College in arts and science. One of the grounds for this claim must be that the College has already attained a certain standard of local success, the financial test being a double one: (1) a total local income for Arts and Science of at least £4,000 a year; and (2) a receipt from fees in the same subjects of at least £1,500.

SIR JAMES REID, BART.

THE QUEEN has been pleased, in commemoration of Her Majesty's Diamond Jubilee, to confer the dignity of a baronetcy of the United Kingdom upon Sir James Reid, K.C.B., M.D., Physician in Ordinary to Her Majesty. We mentioned in the Queen's Commemoration Number of the JOURNAL the previous proofs which the Queen has given of her confidence in Sir James Reid's professional skill, and of her personal regard for him. Sir James Reid has held a post of great responsibility, requiring obviously much tact and discernment, with universal acceptance. The post is one which not only requires a high order of medical attainment in view of the most valued life entrusted to his care, but also other social qualities and conscientious characteristics which are happily combined in him.

FURTHER JUBILEE HONOURS.

THE QUEEN has conferred the honour of knighthood upon Mr. Thomas Naghten FitzGerald, Senior Surgeon to the Melbourne Hospital, Victoria. Sir Thomas FitzGerald, who is a Fellow of the Royal College of Surgeons of Ireland, qualified as a Member of that body in 1857. He is also Consulting Surgeon to St. Vincent's Hospital, Melbourne, and is well known as a leading surgeon in that colony. The Queen has also conferred the honour of a Companionship of the Bath upon Sir William Macgregor, K.C.M.G., Governor of British New Guinea, Australasia. Sir William Macgregor studied medicine at Aberdeen, and obtained the degree of M.B. from that University in 1872, and that of M.D. in 1874. He has held many important colonial appointments before his nomination to the high office which he now holds.

PLAGUE AND THE PILGRIMAGE.

DR. E. D. DICKSON (Physician to the British Embassy in Constantinople), informs us that two important questions have lately occupied the attention of the Constantinople Board of Health: (1) The arrival at Jeddah of persons destined for the next Mecca pilgrimage, and (2) the existence at Jeddah of a large number of indigent pilgrims, wandering without food or shelter, in its streets. The largest number of these mendicants are Ottoman subjects; more than 500 of them are British Indian subjects, and the remainder are natives of the Dutch Indian possessions. With regard to the first question, the Board decided to close the port of Jeddah to all persons intending to proceed to Mecca. These persons will have to go to Yambo, and from that place proceed to Medina or to Mecca, as best suits them. Pilgrims

who, according to the regulations, have to perform a quarantine will undergo this at Camaran, and then proceed to Yambo, unless the period of their quarantine does not exceed twenty-four hours, in which case they may go straight to Yambo and undergo there the twenty-four hours' observation. With regard to the mendicant pilgrims wandering in the streets of Jeddah, the Board of Health has ordered them to be put into the lazaret of Abu-Saad (near Jeddah), and kept and fed there until the Ottoman, British, and Dutch Governments, who have been requested to take them away—have removed them. From June 11th to 17th twenty-four deaths of bubonic plague have been registered in Jeddah.

THE HEALTH OF THE QUEEN.

We are glad to be in a position to state on the best authority that the Queen, though naturally somewhat fatigued by the exacting nature of the numerous ceremonials of the last ten days, has not suffered in health. This assurance alone was required to confirm the popular feeling that the Diamond Jubilee has been the most successful ceremonial ever witnessed in this country.

THE MONTREAL MEETING OF THE ASSOCIATION.

Those of us who witnessed the procession which passed through London on June 22nd must have been impressed with the unbounded enthusiasm with which the Colonial Premiers were received by all classes of the people. There was on this occasion a common and spontaneous outpouring of sincere good feeling towards the representatives of our kinsmen in the Colonies. We are proud of the work accomplished by those men and their descendants who, having departed from our shores have carried with them all the best instincts of their native land, and founded homes and societies in distant parts of the world—vigorous grafts from the parent stock, destined to promote by every means in their power the well-being of the Mother Country. Of the several Colonial Premiers Sir Wilfrid Laurier, the leader of the existing Government of Canada, the oldest British Colony, was at the head of the procession, and the reception which he met with from the vast masses of people along the line of route must have convinced him how deeply the efforts he is making to draw closer the bonds of union between this country and the Dominion of Canada are appreciated. It was a kindred spirit which inspired our professional brethren in Canada to invite the members of the British Medical Association to Montreal; their elected President, Dr. Roddick, at considerable self-sacrifice, has, with his colleague, Professor Adami, visited England to facilitate the arrangements for the meeting, and no pains on their part have been spared to ensure the success of the meeting. It will be a very great success, and enjoyable in every way; beyond this we are sure that there are numerous members of our Association who are deeply imbued with the sentiments so universally expressed by their fellow-countrymen on June 22nd. To one and all is now offered the opportunity of giving expression to these sentiments. It is worth an effort to join in this social gathering, and to show our Colonial brethren that we fully appreciate the privilege they have afforded us, by responding to their cordial invitation not only to enjoy an intellectual and social treat, but also to demonstrate that each one of us is desirous of promoting the objects and sentiments which have brought about this gathering of Anglo-Saxon medical men. Passages may still be secured by the various lines of steamers leaving England on or before August 19th, and if a sufficient number of members were to apply shortly for berths, a vessel could be chartered leaving Liverpool on August 21st, and returning to that port within a month. The passage-money to and from Montreal would amount in all to between £17 and £20. We are glad to find that over 200 members of our Association in this country have already expressed their intention of attending the meeting in Canada, and we would urge many more to do their best to go to Montreal. It is hardly likely that such a meeting will occur again for many years to come, and there has never been a like gathering of our Association in the past. A large number of medical practitioners in this country are in the habit of taking a fortnight or three weeks' holiday in the year; for once let them make an effort to extend their vacation by a week. A passing view of what is going on in Canada will be a revelation to many who have never had an opportunity of visiting that splendid colony. It must excite in all a vivid impression of the welfare of one of our most flourishing colonies, and of the importance of drawing closer the bonds of union between all sections of the British Empire.

THE LAW OF SEASIDE LODGINGS.

The Public Health Act of 1875 gave power to local authorities to enforce special by-laws for sublet houses. In the twenty-two years that have since passed it is astonishing to find what a large proportion of great towns, and probably a much larger proportion of smaller towns, have failed to adopt, much less to enforce, such by-laws. The Brighton Town Council have recently adopted such by-laws, which must have a beneficial effect in diminishing overcrowding and abating uncleanliness and other nuisances in sublet houses of the poorer kind. From a report of Dr. Newsholme on the advisability of adopting such by laws we extract the following particulars as to other towns. A circular letter was addressed to the medical officers of the thirty-three great towns, and from twenty-nine of these answers were received. These answers show that nine of these great towns, namely, Derby, Bolton, Huddersfield, Hull, Leicester, Halifax, Preston, Nottingham, and Wolverhampton, have no by-laws. Three others, namely, Bradford, Portsmouth, and Burnley are also without by-laws, but they are stated to be in preparation. In the remaining great towns there are such by-laws, and in most of them they are restricted to houses below a certain rateable and rental value. In the metropolis it appears that regulations under the Sanitary Acts or by-laws under Section cxiv of the Public Health (London) Act, 1891, relating to houses let in lodgings, are in force in thirty-nine of the forty-two London districts. In many of these districts, however, the by-laws have not been systematically enforced, though, as stated by the medical officer to the London County Council, "inquiries show that in every district where by-laws or regulations have been given a fair trial, the opinions of those best qualified to judge are strongly in favour of this method of dealing with houses of this character." It is somewhat remarkable that the powers as to houses let in lodgings given to local authorities so many years ago by the Legislature, should have been so little utilised by local authorities, even where by-laws have been formally adopted. Such by-laws enable prompt action to be taken for the remedy of serious nuisances, without the preliminary red-tapeism which characterises the usual system of serving notices for the abatement of nuisances. Thus take the case of overcrowding. Under Section xci of the Public Health Act of 1875, if overcrowding is detected, the matter must be reported to the local authority, whose meeting may be held a fortnight or longer after the overcrowding has been discovered; then a notice must be served, and it is only after the time mentioned in this notice has expired that a summons can be issued if the overcrowding continues. If it is temporarily abated, the proceedings may have to be commenced *de novo*. With by-laws in force a summons can immediately be issued against offenders living in registered premises. The necessity for by-laws requiring "the giving of notices and the taking precautions in case of any infectious disease," has disappeared with the almost universal adoption of compulsory notification of infectious diseases. But the necessity for prompt action against overcrowding and dirtiness in sublet houses remains. Such overcrowding and its associated evils are the greatest sanitary blot of modern life, as they are certainly the most difficult to combat. This makes

it the more remarkable, that local authorities have not utilised all the available means for dealing with it. Possibly the fear of introducing class distinctions has been a potent agent in preventing the adoption of by-laws for houses let in lodgings. Another bogey at which local authorities have shied has been the power of evening inspection given by the by-laws, It is the old story of the sanctity of the Englishman's castle, those who ride off on this tack forgetting that the enactments do not weigh heavily on the cleanly and industrious poor, but only on those who urgently require every possible supervision and control.

GUARDIANS AND MEDICAL FEES.

At a recent meeting of the Romford Guardians, according to a report in the *Stratford Express*, one of the medical officers applied to the Board to be allowed the usual fee for attendance on a case of fracture. This payment, it appears, had been refused because the doctor had lost the formal order for attendance on the patient, which had been given some time back by the relieving officer. After considerable discussion, it was decided that no notice should be taken of the doctor's application for his fee, which there is no doubt had been fully earned. If Boards of Guardians will persist in taking advantage of any legal technicality such as this, however unjust it may be, it is not very surprising that they should have difficulties with their medical officers. We cannot think that any other Board of Guardians in England would have decided such an application in the way the Romford Board has done. Let us hope that a more just Board will be chosen at the next election to represent the ratepayers and poor of he Romford Union.

CHLOROFORM AND BURGLARY.

A curious story is reported in the lay press which involves an important medico-legal question. Some burglars are stated to have entered a dwelling house at Clayton-le-Moors, Accrington, and to have chloroformed the inhabitants as a preliminary measure to successfully looting the house. The alleged victims of this outrage were a grown-up son of the householder, two adult daughters, and two young children. The burglars first entered the room in which the girls and children were sleeping, chloroformed them all without disturbing their slumbers, then went to the room of the youth, and dealt with him in the same way. In the morning the young man awakened and complained of "feeling very ill," while his sisters did not awaken until recalled to mundane existence through the efforts of a medical man. All professed they did not know anything about the burglars. It is not our business to discuss the inherent improbability of the story. Whether five persons could be reduced to anæsthetic sleep by burglars using chloroform in such a way as not to disturb their usual slumbers is the matter which interests the profession. Dolbeau[1] tested the possibility of chloroforming sleeping persons, and found that, even using the greatest care he only succeeded in 10 cases out of 29; so that even under the most favourable conditions Dolbeau succeeded in chloroforming without awakening the patient in about 33 per cent. of the cases. Cluness succeeded with two children, and generally it is admitted that young persons are more easily chloroformed during sleep than adults. In the well-known case of Richard Smith, who was found in bed murdered while his wife slept beside him, the woman's defence was that she had been drugged with chloroform, and was not a *particeps criminis*. Quimby's evidence in support of this plea was that he had succeeded in three experiments in producing chloroform narcosis during natural sleep—in one adult and two children. In the early days of the use of chloroform, great fears were entertained lest the drug should become an important item in the armamentarium of every criminal who aspired to distinction in his calling; but, as was pointed out by Snow and others, chloroforming involves too much skill and expertness if a satisfactory result is to be obtained for its use to be possible for the purposes of crime. In the case before us it seems incredible that several persons in one room could be severally chloroformed without disturbance of their own or their neighbour's slumbers, and further that the narcosis could be so profound that in the case of the girls it should persist for hours after the administration had been discontinued, and finally require medical aid before it could be overcome. Maury, in his evidence given in 1871 before the Court at New Bloomfield, Perry County, Pa., said he had tried to chloroform six persons during their sleep, and all had resisted. The bulk of experience goes to show that, except in the case of infants, it is most exceptional to succeed in chloroforming persons without awakening them from sleep.

[1] *Annales d' Hygiène*, 1874.

AN EIGHT HOURS' WORKING DAY FOR MINERS.

Sir Walter Foster has done well to reprint the speech which he delivered in the House of Commons in seconding the motion for the second reading of the Mines Eight Hours Bill, and we hope it may be widely circulated among those interested in labour questions, for it puts the case for the shortening of the hours of work in mines in the clearest and most convincing manner. Whatever difference of opinion there may be as to the policy of restricting the hours of daily work in certain other trades and industries, it must, we think, be admitted that the case of the coalminer is altogether exceptional. His work is not only extremely laborious in itself, but it has to be done under conditions of darkness, dirt, damp, foul air, and cramped position that make it not merely disagreeable, but depressing and injurious in many ways. The miner works where the sunlight, which makes toil easier to other workers, never penetrates, and the want of this natural stimulus is far from being compensated for by the dim glimmer of the safety lamp, which makes "not light but only darkness visible." The disadvantage at which his muscles have to act makes his work more quickly exhausting than other occupations in which an equal expenditure of muscular force is required, and the strain on his eyes makes the general fatigue greater, while producing special ill-effects on the organs of vision themselves. Experts dispute as to the causes of miners' nystagmus, but there is complete agreement as to the prevalence of the condition. The experience of the ophthalmologist referred to by Sir Walter Foster, who, on examining some thousands of miners taken indiscriminately, found no fewer than one-third of them suffering from defects of sight directly due to their occupation, could doubtless be matched by that of other experts. Then there is the risk of accident. Sir Walter showed that mining is one of the most dangerous of all trades. Of some 500,000 men engaged in it, nearly 100,000 are seriously injured every year, and about 1,000 are killed. This is a heavier "butcher's bill" than that of railway servants, whose hours of labour are now regulated by the Legislature, or can be regulated at their request. Sir Walter further contends that mining is by no means the exceptionally healthy occupation that some statistics published a few years ago by Dr. Ogle made it appear to be. In these statistics the miner was compared in respect of his liability to a large number of diseases with the general population. Such a comparison, however, is clearly fallacious. The miners are, from the very nature of their calling, men of far stronger frame and greater endurance than the average; it is therefore unfair to compare them with the general population. Sir Walter Foster points out that if miners are compared with agricultural labourers, the relative unhealthiness of their occupation becomes manifest, the death-rate among the former being greater than that of the latter in the proportion of 890 to 700. The economic objections to an eight hours' day for miners do not concern us here; on physiological grounds, however, it is self-evident that the shortening of the hours of labour to a limit that does not allow the working

power to fall below the point of full efficiency ought not, *cæteris paribus*, to result in lessened productiveness. Sir Walter Foster says that all the trade experience of the country shows that short hours actually lead to more efficient labour and increased output, and this is just what might be expected. The period of eight hours appears from the teaching of physiology and the experience of many employers of labour to be that during which the average man can work at his maximum efficiency. The spirit of the time, as exhibited in the action of the present as well as of the late Government is in favour of shortening the hours of labour in arduous and dangerous occupations, and we heartily agree with Sir Walter Foster in urging the claim of the miners, whose calling is the most arduous and dangerous of all, to a like measure of protection from the State.

SCOTLAND AND THE JUBILEE.

Some correspondence has been published in the *Glasgow Herald* which shows that no little disappointment is felt owing to the fact that in the list of honours which have been conferred by the Queen in connection with the celebration of the Diamond Jubilee there does not appear the name of any member of the medical profession practising in Scotland. One correspondent, who signs himself "Rose, Shamrock, and Thistle," but who, so far as appears, is not a medical man, writes: "I think the medical profession in Scotland have good reason to feel that they have been most unaccountably slighted in the distribution of honours on the occasion of our Most Gracious Queen's Diamond Jubilee. The Presidents of the Royal Colleges of Physicians and Surgeons of England have received baronetcies, and the Presidents of the Irish Colleges have both been included in the list of new Knights. Although the Irish Presidents are undoubtedly worthy recipients of these distinctions, it seems hard to understand why Scotland, whose loyalty to the Throne is, after all, far more marked than that of the Irish majority, should be left out in the recognition of her doctors." The omission has also attracted attention elsewhere. Our contemporary, the *Westminster Gazette*, concludes a note upon the subject by observing that Edinburgh, the most famous of British medical schools, is out in the cold, and along with Glasgow and Aberdeen must view with a certain amusement this parochial method of dealing out the honours. And, apart from medicine, where is Scottish law, science, philosophy, music, and art. Echo answers, Where? The Queen's love for Scotland is, however, so well known, and her confidence and esteem for Scotchmen has been so often displayed, that we shall probably be safe in assuming that some future early opportunity will be taken of extending to Scotland, and especially to Scottish medicine and surgery, that large measure of recognition which its professors have so well merited.

UNIVERSITY COLLEGE, LONDON.

A conversazione was given on Wednesday evening by the President, Council, and Professors of University College, London, and was very largely attended. The guests were received by the President, Lord Reay, and the Deans of the Faculties, Professor J. A. Platt (Arts and Law), Professor F. W. Oliver (Science), and Mr. A. E. Barker, F.R.C.S. (Medicine). All the museums, theatres, lecture rooms and libraries, as well as the Flaxman Gallery and Slade School were thrown open, and in many of the laboratories interesting demonstrations of recent advances in applied science were attended by large numbers of guests. Thus Professor Ramsay demonstrated the spectrum of argon and of helion; in the engineering laboratory an exhibition was given of Tesla's experiments with high frequency electric currents; and in the physical department a lantern demonstration upon leaf mosaics; in the engineering lecture room the Roentgen rays were demonstrated, while in the physical laboratory demonstrations were made of the optical properties of glass and various crystals, and of certain phenomena of electrical and other vibrations. A large collection of prehistoric implements, chiefly from Somaliland and Egypt, were shown by Mr. Seton Karr, and from Egypt also came the antiquities exhibited by Professor Flinders Petrie, which included an enormous collection of papyri. These Egyptian antiquities, together with a large statue, said to be the finest piece of Egyptian sculpture which has yet reached Europe, and an ebony statuette found in Thebes, will remain on exhibition during July. The botanical department had brought together a beautiful collection of flowering plants, including several varieties of water lily, while the Slade School and many of the antique casts in it were exquisitely decorated with roses.

THE ROYAL STATISTICAL SOCIETY.

The subject of the essays for the Howard Medal and Prize for the Royal Statistical Society in 1898 will be the Treatment of Habitual Offenders, with Special Reference to their Increase or Decrease in Various Countries. The Right Hon. Leonard H. Courtney, M.P., has been elected President of the Society for the ensuing session.

INSANITY AND THE TEST OF CRIMINAL RESPONSIBILITY.

At Wells, a labourer was recently indicted for the murder of his wife and of her child. Aged 32, and of a roving disposition, he had only three days previously married the murdered woman, but had cohabited with her for some considerable time past. He appears to have been subject to epilepsy, and evidence was given not only as to the occurrence of both the milder and graver seizures of epilepsy, but also as to his strange behaviour and freaks on preceding occasions, apparently arising on the epileptic basis. He had suffered from headache, twitchings and spasms; had on one occasion come to his sister's house, thrown down a striking hammer, and declared he would never enter her house again, but returned laughing some time after; had left situations without reason; had at times sat with his head in his hands, indifferent to his surroundings, then would suddenly come to himself, but have no recollection of these facts. After his wedding and some drinking he became sleepless, sat up, smoked, got a razor, and (so he said) a feeling came over him which he could not explain, and he then took the life of his wife and, some time later, that of the child, whom he said he could not leave in the world to be knocked about. He also attempted suicide by razor and rope. He had been on most affectionate terms with the woman and child, and the homicidal acts appear to have been done in a dazed mental state without proper power of self-control; a state in which the mental reduction towards automatism was considerable; a state resultant on, or substitutive for, epileptic seizure. According to the report in the *Bridgwater Mercury*, the judge stated to the jury that "the question was whether the prisoner knew he was killing the woman and child, knew the quality of the act—that was, whether it was right or wrong. He had never heard that automatons—as some human beings were supposed to be—were relieved of responsibility by law. It was not so unless it was shown that they were incapable of distinguishing between right and wrong." Here we have the old and evil criterion again set up—responsibility by law dependent upon whether the accused is incapable of distinguishing right from wrong. The criterion is incurably bad, and all attempts to bolster it up only obscure the truth and delay the attainment of an equitable and scientific settlement of the subject. The jury had their own view, and returned a verdict of "guilty but insane" The prisoner was ordered "to be detained during Her Majesty's pleasure."

POISONING BY CARBOLIC ACID.

Unless a preconceived opinion that the beneficial effects of the use of carbolic acid as a disinfectant quite outbalance the evil repute this material has acquired as a frequent cause

of death by accident and misuse there should be some prospect of steps being taken to prevent the increasing loss of life resulting from its indiscriminate sale and the careless manner in which it is kept in many households, Such at least should be the effect of the numerous protests which have been made by medical men and coroners and of the recommendation, made several years ago by the Council of the Pharmaceutical Society, that carbolic acid should be added to the schedule of poisons. Further attention has recently been directed to this subject by Dr. Dixon Mann, the Professor of Toxicology at Owens College, in a paper contributed to the *Medical Chronicle*. It is there shown that, according to the returns of the Registrar-General, carbolic acid has been the cause of nearly 1,000 deaths by accident and suicide within the last ten years, and that the way in which carbolic acid is kept in a great number of instances constitutes a standing source of danger as well as incentive to suicide. The facts to which Dr. Dixon Mann directs attention have long been known, and similar occurrences are recorded almost daily in the papers, but it is very important to note that while fatalities are chiefly caused by the crude carbolic acid, accidents are rarely caused by the pure acid such as is kept in better class households. That difference may be attributed partly to the circumstance that the pure acid being dearer is almost self-restrictive as to its sale, partly also to the fact that it is sold in bottles duly labelled to prevent mistakes. On the contrary, the crude acid is sold without any such precaution, and is frequently kept in ginger beer bottles, cups, etc., which become "death traps" for children and others unaware of their contents. The difference to which Dr. Dixon Mann refers is, moreover, a strong argument in support of the efficacy of labelling as a means of preventing accident at least, and it also shows that the sale of an article under restriction as a poison does lead to greater care being exercised in its use and in the keeping of it for domestic purposes. Ireland is fortunate in having had carbolic acid added to the poison schedule within the last few days in accordance with the recommendation of the College of Physicians, and in the case of the sister country the necessity of a similar course is overwhelmingly demonstrated. The necessity for such a step has recently been brought under the notice of the Lord President of the Privy Council by the Parliamentary Bills Committee, and an assurance was received last January that the question of placing restrictions upon the sale of carbolic acid was under the consideration of the Privy Council with a view to legislation on the subject. As no step has been taken in Parliament in the matter, the Chairman of the Committee has again drawn the attention of the Privy Council to the urgency of legislation.

NATIONAL SOCIETY FOR THE EMPLOYMENT OF EPILEPTICS.

The annual meeting of the Society for the Employment of Epileptics was held at its offices, 12, Buckingham Street, Strand, on June 30th, under the presidency of Mr. Montefiore Micholls, Chairman of the Executive Committee. The report of the honorary medical staff for the year 1896 commences with the satisfactory statement that the colony had now passed through the experimental stage. The guiding principles in the management of epileptics in the colony had been in the first place their removal from the bad hygienic surroundings of towns; secondly, their regular employment in gardens, fields, orchards, and workshops under competent supervision; thirdly, a well-ordered, regular mode of life, without excitement and without alcoholic drinks; and fourthly, abundant simple nourishment. A marked remission in the frequency of the fits is as a rule observed at once after admission; it has been found that many more fits occur when the patients are indoors than when they are in the gardens or fields, and the colonists are usually brighter and better in the evening. In the majority of cases the fits have become less severe, and the general mental state has shown no deterioration, while the patients seem cheerful and contented. The greatest improvement, however, has been observed in the general physical state. In all cases there has been an increase of weight, even in those in which there has been little improvement in other respects. Since the opening of the colony in August, 1894, sixty-two male epileptics have been under observation, one has left the colony (after a stay of two years) cured, and able to resume work, one died from heart disease, one had been sent to an asylum, nine left the colony at their own wish, and eighteen had been discharged by the committee for various reasons. The report of the Executive Committee again makes reference to the deplorable condition of the numerous applicants who are compelled through lack of room at the colony to wait long periods for admission; of these one in every ten drops out of the list each year owing to insanity or death. Among the future developments of the colony for which special donations have been given or promised are a sanatorium for patients needing special care, another home for male patients, two homes for children, and a home for patients able to pay on a higher scale. These gifts, however, are available only for these special purposes, and the general financial position of the Society is stated to be most serious and critical. The Committee therefore make an urgent appeal for public assistance, and we would commend this appeal to all who desire to render much needed help to an unfortunate class whose unhappy condition must raise the compassion of all.

THE SANITARY CONDITION OF HAMBURG.

The great improvement which has taken place during late years in the sanitary condition of Hamburg is apparent more particularly in the marked decrease in the death-rate, which has greatly diminished since the year 1887, but more especially since the disastrous cholera year, 1892. Extensive ameliorations have been made in the various sanitary arrangements, as well as in the system of water supply, since the period last mentioned. In 1887 the number of deaths was 14,350, or 26.6 per 1,000; in 1888, 13,735, or 24.5 per 1,000; in 1889, 13,584, or 23.2 per 1,000; in 1890, 13,193, or 21.6 per 1,000; in 1891, 14,676, or 23.2 per 1,000; in 1892, 25,364, or 39.3 per 1,000; in 1893, 12,977, or 20.1 per 1,000; in 1894, 11,791, or 17.9 per 1,000; in 1895, 12,556, or 18.9 per 1,000; and in 1896, 12,630, or 17.5 per 1,000.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Council Election.

The ballot for the election of five members of the Council of the Royal College of Surgeons of England took place on July 1st, with the following result:—

	Votes.
Mr. Edmund Owen	323
Mr. R. J. Godlee	312
Mr. H. G. Howse	337
Mr. Watson Cheyne	290
Mr. J. Ward Cousins	259
Mr. Bennett May	236
Mr. J. H. Morgan	236
Mr. Clement Lucas	225
Sir William Dalby	173
Mr. Andrew Clark	104
Mr. George Jackson	89

Altogether 609 voting papers were received, 2 proved invalid, 4 others arrived too late. Only 46 Fellows voted in person.

METROPOLITAN ASYLUMS BOARD.

Report of the Statistical Committee for 1896.

The report of the Statistical Committee of the Metropolitan Asylums Board for last year, to which we referred briefly last week, shows the steadily increasing amount of work which is being done in the hospitals under the control of the managers. During the year 49,708 cases of infectious disease were notified in the metropolis, 42,876 of which were legally eligible for admission. Of these 22,273 cases, or 51.94 per cent. of those eligible, were actually admitted. A chart is given showing the number of cases of scarlet fever and diphtheria notified, and the number admitted week by week throughout the year, from which it is seen that whereas in the first five months of the year, when the managers were able to accommodate all applicants, 70.4 per cent. of the notified cases of scarlet fever were admitted, this proportion fell to 57.42 per cent. in October, when the pressure on the beds was greatest. Taking then 70.4 per cent. as representing the proportion of the cases notified who are willing to enter the hospital, it is suggested that this may be accepted as indicating the extent to which new fever accommodation in the metropolis is needed. It is hardly necessary to point out that this is on the assumption that it is right and proper that all patients who wish to be admitted should be taken in, a somewhat debatable point.

Place and Age Distribution of Scarlet Fever and Diphtheria.

When we come to inquire as to the proportion which existed between the cases of scarlet fever and diphtheria in the various districts we find that while the total of scarlet fever was nearly twice that of diphtheria, this relation varied greatly in different parts. Battersea and Wandsworth, for example, had more than three times as much scarlet fever as diphtheria, while in Camberwell and Lewisham the diphtheria cases actually exceeded in number those of scarlet fever.

As regards the age distribution of these two diseases, it is pointed out that while both are most prevalent among children, over two-thirds of the cases being under 10 years of age, scarlet fever prevails most among children between 5 and 10 years of age, whereas diphtheria is most common under 5 years.

Ambulance Work.

An enormous amount of ambulance work has been done during the year, 22,417 patients having been conveyed to the hospitals of the Board, 9,998 convalescing patients transferred from one hospital to another, and 9,528 recovered patients having been brought back to London from the convalescent hospitals, besides a large number of patients removed to other places or from the out-patient departments of hospitals to their own homes. Altogether 44,374 removals were effected by the land ambulance service, whose vehicles ran an aggregate of 296,792 miles during the year.

New Hospitals.

It will interest many people to hear that the managers feel that they are at last within sight of finality in regard to hospital construction. It is stated that when the Park and the Grove Hospitals are finished, which it is hoped will be the case in the summer of 1898, "the managers' scheme of hospital provision will then be complete, with the exception of the reconstruction of the North-Eastern Hospital and the erection of a hospital for convalescent fever patients on the southern side of London." The complete scheme will provide nearly 6,000 beds for infectious diseases other than small-pox.

Mistakes in Diagnosis.

Mistaken diagnoses still figure largely among the cases sent to the hospitals. The proportion is less than in the year before in regard to scarlet fever, but far higher as to diphtheria and typhoid fever. The diseases most commonly mistaken for scarlet fever were measles and tonsillitis, in that order; and for diphtheria tonsillitis, and, at a long interval, measles. A considerable number of patients were sent in as cases of scarlet fever who were found on admission to be suffering from no obvious disease. The most common mistake in regard to typhoid fever is that of overlooking the existence of pneumonia, 47 cases of lobar pneumonia having been sent in as suffering from typhoid fever. Cases of small-pox are checked by a medical officer at the wharves, and if the cases that he turned back are added to those which were erroneously admitted to the ships, it appears that in 28.7 per cent. of the patients certified as suffering from small-pox, a mistaken diagnosis had been made. This is a matter to which the attention of the medical profession should be carefully directed. By far the most common mistake was in regard to varicella; next as to syphilis and measles.

Health of the Staff.

If we turn to the report as to the amount of illness which has occurred among the staffs at the different hospitals, we cannot but be struck by the very different degree in which they were infected by the different forms of fever. Of the 220 persons employed on the small-pox hospital ships none suffered from small-pox, but of the 3,542 persons employed at the fever hospitals, 176, or 5 per cent., fell ill with fever or diphtheria, and 3 died.

Special Medical Reports.

A new feature, introduced into the report for the first time this year, is a special collective medical supplement, edited by two of the medical superintendents chosen by their colleagues, the editors on this occasion being Dr. Caiger and Dr. Goodall. It is hoped that by this means greater symmetry will be introduced into the reports, and that better expression will be given to the work done in the unrivalled field of pathological observation afforded by the hospitals of the Board. It is intended that the supplement shall contain various contributions from medical officers in the service, reports of cases and necropsies of special interest, and such statistical tables as are of a purely technical character.

Owing to the lateness in the year when the decision to issue the medical supplement was arrived at, it is this year of but small dimensions. The chief matter dealt with is a review of the post-scarlatinal cases of diphtheria which occurred during the year. It appears that 4.64 per cent. of the scarlet fever cases were attacked. In 79 cases, or 11.2 per cent. of the 705 attacked, the larynx was implicated, giving rise to symptoms of croup. The total case mortality was 5.1 per cent., that of the laryngeal cases 22 7 per cent., and that of the remainder 2.8 per cent. As an appendix the report on the use of antitoxin, which we have already noticed, is added. Altogether this statistical report is of a very satisfactory character.

The Case of Mr. R. B. Anderson.—The meeting to which we have already referred, convened in Plymouth by the medical profession of Plymouth, Devonport, and Stonehouse, to consider the civil rights involved in Mr. Anderson's case, was presided over by Mr. George Jackson. The chairman and other leading members of the Conservative Association and of the Conservative and Liberal clubs were on the platform, and took part in moving the several resolutions. After a brief opening statement by the chairman, Dr. J. H. S. May, President of the Plymouth Medical Society, read an introductory statement on behalf of the Civil Rights Defence Committee, and said that the medical profession felt that its rights were seriously involved in the case, not only because Mr. Anderson was a medical man, but also because the wrongs done to him were violations of the rights of every medical man in practising his profession. After Mr. Anderson had addressed the meeting, resolutions were unanimously adopted (1) expressing sympathy with Mr. Anderson, and approving of the work and object of the Civil Rights Defence Committee in aiding appeals to the Privy Council and House of Lords from precedents that seriously affected the rights of every British subject, (2) constituting a provisional committee of all parties in the West of England to co-operate with the Civil Rights Defence Committee and with the local medical committee in furthering the movements, and (3) inviting the parliamentary representatives of Plymouth, Devonport, and Stonehouse, and of all boroughs and division in the West of England to join the committee, and to co-operate in its work. A vote of thanks to the chairman brought the proceedings to an end.

By the will of the late Mr. William Vokins, 62, The Drive, Hove, and of Vokins and Co. (Limited), of Mark Lane, lightermen, the Metropolitan Hospital Fund has been left £15,000 in Two-and-Three-Quarters per Cent. Consols.

BRITISH MEDICAL ASSOCIATION.

SIXTY-FIFTH ANNUAL MEETING.

NOTICE IS HEREBY GIVEN that the Sixty-Fifth Annual General Meeting of members of the British Medical Association, for the transaction of business, the consideration of Reports of Council and Committees, will be held in the Exeter Hall, London, on Tuesday and Wednesday, the 27th and 28th days of July next, at 11.0 o'clock in the forenoon. The meeting will be adjourned to August 31st, to be held at Montreal, for the scientific business of the meeting, reading of Addresses, meetings of Sections, etc.

TUESDAY, JULY 27TH.

9.30 A.M.—Meeting of Council 1896-97.
11.0 A.M.—First General Meeting, Exeter Hall:
Report of Council.
Presentation of the Association Gold Medal of Merit to C. G. Wheelhouse, Esq., F.R.C.S.
Presentation of the Association Gold Medal of Merit to Sir Walter Foster, M.P., M.D.
Reports of Committees.
Notices of Motion.
Any other business.

WEDNESDAY, JULY 28TH.

9.30 A.M.—Meeting of Council 1897-98.
12.0 (noon).—Adjourned General Meeting. Consider proposal for Annual Meeting, 1898, and appoint President-elect; any business adjourned from General Meeting of previous day.

THE adjourned annual meeting of the British Medical Association will be held at Montreal on Tuesday, Wednesday, Thursday, and Friday, August 31st, September 1st, 2nd, and 3rd, 1897.

President.—HENRY BARNES, M.D., F.R.S.E., Senior Physician to the Cumberland Infirmary, Carlisle.

President-Elect.—T. G. RODDICK, M.D., Professor of Surgery in McGill University, Montreal.

President of the Council: ROBERT SAUNDBY, M.D., F.R.C.P., Physician to the General Hospital, Birmingham.

Treasurer: CHARLES PARSONS, M.D., Dover.

An Address in Medicine will be delivered by W. OSLER, M.D., F.R.C.P., Professor of Medicine in the Johns Hopkins University, Baltimore, U.S.A.

An Address in Surgery will be delivered by WILLIAM MITCHELL BANKS, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

An Address in Public Medicine will be delivered by HERMAN M. BIGGS, M.D., Director of the Bacteriological Laboratory of the Health Department, New York City.

The Scientific Business of the Meeting will be conducted in Eleven Sections, as follows, namely:

A. MEDICINE.

Macdonald Chemical Building.

President: STEPHEN MACKENZIE, M.D., London. *Vice-Presidents:* J. E. GRAHAM, M.D., Toronto; W. BAYARD, M.D., St. John, N.B.; J. P. ROTTOT, M.D., Montreal: F. W. CAMPBELL, M.D., Montreal; JAMES STEWART, M.D., Montreal; H. P. WRIGHT, M.D., Ottawa. *Hon. Secretaries:* H. A. LAFLEUR, M.D., Montreal; W. F. HAMILTON, M.D., Montreal; WILLIAM PASTEUR, M.D., 4, Chandos Street, Cavendish Square, London, W.

The following discussions will probably take place:

1. The Dietetic Treatment of Diabetes, to be opened by Dr. Robert Saundby, and will be continued by Dr. Osler and Dr. Sidney Coupland.

2. Arthritis Deformans (Rheumatoid Arthritis), more especially its Relation to Rheumatism, Nervous Disease, and Tuberculosis. This discussion will probably be opened by Professor J. Stewart (McGill University).

3. On Gall Stones, with reference particularly to Biliary Colic, Cholangitis, and Hepatic Intermittent Fever without Icterus. Dr. Graham, Dr. Osler, Dr. Handford (Nottingham), Dr. Sidney Coupland (London), and Dr. Wm. Hunter (London), intend to take part in this debate.

The following, among others, are expected to take part in the discussions in this Section: Dr. Reginald Fitz (Boston), Dr. Jacobi (New York), Dr. Musser (Philadelphia), Dr. Pepper (Philadelphia), Dr. F. C. Shattuck (Boston), Dr. E. L. Trudeau (Saranac Lake, N.Y.), Dr. Jas. Tyson (Philadelphia), Dr. Wyman (Marine Hospital Service, Washington).

B. SURGERY.

Large Lecture Room, McGill Medical College.

President: CHRISTOPHER HEATH, F.R.C.S., London. *Vice-Presidents:* Hon. Sir WILLIAM HINGSTON, M.D., Montreal; Hon. M. SULLIVAN, M.D., Kingston, Ontario; Hon E. FARRELL, M.D., Halifax, Nova Scotia; I. H. CAMERON, M.D., Toronto; F. LE M. GRASETT, M.D., Toronto; JAMES BELL, M.D., Montreal; GEORGE E. ARMSTRONG, M.D., Montreal. *Hon. Secretaries:* ROBERT C. KIRKPATRICK, M.D., Montreal; THOMAS WALKER, M.D., St. John, N.B.; JORDAN LLOYD, F.R.C.S., Broad Street, Birmingham.

The President will give a short introductory address.

A discussion will take place upon the Surgical Treatment of Appendicitis, which will be opened by Dr. G. E. Armstrong (Montreal). Dr. J. Ward Cousins will take part in the discussion.

A discussion will also take place upon the Treatment of Cancer of the Rectum by Kraske's Operation.

Among those who, it is anticipated, will take part in the discussions in this Section are: Dr. W. W. Keen (Philadelphia), Dr. Collins Warren (Boston), Dr. John Ashurst (Philadelphia), Dr. Cheever (Boston), Dr. Dennis (New York), Dr. Murphy (Chicago), Dr. McGraw (Detroit), Dr. J. C. White (Boston), Dr. Chas. T. Bull (New York).

The following gentlemen have given notice of their intention to read papers in this Section:

COUSINS, J. Ward, M.D., F.R.C.S. (Southsea). Operative Treatment of Organic Stricture of the Urethra.
MARCY, H. O., M.D. (Boston). On the Suturing of Wounds.
MCGRAW, Theo., M.D. (Detroit). Invagination of the Cæcum and Vermiform Appendix.
NEWMAN, David, M.D. (Glasgow). (1) Cases illustrating some Interesting Points in the Pathology and Surgical Treatment of Renal and Vesical Hæmaturia. (2) Transitory Hydronephrosis and Albuminuria in cases of Movable Kidney treated by Operation.
ROSS, James F. W., M.D. (Toronto). Some Rare Conditions of the Kidney.
ROTH, Bernard, F.R.C.S. (London). Analysis of One Thousand Consecutive Cases of Lateral Curvature of the Spine treated by Posture and Exercise exclusively (without mechanical supports).
SHEPHERD, F. J., M.D. (Montreal). A case of Abdominal Tumour, in which nearly eight feet of the small intestine were resected.
SPANTON, W. D. F.R.C.S. (Hanley). Two cases of Meningocele successfully operated on.
THOMSON, Alexis, M.D., F.R.C.S. (Edinburgh). Stricture of Intestine as Sequel of Strangulated Hernia.
TUBBY, A. H., F.R.C.S. (London). Some Rare Affections of the Fingers.

C. PUBLIC MEDICINE.

Large Lecture Room of the Redpath Museum.

President: E. P. LACHAPELLE, M.D., Montreal. *Vice-Presidents:* F. MONTIZAMBERT, M.D., Quebec; ROBERT CRAIK, M.D., Montreal; P. H. BRYCE, M.D., Toronto; Sir JAMES GRANT, Ottawa; R. H. POWELL, M.D., Ottawa. *Honorary Secretaries:* WYATT JOHNSTON, M.D., Montreal; E. PELLETIER, M.D., Montreal; HARVEY LITTLEJOHN, M.B., C.M., Surgeons Hall, Edinburgh.

The President will give an address on Sanitation in Canada; its Progress Up-to-date.

The subjects more particularly proposed for discussion are:

1. How Far should Mandatory Measures go in Dealing with (*a*) Measles, (*b*) Whooping Cough, (*c*) Tuberculosis, (*d*) Leprosy. To be introduced by Dr. P. H. Bryce (Secretary of the Provincial Board of Health, Ontario).

2. As to the Utility of Quarantine as now Conducted (Inspection, Disinfection, and Isolation Stations) in Certain Countries at Least. To be opened by Dr. F. Montizambert (Superintendent of the Canadian Quarantine Service, Grosse Ile, Quebec), and Dr. W. Wyman (Superintendent of the Quarantine and Marine Hospital Service, Washington).

3. The Control of Venereal Disease by Restrictive Legislation.

Among those who have expressed their intention to take part in the work of the Section and to read papers are:

JANIN, G., C.E. (Montreal). On the Different Processes recommended for the Treatment of Sewage; Mechanical, Chemical and Sewage Farming.

KAYE, J. R. (M.O H. to the Council of the West Riding of the County of Yorkshire). The Relationship of the Health Officer to the Registration and Certification of Deaths.

JOHNSTON, Wyatt, M.D. (Montreal). Experiments with Disinfectant Gases.

NEWSHOLME, A., M.D. (M.O.H. Brighton). A Plea for the International Study of Diphtheria, Illustrated by Facts and Figures.

D. OBSTETRICS AND GYNÆCOLOGY.

Large Lecture Room, McDonald Physics Building.

President: WILLIAM JAPP SINCLAIR, M.D., Manchester. *Vice-Presidents:* WILLIAM GARDNER, M.D., Montreal; JAMES PERRIGO, M.D., Montreal; J. A. TEMPLE, M.D., Toronto; J. C. CAMERON, M.D., Montreal; T. JOHNSTON ALLOWAY, M.D., Montreal; JAMES ROSS, M.D., Toronto. *Honorary Secretaries:* D. J. EVANS, M.D., Montreal; W. BURNETT, M.D., Montreal; ARTHUR E. GILES, M.D., 58, Harley Street, Cavendish Square, London, W.

The following discussions will, it is proposed, be held in this Section on the days indicated:

September 1st.—The Causation and Treatment of Hyperemesis Gravidarum.

September 2nd.—The Vaginal *versus* the Abdominal Route in dealing with Inflammatory Conditions and Tumours in the Pelvis.

September 3rd.—The Palliative and Radical Treatment of Uterine Flexions and Displacements.

The following papers are promised:

CAMPBELL, John, M.D., F.R.C.S.Eng. (Belfast). Labour Complicated by Abnormalities of the Cervix Uteri and Vagina.

MADDEN, T. More, M.D., F.R.C.S.I. (Dublin). 1. On some Points in Modern Treatment of Tedious Labour with description of a new Traction Forces; (2) On the Conservative Treatment of Fallopian Tube Disease.

Among those who are expected to take part in the work of this Section are Professor A. W. Mayo Robson (Leeds), Mr. Lawson Tait (Birmingham), Dr. T. W. Eden (London), Dr. Inglis Parsons (London), W. H. A. Kelly (Baltimore), Dr. P. F. Munde (New York), W. R. Goffe (New York) and Dr. John Campbell (Belfast).

E. PHARMACOLOGY AND THERAPEUTICS.

Lecture Hall of the Wesleyan College.

President: D. J. LEECH, M.D., Manchester. *Vice-Presidents:* A. D. BLACKADER, M.D., Montreal; JAMES THORBURN, M.D., Toronto; C. R. CHURCH, M.D., Ottawa; J. B. MCCONNELL, M.D., Montreal; F. J. AUSTIN, M.D., Sherbrooke; WALTER GEORGE SMITH, M.D., Dublin. *Honorary Secretaries:* F. X. L. DE MARTIGNY, M.D., Montreal; J. R. SPIER, M.D., Montreal; CHARLES ROBERTSHAW MARSHALL, M.B., Pharmacological Laboratory, Downing College, Cambridge.

It is intended that discussions shall be held upon the following subjects:

1. The Treatment of Insomnia, embracing (*a*) general treatment; (*b*) the value of individual drugs, especially the newer hypnotics; (*c*) their ill effects and the contraindications to their use; (*d*) their mode of action. This discussion will be opened by Dr. Clarke, of the Rookwood Asylum, (Kingston).

2. On Diuretics, including (*a*) their pharmacological action, and (*b*) their therapeutic uses.

3. On The Treatment of Syphilis, to be introduced by Dr. Whitla (Belfast).

Among the papers those who intend to take part in the proceedings of the Section are Dr. A. R. Cushny (University of Michigan, Ann Arbor), Dr. A. D. Blackader (Montreal), and Dr. H. A. Hare (Philadelphia), who will read a paper on The Importance of Studying the Absorption and Elimination of Drugs.

F. PATHOLOGY AND BACTERIOLOGY.

Lecture Room II, McGill Medical College.

President: WATSON CHEYNE, F.R.C.S., F.R.S., London. *Vice-Presidents:* J. G. ADAMI, M.D., Montreal; J. CAVEN, M.D., Toronto; J. STEWART, M.D., Halifax; J. C. DAVIE, M.D., Victoria, B.C.; L. C. PREVOST, M.D., Ottawa; M. T. BRENNAN, M.D., Montreal. *Honorary Secretaries:* W. T. CONNELL, M.D., Kingston, Ontario; C. F. MARTIN, M.D., Montreal; RUBERT W. BOYCE, M.B., University College, Liverpool.

The following will be the subjects for discussion:

1. Serum Diagnosis and the Agglutinating Action of Serums, to be introduced by Professor Wyatt Johnston (Montreal).

2. Immunisation.

3. The Bubonic Plague.

Among those who will take part in the discussions will be Professor Welch (Johns Hopkins), Professor Crookshank (London), Dr. W. Hunter (London), Dr. A. C. Abbott (Philadelphia), Dr. T. M. Cheesman (New York), Dr. R. Fitz (Boston), Dr. E. Hodenpyl (New York), Dr. Trudeau (Saranae), and Dr. F. F. Wesbrook (Minneapolis).

It is urged that British pathologists unable to be present should send to Dr. Rubert Boyce lantern slides and other material for demonstration bearing upon the subjects selected for discussion.

The following papers are promised:

ADAMI, J. G., M.D., and STAPLES, E., M.D. (Montreal). On the Appendices Epiploicæ.

BARKER, Lewellys F., M.D. (Baltimore). On the Changes in the Nerve Cells in Epidemic Cerebro-spinal Meningitis, with special reference to lesions in the lower motor neurons.

CAREN, Professor J., M.D. (Toronto). Title of Paper not received.

CONNELL, W. (Kingston, Ont.) Title of Paper not received.

COPEMAN, S. Monckton, M.D. (London). On Vaccinia.

FLEXNER, Simon, M.D. (Johns Hopkins University). Pseudo-tuberculosis Hominis Streptothricia.

HERTER, C. A., M.D. (New York). Experimental Observations on the Relation between Bacterial Activity in the Intestine and the Indican in the Urine.

HODENPYL, Eugene, M.D. (New York) On the Occurrence of Typhoid Fever without Lesions of the Small Intestine.

MANSON, Patrick, M.D. On Filaria Sanguinis Hominis, with the demonstration of a new Species from Central and South America.

VAN GIESON, Ira, M.D. (New York). On Hæmato-myelopore and its Relations to Syringomyelia.

WASHBOURN, J. W., M.D. Demonstration of Specimens of an Infective Neoplasm from the Dog

WRIGHT, Hamilton K., M.D. (Montreal). On the Topography of the Posterior Columns.

G. PSYCHOLOGY.

Morris Hall, Presbyterian College.

President: R. M. BUCKE, M.D., London, Ontario. *Vice-Presidents:* D. CLARKE, M.D., Toronto; T. J. BURGESS, M.D., Verdun, Quebec; A. VALLEE, M.D., Quebec; G. WILKINS, M.D., Montreal. *Honorary Secretaries:* J. V. ANGLIN, M.D., Montreal; GEORGE VILLENEUVE, M.D., Montreal; J. G. BLANDFORD, M.R.C.S., D.P.H., London County Asylum, Banstead, Sutton, Surrey.

The officers of this Section, believing that many of the papers already offered will be provocative of considerable debate, have determined to announce no special subjects for discussion. Among those who have offered to contribute papers are:

BUCKE, R. M., M.D. (London, Ontario, Asylum). On Mental Evolution.

CLARK, W., M.D. (Toronto Asylum). The Reflexes in Psychiatry.

HOBBS, —, M.D. (London, Ontario, Asylum). Surgical Gynæcology in Insanity.

RUSSELL, J., M.D. (Hamilton, Ontario, Asylum). Insanity in its Relation to the State.

VILLENEUVE, George, M.D. (Longue Pointe). Crime and Insanity.

Among those who intend to take part in the business of the Section are Dr. N. H. Beemer (Mimico Asylum, Ontario), Dr. G. Alder Blumer (Utica, New York), Dr. C. K. Clark (Rockwood Hospital, Kingston, Ontario), Dr. Edward Cowles (Waverley, Mass.), Dr. T. D. Crothers (Hartford, Conn.), Dr. G. Stanley Hall (Worcester, Mass.), Dr. Hazlitt (Sunbury), Dr. Henry Hurd (Baltimore), Dr. Rogers (Asylum for the Feeble Minded, Faribault, Minn.), Dr. George H. Rohe (Maryland Hospital for the Insane, Catonsville), and Dr. Rothesay Stewart (Leicester).

H. OPHTHALMOLOGY.

Lecture Room I, McDonald Engineering Building.

President: EDWARD NETTLESHIP, F.R.C.S., London. *Vice Presidents:* F. BULLER, M.D., Montreal; R. A. REEVE, M.D. Toronto; ED. DESJARDINS, M.D., Montreal; A. A. FOUCHER M.D., Montreal. *Honorary Secretaries:* W. H. SMITH, M.D. Winnipeg; JEHIN PRUME, M.D., Montreal; THOMAS HERBER BICKERTON, M.R.C.S., 88, Rodney Street, Liverpool.

It is intended that a discussion should take place on th Prevention of Accidents to the Eyes of Persons engaged i

Industrial Employments. The following gentlemen have expressed their intention of contributing papers to the Section:

BICKERTON, T. H. (Liverpool). (1) The Question of Colour Vision in the Public Services; (2) on Mules's Operation.
BULLER, Dr. F. (Montreal). Abnormalities in the Functions of the Extrinsic Ocular Muscles.
FOUCHER, Dr. A. A. (Montreal). Auto-Infection in Pustulous Keratitis.
FULTON, Dr. John F. (St. Paul, Minn., U.S.A.) Amblyopia of Strabismus.
JEHIN-PRUME, Dr. Jules (Montreal). A Contribution to the Treatment of the Syphilitic Affections of the Eye.
LEE, Charles G. (Liverpool). On an Unusual Case of Orbital Tumour.
WÜRDEMANN, Dr. H. V. (Milwaukee, Wis., U.S.A.) Relation of Skiascopy to other Objective and Subjective Methods for the Estimation of the Ocular Refraction (with Exhibition of Hand Skiascope).

Specimens.—Specimens will be shown by Mr. TREACHER COLLINS and Mr. PRIESTLEY SMITH.

I. LARYNGOLOGY AND OTOLOGY.

Lecture Room II, McDonald Engineering Building.

President: GREVILLE MACDONALD, M.D., London. *Vice-Presidents:* W. TOBIN, M.D., Halifax; G. A. S. RYERSON, M.D., Toronto; H. S. BIRKETT, M.D., Montreal; G. R. MCDONAGH, M.D., Toronto. *Honorary Secretaries:* A. CHRETIEN, M.D., Montreal; H. D. HAMILTON, M.D., Montreal; W. PERMEWAN, M.D., 7, Rodney Street, Liverpool.

The following papers are announced in this Section:

BRYAN, J. H. (Washington). A Contribution to the Anatomy of the Fronto-Ethmoidal and Frontal Maxillary Regions.
HOBBS, Arthur G., M.D. (Atlanta, Ga.). When not to Inflate the Middle Ear.
HORNE, Jobson, M.D., and YEARSLEY, Macleod, F.R.C.S. (1) On Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose, and Ear. (2) On Turbinectomy.
INGALS, E. Fletcher, M.D. (Chicago). On the Relation of Nasal Diseases to Pulmonary Tuberculosis.
KNIGHT, Chas. H., M.D. (New York). Upon a Foreign Body (Metallic Button Hook) removed from the Larynx by Laryngo-Fissure.
O'DWYER, J., M.D. (New York). Acute Syphilitic Stenosis of the Larynx in the Adult treated by Intubation.
ROE, John O., M.D. (Rochester, New York). The Correction of Nasal Deformities by Subcutaneous Operations.
SPICER, Scanes, M.D. (London). (1) On Reduction of the Inferior Turbinate Bone in Certain Cases of Nasal Obstruction. (2) On the Significance and Treatment of Recurrent Retention of Secretion in the Lacunæ of the Tonsils. (3) A Case of Multiple Papillomata of Larynx in a Man aged 73.

Among those who intend to take part in the business of the Section are also Dr. J. Solis-Cohen (Philadelphia), Dr. Birkett (Montreal), Dr. Chretien (Montreal), Dr. G. R. McDonagh (Toronto), Dr. D. B. Delavan (New York), and Dr. J. W. Mackenzie (Baltimore).

J. ANATOMY AND PHYSIOLOGY.

Lecture Room I, McGill Medical College.

President: AUGUSTUS D. WALLER, M.D., F.R.S., London. *Vice-Presidents:* F. SHEPHERD, M.D., Montreal; A. B. MACALLUM, M.D., Toronto; T. WESLEY MILLS, M.D., Montreal; A. PRIMROSE, M.D., Toronto; J. B. A. LAMARCHE, M.D., Montreal; D. B. FRASER, M.D., Stratford, Ontario. *Hon. Secretaries:* J. M. ELDER, M.D., Montreal; W. S. MORROW, M.D., Montreal; ROBERT HUTCHISON, M.D., Physiological Laboratory, London Hospital Medical College, Turner Street, Mile End, E.

The following have been selected as subjects for the discussions:

September 1st. Anæsthetics, to be introduced by the President of the Section (Dr. A. Waller). Among those who are expected to take part in this discussion are Dr. Shore (Cambridge), Dr. Kemp, F.R.S. (Baltimore), and Professor W. D. Halliburton, F.R.S.

September 2nd. The best methods of Teaching Anatomy, to be introduced by Professor Alex. Macalister (Cambridge) and Dr. F. J. Shepherd (Montreal).

September 3rd. The Causation of the Heart Beat and its Modifications, introduced by Dr. Gaskell, F.R.S. (Cambridge) and Professor T. Wesley Mills (Montreal). Dr. Porter (Boston), Dr. Howell (Baltimore), and Dr. Bowditch (Boston) are expected to take part in the discussion.

The following papers have been promised:

MACALISTER, Professor Alex. (Cambridge). The Influence of Head Shape on Cranio-cerebral Topography.
THOMPSON, Professor W. H. (Belfast). Degenerations resulting from Lesions of the Sensory Area of the Cortex Cerebri.

Dr. Gustav Mann will send for exhibition specimens illustrating the Minute Histology of the Liver in Active and Resting Conditions. Dr. D. A. Welsh (Edinburgh) will exhibit specimens illustrating the Histology of the Parathyroid Glands. Dr. Geo. Oliver will exhibit his new Hæmoglobinometer and Hæmocytometer.

K. DERMATOLOGY.

Lecture Room III, McDonald Engineering Building.

President: MALCOLM MORRIS, F.R.C.S.Ed., London. *Vice-Presidents:* J. E. GRAHAM, M.D., Toronto; F. J. SHEPHERD, M.D., Montreal; J. A. S. BRUNELLE, Montreal; G. L. MILNE, M.D., Victoria, B.C. *Hon. Secretaries:* GORDON CAMPBELL, M.D., Montreal; J. M. JACK, M.D., Montreal; JAMES GALLOWAY, M.D., 54, Harley Street, Cavendish Square, W.

A subject selected for discussion in this Section is the Clinical and Pathological Characteristics of Vesicular Skin Diseases, especially the Dermatitis Herpetiformis Group.

It is intended that a joint meeting should be held with the Section of Pharmacology and Therapeutics for the discussion of the subject of the Treatment of Syphilis (see p. 44).

The following papers are announced:

FOX, T. Colcott. Demonstration of the Biology of the Trichophyte.
GALLOWAY, James (London) On Melanotic Conditions of the Skin preceding Malignant Disease of the Skin.

Among those who are expected to take part in the discussions of this Section are Dr. E. B. Bronson (New York), Dr. L. D. Bulkley (New York), Dr. J. A. Fordyce (New York), Dr. J. N. Hyde (Chicago), Dr. G. T. Jackson (New York), Dr. Stephen Mackenzie (London), Dr. A. Eddowes (London), and Dr. White (Boston).

PROGRAMME OF PROCEEDINGS.

TUESDAY, AUGUST 31ST, 1897.

11 A.M.—Cathedral Service.
2.30 P.M.—Opening Ceremonies. Welcome by His Excellency the Governor-General, Lord Aberdeen, the Mayor of Montreal, and others. Address by the President-elect, Dr. T. G. Roddick.
4 P.M.—Garden Party at the Royal Victoria Hospital (Mr. W. B. Angus, President of Royal Victoria Hospital), etc.
9 P.M.—*Conversazione* at Laval University. Address by Professor Richet, Delegate from the French Government, etc.

WEDNESDAY, SEPTEMBER 1ST, 1897.

10 A.M.—McGill University: Opening of Sections.
2.30 P.M.—Windsor Hall: Address in Medicine by Dr. W. Osler.
4 P.M.—Excursion down the St. Lawrence; Garden Parties, etc.
9 P.M.—Reception by the Hon. Sir Donald A. Smith, High Commissioner of Canada.

THURSDAY, SEPTEMBER 2ND, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
2.30 P.M.—Windsor Hall: Address in Surgery by Mr. W. Mitchell Banks.
4 P.M.—Excursion across the Island, International Golf Match, etc.
7.45 P.M.—Annual Dinner of the Association

FRIDAY, SEPTEMBER 3RD 1897.

.30 A.M.—McGill University: Sectional Meetings.
1 P.M.—Lunch on the Mountain, given by the Mayor.
2.30 P.M.—Windsor Hall: Address in Public Medicine by Dr. Herman Biggs; Concluding Speeches, etc.
4 P.M.—Excursion down the Lachine Rapids; Garden Parties, etc.
9 P.M.—*Conversazione* at McGill University.

SATURDAY, SEPTEMBER 4TH, 1897.

Excursions to Lake Memphremagog, Saranac, Ottawa, Quebec, etc.

ANNUAL MUSEUM.

THE PATHOLOGICAL MUSEUM.

The Pathological Museum will be established in the Dissecting Room of McGill Medical College, a large, lofty, and well-lighted room. The Secretary of the Pathological Subcommittee of the Museum Committee is Dr. C. F. Martin, McGill Medical College, Montreal, who will be glad to receive the loan of specimens, drawings, and photographs illustrative of both normal and morbid anatomy, as also any new apparatus for research in physiology, pathology, or bacteriology.

Specimens illustrating diseases peculiar to the remoter portions of the Empire are especially desired. It is proposed to make a special collection of photographs and microphotographs of morbid conditions. These will be suitably mounted and carefully returned to the owners.

Suitable vessels and jars, and spirit and other media will be provided for moist specimens.

FOODS, DRUGS, AND APPLIANCES.

Regulations Regarding Exhibits.

1. Communications on general matters connected with the Museum and applications from intending exhibitors should be addressed to the Honorary Secretaries, Drs. J. W. Stirling

or J. M. Jack, 2204, St. Catherine Street (British Medical Association Rooms).

2. Applications for space must be in the hands of the Secretaries before July 25th, accompanied with a brief descriptive account of each exhibit for insertion in the Museum Catalogue. Information of the allotment of space will be furnished as promptly as possible, and on receipt of cheque for the cost of such space, a card for the admission of the exhibit will be forwarded.

3. All cheques to be made payable to J. W. Stirling, M.B.

4. All exhibits should be directed to the British Medical Museum, Victoria Skating Rink, Drummond Street, Montreal, Canada, with the name of the Section for which they are intended. Packages must also be addressed to a firm's representative at the Museum.

5. Exhibits must be delivered between August 27th and 28th; they must each bear a card indicating the name and address of the exhibitor; they must be arranged in their allotted space before 2 P.M. on August 28th, and it is desirable that they be not removed till September 6th.

6. Signs or placards must be so arranged as not to interfere with adjacent exhibits: on the central tables no sign or placard must reach higher than 2 feet 6 inches from the table.

7. The Committee will not be responsible for any risks or expenses incurred; they reserve discretionary power to exclude any exhibit they may consider unsuitable; they will only receive exhibits conditionally upon strict compliance with the foregoing regulations, and in all matters of doubt and difficulty their decision shall be final.

8. The Museum Committee or its representatives must be recognised as being in full control of the exhibition building and its management.

Tables occupying the centre of the Hall, and other prominent positions, are to be let by private tender; other tables varying in charges from 4s. to 2s. per square foot. Certain floor space will be let at 1s. per square foot.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held in the Council Room of the Association, at No. 429, Strand (corner of Agar Street), London, on Wednesday the 14th day of July next, at 2 o'clock in the afternoon.

FRANCIS FOWKE, *General Secretary.*

June, 1897.

NOTICE OF QUARTERLY MEETINGS OF COUNCIL FOR 1897.

MEETINGS of the Council will be held on July 14th and October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the latter meeting—namely, September 30th.

ELECTION OF MEMBERS.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

FRANCIS FOWKE, *General Secretary.*

LIBRARY OF THE BRITISH MEDICAL ASSOCIATION.

THE Library will be reopened to members on Monday, July 5th.

BRANCH MEETINGS TO BE HELD.

OXFORD AND DISTRICT BRANCH.—The annual meeting will be held on Tuesday, July 6th, at Banbury. Dr. Pemberton, the President-elect, kindly invites the members to luncheon at 1.30 P.M. Full particulars will be sent to each member.—W. LEWIS MORGAN, Honorary Secretary, 37, Broad Street, Oxford.

NORTH WALES BRANCH.—The annual meeting of the Branch will be held at Rhyl, in the first week of July.—W. JONES-MORRIS, Honorary Secretary, Is-y-Coed, Portmadoc.

WEST SOMERSET BRANCH.—The annual meeting of this Branch will be held at the Luttrell Arms Hotel, Dunster, on Tuesday, July 6th, at 1 P.M., under the presidency of Mr. F. G. Hayes. Medical Aid Associations: The following resolutions, which were passed at a meeting of the East Anglian Branch on March 25th (BRITISH MEDICAL JOURNAL, p. 878), to be considered: (1) "The members of the East Anglian Branch desire to obtain from the British Medical Association an expression of opinion on the question of consultations with the medical officers of medical aid associations and medical institutes." (2) "That the Council of the British Medical Association be requested to memorialise the Medical Council on the urgent necessity to take steps to prevent the growing evils of medical aid associations and medical institutes." (3) "That the Branch representatives be directed to bring these resolutions before the next meeting of the Council of the Association, and that the Secretaries be instructed to forward copies of the same to the Branches throughout the United Kingdom, and to obtain their opinion thereon." The President will deliver an address on Some Cases Bearing on the Question of Prognosis in Pleuritic Effusion. A substantial luncheon will be ready at 2 o'clock, 3s. 6d. a head, exclusive of wine (but including beer or cider and attendance). Excursions at 3 P.M.: (1) A drive by Wootton Courtenay to Porlock Weir returning by Minehead to Dunster. (2) A visit to the Minehead and West Somerset Golf Links. (3) Mr. and Mrs. Luttrell, of Dunster Castle, have kindly offered to allow members to look over the Castle and grounds. Members may bring friends. In order that due preparation may be made, an intimation from gentlemen proposing to attend should be sent to Mr. Hayes four clear days at least before July 6th.—W. M. KELLY, M.D. Honorary Secretary, Taunton.

EAST ANGLIAN, SOUTH MIDLAND, AND CAMBRIDGESHIRE AND HUNTINGDON BRANCHES.—A combined meeting of these Branches will be held in Cambridge on Thursday and Friday, July 8th and 9th.—JOSEPH GRIFFITHS, Cambridge, Honorary Secretary Cambs. and Hunts. Branch.

STIRLING, KINROSS, AND CLACKMANNAN BRANCH.

THE annual general meeting of this Branch was held at the Plough Hotel, Stenhousemuir, on June 18th. There was a good attendance of members and guests, and Dr. MACPHERSON presided.

Confirmation of Minutes.—The minutes of the last meeting were read and approved, and were signed by the Chairman.

Honorary Treasurer's Report.—Dr. FERGUSSON presented his report, which disclosed a balance of £11 5s. 1d. in favour of the Branch.

Report of Council.—The report of Council for 1896-97 was submitted by the Honorary Secretary.

Election of Office-bearers.—The following were elected officers for the ensuing year: *President:* Dr. Linton. *Vice-President:* Dr. Spence. *Honorary Treasurer:* Dr. Fergusson. *Honorary Secretary:* Dr. Lewis. *Members of Council:* Drs. Highet, Ronald, Hosack, Fraser, and Clarkson. *Representative on the Council of the Association and on the Parliamentary Bills Committee:* Dr. J. C. McVail.

Vote of Thanks.—Dr. FERGUSSON proposed a vote of thanks to Dr. Strachan for his valued services as representative.

Branch Meetings.—It was remitted to the Council to fix places for holding Branch meetings in ensuing year.

Donation to British Medical Benevolent Fund.—It was proposed by Dr. LEWIS, and seconded by Dr. MILNE:

That a sum of five guineas be given from the funds of the Branch to the British Medical Benevolent Fund in commemoration of the Diamond Jubilee of Her Majesty Queen Victoria.

The resolution was unanimously adopted.

Delegate to Montreal Meeting.—Dr. Linton was requested to represent the Branch at Montreal.

Public Health (Scotland) Act.—Correspondence as to this Act was read, the subject discussed, and on the motion of Dr. MACPHERSON, seconded by Dr. STRACHAN, the following resolutions were adopted:

1. That the Public Health (Scotland) Act should declare that, subject to the control of the Local Authority, the medical officer of health shall be the responsible head of the Public Health Department within the district of the local authority.

2. That it would be inimical alike to the interests of the public and of the medical profession that statutory power should be given to sanitary inspectors or other persons without medical qualification to say what is "dangerous or injurious to health."

It was agreed that copies of these resolutions be sent to the Secretary for Scotland, the Lord Advocate, and the Members of Parliament for the District; that a petition be presented to Parliament shortly stating reasons in support of the resolutions, and that the members of the Branch should do all that is in their power to support the resolutions.

President's Address.—Dr. MACPHERSON delivered his presidential address, taking as his subject the Progress made in Treatment of the Insane during the past Sixty Years, with special Reference to recent Clinical and Pathological Discoveries. The address was listened to with great interest, and thoroughly enjoyed by those who had the pleasure of hearing it, and a vote of thanks, proposed by Dr. STRACHAN, to Dr. Macpherson for his admirable address was carried by acclamation.

Annual Dinner.—The members and guests present dined together after the meeting under the presidency of Dr. MACPHERSON, who proposed the loyal toast of "Her Majesty the Queen," with appropriate references to approaching celebrations of the Diamond Jubilee. Dr. LINTON proposed the health of the retiring President, Dr. Macpherson, which was heartily responded to by the company, and acknowledged by Dr. MACPHERSON.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

THE annual meeting was held on June 17th, 1897; the retiring PRESIDENT (Mr. M. A. Messiter) introducing his successor, Dr. Saundby.

Election of Officers.—Mr. Vincent Jackson, of Wolverhampton, was elected President-elect; Mr. Jordan Lloyd, Dr. Carter, and Mr. Langley Browne were elected representatives of the Branch in the Council of the Association; and Dr. Agar and Mr. Barling in the Parliamentary Bills Committee.

Ethical Committee.—A resolution was passed by which the Ethical Committee will consist of nine, instead of six, members, five of whom must be in general practice.

President's Address.—The PRESIDENT (Dr. Saundby) delivered his address on the Groundwork of Therapeutics, published in the BRITISH MEDICAL JOURNAL of June 26th, p. 1649.

Dinner.—Forty-two members and visitors dined together at the Grand Hotel in the evening.

NORTHERN COUNTIES OF SCOTLAND BRANCH.

THE annual meeting of this Branch was held at Stotfield, Lossiemouth, near Elgin, on June 9th, when there was a good attendance of members. Dr. F. M. MACKENZIE, of Inverness, President, was in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and approved.

New Members.—The following were elected members: Dr. Adam (Forres), Dr. Hugh Cameron (Invergordon), Dr. John Cameron (Avoch), Dr. Crow (Forres), Dr. MacKirdy (Lossiemouth), Dr. Macrae (Stornoway), and Dr. Saunders (Hopeman).

Installation of the New President.—The President then vacated the chair in favour of the President-elect, Dr. GALLETLY, of Elgin, who returned thanks for the honour done him.

Election of Office-Bearers.—The office-bearers for the year were then appointed:—*President:* Dr. Galletly (Elgin). *President-Elect:* Dr. Munro-Moir (Inverness). *Vice-Presidents:* Dr. Simpson and Dr. Mackenzie. *Secretary and Treasurer:* Dr. Mackay (Elgin). *Representative on the Council of the Association and Parliamentary Bills Committee:* Dr. Ogilvie Grant (Inverness).

Medical Defence.—Dr. MUNRO-MOIR then proposed the following resolution:

That in the opinion of the Northern Counties Branch it is not desirable that the British Medical Association should undertake medical defence.

This was seconded by Dr. BRUCE (Dingwall), and after considerable discussion was unanimously adopted.

Public Health (Scotland) Bill.—It was proposed by Dr. BRUCE, and seconded by Dr. MACKENZIE (Inverness):

That this meeting of the Northern Counties Branch, having considered Clause 22 of the Public Health (Scotland) Bill, as amended in Committee, is of opinion that the amendment proposed by Mr. Caldwell and carried, whereby the certificates of sanitary inspectors are proposed to be accepted on the same footing as those of qualified medical men, in the case of certain nuisances, such as dangerous wells, etc., believes the same to be inimical to the best interests of the public. It considers that to safeguard the property and the lives of the people all such powers should be placed primarily in the hands of men who have specially studied hygiene, and have been certified, by examination or training, as accredited experts on sanitation and public health.

This motion was carried unanimously.

Next Annual Meeting.—It was resolved that the next annual meeting should be held at Inverness, and that, if possible, a steamer should be chartered for the day for a trip to Fort Augustus.

Dinner.—The members dined together at the Stotfield, a considerable number of their friends (ladies as well as gentlemen) as their guests.

METROPOLITAN COUNTIES BRANCH: WEST LONDON DISTRICT.

THE last meeting of the session was held at 5, Pembridge Gardens, W., on Tuesday, June 1st; Mr. H. W. KIALLMARK, Vice-President, in the chair.

Confirmation of Minutes.—The HONORARY SECRETARY read the minutes of the last meeting, which were confirmed. The report of the District to the Council of the Branch was also read and ordered to be entered on the minutes.

Election of Officers.—G. Crawford Thomson, M.D., was elected Vice-President; J. Pickett, M.D., representative of the District on the Council of the Branch; Thomas Dutton, M.D., M.R.C.P., Honorary Secretary for the ensuing year. The following Committee was also elected: H. W. Kiallmark, M.R.C.S.; J. Brindley James, L.R.C.P.; J. Jackson Clarke, F.R.C.S.; J. Masters, M.D.; H. W. Armstead, M.D., F.R.C.S.; G. Vere Benson, M.A., M.R.C.S.; T. Aird Jolly, L.R.C.P.; L. H. Pegler, M.D.; T. Savill, M.D., M.R.C.P.; L. C. T. Dobson, M.D.

Vote of Thanks.—The meeting closed with a hearty vote of thanks to the Vice-President.

PERTHSHIRE BRANCH.

THE summer meeting of the Branch was held at Aberfeldy on June 12th, Dr. MACKAY, President, in the chair. Seven members were present, and the SECRETARY intimated apologies from several unable to attend.

Confirmation of Minutes.—The minutes of last meeting were read, approved, and signed by the President.

The late Dr. R. W. Irvine, Pitlochrie.—It was agreed to instruct the Secretary to draw up a minute of condolence on the death of Dr. Irvine, one of the original members of the Branch, and to transmit a copy of the same to Mrs. Irvine.

New Member.—John Lyell, M.B., C.M., Royal Infirmary, Perth, was elected a member of the Association and Branch.

The Annual Meeting.—A letter was read from Dr. Roddick, President-elect of the Association, inviting the Branch to name representatives to the annual meeting. It was unanimously agreed to name Drs. Niven and Urquhart, and the Secretary was instructed to communicate this resolution to Dr. Roddick.

Representative Member.—Dr. Urquhart was reappointed representative member and representative on the Parliamentary Bills Committee.

Public Health Bill.—Dr. LIDDELL opened a discussion on the Public Health Bill now before Parliament. It was moved by Dr. LIDDELL, seconded by Dr. CAMPBELL:

That a memorandum be sent by the Secretary to the members of Parliament for Perth, Perthshire, Forfarshire, Fifeshire.

SYDNEY AND NEW SOUTH WALES BRANCH.

THE usual monthly meeting of this Branch was held at the Royal Society's Rooms, Sydney, on April 30th, Dr. C. P. B. CLUBBE, President, in the chair. There were forty-five members present and two visitors.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Remarks by President.—The PRESIDENT (Dr. Clubbe) thanked the members for his election as President of the Branch.

New Members.—The PRESIDENT announced the election of the following new members: Dr. Harvison (Couma), Dr. A. J. Park (Manilla), Dr. Isbester (Sydney Hospital).

Communications.—Dr. ODILLO MAHER read some notes on a case of Cicatricial Entropion, and exhibited the patient.—Dr. POPE exhibited a patient upon whom he had operated. A discussion ensued, in which Drs. GORDON MACLEOD, POCKLEY, and POPE took part.—Dr. W. F. QUAIFE read notes on a case of Corditis Tuberosa and Allied Troubles in speakers, and exhibited drawings illustrative of the cases. Dr. BRADY discussed the case, and Dr. QUAIFE replied.—Dr. MACSWINNEY read some notes on a case of Barlow's Disease. Drs. NEILL, SYDNEY JONES, RENNIE, and CLUBBE discussed the case, and Dr. MACSWINNEY replied.—Dr. JAMIESON read some notes on cases of Congenital Heart Disease, and exhibited some specimens. Drs. LITCHFIELD and RENNIE discussed the paper.

HALIFAX, NOVA SCOTIA, BRANCH.

THE last meeting of the session was held on Friday, May 28th, at the Halifax Hotel, the President, Dr. TOBIN, in the chair.

New Members.—Dr. Lockwood, Lochport, N.S., and Dr. Sprague, St. John, N.B.

Communications.—Dr. M. A. B. SMITH read a paper on New Remedies.

SPECIAL CORRESPONDENCE.

PARIS.

A Question of Fees in a Law Court.—The Presentiments of a Victim of the Charity Bazaar Fire.—The Admission of Patients to Hospitals.—The Regulation of Watering Places.—A Batch of Monuments.—General News.

THE French law courts are often called upon to decide as to the fees to be paid to medical men. The following case recently came before the Civil Court of the Seine Department. An official of the Société Générale had injured one of his eyes, and which had to be removed. The society held itself responsible for the medical treatment given to the patient. The doctor who attended him based his scale of fees on the gravity of the operation and the high standing of the society, and asked £100. He received £24, and sued for the rest. The operation was performed at the doctor's clinic. The court ruled that £24 was a sufficient fee for the following reasons: Though enucleation of the eyeball may be dangerous, it is quickly done and is not difficult; that the patient was without means of paying; also the operation was not performed at the patient's house, but at the operator's clinic; furthermore, the fact that the society held itself responsible for the operator's remuneration did not warrant so large a fee being asked.

The Société des Sciences Psychiques listened with great interest to M. Dareste's paper on Sister Marie Madeleine's presentiments prior to the charity bazaar fire, where she met her death. She was 44 years of age, in good health, of very cheerful disposition. Two months before the catastrophe she said to her aunt, who was ill, that she (Sister Marie Madeleine) would die the first. A fortnight before the disaster she said to a patient whom she was tending, "You will get better and fall ill again, but another will tend you. I shall be dead; they will have brought me back to this house burned." The day before the fire a sister wished her a successful sale. After she had walked a few steps she returned, and clasping the other sister's hand said, "*Pauvre sœur*, if they bring me back burned to death, what will you say?" In the evening Sister Marie Madeleine, generally bright and cheerful, was downcast; this was attributed to the bad first day's sale. On May 4th, when passing through the parlour, she met the *aumonier*, and asked his blessing; she afterwards exclaimed, in a tone of anguish, "Oh, my God!" That day her presentiment was verified.

At a recent meeting of the Municipal Council, the Director of the Assistance Publique was questioned by a councillor concerning a midwife at the maternity clinic of the Rue d'Assas, who was dismissed because she refused to admit a woman who had given birth to twins, and applied for admission at 2 A.M., because there was not a bed vacant. M. Peyron replied that the midwife ought to have admitted the patient or any other under similar conditions. M. Dubois considered that the *sage-femme en chef* was responsible. M. Navarre proposed that the administration be called upon to make an inquiry in order to define who are the responsible persons during the night service of clinics and hospitals. M. Dubois likewise proposed that the administration be called upon to frame rigorous measures for preventing the irregular proceeding occurring in hospitals after death.

The Syndicat des Médecins des Stations Balnéaires et Sanitaires de France have returned to the charge by a vigorous attack on the organisation of French mineral water stations. Last year an effort was made to bring them up to the level of perfection attained in foreign stations where patients following the cure are not allowed to eat "forbidden meats." The Administrative Council of the Syndicate has sent a letter to all the medical journals, signed by M. Albert Robin, M. Marcellin Cazaux, and M. Maurice Binet, calling upon the entire medical profession to co-operate with the syndicate in order to create at the mineral water stations dietary tables where no forbidden article of food will be served.

A monument will be erected at St. Brieuc, to the memory of the late Dr. Jules Rochard, formerly General Inspector of the Navy Health Service, President of the Academy of Medicine, and Grand Officer of the Legion of Honour. A monument is to be erected to the memory of Dr. René Moreau, born at Montreuil-Bellay in 1585. He was Physician to the King, and Dean of the Medical Faculty. Also to the memory of Dr. Pierre Duret, born at the above locality in 1745. He founded the Medical School of Brest, where he died. It is the inhabitants of Montreuil-Bellay who thus honour the memory of these deceased physicians.

The General Council of the Department of Hérault has voted a tax of a half-centime to facilitate gratuitous medical help. It urges that professional schools for nurses be organised in all towns where there are medical schools, faculties, or hospitals which could furnish the teaching staff. When these schools are formed hospital nurses who hold diplomas should exclusively be appointed to such posts.

BERLIN.

The Congress of Internal Medicine.—Vaccination and Tuberculosis.—A Conference on Leprosy.—General News.

THE Congress of Internal Medicine was largely attended, and some of the papers read were of exceptional interest. Professor v. Leyden was to have presided, but he had been called to Bucharest to attend the Hereditary Prince of Roumania shortly before the meeting of the Congress, and so his opening address had to be read by a member of the Committee—Professor Moritz Schmidt, of Frankfort-on-the-Maine. The chief subjects of discussion were: (1) Chronic Arthritic Rheumatism, introduced by Professor Baeumler (Freiburg-in-Baden) and Professor Ott (Prague); (2) Epilepsy, introduced by Professor Unverricht (Prague); and (3) Morbus Basedowii, introduced by Professor Eulenburg (Berlin). Four physicians had been invited to read special papers, and had readily responded to the appeal. Professor Ewald, of Strassburg, chose for his subject the Effects of Cerebral Operations on Animals that are without the Labyrinth, and illustrated it by the demonstration of a dog before and after the operation in question. The Application of Skiagraphy in Internal Medicine was the theme of Professor Benedikt, of Vienna. But the two papers followed with the closest interest were undoubtedly Professor Behring's and Professor O. Liebreich's. Both treated of modern therapeutics, Behring's being entitled On Etiological Therapeutics, based on Experiment, and Liebreich's The Objects of Modern Medicinal Therapeutics. As the speakers are justly considered representative men of two widely divergent, or rather antagonistic, schools, expectation ran high beforehand. Nor was it disappointed. Behring gave a historical survey of the growth of modern experimental therapeutics, and touched on the now well-known theories so closely connected with his name and Robert Koch's. He said that he was convinced it would never be possible to produce chemically the substances which are effective in serum therapeutics; that their action depended on forces

which, like the magnetism of iron, were not obtainable chemically. Liebreich touched on this point in his address. He said the theory that antitoxins were not chemical substances but natural forces was a most daring hypothesis. His view is that destruction of the bacilli is not equivalent to cure of the disease, as the cause of disease does not rest only on incursions from the outside, but also on the vital power of the cell. For instance, in the case of phthisis morbid changes must have taken place in the lung before the bacilli can develop there, and thus the bacillary disease falls under the term of "noso-parasitism." He said that in his opinion serum experiments on guinea-pigs were not in any way conclusive as regards the human organism, as the cells of the domesticated guinea-pig were notoriously without resisting force, and could not be compared with the human cells, which were characterised by strong resisting power.

The Medical Department of the Prussian Ministry of Education had asked the Scientific Committee for all matters relating to medicine and public hygiene for an "opinion" on the question, whether it is possible for vaccination to cause a tendency to tuberculosis and scrofula, and if so, under what conditions? The answer has just been published, and is in the negative. The committee say, that since the discovery of the tubercle bacillus as the cause of tuberculosis, it has become impossible to accuse vaccination of causing tuberculosis. As to the allegation now frequently heard that vaccination produces a disposition to tuberculosis, it is often assumed that certain diseases predispose the human organism to tuberculosis. Such diseases are thought to be diabetes, measles, whooping-cough, and debilitating diseases generally. Can the short feverish attack produced by vaccination really be counted among them? Tuberculosis is the most widespread disease known, and so of course a number of vaccinated persons fall victims to it. But at present there is no sign known which would permit recognition and proof that in any single case tuberculosis or scrofula developed after vaccination is a consequence of vaccination, or which would prove that an individual after vaccination is more predisposed to scrofula and tuberculosis than unvaccinated persons. Therefore such an allegation, if based on individual cases, must be considered unfounded. And it is equally disproved by mortality statistics on a large scale. For, in our time, the most frequent cause of death is tuberculosis. Now, if tuberculosis had been really increased by the universal compulsory vaccination, the mortality would have increased since its introduction. This, however, is not the case. And, again, in spite of the revaccination strictly enforced, the mortality from tuberculosis has diminished in the Prussian army. In short, there is no sort of proof of the allegation that vaccination predisposes to tuberculosis. It may possibly be conjectured that debilitating diseases caused by faulty vaccination, such as erysipelas, etc., might weaken the organism and lower its resisting power against the attacks of tubercle bacilli. Nor can the possibility be absolutely denied that where tubercle bacilli have already found their way into the child's organism—for instance in the so-called scrofulous lymph glands—in isolated exceptional cases where there is high fever, an increase or spread of these bacilli might be favoured. But with the exception of these quite isolated possibilities, the allegation that a disposition to scrofula or tuberculosis is produced by vaccination must be characterised as unfounded.

An International Leprosy Conference is to held in Berlin—in the rooms of the Imperial Board of Health—from October 11th to the 16th. The following papers are already announced:—Robert Koch: The Position of Leprosy amongst Infectious Diseases; Virchow: The Pathological Anatomy of Leprosy; Unna (Hamburg): Histology of Leprosy; Neisser (Breslau): How Far are we Justified in Considering the Leprosy Bacillus as the Cause of the Disease; Campana (Rome): Les Essais de Culture du Bacille de la Lèpre; Besnier (Paris): Rôle Etiologique (1) de l'Hérédité, (2) de la Transmissibilité; Hutchinson (London): Alimentation and Leprosy; Koebner (Berlin): The Problem of Inoculability. The different forms of the disease, its spread, its history, and similar questions will also be discussed. At the close of the debates the results are to be formulated, and in this form to serve as material on which to base further legislation, and it is hoped international parallel action. Almost every civilised State is to send a delegate to the Conference; Kitasato will come from Tokio, Mauritz from Hawaii, and Duering from Constantinople.

The Government of La Plata has decided to offer an engagement to a German bacteriologist with a view to experimental studies on tropical epidemics. The selection will probably fall on a pupil of Robert Koch.

MONTREAL.

The Approaching Meeting of the British Medical Association.—The Sections.—Presentation to Lord Lister.—Golf.—The Journey to Canada.

The energies of all at Montreal are at the present moment so fully employed in preparation for making the forthcoming meeting of the British Medical Association a thorough success, that there is relatively little to chronicle beyond the successive stages of preparations for that meeting. Already it would appear that the success is fairly well assured. What with the members from the old country, the delegates from various Colonial Branches, the American guests, and the Canadian members, there will probably be an attendance of considerably over 1,000 medical men. About 200 well-known members of the profession in the States have accepted the invitation sent out to them by the President and Council of the local Branch, and evidently, judging from letters constantly received, very many more would be ready to attend. Nevertheless the fear of appearing to wish to rival the International Congress at Moscow renders the Executive Committee most anxious to limit the number of its guests.

In each of the Sections the secretaries are receiving an ample number of applications to read papers, and offers of participation in the various discussions. The Pathological Museum promises to be a very interesting feature, while all the space has been taken in the Annual Museum of Foods, Drugs, and Appliances. The Ladies' Committee has already had several meetings, and besides taking steps to secure the comfort of the ladies accompanying members to Montreal, has been the means of arranging numerous garden parties and afternoon entertainments.

It is proposed that the Montreal Medico-Chirurgical Society should seize the opportunity of Lord Lister's presence to present him with a richly illuminated address congratulating him upon his elevation to the peerage. This had already been prepared some months ago, but the opportunity to present it in the presence of all the members of the Society is obviously not one which should be lost.

To ensure the success of the international golf match, it may be suggested that those willing to represent the old country should communicate with Dr. William Hunter (103, Harley Street, W.), who will make all necessary arrangements with the secretaries of the Entertainments Committee in Montreal.

We trust that members of the Association will not think that it is now too late to determine to visit Montreal. If a sufficient number apply the heads of the Canadian Pacific Railway in London still believe it to be possible to secure berths, and indeed to place an extra steamer upon the St. Lawrence route if necessary.

ST. PETERSBURG.

The International Medical Congress in Moscow: The Free Railway Tickets: Clinical Demonstrations: The Entertainments in St. Petersburg: The Ladies' Committee.

Englishmen intending to visit Moscow for the International Medical Congress should take note of the following points in regard to the free railway tickets on Russian railways. Application must be made beforehand to Professor Roth, the General Secretary of the Congress; and, in applying, the member must state the route by which he intends to travel to Moscow, but not of necessity the route by which he intends to return, as that can be filled in any time before leaving Moscow. The Executive Committee will insert on the ticket the name of the member and the frontier station at which he will enter Russia; and at that station the member will have to present the ticket for the purpose of being stamped. With

the ticket a form, showing that the bearer is really a member of the Congress, will be sent; and this must be presented, if demanded, by the railway officials, at any part of the journey. No other formality will be required on the outward journey; but in coming back it will be necessary for the member, before leaving Moscow, to have had his ticket stamped by the Executive Committee of the Congress, to the effect that "the bearer has taken part in the Twelfth International Medical Congress." The return ticket must also be presented at the booking office at the station of departure in Moscow, where it will again be stamped. The free railway tickets will be available on any date up till September 13th (September 1st, old style), and they will entitle the holders to take 36 lbs. (one *pood*) of luggage free of carriage. This is apparently in addition to the 56 lbs. ordinarily allowed. The Executive Committee has already received 7,000 of these tickets for distribution among members of the Congress. The tickets, it may be added, are all first class.

In accordance with the practice at previous Congresses in other capitals, it is proposed to give clinical demonstrations upon specially interesting cases in the wards and operating theatres of the big university clinic. Professor Bobrof, Director of the Faculty Clinic of Surgery, is arranging to receive surgical cases of unusual interest into his wards during the Congress week, and some capital operations will probably be performed. A small exhibition of surgical instruments will also probably be organised.

The Congress comes to an end on August 26th (English style), and foreigners who have time to remain a little longer in the country will then have a choice of attractions. There will be the various excursions, such as those to the Caucasus and to the cities of the Volga, to which I referred briefly in my last letter, and of which full details are promised shortly. An almost equally strong attraction will be found in the series of entertainments which are being organised in St. Petersburg. Professor Pashutin (who as President of the Russian Medical Council and Director of the Army Medical Academy in St. Petersburg may in some senses be regarded as the head of the profession in this country) is the president of the committee entrusted with the arrangements here. At present the following entertainments have been arranged:—On August 28th (16th, old style) a reception by the members of the profession and medical societies in the Salle de Noblesse, the largest and best of the concert halls in this city. On the 29th there will be a choice of engagements; an excursion to Peterhof, with supper in the park, at the famous little imperial summer house of Monplaisir (built like so much else at Peterhof, by Peter the Great); and, on the same evening, a "rout" given by the Princess of Oldenburg, presumably in the Oldenburg Palace, adjoining the British Embassy. On the 30th the new anatomical Museum in memory of Pirogof is to be formally opened in the morning, and in the evening there will be a "rout" given by the municipal authorities. August 31st and September 1st are to be given up to an inspection of some of the medical and other institutions of the city.

A Ladies' Committee has been formed in connection with the Congress, under the presidency of Mme. Skliffosofski, the wife of the President of the Organising Committee. Members who expect to be accompanied by ladies are particularly requested to communicate the fact to the General Secretary, Professor Roth. The Ladies' Committee has been taken under the gracious patronage of the Grand Duchess Elizabeth, the wife of the Grand Duke Sergius, and sister of the Empress. A handbook of useful and interesting information is to be published for distribution among the lady guests; and an exhibition, intended to illustrate Russian women's work in all walks of life, is to be held during the Congress week.

SYDNEY.

Hospital Saturday.—New Pathological Department, Sydney Hospital.—Operating Theatre, Prince Alfred Hospital.

SATURDAY, May 1st, was fixed upon as Hospital Saturday, and, as in former years, a large amount of preparation and organisation for the collection had been carried out during the earlier part of the week. A large army of some 1,200 lady collectors remained hard at work from early morning till late in the evening, and all over the city and suburbs, at every street corner or crossing, at all railway stations and public buildings one was beset by the importunate entreaties of the fair collectors. Owing to their indefatigable energy a sum of over £3,600 was collected, and this will be of considerable assistance to the various metropolitan and suburban hospitals.

It has been decided to erect a complete pathological department in connection with the Sydney Hospital, and a sum of £2,000 is to be spent on enlargement and alteration of the present *post-mortem* room. The lighting is to be improved and increased accommodation provided. There will also be a laboratory for microscopical pathology and bacteriological work The buildings have been planned by the honorary pathologist, Dr. Sydney Jamieson, and when completed as proposed will form a valuable addition to the hospital.

The operating theatre at Prince Alfred Hospital has been recently much improved. Extensive alterations have been carried out. and all the latest improvements have been introduced in the way of securing asepsis as far as possible in every operation. Very complete arrangements have been made for the sterilising of all instruments and of the operator's and assistants' hands before operation.

BRISTOL.

Memorial to the late Mr. Greig Smith.—The Pollution of the River Avon.—The Health of Bristol.—Ambulance Prizes.

A MOVEMENT is being initiated to raise a fitting memorial in recognition of the great services rendered to the Royal Infirmary by the late Mr. Greig Smith, who had been associated with that institution as house-surgeon and surgeon for twenty-one years. A committee is being formed to consider what form the memorial shall take, and the one that appears to have met with the greatest amount of favour is the reconstruction and refitting of the operating theatre, a project in which it is known Mr. Greig Smith was much interested. It is also proposed to place in the theatre his likeness, probably in the form of a medallion covered with plate glass to prevent the settlement of dust. A cast of his features was taken after death, and this, if suitable, may be used to procure a truthful likeness.

The state of the river Avon at and below Bristol is unsatisfactory. Any one walking along the banks of the New Cut or river cannot help observing—in fact, his nose will tell him—that the discharge of the sewage into the Avon has not tended to make the water purer or more agreeable to the senses. A short time ago a circular was drawn up which stated that "it is the opinion of those who live on the river banks that the smell (from the river and mud left by the tide) has been increasing for the last four or five years, but it is generally believed that it has never been so bad as it has been this summer (1896). Windows have had to be closed at night, parents have been afraid to send their children out for exercise, invalids have been removed to the back rooms of the houses," etc. The circular does not appear to have been supervised by a medical man, so that many cases of illness which cannot have arisen from the smells only have been ascribed to the certainly powerful odour that is more or less constantly present. There is no doubt that the state of the river is far from what it should be, and though the sewage is mainly responsible for its foul condition, it must be mentioned that refuse from several factories and workshops also finds its way into the tidal stream. The first step to be taken must be the turning of the sewage either into the river lower down, possibly into the Severn, or its purification before it is allowed to mix with the Avon. It is evident, especially in the dry summer months when there is little fresh water coming down, that the scour of the tide is not sufficient to carry off the sewage of about 300,000 persons, and it is more than probable that the removal of the projecting spars of rock which has been going on more or less for the last hundred years—a necessity for safe navigation—has resulted in the rush of water being less rapid, and has so favoured the deposit of solid matter.

In spite of these sanitary defects the health of Bristol, both as a whole and particularly in the riverside parts, where it might be assumed that the evil effects of the river pollution would be more readily noticed, compares very favourably

with the other big towns of the kingdom. In 1896 only two towns, Bradford and West Ham, show a lower death-rate, only one a lower zymotic rate (Bradford), and again only one lower fever death-rate (Cardiff), and one a lower diarrhœa rate (Nottingham), and one a lower infantile rate (Edinburgh). The sewers, which are unventilated, receive all the storm water, and are provided with double tidal valves at their outlet, and when constructed in 1851 were designed so that at a future date they might converge to one point, from which an outfall sewer might be continued to a suitable point lower down the river or into the Severn channel. A better method of dealing with the sewage than that at present employed is under the consideration of the Sanitary Committee, and a scheme will be submitted shortly, which, it is hoped will lessen the nuisance complained of.

The annual distribution of medallions and certificates to the candidates who have passed the examinations of the St. John Ambulance Association (Bristol Branch), took place at the Hall of the Y.M.C.A. on June 12th, Dr. Bertram Rogers being in the chair. The distribution was made by the Very Rev. the Dean of Bristol and Mrs. Pigou.

BIRMINGHAM.

Diagnosis and Treatment of Diphtheria.

Medical men in Birmingham have for a long while laboured under considerable difficulty in obtaining a satisfactory bacteriological report on cases of diphtheria, being obliged to send the material up to London. Valuable time is often wasted in this way; and even when the diagnosis has been made the supply of antitoxin to be obtained locally has been small and often unsatisfactory. The medical faculty at Mason University College is now making arrangements for undertaking all such examinations. The bacteriological laboratory, under the direction of Dr. Kauffmann, Professor of Pathology, is being enlarged and refitted. The Health Committee of the city have made an arrangement with the authorities of the College whereby, when these alterations are complete, any medical man of the city can at any time have a bacteriological examination made free of charge. In cases where such examination reveals positive evidence of diphtheria, a supply of antitoxin serum will also be supplied free to the medical man on his filling up a written form. This arrangement should prove a great boon to practitioners who hitherto have had great difficulty in obtaining a ready supply of reliable serum.

CORRESPONDENCE.

HOLIDAY HOMES FOR TOWN CHILDREN.

Sir,—Many of your readers are country readers. They must know of cottages where grown-up children have left empty places, or where, for other reasons, there are rooms ready for guests. Would they tell of such rooms to the Secretary of the Country Holiday Fund, 10, Buckingham Street, Strand?

There are now some thousands of town children ready for holidays. They will enjoy them in the country, but they will enjoy them much more if they can during their country visit share the life of a country family, experience the different habits of living, and get familiar with the talk and life of those who have to work with growing things.

The payment for each child is 5s. a week, and every precaution is taken that the child shall be free from all disease.—I am, etc.,

Toynbee Hall, E., June 24th. Samuel A. Barnett.

THE CHARITY VOTING SYSTEM.

Sir,—It is very strange that at this time, when the methods of charitable administration are so anxiously studied, one of them, which is perhaps the most objectionable, is still suffered to exist—namely, the voting system.

It is evidently the duty of every institution to seriously investigate, compare, and select for itself from among the many applicants, such cases as are most fitted for its benefits. This is already done in many institutions.

The election by subscribers' votes merely means that those candidates who have much influence are successful, and those who are friendless are passed over. Also, votes are generally given haphazard, and subscribers either have no knowledge of those for whom they vote, or only know their own special candidate.

Moreover, the market in votes, incurring purchases, barterings, and exchanges, all give rise to sporting transactions of a most objectionable character.

Perhaps, however, worse than all, is the cruelty inflicted on persons—some in suffering, some in age, and all in poverty, who are kept waiting from half-year to half-year, spending money which they ought not to part with, and incurring vast fatigue and labour in order to canvass thousands of subscribers, five or six, and often many more times over, without any certainty of ultimate success.

All these things are utterly contrary to the spirit of charity, and are in no way justified by the arguments generally brought forward that voting brings in extra subscriptions, and that canvassing acts as an advertisement.

Pending the abolition of the voting system, which cannot be done away with in a moment, owing to old prejudices and vested rights, the subscribers can request the committees to administer their votes, and thus the managing bodies will gradually acquire the power of admitting the candidates who present the best qualifications, or those who have the least support from outside.

I have been working for many years in the Charity Voting Reform Association (30, Charing Cross, Secretary, Mr. J. A. Dow), which was founded about twenty-five years ago by the late Sir Charles Trevelyan and others well versed in the question of charitable administration, and which has steadily advocated these principles.

Our results have been more real than apparent, and it is gratifying to record that for many years past no new charities have been founded on the voting system.

The Charity Voting Reform Association, as most associations, is needing funds, but since its expenses are very small, about £200 a year would nearly cover its wants, and it merely calls for shillings where other associations are obliged to ask for pounds. It would be very good of you if you could support us by subscribing a guinea a year or less, or, failing this, by a donation.

Kindly give us the valued support of your name and gratify our very modest demand.—I am, etc.,

Connaught Place, W., June 17th. F. D. Mocatta.

*** We are quite of the same opinion as the eminent philanthropist who has favoured us with the above letter, and have great pleasure in subscribing the modest sum (£1 1s.) which he names. We may remind our readers that at the Royal Medical Benevolent College the evils of the voting system are modified by the action of a Committee which investigates the cases and publishes for the guidance of subscribers a list of the most urgent cases of each class.

THE MIDWIVES BILL OPPOSITION: DR. RENTOUL AND HIS £50.

Sir,—Dr. Rentoul has found "a mare's nest." It would have been much more satisfactory if he had discovered another "grant" of £50. In my report of a meeting of the Lancashire and Cheshire Branch published in the British Medical Journal of February 8th, 1896, you will find the following paragraph:

"*The Rentoul Reimbursement Fund.*—Mr. Colin Campbell moved and Dr. J. Brassey Brierley seconded: That this Branch contribute £50 to the fund which is being raised to repay Dr. R. R. Rentoul his expenses incurred in defeating the first and second Midwives Registration Bills."

This sum was paid by me out of the funds of the Branch to Dr. Lloyd Roberts, Treasurer of this Rentoul Reimbursement Fund, and I believe he is prepared to asseverate, if necessary, that the whole of the money found its way into Dr. Rentoul's pocket. It became necessary to account for these £50 in the balance sheet for 1896, otherwise I might have had to find the money out of my own pocket, and I do not wish anyone to suppose that I could be guilty of such a "most extraordinary" piece of generosity. I must at once confess that I am re-

sponsible for the "most extraordinary blunder" of placing this sum of £50 under the brief but not very inaccurate heading "grant to Dr. Rentoul." So far as the Lancashire and Cheshire Branch is concerned, it was a free-will offering, as Dr. Rentoul had not, nor has he any legal or moral claim on this Branch for one farthing (his annual contribution of half a crown is spent many times over in printing his notices of motion), except that he thinks he has a bill against the profession generally which has not yet been liquidated.

Dr. Rentoul's expenses had been incurred long before the contribution was made, and therefore it is not quite parallel to the grant of £250 to the Branch Committee, which was voted for a definite purpose and the expenditure of which was under the control of the Committee. Moreover, Dr. Rentoul is well aware that a very considerable proportion of those £250 was spent by himself.

There is a nice subtle distinction, worthy of a metaphysician, between a "grant to Dr. Rentoul" and a contribution to a fund which was being raised to repay Dr. Rentoul his out-of-pocket expenses; but no metaphysician would speak of "my Branch" much in the same way as he might of his watch. It is perhaps unnecessary to remind your readers that there is no Branch of the British Medical Association styled "The Rentoul Branch."

It is an interesting psychological study to see Dr. Rentoul thus quibbling over a money question; but after all, this change of front has got no physiological significance, as Dr. Rentoul tells us that "he has no special objection to a 'grant' for work done by him." He is never weary of telling us, not how much work he has done—and I can testify that that has been enormous—but how much money he has spent in the interests, well, let us say, of a niggardly and thankless profession. Personally I have not the slightest objection, in fact I should be very pleased, to see all the money which Dr. Rentoul has spent, or mis-spent, refunded and after that a handsome "grant to Dr. Rentoul" of much more than "£50" for the enormous amount of work which he has done.—I am, etc.,

JAMES BARR,
Honorary Secretary, Lancashire and Cheshire Branch of the B.M.A.

Liverpool, June 28th.

WANTED, A NAME—"ELECTROGRAPHY."

SIR,—In common with most of those who have evinced a permanent interest in the remarkable discoveries of Professor Roentgen in connection with the *x* ray phenemena, I have experienced difficulty in finding words suitable for employment under varying conditions, in speaking or writing of the effects resulting from the activity of the rays. The terms so far in use to this end, such as "Roentgen rays," "*x* rays," "shadowgraph," "skiagraph," "skiagram," etc., leave much to be desired, and it has again and again been lamented that no generally acceptable terminology, of uniform character, has so far been devised for common use.

To meet this want it has occurred to me that the word "electrography" fulfils the necessary conditions, and that out of it the words "electrogram," "electrographic," and "electrograph" readily offer themselves as accurate and expressive. Common agreement has authorised the use of similarly constructed synonyms in the cases of the telegraph, the phonograph, and in photography; and inasmuch as the *x* ray pictures are electrically imprinted productions, they can be said to be "electrograms" in the strictest sense of the word. Equally also with the other suggested applications of the root term; and I venture therefore to propose the adoption of names above given as a solution of a universally admitted difficulty.—I am, etc.,

CHARLES H. WADE, M.A., D.P.H.

Cockington, Torquay, June 15th.

AN EARLY PRESCRIPTION FOR COD LIVER OIL.

SIR,—Alluding to your remarks in reference to drugs in the BRITISH MEDICAL JOURNAL of June 19th, where you speak of the introduction of cod liver oil in 1840, I should like to contribute an item of old history.

An old gentleman, a friend and contemporary of my father, once told me that when he was an apprentice at an old-fashioned apothecary's shop, which was probably somewhere near he date of the battle of Waterloo, a prescription written by Dr. Carrick (elected Physician to the Bristol Infirmary in 1810) was brought to them, and much puzzled him and his fellow apprentices. It was "Olei Jecoris Aselli," but at last with the help of Ainsworth's dictionary they succeeded in unravelling it, for there it says that asellus is a "little ass," or "a fish the colour of an ass, such as a cod."—I am, etc.,

AUGUSTIN PRICHARD.

Clifton, June 23rd.

THE CORK AND SOUTH OF IRELAND BRANCH.

SIR,—I notice that in your historical summary of the formation of Branches of the Association there is an inaccuracy with regard to the Irish Branches, and an unjustice, probably unintentional, is done to myself. Of the Branches formed in Ireland during the Seventies, mention is made of the Dublin Branch in 1877, and that of the North of Ireland in 1878, and the Cork and South of Ireland Branch is stated to have been formed in 1893. You will kindly at least do me the justice of inserting the following copy of a letter dated February 3rd, 1875, as well as the conclusion of the President's address, taken from the JOURNAL of the Association of August 9th, 1879. Of the active work done by the South of Ireland Branch of the British Medical Association from the time I took its formation in hand until I left Ireland in 1883 the columns of the BRITISH MEDICAL JOURNAL itself afford the best proof.

36, Great Queen Street, London, W.C., February 3rd, 1875.

DEAR SIR,—I hand you subjoined copies of two resolutions passed at the last meeting of the Committee of Council of the British Medical Association held in London on the 14th inst.

I am, faithfully yours,
FRANCIS FOWKE,
Gen. Secretary Brit. Med. Asso.

Resolved: "That the laws of the South of Ireland Branch be approved and the Branch recognised."

Resolved: "That the Committee of Council desire to congratulate the members of the South of Ireland Branch upon the formation of the first Irish Branch of the British Medical Association, and trust that it will be the means of causing a great increase of the Association in the South of Ireland; the thanks of the Committee of Council are due, and are hereby given, to Dr. Macnaughton-Jones and others for their exertion on behalf of the movement."

Excerpt from the President's Address at the Cork Meeting of the Association, 1879.

How can I speak, without apparent exaggeration, of the exertions of Professor Jones in promoting the arrangements necessary for the success of this meeting? When he first proposed inviting the Association to Cork, I was nervous and alarmed at the magnitude of the undertaking; but I soon became aware that he made no miscalculation, and that he was able to realise his original promises by unceasing energy, tact, and thorough knowledge of the subject. He was not only the first to suggest the invitation to Cork, but the first to form a local Branch in Ireland, thus establishing a cordial union between the members of our profession in the two great divisions of our empire.

—I am, etc.,
H. MACNAUGHTON-JONES.

Harley Street, W., June 18th.

*** Dr. Macnaughton-Jones's statement that he founded a Branch in Cork in 1875 is perfectly accurate. This Branch, however, appears to have collapsed some time after Dr. Macnaughton-Jones left Cork. The Cork and South of Ireland Branch is an entirely new and distinct organisation, and was formed principally for ethical purposes. As stated in the historical summary of the formation of the Branches, which was published in the BRITISH MEDICAL JOURNAL of June 19th, it was founded in 1893.

THE MEDICAL HISTORY OF DUBLIN IN THE QUEEN'S REIGN.

SIR,—In the BRITISH MEDICAL JOURNAL of June 19th I read with considerable pleasure your "Record of the Progress of Medicine during the Victorian Age."

The Irish part (from the pen of Dr. J. W. Moore, Fellow of the Irish College of Physicians) is fairly complete, and gives information of what is doing in Ireland medically. It is an outline history of the schools, licensing bodies, and matters connected with the practice of medicine and surgery in Ireland, down even to the nursing.

Allow me, however, to supply one omission, which not only makes the account incomplete, but, I may say, is misleading. There is a licensing body—the Apothecaries' Hall of Ireland—which the writer has forgotten. This corporation is named in charters as far back as Henry VI.

Since the Medical Acts (1886) the Hall was associated with the College of Surgeons in a conjoint examination. This arrangement is now at an end, and at the last meeting of the

General Medical Council examiners in surgery were appointed to assist the Hall in conducting their own examinations. The Apothecaries have over 500 men on the *Register*, and it is probable that this number will be largely increased under the new *régime* in a few years. At one time the Hall possessed one of the best teaching schools in Dublin, but this was sold some years ago to the Catholic University. The maintenance of chemistry, pharmacy, and the allied sciences in this country during the present reign has been chiefly the work of eminent apothecaries.—I am, etc.,

CHARLES R. C. TICHBORNE,
Dublin, June 21st. Representative General Medical Council, A.H.I.

ELASTIC TRABECULÆ IN THE SPUTUM.

SIR,—While congratulating you and your contributors on the excellent history of medicine in the Victorian era which fills the BRITISH MEDICAL JOURNAL of June 19th, a feeling of piety towards my late teacher, Professor Traube, of Berlin, impels me to draw attention to an error which occurs in your remarks on "the respiratory system" (p. 1524). It is there stated that "a practical point in diagnosis was the discovery by Andrew Clark in 1860 that the elastic trabeculæ of the air vesicles could be found in the sputum."

This point in diagnosis was fully established and daily demonstrated by the late Professor Traube as far back as 1853, when I attended his clinic on diseases of the heart and lungs at the Charité Hospital at Berlin. Traube had for some time been assistant to the celebrated Professor Schönlein, who was then Director of the first medical clinic at the Charité, and had shown such extraordinary diagnostic skill and talent for research that, when he was still quite young and only *Privat-docent*, a large ward was assigned to him at the hospital, to which only patients suffering from diseases of the chest were admitted. He there carried on his splendid researches On Crises and Critical Days (1852), On the Connection between Cardiac and Renal Diseases (1856), and a host of other analogous subjects, none of which he touched without throwing light upon them. His observations on the appearance of the elastic trabeculæ of the air vesicles in the sputum may be found in his collected works, *Gesammelte Beiträge zur Pathologie und Physiologie*, Berlin, 1871-78.—I am, etc.,

Queen Anne Street, W., June 20th. JULIUS ALTHAUS, M.D.

THE PATHOLOGY OF GENU VALGUM.

SIR,—With reference to the note upon this subject in the BRITISH MEDICAL JOURNAL for May 29th, I believe that Mr. Charles Morton will find, upon further observation with *x* rays, that elongation of the internal condyle of the femur is a very rare condition in genu valgum. I have examined some hundreds of cases of knock-knee, chiefly at the City Orthopædic Hospital, and only remember to have found this condition present in a few isolated cases. In 1882 I published[1] some remarks upon this subject, giving illustrations to show the usual condition of the bones in this deformity. After describing my reasons for considering that the irregularity in the shape of the bones is chiefly in the tibia, I referred to the opinion held by many surgeons that it is the femur which is chiefly or entirely involved, while the tibia remains normal in shape, an opinion based upon the fact that the deformity disappears when the legs are flexed. These observers have thought that this disappearance of the deformity is the result of the removal of the articular surface of the tibia away from that of the femur, and away from the influence of the downward projection of the internal condyle.

Gerard, assuming that the deformity depends upon this elongation of the internal condyle, thought that its disappearance in flexion was due to the absence of prominence at the posterior part of the condyle, but Mikulicz disproved this idea, and showed that the result was due chiefly or entirely to rotation of the femur at the hip-joint. If we examine a case of genu valgum carefully, the patient being seated on a chair with the legs fully extended, the thighs being kept evenly placed as regards the body (that is, not one abducted and the other adducted), we shall be able to estimate the amount of deformity; then, upon flexing the legs, the deformity disappears, and the surfaces of the condyles of the femora will be found level—that is, normal. Further proof that the deformity is more in the tibia than in the femur is afforded by specimens in museums.

This subject has an important bearing upon osteotomy in genu valgum, for when the facts are recognised it will be understood why the result of operation on the femur leaves a very unsatisfactory joint, the natural level articular surfaces being converted into oblique joints, sloping from without inwards and upwards. In the majority of patients under 10 years of age, and in some much above that age, the joints may be made to assume their natural shape by carefully applied pressure alone, and when we are able to cure cases by such means the result of treatment is a restoration of the joints to their natural form, instead of a straightening of the legs with the production of oblique and defective joints as happens after osteotomy.

Treatment by means of splints is almost invariably followed by satisfactory results. The patients are not laid up by the treatment, the necessary attention of the surgeon is not very frequent, the procedure is absolutely safe, and the result is much more perfect than after osteotomy. Osteotomy should be reserved for those rare cases in which the consolidation of the bones precludes the possibility of altering their shape by pressure.

There are many points of detail which are necessary to insure the effectiveness of splints, and these I have described in the work above referred to, but two of them I will mention here. One is that the knees must be kept absolutely straight during the treatment, and the other is that the effect must be kept up by night as well as by day. Further, if attention be paid by the surgeon to the exact arrangement and adjustment of the apparatus, the patient should not suffer any serious discomfort.—I am, etc.,

Queen Anne Street, W., June 11th. NOBLE SMITH.

SIR,—I am much interested in the fact that Mr. Muirhead Little has observed that in some cases of genu valgum the deformity is due to curvature in the shafts of the tibia and fibula, and not to changes in the lower end of the femur. When I sent the memorandum to the BRITISH MEDICAL JOURNAL I had not had time to make an exhaustive search through surgical literature to see if this view of the pathology of genu valgum had been given before—nor would such a search repay the trouble; but what I wished to call attention to was the fact that the pathology of genu valgum, as revealed by the skiagraphs in my cases, is not the pathology taught in modern textbooks of surgery, and I am anxious to know if what I found is the rule or the exception. Either a rachitic curve in the lower end of the femur, with secondary elongation of the internal condyle, or a primary change in the lower end of the diaphysis causing projection downwards of the condyle, or an elongation of the inner part of the head of the tibia, are described by Mr. Clutton in Treves's *System of Surgery*, in Mr. Walsham's *Textbook of Surgery*, in Mr. Mansell Moullin's *Textbook of Surgery*, and in *An American Textbook of Surgery*, edited by Keen and White, and no mention is made of any curvature in the shafts of the leg bones. In Erichsen's *Surgery* the deformity is said to be due to a projection downwards of the internal condyle, but the deformity is stated to be increased in some cases by a curvature in the upper end of the tibia, and Mr. Tubby, in his book on *Orthopædic Surgery*, although he evidently considers the important changes to be those in the lower end of the femur, does mention the presence of a curvature in the upper part of the tibia. In my two cases, not only were such curvatures very marked, but they were the only osseous deformities.

I am not able to refer to the monograph which Mr. Little mentions, but on referring to the article by W. J. Little in Holmes's *System*, I find no evidence in the picture of any curvature of the tibia or fibula such as I discovered in my skiagraphs, but rather an appearance of marked curvature in the femur, with outward rotation of the legs.

Mr. Muirhead Little says he has more than once treated cases in which there has been curvature in the tibia and fibula, by osteotomy of these bones. When I observed the curvatures in these without any deformity of the lower end of the femur, I thought perhaps osteotomy of the bones actually at fault might be better treatment than division of the normal femur, but the result from Macewen's osteotomy of the femur is so good (and has been in these two cases in

[1] *The Surgery of Deformities*, Smith, Elder and Co.

which deformity has been confined to the leg bones) that I am inclined to continue this method of operating in all cases.—I am, etc.,

Bristol, June 12th. CHARLES A. MORTON.

DRY URINALS.

SIR,—In the BRITISH MEDICAL JOURNAL of June 26th I notice that the intention of using sawdust or peat urinals during Jubilee week was abandoned through the fear of causing a nuisance by the removal of the saturated absorbent. I think my friend Dr. Allan, the medical officer of health for the Strand, did wisely not to try an experiment during a time of exceptional pressure; but, nevertheless, I hope he will try the experiment, as I feel confident that the result will be satisfactory, and that no nuisance will be caused.

A sawdust or peat urinal must be drained, but the filtrate which runs to the sewer will be antiseptic and not putrescible, while the sawdust will remain practically sweet for surprisingly long periods of time. I cannot say how long.

In the engineer's yard at Twickenham (L. and S.W.R.) a sawdust urinal has been in use for the last two years, in reference to which and the "dry catch" closets, Mr. Edwards, the engineer in charge, wrote to me last month that the arrangements continue to give "the most perfect satisfaction."

The top layer of the sawdust should be removed at times and a fresh layer put. The saturated sawdust is a first-rate "top-dressing" for grass lands.—I am, etc.,

Wimpole Street, W., June 26th. G. V. POORE.

HERNIA OF THE BLADDER.

SIR,—In the EPITOME of June 5th, reference is made to Dr. Gibson's paper on hernia of the bladder, in which that gentleman properly lays stress on the difficulty of recognising the bladder when it forms a portion of a hernial protusion. Hernia vesicæ urinariæ engaged the attention of many of the older surgeons—Bartholin, Sala, Platerus, Ruysch, Petit, Méry, and others, including Wiseman. But, if we exclude the celebrated forty-second letter of Morgagni, we must look to Pott's great monograph for an account of the surgery of the lesion. I refer to Pott's work, for he mentions a diagnostic sign which is not mentioned in Bourbon's paper (1892) telling of eighteen cases of hernia of the urinary bladder, and it does not appear to have attracted Dr. Gibson's notice. The case is worth retelling, and I give it in the author's own words:—

"A poor fellow, who worked with a farmer at Islington, came to St. Bartholomew's with a large, troublesome swelling in his scrotum. The tumour was large, tense, of a pyriform figure, and probably contained fluid, gave no pain but from its weight when full, and had every mark of a hydrocele, except that the testicle was perfectly distinguishable at its bottom.

"While I was hesitating concerning the circumstance, the man said, 'Sir, I can get rid of it all by pissing, but it fills again in a few hours, especially if I drink.' Upon my seeming to disbelieve what he said, he took up his scrotum, and squeezing it together with some violence, discharged the whole by the urethra."

The use of the catheter as a means of diagnosis has been recommended as long ago as 1363 by Guy de Chaulliac, and prior to that by Albucasis in the twelfth century; and a few years ago Mr. E. S. O'Grady, of this city, demonstrated its value in a case of inguinal hernia of the urinary bladder in a boy.

There are subjects, however, in whom the diagnosis would be attended with great difficulty. I refer to cases of abnormal condition of the bladder, particularly congenital and acquired plurality of the viscus. The cases of Molinetti, Fontanus, and Blasius are too well known to necessitate retelling. Somewhat more puzzling are cases of pouched dilatation of the ureters such as Phillips described (1836). In this connection may be mentioned the case of Corterus where a large hydatid was found attached to the bladder.

Dr. Gibson appears to think that the accidental opening of the bladder would be fruitful in trouble and dangerous. I am inclined to think he exaggerates the danger: all the cases I can find reported prior to the beginning of the present century were treated by opening the bladder, and in not a single instance did any bad effect result.—I am, etc.,

Dublin, June 7th. GEORGE FOY.

EXTIRPATION OF THE OVARIES AS A CURE FOR CANCER.

SIR,—As I am responsible for laying before the profession the suggestion that certain cases of inoperable carcinoma of the female mamma might be benefited by the operation of removal of the tubes and ovaries, I must ask leave to reply to Mr. Roger Williams's letter in the BRITISH MEDICAL JOURNAL of June 12th.

In that communication he draws attention to a point that was dwelt upon three years ago by Professor Simpson, of Edinburgh, in a paper published in the *Edinburgh Hospital Reports*, namely, that Spencer Wells's statistics seemed to show that the cancer mortality was nearly five and a-half times greater for those whose ovaries had been removed than for those who had undergone no such operation. When I made my communication on the suggested treatment of inoperable cases of carcinoma of the mamma to the Edinburgh Medico-Chirurgical Society on May 20th of last year, this point that Mr. Roger Williams now asks attention to was alluded to in my paper, and was dwelt on in the subsequent discussion, for I was aware of the statement in Spencer Wells's work on *Ovarian Tumours*, and I had looked into the cases. As far as the records given of them would permit of any opinion being formed, I came to the conclusion that the removal of both ovaries had nothing to do as a cause with the apparent increased mortality, for in some cases the carcinoma had appeared within a few weeks of the operation, thus affording ground for the belief that in all probability the diseased ovaries that had been removed were themselves the seat of malignant changes, and that the subsequent carcinomatous growths were merely secondary manifestations of a primary ovarian malignant condition. In fact, if reference is made to my paper as published in the *Lancet* of last year, it will be found that I quoted Spencer Wells's statement as supporting a theory of the etiology of cancer—that, I admit, is as yet merely hypothetical, but which points to the disease having an ovarian or testicular origin.

What I regard as the important part of my communication last year to the Edinburgh Medico-Chirurgical Society is that which shows that there is reason to believe that the ovaries and testicles have control over local proliferations of epithelium, and that in cases of carcinoma in young people where the tubes and ovaries had been removed there were local changes seen in the carcinomatous growths that seemed to indicate that the procedure affected them, their cells undergoing very markedly that fatty degeneration to which cancer cells have a natural tendency, by which they are rendered inert. Two such cases were shown to the Society, one of which is now well and free from any traces of the disease, two years after the operation. In that case masses of malignant disease underwent fatty degeneration and entirely disappeared.

Whether the explanation I offer of this decidedly unusual case is a correct one is a point that I admit is open to discussion, and I hope to publish ere long some further work that I have done on the same lines, and that may help us to come to a decision in the matter, for there can be no doubt that the correct explanation of such a case would materially assist in obtaining more exact views as to the etiology of cancer. Until this is done we cannot establish our treatment on a really satisfactory basis.

My reasons for replying to Mr. Roger Williams's letter are that I consider the facts he has brought forward are capable of another explanation than the one he would have us accept, and, in the next place, to say that my original paper did not put forward the removal of tubes and ovaries as a cure for cancer, as the heading of his letter would imply, but as applicable in inoperable cases of carcinoma of the female mamma.—I am, etc.,

Glasgow, June 12th. GEORGE THOMAS BEATSON.

MERCER'S HOSPITAL, DUBLIN.

SIR,—I have read the letter signed "Hospital," in the BRITISH MEDICAL JOURNAL of June 5th. Like the writer, I deprecate the action of any member of the profession seeking or accepting any position rendered vacant by the arbitrary dismissal of the honorary staff of the hospital. This question is complicated to many minds. Some members of our profession

consider that the death of Mr. Nixon, one of the surgeons, and the resignation of Dr. Mason, one of the physicians, make two genuine vacancies, for either of which they are at liberty to become candidates without violating any code of medical ethics, or tarnishing gentlemanly honour.

This is a matter which ought to be made quite clear. When we are aware that Mr. Nixon, in common with the other members of the staff, was dismissed fully a week before his death, and that, at a meeting of the Board of Governors, Dr. Mason's resignation was rejected (notwithstanding that one of the governors present proposed accepting it), for the reason that an officer already dismissed from his position had not that position to resign; when we remember those circumstances, it will be seen that all the vacancies have been caused by dismissal of the staff, and that Mr. Nixon's death and Dr. Mason's resignation have not altered in the least the *status quo ante*, Dr. Mason and Mr. Nixon, after their dismissal, had no more right (according to the governors) to the positions which they had held for so many years than any other medical gentleman, even although he may never have stood at the bedside of a patient within the walls of the hospital.

I should much like to have the opinions of members of the profession on this matter. It is a question for the profession to decide. Have the honorary medical staff of a hospital any rights as such? Surely, yes. Can the members of the honorary staff be dismissed without notice and without cause assigned? I believe not. If they can be they are in a more dependent position than the hall porter or the wardsman. In the interests of the public and the profession those questions should be answered.

I feel warmly on this subject, for as a student I attended chiefly this hospital, and I always looked forward to the great honour of becoming a member of its staff; but I believe that anyone accepting that position under the present circumstances would be incapable of raising the tone of the institution, would forfeit the respect of his medical brethren, and be devoid or reckless of that *esprit de corps* which appertains to the instincts of a gentleman.—I am, etc.,

June 14th. A WOULD-BE CANDIDATE.

THE REMUNERATION OF THE GENERAL PRACTITIONER.

SIR,—In this Diamond Jubilee of rejoicing, when all sorts and conditions of men are comparing the differences, in the prosperity of all classes of Her Majesty's subjects, between her accession and now, very much to the advantage of the present time, we may very naturally ask ourselves, how has it fared with the general practitioner?

The condition of the working man—and I am mostly concerned with him as I live in his neighbourhood—is vastly improved as to hours of labour, wages, and cheapness of food; he has been relieved of taxation and the education of his children, facts which speak for themselves. Have the fees of the general practitioner risen in proportion, or his position socially improved? Can he make a decent living viewed in the light of the material advances in other classes of the population? I do not think so.

Medical education, like everything else, has marched with the times, and we have greater masters of the physician's and surgeon's art among us than ever before; and general practitioners are turned out better equipped to fight the demon disease; but alas, his fight for existence is ever becoming keener; fresh men start in his neighbourhood and undersell him, even undersell the chemist in the same street in order to gain a livelihood. The struggle is rendered even keener by the action of public dispensaries and hospitals, which give their services to the poor under the guise of charity, and do not blush to compete with the general practitioner.

I do not consider a hospital is a charity unless it gives its services to the poor without payment or reward, but general practitioners have not got a rich treasurer behind them on whom they can draw when their funds are exhausted, but have to plod on and pay rent and taxes, or, if not, become bankrupt; but the hospital may go on, get deeper into debt, and flourish to the disadvantage of the general practitioner.

In my neighbourhood we have the Metropolitan Hospital, Kingsland Road, carried on as a huge provident dispensary greatly to the detriment of the men not connected therewith, and yet there is loud complaint against provident dispensaries and medical insurance societies carried on by the lay public for their own profit, and we have the leaders of the profession lending their services and patronage to hospitals doing little better work. A few weeks ago I read a short report of the London Truss Society in which it was said that trusses were given to those unable to pay for them, but those who could pay a little towards defraying the cost of the instrument were asked to do so. In less than a week after reading this a patient of mine came to my surgery, for whose child I had prescribed a truss thirteen months previously. The first she paid for at an instrument maker's, but in eight months she had three more from the Truss Society, and received them gratis, although well able to pay for them. It shows a want of discrimination on the part of subscribers in giving letters to people of this class. The Truss Society will no doubt get a grant from the Hospital Sunday Fund, notwithstanding the lax manner its affairs are managed.

In my opinion it is not those deserving of charity that get it, but the lower middle classes, and in some cases the well-to-do, who are endeavouring to keep up an appearance beyond their station and take this method of getting it out of the charitable public and the general practitioner struggling in a poor neighboorhood for a bare existence.

Is it not possible in this year of Jubilee, when so much is being done for the masses, for all general practitioners to band together and strike a blow for liberty? Are we to go on serving the general public for lower fees whose wages increase and comforts also, whilst ours decrease and sink almost to starvation wages, at any rate to a very inadequate rate of remuneration for services rendered?

Surely there is some spirit still left in the downtrodden general practitioner? While the working man may combine and the lawyer's fee may be prescribed by the statute, the general practitioner goes on sinking lower and lower for want of proper organisation and combination. For what reason? Solely on account of tradition. Some think it *infra dig.* for a profession such as ours to combine for such purposes as I have indicated; but unless we do this for ourselves we will sink yet lower and lower not only in material respects, but in the estimation of the general public and all those whose estimation is worth having.—I am, etc.,

June 13th. A. G. P.

MEDICO-LEGAL.

UNQUALIFIED ASSISTANTS.

THE General Medical Council will certainly perform a public duty if they amend the memorandum officially issued by them concerning the employment by medical men of unqualified assistants. The memorandum in question is issued to every newly registered practitioner, and is also published in the medical journals at least twice a year, but its somewhat vague and uncertain directions and warnings are evidently not sufficiently strong. That it requires strengthening is shown by the numerous instances which crop up of the employment of unqualified dispensers as medical assistants and without due supervision. If the General Medical Council would only speak out firmly and act in every penal case brought before them for "covering," the practice of employing unqualified assistants would soon cease. An inquest was held recently by Mr. Luxmore Drew on the body of a child aged 5 years, who was attended by an unqualified dispenser of a Mr. Barratt at a branch surgery. From Mr. Barratt's own evidence, as reported in the *Kensington News*, it would appear that Blott, the dispenser, was left in charge of the surgery, and saw and prescribed for cases in his absence. Mr. Drew in his summing up observed that a person without any pretence to medical knowledge was totally unfit to undertake the treatment of cases of any sort. The jury added a rider to their verdict to the effect that they thought it wrong of Dr. Barratt to employ an unqualified assistant in his business.

PRESCRIBING CHEMISTS AND UNCERTIFIED DEATHS.

IT certainly is a blot upon the civilisation of the present century that the lives of so large a proportion of the community should be at the mercy of uneducated and unlicensed practitioners. An amendment both of the Medical Acts and of the Registration of Deaths Act is imperatively required for the protection of the living, and the assurance that the cause of death has been correctly and reliably certified. It is a scandal that persons should be buried "uncertified," or that a registrar can accept a certificate from persons unregistered and unqualified. Many registrars do accept these so-called certificates, but it is satisfactory to note that in one case reported from Redruth the certificate was refused by the registrar, and the fact of the death referred for inquiry to the coroner. From the report of the inquest which followed, published in the *Western Morning News*, it appeared that the deceased woman became seriously ill, that she was attended by a local chemist named Rowe, and died on the following day. Mr. Rowe gave a certificate in the following terms: "Redruth, June 2nd, 1897.—This is to certify that Mary Martin, aged 72

last birthday, died on the 2nd instant from paralysis of the brain (third attack); duration of disease six months.—Signed, S. T. ROWE, Ph.D. and C., Registered Surgeon Dentist and Chemist."

This certificate was rightly refused by the registrar. In giving his evidence Mr. Rowe stated that he had given certificates for fifty years, and that such certificates had never been questioned until recently, and that in consequence of the action of the registrar "he had arranged to get a properly qualified man as his assistant." This intention on the part of Mr. Rowe, if successful, would, of course, render such qualified man liable to be charged before the General Medical Council of acting as "cover" to a prescribing chemist. The coroner, in summing up, wisely pointed out the danger of unqualified persons practising medicine. It appeared that at another inquest it was stated that Mr. Rowe treated all kinds of cases, infectious and otherwise, but that no infectious cases were reported by him to the medical officer of health. The coroner referred to this, and said that "Mr. Rowe had been a source of very great danger to the public, and had escaped more by good luck than good management; but if he continued in these malpractices the strong arm of the law would get him." The attention of the Apothecaries Society might well be turned to this case. The registrar is to be congratulated on the lines he took in this matter. Every case of uncertified death should be reported as a natural sequence to the coroner. Where burials have taken place no certificate from a registered practitioner having been issued, coroners should have power, if they do not already possess such, to order exhumation and to hold inquests. A second case of attendance by an unqualified person upon a man who was taken seriously ill, and died later, is reported in the *Irish Daily Independent*. Here the prescribing was accomplished by the assistant of a chemist, and at the inquest the jury added to their verdict a rider "that the custom on the part of pharmaceutical chemists of prescribing medicines for persons, as proved in evidence in this case, is illegal, and fraught with danger to the public, and ought to be discontinued. With this opinion we are in complete accord, and trust that due weight will be attached to it.

UNQUALIFIED PRACTICE.

AN inquest was held at Shevington, near Wigan, by the Coroner, Mr. Parker, which affords a further illustration of the necessity for amendment of Medical Acts. The inquiry, according to the report before us, was into the cause of death of a grocer named Fairhurst, who died suddenly on June 12th. The history, as detailed at the inquest, was as follows. Mr. Fairhurst was struck on the knee by a cricket ball about two years back, and some time afterwards the knee began to swell. An abscess formed, and this was duly opened by a local medical man. Later on the swelling again appeared, and this time the patient, instead of returning to his former medical attendant, consulted a man named Rawlins, of Reddish, Manchester. He was given a lotion by this person, but after applying it the knee became rapidly worse, and he sent for a duly qualified practitioner—too late, however, for death followed in a short time. The lotion was ordered to be rubbed in, and was acknowledged by Rawlins in his evidence to be an irritant. The medical evidence was that the knee had been intensely irritated by the lotion, and that inflammatory symptoms had been set up, that sepsis had taken place, and that Rawlins's treatment was improper and unskilful, and showed great negligence.

Rawlins gave evidence that he had used the lotion as an irritant purposely, and that his "line of treatment was to produce suppuration." That he had treated over a thousand cases during his twenty-four years' practice.

The jury returned a verdict that the "cause of death was septic poisoning from suppurating 'housemaid's knee,' and that death was the result of misadventure."

Misadventure! The value of human life seems to have depreciated during the present century, when a verdict of misadventure covers the death of a man whose life, so far as can be judged from the evidence, might easily have been saved under proper surgical treatment. Verdicts like these do nothing but evil, and make it questionable whether, under similar conditions, the coroner's court is the best possible place for such inquiries.

THE SOCIETY OF APOTHECARIES AND ITS LICENTIATES.

DELTOID asks the following questions: 1. Is an L.S.A. entitled to put Dr. on his doorplate? 2. Does the Society of Apothecaries allow its Licentiates to canvass for membership to form a club? 3. Is it allowable for a professional man to have his surgery and to carry on his practice on premises where a Government appointment is held, such as a post and telegraph office?

*** 1. In reply to the first question, we are advised that no legal proceedings can be taken to prevent an L.S.A. putting "Dr." on his doorplate.

2. The Society of Apothecaries have not yet thought fit to take any action to dissuade their Licentiates from canvassing for membership to form a club.

3. We are not aware that there is any legal objection to a medical man carrying on practice at such a place.

PUBLIC APPOINTMENTS.

B. R. inquires whether it is legal for a medical man to be elected a guardian whose partner holds an appointment in the said Board of Guardians. Also whether a medical man, being on the Corporation, can claim fees for notifying an infectious disease from the said Corporation.

*** In reply to our correspondent's first question, it would appear that the simple fact of a candidate for election as guardian being the partner of a paid officer would not disqualify; but perhaps this would depend upon such partner not receiving any part of the emoluments. In reply to the second question, we think that a medical man notifying infectious disease is entitled to the fee prescribed by the Act, notwithstanding that such medical man is on the Corporation.

FEES OF MEDICAL WITNESSES.

T. M. T. writes that he was recently subpœnaed as a witness in the Probate Court, and at the conclusion of the action received from the solicitor a fee of £2 2s. per day and travelling expenses (first class) from a country town. In the *Medical Directory* he finds that the Probate Court fees are put at £3 3s. per day for distances over five miles, whereas in the Superior Courts it is £2 2s. to £3 3s. Our correspondent therefore inquires whether he is entitled to £3 3s. per day as there stated, and if so what course he should adopt in case his claim is disputed. He has given a receipt on account for the amount already paid.

*** We believe that the scale of fees for witnesses in the Probate Division of the High Court is now substantially the same as in the other divisions of the High Court. The fees of a professional witness who comes from a distance are stated to be from two to three guineas, but it is usual to have some understanding on this point with the solicitor for the subpœnaeing party before the action is called on. We would, however, recommend our correspondent to apply to the solicitor who subpœnaed him for an additional guinea for each day's attendance at the Court, and such application will probably result in payment being made. It is a little doubtful whether our correspondent could now insist on payment of a fee at the maximum rate allowed.

A QUESTION OF DIAGNOSIS.

M.B. submits the following case: A child attending school was prevented from going owing to his medical attendant certifying that his sister had scarlet fever. Two days after notification the medical officer of health came and said it was not, and that the children could attend school. During the absence from school, however, the annual examination had taken place, and the child who stayed at home had to remain in the same class as last year. Our correspondent inquires whether the parent can claim damages against his medical attendant for certifying that it was scarlet fever. Our correspondent adds that the boy could go to work after this examination if he were present, but now has to be kept by his parents for one year more.

*** In reply to the above question we assume that the notification was *bonâ fide*, given under the provisions of the Infectious Disease (Notification) Act, and under these circumstances we do not think that any action for damages would be successful. It is also doubtful whether under any circumstances the damage would not be deemed of too remote a character to support an action.

NAVAL AND MILITARY MEDICAL SERVICES.

CHANGES OF STATION.

THE following changes of Station amongst the officers of the Army Medical Staff have been officially notified to have taken place during the past month:

		From.	To.
Brig.-Surg.-Lt.-Col.	M. M. Gallwey, M.D.	Bombay ...	Portsmouth.
,, ,,	C. W. W. Keys, M.D.	Woolwich	Belfast.
,, ,,	J. Martin	Ballincollig	Aldershot.
Surg.-Lieut.-Col.	E. A. Mapleton, M.B.	Bengal ...	Shorncliffe.
,,	I. B. Emerson ...	Colchester	Norwich.
Surg.-Major	W. T. Johnston, M.D. ...	Devonport	Okehampton.
,,	R. D. Hodson...	Nova Scotia	Thames Distr.
,,	J. F. Brodie, M.D.	Bombay ...	Ballincollig.
,,	H. L. E. White	Curragh ...	Dover.
,,	H. J. Barnes	Gosport ...	Golden H. Fort
,,	S. C. B. Robinson	York ...	Leeds.
,,	H. K. Allport, M.D... ...	Templemore	Kilworth.
,,	S. J. Rennie	Chester ...	Ross.
,,	J. Carmichael...	Cork ...	Glenbeigh.
,,	R. P. Bond	Lichfield...	Altcar.
,,	R. H. Clement	Sheerness	Nova Scotia.
,,	S. Powell, M.B.	Gren. Guards	Aldershot.
Surg.-Capt.	H. Cocks	Weedon ...	Colchester.
,,	F. W. G. Hall...	W. Africa...	Bermuda.
,,	H. W. Austin	Fort Tregantle...	Devonport.
,,	E. S. Marder	Devonport	Orch. Portman.
,,	E. Corcoran	Colchester	Sierra Leone.
,,	B. J. Inniss	Cork ...	Tipperary.
,,	H. S. Peeke	Portsmouth	Winchester.
,,	S. G. Moores	Bengal ...	Scots Guards.
,,	L. Way	Madras ...	Dover.
,,	J. T. Clapham	Colchester	Weedon.
,,	C. E. P. Fowler	York ...	Alnwick.
Surg.-Lieut.	P. J. Probyn	Chatham...	Sheerness.
,,	W. A. Ward	Preston ...	Brackenber M.
,,	E. F. Birrell, M.B.	Dover ...	Worthing.
,,	M. Swabey	Chester ...	Preston.
,,	J. H. Power	,, ...	Lichfield.
,,	T. H. M. Clarke, M.B. ...	Cork ...	Haulbowline.

Brigade-Surgeon-Lieutenant-Colonel W. H. Steele, M.D., retired pay, has assumed medical charge of the troops at Devonport; and Surgeon-Lieutenant-Colonel E. F. Barrow, retired pay, has been posted to Woolwich.

ARMY MEDICAL STAFF.

BRIGADE-SURGEON-LIEUTENANT-COLONEL J. H. MOORE is appointed to officiate on the administrative medical staff of the Indian Army, with the temporary rank of Surgeon-Colonel, from May 22nd.

Surgeon-Lieutenant-Colonel WILLIAM CAMPBELL, M.B., Grenadier Guards, retires on retired pay, June 26th. His commissions were thus

dated: Surgeon, September 30th, 1874; Surgeon-Major, November 5th, 1887; and Surgeon-Lieutenant-Colonel, September 30th, 1894. He joined the Scots Guards in 1881, and was transferred to the Grenadier Guards in 1887. He served in the Egyptian war of 1882 with the 1st Battalion Scots Guards, and was present at the battle of Tel-el-Kebir (medal with clasp and Khedive's bronze star).

Surgeon-Lieutenant J. A. MURISON, M.B., from half pay, is appointed Surgeon-Lieutenant, with precedence next below Surgeon-Lieutenant F. E. Gunter, in succession to Surgeon-Captain H. L. G. Chevers, retired, June 10th. Surgeon-Lieutenant Murison was placed on half pay in December last on account of ill health.

Surgeon-General H. T. READE., C.B., V.C., Honorary Surgeon to the Queen, died on June 23rd at Sunnylands Park Gardens, Bath, at the age of 68. He was mentioned in despatches and recommended for promotion for "unwearied exertion and gallant conduct on the field" during the siege and assault of Delhi, and received the medal with clasp and the Victoria Cross. He became Surgeon-Major in 1871, Brigade-Major in 1879, Deputy-Surgeon-General in 1880, and Surgeon-General in 1886. From 1882 to 1886 he was Principal Medical Officer of the Eastern District, and in 1886-87 of the Southern District, retiring in December, 1887.

INDIAN MEDICAL SERVICE.

SURGEON-LIEUTENANT-COLONEL A. E. R. STEPHENS, M.B., Bengal Establishment, is permitted to retire from the service, from May 24th. He was appointed Assistant-Surgeon, March 31st, 1876, and became Surgeon-Lieutenant-Colonel twenty years later. He was in the Afghan war in 1879-80, including the action at Ahmed Khel (medal with clasp), and with the Hazara expedition in 1888 (medal with clasp).

Surgeon-Captain F. H. BURTON-BROWN, M.B., Bengal Establishment, 10th Bengal Infantry, is also permitted to resign the service from June 2nd. He was appointed to the department, July 28th, 1891.

Surgeon-Major WILLIAM FREDERICK DALZEL, late Bengal Army, died at 40, Kensington Park Gardens, on June 19th, at the age of 74. Among other services, he took part in 1857 in the action at Agra against the mutineers, in the relief of Lucknow and Cawnpore, and in the subsequent operations under General Grant at Serai Ghaut, in December of the same year. He also served at Shumshabad, near Futtehghur, with the force under the late Brigadier Adrian Hope in January, 1858, and was present at the siege and capture of Lucknow by the Commander-in-Chief in March, 1858, and at the capture of Calpee, May 23rd, 1858. He was, too, in medical charge of Meade's Horse and of the movable column commanded by Major Meade when Tantia Topee was captured and brought prisoner into Seapree and hanged on April 18th, 1859. In 1865 and 1866 he was in medical charge of the 6th Regiment Native Infantry with the Bhootan Field Force, commanded by Major-General Fraser Tytler.

THE VOLUNTEERS.

SURGEON-LIEUTENANT J. H. GOUGH, 2nd (Prince of Wales's) Volunteer Battalion the Devonshire Regiment, has resigned his commission, June 16th.

Mr. JAMES ABERNETHY, M.B., 3rd Volunteer Battalion the South Wales Borderers, is appointed Surgeon-Lieutenant, June 16th.

Surgeon-Lieutenant J. HAMEL, M.B., 1st (Hallamshire) Volunteer Battalion the York and Lancaster Regiment, has resigned his commission, June 16th.

Surgeon-Lieutenant R. E. BEVERIDGE, M.B., 3rd (Sunderland) Volunteer Battalion the Durham Light Infantry, is promoted to be Surgeon-Captain, June 16th.

The undermentioned officers have resigned their commissions from June 26th: Surgeon-Captain A. MORRIS, 1st Essex Artillery (Eastern Division Royal Artillery); Surgeon-Lieutenant H. W. JOYCE, 2nd (the Weald of Kent) Volunteer Battalion the Buffs (East Kent Regiment); Surgeon-Major W. G. SCOTT, M.B., 5th (the Hay Tor) Volunteer Battalion the Devonshire Regiment; Surgeon-Lieutenant A. J. ANDERSON, M.B., 1st (Pembrokeshire) Volunteer Battalion the Welsh Regiment; Surgeon-Lieutenant W. LITTLE, M.D., 1st Dumbartonshire Rifles.

Mr. DAVID ARTHUR DAVIES, M.B., is appointed Surgeon-Lieutenant in the 1st Glamorganshire Artillery, June 26th.

Surgeon-Major D. B. BALDING 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment, is promoted to be Surgeon-Lieutenant-Colonel, June 26th.

Brigade-Surgeon-Lieutenant-Colonel J. MITCHELL, 2nd Volunteer Battalion the Durham Light Infantry has resigned his commission, June 26th; he retains his rank and uniform, vacating at the same time his appointment in the Tyne and Tees Volunteer Infantry Brigade.

ARMY MEDICAL REFORM.

WE have received a very interesting and able letter on this subject from a "Captain on the Reserve of Officers," written in New York, in which the following observations are made. His travels in all parts of the world, and contact with all branches of the service, enable him to say that the claims of medical officers for due army status and title are not only just, but their refusal a shame. The ignorance of the average civilian in such matters is astounding, and until he is fully informed, and the misrepresentation put forth by interested parties exposed, there is no chance of reforms in any medical department. It is not merely by writing to papers, but by public speech and by enlightening their patients that medical men can reach the ear of the nation. Most people have no idea what are the duties of surgeons in the services; they are astounded when they hear of a "doctor" getting the V.C., and think it must be for service of a much less dangerous kind than that falls to a "combatant" officer, a gracious concession, in fact, to a medical man.

Again, when a surgeon is killed or wounded in action, the impression is, what took him into danger? he would not have come to grief had he been in his proper place! Even popular authors foster the idea of the safety of a surgeon; even Thomas Hardy in *The Trumpet Major* makes Festus Denniman say, on hearing that the French have landed, "I like being in the Yeomanry cavalry, but I wish I had not been in the ranks; I wish I had been only the surgeon, to stay in the rear while the bodies are brought back to him." This writer is generally accepted as being a realistic writer of facts. Even a lady seeing the work of the Medical Staff Corps at the Military Tournament exclaimed, "Why, the doctor seems to have as much chance of being killed as anyone else."

It rests entirely with the medical profession to enlighten the public on such matters, and to show that while there are no objections to give military titles to pure non-combatants like Paymasters, Commissioners, and Quartermasters, miserable jealousy, a want of generosity, and a proper sense of justice withhold them from medical officers.

THE ARMY MEDICAL QUESTION.

STAND FAST, writing as an old medical officer, says: The social and official slights of which army medical officers complain are not of recent creation, but a legacy from the past; they occurred often enough in the old regimental days; they were not the product of unification. Young surgeons who enter under present conditions, being duly warned, have only themselves to blame if they find army medical life intolerable.

TRAVELLING ALLOWANCE IN INDIA.

THE Government of India have decided that retired medical officers taken on for employment on plague and famine duty are to be allowed their salary and allowances at the time of retirement *plus* travelling charges from their homes to the stations to which they are posted, and also for the return journey.

MESS ALLOWANCE.

ONE of the few remaining Militia Medical Officers writes that he has heretofore always drawn the 4s. mess allowance now granted to army medical officers doing duty with militia units; but by Army Order of 1897, Paragraph 501, that allowance has been taken away from militia medical officers. Surely, he asks, it cannot be intended to place us in a worse financial position than before.

*** We should hope and believe that cannot be intended, and that there is a mistake somewhere.

ARMY MEDICAL RESERVES.

RETIRED writes: If there were no Army Medical Reserve there would soon be no real grievance in the Army Medical Department. It is here the War Office have the whip hand. There are 128 retired medical officers liable to recall, and 221 of the so-called Army Medical Reserve, who would be summoned for duty at home in emergency. This would free the 247 medical officers on full pay below the rank of brigade-surgeon for active service. The matter is one of supply and demand: but it does pass average comprehension why so many civil practitioners should join this reserve.

*** Many besides our correspondent are puzzled to understand what real or supposed advantage there can be to the busy and home-tied medical man in joining a military body which at any moment may lead him into untold professional difficulties and expense. That the War Office will exact its pound of flesh, in emergency, from those who voluntarily place themselves at its beck and call there can be no doubt.

INCREASE IN INDIAN PAY.

OVER TWENTY-FIVE YEARS' SERVICE writes from India, under date May 13th: Why has the increase of pay promised from April 1st not yet been issued? It is not, indeed, its great value that prompts the question, for the so-called concession is only a little dust-throwing in the eyes of much desired candidates. For instance, it is given out that the pay of a Brigade-Surgeon is increased from Rs.1,057 to Rs.1,150 per mensem, or by Rs.93; so it would if there were any Brigade-Surgeons under twenty-five years' service in the country, these officers all being over that service already draw Rs.1,093, so that the true increase is the munificent sum of Rs.57!

LEAVE TO MEDICAL OFFICERS.

DESPONDENS writes: You lately announced under the head of "Army Medical Reform" that civil medical practitioners would be employed for duty in districts under established strength, in order that medical officers might get leave. But you will not be surprised to learn that this equitable concession is already a dead letter, unless forced on Principal Medical Officers, with whom the granting of leave to junior officers practically rests.

SYPHILITIC INOCULATION ON MILITARY DUTY.

WE have received an account of an army medical officer who, in 1889, was inoculated with syphilis through the prick of a needle while operating for phimosis. In due course he suffered from secondary symptoms in a mild form, and after prolonged treatment appeared to have recovered; but in 1893, while serving in Aden, and suffering from malarial fever, the secondary symptoms reappeared, ending in syphilitic orchitis, which remained permanent, and was a bar to life insurance except at a very enhanced premium. He applied for compensation in accordance with Article 624 of the Pay Warrant relative to injuries sustained otherwise than in action. After a certain amount of official correspondence, he received a communication wherein it was stated "that it has been ruled that cases of syphilitic contamination.....do not come within the terms of Articles 624 and 625 of the Royal Warrant for Pay, etc."

*** In view of the terrible prevalence of syphilis in its most virulent form in our army in India, the above is a very important and, we might add, an ungenerous ruling, directed, on the face of it, against the medical department alone.

THE WAR OFFICE AND THE MEDICAL PROFESSION.

NOT MADE IN GERMANY writes: The military authorities are encouraged in their *non-possumus* attitude towards the medical profession and the

army medical question because they think they are safe in at least the United Kingdom, while civil practitioners can be got to accept contract rates for attendance on troops. The War Office has to consider the question of army medical reform in two aspects—the claims of medical officers, and the resistance of combatant officers. The latter complain that the doctor is not what he used to be in the old regimental days, and impress social inferiority on him by exclusion from certain clubs, etc. I would suggest as a remedy the following: (1) Formation of a Royal corps, in which a medical officer shall enjoy the military and social status accorded to officers of other branches of the service; but on entering the service let him be posted to a regiment for three years, at the end of which he can become a departmental officer, or leave the service if he finds it does not suit. (2) Let the boycott of the army continue until medical officers are accorded proper status and treatment. (3) Let medical officers in the auxiliary service refuse contract rates, and only work for the pay of their rank.

IGNORING REGULATIONS.

A ROYAL SURGEON writes from India: The order regulating the position of medical officers on mixed Boards is received with much satisfaction. But the question is, Will it be obeyed? It is sad to think that the Queen's Regulations may be deliberately set aside; yet such is the case. For instance, the position of principal medical officers as "staff officers" is unblushingly ignored in sanitary matters, and orders are signed by junior officers on the G.O.C. Staff in command; in fact, the medical department, whether civil or military, is gradually being effaced in sanitary matters. Then the position of the medical officers in "command" of the station hospitals is obscured and ignored whenever practicable. These hospitals are still visited by regimental officers on garrison duty—a survival of the regimental system. In short, the Queen may issue regulations, but will they be obeyed?

*** We should be glad to hear of instances where the new orders as to mixed Boards are ignored or set aside. Those who take upon themselves to disobey a plain order, either in letter or spirit, cannot object if they are taken to task.

THE ACTION AT KHUDAGANJ IN 1858.

A NON-COMBATANT writes: I would draw attention to Field Marshal Lord Roberts's very interesting *Forty-one Years in India*, and the graphic account of a cavalry engagement on the banks of the Kali Nadi, in which Surgeon Tyrrell Ross, on asking Sir Hope Grant where he would wish him to be in the pursuit across country, the latter replied, "I have learned you are a good rider, and can use your sword; ride on my left, and help to look after my third squadron." This Ross did as well as any man could.

*** Another instance in which, in stress of service, a non-combatant is suddenly called on to perform combatant duties.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

FIRST EXAMINATION FOR MEDICAL AND SURGICAL DEGREES.—The following candidates have satisfied the Examiners:

Part I.—Chemistry and Physics.—Birks, King's; Brailey, Down; Buckle, Gonv. and Cai.; Burroughes, Trin.; Cardew, Cla.; F. J. Child, B.A., Christ's; Cooper, Jes.; Crowfoot, Emm.; Crowther, Joh.; Cunnington, Non Coll.; Dally, Joh.; Day, Gonv. and Cai.; Day, Christ's; Dodd, Gonv. and Cai.; Donnell, Gonv. and Cai.; Elliott, Emm.; W. I. Evans, Joh.; Freshwater, Trin.; Goss, Jes.; C. H. Gregory, Emm.; Gubbins, Cla.; Guthrie, King's; P. Hardy, Trin. H.; Harnett, Joh.; Harrisson, Cla.; Heald, Non Coll.; Hepburn, Pemb.; W. H. Hills, Pemb.; Hocken, Cla.; Hudson, Cla.; Kidd, Trin.; Ledward, Trin.; Leech, Cla.; Lucas, Cla.; H. B. McCaskie, Gonv. and Cai.; C. G. Martin, Down; Mathias, Trin.; Nicholson, King's; Panton, Trin.; Pellier, B.A., Cla.; Pellow, Joh.; Pennington, B.A., Gonv. and Cai.; Pipkin, Emm.; Pope, Trin.; Rickett, King's; Riddle, Pet.; Robbins, Trin.; C. T. Y. Robson, M.A., Joh.; Rolfe, Cla.; Scott, Sid. Suss.; Sidgwick, Cla.; Simpson, King's; W. H. E. Stewart, Gonv. and Cai.; Strong, B.A., Trin.; H. C. Taylor, Trin.; Thurlow, Gonv. and Cai; Tuck, Emm; Wadson, Gonv. and Cai.; Ward, Cla.; Williams, B.A., Pemb.; Wollaston, B.A., King's; Young, Christ's; Young, Emm.

Part II. Elementary Biology.—H. Akroyd, Gonv. and Cai.; Armitage, Emm.; Bain, Trin.; Barton, Pemb.; Birks, King's; Brailey, Down.; Breakey, Jes.; Burroughes, Trin.; Cardew, Cla.; Clapham, Emm.; Cohen, Emm.; Cooper, Jes.; Cooper, Emm.; Courthauld, Trin.; W. R. Creighton, Emm.; W. L. Cripps, Trin.; Crowther, Joh.; Cunnington, Non Coll.; Davidson, Gonv. and Cai.; Day, Christ's; Dodd, Gonv. and Cai.; T. R. Elliott, Trin.; Elliott, Emm.; W. I. Evans, Joh.; Frere, Pemb.; Gardner, Gonv. and Cai.; Gardner-Medwin, Trin.; Goss, Jes.; Goulden, Non Coll.; Goyder, Joh.; C. H. Gregory, Emm.; Gubbins, Cla.; Guinness, Emm.; Guthrie, King's; Haldane, Jes.; Hardwich, Trin.; Hardwick-Smith, Joh.; Harnett, Joh.; Harrisson, Cla.; Harry, Jes.; A. G. Harvey, Joh.; Haynes, Down.; Hocken, Cla.; Holtzmann, Christ's; Iles, Gonv. and Cai.; E. G. Kellgren, Trin.; Kidd, Trin.; Kirk, King's; Ledward, Trin.; Leveaux, Joh.; H. B. McCaskie, Gonv. and Cai.; J. C. Matthews, Down; Morris, Gonv. and Cai.; R, C Mott, Trin.; Murphy, Joh.; Muspratt, Christ's; Nicholson, King's; Norman, Joh.; Paramore, Joh.; Parry, Gonv. and Cai.; Pellier, B.A., Cla.; Phelps, Trin.; G. L. Ranking, Pemb.; Rickett, King's; Robbins, Trin.; C. T. Y. Robson, M.A., Joh.; Rolfe, Cla.; Salzmann, Pemb.; Scarborough, Joh.; Scott, Sid. Suss.; Sidgwick, Cla.; Simpson, King's; Snell, Gonv. and Cai.; Strong, B.A., Trin.; H. C. Taylor, Trin.; Thurlow, Gonv. and Cai.; Tonge, Emm; Tuck, Emm.; Ward, Cla.; B. B. Watson, Trin.; L. G. A. West, Joh.; Whitaker, Trin.; L. E. Wigram, Trin.; H. M. Wilson, Trin. H.; Wiltshire, Joh.; Woolley, King's; E. A. Wright, H. Selw.

SECOND EXAMINATION.—The following candidates have satisfied the examiners:

Part I. Pharmaceutical Chemistry.—J. F. Alexander, Trin.; Beck, Cla.; S. Bennett, Down.; Bennion, Joh.; H. C. Brown, Emm.; Bulstrode, Trin.; Bryan, King's; Byles, King's; Candler, B.A., Corp. Chr.; E. R. Clarke, Joh.; Cole, Trin.; de Havilland, M.A., Pet.; W. H. Dickinson, B.A., Trin.; Edwards, Down.; Etherington-Smith, Trin.; H. R. Fisher, Emm.; W. H. Fisher, Emm.; W. S. Fox, Trin.; Heath, Down.; H. T. James, B.A., Trin.; Jeudwine, H. Selw.; J. H. Kellgren, Trin.; Lambert, Joh.; McBride, B.A., King's; Mart, Joh.; H. W. Masterman, Christ's; C. M. Murray, Pemb.; S. H. Nathan, Trin.; Noon, Trin.; Payne, Pet.; Rischbieth, Trin.; Rix, Trin.; Robinson, Trin.; E. A. Ross, Trin; Sapwell, B.A., Corp. Chr.; A. V. Sedgwick, Gonv. and Cai.; Shone, Emm.; Spicer, Trin.; Stiebel, Trin. H.; Stocker, Trin.; Trigg, Christ's; Wales, Sid. Suss.; Wild, Jes.; Wilson, H. Selw.

Part II. Human Anatomy and Physiology.—A. P. M. Anderson, B.A., Trin.; Barnicot, B.A., Pemb.; Brenan, B.A., Trin.; Candler, B.A., Corp. Chr.; E. R. Clarke, Joh.; Cooke, B.A., Sid. Suss.; Dunne, Queens'; Eve, B.A., Emm.; Gillespie, Joh.; Glenn, B.A., Pemb.; Glover, Joh.; D. G. Hall, Emm.; Heath, Down.; Helm, B.A., Magd.; Hulbert, B.A., Trin.; Izard, B.A., Trin.; C. Killick, B.A., Trin.; Knobel, B.A., Trin.; Linnell, B.A., H. Selw.; Malim, Christ's; H. N. Mathews, Joh.; Micklethwait, B.A., Trin.; Mullings, B.A., Christ's; Murison, B.A., Trin.; Nixon, B.A., Gonv. and Cai.; Pearson, B.A., Emm.; Philbrick, B.A., Trin.; L. Reynolds, B.A., Trin.; Scott, Christ's; Sellon, B.A., Gonv. and Cai.; Stiff, B.A., Gonv. and Cai.; Taylor, Down.; Timmins, B.A., Emm.; Topham, B.A., Christ's; Walker, B.A., King's; Walker, B.A., Cla.; R. F. C. Ward, Joh.; D. P. Watson, B.A., Trin.; West, B.A., Christ's; Whitmore, Gonv. and Cai.; Wilkinson, B.A., Pemb.; T. Wood, B.A., Gonv. and Cai.; H. C. S. Woodward, M.A., Down.

THIRD EXAMINATION.—The following candidates have satisfied the Examiners:

Part I.—Allfrey, B.A., Trin.; R. H. Bell, B.A., Trin.; Coleman, B.A., Joh.; A. W. Daniel, B.A., Emm.; Deller, B.A., Trin.; Forbes, B.A., Christ's.; Greg, B.A., Trin.; H. L. Gregory, B.A., Joh; Harrisson, B.A., Magd.; Heilborn, B.A., Gonv. and Cai.; Irving, B.A., Gonv. and Cai.; Jephcott, B.A., Gonv. and Cai.; Lindsay, B.A., Sid. Suss.; W. F. Lloyd, B.A., Cla.; Lowe, B.A., Jes.; Mathias, M.A., Christ's; E. A. C. Matthews, B.A., Trin.; H. D. O'Sullivan, B.A., Emm.; Prest, B.A., Joh.; Roderick, B.A., Emm.; Rowland, B.A., Down; B.H. Slater, B.A., Trin.; C. White, B.A., Christ's; E. A. Wilson, B.A., Gonv. and Cai.; W. R. Willson, B.A. Corp. Chr.; Yeld, B.A., Trin.

Part II.—A. M. Barraclough, B.A., Chr.; H. J. Bumsted, B.A., Joh.; F. P. Cayley, B.A., Trin.; H. G. Cooper, B.A. Emm.; Delbruck, B.A., King's; W. B. Dove, B.A., Christ's; W. B. Heywood, B.A., Emm.; Houseman, B.A., Cla.; Hughes, B.A., Gonv. and Cai.; L. T. R. Hutchinson, B.A., Trin.; W. McDougall, B.A., Joh.; Mackenzie, B.A., Gonv. and Cai.; J. C. Muir, B.A., Emm.; W. Myers, B.A., Gonv. and Cai.; Pendlebury, B.A., Pemb.; Porter, B.A., Emm.; Robinson, B.A., Gonv. and Cai.; Stead, B.A., Gonv. and Cai.; B. R. Turner, B.A., Emm.; Twigg, B.A., Christ's; F. F. Ward, B.A., H. Selw.; Watson, B.A., Pet.

ROYAL UNIVERSITY OF IRELAND.

FIRST EXAMINATION IN MEDICINE.—The examiners have recommended that the following candidates be adjudged to have passed the examination:

H. M. Agnew, Queen's College, Belfast; D. Ahern, Queen's College, Cork; J. M. Ahern, University College, Dublin; J. Armstrong, Queen's College, Belfast; Catherine L. Boyd, Queen's College, Belfast; D. R. Campbell, Queen's College, Belfast; J. G. Campbell, Queen's College, Belfast; A. A. Chancellor, Queen's College, Belfast; J. Corker, Queen's College Cork; G. Ebull, University College, Dublin; Adeline English, Royal College of Science, Dublin; J. H. Ferris, Queen's College, Belfast; R. W. Fisher, Queen's College, Belfast; J. H. Gill, Queen's College, Belfast; J. Gillespie, Queen's College, Belfast; D. Gleeson, Queen's College, Cork; Elizabeth S. Graham, Queen's College, Belfast; A. A. Hamilton, Queen's College, Belfast; J. P. Harold, Charing Cross Hospital; T. J Hartegan, University College, Dublin; P. Heffernan, University College, Dublin; S. R. Hunter, Queen's College, Belfast: E. C. Kittson, University College, Dublin; M. J. Landy, University College, Dublin; F. H. McCaughey, Queen's College, Belfast: A. McCloy, Queen's College, Belfast; S. McClure, Queen's College, Belfast; J. F. McDermott, Queen's College, Cork; J. McMurray, Queen's College, Belfast; F. C. Mann, Queen's College, Belfast; J. F. G. Martin, Queen's College, Belfast; J. O'Connell, Queen's College, Cork; W. F. O'Connor, Queen's College, Cork; J. J. O'Hare, University College, Dublin; W. Phillips, Queen's College, Belfast; J. R. Pooler, Mason College, Birmingham; Jane E. Reynolds, Queen's College, Cork; H. E. Richards, University College, Dublin; F. W. Stewart, Queen's College, Belfast; R. A. Stewart, Queen's College, Belfast; T. Walsh, Queen's College, Galway; J. S. F. Weir, Queen's College, Belfast; C. F. White, University College, Dublin; S. H. Whyte, Queen's College, Belfast; J. A. Williams, Queen's College, Cork.

The undermentioned candidates are recommended for the further examination for Honours in the subjects mentioned:

D. Ahern, Zoology; J. M. Ahern, Experimental Physics; J. Armstrong, Botany and Experimental Physics; G. Ebull, Botany, Zoology, Chemistry, and Experimental Physics; R. W. Fisher, Experimental Physics; J. Gillespie, Experimental Physics; D. Gleeson, Botany, Zoology, Chemistry, Experimental Physics; A. W. Hamilton, Chemistry, Experimental Physics; T. J. Hartegan, Zoology; P. Heffernan, Botany, Zoology, Chemistry, Experimental Physics; S. R. Hunter, Chemistry, Experimental Physics; E. C. Kittson, Chemistry; M. Landy, Botany and Chemistry; S. McClure, Botany;

J. J. O'Hare, Chemistry; W. Phillips, Zoology, Chemistry, Experimental Physics; H. E. Richards, Botany, Chemistry; T. Walsh, Botany, Experimental Physics, Zoology; C. F. White, Chemistry, Experimental Physics; J. A. Williams, Botany, Experimental Physics.

Candidates resommended in any two subjects will be allowed to present themselves at the further examination in all subjects.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following gentlemen whose names are arranged in order of seniority as Members in accordance with the provisions of the Charter, having passed the necessary examinations and conformed to the by-laws and regulations, have been admitted Fellows of the College:

N. R. House, L.R.C.P.Lond.; H. B. Luard, M.B., B.C.Cantab., L.R.C.P.Lond.; C. E. M. Kelly, M.B., B.S.Lond., L.R.C.P.Lond.; W. Watkins-Pitchford, M.B.Lond., L.R.C.P.Lond.; E. H. E. Stack, M.B.Cantab., L.R.C.P.Lond.; H. J. Paterson, M.B., B.C.Cantab., L.R.C.P.Lond.; S. B. Hulke, L.R.C.P.Lond.; C. Wace, L.R.C.P.Lond.; J. H. Crowley, M.B., B.S.Melb.; H. A. Duffett, L.R.C.P.Lond.; G. R. Fox, L.R.C.P.Lond.; W. E. Lee, M.D., M.B.Lond., L.R.C.P.Lond; C. H. Drake, M.B.Lond., L.R.C.P.Lond.; A. G. Gullan, M.B.Lond., L.R.C.P.Lond.; W. S. Handley, M.D., B.S.Lond.. L.R.C.P.Lond.; T. M. Thomas, M.B., M.S.Lond., L.R.C.P.Lond.; W. G. Clark, L.R.C.P.Lond.; T. P. Legg, M.B Lond., L.R.C.P.Lond.; J. H. Cook, M.B., B.S.Lond., L.R.C.P.Lond.; R. M. Going, M.B., B.Ch. Univ. Dub., L.R.C.P.Lond.

Twenty-two gentlemen were referred for six months, and three for one year.

The following gentlemen having passed the necessary examinations, have been admitted Licentiates in Dental Surgery:

D. Ackland, Charing Cross and the Dental Hospital of London; J. C. Arnold, London Hospital and the National Dental Hospital; H. W. C. Austin, M.R.C.S.Eng., St. Bartholomew's and the Dental Hospital of London; R. J. Bell, Charing Cross and the Dental Hospital of London; C. E. Brown, Guy's Hospital; E. C. Brown, Guy's Hospital; J. W. Brown, Charing Cross and the Dental Hospital of London; L. H. Canton, Middlesex and National Dental Hospital; F. A. Coates, University College; P. H. Cook, Guy's Hospital; A. Cooper, Guy's Hospital; P. H. R. Cooper, Charing Cross and the Dental Hospital of London; F. H. Duncan, Charing Cross and the Dental Hospital of London; J. C. Douglas, Charing Cross and the Dental Hospital of London; C. Everett, Middlesex and the National Dental Hospital; W. Floyd, Guy's Hospital; W. F. Forsyth, Charing Cross and the Dental Hospital of London; S. Harrison, Guy's Hospital; A. R. Heath, Charing Cross Hospital and the Dental Hospital of London; S. D. Hey, Charing Cross aud the Dental Hospital of London; R. G. S. Holmes, Guy's Hospital; J. M. C. Jacobs, Guy's Hospital; W. H. Jones, Middlesex and the Dental Hospital of London; C. Lees, Charing Cross and the Dental Hospital of London; J. Lishman, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; B. North, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; A. E. Oddy, Guy's Hospital; E. Picknott, Guy's Hospital; A. B. Poundall, Middlesex and National Dental Hospital; M. P. Powell, Charing Cross and the Dental Hospital of London; G. F. Reading, Charing Cross and the Dental Hospital of London; A. E. Robertson, St. Bartholomew's and the National Dental Hospital; R. P. Robinson, University College, Royal Infirmary, and Dental Hospital, Liverpool; D. de S. C. Rogers, Charing Cross and the Dental Hospital of London; J. L. Roper, Middlesex and the Dental Hospital of London; W. F. Rowe, Charing Cross and the Dental Hospital of London; B. F. Sadler, Mason College, Queen's and General Hospitals, and the Dental Hospital, Birmingham; A. W. Shedden, Mason College, Queen's and General Hospitals, and the Dental Hospital, Birmingham; E. H. J. Smart, Charing Cross and the Dental Hospital of London; E. P. Smith, Charing Cross and the Dental Hospital of London; E. W. Smith, Guy's Hospital; T. W. Smith, Charing Cross and the Dental Hospital of London; J. W. Stoner, Owens College, Royal Infirmary, and Dental Hospital, Manchester; A. S. J. Styer, Guy's Hospital; G. H. Summers, Charing Cross and the Dental Hospital of London; T. W. Thew, Middlesex and the Dental Hospital of London; O. Tidswell, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; C. E. Wallis, M.R.C.S.Eng., King's College and the Dental Hospital of London; E. G. W. Wallis, Guy's Hospital; H. Westron, Charing Cross and the Dental Hospital of London; S. H. Williams, Charing Cross and the Dental Hospital of London; S. Willis, Mason College, Queen's and General Hospitals, and Dental Hospital, Birmingham; C. A. Wilson, Guy's Hospital; G. E. Wilson, Charing Cross and the Dental Hospital of London; W. B. Woodhouse, M.R.C.S.Eng., Middlesex and the Dental Hospital of London.

Fourteen gentlemen were referred back to their professional studies for six months.

The following gentlemen, having previously passed the necessary examinations, and having now conformed to the by-laws and regulations, have been admitted Members of the College:

A. P. Dantes, L.M. and S., Bombay; A. Gandier, M.D. and C.M., Kingston.

PROFESSOR VON KÖLLIKER, of Würzburg, the famous histologist, will celebrate on July 6th the completion of his 80th year and the golden jubilee of his professorship.

ON the occasion of the golden wedding of Dr. James Somerville, of Carbery, a gold-mounted purse containing two hundred sovereigns was presented to Dr. and Mrs. Somerville by over three hundred well-wishers. Dr. Somerville qualified as L.R.C.S.I. in 1835, and took his degree at Glasgow in 1836.

MEDICO-PARLIAMENTARY.

HOUSE OF COMMONS.

SCHOOL PUNISHMENT.

SIR CHARLES CAMERON asked the Lord Advocate whether his attention had been called to a statement made at the last meeting of the Lochgilphead and Ardrishaig School Board to the effect that a girl named Blue had been incapacitated from attending school by the consequences of corporal punishment administered to her by the assistant teacher, and that about a year ago she had been punished by the same teacher so severely that she had been seriously ill for three months; and, whether the Procurator Fiscal had made any investigation into the facts of the case.—The LORD ADVOCATE: My attention had not been called to the statement referred to. No information was in possession of the Education Department, and no information had been given so the Procurator Fiscal. The result of inquiry made by the Procurator Fiscal since the question was put on the paper leads me to the conclusion that the statement is without foundation, and that the authors of it failed to exercise ordinary care in testing its accuracy.

TYPHUS FEVER AT INISKEA.

Mr. CRILLY asked the Secretary for Ireland if his attention had been drawn to the reports of extensive fever and famine in the Belmullet Union; whether he had received any special report from the officials of the Local Government Board; and what steps, if any, the Government proposed to take to meet the exceptional distress existing in the Belmullet Union.—Mr. G. BALFOUR said that the account in which an outbreak of fever on the Iniskea Islands, in this Union, was attributed to the extraordinary neglect of the Government, seemed to have been written in complete ignorance of the facts, which were as follows: On May 12th, Dr. Lavan, the Dispensary Medical Officer, reported that 16 cases of fever had occurred on the islands, and he attributed the outbreak to the islanders' habit of keeping cattle and sheep in their houses, and having cesspools at their doors. The Local Government Board thereupon directed the medical officer to furnish weekly reports as to the progress of the sick, and as to the precautions taken to prevent the spread of the disease. On May 30th he reported that the 16 cases were those of people in good circumstances, and not fit subjects for poor relief. The Board informed him that whether they were subjects for relief or not, he should visit the houses and see that all necessaries were supplied, and that disinfection was properly carried out. On June 3rd Dr. Lavan reported the type of fever to be very mild, that the disease appeared to be on the decline, and that he had thoroughly disinfected the houses. During the same week he disinfected the houses a second time. On June 7th he reported that with the exception of a few people on the islands who were destitute, the rest were in fairly good circumstances, but that they laboured under the impression, which it was difficult to remove, that fever patients should be given nothing but cold water. The destitute were provided with all necessary nourishment and stimulants, and the services of two trained nurses from Dublin were requisitioned in addition to two local nurses. Three of the patients had died, and removal of the sick to hospital on the mainland was out of the question. The trained nurses were landed on June 11th. On June 22nd the Medical Inspector of the Local Government Board visited the islands in company with Dr. Lavan. He states that there were 13 cases of fever of different kinds on the south island, but that the north island was free from fever. The inspector considered that the attendance on and nursing of the sick had been sufficient. He also attended a meeting of the Board of Guardians, and pointed out to them that it was imperative on them to enforce measures for lime-washing, cleansing, and disinfection of all infected houses, and that the remedies must be continued until satisfactory results were attained. The guardians recognised their responsibilities as the sanitary authority, and were taking measures to comply with the inspector's recommendations. The outbreak of fever could not be attributed to any want of food.

BOARDED-OUT CHILDREN.

Lord EDMUND TALBOT asked the President of the Local Government Board whether, in November, 1881, the Local Government Board decided that the boarding-out orders did not refer only to children boarded out by the guardians from the workhouse, but whenever the guardians granted out-relief to a child living with a person not legally liable for its support, that that child would come under the said orders.—Mr. T. W. RUSSELL: I have no doubt that the Local Government Board expressed the opinion, as stated in the question with reference to the effect of the order issued in 1887 as to boarding out; but, as there was some doubt on the subject, the order subsequently issued in 1889 was in consequence somewhat differently worded as regards this matter.

DOG MUZZLING IN LEICESTERSHIRE.

In reply to Mr. HAZELL, Mr. LONG said that he was aware that some dissatisfaction had been expressed at the inclusion of any portion of Leicestershire in the area in the Midlands to which muzzling orders had been applied, but in view of the fact that two cases of rabies had been reported during the last few months, and that there had been others in adjoining counties close to the Leicestershire boundary, he felt it his duty in the interest of the extirpation of the disease from the country as a whole to apply the order to the borough and county of Leicester.

REPORT AS TO IRISH LUNATICS.

Mr. SHEEHY asked the Secretary for Ireland when the report for 1896 of the Inspectors of Lunatics for Ireland would be presented to Parliament, and if he could explain why it had not been placed upon the table before the consideration of the Irish Estimates.—Mr. G. BALFOUR: It has not been found practicable hitherto to present this annual report to Parliament earlier than July or August. The report for 1896 will, it is expected, be ready for presentation about the middle of July.

MEDICAL ATTENDANCE FOR POSTMEN.

Mr. LUTTRELL asked the Secretary to the Treasury, as representing the Postmaster-General, whether he would take steps to supply all rural post-

men with free medical attendance, in the same way as postmen in towns; or, in the event of the Department being unable to grant free medical attendance where there were not sufficient postmen to warrant the employment of a medical officer, whether an allowance could be paid to rural postmen when they had to seek medical advice.—Mr. Hanbury: Rural postmen who reside in or start from a town where the Department has a medical officer are entitled to free medical attendance, and those who reside more than three miles from the town can obtain advice and medicine free at the surgery; but beyond this the Postmaster-General is not prepared to go.

Hospital Arrangements, etc., in Scotch Prisons.

Mr. Hedderwick asked the Lord Advocate whether an inquiry into the Scottish prison system was held in the months of October and November last by a Departmental Committee, composed of three of the chief Scottish prison officials; and whether, in the course of such inquiry, the Committee visited several of the Scottish prisons and received evidence both in regard to prison hospital arrangements, and the association of prisoners without supervision; and, if so, whether he would call for the proceedings and report of the Committee, together with all the papers relative thereto, including the chaplains' and medical officers' reports upon the above-mentioned subjects?—The Lord Advocate: There was no Departmental Committee, as was suggested by the first paragraph of the question. I am informed by the Prison Commissioners for Scotland that, in accordance with ordinary official practice, inquiries were made by a private Committee, consisting of a prison inspector and two governors, who were instructed by the Prison Commissioners to inquire and report to them on certain matters connected with the prison service. I will take this opportunity of correcting the reply given by me on May 24th last, owing to error in the information given me, by saying that evidence was tendered to these gentlemen by some medical officers in regard to the treatment of sick prisoners. I may add that reports by Committees of the above nature are regarded as confidential documents for the use of the Prison Commissioners, who are of course responsible to the Secretary for Scotland.

Phamaceutical Society of Ireland.

There has been presented to both Houses a copy of the Order in Council, dated June 9th, approving of a regulation made by the Pharmaceutical Society of Ireland.

Poor-law Officers Superannuation.

The Poor Law Officers' Superannuation Act (1896) Amendment Bill has been taken in hand in the House of Lords by Lord Glenesk, and stood for second reading yesterday (Friday).

Burial Grounds.

The inquiry instituted by the House of Commons as to burial grounds commenced on June 29th. Evidence bearing upon the statute law on the subject of the investigation was given by Mr. Adrian, Assistant Secretary to the Local Government Board. He described the functions of the department with which he is connected in regard to burial grounds.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 5,709 births and 3,310 deaths were registered during the week ending Saturday last, June 26th. The annual rate of mortality in these towns, which had been 15.6 and 15.8 per 1,000 in the two preceding weeks, declined to 15.7 last week. The rates in the several towns ranged from 9.9 in Brighton, 11.1 in Blackburn, and 11.8 in Leicester and Huddersfield to 19.8 in Sunderland, 20.4 in Preston, 20.9 in Liverpool, and 22.3 in Salford and in Bolton. In the thirty-two provincial towns the mean death-rate was 16.5 per 1,000, and exceeded by 1.9 the rate recorded in London, which was only 14.6 per 1,000. The zymotic death-rate in the thirty-three towns averaged 1.9 per 1,000; in London the rate was 1.6 per 1,000, while it averaged 2 1 in the thirty-two provincial towns, among which the highest zymotic rates were 3.4 in Bolton, 4.1 in Manchester, 7.7 in Preston, and 7.8 in Salford. Measles caused a death-rate of 1.7 in Bolton, 2.1 in Cardiff, 2.4 in Manchester, 5.9 in Preston, and 6.4 in Salford; and whooping-cough of 1.0 in Derby, 1.1 in Sunderland, and 1.4 in Manchester. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 46 deaths from diphtheria in the thirty-three towns included 24 in London, 6 in Birmingham, and 3 in West Ham. No fatal case of small-pox was registered during the week either in London or in any of the thirty-two large provincial towns. There were no small-pox patients under treatment in any of the Metropolitan Asylums Hospitals on Saturday last, June 26th. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 2,670 at the end of the eight preceding weeks, had further risen to 2,789 on Saturday last; 267 new cases were admitted during the week, against 274, 255, and 274 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, June 26th, 982 births and 577 were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 20.3 and 19.4 per 1,000 in the two preceding weeks, was again 19.4 last week, and was 3.7 per 1,000 above the mean rate during the same period in the thirty-three large English towns. The lowest rates in the eight towns were 14.7 in Paisley and 15.8 in Aberdeen, and the highest rates 27.1 in Greenock, and 35.8 in Paisley. The zymotic death-rate in these towns averaged 2.3 per 1,000, the highest rates being recorded in Greenock and Leith. The 249 deaths registered in Glasgow included 10 from whooping-cough, 5 fom "fever," and 2 from diphtheria. Ten fatal cases of measles were recorded in Edinburgh, and 9 in Leith.

NOTIFICATION OF DISEASE.

We congratulate Dr. Eustace Hill on his ability to state in his latest periodic report that all the rural districts in the administrative county of Durham have now in force the Infectious Disease (Notification) Act. Only two localities stand in the way of the same being true of the urban districts—namely, Bishop Auckland and Stanhope, the former area thus saving some £12 yearly on notification, with an unknown additional burden to its rates, because of the absence of the system; the system would cost Stanhope only some £2 per annum. It seems a pity that the completeness of sickness data for the county should be marred for the sake of such paltry sums. But we will hope that both Bishop Auckland and Stanhope will see the wisdom of taking the steps necessary to adopt the Act. Dr. Hill estimates the annual cost of working the statute at £1 3s. 6d. per 1,000 persons; practically one notified case per cent. of population.

THE SANITARY NEEDS OF SUTTON BRIDGE.

The retirement of Dr. Henslowe Wellington from the post of Medical Officer of Health of Sutton Bridge and from his other offices in the neighbourhood, on leaving the locality, directs our attention again to the sanitary deficiencies of the place. In his last official report Dr. Wellington animadverts in strong terms on the bad condition of the water supply, exposed as it is to pollution; on the imperfect system of surface water drainage, with an outlet so placed as to demand that the laws of gravity shall be broken and water run uphill; and of the primitive and badly-scavenged receptacles for excrement disposal, which, in part at least, permit of the free soakage of rain into their contents. The means of remedying the dangerous water supply and of replacing the present drainage by a proper system of sewerage are pointed out. They entail expense, of course, but Dr. Wellington will not have passed the last six years in Sutton Bridge in vain if his closing report leads his authority to adopt his advice. He has done his best, apparently, to lead the district to better things; as he has also, in his capacity of health officer to the port of Wisbech, seen the country through the cholera scare of a few years back. He is to be complimented on his manly statement of the condition of Sutton Bridge as he leaves it.

INCREASED STIPENDS TO DISTRICT MEDICAL OFFICERS.

It is a satisfaction to note that the Barnstaple Board of Guardians, which for some years past has had a difficulty in securing medical attendance for the outdoor poor, occasioned by frequent resignations of the district medical officers, has at last decided to offer some better remuneration for medical services. This is but a common-sense and business-like way of meeting the difficulty. At Rugby also, owing to an increase of work which fell upon one of the district medical officers, and a representation of this fact to the Board, the question appears to have met with favourable consideration. It is difficult to understand on what grounds so many Boards of Guardians persistently refuse to pay an increased stipend to medical officers when it is proved that owing to an increase of population or some other causes, the work of the office must have materially increased after the amount of payment was fixed. At Barnstaple and Rugby an example has been set which it is to be hoped other Boards of Guardians will not hesitate to follow.

WATERLESS WATERCLOSETS.

The District Council of Aldershot cannot be complimented upon the decision arrived at, at their last meeting, to withdraw a prosecution because the insanitary condition they were attacking proved to be much more common in the district than they had previously supposed. Two deaths from diphtheria having occurred in a house provided with a hand-flushed watercloset which was, as is usual in such cases, in a filthy condition, notice was served upon the owner to provide a water supply to this closet and to others connected with the adjoining cottages of which he also was owner. The notice was complied with so far as the one cottage was concerned, but nothing was done to the others, the owner contending that such was unnecessary, since no outbreak of the disease had occurred there, and also because the same condition existed in many other parts of the town. Sanitary improvements should be undertaken to prevent the outbreak of disease, and the admitted prevalence of waterclosets without water and of the nuisances arising therefrom, should only be an additional incentive to prompt and decisive action. Unfortunately the Council thought otherwise, and decided to withdraw the order to prosecute. It is to be regretted, says the *Aldershot News*, "that the Council have run away from a difficulty instead of encountering it boldly. They might have been beaten we admit; but at least they should have tried to make themselves master of the situation. So much the health of Aldershot demanded."

These waterclosets without water abound in many districts, and the Medical Officer of Health for the county of Essex has commenced a crusade against them in a report prepared by him, and distributed by order of the County Council. In this report it is shown that, as ordinarily constructed these closets not only are very difficult to keep clean, but that they are very easily unsiphoned and are a constant cause of blocked drains. That they are a nuisance every medical officer of health can certify, and there appears to be no difficulty in compelling owners to provide proper flushing apparatus. Macmorran in his work on the Public Health Acts Amendment Act, under Section xxiii, as to the new by-laws for keeping waterclosets supplied with sufficient water for flushing, has the following note: "Where there are no by-laws of this kind in force, the only way in which flushing apparatus can be enforced is by proceeding under Section xxxvi, Public Health Act, 1875, on the ground that the watercloset is insufficient. See the case of Sherborne Local Board *v.* Boyle, cited in Lumley's *Public Health*, p. 60." Urban districts can adopt by-laws, and both urban and rural districts can take action under the section above referred to. There can, therefore, be no excuse for the toleration of such abominations as waterclosets without water.

HOSPITAL AND DISPENSARY MANAGEMENT.

THE GLASGOW ASYLUM AT GARTLOCH.

THE Glasgow District Asylum at Gartloch is situated on an estate of 400 acres, about seven miles from Glasgow. It has recently been completed and declared open, and consists of two parts—asylum and hospital. The former, for chronic and incurable cases, contains 380 beds. It consists of four large blocks connected with the administrative and official departments by long corridors, which also contain subways for heating pipes, water supply pipes, and electric light cables. The hospital is a separate building with a separate kitchen and dining hall, but a common recreation room in common with the asylum. It contains 150 beds, mainly on one storey; it comprises admission wards, wards for the treatment of intercurrent bodily disease in the insane, for old and feeble patients, and for infectious cases. The total cost will be not far short of £200,000. The physician superintendent is Dr. L. R. Oswald.

EASTERN COUNTIES ASYLUM FOR IDIOTS AND IMBECILES, COLCHESTER.

THE thirty-eighth annual meeting of this useful charity was, we learn from a report in the *East Anglian Daily Times*, held at Ipswich on April 29th. The annual report stated that the average daily number of patients in residence had been 239, and the average cost per head per week 11s. 10d. A total sum of £9,412 19s. 7d. had been raised during the year, and the expenditure (including structural outlay) had exceeded the ordinary income by £168 3s. 7d. Amongst the speakers were the Mayor of Ipswich, the Marquis of Bristol, Lord John Hervey, Admiral Luard, and Sir Frederic Bateman, M.D. Reference was made to the beneficial effect upon the health of the feeble and phthisical patients of the pure air and healthy surroundings of Crossley House, the marine branch of the establishment at Clacton-on-Sea. The advantage of industrial training for the feeble-minded, who as a rule could learn more with their hands than with their head, was adverted on, and the provision of a separate building for workshop purposes was advocated. Sir Frederic Bateman spoke of the indebtedness of the institution to the ladies of East Anglia, who by their philanthropic exertions had been the means of collecting upwards of £11,000 towards its funds.

MEDICAL NEWS.

Mr. J. M. COTTERILL, F.R.C.S.E., was on Monday, June 28th, appointed by the managers to be Ordinary Surgeon to the Edinburgh Royal Infirmary in place of Mr. A. G. Miller, whose term of office comes to an end in July.

PRESENTATION.—Mr. J. H. Marsh, M.R.C.S., L.R.C.P.Lond., medical officer and ambulance lecturer to the Macclesfield School Board, has been presented with a quarter-chiming oak clock by the members of the Trinity Wesleyan Sunday School Male Ambulance Class as a token of their appreciation of his services as a lecturer.

IN consequence of the review at Aldershot Princess Christian has been compelled to postpone the ceremony of laying the foundation stone of the new cancer wing of the Middlesex Hospital, and has fixed July 15th, at 5 P.M., as the date on which she will be able to perform the ceremony.

THE annual general meeting of the Brussels Medical Graduates' Association will take place at the Café Royal, Regent Street, W., on Thursday, July 15th, at 6.30 P.M. At 7.30 the members and their friends will dine together, and Sir John Williams, Bart., M.D., Mr. Rentoul, Q.C., M.P., and Dr. A. E. Sansom will be the guests of the Association. Any Brussels medical graduate wishing to be present at the dinner is requested to communicate with the Honorary Secretary, Dr. Major Greenwood, at 12, New Court, Lincoln's Inn, W.C., or at 243, Hackney Road, N.E.

MEDICAL VACANCIES.

The following vacancies are announced:

BOROUGH OF SHREWSBURY.—Medical Officer of Health. Salary, £200 per annum. Candidate will be allowed (subject to approval) to accept similar public health appointments, but must not engage in private practice. Applications, endorsed "Medical," to H. C. Clarke, Town Clerk, Guildhall, Shrewsbury, by July 14th.

BRISTOL ROYAL INFIRMARY.—House-Physician; doubly qualified. Appointment for two years. Salary, £100 per annum, with apartments, board, and washing. Applications to the Secretary by July 12th.

BUCKINGHAMSHIRE GENERAL INFIRMARY, Aylesbury.—Resident Surgeon and Apothecary, doubly qualified. Salary, £80 for the first year, with an advance of £10 per annum up to £100, with board and lodging, washing, coals and candles, in furnished apartments. Applications to Mr. George Fell, Solicitor, Aylesbury, by July 5th.

CAMBERWELL, Parish of St. Giles.—Third Assistant Medical Officer for the Infirmary, Havil Street, Camberwell, and the Workhouse at Gordon Road, Peckham, also for Relief Duty at Constance Road Workhouse of the parish. Appointment for one year. Salary, £50, with apartments, board, and washing. Applications, on forms provided, to Charles S. Stevens, Clerk to the Guardians, immediately.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Assistant Physician. Must be F. or M.R.C.P.Lond. Applications to the Secretary by July 24th.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House-Surgeon. Appointment for twelve months, eligible for re-election. Salary of House-Surgeon £100, and the Assistant House-Surgeon £50, with board, lodging, and washing. Applications endorsed "House-Surgeon" or "Assistant House-Surgeon" to Joseph Taylor, Secretary, by July 14th.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Senior House-Surgeon and Junior House-Surgeon. Appointments for six months. Salary of the Senior House-Surgeon at the rate of £60 per annum, board, lodging, and washing provided with each appointment. Applications to Lewis H. Glenton Kerr, Secretary, by July 19th.

GLOUCESTER GENERAL INFIRMARY and the GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House-Surgeon. Doubly qualified. Appointment for six months. Eligible for re-election. No salary, but board, residence, and washing provided. Applications to Henry P. Pike, Secretary, by July 14th.

HALIFAX ROYAL INFIRMARY.—House-Surgeon, unmarried, and doubly qualified. Salary, £80 per annum, advancing £10 a year up to £100, with residence, board, and washing. Applications to Oates Webster, Secretary, by July 14th.

LONDON HOSPITAL MEDICAL COLLEGE.—Demonstrator of Biology. Will be required to attend three days a week to assist the Lecturer in Botany and Zoology chiefly for the London University examinations. Salary, £75 per annum. Applications to Munro Scott, Warden, Turner Street, Mile End, E., by July 12th.

LONDON TEMPERANCE HOSPITAL, Hampstead, N.W.—Assistant Resident Medical Officer. Appointment for six months. Doubly qualified. Residence, board, and washing provided, and an honorarium at the termination of the appointment. Applications to A. W. Badger, Secretary, by July 7th.

LONDON THROAT HOSPITAL, Great Portland Street, W.—Two Assistant Surgeons. Applications to the Honorary Medical Secretary, 204, Great Portland Street, W., before July 15th.

MANCHESTER ROYAL INFIRMARY.—Resident Medical Officer, not less than 25 years of age, and unmarried; doubly qualified. Remuneration, £150 per annum, with board and residence. Applications to W. L. Saunder, General Superintendent and Secretary, by July 10th.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich Road, S.E.—Junior Resident Medical Officer. Appointment for six months, with prospect of re-election as Senior. Applications to the Secretary by July 9th.

NORFOLK AND NORWICH HOSPITAL.—House-Physician; unmarried, not more than 30 years of age, and doubly qualified. Salary, £60 per annum, with board, lodging, and washing. Appointment tenable for two years. Applications to Poole Gabbett, Secretary, by July 6th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Librarian. Applications to Edward Trimmer, Secretary, by July 10th.

ST. GEORGE HANOVER SQUARE PROVIDENT DISPENSARY, Little Grosvenor Square, W.—Resident Medical Officer. Salary, £100, with allowances, about £80, and residence at the Dispensary. Applications to the Secretary by July 6th.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.—Assistant Lecturer on Chemistry and Physics. Salary, £100, rising to £125. Applications to Mr. Laurie, Lecturer on Chemistry at the Medical School, by July 8th.

TOTTENHAM HOSPITAL.—Assistant Surgeon. Applications to the Director by July 9th.

UNIVERSITY OF ABERDEEN.—Two Examiners for Graduation in Anatomy and Physiology. Appointments for four years. Applications to Robert Walker, Secretary, by July 6th.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Surgeon. Must be F.R.C.S.Eng. Candidates must attend House Committee, with certificates, etc., on July 13th, at 1 o'clock.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House-Surgeon. Appointment for six months. Board, lodging, and washing provided. Applications to the Chairman of the Medical Committee by July 12th.

MEDICAL APPOINTMENTS.

AULD, A., M.B., C.M.Glasg., appointed Medical Officer for the Balne District of the Pontefract Union.

BARTLETT, Ralph C., M.R.C.S.Eng., L.R.C.P., appointed Medical Officer of Health to the Romsey Rural District Council.

BURTON, R. G., M.D., L.R.C.S.Edin., appointed Medical Officer of Health to the Greenford Urban District.

CLAPHAM, Edward, M.D.Edin., M.R.C.S., appointed Medical Officer to the Wimbledon Isolation Hospital.

COATES, J. Mandell, M.B., C.M.Edin., appointed Assistant House-Surgeon to the Northern Hospital, Liverpool.

DENNEHY, Patrick R., L.K.Q.C.P.I., L.R.C.S.Edin., appointed Medical Officer for the Lismore Dispensary District, *vice* R. J. Baylor, L.R.C.P.I., L.M., L.R.C.S.Edin., resigned.

EATON, J., M.D.Glasg. M.B., C.M., appointed Medical Officer for the Cleaton District of the Whitehaven Union.

ECCLES, W. McAdam, M.S.Lond., F.R.C.S.Eng., appointed Examiner in Anatomy to the Society of Apothecaries of London.

EDWARDS, Dr. H. M., appointed Medical Officer for the Markyate District of the Luton Union.

GEE, T. Ernest, F.R.C.P.Edin., F.R.C.S.Edin., L.S.A., appointed Honorary Anæsthetist to the Hospital for Epilepsy and Paralysis, Regent's Park.

GIBSON, Mr. W. R., appointed Assistant Medical Officer to the St. Saviour's Union Infirmary.

GRINDLAY, G., M.D.Edin., appointed Medical Officer for the Kingswinsford District of the Stourbridge Union.

HOFFMEISTER, Henry E. W., B.A.Camb., M.R.C.S., appointed Medical Officer of Health to the East Cowes Urban District Council.

LAKE, Richard, F.R.C.S., appointed Surgeon Laryngologist to the North London Hospital for Consumption, Hampstead.

LOW, Charles W., M.B.Durh., M.R.C.S.Eng., L.S.A.Lond., appointed Medical Officer of Health to the East Stow Rural District Council.

MCCOMB, William T., L.R.C.P., L.R.C.S.Edin., appointed Medical Officer of Health for the Borough of Beccles.

MCKENZIE, H. V., M.D.Edin., appointed Ophthalmic Surgeon to the Torbay Hospital and Eye Infirmary, Torquay.

MORCOM, A., L.R.C.S.Edin., L.M., reappointed Medical Officer of Health to the Luton Rural District Council.

MORTON, Charles A., F.R.C.S.Eng., appointed Joint Professor of Surgery in University College, Bristol.

PEARCE, M.R.C.S., L.R.C.P., Assistant House-Surgeon, appointed House-Physician to the Northern Hospital, Liverpool, *vice* E. F. Harwood, M.R.C.S., L.R.C.P., resigned.

ROBERTS, S. J., M.R.C.S., L.R.C.P., appointed Medical Officer for the Third District of the Aston Union, *vice* W. G. Cresswell, M.D.Durh., resigned.

SOPER, R. W., M.R.C.S.Eng., reappointed Medical Officer of Health to the Dartmouth Town Council.

SPREAT, Frank, M.R.C.S.Eng., L.S.A., appointed Medical Officer for the Friern Barnet District of the Barnet Union, *vice* Hugh Stott, M.R.C.S.Eng., L.R.C.P.Lond., resigned.

STEPHENS, L. E. W. M.R C.S.Eng., L.S.A , appointed Medical Officer for the Third District of the Havant Union.

THOMAS, John T,, L.R.C.P.I., L.R.C.S.Edin., appointed Medical Officer of Health for the Barrow-on-Soar, Billesdon, Blaby, Gretton, Hallaton, Hinckley, Lutterworth, Monks Kirby, Oakham, and Uppingham Rural Districts; and Melton Mowbray, Thurmaston, and Wigston Magna Urban Districts, *vice* J. A. Turner.

TIPLADY, William L.R.C.P., L.R.C.S.Edin., appointed Medical Officer of Health to the Tow Law Urban District Council.

WINGATE, D., M.B., C.M.Glasg., appointed Medical Officer for the Easington District of the Easington Union, *vice* H. D. Wildes, resigned.

DIARY FOR NEXT WEEK.

TUESDAY.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Mr. Horsley: Clinical Demonstration.

WEDNESDAY.

OBSTETRICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8 P.M.—Specimens will be shown by Dr. Lewers and others. Papers: Dr. Giles and Dr. Maclean: Two Unusual Cases of Tubal Gestation; the one causing Chronic Intestinal Obstruction, and associated with Hæmatosalpinx of the Non-gravid Tube; the other simulating Retroversion of the Gravid Uterus. Dr. Lewers: A Case of Primary Sarcoma of the Body of the Uterus (Deciduoma Malignum) in a Patient 24 years of age, treated by Vaginal Hysterectomy.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

WEST LONDON POST-GRADUATE COURSE, West London Hospital, W., 5 P.M.—Dr. Robinson: Obstetrical and Gynæcological Cases.

THURSDAY.

BRITISH GYNÆCOLOGICAL SOCIETY, 20, Hanover Square, W., 8.30 P.M.—Specimen by Mr. Skene Keith. Papers: Professor Hector Treub: The Mechanism of Uterine Inversion. Dr. Snow: Escharotics in the Treatment of Uterine Cancer.

FRIDAY.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Mr. Ballance: Surgery of the Nervous System.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

MARRIAGES.

FERGUSON—OLIPHANT. At Cellardyke Parish Church, on June 24th, by the Rev. James Ray, M.A., Cellardyke, the Rev. James Wyper Wilson, Stonehouse (brothers-in-law of the bride), and the Rev. Gabriel Smith, U.P. Church, Anstruther, Robert Thomson Ferguson, M.D., Middlemarch, Anstruther, to Marjory Bonthrone, daughter of the late Philip Oliphant, solicitor and banker, Anstruther.

MOWAT—GOLDIE.—At the Waterloo Hotel, Edinburgh, on June 23rd, 1897, by the Rev. William Mowat, M.A., West U.P. Church, Galashiels (brother of the bridegroom), assisted by the Rev. Thomas Kennedy, D.D., and the Rev. J. S. Rae, M.A., Newington U.P. Church, Edinburgh, James Mowat, M.B., C.M., to Jeannie, third daughter of the late Alexander Goldie, Elgin.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 12.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Tu., 2.

NATIONAL ORTHOPÆDIC. *Attendances*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Tu., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Tu. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Tu. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu.. F., 1; Eye, Tu. F., 9.30; Ear, M. Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

A. B. M. wishes to learn what medical opinions have been expressed as to the injurious effects (if any) of waterproof clothing.

T. K. C. asks for advice in the treatment of hiccough (1) in cases complicated by renal disease; (2) in cases not so complicated.

DR. W. LONGWORTH WAINWRIGHT (Brixworth, Northamptonshire) asks whether there is any hospital in London where a patient can undergo the hot-air treatment for rheumatoid arthritis.

VARIOLA asks for the names and addresses of firms who supply furniture for hospitals, and of the maker of a cheap, strong, and easily disinfected bedding cart (for the removal of infected bedding, clothing, etc.).

P. K. F. asks if there is any convalescent home in the neighbourhood of London to which a poor woman could be sent. She has had fits, but not for some time.

THE STERILISATION OF GUM ELASTIC CATHETERS.

CATHETER asks what are the best means of keeping gum elastic catheters (in daily use in a hospital ward) aseptic, and the best lubricants for them. He boils metal instruments and uses Lund's oil, but the gum elastic catheters will not stand boiling. Also how should gum elastic catheters be kept when not in use?

DISINFECTION AT DAVOS.

F. P. A. asks whether it would be safe to stay for a time in one of the hotels at Davos, where consumptives are taken in during the winter.

*** We are advised that our correspondent need have no fear of residing in any of the Davos hotels frequented by consumptives, as both the Kurverein and the doctors insist on proper disinfection, such as the destruction of sputum, and the like. There is probably no health resort where precautionary measures against infection are more completely carried out.

THE SALE OF POISONS.

B.G. asks why it is that grocers and other unqualified men are allowed to sell homœopathic medicines containing aconite, belladonna, and other scheduled poisons? Surely such must be a violation of the Pharmacy Act?

*** Certainly. If such articles are sold by grocers or other persons without being labelled "Poison," as the Act directs, anyone can prosecute the seller. If they are sold by unqualified persons labelled, prosecution must be instituted by the Pharmaceutical Society, and for that purpose sufficient particulars of any such sale must be sent to the Registrar, 17, Bloomsbury Square.

A "LOCUM TENENS" AND A SPECIAL FEE.

A MEMBER FOR OVER THIRTY YEARS writes to say that, acting as *locum tenens* for a medical firm, he attended the wife of a retired practitioner, and, with the approval of the firm, did not charge for this attendance. Later on the patient sent him a cash present, and he wishes to know what course he ought to take under the circumstances.

*** Our correspondent should ascertain from the firm what course they would wish him to take in the matter. Most principals would be quite willing for a *locum tenens* to accept a gift intended personally for him, but when it takes the form of cash complications are apt to arise, and the *locum tenens* ought to put himself unreservedly in the hands of his principal.

ACTING FOR A BROTHER PRACTITIONER IN AN EMERGENCY.

M.R.C.S. asks for advice under the following circumstances: He was called to attend a midwifery case, and after doing all that was necessary was informed by the husband of the patient that he had only been sent for on account of their own doctor being out at the time. A fee was tendered but refused, on the ground that it was customary for the patient's own doctor to remunerate another who acted for him in his absence. After three months had elapsed our correspondent had received no acknowledgment of his service from the other doctor. What ought he to do?

*** Our correspondent should write to the doctor in question, pointing out the circumstances of the case. It is possible the latter may think that a fee has been paid by the patient, and when he is informed of our correspondent's refusal of it, he will be quite willing to acknowledge his courtesy, and follow the customary rules of the profession in such cases.

A STRING OF QUESTIONS.

A LOCUM TENENS asks the following questions:

1. What time should elapse before a *locum tenens* starts in practice in a place where he has held this office?
2. Is a *locum* thus starting in practice expected to call on the other doctors in the district?
3. If a member of a family starts in practice in a certain district, what is the custom as regards the family practitioner and himself as to attendance on the family?
4. If a doctor practising in one district attends patients in another at a lower rate than that charged by the doctors there, should his case be brought before the General Medical Council?

*** 1. A practitioner should not knowingly act as *locum tenens* in district where he shortly intends to start in practice. There is, however, no rule against his practising in a locality where he may have been a *locum tenens* some years before.

2. A *locum* starting in practice would be expected to follow the usual rule of professional etiquette, and call on his brethren in the neighbourhood.

3. A family doctor does not necessarily cease to be the family attendant because a member of that family has started in practice in the district. If, however, the family wish it there would be nothing unprofessional in the latter becoming the attendant, due notice being given to the old doctor.

4. It is not in accordance with custom for a doctor to go out of his district and attend patients in another locality at a lower rate than the practitioners there are willing to do. The General Medical Council, however, cannot interfere, but conduct of this kind is sure to meet with the moral condemnation of the offender's professional brethren.

ANSWERS.

PERPLEX.—The practice most generally followed is to put "Dr. A. B." both on visiting card and doorplate.

S. writes: In reply to S. W. lip-reading is taught to the deaf at 11, Fitzroy Square, W. (Association for the Oral Instruction of the Deaf and Dumb; Director, W. Van Praagh), and in the school attached to the Training College for Teachers of the Deaf, Ealing, W. (Principal, Mrs. Kinsey). Books have been published by Van Praagh (*Lessons for Deaf-Mutes*), Elliott (*Articulation and Lip-Reading*), Love and Addison (*Deaf-Mutism*). Partially deaf cases are the most suitable for oral teaching.

SCHOOL BOARDS AND MEDICAL OFFICERS.

THERE does not appear to be any objection to the appointment, provided the duties are strictly limited in accordance with the terms of the resolution. In the first place the medical officers are to see children detained from school on account of illness, no medical certificate being sent in; and, secondly, they are to examine cases where certificates are put in, the genuineness of which is considered doubtful. The latter duty, if carried out properly, will put a stop to certificates of unqualified practitioners and unlawfully prescribing chemists being accepted as valid by certain School Boards.

NOTES, LETTERS, Etc.

SANITATION IN RURAL SCOTLAND.

A SCOTCH CORRESPONDENT has written to us pointing to the maladministration of the laws of public health generally in Scotland, and more particularly in the rural portions. The counties are understaffed, so that there is great laxity of supervision because of absence of such number and character of inspectorate, medical and other, as would enable district and county councils to take that detailed and regular oversight of matters sanitary which conduces so greatly to advancement in England. Our correspondent leads us to the conclusion that Scotland can very well take a leaf from the books of our English health officers and sanitary inspectors; and that it would not come amiss if she were to appoint some more of the stamp of our many excellent officials. Whatever may be said against the English Public Health administration, at least we have our duly appointed sanitary officers in each district, and in many cases county officers also. In addition, we have the enormous advantage of a central health department doing practical work of a helpful character in aid of local administrative work generally. But our correspondent has specially to find fault with the utter indifference of the sanitary mind to the crying needs of dairies in Scotland, water supplies being left in pitiable states, and matters being so bad in individual instances as to permit of the boiling in one and the same receptacle of soiled body linen and dairying cloths, etc.

FATALITY FROM METHYLATED SPIRITS.

AN inquest was recently held on the body of a blacksmith, aged 49, who had died in Bethnal Green Workhouse. The evidence disclosed gastric inflammation and the free use of methylated spirit, which liquor was stated to be drunk by polishers when they had no money to pay for beer. The verdict ran that the deceased had died from inflammation of the stomach set up by the free drinking of methylated spirit.

MOUTH BREATHING IN CONSUMPTION.

MR. ROBERT H. WOODS, M.B., F.R.C.S. (Dublin), writes: In his interesting note in the BRITISH MEDICAL JOURNAL of June 26th, Dr. F. Rufenacht Walters advocates the use of respirators as a means of guarding consumptives from the evil effects of dusty air on the lungs. But in treating the matter thus has not Dr. Walters hold of the wrong end of the stick? He treats the effect, mouth breathing, and leaves the primary cause, nasal obstruction, quite alone. That no animal breathes habitually through the mouth except as a result of pathological conditions in the nose is now axiomatic, and it is unaccountable that anyone except the manufacturer should advocate the use of a contrivance which inculcates in the patient the pernicious habit of mouth breathing, and in the doctor the still more pernicious principle of treating the

effect and neglecting the cause. Consumption is, as we now know, communicated through inhalation of dried and pulverised consumptive sputum, and as prevention is better than cure, and therefore than alleviation, it would be preferable to begin the treatment before there is any question of consumption by providing people with normal, free, and dust-filtering noses. But even if alleviation alone is possible, the end is more likely to be attained, and with greater comfort to the patient, by restoring the functions of the nose than by the use of any apparatus, whether simple or elaborate.

THE SUPPOSED POISONOUS ORGANIC MATTER IN EXPIRED AIR.

DR. C. M. JESSOP (Redhill) writes: Medical men, taught to believe in albuminoid ammonia as a product of expired air, will not be ready to accept the dictum laid down in the article on page 1497 of the BRITISH MEDICAL JOURNAL, "That the evidence against the theory of poisonous organic matter in expired air seems now to be overwhelming." I beg to point out that no evidence is given—a simple negation of a universal belief, which of course is worth nothing, and I venture to think that readers of the JOURNAL are entitled to more conclusive reasoning.

Guy and Ferrier say, "A poison is any substance or matter (solid, liquid, or gaseous) which when applied to the body outwardly, or in any way introduced into it, can destroy life by its own inherent qualities, without acting mechanically." Do not albuminoid ammonia and carbonic acid come under these definitions? So far as I know carbonic acid has no smell, ozone has, and albuminoid ammonia has; and the authors agree with the hypothesis "that the unpleasant effects at the time are probably due largely to impressions through the sense of smell." And through this sense we catch typhus fever, small-pox, etc. Admitting, therefore, an access (through the nose) to the body, it seems strange to deny poisonous powers; the full expressions need not be exerted at once. Small effects produce results.

*** The result of the experiments referred to in our article was that air vitiated simply by normal respiration produces no appreciable effects until the vitiation proceeds to such an enormous extent that excess of carbonic acid begins to tell. The effects then produced are simply those of carbonic acid. There is thus no reason for assuming that a volatile organic poison is given off from the lungs. The unpleasant smell in a close room seems to be usually due to the skin and clothes of the persons present; but in any case a mere sensory stimulant can hardly be regarded as a poison. To the opinion that typhus fever, etc., may be caught through the sense of smell we certainly cannot subscribe.

A COLOURED LADY DOCTOR.

THE Louisiana State Board of Medical Examiners has granted a diploma to practise medicine to Mrs. Emma Wakefield, a lady of colour. She is said to be the first woman of her race in the South, or indeed in the Union, to receive this privilege. Mrs. Wakefield is a daughter of ex-Senator Wakefield, and a graduate of the Medical Department of the New Orleans Coloured University.

A RECORD IN MEDICINE TAKING.

IS Miss Louisa Parnell a living witness for or against the taking of medicine? That, says the *Westminster Gazette*, is the question that forces itself upon one's mind on reading the report of a recent meeting of the Mitford and Launditch Board of Guardians. Miss Parnell, we may explain, is an elderly maiden lady who has been in receipt of medical relief from the Board in question for some years past. When her case came up for consideration the doctor announced that he had reckoned up the quantity of medicine she had consumed, and found that it came to just over a thousand gallons. The relieving officer added that he had seen no alteration in her all the time. But if it has done her no apparent good, there is still the consideration, on the other side, that she is still alive to tell of it. A thousand gallons! It positively haunts the imagination.

THE TREATMENT OF WHOOPING-COUGH BY NAPHTHALIN.

DR. CLAUDE A. P. TRUMAN (Reading) writes: I was interested in reading your correspondent's note upon the above subject. I have used this treatment for five or six years with almost unvarying success, and I now adopt it as a routine practice. In cases where it has failed I have often used the biniodide of mercury (internally), but with varying results. I have found naphthalin, when administered internally, to have extraordinarily good influence in gastro-enteritis in young children; and in many of their diseases, caused no doubt by the products of digestion, or rather indigestion, it will be found to "act like a charm."

LETTERS, COMMUNICATIONS, ETC., have been received from

(**A**) Mr. R. B. Anderson, London; Mrs. R. B. Anderson, London. (**B**) Rev. Canon Barnett, London; Mr. F. A. Bowes, Herne Bay; Mr. L. Bidwell, London; Mr. J. L. Bunch, London. (**C**) Mr. H. H P. Cotton, Westerham; Capel; Catheter; Miss M. Canney, London. (**D**) Mr. W. G Dickinson, London; F. J. Dixon, M.B., London. (**E**) Etiquette; Mr. W. R. Edwards, London; W. McA. Eccles, M.B., London; Enquirer; Mr. J. Emsworth, Liverpool. (**F**) Mr. P. K. Fair, Sevenoaks; Mr. H. G. Falkner, Hull. (**G**) Mr. H. H. Graham, London; Mr. C. Gibson, London; Mr. Y. E. Godson, Droylsden. (**H**) Dr. R. D. Helm, Carlisle; Mr. A. Hands, Wolverhampton; Mr. H. Hall, Want; R. Howie, M.B., Crewe; H. L. H.; Mr. E. B. Holwell, Leeds; Dr. W. F. Haslam, Birmingham; Mr. T. G. Horder, Cardiff; Mr. G. L. Hill, Dursley. (**J**) Mr. G. Jackson, Plymouth; Mr. A. E. Jerman, London; Mr. F. H. Jacob, London. (**K**) Mr. D. B. Keown, London; Mr. C. B. Keetley, London. (**L**) Dr. A. E. Larkham, Chesham; Mr. L. Lewis, Plymouth. (**M**) Dr. E. F. Maynard, Brighton; Dr. G. B. Massey, Philadelphia; Mr. T. D. Mann, London; Mr. J. F. Marsh, Macclesfield; Mr. F. Marsh, Birmingham; Dr. K. Millard, Ross; Dr. Moorhead, Cootehill; Medicus; Miles; Mr. H. U. Mackenzie, Torquay; Member; Dr. A. Mills, Brussels; Mr. J. C. S. Matthews, Birmingham; J. W. Mathie, M.B., Glasgow; Dr. J. Murphy, Sunderland; Mr. G. H. Morley, Birmingham; J. M. Morris, M.B., Neath; Dr. G. Mackay, Edinburgh. (**N**) Dr. A. Newsholme, Brighton; Dr. P. Newell, Crowborough. (**O**) Mr. F. H. Oliver, London; One who knows. (**P**) Dr. G. V. Poore London; Dr. A. Prichard, Clifton; Messrs. Parke, Davis, and Co., London; Dr. F. A. Peter, Frankfort; Mr. T. M. Purchas, Stonehouse; J. Pearse, M.B., Trowbridge; Dr. J. B. Pettigrew, St. Andrews; Mr. H. G. Parker, Lowestoft. (**R**) Mr. W. C. Rockliffe, Hull; Dr. J. B. Russell, Skelmorlie; R. E. P.; Dr. S. Ringer, London. (**S**) Dr. J. Swain, Clifton; Dr. R. Saundby, Birmingham; Salopian; Miss B. Skeat, Llandovery. (**T**) Mr. A. Thorp, Holmfirth; Dr. H. Tilley, London; Dr. J. J. Taylor, Philadelphia; Mr. E. O. Thurston, London; Dr. N. Tirard, London; T. K. C.; Testis. (**V**) Dr. T. J. Verrall, Brighton; Variola. (**W**) F. C. Wallis, M.B., London; Dr. H. Weber, London; W. L. Wainwright, M.B., Brixworth; Mr. W. H. Williams, Sherborne; Dr. W. White, Hadfield; Dr. W. R. Williams, Preston; Mr. W. Whitworth, Scorrier; R. H. Woods, M.B., Dublin; Mr. W. Watkins-Pitchford, Southampton; J. B. Watt, M.B., Ayr. (**Y**) Dr. E. G. Younger, London; W. S. Young, M.B., Gorliestown; Mr. M. Young, Crewe; etc.

BOOKS, ETC., RECEIVED.

Harvey and Galen. The Harveian Oration for 1896. By J. F. Payne, M.D. London: Henry Frowde. 1897. 2s. 6d.

Pocket Medical Dictionary of To-day. By W. R. Warner. Philadelphia: W. R. Warner and Co. 1897.

Sanitary and Social Questions of the Day. By An Observer. London: The Cotton Press. 2s.

Human Embryology. By C. S. Minot. London and New York: Macmillan and Co. 1897. 25s.

Caóba, the Guerilla Chief. By P. H. Emerson. London: David Nutt. 1897. 3s. 6d.

The Yew Trees of Great Britain and Ireland. By J. Lowe, M.D. London: Macmillan and Co. 1897. 10s.

Life in Early Britain. By B. C. A. Windle, D.Sc., M.D., M.A., F.S.A. London: David Nutt. 1897. 3s. 6d.

Om Endokardit dens Pathologiske Anatomi og Ætiologi. F. Harbitz. Kristiania: S. Bogtrykkeri. 1897.

Teratogenesis: an Inquiry into the Causes of Monstrosities. By J. W. Ballantyne, M.D. Edinburgh: Oliver and Boyd. 1897. 2s. 6d.

Electricity; its Medical Applications. By G. R. Peers. Manchester: Published by the Author. 1897. 3d.

The Student's Handbook of Diseases of the Skin. By Utile Quod Facias. Edinburgh: E. and S. Livingstone. 1897. 2s. 6d.

Manual of Bacteriology. By R. Muir, M.A., M.D., F.R.C.P.Edin., and J. Ritchie, M.A, M.D., B.Sc. Edinburgh: Young J. Pentland. 1897.

Dissertation on Disinfection by Means of the Vapours of some Members of the Phenol Series. Submitted for the Degree of M.D. by J. M. Johnson. Manchester: Morris and Yeaman.

Notes on Malaria in Connection with Meteorological Conditions at Sierra Leone. By Surgeon-Major E. M. Wilson, C.M.G. London: H. K. Lewis. 1897. 1s.

"School Ophthalmia." By S. Stephenson. London: J. and A. Churchill. 1897. 1s.

Burdett's Hospitals and Charities, 1897. By H. C. Burdett. London: The Scientific Press. 5s.

*** In forwarding books the publishers are requested to state the selling prices.

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N.B.—It is against the rules of the Post Office to receive letters at *Postes Restantes* addressed either in initials or numbers.

ON

BRONCHIAL BREATHING AND RÂLES.

A Clinical Demonstration on some of the Difficulties of Auscultation given at St. Bartholomew's Hospital.

BY SAMUEL WEST, M.D.,

Assistant-Physician to the Hospital, etc.

AUSCULTATION is not really a difficult subject. It requires some little preliminary instruction, and after that its mastery is only a question of attention and practice; yet there is no doubt that it often appears confusing to students. The difficulties, however, are chiefly of our own making, and lie not in things but in words; for the facts of auscultation, their significance, and their relation to pathological lesions, are well known and understood, while the confusion lies in the technical terms used to express the phenomena observed. Among these technical terms the chief offenders are the two with which I propose to deal to-day, namely, bronchial breathing and *râles*.

Technical terms are convenient, but to be really useful they must be strictly defined and accurately used; otherwise they introduce confusion instead of simplicity, and that is the case in auscultation. If we could only get rid of technical terms, and merely describe in simple language what we actually hear, there would be no confusion and little difficulty.

Students feel this confusion of terms throughout their career, but most acutely at two periods of it: early, when they are first beginning to study auscultation; and later, when they are preparing for examination. Now, why if the facts are so plain and so easy to comprehend, is so much time and energy spent in discussing the meaning of terms? It is for the simple reason that the different terms are regarded as indicating different pathological lesions. These lesions are the important conditions to recognise, and the use of a wrong term would, therefore, imply a wrong conclusion as to the pathological condition. Unfortunately, the same term has not always the same significance, that is to say, it does not always, in the mind of every teacher or examiner, correspond with the same pathological lesion, and it is because this difference of usage of terms is not recognised and taught that so much confusion is introduced into the subject of auscultation.

I propose first of all to consider what the facts of auscultation are; what their meaning is; and why it is important to give certain of them special names. I shall then be able to show where the confusion comes in, and how it will be possible to avoid it.

THE BREATHING SOUNDS.

As the air passes in and out of the larynx and air tubes it makes sounds which are carried throughout the air tubes by the column of air contained in them. These sounds are very obvious if we listen over the larynx, and they have a certain loudness and certain character. If we listen over the trachea we hear the sounds as before, but with somewhat diminished loudness and different character. Again, over the bronchi—that is, beneath the manubrium sterni in front, or behind right and left of the second or third dorsal vertebræ, the breathing sounds are still heard, but are further diminished in loudness and altered in character. Finally, if we listen in the axilla or at the base behind—that is, as far as possible away from the air tubes, the breathing sounds are entirely different from those heard in the other places specified. The breathing sounds heard in these various parts have since Laennec's time been called laryngeal, tracheal, bronchial, and vesicular respectively.

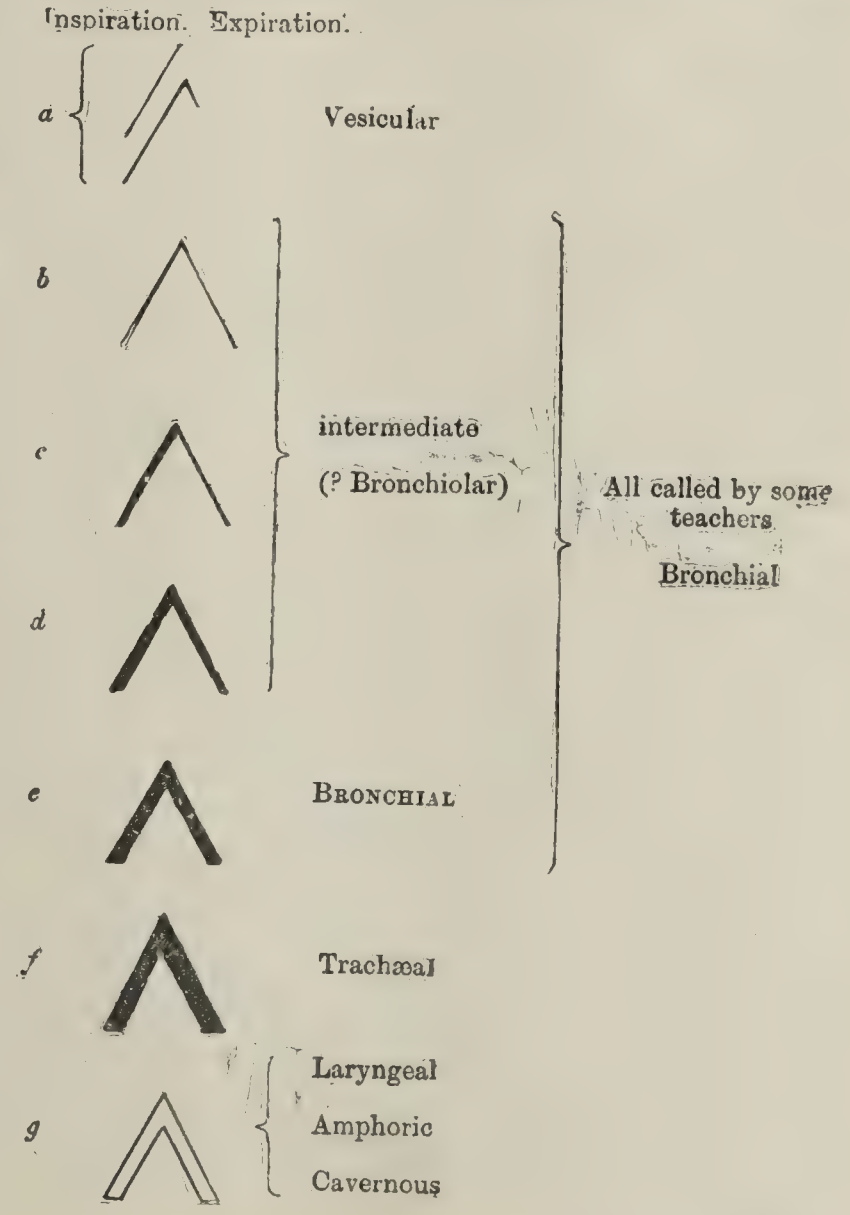
Pathologically these terms become of significance when they are heard in places in the chest where they should not normally be heard at all. If in places where vesicular breathing ought normally to be heard vesicular breathing disappears, and in its stead some other kind of breathing is heard, the conclusion may be drawn, subject to a few reservations to be dealt with later, that that portion of the lung is in a condition of disease, and the more abnormal the breathing is the greater the pathological changes which have taken place. This is the real reason why so much importance is attached to these terms, for they are regarded as the measure of the pathological change.

Over the larynx inspiration is heard as well as expiration; both are loud, noisy as it were, and both have a peculiar character, such as might be produced in a large hollow space as we know the larynx to be. On account of this hollow character this kind of breathing when heard elsewhere is often called, not laryngeal, but amphoric or cavernous. Over the trachea inspiration and expiration are both heard. The sounds are still loud and noisy; though not quite so loud as over the larynx, they are somewhat raised in tone, and have lost some of their hollow character. Over the positions described where bronchial breathing may be heard both sounds are still audible, but with a still higher pitch and a much harsher character. When in disease instead of vesicular breathing other sounds are heard they are called laryngeal, tracheal, or bronchial, according as they approach most nearly to the characters of the breath sounds heard in these respective places.

Now let us turn to vesicular breathing, and analyse what it is that we hear in those parts of the chest which are far removed from the large bronchial tubes. Here there is little noise: the sounds are muffled, blowing, soft, almost sighing in character, and what is more remarkable is that they are no longer double. We hear the blowing murmur with inspiration, but with expiration we either do not hear anything at all, or we hear the blowing murmur only for a short time during the early part of expiration. Thus vesicular breathing is characterised first by the absence of noise, secondly by its blowing character, and thirdly by the absence, or diminution in length, of the expiratory sound.

All the forms of breathing may be represented diagrammatically by lines, the varying thickness of them indicating the amount of noise. Thus vesicular breathing may be indicated by a thin line for inspiration, with a very short thin

FIG. 1. DIAGRAMMATIC REPRESENTATION OF THE BREATH-SOUNDS.



line for expiration, if it be audible at all (Fig. 1 *a*); bronchial breathing by two thick lines (Fig. 1 *e*); tracheal breathing by two thicker lines (Fig. 1 *f*). Of course, between the diagram which represents vesicular breathing and that which represents bronchial breathing various transitional forms might be drawn, and these would correspond with the transitional forms of breathing which are actually observed. Laryngeal breathing (Fig. 1 *g*) or, as it is called, "cavernous breathing," may be represented by two double lines enclosing a space, instead of two thick solid lines, thus indicating its hollow character.

Now, just as the air tubes pass without a break from one end to the other, the larynx into the trachea, the trachea into the bronchi, the larger bronchi into the small bronchi, and the small bronchi into the bronchioles and vesicles, the lines of division between them being purely arbitrary, so it is with the different kinds of breathing to which the different names are given.

The earliest pathological change from healthy vesicular breathing is that expiration becomes audible throughout its whole length (Fig. 1 *b*); the next change is that inspiration becomes louder than it should be (Fig. 1 *c* and *d*). By-and-

Diagram to show the relation assumed to exist between the altered breathing sounds and the amount of pathological lesion.

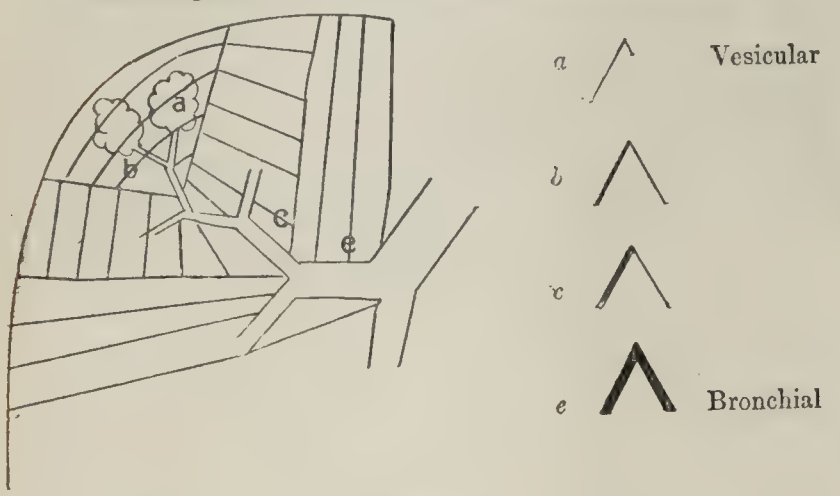


Fig. 2.

bye both inspiration and expiration are equal in loudness and intensity, and subsequently come to have the character to which the name bronchial breathing is given.

Between bronchial and vesicular breathing we have many transitional stages, and the question is how far the term "bronchial" shall extend. No one who has ever heard true or typical bronchial breathing such as is met with in acute pneumonia can fail to have been struck by it or is likely to forget it. This everyone calls bronchial breathing, and it is so characteristic and peculiar, and it means so much pathologically, that it is evident a special name is required for it.

It seems a pity to use the same name which we employ to designate this remarkable phenomenon for a variety of other forms of breathing which have not the same pathological significance. And this is the gist of the whole matter; for while some strictly limit their use of the term to that very peculiar form of breathing most frequently heard in pneumonia, others employ it as a general expression for many kinds of pathological breathing, from the slightly modified vesicular up to the typical bronchial breathing. The importance of the question is at once apparent if we look at it from a pathological point of view. In the one case we indicate a massive, considerable consolidation of the lung, and in the other a consolidation which may be comparatively trifling.

Now if, instead of using technical terms, we described in simple ordinary language the phenomena we hear, all this difficulty and confusion would at once vanish. Thus we might put into words what we really have to observe in fact. We have first to listen whether expiration can be heard. If so, whether it is as long and as loud as inspiration. Then whether inspiration or expiration has any abnormal characters in quality and tone. These changes can all be described in plain and simple language, and without the necessary introduction of technical terms. It is in this way that I have long taught auscultation and percussion, and it is easy to make the subject intelligible and interesting, and to avoid all the confusion which technical terms introduce.

Now let us turn for a moment to the cause of the respiratory sounds, and consider where these sounds are produced; why it is they are modified in different parts of the air passages; and how it comes that vesicular breathing is so different from all the other kinds. The sounds of breathing are produced chiefly at or about the glottis, and they are diminished in intensity; that is, they become less and less loud the farther away from the glottis we pass; thus distance from the seat of production accounts for the diminished noise we hear in different parts of the chest. As we pass farther and farther away from the larynx, the sounds become not only less loud, but rise also in pitch; this is to be connected with the size of the tubes over which we are listening.

In vesicular breathing we have another and new factor added. In the vesicles of the lungs the air column is as it were broken up by a number of partitions into compartments or spaces of different sizes. In this way the sound brought by the air tubes is so dispersed and dissipated that much of it becomes lost; the vesicular structure of the lung may be likened to a feather pillow, and the vesicles muffle the sound in a similar way. The result is that so long as the vessels are healthy but little of the breathing sounds are audible at all; we hear inspiration only, and little or nothing of expiration. As soon as the vesicular structure of the lung becomes more homogeneous—that is to say, the irregular air spaces become solid—the muffling of the sounds is less, the breathing sounds in the smaller tubes is heard, and consequently expiration becomes audible. As the consolidation extends, inspiration and expiration become more distinct, and, finally, when the consolidation becomes massive and extends, we may suppose as far as the large bronchi, the sounds produced in them are audible, and we get typical bronchial breathing. Thus it comes about that the degree of alteration in the respiratory sounds is an index of the amount of consolidation, as is represented in Fig. 2.

If, on ordinary quiet breathing, the sounds produced by the passage of air through the larynx are transmitted to the vesicles of the lung, it follows that they will be transmitted with greater distinctness when the breathing at the larynx is loud, and when it is very noisy the sounds heard over the vesicles of the lung may resemble in character those audible over some of the air tubes. It might be then difficult to say whether the cause of this exaggeration of the breath sounds lay in the larynx or in the vesicles of the lung.

Even simple increase in the rapidity of breathing produces more noise, and then both inspiration and expiration may become audible over the vesicles of the lung. This very frequently happens in children, and was named by Laennec "puerile," a term which is still retained, but which is often applied not to the breathing of children only, but to similar kinds of exaggerated or loud breathing in adults.

In children and in adults puerile breathing may very closely resemble some of the pathological kinds of breathing previously described, but in most cases it retains something of that muffled character which has been described as peculiar to vesicular breathing.

If patients are told to take a deep breath they frequently begin to make noises with the mouth, pharynx, or larynx. This must be prevented, for the noises thus produced may mask the other changes in the character of the breathing, for which we are looking.

The most serious difficulties are introduced when disease of the larynx or trachea has led to stenosis or narrowing of the tube, so that the air has to pass through a constructed aperture. It must, therefore, pass at a greater rate, and in doing so will produce a greater noise. This noisy laryngeal and tracheal breathing has received the name of "stridor." Stridor complicates diagnosis very considerably, for the sounds are loud and transmitted far and wide, and are audible over the vesicles of the lung. Under these circumstances the diagnosis of the condition of the vesicles of the lung by auscultation becomes extremely difficult, if not impossible, and mistakes may be made in either direction: either disease of the vesicles may be diagnosed when none exists, or the absence of disease inferred when considerable disease is present.

The last difficulty that needs to be mentioned is in connection with rhonchus. This sound is often of considerable intensity, so that it is frequently heard even far away from the chest. It is also often double, that is to say, both inspiration and expiration are audible. As a rule, however, rhonchus is easily distinguished from other forms of pathological breathing by its sonorous or musical character; but if these are absent, and there is nothing but the increased loudness and harshness of respiration, rhonchus may come to resemble bronchial breathing very closely, and I have seen instances in which it would be very difficult by the ear alone to say which was present. However, this difficulty is not likely often to arise.

Now, I think we are in a position to see the whole matter. Bronchial breathing introduces confusion in our ideas, because it is used in different senses by different persons. Although all agree in calling the extreme form "bronchial breathing," there is great difference of opinion as to the term to be applied to the intermediate forms, and some attempt to solve the difficulty by calling them all bronchial. It would be well if we had names for those intermediate forms which lie between bronchial breathing and vesicular, but none have been accepted. They have been called "intermediate," "undefined," (*unbestimmtes*), but these terms are unsatisfactory, indefinite, and not in general use. As our terminology is in the main anatomical, we might carry it a little further, and while speaking of laryngeal, tracheal, and bronchial breathing, add to the list "bronchiolar" breathing. There is an objection to the introduction of a new term into auscultation, and I am not inclined to advocate it. Still if we could agree upon some such intermediate term, we should do away with much of the confusion which now exists.

Râles.

I now turn to the second term which is a source of confusion—namely, "*râles*." The sounds heard on auscultation fall into two groups: first, modifications of sounds heard in the healthy chest; and, secondly, new, added, or adventitious sounds never heard in health at all. The latter group consist of rattling, bubbling, crackling, rubbing sounds. The last is called "friction," and the rest have been named "*râles*." Thus, *râles* is a general term, with several varieties. Of these Laennec made five, namely: 1, crepitant; 2, mucous; 3, sonorous; 4, sibilant; 5, dry crackling. This is really a good classification, and if it had been adopted in its entirety, as Laennec intended, there would be little confusion. Unfortunately, this is not done.

1. *The Crepitant Râle.* This is fine crackling sound, such as is heard when the hair is rubbed between the fingers over the ear, and is now more commonly known by the name of "fine hair crepitation." It is heard most frequently in the early stages of pneumonia, but it is also met with in some other conditions of lung disease.

It is usually explained as being due to the opening out by the entrance of air of collapsed air vesicles which have stuck together, the crackling sound being produced on the separation of the two surfaces.

It would be well to place the fifth variety of *râle*, the dry crackling *râle*, also under this heading—a noise which Laennec compared to the crackling of a dry bladder, and described as met with occasionally in emphysema. It is not a fine, but a large, coarse crackling (*râle crépitant sec à grosses bulles ou craquement*).

Between these two forms of crepitation Laennec placed another variety which he called "subcrepitant," not quite so fine as the fine-hair crepitation, nor yet so coarse as the other form. This was observed frequently in cases of early phthisis. Laennec, however, did not say, as subsequent writers have done, that this subcrepitant *râle* was pathognomonic of phthisis. Nor is the statement true, for this *râle* may be heard in many conditions of the lung which are not of tuberculous nature, and notably in bronchopneumonia.

This term "subcrepitant *râle*" is one which is not required; it is very indefinite, difficult to comprehend and to explain, and therefore would be better formally banished from our nomenclature, as indeed it now almost is in practice.

All these forms of *râle* Laennec thought not to be due to fluid, and he therefore called them "dry *râles*."

2. *The Mucous Râle.*—Mucous *râles* are crepitant, crackling sounds also, but regarded as due to the bursting of air bubbles in fluid. They have therefore been called "moist *râles*." These *râles* vary in character according as they make more or less noise, or are produced in larger or smaller tubes, and so they give the impression of being caused by large, medium-sized, or small bubbles bursting. They are therefore described as small, medium, and large-sized crepitation. The largest of all is often called "bubbling," and in its coarsest form is known as "the death rattle," from which the name "*râle*" was originally taken. All these mucous *râles* alike are now termed "crepitation."

The larger forms of crepitation are easy to recognise by the ear, and are obviously due to the bursting of bubbles in fluid. The small crepitation has been likened to the crackling of salt when thrown on the fire, or the bursting of very fine soap bubbles in lather. This small-sized crepitation is by no means easy to distinguish from the crepitant *râles* just described, and which are now called "fine-hair crepitation." Nor are they easy sometimes to distinguish from a form of friction in which the sound, instead of being rubbing, has this crackling character.

All the sounds alike may be modified by the condition of the lung which surrounds their place of production. Thus, if the lung be solid they may acquire a sharp, clear character, and appear as if produced immediately beneath the ear. In this respect they may be compared with the clear transmission of the voice sounds which is called "pectoriloquy." Again, if the crepitations are produced in a cavity, they may not only be large and bubbling, but in addition have a ringing, hollow character, strictly comparable with amphoric breathing or amphoric resonance.

3 and 4. *Sonoro-sibilant Râles.*—The third and fourth variety of *râles*, namely, the sonoro-sibilant *râles*, are now universally called "rhonchus" and "sibilus" respectively, the former being a snoring or sonorous, the latter a hissing, piping, or whistling sound; and they both, as the epithets applied to them imply, frequently have a musical character.

It is now evident that Laennec's classification may be arranged somewhat differently. The sonoro-sibilant *râles* (the third and fourth varieties) are now called "rhonchus" and "sibilus." All the other kinds of *râles* are comprehended in the general term "crepitation," other descriptive terms being added to it to indicate what kind of crepitation it is.

Now, I think it becomes clear where the confusion is introduced in respect of the term "*râle*." The term is sometimes used strictly as a general expression, as Laennec used it with all the varieties which he described. Others, finding that "rhonchus" and "sibilus" are in such common use, and forgetting that they form but the "sonorous" and "sibilant" groups of Laennec's *râles*, use it as simply representing the remainder of Laennec's varieties of *râles*—namely, those which we describe for the most part as "crepitation."

"*Râle*," therefore, like "bronchial breathing," nowadays has two meanings, and it is impossible to say beforehand which meaning it is intended to have. It may be used as a general expression, in the same way that Laennec employed it, or it may be used as meaning nothing else than crepitation. It is evident, therefore, that we do not want the term "*râle*," and I think it would be well if we could get rid of it.

To the other terms, "mucous *râles*," "moist *râles*," and "dry *râles*," there are other objections. Terms in auscultation should be descriptive only; they should state facts and facts only, and not mix up facts with theories or inferences drawn from them. Now, this is what these terms do. The mucous *râle* is a *râle* of a crackling character; this is a fact. It is due, it is supposed, to the bursting of bubbles in fluid, the fluid being mucus; these two implications are opinions only. It is evident that the fact may be correct and the theories or inferences wrong.

Again, with the dry *râles* the sounds are crepitant, not bubbling. This is descriptive of their character. It is assumed that they are not due to the passage of bubbles of air, which is an opinion. The dry *râles* fall into two kinds, the "crepitant" and the "sonoro-sibilant." These are easily distinguished by the ear. Rhonchus and sibilus are called "dry" sounds, and are supposed to be due to secretion which lines the tube, and thus narrows its lumen; yet if the secretion be a little more in amount and lie not upon the walls of the tube, but get into the cavity of the tube, bubbles

may be produced and thus crepitation arise, so that actually the same secretion may produce a moist or a dry *râle* somewhat at random.

Again, in respect of some of the forms of fine crepitation the ear recognises the sounds readily, and they are described correctly as small crepitation, but the ear alone is quite unable to decide in many cases what the cause or mode of production of these sounds is. The same fine crepitant sound may have four modes of origin. It may be due (1) to the opening out of collapsed air vesicles, the crepitant *râle* of Laennec; (2) to the crepitation of emphysematous lungs, the "dry crackling crepitation" of Laennec; (3) to the bursting of minute air bubbles, the small mucous crepitation of Laennec; or (4) to pleuritic friction. According to the method of production we might call three of these "dry" *râles*, and the other "moist"; but it might be quite impossible by the ear alone to decide to which cause the particular crepitation were due.

It is dangerous for anyone, whether student or teacher, thus to mix up fact and inference in a common term, and it is fatal to clear teaching. I may make my meaning clear if I take another example. Nothing is commoner in the examination of the heart than to hear a murmur described as "mitral systolic." Now, what does this expression really involve? It means that there is a murmur audible at the apex, systolic in time, transmitted in certain directions—that is, to the axilla and to the interscapular space, associated with certain changes in the heart itself and in the character of the heart sounds elsewhere, and because of these facts we infer that it is produced by regurgitation through the mitral valve. The proper place for this conclusion would be at the end of the description of the case, where the diagnosis comes, and not in the commencement of it under the physical examination, where we have only to describe the facts observed, and not the conclusions drawn. At any rate, what is a more common experience with students than to hear them say that there is a mitral systolic murmur, the simple fact being that there is a systolic apex murmur, while their opinion that it is due to mitral disease is quite as likely to be wrong as right? This tendency therefore to mix up facts and inferences in a common term should be discountenanced.

What we require in an account of the physical examination is a statement of facts observed, not of inferences drawn. As long as the terms employed are descriptive only they are useful; as soon as they involve an inference or a theory they become dangerous, for the facts may be right and the conclusion or theory wrong. With care even beginners can easily be right as to the facts of observation, but from want of knowledge and experience they are only too likely to be wrong in the conclusions they draw, and what the beginner has to learn is how to observe accurately and ascertain correctly the facts. The correct conclusions to be drawn from these facts can only be learnt by time and experience.

The term "*râle*" thus becomes a source of confusion, first because it is used in different senses either as a special term or as a general one; and, secondly, because the addition of such descriptive terms as "moist" and "dry" imply a theory about which there may be great difference of opinion. It would be well, therefore, if we could banish "*râle*" altogether from our vocabulary. We do not want it, and a term which is redundant is often the cause of confusion.

When I find a student puzzled by technical terms in listening to the chest, I often say, "Now drop all technical terms, and describe simply what you hear." I rarely find that they have any difficulty in hearing what there is to hear, and describing it in simple language. I may then supply the proper technical term and explain its meaning.

Treated in this way auscultation is easy to teach and easy to learn, for the facts are plain; it is only the terms and theories which differ.

I will end as I began by saying that auscultation is easy enough, and that words alone make it difficult. The difficulties may be to a great extent avoided by not using ambiguous terms. I wish teachers could be all agreed on terms as well as they are on facts: of this I have no hope at present, but a step in the right direction will have been made if it is generally recognised that the chief sources of difficulty in auscultation are the ambiguous terms in use.

A METHOD OF STAINING THE MALARIA FLAGELLATED ORGANISM.

By PATRICK MANSON, M.D., F.R.C.P.,

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STUDENTS of the malaria parasite may like to know of a simple method of making permanent preparations of the oval, spherical, and flagellated phases of the plasmodium.

So far as I am aware Sacharoff (*Amœba Malariae (Hominis) Specierum Variarum Icones Micro-photographicæ*, Tiflis, 1892) is the only one who has hitherto successfully stained the flagellated organism. This he succeeded in doing by collecting a series of drops of malarial blood on cover-glasses which he immediately placed in a moist chamber. When, by observing under the microscope an ordinary slip and cover-glass preparation of blood simultaneously made from the same patient, he had ascertained that exflagellation had taken place, he removed the cover-glasses from the moist chamber, spread out the drops of blood, and fixed and stained the films—using gentian violet for the latter purpose. Gentian violet stains the plasmodium so deeply that it completely obscures the pigment and all internal structure of the parasite. By employing the method which I shall describe, and by using weak carbol-fuchsine as the stain, a large number of preparations of the flagellate body, showing the pigment and certain details of structure, can be procured with the greatest ease and certainty, and, at the same time, an elaborate moist chamber be dispensed with.

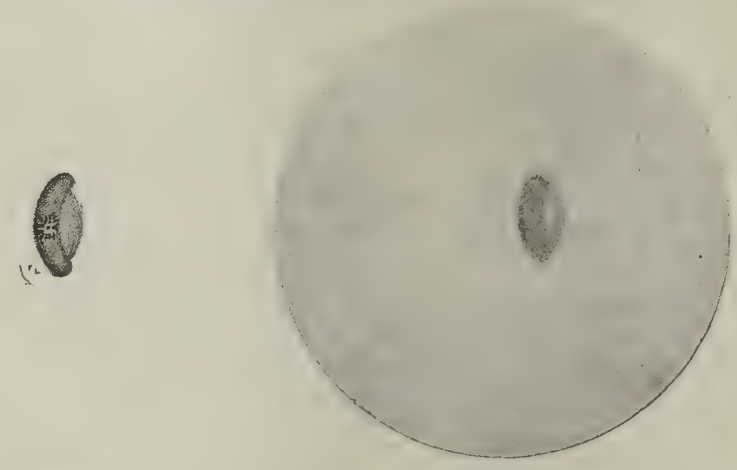


Fig. 1. A.

Thirty or forty strips (3 inches by 1½ inches) of thick blotting paper, each having an oblong hole (1 inch by ⅔ inch) cut lengthways in its centre, are prepared; they are then slightly but sufficiently moistened with water and laid in rows on a sheet of window glass.

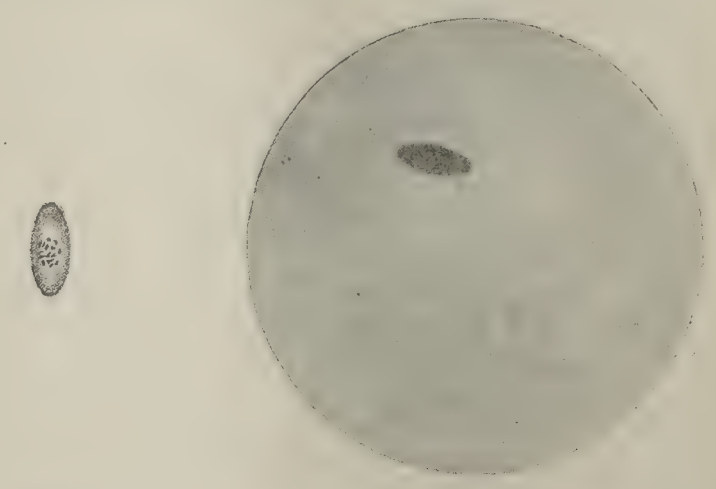


Fig. 2. B.

A patient in whose blood the crescent form of the malaria parasite abounds is selected. His finger is pricked and a minute droplet of blood, the size of a large pin's head, is

expressed. A clean microscope slip is then breathed on once and the droplet of blood immediately taken up by lightly touching it with the centre of the breathed on surface of the slip. The blood is now rapidly and somewhat unevenly spread out with the needle so as to cover an area of about ¾ inch by ½ inch. Immediately the slip is inverted over the blotting-paper cell and pressed down sufficiently to secure thorough apposition of the slip to the paper, without at the same time bringing the blood into contact either with the moistened paper forming the wall, or with the glass forming the floor of what is now a very perfect moist chamber. The rest of the paper cells are rapidly covered with blood-charged slips prepared in the same way. In from half to three-

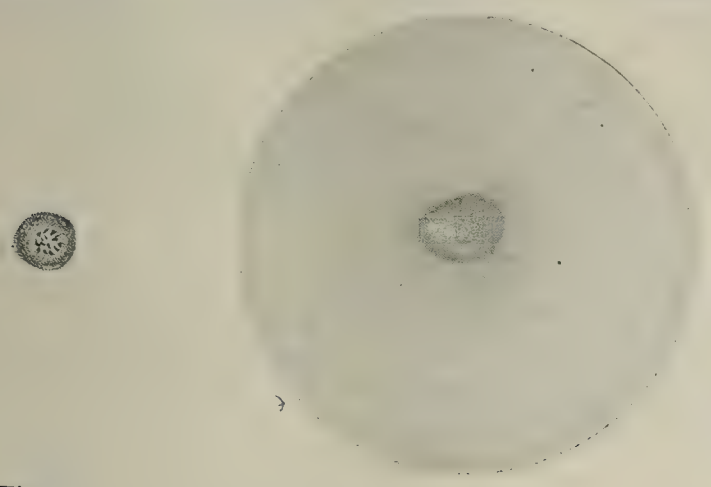


Fig. 3. C.

quarters of an hour the slips are removed and dried by gently warming them over the spirit lamp—blood surface away from the flame. When dry the films are fixed with absolute alcohol, a few drops being poured on each. After five minutes the alcohol is dried off and a few drops of weak acetic acid (10 per cent. to 20 per cent.) are laid on the film and left there long enough to thoroughly dissolve out all the hæmoglobin. The slides are then washed in water and dried. They may now be stained with various reagents. So far, I have obtained the best results from weak carbol-fuchsine (20 per

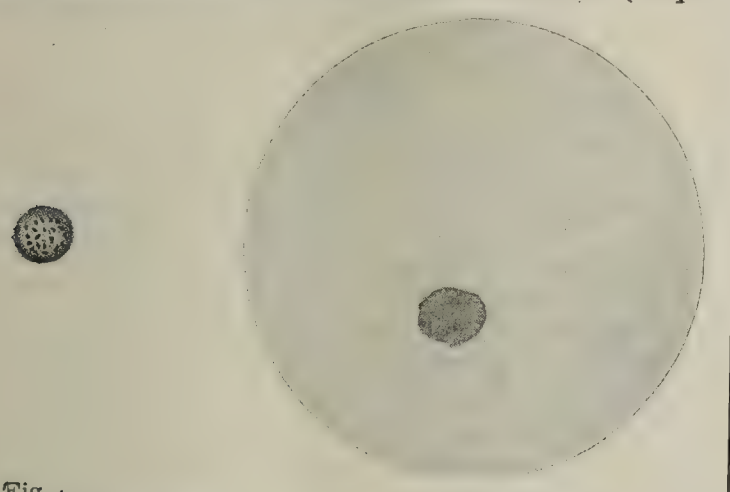


Fig. 4. D.

cent.) and prolonged staining. The stain is dropped on the slip and covered with a watch-glass; after six to eight hours it is washed off, the slide dried and a cover-glass applied with zylol balsam. The staining, though sufficiently intense, is fairly transparent.

Most of the slides will show numbers of spheres and several or many well-stained flagellated bodies. Very few crescents remained untransformed. If the slips are removed and dried in from five to ten minutes after being placed on the blotting paper cells only crescents, ovals and spheres will be found; if they are left for three-quarters of an hour to an hour free flagella and what Ross calls spent pigment may be found, the latter sometimes enclosed in phagocytes. Occasionally flagellated bodies are also found partially included in phagocytes.

The beautiful microphotographs here reproduced, which I owe to the courtesy of Professor Greenfield and to the skill of Mr. Richard Muir of the Pathological Department, Edinburgh University, were made from slides prepared in this way. The drawings are faithful representations of the same or similar plasmodia by Mr. Max Colhoun. Together these illustrations afford some interesting information about the evolution and structure of the flagellated body.

In the crescents (Fig 1 and A), in the ovals (Figs. 2 and B), and in the early stages of the sphere (Figs. 3 and C), it can be seen that the melanin pigment lies in or on a central body which takes the fuchsine stain less intensely than does the peripheral portion of the organism. It is also evident that at a later stage (Figs. 4 and D) the lightly staining central mass expands considerably, and that subsequently (Figs. 5 and E) the flagella are formed at the expense of this

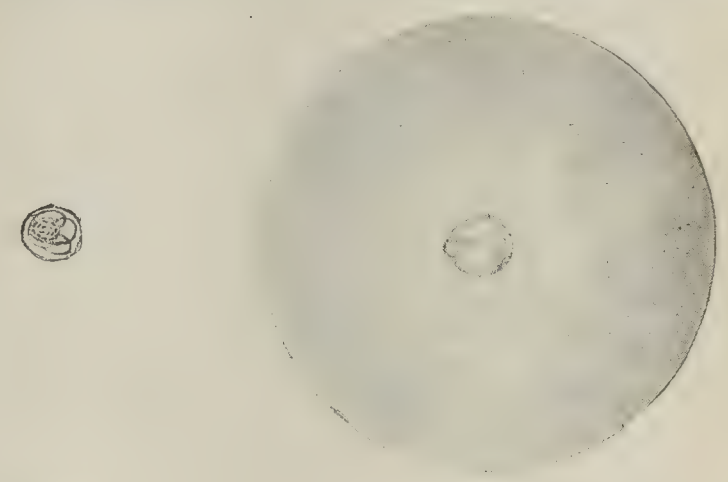


Fig. 5. E.

central mass, and that for a time these flagella lie inside the delicate cyst wall which forms the outer covering of the parasite. Later still (Figs. 6 and F) these preformed flagella are projected through the cyst wall and exflagellation is completed.

It will be observed that in some of the flagellated bodies (Figs. F and G) the central mass of the organism is of considerable bulk, larger, apparently, than the crescent bodies from which they originated. In others (Figs. H and I) the body of the parasite is much smaller. This discrepancy in

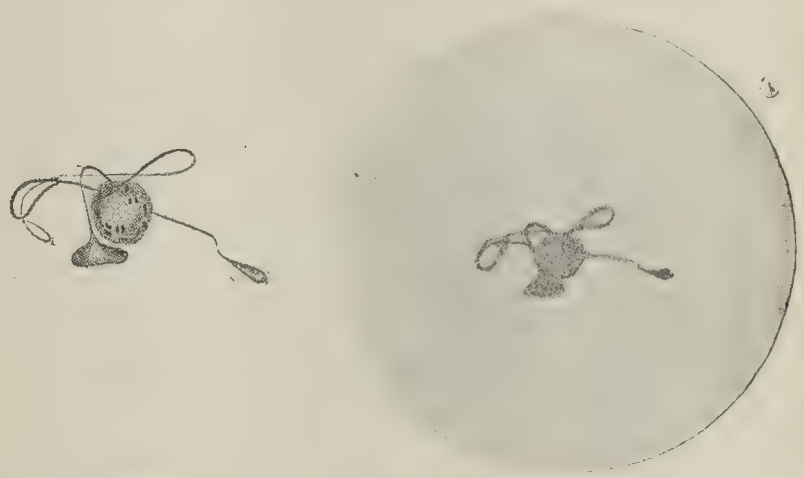
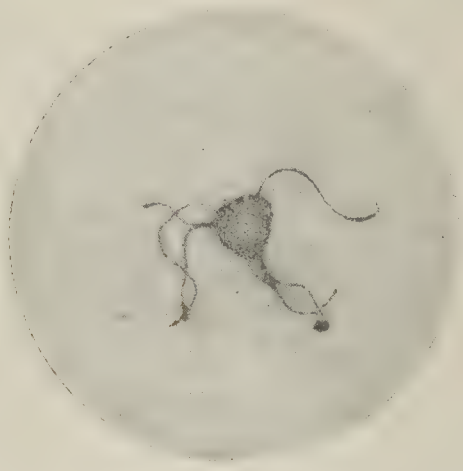


Fig. 6. F

size is more apparent than real. I believe that when the blood film chances to be very thin the plastic body of the parasite flattens itself on the slide and so, becoming a mere disc, appears larger than when, being in a thicker film it preserves its spherical or approximately spherical form; the same thing can be observed in ordinary preparation of fresh malarial blood. It will also be noted that in some (Figs. H and I) the flagella are of uniform thickness throughout, whereas in other (Figs. F and G) their free extremities are sometimes bulbous (Fig. G), sometimes expanded (Figs. 6 and F) into a large, leaf-shaped or reniform swelling. This is confirmatory of what has been described as occurring in the living flagellum, although expansions so considerable as that shown in Figs. 6 and F have not hitherto been described.

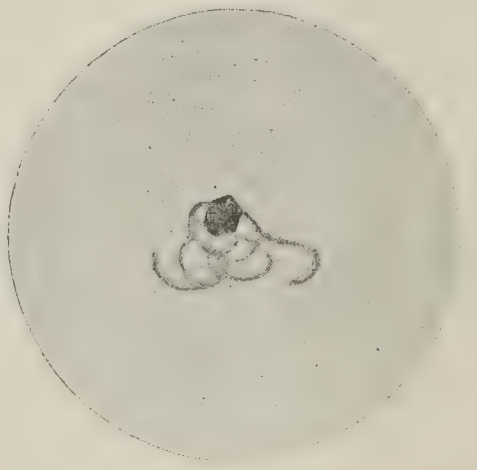
In contemplating in fresh preparations the evolution of the living, crescent-derived sphere into the flagellated body, one sometimes fancies that one can see the flagella wriggling

about inside the limiting membrane of the parasite. In fact one can sometimes almost see that the agitation, which is so characteristic a feature of this stage of the evolution of the parasite, is confined to the central portion of the organism, and is not shared in, except in a passive way, by the cyst wall; and that it is entirely owing to the vigorous movements of the imprisoned flagella. From the extreme transparency of the flagella and the rapidity of their movements, one cannot be absolutely sure of this in the unstained living specimens, but in these stained preparations it is distinctly evident that this fancy is well founded. In the preparation from which Fig. 5 was drawn, and also in that of which Fig. E is a photograph, the flagella can be readily made out surrounding the central mass and lying inside the limiting membrane of the organism.



G.

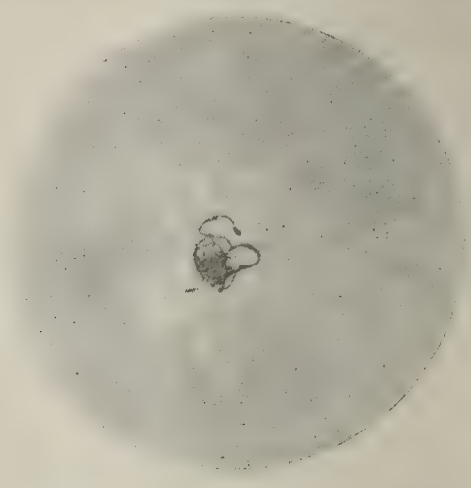
Looking at these photographs and drawings, I do not see how it is possible any longer to contend, as so many Italian writers have done, that the flagellated phase of the malaria parasite is an involution or degeneration form; that the flagella are comparable to the protoplasmic projections sometimes seen in scorched blood corpuscles; or that they are anything other than a distinct phase in the evolution of the living malaria parasite.



H.

I have not attempted to make similar preparations of the flagellated bodies of the benign, tertian, or of the quartan parasites. I have no doubt, however, that by selecting the stage of fever in ordinary tertian or quartan attacks their flagellated forms could be equally easily demonstrated, and that probably some interesting details bearing on the question of species would be made out.

When working at these preparations I took the opportunity to repeat Marshall's and Ross's experiments on the influence of water, and of exposure to the air, in inducing exflagellation. I can confirm their statements. I found that breathing once on the slip before taking up the droplet of blood was a better way of supplying moisture than Marshall's plan of placing a droplet of water on the coverglass; if the amount of moisture be too great, as it is apt to be by Marshall's method, the parasites are killed. I also repeated Ross's experiment of pricking the finger through vaseline, and not removing the grease film surrounding the droplet of blood till one hour thereafter. I found that Ross's statement, that under these circumstances exflagellation did not take place, was perfectly correct; for when I spread the blood out, at the end of an hour, and at once dried and then fixed and stained it, only crescents, and



perhaps a few ovals were found. When, however, the blood, after breaking the vaseline film surrounding it, was exposed to the air for a minute or thereby, and then mounted on a slip and coverglass in the usual way for making fresh blood preparations, in many instances, after a short time, exflagellation was seen to occur.

THE CROONIAN LECTURES

ON

THE MEANS BY WHICH THE TEMPERATURE OF THE BODY IS MAINTAINED IN HEALTH AND DISEASE.

Delivered before the Royal College of Physicians of London,

BY W. HALE WHITE, M.D., F.R.C.P.LOND.,

Physician to and Lecturer on Pharmacology and Therapeutics at Guy's Hospital.

LECTURE IV.*

[ABSTRACT.]

CHEMICAL STUDY OF HEAT PRODUCTION.

THE breaking down of any chemically complex substance, such as a proteid or a fat, always leads to the liberation of energy. Various observers have, by burning these substances in a calorimeter, calculated the amount of heat set free by their destruction. In such a case the whole of the liberated energy appears as heat. Some of the most careful and recent results are Stohmann's.[1] His figures represent the amount of heat necessary to raise 1 gramme of water from 17° to 18° C. He found that the heat value, expressed in gramme-calories, of the substances enumerated was as follows: Most albumens, 5,298 to 5,941; meat, 5,662; albuminoids, 4,650 to 5,961; chondrin, 5,130; animal fat, 9,509; olive oil, 9,500; carbohydrates, 4,381 to 3,714; cane sugar, 3,955.

These figures are of great value, but we cannot, of course, calculate the heat production of an animal from its diet. In the first place we do not know what proportion of any meal is absorbed from the gastro-intestinal tract; secondly, not all the energy set free in the body is manifested as heat—some takes the form of mechanical work, and therefore in calculating the heat value of any particular diet we should have to deduct the energy which in the body takes the form of motion, but this is very difficult to estimate accurately, and therefore the deduction to be made from the total heat value of the food would be uncertain; and, thirdly, the food may be stored up in the body and not broken down for some time. The value of figures, like those of Stohmann's, which show the amount of heat produced by the breaking down of the albumins and fats of the body lies in the fact that we can,

* Abstracts of Lectures I., II., and III. were published in the BRITISH MEDICAL JOURNAL of June 26th and July 3rd.

by observing the amount of nitrogen and carbon excreted, calculate what must have been the amount of proteid and fat which had to be broken down to produce these amounts of nitrogen and carbon, and then, by looking at Stohmann's figures, we find how many calories the breaking down of these proteids and fats gave rise to. But in these calculations we must remember that although the fats are completely broken down yet the proteids are not. Nearly all the proteid is, however, broken down to urea and uric acid; the excretion of these can be measured, and the number of calories resulting from their complete destruction estimated; if this done, and the calories of energy remaining in the urea and uric acid are deducted from those set free if a gramme of albumen is broken down as low as possible, we, of course, easily obtain the energy value to the body of a gramme of albumen, and this is found to be about 4,000 gramme-calories.

Rubner[2] has in animals, by careful analysis of the expired air, the urine, and the fæces, observed the amount of nitrogen and carbon excreted, from which he calculates the quantity of proteids and fats that corresponds to such an amount of nitrogen and carbon. Then he compares the heat given off by the animal in an animal calorimeter with the heat that he would, from his knowledge of the number of calories set free by the breaking down of these quantities of proteids (after allowance for the urea and uric acid), and fats, expect to be produced by the animal during the time it was in the calorimeter. The following table shows how the calories reckoned by each method correspond. It gives in kilogramme calories the results of experiments on a small dog which was observed for five days starving, five days on a fat diet, eight on a diet of meat and fat, and six on meat; and on a big dog observed two days starving, twelve days no meat and fat, and seven on meat. Each twenty-four hours was observed separately, and the table gives the total results for each dog for each diet.

Diet.	Number of Days.	Total of Calculated Heat.	Total of Heat Estimated by Calorimeter.
Starving	5	1296.3	1305.2
	2	1091.2	1056.6
Fat	5	1510 1	1495.3
Meat and fat... ...	8	2492 4	2488.0
	12	3985 4	3958.4
Meat	6	2249.8	2276.9
	7	4780.8	4769.3

Rubner's experiments are very carefully performed, and therefore we must look forward with great interest to their confirmation. If they are confirmed they will prove that he has successfully overcome many great difficulties, and the agreement between his chemical and calorimetrical results will be remarkable, for we have seen that animal calorimeters may be very inaccurate instruments, and unless very carefully constructed will give rise to all sorts of errors. Secondly, the chemical method gives the heat produced, but the calorimeter only indicates that lost, and we cannot infer quite accurately from that the amount produced by the animal, for we do not know whether, during the experiment, it varies its rate of loss; and, further, we cannot tell, unless we know the variations of its temperature during the twenty-four hours an experiment lasted, how much of its heat production has been expended in raising its temperature, and if any has been so used it would not be shown by the calorimeter. In these experiments the dissipation of energy as mechanical motion does not interfere with the results, for the animals keep quiet in a cage which just fits them; and further, such mechanical work would tell equally in both sets of figures, as also would the work done by the heart and respiratory muscles, most of which work becomes heat as it has to overcome friction.

Nitrogen and Carbon Excreted in Fever.

We now pass on to a consideration of the experiments in which an attempt has been made to calculate the heat production of starving animals suffering from fever by observing the amount of nitrogen and carbon excreted. It is always necessary to use starving animals, for it is well known that the ingestion of a meal increases the production of heat, as, indeed, the table just quoted from Rubner shows. This method can give some idea of the chemical processes involved in fever, but in applying the results to man we must remember that, as human patients are given food during a febrile illness, and as man possesses in his sweating and hairless skin, far better means than the lower animals of varying his loss of heat, the processes may be somewhat different in man from the processes in a starving animal. By far the best experiments are those of May,[3] who comes to the conclusion that the balance of evidence supports the view that in febrile pyrexia the respiratory quotient is unaltered, that the excretion of CO_2 is not much increased, and that the brunt of the destruction falls on the proteids. He used rabbits in whom he induced swine erysipelas. For some days before the production of this fever they were starved so as to get their excretion of urea steady, and during the fever May most carefully observed the output of nitrogen and carbon both in the urine and the breath for more than twenty hours at a time, and he calculated what must have been the original amount of proteid and fat tissue which would, when broken down, correspond to the nitrogen and carbon he found excreted. Using Stohmann's heat values of proteid and fat, he was able to estimate the number of calories which would be set free by the destruction of these amounts of proteids and fat. He found that in a starving rabbit suffering from swine erysipelas there is an increased heat production, due entirely to an increased destruction of proteid.

The Effect of Sugar in Saving Albumen and Fat.

May's next experiments are of the greatest interest to clinical physicians. He gave a starving rabbit a known quantity of grape sugar, and made—both before and after the administration of the grape sugar—observations similar to those I have just described. After the observations the animal was immediately killed, and the glycogen in the body and the grape sugar in the urine, alimentary canal, and fæces were estimated, and from the figures obtained May was able to learn how much had been used in the body. He found that the administration of sugar saves the destruction of albumen and fat which goes on in starvation and in fever.

Experimental medicine here shows strikingly why it is, as clinical medicine has found by experience, that milk and farinaceous diet is best for fever, and further, as all May's experiments show conclusively that in starving rabbits suffering from swine erysipelas the heat production is increased, and that this increased production is due entirely to a greatly increased destruction of proteid, we are probably correct in concluding that in most fevers the greater part of any increased production of heat is due to an increased destruction of proteid rather than to an increased destruction of fats. It is true that May has not been able to allow for any energy which, resulting from the breaking down of tissue, manifested itself as mechanical work; but the increase of proteid destruction he found was so great that even if the fevered starving rabbit did a little more mechanical work than it did before the fever was induced the increased energy taking this form can have been only a small proportion of the whole energy resulting from the increased destruction of proteids.

The Excretion of CO_2 in Fever.

It is almost impossible to make any such observations on man, but some attempts have been made to find out whether in man the amount of CO_2 exhaled is increased during fever. Many more observations will have to be made on different fevers before the results can be accepted as final, but as far as they go they show that in man the amount of CO_2 excreted during fever is not increased.

Mr. Hopkins and I investigated the question of whether the output of CO_2 and H_2O from the lungs was increased when pyrexia was induced by cerebral lesions. We used the differential calorimeter I have already described. The animal was shut in one chamber, no hydrogen was lit in the other chamber, but it was closed and an equal amount of air was drawn through each chamber. The outcoming air from each was passed through a pumice and sulphuric acid tube to absorb the water, then through a U tube containing pumice soaked in caustic potash, and then through two U tubes, each

containing dry caustic potash. The sulphuric acid tube was weighed before an experiment, and each set of three caustic potash tubes was also weighed, and the tubes were then again weighed after an experiment, the duration of which was usually an hour. Of course the sulphuric acid tube and caustic potash tubes on the animal side gained more than those on the other side, for these only showed the H_2O and CO_2 in the air drawn through, while those on the animal side showed this, and in addition the H_2O and CO_2 exhaled by the animal in one hour and taken up in the air current passing through the chamber. By subtraction we found how much H_2O and CO_2 were produced by the animal.

In four experiments on two rabbits variations in both animals were so slight and so well within the normal variations that we may conclude that damage to the corpus striatum does not increase the output of CO_2, and in this respect the pyrexia which follows it is similar to the pyrexia which accompanies those fevers in which the excretion of CO_2 has been investigated. Inspection of the figures also shows that the pyrexia caused no constant alteration in the amount of aqueous vapour exhaled. It was impossible to trace any relationship between the CO_2 and H_2O in the air and that exhaled by the animal. The position of the lesion in the brain was always confirmed by *post-mortem* examination.

Heat Production in Hybernating Dormice.

Dr. Pembrey and I have performed a number of experiments upon hybernating dormice.[4] When these creatures are hybernating their temperature is very low, the rectal temperature usually being about 9° or 10° C.; if they are brought out of a cold into a warm atmosphere their temperature slowly mounts at about the same rate as that of an equal weight of water (for their specific heat is very little less than that of water) until it reaches about 16° C., when it suddenly mounts many degrees in a few minutes to between 33° and 36° C.; at the same time the sleepy animal becomes active and runs about. Mere lowness of external temperature will not cause the animal to sleep nor its temperature to fall. This will only happen when lowness of external temperature causes the creature to become inactive.

Our observations brought out the interesting fact that this characteristic sudden rise of temperature which occurs when hybernating dormice become active is unlike the rise of temperature which occurs when the rabbit is afflicted with swine erysipelas, or has its temperature raised by damage to the corpus striatum, for it is accompanied by an enormous increase in the output of carbonic acid. This goes to show what is probably true, namely, that the metabolic processes of the pyrexia due to cerebral lesions and of that due to fever are quite different from those of health, and not merely an exaggeration of these.

Conclusions as to Production and Loss of Heat in Pyrexia.

I think now we have come to the end of our discussion of the problem of the variations in the production and loss of heat in pyrexia, and the three great main conclusions to which we seem to have come are:

1. In man at least pyrexia is not produced by the same method in all fevers; sometimes the rise of temperature is due to an increased production of heat, and sometimes to a diminution of the loss.
2. In the present state of our knowledge animal calorimetry is very difficult, and the results obtained from calorimeters must be received very guardedly, especially when they are applied to man.
3. In some forms of pyrexia in which the production of heat is increased, the metabolism leading to this takes place in the proteid tissues of the body, and probably the metabolic processes concerned in a pathological rise of temperature are different from those of health.

The Uses of Pyrexia.

A very difficult problem which has been much occupying the minds of the profession lately has been that of why almost all micro-organisms which are harmful to the body raise its temperature, and the suggestion has been made that the rise of temperature is a defensive mechanism, or, in other words, pyrexia is, like phagocytosis or chemiotaxis, in some way harmful to the fever-producing micro-organisms or their toxins. Of course, it does not follow from this view that the higher the temperature of the body the better the prognosis, for the higher temperature might be taken to indicate that the dose of infection was very severe, and that therefore the body did all it could to resist the invasion, nor, on the other hand, would it follow that if the temperature did not rise much the dose of infection was slight, for it might be that the body was feeble and had but little power of raising its temperature and therefore defending itself. Clinical observation can hardly settle the point, but in passing I may mention that I have seen a severe case of typhoid fever in which during the second week of the illness the temperature was very irregular; the patient, however, always felt better and had a better pulse when her temperature was high than when it was low.

Antipyretic Drugs.

A few years ago much was hoped from the antipyretic drugs—antipyrin, acetanilide, and phenacetin; and if it could have been shown that they distinctly improved the condition of the fevered patient it would have been a strong argument against the view that pyrexia is a defensive mechanism. The reverse, however, is the case, for they are not now often employed as antipyretics, and in a discussion on pyrexia and its treatment which took place at the Bristol meeting of the British Medical Association held in 1894, speaker after speaker got up and said that, as a general rule, it did more harm than good to treat the pyrexia of fever.

Some few fevers are treated by agents which lower the temperature, but these very fevers are instances of the exception proving the rule. Ague is treated by quinine, the temperature falls and the patient is better. This, however, is not because the quinine is an antipyretic, but because it is a poison to the plasmodium malariæ; the patient's temperature falls because the pyrexial agent is destroyed. The same is true of syphilis. If a patient is suffering from syphilitic fever his temperature falls when he takes mercury, not because mercury is antipyretic, but because the cause of the pyrexia is destroyed. Again, it is almost certain that any benefit that follows in rheumatic fever from the administration of salicylates is not due to their antipyretic action, but because they are specifics for rheumatic fever, for other antipyretics are not equally efficacious, and salicylates benefit other symptoms than the temperature, namely the pain.

Mode of Action of Cold Baths in Fever.

It is generally believed, and in all probability correctly, that many cases of typhoid fever are benefited by cold sponging or by a cool bath. Many have hastily concluded that the bath does good because it lowers the temperature. But this is probably incorrect. In the first place we must remember that the cold sponging or bath does more than lower the temperature; it diminishes the delirium, the tremor, and the prostration. In any of these ways it would do good. But, further, Roque and Weil claim to have shown that "in typhoid fever left to itself the toxic products manufactured by the bacillus and organism are eliminated in part during the illness. The urotoxic coefficient is double the normal, but this elimination is incomplete, and is only completed during convalescence, for the hypertoxicity continues for four or five weeks after the cessation of the fever. In typhoid fever treated by cold baths the elimination of toxic products is enormous during the illness. The urotoxic coefficient is five or six times the normal. The hypertoxicity diminishes as the general symptoms mend and as the temperature fails, so that when the period of pyrexia and convalescence sets in the elimination of toxins has ceased." So we learn that it is by no means certain that in typhoid fever the benefit of cold baths is due to their antipyretic influence, and we see that clinical medicine affords no evidence that antipyretics are useful in fever.

Is Pyrexia a Protective Mechanism?

The best collection of the literature of this subject is given by Max Müller,[5] and many of the following references are quoted from him. Heydenreich[6] found that the spirillum of relapsing fever lost its mobility quicker at 40° C. than at 37° C., while at from 15° to 22° C. it retained it a long time. Then in 1880 Pasteur[7] made the observation that fowls which

were ordinarily refractive against anthrax bacilli succumbed to them if their temperature had been artificially lowered by their being cooled, and in the same publication next year he said he had found that the virulence of anthrax bacilli is diminished by a temperature of from 42° to 45° C. Wagner[8] infected fowls with anthrax bacilli and spores, and kept down the temperature of some of them by partially immersing their bodies in water; these succumbed, but others left at the ordinary temperature did not. He also infected a series of eleven in whom the temperature was kept down by antipyrin; of these eleven, six were taken ill; and of these six, five died. This, he thought, was due to a lowering of the temperature by antipyrin. Rovighi[9] gives an account of how he infected three series of rabbits with saliva; one lot were placed in an incubator, the temperature of which varied from 37° to 42°; another lot were left at the ordinary temperature, and the third lot were artificially cooled. He found the mortality to be highest among those artificially cooled and least among those artificially warmed; and in the same periodical for the year 1891 it will be found to be stated that Walther observed that after infecting rabbits with the pneumococcus those placed in a warm oven lived longer than those placed at the ordinary temperature of the room. Koch found that if tubercle bacilli were kept at a temperature of 42° C. for three weeks their development was much hindered, while the best temperature for their development was from 37° to 38° C. We thus see that this bacillus, the scourge of the human race, flourishes best at the internal temperature of man, and it is quite possible that if a phthisical patient's temperature could be safely kept at 108° F. for a month he might be cured. Fraenkel[10] finds that the pneumococcus named after him loses its influence on rabbits in twenty-four hours if they are kept at a temperature of 42° C. Both Bumm and Finger have observed that the temperature at which the gonococcus flourishes best is between 33° and 37° C., and that higher temperatures stop its development. Max Müller came to the conclusion that the higher the temperature the less rapidly typhus bacilli multiplied. Welender and Berlien[11] have been treating soft sores by means of a thermostat, an instrument which keeps the sore at a temperature of 41° C., and they claim excellent results for this treatment. Filehne, at a meeting of the Physiological Society held at Oxford on August 11th, 1894, gave an account of some experiments in which he infected rabbits with erysipelas and studied the changes at the seat of infection, the ear. In animals kept in a warm chamber the reaction in the ear was slight, and attained its height in two days, and the animal was soon well. In animals kept at the ordinary temperature the reaction was much more severe, and lasted ten or eleven days. In animals kept in a cool chamber nothing happened so long as they remained there, but as soon as they were taken out and left at the temperature of the room they had a very severe attack of erysipelas.

Löwy and Richter[12] caused a rise of temperature in rabbits by puncture of their corpora striata; they then infected them with the bacilli of diphtheria, fowl cholera, swine erysipelas, and pneumonia. They came to the following conclusions: (1) That with very large fatal doses the animals whose corpus striatum was punctured lived longer than the control animals; (2) if the animals whose corpus striatum was punctured had a dose two or three times as large as that necessary to kill an ordinary animal they recovered; and (3) when a local injection of swine erysipelas was made into a rabbit's ear the local reaction was most marked in those animals in whom the corpus striatum had been punctured, but they invariably got quite well.

I quite admit that all these observations do not prove that pyrexia is a protective mechanism, but they certainly suggest that it is, and many who have thought about the subject have given their adhesion to this view; such, for instance, are Roy,[13] Cantani,[14] and Sanarelli.[15]

PYRETIC DRUGS.

Dr. Hale White then pointed out that there were many drugs which caused a rise of temperature. In belladonna poisoning the temperature might rise to 104° F. In animals large doses of cocaine would cause a rise of temperature, and strychnine and caffeine both raised the temperature a little.

The drug which had the most remarkable effect, however, was β-tetrahydronaphthylamine. Stern[16] had found that it could produce a rise of 4.5° C. in an hour, causing the death of the animal; a smaller dose caused a considerable rise in the temperature without killing the animal.

In experiments with the same drug on rabbits Dr. Hale White and Dr. J. Fawcett had found that recovery might take place even after a dose which caused a rise of 3.2° C. (5.8° F.) in three hours. In all the experiments, five in number, the rapidity of the pulse and respiration was increased enormously, and both were often so quick as to be uncountable. In one animal in which the rise of temperature was raised 5 5° C. (9.9° F.) death ensued.

Animals which, like rabbits, do not perspire much must lose most of the heat they part with by the lungs; the rise of temperature produced by β-tetrahydronapthylamine therefore cannot have been due to a diminution of the loss of heat. Indeed, judging by the rapidity of respiration, this must have been much more rapid than usual, and probably the creature was by increasing its heat loss struggling against the rise of temperature produced by the drug. The animals for an hour or two after the drug was injected were usually rather restless, frequently shifting their position and turning round, but they never ran about nor made any prolonged severe muscular movement. This restlessness was always followed by marked loss of muscular power, but nevertheless the temperature continued to rise. The only animal that had convulsions was the one that died, and they did not appear until shortly before death. These facts seem to me to be strongly in favour of the view that the drug has in some way greatly increased the production of heat, and that this increased production is not due to muscular movement, for the rise is altogether too great and too rapid for it to be caused even in large part by the increased muscular movement due to the greater rapidity of the respiration and pulse.

I cannot help thinking, therefore, that we have in β-tetrahydronapthylamine a drug which stimulates the thermogenetic centre without exciting the motor function of muscle, and that therefore we see—as we have already seen in the patients afflicted with hemiplegia—that the two functions are distinct. I have already pointed out in these lectures that damage to the corpus striatum produces a considerable rise of temperature. The rise produced by β-tetrahydronapthylamine so resembles in extent and rapidity that caused by these injuries that it is at least likely that the drug acts on the muscles through the central nervous system.

I have not yet had time to see whether the administration of this drug increases the resistance to any febrile diseases, but it is clear that even if it does it will have to be given very cautiously to man on account of its marked effect on the heart.

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AT the recent *conversazione* at University College, London, the apparatus to be used in a course of experimental psychology, which is to be started at University College in October under the direction of Professor James Sully and Dr. W. H. R. Rivers, was exhibited. The apparatus includes a Hipp's chronoscope, with control hammer for measuring the various forms of reaction time; Wundt's instruments for studying the estimation of time and the complication of sensations, an experimental organ, and apparatus for studying the sensations of active and passive movement. This and other apparatus forms the nucleus of a laboratory for experimental psychology, which will be the first of its kind in London, and, with the exception of that at Cambridge, in England, although there are now many such laboratories on the Continent and in America.

THE OPERATION THEATRE, ROTUNDA HOSPITAL.

By W. J. SMYLY, M.D.,
Ex-Master.

In many of the Dublin hospitals the operation theatres have been altered or rebuilt in accordance with modern views on aseptic surgery. To my own lot has fallen the pleasant but responsible task of planning my own theatre in the Rotunda Hospital, and I feel so gratified with the result that I think it worth bringing under the notice of others.

The Old Operating Room.

During the first three years of my mastership of the Rotunda Hospital I operated in a small room in the Auxiliary Hospital, which had been set apart for abdominal work. It was a long narrow apartment about 8 feet high, and was not untruthfully characterised by an American who honoured me with a visit as "the worst operating room in Europe." In that room, however, I learned a good many things which helped me in planning the present theatre. It was dimly lighted by small windows which faced the south. The disadvantage of this aspect was that when the sun shone brightly the light entered the room in the form of a sunbeam, which caused such a glare from the patient's abdomen that it was difficult to see into the cavity when it was opened; and the field of operation was further obscured by the shadow thrown over it by the hand of the operator. But whilst it concealed what I desired to see the sunbeam revealed the fact that the air of the chamber was full of dust. This room was heated by a small open fireplace, which afforded so little warmth that it was necessary to cover the patient with blankets, and when these coverings were disturbed, either by taking them off or throwing them over the patient, I have often seen a cloud of fluff thrown up into the air, floating about in the sunbeam, and slowly settling down into the instrument trays, and doubtless into the abdominal cavity also. I could not regard these hairs of animal tissue as altogether innocuous, and I have come to look upon blankets, especially hospital blankets, as dangerous, and as far as possible to be abolished from the operation room. If the blankets have been arranged some time before the commencement of the operation and carefully covered with aseptic towels, the risk is small, but occasionally they must be disturbed or removed; when, for example, artificial respiration is resorted to, or the urethra or vagina have to be reached, or the patient changed from the horizontal to the Trendelenburg position.

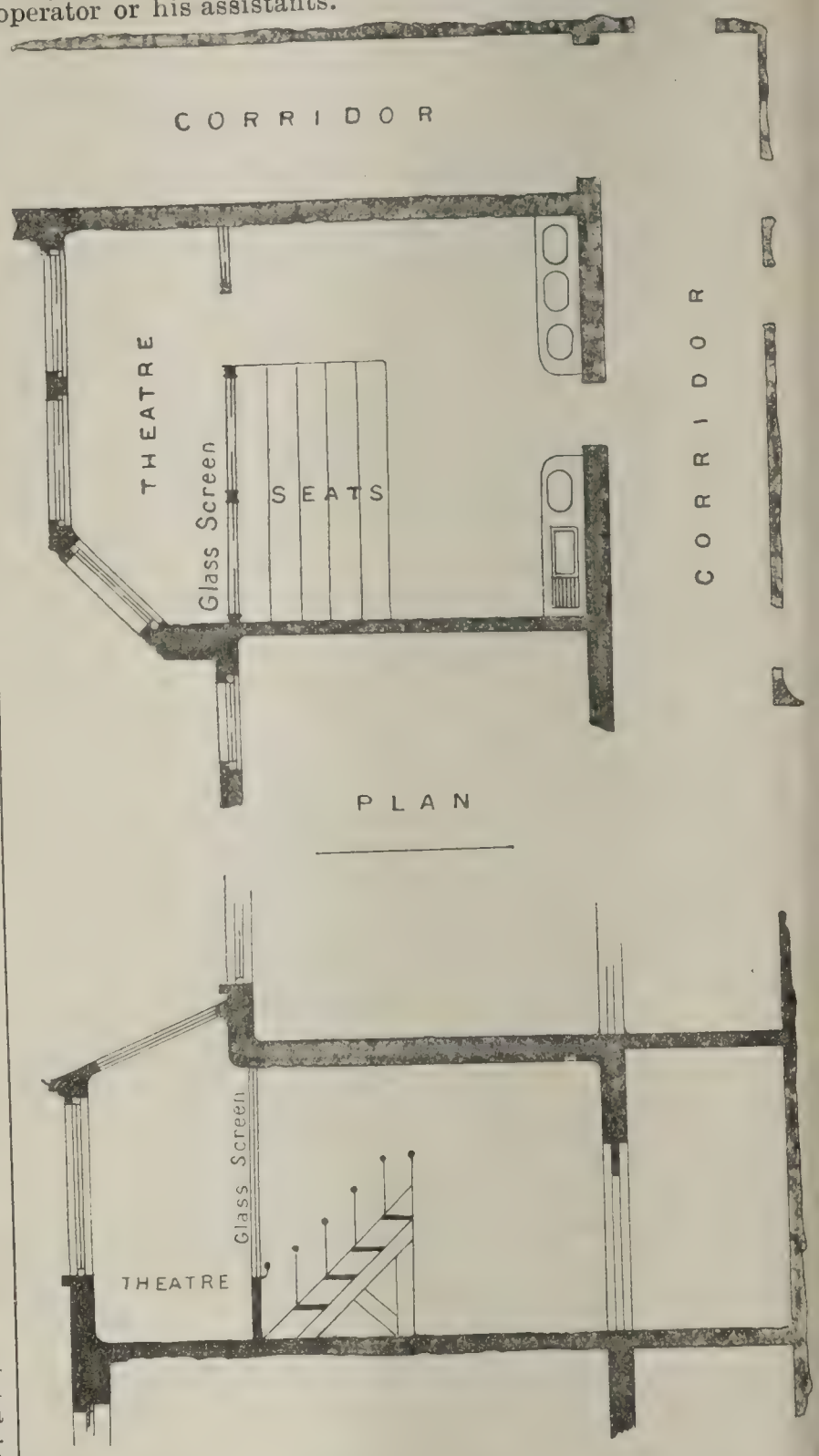
The imperfection in the illumination of the room was to a certain extent corrected by a hand-glass used as a reflector, but though unavoidable under the circumstances, this method had the disadvantages of introducing an additional assistant, and of intercepting the view of onlookers.

When the new labour wards were constructed, I removed into one of them, and for the next few years all my abdominal work was carried on in the Lying-in Hospital. Here I had a clean room, a large window with a northerly aspect, a plentiful water supply, and gas to heat the sterilisers; but I had still the disadvantage of the close proximity of spectators, who, in the limited space, vitiated the atmosphere so that it often became oppressive; pressed upon the operator in their eagerness to see what was going forward, and interfered with the arrangements by leaning upon the tables and hampering the assistants. Besides, I found it impossible, in spite of locks and keys, to prevent the frequent opening and shutting of doors, which caused currents of air doubtless laden with dust.

The New Operating Room.

From the experience gained under these disadvantages, I came to regard the following as the chief points to be attained in the construction of an operation room:

1. A pure, warm atmosphere free from dust.
2. A good steady light.
3. A plentiful supply of pure hot and cold water.
4. Simplicity in construction and furniture, so as to permit of thorough cleansing.
5. Such arrangements as would enable the largest number of spectators to obtain a full view without hampering the operator or his assistants.



I have seen in books a southerly aspect recommended, but in my experience this light is too variable and uncertain. A north light is regarded by artists as the best; it is more diffused and steady than any other, and obviates the use of blinds. I had the theatre therefore placed upon the north side of the building with three large plate glass windows and a glass roof, the light from which penetrates to the deepest parts of the pelvic cavity.

A Glass Screen.

The room is divided into two distinct parts by a large glass screen. In the first or outer compartment are placed the basins, sinks, glass case for instruments, sterilisers, etc., and a gallery for spectators. The inner compartment or operation room proper is of the simplest possible construction. The ceiling is glass, the walls covered with cement and painted with white enamel; the floor is tiled, and slopes towards the outer wall, which is perforated by a glazed waste pipe wide enough to admit the hand so as to be easily cleansed, and

closed when desired by an indiarubber plug. The corners of the room are rounded off, and the furniture is limited to an operation table, stools for the operator and two assistants, tables for basins and instruments, all of metal and glass, and a small hot-water steriliser.

In planning this part of the room I had in mind Tyndall's box: when the air in the box contained dust he could see a sunbeam passing through it, but when the sides had been smeared with glycerine and the box left at rest, the air became so free from refracting particles that the ray could be no longer seen. So this part of the room was not only cleansed in the ordinary way, but on the morning of the operation it was thoroughly douched out with a hose, and the doors and windows being closed I hoped and believed that most of the germs floating in the air would fall upon and be retained by the wet walls and floor. I do not want to attach too much importance to the purity of the atmosphere, but I cannot regard it as altogether unimportant, and experiments have proved that it is not so. I would call attention especially to those instituted by Mironow in the women's hospital in Bonn. He found that when first opened the abdominal cavity was almost always free from germs, whereas at the end of an operation he discovered micro-organisms in greater or less numbers in 20 out of 28 cases, and these were of the same kinds as those which he discovered in the air in the immediate neighbourhood, which he took care to examine at the same time. He also found that the more prolonged the proceeding the larger, as a rule, was the number of microbes. Another fact of interest in connection with these observations was that in 11 out of these 20 cases there was subsequently a considerable rise of temperature. My own experience corroborates these views. When I visited Berlin some three years ago I was struck by the fact that drainage was so seldom resorted to, and Dr. Martin informed me that for three years previously he had not drained a single case of abdominal section. Upon my return to Dublin I attempted a similar practice, but I was obliged on more than one occasion to reopen the wound and insert a drainage tube. From the time that I got into my new operation room, however, I was able almost entirely to dispense with drainage; but apart from the direct contamination of the wound by the atmosphere is the greater risk that, especially in prolonged operations, the dust deposited from the air upon surrounding objects might contaminate the hands of the operator though aseptic at the commencement. In order to guard myself from misapprehension, I may say here that I do not deny that abdominal sections can be satisfactorily performed in any ordinary room if proper precautions be taken, or that the chief source of danger lies not so much in the atmosphere, as in the almost impossible task of rendering and keeping the hands of the operator and his assistants absolutely aseptic, so that, in spite of all care, accidents do and will occasionally happen even in the best regulated hospitals. But just as in railway traffic every precaution, no matter how costly, is deemed essential, and every disaster is subjected to most careful investigation, so in surgery every means should be employed to render infection as infrequent as possible. Many accidents are due to someone whilst intent upon his work unconsciously touching or laying instruments upon some septic object, or by the introduction of some uncleansed utensil or instrument. It is, therefore, of the first importance that everything within reach should be pure.

PREVENTION OF SEPTIC INFECTION.

In the maternity hospital I found it a much simpler matter to prevent septic infection when the patients were confined in a special labour ward easily cleansed, and where the instruments and utensils were carefully guarded, than when they were delivered in eight different wards distributed over a space which was practically beyond control. So in surgery the place of operation, the number of assistants, instruments and utensils should be so limited as to be thoroughly under control. I have limited my assistants to three, or in exceptional cases four—one to help directly in the performance of the operation, one to administer the anæsthetic, and one to thread needles and hand the instruments. By employing sterilised muslin instead of sponges I have been enabled to dispense with two most dangerous assistants—namely, the nurses who formerly washed and handed the sponges. The muslin compresses were taken by myself directly out of the can in which they were sterilised, the lid of which was opened and closed at pleasure by a bellows placed under my foot. In order to dispense with the use of blankets the inner room was heated by hot-water pipes to between 70° and 80° F., a temperature which I did not myself find inconvenient, because I wore only a flannel shirt and trousers with a sterilised overall, and I believe that it benefited the patient by sustaining her vital energies and diminishing shock; and on misty days it cleared the atmosphere and lessened the risk of pulmonary complications.

Another point which I think is of much importance in preserving an aseptic condition in an operation room is that no septic case should be admitted into it. To enable this to be attempted there is a second operating room in the Rotunda Hospital, in which such cases as sloughing cancers and myomata, putrid and purulent collections, etc., are operated upon. The importance of this arrangement is that it not only preserves the walls and furniture, but also the instruments and utensils from contamination. It is better and easier to keep out infective matter than to destroy it after it has got in. The equipment of each room was therefore kept distinct. It was of course impossible to absolutely exclude all septic cases; some were only discovered to be so at the time of operation; but even though it be impossible to be absolutely aseptic, let us be as aseptic as we can. The arrangements in the outer room will not detain us very long. It is important that every instrument and appliance which could possibly be required should be within easy reach, and for this purpose they are preserved in a glass case in this outer room. This plan is in every way better than carrying the instruments and appliances to and from the surgeon's residence. In this part of the room are also placed the washhand basins and nurses' sinks. The construction of the former is important: there are two large tip-up basins, which are easily removable for cleansing purposes, with one for corrosive sublimate between them; the watercocks are worked by the foot, and all pipes are exposed. Such basins are much safer than fixed ones with waste pipe and a plug secured by a chain. The traps of the waste pipes and the chains are impossible to clean, and must contaminate any water which is poured into them. I believe that I was the first to introduce treadle action into basins for surgical purposes, and in the maternity hospital their use has been followed by an improvement in the health of the patients. The arrangements for onlookers have met with general approval. Those in the first row stand close against the glass screen with a rail to lean upon. As the operation table is placed close to the other side they are within a foot of the abdominal incision, and can see what is going on as well as the operator himself. Behind them is a platform upon which three more rows of spectators stand, each tier being a foot and a half above the one in front, so that an unobstructed view is obtained. The head of a spectator on the topmost row as he leans forward is only three feet distant from the glass screen. I believe that at least twenty people can obtain a perfect view from this gallery.

I have often been present at operations in other theatres, and as often as not have seen nothing of the operation. On these occasions I have employed my leisure in counting the number of those present who were more fortunate than myself; this I could easily do by the expression of their faces; the intent and earnest gaze of those who could see contrasting strongly with the listless aspect of those who could not. Amongst the latter were unfortunately the greater number of the pupils who were paying for instruction, whose view was not only intercepted by the assistants and others who crowded round the table, but even where this was not the case they were unable by reason of the distance at which they were placed from distinguishing the minutiæ of the proceeding. In the Rotunda theatre the pupils are close to the operation and nothing intercepts their view.

PREPARATIONS FOR OPERATION.

When the time for operation is approaching, the patient, who has been prepared in the usual way, is lifted from her bed on to a trolly, and is rolled into a small room opposite the theatre. Whilst she is being anæsthetised, the operator

and assistants prepare themselves and put on sterilised overalls. The patient is then rolled into the outer room, and all coverings having been removed, a light sterilised flannel wrapper is put on, and she is then rolled into the operation room or inner compartment and placed upon the table. The anæsthetist takes his seat at the head of the table, the chief assistant sits at the side opposite to the screen, and the operator sits between the patient's thighs. The sister who threads the needles and hands the instruments, etc., stands behind with a nurse still further in the rear to fetch water, fill and empty basins, and make herself generally useful. Lastly, the door in the glass screen is shut, and whilst the patient's abdomen is being cleansed for the last time, the spectators are admitted.

At the risk of being somewhat discursive, I would here state my opinion that the preparations for an operation and the care of the instruments are most safely entrusted to an intelligent nurse under the supervision of the operator or his male assistants; and she will perform these duties as well as threading needles and handing instruments better than any house-surgeon or resident pupil, however conscientious or well disposed he may be. It is her chief duty in life, and she applies to it all her energies; and, if a well-paid and permanent official, she acquires in the course of years an amount of skill and experience which would be impossible in anyone holding a temporary position. I have never seen so good an assistant in these respects as Frau Horn, Dr. Martin's head nurse in Berlin, and very little inferior to her have been the three nurses who assisted me in the Rotunda. Besides those whom I have already mentioned, one other individual was generally present at my operations; this was the Lady Superintendent, whose sole duty was to see that all went right, and immediately to call attention to anything that went wrong.

Advantages of the Glass Screen.

In concluding these remarks upon the Rotunda Hospital theatre I may sum up what I think are the advantages of its most distinctive feature—the glass screen.

1. It divides the room into two distinct parts, in the first of which are placed the basins, sinks, instrument case, sterilisers, and platform for spectators, all of which are indispensable, but would be difficult to clean with sufficient ease and rapidity, especially where several operations have to be performed in succession. Their absence from the inner compartment enables its furniture to be so simple that it can be thoroughly hosed out in a few minutes.

2. A pure atmosphere, free from draughts and dust and uncontaminated by spectators, is obtained by its complete isolation, its simplicity of construction, and the cleanliness and dampness of its walls. Whilst the high temperature of the inner compartment enables us to dispense with blankets, maintains the patient's vitality, lessens shock, and dissipates mist, the outer compartment is so cool that the spectators, though dressed in their ordinary clothing, suffer no inconvenience.

3. Lastly, it enables the spectators to approach close to the operation without any risk of disturbing the operator or meddling with his arrangements.

Practical Results.

As to practical results, I may add that, excepting the months of March and April last year, every case operated upon in this theatre, from November, 1895, to the present time, has run a perfectly aseptic course. The design was the work of Mr. Albert E. Murray, architect, and much of the success in carrying out the details was due to Miss Hampson, the Lady Superintendent.

French Urological Association.—The French Urological Association will hold its second meeting in Paris on October 21st and two following days under the presidency of Professor Guyon. The questions proposed for discussion are (1) the operations performed on the testicle and its adnexa for the relief of prostatic hypertrophy (to be introduced by MM. Albarran and Carlier); (2) non-gonococcic urethritis (to be introduced by MM. Eraud and Noguès). The General Secretary is M. Desnos, 31, Rue de Rome, Paris, to whom all communications should be addressed.

MORPHINE HABIT OF LONG STANDING CURED BY BROMIDE POISONING.

By NEIL MACLEOD, M.D.Edin.,
Shanghai.

Erlenmeyer, in his work on the morphine habit, recommends quick deprivation as the best and most rational method of treatment. He says that there is not the slightest chance of success of treatment in the patient's own home or family; better is a hydropathic establishment or one for nervous diseases, an asylum, or, best of all, one restricted to treatment for this particular ailment. He says, also, that it is entirely wrong to try to lessen the suffering of the period of deprivation by substituting for morphine another drug, for fear of establishing another drug habit.

That it is possible by means of acute bromidism to quickly and permanently obliterate the desire for morphine without the usual subsequent suffering and without creating another drug habit in cases where that drug has been taken for several years in larger than medicinal doses, I leave the following cases to determine.

In 1889 a married lady, then aged 25, suffered from neuralgia, for which she received hypodermic injections of morphine, the habit being continued without break until May, 1896, in spite of several attempts to withdraw the drug slowly. I saw her first in 1892, when I refused to deal with the habit because she would not submit to my conditions of treatment. I saw her occasionally afterwards suffering from diarrhœa, indigestion, sleeplessness, or neuralgia, when treatment was unsatisfactory in consequence of the morphine habit. Early in May, 1896, having been away from Shanghai for some time, she returned suffering from migraine and in a highly irritable nervous state, having reduced the morphine to 10 minims of Magendie's sclution (which for her was a very small dose) every four hours. The solution was prepared by her husband, who himself was not free from the habit, and who also prescribed and made up a chloral draught for his wife's sleeplessness. On May 17th I ordered her a 12 ounce bottle containing 12 drachms of sodium bromide, a half ounce to be taken every four hours. On May 18th she was drowsy, and on May 19th I found her so soundly asleep that I could not wake her. The pupils were not contracted, the pulse was 90; temperature, respiration, and skin were normal. The whole bottle and half of a second one had been given. All drugs were then forbidden, and next day she was removed to hospital. I believed the condition to be bromidism, which, however, I had not seen before, and I naturally did not feel satisfied with her surroundings at home, notwithstanding that I had fully warned the husband of his responsibility. Morphine was injected for four days after admission, amounting to 1½ gr. per day, and on May 24th, 25th, and 26th, four 30 gr. doses of sodium bromide, and on May 28th, 30 gr. of chloralamide were given, after which no more drugs were administered. For four days no intellectual, emotional, or volitional effort was observed, and only a little milk was swallowed daily. The patient could not stand or sit, muttered in answer to questions, passed urine and stools in bed. Then followed a period of restlessness, and intellectual and emotional confusion, during which time she asked for nothing and muttered incoherently. Speech at first, like other movements, greatly enfeebled and not co-ordinated, gradually became stronger and more distinct; delusion and illusions of sight at first numerous, lessened, and were not noticed after June 7th; memory past and present, at first all adrift, gradually cleared, being normal two or three days before she left the hospital. The highest pulse was 94, and the temperature once rose to 100°. During the first week in hospital she vomited 5 or 6 times, and did not feel herself till the last week of her stay there. She could not stand without assistance till June 8th, when she began to walk about. She left the hospital on June 17th, feeling quite well, conscious of a blank in her memory, and that she had had delusions. To her own astonishment and that of the sisters (she had been in their charge previously) she had no desire for morphine from the time that she entered the hospital, and I am glad to say it has not yet returned.

This case was, so to speak, cured by mistake, and is all the more interesting that the patient had no desire to be

cured, as she had informed me on several occasions. Naturally desirous of being certain how far the bromidism contributed to the result, I determined to test the question by excluding other conditions.

My second case was that of a pilot, aged 36, who had morphine injected hypodermically for urethral troubles in 1893, and later in that year for kidney mischief, after which he continued the habit without a day's interval until he came under my care. In the summer of 1896 he injected 40, 50, and 60 grains a day. Attempts had been made to withdraw the drug slowly, the last occasion being just before he came into my hands on February 26th, 1897, when he was injecting 5 or 6 syringefuls a day, each containing a grain. At that date he was greatly depressed, trembling in lips and limbs, irritable, unable to sleep without the injections, his upper and lower limbs literally covered with scars, nodules, and boils in every stage of development wherever he had been able to introduce the needle. He was admitted to hospital on March 1st, gave up syringes and supplies, and with some reluctance consented to the deprivation of the morphine on my own terms. A good deal of trouble at first arose from the boils on the arms, the movements of which were very painful and much restricted. The urine was normal. On March 6th he went out of hospital, unaccompanied for the first time, and on his return he at once gave up, when asked, a syringe and morphine solution which he had obtained at a Chinese drug store, informing me that the European drug store had refused to serve him. From March 2nd he had three injections of morphine daily, totalling on each day consecutively in grains $1\frac{1}{2}$, $1\frac{1}{2}$, 1, 1, $1\frac{1}{2}$, $1\frac{1}{2}$, 1, $\frac{3}{4}$, $\frac{3}{4}$, $\frac{3}{8}$, $\frac{3}{8}$, $\frac{3}{8}$, and $\frac{3}{16}$ (15th.) He was ordered 30 grains sodium bromide every six hours on March 2nd, changed to every four hours on March 4th. On March 6th it was discovered that the *pharmacien* had made a mistake of 20 for 30 grains in his draught, and this was then rectified and given every six hours, and increased on March 8th to every four hours. No evident effect having been produced, except bromide rash on the forehead, on March 13th the dose was given every three hours, and on March 15th (the last day of the morphine) was doubled (60 grains). Next day he was stupid but able to walk about, very shaky, and on March 17th very drowsy in bed. The dose was reduced to 30 gr. next day, and on March 19th he got out of bed repeatedly, when the dose was increased again to 60 gr. every three hours. He had not asked for morphine since March 15th. On March 20th he was very stupid, answering incoherently, and from this day no drug of any kind was given. He practically slept till March 23rd, taking only milk from a spoon, about half a glass every two hours, muttering incoherently occasionally, unable to sit or stand, passing urine and stools in bed. He began to take solids on March 27th, but was still unable to stand on March 29th, and still drowsy. On April 1st he was talkative, only giving expression to nonsense, unable to walk even with assistance. On April 3rd, speech was still indistinct, but improving with the power of locomotion. He fed himself for the first time on April 10th and dressed, taking a long time over it, putting his shirt on over his vest. On April 12th he wished to go to Harrogate, not remembering where he was. On April 14th he drove out, recognised that he had delusions, and laughed over them. On April 17th he left hospital, and on April 27th left Shanghai for his work, feeling, he said, quite well and rejoicing over his deliverance.

An interesting feature in this case was that when, as he described it, his head was muddled with liquor so that he could not tackle work, an injection of morphine enabled him to resume work with a clear head at once. The desire for liquor was lost with that for morphine. Pulse, temperature, and respiration were never disturbed during treatment to any extent requiring notice.

No doubt in both these cases the mental and somatic symptoms were to some extent attributable to the morphine deprivation as pointed out by Erlenmeyer and others, but this could be to a slight extent only, from the rapidity of onset, and especially from the degree and nature of interference with the nervous function. It may be asked if it is justifiable to produce such a condition of the nervous system. It seems to me that the end justifies the means.

The following advantages over other methods of treatment can be claimed for the method pursued in these cases:

1. It did away with the suffering entailed by stopping the drug.
2. The patient could not bribe the attendants when the drug was withdrawn, he could not deceive his doctor, nor could he escape vigilance—he was powerless.
3. It acted equally well, whether the patient wished to be cured or not.
4. No special attendants or establishment was needed, only nurses who took ordinary care.
5. No violence or excitement is likely to result from, nor a taste to arise for, bromide given in this way.

In my next case I intend to, and I would suggest that anyone trying the method should, reduce the morphine by halving the dose each day, not giving it if not asked for, pushing the bromide more rapidly than I did in those cases, not, however, beyond the stage of marked torpor, stopping it altogether before that stage if the patient has ceased to ask for morphine. It may not be necessary to produce so marked a degree of bromidism as was present in these cases.

A CASE OF PERFORATING WOUND OF THE ABDOMEN

IN WHICH THE SUPERIOR MESENTERIC VEIN WAS WOUNDED: LIGATURE OF VEIN: LAVAGE OF ABDOMEN: TRANSFUSION: RECOVERY.

BY A. W. MAYO ROBSON, F.R.C.S.,
Senior Surgeon to the General Infirmary at Leeds; Professor of Surgery in the Yorkshire College of the Victoria University.

THE following case, which has been reported for me by my house surgeon, Mr. Levi, presents several points of interest which seem to make it worthy of separate notice.

On January 27th of this year, there was admitted into the Leeds General Infirmary, a young mechanic, aged 20, in a collapsed condition, with all the signs of internal hæmorrhage, pulse feeble, 190, temperature subnormal, skin pale and covered with a cold, clammy, perspiration. He was said to have vomited blood directly after the accident. He was found to be suffering from a penetrating wound of the abdomen, caused by the sharp end of a file without a handle, which having caught in a revolving wheel of a lathe was pushed through his clothes and abdomen. There was a small punctured wound a little above the umbilicus and almost in the middle line. The abdomen was nearly flat, with dulness in both flanks. Liver dulness was present and there was resonance over the front of the abdomen.

OPERATION.

The patient was immediately taken to the theatre and ether administered, the surface of the abdomen having been rapidly cleansed and carbolised. An incision about $4\frac{1}{2}$ inches in length was made above the umbilicus including in its line the site of the puncture. When the abdomen was opened, there was no escape of gas from stomach or intestines, but the abdomen and pelvis were found to be filled with dark liquid blood, which after a careful search, and after turning the intestines over to the left, was found to be escaping from the trunk of the superior mesenteric vein which had been wounded by the file. The superior mesenteric artery could be felt pulsating close by. The divided ends of the vein were ligatured with catgut. The small intestines were black, owing to effusion of blood beneath the peritoneal coat. The spleen, liver, and other solid organs were then examined, but no injury was found in any. The blood was washed out of the abdomen by free lavage of the peritoneum with warm boracic lotion. Cyanide gauze was packed gently over the ligatured ends of the vessel, the end of the gauze being drawn lightly through a rubber drainage tube out of the abdominal incision. The peritoneum was then closed with a continuous catgut suture, as was also the fascia over it. The skin was united with silk-worm gut sutures. The wound was dressed and the patient sent back to the ward.

TRANSFUSION.

On reaching his bed he was in such a state of collapse that transfusion was performed by Mr. Seaton, the resident surgical officer. Three pints of normal saline solution were in-

jected, and the pulse, which was about 180 at the end of the operation, came down to 120, and was much stronger. He appeared to be considerably relieved.

NOTES ON AFTER-TREATMENT.

January 28th, 1897. Patient looked much better. Temperature 98.6°, pulse 126, respirations 28. Wound dressed. January 29th, 1897. Wound was dressed and part of the gauze gently withdrawn. Flatus passed *per anum*. February 2nd, 1897. The gauze packing which had been shortened daily was wholly removed. Temperature fluctuating between 99° and 100°, pulse 100. Patient cheerful and looked well. There was no fulness of epigastrium and no tenderness. There was no marked anæmia. February 4th, 1897. Bowels moved.

February 5th, 1897. The temperature rose to 104° last night owing to a stitch abscess, although the remainder of the wound looked quite well. This was manifestly dependent on the operation having to be undertaken without time to prepare the skin properly. There was neither fulness nor tenderness of the epigastrium and no sign of intraperitoneal suppuration. The daily dressings were discontinued, and boracic fomentations ordered to be applied every four hours. February 7th, 1897. There was free suppuration around several of the sutures, which were all removed. February 11th, 1897. The wound was beginning to look better and there was less pus on the fomentations. February 14, 1897. Very little suppuration February 16th, 1897. Wound doing well. Fomentations were discontinued and the wound dressed simply. February 25th, 1897. Wound almost completely healed.

March 4th, 1897. Wound healed. An abdominal belt was applied, and he was allowed to get up. March 6th, 1897. Patient was discharged today quite well.

REMARKS.

The nature of the injury is remarkable in that the perforating instrument, being somewhat blunt at the end, must have pushed aside the stomach and colon instead of perforating, though the fact of blood having been vomited shows that the stomach must have received the impact of the file, and have suffered injury to its internal coats. The mesenteric vein lying at the back of the abdomen should be one of the vessels least liable to injury, and probably could only be lacerated by a stab or gunshot wound. The extensive retroperitoneal hæmorrhage gave rise to the suspicion that the pancreas might have been injured, but on enlarging the aperture at the root of the mesentery made by the file, the freely-bleeding vessel was seen and easily ligatured.

Having arrested the hæmorrhage and cleansed the abdomen of blood and clot, the question arose in my mind as to the behaviour of the intestines under their new circumstances, for, in addition to the blood extravasated beneath the peritoneal coat, all the vessels must have been seriously congested owing to the return of blood along the superior mesenteric vein. Paralysis of bowel and peritonitis at least was to be feared—possibly gangrene—but, fortunately, neither complication interrupted recovery.

SALOL CALCULI.

BY C. R. MARSHALL, M.B.VICT.,
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IN connection with the recent communication of M. Brossard to the Académie de Médecine (March 30th),[1] the following account may be of interest.

Some time ago Professor Bradbury sent me an almond-shaped crystalline mass, possessing a yellowish colour and weighing about 1 gramme, for examination. It was said to have been vomited by a young lady who had been taking salol for some months. The drug had been ordered for intestinal flatulence, and had given marked relief. For nearly six months a cachet containing 10 grains was taken once or twice daily. Then attacks of severe colic, accompanied by vomiting, occurred, which nothing would relieve except the hypodermic admistration of morphine. In one of these attacks the body in question was brought up, and at the time the statement was volunteered that similar masses had been frequently passed by the bowel. The substance had a salol-like odour, and gave the chemical tests of this compound. The melting point was almost correct, so that the substance was practically pure. The salol was stopped, and the patient improved. Dr. Bradbury tells me that no further attacks have occurred.

Brossard's case[2] was a neurasthenic lady, aged 45, suffering from gastric dilatation, with paroxysmal gastralgia, gastrosuccorrhœa, and hyperchlorhydria. Vomiting was frequent, and was sometimes accompanied by hæmatemesis. The patient refused lavage, and the treatment consisted in the administration of large doses of alkalies and a milk diet. The attempt at a milk diet produced febrile symptoms, and salol and calomel were therefore given. The salol was administered in 0.5-gramme (7½ grain) doses, and 4 to 5 grammes (62 to 77 grains) were given daily. After ten days (that is, after the administration of 40 grammes, rather more than 1½ ounce), the patient, who was habitually constipated, presented severe symptoms of intestinal obstruction. Purgatives, large enemata, the continuous current, were repeatedly tried, but without effect, and the symptoms continued for thirty-six hours. Finally, a motion was passed, and thinking that a biliary calculus might have produced the pain it was carefully washed. About ten crystals, weighing altogether 4 grammes (62 grains), were found, the largest of which weighed 1.8 gramme. Similar small calculi occurred in the two following motions. They all consisted of pure salol.

An interesting feature in the case I have mentioned is the occurrence of a calculus in the stomach. As the vomit was not bilious it is probable that this was the seat of formation. Girode,[3] in a case of cholera which had been given salol two days before death, found two masses of salol, weighing 3 grammes, in the stomach *post mortem*, and as far as I am aware this is the only similar case on record.

The question of the formation of these calculi is an important one. Brossard consulted Pappel, a chemist, and they concluded, probably rightly, that it was inadmissible that salol could be decomposed into its constituents, and that these should unite again. Experiments were then made to determine if, in an acid or alkaline medium, in the presence of pepsin or pancreatin, salol could be dissolved without decomposition, and, on changing the medium, if it could be deposited anew in the crystalline form. But only negative results were obtained. It was then thought that on account of the constipation the drug would only be eliminated slowly, and that a new dose would come into contact with the decomposition products of the old ones, that is, with salicylic acid and phenol. The effect of these upon the physical condition of salol was then determined. Salicylic acid was without effect. A solution of phenol, however, caused the powdered salol to agglomerate, and after some time to become liquid. It did not mix with the carbolic solution, but assumed the form of a transparent ball. If now the phenol solution was replaced by water, and a crystal of salol added, the whole of the salol was converted into a crystalline mass. This displacement of the phenol may be regarded as analogous to its absorption in the body.

The theory seems to me weak in many points. The phenomenon described by Brossard cannot be obtained at ordinary temperatures in this country. It is quite true that salol will melt at a lower temperature in an aqueous phenol solution than in ordinary water, and this may account for the results obtained by Brossard and Pappel, whose experiments were carried out at Cairo. (In connection with the phenomenon it should be mentioned that phenol is capable of dissolving salol.) But even if we grant the results of those observers to hold at all temperatures it is difficult to accept the view put forward by M. Brossard. The most essential factor—the presence of sufficient carbolic acid to produce any influence—is improbable. Salol is only gradually decomposed in the intestine, and it is very probable that most of the carbolic acid formed is quickly absorbed. The explanation seems to me a simpler one. It is due to the fact that the melting point of salol (42° C.) is a little above the normal temperature of the body. Very often, especially after meals, the temperature of the stomach is above this point, and if salol is present melting of the crystals must occur. The fluid thus produced does not readily mix with the food, and when the gastric temperature sinks to, or better, as after partaking of cold water, below the normal, recrystallisation occurs. The mass thus produced is not composed of minute individual crystals as in the first instance, but is in the form of single solid lumps made up of the crystals in close union. That this may occur can easily be demonstrated by a few test-tube experiments. The solidification does not necessarily occur in the stomach. It may happen in the intestine, even in the presence of a 1 per cent. alkaline (sodium carbonate) solution. When pure salol is administered in cachet form the best possible condition for the formation of a calculus is present. The crystals, when softened or melted, readily cohere, and may subsequently recrystallise. Even in a well-made emulsion, when heated to 40° to 42° C., the salol tends to aggregate, though I have not seen perfect conglomeration. Probably the reasons that salol calculi have not been described oftener are (1) they have not been recognised; and (2) that some gastro-intestinal disease is necessary as a predisposing cause. In Professor Bradbury's case

the cause of the colic would not have been diagnosed but for vomiting of the calculus. Retention in some part of the alimentary tract is perhaps necessary, or is at least a favourable condition; in both the cases described constipation was a prominent symptom. As the mass of the largest calculus in Brossard's case was much greater than any individual dose given, some accumulation must have occurred, and probably the same thing happened in Dr. Bradbury's case. Unfortunately, the mass was not weighed at once, and it was afterwards lost in my absence during the cleaning of the laboratory. The necessity of retention at some point is thus explained, as it is improbable that very small calculi (which must ordinarily be found, if found at all) would produce symptoms of a serious nature.

The importance of the formation of salol calculi, apart from the serious symptoms to which they may give rise, lies in the fact that the activity of the drug is markedly diminished. Even in the intestine a mass of salol can only be acted on slowly by the intestinal juices and microbes, and probably a great part passes out unchanged. This slow action all along the intestinal tract may be an advantage in some conditions, but it is certainly not in all. The chief fault seems to be in the method of administration. Salol—and the same thing holds good for other insoluble bodies of similar melting point—ought to be rubbed up with some innocuous powder, or given in the form of an emulsion, as recommended by Sahli. In this way the activity of the drug is not diminished, and the possibility of calculous formation is reduced to a minimum.

I express my indebtedness to Professor Bradbury for his kindness in giving me the notes of the case.

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A NOTE ON EXPLORATORY INCISION AND DRAINAGE *VERSUS* PARACENTESIS,

IN THE TREATMENT OF ASCITES; AND EXACT DIAGNOSIS BY PERITONEAL SPECULUM.

BY JOHN WALLACE, M.D.EDIN.,
Professor of Obstetrics and Gynæcology, University College, Victoria University; and Gynæcological Surgeon, Thornton Wards, Royal Infirmary, Liverpool.

IN the address, which as President I delivered to the North of England Obstetrical and Gynæcological Society in 1890, I demonstrated the etiology and diagnosis of localised peritonitis—localised ascites in many instances—and its treatment by abdominal section; and further clearly pointed out that in every case there was a well-defined cause, only to be absolutely ascertained by exploration.

In connection with this group of diseases, the word "idiopathic" does not apply. Large experience as gynæcological surgeon to the Royal Infirmary very soon drove me to the conclusion that, even so far as general ascites was concerned, the same word "idiopathic"—which is only a term to cover our ignorance—had no longer any *locus standi*. For, by abdominal section the causes of ascites began to be discovered and differentiated, the condition of the peritoneum seen, and the organ at fault brought under the direct sense of touch, and if necessary of vision, thus indicating the treatment with exactitude. Paracentesis abdominis enabled one to detect the existence of a tumour or of some enlarged viscus, as liver or kidney; but the true conditions, even in the hands of the most able and experienced, were at best matters of surmise, frequently contradicted by subsequent *post-mortem* examination. Moreover, I never knew tapping cure ascites, although I have been told of successful cases and the relief given was only temporary at best. Surgically I believe it to be more dangerous than abdominal section, even where the incision is 1½ to 2 inches in length. The latter is carried out carefully on surgical principles, the former is not—it is done in the dark, and no doubt in many cases where collapse has followed its performance some internal viscus had been wounded.

It is hardly necessary for me to trace the evolution of the prolonged tentative course of treatment which led me to the conclusion that every case of ascites had an originating cause, the immediate one being generally in the peritoneal cavity. If the exciting causes were cardiac, the condition of the liver would be the link in the chain. The kidney can be felt, and its peritoneal covering can be seen, and may show, as I have also observed in the case of the liver, intensified redness and effusion of lymph; or a peritonitis—of an asthenic character—only to the extent of slight suffusion, which fades away in more distant parts of the peritoneum. The ascites, in short, began as a local peritonitis, a perihepatitis, or a perinephritis. Any one of the abdominal viscera may be the *fons et origo mali*. We need not wonder when we consider the close relation of the peritoneum to the whole course of the *prima via*, a fact of special importance in the lower part of the intestine, which is practically a sewer with all the varied conditions of septicism more or less present—the cæcum to wit, as in perityphlitis.

With reference to cardiac ascites, the intimate relationship between heart and liver, and the induction of obstruction to the portal circulation, is the only explanation possible. The normal secretion of the serous moisture of the peritoneum is increased by enormous exosmosis which is not compensated for by equally active endosmosis, plus kidney conditions, pressure, etc., which I need not enter into. Exploratory abdominal section, followed by drainage by means of a short glass drainage-tube, or rubber by preference, if inflammation is advanced, under antiseptic precautions, has these advantages. First, it gives relief from pressure just as well as tapping; secondly, the peritoneal inflammation is cured by drainage but not by tapping, the flow of ascitic fluid being often great, and continuing for a week or ten days, when it gradually ceases. Tympanites subsides, kidneys act, anasarca disappears, and intense relief is given, even should the patient subsequently die from incurable disease such as cirrhosis of the liver, cancer, etc. In hepatic enlargements due to alcoholism I have had permanent cures by laparotomy and drainage where tapping had failed. A two-inch incision through the peritoneum not only taps and drains the ascitic cavity but also the vascular system of the whole peritoneal sac, so that for days the discharge is sero-sanguineous. Be that the explanation or not, we know that opening the abdomen for lesions—pelvic chiefly—where it would be injudicious to proceed further with the operation, the mere manipulation, the flushing, the drainage, and subsequent sero-sanguineous discharge mostly result in cure even when least expected. Such, at any rate, was my experience in cases where I expected no benefit at all.

For bringing under direct vision those parts of the peritoneal cavity at a distance from the incision, I had made for me elongated Ferguson's tubular specula (7½ inches) of varying diameter. A little manipulation with these easily permits almost any part of the peritoneal cavity to be inspected through a 2-inch median incision.

Case showing use of abdominal speculum, reported by A. J. Wallace, M.D., Clinical Assistant.—A married woman, aged 40, was admitted to the Thornton Ward of the Liverpool Royal Infirmary on August 12th, 1896, complaining of swelling of the abdomen, and occasional swelling of eyelids, of seven months' duration. For about six weeks previous to admission there had been severe abdominal pain. She had borne nine children between 1880 and 1895. Menstruation was normal. The circulatory, pulmonary, and renal systems were normal

The abdomen was more or less evenly distended, the skin being tense and shining, and having well-marked veins coursing under it. There were some irregularities in the flanks. On palpation and percussion signs of the presence of ascitic fluid were obtained. The pelvic viscera were normal, except that the uterus was bent slightly towards the left, and its mobility less than usual.

It was determined to make an exploratory incision, and this was carried out on August 25th, the peritoneal cavity being opened in the middle line midway between pubes and umbilicus for a distance of two inches. Nineteen pints of ascitic fluid escaped, and then, on exploration, the pelvic contents were found to be quite normal. The liver was considerably enlarged—about two inches in the nipple line—and on its inferior surface two rough areas were felt, from one of which a piece of fibrin was removed by the finger On viewing these through the tubular speculum, they were seen to be the sites of lymph exudation, whilst the hepatic peritoneum surrounding them was thickened, smooth, and pale greyish-white in appearance A similar condition existed on the superior surface of the liver, the latter in the intervals between the pale portions appearing congested, and deep reddish-brown in colour. The general peritoneum was much thickened, and its blood-vessels increased in number and congested; but there did not appear to be any more lymph exudation areas.

The cavity was well flushed with warm tap-water, a glass drainage tube placed in the lower angle of the wound, and the latter closed with stout silk sutures.

The discharge of serous fluid was free for the first twelve hours, after which it gradually diminished, and the patient made a good recovery. She was detained in hospital till October 9th for observation, and was then discharged cured, and has remained well since.

This was the first time in this clinic that an acute perihepatitis of both lobes was demonstrated to the naked eye by the abdominal speculum, indeed, so far as I know, it was the first time this and the whole cavity was prospected by the speculum and every part brought into view. The peritoneal suffusion gradually faded until the membrane became comparatively healthy in the hypogastrium and the uterus showed none. The cause we could not determine. She remains healthy. (February 22nd, 1897.)

For some time I have been in the habit of using Ferguson's vaginal speculum to demonstrate the condition of the peritoneum, visceral and parietal, but in certain cases it proved of no service when the laparotomy was made below the umbilicus and hence I simply had it lengthened. In great distension from a large collection of ascitic fluid, in which no tumour can be palpated and no enlarged viscus discovered, I have preferred making the low incision. I shall not detail more cases in full, but mention an instance occurring lately in the Thornton Ward, which justified this course. The abdomen was largely distended, but no cause, proximal or distal, could be discovered. On opening the abdomen, the peritoneum was congested, and this was seen by the Ferguson's speculum to extend downwards but not upwards. The origin was therefore probably pelvic. An ovary with a long pedicle permitting excessive freedom of movement was the only lesion. Its removal with subsequent drainage cured her.

It is desirable to cut down upon any tumour which can be located. An instance showing this was that of another Thornton patient, who had enormous ascitic distension, but an area of resistance and solidarity existed in the left flank She had been tapped sixteen times and was emaciated and weak, and not likely to stand much surgical interference. Left laparotomy over the tumour, and along the outer margin of the rectus muscle, showed it to be an enlarged kidney. Covered more or less with adherent, intensely vascular omentum. The hæmorrhage was so profuse that I was content to ligature the vessels, flush the cavity with hot water from the tap, and place a soft rubber drainage-tube. I saw the patient a year after. She had no recurrence of ascites, although the enlarged kidney remained. It is unnecessary to multiply such instances. There is just one point more. Where the value of incision and drainage stands out prominently, namely, in cases where there is a sense of intense feeling of distension—a bursting sensation with great pain—in which there is tympany, with a small quantity of fluid, tapping under such conditions would be likely to puncture the intestines, and even if it did not, little fluid would run off from blocking of the cannula. Incision and drainage give relief, the latter being profuse. The intensely injected state of the peritoneum in such cases shows a condition approaching acute peritonitis, where, however, I hold the same principles are applicable, and the same surgical treatment is justifiable.

REGISTRATION OF TRADE ACCIDENTS.*

BY FRANCIS IMLACH, M.D.,
Liverpool.

THE Workmen's Accident Compensation Bill makes no provision for the registration of trade accidents, neither for their nature and extent or for their causes and disabling effects. Without doubt this unfortunate omission is due to a laudable desire for simplicity, but it makes the Bill impracticable. Within certain restricted trades every injured man is to be compensated, except when the blame is solely and entirely his own. Taking the Home Secretary's estimate that about six million workers come within the scope of the Bill, and adopting a percentage of accidents which obtains among a million of them, we get the annual number of workers who will, themselves or their dependents, be entitled to compensation:

Workmen killed	4,260
,, totally disabled	2,400
,, permanently partially disabled	20,040
,, temporarily disabled for at least three or four weeks	750,000

But the scale of compensation is not fixed, and it is impossible, therefore, to make an accurate estimate of its cost. There is a large range between the maximum and minimum in the case of fatal accidents, and a maximum without a minimum for accidents which are not fatal. The Bill contains no definition of total and partial or of temporary and permanent disability, and there is no attempt to appraise the money value of the several limbs and organs of the body. In the policies issued by the various accident insurance companies of this country all these items are carefully assessed, and in Germany trade accidents are minutely classified by the Government. But in the present Bill these matters are very properly left to the common sense of the arbitrator. Hence it is that the estimates of different actuaries, and even of the same actuary at different times, are notoriously discordant. In the case of miners, for example, while the mine owners in their alarm estimate the probable cost of compensation at 3d. a ton, the Government rates it at ¾d. It is, in truth, within the competence of the arbitrators to make the actual cost approximate to either figure.

The provision for arbitration under this Bill is designedly elemental and incomplete. The county court judge is the ultimate arbitrator, and he may call in a medical assessor, at the expense of the employer, to assist him. But the obvious intention of the Bill is that the vast majority of claims shall be settled outside the law courts and without the intervention of the medical assessor. It is hoped that joint committees of employers and employed will form voluntary courts of arbitration. There will be a Government arbitrator to assist in their organisation and conduct. It is not, however, meant that the whole of the work shall be done by the Government arbitrator. So far as possible the adjustment of claims is to be a matter of agreement between masters and men, and hence much depends upon their mutual goodwill.

But it is quite impossible to believe that money claims can always be settled without contention, and even good will must have some objective guidance. Frequent appeals will be made to our profession by the opposing parties. In the majority of cases the injured men will have been attended, not only for the first fortnight but also afterwards, by the medical officers of their friendly societies; and to refuse to listen to these surgeons when doubt is cast upon the nature or reality of some obscure injury would be to court discontent. But if this evidence be received it will be impossible to deny the right of the employer to produce rebutting evidence.

Now, I am sure none of us want a repetition of the scandals of expert witnesses which were so common in the early days of railway travelling. It is neither fair nor reasonable to employ expert witnesses for the express purpose of accentuating any difference of opinion which may legitimately exist. What we want, for the avoidance of scandal, is a uniform system of registration of accidents and of their disabling effects. When the employer and employee can agree to a form of registration the arbitrator or arbitrating Committee would only have to assess the compensation, and forward a record to the Board of Trade. But if the opposing parties disagree their medical representatives might be able to effect a reasonable compromise. And if these fail it would rest with the arbitrator to compare the rival claims, to fill in a registry of the accident as best he can, and to award compensation.

At the present moment returns of accidents in shipping (which is excluded in this Bill) in mines and railways, are drawn out on such different lines that useful comparison is impossible. Unless a uniform system of registration be instituted there will soon be the wildest confusion. Witnesses will be kept hanging about offices and needless expense will be incurred, courts of arbitration will be without guidance, the Government arbitrator will be a law unto himself, one county court judge will never know what another is doing, insurance offices will lack data for calculating their risks, and the country will never know whether the Act is a failure or a success.

The heavy loading of accident insurance premiums is due, in the first place, to the expense involved in the endeavour to

* Read at a meeting of the Lancashire and Cheshire Branch of the British Medical Association.

extend business and the cost of collecting, etc., and secondly to fear of the unknown risk which must be met. The first item of expense would be greatly diminished by the formation of mutual insurance companies by groups of employers for the purpose of covering the risk of their own businesses. Among the obvious advantages of this method of insurance are economy, the maintenance of friendly relations between employers and employed, and the occasional discovery of means by which trade accidents may be prevented or diminished. The second item—the fear of the unknown—has been recognised, and to some extent obviated, by the Government amendment which converts perpetual disability into a maximum of seven years at the option of either party. But an authoritative register would soon produce data which would justify a lowering of rates, and so prevent the ruin of the smaller employers of labour.

Since the successful working of this Act will so largely depend upon the intelligent co-operation of our profession, I think we are entitled to ask the Government to make a uniform scheme of registration of accidents an integral part of their Bill, and I suggest that the Parliamentary Bill Committee of this Association should draw attention to the need of it before the report stage of the Bill is passed.

The form of registration should fulfil five requirements:

1. A statement of the cause of injury. This would establish the fact that it was a trade accident, and not caused by drink or wilful disregard of express orders.
2. A description of the nature, extent, and progress of the accident or injury in the terms of the Nomenclature of Diseases issued by the College of Physicians.
3. The consequential disabilities.
4. Any circumstances to which the attention of the arbitrator should be directed.

Mr. Thomas, a mining expert, writes as follows: "It stands to reason that lame men, one-eyed men, short-sighted men, men with wooden arms or wooden legs, men hard of hearing, men of weak constitution, and elderly men are more liable to accidents underground than men who do not suffer from such infirmities. Naturally, then, the first thing employers will do if this Bill becomes law will be to rid themselves of all such infirm persons." But if these circumstances and others, such as being subject to fits, faints, etc., be fairly represented in the registration of the accident, the common sense of the joint committee or of the Government arbitrator will soon devise a satisfactory scale of assessment which will prevent the cruel necessity of debarring the infirm from the employment by which they make their livelihood.

5. The amount of compensation.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

JAUNDICE AND INFLUENZA.

In the British Medical Journal for March 3rd, 1894, I reported eight cases of jaundice which I had met with in my practice during an epidemic of influenza at that time. Dr. W. Hall Calvert had reported seven somewhat similar cases a month before, and other reports were published subsequently. Owing to the numerous cases of jaundice noted, and to their occurring during the prevalence of an outbreak of influenza, it came to be a question of whether we were to regard these cases as indicating that jaundice may occur as an epidemic disease, or that it may be one of the sequelæ of influenza.

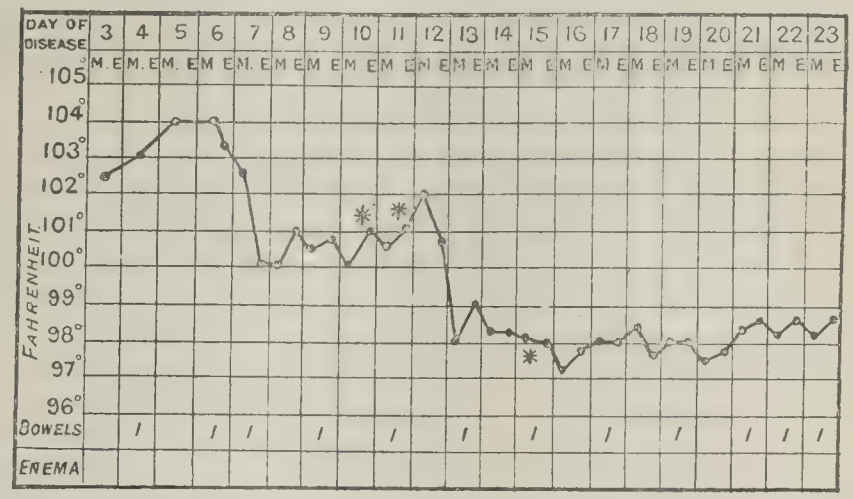
With a view to gathering more information on this particular subject, I carefully watched all my influenza patients during a recent outbreak of that disease, and only in one case did I detect jaundice. This patient was an adult, who had an undoubted attack of influenza, and who developed marked jaundice while still suffering from the influenza. Of course, this influenza epidemic was much less severe than the former one, and this fact has to be kept in mind in discussing any complication.

I have referred to this matter again in the hope that others may report similar cases, and so throw some more light on this subject.

Garliestown. William S. Young, M.B., C.M.

A CASE OF TYPHOID FEVER: SERUM DIAGNOSIS AND SERUM TREATMENT: RECOVERY.

The following brief report of a case of typhoid fever in a female, in which the most recent advances in diagnosis and treatment were employed, will doubtless be of some small value as an addition to the scanty literature on a portion of the subject, namely, that relating to the serum treatment. Appended is a copy of the temperature chart:



The following brief clinical notes refer to the several days of the disease:

4th. Heart and lungs normal.

5th. Slight epistaxis.

6th. Free epistaxis; lungs normal.

7th. Pulse markedly hyperdicrotous. Brandy, ℥j every two hours. Blood sent for examination to Institute of Preventive Medicine.

8th. Abdomen distending; tender in iliac fossa and over edge of spleen. Splenic dulness increased.

9th. Pulse almost running. Brandy, ℥j every hour. Four rose-coloured spots on abdomen; tongue furred.

10. Abdomen as before; drowsy; dorsal decubitus; two fresh spots. Report received from Institute: "well-marked agglutination of typhoid bacilli"; 10 c.cm. Burroughs and Wellcome antityphoid serum injected.

11th. Pulse fuller; abdomen less distended and less tender; 10 c.cm. of serum injected.

12th. Tongue cleaning; abdominal and mental condition improving; pulse stronger.

13th. Marked general improvement.

15th. Injected, 10 c.cm. This was a precautionary injection, on the assumption that the typhoid infection was only inhibited.

17th. Fish diet.

20th. Meat diet. Convalescent.

A sample of the blood taken about the 25th day did not give the Widal reaction (British Institute report).

Note.—As typhoid fever occasionally aborts, too much reliance cannot be placed on the success of the serum treatment in this case.

Hull. E. H. Howlett, F.R.C.S.

DEATH FROM PYROGALLIC ACID POISONING.

On May 1st, at 10 A.M., I was summoned to Mrs. H., married, aged 32, by her father, who stated that he thought his daughter was dying; he also stated that she had had trouble with her husband, was living apart from him, and had seen him the previous evening. She was in good health the night before, and had enjoyed good health previously.

Her condition on my arrival was as follows: Her face was of a dirty grey colour with the exception of her lips, cheeks, and ears, which were dark blue. She was conscious, her pupils normal, and her skin cold. The heart was acting feebly, and she took no notice of anybody, but would answer questions put to her. The tongue was dark brown and dry, and she had vomited for two hours before my arrival, but that

had now ceased, and the vomit had been thrown away. She complained of no pain, and exhibited no tenderness on pressure over the abdomen. I found no disease of the heart or lungs, and her mother informed me that she had menstruated a fortnight before. I then asked her relatives to leave the room, and questioned her as to whether or not she had taken poison; this she firmly denied.

The room was then searched and nothing suspicious found except a pudding basin under the bed which appeared clean.

Large doses of ether, ammonium carbonate, and digitalis were given, mustard applied over the heart, and hot water bottles to the feet, the result being that after some time the heart acted slightly better, but there was very little improvement.

Shortly after diarrhœa set in and continued throughout the day, and the urine which was passed consisted principally of blood.

On May 2nd the diarrhœa ceased, but her appearance was unaltered; she then complained of severe headache but had no other pain, and seemed in a drowsy condition, answering questions when spoken to. Later in the day her mother told her she thought she was dying, and she then confessed that she had taken poison, and that the bottle was hidden under the carpet, where it was at once found. It was an ordinary 1-ounce bottle of pyrogallic acid, used by the father for photography, practically empty, and was said to have been half full the day before. She had mixed the contents with water in the basin found under the bed, and swallowed the fluid.

On May 3rd she was decidedly worse, her face was deathlike, yet she could understand when spoken to sharply. Later in the day she became comatose, and died at 4 A.M., on May 4th, or about sixty-eight hours after the first symptoms were noticed. I tested what little remained in the bottle, and found it to be pyrogallic acid.

At the *post-mortem* examination all the viscera were intensely congested; the kidneys were of a dark purple colour, the bladder contained blood, the heart cavities were full of clot, and the stomach and intestines showed patchy congestion.

Remarks.—The absence of gastric pain or tenderness after a large dose ($\frac{1}{2}$ ounce), the intense cardiac depression, apparently not relieved by the ordinary cardiac stimulants, the cyanosed condition with hæmaturia and the slowness of death, appear to me worthy of notice. I am unable to find any record of death in the human being from this poison.

F. Bradshaw Reilly, M.R.C.S.Eng., L.R.C.P.Lond.
Victoria Park Road, N.E.

CASE OF FŒTAL ASCITES.

On June 16th I was called to Mrs. L., living in this neighbourhood, to assist a midwife who was in attendance, and could not manage the case. On my arrival I found the patient had been in labour for many hours. The head and shoulders of the fœtus had been born for an hour, but no further progress had been made. The midwife told me she had "pulled with all her might," to no effect. The child was already dead, the pains almost entirely absent, what remained being feeble in the extreme; the patient was much exhausted, with a small rapid pulse. Her abdomen was much distended, so much so that the probability of twins presented itself to me. The head had been born in the left occipito-anterior position, and was of the usual proportions. Finding traction on the shoulders of no avail, I with some difficulty succeeded in passing my left hand up the anterior surface of the body. On reaching the child's abdomen I discovered the cause of the obstruction to be ascites. The child's belly was enormously distended with serum, forming a balloon-shaped mass above the pelvic brim.

On account of the flaccid condition of the woman's uterus, and the feebleness—in fact, almost complete absence of pains—I took the precaution of giving a full dose of ergot before taking further steps. Again passing my left hand into the vagina I placed the tips of the fingers midway between the xyphoid cartilage and umbilicus of the fœtus, and passing a perforator with my right hand gently worked an opening through the abdominal parietes, avoiding puncture of the bowels. The success of my efforts astonished me. I had expected a considerable quantity of fluid, but was not prepared for the actual amount which escaped. It is a matter of regret to me that I had not the means of measuring the quantity. I had now no difficulty in completing the birth of the child. The uterus still refused to contract, and it was only by continual gentle pressure that it became at all reduced in size. There was a good deal of hæmorrhage collected behind the fœtus, due no doubt to partial separation of the placenta consequent upon the rough manipulation exercised prior to my arrival.

Considerable flooding followed the removal of the placenta, as one would anticipate, but it quickly yielded to the usual remedies, and by degrees the uterus became firmly contracted. The patient was blanched and faint from the loss of blood and severity of the labour and for a few days her condition gave rise to some anxiety. I am glad to say she has made a good recovery.

I may add that on examination of the child it appeared that the peritoneal cavity would have held nearly a gallon of serum.

J. C. S. Matthews, M.R.C.S., L.R.C.P.Lond.
Birmingham.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

BRISTOL ROYAL INFIRMARY.

A CASE OF ADDISON'S DISEASE.

(Under the care of Henry Waldo, M.D., M.R.C.P., Physician to the Infirmary.)

A boiler maker, aged 36, admitted to the infirmary May 23rd, 1896, complained of vomiting, general weakness, and pains in the legs and back. Both parents are English and living. A very good family history is obtainable and quite free from phthisis. The patient has been a heavy drinker. He has never had syphilis, and there is no history of any previous illness or of any injury. His wife states that he has been ailing for the past twelve months. For five weeks he has lost his appetite and has felt sick in the morning. His legs have been getting weak, and he could only walk with difficulty during the last month. He worked till the weakness affected his arms, three weeks before admission, and was then obliged to take to his bed. Whilst in bed he had dull pains in his knees which have become almost unbearable, at times they affected his legs and spread to his back. There was no numbness or tingling except in his fingers. The pain in his knees was relieved by drawing up his feet, but he found it very difficult to straighten them. About two weeks ago he began to have attacks of vomiting, and these have continued at intervals up till now.

He is a well developed man, with no sign of muscular wasting. The skin is deeply pigmented over the whole trunk and limbs—not more so in the axilla, groins, or between the folds of the nates. No garter marks are present. The scrotum is almost black and is much darker than any other part of the body.

Around each nipple there is a very dark areola, half an inch in diameter. His knees are very dark, but this the patient states has been caused by his work, in which he has to kneel a great deal. He is very anæmic. He lies on his back with his thighs and knees flexed, any attempt to extend them causing acute pain. The sclerotics are suffused and do not show the pearly whiteness often observed in this disease. The heart beat (104) and sounds are exceedingly feeble. The radial pulse cannot be felt, and the mucous membrane of the right cheek is marked by a conspicuous line of pigmentation opposite the teeth. There are no other patches in the mouth. Scattered here and there over the abdomen are about half a dozen brownish moles varying in size from a pin's head to a pea. The lungs and abdominal organs appear healthy. The urine showed a trace of albumen, specific gravity 1025, high coloured. No deposits. Rigidity

of hips and knees. Much tenderness over calves of both legs. Numbness of finger tips of both hands. Sensation otherwise normal. Optic discs were normal. Partial deafness in both ears (probably due to his occupation). No wrist or ankle drop. Knee jerks absent. Plantar reflex absent. Other reflexes normal. The electrical reaction normal. The temperature was subnormal.

The patient was ordered pil. ferri arsenicalis, but the vomiting and retching continued and very little was retained. The day before death, which occurred May 28th, 1896 (five days after admission) the vomiting lessened, and suprarenal tabloids were taken.

At the *post-mortem* examination, for the notes of which I am indebted to Dr. Fisher, pathologist to the Infirmary, the suprarenal capsules showed extensive caseous changes, in fact were completely destroyed. The right was much smaller than the left. When a section was made the glands very much resembled a piece of putty. The kidneys were healthy. The solar plexus and its branches to the ganglia were enveloped in a dense mass of fat and fibrous tissue, so dense that it was difficult to dissect out the ganglion. Several of the mesenteric glands lying close to the attachment of the mesentery were hard, and on section presented a grey, mottled, appearance. The nerves running to and from the ganglion could not be isolated, the whole, including the cœliac axis and superior mesenteric artery, being so firmly bound up in the fibrous mass.

Sections of the abdominal lymphatic glands show tubercle bacilli. The advanced caseous degeneration of the adrenals failed to show any.

HARTLEPOOLS HOSPITAL.

CASE OF GANGRENOUS INTUSSUSCEPTION: ENTERECTOMY BY MAUNSELL'S METHOD: RECOVERY.

(By T. G. Ainsley, M.D., M.R.C.S., Honorary Surgeon to the Hospital.)

E. P., aged 15, an errand boy, was admitted under my care on March 19th, 1896. The history given was that three days previously, whilst playing football, he suddenly felt a pain in the abdomen as he kicked the ball. The pain increased in severity and he was taken home, where Dr. Morgan and Dr. Harte Gourley were sent for. These gentlemen attended him, but, as the pain continued, accompanied by vomiting and constipation, he was sent into the hospital as a case of intestinal obstruction.

When I saw him, the morning after admission, he had an appearance more suggestive of cerebral than of abdominal trouble. He lay in a state of semi-stupor; on being roused he answered questions slowly but rationally; the pulse was slow, temperature subnormal, and tongue dry and coated. On being questioned with regard to the pain, he referred to a spot in the middle line of the abdomen, half an inch above the umbilicus. The abdomen was flaccid and slightly tender, but no tumour nor anything abnormal could be detected. Examination *per rectum* gave negative results. He remained with little alteration in his condition for three days. He vomited at intervals, but retained a good deal of food: his bowels always acted after an enema. On the third day he had some straining and passed a little mucus and blood. The case was then diagnosed as one of intussusception, and it was decided to operate. Under chloroform no tumour could be detected in the abdomen, but an indistinct swelling could be felt through the upper part of the rectal wall. On the abdomen being opened, the intussusception was readily found among the coils of small intestine and brought out at the wound. The tumour was small, about three inches in length, and was situated in the small intestine, some distance above the cæcum. On attempting to reduce it by the usual means, it was found to be gangrenous and that its removal was essential. I had now some hesitation whether to use a Murphy's button which was ready, or perform the resection known as Maunsell's. As the patient was bearing the operation well, and I looked with some suspicion on Murphy's invention, the latter course was decided on. The intestine was clamped, surrounded by sponges, the tumour cut away, and the ends well washed with warm boracic lotion. Bleeding was free but easily controlled. The cut ends were brought together by two temporary silk sutures, the threads being left long, one suture joining the mesenteric border and the other opposite to it. A longitudinal incision, 1½ inch long, was made in the lower segment of the bowel, two inches from its divided end, forceps were passed through this opening and the long ends of the sutures, followed by the cut ends of the bowel, were drawn out. The cut ends were then carefully stitched together by about fifteen interrupted sutures of fine silk, the mesenteric border being carefully and strongly fixed. The temporary sutures were then cut away, and the invaginated portion withdrawn, and the longitudinal opening closed by Lembert's sutures. In two or three places I was not quite satisfied with the strength of the end to end approximation, and three Lembert's sutures were inserted through the peritoneum only to strengthen the weak points. The divided mesentery was then brought together by sutures. The bowel was well washed with boracic lotion and returned to the abdomen. The abdominal wound was sutured and dressed, and the patient returned to bed. The time from the commencement to the completion of the operation was one hour. The pulse was then 165 but not weak, and dropped to 150 two hours afterwards; the temperature never rose above 100°F. The patient had a natural motion on the fifth day, and recovery was uninterrupted. He left the hospital three weeks afterwards, and is now, fifteen months after the operation, in perfect health.

Remarks.

One point of interest in this case was the presence of a train of nervous symptoms, which made the diagnosis from brain trouble difficult. I have often noticed similar symptoms in abdominal cases, but have not heard a satisfactory explanation of them.

Although many methods are suggested for performing enterectomy, there is no consensus of opinion among surgeons as to which is the best. Probably the true answer is, that different morbid conditions and positions of the intestine require a different operation. Many surgeons consider Maunsell's method an ideal one for intussusception, although Mr. D'Arcy Power, in his Hunterian lectures, asserts that only two cases of successful enterectomy for intussusception have been recorded in England since 1895, and in both of these a Murphy's button was used. This case is, therefore, reported in support of an operation which is brilliant in conception, easy of performance, and admirable in results.

I have to acknowledge my indebtedness to Mr. Ferguson Lees, our house-surgeon, for the careful notes he kept of the case.

REPORTS OF SOCIETIES.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

E. Nettleship, F.R.C.S., President, in the Chair.

Friday, July 2nd, 1897.

Spontaneous Dislocation of the Lens into the Anterior Chamber.

These cases were read by Mr. Bickerton. In the first case (a woman, aged 65) the right eye had been lost by an injury twenty-five years before. The sight of the remaining eye went suddenly one afternoon without having received an injury. She was not seen till seventeen days later, when there was raised tension, vision *nil*, and anterior chamber occupied by a partly opaque lens. The lens was removed without difficulty by a vectis through a corneal incision. In the second case (a man, aged 66) cataract extraction had been performed on the left in 1891, a preliminary iridectomy being done on the right at the same time. In March, 1897, the lens was found filling the anterior chamber of the right eye, no injury having been received. T. was +3, V.=doubtful p. l. The cataractous lens was removed through a corneal incision; the cortex was fluid. The vision with correction after eighty-one days was $\frac{6}{36}$.

Demonstration of Tscherning's Theory of Accommodation.

Mr. Priestley Smith showed a model illustrating Tschern-

ing's theory of the accommodation, and reviewed the evidence for and against the theory. Helmholtz proved an increase of lens convexity in the area of the undilated pupil; he inferred a general increase of sphericity due to slackening of the zonula. He put forward his theory as provisionally the most feasible, not as proved. Tscherning, following Thomas Young, showed that during accommodation the refraction and the convexity of the lens increased chiefly at the central area of the pupil, less and less towards the periphery, and in the peripheral zones not at all; the lens surface changed from a spherical to a hyperboloid curvature. He showed further that this change could be produced in animals by tightening the zonula. Tscherning's observations relate to—(1) Spherical aberration: Did the sphericity of the lens increase during accommodation, the spherical aberration, other things being equal, would increase also. But a study of diffusion circles and shadows cast upon the retina showed no such increase, but the reverse; the peripheral zones of the lens did not increase in refraction as does the central area. (2) Scheiner's experiment: Looking at a point of light through two adjacent pinholes placed before the pupil, the eye sees it single at the distance for which it is focussed, double at any greater or less distance. With an instrument based on this principle the refraction is estimated in different parts of the pupillary area at the same time. During accommodation the increase of refraction, measured in this way, is much greater at the centre than at the periphery. (3) Reflection from the lens surface in the living eye: A series of electric lamps placed in a horizontal line before the eye are seen reflected by the lens. The varying degrees of displacement which these reflections undergo during accommodation are an index to the change of curvature in the lens surface. The convexity increases chiefly at the centre, less and less, or not at all towards the periphery. (4) Reflection from the surface of the exposed lens and traction of the zonula: The zonula being seized and rendered tense at two opposite points of the circle, the change of curvature occurring in the lens surface is studied by means of images reflected from it in several zones. It is of the character already described. Tscherning holds, therefore, that in the act of accommodation the ciliary muscle contracts so as to increase the tension of the zonula and to alter the lens surface from a spherical to a hyperboloid form. A given increase of convexity in the central area involves much less change in the general form of the lens than it would according to the assumption of Helmholtz. Tscherning founds his study on the work of Thomas Young, and does full honour to that eminent scientist. Hess, on the other hand, shows that during strong contraction of the ciliary muscle, especially under eserine, the lens becomes tremulous, and this he declares is incompatible with an increased tension of the zonula. Tscherning confirms the observation, but attributes the trembling of the lens to spasmodic action of the ciliary muscle. Hess replies that the lens, besides being tremulous, is displaced laterally, the displacement in all positions of the head being governed by gravity. This, he urges, can only be explained by assuming that contraction of the ciliary muscle slackens the zonula.

MICROPHTHALMOS WITH CYSTIC PROTRUSION FROM THE GLOBE.

Messrs. TREACHER COLLINS and J. R. ROLSTON read a paper on this subject based on the pathological examination of seven eyes in which it was present. It was pointed out that though all the specimens were alike in one particular, namely, in being microphthalmic eyes with a protrusion of retinal tissue through a gap in the choroid and sclerotic, they presented great differences as regards the degree of development of the eyeball. The amount of the protrusion of retina varied from a small knuckle of tissue to quite two-thirds of that membrane. In some of the cases the folds of retina had become distended into one or more fluid-containing cysts. The region of the globe in which the protrusions were situated was nearly always its lower and posterior part. Speaking generally the larger the amount of the retinal protusion the smaller and more imperfectly developed was the eyeball. In some of them the vitreous was very imperfectly formed, being replaced by a kind of fibrous tissue with blood vessels coursing through it. This so called "atypical development of the vitreous humour," in which the mesoblast which should have developed into vitreous humour had instead developed into fibrous tissue, was thought to be a matter of considerable importance, as it served to elucidate cases of congenital amblyopia, which when examined ophthalmoscopically were seen to have fibrous membranes or bands in the vitreous chamber. In one of the specimens they had found a large plate of well-developed hyaline cartilage embedded partly in the sclerotic and partly in the cornea. They referred to two other somewhat similar cases recorded by Lapersonne and Mitvalsky in which nodules of hyaline cartilage had also been found in the sclerotic. It was thought the changes in all their cases could be best explained by supposing the retina, through imperfect development of the vitreous, or delayed closure of the ocular cleft, to have become much folded, and that one or more of these folds had become extended through the ocular cleft into the subjacent mesoblast, where in some of the cases it had subsequently expanded into fluid-containing cysts.

TUBERCULOSIS OF THE CONJUNCTIVA.

This paper was read by Mr. J. EYRE. According to the author's statistics the frequency of these cases was about 1 in 3,000. They were divided into five groups—the first characterised by miliary ulceration of the conjunctiva, the second by subconjunctival nodules somewhat resembling trachoma granules, the third by superabundant papillary granulations, the fourth appeared as lupus of the conjunctiva, the fifth as papillomatous tumours of the palpebral conjunctiva. The affection was to be regarded as the result of direct inoculation, and not as an expression of general tuberculosis. The age limit varied from 10 months to 30 years, the most common time of appearance being about puberty; females were more often attacked than males. The conjunctiva of the lower lid was the most common seat of the affection; glandular enlargement was generally present. Eight cases were described in detail. In group 1, one case; group 2, two cases; group 3, two cases; group 4, one case; group 5, two cases. Special attention was directed to group 5, on account of the difficulty in diagnosis without microscopic examination. The necessity of early complete removal of the disease was insisted on.

CARD SPECIMENS.

The following were the card specimens: Mr. JESSOP: Sarcoma of Choroid. Mr. BATTEN: Case of Spontaneous Hæmorrhage into the Vitreous. Mr. J. GRIFFITH: Case of Probable Thrombosis of the Cavernous Sinus. Messrs. HOLMES SPICER and DEVEREUX MARSHALL: Specimen of Tubercle of the Iris. Mr. THOMPSON: Unusual Type of Corneal Infiltration.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—At a meeting on June 30th, Dr. F. PAYNE, President, in the chair, several interesting cases were brought forward by Dr. ABRAHAM, Dr. SAVILL, and others. A case of Multiple Lupus in a little girl, aged 6, shown by Dr. ABRAHAM, excited much comment. There were a dozen or more isolated tuberculous-looking nodules about the size of a pea, or a little larger. There were a few scattered nodules about the limbs and the body generally. Slight enlargement of the lymphatic glands of the axillæ and of other regions was noticed. The PRESIDENT considered the possibility of the lesions being those of congenital syphilis. The child had a swelling of one of the finger joints—(?) strumous dactylitis. The mother gave a history of several miscarriages. Dr. Abraham promised to examine the growths. The nodules had existed in their present condition for about one year, and it was stated by the mother that they "all came out at once."—Dr. RYAN showed a case of *X* Rays Dermatitis. Skin of shoulder and bosom affected. Exposure, 45 minutes. The skiagraph had not been successful. Hair was still growing over part of the affected region. Mr. PERNET stated that he knew of a hairy mole which had been subjected to an exposure of two hours without destruction of the hair follicles having taken place.

THE Seamen's Hospital Society (*Dreadnought*), Greenwich, has received from "An Admiral" £500 towards the enlargement of the branch hospital at Royal Victoria and Albert Docks.

REVIEWS.

REPORT ON THE EPIDEMIC OF CHOLERA IN EGYPT DURING THE YEARS 1895 AND 1896. By J. G. ROGERS, Director-General Sanitary Department. Cairo: National Printing Office. 1897.

THIS is a most complete and interesting account of the outbreak of cholera which occurred in Egypt during 1895 and 1896, an outbreak which at one time, owing to the military operations in progress at the time, threatened to become one of great importance, and did in fact assume very large proportions in the parts of the country which were more especially involved, the total deaths caused by it amounting to 18,105.

The report shows how liable Egypt is to receive infection from Mecca and the Hedjaz, and how well adapted are the physical conditions of the country and the customs of its inhabitants to make it a hotbed for the development of epidemics should the infection once be implanted in it. Egypt is peculiar in this, that the whole country has but one water supply—the Nile and its canals—any infection of which is likely to cause a wide distribution of the disease.

This source of supply, moreover, is liable to constant pollution owing to the habits of the people. The ablutions prescribed by religion in connection with the offices of Nature are performed at the nearest water supply, and thus it happens that the bank of the river or canal immediately in front of the town or village is generally utilised as the public latrine. The foreshore thus becomes inexpressibly filthy. Dr. ROGERS says: "Here may be seen at one and the same time men performing their ablutions, the washing of soiled clothing, and the women drawing drinking water all within a few yards of one another." In certain towns the public latrines connected with the mosques are built directly over the water, so as to avoid the necessity for cesspools; and in many cases the spots chosen for drawing water, with steps specially constructed for the purpose, are but a few yards down stream from the mosque latrines.

Dr. Rogers says that not a town or village in Egypt is drained, not one has a satisfactory water supply, in not one is even superficial cleansing carried out as it should be, and that all the conditions necessary for the propagation of a filth disease exist there to perfection.

Nor does the country appear to be any better off in regard to its sanitary organisation than it is in its sanitary arrangements. The village is practically the unit, and each village is supposed to have a sanitary barber, whose duty it is to notify to the sanitary inspector of the district any unusual increase in the death-rate. This is all that is expected of him, but even this he seldom does. It seems that it is extremely distasteful to the village authorities to have infectious disease notified, and the rule is to conceal such ailments as long as possible. To this rule the cholera epidemic described in this report was no exception, and it still remains a doubtful question when the outbreak really began.

The story of the epidemic is very well told, and the report abounds in diagrams showing its rise and fall in the different districts. The main interest in the story, however, lies in the definite connection which is shown to have existed between the water supply and the disease, and in the careful descriptions given of the means adopted for the protection of the water, a matter of very great difficulty where the one single drain of the country is also the one single source from which water can be obtained.

Comparing the epidemic of 1895-6 with others which preceded it, there can be no doubt that it was far less fatal than, for example, the outbreak in 1883, and the suggestion has been made that the recent epidemic was caused by an attenuated bacillus whose virulence was less than that of former times. To this, however, Dr. Rogers replies that the experiments of Dr. Bitter and Dr. Ruffer show that a more virulent bacillus than the one in question it would have been hard to find, while from the clinical point of view he had seldom seen more virulent cases. In one village of 300 inhabitants, 90 died in five days. The much lighter incidence of this epidemic would seem, then, to have been the direct result of the careful and intelligent manner in which it was dealt with by the higher sanitary officials, and especially of the means taken to prevent the infection of the water supplies. In many ways this is a most instructive report.

A GUIDE TO THE CLINICAL EXAMINATION OF THE BLOOD FOR DIAGNOSTIC PURPOSES. By RICHARD C. CABOT, M.D. Pp. xix, 405. London, New York, and Bombay: Longmans, Green, and Co. 1897. (Roy. 8vo, pp. 425. 16s.)

IN few branches of medicine has science afforded such great assistance as microscopy has to clinical diagnosis. Yet notwithstanding the magnificent results that have been achieved since the publication of Bennett's work on leucocythæmia, microscopical methods have only slowly come into general use as routine methods with the practising physician. That this is due largely to the want of a practical handbook on the subject cannot be doubted.

Dr. CABOT has not only removed this difficulty but many others as well, for he describes the methods clearly, with sufficient detail, and with so much precision that to one familiar only with the rudiments of microscopical work the subject ought to present no great practical difficulties.

The first part of the work is devoted to a description of these methods of clinical observation; the instruments used are described and figured, and many practical hints given for their efficient working. Then follow several chapters giving a very full account of the general pathology of the blood. Next the special pathology of the various morbid conditions is given in detail. These include not only the anæmias as usually described, but also a very full account of the blood in various infective diseases, constitutional diseases, diseases of special organs, etc.

We can speak very highly of this volume; it is the first work of its kind that has appeared, is accurate and well written, and possesses the far more important characteristic of being suggestive, and it is beautifully illustrated.

EXERCISES IN PRACTICAL PHYSIOLOGY. Part III: Physiology of the Nervous System. Electrophysiology. By AUGUSTUS D. WALLER, M.D., F.R.S., Lecturer on Physiology to St. Mary's Hospital Medical School. London: Longmans, Green, and Co. 1897. (Pp. 91, with 65 Illustrations. 2s. 6d. nett.)

A PARTICULAR interest attaches to this part of Dr. WALLER'S course of *Exercises in Practical Physiology*, as they relate to that part of the subject to which he has himself made most important contributions, and which is further indissolubly associated with the name of his distinguished father. The volume, we may say at once, justifies one's highest expectations. It contains sixty-eight experiments, some of which are intended to be carried out by the student independently, while others require the assistance of a skilled demonstrator, and others again partake of the nature of a demonstration prepared beforehand. The whole subject of the physiology of the nervous system is illustrated in these exercises, many of which are quite original. Among these may be instanced those relating to the electromotive variations accompanying the beat of the heart in man and other mammals, and the ingenious and beautiful experiments on the action of anæsthetics upon isolated nerve. The author has also devised a number of modified instruments, all tending to the side of simplicity, of which the clever circular substitute for Pohl's commutator deserves particular mention. The diagrams are numerous and valuable; many of them are taken from rough freehand sketches, while others more complex illustrate the photographic record of muscular contractions and electrical variations. Dr. Waller includes the physiology of muscle within the scheme of the book, from which it could not indeed be separated. The experiments are carefully selected, and the simplicity and accuracy of the description are deserving of all praise. We have noticed one or two misprints: thus, for instance, on p. 59 "distinction" should obviously be "distinctness," and a sentence on p. 64 is rendered meaningless by the erroneous insertion of brackets. The book, taken with the other parts, will form a practically complete companion to any theoretical textbook of physio-

logy. We know of no other work in the English language which we could recommend for this purpose with equal confidence.

Surgical Emergencies, together with the Emergencies attendant on Parturition and the Treatment of Poisoning: a Manual for the Use of General Practitioners. By Paul Swain, F.R.C.S., Surgeon to the South Devon and East Cornwall Hospital. Fifth Edition. London: J. and A. Churchill. 1896. (Cr. 8vo, pp. 254. 6s.)

The appearance of the fifth edition of this excellent little book is testimony enough, if any be needed, of the favour with which it is regarded by general practitioners. It contains just the particular information so often wanted for the conduct of some unexpected case, together with practical instructions for the more severe emergencies that occasionally arise. It has been said that such works are robbed of much of their practical value by not being at hand for reference when wanted. We take it that the function of such handbooks is to serve as textbooks on important and critical events of surgical practice, and not as pocket remembrancers to be looked at at the last moment. Used in this latter manner they would be, indeed, worse than useless.

Several additions have been made to this edition which serve still further to increase the value of the book. In the chapter on the abdomen will be found noticed the most recent advances to intestinal surgery, while the chapter on the emergencies of parturition has been extensively revised. In dealing with the practical points of antiseptic surgery Mr. Swain has included a condensed account of aseptic methods. This chapter is excellent, and is just such a summary as will be of the greatest use in general practice, for, in addition to the rigid routine of the operating room, practical methods are given for the sterilisation of most of the minor instruments and appliances in everyday use, such as ligatures, catheters, etc. A most copious index and many illustrations add greatly to the convenience of a very efficient and practical manual.

Essai sur les Lésions du Foie et des Reins determinées par certaines Toxines [Essay upon Hepatic and Renal Lesions due to certain Toxins]. Par le Dr. H. Claude. Paris: Carré et Naud. 1897. (Roy. 8vo, pp. 245, 26 illustrations, 4 coloured plates.)

This essay is most distinctly the outcome of our steadily increasing knowledge of the infective processes. It helps to show how every organ of the body suffers in these diseases when the tissues are unable to shut off and so localise the primary lesion. The first part of the work deals with (1) the behaviour of the liver and kidney in the various intoxications, and (2) the nature, source, etc., of the microbic toxins. The intoxications are classed into exogenous, endogenous, and microbic. The deficiency in our knowledge of the nature of the toxins, in spite of the immense labour already spent on them, is still unfortunately only too obvious.

In the second part of the essay are described the changes met with in the intoxications brought about by the diphtheria bacillus, the B. pyocyaneus, the colon bacillus, the streptococcus and staphylococcus, the tetanus bacillus, by ricin and abrin, and also by some other infective processes. The author first summarises what is already known upon the subject, and then describes the changes found in the liver and kidneys, which have been demonstrated in his own numerous experiments.

In the third part he considers the more general relation of the microbic intoxication to the kidneys and liver. He shows that the lesions in these organs may be interstitial as well as parenchymatous and epithelial. This is obviously a most important question, as in it lies the explanation of the origin of a certain number of cases of interstitial disease in these organs, of which the cause would either appear to be unknown or would be wrongly assigned. In illustration of this it may be pointed out that it has only recently been recognised that the granular kidney may have its origin in an acute infective illness. In the author's experiments chronic and subacute intoxications were investigated as well as the acute.

It is impossible within reasonable compass to give an adequate account of the contents of this essay; suffice it to say that it contains much information on subjects of the very first importance, and constitutes an important contribution in furtherance of our knowledge of the infections.

Roentgen Rays and Phenomena of the Anode and Cathode. By Edward P. Thompson, M.I.C.E. New York: D. van Nostrand Co. London: E. and F. Spon. (Demy 8vo, pp. 208.)

This should prove a most useful reference book to those engaged in investigating practically the phenomena of radiant matter. It is written in a manner that is not generally known in this country, though often met with in German literature. A paragraph system in which each paragraph deals with a particular investigation, and is correlated to other experiments dealing with similar matter in other parts of the book, by cross references, is one well adapted to give an account of a subject which is characterised by a large mass of experimental results with no comprehensive theory referring them all to their natural position.

Although of course not absolutely a complete record of work done, yet the amount of matter recorded is surprising. As far back as Faraday, papers are quoted which contain matter relating to the subject in hand. Taking one section only of the work, the following are some of the principal investigations described, but they are but a small part of the large amount of material the author has given in a most convenient form. On the subject of the magnetic action on x rays are quoted Lenard's investigations relating to the action of a magnet upon cathode rays inside the observing tube; Crookes's experiment on the same subject; Professor J. J. Thompson's experiments on discharge across and along the lines of magnetic force; Plucker's experiment on the action of the magnet on the cathode column of light; De la Rive's experiment on the rotation of the luminous effect of the discharge by the same means; and even Davey's original observation of the action on the electric arc. These few examples will show how exhaustive the author has tried to make the book. Some sixty diagrams and many photographic reproductions add to the utility of the volume.

Om Endokardit, dens pathologiske Anatomi og Aetiologi. [On Endocarditis, its Pathological Anatomy and Etiology.] Af Francis Harbitz. Christiania: S. Bogtrykkeri. 1897. (Royal 8vo, pp. 181, 4 plates.)

In his monograph on endocarditis Dr. F. Harbitz has studied more especially the modern aspects of its pathological anatomy and etiology, and has founded his conclusions on the exhaustive examination of fifty-four cases of the disease.

After pointing out that Heiberg and Winge, of Christiania, were the first (in 1869) to demonstrate the presence of microbes in valvular vegetations and so to prove the occasional infectious nature of endocarditis, the writer goes on to divide the cases he has examined into two primary classes, the infectious and the non-infectious, including in the latter group those also whose infectious nature has not yet been proved. In the first group are the forms of endocarditis with streptococci, staphylococci, pneumococci, gonococci, and rarely the typhoid bacillus. The occurrence of an endocarditis with tubercle bacilli in the vegetations has not yet been demonstrated; so this affection when it occurs in a tuberculous subject, along with rheumatismal endocarditis, and that which is seen in cancer, Bright's disease, etc., are placed in the second group. Amongst the infectious cases there are also two groups—those, first, in which the vegetations are large and contain chiefly streptococci, in which the commencement is insidious and the evolution slow, and in which nephritis is common; those, secondly, in which the endocarditis forms only one part of a general pyæmia, and which run a rapid course.

With regard to rheumatic endocarditis and rheumatism, Harbitz is of opinion that it is to be regarded, not as a specific malady, but rather as the result of the action of different pyogenic microbes of attenuated virulence. Although microbes were not found in cases of tuberculous endocarditis,

experiments on animals seemed to support a microbic theory of origin. The author has often been able by intravascular injections of bacteria to set up infectious endocarditis and endarteritis in animals. The monograph is well worth perusal.

BACTERIA OF THE SPUTA AND CRYPTOGAMIC FLORA OF THE MOUTH. By FILANDRO VICENTI, M.D., Translated by Rev. E. J. STUTTER and Professor E. SAIEGHI. London: Baillière, Tindal, and Cox. 1897. (Demy 8vo, pp. 250. 7s. 6d.)

THIS work, which has a preface by Professor Miller, of Berlin, is well worthy of perusal by those who take an interest in the fungology of the mouth, a subject which is daily receiving greater and greater attention. The first memoir, on the sputa of whooping-cough, gives an account of previous researches on the subject, a short description of a series of cases in which the sputa have been examined, and observations on the bacteria and fungi that have been found to be associated this disease. Although numerous organisms have been found, there is no single one to which the author can ascribe the production of the symptoms of whooping-cough, but he thinks that some one species overlooked, or several in combination, may act in this way. The hints on the preparation and staining of specimens given at the end should be of considerable value to anyone who intends to work at this subject.

The second memoir. on the morphology and biology of the microbes of the mouth, is of interest, though many who read this chapter will be unable to agree with the conclusions at which the author arrives with regard to transition in form and function of one species to another. With our present knowledge of the specificity, within certain limits, of the character of micro-organisms, it is impossible to accept the extreme position of polymorphism taken up by the author.

The third memoir gives an account of leptothrix racemosa, to which many readers will take the same objection. At the same time the chapter is exceedingly suggestive and will be read with great interest even by those who do not agree with all that the writer advances. In a series of appendices the author discusses a number of the criticisms of his work, some of which go so far as to suggest that if Dr. FILANDRO VICENTINI'S theories are correct, all bacilli, and for that matter all bacteria, may be derived from one common parent plant. This takes us so very far back that it may equally reasonably be argued that ethnographical and ethnological studies are of comparatively little value because we are supposed to have a common ancestor in Adam. We recommend the perusal of this work not because we agree with the position of the author, but because of the many suggestive passages that it contains.

CHIRURGISCHE OPERATIONSLEHRE [Textbook of Operative Surgery]. Von Dr. THEODOR KOCHER, Professor an der Universität und Director der chirurgischen Klinik der Universität Bern. Dritte vielfach umgearbeitete Auflage. Jena: Gustav Fischer. 1897. (Royal 8vo, pp. 412. 213 illustrations, many of these printed in colours. M. 11.)

PROFESSOR KOCHER'S work on Operative Surgery, of which this is the third edition, has rapidly made its way on the Continent, especially in Germany, where it seems to be now regarded as an authoritative and very useful textbook for surgical practitioners. It is also widely known in this country, as, thanks to Dr. Stiles, we possess an excellent translation of the second edition, together with clear impressions of the illustrations. The author has spared no pains in the preparation and improvement of this work, which, in the course of a few years, has, through an intermediate edition, extended from a small volume to one of more than 400 pages. He has also added many partially-coloured illustrations, and thus enlarged what we are disposed to regard as the most important and attractive element of his book. A further improvement in the new edition is a full index placed at the end of the volume.

This book is full of original and suggestive matter. It differs in many respects, on the one hand from other textbooks of a strictly practical nature, and on the other from those intended for the use of students, as it fails to discuss to any great extent either clinical points or indications for operative intervention, or to enter into full anatomical details. In many instances we miss, in the description of a complicated operation, the full and lucid instruction that is characteristic of the most approved works on this branch of surgical work. The author describes many operations—those for exposure of small vessels and nerves for instance—which are not likely to be required either in actual practice or in the course of an examination. In dealing with major operations, even with those most frequently practised, he often takes a line of his own, and without reference to the practice either of past or of contemporary surgeons, bases his instruction on the results of his personal experience. To these innovations in technical details, most of which are founded on sound principles and much independent study, as well as to the excellence and abundance of the original illustrations, may in great measure be attributed the well-earned popularity of this work.

NOTES ON BOOKS.

Chirurgie de la Face [The Surgery of the Face.] By FELIX TERRIER, Professor in the Faculty of Medicine in Paris, etc., with the assistance of Drs. GUILLEMAIN and A. MALHERBE. (Paris: Felix Alcan. 1897. Pp. 303, with 214 illustrations. F. 4.)—This elementary treatise on the operative surgery of the face consists of Professor Terrier's lectures at the Faculty of Medicine in 1894 and 1895, collected and produced by two of his pupils under his own direction. It has all those qualities of lucidity, compactness, and thoroughness which we are accustomed to associate with Professor Terrier's writings. Under each heading the various operations which have been performed by different surgeons are succinctly described, after which the author briefly indicates the method he himself prefers, and the reasons for his choice. The illustrations are particularly valuable, as they show not only the skin incisions, but also the places at which the bones are sewn through. The book includes an account of the surgery of the tonsils and pharynx, and of that of the nose and its accessory sinuses, but operations on the nerves of the face are not mentioned, as they will form the subject of another part.

Compendium der speciellen Chirurgie. [Compend of Special Surgery.] By Drs. G. DE RUYTER and E. KIRCHHOFF, Tutors in the University of Berlin. (Berlin: S. Karger. London: Williams and Norgate. Second edition. 1896. Pp. 340, with 88 illustrations. 7s. nett.)—This is the second part of an excellent compend of surgery by two former assistants of Professor von Bergmann, the first treating of general surgery. The volume has in this edition being enlarged by a section on the diseases of the ear, from the pen of Dr. Weiss, and now forms a complete synopsis of regional surgery. We may select for especial commendation the chapter on Diseases of the Spine and the various articles treating of fractures and dislocations. The accounts given of cerebral surgery and of intestinal anastomosis are somewhat sketchy, and the description of the operation for empyema is by no means up to date or complete. The illustrations, though somewhat few, are good, and the book will take rank among the best of its size and kind.

A Clinical, Pathological, and Experimental Study of Fracture of the Lower End of the Radius, with Displacement of the Carpal Fragment toward the Flexor or Anterior Surface of the Wrist. By JOHN B. ROBERTS, A.M., M.D., Professor of Anatomy and Surgery in the Philadelphia Policlinic, etc. (Philadelphia: P. Blakiston, Son, and Co. 1897. Pp. 76, with 33 Illustrations.)—Professor Roberts believes that this injury is less rare than is commonly held. He has himself seen three cases, and has collected twelve others, the majority of which are unpublished, besides nine which are recorded in the ordinary surgical literature. None of his own cases were recent, and this is true of many others observed, errors in

diagnosis when the case is first seen being very common. Professor Roberts gives skiagrams from his second case, showing the deformity extremely well. He has also collected the accounts of thirty-one museum specimens of the fracture, and made a series of experiments on the cadaver with the view of determining the manner in which it is brought about. There can be no doubt that it is commonly the result of great violence when the wrist is in a condition of extreme flexion, and the author gives three explanations of the mechanism involved under different circumstances. His account of the clinical course of these cases in the early stage is, of course, mainly based upon the experience of previous writers, but the chapter on diagnosis is commendably full and well illustrated by photographs and diagrams. With regard to treatment, it is interesting to notice that the author recommends re-fracture, even after four to six months' union in the wrong position.

Semeiotica: Breve Compendio dei Metodi fisici di Esami degli Enfermi. [Semeiotics: A Brief Summary of the Physical Methods of Examining the Sick.] By Umberto Gabbi, Professor of Clinical Medicine in the University of Messina. (Milan: Hoepli. 1897. Pp. 216, with 11 woodcuts. 2l. 50c.)—The author of this compend apologises for its imperfections in the preface, attributing them to the necessity for condensation to adapt the size of the work to the series of which it forms a part. His modesty to some extent disarms criticism, which can, however, have nothing but praise for the first half of the book, that dealing with the physical examination of the respiratory and circulatory systems. The account of the investigation of the abdomen and its contained organs is also very good, but the author is less satisfactory in dealing with the chemical parts of his subject. For instance, he remarks that hyperacidity of the vomited matter usually denotes abnormal fermentation processes, as in gastric ulcer or dilatation of the stomach—a statement which bristles with errors. With regard to the urine, nothing is said as to the clinical significance of the various kinds of casts. The account of the examination of the blood is brief but very good. The nervous system is dismissed in eighteen small pages, and the account of its symptomatology is consequently very unsatisfactory. The book sadly needs an index.

Notes on Stable Management in India and the Colonies. By Veterinary-Captain J. A. Nunn, F.R.C.V.S., C.I.E., D.S.O. Second edition. (London: W. Thacker and Co. 1897. Cr. 8vo, pp. 112. 3s. 6d.)—The aim of this little book is to give the new arrival in the East some idea as to the management of his horses. The matter contained is the result of personal observations on both military and civil duties. The language is simple, technicalities are avoided, and there is no attempt to encourage unskilled treatment of sick animals. The contents are arranged under the heads of Food, Water, Air and Ventilation, Grooming, Stable Gear, Saddling, Harness, Carriages and Servants, Shoeing. There is added to this edition a Glossary of the more ordinary Hindustani words likely to be of use. Written, as these notes are, by one who has enjoyed exceptional opportunities of gaining valuable information, they will undoubtedly prove of great service to the novice in India and the Colonies. Veterinary-Captain Nunn's experience has been gained by long residence in various parts of the Indian Empire and South Africa, and this little work shows that his observations have not been limited to equines, for it contains much that is valuable concerning their native attendants, on whom the comfort of the horse and the horse owner so much depends. A future edition would be improved for a little rearrangement. In the present we find sawdust and shavings, for instance, under the head of Air and Ventilation. There are small technical points to which some of Veterinary-Captain Nunn's professional brethren might not subscribe, but such do not materially lessen the value of the *Notes* for the purposes for which they were written.

Her Majesty has been pleased to confer the decoration of the Royal Red Cross upon the undermentioned ladies in recognition of their services in tending the sick and wounded: Sister Mary Helen Ellis, Sister Mary Stanislaus Jones, Sister Mary Anastasia Kelly, Sister Mary de Chantal Huddon.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

RAIN-PROOF WOOLLEN CLOTHING.

The Urber Combination, patented by T. Burberry and Sons, of 30, Haymarket, London, and Basingstoke, is prepared on a plan that ensures rain-proofness. It consists of tweeds, homespuns, or coatings as the outer part of a garment lined partially or entirely with very light silk; all these fabrics are previously submitted to a process of waterproofing which has beneficial results in shrinking the materials, fixing the dyes, and making the cloth impervious to wet, which does not soak in, but stands in beads on the outer fibres like dew on a leaf, the least shaking leaving the garment dry. In this garment rains can be defied without discomfort or chill, for the body does not become over-heated, as the ventilating qualities of woollen fabrics are maintained intact. To those who have to face unsettled weathers the Urber combination may be recommended as a satisfactory and healthful form of waterproof.

LITHIA WATER.

The Ballardvale lithia spring water submitted to us is said to be the strongest lithia water obtainable. It is a non-aërated water of a faintly alkaline character. On analysis it gave us results showing 15.4 grains of solid contents per gallon, of which more than four-fifths consisted of lithium carbonate, or nearly three-quarters of a grain per pint. It is therefore a mineral water peculiarly rich in lithia salts. It can be obtained from the Ballardvale Lithia Spring Water Company, of Laurence, Mass., U.S.A., or of Messrs. Ingram and Royle, 20, Upper Thames Street, E.C.

SANITAS DISINFECTANT SOAP.

We have received from the Sanitas Company, Letchford's Buildings, Three Colt Lane, Bethnal Green, E., samples of a new soap prepared by them under the name of Sanitas Disinfectant Soap. It is a reddish soap having a pleasant odour, it lathers freely, is a good cleanser, and leaves a pleasant odour after use. It is claimed by the makers to have disinfectant properties, and from its good cleansing qualities it certainly is a valuable detergent and deodoriser. We have not examined its actual germicidal properties. The safety in the use of such articles lies in the characteristic disinfectant odour, which calls attention to the fact that precaution is necessary, rather than in reliance in any direct antiseptic properties, but the danger always exists of confusing deodorisation with disinfection.

TURTLE TABLETS.

We have had recently an opportunity of testing the turtle tablets supplied by Messrs. Levein and Sherlock, of Kingston, Jamaica, and of which Messrs. Child, Abraham, and Wigan, 32, Fenchurch Street, London, E.C., are acting as agents. One tablet makes a most excellent basin of real turtle soup, enough for two people; it is made from the fresh turtle, and is admirable in quality and in flavour. It is in our opinion much superior to most of the turtle preparations sold in this country, while it has the advantage of being considerably cheaper and more immediately available for domestic purposes, and especially for the use of the invalid. The tablets are sold at 12s. a dozen, less 10 per cent. for lots of ten dozen and upwards, or smaller quantities can be obtained from Messrs. F. Newbery and Son, 1, King Edward Street. Real turtle soup is often sold at almost prohibitive prices, from a guinea a quart downwards, which makes it but little available for ordinary use, even in the sick chamber. For sick persons, however, it is so appetising and valuable an article of diet that we are glad to find that a really commendable preparation of real turtle from Jamaica (the home of the turtle) can be obtained at so low a price, and no doubt

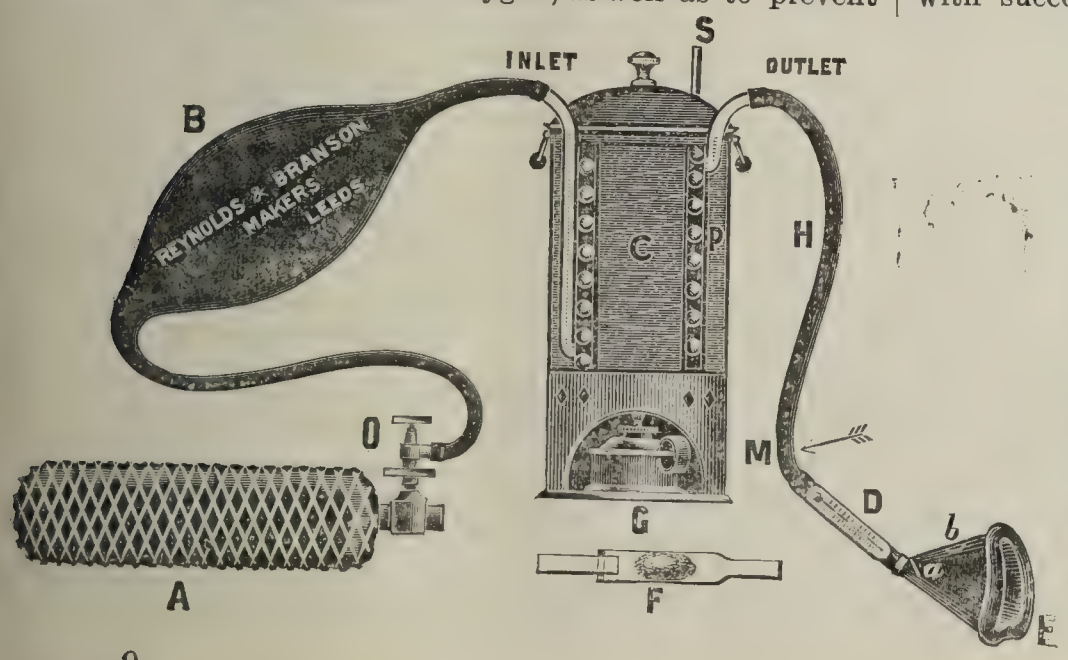
this] information will prove useful to many who desire to see a product at once medically valuable and agreeable to the epicurean taste at so moderate a price.

STERILISED MILK.

This milk, prepared by the Country Farmers' Milk Company, 174, Lulford Road, Kingsland, N., is of good quality. It has been submitted to some sterilising process with the object of killing the contained bacteria, and thus rendering it safe for infant and other feeding, and capable of being kept. It is supplied in glass bottles, which are sealed by an arrangement of wire tension springs and rubber washers. The sample received was placed unopened in the incubator. On the third day clotting had taken place throughout the mass of the milk; it was then opened, and an aërobic agar plate made with all due precautions. This was incubated, and several colonies appeared within twenty-four hours. After subculture, copious spore formation took place. The spores withstood steaming at atmospheric pressure for half an hour. From the above facts it is evident that the sample examined was not completely sterilised; and thus, although it might keep for some time at ordinary temperatures, could not do so indefinitely, and would certainly not withstand tropical heat or storage.

AN OXYGEN WARMER AND ECONOMISER.

This apparatus is claimed to be an improvement on and modification of the apparatus described by Mr. Herbert Robson in the British Medical Journal of December 19th, 1896. It aims at ensuring the administration of oxygen without waste, and pure or mixed with air, medicated, moistened, or gauged, as desired. It consists of two thin copper cylinders, separated by a space of $\frac{1}{4}$ inch, and in this space a solid rod of metal, $\frac{1}{4}$ inch in diameter, is coiled, the two cylinders being thus welded together as one large cylinder. The respective coils are $\frac{1}{2}$ inch apart, and between each coil of the rod and the sides of the cylinders a tube is thus practically formed, which extends in a series of coils from above downwards, and which communicates with the inlet and outlet tubes of the warmer. The oxygen passes from the cylinder of oxygen A through the bag B, and through the coils in the warmer C to the facepiece E, its temperature being recorded in transit by the thermometer D. When in use it stands in the pan (P) of water, heated by a spirit lamp or night light (G) beneath. In the facepiece (E) are two valves, one (*a*) at the apex, and the other (*b*) in its side. The valve (*a*) opens fully during inspiration and admits oxygen, the valve (*b*) closing. During expiration the valve (*b*) opens and lets out the exhaled air; the valve (*a*) at the same time closing, and so not permitting any undue waste of oxygen. This facepiece is after a design of Coghill's. S is a short tube, which serves as an outlet for steam, which can be directly utilised if required; through it also a thermometer can be lowered into the water, and its temperature taken. To avoid any undue waste of oxygen, as well as to prevent the blowing of oxygen (unless this is particularly desired) into the patient's mouth, it is advisable to press the rubber tube H between the fingers at the point M, and turn on the tap O until the bag B is full of oxygen, then turn off the tap O, let go the fingers at M, and allow the patient to inhale the oxygen until the bag B is emptied, when it can be again allowed to fill, and the process repeated as often as is desired. If required, a tap can be fixed at M.



By attending strictly to these latter directions the quantity of oxygen can be accurately gauged, as, knowing the exact internal capacity in cubic feet of the bag B, and of the tubes between O and M, it is a simple matter to administer just as many cubic feet of oxygen as required. This internal capacity is a quarter of a cubic foot, and a 10-foot cylinder of oxygen will fill the bag, warmer, and tubes forty times. To moisten or medicate the oxygen, a sponge or piece of absorbent cotton wool is wrung out in hot water, or moistened with the desired medicament, and inserted into the glass tube F, and this is attached to either the inlet or outlet pipes (better the latter) of the warmer. If it is desired to give the patient a mixture of oxygen and air, turn aside the movable valve (*b*), when about 50 per cent. of air will be inhaled along with the oxygen; or the facepiece need not fit quite close to the patient's mouth, when sufficient air will be inhaled along with the warm oxygen. The whole apparatus is small enough to fit easily into the ordinary visiting bag, and it will warm the oxygen up to 60° or 100° F., as required. As an adjunct to the treatment of pneumonia, congestive bronchitis, broncho-pneumonia, and pulmonary collapse, it has, we are informed, already been used in several cases with marked success. In a case, also, of severe angina pectoris, occurring in a patient with a dilated heart and deficient coronary circulation, it has been recently used by Mr. Robson with most gratifying results. In this, as in the former cases, Mr. Robson considered that the administration of cold oxygen, or, upon the other hand, the poor administration of it, as so often practised by blowing cold oxygen directly into the patient's face and mouth, would have been attended with danger. The apparatus is made by Messrs. Reynolds and Branson, Leeds.

"CHINOSOL."

Mr. B. Kühn, of 38, St. Mary-at-Hill, E.C., has sent us samples of "Chinosol," a new antiseptic and disinfectant. From the results of experiments made in this country and on the Continent, it appears to be more active than corrosive sublimate, and forty times more effective than phenol as a germicidal agent; in addition to which it is stated to be non-toxic, does not coagulate albumen, and is without any irritative action. Chinosol is a pale yellow powder having a slight aromatic odour, and is readily soluble in cold water, yielding a greenish-yellow solution of a slightly acid character. It appears to be the potassium salt of an oxyquinoline sulphonic acid, and the formula assigned to it is $C_9H_6NKSO_4$. As a substitute for mercuric chloride and phenol it has been used with success in Germany in obstetrical and gynæcological practice. Chinosol is supplied in powder, tablets, dressings, and in soaps for general use as a disinfectant and antiseptic.

VARALETTES.

Messrs. Alfred Bishop and Sons, Limited (Specksfields, E.), have introduced a novel form of compressed drug, to which they have given the name "varalette." When placed in water they quickly dissolve, and give off a stream of carbonic acid gas. The following varalettes are made: Antipyrin, antipyrin and caffein, lithia bitartrate, lithia and potassium citrate, urotropine, potassium iodide, and piperazine citrate, for which it is claimed for this salt that it is constant in composition, neutral, non-volatile, non-hygroscopic, and that it combines the advantages of piperazine with those of an alkaline citrate.

A surgical society has been founded at Lyons under the title of Société de Chirurgie de Lyon. The President is M. Ollier.

ARCHÆOLOGICA MEDICA.

XXXII.—"THE SECRETS OF ALEXIS."

Nothing is now known of the author of this world-famous book except what can be gathered from the autobiographical details contained in its pages. Don Alexis says in the preface that "i was giuen euen from my first youth vnto studie and haue gotten not only the knowledge of the Latine, Greeke, Hebrew, Chaldee and Arabicke tongues and also of diuers other Nations and Countries; but aboue all things, hauing by a naturall inclination taken a singular pleasure in philosophie and in the secrets of Nature, haue wandered and trauelled abroad in the world, the space of seuen and twentie years, to the intent to acquaint myselfe with all sorts of learned and discreet men. By the which diligence and curiositie, I haue learned many secrets, not alonely of men of great knowledge and of profound learning and Noblemen, but also of poore women, Artificers, pesants and all sorts of men. Moreover I haue beene three times at Leuant and sundrie times haue trauelled almost all other parts of the world without resting or soiourning at any time in one place aboue fiue moneths.....yet haue I alwaies been nusled up by a certaine ambition and vaine-glorie, to knowe that which another should be ignorant of: which thing hath grafted in me a continuall niggardnesse or sparing, to distribute or communicate any of my secrets, yea unto my most singular friends that I had, saying that if the secrets were known to euery man, they should no more be called secrets, but public and common."

God, however, punished his churlishness, and the book is the immediate outcome of his penitence, for he says: "Now it chanced these few daies past, being in Milan, in the fourscore and two yeare and seuen moneths of mine age, that a poore artificer was meruellously tormented with the stone, and had been two daies without making his urine. The chirurgian that dressed him, knowing well that I had many secrets and singularly for the stone, came vnto me and requested me that I would teach him the receit or at the least to giue him the medicine composed and readie made, for the health of the patient. But I perceiuing that he would vse other mens things for his profit and honour, refused to giue it him, but willed him to bring mee the sicke man and that I myself would minister the medicine vnto him gratis. The Physitian, either fearing blame if it should be knowen that he had recourse to the aide of another man, hauing peradventure boasted that he had the secret him selfe, or else in the meane time, still to make his profit in dissembling the matter and deferring it yet two daies more with diuers excuses and colours, till he brought mee to the patient, whom at my coming I found so nigh his end, that after hee had a little lifted up his eies, casting them pitiously toward mee, passed from this into a better life, not hauing any need, neither of my secret nor any other receit to recouer his health.

"With this case I was moued to such a compassion and sorrow, that not only I wished myselfe euill, but also I desired to die, seeing my ambition and vaine-glory to haue beene the cause that this poore man was not succoured with the remedie and gift that God the Father and Lord of vs all had giuen me. Wherefore so great was the remorse of conscience in mee, that desiring to sequestrate my selfe from the world, and not finding my selfe of such a disposition of minde that I could liue in a monastery among religious men better edified than I, I was at the last fully resolued with my selfe to chuse a place separate from any towne, where I haue a little land, some bookes and a studie, for to auoid idlenesse. Here I liue a life, which I call a Monkes life, with one seruant, which goeth to the towne, not to begge but to buy my prouision and other things necessarie for to sustaine his poore life and mine as long as it shall please God.

"But yet not hauing the power to put out of my fantasie, but that I was a very homicide and murderer for refusing to giue to the Physitian the receit and remedie for the healing of this poore man, I haue determined to communicate and publish to the world all that I haue, being assured that but few other men haue so many as I. And minding to set forth none but such as are most true and proued.....for truly I would not set myselfe, being in the age and disposition both of bodie and mind that I am now in, to write fables or lies that should continue alwaies."

The secrets or prescriptions form an admirable collection of medical folklore. Written originally in Italian, for the Reverend Maister Alexis was of Piedmont, some time after the year 1547, the book was translated into German by J. J. Wecker, and was published at Basel in 12mo in 1560. It was reissued in Latin in 1563, 1568, and 1569, and it was soon translated into French and English, the English edition being published by John Wright in 4to in 1566-8.

The prescriptions as might be expected are *de omnibus rebus et quibusdam aliis*. Here is one containing a few personal details: "Take a yong dog of red haire, and keepe him three daies without meat and then strangle him with a corde, and let him lie dead a quarter of an houre, and in the meane time boile a kettle of oyle uppon the fire, and putte the dog in whole or in peeces, it maketh no matter howe, so that hee be all there with the skinne and haire; and make him seeth so vntill he be almost sodden to peeces: keeping alwaies the kettle close couered. In the meane time take Scorpions to the number of fourscore or an hundred and put them in a basen on the fire, untill they bee thoroughlie burned. Then put them in the said kettle with the oyle and the dog, putting to it a good dishefull of great grounde wormes well washed, a good handfull of saint Ihons worte, a handfull of wilde or Marshe Mallowes and a handfull of Walwoort with an unce of Saffron." This was all boiled together, strained, and afterwards extracted with white wine. The extract was mixed into an ointment made of 7 or 8 ounces of the unguentum Agrippæ "of the marrow of the gambon and bones of a hog a pound, of the marrow of the hinder thighes of an Asse a pound or as much as you mai get. Put al these thinges together with the said oyle and grease and make it seeth upon the fire, then adde to it a dishefull or an halfe of oyle Roset, and when it seetheth, you shall putte to it three unces of Masticke, two unces of Gumme Elemi, eight unces of red waxe. And when all this hath boyled for the space of halfe an houre, let it coole againe and set it in the Sunne in some kinde of vessell well couered by the space of certaine daies. Then you shall haue an excellent substance and matter for all kinds of colde infirmities and for manie other." With this ointment he cured the withered arm of a "frier of Sainct Onefrey, that is to say, of them that weare an habit of roane colour. .....I caused him to be anointed with the said Oyle (which I had set in the Sunne, the summer of the yeare a thousand fiue hundred fortie seauen) by the space of two Misereres, and made him tarry in the sunne untill the said oyle was dried up."....."As I came from Ierusalem in the yeare 1518, in a ship of the which the maister was called Peter de Chioggia, wee were set vpon by fiue foystes of Pirates, on this side Corphu, and one of the Mariners so attainted with the stroke (of) a Gunne, that he had his arme brused and broken and with the same blowe another hurte in the brest. The Phisitian would haue cut off the arme. But among other thinges that I carried about with me I found a boxe of the said Ointment, wherewith I annointed his arme, and in the space of sixe or seuen daies he was healed miraculously." If "three Torteses that liue on the land and not on the water be put into the kettele when ye will boile the Dog the said ointment shall be a very excellent remedy for the Goute.....as was shown in the person of Diego a Portugall that dwelt at the mount Jordan," with whom Alexis lived for three years at Rome from 1514.

It is remarkable that in many of his prescriptions the quantity of the ingredients is quite indeterminate. It is either "so much or as much as you will." For the use of pilgrims there is a secret "to preserue a man from vomiting on the sea. You must drinke the iuice of Wormwood and you shall be quit from such paine and vexation of vomiting."

"The whole summe of the regiment and gouerning of a man's selfe is this:

"1. It is necessary that you be kept neat and cleane, and all thinges in your house, flying diligently and as much as can all euill aire.

"2. Auoyd all excesse and superfluitie, especiallie in drinking and eating and from women.

"3. Also from trauell and from excesse in sleeping and watching.

"4. Beware of moyst meates and corruptible, and of all things that is cause of rawnesse and other euill humours.

"5. Liue soberly, drynke and eat at ordinary houres and in good order.

"6. Take your rest and vse some neate and good exercise or occupation.

"7. Maintain and keepe your naturall or accustomed voiding.

"8. Be merrie."

In addition to the more purely medical prescriptions, Master Alexis, in the course of his life, had gathered a goodly number of trade secrets. He knew how to make artificial amber and counterfeit pearls. He could make papier maché moulds of medals, and he could soften ivory. He gives many directions for dyeing, and was especially learned in the various ways of removing stains from cloth, white silk, and velvet, without the use of any drop of water—a true *nettoyage à sec*. He could emboss letters of gold and silver, and was acquainted with numerous metallurgical and chemical processes. He was one of the first to describe that method of making plant impressions which may be looked upon as the immediate precursor of engraving. The plan was to "take greene leaues of what sort you will, and scrape or bruse the biggest streeks that be like ribs upon the leafe the contrarie way with a knife. Then smear it over with lampblack mixed with linseed oil or varnish.....Turne the leafe upon the paper double, and with your hand or with a peece of cloth, presse downe somewhat lightly the said leafe, untill you be assured that he hath left the colour vpon the paper. Then take it off handsomely, and you shall find all the print and deuise of the said leafe to be as it were naturall euen to the least vaine or rib.....and if you will make it greene according to his nature, take vinegar very strong, verdegrise, gum arabick, etc."

NOTES ON HEALTH RESORTS AND SANATORIA.

Leyme (Department of Lot, France).

Dr. G. H. Brandt sends us the following notes:—

This little colony is situated in a very picturesque valley twelve miles distant from the station of Assier, near Figeac, on the Orleans railway line. On one side of the valley rises a range of hills covered by a forest of chestnut trees; on the opposite side is the hamlet of Leyme, which depends on the establishment for the treatment of the insane, called the Maison de Santé de Leyme. This establishment, divided into large pavilions for the different classes of patients, contains about 600 patients and about 100 employees; it receives from the departments of the Lot and Aveyron all the cases which the Prefects send them; besides these, there are *pensionaires* or private patients of four different classes. Owing to the large extent of land belonging to the estate (about 450 acres), ample accommodation is provided for the patients and for the employees. On the outskirts of the property are to be found the different accessories, such as shops for the carpenters, blacksmiths, masons, plumbers, etc., as also a vast farm which supplies the establishment with beef, mutton, pork, poultry, eggs, butter, also a huge bakery where 1,500 pounds of excellent fresh bread is turned out every morning. Owing to the distance from any large town, everything but groceries has to be found on the property. Monsieur Miret, who is the director and chief proprietor of this large estate, possesses also extensive vineyards, from which he makes large quantities of excellent red and white wine for the use of his inmates. Two medical men are attached to the establishment, and the hydrotherapeutic department is admirably carried out; each block of building is separated from each other by a well-kept garden; every ward in each class of cases, male and female, is presided over by a sister of charity, who is responsible to the director and to the lady superior for all the internal arrangements. These sisters are well educated, and owing to their cloth are greatly respected by the patients. All the patients are treated by gentle and kind measures, and most of the patients are at liberty; hundreds are seen employed in healthy out-of-door work, and all look happy and contented, some ploughing the fields, others gardening and making trellis work, and keeping the place in order. Cleanliness is one of the great features of the establishment, both inside and out. During my visit through the wards of the four classes of patients, I found the floors waxed and polished, and although I tried to detect a bad odour, my attempts were fruitless. The air is exquisitely fine and bracing. The potable water is very pure; the food of excellent quality, and the wine genuine. The result is a look of healthiness and happiness among all the inhabitants, sane or not. Outdoor games are provided, and during the evenings for the better classes musical instruments, cards, chess, dominoes, etc., are found in the salons.

M. Miret, who owns about two-thirds of this property, contemplates building at a certain distance from the principal establishment, and close to the forest, a house for the treatment of purely nervous diseases, which will be no doubt a success, as the place offers so many advantages of pure country air, away from all the turmoils of the city, where everything is calm and quiet, and where all the medical appliances of hydrotherapeutics are available.

The following is a schedule of the charges:

First class	...	...	130 francs per month.
Second class	...	...	80 ,, ,,
Third class	...	...	50 ,, ,,

Two extra first classes of patients, with private bedroom and sitting room, a special servant, and carriages for drives in the country, 300 and 400 francs per month.

A regular trousseau is supplied by the patient, or, if required, by the establishment. Three documents are required for admission: (1) A petition by one of the relatives to the director for admission; (2) a medical certificate; and (3) a certificate of baptism.

The journey from Paris would take about thirteen hours, but a stoppage at Brives would make it quite easy. Starting from Paris at 9 A.M., one reaches Brives at 6.20 P.M., and starting again next morning, one reaches Assier in about four hours, having wired to Leyme to send a carriage to the station. The cost from Paris would be first class £3, and second £2. Any further information would be supplied by writing to the Director of the Maison de Santé, at Leyme, Lot, France.

THE HARBEN LECTURES.

The Bearing of Recent Bacteriological Investigations on Public Health.

The second Harben Lecture was given by Dr. Sims Woodhead on June 30th, under the auspices of the British Institute of Public Health, at King's College. The following is an abstract of the lecture. Having resumed the subject matter of the first lecture, Dr. Woodhead proceeded to consider the subject of antitoxic treatment in some detail.

Nature of Immunity in Diphtheria.

In the case of diphtheria there are to be considered two processes of immunity, an active and a passive one. In the condition of active immunity there are apparently profound modifications of the tissues themselves, through which they are enabled to react to the presence of toxin, and to carry on their functions in spite of the paralysing influence of the poison; while passive immunity appears to be the result of the presence of an antitoxin, which, neutralising the poison or acting specifically on the cells, renders them for the time being poison-proof. The antitoxin treatment is based on the fact that it is possible by means of the injection of toxin into the tissues of the horse and other animals to produce large quantities of antitoxin. Dr. Woodhead preferred the injection of pure toxin, as by filtering out the living organism it is possible to measure exactly the dose of the poison, and therefore the reaction of the tissues.

Methods of Standardising Antitoxin.

He then described the method of standardising or balancing the strength of the toxins and antitoxins in use. Behring and Ehrlich have drawn up a method of stating this in figures. Roughly speaking, their method was the following. They find, first, the minimal lethal dose of a toxin. They then take ten times this dose and measure the amount of antitoxin that will just neutralise this quantity. They then multiply this amount by ten, and call the result a normal unit. By appropriate treatment most horses can be

brought into such a condition that their serum contains 250 units per c.cm. Some animals will give a serum of a strength of 400 units per c.cm; and Dr. Cartwright Wood had on one occasion obtained a serum of the strength of 1,000 units from their horses. An interesting point is that the horses under treatment, instead of suffering any deterioration in their general condition, rapidly improve both as regards flesh and coat.

VALUE OF ANTITOXIN AS A THERAPEUTIC AGENT.

As to the value of antitoxin as a therapeutic agent, it may be stated that when used experimentally it acts not only as a curative but also as a protective agent. If antitoxin can be brought into action before the various degenerative processes that are known to accompany diphtheria take place, it is evident that the results must be less marked, the tissues being able to carry on their ordinary functions without hindrance. The tissues do not become paralysed or degenerated, and the organic changes so much dreaded by the physician do not make their appearance. The further advance of the disease may be checked at most stages, but nothing that can be done will enable Nature to make good immediately the structural changes that have been effected in the organs and tissues. If as some suggest, and even demonstrate by experiment, the degenerative changes commence as early as the third day and increase progressively until the patient dies on the one hand, or, on the other, antitoxin formation intervenes in sufficient degree to enable the tissues to contend on equal terms with the bacilli, how important must it be to commence treatment at the earliest moment possible; though from the fact that the degenerations continue to become more marked every day, there seems to be little limit to the period at which the hope of effecting some good, however slight, should be abandoned.

ANTITOXIN AS A PROPHYLACTIC AGENT.

If such treatment be successful in early cases of diphtheria and before or immediately after injection with the toxins of diphtheria, should we not look hopefully to the use of antitoxic serum as a prophylactic agent? A comparatively small dose, $\frac{1}{4}$ (200 or 300 units), of the smallest curative dose is sufficient to protect against an attack. Such protection, according to Behring, Biggs, and others, lasts for three weeks or a month only. So good are the results of protective treatment wherever it has been tried in diphtheria outbreaks that there need be no fear of advising its use.

ANTITOXIN AND POST-DIPHTHERITIC PARALYSIS.

It is not necessary that antitoxic serum, to maintain the reputation claimed for it as a therapeutic agent, should do away with the various paralyses. In those cases in which nerve and muscle changes have taken place before the toxin is neutralised by an antitoxin we may expect evidence of these changes to make their appearance. The fact that a number of cases recover which under the old methods of treatment would have succumbed at an early stage of the disease, must lead us to expect that the number of cases in which paralysis is present may even be increased; these paralyses and other complications must be attributed to their proper cause, the toxin, and not to the remedy, as has been by many inconsequently done.

RESULTS OF ANTITOXIN TREATMENT.

As to the results of the treatment, it has been found that in the hospitals of the Metropolitan Asylums Board the percentage mortality as a whole has fallen from 29.6—the lowest previously reported—to 20.8. Of the cases that came under treatment on the first day the death-rate has fallen to the remarkable figure of 4.7 per cent. as compared with 22.5 per cent. in 1894. For the five years 1890-1894 the mortality amongst the post-scarlatinal cases was slightly over 50 per cent., while now that most of these cases are treated by antitoxin the mortality has fallen to 5 per cent., although the mortality amongst the cases treated on the fourth or fifth day and later is over 40 per cent. Amongst those treated on the first day it is 2.8 per cent. Taking those treated with antitoxin only, the mortality is 5.7 on the total and 2.3 on the first day; indeed, out of 250 cases treated at once, only 6 died.

IMPORTANCE OF EARLY TREATMENT.

These figures indicate very clearly that when antitoxin is given in time to prevent the degenerative changes taking place in the nerves, muscles, kidneys, and liver, most of the patients recover. On the other hand, when the patient is allowed to go beyond the second or third day, the mortality is still high. Antitoxin undoubtedly enables some of the cases to tide over the acute period and ultimately to recover, even when treatment is commenced late; but the best results are always obtained from early treatment.

In the treatment of laryngeal cases it is found that not only is the percentage of tracheotomies very greatly diminished, namely, from 56 to 41 per cent., but of those cases in which tracheotomy was performed, the percentage mortality has fallen from 70.4 to 41 per cent., whilst the percentage mortality of all laryngeal cases in the hospitals has fallen from 62 in 1894 to 29.6 in 1896.

ALLEGED DRAWBACKS.

Concerning the supposed drawbacks of the treatment, the words of the report of the physicians of the Asylums Board Hospitals speak in no undecided terms: "We have found that with the use of smaller doses of a more potent serum the rash, pains in the joints, and secondary pyrexia have been comparatively trivial, we can now state that there is practically no risk associated with their development." Abscesses are sometimes met with, but these are to be associated with the septic element, which is present in so large a proportion of the severe attacks, "taking this into account the number of abscesses is not excessive." Albuminuria certainly does not appear to be due to the use of the antitoxin. Dr. Woodhead concluded by alluding to the serious responsibility incurred by those who were antagonistic to the new treatment.

DEATHS UNDER ANÆSTHETICS.

CHLOROFORM.

WE have been favoured by Dr. Wm. H. J. Paterson, House Surgeon of St. Thomas's Hospital, with particulars of the following case of death under chloroform which occurred in that institution on April 22nd. The operation to be performed was the removal of adenoid vegetations from the nasopharynx with the curette, and this was to take place in the operating room attached to the out-patient department. The patient was a tall, rather pale boy of 16, a member of a troupe of gymnasts, and of more than the average muscular development. He had the day before received instructions to prepare himself for an anæsthetic. He appeared to be nervous, and was very diffident about lying down on the operation couch, but was, however, easily reassured. Before beginning the administration the pulse was regular, full, and about 90 per minute; the apex impulse lay inside the left nipple line, and was regular and strong; his colour was good; respiration was regular and free—in fact, there was nothing to contraindicate the giving of chloroform. Having regard to his previous nervousness, I gave the chloroform drop by drop on a single layer of lint tied in fan form. Even with this careful administration he held his breath early, and it was only after a good deal of encouragement that he was got to breathe regularly; there was no struggling or muscular spasm at any time during the preliminary stages of anæsthesia. The anæsthetic was then given more freely, but despite this the breathing became very shallow and soft, the pulse slower and feebler, and the lips paler; the corneal reflex was now brisk, and the pupils were dilated and active.

To precipitate matters a Mason's gag was gently inserted, and this rapidly caused deeper respiration, and was followed by retching and vomiting. The vomiting was all liquid. The administration was stopped until the vomiting had quite ceased, when the colour having returned, the pulse improved, respiration having become deeper, chloroform was again given, drop by drop continuously. He now took the anæsthetic well, his breathing became regular, softly snoring and fairly deep; his pulse was about 80, regular and of good force; his pupils grew less and less dilated, complete muscular relaxation came on, the corneal reflex was lost, and the pupils were moderately contracted. This was about ten minutes from the start. The anæsthetic was now stopped, and the patient's head was fully extended over the end of couch, and supported there on my right knee; a Mason's gag

was then inserted, and Mr. Babington, one of my colleagues, began to remove the adenoids with a Gottstein's curette; at this point the corneal reflex had just returned. Free hæmorrhage followed from nostrils and mouth, and a slight cough showed that the laryngeal reflexes were present. The operation only lasted a few minutes, and no chloroform was given after the head had been drawn over the end of the couch.

Just before the completion of the operation the patient had recovered enough to strain and hold his breath, and if the gag had not been held firmly in the mouth it would have been forced out; this was accompanied by a definite cyanosis and rapid pulse, but neither the cyanosis nor the condition of the pulse were sufficient to indicate any special danger, and were certainly no worse than is often seen at the close of the operation for removal of adenoids. The operation being over the pharynx, nares, and mouth were cleared of blood and mucus, the patient drawn up on the couch so that the head, now level with the body, was turned over to the side, the gag was removed, and face sponged free from blood. The cyanosis still continued, but the respiratory acts were more regular and deeper, and accompanied by a moaning noise; the pulse was rapid still, the corneal reflexes were brisk, the pupils much less contracted, the jaws clenched, and the whole condition suggested impending vomiting.

In a couple of minutes' time the cyanosis suddenly became deeper, and on feeling the pulse it was very feeble and rapid; the respiratory acts at the same time became very shallow and irregular, the pupils were moderately dilated. Artificial respiration was begun at once, and hypodermic injections of brandy, ether, and, later, strychnine, were given. The tongue was pulled forwards, and the mouth and pharynx explored, but no excessive bleeding or blood clot was found. In spite of everything the cyanosis deepened, the pulse grew feebler, and soon was imperceptible at the wrist, and when a short time later artificial respiration was stopped for a moment no natural respiratory movement could be seen, and the cardiac sounds could not be heard. Seven or eight minutes had elapsed between the stoppage of chloroform inhalation and the onset of the dangerous symptoms, and in a few minutes later cardiac and respiratory movements had apparently ceased.

Under the circumstances it is no easy matter to decide whether cardiac or respiratory action ceased first, but we are agreed that there were feeble respiratory acts visible a little time after the pulse had become imperceptible at the wrist. The resident Assistant-Surgeon, Mr. Abbott, superintended our efforts at resuscitation for over three-quarters of an hour; these included artificial respiration, lowering of head and shoulders, pulling tongue forwards, the inhalation of nitrite of amyl, hypodermic injections of brandy, ether, and strychnine, the faradic current to the præcordia and diaphragm region, friction to chest and abdomen, etc. For a few moments directly after artificial respiration was begun the colour improved, but the cyanosis soon deepened again despite our efforts. The chloroform used was free from impurity, and was supplied by Messrs. Hodgkinson, Preston, and King; about half a fluid ounce was used. At the *post-mortem* examination, performed by Dr. A. E. Russell, Medical Registrar of St. Thomas's Hospital, the organs were found to be virtually normal, the heart weighed 9 ounces, and was very well developed for a boy of 16, but showed no sign of dilatation or valvular disease. The great veins and lungs were full of blood, the right ventricle was not especially distended, the left ventricle was moderately contracted. The larynx, trachea, and bronchial passages contained no blood clot or any mechanical obstruction; in fact, nothing to account for the sudden collapse could be demonstrated.

The inquest was adjourned by the coroner, at the request of the friends of the deceased, for an independent examination of the body to be made. This was done by Mr. Jackson Clarke, whose report agreed in all the main facts with Dr. Russell's, and the jury returned a verdict of "death from misadventure during the administration of chloroform carefully given, and for a necessary surgical operation."

We are indebted to Mr. T. G. Carr for the following notes of a case of death under chloroform which occurred at Pendlebury, on May 21st:

Mr. E. Birch, deputy district coroner, held an inquest at Pendlebury, relative to the death of Mary Ellen Rothwell, who died whilst under chloroform. Deceased, who was 27 years of age, had been confined nine weeks earlier, being then attended by a local midwife. There was some inflammatory trouble after confinement, and latter an abscess formed.

Dr. Carr, of Irlams-o'-the-Height, said he first saw deceased on March 30th. She was then suffering from an inflammatory affection after confinement. The abscess which subsequently formed was opened on May 10th, by witness and his assistant. On that occasion local ether anæsthesia was used. To enable the abscess to heal fully, a second operation was decided on, and witness informed deceased that this would be necessary. She expressed the wish to be chloroformed, as she did not care for the ether spray.

In reply to the Coroner, Dr. Carr said he did not remember telling anyone that chloroform was to be administered, but he left instructions that deceased must have bread and milk at breakfast time, and nothing afterwards. He did not examine the deceased's heart that morning, but he felt the pulse prior to administering the chloroform. When he did examine the heart the previous day it was quite healthy, and the action normal. He also said it was customary to examine the hearts of patients whom they did not know before giving them chloroform. He administered to deceased 30 drops on a piece of lint. In about three minutes he noticed that the face of deceased was becoming livid, and that the action of the heart had ceased. He then stopped the chloroform, put the deceased in the inverted position, applied hot flannels, and at once started artificial respiration. The heart, however, never recovered itself, though the respiratory organs showed signs of rallying. In his opinion, death took place about five minutes from the commencement of the administration, when the respiratory organs ceased their functions. The cause of death was paralysis of the heart, due to the administration of chloroform.

The Coroner said it was one of those unfortunate cases in which no one was to blame. There was an entire absence of evidence showing negligence or neglect. In view of these facts the only verdict that could be returned was "death from misadventure."

The jury returned a verdict accordingly.

Dr. T. Longmore (Walsall) has furnished us with the following particulars of a case of death under chloroform which occurred in his practice: He was called to see the patient on May 28th, when he found him suffering from strangulated right oblique inguinal hernia. He advised immediate operation, but as the patient objected to chloroform, or to any operative interference, Dr. Longmore raised the pelvis and applied hot applications. Later on in the same day he saw the patient again, and again advised chloroform and taxis—this failing, operation; but he again refused. He saw him three times on May 29th, and in the afternoon of that day he took chloroform for taxis, but would not consent to the operation for relieving the stricture. On May 30th Dr. Longmore saw him in the morning, and told him that he might save his life if he was operated on at once, but he did not consent till the evening; his condition, it was then thought, justified the operation. Dr. Sydenham was called in to give chloroform, and as the patient had mitral regurgitation, and was suffering from mental excitement an injection of strophanthus was given, and he was placed on the table covered with blankets, and hot water bottles applied to his legs. Dr. Sydenham gave the chloroform which the patient took well until he became unconscious; as the pulse was thought to be weak, a little ether was given. This strengthened the heart, but as the operation had to be performed by gaslight it was thought advisable to give a mixture of chloroform and ether. The operation was proceeded with and the constriction relieved. Dr. Longmore was examining the gut, when Dr. Sydenham called his attention to the stoppage of breathing. Placing a large boracic pad over the wound, artificial respiration was resorted to, the jugular vein opened, and the tongue pulled down. This being of no avail the injections of strophanthus and then of ether were given, but without reviving the patient. At the inquest Dr. Longmore gave evidence that he did not think the primary cause of death was chloroform, but cardiac failure due to weakness of the heart added to the shock of the operation, *plus* the chloroform.

THE SAFE ADMINISTRATION OF ANÆSTHETICS.

DR. JENNINGS (Seymour Street, Portman Square, W.) writes: I fully agree with Dr. O'Neill as to the relative safety of methylene as compared with chloroform, and accept his explanation in that the former contains one volume less of chlorine than the latter. There are few cases where chloroform must necessarily be used in place of methylene. Your publication (on page 1502) of notes of two fresh fatal cases of chloroform poisoning is salutary, as precept must be upon precept, and had the rule laid down by Mr. Hutchinson been borne in mind—namely, that chloroform is dangerous between the ages of 6 months and 60 years—it is probable that in both instances some other anæsthetic would have been employed.

When the pulse stops simultaneously with or prior to the respiration, then I believe the case to be one of true chloroform poisoning, and the condition of most critical nature. Resuscitation may be effected by drawing out the tongue and performing artificial respiration, with the use of such adjuvants as amyl, strychnine, oxygen, ether, galvanism, the hot mustard bath, and, as a last resource, puncture of the heart with a needle. The drawing out of the tongue often fails to afford access of air to the lungs, because the epiglottis in these cases is spasmodically drawn down like a valve over the larynx. Prompt tracheotomy meets this difficulty, and the necessity for this operation may be obviated by drawing forward the epiglottis with a suitably constructed forceps. I invented a forceps for the purpose, but it would scarcely likely be at hand when most needed.

Chloroform hastens, but ammonia retards, the coagulation of the blood. It is therefore wise to exhibit ammonia prior to a chloroform inhalation. Coagulation of the blood occurs more rapidly in the dog than in man, and yet I have proved experimentally that where ammonia was exhibited to dogs prior to poisoning with chloroform, that in one case resuscitation was obtained though treatment was not commenced till eight minutes had elapsed from the cessation of the pulse and six minutes from cessation of the respiration; and the pulse was restored 1 min. 20 sec. after commencement of treatment; that is, in this experiment, pulsation was absent during a period of 9 min. 20 sec., and yet the animal recovered. The treatment consisted in depletion from the jugular vein with simultaneous intravenous injection of saline fluid and artificial respiration. It is unfortunate that in actual practice it would hardly be likely that an instrument for intravenous injection would be ready in case of need. A common irrigating can, if sterilised, could be employed, and there would certainly be a few minutes from the cessation of the pulse during which in a hospital the necessary appliance could be utilised.

It is, however, comforting to know that bleeding from the jugular vein is alone often sufficient to re-establish the circulation in this class of case.

The lesson which I venture to think should be drawn is that chloroform should rarely (save in cases of parturition) be employed as an anæsthetic.

THE TREATMENT OF CYANOSIS PRODUCED BY CHLOROFORM.

DR. ROBERT KIRK (Partick, Glasgow) writes: In the BRITISH MEDICAL JOURNAL of June 12th two fatal cases of chloroform administration are reported; and of the first, that of a man, aged 57, it is stated that in four minutes he became deeply cyanosed, ceased breathing, and that the pulse stopped almost simultaneously. Artificial respiration was commenced so promptly that not one respiration was intermitted; but the patient was not restored, although it was kept up for an hour. Let the contrast presented by this result and that that recorded by another case in the JOURNAL of May 8th be noticed. In the latter intense cyanosis with failure of pulse supervened about three minutes after cessation of the inhalation. I refrained from artificial respiration; indeed, I neither pulled forward the tongue nor extended the head, and in a few minutes the cyanosis disappeared and the patient recovered.

These two cases do not stand alone. Here is another pair presenting the same contrast. In the *Times of India* of September 13th, 1892, there is reported the death of a man of 27 years (apparently a native Indian) from chloroform. He had taken the anæsthetic six days previously, when a larger quantity had been administered than on the fatal occasion. In the latter instance a measured drachm was poured on a cone, and the patient made to inhale it for about three minutes. Another drachm was then poured on the cone, but almost certainly the patient was allowed to breathe pure air for some time; and he became noisy and struggled violently. He then became insensible, the second dose having never been administered. He was then pulled down to the edge of the table, when he became cyanosed, and died after an hour of futile artificial respiration. In this case the cyanosis apparently occurred two minutes after the patient had been breathing nothing but air.

The contrast will be found in the BRITISH MEDICAL JOURNAL of March 19th, 1881, p. 431. In this case Mr. F. H. Hodges, ophthalmic surgeon, administered ethidene in the Leicester Infirmary to a boy aged 9, for the operation of peritomy. The operation was nearly completed when "the pulse suddenly became almost imperceptible, then ceased entirely, together with the respiration; the face became cyanotic and congested, and the pupils widely dilated." Inversion was resorted to, the result being recovery; and Mr. Hodges states that he discarded all suggestions as to the use of artificial respiration, etc.; and he adds the important statement that he has had many cases like the above which have happily recovered. It will thus be seen that his experience is the same as that of the Messrs. Chisholm, of Baltimore, who have never found inversion without artificial respiration to fail. I conclude by reiterating with unabated confidence the opinion that the majority of deaths from anæsthetics are due to the reaction which may ensue during recovery, and which is aggravated and often rendered fatal by the use of artificial respiration.

DR. KARL TOLDT, Professor of Anatomy in the Medical Faculty of Vienna, has been elected Rector of the University for the academic year 1897-98.

THE next quarterly meeting of the Society for the Study of Inebriety will be held on July 12th, at 4 o'clock, in the rooms of the Medical Society of London, 11, Chandos Street, W., the President, Dr. Norman Kerr, in the chair. Mr. J. J. Pitcairn, Deputy Surgeon to Her Majesty's Prisons, Holloway and Newgate, will read a paper on Alcoholism and the Penal Law in Europe and the U.S.A.

MALARIAL FEVER INQUIRY.—The Government of Madras, after communicating with the Government of India, has intimated to the United Planters' Association of Southern India that, in view of the present financial position and the urgent calls on the medical department for other duties, it has been decided to postpone for the present the proposed inquiry into the development of the malarial parasite, but that the matter will not be lost sight of.

THE Prince and Princess of Wales have fixed Monday, July 12th, for the opening of a new hospital erected by the Metropolitan Asylums Board for the treatment of scarlet fever, diphtheria, and enteric fever at Hither Green, near Lewisham. The hospital in question is said to be the largest for acute cases of fever in the United Kingdom. It stands on a site of twenty acres, on the summit of a gently sloping hill, well clothed with full-grown trees. The buildings forming the hospital are forty-two in number.

CAMBRIDGE GRADUATES' MEDICAL CLUB.—The annual meeting and dinner of this club was held at Limmer's Hotel, Conduit Street, W., on July 6th. Dr. W. H. Dickinson, the senior Vice-President, was elected to fill the place of Sir George Murray Humphry, the late President. The newly-elected President, after the usual loyal toasts, gave "The Health of the Club," and reviewed the events of the past year in connection with the University of Cambridge, which, for the first time in its history, now finds itself under the rule of a medical Vice-Chancellor, namely, Dr. Alex Hill, Master of Downing College. Dr. Norman Moore proposed "The Guests" in a speech full of humour and learning, and evoked replies from Sir Samuel Wilks, Bart., Professor R. C. Jebb, M.P., Sir Joseph Fayrer, and Sir G. Scott Robertson, K.C.S.I. Mr. Page gave the toast of "The Chairman, the newly-elected President." Members and guests to the number of fifty-nine were present.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, JULY 10TH, 1897.

A NEW THEORY OF THE CAUSE OF THE FIRST SOUND OF THE HEART.

The vexed question of the cause of the first sound of the heart was the subject of a contribution made recently by Sir Richard Quain to the Royal Society, who may justly be considered as a most eminent authority on this subject. Two of the chie events which take place during systole, namely, the closure of the auriculo-ventricular valves and the muscular contraction of the ventricular walls, are regarded by many authorities as the source of the first sound. The result of Sir Richard Quain's latest investigations leads to the conclusion that none of these explanations is satisfactory. Sir Richard Quain first points out that the auriculo-ventricular valves do not contain the necessary mechanism for the production of the sound, and from the fact that it can be heard independently of the existence and action of mitral and tricuspid valves, and that in some of the lower animals, especially reptiles, these valves exist only in a very rudimentary form, and that in such animals (for example, python solmus) the first sound is distinctly heard, he concludes that "the weight of evidence is clearly against the possibility of the structure or the functions of the auriculo-ventricular valves being the source from whence proceeds the first sound of the heart."

His chief reasons for rejecting the supposition that the muscular contraction of the walls of the heart during systole is the source of the first sound is that the feeble sound emitted by even large masses of muscle powerfully contracting is not to be compared with the characteristic booming *lūb* of the systolic sound, but he also points out that in listening to the contracting heart of a turtle removed from the body no such sound can be heard even in a modified degree.

Having thus considered two of the theories usually received he gives evidence that the first sound is caused by the impact of the blood driven by the action of the muscular walls of the ventricles against the block produced by the columns of blood in the pulmonary artery and aorta, which press upon the semilunar valves.

His reasons for adopting this view are as follows: Sound must be conceived to be a phenomenon resulting from resisted motion. "We hear it in the rustling of the wind in the rigging of a ship; we hear it when the waves break upon the shore; we hear it when the blacksmith strikes the anvil with his sledgehammer; we hear it in the gentle sounds of the Æolian harp, and in the whispers emitted by the vocal chords when the air passes over them from the trachea." Applied to the problem in hand this conception thus poetically exemplified is found to fit scientifically and accurately the physical condition of the beating heart. The movement of the blood is directed against a fixed and definite resistance, as that of the blood pressure in the aorta and pulmonary artery. Support is derived also from the fact that sounds resembling the first (and second) sound of the heart can be experimentally produced. A large sheep's heart is carefully cleared from pericardium, leaving the large vessels as far as possible intact. The coronary and innominate arteries are ligatured, and the right auricle and ventricle removed, and a bone cannula inserted into the pulmonary veins. To this is attached rubber tubing leading to a water supply on a higher level. Into the aorta is introduced another portion of rigid guttapercha tubing about 3 feet long. If now the ventricle be compressed periodically in imitation of the beating of the heart, a "sound closely resembling the first sound of the heart will be produced when water is propelled from the ventricle into the aorta." As the fluid rises in the guttapercha tube, the pressure on the valves increases, and the sound becomes more marked.

Such is the case for the new theory as put forward by its distinguished author. In venturing to offer criticism on this latest explanation of a much vexed question, we would point out the following facts. First, Sir Richard Quain's experiment hardly reproduces the conditions under which the heart beats in the living body. To compress the heart intermittently by hand is a very different method of producing systole from that adopted by Nature. To recognise this it is sufficient to try to realise how complex must be the course of the systolic wave of contraction over the twisted fibres of the ventricle, disposed as they are in their various planes, and bearing such complicated relations to each other. It may indeed be observed, as was pointed out by Dr. Maguire in the discussion on Sir Richard Quain's paper, that if we accept the view that the sound is produced by the impact of fluid against fluid, then this impacting fluid, together with the impacted fluid, would be thrown into whorls by such contacts, the formation of such fluid whorls being favoured by the spiral arrangement of the heart muscles.

Secondly, the contraction of the cardiac muscle differs radically from that of the skeletal muscles. In the skeletal muscles the simplest contraction is tetanic in nature, while the ventricular contraction is undoubtedly a prolonged simple contraction, not a tetanus. The two contractions can therefore hardly be compared. The theory offers a very simple explanation, but the ventricular systole is not a simple matter. Considering the vast number of separate activities that are co-ordinated in the act, it is surely impossible to attribute the resulting sound to any one of these. The sound is in all probability not a pure sound, the result of a simple action—it is rather the net result of the large variety of vibrations produced by a very complicated system of "arrested motions."

Dr. R. F. Quinton, formerly medical officer of H.M. Prison, Wandsworth, S.W., has been appointed medical officer to the Parkhurst Prison, Isle of Wight, in succession to Dr. Herbert Smalley, who has been appointed medical inspector. Dr. Beamish, medical officer of the Liverpool Prison, succeeds Dr. Quinton at Wandsworth.

THE BACILLUS OF YELLOW FEVER.

NEARLY two years ago Professor Sanarelli set himself the task of bringing yellow fever into line with the other specific infective diseases. How far he has succeeded will have been seen from his lecture published in the BRITISH MEDICAL JOURNAL last week. Many of the points raised by him in that lecture are of extreme interest, and his investigations not only open up a way for more intelligent methods of municipal prevention, personal prophylaxis and treatment, but also provide ample material on which to exercise speculation and on which to base numerous theories of very great interest.

There appears to be little doubt that Professor Sanarelli has isolated, under conditions of very great difficulty, the specific bacillus of yellow fever. This organism, which is seldom to be met with in pure culture, has not, as has hitherto been supposed, its habitat in the stomach or intestines, but affects specially the blood and connective tissues. The organism, which apparently may remain at rest after its introduction into the tissues, finds its way, in the first instance, to the spleen, where, after a lapse of some two to seven days, the period varying in different animals, it suddenly manifests its presence, undergoing a fairly rapid multiplication, but more important still, producing an exceedingly active toxin which appears to have a special effect upon the parenchymatous cells of the organs of excretion. At the same time this poison acts as a violent emetic, and this, along with its effect on the walls of the blood vessels, gives rise to the condition known as black vomit, the mucous membrane of the stomach undergoing degenerative changes, and hæmorrhages taking place into the viscus; but with all this the specific bacillus does not appear to make its way from the tissues into the stomach. It is by a consideration of these facts that Dr. Sanarelli accounts for the numerous failures to produce the disease by the ingestion of the contents of the stomach of a patient suffering from yellow fever.

The toxin appears to have an effect also upon the nervous system, but the most marked changes of all appear to be set up in the liver and in the kidney, the toxin inducing a condition which might be compared to the rapid fatty degeneration that takes place in acute phosphorus poisoning, or perhaps more correctly, like the hæmorrhagic and degenerative changes that take place in acute yellow atrophy of the liver. The epithelium of the kidney undergoes similar fatty changes, and hæmorrhages also occur into the substance of this organ. So far is the kidney disorganised, that the urine becomes scanty and albuminous, or it may be entirely suppressed. In such cases the amount of urea in the blood rises very rapidly, and the actual cause of death may be uræmia.

It is very rarely indeed that the bacillus of yellow fever is the sole organism found in the blood, even in cases of what may be called pure yellow fever, the pus organisms and the bacillus coli communis accompanying it in a very large proportion of cases; and to this mixed infection, Dr. Sanarelli maintains, is due the peculiarly protean character of yellow fever, the type varying according to the character of the mixed infection, so that many of the cases which appear at first to be cases of pure yellow fever are later complicated by the processes set up by the pyogenic organisms of the bacillus coli communis. Even in those cases in which these organisms are not numerous, the uræmic symptoms tend greatly to complicate the disease picture.

As pointed out by Dr. Sanarelli, yellow fever in its simplest form in the human subject runs a very definite course, the bacillus multiplying rapidly at the end of the seventh or eighth day, and sometimes invading the whole organism, and giving rise to most profound toxic symptoms. It is at this stage that the secondary infections make themselves felt, taking the tissues at a disadvantage, and invading them apparently from the intestinal canal.

It is exceedingly interesting to note that the poison may be prepared and isolated from the yellow fever bacillus much as is the diphtheria toxin, the filtered toxin, when injected into the blood, immediately setting up all the symptoms of an acute attack of yellow fever, giving rise to the emesis, hæmorrhages, fatty degeneration of the liver and kidney, and the nervous symptoms, leading to collapse and coma. It is thus evident that the organism during the period of apparent repose is preparing a quantity of these toxins which come to exert a cumulative effect at the time that the disease makes itself manifest. The toxin may be heated to 70° C. without undergoing anything more than very slight alteration, but it becomes markedly attenuated when submitted to a boiling temperature.

Coming back to the organism, we should note that it resists desiccation, dies in water at 60° C., and is killed in seven hours by the solar rays. It may, however, live for a long time in sea water, whilst in moist, warm places it appears to thrive very actively. In connection with this latter fact Sanarelli points out that if a gelatine plate be seeded with a pure culture of the yellow fever bacillus the gelatine may remain for a long period apparently sterile. When, however, the spores of certain of the common fungi are scattered over this plate, then, as soon as the fungus begins to grow, numerous colonies perfectly characteristic of the yellow fever bacillus make their appearance all around the growing fungus colony, within a certain sphere of influence, as it were, whilst beyond this sphere none of the colonies can be seen. We have here, then, a kind of commensal saprophytism, the fungus preparing the gelatine in some way or other for the growth of the bacillus.

On this peculiar fact Sanarelli bases a theory as to the peculiar manner in which the yellow fever contagium clings to old badly-ventilated ships and damp houses. He says that in those places in which the conditions are most favourable to the development of the fungus, the yellow fever organism can continue to thrive and keep a foothold. The bearing of the action of sunlight, of the resistance of the organism to drying, and of its persistence over considerable periods of time in sea water, on the *locus* of the disease and the spread of infection by dust, and the method of infection by the respiratory passages, are of extreme interest.

There can be no doubt that Professor Sanarelli's persevering and ingenious researches have given the study of yellow fever an impetus which it sadly needed. They have placed that dreaded scourge more in line with the other specific infective diseases, and have opened up the possibility of devising new and hopeful methods of treatment—a result which, up to the present, has appeared to be altogether outside the bounds of practical medicine and hygiene.

THE UNPOPULARITY OF THE SAFAIWALLAH.

The present has been a very eventful year in India. A serious outbreak of plague in Western India, a severe and extensive famine in Central and North-West India, and an earthquake of unusual gravity and area in Bengal and Assam, constitute a series of physical disasters which, in an excitable population, are quite adequate to create a feeling of unrest. The precise manner in which such a feeling may manifest itself must depend on more or less accidental circumstances; and it is more philosophical, and probably more in accordance with reality, to attribute such manifestations, when they arise, to the influence of panic or apprehension rather than to the factors which would seem to be the immediate occasion of commotion or crime. As far as the famine and earthquake are concerned, they have probably caused more or less psychological unsettling, but the action which has been taken by the Indian Government and by the public in this country and in India to succour the indigent and starving and to avert death has been calculated to allay anxiety and give rise to a sense of gratitude and good will rather than to excite resentment.

It is otherwise as regards the plague. Drastic measures have been adopted to prevent its dissemination, and to improve the sanitary condition of the localities in which it has prevailed. These measures, abundantly justified by all that is known of the nature and habits of this pestilence, have rudely disturbed some of the most cherished prejudices and deeply seated instincts of the indigenous races of India, who are not prone to place reasons of public weal in the scale against personal and domestic impulses. The wonder is that the disturbance of what have been called "native sanctities" which the operations of cleansing, detection, and segregation have rendered necessary has been so long and so patiently tolerated by the suspicious and mercurial inhabitants of the plague-stricken places. A contemporary writing on this subject has described the position pithily and neatly. "Naturally," remarks the *Standard*, "in dealing with a people who know nothing of sanitary science, who believe in dreams instead of germs, and have faith in incantations but not in disinfectants, in sacrifices rather than isolation, and who are superstitiously sensitive about caste observance and the privacy of women, there was need of extraordinary delicacy and care."

The fact is that the *safaiwallah* (cleaning chap) has never been popular in India. Nor should it be forgotten that in times of plague and pestilence violence has been done to medical and sanitary agencies and institutions by populations credited with greater enlightenment and self-control than the Indians. These Poona murders have been the first and only signs of criminal resentment which have occurred during the continuance of the plague. Indications of irritation and discontent have not been wanting, but, with this exception, they have taken the form of concealment of cases, sullen passive resistance, and hysterical protest by the native press.

The simultaneous occurrence of a serious riot in a northern suburb of Calcutta has imparted to the Poona outrages a more serious character than they would otherwise have had. But it is quite certain that the Chitpur disturbance had nothing in common with the Poona incidents except the violent element. The Calcutta row was precisely similar and similarly caused to a Mohammedan outbreak which occurred a few years ago at Entally, another suburb of the city, not far from Chitpur, and neither of them had any relation to pestilence or sanitation.

The questions as regards Poona are: (1) Were the zealous measures taken to stamp out the plague sufficiently tempered with discretion? (2) Are the outrages to be regarded as a more or less isolated or limited expression of resentment, or are they the indications of a widespread and deeply-seated political disaffection? And (3) was it wise to employ European soldiers with the search parties engaged in hunting up cases of plague, and carrying out the work of cleansing and segregation? Lord Sandhurst's telegram to the Secretary of State for India, which was read in the House of Commons on Monday, proves that the utmost care was taken to prevent any undue ruffling of native sensibilities. Lady doctors and natives accompanied the search parties, and the necessary interferences with domestic privacy were conducted with delicacy. The allegations of a petition which accused the sanitary agencies of hasty and improper diagnosis of cases, rudely forced segregation, personal indignities and slights, disregard of religious sentiments, unnecessary destruction of property, and insufficient regard for female modesty, are stated by Lord Sandhurst, who has exercised a close and keen personal observation of all plague proceedings, to be either unfounded or grossly exaggerated. Poona is no doubt the centre of Mahratta disaffection, and it is quite possible that popular discontent has been turned to political uses, but it is satisfactory to find that both the municipality and the native papers deplore and condemn the murders of men, one of whom was unoffending, and the other a most able, energetic agent in the humane effort to prevent suffering and death.

The employment of European soldiers in Poona was necessary, for the obvious and sufficient reason that no other agency was available, and it appears that they were under firm control, and behaved well. The latest telegram from India reports: "No cases or deaths Poona City," and with the exception of Cutch, where it presents greatly reduced prevalence, plague may be said to have died out in the Western Presidency. The painful experience through which so many towns of Western India have passed and the martyrdom of Mr. Rand will not have been in vain if the need of habitual sanitation, as the only real safeguard against epidemics of every description, has been taken to heart.

The Bishop of Marlborough will conduct the service at the laying of the foundation stone of the new Cancer Wing of the Middlesex Hospital by Princess Christian on July 15th.

A correspondent at Sofia states that, in consequence of news received from Constantinople to the effect that plague had broken out there, the authorities have ordered the imposition of fifteen days' quarantine on all travellers arriving from Turkey.

We understand that, in accordance with the recommendation of the Departmental Committee, over which Mr. Herbert Gladstone presided, three new deputy medical officers have been appointed to the Prison Medical Service to act at Holloway, Liverpool, and Manchester respectively.

At a meeting of Council of the Royal College of Veterinary Surgeons held on July 2nd for the appointment of officers,

Professor Penberthy, of the Royal Veterinary College, was unanimously elected President, and Messrs. Simpson, Trigger, Wragg, Sir F. Fitzwygram, Mason, and McFadyean as Vice-Presidents.

DR. ARLIDGE.

WE see with satisfaction that a Civil List pension of £150 has been awarded to Dr. John Thomas Arlidge in consideration of his valuable labours in the cause of public health, and especially his investigation into the hygienic results of particular industries and occupations. Dr. Arlidge's services in this important department of preventive medicine have been conspicuous and long continued, and date back for many years. The industrial population are now reaping great advantages from his work, and indirectly the nation has profited. We sincerely hope that he will live long to enjoy this well-deserved recognition of his valuable exertions.

ENTERIC FEVER IN INDIA.

FOR many years past medical officers in India have incessantly pointed out the dangers attending the places in bazaars, regimental and other, where soda water and ginger pop are retailed, and their continued existence without adequate supervision tends to neutralise efforts towards the preservation of the health of the soldier from waterborne diseases. The *Pioneer* in a recent issue calls attention to the urgent needs for the supervision of these "pop shops." It says that until there is some such supervision, enteric fever and cholera will continue to occur among men who in their own barracks are most carefully looked after as to water supply, milk and butter, etc.

A REMARKABLE PATIENT.

AT a recent meeting of the Clinical Society of the Boston City Hospital a patient was presented who was convalescent from pneumonia. He was 84 years of age, and had been a sailor. At various times in his life he had been the victim of the following injuries: Fracture of the left femur, which had united with marked callus and 2½ inches of shortening; of the left patella; of the head of the right tibia; of the left clavicle; of several of the lower ribs on both sides; of the index fingers of both hands (these presented marked deformity); of the left ankle; and of the right scapula. He had also suffered from double otitis media, bronchitis, and asthma. When shown to the Society he had double incipient senile cataract. Several years ago he had had an epithelioma removed from the lower lip, and there had been no recurrence. The man's limbs are still muscular, though his age and the vicissitudes of his career have necessarily caused some wasting. His breadth of shoulders and depth of chest gave evidence of what must have been extraordinary strength and endurance.

KOCH'S RINDERPEST INOCULATION METHOD.

Now that Professor Koch's method of inoculation has been practically tested, opportunity is afforded for criticism of its value and for the practical discovery of its disadvantages. It appears that the use of fresh bile has not been without disaster, for some cattle inoculated by Dr. Kohlstock have shown an enormous mortality, over 80 having died out of a fine clean herd of 149 very valuable cattle. In the case of clean herds, generally speaking, fairly good results are obtained, although it is reported that no herd has yet been inoculated with bile in which rinderpest has not followed. The greatest difficulty is the fact that the bile does not keep, and that, according to Dr. Koch, only green biles can be used. But green biles are only obtained rarely, the most frequent proportion being one in seven. As only fifty animals can, on the average, be inoculated from the bile of one animal, it follows that one rinderpest animal is required even under the best conditions to inoculate seven animals. It is reported that Dr. Edington states that the addition of a certain proportion of glycerine to fresh bile succeeds in preserving it without interfering with its immunising property. The same experimenter finds that the blood of cattle taken during the later stages of the malady, if prevented from coagulation by citrate of potash and then preserved by glycerine, has also very considerable immunising power, but blood virus, like blood serum, appears to be a little uncertain in its action, and all samples do not show equal results. If the discovery of Dr. Edington is correct, that glycerine can be used, and that under such circumstances galls other than green are useful, this will probably be found the best method to adopt, provided always that the bile inoculation is followed up by virulent blood during the period that the temporary immunity holds.

MERCER'S HOSPITAL, DUBLIN.

THE governors of this hospital met on July 6th, to fill the vacancies caused by the dismissal of the entire staff. The list of candidates has already been published, and the election resulted in the following appointments: — Visiting Physicians: Dr. E. K. Ledwich and Dr. J. Lumsden. Visiting Surgeons: Dr. Montgomery Ward, Mr. J. D. McFeeley, and Mr. H. Moore. It will be observed that the only member of the original staff who was a candidate was Dr. Ward, and he was re-elected. Mr. Nixon died since the date on which he and the other members of the staff were removed from office Dr. P. Mason, Mr. E. Stamer O'Grady, and Dr. Auchinleck, did not offer themselves for re-election. The two last named deny the power of the governors to deprive them of their appointments, and they will challenge the decision in the law courts. There is a minority of the governors who dissent from the action of the Board, and they formally protested against the elections on Tuesday last.

SIR JAMES DONNET, K.C.B., R.N.

INSPECTOR-GENERAL OF HOSPITALS AND FLEETS JAMES JOHN LOUIS DONNET, M.D., who has been nominated a Knight Commander of the Bath (Military Division), is an officer who has seen very varied service, and has won distinction on many occasions. He entered the Medical Department of the Royal Navy in 1840. In the same year, as Assistant-Surgeon to the *Vesuvius*, he was present at the siege of St. Jean d'Acre, and, after its fall, had charge of the Royal Marine Hospital there. In 1844 he was Secretary to Consul-General Drummond Hay's Diplomatic Mission to the Court of Morocco. He served afterwards during the operations in Fiji. He took part in the Arctic Expedition of 1850-51, and in 1877 was a member of the Committee appointed to inquire into the causes of the outbreak of scurvy during the Arctic Expedition of 1877. First as surgeon to the *Calypso* in 1849, and afterwards as the officer in charge of the Port Royal Hospital, Jamaica, he had experience of epidemics of yellow fever, and made several valuable reports on the subject. He is Honorary Physician to the Queen, and in 1878 received a good service pension. He retired from the service in 1876.

ELECTIONS AT THE COLLEGE OF SURGEONS.

THE voting papers, which some writers still persist in calling "proxy papers," are working great changes at the College. Last week nearly fifteen times more Fellows voted by papers than in person. The provincial Fellows this time secured the re-election of one of their number, Mr. Ward Cousins, but failed in getting in Mr. Bennett May. The former polled 9 plumpers in 259 votes, the latter 6 in 236 votes. Hence it may be presumed that provincial Fellows largely voted for both those surgeons. The election of Mr. Edmund Owen gives a representative to St. Mary's Hospital, so long unrepresented. Not only did he head the poll, but he received 28 plumpers, 18 more than any other candidate. As Mr. Watson Cheyne polled only 33 votes fewer than Mr. Owen, yet came in fourth and represents King's College, it is clear that the Fellows of the smaller metropolitan schools have

helped themselves, or confederated, or received valuable help from the big schools and the provinces, no doubt out of a feeling of fair play. It is to be regretted that the progressive party did not secure the election of Mr. Morgan, who by a curious chance polled precisely as many votes as Mr. Bennett May (236), and only one plumper less (5 instead of 6). Sir William Dalby was unlucky; yet though he only gained 173 votes, he received 10 plumpers, the largest number excepting in the case of Mr. Owen, for nobody else's plumpers reached two figures. We often hear the expression "eccentricities of the ballot." On this occasion, however, the ballot is by no means mysterious. It is strange that the new system of the voting papers, which events have shown to be highly appreciated by the voters, was actively and successfully opposed for so many years. Was time so cheap then? Was there a theory that an elderly country voter was only sincere when he had paid his railway fare, whilst a gentleman of 26 would be certain to vote fairly, even if he had only to cross a few streets in walking from his hospital to the college.

"SUBSTITUTE MEMBERS."

It is impossible to make rules for any body of men that will not occasionally press unfairly on individual members of that body. This year's selection at the College demonstrates that fact with unusual clearness. It has long been the custom in certain companies for the directors to select a substitute to sit out the full term of a deceased colleague. At the end of the term the substitute can offer himself for election by the shareholders. In the case of the College of Surgeons each member of the Council sits for eight years. This is a long term, and in accordance with the full number, 24, it works well; three members of necessity retire yearly, which means a complete change (excepting re-election) in eight years. But members of Council are mortal, and the chances of death in so long a space of time as eight years are considerable, and must be provided for. In short, full provision for substitute members must be made. Hence such members are intended to fill up the term of a dead member, and may sit for seven years or less—only for one year if the deceased member has died in his seventh year of office. The College, in its true sense as the collection of the surgeons of England, would never tolerate the selection of a substitute for seven years or even one year by the Council direct. In other words, a substitute member has to be duly elected at the annual meeting. This provision works well enough and keeps out abuses, and the substitute system assures a certain symmetry in the composition of a council. Election of a member for eight years to fill a death vacancy would soon make a council complicated. The death vacancy gives an extra man a chance of displaying his powers, and as in the case of directors, the electors know him better when he seeks re-election than if he had never sat in the council at all. Unfortunately the system may press unfairly on individuals. Thus Mr. Morris, elected in 1893 as substitute for Mr. Marcus Beck, elected in 1890, will enjoy five years as member of Council, retiring in 1898, whilst Mr. Alfred Cooper, substitute for Mr. Durham in 1895, will also complete five years, retiring in 1900, since Mr. Durham was elected in 1892. Mr. Watson Cheyne only gets four years, as he is substitute for Mr. Pemberton, elected in 1893. There remained a shorter term to fill up, and that fell by rule to the elected candidate who polled the lowest number of votes; Mr. Ward Cousins, in fact, fills the place of Mr. Rivington, elected in 1891. Thus Mr. Cousins only holds the seat for two years. Unfortunately this is the second occasion on which he has won so short a term of office with as much pains as are needed to win eight years. For he was elected in 1895 as substitute for Mr. Hulke till this year.

SMOKE ABATEMENT.

The Sheffield Smoke Abatement League is continuing its crusade for obtaining purer air for that city. Eleven summonses were heard last week against five manufacturing firms before the stipendiary magistrate. One case was postponed, but convictions were obtained against each of the other firms, and orders for prohibiting the recurrence of the nuisance were made. It is singular to note that the corporation smoke inspectors were brought forward as witnesses for the defence in two of these cases. This is some indication of a lukewarmness on the part of the sanitary authorities in looking after the important matter of smoke prevention. The League is taking a most active part in doing what after all should have been done by the city corporation. We learn that the *Sheffield Weekly Telegraph* is exerting its influence towards abating the smoke nuisance. A manufacturer, after the recent prosecutions just mentioned, contributed £200 anonymously towards the funds of the League, and besides this it is receiving apparently a good deal of support.

THE FERTILITY OF TWINS.

"The first and Father-cause of Common Error," says Sir Thomas Browne, "is the common infirmity of humane nature," but a no less potent cause is "the credulity of men who give an easy assent to what is obtruded, or a believing at first ear what is delivered by others." All vulgar errors appear to contain a germ of truth though it is often concealed and overlaid by a luxuriant growth of the popular imagination. The examination of vulgar errors is therefore as necessary as it was in the time of Sir Thomas Browne, and it is no less interesting. There is a widespread idea that of twin sisters both never become mothers. The germ of truth in this statement was known even to Pliny who says "if a woman bring twins, it is a great goodhap if they all live, but either the mother dieth in childbed, or one of the babes, if not both. But if it fortune that the twins be of both sexes, one male the other female, it is ten to one if both of them escape." Indeed "a left twin" is one of the commonest objects among the poorer classes to this day, where it is spoken of with bated breath. Arrived at maturity twin sisters are supposed to be sterile, but upon quite insufficient grounds. There are undoubted cases where both girls have married and have had large families. The error seems to have arisen from too limited an observation upon the part of farmers who have applied what is partially true of cattle to what is quite untrue of their own offspring. In cattle, twin ewes always breed, unless one is an hermaphrodite, whilst in the case of calves, when one is a bull and the other a female, the latter hardly ever breeds but grows up like an ox. Such a cow calf is well known to breeders as a "free-martin," and it presents evidence of marked imperfection or malformation of the genital organs. There is no doubt in the mind of anyone that twin brothers, like twin bulls, are perfectly virile, and there is no reason to suppose that twin sisters, otherwise healthy and well formed, are not equally apt to conceive.

DISINFECTION BY VAPOUR OF PHENOLS.

In a thesis for the M.D. of the Victoria University Dr. J. Mountfort Johnson, of the Owens College, Manchester, narrates certain experiments he has made to ascertain the values of the vapours of the carbolic acid group as germicides. "No. 5 carbolic" is said by the makers to consist almost entirely of cresylic acid, there being but a small percentage of phenol present. Dr. Johnson found that the vapour of 12 ounces acting for sixteen hours in a room of 1,500 cubic feet capacity did not kill staphylococcus, bacillus coli communis, anthrax spores, or the bacillus of cholera. There was only inhibitory action. The bacillus of typhoid was the only one killed. The vapour of izal he found too heavy for disinfecting purposes in this way. In the "strength of 8 ounces to 1,500 cubic feet there is not sufficient penetration to even inhibit growth." The vapour deposits on glass as a fine film. When 12 ounces of cresol (commercially pure) were evaporated in a room of 1,500 cubic feet the vapour was generally sufficient to destroy a six days' growth of the bacillus coli communis,

the cholera bacillus, and a five days' agar culture of typhoid, but sporing anthrax on silk threads grew more abundantly than the control. Absolute phenol vapour had an advantage over izal or "No. 5" in its greater diffusibility and penetrating power. It even killed germs of such resistance as staphylococci and streptococci when wrapped in an envelope of filter paper. It killed other microbes exposed to the vapour with four failures out of thirty-three pieces of inoculated material employed. In three of the four, the failure was evidently due to an accident of position. Dr. Johnson considers "that the vapour of absolute phenol in a strength of 0.64 per cent. is a reliable germicide for the majority of these microbes when exposed to its action in an ordinary room for sixteen hours," but recommends a working strength of 1 per cent., that is, the evaporation of 12 ounces for every 1,000 cubic feet. The thesis also deals with the experiments of other observers on these and other vapours, and details Professor Delépine's method of disinfecting walls by nascent chlorine obtained from bleaching powder. We are glad that the youngest of our Universities is encouraging original research on the part of its graduates. We learn from other sources that a considerable amount of sanitary assistance is being given to the health officers by professors of the Colleges affiliated to this University, not only in Manchester, where Professor Delépine has been working along with Dr. Niven at the tuberculosis question, but also in Liverpool, where the subject of tuberculous milk is obtaining serious attention, and in Leeds, where for a couple of years Professor Trevelyan has been doing good work in the bacterial diagnosis of diphtheria.

FOREIGN PRACTICE IN ITALY.

IN the Italian Chamber of Deputies, on July 3rd, Signor Santini asked the intentions of the Government as to a modification of the public health laws in view of the constant increase in the illegal practice of medicine by foreigners in Italy. The Under-Secretary of State for the Interior said that he had already answered a similar question of Signor Santini's on a previous occasion. He had indicated that some modifications would be made in the law as it stood at present. The practice of medicine would be allowed in the case of doctors belonging to countries which were ready to afford the same treatment to Italian doctors in their dominions, whereas under the present law the practice of medicine was only permitted to foreign doctors attending patients of their own nationality. The Ministry, he added, had always kept watch for abuses, and would continue to look out for and to suppress every contravention of the law.

SIGHT TESTS IN THE MERCANTILE MARINE.

THE Board of Trade report for 1896 on the sight tests used in the mercantile marine follows the same lines as its predecessors. Should anyone turn to these reports for statistical information on the prevalence of colour blindness let him remember that certain adjustments must be made before the figures can be applied with fairness to the British race. For instance, the mode of testing has been entirely altered in recent years, and the old method—happily now discarded—was utterly fallacious. Again, candidates who fail in one year may appeal and pass or fail again in another year, so that the final results require most careful sifting. And further, it must not be forgotten that a large number of those examined have already passed at previous examinations, so that the percentage of failures in colour vision appears to be much smaller than has been found in other investigations conducted on men drawn from the general population. It does not appear from the report whether any measures are now being taken to ensure that the examiners are well endowed with colour sense, or adequately trained in their duties. It is somewhat significant that out of the 56 candidates who failed in vision, 12 appealed, and 5—that is nearly one half—passed. By far the most serious paragraph in the report is the confession that it was found necessary to reject 1 master, 3 mates, and 2 second mates, who had been previously certified by the Board's officials to have good colour sense. Some expression of regret for this unfortunate blunder would surely not have been unbecoming. Is it impossible for a Government office to rectify the errors of its officers, and compensate in some way the victims whose careers they have damaged?

REPORT OF THE AUSTRIAN COMMISSION ON PLAGUE IN BOMBAY.

THE Plague Commission sent by the Austrian Government to Bombay to study the disease has presented a provisional report to the Vienna Academy of Science. The Commissioners state that they had opportunities of investigating the plague clinically in 70 cases, and that they had opportunities of making pathological and bacteriological investigations on 47 bodies of persons who had died of the disease. Pathologically they say that three forms of plague can be distinguished—a septicæmic-hæmorrhagic form in which the whole lymphatic apparatus appears to be diseased in a peculiar manner; a septico-pyæmic form with metastases to internal organs; and primary plague-pneumonia, a lobular pneumonia with quite characteristic appearances. The mode of entrance of the infection seems mostly to be the skin, more rarely the lungs and the tonsils, never the intestinal canal. Death often occurs suddenly with signs of heart failure. The incubation period cannot be determined with certainty. The Yersin-Kitasato bacillus is certainly the exciting cause of the disease; it can be obtained pure from the organs as well as from the blood. The Commissioners were unable to satisfy themselves that Haffkine's serum injections had any effect. They considered it improbable that the plague could find a footing in Europe.

CALF LYMPH VACCINATION.

THE guardians of the parish of St. John, Hampstead, having been perturbed concerning certain supposed difficulties under the Vaccination Acts, and having determined to consult the Local Government Board in reference thereto, have had their doubts set completely at rest by a letter recently received from the Board at Whitehall. The difficulties had regard to "insusceptibility" cases arising by reason of employment of "bad" humanised lymph, to the supposed danger resulting from humanised lymph generally, and to the lack of provision whereby guardians and parents can "demand" the use of calf lymph. The Board declare that guardians can make it a condition of a contract that vaccinations thereunder performed with calf lymph shall be paid for at a higher rate, say 6d. a case over and above the ordinary fee, and that the public vaccinator alone is responsible for the lymph employed. Such is the gist of the reply, which says also that guardians cannot themselves supply or provide calf lymph in the absence of any actual or expected outbreak of small-pox. But such a contract as is mentioned will enable a public vaccinator to operate with human or calf lymph as seems to him to be best; and thus he can meet the views of guardians and parents alike by a wise use of a discretionary power.

PHTHISIS IN SOUTH AFRICA.

THE Bishop of Cape Town recently stated that five out of six of the consumptives who went out to South Africa died, and added that it could not be too strongly pointed out that though South Africa was excellent for the early stage of the disease, it was fatal in the later. It might be well if the Bishop of Cape Town would cite the statistics on which he bases his conclusion that five out of six of the consumptives who came there died. It certainly is not the experience of London physicians who send patients to the Cape, for a large proportion of these do well, and many return to England well enough to pursue their avocations, or what is not uncommon, recover their health and settle down to some occu-

pation in the climate which has proved beneficial to them. But there are a number of consumptives who do not consult a physician on the question of climate, but go to the Cape or elsewhere because some friend of theirs, probably one who suffers from the disease in a totally different form, has benefited by the climate. They find out their mistake too late. No medical man of any experience would dream of advising a patient in what is called "the later stage" of tuberculosis, but is really an advanced case, to go out of England, but the restlessness and desperation of patients often carry them beyond these prudent limits.

ASSISTANCE AT OPERATIONS IN WORKHOUSE HOSPITALS.

A CASE of interest to Irish workhouse medical officers was recently tried at the Listowel quarter sessions, in which Dr. Clancy sued the Board for recovery of a fee for assistance at an operation in the workhouse infirmary. It appears that in cases of urgency the medical officer is entitled to assistance, but the wording of the Local Government Board order relating to this is so loose that in this case a dispute arose as to whether he could obtain the assistance he required without the order of the master of the workhouse. In this case the medical officer neglected to hand in the formal requisition in writing, and the Board hearing of this declined to pay. The judge was obliged to dismiss the case, but for the future where medical officers have to requisition the master of a workhouse they should do so in writing. We cannot pass over in silence the gratuitous statement of the attorney for the guardians that the Local Government Board circular in question was issued "because they found that medical practitioners, especially in country places, were in the habit of doing friendly turns to their brother medical officers without any kind of authority." This of course is utterly untrue, for prior to 1895 workhouse medical officers had no means of obtaining assistance except at their own risk.

PORT SANITARY PROTECTION.

THE annual report for 1896 presented to the Town Council of Southampton by Dr. Wellesley Harris as medical officer of health for the port sanitary district is a document which modestly, and yet plainly, presents to the reader the methods of a port district regulated and controlled by a skilled and tactful sanitary superintendent. Dr. Harris has the oversight of a very important shipping centre, and one, moreover, that is exposed by its position and its trade to the dangers of the importation of exotic disease. Now that it is such an extensive trooping depôt, it has its chances of seaborne disease enhanced. The evident good feeling and harmonious working of military and civil authorities speak well for the administration of the port, and it would seem not unwise for other port authorities and their officers to study Southampton methods.

BACTERIOLOGICAL TESTS FOR THE PURITY OF WATER.

IN the early part of the year Dr. Leeds, at a meeting of the New York Section of the American Chemical Society, gave an account of the methods used for the quantitative estimations of micro-organisms in waters, with special reference to the study and control of discolorations and offensive odours in water supplies. Dr. Leeds maintained that such examination should in no way clash with the examination of water for pathogenic and toxin-producing organisms, and held that the two examinations should be perfectly independent and carried out by two sets of experts, the one by the water engineer, whose duty it should be to determine the conditions under which turbidity and colour were produced and the organisms associated with such conditions, the other by medical experts in bacteriology, who alone at present are capable of giving an opinion on this second point. There can be no doubt that water and sewage engineers are coming to appreciate the fact that in bacteria they have a power for good or evil with which hitherto they have not been accustomed to reckon, but which now must enter as a most important factor into their calculations. It is not necessary for every engineer to become an expert bacteriologist, but for those who intend to devote themselves to water supply and sewage disposal a general knowledge of the principles and details of bacteriology, especially of those relating to decomposition and putrefaction, is as essential as a similar knowledge of geology and chemistry. He should certainly have such knowledge as will enable him to appreciate the value of reports sent in by expert bacteriologists.

ABORTION NORMAL AND OTHERWISE.

DISPUTES about the nature of products of gestation discharged otherwise than in normal labour are only too familiar to us. Experts are not always agreed as to the simplest questions pertinent to the subject. Once upon a time, when Parry had directed attention to extrauterine pregnancy but before the surgeon cared to interfere, a plausible but most suspicious kind of clinical report was occasionally seen in medical serials. Somebody diagnosed tubal gestation, a few weeks later abortion occurred, and forthwith the case was reported as a tubal pregnancy ending in expulsion of the ovum into the uterus. Quite recently Professor Skutsch, of Jena, a most eminent authority, has reported such a case on his own responsibility. Returning to the earlier reporters, we may note that all their cases were very naturally taken to be errors of diagnosis. Some undoubtedly were mistakes. Soon abdominal surgeons showed that tubal pregnancy is a common disease. In the course of their triumphs it was found that hæmorrhage into the peritoneal cavity and expulsion of the ovum from the tube did not always mean rupture of the tubal sac. The ostium of the tube was found wide open; in short, the phenomenon known as "tubal abortion" was discovered. If the ovum could be expelled into the peritoneum, why could it not be expelled into the uterus? The answer is that in tubal abortion the sac lies close to the ostium, which can readily dilate; but a tubal sac seldom develops close to the uterus, and the uterine end of the free part of the tube is very unlikely to become much dilated without bursting. In that event the ovum would go into the peritoneum, not into the uterus. There remains to be considered tubo-uterine or interstitial pregnancy. The sac develops in the portion of the tube which traverses the uterine wall. As a rule—or always, according to most authorities—rupture occurs early in this form. The uterine wall is much thinned, its serous coat ruptures, and the ovum is forced into the peritoneum; dangerous hæmorrhage accompanies the accident. But Skutsch maintains that the uterine wall may rupture on the side of the sac which projects into the uterine cavity, so that the ovum is expelled into the cavity and thence out of the vagina as in common abortion. He describes a case where a complete and thick decidua was expelled and afterwards the ovum followed; the latter could certainly have never lain inside the decidual cavity. The right cornu of the uterus felt greatly thickened. Skutsch clearly means that there was no suspicion of a bicornute uterus or any allied malformation. He goes so far as to think that "tubo-uterine abortion" is not rare, though tubo-abdominal abortion is far more common. We must at least give the subject grave consideration, since Skutsch is a careful observer. An expelled decidua should always be examined with great care, and the size of any rent in its substance noted and compared with the size of the ovum. The time when the latter was expelled must also be recorded and the amnion carefully inspected.

MEDICAL MAGISTRATES.—At the quarter sessions held at Carlisle on June 29th, the name of Dr. Samuel Braithwaite was added to the Commission of the Peace for that county.

THE CAVENDISH LECTURE.

THE Cavendish Lecture was delivered before the West London Medico-Chirurgical Society on July 2nd, by Sir JOHN WILLIAMS, Bart., M.D., F.R.C.P., who took as the subject of his discourse Ovarian Tumour with Pregnancy. He said the condition was not very uncommon, and was very important by reason of the large mortality resulting from it. He had collected 375 cases of the complication, with 461 pregnancies, several of the patients having been pregnant more than once. He then proceeded:

IS PREGNANCY A CAUSE OF OVARIAN TUMOURS?

The first question which demands our consideration is: Is pregnancy a cause of ovarian tumours? I say that this is the first question, because it has been asserted that pregnancy frequently gives rise to these new growths. To prove this statement—that pregnancy is the cause of ovarian tumour in any given case—is, in the present state of our knowledge of the causes of tumour, not possible, even in the most favourable circumstances, when the state of the ovary has been investigated before the occurrence of conception, and again in the course of pregnancy and labour; nor, indeed, can the negative of the statement be proved, except in cases in which the ovary was known to be the seat of tumour before conception took place, for under these circumstances it is evident that gestation could not have been the cause of the tumour complicating it. But let the question be put in the following form: Does ovarian tumour occur with greater frequency in women who are or have been pregnant than it does in women who are not and have never been pregnant? and I think that I shall be able to produce evidence which will enable us to find a definite answer, and that in the negative.

If we take the 1,000 cases of ovarian tumour operated upon by Sir Spencer Wells, and divide them into groups corresponding to the age groups into which the Registrar-General divides the married and the single in the population generally, we obtain the following figures. There were in these 1,000 cases:

	Married.	Single.
Between the ages of 20 and 25 years	23 ...	80
,, ,, 25 ,, 35 ,, ...	133 ...	138
,, ,, 35 ,, 45 ,, ...	154 ...	78
,, ,, 45 ,, 55 ,, ...	168 ...	65
,, ,, 55 ,, 65 ,, ...	74 ...	27
,, ,, 65 ,, upwards	7 ...	6

From these it is seen that between the ages of 20 and 25 years ovarian tumour occurs in the single rather more than three times as frequently as it occurs in the married; while between the ages of 25 and 35 it occurs with almost equal frequency in the two classes. After 35 years of age the proportion is reversed, and the disease is met with twice as frequently in the married as it is in the single—between 45 and 55 two and a-half times as often; between 55 and 65 nearly three times as often; but in those above 65 years of age it is found in each class with almost equal frequency. Looking at these figures alone, it would appear that pregnancy is a potent factor in the causation of ovarian tumours; for from 35 to 65 years of age, when marriage may be considered to have exercised its full effects, the married contribute a far greater number of ovarian tumours than do the single. Such a conclusion is, however, quite erroneous. This apparent result of marriage arises from the change which takes place in the social condition of the population and the consequent alteration in the number of the married and the single—the number of the married undergoing rapid increase at the expense of the single. To correct the error conveyed by the figures I have given, we must take into account the proportion of the number of the married to the single in the population generally at the different periods of life under which they have been grouped.

Turning to the Registrar-General's report for 1891 I find the proportion of the married to the single women to be:

	Married.	Single
Between the ages of 20 and 25 years	30 ...	70
,, ,, 25 ,, 35 ,, ...	67 ...	33
,, ,, 35 ,, 45 ,, ...	83 ...	16
,, ,, 45 ,, 55 ,, ...	87 ...	12
,, ,, 55 ,, 65 ,, ...	89 ...	11
,, ,, 65 ,, upwards	89 ...	11

By comparing these figures with those derived from the 1,000 cases operated upon by Spencer Wells, we shall have a more correct idea of the proportional frequency of ovarian tumours at the several periods of life under which they are grouped.

Now in the series of Spencer Wells we find between the ages of 20 and 25 years, 23 married and 80 single women, or a proportion of rather more than 1 married to 4 single, while, according to the Registrar-General, the proportion of married to single women in the total population at this period of life is 30 to 70, or 1 to 2.33; that is, speaking in proportion, 1 married woman produces one ovarian tumour, while 2.33 single women produce four, or 3 married women grow three tumours, while 7 single women grow twelve. Did ovarian tumours occur with equal frequency in the married and in the single between the ages of 20 and 25 years, the number in Sir Spencer Wells's series would not be 23 married and 80 single, but 34 married and 80 single.

In the next group—between the ages of 25 and 35 years—this difference in the comparative freedom from ovarian tumour in favour of married women, becomes still more marked, for in this group in the series of Spencer Wells, I find 133 married and 138 single women. According to the Registrar-General's report the total number of married to the total number of single women in the population is as 67 to 33, that is the married are twice as many as the single; and yet the single women furnish rather more ovarian tumours than the married. This disproportion is still more emphasised in the next two groups.

Between the ages of 35 and 45 years there were 154 married and 78 single women the subjects of ovarian tumour. Here the number of the married is just twice that of the single. But what is the proportion between the number of married and of the single in the general population? The Registrar-General states that they are as 87 to 12, or more than seven times as many, and yet, instead of producing seven times as many tumours, the married only furnish us with twice as many as the single.

Between the ages of 45 and 55 years in the series of Spencer Wells, the number of the married is 168, and of the unmarried 65, while in the general population at this period of life, the married are to the unmarried as 89 to 11, or eight times as many, and yet they show only two and a half as many ovarian tumours. The same remarks apply literally to the next group, while the difference in favour of the married is still more marked in women of 65 years and upwards.

Between the ages of 55 and 65 years there were 74 married and 27 single women operated upon by Spencer Wells, while the proportion of the married to the single in the general population is 8 to 1; yet the single present nearly a third as many ovarian tumours as the married, or nearly three times their proper share, were both classes subject equally to ovarian tumours. At 65 years and upwards there were 7 married and 6 single women in Spencer Wells's series, while in the general population there are 8 married for every unmarried woman. At this period of life, then, a number of single women furnish 8 ovarian tumours for every single tumour presented by the same number of married women.

DOES THE LIABILITY INCREASE WITH REPEATED PREGNANCIES?

Sir John Williams went on to say that if pregnancy was a cause of ovarian tumour it might be expected that with each successive pregnancy the liability would increase. Looking for an answer to this question in the cases which he had collected, he found, in the first place, that of the 228 cases in which the number of the pregnancy was noted, 87 were primiparæ. Not only do primiparæ form so large a proportion of the total number of cases, but ovarian tumour with pregnancy became, on the whole, rarer with each successive pregnancy, for among the cases there were:

In the 2nd pregnancy ...	30 instances only.	
,, 3rd ,, ...	21	,, ,,
,, 4th ,, ...	14	,, ,,
,, 5th ,, ...	15	,, ,,
,, 6th ,, ...	9	,, ,,
,, 7th ,, ...	11	,, ,,
,, 8th ,, ...	4	,, ,,
,, 9th ,, ...	7	,, ,,
,, 10th ,, ...	1	,, ,,
,, 11th ,, ...	2	,, ,,
,, 12th, 15th, and 19th	each 1	,, ,,
And other multiparæ ...	26	,, ,,

This showed almost a steady diminution of ovarian tumour with each successive pregnancy.

The facts that (1) ovarian tumour was proportionately far less frequent in the married than in the single; (2) that a large number of the cases of ovarian tumour with pregnancy occurred in primiparæ, and that 25 of the cases were known to be the subjects of the tumour before conception had occurred, and that 57 were subjects of dermoid cysts, thus making a total of 83 in which the tumours were present before gestation commenced; and (3) that ovarian tumour with pregnancy was met with on the whole with less frequency in each successive pregnancy, appeared to show that pregnancy was not a factor in the causation of these growths.

Does Pregnancy Favour the Growth of Ovarian Tumour?

This question, Sir John Williams said, must be considered under two separate heads: (1) Does the process of gestation itself give an impulse to the growth of the tumour, and (2) does the tumour grow more rapidly after labour and during the lying-in period? With regard to the first point, in the notes of most of the cases which he had collected nothing was said about the growth of the tumour, but from certain statements it may fairly be inferred that the increase in it, if any, was slow or rapid. He judged that all tumours which, at the time of delivery, were situated entirely in Douglas's pouch or in the pelvis, by reason of their size, and all tumours smaller than the fœtal head, could not have grown rapidly or at a rate unusual apart from pregnancy. Twenty-four of the tumours are described as being small at the time of delivery, while 94 were situated in the pelvis, all of which he regarded as small tumours, which could only have grown slowly. Again, a tumour which had accompanied two or more pregnancies could only have increased at a slow rate, although it had ultimately attained a large size. Of such cases there are 45, some of which had been pregnant twice, some three times, and some five or six times, while subjects of the growth. The total number of these pregnancies is 131. In these the growth of the tumour must have been generally slow, and pregnancy could not have hastened it.

As to the rate of growth, he considered that such tumours as required tapping more than once in the course of pregnancy increased at a quick rate. He found that the tumour increased in size in 57 cases. To the 11 cases in which the growth was rapid were to be added 15 in which the tumour was tapped twice or oftener, making 26 cases in which the tumours grew rapidly.

Of the cases of rapid growth, the increase occurred in one after the eighth month, in another after an attack of variola; in a third after rupture of the cyst and symptoms of peritonitis, while in a fourth the tumour was growing rapidly before conception took place. Among the 11 cases in which rapid growth took place without tapping were therefore 3 in which the growth might be accounted for by other causes than pregnancy, leaving 8 in which pregnancy might have given the impulse to the rapid increase. In 15 cases tapping was resorted to, but there was nothing in the histories of these cases to show that pregnancy accelerated the growth of the tumour.

It should be borne in mind that ovarian tumours presented the same irregularities in the rate and mode of their growth during pregnancy as they did independently of that condition; in some cases the tumour grew rapidly before pregnancy, and ceased to grow after conception; in some it grew steadily before and during pregnancy and after delivery; in some it grew only during a part of the period of gestation, and in some after delivery only. The whole of this evidence and the small number of the cases in which the growth of the tumour was rapid, appeared to show that pregnancy exercised no influence in accelerating the growth of ovarian tumours.

The Effect of Delivery.

As regards the effect of delivery and lying-in upon the growth of such tumours, it had been held that delivery, by diminishing the intra-abdominal pressure, relaxing the tension of the abdominal walls, and removing pressure from the tumour, gave rise to rapid increase in it. Sir John Williams attached no weight to this theory. He stated that after 69 deliveries the tumour appeared not to have grown, and after 32 it increased in size. In one of the 32 cases a sudden increase took place on the fourth day; in another a like increase occurred on the ninth day; 9 of the cases are said to have increased slightly, slowly or gradually (1 during an attack of peritonitis, and 1 suppurated); 11 increased rapidly, 3 of them with peritonitis, or while undergoing suppuration.

The sudden increase in 2 cases, the one on the fourth and the other on the ninth day, is probably due to twisting of the pedicle, or hæmorrhage into the cyst, while peritonitis or suppuration was probably the cause in 3 cases. This left 8 cases in which there was rapid growth of the tumour after delivery, and 69 in which there was no appreciable growth, and 19 in which there was no unusual growth; that is, a total of 88 cases in which there was no unusual increase, and of 8 in which the tumour grew rapidly. These figures seemed to show that the influence of delivery was not to accelerate the growth of ovarian tumours. In some cases there had been a diminution instead of an increase in size.

Pregnancy and Malignant Disease of the Ovary.

Leopold had made the extraordinary and startling suggestion that pregnancy was a cause of cancer of the ovary; and Wernich held that pregnancy occasioned malignant degeneration of ovarian cysts. Leopold based his suggestion upon 2 cases, one published by Spiegelberg, and one observed by himself.

These 2 cases formed a very slight foundation for the theory that pregnancy is a cause of cancer of the ovary. The only conclusion which could be drawn from an analysis of them was that the ovaries were not entirely cancerous at the time of conception, that a portion of the ovarian tissue was healthy and capable of discharging an ovum. Wernich's view was based upon an equally slender foundation—namely 2 cases—one observed by himself and one by Kursteiner. The remarks made respecting Leopold's view were applicable to Wernich's.

Sir John Williams added that cancer of the ovary, apart from pregnancy, was not very uncommon. From his own experience, cancer of the ovary with pregnancy did not appear to be proportionally more frequent than cancer of the organs apart from that condition. The total number of cases of cancer of the ovary with pregnancy which he had collected amounted to only 14 cases.

Influence of Ovarian Tumours upon Pregnancy.

After describing the effects of gestation, delivery, and the puerperal processes upon ovarian tumours (twisting of the pedicle, rupture and laceration of the tumour and their consequences, hæmorrhage into the cyst and suppuration), Sir John Williams said that abortion or premature labour occurred spontaneously in 58 out of the 461 pregnancies which formed the basis of his communication. How many of these premature terminations of pregnancy were due to the presence of the ovarian tumour and how many to causes independent of pregnancy he had no means of deciding; 7 were premature labours and 26 abortions. No cause for the occurrence of premature emptying of the uterus was given in most of the cases, but twisting of the pedicle was present in 1, peritonitis in 2, tubercle in 1, renal and hepatic disease in 1. Abortion appeared to be somewhat more frequent with cystic than with dermoid tumours. Abortion or premature labour occurred in 8 out of 14 cases of cancer, and was induced in 1, while nothing was stated upon the point in 5; cancer, therefore, appeared to have a baneful influence on gestation. Of the solid tumours nothing was said except that premature labour was induced in 2 pregnancies in the same patient, and abortion occurred in 1 at the sixth month, ovariotomy having been performed at the fourth.

Influence of Ovarian Tumours upon Labour.

The part played by ovarian tumours in labour depended first and largely upon the situation of the tumour, and secondly, and in a less degree, on its size. When the growth was large it enfeebled the expulsive forces and caused respiratory and cardiac suffering, but when small, labour proceeded as if the tumour were not present. Among the cases he had collected there were 178 (or about 2 out of 5) in which

delivery was effected without artificial help; of these 7 were described as easy, 5 tedious, 13 natural, 1 slow, 2 difficult, and 2 lingering, and in 1 hæmorrhage occurred at the eighth month. This was not a bad result, but it gave no idea of the difficulties caused by these tumours during delivery. To realise these difficulties the cases which required artificial help must be looked into. The means which had been employed to overcome these difficulties were reposition, or raising the tumour from the pelvic into the abdominal cavity so as to place it out of the way of the descending head. In many cases this could not be accomplished; then tapping was resorted to, forceps, version, craniotomy, and Cæsarean section, or ovariotomy. Details were given of the results of each method, showing a record of mortality in pregnancy complicated by ovarian tumours, which Sir John Williams characterised as "appalling." Twenty-five per cent. was the mortality of all the cases, good or bad taken together; it was the mortality in cases which demand no interference in order to effect delivery.

The mortality after	tapping	26 per cent.[1]	
,, ,,	forceps	25	,,
,, ,,	version	33	,,
,, ,,	craniotomy	44	,,
,, ,,	abortion and premature labour	17	,,
,, ,,	Cæsarean section ...	90	,,
,, ,,	ovariotomy	10	,,

The great mass of this mortality took place after delivery. Comparatively few cases died during pregnancy when not interfered with. He found only one sudden death during pregnancy, believed to be due to rupture of the cyst; and 6 others apparently after delivery, premature, or at term, in which the cyst burst during pregnancy. This formed 6 per cent. of the deaths; the remaining 109 follow operations on the tumour and delivery; and it was not possible to allot them to their different causes with the exception of 7 after ovariotomy. This left 102 cases following labour and abortion.

MEANS OF PREVENTION.

When the mortality was so large as 25 per cent. in cases in which the tumour occasioned no particular difficulty in delivery, it was evident that there was something besides the difficulty of the labour which tended to death; this must be looked for in the tumour, and the injury done to it and by it, during the efforts of labour. It was clear from the record of deaths that little could be done to diminish the danger by the usual obstetric operations, and Sir John Williams expressed the opinion that the efforts of practitioners should be directed to the prevention of injury to the ovarian growth and the parts adjacent to it, abdominal and pelvic. At present he saw but two ways in which this could be accomplished: the removal of the tumour during pregnancy or labour, or the anticipation of labour by the Cæsarean section. He did not think that all cases should be treated in one of these ways, for small tumours, situated in the abdomen, or tumours situated in the pelvis, which could be raised up into and retained in the abdomen, did not appear to suffer much injury during labour. With this exception all cases should be operated upon. The mortality of Cæsarean section had been greatly reduced, but he would have recourse to it only in cases in which the removal of the tumour was found to be impossible, were it from adhesions deep down in the pelvis, to the uterus, or for other cause. On the other hand, ovariotomy during pregnancy was a tried operation. It had proved as successful during pregnancy as apart from pregnancy, and it gave a mortality of less than half that from natural labour with ovarian tumour. No other method of treatment had as yet given, nor did any promise, such good results.

[1] In a large number of the cases operated upon more than one operation was resorted to, such as tapping, forceps, craniotomy, and the same cases appear therefore under each of the operations.

AN outbreak of typhus is reported from the island of Inniskea, off the north-west coast of Ireland. The people are exceedingly poor, and are wretchedly housed. Medical aid has been despatched, and trained nurses have also been sent to the sick, who number over fifty persons.

The *London Gazette* of July 6th announces that Stephen Wootton Bushell, M.D., Physician to Her Majesty's Legation at Pekin, has been appointed a Companion of the Order of St. Michael and St. George.

PAUPER NURSES.

MR. J. KENNEDY, the Honorary Secretary of the Irish Workhouse Association, having submitted to the Catholic hierarchy a copy of the report of the Executive Committee on Pauper Nursing in Irish Workhouses, has received from Bishop McCormack a reply in which the following passages occur:

"I am directed to state, for the information of your Executive Committee:

"(A) That the prelates unanimously condemn the system of employing pauper inmates for the nursing of the sick in the workhouse wards as it is carried on at present; and

"(B) That they cordially endorse the recommendation of engaging the services of skilled or trained nurses to attend upon the workhouse sick during the hours of night."

This statement of the views of the Roman Catholic Bishops is of the first importance, and must have considerable influence in furthering the improvements which the Association aims at.

The report is a strong indictment of the system of nursing which has been so long tolerated by the guardians and the Local Government Board. It declares that "pauper nurses form the blackest blot in the Poor-law administration. They are incompetent, ignorant, and irresponsible. In many cases they are drunken, degraded, and vicious. The women are often the reproach of their sex. Pauper nursing has nothing to excuse it, not even the plea of economy. It is a degradation to the name of hospital. It is a humiliation to the decent poor in their sickness. It is the cause of unknown and untold cruelty. It prolongs illness. It not only places human life in danger, but beyond all doubt it often takes it away."

The report goes on to show that, as compared with present cost, there would be a slight saving with greatly increased efficiency. Examples of the existing scandals are then given, and the report proceeds:

"The responsibility for continuing this crying scandal cannot be placed wholly on country Boards of Guardians. It may be plausibly pleaded for them that they are only doing what they have been always accustomed to do, that they cannot be expected to believe in the reality of a danger which they see the central authority deliberately permit. The Local Government Board (then the Poor-law Commissioners) created this evil; they have the control of it, and when they continue it they must accept the responsibility of it. The time has at last come when the Local Government Board should be asked to take steps to confine the employment of paupers in hospitals to menial duties alone, and to prevent persons living and sleeping in the wards except as patients."

We congratulate the committee on the work which it has so far accomplished. It has at all events helped to awaken anew public attention, and to justify the criticisms which our Commissioner has made on Irish workhouse infirmaries. It will take time and patience to establish a thorough change, but it is clear that that monstrosity, the pauper nurse, is doomed.

THE PUBLIC HEALTH (SCOTLAND) BILL.

THE following memorandum has been drawn up by the Parliamentary Bills Committee of the British Medical Association, and issued in concert with the leading Scottish medical authorities. Members of the Association are requested to write to their respective member of Parliament in support of it. Further copies can be supplied wherever and to what extent desired.

As representing the general practitioners of Great Britain, the British Medical Association has necessarily a very practical interest in the executive organisation of the local authorities under the various Public Health Acts, and the statutory powers conferred upon their officials.

Practitioners are required to notify every case of infectious disease within the meaning of the Infectious Diseases (Notification) Act to the medical officer of health.

They frequently have occasion to direct the attention of the medical officer to conditions of the nature of nuisances within the meaning of the Public Health Acts existing in connection with various forms of disease from which their patients suffer.

They have therefore ample occasion to observe the relative duties both of the medical officer of health and of the inspector of nuisances or sanitary inspector, and to form opinions as to the powers which those officials

ought to possess respectively as regards disease and the removal of its causes.

They have every desire to co-operate with the local authorities and their officers in the promotion of public health. They believe that it is essential to the success of public efforts for the prevention of disease, whether infectious or non-infectious, that they should possess the thorough sympathy, confidence, and support of the private practitioner.

As representing the practitioners of Scotland, who are specially concerned, and the practitioners of England and Ireland generally because of the influence of precedent in legislation, the Parliamentary Bills Committee of the British Medical Association observes with grave concern certain of the provisions of the Public Health (Scotland) Bill as about to be reported to the House.

Reference is here made especially to Clause 22, which puts the certificate of the sanitary inspector in statutory equivalence with that of the medical officer in a question of injury or danger to health from nuisance; and to Clause 36, which has the same effect with reference to trade nuisances.

Medical practitioners naturally desire to consult with a member of their own profession regarding the physical causes of disease, and they believe that if he is in any way dissociated from the official investigation and measures for the removal of those causes the interests of the sick will be prejudiced.

The Parliamentary Bills Committee of the British Medical Association therefore respectfully but earnestly begs that before the Public Health (Scotland) Bill passes into law those and all other deviations from the sound principle that in all questions affecting public health the medical officer of health should be the advising and directing executive official may be expunged from the Bill.

WOMEN AS VETERINARY SURGEONS.

In the Outer House of the Court of Session at Edinburgh, before Lord Kincairney, on July 6th, the record was closed and the case sent to the Procedure Roll for discussion in an action at the instance of Principal Williams, of the New Veterinary College, Edinburgh, and others, proprietors of that College, against the Royal College of Veterinary Surgeons, London and Edinburgh. Declarator is asked that the defenders are bound to admit to the examinations held by them in Scotland, in terms of the Veterinary Surgeons Act, 1881, all students, whether male or female, attending the New Veterinary College, Edinburgh, who comply with the regulations relative to these examinations; and that the defenders are not entitled or bound to exclude any such student from examination merely upon the ground that such student is of the female sex. Interdict against the exclusion of duly qualified students is also asked. The pursuers state that in October, 1895, Principal Williams admitted a lady student to the New Veterinary College. She duly attended the course of instruction given in the College, and also qualified herself for admission to the First Professional Examination, to be held by the defenders, by obtaining from the General Medical Council a certificate registering her as a medical student. In order to obtain this certificate she passed certain examinations in general knowledge. In April, 1897, she applied to Mr. Rutherford, the defenders' secretary acting for Scotland, for admission to the First Professional Examination, which was to be held on May 14th. On April 22nd, 1897, the defenders' solicitor wrote to the lady, refusing her application on the grounds "(1) That it is contrary to long usage and all precedent that women should be admitted to the veterinary profession; (2) that the Act and charters indicate that men are only eligible for admission to the profession." The letter proceeded—"Should you decide to try the question, my instructions are to afford you every assistance compatible with the duty of the College as guardian of the profession, and to that end I admit, on behalf of the College, that you have fulfilled all the requirements which, in the case of a male student, would have admitted to First Professional Examination." As the result of this refusal, the lady did not go up for examination. In refusing the application the defenders are said to have acted *ultra vires* and in contravention of the charters and Act of Parliament, and also in contravention of the usage of the Royal College of Veterinary Surgeons. Since its institution in 1844, that usage has been to receive all students of the Colleges for which it was constituted the examining body, without inquiry or control as to any personal attribute, such as religion, nationality, sex, or otherwise. These matters fall under the powers and duties of the governing bodies of the different teaching Colleges, and with each of them alone lies the right to say who shall and who shall not be veterinary students. Not merely is the action of the defenders illegal, but, the pursuers say, it is also extremely prejudicial to the interests of the veterinary profession and of the Royal College. The defenders have not merely checked the natural development and imperilled the future prosperity of the incorporation by excluding women from its membership, but they have also exposed the incorporation to a serious claim of damages at the instance of the lady referred to. The defenders' conduct is especially prejudicial to the pursuers' College. If the refusal is persisted in no lady student will apply for admission to it, and the pursuers will be deprived of very considerable revenue which they would otherwise obtain from the fees paid by lady students. It is essential to the prosperity of the pursuers' College that no doubt should be thrown upon the right of every person admitted as a student thereto to enter upon the professional examinations held by the defenders. By refusing to admit the lady to their examination in disregard of the certificate of qualification given to her by the pursuers, and notwithstanding that she had fulfilled all the usual requirements, the defenders have attempted to deprive the pursuers' College of the status conferred upon it by the Royal Sign Manual. The pursuers have lost the fees which they would have received from the lady in question if she had not been illegally prevented from continuing in her professional studies at the said College, and which amount to £50 or thereby. The pursuers reserve all further claims of damages competent to them in the event of the defenders persisting in the illegal course of refusing to admit ladies to their examination. The defenders state that prior to the prerogative writ under the Royal Sign Manual dated November 8th, 1873, placing the New College under the operation of the Royal Charter, there had been no female students admitted to that College or to the practice of the veterinary art. Throughout the various charters, by-laws, and Acts of Parliament, the intention was manifest that only men should be qualified, and at the date they bear females were not included among veterinary students. No lady students have ever been received by the defenders for examination. The right to receive or reject candidates rests with the Council, subject to the terms of their charters and the Act of Parliament. They consider that it is *ultra vires* in them to receive lady students for examination. The other averments of the pursuers are denied. The defenders plead that the Court of Session has no jurisdiction; that the pursuers have no title to sue; that the pursuers' averments are unfounded in fact; and that females not being included among the students whom the defenders are bound to receive for examination, their right to receive or reject such applicants is absolute; and, having in their discretion rejected the lady they are entitled to absolvitor. Separately the defenders maintain that, it being *ultra vires* of them to admit females to be qualified as veterinary surgeons they are entitled to absolvitor.

UNQUALIFIED PRACTICE AND THE MEDICAL ACTS.

The encroachment of chemists into the area of medical practice is a matter which is continually being commented upon in the columns of the British Medical Journal, but this special form of irregular practice is by no means the only one which imperatively calls for legislation in the shape of an amended Medical Act.

We have lately had our attention called to a circular issued from a nurse residing at one of the health resorts, in which it is announced that the establishment which she conducts is for the "treatment of gout, rheumatism, sciatica, lumbago, neuralgia, dyspepsia, insomnia, uterine and ovarian disturbances, torpid liver, deafness, etc.....Patients received by appointment. Patients reduced from 5 to 10 inches in a fortnight."

There is not a word in the circular to indicate that the "treatment" is under the supervision of any medical practitioner; apparently the practice is carried on entirely by the unqualified owner of the establishment, and patients may come and patients may go without being seen by a medical man. This is only one of many instances in which nurses, either obstetrical or medical, are performing in various parts of the country duties for which neither their education nor training has fitted them, and which should be, if the Medical

Acts were properly framed, absolutely illegal. The amount of unqualified practice in Great Britain is very large and is increasing, and it is imperative that steps should be taken at once to check its further progress for the safety of the public.

An attempt has lately been made by a provincial School Board to arrange that certificates of the illness of children who remain away from school should be accepted as valid when signed and given by registered chemists. The attention of the Education Department has been called to this attempted evasion of the 37th Section of the Medical Act, in which it is laid down that no medical certificates required by any Act of Parliament shall be valid unless signed by registered practitioners of medicine, and the Medical Defence Union, which has the matter in hand, can be trusted to use every legal means to prevent the proposed infringements of the Acts.

In another case, an unqualified person who has been prosecuted successfully under the 40th Section of the Medical Act, 1858, has lately been actually appointed as medical officer of a registered friendly society, with a salary. This person examines, and passes or rejects, all candidates for admission into the said society, and should any member fall ill and claim to be placed on sick pay, he is not admitted to the benefits until he has been seen, examined, and certified by this unqualified practitioner, all certificates from duly registered medical men being treated as invalid by the officers of the society. By the Medical Act, 1858, Section 36, no person can be appointed as medical officer to a friendly society unless registered under the Act; and the appointment made by the society is therefore illegal. Steps are, we understand, being taken by the Medical Defence Union to put a stop to this scandalous condition of things, and we can only hope that the proper authorities will deal promptly and effectually with the matter.

The above instances serve to show that the time has come when determined and united action must be taken to stem the torrent of unqualified practice. It is quite clear that the public is not sufficiently protected against the charlatans who by the assumption of medical titles and medical knowledge prey upon them in the time of sickness and disease.

The present Medical Acts were framed, as stated in the preamble, to enable persons requiring medical aid to distinguish qualified from unqualified practitioners, but unfortunately the Act itself has fallen short of the requirements which are necessary for the fulfillment of its desires. There are many amendments required to make the Act accomplish the purpose for which it was designed, and we have no hesitation in saying that legislation is required much more for the protection of the public than for the welfare of the profession. Every effort must be made to further the progress of the desired legislation, which, as one affecting the public health, should be brought in and carried through Parliament as a Government measure.

THE ROYAL COMMISSION ON TUBERCULOSIS.—Meetings of the Royal Commission on Tuberculosis were held at 7, Whitehall Place, on June 30th, July 1st and 2nd, the Right Hon. Sir Herbert Maxwell, M.P., being in the chair. The other Commissioners present were Sir Richard Thorne Thorne, K.C.B., F.R.S., Professor Brown, C.B., Mr. Shirley F. Murphy, Mr. Cooke-Trench, and Mr. John Speir. Evidence was heard from Mr. C. Stephenson, F.R.C.V.S., representing the Royal Agricultural Society, Veterinary Inspector of the city of Newcastle and county of Northumberland, as to the extent of the disease in his district and the necessity for uniformity in any legislation so as to cover every channel by which the disease may be conveyed; from Mr. Samuel Rowlandson and Mr. Christopher Middleton, both representing the Central Chamber of Agriculture, the former also the Royal Agricultural Society; from Mr. Sessions, F.R.C.V.S., and Mr. Hunting, F.R.C.V.S.; from Sir T. D. Gibson-Carmichael, M.P., and Mr. Dobie, representing the Scottish Chamber of Agriculture, the former of whom gave details as to the results of testing with tuberculin his Castle Craig herd. On Monday, July 5th, the Chairman and other members of the Commission visited the Central Meat Market, Smithfield, and the Islington Cattle Market to see the system of inspection adopted there. Further meetings of the Commission were held on July 8th and 9th, and there will be also one on July 12th.

BRITISH MEDICAL ASSOCIATION.

SIXTY-FIFTH ANNUAL MEETING.

NOTICE IS HEREBY GIVEN that the Sixty-Fifth Annual General Meeting of members of the British Medical Association, for the transaction of business, the consideration of Reports of Council and Committees, will be held in the Exeter Hall, London, on Tuesday and Wednesday, the 27th and 28th days of July next, at 11.0 o'clock in the forenoon. The meeting will be adjourned to August 31st, to be held at Montreal, for the scientific business of the meeting, reading of Addresses, meetings of Sections, etc.

TUESDAY, JULY 27TH.

9.30 A.M.—Meeting of Council 1896-97.
11.0 A.M.—First General Meeting, Exeter Hall:
Report of Council.
Presentation of the Association Gold Medal of Merit to C. G. Wheelhouse, Esq., F.R.C.S.
Presentation of the Association Gold Medal of Merit to Sir Walter Foster, M.P., M.D.
Reports of Committees.
Notices of Motion.
Any other business.

WEDNESDAY, JULY 28TH.

9.30 A.M.—Meeting of Council 1897-98.
12.0 (noon).—Adjourned General Meeting. Consider proposal for Annual Meeting, 1898, and appoint President-elect; any business adjourned from General Meeting of previous day.

THE adjourned annual meeting of the British Medical Association will be held at Montreal on Tuesday, Wednesday, Thursday, and Friday, August 31st, September 1st, 2nd, and 3rd, 1897.

President.—HENRY BARNES, M.D., F.R.S.E., Senior Physician to the Cumberland Infirmary, Carlisle.

President-Elect.—T. G. RODDICK, M.D., Professor of Surgery in McGill University, Montreal.

President of the Council; ROBERT SAUNDBY, M.D., F.R.C.P., Physician to the General Hospital, Birmingham.

Treasurer: CHARLES PARSONS, M.D., Dover.

An Address in Medicine will be delivered by W. OSLER, M.D., F.R.C.P., Professor of Medicine in the Johns Hopkins University, Baltimore, U.S.A.

An Address in Surgery will be delivered by WILLIAM MITCHELL BANKS, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

An Address in Public Medicine will be delivered by HERMAN M. BIGGS, M.D., Director of the Bacteriological Laboratory of the Health Department, New York City.

The Scientific Business of the Meeting will be conducted in Eleven Sections, as follows, namely:

A. MEDICINE.

Macdonald Chemical Building.

President: STEPHEN MACKENZIE, M.D., London. *Vice-Presidents:* J. E. GRAHAM, M.D., Toronto; W. BAYARD, M.D., St. John, N.B.; J. P. ROTTOT, M.D., Montreal: F. W. CAMPBELL, M.D., Montreal; JAMES STEWART, M.D., Montreal; H. P. WRIGHT, M.D., Ottawa. *Hon. Secretaries:* H. A. LAFLEUR, M.D., Montreal; W. F. HAMILTON, M.D., Montreal; WILLIAM PASTEUR, M.D., 4, Chandos Street, Cavendish Square, London, W.

The following discussions will probably take place:

1. The Dietetic Treatment of Diabetes, to be opened by Dr. Robert Saundby, and will be continued by Dr. Osler and Dr. Sidney Coupland.

2. Arthritis Deformans (Rheumatoid Arthritis), more especially its Relation to Rheumatism, Nervous Disease, and Tuberculosis. This discussion will probably be opened by Professor J. Stewart (McGill University).

3. On Gall Stones, with reference particularly to Biliary Colic, Cholangitis, and Hepatic Intermittent Fever without Icterus. Dr. Graham, Dr. Osler, Dr. Handford (Notting-

ham), Dr. Sidney Coupland (London), and Dr. Wm. Hunter (London), intend to take part in this debate.

The following, among others, are expected to take part in the discussions in this Section: Dr. Reginald Fitz (Boston), Dr. Jacobi (New York), Dr. Musser (Philadelphia), Dr. Pepper (Philadelphia), Dr. F. C. Shattuck (Boston), Dr. E. L. Trudeau (Saranac Lake, N.Y.), Dr. Jas. Tyson (Philadelphia), Dr. Wyman (Marine Hospital Service, Washington), Dr. R. L. Bowles (London), Dr. Wm. Armstrong (Buxton).

The following papers have been promised:

BOWLES, Dr. R. L. (London). Further Experiences of Dangers connected with Respiration and their Avoidance, with special reference to Anæsthesia, Hæmoptysis, Drowning, Apoplexy, and all Paralysed and Unconscious Conditions.

FUSSELL, Dr. M. H. (Philadelphia). Two Cases of Hæmophilia.

GRAHAM, Dr. J. E. (Toronto). A Case of Crossed Hemiplegia the Result of Injury to the Pons Varolii.

HAMILTON, Surgeon-Major-General (P.M.O. Plymouth). The Enteric Fever of Armies, contrasting the Disease in Tropical, Subtropical, and Temperate Climates.

OSLER, Dr. Wm. Exophthalmic Goître (*a*) Development of Maniacal Symptoms in, (*b*) Scleroderma with, (*c*) Myxœdema following.

PEPPER, Dr. Wm., and STENGEL, Dr. Alfred (Philadelphia). A Contribution to the Clinical Study of Venesection.

STARR, Dr. M. Allen (New York). A Contribution to the Subject of Brain Tumours and their Surgical Treatment.

STOCKTON, Dr. Chas. G. (Buffalo). A Type of Diarrhœa associated with Gastric Anacidity.

TYSON, Dr. James (Philadelphia). Note on the Proper Use of Terms to denote Myocardial Changes.

WHITTAKER, Dr. James T. (Cincinnati). Generalisations from Seven Years' Use of Tuberculin.

B. SURGERY.

Large Lecture Room, McGill Medical College.

President: CHRISTOPHER HEATH, F.R.C.S., London. *Vice-Presidents:* Hon. Sir WILLIAM HINGSTON, M.D., Montreal; Hon. M. SULLIVAN, M.D., Kingston, Ontario; Hon E. FARRELL, M.D., Halifax, Nova Scotia; I. H. CAMERON, M.D., Toronto; F. LE M. GRASETT, M.D., Toronto; JAMES BELL, M.D., Montreal; GEORGE E. ARMSTRONG, M.D., Montreal. *Hon. Secretaries:* ROBERT C. KIRKPATRICK, M.D., Montreal; THOMAS WALKER, M.D., St. John, N.B.; JORDAN LLOYD, F.R.C.S., Broad Street, Birmingham.

The President will give a short introductory address.

A discussion will take place upon the Surgical Treatment of Appendicitis, which will be opened by Dr. G. E. Armstrong (Montreal). Dr. J. Ward Cousins, Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham), will take part in the discussion.

A discussion will also take place upon the Treatment of Cancer of the Rectum by Kraske's Operation.

Among those who, it is anticipated, will take part in the discussions in this Section are: Dr. W. W. Keen (Philadelphia), Dr. Collins Warren (Boston), Dr. John Ashhurst (Philadelphia), Dr. Cheever (Boston), Dr. Dennis (New York), Dr. Murphy (Chicago), Dr. McGraw (Detroit), Dr. J. C. White (Boston), Dr. Chas. T. Bull (New York), Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham).

The following gentlemen have given notice of their intention to read papers in this Section:

BALL, Professor C. B. (Dublin). On Trans-sacral Resection of the Rectum.

COUSINS, J. Ward, M.D., F.R.C.S. (Southsea). Operative Treatment of Organic Stricture of the Urethra.

LLOYD, Jordan, F.R.C.S. Stone in the Ureter and its Treatment.

MARCY, H. O., M.D. (Boston). On the Suturing of Wounds.

MCGRAW, Theo., M.D. (Detroit). Invagination of the Cæcum and Vermiform Appendix.

NEWMAN, David, M.D. (Glasgow). (1) Cases illustrating some Interesting Points in the Pathology and Surgical Treatment of Renal and Vesical Hæmaturia. (2) Transitory Hydronephrosis and Albuminuria in cases of Movable Kidney treated by Operation.

ROSS, James F. W., M.D. (Toronto). Some Rare Conditions of the Kidney.

ROTH, Bernard, F.R.C.S. (London). Analysis of One Thousand Consecutive Cases of Lateral Curvature of the Spine treated by Posture and Exercise exclusively (without mechanical supports).

SHEPHERD, F. J., M.D. (Montreal). A case of Abdominal Tumour, in which nearly eight feet of the small intestine were resected.

SPANTON, W. D. F.R.C.S. (Hanley). Two cases of Meningocele successfully operated on.

THOMSON, Alexis, M.D., F.R.C.S. (Edinburgh). Stricture of Intestine as Sequel of Strangulated Hernia.

TUBBY, A. H., F.R.C.S. (London). Some Rare Affections of the Fingers

C. PUBLIC MEDICINE.

Large Lecture Room of the Redpath Museum.

President: E. P. LACHAPELLE, M.D., Montreal. *Vice-Presidents:* F. MONTIZAMBERT, M.D., Quebec; ROBERT CRAIK, M.D., Montreal; P. H. BRYCE, M.D., Toronto; Sir JAMES GRANT, Ottawa; R. H. POWELL, M.D., Ottawa. *Honorary Secretaries:* WYATT JOHNSTON, M.D., Montreal; E. PELLETIER, M.D., Montreal; HARVEY LITTLEJOHN, M.B., C.M., Surgeons Hall, Edinburgh.

The business of the Section will be carried out as follows:

The President will give an address on Sanitation in Canada; its Progress Up-to-date.

LACHAPELLE, Dr. E. P. (President of the Board of Health of the Province of Quebec, Montreal). Sanitation in Canada: its Progress up to date.

NEWSHOLME, A., M.D. (M.O.H. Brighton). A Plea for the International Study of Diphtheria, Illustrated by Facts and Figures.

KAYE, J. R. (M.O H. to the Council of the West Riding of the County of Yorkshire). The Relationship of the Health Officer to the Registration and Certification of Deaths.

Dr. F. Montizambert (Superintendent of the Canadian Quarantine Service, Grosse Ile, Quebec), and Dr. W. Wyman (Superintendent of the Quarantine and Marine Hospital Service, Washington) will open a discussion on the Utility of Quarantines as now Conducted (Inspection, Disinfection, and Isolation Stations) in Certain Countries at Least.

Dr. P. H. Bryce (Secretary of the Provincial Board of Health, Ontario), Dr. H. Handford (M.O.H. to the County of Nottingham), and Dr. C. B. Probst (Secretary, State Board of Health, Ohio), will open a discussion on How Far should Mandatory Measures go in Dealing with (*a*) Measles, (*b*) Whooping Cough, (*c*) Tuberculosis, (*d*) Leprosy.

JOHNSTON, Wyatt, M.D. (Bacteriologist, Board of Health, of the Province of Quebec). Experiments with Disinfectant Gases.

JANIN, G., C.E. (Montreal). On the Different Processes recommended for the Treatment of Sewage; Mechanical, Chemical and Epuration by the Arable Soil.

MOTTER, Dr. D. Murray Galt (Washington). Underground Zoology and Legal Medicine: a Study of Fifty Disinterments, with Additional Experimental Observations.

KINYOUN, Dr. Jos. J. (United States Marine Hospital Service, Washington). Methods of Disinfection.

NEECH, Dr. James T. (M.O.H. for Atherton). The Period of Infection of Scarlet Fever.

COPEMAN, Dr. Monckton (Medical Inspector to the Local Government Board of England). Some Alleged Dangers of Vaccination and their Prevention.

Dr. R. F. Ruttan, Chemist to the Board of Health of the Province of Quebec, will open a discussion on The Respective Value of the Chemical and Bacteriological Methods of Water Analysis.

D. OBSTETRICS AND GYNÆCOLOGY.

Large Lecture Room, McDonald Physics Building.

President: WILLIAM JAPP SINCLAIR, M.D., Manchester. *Vice-Presidents:* WILLIAM GARDNER, M.D., Montreal; JAMES PERRIGO, M.D., Montreal; J. A. TEMPLE, M.D., Toronto; J. C. CAMERON, M.D., Montreal; T. JOHNSTON ALLOWAY, M.D., Montreal; JAMES ROSS, M.D., Toronto. *Honorary Secretaries:* D. J. EVANS, M.D., Montreal; W. BURNETT, M.D., Montreal; ARTHUR E. GILES, M.D., 58, Harley Street, Cavendish Square, London, W.

The following discussions will, it is proposed, be held in this Section on the days indicated:

September 1st.—The Causation and Treatment of Hyperemesis Gravidarum.

September 2nd.—The Vaginal *versus* the Abdominal Route in dealing with Inflammatory Conditions and Tumours in the Pelvis. To be opened by Mr. Lawson Tait.

September 3rd.—The Palliative and Radical Treatment of Uterine Flexions and Displacements. To be opened by Dr. Barton Cooke Hirst (Philadelphia).

The following papers are promised:

ALLOWAY, T. G., M.D. (Montreal). Title not announced.

ANDERSON, Professor Winslow, M.D. (San Francisco). Uterine Fibroids, their etiology, pathology, symptoms, diagnosis, and treatment.

BARNES, Robert, M.D. (London). Notes and a drawing to illustrate "Barnes's Boundary Line" in Placenta Prævia.

CAMPBELL, John, M.D., F.R.C.S.Eng. (Belfast). Labour Complicated by Abnormalities of the Cervix Uteri and Vagina.

EDEN, T. W., M.D. (London). Title not announced.

GARRIGUES, H. J., M.D. (New York). The Treatment of Abortion.

HART, D. Berry. M.D. (Edinburgh). The Pathology and Treatment of Chronic Non-suppurative Conditions of the Uterus and Appendages.

LUCAS, T. P., M.R.C.S. (Brisbane, Australia). Menstruation, its Purpose and Design.

MACDONALD, A. A., M.D. (Toronto). Title not announced.

MACLEAN, Ewen J., M.D. (London). The After-history of some Gynæcological Operations.

MADDEN, T. More, M.D., F.R.C.S.I. (Dublin). 1. On some Points in Modern Treatment of Tedious Labour with description of a new Traction Forces; (2) On the Conservative Treatment of Fallopian Tube Disease.

MUNDÉ, Paul F., M.D. (New York). Pelvic Abscess.
PARSONS, J. Inglis, M.D. (London). A New Method of Treatment for Prolapse of the Uterus.
ROBSON, A. W. Mayo, F.R.C.S. (Leeds). Porro's Operation for Tumour of the Pelvis complicating Pregnancy.
SMITH, Dr. (Montreal). Diagnosis and Treatment of Retroversion of the Uterus, with Fixation.
TEMPLE, G. Algernon, M.D. (Toronto). Title not announced.

It is expected that Dr. Howard Kelly, of Baltimore, will give a demonstration on Genital Endoscopy.

Among those who are expected to take part in the work of this Section are Professor A. W. Mayo Robson (Leeds), Mr. Lawson Tait (Birmingham), Dr. T. W. Eden (London), Dr. Inglis Parsons (London), W. H. A. Kelly (Baltimore), Dr. P. F. Munde (New York), W. R. Goffe (New York) and Dr. John Campbell (Belfast).

E. PHARMACOLOGY AND THERAPEUTICS.

Lecture Hall of the Wesleyan College.

President: D. J. LEECH, M.D., Manchester. *Vice-Presidents:* A. D. BLACKADER, M.D., Montreal; JAMES THORBURN, M.D., Toronto; C. R. CHURCH, M.D., Ottawa; J. B. MCCONNELL, M.D., Montreal; F. J. AUSTIN, M.D., Sherbrooke; WALTER GEORGE SMITH, M.D., Dublin. *Honorary Secretaries:* F. X. L. DE MARTIGNY, M.D., Montreal; J. R. SPIER, M.D., Montreal; CHARLES ROBERTSHAW MARSHALL, M.B., Pharmacological Laboratory, Downing College, Cambridge.

The President will deliver a short Introductory Address.

Discussions on the Treatment of Insomnia, the Treatment of Syphilis, and Diuretics will be held on September 1st, 2nd, and 3rd respectively.

1. The Treatment of Insomnia will be opened by Dr. C. K. Clarke, Physician to the Rockwood Hospital, Kingston, on General Treatment; by Dr. R. W. Wilcox, Professor of Medicine and Therapeutics in the New York Post-Graduate School on the Value of Individual Drugs, with special reference to the newer Hypnotics and their Mode of Action; by Dr. A. McPhedran on the Ill Effects and Contraindications to the Use of Drugs.

2. The Treatment of Syphilis will be opened by Dr. Whitla (Belfast). The introducer will deal with questions under the following heads: (*a*) How mercury and iodides are supposed to act in syphilis; (*b*) when should mercurial treatment be started, especially should it be given in the primary stage; (*c*) the various methods for its routine administration, dosage, etc., and the length of time necessary for mercurial treatment; (*d*) the treatment of tertiary and congenital syphilis.

(Hypodermic and intravenous medication will be dealt with by a dermatologist.)

The question of Diuretics will be opened from the clinical side by Dr. Barr (Liverpool), and from the experimental by Mr. Marshall (Cambridge).

Among those who have promised to take part in the discussions are: Professor Richet (Paris), Dr. A. R. Cushny (University of Michigan, Ann Arbor), Dr. H. A. Hare (Philadelphia), Dr. A. D. Blackader (Montreal), Dr. H. Barnes (Carlisle), Dr. Saundby (Birmingham), Dr. Donald MacAlister (Cambridge), Dr. Whitla (Belfast), Dr. J. A. Campbell (Carlisle), Dr. Brookhouse (Nottingham), Mr. Jordan Lloyd (Birmingham), Dr. J. Ward Cousins (Southsea), Dr. D. Berry Hart (Edinburgh), and others.

Those who have promised papers are:

HARE, W, A. The Importance of Studying the Absorption and Elimination of Drugs.
BLACKADER, A. D. On Aponcynum Cannabinum.
CUSHING, A. R. A Contribution to the Pharmacology of the Mammalian Heart.
LEECH, D. J. On Quillaia Bark.
PHILLIPS, C. D. F. On the Physiological and Therapeutical Actions of Hydrastis Canadensis.
HALLIDAY, A. (Nova Scotia). The Effect of Certain Drugs on Gastric Secretion.
FOTHERINGHAM, J. T. (Toronto). Title not received.
HUTCHISON, R. On the Pharmacology of the Thyroid Gland.
MARSHALL, C. R. On the Treatment of the Heart Failure of Arteriosclerosis.
MARSHALL, C. R., and TAYLOR, J. J. On the Absorption of Mercury.

F. PATHOLOGY AND BACTERIOLOGY.

Lecture Room II, McGill Medical College.

President: WATSON CHEYNE, F.R.C.S., F.R.S., London. *Vice-Presidents:* J. G. ADAMI, M.D., Montreal; J. CAVEN, M.D., Toronto; J. STEWART, M.D., Halifax; J. C. DAVIE, M.D., Victoria, B.C.; L. C. PREVOST, M.D., Ottawa; M. T. BRENNAN, M.D., Montreal. *Honorary Secretaries:* W. T. CONNELL, M.D., Kingston, Ontario; C. F. MARTIN, M.D., Montreal; RUBERT W. BOYCE, M.B., University College, Liverpool; WILLIAM HUNTER, M.D., 54, Harley Street, Cavendish Square, W.

The following will be the subjects for discussion:

1. Serum Diagnosis and the Agglutinating Action of Serums, to be introduced by Professor Wyatt Johnston (Montreal).
2. Immunisation.
3. The Bubonic Plague.

Among those who will take part in the discussions will be Professor Welch (Johns Hopkins), Professor Crookshank (London), Dr. W. Hunter (London), Dr. A. F. Grünbaum (Liverpool), Dr. A. C. Abbott (Philadelphia), Dr. T. M. Cheesman (New York), Dr. R. Fitz (Boston), Dr. E. Hodenpyl (New York), Dr. Trudeau (Saranac), and Dr. F. F. Wesbrook (Minneapolis).

It is urged that British pathologists unable to be present should send to Dr. Rubert Boyce lantern slides and other material for demonstration bearing upon the subjects selected for discussion.

The following papers are promised:

ADAMI, J. G., M.D., and STAPLES, E., M.D. (Montreal). On the Appendices Epiploicæ.
BARKER, Lewellys F., M.D. (Baltimore). On the Changes in the Nerve Cells in Epidemic Cerebro-spinal Meningitis, with special reference to lesions in the lower motor neurons.
BOYCE, R. The occurrence of the B. Tuberculosus in Milk.
CAREN, Professor J., M.D. (Toronto). Title of Paper not received.
CONNELL, W. (Kingston, Ont.) Title of Paper not received.
COPEMAN, S. Monckton, M.D. (London). On Vaccinia.
FLEXNER, Simon, M.D. (Johns Hopkins University). Pseudo-tuberculosis Hominis Streptothricia.
GOLDMAN, Professor (Freiburg). On Early Infection of Blood Vessels in Carcinoma and Sarcoma (lantern slides).
GRÜNBAUM, A. F., M.D. The Smegma Bacillus.
HERTER, C. A., M.D. (New York). Experimental Observations on the Relation between Bacterial Activity in the Intestine and the Indican in the Urine.
HODENPYL, Eugene, M.D. (New York) On the Occurrence of Typhoid Fever without Lesions of the Small Intestine.
MANSON, Patrick, M.D. On Filaria Sanguinis Hominis, with the demonstration of a new Species from Central and South America.
STILES, H. J. On the Evolution of Cancer Bodies (lantern slides).
THOMSON, Alexis H. Epithelioma of Penis.
VAN GIESON, Ira, M.D. (New York). On Hæmato-myelopore and its Relations to Syringomyelia.
WASHBOURN, J. W., M.D. Demonstration of Specimens of an Infective Neoplasm from the Dog.
WELCH, Professor (Baltimore). The Distribution and Pathogenic Effects of the B. Aerogenes Capsulatus.
WRIGHT, Hamilton K., M.D. (Montreal). On the Topography of the Posterior Columns.

G. PSYCHOLOGY.

Morris Hall, Presbyterian College.

President: R. M. BUCKE, M.D., London, Ontario. *Vice-Presidents:* D. CLARKE, M.D., Toronto; T. J. BURGESS, M.D., Verdun, Quebec; A. VALLEE, M.D., Quebec; G. WILKINS, M.D., Montreal. *Honorary Secretaries:* J. V. ANGLIN, M.D., Montreal; GEORGE VILLENEUVE, M.D., Montreal; J. G. BLANDFORD, M.R.C.S., D.P.H., London County Asylum, Banstead, Sutton, Surrey.

The officers of this Section, believing that many of the papers already offered will be provocative of considerable debate, have determined to announce no special subjects for discussion. Among those who have offered to contribute papers are:

BUCKE, R. M., M.D. (London, Ontario, Asylum). On Mental Evolution.
CLARK, W., M.D. (Toronto Asylum). The Reflexes in Psychiatry.
HOBBS, —, M.D. (London, Ontario, Asylum). Surgical Gynæcology in Insanity.
RUSSELL, J., M.D. (Hamilton, Ontario, Asylum). Insanity in its Relation to the State.
VILLENEUVE, George, M.D. (Longue Pointe). Crime and Insanity.

Among those who intend to take part in the business of the Section are Dr. N. H. Beemer (Mimico Asylum, Ontario), Dr. G. Alder Blumer (Utica, New York), Dr. C. K. Clark (Rockwood Hospital, Kingston, Ontario), Dr. Edward Cowles (Waverley, Mass.), Dr. T. D. Crothers (Hartford, Conn.), Dr. G. Stanley Hall (Worcester, Mass.), Dr. Hazlitt (Sunbury), Dr. Henry Hurd (Baltimore), Dr. Rogers (Asylum for the Feeble Minded, Faribault, Minn.), Dr. George H. Rohe (Maryland Hospital for the Insane, Catonsville). Dr. Rothesay Stewart (Leicester) and Dr. A. R. Urquhart (Perth).

H. OPHTHALMOLOGY.

Lecture Room I, McDonald Engineering Building.

President: EDWARD NETTLESHIP, F.R.C.S., London. *Vice-Presidents:* F. BULLER, M.D., Montreal; R. A. REEVE, M.D., Toronto; ED. DESJARDINS, M.D., Montreal; A. A. FOUCHER, M.D., Montreal. *Honorary Secretaries:* W. H. SMITH, M.D., Winnipeg; J. JEHIN-PRUME, M.D., Montreal; THOMAS HERBERT BICKERTON, M.R.C.S., 88, Rodney Street, Liverpool.

It is intended that a discussion should take place on the Prevention of Accidents to the Eyes of Persons engaged in Industrial Employments. The following gentlemen have expressed their intention of contributing papers to the Section:

BICKERTON, T. H. (Liverpool). (1) The Question of Colour Vision in the Public Services; (2) on Mules's Operation.
BULLER, Dr. F. (Montreal). Abnormalities in the Functions of the Extrinsic Ocular Muscles.
FOUCHER, Dr. A. A. (Montreal). Auto-Infection in Pustulous Keratitis.
FULTON, Dr. John F. (St. Paul, Minn., U.S.A.) Amblyopia of Strabismus.
JEHIN-PRUME, Dr. Jules (Montreal). A Contribution to the Treatment of the Syphilitic Affections of the Eye.
LEE, Charles G. (Liverpool). On an Unusual Case of Orbital Tumour.
WÜRDEMANN, Dr. H. V. (Milwaukee, Wis., U.S.A.) Relation of Skiascopy to other Objective and Subjective Methods for the Estimation of the Ocular Refraction (with Exhibition of Hand Skiascope).
Specimens.—Specimens will be shown by Mr. TREACHER COLLINS Mr. PRIESTLEY SMITH, and Dr. C. H. USHER.

I. LARYNGOLOGY AND OTOLOGY.

Lecture Room II, McDonald Engineering Building.

President: GREVILLE MACDONALD, M.D., London. *Vice-Presidents:* W. TOBIN, M.D., Halifax; G. A. S. RYERSON, M.D., Toronto; H. S. BIRKETT, M.D., Montreal; G. R. McDONAGH, M.D., Toronto. *Honorary Secretaries:* A. CHRETIEN, M.D., Montreal; H. D. HAMILTON, M.D., Montreal; W. PERMEWAN, M.D., 7, Rodney Street, Liverpool.

The following papers are announced in this Section:

BRYAN, J. H. (Washington). A Contribution to the Anatomy of the Fronto-Ethmoidal and Frontal Maxillary Regions.
DELAVAN, Dr. D. B. (New York). Surgical Treatment of Malignant Disease of the Larynx.
FARLOW, Dr. Jno. W. (Boston, Mass., U.S.). Presentation of Instruments, with remarks.
HOBBS, Arthur G., M.D. (Atlanta, Ga.). When not to Inflate the Middle Ear.
HORNE, Jobson, M.D., and YEARSLEY, Macleod, F.R.C.S. (1) On Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose, and Ear. (2) On Turbinectomy.
INGALS, E. Fletcher, M.D. (Chicago). On the Relation of Nasal Diseases to Pulmonary Tuberculosis.
JONES, T. W. Carmallt, F.R.C.S.Ed. Some After Effects of Turbinotomy.
KNIGHT, Chas. H., M.D. (New York). Upon a Foreign Body (Metallic Button Hook) removed from the Larynx by Laryngo-Fissure.
MACKENZIE, Dr. John N. (Baltimore, Ind., U.S.). The Physiological and Pathological Relations between the Nose and the Sexual Apparatus.
O'DWYER, J., M.D. (New York). Acute Syphilitic Stenosis of the Larynx in the Adult treated by Intubation.
ROE, John O., M.D. (Rochester, New York). The Correction of Nasal Deformities by Subcutaneous Operations.
SPICER, Scanes, M.D. (London). (1) On Reduction of the Inferior Turbinate Bone in Certain Cases of Nasal Obstruction. (2) On the Significance and Treatment of Recurrent Retention of Secretion in the Lacunæ of the Tonsils. (3) A Case of Multiple Papillomata of Larynx in a Man aged 73.
WÜRDEMANN, Dr. H. V. (Milwaukee, Wis., U.S.A.). Phosphoric Necrosis of Temporal Bone.

Among those who intend to take part in the business of the Section are also Dr. J. Solis-Cohen (Philadelphia), Dr. Birkett (Montreal), Dr. Chretien (Montreal), Dr. G. R. McDonagh (Toronto), Dr. D. B. Delavan (New York), Dr. Charles Warden (Birmingham) and Dr. J. W. Mackenzie (Baltimore).

J. ANATOMY AND PHYSIOLOGY.

Lecture Room I, McGill Medical College.

President: AUGUSTUS D. WALLER, M.D., F.R.S., London. *Vice-Presidents:* F. SHEPHERD, M.D., Montreal; A. B. MACALLUM, M.D., Toronto; T. WESLEY MILLS, M.D., Montreal; A. PRIMROSE, M.D., Toronto; J. B. A. LAMARCHE, M.D., Montreal; D. B. FRASER, M.D., Stratford, Ontario. *Hon. Secretaries:* J. M. ELDER, M.D., Montreal; W. S. MORROW, M.D., Montreal; ROBERT HUTCHISON, M.D., Physiological Laboratory, London Hospital Medical College, Turner Street, Mile End, E.

The following have been selected as subjects for the discussions:

September 1st. Anæsthetics, to be introduced by the President of the Section (Dr. A. Waller). Among those who are expected to take part in this discussion are Dr. Shore (Cambridge), Dr. Kemp, F.R.S. (Baltimore), and Professor W. D. Halliburton, F.R.S.

September 2nd. The best methods of Teaching Anatomy, to be introduced by Professor Alex. Macalister (Cambridge) and Dr. F. J. Shepherd (Montreal).

September 3rd. The Causation of the Heart Beat and its Modifications, introduced by Dr. Gaskell, F.R.S. (Cambridge) and Professor T. Wesley Mills (Montreal). Dr. Porter (Boston), Dr. Howell (Baltimore), and Dr. Bowditch (Boston) are expected to take part in the discussion.

The following papers have been promised:

MACALISTER, Professor Alex. (Cambridge). The Influence of Head Shape on Cranio-cerebral Topography.
THOMPSON, Professor W. H. (Belfast). Degenerations resulting from Lesions of the Sensory Area of the Cortex Cerebri.

Dr. Gustav Mann will send for exhibition specimens illustrating the Minute Histology of the Liver in Active and Resting Conditions. Dr. D. A. Welsh (Edinburgh) will exhibit specimens illustrating the Histology of the Parathyroid Glands. Dr. Geo. Oliver will exhibit his new Hæmoglobinometer and Hæmocytometer.

K. DERMATOLOGY.

Lecture Room III, McDonald Engineering Building.

President: MALCOLM MORRIS, F.R.C.S.Ed., London. *Vice-Presidents:* J. E. GRAHAM, M.D., Toronto; F. J. SHEPHERD, M.D., Montreal; J. A. S. BRUNELLE, Montreal; G. L. MILNE, M.D., Victoria, B.C. *Hon. Secretaries:* GORDON CAMPBELL, M.D., Montreal; J. M. JACK, M.D., Montreal; JAMES GALLOWAY, M.D., 54, Harley Street, Cavendish Square, W.

A subject selected for discussion in this Section is the Clinical and Pathological Characteristics of Vesicular Skin Diseases, especially the Dermatitis Herpetiformis Group.

It is intended that a joint meeting should be held with the Section of Pharmacology and Therapeutics for the discussion of the subject of the Treatment of Syphilis (see p. 109).

The following papers are announced:

FOX, T. Colcott. Demonstration of the Biology of the Trichophyte.
GALLOWAY, James (London) On Melanotic Conditions of the Skin preceding Malignant Disease of the Skin.

Among those who are expected to take part in the discussions of this Section are Dr. E. B. Bronson (New York), Dr. L. D. Bulkley (New York), Dr. J. A. Fordyce (New York), Dr. J. N. Hyde (Chicago), Dr. G. T. Jackson (New York), Dr. Stephen Mackenzie (London), Dr. A. Eddowes (London), and Dr. White (Boston).

PROGRAMME OF PROCEEDINGS.

TUESDAY, AUGUST 31ST, 1897.

11 A.M.—Cathedral Service.
2.30 P.M.—Opening Ceremonies. Welcome by His Excellency the Governor-General, Lord Aberdeen, the Mayor of Montreal, and others. Address by the President-elect, Dr. T. G. Roddick.
4 P.M.—Garden Party at the Royal Victoria Hospital (Mr. W. B. Angus, President of Royal Victoria Hospital), etc.
9 P.M.—*Conversazione* at Laval University. Address by Professor Richet, Delegate from the French Government, etc.

WEDNESDAY, SEPTEMBER 1ST, 1897.

10 A.M.—McGill University: Opening of Sections.
2.30 P.M.—Windsor Hall: Address in Medicine by Dr. W. Osler.
4 P.M.—Excursion down the St. Lawrence: Garden Parties, etc.
9 P.M.—Reception by the Hon. Sir Donald A. Smith, High Commissioner of Canada.

THURSDAY, SEPTEMBER 2ND, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
2.30 P.M.—Windsor Hall: Address in Surgery by Mr. W. Mitchell Banks.
4 P.M.—Excursion across the Island, International Golf Match, etc.
7.45 P.M.—Annual Dinner of the Association

FRIDAY, SEPTEMBER 3RD, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
1 P.M.—Lunch on the Mountain, given by the Mayor.
2.30 P.M.—Windsor Hall: Address in Public Medicine by Dr. Herman Biggs; Concluding Speeches, etc.
4 P.M.—Excursion down the Lachine Rapids; Garden Parties, etc.
9 P.M.—*Conversazione* at McGill University.

SATURDAY, SEPTEMBER 4TH, 1897.

Excursions to Lake Memphremagog, Saranac, Ottawa, Quebec, etc.

ANNUAL MUSEUM.

THE PATHOLOGICAL MUSEUM.

The Pathological Museum will be established in the Dissecting Room of McGill Medical College, a large, lofty, and well-lighted room. The Secretary of the Pathological Subcommittee of the Museum Committee is Dr. C. F. Martin, McGill Medical College, Montreal, who will be glad to receive

the loan of specimens, drawings, and photographs illustrative of both normal and morbid anatomy, as also any new apparatus for research in physiology, pathology, or bacteriology.

Specimens illustrating diseases peculiar to the remoter portions of the Empire are especially desired. It is proposed to make a special collection of photographs and microphotographs of morbid conditions. These will be suitably mounted and carefully returned to the owners.

Suitable vessels and jars, and spirit and other media will be provided for moist specimens.

Foods, Drugs, and Appliances.

Regulations Regarding Exhibits.

1. Communications on general matters connected with the Museum and applications from intending exhibitors should be addressed to the Honorary Secretaries, Drs. J. W. Stirling or J. M. Jack, 2204, St. Catherine Street (British Medical Association Rooms).

2. Applications for space must be in the hands of the Secretaries before July 25th, accompanied with a brief descriptive account of each exhibit for insertion in the Museum Catalogue. Information of the allotment of space will be furnished as promptly as possible, and on receipt of cheque for the cost of such space, a card for the admission of the exhibit will be forwarded.

3. All cheques to be made payable to J. W. Stirling, M.B.

4. All exhibits should be directed to the British Medical Museum, Victoria Skating Rink, Drummond Street, Montreal, Canada, with the name of the Section for which they are intended. Packages must also be addressed to a firm's representative at the Museum.

5. Exhibits must be delivered between August 27th and 28th; they must each bear a card indicating the name and address of the exhibitor; they must be arranged in their allotted space before 2 P.M. on August 28th, and it is desirable that they be not removed till September 6th.

6. Signs or placards must be so arranged as not to interfere with adjacent exhibits: on the central tables no sign or placard must reach higher than 2 feet 6 inches from the table.

7. The Committee will not be responsible for any risks or expenses incurred; they reserve discretionary power to exclude any exhibit they may consider unsuitable; they will only receive exhibits conditionally upon strict compliance with the foregoing regulations, and in all matters of doubt and difficulty their decision shall be final.

8. The Museum Committee or its representatives must be recognised as being in full control of the exhibition building and its management.

Tables occupying the centre of the Hall, and other prominent positions, are to be let by private tender; other tables varying in charges from 4s. to 2s. per square foot. Certain floor space will be let at 1s. per square foot.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held in the Council Room of the Association, at No. 429, Strand (corner of Agar Street), London, on Wednesday the 14th day of July next, at 2 o'clock in the afternoon.

The following Committees will also meet:

Tuesday, July 13th, 1897.—3.0 P.M. Subcommittee of Parliamentary Bills Committee on Army Medical Reform. 3.30 P.M. Subcommittee of Parliamentary Bills Committee and Medico-Psychological Association on the Lunacy Bill. 4.0 P.M. Parliamentary Bills Committee. 5.0 P.M. General Practitioners and Ethical Committee. *Wednesday, July 14th, 1897.*—10 A.M. Journal and Finance Committee.

FRANCIS FOWKE, *General Secretary.*

July, 1897.

NOTICE OF QUARTERLY MEETINGS OF COUNCIL FOR 1897.

MEETINGS of the Council will be held on July 14th and October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the latter meeting—namely, September 30th.

Election of Members.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

FRANCIS FOWKE, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

NORTH OF ENGLAND BRANCH.—The annual meeting of this Branch will be held at the College of Medicine, Newcastle-upon-Tyne, on Wednesday, July 21st, at 5 P.M. The officers of the Branch for 1897-98 will be elected, and the President-elect, Dr. McDowall, will deliver the annual address. The dinner after the meeting will take place at the Douglas Hotel, at 6.30 P.M.; 6s. 6d. each, without wine.—G. E. WILLIAMSON, Honorary Secretary, 8, Eldon Square, Newcastle-upon-Tyne.

LANCASHIRE AND CHESHIRE BRANCH.

THE sixty-first annual meeting of this Branch was held in the Owens College, Manchester, on Wednesday, June 30th, 1897; HENRY H. VERNON, M.D., J.P., President, in the chair. There were 120 members present.

Confirmation of Minutes.—The minutes of the last annual and intermediate meetings were confirmed.

Votes of Thanks to Retiring President and Vice-Presidents.—On the motion of Dr. WOODCOCK, seconded by Dr. CARTER, a very hearty vote of thanks was accorded to the retiring President, Dr. Vernon, for his valuable services during the past year. Dr. VERNON suitably replied.—On the motion of Dr. VERNON, seconded by Dr. BARR, the Vice-Presidents, J. E. Moreton, F.R.C.S., and G. E. Walker, F.R.C.S., were cordially thanked for their services.

Installation of New President.—Dr. VERNON introduced his successor in the presidential chair, Dr. SAMUEL WOODCOCK, who delivered his inaugural address on Medical Reform.—On the motion of Dr. LEECH, seconded by Dr. RAYNER, a very hearty vote of thanks was accorded to the President for his very valuable address.—On the motion of Dr. THORNLEY, seconded by Dr. HOLMES, it was resolved that the address should be circulated among the members.

Report of Council.—The following is the text of the report:

The Council of the Lancashire and Cheshire Branch of the British Medical Association have much pleasure in presenting their report for 1896-97 to the members assembled in annual meeting at Owens College, Manchester. Your Council have held seven meetings during the year, and have been alert in the interests of the Branch and of the profession generally. When the medical profession was threatened with an obnoxious Midwives Registration Bill, brought before the House of Commons by Mr. Tatton Egerton, your Council sent a deputation to London to interview the members of Parliament for these two counties and members of the House of Peers. This deputation met with a cordial reception, and was promised much support in opposition to the Bill. An elaborate circular was drawn up, pointing out the objections to the Bill, and a copy sent to each member of both Houses of Parliament. Your Council regret that the question of medical defence, in which this Branch has always taken a keen interest, has not met with much support in many other Branches of the Association, and consequently it has been practically shelved for the present so far as the British Medical Association is concerned. Your representatives on the Council of the Association and on the Parliamentary Bills Committee have taken a very active interest in all questions of medical polity, and have kept a watchful eye over the Midwifery Nurses Bill drawn up by this Branch.

It is hoped that they will soon be able to induce the central Council to take active steps to promote this Bill in Parliament. The vitality of this Branch continues unabated, and although its growth has not been so great as in the preceding year, the present membership (1,059) is the highest yet recorded. There has been an accession of 54 new members, while the number has been depleted by 10 deaths, 21 resignations, and 3 names removed on account of non-payment of subscriptions; this leaves a net gain for the year of 20. The Branch suffered a severe loss in the death of Dr. Barron of Southport, who had been one of its representatives in the Central Council of the Association for the last fourteen years. Among the other deaths the loss of the following members has been very widely felt: Dr. Chamberlayne of Stalybridge, Dr. J. K. Davidson of Blackburn, Dr. Heath of Southport, Dr. Torbitt of Weaste, and Dr. Yeoman of Heswall. The income attained its highest record, £127, while the expenditure was well within that sum, and at the end of last year there was the substantial balance to the credit of the Branch of £394. Your Council wish to remind the members that to-day is the diamond jubilee of this Branch, which originated in a meeting held at the Leigh Arms Hotel, Newton, on June 30th, 1837, a few days after Her Majesty had ascended the throne. The meeting was called "for the purpose of organising a medical association for this part of the kingdom." There were 41 medical men present from Liverpool, Manchester, Warrington, Bolton, Bury, St. Helens, Middleton, Ashton-le-Willows, Ashton-in-Makerfield, Lymm, Middlewich, and Runcorn. "The Newton Medical and Surgical Association" was then founded, "for the purpose of promoting a free communication and friendly intercourse of the members of the medical profession residing in this part of the kingdom, and maintaining the honour and respectability, as well as extending the usefulness of the profession generally." On August 17th, 1837, the Newton Medical and Surgical Association joined the "Provincial Association" as its Newton Branch. In 1849 the name was changed to the "Lancashire and Cheshire Branch," which then consisted of about 90 members, many of whom do not seem to have paid their subscriptions very regularly, as the income during the preceding year was only £5 2s. 6d., while the expenditure was £7 5s. 6d.

Financial Statement.—The statement of account as at December 31st, 1896, is here appended:

RECEIPTS.

1896.	£	s.	d.
Balance from 1895	388	16	7
Subscriptions	127	0	0
Bank interest less commission	2	16	3
	£518	12	10

DISBURSEMENTS.

1896.	£	s.	d.
Printing and stationery...	24	10	1
Postages	18	1	3
Travelling expenses ...	7	12	7
Travelling expenses of P.B.C.	12	13	0
Clerks' work	4	7	2
Medical Directory	0	10	6
Council meetings	0	8	10
Expenses of Liverpool meeting	1	6	11
Expenses of Memorial Hall, Manchester ...	4	4	0
Contribution to the Rentoul Reimbursement Fund	50	0	0
Cash in bank and in hand	394	18	6
	£518	12	10

JAMES BARR, M.D., *Hon. Secretary.*

Examined and found correct:

D. A. O'SULLIVAN
JOSEPH THORNLEY } *Hon. Auditors.*

April 22nd, 1897.

On the motion of the PRESIDENT, seconded by Dr. THORNLEY, the report of the Council and the financial statement were adopted.

Election of Officers and Council for 1897-98.—The SECRETARY announced that the following members had been duly elected to their respective positions in the Council in accordance with the laws of the Branch:—*Council:* Samuel Woodcock, M.D., Manchester (President); William Berry, F.R.C.S.I., Wigan (President-elect); John Holden, J.P., Preston, and C. J. Renshaw, M.D., Ashton-on-Mersey (Vice-Presidents); James Barr, M.D., Liverpool (Honorary General Secretary).

Representatives on the Council of the Association.—James Barr, M.D., Liverpool (General Secretary); E. H. Dickinson, M.D., Liverpool; C. E. Glascott, M.D., Manchester; A. Godson, M.B., Cheadle; Edwin Rayner, M.D., Stockport; Samuel Woodcock, M.D., Manchester.

Representatives in the Parliamentary Bills Committee.—A. Godson, M.B.; A. Brown Ritchie, M.B.; G. E. Shuttleworth, M.D.; Samuel Woodcock, M.D.

Ordinary Members of Council.—Wm. Armstrong, Buxton; *F. H. Barendt, M.D., Liverpool; *A. Bernard, M.B., Liverpool; H. W. Boddy, M.D., Manchester; T. R. Bradshaw, M.D., Liverpool; J. B. Brierley, M.D., Manchester; C. G. Campbell, Uppermill; W. M. Campbell, M.D., Liverpool; William Carter, M.D., Liverpool; F. H. Collins, M.D., Manchester; J. Nelson Creegen, Liverpool; A. Davidson, M.D., Liverpool; E. T. Davies, M.D., Liverpool; T. E. Flitcroft, Bolton; E. A. Fox, M.D., Warrington; J. G. Gledhill, Hollinwood; *C. R. Graham, Wigan; K. A. Grossmann, M.D., Liverpool; Nathan Hannah, Asnton-in-Makerfield; A. C. E. Harris, M.D., Birkenhead; R. Harris, M.B., Southport: T. E. Hayward, M.B., Haydock; T. Arthur Helme, M.D., Manchester; *J. M. Hunt, M.B., Liverpool; *Horace Jefferies, Bolton; T. M. Johnson, M.D., Salford; *Thomas Jones, F.R.C.S., Manchester; J. Lambert, M.D., Birkenhead; *D. J. Leech, M.D., Manchester; B. J. Massiah, M.D., Didsbury; *J. E. Moreton, F.R.C.S., Kelsall; *A. A. Mumford, M.D., Chorlton-c-Hardy; J. T. Neech, Tyldesley; *D. A. O'Sullivan, Southport; H. Laird Pearson, Birkenhead; D. Lloyd Roberts, M.D., Manchester; R. Robertson, M.D., Liverpool; James Robinson, M.D., Dunscar; A. Samuels, M.D., Liverpool; *W. H. Irvin Sellers, M.B., Preston; *Edward Sergeant, Preston; G. W. Steeves, M.D., Liverpool; A. Stewart, M.D., Pendleton; C. T. Street, Haydock; J. Thornley, M.D., Bolton; Charles Thorp, Todmorden; Francis Vacher, Birkenhead; *Henry H. Vernon, M.D., Southport; *G. E. Walker, F.R.C.S., Liverpool; J. W. Watkins, M.D., Newton-le-Willows. (*New nominations, being gentlemen who were not ordinary members of Council within the last twelve months.)

Place of Next Annual Meeting.—On the motion of the PRESIDENT, seconded by Mr. THOMAS JONES, it was resolved to accept the cordial invitation of the members resident in Wigan to hold the next annual meeting in that town.

Auditors.—On the motion of Dr. DICKINSON, seconded by Dr. J. E. DUNN, Dr. D. A. O'Sullivan and Dr. Joseph Thornley were unanimously re-elected auditors for the ensuing twelve months.

Votes of Thanks.—On the motion of Dr. PINKERTON, seconded by Dr. VIPONT BROWN, a hearty vote of thanks was given to the representatives on the Council of the Association and on the Parliamentary Bills Committee, and to the auditors and ordinary members of Council for their services during the past year.—Dr. BROWN RITCHIE replied.—The PRESIDENT stated that the Secretary had omitted to put down his own name for a vote of thanks. He then referred to the valuable services which Dr. Barr had rendered to the Branch, and the unanimous thanks of the meeting were then warmly given.—Dr. BARR suitably replied.

Midwifery Nurses Bill.—On the motion of Dr. J. BRASSEY BRIERLEY, seconded by Dr. JOHN HOLDEN, it was resolved:

That this meeting expresses regret that the resolution passed instructing the Council to take steps through the central Council of the Association to introduce the Midwifery Nurses Bill of this Branch has not been carried out.

Notices of Motion.—Dr. RENTOUL and Dr. J. E. DUNN had given notice of four motions respecting the payment of the travelling and hotel expenses of representatives in the Council of the Association, but the first only was adopted:

That the first-class travelling expenses of representatives of the Branches of the Association in the United Kingdom, and of those representatives of colonial and foreign Branches who are resident in the United Kingdom, when attending any meeting of the central Council of the Association be defrayed out of the funds of the Association.

Communications.—The following medical and surgical communications were presented:—Dr. WILLIAM ARMSTRONG: On Auto-intoxication. Professor DRESCHFELD showed some cases illustrating rare forms of Muscular Atrophy. Professor LEECH gave a demonstration of some methods used in Pharmacological Investigations.—Professor DELÉPINE gave a demonstration of (1) Serum Diagnosis in Typhoid Fever; (2) Cultures of Pathogenic Organisms; (3) the Examination of Milk in connection with the Prevention of Disease.—Dr. MILLIGAN: The Operative Treatment of Suppurative Middle-Ear Disease, with special reference to recent modifications in the performance of Mastoid Operations.—Mr. ROGER WIL-

LIAMS: On Cancer and Morbus Miseriæ.—Dr. JUDSON BURY exhibited a series of cases of Nervous Disease.—Mr. THOMAS JONES showed a series of Surgical Cases.

Exhibition.—There was an exhibition of Drugs and Surgical Appliances.

Luncheon.—A sumptuous luncheon provided by the Presiden and members of the Branch resident in Manchester and District was served at Owens College from 12 to 2 P.M.

Annual Dinner.—The annual dinner was held in the Albion Hotel, and was served in excellent style. Dr. SAMUEL WOODCOCK, President, occupied the chair, and there were about eighty members and guests present. After the usual loyal toast of the Queen, which in this jubilee year was drunk with great enthusiasm, the President gave the Clergy, to which the Dean of Manchester replied in a soul-stirring speech. Dr. Vernon was very happy in his reminiscences of Owens College and other medical schools, and Professor Delépine made a suitable reply to the toast. Dr. Berry gave the Lancashire and Cheshire Branch and its office holders. Dr. James Barr, the Honorary Secretary, in his reply dealt with the history of the Branch, and referred to the fact that this was its diamond jubilee. The Guests were proposed by Professor Leech, and responded to by the Deputy Lord Mayor and Professor Adami, of Montreal. The Secretary proposed the Reception Committee and the Banqueting Subcommittee, associated with the names of Professor Leech, Mr. Walter Whitehead, and Dr. Vipont Brown, and thanked these gentlemen warmly for their valuable services. Sir Bosdin T. Leech gave the "President," to which Dr. Woodcock in happy terms replied. There was an excellent selection of music and singing during the dinner. The authorities at Owens College, and everyone concerned in the management of the meeting, contributed to make it one of the most successful which has been held for some time, and worthy of the diamond jubilee year of the Branch.

BATH AND BRISTOL BRANCH.

THE annual meeting of this Branch was held in the Library of University College, Bristol, on June 30th. Thirty-five members were present. The chair was taken by Dr. E. MARKHAM SKERRITT, the retiring President.

Confirmation of Minutes.—The minutes of the last annual meeting were read and confirmed.

Installation of New President.—Dr. MARKHAM SKERRITT resigned the chair to Mr. F. R. CROSS, who delivered the presidential address, dealing chiefly with the progress of ophthalmology during the Victorian era.—A vote of thanks to the President for his interesting and valuable address was moved by Dr. SHINGLETON SMITH, seconded by Dr. FYFFE, and carried by acclamation.

Report of Council.—The report of the Council for the year 1896 was then read as follows: The total number of members in the Branch is 276, of whom 189 belong to the Bristol and 87 to the Bath section. During 1896 there have been elected to the Bristol section 4, and to the Bath 7 new members; the former has lost 4 members by death, 3 by resignation; the latter 2 by resignation. The resignations were chiefly due to the removal of members from the district. The Council have to deplore the loss the Branch has sustained by the death of James Greig Smith at the age of 43. Much as Mr. Greig Smith had already accomplished, it cannot be doubted that had his life not been cut short at so early an age he would have attained to the highest possible eminence in the profession. The story of his life and career is familiar to us; his loss will be felt by the medical profession not only as an original contributor to the progress of surgery, both by his writings and his practice, but also as a valued consultant and a skilful operator. We may recall here the eloquence, force, and originality which marked the Oration on Surgery delivered by him at the annual meeting of the British Medical Association in Bristol in 1894. Mr. Greig Smith joined the Branch in January, 1878, and in December, 1879, read his first paper before it on the operative treatment of genu valgum. He contributed several other papers, dealing chiefly with abdominal surgery, that branch of his art in which he was so proficient a master, and in 1885 he opened a discussion—still remembered as one of the most successful ever held at a medical meeting in Bristol—on Intestinal Obstruction, and its success was in great measure due to the marked ability with which the opener dealt with his subject. Mr. Greig Smith, who had served on the Council of the Branch, often spoke at our meetings, and gave the members the advantage of hearing the results of his best and most recent work his utterances were characterised by that breadth of view and soundness of judgment which always command the ready attention of an audience, especially when, as in his case, they are accompanied by a striking personality and a clear, emphatic method of expression. It is hard to realise that that voice, raised so eloquently in the best interests of surgical science, and contending so earnestly for scientific accuracy of observation, and for precision of thought and statement, will be no longer heard amongst us. The Council also report with much regret the deaths of Dr. A. G. Cunningham, at one time a member of the Bristol Town Council; of Mr. Henry Lawrence, and Mr. W. T. C. Pratt. During the session 22 papers were read, most of them of much interest and value, and numerous cases and pathological specimens exhibited. One evening was devoted to the discussion of the Obstetric Nurses Registration Bill; the report of the subcommittee was amended in some respects, and then adopted by the meeting. The scheme of the central Council of the Association for medical defence also received full discussion at a well attended meeting, and was finally adopted unanimously Another important discussion which took place was that on medical aid societies, when the Branch resolved:

That the post of medical officer to any medical aid society which is a commercial undertaking, and not simply a mutual benefit society, is not a proper one to be held by a medical practitioner.

An evening was devoted to a debate on the Roentgen and Cathodal Rays, and the Branch is indebted to Professor A. P. Chattock, of University College, Bristol, for opening a highly instructive discussion with an able address, illustrated by many beautiful experiments. The attendance at this meeting was very large. The standing Subcommittee on Hospital Abuse held a meeting, in conjunction with the staffs of the various hospitals in Bristol, and agreed to press on the committees of these institutions the necessity for investigation into the status of patients applying for relief. The following members have been elected to fill the vacancies on the Council—for Bath: T. G. Stockwell, R. G. H. Scott, and C. Harper; for Bristol: Drs. Shingleton Smith. Shaw, and D. S. Davies, and Messrs. Paul Bush and A. W. Prichard.

Financial Statement.—The financial statement showed that the condition of the Branch is satisfactory, the balance in hand being £44 19s. 5½d The Council recommended the following donations: British Medical Benevolent Fund, £15 15s.; Royal Medical Benevolent College, £10 10s.; University College Fund, £5 5s.; to a fund for educating a son of the late Dr. J. Thompson, £2.—It was proposed by Dr. J. G. SWAYNE, seconded by Dr. H. J. HARRISON, and carried unanimously, that the report and financial statement now read be received and adopted.

Election of Officers.—The following were elected officers for the ensuing year:—*President-Elect:* Dr. Lionel Weatherley. *Representatives of the Branch on the Council of the Association:* Dr. E. Markham Skerritt and Mr. R. S. Fowler. *Representative of the Branch on the Parliamentary Bills Committee:* Dr. A. J. Harrison.

Votes of Thanks.—A vote of thanks to the retiring President for his courteous and able conduct in the chair during the past year was proposed by Dr. MARSHALL, seconded by Dr. ROGERS, and carried by acclamation; and a vote of thanks to the Council and the Honorary Secretaries for the past year, with a request to the latter to continue in office, was proposed by Dr. SHAW, seconded by Dr. ELLIOTT, and carried unanimously.

Annual Dinner.—Thirty-two members afterwards dined together at the Clifton Down Hotel.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

THE twenty-seventh annual meeting was held at Swansea on July 2nd; Dr. REDWOOD, President, and subsequently Mr. J. L. W. WARD, President-elect, in the chair.

Vote of Thanks to Retiring President.—A cordial vote of thanks was unanimously passed to Dr. Redwood for the ability and courtesy shown by him during his year of office.

Report of Council and Financial Statement.—The report of

Council and statement of accounts, showing a very creditable balance, were presented to the meeting and adopted. The newly-instituted clinical meetings, held alternately at Cardiff and Swansea, had proved very successful. The number of members had not increased, and it was urged that all eligible men in South Wales should be induced to join.

Autumn and Spring Meetings.—The autumn meeting was fixed for Llanelly and the spring meeting for Merthyr.

Election of Officers.—The following were elected officers for the ensuing year:—*President-elect:* Dr. T. Wallace, Cardiff. *Members of Council:* Messrs. P. R. Cresswell, E. P. Evans, Leigh, and Brook. *Honorary Secretaries:* Drs. A. Sheen and D. A. Davies *Representatives on Council:* Drs. A. Sheen and Evan Jones. *Representative on Parliamentary Bills Committee:* Dr. Evan Jones.

President's Address.—The address of the PRESIDENT on the Progress of Surgery during the Present Reign was listened to with great interest by the large number of members present, and at its close a cordial vote of thanks was accorded.

Publication of Papers and Reports.—Mr. BROOK (Swansea) moved that permanent records of papers, reports, etc., brought before the Branch, together with discussions arising therefrom, be kept for publication. This was carried, and also a further resolution that the Council be asked to arrange for carrying out the proposal.

New Members.—The following were elected: Messrs. J. R. Evans (Dowlais), C. A. Jones (Aberavon), W. Griffiths (Milford Haven), and D. E. Evans (Swansea).

Dinner.—Several members accepted an invitation from Dr. T. D. Griffiths to see the new pier in process of erection at the Mumbles, and the members present subsequently partook of an excellent dinner at the Langland Bay Hotel.

GLASGOW AND WEST OF SCOTLAND BRANCH.

THE summer meeting of this Branch was held at Tarbet on June 16th. There was a large attendance of members.

Delegates to Montreal.—At the business meeting, Dr. WILLIAM M'LACHLAN, Dumbarton, in the chair, Drs. Halket, of Glasgow, and Jas. Rankin, of Kilmarnock, were appointed delegates to represent the Branch at the coming Montreal meeting.

The Public Health (Scotland) Bill.—The following resolutions were unanimously adopted:

1. That this meeting is of opinion that the powers proposed to be granted to sanitary inspectors in Clauses 22 and 36 of the Public Health (Scotland) Bill, whereby they are to be made competent, equally with medical officers of health, to certify in respect of danger or injury to health, are contrary to the spirit of the Medical Acts, and are calculated to act prejudicially with regard to the efficient administration of the Public Health Acts.

2. That a copy of this resolution be sent to the Secretary for Scotland, the Lord Advocate, the members of Parliament within the district of the Branch, and the Parliamentary representatives of the universities.

3. That a petition be presented to both Houses of Parliament praying that there be deleted from the Bill the words "or by the sanitary inspector" in Clause 22, and the words "or sanitary inspector" in Clause 36.

A letter embodying these resolutions was sent to Members of Parliament.

Medical Aid Associations.—The following resolution was also passed:

That the Council of the British Medical Association be requested to memorialise the General Medical Council on the urgent necessity of taking steps to prevent the growing evils of medical aid associations and medical institutes.

Dinner.—After the meeting the members dined together in Tarbet Hotel.

ABERDEEN, BANFF, AND KINCARDINE BRANCH.

THE summer meeting of the Branch was held in the Hotel Muchalls on June 18th, Professor FINLAY in the chair.

Confirmation of Minutes.—The minutes of the previous meeting were read and approved.

New Members.—A ballot was held for the admission of Dr. Donald, Banff, and Dr. Geo. W. Brown, King's Crescent, Aberdeen, and these gentlemen were unanimously elected members of the Branch.

Representative on Council of Association.—Professor Finlay was re-elected representative of the Branch on the Council of the Association.

Public Health (Scotland) Bill.—On the motion of Dr. ANGUS FRASER, seconded by Professor FINLAY, the following resolution was unanimously passed:

The Branch is of opinion that it would conduce to the better administration of the public health were advantage taken of the opportunity afforded by the Bill presently before Parliament to have the medical officer of health declared to be the responsible head of the public health department. It thinks it desirable that the whole control of public health affairs should, subject to the discretion of his local authority, be in the hands of the officer who is properly qualified for the work by his training and experience, and that the control should not be shared or, as often happens at present, in large part handed over to the sanitary inspector. In no other country, so far as known to the Branch, does a system of dual control exist. If the entire control of the public health were to be vested in the medical officer, the confidence of the medical profession and, it believes also, of the general public, in public health administration, would be greatly increased.

Dinner.—Thereafter the members dined in the Hotel Muchalls, where a very pleasant afternoon was spent, and after a visit to the rocks returned to town by rail and coach in the evening.

BORDER COUNTIES BRANCH.

THE annual meeting of the Branch was held at Galashiels on July 2nd. The chair was taken by the retiring President, Dr. ALTHAM, and eleven members were present, including the President of the Association.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Resolution of Condolence with Dr. Menzies.—Dr. CAMPBELL, of Carlisle, moved the following resolution, which was seconded by Dr. Muir, of Selkirk, and unanimously adopted:

That the Border Counties Branch of the British Medical Association deeply regret that Dr. Menzies is, owing to family affliction, prevented from taking his place as President of the Branch, and from giving his address · they now formally adopt a resolution of condolence to him, expressing their deep sympathy with him, and regretting his absence from the meeting. They hope that he will see fit to print his address and send a copy to each member.

Report of Council.—The report of Council was taken as read, and adopted.

New Members.—Dr. Telford Smith, of Lancaster, and Dr. J. B. Shaw, of Selkirk, were elected members of the Branch.

Election of Officers.—The following were elected officers for the ensuing year:—*President-Elect:* Dr. G. J. Muriel, Whitehaven. *Hon. Secretaries:* Dr. Helm, Carlisle; Dr. Calvert, Melrose. *Treasurer:* Dr. Helm. *Council:* Dr. Haddon, Denholm; Dr. Barnes, Carlisle; Dr. Ross, Dumfries; Dr. Oliver, St. Boswell's; Dr. Campbell, Carlisle; Dr. Macdonald, Carlisle; Dr. Thomson, Penrith; Dr. W. I'Anson, Whitehaven; Dr. Wade, Melrose. *Representatives on Council of the Association:* Dr. Somerville, Galashiels; Dr. Campbell, Carlisle. *Auditors:* Drs. Macdonald and Murphy, Carlisle.

Delegate to Montreal Meeting.—Dr. Smith, Dumfries, was appointed a delegate to the Montreal meeting in place of Dr. Helm, who cannot attend.

Future Meetings.—It was decided to hold meetings at Carlisle and St. Boswell's in addition to the annual meeting, and the Council was empowered to arrange other meetings in Scotland, if desired.

Communications.—Dr. J. B. SHAW showed a case of Double Castration for Tuberculous Disease, and read a paper.—Dr. MAXWELL ROSS, of Dumfries, referred to certain clauses in the Public Health (Scotland) Bill, and moved the following resolution, which was seconded by Dr. HENRY BARNES, and unanimously adopted:

That the Border Counties Branch having taken into consideration the Public Health (Scotland) Bill now before Parliament, desires to express its grave concern at the amendments on Sections XXII and XXXVI, by which it is proposed to place the opinion of the sanitary inspector, a non-medical man, upon matters affecting the health of the community, on a statutory equality with that of the medical officer of health. The Branch being of opinion that this proposal is injurious to the public interests, and like to seriously impede sanitary progress, would respectfully but strongly urge upon the parliamentary representatives of the border counties and boroughs the importance of removing from the Bill before it passes into law these amendments and all other dev ations from the

sound principle that in all questions affecting the public health the medical officer of health should be the advising and directing executive official.

Dinner.—The members afterwards dined together in the hotel.

SPECIAL CORRESPONDENCE.

PARIS.

Medical Magnetism and the Law.—A New Gynæcological Department in the Hôpital Broca.—A Monument to Duchenne of Boulogne.—General News.

THE Angers medical syndicate have proceeded against a magnetiser named Mouroux for illegally practising medicine, and lost their cause. The Court ruled that the magnetiser, in making passes and giving magnetised wool did not break the law of 1892 regulating medical practice. M. Chevaudier, in his report on the Bill, stated that the Commission had no intention of interfering with magnetisers and masseurs, unless they prescribed drugs and treated sprains and fractures. The Angers Medical Syndicate propose to carry the case to another Court.

New wards for the treatment of diseases of women have been added to the Hôpital Broca. They are built with bricks and wood, and the sanitary arrangements are said to be excellent. The heating is effected by steam, in order to prevent dust. Electric lighting prevents the overheated atmosphere produced by gas. A good system of ventilation constantly renews the air, and obviates bad smells. The hospital, which has been in existence fifteen years, has gradually, under the direction of Dr. Samuel Pozzi, risen to a position of considerable importance. It is now a centre of gynæcological teaching, and supplies the want hitherto felt in the absence of a gynæcological chair at the Paris Medical Faculty. Dr. Pozzi has had the walls of his wards decorated in order to render them cheerful and attractive, contrasting advantageously with the sombre plainness of the old hospitals. He has also, by his own private efforts, founded a help fund, which has distributed considerable sums among the indigent patients.

The Salpêtrière Hospital, which has been described as a museum of monuments and illustrations, had its collection increased last Monday, when M. Barthou, Minister of the Interior, inaugurated a monument to the memory of Duchenne, of Boulogne. The ceremony was both simple and picturesque. Under the shadow of a venerable wall a tribune was erected, draped with red and yellow hangings. A hundred people were present. A bronze bas-relief represents Dr. Duchenne at the bedside of the patient. The inmates of the hospital crowded to the windows commanding a view of the ceremony. Numerous speeches were made; the Minister sketched the career of Dr. Duchenne, and stated that he owed his success in a great measure to Charcot's recognition of his talent, who obtained for him a laboratory in which he made his experiments; otherwise, not possessing the usual official proofs of medical and scientific worth, he might have passed unnoticed.

M. Caplat, director of the Nanterre Prison, died suddenly from cerebral congestion after receiving the Order of the Legion of Honour from the President of the Republic. An architect, decorated at the same time, has since also died, it is supposed, from a similar cause.

A decree ordains that the following factories are to be added to the list of unhealthy establishments: those of acetylene, ether fluid or condensed at an atmosphere and a half or more; those of gaseous acetylene, not condensed, or condensed at an atmospere and a half or more.

BERLIN.

Professor Roentgen on the Nature of the X Rays.—Aseptic Gloves for Operators.—The Sanitary Government of Berlin.

PROFESSOR ROENTGEN has published in the *Journal of the Royal Academy of Sciences* some Further Observations on the Qualities of *X* Rays, embodying the results of several independent researches. The first communication describes an ingenious arrangement which goes to prove that atmospheric air, while being irradiated, emits x rays in all directions. Secondly, Professor Roentgen gives an account of an apparatus which he has constructed for the purpose of measuring the intensity of radiation of two Hittorf tubes, and which he calls by the same name as the apparatus for measuring the intensity of rays of light, namely photometer. By aid of his new photometer he has been able to prove that the intensity of the x rays varies with their direction. Further he has ascertained by its help that the x rays emitted by one and the same tube are influenced as to intensity (*a*) by the way in which the Deprez or Foucault interrupter in the induction apparatus works, that is by the course of the primary current; (*b*) by a spark-length interposed in the secondary circuit before the discharging apparatus; (*c*) by interposition of a Tesla transformer; (*d*) by the degree of attenuation of the discharging apparatus; (*e*) by various, as yet imperfectly understood, processes in the interior of the Hittorf tube. Professor Roentgen sums up our present knowledge of the nature of x rays as follows: 1. The radiation emitted by a discharge apparatus consists of a mixture of rays of different absorbability and intensity. 2. The composition of this mixture depends largely on the duration of the discharge current. 3. The rays absorbed by bodies vary for the different bodies. 4. Since the x rays come into existence through the cathode rays, and both have qualities in common (for instance, photographic and electric effects, causation of fluorescence, absorbability, the degree of which depends largely on the density of the media, etc.), it seems likely that both phenomena are of the same nature. At the close of his paper, Professor Roentgen touches on the visibility of the x rays. He says: "My researches have confirmed G. Brandes's observation that x rays can in certain circumstances produce a sensation of light in the retina." He records the following experiment: If a vertical slit (a few tenths of a millimetre wide only) in a metal plate be held as close as possible to the eye—open or closed—and the head, covered with a black cloth, be brought near to the discharging apparatus, a feeble bar of light, varying in intensity, will be observed, which according to the situation which the slit occupies before the eye, has a different shape: straight, crooked, or circular. By slowly moving the slit in a horizontal direction, these shapes can be made to pass one into the other. An explanation of this phenomenon is found when one reflects that the eyeball is traversed by a lamellar bundle of x rays, and if one assumes that the x rays are able to excite fluorescence in the retina.

With a view to rendering his operations really aseptic, Professor Mikulicz, of Breslau, has taken to operating in gloves, and has published an account of the favourable results obtained after three months' experience. He uses fine thread gloves, which are made aseptic in steam in the same way as surgical bandages. Of course the hands are washed and disinfected in the usual manner before the gloves are put on. The gloves have to be changed several times during long operations; they are worn by the assistants as well. Professor Mikulicz declares that none of the manipulations are rendered awkward or difficult by the gloves, and that, on the contrary, it is easier to take and keep hold of tissues in gloves than with the bare hand. He further recommends the use of a respirator of sterilised muslin, in order to avoid danger from mouth bacteria.

On a motion of Professor Virchow, the Berlin Town Council has decided to appoint a municipal "hydrologist," for the constant examination and hygienic supervision of the different Berlin waterworks. In connection with this appointment, the creation of a municipal board of health for the city of Berlin is being much discussed. There can be no doubt that such an institution would find work in plenty. Not only would the municipal hospitals, orphanages, and asylums be placed under its control, but also the municipal schools; and unfortunately there is great room for improvement there as regards hygienic arrangements.

MONTREAL.

The Jubilee Fêtes.—The Meeting of the British Medical Association: Excursion to Lake St. John.

MONTREAL has been *en fête* for three days, celebrating the Queen's Jubilee. McGill University was very prettily decorated, and it is proposed to retain all the electric wiring for

the annual meeting of the British Medical Association, and probably to add considerably to it.

The arrangements for this meeting are making very satisfactory progress, and numerous offers of papers to be read in the Sections are being received. Dr. Roddick (the President-elect), has received a large number of favourable answers to his invitation to the Branches of the Association asking them to appoint delegates to the Montreal meeting. A considerable number of members of Branches in Australasia, the West Indies, and the South American British Colonies have notified their intention to be present.

The accommodation for visitors will be more than ample, and the ladies in Montreal are taking a great interest in the arrangements for the entertainment of visitors' wives and families.

Arrangements are being made for an excursion by the Lake St. John Railway to Lake St. John and down the Saguenay to the St. Lawrence and thence back to Quebec. It is believed that very reduced rates will be arranged for this, especially by the railway, which at one time extended to the members of the Canadian Medical Association a free pass to Lake St. John and return. A very good hotel is situated on the shore of the lake, and it is here that members may obtain the celebrated and rare ouananiche which is so well known to anglers who visit that region. The trip will also include the Shawenagan Falls, which are unequalled in beauty by anything in Canada. They are situated a few miles above the Lake St. John Railway, back of Three Rivers, and on the St. Maurice River. Arrangements will in all probability be made to transport members by canoe the few miles from the railway to the Falls.

BIRMINGHAM.

Opening of the New General Hospital by Her Royal Highness Princess Christian.—Description of the Hospital.—Reception by the Medical and Surgical Staff of the Hospital.

ON Wednesday, July 7th, the New General Hospital was formally opened by Her Royal Highness Princess Christian on behalf of Her Most Gracious Majesty the Queen. The last royal visit of note which Birmingham has enjoyed was that of Their Royal Highnesses the Duke and Duchess of York, who, some three years ago came down to the city to lay the foundation stone of the noble new hospital to take the place of the old General Hospital. It was fitting then that a member of the Royal Family should perform the opening ceremony. This Her Majesty the Queen deputed Princess Christian to do on her behalf. The occasion was observed as a general holiday throughout not only the city, but also throughout the neighbouring towns, who flocked in thousands into Birmingham to witness the procession.

Her Royal Highness and suite were met at the station by the Lord Mayor and Lady Mayoress, the Town Clerk, the High Sheriff, and the Recorder, and proceeded in state carriages to the Council House. Here an address was presented to Prince and Princess Christian, and the Royal party and a large nnmber of distinguished guests had luncheon.

The procession was then again formed, and wended its way through the gaily-decorated streets by way of New Street, Corporation Street, and Steelhouse Lane to the building. At the entrance to the hospital, Her Royal Highness was met by the Reception Committee, including the President of the hospital, Lord Calthorpe; the Chairman of the Committee, Mr. J. C. Holder; the Treasurer, Mr. J. W. Watson, Dr. Richards (Senior Physician), Mr. Chavasse (Senior Surgeon), Dr. Saundby, Mr. Barling, and others, and was conducted into a spacious pavilion which had been erected for the opening ceremony. This pavilion was crowded with some 2,500 invited guests and presented a scene of great brilliancy and animation.

Lord Calthorpe first introduced to Her Royal Highness Messrs. J. C. Holder, W. N. Fisher, J. E. Wilson, Dr. Rickards, Mr. Chavasse, Dr. Saundby, Mr. Barling, Mr. W. Henman (the architect), Mr. Barnsley (the builder), Mr. Collins (the house governor), and Miss Stevenson (the matron). An address of welcome was then read by the Secretary, to which H.R.H. Princess Christian read the following reply: "It affords me much pleasure to be present on this interesting occasion, and on behalf of Her Majesty the Queen, my dear mother, to testify to her great gratification on the completion of the works of the New General Hospital. I trust that with the blessing of God this noble institution may prove as beneficial and be as prosperous as all anticipate and desire." Princess Christian was then presented by the architect with a key of the institution, and after a prayer of benediction by the Bishop of Coventry, in the name of Her Majesty the Queen declared the hospital open. Her Royal Highness before leaving was conducted through the hospital by the Reception Committee. After her departure the many ladies and gentlemen had an opportunity of visiting the hospital, and visited the various wards, chapel, operating theatre, and administrative offices. The weather was all that could be desired, and the proceedings passed off with great *éclat*.

A short account of the new building appeared in the Queen's Commemoration Number of this JOURNAL, illustrated by a photograph of its front elevation. The following account adds a few details to that description: The hospital is built of red brick and terra-cotta, and contains accommodation for 340 patients, besides a nursing house for 100 nurses and residential quarters for the resident hospital officers and administrative officers. It covers an area of about $3\frac{1}{2}$ acres, and is built on the pavilion system, the main wards and administrative offices being in a series of long and short pavilions connected by a single covered corridor. The large main wards, ten in number, each contain 24 beds, and have small octagonal turrets at their ends for lavatories, baths, etc. The floors are of polished teak and the walls of adamant cement, excepting the lavatory walls, which are tiled. Attached to each main ward are two smaller wards, a ward kitchen and a room for the storage of patients' clothing, whilst to each pair of wards is a large day room for convalescent patients and a clinical room fitted with ophthalmoscope, laryngoscope, and chemical apparatus for clinical investigations. In addition to the large main wards are a number of smaller ones—namely, two children's wards, a gynæcological ward, burn wards, and an isolation block for the treatment of infectious cases. The administrative pavilion occupies a central position. In the first portion of it are the medical committee rooms, the resident's sitting and bedrooms, and the house governor's private apartments. At the back are the housemaids', cooks', and servants' quarters. The kitchen, meat and store rooms are on the top storey of the administrative block. The walls are tiled throughout, and the cooking apparatus is entirely steam and gas. There are three operating theatres—a main one and two smaller subsidiary ones, besides a gynæcological operating room. The main theatre is in the shape of a half octagon, with a high dome-shaped roof. The floor is of terrazo pavement, while the walls are lined with a dado of marble below and alabaster above, giving a perfectly smooth surface. The students' gallery is made of an iron framework with seats of teak. It is lighted by large toplights as well as large side windows, whilst the artificial light is all electric. On one side of the theatre is the anæsthetic room, and on the other the nurses' preparatory room, where all dressings and instruments are sterilised. The chapel is a very fine one. It is lined internally with alabaster, and contains two fine stained glass windows erected to the memory of the late Mr. Robert Jolly and Mr. Thomas Bartlett, former surgeons to the hospital. The dispensary is on the ground floor, and below it are the drug store rooms, soda water and pill-making machinery, and the main sterilising chamber for the hospital. The nurses' home is at the extreme end of the hospital buildings, and is reached from the main corridor by passing through a conservatory. It contains separate sleeping rooms for 100 nurses, besides reading and lecture rooms. The hospital has its own artesian well, the well, boiler-house, laundry, and pathological department being in the rear of the main building, and at present not quite finished. The convenience of the students attending the hospital has been considered. There is a large lecture theatre, capable of accommodating an audience of from 150 to 200, and near it students' cloak rooms and lavatories. The out-patient department is on the ground floor of the east pavilion; it consists of a main central waiting hall, with various medical, surgical, and special consulting rooms leading out of it. Each consulting room has two smaller retir-

ing rooms leading into it, and is fully equipped in every detail. At one end of the waiting hall is the exit to the dispensary, the entrance into the main hospital and several smaller rooms, such as for massage and electricity. The lighting, heating, and ventilation form a main feature of the hospital. The lighting is entirely electric, gas being only used for cooking and boiling water in the ward kitchens. The heating and ventilation are carried out on Key's plenum system, which has now been successfully working at the Victoria Infirmary, Glasgow, for some years. In the basement of the building at four selected points air is drawn in through moistened screens by which it is cleaned of its suspended impurities. It is then in cold weather tempered by passing over large batteries of steam tubes and propelled by rotary fans turned by electric motors along ducts of large sectional area into separate flues leading to the different wards, rooms, and corridors. Power is provided that change of air throughout the building may be secured from seven to ten times per hour at a uniform temperature of from 60° to 62°. Suitable exit flues are provided for the expelled air, which is conveyed into turrets in the roof protected by flaps and louvres. Communication between the various floors of the hospital is afforded by three main large staircases and two hydraulic lifts. The hospital is built by Mr. Barnsley from plans by Mr. W. Henman, and has been about five years in construction. The site on which it stands cost £52,000, and the hospital itself, when thoroughly equipped with all fittings and furniture, will have cost about £150,000. It is pleasing to state that it is opened entirely free from debt, the entire cost having been defrayed by private and public subscription.

On the day following the opening ceremony by Princess Christian, the medical and surgical staff of the General Hospital gave a reception and afternoon party in the New Hospital to the whole medical profession of Birmingham and the surrounding towns. More than 1,000 ladies and gentlemen accepted the invitation. The visitors were received in the out-patient hall by Dr. E. Rickards and Mr. Thomas F. Chavasse, the senior physician and senior surgeon of the hospital and the visiting staff. Refreshments and music were provided in two of the large wards, and the company inspected the entire building. General admiration was expressed of all the numerous details in its structure, and a very pleasant social afternoon was spent.

CORRESPONDENCE.

THE COUNCIL ELECTION AT THE ROYAL COLLEGE OF SURGEONS, ENGLAND.

SIR,—It could not be said that there was much excitement about the Council election at the Royal College of Surgeons, England, on July 1st, although, from the number of vacancies to be competed for, the contest was certainly an interesting one. The list of new councillors must be regarded as representing in a high degree the various units which tend to add to the stability and importance of the Council as a body. It must be the case that the wider the distribution of seats is upon the Council among the various medical schools, both in the provinces and London, the better is it likely to be for the College as an examining corporation. Indeed, the suggestion is worthy of consideration of electing to the Council, as opportunity occurs, the senior surgeon of each of the London hospitals the medical school of which is at present still unrepresented. Quite conceivably the authorities of the various schools have their own way of dealing with the requirements of the education of the medical student, and from this point of view the educational policy of the Council would probably, if all the schools were represented, uniformly meet with general acceptance. Upon the matter of medical education, of course, differences of opinion are bound to occur, and the best way of adjusting these, and arriving at a common platform, is to submit them to general and open discussion, such as could be satisfactorily done at a body like the Council of the College of Surgeons of England.—I am, etc.,

July 6th. F.R.C.S.

MEDICAL DEFENCE.

SIR,—Is the adoption of medical defence by the profession desirable? Medical defence for individual practitioners is now an absolute necessity. Collective defence is so essential that in a few years, without a re-enactment or a better administration of the Medical and Pharmaceutical Acts, it will be almost impossible for general practitioners to gain an honest livelihood.

Some one powerful body must undertake the duty of instigation of action under these Acts. The General Medical Council cannot, because it is itself the highest Medical Court, and cannot therefore be judge and prosecutor. The Royal Colleges, who by charter should fulfil this duty, refuse to exercise it, and cannot under their present aristocratic governments be compelled to do so.

The private defence societies already in existence are capable to a limited extent of dealing with individual defence, but are too small and weak to protect the profession as a whole.

To urge the Association to assume this duty is a compliment to, and a recognition of the strength and integrity which we believe it to possess. It is undesirable that medical defence should be worked by purely commercial societies.

It would assist the dignity and status of the profession that such a duty be performed by committees referable to a large council of the whole profession appointed for wider functions.

Administration:

Much experience has been gained already by the work of defence societies, and we are quite willing to leave the framing of the administrative work in the hands of the Council. The work of individual defence can be quite as well administered by a committee and officials of the British Medical Association, as by those of—for example—the Medical Defence Union, if as much care be taken in the selection of their officers. For a large proportion of work of executive and council meetings is merely to affirm the action of their expert officials.

No real expression of opinion has been systematically attempted. The attempt made by the Council was badly conceived and effected. They left the thirty-eight Branches to obtain expressions of opinion either by open or by paper voting. Only four Branches adopted the latter means. The thirty-eight Branches have 8,345 members. These alone were called upon by their Council to express an opinion. The number who voted was only 921—or 10.8 per cent. of the members. Of these:

464 voted for the adoption of defence.
457 voted against it.
Majority of 7 in favour of adoption.

Voting of Branch meetings:

In 1895-6	28	Branches	voted	for.
,,	1	,,	,,	against.
In 1896-7	14	,,	,,	for.
,,	11	,,	,,	against.

Of the whole strength of the Association, only 6.4 per cent. have voted at all. As examples of this method of obtaining opinion, note:

1. The South-Eastern Branch, which took a *plébiscite* of its members, obtained a return of 2 to 1 votes in favour of adoption.

But at a special meeting of one large division (East Surrey), only 16 were present, and the adoption was rejected by 11 to 5.

2. The Metropolitan Counties Branch, with a total membership of 2,612, only 66 of the 1,225 attached members voted, and the adoption was rejected by 22.

Objections answered:

1. The scientific value of the Association, though undeniable, is not in proportion to the bulk of its machinery, and it would no more suffer by the adoption of defence than it does by its Parliamentary work.

2. If the more conservative members desert the Association because a small extra subscription is thrust upon them, this defalcation will not be felt. A far more serious danger is threatened by the possible secession of more active and enterprising members, who think that the Association might, and should, extend its action and utility.

Expenditure required:

13,962 members at 5s. would give an income of £3 475.
The same number at 7s. 6d would give £5,212.
The income of the General Medical Council is about £8 000.
Incorporated Law Society, £3,318.

The latter body has just obtained an Act by which all legal expenses are to be defrayed by the Treasury, on the ground that solicitors are officers of the Court of Chancery.

The maintenance of a high integrity among medical men is as essential to the community as that of the integrity of solicitors.—I am, etc.,

Westerham, June 29th. ARTHUR MAUDE.

THE CEREBRAL CIRCULATION.

SIR,—I have read with interest the article on the above subject in the BRITISH MEDICAL JOURNAL of June 5th. As the writer tries to be rather severe on myself, I trust you will afford me space for reclamation.

I am taken to task for unsound views about the capillary circulation. Elsewhere [1] I have entered fully on this subject, and have given reasons why I cannot accept the mechanical views usually held, and have adopted the more strictly physiological views of Alison. In support of these I instanced the mechanics of the portal circulation. Here a large mass of blood has to traverse an extensive plexus of minute capillary vessels. My contention has been that to do so considerable force will be required; that, in accordance with the law of fluid pressure, this force must react as backward pressure in the mesenteric veins; that it is improbable that these thin-walled vessels could support such a strain, and that, therefore, some supplementary forces must be operating in the liver itself. I further argued that any *vis a fronte* caused by suction effort in the heart would not afford an explanation. I am now told this "is to be found in the action of the respiratory pump." To see the fallacy of this we have to think what must happen if the breathing is for a time suspended, or the upward pressure of the expiratory muscles removed, as in laparotomy. Would the circulation be checked abruptly or in the least? If not, the theory falls at once to the ground.

My critic thinks "there is nothing very essentially different in the circulation of the brain from the circulation in any other organ." I am greatly surprised at this statement. The forces that move the blood are the same, but these operate in conditions immensely different from what we find elsewhere. It is only on these conditions (including the mechanical arrangements of the vessels and the relation of the moving blood to the pressure of the atmosphere) being fulfilled that the brain can work successfully.

"The cerebral vessels are governed by the vasomotor nerves." What do recent experimentalists tell us on this point? "Bayliss and I," says Leonard Hill, "have been entirely unable to find any evidence of a vasomotor supply to the brain." "In a recent and exhaustive research, Gulland has failed to demonstrate by any known histological means the existence of any vasomotor nerves in the pial vessels."

As to "intracranial tension," I have always argued that stress must be absolutely equalised through the whole cranial cavity, and its amounts will depend on the greater or less activity of energising centres. To attempt to measure it is futile, for it will vary every moment. The ratio of force from the heart's action must also be equal to the whole interior of the cavity. Once within the latter, the blood will only depend on the heart for moving force; its distribution will depend on other influences. My contention here is that the molecular motions in the tissue and the activity of the circulation are absolutely correlated; that, so far as the outcome of brain activity is concerned, they are one; and, if the non-existence of vasomotor nerves be proved, my case is strengthened. If any centre in energising has its circulation increased, then, to use the words quoted in sarcasm by my opponent, the blood must "move through the (cerebral) vessels, not passively, but with an actively distending force resulting from the direct influence of the molecular changes." I might enlarge considerably on this theme, but space forbids.

I am told that I do not produce a particle of experimental evidence in support of my statements. I plead guilty, and add that I have not the slightest idea how I could thereby strengthen my position. How has experiment fared in this very question? Did not the experimenter "completely overthrow" Monro's doctrine as to the conditions that affect the mass of blood within the cranial cavity? For over fifty years the views of Sir George Burrows dominated and misled the opinions of physiologists, but now the cry of another experimenter is, Back to Monro! "In the living animal," says Hill, "the Monro-Kellie doctrine is true."

May I hope that those of your readers who take an interest in this subject will themselves refer to my paper on Intracranial Physics in the *Monist* for April. In discussing various problems, they will find that my argument, whether sound or fallacious, is at least argument, and not dogmatic assertion.—I am, etc.,

Edinburgh, June 10th. JAMES CAPPIE, M.D.

[1] *The Intracranial Circulation and its Relation to the Physiology of the B*

DRAFT BILL FOR THE REGISTRATION OF MIDWIFERY, MEDICAL, AND SURGICAL NURSES.

SIR,—I have now drafted the above Bill. At the request of some correspondents I have agreed to enlarge my previous "Draft Bill for the Registration of Midwifery Nurses," so as to include medical and surgical nurses. The above Bill represents my best efforts, and I now wish practitioners to study it carefully—to induce their Branches and medical societies to adopt it, and then to send it to the Member(s) of Parliament for their Division, with a request that they agree to have it promoted in and adopted by Parliament.

Copies of this Draft Bill may be obtained from Messrs. Hill and Co., 10, College Lane, Liverpool, at the following prices, viz.—1 copy, 6d.; 7, 5s.; 15, 7s.; 35, 15s.; 45, 18s.; 65, 22s.; 75, 24s., and 100 copies, 27s., carriage paid, cheque accompanying order.

If the secretaries of Branches of the British Medical Associations, and of Medical Societies will order such a number as will supply each member with a copy, and if each Branch and society will appoint a strong committee to report upon the Draft Bill, such would help us in the settling of a question which has occupied far too much of our time and attention since February, 1890. I shall be glad to answer any questions bearing upon this Draft Bill.—Yours, etc.,

Liverpool, June 26th. ROBERT REID RENTOUL.

EXTIRPATION OF OVARIES IN INOPERABLE MAMMARY CANCER.

SIR,—Dr. Beatson, in his letter to the BRITISH MEDICAL JOURNAL of July 3rd, expresses the opinion that the fact of thirty-two cases of malignant disease out of eighty-eight cases of removal of ovaries in which the cause of death was known (Spencer Wells's statistics) is explained by his "belief that in all probability the diseased ovaries that had been removed were themselves the seat of malignant changes, and that the subsequent carcinomatous growths were merely secondary manifestations of a primary ovarian malignant condition." Primary, as distinguished from secondary, carcinoma of the ovary is most rare, not a few of the recorded cases being open to doubt; and to contend that any appreciable percentage, much less the whole thirty-two cases, had primary ovarian carcinoma is simply a flight of the imagination.—I am, etc.,

Plymouth, July 4th. C. HAMILTON WHITEFORD.

ELASTIC TRABECULÆ IN THE SPUTUM.

SIR,—In reference to the above subject, and to the communication of Dr. Althaus in the BRITISH MEDICAL JOURNAL of July 3rd, p. 53, it seems to me that the important point to determine is not who first demonstrated the presence of elastic tissue in the expectoration, but as to its value in the diagnosis of early phthisis. In a contribution to the subject which I made several years ago I find the following: "The presence of elastic tissue, even with an alveolar arrangement, in the sputum, does not thus necessarily indicate the existence of tuberculous disease of the larynx or lungs. It may be met with in chronic bronchitis, bronchiectasis, chronic pneumonia, pulmonary abscess, and in certain affections of the larynx, notably where the epiglottis is undergoing ulceration. Such affections may be inflammatory, tuberculous, malignant, or syphilitic. It is very largely met with in phthisis, and may be present at a very early stage of the disease, but may also be met with in abundance in simple inflammatory

affections of the larynx, which end in recovery. Whether it may be a characteristic of the pre-bacillary period, I cannot say, for I have not yet observed a case where it could be demonstrated that its presence in the sputum preceded that of the bacillus. The discovery of the latter has undoubtedly lessened the value of the presence of elastic tissue in the sputum as an indication of phthisis."

To this opinion, after a more extended experience, and after having watched many illustrative cases for years, I still adhere.—I am, etc.,

Edinburgh, July 5th. G. Hunter Mackenzie.

OBITUARY.

It is with regret that we have to record the death on June 1st of Thomas Hughes Foley, M.B., B.Ch., B.A.O., Royal University, Ireland. He was ill only thirty-six hours of peritonitis, and died of collapse. He was a brilliant student of Queen's College, Galway, which he entered in 1884, taking a junior scholarship in mathematics. He took honours at the First Examination in medicine in the Royal University, and was a scholar of this College for two succeeding years. He took his degree in October, 1891, and was assistant for Dr. Taylor, of Richmond, Surrey, and Dr. Atkinson, of Ashford, Kent, where he left to enter on the duties of Carna Dispensary and District. He would have been but 30 years of age in August next.

The *Atlanta Medical and Surgical Journal* states that Dr. James A. Ethridge, a well-known physician of Macon, Georgia, died on March 14th from the effects of chloroform. Dr. Ethridge was about to undergo an operation for fistula, and almost at the first inhalation of the chloroform his pulse and respiration ceased, and every effort to resuscitate him failed. Upon a preliminary examination of Dr. Ethridge no contraindication to the use of chloroform could be discovered by the physicians in attendance. Dr. Ethridge was about 40 years of age, and had practised his profession successfully in Macon for many years. He was a member of the Board of Health of Macon, Visiting Physician to the City Hospital, and Surgeon to the Georgia Southern and Florida Railroad.

We regret to have to announce the death of Mr. Christopher Bulteel, of Tiverton, Devon, at the age of 65. The deceased, who qualified as F.R.C.S.Eng. in 1867, and L.S.A. in 1855, commenced practice in partnership with Dr. Warren Isball in 1856 in Stonehouse. Mr. Bulteel was Consulting Surgeon to the Royal Albert Hospital, Devonport; Examining Surgeon to the Great Western Railway Company, and Secretary and Surgeon to the Plymouth Female Home.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Professor W. Marmé, Director of the Pharmacological Institute of Göttingen; Dr. Giuseppe Fissore, some time Professor of Pathology in the University of Turin, aged 82; Dr. Schutzenberger, Member of the French Academy of Medicine, Professor of Chemistry in the Collège de France, author of numerous works on chemistry in its relation to medicine, etc., aged 77; Dr. E. Legros, Professor of Physiology in the new University of Brussels, an ophthalmologist of repute, and one of the editors of the *Presse Médicale Belge*, aged 36; and Dr. Maréchal, formerly Professor in the Naval Medical School of Brest, and one of the leading practitioners in that town, of septic poisoning caused by infection in the course of attendance on a case of puerperal septicæmia, aged 64.

MEDICO-LEGAL.

A SURGICO-LEGAL QUESTION.

Testis.—The suggested operation not being to cure disease, but to prevent a vicious habit, and the effect being irremediable, would in our opinion, though perhaps not technically an illegal operation, be unjustifiable, and might render the operator liable to serious consequences.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

Staff-Surgeon James Crawford Dow, M.B., has been advanced to the rank of Fleet-Surgeon, June 4th. He was appointed Surgeon, September 30th, 1876, and Staff-Surgeon twelve years thereafter.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel H. F. L. Melladew, M.D., Royal Horse Guards, is placed on retired pay, July 6th. His commissions are thus dated: Assistant Surgeon, March 31st, 1864; Surgeon, March 1st, 1873; Surgeon-Major, September 4th, 1880; and Surgeon-Lieutenant-Colonel, March 31st, 1884. He served with the Left Division of the Dooar Field Force in Bhootan in 1865 (medal with clasp); with the British Ambulance in France during the Franco-German war from October, 1870, until the declaration of the armistice in February, 1871; and in the Nile Expedition in 1884-5 with the Desert Column, including the operations during its return to Korti (medal with clasp, and Khedive's bronze star). After a service of a few years in Bengal, he was appointed to the 12th Lancers in 1867, and remained with that corps until 1873; a brief period of general service followed, when he was reappointed to the same regiment for a short time, and was transferred in 1876 to the Royal Horse Guards, with whom he has served up to the date of his retirement.

Surgeon-Captain Henry Mitchell, from the 2nd Life Guards, is promoted to be Surgeon-Major in the Royal Horse Guards, in succession to Surgeon Lieutenant-Colonel Melladew, July 6th. Surgeon-Major Mitchell entered the service as Surgeon-Captain, August 2nd, 1884, and was in the Soudan campaign in 1885, receiving a medal with clasp and the Khedive's bronze star. He was appointed to the Grenadier Guards, May 30th, 1888; was transferred to the 2nd Life Guards, June 3rd, 1891; and from thence he now joins the Royal Horse Guards.

ARMY MEDICAL RESERVE.

Surgeon-Captain James Cagney, M.D., 20th Middlesex Volunteer Rifles, to be Surgeon-Captain, July 7th.

INDIAN MEDICAL SERVICE.

The four extra pensions of £100 each per annum available for the year 1897-98 for officers of the Indian Medical Service have been awarded to Surgeon-Colonel G. C. Ross and Brigade-Surgeon-Lieutenant-Colonel G. King, Bengal Establishment; and to Brigade-Surgeon-Lieutenant-Colonels H. J. Hazlett and G. A. Maconachie, of the Madras and Bombay Establishments respectively, with effect from the dates of their retirement from the service.

Brigade-Surgeon-Lieutenant-Colonel C. J. W. Meadows, Bengal Establishment, is permitted to retire from the service from June 1st. He was appointed Assistant-Surgeon, October 1st, 1869, and became Brigade-Surgeon-Lieutenant-Colonel, April 1st, 1895. He was with the Lushai Expedition in 1871-2, was mentioned in despatches, and received the Frontier medal with clasp.

THE MILITIA.

Honorary Surgeon-Major G. W. Hatchell, 3rd Battalion the Connaught Rangers, has resigned his commission, July 7th; he retains his rank and uniform.

THE VOLUNTEERS.

The undermentioned gentlemen are appointed Surgeon-Lieutenants in the corps specified, dated July 3rd: Henry Waite, 2nd West Riding of Yorkshire (Leeds) Engineers; John W. Edwards, M.B., the Tees Division Submarine Miners Royal Engineers (Volunteers); David Edwards, M.B., 5th Volunteer Battalion the South Wales Borderers.

Mr. Charler Forsyth, M.B., is appointed Surgeon-Lieutenant in the 1st Essex Artillery (Eastern Division Royal Artillery), July 7th.

Surgeon-Lieutenants T. Benson and H. A. Collinson, M.B., 4th Volunteer Battalion the Durham Light Infantry, are promoted to be Surgeon-Captains, July 7th.

Mr. David Christie, M.B., is appointed Surgeon-Lieutenant in the 1st Dumbartonshire Rifles, July 7th.

Surgeon-Major A. H. Morgan, D.S.O., retired, late Army Medical Staff, is appointed Major in the 18th Middlessx Rifles, July 7th.

VOLUNTEER MEDICAL STAFF CORPS.

Surgeon-Lieutenant J. B. M. Anderson, M.B., the Glasgow Companies, is promoted to be Surgeon-Captain, July 3rd.

THE VICTORIA CROSS.

Surgeon-General (retired) writes: It has occurred to more than myself that had the extraordinary gallantry of the late Surgeon-General H. T. Reade, C.B., which brought him the Victoria Cross, together with his subsequent long and good service, occurred in any other than a medical officer, it would certainly have led to a K.C.B. How many have the latter distinction who really have not a tithe of the claim to it that Reade had!

PAY OF SURGEON-LIEUTENANT-COLONELS IN INDIA.

I has been decided by the Government of India that an officer appointed Surgeon-Lieutenant-Colonel for distinguished service shall draw the pay of the rank irrespective of the fact that he has not completed twenty years' service. This decision has been taken on the recommendation of His Excellency the Commander-in-Chief in India, and is just and proper.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.

POOR-LAW OFFICERS' SUPERANNUATION ACT (1896) AMENDMENT BILL.
THIS Bill passed through Committee.

HOUSE OF COMMONS.

"VIEWING THE BODY."

MR. YOXALL asked the Home Secretary if his attention had been drawn to the fact that jurymen at coroners' inquests often took grave objection to the statutory task, always unpleasant and frequently repulsive or dangerous, of viewing the body; and if he would consider the subject in order to devise some alternative method, leaving the coroner or jury to decide in difficult cases whether such viewing was necessary, and abolishing such viewing in ordinary and well-attested cases where the medical evidence was conclusive.—The HOME SECRETARY: Yes sir. Objection is taken occasionally, I believe, to the performance of this duty, and the question of relaxing the requirement was some years ago under the consideration of the House. I am afraid there is no prospect of my being able to deal with the matter at present, even if it should appear on consideration to be desirable to do so: but I will look into it, and ascertain from the coroners what views are held by them upon the subject.

BOARDING OUT.

Lord EDMUND TALBOT asked the President of the Local Government Board, when guardians granted out-relief to a child who was living with a person not legally liable for its support, did it come under the Boarding-out Orders of 1889: if not, what provision was made by the Local Government Board for the welfare and protection of such children. —Mr. CHAPLIN: The view of the Local Government Board is that the Boarding-out Orders apply in the cases referred to.

CLASSIFICATION OF ASYLUM PAUPERS.

Mr. WEIR asked the Government whether it was the practice within the metropolitan area to classify as paupers patients who were under treatment in county asylums, notwithstanding the fact that the cost of maintenance was provided by the relatives or friends of the patient; and, if so, whether it was proposed to take any steps to amend the present system of classification.—The HOME SECRETARY: I am informed that all patients in county asylums are classed as paupers whose maintenance is paid for by the guardians, although it may be that in some cases the guardians are partially recouped by sums received from relatives. I have no information which would lead me to think that a grievance exists, but I will make further inquiry.

VENTILATION OF METROPOLITAN UNDERGROUND RAILWAYS.

Mr. WEIR asked the President of the Board of Trade if he could state when the report of the Committee on the Ventilation of Tunnels of the Metropolitan and Metropolitan District Railways would be laid upon the table of the House.—Mr. RITCHIE: The Committee hope to conclude the taking of evidence on July 6th, when they will consider their report. They have arranged to visit the Severn Tunnel to inspect the ventilating arrangements on July 12th, and the report will be made as soon as possible after that date.

INFECTION FROM ABROAD.

Sir ARTHUR FORWOOD asked the President of the Board of Agriculture whether British steamers which called at Havre to receive cargo on their outward voyage for America were precluded from conveying from America to England live cattle for slaughter on lending unless a period of twenty-one days had elapsed between the time of call at the French port and their arrival at the English port, on the ground that infection from the cargo received in France but landed in America might be conveyed to the beasts subsequently received on the vessel in America and landed in England; And whether, as there was no restriction on the direct importation and distribution of merchandise from France into England, he would reconsider the regulations of the Board as regarded vessels.—Mr. LONG: The landing of foreign animals has for many years past been subject to the requirement that the vessel in which they were brought should not, before taking them on board, have touched, within a specified period, at a port in a country from which the importation of animals is entirely prohibited. This requirement was rendered necessary by the fact that some of the diseases against which this country legislates might be transported not only directly from animal to animal, but also through the medium of "persons, substances, and things," and actual experience has shown that the danger is a very real one. I regret, therefore, that I am unable to withdraw the requirement, and with regard to the particular period to be proscribed I would say that some years ago it was reduced to twenty-one days, and that I do not think it can be further reduced consistently with safety.

"KISSING THE BOOK."

Sir WALTER FOSTER asked the Attorney-General whether he had considered the form in which the oath was administed in courts of justice in England with reference to the sanitary objections urged against it; and, whether it was the intention of the Government to make any proposals for amending the law so as to abolish the objectionable practice known as kissing the book.—The ATTORNEY-GENERAL: I can only repeat my reply to the hon. member, that I think the sanitary objection to the present method of administering the oath has been somewhat exaggerated. Personally I believe the option at present existing of swearing in the Scotch form, which is becoming every day more generally known, is sufficient. It is not the intention of the Government to amend the law, at any rate, during the present session.—Dr. FARQUHARSON asked if the hon. and learned gentleman would take steps to make it more generally known that witnesses had a right to be sworn in the Scotch fashion?—The ATTORNEY-GENERAL said he had made inquiries and had ascertained that in all the courts public notices had been issued. As he had stated, the option was becoming more generally known.—Mr. P. O'BRIEN asked for a description of the Scotch forms.—The ATTORNEY-GENERAL: I must refer the hon. member to my hon. and learned friend the Lord Advocate.

FEVER IN THE BELMULLET UNION HOSPITAL.

Mr. CRILLY asked the Secretary for Ireland if he was aware that Miss Allen, of Crumlin, county Dublin, having heard that a serious outbreak of fever had taken place in the Belmullet Union, offered her services free to the local Board of Guardians, and travelled to Belmullet at her own expense to discharge the duties of chief hospital nurse? Whether Miss Denny and Miss McAlister, two trained nurses from the City of Dublin Hospital, were now lying in the fever hospital of Belmullet as a consequence of their attention to the fever patients on Inniskea Island? And if the Government proposed to provide out of their own resources adequate nursing and medical attendance for these poor people. Mr. Crilly also asked if the right hon. gentleman had had any recent report from the officials of the Local Government Board of Ireland dealing with the outbreak of fever in the Belmullet Union? Whether he was aware that on June 6th, 44 persons were prostrated by fever in the South Island of Inniskea out of a total of 37 families; that 20 cases were reported last week; that two of the nurses attending these fever cases in Inniskea had been attacked by fever, and were on Friday last brought to the mainland and placed in hospital; and that three other nurses had been telegraphed for to Dublin, and an advertisement published for a second medical officer? And what steps, if any, the Government proposed to take to deal with the existing distress, both from famine and fever, in the Belmullet Union.—Mr. GERALD BALFOUR said he had no information that Miss Allen offered her services free to the Belmullet Guardians and travelled at her own expense. He added: I received only yesterday a report from the Medical Inspector of the Local Government Board respecting the outbreak of fever on Inniskea Island. It has not been found possible, in the brief interval since the question was placed on the paper, to ascertain the number of fever patients on June 6th, but it appears that on the following day there were 12 cases in the acute stage and 30 in the convalescent stage. One new case was reported last week, not 20 as alleged. There are now in all 14 cases in the acute stage of fever, 5 under observation, and 18 in the convalescent stage. Two of the nurses contracted the fever, and are under treatment in Belmullet. Additional nurses to replace them as well as the resident medical officer were landed on the island on Sunday. All the necessary steps have been taken by the Board of Guardians acting as the sanitary authority, and the Local Government Board will continue to advise and assist them in the administration of their statutory powers. I am not aware of the existence of famine in the union.

CORPORAL PUNISHMENT IN PRISONS.

Mr. JOSEPH A. PEASE asked the Secretary of State for the Home Department whether there was any intention to revise the prison rules or amend the laws which relate to corporal punishment for offences connected with breaches of prison discipline; and, if so, what was the character of the alterations it was intended to make.—The HOME SECRETARY: I am laying a new rule on the subject of corporal punishment on the table of the House to day; but I cannot deal with the matter so fully as I could wish without the further legislation which, as the hon. member is aware, I have already proposed to Parliament, but which there has been no time to pass during the present session.

PROPOSED MODIFICATION OF PRISON RULES.

Mr. JOSEPH A. PEASE asked the Under-Secretary for War whether there was any intention to revise the prison rules or amend the laws which related to corporal punishment for offences connected with breaches of discipline in military prisons; and, if so, what was the character of the alterations it was intended to make.—Mr. POWELL-WILLIAMS: Yes; the question of amending the rules referred to is under consideration. It is proposed to reduce the number of offences for which corporal punishment can be awarded, and to require that the order for it be given by three instead of by two visitors.

BILLS ADVANCED.

The Chaffcutting Machines (Accidents) Bill, as amended by the Standing Committee, has been considered and read a third time; the Yorkshire Coroners Bill was read a second time; and the Infant Life Protection Bill was read a second time and referred to the Standing Committee on Law.

PETITIONS.

Petitions have been received from London and Bristol against alteration of the law in regard to contagious diseases; petitions in favour of the Sale of Food and Drugs Act from Bourton, the District Council of Buckingham, and Gaultee; and a petition from Wandsworth in favour of the Street Noises Bill.

NOTICES.

Mr. JOHN ELLIS intends to ask the Secretary of State for the Home Department whether the figures of experiments on living animals contained in Return No. 239 of this session are obtained from the licensees who perform them, and in that case whether any steps are taken to verify their accuracy; whether each of the "licensed places" was inspected during the year to which the return relates, and how many of them more than once; whether any of the visits of inspection were surprise visits, and, if so, how many; and whether he has personally satisfied himself that the licences and certificates are all issued only to such places and persons and with such objects as are contemplated by the Cruelty to Animals Act, 1876.—Mr. KNOWLES will ask the Secretary to the Treasury whether he is aware that professional professors in Queen's Colleges in Ireland are placed by the Colleges Act, 1845 (8 and 9 Vic., c. 66), and the College Statutes, as regards appointment, tenure of office, and duties, in the same position as the Arts professors, and that they fulfil the only two conditions laid down by the Superannuation Act of 1859 (22 Vic., c. 26) as qualifying for pensions, namely, appointment by the Crown and payment from the Consolidated Fund; and whether, considering that the professional as well as the Arts professors in the Scotch universities receive pensions on retirement, he would explain on what grounds the Treasury, while admitting the right of the Arts professors, refuse to grant pensions to the professional professors in the Queen's Colleges in Ireland.—Mr. HELDER proposes to ask the President of the Local Government Board if his attention has been directed to the recent elections of medical officers of health, especially for the urban district of Keswick and the borough of Brighouse, Yorks; and whether he is aware that for both of these posts,

although there were candidates possessing special diplomas in sanitary science and special training in public health work, the candidates appointed in both districts were non-possessors of any special diploma in public health and had not received any special training in this particular department.—Mr. Lyttelton has a notice to ask the President of the Local Government Board if he could state why the standard of qualification for appointment as dispenser to a Poor-law union has been reduced, so that persons other than those possessing a statutory qualification in pharmacy are now eligible for such appointments; and whether, having regard to the special technical training required in such dispensers, the Local Government Board will take steps to obtain for the sick poor in the various unions under their jurisdiction the security afforded by dispensers possessing a statutory qualification to dispense medicines.

REPORTS.

Copies have been presented to Parliament of the 39th Report of the Board of Superintendence of the Dublin Hospitals and of the 51st Report of the Commissioners in Lunacy to the Lord Chancellor.

POSTPONEMENTS.

The second reading of the Vaccination (Calf Lymph) Bill has been postponed till Wednesday, July 14th, also the second reading of the Idiots Institutions (Exemption from Rates) Bill.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF EDINBURGH.

Final Professional Examination for Degrees in Medicine.—The following candidates have passed this examination:

B. C. R. Aldren, V. G. Alexander, F. Anderson, R. W. Anthony, H. L. Apthorp, T. R. W. Armour, J. R. Atkinson, H. S. Ballantyne, B.Sc. (with distinction); T. Biggam (with distinction), R. B. Black (with distinction), H. F. W. Boland, B. M. Bone, S. C. Bose, L. Boyer, F. W. Broadbent, S. O. Browne, W. Burns, M.A.; C. J. Caddick, L. M. Cairns (with distinction), S. G. Champion, M. N. Chaudhuri, G. L. Chiene (with distinction), B. R. C. Christie, D. Clow, W. Cobden-Rowlands, Agnes Irene Sinclair Coghill, C. M. Cooper (with distinction), L. A. Crooks, T. W. A. Daman, L. W. Davies, J. E. Dods, W. G. Donald, S. Ducat, R. W. T. Ewart, S. Faed, C. L. Findlay, W. Finlay, J. G. Forbes, J. Forrest, G. Fourie, H. Fowler, W. H. Fowler (with distinction), J. S. Fraser (with distinction), R. Gellatly, J. F. Gibbon, A. Gibson, W. H. Goldie (with distinction), W. Gorrie, J. Graham, T. P. Greenwood, B.Sc.; J. Grieve, W. Hamilton, W. F. Harvey, M.A.; J. C. Hastings, W. G. Heath, J. Henderson, K. Hill, G. B. Hollings (with distinction), E. H. Irwin, A. L. de Jager, J. B. Jamieson, T. N. Johnston, C. B. Johnstone, D. T. R. Jones, E. H. Jones, L. Kingsford, P. Kinmont (with distinction), F. O. Lasbrey, G. Liddell, B.A.; L. S. L. Liddell, A. W. Limont, G. C. Low, M.A.; J. S. Lyle, D. M'Askie, A. B. MacCarthy, Mary Ross M'Dougall, J. J. L. Macfarlane, T. J. T. M'Hattie, I. L. MacInnes, J. W. M'Intosh, W. E. M'Kechnie, C. C. Macmillan, A. D. Macpherson, M.A.; J. Malcolm, H. Malcolmson, M. W. Manuk, E. Matthew (with distinction), J. D. S. Milln, F. W. More, A. G. Naylor, E. F. M'L. Neave, T. M Ness, J. Newington, J. Nicoll, H. Nuttall, J. H. P. Paton, J. H. Patterson, E. L. Phillips, Winifred Jane Pierce, A. H. Pirie, P. Rattray, R. R. Richardson, R. G. Riddell, J. R. Roberts, B.Sc.; E. C. Robertson, I. E. Rosenstein, T. A. Ross (with distinction), R. Selby, D. C. Sethna, J. A. Shoolbread, J. D. Slight, M.A.; W. M. A. Smith, W. R. Somerset, Ethel Louie Starmer, T. H. Stevenson, J. W. Struthers (with distinction), J. P. Sturrock, M.A.; G. C. Thomas, Isabella Beattie Venters, G. A. Vincent, F. J. Walden, J. R. H. Walker, C. P. B. Wall, A. H. Watt (with distinction), A. R. Wight, W. G. Wight, W. M. Wilson, M. B. Wright.

UNIVERSITY OF DUBLIN.

The following degrees in Medicine, Surgery, and Midwifery have been conferred:

Baccalaurei in Medicinâ, in Chirurgiâ, et in Arte Obstetriciâ.—H. W. Bernard, F. W. Bonis, W. Bramwell, F. F. Carroll, de V. Condon, W. V. Coppinger, R. Counihan, J. J. Crawford, H. Ensor, W. C. Gore, T. D. Homan, T. B. Jobson, H. F. Johnston, G. J. Lane, C. H. W. M'Cullagh, C. W. M'G. Orpen, J. Tichborne.

Baccalaureus in Medicinâ—H. N. A. Taylor.

Doctores in Medicinâ.—M. J. Bulger, H. L. Clare, A. A. Grosvenor, T. Hopkins, T. B. Jobson, H. F. Johnston, G. W. Murphy, H. C. Packard.

CONJOINT BOARD IN IRELAND.

First Professional Examination.—The following candidates have passed this examination:

Completed the Examination.—Honours: J. P. Byrne, P. J. Hanafin, (E. Glenny, J. M. S. Levis, equal). Pass: W. H. Anderson, J. J. S. Carbery, H. G. Cookman, W. Davis, J. Dwyer, J. F. Fitzmaurice, J. Flanagan, A. A. W. Ganderton, G. Goldfoot, S. G. Gordon, A. H. B. Hartford, J. Hennesey, M. J. Johnson, J. F. L. Keegan, G. W. Knight, C. J. Laven, F. J. Lennan, W. R. Meredith, A. W. Merrick, S. R. M'Causland, T. J. Nicholl, J. P. O'Donnell, D. J. O'Reilly, O. F. M. Ormsby, W. H. McM. Phelan, S. Potter, R. A. Ross, F. G. Sharpe, R. C. Vernon, J. White, J. H. White.

In Anatomy.—H. L. A. Barry, C. H. Bryan, F. J. Cahill, P. L. Crosbie, H. B. Evans, B. D. Gibson, J. J. Harty, D. Kennedy, R. F. McMahon, A. J. Nicolls, J. O'Doherty, C. R. M. Pattison, S. H. Raverty, C. R. Richardson, J. C. Ryan, M. C. Sage, W. S. Sullivan, R. K. Taylor, T. J. Wright, S. Adye-Curran.

In Biology.—S. Adye-Curran, H. L. A. Barry, C. H. Browne, J. J. Harty, A. L. C. Lett, T. A. McDougall, A. J. Nicolls, J. C. Ryan

In Chemistry and Physics.—P. L. Crosbie, L. J. Farren, M. E. Lynch, R. F. McMahon, M. C. Sage.

In Pharmacy.—S. Adye-Curran, H. L. A. Barry, G. G. Breton, F. J. Cahill, P. L. Crosbie, J. J. Harty, D. Kennedy, R. F. McMahon, A. J. Nicolls, J. O'Doherty, J. Onraët, S. H. Raverty, C. R. Richardson, J. C. Ryan, M. C. Sage, W. S. Sullivan, A. E. E. B. Williams, T. J. Wright.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 7,115 births and 3,106 deaths were registered during the week ending Saturday last, July 3rd. The annual rate of mortality in these towns, which had been 15.8 and 15.7 per 1,000 in the two preceding weeks, further declined to 14.7 last week. The rates in the several towns ranged from 10.3 in Croydon, 11.4 in Halifax, 11.5 in Leeds, and 11.6 in Derby to 20.1 in Liverpool and in Burnley, 21.0 in Salford, 21.9 in Plymouth, and 25.4 in Preston. In the thirty-two provincial towns the mean death-rate was 15.6 per 1,000, and exceeded by 2.1 the rate recorded in London, which was only 13.5 per 1,000. The zymotic death-rate in the thirty-three towns averaged 1.9 per 1,000; in London the rate was 1.5 per 1,000, while it averaged 2.2 in the thirty-two provincial towns, among which the highest zymotic death-rates were 4.3 in Plymouth, 5.9 in Salford, 6.9 in Burnley, and 10.4 in Preston. Measles caused a death-rate of 1.5 in Birmingham, 2.3 in Manchester, 5.4 in Salford and in Burnley, and 9.1 in Preston; scarlet fever of 1.0 in Leicester; and whooping-cough of 1.4 in Norwich, 2.1 in Oldham, and 2.7 in Plymouth. The mortality from "fever" showed no marked excess in any of the large towns. The 41 deaths from diphtheria in the thirty-three towns included 32 in London and 2 in Liverpool. No fatal case of small-pox was registered during the week either in London or in any of the thirty-two large provincial towns. There were no small-pox patients under treatment in any of the Metropolitan Asylums Hospitals on Saturday last, July 3rd. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 2,789 at the end of the nine preceding weeks, had further risen to 2,821 on Saturday last; 310 new cases were admitted during the week, against 255, 274, and 267 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, July 3rd, 1,041 births and 557 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 19.4 per 1,000 in each of the two preceding weeks declined to 18.7 last week, and was 4.0 per 1,000 above the mean rate during the same period in the thirty-three large English towns. The lowest rates in the eight towns were 11.3 in Aberdeen, and 17.0 in Perth, and the highest rates 21.7 in Paisley and 33.2 in Leith. The zymotic death-rate in these towns averaged 2.6 per 1,000, the highest rates being recorded in Glasgow and Leith. The 261 deaths registered in Glasgow included 3 from measles, 2 from scarlet fever, 2 from diphtheria, 10 from whooping-cough, 9 from "fever," and 10 from diarrhœa. Four fatal cases of measles, 2 of scarlet fever, and 3 of whooping-cough were recorded in Edinburgh: and 9 of measles and 6 of whooping-cough in Leith.

OPHTHALMIA NEONATORUM.

At a recent meeting of the Scarborough Board of Guardians it was reported that a communication has been received from the Local Government Board on the subject of ophthalmia of newborn children, enclosing the following: "The attention of the Local Government Board has been drawn to the fact that occasionally district medical officers of workhouses and infirmaries have failed to record in their medical relief books the occurrence of ophthalmia of newborn children in cases under their care. The Board think it necessary, therefore, to point out that it is the duty of every medical officer to enter these cases in his medical relief book, all the particulars indicated in the book being recorded, and that the book should be presented to the guardians at each of their ordinary meetings." The Board also deemed it desirable to bring under the notice of the medical officers extracts from the report of the Royal Commission on the Blind, etc., 1889, on the subject of the disease referred to, and a printed copy of these was supplied to the Board.

MEDICAL NEWS.

Medical Magistrate.—Dr. Vincent J. Magrane, Chairman of the Darlaston Urban District Council, was on June 29th appointed magistrate for the county of Stafford.

At a meeting of British residents in Davos, held there recently under the chairmanship of Dr. W. R. Huggard, British Pro-Consul, a loyal address was adopted to the Queen, congratulating her on the completion of the sixtieth year of her reign. A dinner was held at the Hotel Victoria on June 22nd. The Jubilee was also celebrated by the British residents in Zurich.

An aide-de-camp of the Sultan has conveyed to the surgeon in charge of the Russian Red Cross Hospital the Imtiaz Order and gold and silver medals. The recipient of these distinctions is at present lying ill with typhus.

MEDICAL VACANCIES.

The following vacancies are announced:

ABERDEEN ROYAL INFIRMARY.—Medical Superintendent. Salary, £350 per annum, without residence. Applications to William Carnie and Charles M. Brown, Joint Treasurers, by July 24th.

BOROUGH OF SHREWSBURY.—Medical Officer of Health. Salary, £200 per annum. Candidate will be allowed (subject to approval) to accept similar public health appointments, but must not engage in private practice. Applications, endorsed "Medical," to H. C. Clarke, Town Clerk, Guildhall, Shrewsbury, by July 14th.

BRADFORD EYE AND EAR HOSPITAL.—Vacancy on the medical staff. Candidates must have attended the clinical practice of some ophthalmic hospital for not less than six months. Applications to the Chairman of the Committee of Management by July 16th.

BRISTOL ROYAL INFIRMARY.—House-Physician; doubly qualified. Appointment for two years. Salary, £100 per annum, with apartments, board, and washing. Applications to the Secretary by July 12th.

CHORLTON UNION.—Junior Resident Medical Officer at the Workhouse Hospitals, Withington, Manchester; doubly qualified. Appointment for twelve months. Salary, £120 per annum, with furnished apartments and attendance. Applications, endorsed "Junior Resident Medical Officer." to D. S. Bloomfield, Clerk to the Guardians, Chorlton Union Offices, All Saints', Manchester, by July 13th.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E—Assistant Physician. Must be F. or M.R.C.P.Lond. Applications to the Secretary by July 24th.

DEVONPORT ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon. Board, lodging, and washing provided. No salary. Appointment for six months. Applications to Chairman of Medical Committee by July 17th.

DEVONSHIRE HOSPITAL, Buxton, Derbyshire.—House Surgeon and Assistant House-Surgeon. Appointment for twelve months, eligible for re-election. Salary of House-Surgeon £100, and the Assistant House-Surgeon £50, with board, lodging, and washing. Applications endorsed "House-Surgeon" or "Assistant House-Surgeon" to Joseph Taylor, Secretary, by July 14th.

GARTLOCH ASYLUM AND HOSPITAL FOR MENTAL DISEASES, Glasgow.—Assistant Medical Officer (Senior). Previous hospital and asylum experience most desirable. Salary, £150 per annum, with all found. Applications, marked "Assistant Physician," to Mr. Dempster, 318, Parliamentary Road, Glasgow, by July 19th.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Senior House-Surgeon and Junior House-Surgeon. Appointments for six months. Salary of the Senior House-Surgeon at the rate of £60 per annum, board, lodging, and washing provided with each appointment. Applications to Lewis H. Glenton Kerr, Secretary, by July 19th.

GRIMSBY AND DISTRICT HOSPITAL.—Resident House-Surgeon. Salary, £80 per annum, with board, lodging, and washing. Applications to John Wintringham, Secretary, by July 24th.

GLOUCESTER GENERAL INFIRMARY and the GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House-Surgeon. Doubly qualified. Appointment for six months. Eligible for re-election. No salary, but board, residence, and washing provided. Applications to Henry P. Pike, Secretary, by July 14th.

HALIFAX ROYAL INFIRMARY.—House-Surgeon, unmarried, and doubly qualified. Salary, £80 per annum, advancing £10 a year up to £100, with residence, board, and washing. Applications to Oates Webster, Secretary, by July 14th.

HEREFORD COUNTY AND CITY LUNATIC ASYLUM.—Locum Assistant Medical Officer for eight or nine weeks. Salary 2 guineas a week, with board, lodging, and washing, and third return railway fare. Applications to the Medical Superintendent.

HULL ROYAL INFIRMARY.—Junior Assistant House-Surgeon. Salary, £40, with board and lodging. Applications to the Chairman of the House Committee by July 13th.

JARROW-ON-TYNE MEMORIAL HOSPITAL.—House-Surgeon, doubly qualified. Salary, £80, rising £10 annually to £100, with board and residence in the Hospital. Applications to J. W. Cambell, Secretary, Ivy Bank, Jarrow-on-Tyne.

LONDON HOSPITAL MEDICAL COLLEGE.—Demonstrator of Biology. Will be required to attend three days a week to assist the Lecturer in Botany and Zoology chiefly for the London University examinations. Salary, £75 per annum. Applications to Munro Scott, Warden, Turner Street, Mile End, E., by July 12th.

LONDON HOSPITAL MEDICAL COLLEGE, Turner Street, Mile End, E.—Bacteriologist to the Hospital and Lecturer on Bacteriology and Pathological Chemistry. Applications to Munro Scott, Warden, by July 15th.

LONDON LOCK HOSPITAL, 91, Dean Street, Soho, W.—Registrar, doubly qualified. Applications to the Secretary, Harrow Road, W., by July 24th.

LONDON SCHOOL OF MEDICINE FOR WOMEN.—Lecturer on Chemistry for the Winter Session. Applications to the Secretary at the School, 30, Handel Street, Brunswick Square, W.C.

LONDON THROAT HOSPITAL, Great Portland Street, W.—Two Assistant Surgeons. Applications to the Honorary Medical Secretary, 204, Great Portland Street, W., before July 15th.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon and Junior House-Surgeon, doubly qualified. Salary of the former, £100 for the first year, with board and residence, and of the latter £70 per annum, with board and residence at the institution. Applications to the Chairman of the House Committee by July 19th.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—Surgeon and Assistant House-Surgeon. Must be F.R.C.S.Eng. Applications to C. H. Byers, Secretary, by July 19th.

NATIONAL DENTAL HOSPITAL, Great Portland Street, W.—Anæsthetist. Applications to G. Almack, Secretary, by July 21st.

NORTH WALES ASYLUM, Denbigh.—Second Assistant Medical Officer. Salary, £100, with board, washing, and apartments. A knowledge of Welsh essential. Applications to W. Barker, Clerk to the Visitors, by July 19th.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Salary, £30 per annum, with board, lodging, and washing. Applications to the House-Surgeon.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.—Demonstrator and Assistant Demonstrator of Chemistry. Applications to Thomas W. Shore, Warden, by July 12th.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston Road.—Resident Medical Officer, doubly qualified. Salary, £105 per annum, with residence and attendance. Applications to H. P. Bodkin, Honorary Secretary, 23, Gordon Street, Gordon Square, W.C., by July 19th.

SALFORD UNION.—Assistant Resident Medical Officer at the Union Infirmary, Hope, near Eccles; doubly qualified. Appointment for twelve months. Salary, £130 per annum, with furnished apartments and attendance. Applications, endorsed "Assistant Medical Officer," to F. Townson, Clerk to the Guardians, Union Offices, Eccles New Road, Salford, by July 22nd.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House-Surgeon, doubly qualified. Appointment for two years, subject to re-election. Salary, £100 per annum, with board, lodging, and washing. Applications to Richard Battle, Secretary *pro tem.*, 7, Meyrick Road, Stafford, by July 31st.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Surgeon. Must be F.R.C.S.Eng. Candidates must attend House Committee, with certificates, etc., on July 13th, at 1 o'clock.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House-Surgeon. Appointment for six months. Board, lodging, and washing provided. Applications to the Chairman of the Medical Committee by July 12th.

MEDICAL APPOINTMENTS.

ADAMS, Alexander S., M.B., C.M.Aberd., appointed Medical Officer for the Rillington District of the Norton Out-relief Union.

BETHELL, Alfred, M.R.C.S.Eng., appointed Medical Officer of Health to the Bridgnorth Rural District Council, *vice* William Thursfield, M.D., resigned.

BUTLER, A. G., M.B.Lond., appointed a House-Physician to Guy's Hospital.

BUXTON, Edward. M.D., M.R.C.P.E., F.R.C.S.E., D.P.H., appointed Physician to the Nazareth Orphanage at Great Crosby.

BYFORD, Mr. William J., appointed Assistant Medical Officer to the Nottingham Parish Workhouse, *vice* Mr. E. Spriggs, resigned.

COWAN, John James, M.B., C.M.Edin., reappointed Medical Officer for the Cradley District of the Bromyard Union.

CRUMP, T. G., B.A.Camb., M.B., B.C., appointed Honorary Surgeon to the Victoria Hospital, Burnley, *vice* C. A. Anderson, M.B., C.M.Edin., resigned.

DINGWALL, Archibald, M.B., C.M.Aberd., appointed Medical Officer for the Pembridge District of the Kington Union, and Medical Officer of Health to the Kington Urban District Council, *vice* G. Oscar Jacobsen, M.R.C.S., L.R.C.P., resigned.

FERRABY, Henry P., M.B.Lond., appointed an Assistant House-Physician to Guy's Hospital.

GARDNER, H. Bellamy, M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant Anæsthetist to the Male Lock Hospital, Dean Street, Soho.

GIBB, W. Alexander, M.B., M.S., appointed House-Surgeon to the Isle of Man General Hospital, Douglas.

GIBBES, C. C., M.D., M.R.C.P., D.Ph.Camb., appointed Assistant Physician to the National Hospital for Diseases of the Heart and Paralysis, Soho Square.

HILLS, William Ernest, L.R.C.P.Lond., M.R.C.S.Eng., appointed an Assistant House-Physician to Guy's Hospital.

HININGS, John William, L.R.C.P. L.R.C.S.Edin., reappointed Medical Officer and Public Vaccinator for the Second District and Workhouse of the Bromyard Union.

HOWARD, A. Dashwood, B.A.Camb., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer for the New Hampton District of the Kingston Union, *vice* W. R. Tyndale, M.B., C.M.Aberd., L.R.C.P.Lond, resigned.

HOWELL, J., M.R.C.S.Eng., L.R.C.P.Lond., appointed a House-Surgeon to Guy's Hospital.

KAUFFMANN, O. J., M.D.Lond., M.R.C.P., appointed Honorary Physician to the Queen's Hospital, Birmingham.

LOYND, W., M.R.C.S.Eng., L.R.C.P.I., appointed Medical Officer for the Oswaldtwistle District of the Blackburn Union, *vice* J. Dearden M.D.St.And., deceased.

MARTIN, Arthur J., M.D.Lond., M.R.C.S.Eng., L.R.C.P.Lond., appointed Honorary Physician to the Walsall and District Hospital.

MORTON, C. A., F.R.C.S., appointed Joint Professor of Surgery in the Faculty of Medicine of University College, Bristol.

O'CALLAGHAN, Dr., appointed Medical Officer for the Ahascragh Dispensary District.

ORFORD, R. J., M.R.C.S., L.R.C.P., appointed Medical Officer of Health to the Market Bosworth District Council, *vice* J. A. Turner, M.B.Edin., D.P.H.Camb., resigned.

ORMOND, A. W., M.R.C.S.Eng., L.R.C.P.Lond., appointed an Assistant House-Surgeon to Guy's Hospital.

POWNE, Leslie, M.R.C.S.Eng., L.S.A., reappointed Medical Officer for the Shobrooke and Newton St. Cyres District of the Crediton Union.

PRATT, Mr. D., appointed Medical Officer for the Odiham District of the Hartley Wintney Union.

PURSLOW, C. E., M.D.Lond., M.R.C.P.Lond., appointed Ingleby Examiner Mason College, Birmingham, for the current year.

ROWLANDS, R. P., L.R.C.P.Lond., M.R.C.S.Eng., appointed a House-Surgeon to Guy's Hospital.

SHILLITOE, Arthur, M.B., B.C.Camb., F.R.C.S.Eng., appointed Surgeon to Out-patients at the London Lock Hospital, *vice* Jonathan Hutchinson, jun., resigned.

SLADE-KING, Edwyn John, M.D.Edin., L.R.C.P.Lond., reappointed Medical Officer of Health to the Dulverton Rural District Council.

STAMFORD, Mr. R. B., appointed an Assistant House-Surgeon to Guy's Hospital.

STILES, A. J., M.D.Edin., M.B., C.M., appointed Medical Officer for the Spalding West District of the Spalding Union, *vice* H. T. Stiles, M.D.St.And., resigned.

STOKES, Ronald M., L.R.C.P. & S.Edin., L.F.P. & S.Glasg., appointed Medical Officer to the Monmouth District, Monmouth Union, *vice* Dr. Brandram-Jones, resigned.

SWAIN, James, M.S., M.D.Lond., F.R.C.S.Eng., appointed Joint Professor of Surgery in University College, Bristol.

THOMAS, Mr. F. G., appointed a House-Physician to Guy's Hospital.

WOODHOUSE, W. M., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer for the Vale District of the Wantage Union, *vice* A. H. Barker, L.R.C.P.Lond., M.R.C.S.Eng.

DIARY FOR NEXT WEEK.

TUESDAY.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Mr. Horsley: Clinical Demonstration.

WEDNESDAY.

WEST LONDON POST-GRADUATE COURSE, West London Hospital, W., 5 P.M. Dr. Aldren Turner: Neurological Cases.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

FRIDAY.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION, 11, Chandos Street, W., 3 P.M.—Annual General Meeting. Cases by Dr. Stoker, Dr. Milligan, Dr. Bark, Mr. Browne, and Dr. Law. Discussion on Preliminary Training and Methods of Operating on Laryngeal Growths *per vias naturales*.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Mr. Ballance: Surgery of the Nervous System.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

CARRUTHERS.—At 44, Central Hill, Norwood, S.E., on the 3rd inst., the wife of S. W. Carruthers, M.B., C.M.Edin., of a son.

FOSTER.—On June 17th, at Bath Lodge, Reading, the wife of W. J. Foster, F.R.C.S., of a daughter.

MONRO.—At Medical Mission, Ranaghat, Bengal, on 4th July, the wife of C. G. Monro, M.B.Camb., of a daughter.

MARRIAGES.

BAKER—WALLIS.—On July 1st, at St. Michael's, Basingstoke, by the Rev. E. F. Russell, M.A., assistant priest of St. Alban's, Holborn, assisted by the Rev. H. R. Cooper Smith, D.D., Vicar of the parish, John Charles Baker, M.B., B.A.Lond., M.R.C.S., L.R.C.P., of Witley, Surrey, to Charlotte Sherry, eldest daughter of Arthur Wallis, J.P., of Coombehurst, Basingstoke.

HUTCHINSON—LINNELL.—On the 3d inst., at St. Nicholas, Potter's Pury, by the Rev. J. B. Harrison, R.D., Rector of Pauler's Pury, Jonathan Hutchinson, F.R.C.S., eldest son of Jonathan Hutchinson, F.R.S., to Caroline, second daughter of the late James Edward Linnell and Mrs. Linnell, Potter's Pury.

THOMPSON—GOWANS.—At St. Cuthbert's Church, Edinburgh, on the 30th June, by the Very Rev. Dr. Macgregor, one of Her Majesty's Chaplains, Charles Gurney Thompson, M.B., C.M., only son of Charles H. Thompson, Esq., Oaklands, Norwood, to Helen Chisholm (Nelly), youngest daughter of the late Sir James Gowans, and grand-daughter of the late Wm. Brodie, R.S.A. At Home, Dial House, Tottenham, London, first and second Fridays after 1st August.

DEATHS.

BULTEEL.—On June 30th, Christopher Bulteel, F.R.C.S., of Tiverton, and late of Stonehouse, Devon, aged 65 years.

KNAGGS.—R. Knaggs, J.P., M.R.C.S.E., L.S.A., L.M., Government Medical Officer, of Port of Spain, Trinidad, B.W.I., on May 10th, aged 66.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations*.—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances*.—Daily, 1. *Operations*.—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances*.—M. W. Th. S., 2; Tu. F., 5. *Operations*.—Daily.

CHARING CROSS. *Attendances*.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations*.—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances*.—Daily, 1.30. *Operations*.—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances*.—M. Tu. Th. F., 2. *Operations*.—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations*.—F., 2.

GREAT NORTHERN CENTRAL. *Attendances*.—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations*.—M. W. Th. F.

GUY'S. *Attendances*.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations*.—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances*.—Daily, 10. *Operations*.—M. Th., 2.

KING'S COLLEGE. *Attendances*.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Tu., 9.30. *Operations*.—M. F. S., 12.

LONDON. *Attendances*.—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Tu., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations*.—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances*.—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations*.—M. Th., 4.30.

METROPOLITAN. *Attendances*.—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations*.—F., 9.

MIDDLESEX. *Attendances*.—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations*.—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances*.—M. Tu. Th. F., 2. *Operations*.—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances*.—Daily, 2; Ophthalmic, W. S., 9.30 *Operations*.—Tu. F., 9.

NORTH-WEST LONDON. *Attendances*.—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations*.—Tu., 2.30.

ROYAL EYE, Southwark. *Attendances*.—Daily, 2. *Operations*.—Daily.

ROYAL FREE. *Attendances*.—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations*.—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances*.—Daily, 9. *Operations*.—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances*.—Daily, 1. *Operations*.—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances*.—Daily, 1. *Operations*.—Daily.

ST. BARTHOLOMEW'S. *Attendances*.—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Tu. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations*.—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Tu. 2.

ST. GEORGE'S. *Attendances*.—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations*.—M. Tu. Tu. F. S., 1.

ST. MARK'S. *Attendances*.—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations*.—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances*.—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu. F., 1.45; o.p., M. Tu., 1.30; Eye, Tu. F. S., 9; Ear, M. Tu., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Tu., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations*.—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances*.—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations*.—W. F., 2.

ST. THOMAS'S. *Attendances*.—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations*.—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances*.—Daily, 1.30. *Operations*.—W., 2.30.

THROAT, Golden Square. *Attendances*.—Daily, 1.30; Tu. F., 6.30. *Operations*.—Th., 2.

UNIVERSITY COLLEGE. *Attendances*.—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations*.—Tu. W. Th., 2.

WEST LONDON. *Attendances*.—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations*.—Tu. F., 2.30.

WESTMINSTER. *Attendances*.—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations*.—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

INQUIRER desires to know where to apply for the post of surgeon on board the Cable Company's steamships.

H. P. M. desires to hear of an institution where instruction is given to remedy defects of speech, suitable to the case of a young woman in middle-class station of life who has lately taken to stammering.

A COLONIAL medical practitioner asks for information as to foreign medical schools (preferably German) where good courses of practical and operative gynæcology are given; also of general operative surgery? Or whether these subjects would be better pursued in London?

W. R. C. desires to obtain particulars of the Canary Islands, regarding climate, food supplies, cost of living, rent of furnished houses, society, and amusements? Which, comparative with comfort, is the cheapest of the islands?

DR. W. H. WILLIAMS (Sherborne, Dorset) desires to hear of an institution which would take in the following case for a small payment (£13 per annum): A woman, aged 41, daughter of a tradesman, who has been in an institution for unmanageable women for the past two years, but has been discharged as she is so obstreperous. She fights with the inmates, and incites them to mischief, and cannot be controlled where she is. Her health is excellent, and she can do any amount of hard work.

CLUB PAYMENTS.

IMMEDIATE desires to ask any medical men who are surgeons to the Society of Oddfellows or Foresters to inform him on what terms they attend the lodge members. Whether the annual sum of 4s. per member includes fractures and dislocations, or if not, what extra sum is granted, and by whom paid, the club or the patient.

TREATMENT OF PROGRESSIVE MUSCULAR ATROPHY.

F.R.C.S. writes: I have a case of progressive muscular atrophy which so far has only attacked the limbs of my patient, who is 45 years of age, and otherwise in good health. I have been using subcutaneous injections of strychnine, which, while they appear to have stopped the disease attacking the trunk, have in no way prevented the gradual but steady loss of power in his limbs. Can any of your readers suggest anything further?

VISITS OF CEREMONY.

P. L. H. wishes to know whether he ought to call on all the neighbouring practitioners, where he moves into another residence a short distance from his former one.

*** A practitioner is not expected to call on his brethren in the neighbourhood where he only changes his residence in the same locality. The rule would only apply when he goes into an entirely new district.

ASSISTANTS AND LEGAL FEES.

A CORRESPONDENT wishes to know if an unqualified assistant is entitled to any—and if so what proportion—of the fee received by him for giving evidence before a court of justice in the case of an assault on one of his principal's patients.

*** We are advised that a qualified assistant cannot claim any part of a fee so obtained, and that no court would allow a fee for the evidence of an unqualified practitioner.

ECTOPIA TESTIS.

STERILITY asks advice in the following case: A man, aged 35, is affected with bilateral ectopia testis—on the right side abdominal, on the left inguinal. He has erections, emissions, and on several occasions has had connection. The testis in the groin is about the size of a walnut, but is said to be getting smaller. He has noticed oozing of a glairy discharge from the penis after going to stool. His is anxious to marry, but has been told by a London surgeon that such marriage would be childless. The only statement I can find on the subject is in Hare's *Therapeutics*, where it is stated that those subject to bilateral ectopia are invariably sterile. Perhaps someone who has watched the subsequent history of such cases after marriage will give their experience.

CHANGES IN PARTNERSHIP ARRANGEMENTS.

A CORRESPONDENT asks for information on the following points: 1. Is it contrary to medical etiquette for the vendor of a practice to send a letter to his patients, stating that he has sold his practice to Dr. ——? 2. Or to send a letter to his patients stating that Dr. —— has been taken into partnership? 3. Where a death vacancy has occurred may the executors send a letter to the patients of the deceased, stating that Dr. —— has bought his practice?

*** As to the first two questions, a medical practitioner is clearly entitled to send such notification, provided it is sent to none but his own patients, and is couched in suitable terms. With regard to (3) it is difficult to see why the executors of a deceased practitioner should be debarred from acting in a similar manner.

THE MONTREAL MEETING.

[illegible]. B. writes: As I am taking my wife with me to the Association meeting at Montreal, I shall be much obliged if you will be kind enough to inform me in the next or an early issue of the BRITISH MEDICAL JOURNAL if it will be necessary for her to take evening dresses, and for me to take a dress suit.

*** We cannot take it upon ourselves to decide these points. We can only venture to suggest that anyone who wishes to avail himself of the social opportunities which are sure to be offered by our Canadian brethren, who are proverbial for their hospitality, will do well to provide himself or herself with the raiment which convention makes obligatory for these occasions.

ANSWERS.

M. O. (Ceylon).—We would advise our correspondent either to get the subject discussed by the Ceylon Branch or to submit a petition to his Government stating his grievances, and forward us a copy of the petition and the reply thereto.

SURGEON R.N.—We do not know of any institution that would receive such a case with the complicating disease stated, and on moderate terms. We recommend writing to the institutions advertised in the BRITISH MEDICAL JOURNAL, giving particulars of the case.

RESTRAINT OF INEBRIATES.

U. K. A.—Legal restraint cannot be employed. The patient's consent must be obtained in writing, attested by two magistrates, before whom she has appeared. It is essential to have secured reception in a licensed retreat. The licensee will supply the necessary forms. If the patient will not consent, our correspondent had better have a trustworthy nurse to keep alcohol from the patient.

THE DIAZO-REACTION.

H. P.—Ehrlich at present applies this test as follows: Fifty c.cm. hydrochloric acid are made up to 1,000 c.cm. with water, and sulphanilic acid added to saturation. To 200 c.cm. of the mixture 5 c.cm. of a ½-per cent. solution of sodium nitrite are added. To the urine five or six times its volume of absolute alcohol is added, and the reagent added drop by drop. Normal urine gives a yellow colour; that of fever patients turns scarlet. According to von Jaksch, from whom we quote the above,[1] the colour rection is due to the presence of acetone, and the test has no clinical value.

THE FERTILITY OF TWIN SISTERS.

B. T. H. writes: I should like to inquire through your columns if any of your readers are acquainted with twin sisters both of whom have borne children. My reason for asking this is that I have recently been consulted on the following point:—A gentleman wishes to marry his cousin but is aware of the danger of imbecile offspring from such an alliance. The cousin has a twin sister who has borne children. Now, my patient hopes to be able to marry his cousin on the strength of the tradition that twin sisters never both become mothers. Of course, I told him that there was no known physiological reason why such should be the case, but it would be interesting to have data in support of, or in opposition to, one's opinion.

*** We refer our correspondent to a paragraph under the same heading which appears at page 99.

THE PHENYL HYDRAZIN TEST FOR DEXTROSE.

ENQUIRER.—The phenyl hydrazin test for dextrose is applied as follows: To 50 c.cm. of the suspected fluid (for example, diabetic urine) add 1 to 2 g. hydrochloride of phenyl hydrazin, 2 g. sodium acetate, and heat in a water bath for half an hour; or else add 10 to 20 drops of pure phenyl hydrazin and an equal number of drops of 50 per cent acetic acid, and warm as before. On cooling, if not before, the glucoazone separates out as a crystalline, or it may be an amorphous precipitate. If amorphous it is dissolved in hot alcohol; the solution is then diluted with water and boiled to expel the alcohol, whereupon the compound is obtained in the characteristic form of yellow needles. By the above method it is possible to obtain the crystals from fluids which contain only 0.5 g. per litre (Sheridan Lea).

CHELIDONIUM MAJUS.

LANCASTRIAN.—The expressed juice of the fresh plant or root of chelidonium majus may be preserved by the addition either of one-third per cent. by volume of chloroform, or of one-third its volume of rectified spirit. The former is to be preferred, as it interferes less with the natural constituents of the plant; the succi of the *British Pharmacopœia* are preserved by means of spirit, but this precipitates albumen, and probably some active ingredients along with it. A fluid extract may be made by exhausting the dried plant with a mixture of one part spirit and three of water, and concentrating so that one fluid ounce represents an ounce of the drug. For hypodermic injection, the juice may be concentrated to one-twelfth its volume, and preserved by means of chloroform. The dose of the dried root or herb is from 10 to 30 grains, of the juice 10 to 30 minims, and of the hypodermic injection 5 to 15 minims. An infusion, one of dried herb in twenty of boiling water, is used in some London hospitals. Dose, 1 to 2 ounces.

HOSPITAL WARD FLOORS.

DR. MEREDITH YOUNG (Medical Officer of Health, Crewe) writes, in reply to "Renovator" in the BRITISH MEDICAL JOURNAL of June 26th, p. 1698: In the isolation hospital here the floors are of pitch pine, which was stoved (kept in warm room and seasoned) immediately before being laid. The boards are 4 inches wide by 1¼ inch thick. The boards are laid diagonally and secured with invisible nails. The joints of course are the parts which need special watching, and "Renovator" will find some useful information on these in Rivington's *Building Construction*, vol. i, pp. 135-6-7. The best joint, in my opinion, is the rebated, grooved, and tongued joint, and next to it the mitred joint. Boards must be well cramped before nailed, the cramping machine being a thing which catches over the joists at one side and the edge of the board at the other side, and can be screwed up so as to press the board firmly against the next one. The joints should be traversed off and left smooth, and the whole of the floor planed afterwards. For after-treatment beeswax and turpentine is much the best dressing; use 1 gallon of turpentine to 1½ lb. of beeswax, or roughly as much beeswax as the turpentine will take up; it usually needs no heating. To beeswax the floor I have

[1] *Clinical Diagnosis*, translated by Dr. Cagney (London Griffin and Co.).

found the best br[illegible] to s is a patent one made by Messrs. Pickard and Son, brushmakers, Darley Street, Bradford, Yorks. It is about 11 inches square, heavily weighted, and provided with a brass ball and socket joint to handle; it costs 35s., but is really excellent. In the event of the joints shrinking they may be plugged with thin strips of wood, planed smooth, and puttied. A cheap floor is said to be obtainable by laying first rough deal boards, and afterwards covering these with thin oak boards closely laid; afterwards dress with beeswax and turpentine, which, however, will darken the colour of the floor. Beeswaxed floors seldom want any cleaning, but occasionally they may be gone over with a cloth dipped in warm water, then dried well, and then beeswaxed and turpentined again. Varnished floors are never or seldom a success; the least scratch shows, and when beds and tables have to be moved the floor becomes a sad sight. I hear from the matron of a large infirmary that "after about four months' hard labour they have succeeded in getting their floors right." Your correspondent will find some excellent hints on the dressing of floors on pp. 124-5 of Dr. Roger McNeill's book on *Hospitals* published by J. and A. Churchill. If he will communicate direct with me I shall be glad to give him any further information I can.

NOTES, LETTERS, Etc.

NURSE'S DIET.

ONE WHO KNOWS writes: *Apropos* of the correspondence on "Nurse's Diet" now appearing in the London papers, I am of opinion that any satisfactory reform can only come about through the medical staff of our hospitals and infirmaries; therefore I will ask you kindly to insert my letter in the BRITISH MEDICAL JOURNAL.

Why should not the nurse's diet be regarded in the light of a health *régime*, to be sanctioned by the doctors as the patient's diet now is? I have always found medical men most sympathetic on the subject, though unable to help in the present state of things. I would further propose that the nursing staff be invited to make suggestions, which should finally be placed before the Committee of their respective hospitals or infirmaries by the matron and doctors. Nurses are simply pleading for wholesome food in sufficient quantities, with variety enough to tempt a tired appetite; they ask for no luxuries.

THE HOSPITAL REFORM ASSOCIATION.

SURGEON-LIEUTENANT-COLONEL SAMUEL SMITH, V.D. (Bristol) writes: In your report of the discussion at the meeting *re* Hospital Reform Association, which appears in the BRITISH MEDICAL JOURNAL of June 26th, I find that I am not mentioned as taking part in the proceedings, and as hospital reform concerns the public, and more especially general practitioners, speaking personally on the occasion referred to in the interests of the former and on behalf of the general medical practitioners to the effect that the adoption of the resolution would meet their wishes, I feel that such an expression of their views by me should have found a place in your report.

VOMITING OF ROUND WORMS.

DR. WILLIAM S. YOUNG (Garliestown) writes: In the BRITISH MEDICAL JOURNAL of June 26th, Dr. A. G. Newell (Greenock) reports two cases of vomiting of round worms, and thinks the occurrence is not a frequent one. In the district in which I practise we had until very recently the usual style of water supply, where each individual had to use the water from the garden pump, or from one or two old wells. At that time very many cases of round worms came under my care, as was to be expected, and I have frequently seen worms vomited both by children and adults. One old woman vomited two, each of which was about six inches long. I did not find constipation to be an invariable rule in these cases. One point I think worth noting in connection with this subject, namely, the way in which these worms sometimes influence the temperature in febrile diseases. In one case of a little girl suffering from typhoid fever the temperature chart indicated some curious deviations. The girl passed by the bowel a 9-inch worm, living, and afterwards the temperature followed the usual enteric conditions. This passing of live round worms by the bowel is of quite frequent occurrence.

MR. J. M. MORRIS, M.B.Edin. (Neath) writes: The presence of round worms in the stomach is by no means the rarity which Dr. Newell seems to think. I have seen at least 6 cases, all in children, in as many months, and in one the worm was vomited alive. Three of the cases were coexistent with scarlet fever, and one with typhoid. In every case there was one marked symptom, a peculiar sort of croup, not merely a simple aphonia, which puzzled me very much. The worst case was the first I saw in conjunction with scarlet fever. The patient, a boy aged 5, some six days after the first appearance of the rash, was taken with what seemed an attack of true croup. This attack continued for two days, and he seemed to be getting into a dangerous condition. On the morning of the third day he had two attacks of vomiting, when he got rid of no fewer than sixteen round worms, each measuring from eight to ten inches in length. With the expulsion of these the croup symptoms immediately vanished. I cannot recollect whether or no constipation was present in any of my cases.

OLEUM JECORIS ASELLI.

DR. W. JONES GREER (Newport, Mon.) writes: With reference to Dr. Prichard's remarks on this drug, it may be of interest to point out that in a footnote on lac asellæ in *Selecta e Præscriptis* the following appears: "Asellus signifies a little or young ass. This word has also been extended to fishes, as the cod (morrhua vulgaris), which have the colour of the ass. At least, Varro, in speaking of fishes named from their colour, mentions the asellus, or cod, as deriving its name from this circumstance. Those therefore who trust to a dictionary might not be able to tell whether oleum jecoris aselli meant the oil of a cod's liver or the oil of the liver of an ass. In 1839 the latter translation was actually adopted by a writer in a medical journal, who gravely told his readers that the Germans had been using oil of asses' livers for fifteen years!"

LETTERS, COMMUNICATIONS, ETC., have been received from:

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REMARKS
ON
THE ANTIVENOMOUS PROPERTIES OF THE BILE OF SERPENTS AND OTHER ANIMALS,
AND AN EXPLANATION OF THE INSUSCEPTIBILITY OF ANIMALS TO THE POISONOUS ACTION OF VENOM INTRODUCED INTO THE STOMACH.*

By THOMAS R. FRASER, M.D., LL.D., F.R.S.,
Professor of Materia Medica and of Clinical Medicine in the University of Edinburgh.

IN a paper communicated to the Royal Society of Edinburgh, I stated that when introduced into the stomach of an animal serpents' venom produces no obvious injury, even when the quantity is so large as to be sufficient to kill 1,000 animals of the same species and weight if injected under the skin. The failure of so highly toxic a substance to produce poisoning when it is administered by the stomach might be due to chemical changes produced upon it by the secretions of the stomach and intestines, or to non-absorbability into the blood from the stomach and intestines. It is already known that the toxicity of venom is not materially reduced by gastric digestion. Although at first sight incompatible with the innocuousness of stomach administration, this fact is not in reality a contradiction of it, for the absorbing power of the stomach for many organic substances, even for strychnine, has been shown to be extremely slight, and their entrance into the circulation appears to occur not in the stomach but in the intestines.

As serpents' venom introduced into the stomach is not rendered innocuous by the stomach secretions, while, notwithstanding, it fails to cause poisoning, it may be assumed that the stomach walls are incapable of absorbing it also. If, like other poisons, it can be absorbed from the intestines, the explanation of the failure to produce toxic symptoms when it is administered by the stomach might depend on a chemical or physiological destruction of its toxic properties by some substance or substances which it encounters soon after entering the intestinal canal, and most probably, therefore, by the bile or the pancreatic secretion.

To explain the innocuousness of stomach administration fully would accordingly require that the effects on venom of the biliary and other intestinal secretions should be investigated, and also the absorbability of venom through the intestinal walls.

As a contribution to the settlement of the question I have made a number of experiments with the biliary secretion, and whatever may be the influence of the other secretions or of intestinal absorption, that of the bile has been found to be so decided as to be in itself sufficient to account for the innocuousness of stomach administration.

The bile from the gall bladder of the African cobra, puff-adder, rattlesnake, and grass snake was used, and each bile was tested against the venom of the African and the Indian cobra. For the most part the experiments were made by mixing various quantities of each bile with a little more than the minimum lethal dose of the venom, and then injecting this mixture under the skin of the animal. The object of the experiments was not only to determine if the bile can render venom innocuous, but also, if it have this power, what is the smallest quantity of bile capable of doing it. As bile varies much in its concentration, it was always weighed in the dry form, so as to remove avoidable fallacies in dosage and in any comparison that might be made between the bile of different animals.

Taking first the venom of the African cobra, its minimum lethal dose for rabbits was determined and found to be 0.000245 g. per kilo., but a slightly larger dose, namely, 0.00025 g., was taken as the minimum lethal.

The experiments were made by mixing together, and leaving in contact with each other for ten minutes, this dose of venom with a dose of bile, each substance having been dissolved in a few tenths of a c.cm. of water, and then injecting the mixture under the skin of the animal. When this was done with the bile of the same serpent, the African cobra, death occurred when the dose of bile was 0.00008 g. per kilo. or less, but recovery when the dose was 0.0001 g., 0.00015 g., 0.0002 g., or 0.0005 g. per kilo. With rattlesnake bile, death occurred when the dose of bile was 0.00025 g. per kilo., or any smaller quantity, but recovery when it was 0.0003 g., 0.00035 g., 0.0004 g., or 0.0005 g. per kilo. With puff adder bile, death occurred when the dose was 0.0005 g. or 0.00075 g. per kilo., but recovery when it was 0.001 g., 0.002 g., 0.0025 g., or 0.003 g. per kilo.

To render the evidence still more obvious, experiments were also made with a larger dose of African cobra venom, namely, 0.00026 g. per kilo., a dose which is fatal to a rabbit in less than eight hours. When mixed with the bile of the same serpent 0.0025 g., 0.00225 g., 0.002 g., and 0.00175 g. per kilo. were each sufficient to prevent death, which, however, followed when the quantity was 0.0015 g. per kilo., or a smaller quantity. When mixed with the bile of the puff adder, 0.003 g. or 0.0025 g. per kilo. was sufficient to render this dose of venom non-lethal, but 0.001 g. and 0.002 g. per kilo. were insufficient.

Similar experiments were made with the venom of the Indian cobra, but while the dose taken as the minimum lethal was the same as in the first series of experiments with the venom of the African cobra, namely, 0.0025 g. per kilo., this dose really represented a larger excess over the minimum lethal. The results were that rattlesnake bile in a dose of 0.00025 g. per kilo. was insufficient to render this dose of Indian cobra venom non-lethal, but was sufficient in a dose of 0.00085 g., 0.0004 g., 0.00035 g., or 0.0003 g. per kilo.; that African cobra bile was insufficient in doses of 0.00075 g., 0.0005 g., 0.0004 g., 0.0003 g., and 0.00025 g., but sufficient in doses of 0.002 g. and 0.001 g. per kilo.; and that puff adder bile was insufficient in doses of 0.001 g., 0.002 g., 0.0025 g., and 0.00275 g., but sufficient in doses of 0.00325 g. and 0.003 g. per kilo.

It was thus shown that the bile of venomous serpents is able, when mixed with the venom of serpents, to prevent lethal doses of the latter from producing death; and that the bile is indeed so powerful an agent in doing this that a quantity actually smaller than the quantity of venom may be sufficient for the purpose. It need scarcely be added that the doses of bile thus shown to be sufficient represent only minute portions of the bile stored in the gall bladder of a serpent; and that a serpent, therefore, has at its disposal enough of bile to prevent injury from venom introduced into the stomach in quantities many times greater than the minimum lethal.

It appeared of interest to examine in a similar manner the bile of innocuous serpents and other animals. All serpents, innocuous as well as venomous, exhibit a resistance against the toxic action of venoms introduced subcutaneously or directly into the circulation, which is not dependent on their being cold-blooded animals. Various facts, some of which are anatomical, tend to show that the innocuous, equally with the venomous serpents, possess poison glands and secrete venom. The former are innocuous only in the sense that they are not normally furnished with weapons of offence in the form of poison fangs. Most probably, therefore, the relative protection against the poisonous action of venom introduced into the circulation, which is common to serpents, is dependent upon an effect produced upon them by the venom which they all secrete, although in the case of the innocuous serpents only in relative small quantities.

Experiments that were made with the bile of the innocuous grass snake have confirmed this supposition. When tested against 0.00025 g. per kilo. of the venom of the Indian cobra, 0.002 g., 0.0045 g., and 0.0055 g. per kilo. were found insufficient to prevent death, but 0.0065 g., 0.0075 g., and 0.01 g. per kilo. were each found to be able to prevent death. The smallest quantity of the bile of this innocuous serpent necessary to prevent death is therefore considerably larger than that of the feeblest of the biles of venomous serpents, but still is only a small quantity.

Experiments were also made with the bile of the ox, as representing those animals which do not secrete venom, or possess any protection against venom introduced into the subcutaneous tissues or into the circulation, while at the same time they are protected against venom introduced into the stomach. It was found that when mixed with 0.00025 g. per kilo. of the Indian cobra venom, this bile failed in rabbits

* A paper read before the Royal Society of Edinburgh on July 5th, 1897

to prevent death in doses of 0.01 g and 0.015 g., but succeeded in doses of 0.02 g., 0.03 g., 0.04 g., 0.07 g., and 0.15 g. per kilo. The bile of the ox, therefore, is able to antagonise the toxic action of serpents' venom, its antagonising power, however, being only about the one-seventieth of that of the strongest of the biles of venomous serpents which have been tested. It was shown by other experiments that the bile of the rabbit and of the guinea-pig also possesses this antivenomous property, and also in a degree, which, though feeble when compared with the bile of venomous serpents, is yet in itself considerable.

While, therefore, it may now be assumed that the bile of all animals is antivenomous, the difference observed between the potency of the bile of venomous serpents when contrasted with that of ordinary animals suggests that the antivenomous property must be dependent, at least in part, on some specific constituent or constituents present in different quantities in the bile of different animals. As this constituent is most largely present in the bile of venomous serpents, an endeavour was made to separate it from their bile. For this purpose absolute alcohol was added in excess to a concentrated solution of the bile of the puff adder, of which I possessed a greater quantity, though still only small, than that of any other venomous serpent. By this means the substances soluble in alcohol, consisting of the bile salts and of a small quantity of bile pigments, were separated in solution from the substances insoluble in alcohol, consisting of proteids and of the bulk of the bile pigments, and it was hoped also of the special antivenomous constituent. Water was then added to the substances insoluble in alcohol, and the watery solution, after having been centrifugalised, was evaporated to dryness over sulphuric acid in the vacuum of an air pump. The alcoholic solution was also dried; in the first place in a water bath at 100° F., and afterwards *in vacuo* over sulphuric acid. This analysis was made with the whole of the bile at my disposal for the purpose, which however weighed only 0.5 g., and from it 0.45 g. of substances soluble in alcohol and 0.05 g. of those insoluble, were obtained. The extraction of the latter with water yielded only 0.02 g. of a dark green solid, representing, therefore, about the twenty-sixth part of the original bile.

Several experiments were made with each of the two products. When the product containing the substances soluble in alcohol was tested against the minimum lethal dose of Indian cobra venom, it was found to be incapable of preventing death in rabbits when the doses of it were 0.02 g., 0.01 g., 0.0054 g., and 0.0027 g., and in white rats when the doses were 0.001 g., 0.00045 g., and 0.00027 g. per kilo. The antivenomous quality of this bile, therefore, is not appreciably, if it all, dependent on the constituents soluble in alcohol, which include all the bile salts.

When, on the other hand, the part of the alcohol precipitate soluble in water was tested in white rats against the minimum lethal dose of the same venom, while death occurred with 0.00008 g. per kilo., recovery occurred with 0.00003 g., 0.000025 g., 0.00002 g., and 0.00001 per kilo. As the quantity of this product was very small, the experiments were restricted to white rats, for which animals the minimum lethal dose of Indian cobra venom is slightly less than 0.0003 g. per kilo., and the smallest quantity of the dried natural bile of the puff adder required to prevent death from this dose of venom is 0.00025 g. per kilo. The extremely small quantity of 0.00001 g. of this bile-product is therefore capable of preventing death in the same circumstances as 0.00025 g. per kilo. of the original bile.

The isolation of the antivenomous constituent made it possible to obtain further and different evidence of the power of bile to render venom inert. Although the bile in its original form possesses much power in antagonising venom when the two substances are mixed together *in vitro*, only 0.0003 g. of rattlesnake bile or 0.02 g. per kilo. of ox's bile being required to render innocuous a minimum lethal dose of Indian cobra venom, it cannot be too distinctly stated—for the facts are also applicable to the antidotism between disease toxins and antitoxins—that these data are apt to give an exaggerated conception of the curative value of the antidote when it is administered after the venom. Generally speaking, even when no more than the minimum lethal dose of venom is used, the quantity of the antidote required is from 1,600 to 2,000 times greater in the latter than in the former condition of administration. Although, while in the alimentary canal, bile is non-toxic, it is altogether different when it is injected under the skin or into a blood vessel. The bile salts and the bile pigments then act as poisons; and if a dose of bile were injected under the skin containing a sufficient quantity of the antivenomous constituent to antagonise a minimum lethal dose of venom received half an hour previously, the constituents of the bile which are non-antidotal, but at the same time toxic, might be so great in amount as to produce death. Thus, in an experiment made with African cobra bile, administered, in a dose estimated to be sufficient, thirty minutes after a minimum lethal dose of cobra venom had been injected subcutaneously, the animal survived for four days, whereas an animal used in a control experiment without bile died in six hours. During the two days before death, the animal which had received both bile and venom exhibited symptoms, however, which were rather those of bile than of venom poisoning. It is improbable, therefore, that the bile in its natural form could be used as an antidote except by stomach administration or by application to the wound caused by a snakebite.

The successful result of the attempt made to isolate its antidotal constituent has, however, rendered it possible to test the therapeutic value of this constituent when it is introduced into the blood of an animal which has already received a lethal dose of venom. The quantity at my disposal being only small, no more than one experiment could be made; and for the same reason it was made on a white rat. Thirty minutes after the animal had received by subcutaneous injection 0.0003 g. per kilo. of Indian cobra venom, 0.012 g.—equivalent to 0.075 g. per kilo.—of the part, soluble in water, of the alcoholic precipitate of puff adder's bile was injected under the skin of the other side of the body. Only slight symptoms of the action of the venom were manifested, consisting chiefly of loss of appetite and indisposition to go about; but they had completely disappeared at the end of twenty-four hours. The animal was kept under observation for a fortnight, and remained well to the end of this time. In a control experiment, a white rat of almost the same weight received subcutaneously a part of the same solution of cobra venom, representing also a dose of 0.0003 g. per kilo. Grave symptoms were produced in a few hours, and the animal was dead on the following day.

This experiment, taken in conjunction with the considerable number of *in vitro* experiments that have been made, not only supplies strong confirmation of the evidence given by those experiments that bile is able to render serpents' venom inert, but also suggests that from bile there may be produced an antidote for snake poisoning, which, in its antidotal value, is at least equal to the most powerful antivenene or antivenomous serum as yet obtained from the blood of immunised animals.

It is interesting to find that serpents' bile enters into the composition of the medicines most trusted in for the treatment of snakebite by the natives of Africa. Several specimens of these native medicines have been sent to me, which contain bile along with many other ingredients, such as serpents' heads, dried and powdered with the retained venom glands. As I have stated in a former communication venom itself is used by stomach administration as an antidote, but many "snake doctors" consider that bile is more effective. It is employed by them not only by stomach administration, but also by rubbing it into the wound inflicted by the serpent. A "snake doctor," with a high local reputation, informed one of my correspondents that bile is the better antidote, but that, as venom can be more largely obtained, he uses it in the first instance, and reserves the bile for employment should the recovery of the patient appear doubtful. When asked to assist in procuring serpents' gall bladders in order that the bile might be examined, he hesitated, and then exclaimed, "Oh! they are beginning to learn too much," being obviously alarmed lest his practice should be injured.

The interest associated with this action of bile is probably not restricted to its effect on venoms. Analogies in composition would suggest that the same action is exerted upon many of the toxins of disease, a suggestion which also receives support from the further analogy that many of these toxins, such as those of tetanus and diphtheria, while notori-

ously active when present in the blood, are inert when introduced into the stomach. Even when circulating in the blood, toxins, in common with other organic poisons, are probably being constantly eliminated into the alimentary canal, where they would at once lose their destructive power by contact with the bile, and thereby the total effective quantity of the toxin in the body would be reduced. There are also many poisonous substances generated in the intestinal canal, which in some circumstances produce intoxication. The production of this auto-intoxication may partly be due to the failure of the liver to secrete a sufficient amount of healthy bile, and the therapeutic value of cholagogue substances, so long employed on empirical grounds, may thus also obtain a satisfactory explanation.

Bile is produced in large quantity by all animals, and it is present in the intestinal canal throughout its whole length, but beyond the fact that it is an important excretion, removing waste products from the body, its functions are not known to be of much value. So much is this the case that a recent writer has remarked, "the bile is a most elaborate secretion; it is poured into the intestine, and finds apparently little to do."[1] To such recognised functions as the promotion of fat absorption and the laxative and indirect antiseptic actions, there may be added the additional function of rendering inert many organic poisons introduced into or generated in the alimentary canal.

REFERENCE.

[1] Halliburton, *A Textbook of Physiology and Pathology*, 1891, p. 687.

THE BACTERIOLOGY OF ALOPECIA AREATA.

By GEORGE THIN, M.D.

A STUDY of Sabouraud's remarkable paper on Alopecia Areata in the *Annales de l'Institut Pasteur* of February 29th, 1897, has led me to believe that a short statement of some observations of my own in connection with this subject may be of interest. As an excellent summary of Sabouraud's work is given in the BRITISH MEDICAL JOURNAL of April 24th by Dr. Wickham, of Paris, it is not necessary for me now to restate the views of the talented French investigator. My work as compared with Sabouraud's is fragmentary, but in the uncertainty of being able to devote sufficient time to the study in the immediate future, I think it well to put it on record.

In March, 1881, Professor Huxley communicated for me to the Royal Society a paper entitled On Bacterium Decalvans, an Organism associated with the Destruction of the Hair in Alopecia Areata. At that time I occupied myself a good deal with the examination of hairs from cases of alopecia areata, and after having observed minute bodies which I considered were organisms, I selected a certain number of cases for more systematic examination. The method I employed at that time was to pass the hairs successively through a solution of potash, distilled water, alcohol, and ether. They were then placed again in alcohol, and afterwards distilled water, and finally mounted for examination in diluted Goadby's solution. I stated in the paper that the method was not perfect nor always successful, but in some instances it sufficed to show bodies in the cuticle of the hair, which I believed it was justifiable to consider as bacteria. Other methods, designed with a view to free the hairs from fatty matters and render them transparent, seemed to me to afford similar results. The bodies which I considered to be bacteria were round or elongated in shape, were found frequently in pairs, the long axis of each member of the pair forming a continuous line. Sometimes three of them were found end to end with an appearance of one continuous sheath for the three. Clusters of the organisms were also found in dammar preparations, in which the hair was found split into shreds, the shreds being sometimes so thin that the objects were seen with much distinctness. I inferred from the appearances observed that the bacteria grow downwards between the internal root sheath and the shaft. Towards the root of the hair they penetrate the hair substance, and as they multiply they ascend upwards in the substance of the hair. The breaking up of the hair was attributed to the disorganisation caused by the products of the growing organisms, for it is unreasonable to suppose that a free development of bacteria can take place in the shaft of the hair without some of its substance being decomposed and its integrity destroyed. I was careful in the summary of my paper to divide the statements into two categories: one as to facts, the other as to theory. The facts were that minute bodies of definite and fixed shape and size, having the refractive quality of bacteria, were found in and on the hairs in alopecia areata. The theory was that these bodies were bacteria, and that the disappearance of the hair was due to a breaking up of the hair shaft by the multiplication in it of the organisms. For these organisms I proposed the name of "decalvans," and if it becomes definitely proved that an organism is the actual cause of alopecia areata I venture to think that no better name could be found for it.

In a plate which accompanied the paper in the *Proceedings* of the Royal Society, the bodies I described are drawn, and the drawings give a very good idea of the way in which they were grouped and arranged. I call special attention to that paper and to the plate which illustrates it, because, so far as I know, it is the first time that an attempt was made to show by direct observation that alopecia areata might be caused by a bacterium. I do not make the statement that this is the same organism as that which has been so ably studied by Sabouraud in sections of the skin, but I see no reason to believe that it might not be the same. At the Versammlung Deutscher Naturfoerscher und Aerzte in Strassburg, September 1885, Dr. von Sehlen demonstrated to the Section of Dermatology and Syphilis microscopic preparations of a typical case of alopecia areata in which organisms which he describes as micrococci were to be seen in the sheaths of the hair root. The following year at the meeting of the Versammlung at Berlin he expressed himself as concurring with Max Joseph in considering that experiments by the latter observer showed that the primary cause of the disease is of a trophoneurotic nature, but added that the micro-organisms were necessary to supplement it—"eine notwendige Hilfsursache Alopecia Areata."

In the year 1889 I caused to be removed, from a patch of alopecia areata in the scalp of a young man, a small portion of skin, which I examined microscopically. In sections stained with gentian violet I was struck by finding in some of the hair follicles a sac-like dilatation in the upper part of the follicle, just above the entrance of the duct of the sebaceous gland, and in this sac-like dilatation I found numbers of well-stained micro-organisms. I found that the same organisms stained faintly with hæmatoxylin. In some of the follicles, in which there was not much distension, a smaller number of similar organisms were found lining the inner root sheath of the hair. I proposed investigating in a similar way a series of cases, but my attention was directed to other matters, and, being unable at the time to continue the study, the sections were put away for future use. When reading Sabouraud's paper in the *Annales*, and when examining the plate which illustrates it, I at once observed the similarity of the appearances in his plate to those which I remembered having seen in my sections, and on re-examining the sections I found that, although most of them had lost their colour, in some the staining remained sufficiently good to enable me to again study the organisms. In a few preparations the gentian violet coloration still persists, and although the hæmatoxylin staining, which was faint at the outset, had become still fainter, it was still sufficient to bring the bacteria into view.

I am not aware that anyone has published drawings similar to those of Sabouraud, and, therefore, although I possess sections of only one case, I hope it will be interesting, as well as instructive, if I remove them from the drawer in which they have lain for eight years, and describe them in the BRITISH MEDICAL JOURNAL. Those readers who have not had an opportunity of seeing Sabouraud's original drawings will be able to form, from the figures which I give, a better idea of what the appearances are to which he refers than they could by simply reading a description of them. Readers familiar with the histology of the skin, on looking at Fig. 1, will at once see that the upper part of the hair follicle is in an abnormal condition. Above the point of entrance of the sebaceous gland into the follicle, and between that point and the rete mucosum, the follicle is seen to be dilated, and at the dilated part to be filled with a deeply stained, irregular mass, and when looked at with a magnification of 400 to 500

diameters, it is seen that the colour is due to the broken up and irregular root sheath having retained the stain. In the preparation this part stained violet, while the outer root sheath of the hair had retained a carmine stain. On

Fig. 1.—*a*. Horny layer of epidermis. *b*. Rete mucosum. *c*. Hair shaft. *d*. Border of detached inner root sheath, shown more highly magnified in Fig. 2. *e*. Outer root sheath of the hair. *f*. Altered inner root sheath. Groups of bacilli are present at the parts marked as dark patches. *g*. A group of bacilli are to be seen at this point in the altered inner root sheath. (See Fig. 3.) *h*. Sebaceous gland as seen magnified by a low power.

examining the disintegrated inner root sheath with a high power, very minute bacteria could be seen in considerable numbers in its substance, surrounding the shaft of the hair. (See Figs. 2 and 3). They were not present in the outer root

Fig. 2.—*a*. Outer edge of the hair. *b*. Space between hair shaft and the inner root sheath. *c*. Bacilli lying on the inner root sheath. *d*. Inner root sheath. Very highly magnified; about 2,000 diameters.

sheath, nor in the surrounding connective tissue. They were seen in greatest abundance on that part of the inner root sheath which was close to the hair. These organisms are so small that the artist found it very difficult, in drawing them, to be sure that the size was accurately given, and in order to secure as nearly as was possible a representation of their size and form, I was obliged to have the drawings made with an unusually high power. This was done by using a Powell and Lealand's 1-20th apochromatic oil immersion, a No. 10 eyepiece, and the long (10-inch) tube. Notwithstanding the high eyepiece employed the image was quite distinct. The magnification as seen

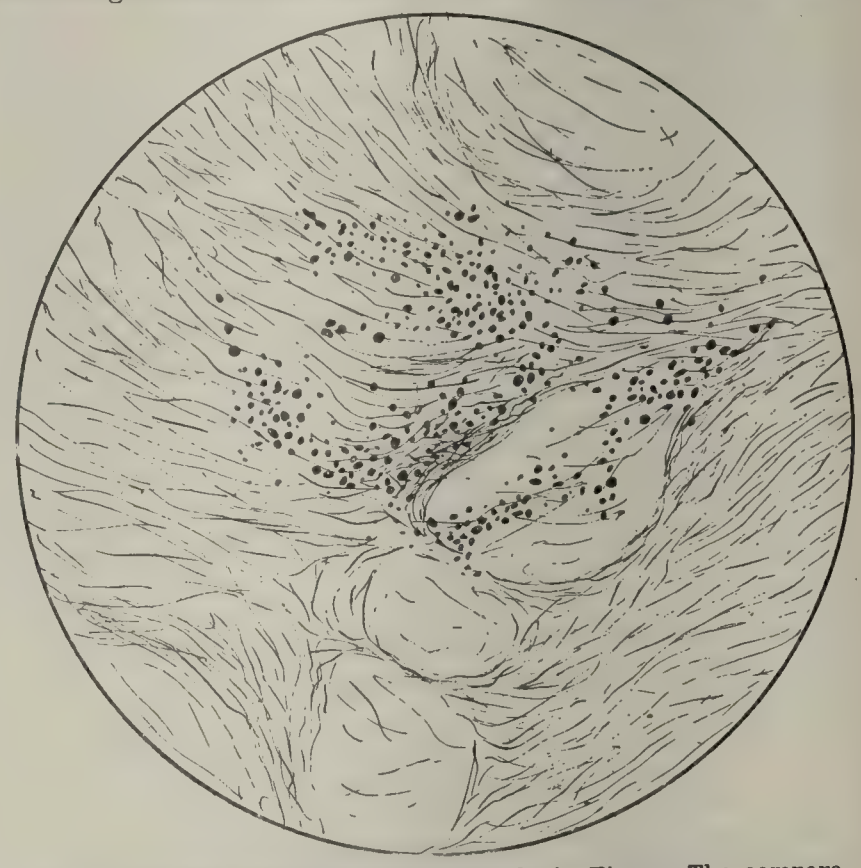


Fig. 3. Organisms seen at the part marked *g* in Fig. 1. The comparatively clear space indicates the canal in which the hair shaft lay. The organisms are seen to be grouped round the site of the hair shaft. Very highly magnified; about 2,000 diameters.

should be about 2,000 diameters, but I find that in drawing from the microscope, when the camera is not used, the personal equation can never be quite eliminated, different persons seeing (and therefore drawing) the same objects different sizes. In the present case I think the form of these minute bacteria has been fairly well given, and their position and number are exactly as represented in the drawing, each organism having been carefully copied from the image, the artist being instructed to take special care to reproduce the size. For the purpose of clearness a part has been chosen for drawing in which a cluster of organisms was found lying on a flat surface of the detached inner root sheath (Fig. 2), a space intervening between the inner root sheath and the border of the hair shaft. In comparing these drawings with Sabouraud's plates, I consider that the dilated hair follicle, with its stained masses, is equivalent to his "seborrhœic cocoon," and it was when I saw the drawings in his plates that I was reminded of the appearances which I had seen eight years previously. The difference between the magnifying powers used in drawing the individual bacilli in Sabouraud's plate and those used by the artist for the drawing of Fig. 2, renders a comparison of the two drawings somewhat difficult. Sabouraud's drawing was made by a 1-12th immersion with a 5 eyepiece, mine with 1-20th and a 10 eyepiece, to which must be added the increased magnification obtained by using the English length of tube. My magnification must have been, therefore, at least double his. I can only say that in both cases a small bacillus is shown, of which the length usually considerably exceeds the breadth, the proportion of the length and breadth in both cases being not dissimilar. In another part of the preparation, the part marked *g* in Fig. 1, a number of organisms which were present were also drawn (Fig. 3), and in that drawing there are present not only elongated bacilli, resembling those shown in Fig. 2, but shorter forms, and some almost round, resembling examples of a similar form which are also to be seen in one part of Sabouraud's plate. As far as the appearances are concerned, I see no reason to believe that the organisms portrayed by him are different from those seen by myself and shown in Figs. 2 and 3.

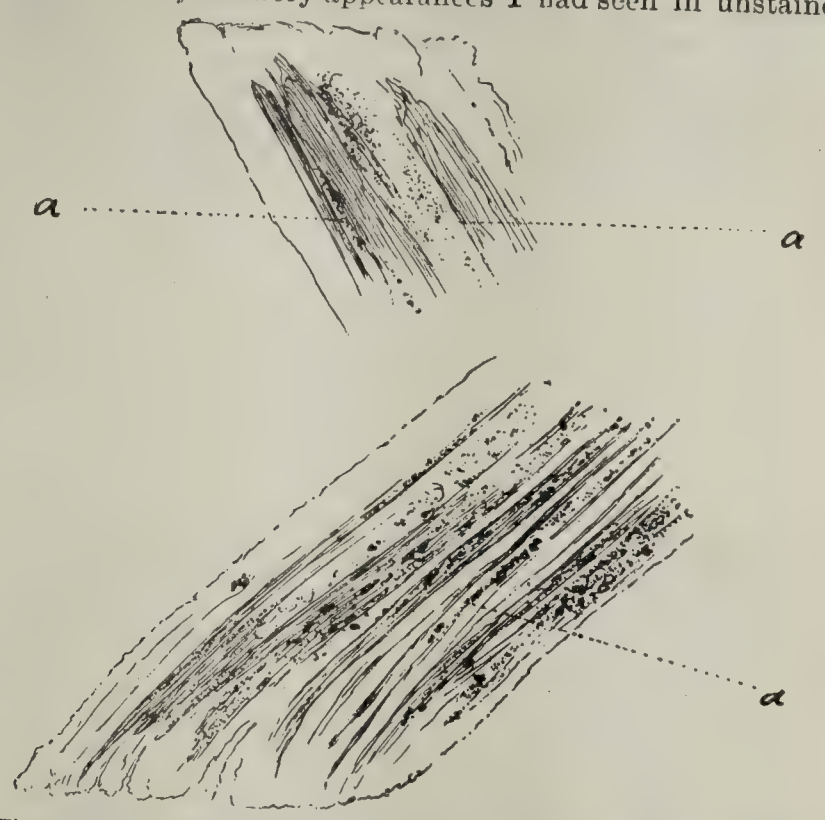
The relation which these organisms probably have to the loss of the hair is so well considered in Sabouraud's paper (see Dr. Wickham's abstract) that it is not necessary for me to discuss the question here. The French investigator seems on the right road to place the causal connection on a definite basis. So much for sections of the skin in alopecia areata.

In reverting to my paper in the *Proceedings* of the Royal Society, to which I have already referred, it will be remembered that I had described what I believed to be organisms in split up and disintegrated hairs, and an interesting case having presented itself within the last few weeks, I decided to utilise it, to see whether I could, by the newer methods, get more demonstrative preparations than I obtained at a time when I failed to procure satisfactory results by staining.

The commander of a merchant ship, aged 43, who had always enjoyed good health, and who appeared a vigorous and robust man, consulted me on April 30th, on account of a loss of hair on the thighs and legs, having been alarmed by being told that the disease was a form of alopecia which might extend, and cause a loss of hair over the whole body. His thighs and legs were those of a somewhat hairy man, being, in the unaffected places, covered with black hairs a little over half an inch long. He informed me that two years and a-half previously a patch of alopecia appeared on the front of the left thigh. Six months afterwards a similar patch appeared on the right thigh in a corresponding place, and three or four months later a similar patch appeared on the right ankle. The first patch observed on the thigh was the size of a florin before it attracted his attention. A year ago a patch appeared on the back of his right hand, and another patch on the left wrist about the same time. On examining the affected parts I found that the whole of the front part of the thigh was free from hair, the bald part extending almost to the knee, and a little towards the outside. There were round bald patches on the calves. The hairless part had a regular margin, as if it had been made with the sweep of a razor. The hairless follicles were indicated by small pin-headed prominences of a slightly dull brick-red colour. On the lower half of the bald patches on the thighs I noticed some small, short stumps in the follicles. All the bald patches were fairly uniform in appearance, and there were no inflammatory symptoms and no scaling, and no alopecia on the head or face. The clinical appearances were characteristic of alopecia areata, and that diagnosis was confirmed by the absence of tricophyton in the few hairs and stumps which were examined.

These were extracted by himself, and sent me by post after he left me, there not being time for this purpose when he consulted me at my house. He sailed the next day, and in the meantime I have not had another opportunity of seeing him. I had only a few hairs and stumps at my disposal. These were stained in gentian violet by the Gram-Weigert method. In the hairs on the margins nothing abnormal was found, and, in the few stumps which were available, the majority of them had the appearance, under the microscope, simply of a short hair which has been forcibly pulled out, and nothing abnormal was seen. In one of the stumps, however, which showed to the naked eye an abnormal appearance, I found numerous micro-organisms deeply stained with gentian violet, whose general arrangement in the split hairs recalled to my memory appearances I had seen in unstained

Fig. 4.—A stump extracted from the patch of alopecia areat as seen y a low power.



Figs. 5 and 6.—Two ends of the stump more highly magnified, but as seen by a low power. The masses of bacilli (*a*) can now be seen arranged between the splittings of the hair

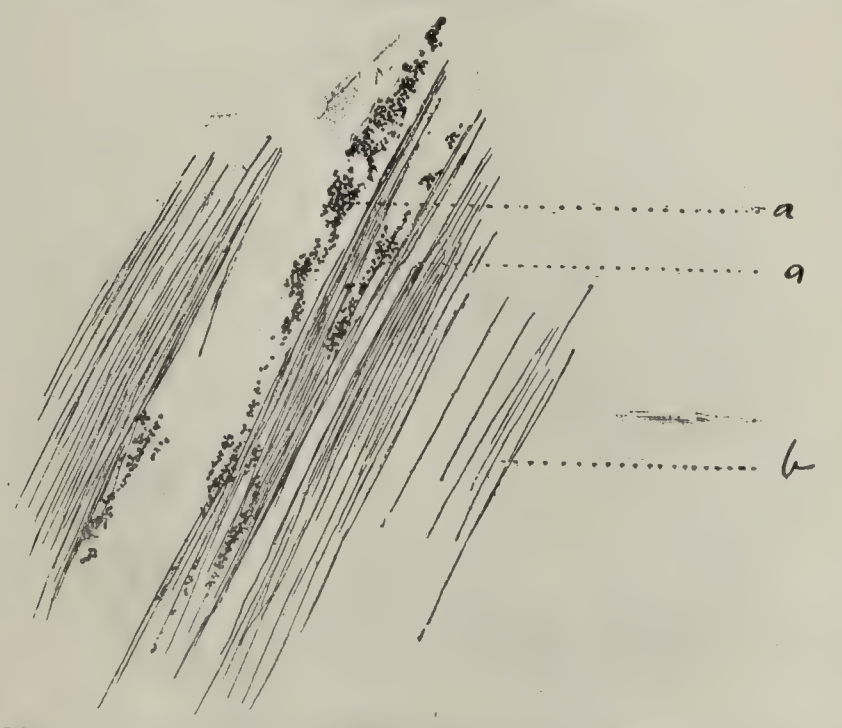


Fig. 7.—Part of a breadth of this stump as seen by a high power, probably about 700 diameters. *a*. The individual bacilli can now be seen. *b*. The edge of the hair.

preparations in previous years. It is for this reason that I consider the fact worthy of being put on record in such a way as to define more precisely the appearances which I had previously described, the successful staining affording an opportunity for drawing and for photographing which was not pos-

sible, to anything like the same extent, in unstained preparations. This hair stump was, as will be seen by looking at the figures (4 and 5, 6 and 7) split up into longitudinal bands by clefts. In these clefts numbers of well-stained small bacilli are to be observed. The organism is a minute bacillus, mostly single, but frequently in pairs, there being rarely three, and still more rarely four in a row, showing the manner in which the organism multiplies. An examination of the drawings will save a more detailed description. Fig. 4 shows the hair as seen by a low magnifying power. Figs. 5 and 6 show the ends of the hair as seen with a somewhat higher power, but still not sufficiently magnified to show the individual bacilli well. Fig. 7 is a portion of the breadth of the hair taken from near the middle of the stump, and an attempt is made to show the individual organisms. This drawing was made by a 1-20th oil immersion, a low eyepiece, and a short tube, and probably represents a magnifying power of 700 to 800 diameters. It shows the general arrangement of the bacilli in groups between the clefts of the fibres of the hair.

In Fig. 8 I have endeavoured to show the various forms in

Fig. 8.—Various forms of bacilli seen in the hair, the bacillus being sometimes seen as almost round, generally elongated, sometimes in pairs, and sometimes as double pairs. Highly magnified.

which I observed the bacillus. They are selected from a number of drawings made by myself, and give no idea of the relative proportion in which the different forms were found. The single and the double bacilli are by far the most common. The rows of three were not common, and of four rare.

In order to obtain as accurate a representation as possible of this bacillus Mr. Andrew Pringle was good enough to undertake to photograph it in the hair with a magnifying power of 1,000 diameters. Figs. 9 and 10 represent these

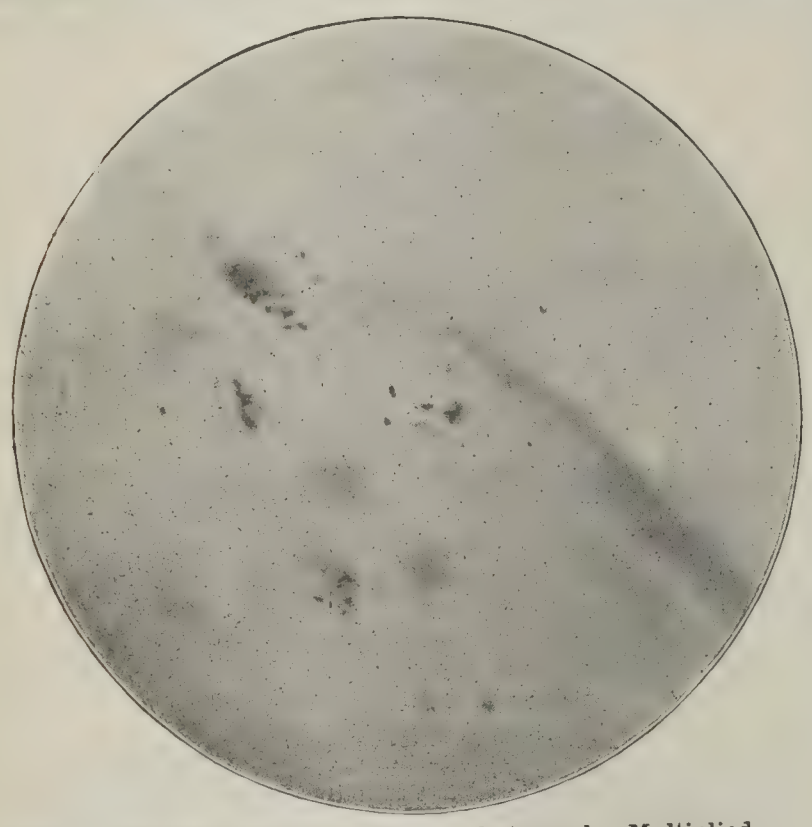


Fig. 9. Organisms on the hair; from a photograph. Multiplied 1,000 diameters.

photographs, and although their reproduction in the BRITISH MEDICAL JOURNAL presents technical difficulties, the engravings may give some idea of their general form and size. The arrangement in pairs and in threes and fours shown in Fig 8 recalls forms shown in Fig. 5, Plate 4, in Sabouraud's paper—the organisms observed in the lower part of the "seborrhœic cocoon;" but although I make this remark, I do not wish to imply any assertion regarding the identity of the organisms.

The importance which will be attached to the presence of these organisms in a split-up stump in a case of alopecia areata will necessarily depend on the subjective attitude of the reader. I do not mean to say that it proves much or

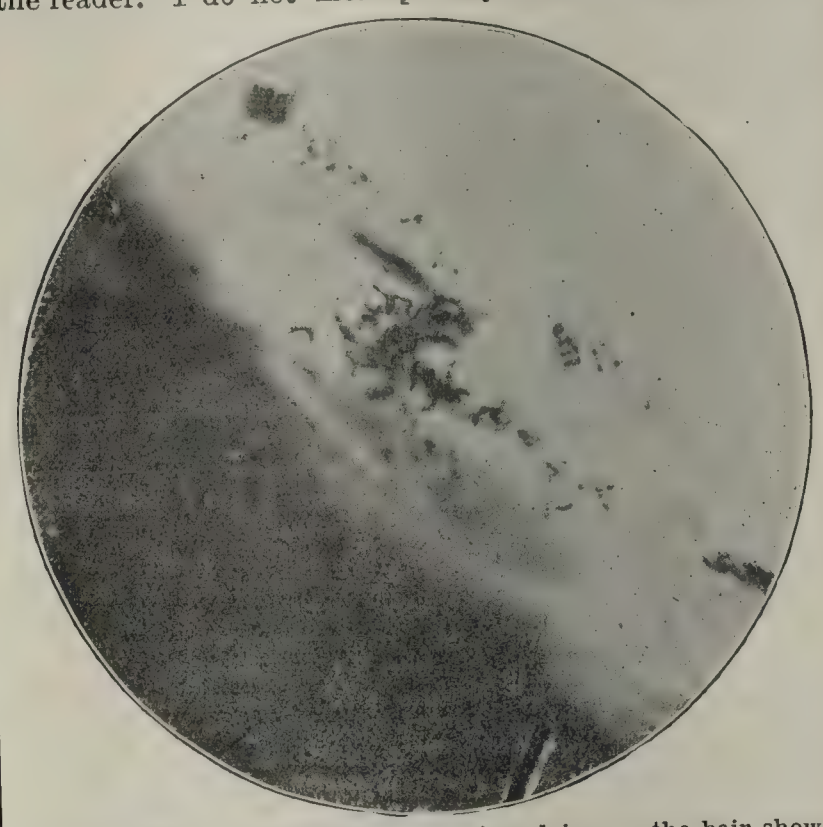


Fig. 10.—From a photograph. Organisms lying on the hair showing some long forms. Multiplied 1,000 diameters.

that it is a proof that alopecia areata is caused by an organism, but what I do believe is this, that an organism cannot multiply in the inside of a hair or in the hair follicle outside the hair without disorganising the tissue in which it is grown. Its nutrition can only take place by the splitting up of the elements of the hair sheath or hair shaft, part of the products being appropriated to its growth and part of them being left as abnormal substances in the follicle.

According to my view a hair cannot possibly remain healthy or remain for a long time in the cutis if its elements are split up or disintegrated by the growth of a bacillus, and similarly the inner root sheath of the hair by which the shaft is attached to the cutis, if it is disorganised by the growth of a bacillus, will cease to perform its functions, and the hair must fall.

I would not have published this solitary case if it had not confirmed the results of my previous observations, and if the pressure of other matters had not rendered it improbable that I shall be able to devote much more time to this special investigation. Whatever the future may have in store in the way of discovery of the part played in the skin by pathogenic organisms, every well-ascertained fact connected with the microbes found in the hairs or hair follicles deserves at the present time to be put on record. The observations which I have now noted may be found to have some bearing on facts collected by other observers, and may, I hope, suggest further investigations by attracting the attention of workers to what seems to be a very promising field; and if I have assisted in calling fresh attention to Sabouraud's paper, and have therefore been instrumental in promoting the further study of the subject by pathologists and bacteriologists in the various parts of the English-speaking world, my paper will have served a good purpose.

Two well-attested sets of facts strengthen the view that alopecia areata is caused by a bacterium. The one is the occasional communication of the disease by contagion, and the other the arrest of its spread by antiparasitic remedies. As regards communication by contagion, the French observers (the disease seems to be comparatively common in

France) have recorded numerous examples. Even in this country, cases of the kind are occasionally found. I have at the present time under my care a lady whose well-marked alopecia areata of the scalp followed an attack of the disease in her husband. A few years ago I had under my care a young adult man, with well-marked alopecia. He had visited a married sister, who gave up her own bedroom to him. She omitted to take away her towels and hairbrushes, although she was suffering from alopecia areata. The brother used both towels and brushes from the Saturday to the Monday, and shortly afterwards observed a patch of alopecia in his scalp.

As regards the successful treatment of alopecia areata by antiparasitic remedies I entertain no doubt. In the great majority of cases this treatment, if properly carried out, arrests the disease, and my experience of the effects, in a great number of patients, of the vigorous treatment of the margins of the patches by strong sulphur ointment, which is described in this Journal of 1882, ii, pp. 783, 828, has since been amply confirmed.

In prescribing this treatment it is necessary to insist on the hairs being cut from the margin of the patch for a distance of at least half an inch, and the sulphur ointment should be firmly rubbed into the hair follicles of this margin. Turpentine liniment I have also found useful. Some years ago I succeeded in arresting the spread of the disease in a lady's eyebrows by its use. The baldness had begun at the outer ends of the eyebrows, and had steadily advanced until the outer halves of both eyebrows were lost. By the cautious but thorough use of this liniment the inner halves of the eyebrows were saved, and some hairs shortly afterwards began to reappear in the halves that had been denuded.

CHLOROFORM AND THE HEART.

By Surgeon-Lieutenant-Colonel E. LAWRIE, M.B.,
Residency Surgeon, Hyderabad, Deccan;
President, Hyderabad Chloroform Commission.

It is stated in the British Medical Journal of April 24th, 1897, that Mr. Leonard Hill has "brought forward additional evidence of the incorrectness of the doctrine promulgated by the Hyderabad Chloroform Commission, that chloroform has no direct action on the heart.....Recent experiments, we are glad to see, are in complete accord with clinical experience." The fallacy of the first of these statements is readily demonstrated. The Hyderabad Commission's experiments on animals have proved that the uncomplicated action of chloroform is to cause lowering of the blood pressure with, first unconsciousness, then anæsthesia, then stoppage of the respiration, and then death from stoppage of the heart. These are the elementary facts. It ought to be clear, even to Mr. Leonard Hill, that if he, and Messrs. Gaskell and Shore, and MacWilliam, obtain results, by "ingenious" methods, which are at variance with these ascertained facts, they must be due to complications introduced by their experimental methods, and not to any variation of the physiological action of the drug—which is, of course, an impossibility.

There is no doubt that in several recent instances physiologists have mistaken the effects of complications, introduced into their experiments by themselves, for the effects of chloroform. For example, the Glasgow Committee gave chloroform on a "cloth saturated with the anæsthetic, held over the mouth and nose" of the animal. This produces struggling, holding of the breath, and vagus inhibition of the heart. The stoppage of the heart was attributed by the Glasgow Committee to the action of the chloroform, while the real cause of its inhibition through the vagus, the breath-holding, was entirely overlooked. In the same way Messrs. Gaskell and Shore, by means of their "ingenious" cross-circulation experiments, caused the heart to stop. But it was afterwards discovered that they had never succeeded in establishing a true cross-circulation, and that the effect which they attributed to the direct action of chloroform was an indirect one which proved nothing.

Where the Hyderabad Commission is inclined to feel resentment is against Mr. Leonard Hill's unfairness in parading the good work of the Glasgow Committee, Snow, and Ringer, MacWilliam, and Gaskell and Shore, in contrast to the Hyderabad Commission, although he differs from all of them, as much as they differ from one another, on all points which are essential. For instance, Mr. Leonard Hill allows that cardiac inhibition is of no importance, and never entails syncope. Nevertheless, the Glasgow Committee had for years been considered to have proved that cardiac inhibition is of importance, and does bring about that identical syncope which is supposed in England to be the cause of death from chloroform. The Hyderabad Commission was instituted primarily in order to prove or disprove this very assertion of the Glasgow Committee. They did succeed in completely disproving it, and Mr. Leonard Hill might have given them credit for having performed this signal service, though it has since become very nearly necessary to have another Commission to set at rest the errors which have cropped up in its place. Similarly with Messrs. Gaskell and Shore, Mr. Leonard Hill does not scruple to quote their cross-circulation experiments with the usual heroics, while ignoring those performed in Hyderabad which contradict and overthrow them, but he admits that Gaskell and Shore are wrong in supposing that chloroform does not affect the vasomotor system. He utterly fails to see that this is a vital point, for, if vascular dilatation plays an important part in the fall of blood pressure with chloroform, Gaskell's and Shore's experiment, taken at its best, no longer proves that the fall of pressure is the result of paralysis of the heart. The Hyderabad Commission have always held that this was a mere dogmatic assertion on the part of Gaskell and Shore, introduced because they saw its necessity if their experiments were to prove anything, and we are glad to see that on this point they are not confirmed. It is very evident that Mr. Leonard Hill has either not attempted to repeat Gaskell's experiment, or if he has that he has failed to produce the same effect. It is much the same as regards MacWilliam; Mr. Leonard Hill quotes him with approval, but, as a matter of fact, there is no correspondence whatever between MacWilliam's gradual dilatation of the heart and his own sudden dilatation in the course of two or three inspirations. Finally, that Mr. Leonard Hill should quote any work of Ringer's, at any rate any that has been published, as proving with anything like exactitude that ether is fifty times more dangerous than chloroform, only shows that he is like the drowning man—ready to clutch at any straw that offers to support him in his erroneous notions.

What Mr. Leonard Hill means by stating that the Hyderabad Commission have given themselves away in the matter of the accidental deaths it is not possible to imagine. The accidental deaths which took place during the research of the Hyderabad Commission were published to show that there is no truth in the idea that there is something in the climate of India which prevents accidents from chloroform. The Hyderabad Commission never pretended to draw any scientific value from them as to the exact cause of the accidents, the circumstances under which they occurred making that impossible. Mr. Leonard Hill, on the other hand, just like the clinical accident-producing chloroformist, wants to persuade us that there was evidence of paralysis of the heart in similar cases which happened in his hands. This is exactly what the Hyderabad Commission are unable to see. There is not one tittle of evidence of any kind, still less of physiological proof, of paralysis of the heart in the cases he describes. His whole statement on the subject is purely a conception of what he imagines occurs in these cases, and has no scientific value whatsoever.

Mr. Leonard Hill admits that ether has the same action as chloroform, only that it is less intense, and yet he assumes that chloroform has some effect on the heart which is wanting in the case of ether, and he leaves his uninstructed audience to continue the fatal practice of injecting ether subcutaneously in cases of chloroform poisoning. That Mr. Hill should be able to restore the heart's activity by the process he describes of emptying the right heart into the abdomen, is itself the most convincing proof that the heart is not poisoned by the blood, which must still remain in the coronary arteries and in its muscular tissue. It is rather very strong evidence that the condition of the heart was produced by some cause outside it, most probably obstruction to the circulation in the lungs. As a practical method of restoring

an unfortunate patient poisoned with chloroform, he and his friends are quite welcome to keep it to themselves; for our part, we can only hope we shall never have occasion to employ it. It is a comfort to learn that Mr. Leonard Hill's students, in spite of his physiological demonstrations with his clips and everything complete, still go out into the world confident that they can give chloroform with safety and ready to use it, and only return to him for consolation when they have failed through carelessness or in consequence of his neglect to sufficiently impress upon them the necessity, which he sees clearly enough himself, of taking the advice of the much-abused Hyderabad Commission if they want their deaths from chloroform to be rare. If they can do without chloroform in America, as Mr. Leonard Hill asserts, why do the anæsthetists, who are afraid of it, not adopt ether entirely in England?

The second statement in the article of April 24th last—"recent experiments, we are glad to see, are in complete accord with clinical experience"—supports the Hyderabad Commission, and certainly not Mr. Leonard Hill. All experimental data are necessarily in complete accord with clinical experience, and of nothing is this more true than of the action of chloroform. Thus the experimental data of the Hyderabad Commission furnish corroboration of the principle of an absolutely safe method of chloroform administration, which is, to be guided entirely by the respiration and not by the circulation: "You never see anybody here with his finger on the pulse while chloroform is being given" (Syme). On the other hand, the experimental data of the Glasgow Committee, of MacWilliam, of Gaskell and Shore, and of their latest ally and champion, Leonard Hill, lead to a method of chloroform administration, "his fingers should never be off the pulse" (Erichsen), which is, even according to themselves, notoriously unsafe. This is amply substantiated by Mr. Leonard Hill's clinical statistics, backed up by the independent testimony of the writer of the article of April 24th. Mr. Leonard Hill refers to a certain "institution in Great Britain in which, in the course of a recent year, there were, out of some 3,000 or 4,000 administrations, no fewer than 12 fatalities."

The article of April 24th quotes "one year" in which "out of 41 deaths from chloroform syncope 39 occurred in the primary stage." It is impossible to conceive any condemnation more crushing than these statistics of the practical outcome of the doctrines of Mr. Leonard Hill and his physiological friends, whose "ingenious" but complicated experiments tend to bolster up the exploded theory of the direct action of chloroform on the heart. It may interest Mr. Leonard Hill and his supporters to learn that in India there are no anæsthetists and no ether, and at the same time there is no institution which can boast of deaths from chloroform by the dozen—a fact which alone may be regarded as conclusive proof that there is something wrong somewhere with their notions and methods.

Mr. Leonard Hill's abuse of the Hyderabad Commission is unworthy of serious notice. It was, we must suppose, a necessity to get in touch with his audience at the start, for the Society of Anæsthetists, before whom his address was delivered, appear to be afraid, though I am sure erroneously, that the Hyderabad doctrines, if adopted thoroughly, would be the ruin of their speciality. It is infinitely amusing to be gravely told by Mr. Leonard Hill that the Hyderabad Commission was prejudiced in favour of the doctrine that the respiration fails before the heart, and was engaged in a wild goose chase to prove the fact. The chasing, as Dr. Lauder Brunton can testify, was all in the other direction, and it was only after the Commission had got tired of trying ineffectually to stop the heart by paralysis with chloroform, that they were obliged to adopt the other view.

AN Ottawa telegram states that the proposal to found a Victorian Order of Nurses in Canada as a permanent memorial of the Diamond Jubilee at first met with some opposition, but this is now disappearing as Lady Aberdeen's plan becomes understood. The Central Committee reports great and growing encouragement. Subscriptions are coming in from all parts.

CERTAIN POINTS IN THE CAUSATION AND TREATMENT OF SPINAL CURVATURE.

BY RICHARD BARWELL, F.R.C.S.,
Consulting Surgeon Charing Cross Hospital.

INCLUDED under the term "lateral curvature of the spine" are a great number of varying conditions, many of which are not so much a pathological entity as the result of disease or of functional error in some other locality. Familiar and facile instances of extraneous primary cause are rickets and coxalgia, flat foot, etc., while in rather later life ovaralgia frequently plays its part. In connection with respiratory etiology, for instance, pneumonia and pleurisy, attention should be directed to the frequent association of adenoma in the naso-pharynx with dorsal curves, while certain other causes are more occult.

Although space in these columns is far too valuable to permit of a treatise on this extensive subject, it may yet be permitted me to break the ground in certain directions, especially as to a condition which in 1895 I described as "amesial pelvis." This malposition, though it has not been mentioned by other writers on deformity, is in many instances the sole and efficient cause of curvature, especially of such as, though perhaps not severe, are extremely recalcitrant, while not infrequently this particular cause produces the most severe and violent deformations (see Fig. 1). In the last edition of my work on this subject, a diagram is given of this condition.[1] I could not place the patient entirely nude; she was therefore examined piecemeal, if I may so express it, and the result embodied in the outline sketch; against this method, however unavoidable, might plausibly be urged the objection that imagination took a large share in the production, but this I am able to refute, inasmuch as the medical attendant of her family brought to me a young girl whose age permitted of entire examination and delineation, the result being quite like my diagram save that the amesiality—therefore, of course, also the curvature—is in the contrary direction, namely, she throws her pelvis to the right.

ig. 1.—Amesial pelvis.

It will be observed that the child (approaching 14) does not stand with the limbs perpendicular to the floor, but that they, or rather we will say the gap between the lower limbs slopes from below upward and to the right; hence, in order to maintain balance, the spine must be bent laterally, so as to bring the centre of gravity over the point of support. The condition is thus simply explained in the shortest possible

terms, for space does not allow of a minute description of its complicated anatomical problems; suffice it to say that careful and repeated measurements of the lower limbs showed absolutely no difference in their length; the feet were both slightly but equally flat, the hips were normal, and, as far as measurement of the pelvis itself, always a most difficult procedure, can be relied on its two sides were in size perfectly symmetrical.

Now, this case, did it stand alone as an anatomical curiosity, would hardly be worth the time and space given to it; but three years ago I had already remarked this malposture in a sufficient number of cases to entitle me to lay great stress upon it as productive of curvature. Having been very much occupied with a multitude of cases of scoliosis, I am now justified in stating that a large proportion of curvatures, unaccounted for by some patent cause, such as thoracic, hip, knee, or foot troubles, or rachitis, are due to amesiality of pelvis. I will not here attempt to elucidate or speculate on the occult cause of this amesiality. The subject is most difficult, and requires at the hands of the profession greater study. It may, however, be said that it has nothing to do with rickets. Even slight or commencing cases should be examined in reference to this malposture, which may always be suspected if a plumb line dropped from the vertebra prominence fall on one or the other side of the rima natium. Such investigation is the more important, since persistence of this condition is in the absence of thoracic disease or rickets, the most common cause of severe and disastrous distortion, as in the annexed illustration.

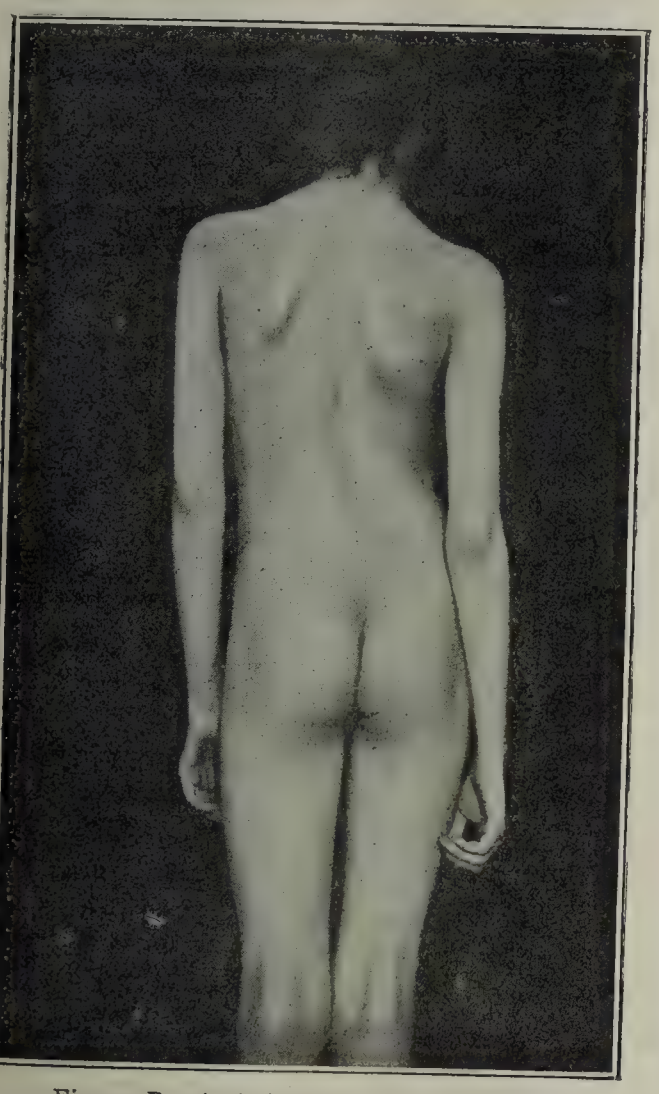


Fig. 2.—Boy (not rickety) with amesial pelvis.

A pelvis which is amesial is generally also oblique, that is to say, its transverse axis or a line drawn from the centre of one to that of the other acetabulum lies higher on one side than on the other.

But there are many cases of pelvic obliquity without amesiality. "Habitual obliquity" is a term I have applied to the custom many people, more especially girls, assume of using always one and the same limb for upholding the body weight, bending the other knee, and letting that side of the pelvis droop. Ovaralgia is frequently responsible for this bad habit. We may with these few words dismiss that part of our subject.

Permanent pelvic obliquity may be caused by a previous and transient attack of infantile paralysis, whose influence on nutrition frequently continues for months after muscular restoration; it may also be due to a past attack of joint inflammation (knee or hip), to flat foot or other form of talipes. More commonly, in fact very frequently, it is the result of asymmetrical growth of the lower limbs, the one, more usually the right, being longer than the other. This may be the result of a blow or strain too slight to have been much noticed or remembered, yet sufficient to interfere with epiphysial function. Frequently the asymmetry is due to mere unevenness of growth from the same sort of cause which makes some persons' noses to lie sideways, or one lateral half of the face larger than the other. Such obliquity makes itself apparent during examination by the fact that the rima natium is not in the drill posture vertical, but inclines from below upward and toward the side on which the pelvis is lowest. Often there may be objection to pushing the garments thus low, though it is better on first consultation to do so. If this be omitted, and even when the slope just described has been noticed a further test should be used. My scoliometer[2] is also valuable for the detection of amesiality, and affords the most certain means of verifying this condition, but it may also be thus done. The patient should be placed facing some straight horizontal edge of some piece of furniture or of a dado, and the surgeon gets his eyes on such a plane that this line cuts the figure at the level of the crista ilii; then placing his forefingers accurately on those parts at the side outline of the body he notes whether one lies above or below this line while the other is upon it.

He who has much practice in these cases and has cultivated his powers of appreciating form becomes quickly convinced of the frequent occurrence in cases of curvature of this latter condition of pelvis.

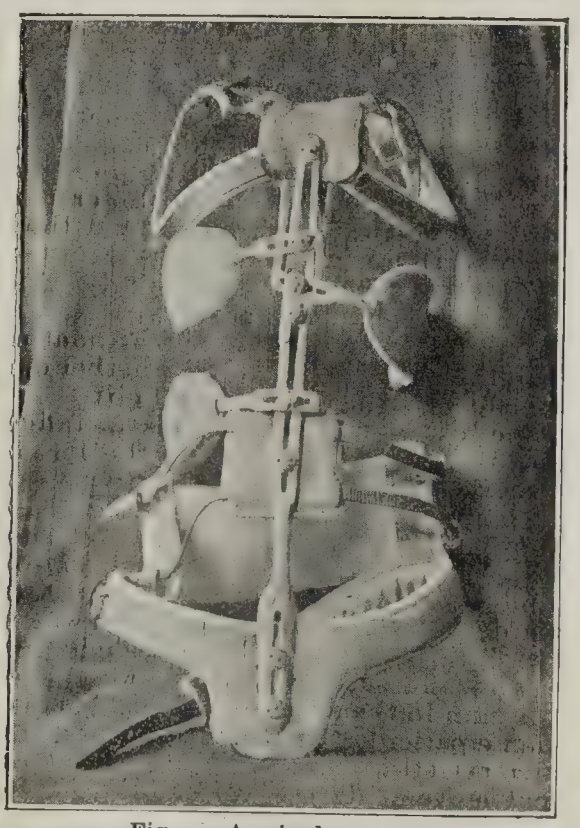


Fig 3.—A spinal support.

In my next paper I shall show that the former malposture (amesiality) is at least as common and is a potent cause of recalcitrance, especially if treatment ignoring the pelvic fault be directed solely to parts above that bone. In some such cases the spinal deformation takes an almost sudden start, and the distortion makes rapid and alarming strides. Indeed it is self-evident that to fasten a stiff engirdling iron bearing levers and uprights upon a crooked pelvis can only be nugatory. The foundation upon which the spine rests is awry, the steel adapted to it must, if it is to fit and be wearable, also be crooked, that is to say, the basis from which the levers and uprights work or are supposed to work being

awry those levers, etc., must either follow and confirm the spinal slope, be thrown out of gear, or by standing away and projecting from the figure be quite unwearable; there is only the choice between these three ways.

Yet this is the prevalent form of treatment, and so many patients come to me who have without benefit worn these mechanisms for years, that it becomes incumbent upon me to show with greater precision why they are, and must necessarily be, unsuccessful. As is always the case with mechanisms that fail to fulfil their purpose, innumerable modifications exist; space, however, will only permit me to depict two, which fairly represent the types of the principal forms.[3] They, judging from what many girls when they first come to me are wearing, seem to be those chiefly in use. Two notions prompt to the inception and construction of these things; one, that "plates" projecting from each side of an upright can act with sufficient power and constancy to have an effect on the most prominent part of the curve; the other that it is feasible to "take off the weight of the head and shoulders" from the spine; some patterns aim at only one of these objects, others at both. Here represented (Fig. 3) is an implement intended to fulfil the former purpose. The essential part is an upright divided into two by a slot beginning on a level with the top of the sacrum, and ending above, on, or near the first dorsal vertebra. Projecting laterally from this upright by slotted stalks fixable by nuts are certain so-called plates, two to left one to the right; the last named is intended to act through the medium of the ribs on the most deviated part of the dorsal curve, while the upper one on the left is supposed to influence in like manner the re-entering bend. The position of the lower left one is such that it can only press on the ends of the lower ribs and the lateral wall of the abdomen. In applying this implement the plates are squeezed in upon those various parts with the hands while an assistant with a key fixes them to the upright. But if these plates are to exert any power that upright from which they are supposed to work must be fixed; Archimedes himself could not work his lever without a fixed point (*που στω*).

Now the contrivances for procuring such fixity are a metal half-girth overlying the sacrum and ilium, completed by a strap embracing the lower part of the abdomen, two other straps springing from the square pad atop encircle each a shoulder. Another square pad on the lower dorsal region carries a broad webbing strap passing round the lower ribs. These bonds, supposed to fix the implement, are so perfectly ineffective that on every one of the patients that have come to me wearing such mechanism one can with the greatest ease sway the whole thing from side to side without moving her trunk in the slightest degree, and this whether one laid hold of the square pad atop or of the iliac half-girth.

The contrivance can therefore by no means influence a contorted spine while the upper plate on the left is so nearly opposite that on the right that if these could press at all they would only, as far as curvature is concerned, counteract each other while they co-operate in compressing the chest. Moreover, in the course of the day a young person stoops pretty frequently, and the upright being rigid must, on a back rounded forward for that purpose, project away from it top and bottom, while pressing unduly on the middle where the lower square pad is placed. In nearly all who have worn that instrument the skin in the situation of that pad is white and bloodless; in one patient, eight months after discarding the appliance, the mark still remains. By these and other necessary functional movements the various bands, etc., become displaced and loosened, the thing becomes a dead weight of about 4 lbs. hanging to the patient's shoulders. Here the choice of the dilemma above indicated has fallen on letting the machine get out of gear.

A different horn has been chosen in the construction of the implement shown in Fig. 4; it is complicated, and a very minute description would probably be inadvisable. To the usual steel pelvic girth are fastened metal hoops to lie above the iliac crests, preventing the implement slipping down. The double central upright carries laced pads, one on the right overlying the most prominent ribs, and, singular enough, opposite to it, is one on the left over the most depressed part of the dorsal thorax. The uprights also carry steel bands or braces, which, passing under the armpits, are attached to the side uprights, and are designed to "take the weight off," but as the shoulder girdle is very movable the only effect is to make the man high shouldered. As far as metal work and belt construction goes the instrument is admirably manufactured; it fitted the man so closely that

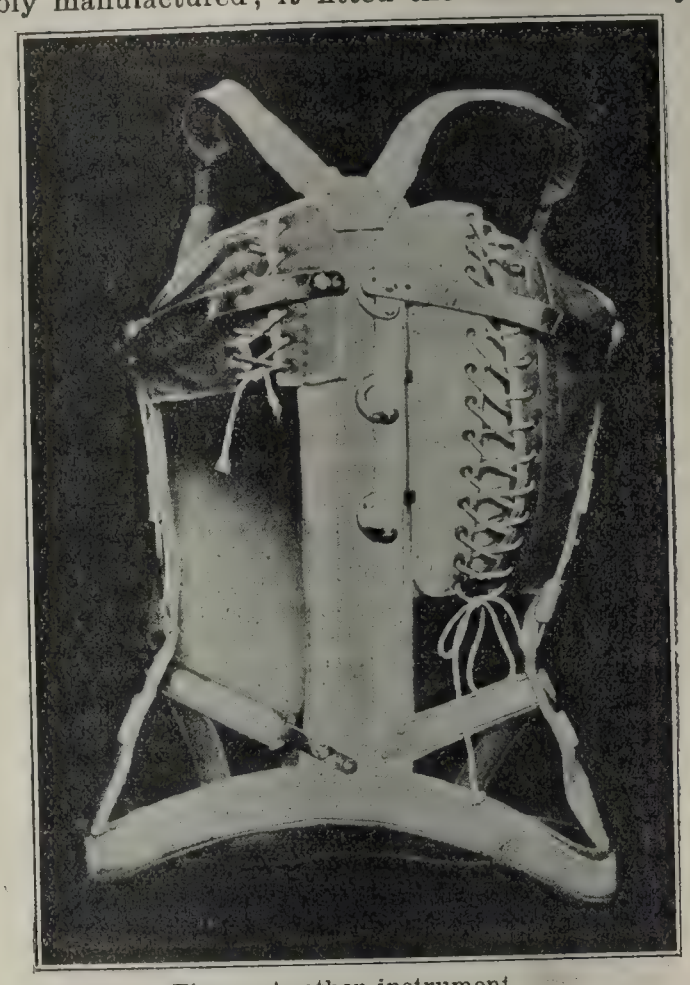


Fig. 4.—Another instrument.

one rather wonders how he could manage to breathe. Indeed the fitting is perfect, and the side uprights follow almost exactly the asymmetry of the patient's form—that is to say, the thing is as crooked as the man's back, which, when it has thus been for a few years kept in a crooked splint, is expected, *mirabile dictu*, to come out straight.

REFERENCES.

1 *The Causes and Treatment of Lateral Curvature of the Spine*, 5th Edition, 1895. 2 Clinical Society's *Transactions*, vol. xxii, pp. 14, *et's eq.* 3 Two other forms are given in my work on *The Causes and Treatment of Lateral Curvature*.

ECTROPIUM: COMPLETE EXPOSURE OF THE CORNEA FOR TEN YEARS WITHOUT DESTRUCTION OF THE EYEBALL.

BY W. ERNEST THOMSON, M.A., M.D.,
Clinical Assistant Glasgow Eye Infirmary, Oculist Glasgow Publi Dispensary.

THE patient declares she is not more than 50 or 55 years of age. Sixteen years ago she fell and (it is said) wounded the right upper eyelid. For many years she has been subject to "breakings out" on the face, and ten years ago a "pimple" appeared at the margin of the orbit, suppurated, and eventually in healing drew up the upper eyelid, to which it had become attached. The nose is said to have been broken in childhood. She came to me, however, not about the right eye at all, which does not indeed seem to her to be worth consideration, but because of increasing dimness of vision in the left eye.

The right upper eyelid is partially everted and tacked up near its edge to the orbital margin. Both lower lids are completely everted; the right can be replaced by pressure upwards upon the skin over the malar bone, the left is completely bound down. The right cornea, which has been completely exposed to the air for about ten years, is covered with a thick greenish yellow crust, which comes off at intervals,

usually of several weeks. When this occurs she is able to distinguish the light from the fire or gas or from the window, and to indicate fairly well the position of a candle flame held near the eye. The eye gives her no pain.

On examining the cornea after the removal of the crust the following are the appearances: The cornea is grey and opaque, somewhat flattened, and shows some blood vessels in its substance. The limbus is indicated by an elevated ridge all round, so that the surface layers of the corneal tissue appear to have been destroyed. The whole of this surface stains greenish with fluorescine. There is a zone of vascularity, chiefly conjunctival, around the limbus. The size and tension of the eyeball are normal. There is a chronic muco-purulent condition of the conjunctiva and lachrymal sac.

The cause of the dimness of sight in the left eye is opacity of the upper half of the cornea, due to irritation by chalky particles in the conjunctiva of the upper lid. The removal of these has greatly relieved the patient. In addition to numerous crusted patches on the face, the point of the nose is in a typical "apple-jelly" condition, and two fingers of the left hand are affected with lupus. (Two consultants, the one a physician, the other a surgeon, are agreed that the disease is tuberculous.)

Without wishing to trust too implicitly to the patient's account of her trouble, there can be no doubt that the exposure of the right cornea is of many years' duration. One would have expected that such prolonged exposure would long ago have led to perforation of the cornea and destruction of the eyeball by suppuration. Yet this has not occurred. As soon as one crust becomes detached another commences to form, grows to a considerable thickness, and then, owing to a collection of fluid beneath it, separates and leaves the corneal tissue exposed and almost perfectly clean.

One must presumably call the disease keratitis e lagophthalmo, though it has not run an acute course. The patient refuses any operation on the face or amputation of the fingers. In any case a plastic operation on such a patient would probably be unsuccessful.

MEMORANDA;

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

HYSTERICAL CONTRACTION OF THE KNEE-JOINT IN A BOY.

I was sent for on the evening of June 8th to see F. R., aged 9, who I was informed had received a kick on the left iliac fossa an hour or so previously.

On examination, there was no evidence of contusion, but marked tenderness, and the boy had vomited. After rest in bed for a day or two, the tenderness gradually decreased, no other symptoms manifesting themselves. On the third day he was sufficiently well to get up for a short time, when it was found that he was unable to put the sole of his left foot to the ground. There was marked contraction of the knee-joint with superficial tenderness over the knee, hip, and lower part of the lumbar spine. Any attempt at extension very much aggravated the pain. He was ordered complete rest in bed for a day or two, but no improvement taking place, a weight and pulley were applied, with the result that in two days the limb became perfectly straight, and the boy was able to walk about without any symptom.

I thought this case worth reporting on account of the age and sex of the patient. I am under obligation to Mr. J. S. Purdy for kindly taking notes of the case for me. I may also add that there had been no previous manifestation of any neurotic tendency.

Leeds. W. MARTIN FROBISHER, M.R.C.S.Eng.

CASE OF CHLOROFORM POISONING: RECOVERY.

As cases in which chloroform has been swallowed for the purpose of committing suicide are somewhat rare, the following case which has come under my notice may prove interesting:

I was called at 8.30 to see a servant girl, aged 19, who had been found lying in bed insensible. I was informed by her mistress that as the servant had failed to appear in the morning, she had gone to her room and had found her insensible.

I found the patient insensible, the face somewhat flushed, breathing stertorous, foaming at mouth, and jaws tightly closed. The pupils were greatly dilated, the eyes directed upwards and outwards, and conjunctival reflexes gone. The limbs were cold, flaccid, and covered with a clammy perspiration. The pulse was slow, feeble, and irregular.

I immediately gave her gr. $\frac{1}{60}$ of strychnine hypodermically, and slapped her chest and face with a wet towel. On learning the nature of the case, I had despatched a messenger to Dr. Pinkerton requesting him to bring the stomach pump, etc., and on his arrival we proceeded to wash out the stomach first with a solution containing 7 grains of sulphate of zinc and then with a solution containing bicarbonate of soda, some of which was allowed to remain in the stomach. In the fluid which was returned from the stomach we detected a slight odour of chloroform. We applied mustard over the cardiac area, and hot water bottles to the feet and legs. Under this treatment she recovered consciousness; the pupils became less dilated, the pulse improved, and her breathing became normal, but showed great signs of a tendency to relapse again.

I had her moved as soon as she seemed able to another bed, and in doing so a one-ounce bottle containing about two drachms of chloroform was found concealed among the bedclothes. I ordered her to have an enema of hot coffee and drinks of water containing bicarbonate of soda.

The after-history is of no interest. She made an uninterrupted recovery, and on account of some slight gastric pain she had a mixture of bismuth and alkalies, and is now quite well.

REMARKS.—(1) I learned from a fellow servant that when she left her at 7 A.M. she was quite well, but seemed depressed, so that it was within two hours after she took the chloroform that I saw her. (2) I was led to make the diagnosis of chloroform poisoning on account of there being found near her bed a bottle said to contain a mixture of carbolic acid, creasote, and chloroform, and as there were no signs of carbolic acid or creasote poisoning I fell back on chloroform, the signs of poisoning by which were well marked. This was verified by the subsequent finding of the bottle containing the chloroform. (3) I estimate the quantity of chloroform taken to be about six drachms. (4) The patient, although she took the chloroform undiluted, never complained of any pain or discomfort in the mouth or fauces.

Southport. W. B. ARMSTRONG, M.B., C.M.

APPARENT DEATH.—A Committee has been formed in Naples for the study of the question of apparent death. The President is Dr. Oscar Giacchi, and the members are Drs. G. Albertolli, F. Bonelli, E. Chiaisio, S. Lanza, F. Conti, L. Lombar, and P. Vandoni, and Miss Elizabeth Berkeley-Barter. The Secretaries of the Committee are Dr. F. Bonelli and Signor C. Gallo.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

CASES OF FOREIGN BODY IN THE EYE.

(Reported by G. H. GOLDSMITH, M.B.Cantab., House-Surgeon.)

THESE cases, which have lately occurred in the practice of Mr. Gustavus Hartridge, at this hospital, illustrate various points in the surgery of foreign bodies in the eye.

CASE I.—A young man was struck in the centre of the cornea by a piece of metal which flew off from the chisel with which he was working. The linear fragment (2 mm. + 0.25 mm.) projected into the anterior chamber from the posterior aspect of the cornea, its anterior extremity being below the surface of this membrane, so that all attempts to remove it from the outside failed, and it was decided to open the anterior chamber, which was done with a keratome. Directly the aqueous escaped the lens came forward against the intruding metal, which was removed without any trouble with a pair of iridectomy forceps, but a few days later the lens became opaque, showing that the capsule had been wounded.

CASE II.—A man was struck by a very similar sharp fragment of iron which penetrated the cornea midway between its centre and the corneo-scleral margin, and its point could be seen projecting into the anterior chamber. The aqueous had not escaped, and presumably the lens was not wounded; Snell's magnet was tried, but failed to stir the foreign body. Eserine was then instilled with the object of bringing the tissue of the iris between the sharp point and the capsule of the lens. Some difficulty was experienced in obtaining a hold of the intruding metal, which was buried anteriorly in the corneal tissue exactly as in the preceding case, and finally an incision was made down to it with a Graefe's knife, much as in Saemisch's operation for corneal ulcer, and so its extraction made possible. No injury to the lens resulted, this having been saved by the intervention of the iris, a physical impossibility in the other case.

CASE III.—A boy was unfastening a box nailed with French nails when a piece flew off and struck him in the left eye. He had no pain, but came up eight days afterwards complaining of loss of vision in that eye, which could only count fingers at 12 inches. There was a nebula on the cornea. Immediately behind this an opacity in the anterior capsule of the lens, and running backwards from it an opaque streak, which terminated in a second opacity against the posterior capsule, where lay a flake of metal distinguished by its lustre. A week later Mr. Hartridge performed discission, breaking up the lens matter thoroughly, and four days subsequently made an incision with a keratome, as for paracentesis, and introduced the terminal of Snell's magnet into the now thoroughly opaque lens. After some groping in various directions the iron was secured, and so removed. It had entirely lost its lustre, and was of dull grey appearance. A month after the first operation the corrected vision of the injured eye = $\frac{6}{6}$.

STATION HOSPITAL, FYZAHAD, OUDH, INDIA.

FOREIGN BODY IN THE BLADDER.

(Under the care of Surgeon-Major E. V. A. PHIPPS, A.M.S.)

GUNNER W. F., Royal Artillery, aged 30, with nine years' service, was sent to hospital on April 17th by the sergeant in charge of his barrack room, as he thought the man looked ill. The patient stated that a week previously he had passed a leather bootlace down his urethra with the object, as he expressed it, of "clearing the pipe out," as he did not think his stream of urine was as free as it should be. He stated that the end of the lace slipped from his fingers and disappeared within the urethra, and he could not get it back. Subsequently, as he experienced much inconvenience, he tried to cut it out himself with a penknife, but did not succeed in opening the urethra.

On admission there was a recent scar of a small jagged wound over the urethra about 3 inches from the meatus, where he had made the attempt, and a good deal of extravasation of blood under the skin of the prepuce. After carefully feeling with the fingers along the course of the urethra and not detecting any sign of the bootlace, I passed a soft gum elastic catheter which went on in to the bladder, without meeting with any obstruction. I then passed with ease a No. 5 silver catheter and drew off a little blood-stained urine. The patient was put to bed.

His urine was found to contain large quantities of blood and mucus. It was evident that the bootlace had passed on into the bladder and was lying there, and had caused extensive injury to the mucous membrane. Under these circumstances I did not consider it advisable to attempt its removal with a lithotrite, but determined to remove it by the operation of median lithotomy, which I did on the morning of April 19th, having in the meantime kept the patient quietly in bed and thoroughly cleared out the bowel. I found the bootlace lying coiled up in the bladder and thickly coated with a rough phosphatic deposit, and withdrew it by grasping it with an ordinary pair of dressing forceps, passed through the lithotomy wound along the finger into the bladder. It measured 14 inches in length.

The patient made an uninterruptedly good recovery. After April 25th no urine was passed by the wound; it was all passed freely by the meatus. Up to April 27th the urine contained blood, at first in large quantities, but gradually diminishing, also mucus and phosphatic deposit. After April 27th there was no blood in the urine, but up till May 5th a gradually diminishing quantity of phosphatic deposit on standing. After this date the urine was normal. The man was discharged to duty on May 16th, the lithotomy wound being completely healed.

REPORTS OF SOCIETIES.

OBSTETRICAL SOCIETY OF LONDON.

WILLIAM DUNCAN, M.D., Vice-President, in the Chair.

Wednesday, July 7th, 1897.

SPECIMENS.

DR. LEWERS: Primary Sarcoma of the Body of the Uterus (to illustrate his paper).—Dr. GALABIN: An Œdematous Fibroid, weighing 20 lbs., removed by Hysterectomy.—Dr. GILES: Molluscum Fibrosum from the Labium Majus from a pregnant woman.

UNUSUAL CASES OF TUBAL GESTATION.

Dr. ARTHUR GILES and Dr. EWEN MACLEAN read a paper entitled Two Unusual Cases of Tubal Gestation: the one causing Chronic Intestinal Obstruction, and associated with Hæmatosalpinx of the Non-gravid Tube; the other simulating Retroversion of the Gravid Uterus. 1. The symptoms and physical signs were principally those of pelvic cellulitis, together with evidences of pregnancy, whilst the case was complicated by chronic intestinal obstruction. In some respects the conditions suggested retroversion of the gravid uterus, and with this idea an attempt was made to push up the mass lying behind the cervix under an anæsthetic, but without success. The patient gradually got worse, and the propriety of opening the abdomen was discussed, but it was agreed that she would probably not stand the shock of operation, an opinion confirmed by her death shortly afterwards. 2. The symptoms and physical signs were those of retroversion of the gravid uterus causing retention of urine. An attempt to push up the mass behind the cervix under an anæsthetic was unsuccessful. But while resting in bed symptoms improved. Nine weeks after admission she was operated upon, and a tubal gestation was found, filling up the pelvis behind the uterus. Two conclusions were drawn as to treatment: First, that a pelvic tumour which differed in signs and symptoms from classical types should not be treated by the expectant method, but should be dealt with surgically as soon as possible. Secondly, that if a tubal gestation were diagnosed before rupture took place, the possible train of disasters would be best averted by immediate operation.

Dr. HORROCKS considered that it would have been better to have operated on the case which afterwards proved fatal. No doubt it was a difficult point to decide; but he considered it a good rule that when in doubt it was better to operate. This rule was, indeed, more firmly established now that we had better weapons, such as saline injections, to deal with collapse, and also a more perfect system of asepsis. He asked what was the cause of death. Was it hæmorrhage? And, if not, was there any clotting or embolism? He also pointed out that the uterus was only 3 inches long. Obviously, from the size of the fœtus, the uterus had either not increased in size, as was usual, or else the fœtus had died, and involution to some extent had taken place.

Dr. DRUMMOND ROBINSON asked why the authors had considered that the case might possibly have been one of cellulitis. He thought the physical characters suggested peritonitis rather than cellulitis. He also drew attention to the fact that a history of injury was absent—a point against the diagnosis of cellulitis.

Dr. MAIDLOW remarked that the history of the physical signs pointed to pelvic peritonitis and not cellulitis—a fact which, with the pregnancy signs, he thought might have pointed to ectopic gestation. Moreover, symptoms of intestinal obstruction of any severity were, in his experience, very rarely associated with retroversion of the gravid uterus.

After some remarks by Dr. GALABIN,

Dr. GILES replied. He said that he quite agreed with Dr. Horrocks's rule, "When in doubt, operate." In the first case, however, the patient's condition was so bad that it seemed impossible she could stand operation. The cause of death was intestinal obstruction and collapse. His reason for regarding the case as one of pelvic cellulitis rather than peritonitis was that, in the first place, there was at the time no reason to suppose that the appendages were affected; and he was in the habit of associating pelvic peritonitis with tubal mischief. In the second place, the board-like hardness was more suggestive of cellulitis than peritonitis.

DECIDUOMA MALIGNUM.

Dr. LEWERS read a paper entitled A Case of Primary Sarcoma of the Body of the Uterus (Deciduoma Malignum) in a patient aged 24 years, treated by vaginal hysterectomy. The patient had been married a year, and believed that she had had three miscarriages at two months, six weeks, and three weeks respectively. She came under observation on account of persistent metrorrhagia, dating from the time of the first supposed miscarriage, about eight months previously. The case on admission was at first supposed to be one of incomplete abortion; but, after dilatation of the cervix, examination showed that the symptoms were due to a malignant growth in the body of the uterus. Vaginal hysterectomy was performed on February 11th, 1897; the patient recovered, and was free from any sign of recurrence in May, 1897. An examination of sections of the growth showed it to be a sarcoma, and essentially identical with what had been described under the name of deciduoma malignum. The author examined the evidence as to the patient having ever been pregnant at all. While admitting the impossibility of proving she had never been pregnant, he considered that, having special regard to the fact that menstruation had never been regular, there was some probability that conception had never occurred.

Dr. EDEN said that the question of the connection of these growths with pregnancy was the point upon which the whole theory of deciduoma malignum was established. If it could be shown that the disease had occurred in women who had never conceived then the theory must be abandoned, but nothing could be more difficult than the absolute exclusion of pregnancy by scientific proof in any woman, and in women whose menstruation was irregular it became quite impossible. It was obviously unfair, however, to argue that every woman might be assumed to have been pregnant unless the contrary could be proved. Direct evidence of pregnancy being so much more easily obtained, they were justified in asking that in those cases the positive evidence of pregnancy should be conclusive. In the author's case he thought there could be no reasonable doubt that the woman had never been pregnant at all, although in the nature of things absolute proof of this was impossible. Two other cases of deciduoma malignum had been recorded in which the evidence of pregnancy was equally wanted. It could not be too strongly emphasised that irregular hæmorrhages occurring in women who were the subjects of malignant disease of the uterus were no proof of abortion.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

D. ARGYLL ROBERTSON, M.D., President, in the Chair.

Wednesday, July 7th, 1897.

CASES.

DR. W. STEWART (Leith) showed a patient after operation for Drainage of Dilated Lateral Ventricle.—Dr. NORMAN WALKER showed a case of Sclerodermia after treatment for a month; two cases of Lupus Erythematosus after treatment with 10 per cent. oxidised pyrogallic acid, as recommended by Unna; and a case of Vitiligo.—Mr. COTTERILL showed a young woman after Gastro-duodenostomy for Carcinoma; and a boy, aged 5, after Enterectomy for Stricture caused by Tuberculous Glands.—Dr. JAMES showed a case of Cerebral Hemiplegia in a Child.

SPECIMENS, ETC.

DR. W. ALLAN JAMIESON showed microscopical specimens illustrating the Mode in which Trichophyton Invaded the Hair.—Dr. NORMAN WALKER showed specimens of Sabouraud's Bacillus of Seborrhœa and of Alopecia Areata.—Dr. ALEXANDER BRUCE showed a specimen of Pachymeningitis Hæmorrhagica Interna; also specimens of the Distoma Sinense, which had been sent to him by Dr. Welch, of the Straits Settlements, specimens of the Trichocephalus Dispar, and of the Ankylostoma Duodenale. Some of the latter parasites were shown attached to the mucous membrane of the jejunum, which was in a catarrhal condition. Their ova, obtained from fæces, were also shown under the microscope.—Mr. COTTERILL showed a specimen of Vulvar Cyst, with a photograph.—Dr. JAMES showed an Instrument for Estimating the Surface Tension of Urines.

DRAINAGE OF LATERAL VENTRICLE IN EPILEPTIFORM CONVULSIONS.

Dr. W. STEWART (Leith) read notes of a case of Epileptiform Convulsions: Drainage of Dilated Lateral Ventricle. The patient, aged 20, was admitted to Leith Hospital suffering from severe epileptiform fits of two years' standing, with cerebral deterioration. He had had nystagmus and enlargement of the right side of the head, particularly over the parieto-occipital region, since childhood. In early childhood it was noticed that he was in the habit of turning his eyes to the left when looking at objects in front of him. Unconsciousness, and biting of the tongue occurred during the fit, and pain over the posterior fontanelle after; there was tenderness on percussion there. The localising symptoms were amblyopia, complete left homonymous hemianopsia and hemiachromatopsia, with concentric contraction of the healthy field. He was trephined over the occipital lobes, at a spot midway between the three-quarter and seven-eighth points and one inch to the right of the middle line, under aseptic conditions. Both dura and brain bulged into the opening. The brain at this part consisted of only a layer of cortex the thickness of blotting paper, overlying a greatly-distended lateral ventricle. On this being opened into, a large quantity of cerebro-spinal fluid escaped; a drainage tube was introduced, and brought out at the edge of the flap. The patient was collapsed at the time, but did well, though after a week the temperature rose—without sepsis—and polyuria showed itself. The discharge of cerebro-spinal fluid continued to flow profusely until the eleventh day, when the tube was removed; fluid still coming way, however, until the twenty-second day. Immediately after the operation the patient said that he saw better, and a month afterwards the left field for objects and colours had considerably extended. He had had no fits for six months, and his cerebral condition had greatly improved, when he was again seized with fits of a more severe and constant character, and was again admitted to hospital. The flap was opened up, and the adhesions of the pericranium to the dura separated, and a drainage tube again introduced into the lateral ventricle. There was no anchoring of the brain. The flow of cerebro-spinal fluid was very much smaller in amount than

on the former occasion, and the patient suffered no ill-effects from the operation either at the time or afterwards. The tube was allowed to remain in for about six weeks, and during that time the patient had no fit; shortly after its removal, however, he had four fits in one day, but since then he has had no more. He still takes bromide. The case was believed to be one of congenital unilateral hydrocephalus; and the hemianopia and the hemiachromatopsia were the guides for operation.

The paper was discussed by Drs. Sym, Elder, Joseph Bell, and the President; and Dr. Stewart replied.

Picric Acid in Burns.

Mr. Miles read a paper on picric acid as a primary dressing for burns. Whether in superficial or in more extensive and serious burns the objects aimed at in a first dressing were: 1, to relieve pain; 2, to prevent sepsis; 3, to allay inflammation; 4, to prevent the spread of inflammation to devitalised tissue; 5, to promote rapid separation of sloughs by dry gangrene; 6, to encourage healthy granulations. The method adopted was to cleanse the parts with weak carbolic lotion, to prick the blisters, to apply surgical lint soaked in a saturated solution of picric acid (picric acid ℥jss; absolute alcohol ℥iij; water to ℥xl), wool, and a many tailed bandage. The subsequent dressing was guided by the discharge, temperature, etc., and the same dressing was used with the precaution of never tearing away adherent lint. Chloroform was given during the dressing, especially in children. In many cases it was well to dress twice a week. Mr. Miles had now treated 100 cases in Leith Hospital by this method. The advantages of the method were: 1, simplicity; 2, painlessness; 3, asepsis; 4, small amount of discharge; 5, infrequent dressings; 6, the astringent action of the picric acid in preventing inflammation; 7, its effect in promoting the growth of epithelium; 8, rapid separation of sloughs; 9, absence of poisoning symptoms; 10, economy in dressings. The disadvantages were the staining of the hands and bed clothes. For the former smearing with vaseline before and washing with alcohol after lessened this disadvantage if it did not entirely obviate it. The cases to which the treatment was most applicable were superficial burns, but Mr. Miles had used it in burns of even the fifth degree. The limits of picric acid treatment: After inflammation had subsided and granulations had formed, the treatment must be appropriate to that particular stage however produced. But this stage was much more quickly reached by picric acid than by any other method of preliminary treatment. The results were less tissue destroyed and smaller cicatrices.

Dr. Joseph Bell was not satisfied that his results with picric acid had been so satisfactory as those of Mr. Miles; and

Dr. W. Allan Jamieson was not satisfied with the results he had got in the treatment of eczema by picric acid.

Chronic Basal Meningitis.

Dr. James Carmichael read a clinical record of five cases. In all the pathological appearances had been similar—meningitis of a non-tuberculous nature confined to the basal portion of the brain and extending from the optic chiasma in front to the pons and medulla and adjacent surfaces of the cerebellum behind. In all acquired hydrocephalus had resulted from obstruction to the flow of cerebro-spinal fluid, and the third and lateral ventricular cavities were enlarged and distended by the retained cerebro-spinal fluid. The ages of the children were respectively 5 months, 10 months, 5 months, 2 years, and 9 years. In all the cases except that of the girl aged 9 cervical opisthotonos was well marked, and convulsive seizures were present varying in character from tetanic rigidity to clonic spasms and general convulsions. The duration of the cases was from two weeks to four months. The temperature was pyrexial in two, in the others average normal. It was remarked that the etiology of the disease was suspected in three of the cases; one succeeded an acute attack of intestinal catarrh, another followed a blow on the head. The child aged 9 had an attack of acute rheumatism complicated with acute meningitis, from which she recovered and was in good health for five months and a half, when she died in a few hours in convulsions due to intracranial pressure of fluid from closure of the foramen o Majendie. In none of the cases was there any history o syphilis. The chronic cases were treated with iodide of potassium in the hope that the meningitis might have been due to syphilis, as in several recorded cases which were known to be syphilitic a cure had resulted.

Dr. Alexander Bruce demonstrated (in illustration of Dr. Carmichael's paper) 5 cases of acquired hydrocephalus from non-tuberculous basal meningitis. In all the meningitis was chronic in nature, in all except one affected the base from behind the optic chiasma to the medulla. In the exceptional case the two adjacent surfaces of the cerebral hemispheres were firmly adherent. The foramen of Majendie was closed either by a large layer of fibrous tissue or else by adhesion of the adjacent surfaces of the cerebellum to each other and to the sides of the medulla, a process effectually preventing the escape of the cerebro-spinal fluid from the fourth ventricle. In one instance a cyst was found under the arachnoid under the posterior part of the cerebellum, formed by a firm adhesion of that membrane to the pia mater, some distance from the foramen. In this instance the foramen itself was patent, and actually enlarged, but the fluid was restrained from escape by the adhesion of pia to arachnoid.

Resilient Stricture.

Dr. C. W. MacGillivray read notes on Resilient Stricture and a New Instrument for its Cure. This form of stricture was most troublesome to both surgeon and patient, being small in size, irritable, and presenting difficulties to the introduction of instruments. When once an instrument had been passed, however, it could easily be dilated, with the unfortunate result that recontraction rapidly took place. In this respect it resembled an india-rubber ring, which must be either ruptured or cut before it ceased to act. Rupture might be effected by means of Holt's instrument, but in order to do this a large dilator must be used, leading to laceration of the mucous membrane; while cutting was ineffective unless preceded by stretching. The best urethrotomes were those that cut from behind forwards, but the only one which combined stretching with cutting was that devised by Otis, which was only suited for large-sized strictures. Heron Watson's probe-pointed bougies and catheters were perhaps the best instruments for difficult strictures, and he had therefore taken one of them as the model for the urethrotome he now exhibited. This might be shortly described as being of steel, probe-pointed, and increasing in size up to No. 5 at the haft. On the lower surface near the curve is a slit from which can be projected a flat wire in the form of a loop. On the opposite side is a small concealed probe-pointed knife, similar to that recommended by Maisonneuve. The instrument having been passed so that the mechanism lay in the dilated part of the urethra, behind the stricture, the loop was projected by means of a screw in the handle; this was then pulled into the stricture until it was well stretched, and the knife being now projected the slightest touch of the sharp edge was sufficient to divide the constriction. He had now employed this instrument in about twenty cases, with eminently satisfactory results. No general anæsthetic was required; the pain and bleeding were insignificant; and recontraction was very slow, only requiring the occasional passage of an instrument.

Laryngological Society of London.—At an ordinary meeting on June 9th, Mr. H. T. Butlin in the Chair, *Post-mortem* Specimens from a case of Laryngectomy for Malignant Disease of the Cricoid were shown by Mr. W. G. Spencer.—A Microscopical Specimen of Acute Ulcerative Lacunar Tonsillitis was shown by Mr. R. Lake. The patient, a young man of 22 years, was taken suddenly ill with sore throat on September 1st, 1896. There was ulcer on the right tonsil about the size of a shilling, and covered with a tenacious grey slough. Mr. Lake removed the tonsil, and after five days the patient was well. The specimen showed large masses of beaded bacilli situated in the advancing edge of the slough; in the older slough they were more rare.—Two Cases of Cleft Palate with Enlarged Tonsils, Inferior Turbinates, and excessive quantity of Adenoid Growths were shown by Dr. Edward Law. The patients—a girl 15 and a boy 13—were sister and brother, and were both operated upon during infancy for harelip. The only symptom causing discomfort was that the power of distinct articulate speech was most seriously impaired in both instances. A broad cleft was seen

in the middle line passing through the hard and soft palates. The tonsils were enlarged, the inferior turbinates were greatly hypertrophied, and the defective nasal septa were seen passing backwards to the posterior pharyngeal wall above, and, as it were, through the adenoid masses.—Dr. J. W. BOND showed (1) the case of Cystic Tumour in Naso-pharynx of a man aged 45. (2) Case of Hypertrophic Laryngitis following a Membranous Larynx of unusual character. The interest of the case consisted in the fact that no Klebs-Loeffler bacillus was found, but the bacillus pyocyaneus. (3) A case of Recurrent Laryngeal Growth.—Dr. JOBSON HORNE showed a case of Syringomyelia, with paresis of the left half of the soft palate and abductor paralysis of the left vocal cord, in a married woman aged 31.—Dr. CLIFFORD BEALE showed the Œsophagus, Trachea, and Larynx from a man, aged 55, who had suffered from Cancer of the Œsophagus and Trachea, causing obstruction of the trachea and bilateral paralysis of the vocal cords.—Mr. WAGGETT showed a case of Unilateral Paralysis with Displaced Arytenoid and Dyspnœa in a young woman of 22, dating from infancy.—Dr. STCLAIR THOMSON showed a case of Hypertrophic Laryngitis with Atrophic Rhinitis and Pharyngitis, consequent on an attack of typhoid fever and diphtheria.

REVIEWS.

MOLIÈRE AND HIS MEDICAL ASSOCIATIONS: GLIMPSES OF THE COURT AND STAGE: THE FACULTIES AND PHYSICIANS OF THE GRAND SIÈCLE. By A. M. BROWN, M.D. London The Cotton Press, 1897. (Demy 8vo, pp. 260, 6s.)

WHILST Shakespeare seems never to have made a single character in any of his plays a vehicle or exponent of his own ideas, it is certainly otherwise with Molière. This opinion, so often expressed about Shakespeare, must no doubt be qualified by the fact that we know next to nothing about his private views; it is by his dramatic method that experts see how no character in his plays is meant to be Shakespeare. Of Molière a great deal is known. He lived in the fierce light which beat about the throne of Louis XIV. Everybody talked about the doings of every fashionable and popular person associated with the Court. Religion, scandals, family affections, and aperients were discussed freely, and sometimes set in a notebook, conned and learned by rote.

Shakespeare's representation of the doctor is familiar to us. The physician in *King Lear* expresses his opinion, in exquisite poetry, that sleep is the true therapeutic agent for the crazy old monarch, and that a hypnotic must be administered to him. The physician in *Macbeth* makes clinical observations on somnambulism. He is best remembered, however, for the rebuke which he receives from Macbeth. He informs the usurper that the patient must minister to himself when his affection is mental. This reply is abrupt and uncourtly. The doctor should have seen that the tyrant was consulting him about himself and not about Lady Macbeth. There naturally follows the very Molièrian retort, "Throw physic to the dogs, I'll none of it." It reminds us of an observation by another type-character, Don Juan, in Molière's *Festin de Pierre*. "Tout leur art," says the famous voluptuary who believes in nothing, "est pure grimace."

Shakespeare certainly does not create his two physicians in order to laugh at them or at their art. Even Macbeth's observation is meant not so much, if at all, to show the danger of want of medical tact as to display that sincere yearning of saint and sinner alike for a panacea for the heartache. With Molière it is not so. Don Juan is laughing at his valet who has been passing off as a quack, but the author of the play is clearly putting his own ideas into the profligate's mouth. How came Molière to acquire these anti-medical ideas? Dr. BROWN has written this work in order to enlighten us on this subject, interesting alike to doctors and to dramatists.

Before Molière's time, even in classical dramas which the French in Louis XIV's days looked upon as art standards, it was customary to laugh at the orthodox doctor. In the earlier seventeenth century plays, ridicule of the physician sometimes constituted both plot and title. The domestic drama, untried by Shakespeare, allowed of the exposure to ridicule of the doctor, as known to the audience in daily life. The remarkable aptitude of seventeenth century writers for coining suggestive surnames, as well developed in Molière as in Bunyan, made matters harder. "Monsieur Purgon" is a name sublimely offensive to the class which the dramatist loved to attack, whilst M. Desfonandrès has a fine old aristocratic French aspect, though it is a corruption of the name of a real doctor, M. Desfougerais, the meaning being merely "kill-men" in Frenchified-Greek.

So far Molière only followed a fashion. There remain two questions in relation to Dr. Brown's subject. How far was the profession to blame in the dramatist's time? Why was Molière so specially hard upon doctors? It is for his answer to the second that the author deserves the most credit. The first we can easily solve, and it has been well demonstrated already. Dr. Brown discusses the matter at length and with great ability. The Dean of the Faculty at Paris was pompous and a foe to progress, the system of education was obsolete and ridiculous, and the examinations for qualification consisted of some "reasonings" which the candidate had to set forth, so as to please the Court. Yet he, as a rule, had never seen a patient. The dramatist, in the celebrated "ballet" at the end of the *Malade Imaginaire*, makes the Court and the candidate speak in turgid French-Latin verse about such noble themes as purgatives and enemata; but this "ballet" is well-known to every doctor who reads, and it has been repeatedly quoted in our columns. We must remember that Molière legitimately criticises many inherent weaknesses in the profession. Quarrelling was not confined to medical men at Versailles, and is not extinct. Dr. Diafoirus shows a jealousy of the fashionable doctor not absolutely unknown outside the *grand siècle*. The learned professor finds that the general public believe what doctors tell them, whilst at Court *quand ils viennent à être malades, ils veulent absolument que leurs médecins les guérissent*.

Lastly, let us beware lest we think more of the case than of the patient. The consultations in *L'Amour Médecin* and *Monsieur de Porceaugnac* are conducted on lines that we have long abandoned, but they may still warn us of the bad impression made on the public when the doctor shows too great zeal about a "most interesting case."

Dr. Brown's main argument remains. Molière's special distrust of doctors lay in his own nature. He was educated amongst well-known scientists, advocates of Baconian methods, inductive reasoning and experiment. He saw these great men obstructed and ridiculed by pedants and senile dignitaries. He knew well enough that, unlike Her Majesty, King Louis XIV was sickly all his "record" life, and was always being physicked. As Béline said of Argan, the king had *sans cesse un lavement ou une médecine dans le ventre*. Molière saw his King surrounded by doctors, yet never robust. As Dr. Brown remarks, "it is the weakness of the world to refuse to understand why the great should not have maladies and medicines like other people, and will persist in dying though doctors do their best to save them."

Unfortunately, Molière had a sadder reason for being disillusioned about medicine. Unhappy in married life, his health and temper began to fail. At first he was simply hypochondriacal, but it soon became otherwise. Early in this century an English lady in Paris refused to see the *Médecin malgré lui*, because, she said, "I have seen the *médecin malgré moi* too often of late!" Poor Molière wrote the *Malade Imaginaire* partly in ridicule of his own sufferings, chiefly because the doctors could do nothing for him. It turned out that he was really ill, a *malade malgré lui*. As Dr. Brown lucidly demonstrates he died of phthisis. When failing, Molière often subjected himself to rigorous medical treatment, yet he steadily grew weaker. In that condition he wrote the "common-sense" speeches of Béralde, who talks against medicine to his hypochondriacal brother, and advises him to give up doctors. Molière satirises the egotism and selfishness of an invalid, drawing from his own feelings. He overdoes his part, and makes Béralde offer to take Argan *voir quelqu'une des comédies de Molière*. It is a dangerous sign when an author begins to quote himself in this manner; it shows that he is both disillusioned and spoilt; in short, in a very unhealthy state of mind. His enemies, including his friends,

as a literary character once observed of another author, eagerly perused the manuscript of a satirical drama, *Eléomire Hypochondre ou les Médecins Vengés*. The name is an anagram of Molière; the author thoroughly understood the great dramatist's weakness.

Dr. Brown shows us how the end came at last. Molière went on acting, though hæmoptysis became frequent, and emaciation progressed rapidly. He was taken mortally ill when playing the part of Argan in his own *Malade Imaginaire*. He went home and died within an hour. Within that hour he grumbled about his wife's soup, yet he asked for a pillow stuffed with drugs which that lady had made him. It was only internal remedies that he objected to. He also examined his sputum, and declared that it showed nothing unusual or alarming. Then he quietly expired. Medicine had seemed to him a good subject for satire. He found, like Macbeth, that it could not "minister to a mind diseased," nor could it cure his phthisis, allowing him to continue his arduous duties at the same time. No wonder he was hard on doctors. We know that he expected too much, and that he did not understand our art. But so it will always be with the general public, as it was with the great comedian.

Yet, all through Molière's attacks on doctors, even in his most extravagant flights, there is much for us members of the profession to reflect upon. Our art has advanced, but, like other men, we have our special failings. As Dr. Brown observes in his excellent sketch, which we have been considering in these paragraphs, "The picture Molière bequeaths of petty medical vanities, jealousies, and rivalries does not apply to his time only, but to all time; consequently it behoves us, in witnessing the scenes so invariably true of our own infirmities, to study them and correct them if we can."

DIE FÄRBETECHNIK DES NERVEN SYSTEMS. [The Technique of Staining the Nervous System.] Von Dr. B. POLLAK. Berlin: S. Karger. London: Williams and Norgate. 1897. (Cr. 8vo, pp. 136. 2s.).

DURING recent years several books have appeared in various languages on this subject, and to English-speaking workers. Goodall's excellent manual on the microscopical examination of the brain will undoubtedly be already known. As in most books of this kind a chapter is included on the preservation of the brain. The best method, however, is not included among those given here; for a minimum of shrinkage, good colour, and satisfactory differentiation of grey and white matter, Laskowsky's method has given the best results. Chapter II includes sections on hardening, embedding, section cutting, etc., and in Chapter V, on staining, sections are allotted to the demonstration of ganglion cells, medullary sheaths, axis cylinders, neuroglia, etc. Short chapters are also given to photographic methods, and to the changes in the weight of the brain due to hardening agents.

The author has wisely adopted the method so successfully used in v. Kahlden's *Histologische Technik*, of giving a summary in most cases of how the method is precisely carried out. The book is not intended for beginners, as a certain knowledge of general principles is presupposed. New and satisfactory methods are those most minutely described. Occasionally the author's own views as to the value of a method are not precisely stated, but this is largely compensated for by the chapter at the end, in which the methods recommended in the examination of the various parts of the nervous system are well summarised. This book will no doubt prove of much service to those interested in the subject, and can be thoroughly recommended.

CHINA: IMPERIAL MARITIME CUSTOMS: MEDICAL REPORTS FOR THE HALF-YEAR ENDED MARCH 31ST, 1896. Fifty-first issue. Shanghai: Published by order of the Inspector-General of Customs.

THIS number, in addition to the paper by Dr. Matignon on Typhus Fever in Northern China, to which we refer elsewhere, contains a report by Dr. John D. Thompson on the Health of Hankow, embodying some valuable observations on the typhoid fever of that port, as well as on thermic fever, liver abscess, and other diseases. Dr. Thompson remarks that there can be no doubt that typhoid fever exists plentifully among the Chinese. Details of some of these native typhoid cases would have been appreciated. It is now well known that the disease is common enough among European residents almost everywhere in China and Japan.

Among Dr. Hart's surgical memoranda we note a case of ligation of the femoral artery for elephantiasis of the leg. We were under the impression that this operation had been given up owing to the risk and to the want of permanency in the results. It has been generally believed that in those cases in which the femoral artery has been ligatured the benefit accruing was attributable more to the associated bandaging, rest, and elevation than to the temporary arrest of the circulation in the limb; for, if in a case of double elephantiasis of the legs, one leg is treated by ligation of the femoral artery and the other with elevation and bandaging only, the results will be as good and as lasting from the latter as from the former. In neither case is the benefit permanent.

The other reports in this volume contain matter of interest, but for lack of an index or other device for facilitating reference their value is much detracted from.

THE ADMINISTRATION OF NITROUS OXIDE AND OXYGEN FOR DENTAL OPERATIONS. By F. W. HEWITT, M.A., M.D.Cantab. London: Claudius Ash and Sons. (Demy 8vo, pp. 116. 4s.)

AFTER the failure of Wells's public demonstration of the use of nitrous oxide as an anæsthetic its employment fell into abeyance until revived by Colton and Smith in America and Rymer and Evans in this country. To Clover's ingenuity we probably owe the present general adoption of the gas. Paul Bert, whose knowledge of physiology told him a gas which did not supply oxygen to the organism could not be a wholly satisfactory anæsthetic, undertook experiments by mixing air and later oxygen with the nitrous oxide to remedy this defect. Bert pronounced the first plan unsatisfactory, but although he never perfected a simple means of giving oxygen with nitrous oxide, he entertained a high opinion of the value of the mixture. Klikowitsch, Winckel, Döderlein, Zweifel, and Martin (Lyons) used the mixture with more or less satisfactory results, and notably the last named systematised its administration. A further step was made by Hillischer, of Vienna, who introduced an improved apparatus and reported some thousands of cases. Dr. HEWITT in his book details how, after using this apparatus without getting satisfactory results, he undertook experiments culminating in an elaborate inhaler, the full description of which he gives. The extreme difficulty of ensuring a due control of the individual gases so as to be able to gain even an approximate percentage of oxygen in the mixture renders the use of the inhaler and the management of the mixture perhaps somewhat complicated. This drawback, the writer tells us, is more than compensated for by the results which can be achieved when a mastery of the method has been acquired. The chapters dealing with the practical details should render this now possible. Dr. Hewitt, like Hillischer, believes very much in the use of oxygen with nitrous oxide, and has succeeded in presenting it before his readers in glowing colours.

NOTES ON BOOKS.

TRANSACTIONS AND PERIODICALS.

The Westminster Hospital Reports, vol. x. Edited by Dr. R. G. HEBB. (London: Messrs. J. and A. Churchill. 1897. Demy 8vo, pp. 352. 8s.)—The editor is to be congratulated upon the issue of an unusually interesting volume of reports. It opens with a paper by Mr. Holthouse, entitled A Brief Sketch of Some of the Vicissitudes Encountered by the Westminster Hospital Medical School between the Years 1841 and 1854. This paper is due in part to a fortunate but purely accidental omission in a short notice of the Westminster Hospital, which appeared in our pages in July, 1895. We say advisedly a fortunate omission, for it has caused Mr. Holthouse to write his personal recollections of a time whose

history was almost lost. Mr. Holthouse has thus done a service to the medical history of the metropolitan hospitals, whilst he has at the same time vindicated his right to be called one of the best friends of the school, for he helped it greatly in the time of its adversity. This paper is followed by an equally interesting one by Mr. Macnamara on Life in the Indian Medical Service, a paper which glows with local colour and reads as well as one of Rudyard Kipling's tales. There is a tiger story, with cholera reminiscences, a suspicion of "the big drunk draft" and memorials of the mutiny, all in the space of fourteen pages. Dr. Wills and Mr. Tubby contribute good work in each of their respective spheres, whilst Mr. Bond publishes the raw material, which might have been worked up into a valuable contribution to forensic medicine. The paper by Dr. Marett Tims is perhaps worthy of especial commendation. With only thirteen bodies to dissect, he has nevertheless placed upon record twelve anatomical abnormalities. Mr. Gossage contributes records of two cases, and Mr. de Santi deals with the operative treatment of cerebral and cerebellar abscesses in connection with disease of the middle ear, giving clinical notes of three cases in which he has explored the brain. Mr. Glassington, Dr. F. S. Palmer, Mr. J. R. Long, Dr. Parkinson, and Mr. Percy Paton each publish interesting cases, whilst Wilson Hake issues a preliminary note upon the phenomena of deliquescence. The volume concludes with the ordinary statistical reports, and with a list of the specimens which have lately been added to the museum.

The Transactions of the Fourth Session of the Intercolonial Medical Congress of Australasia, which was held in Dunedin, New Zealand, in February, 1896, have been published. The Literary Committee apologise for the delay in the issue of the volume, which they attribute to the fact that a large part of the matter had to be sent in proof to Australia. The volume, towards the expenses of the production of which the Government of New Zealand contributed, contains papers read at the Congress. Among these we may call attention to a paper by Dr. R. Scott Skirving, containing notes of four cases of acromegaly, and particulars of another case in which a tumour of the pituitary body was found *post mortem*. This patient, a man aged 34, presented symptoms which led to a diagnosis of cerebral tumour. He died rather suddenly during a fit characterised by opisthotonos, but without loss of consciousness. This case did not present distinct symptoms of acromegaly, the lower jaw was not prominent, the extremities were distinctly small, and the bones of the skull were of normal thickness. The paper is illustrated by photographs of some of the cases, and is a very valuable contribution to the study of this obscure disease. Among papers giving information as to matters of local interest, we may mention one by Mr. T. Hope Lewis, M.R.C.S., Health Officer of Auckland, New Zealand, dealing only too briefly with the thermal springs in the colony. The volume concludes with a most careful study, illustrated by microscopical sections, of the histology of twenty-nine cases of primary neoplasms in the kidney by Professor Allen and Dr. T. Cherry, of Melbourne.

International Clinics (vol. iv, 1897. London: Thomas Lewin), contains a long series of clinical papers by American and British physicians and surgeons, dealing in some cases with examples of rare diseases, but more often with subjects of general current interest to the practitioner.

YEAR BOOKS.

We have received the fourteenth annual issue of the *Year Book of the Scientific and Learned Societies of Great Britain and Ireland* (London: Charles Griffin and Co. 7s. 6d.) which has been revised from data furnished by the several societies. The usefulness of this work for reference is well known, and the value of the lists of papers read at the various societies to scientific workers is considerable.

The Municipal Year Book for 1897, published by Mr. Robert Donald, the Editor of "London" (to be obtained of Horace Marshall and Son, 2s.) is a kind of directory of municipal bodies, and gives under the head of each town particulars of the kind of work done by the municipality. Separate sections containing matter applying to all the towns in the United Kingdom are devoted to the largest municipal industries—the supply of water, gas, and electricity, the management of tramways, and the erection of artisans' dwellings and municipal lodging-houses. A special chapter is devoted to the municipal government of London, and a list of the metropolitan authorities is given. The volume contains other matter which will be of value to all those interested in municipal government.

REPORTS AND ANALYSES

AND

DESCRIPTIONS OF NEW INVENTIONS

IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

COMALTANA WINE.

THIS is one of the class of wines now frequently prepared for use as a tonic and digestive agent, in which the principles of the coca leaves and of malt are combined. Comaltana contains, according to our analysis, 0.57 grain of cocaine alkaloid per pint of the wine, which is in that respect satisfactory when compared with many coca wines, which are sometimes entirely deficient in alkaloidal contents. It also contained 17.2 per cent. of malt and wine extractives, diastase being present in an active condition as shown by the action of the wine on gelatinised starch. The wine has a distinct flavour of coca leaves, and has evidently been prepared with port wine of good character. It can be obtained from the Comaltana Wine Company, Heckmondwike, Yorkshire.

HOMO BREAD.

MESSRS. M. AND C. WEST, of Lotts Road, Chelsea, have sent us a specimen loaf of wheatmeal bread, which they prepare by Bowyer's process, but without furnishing any description of that process. The loaf was of brown texture, well made, palatable, and had evidently been prepared from wheat meal containing the nutritious portion of the cereal minus the irritating husky fibre. It was a satisfactory specimen of nutritious bread.

DIGESTIVE TEAS.

UNDER the name of Puro Tea the London and Asiatic Tea Agency, of 22, Fenchurch Street, E.C., have prepared a tea by a patented process, which is claimed to possess the advantages of being suitable for dyspeptics and others who are unable to drink an infusion of ordinary tea. In the sample sent to us we found 9.7 per cent. of "tannin," 4.5 per cent. ash, and 40 per cent. extractives, but the essential difference between the Puro Tea and ordinary tea is that nearly one half of the normal acidity of the tea has been neutralised, and in such a manner, it is said, as to leave the flavour of the tea unaltered. An infusion of the tea made in the way usually practised by tea tasters gave a liquor of peculiar softness, and free from the sharp astringent taste of an ordinary tea infusion. Puro Tea would no doubt be appreciated by those tea drinkers who from various causes are debarred from drinking ordinary tea, and cases are mentioned in which it has been found that many persons are able to drink an infusion of a tea so prepared without any dyspeptic discomfort. The amount of tannin in tea ranges from 6 to 15 per cent. In Puro Tea there is no diminution by treatment in the amount of tannin; the only difference is that a part of the free acid of the tea, whether tannic acid or not, has been neutralised with alkali, and any property possessed by Puro Tea is due to this neutralisation.

We have also received a sample of the Pagoda Imperial Digestive Tea from Mr. John Dawson, of 31, Gloucester Road, Kew. It contained 9.5 per cent. "tannin," 5.05 per cent. ash, and 39 per cent. extractives. It is a good-flavoured tea, and has no doubt been treated in such a manner as to partly neutralise the free acid without affecting the total percentage of astringent material.

A WHOLE MEAL BREAD.

A BREAD, made by a novel process, which may possibly be found to be of hygienic importance, can be obtained from Messrs. Callard. The novelty consists in the means of grinding the whole grain of the wheat to a dough at one operation. The wheat is washed, steeped in water, and then ground by a machine which resembles a coffee mill, and combines a grinding and mixing mechanism. Thus the whole grain is reduced in one operation to a dough. So effectually is the disintegration carried out that on careful examination no bran is discernible, and the dough made in this way contains all the constituents of the wheat—thus all the nitrogenous matter and all the phosphates must be retained. As the process is complete in one operation it dispenses with successive handling, and is therefore a cleanly one.

An analysis by Sir Charles Cameron gives the composition of the bread as follows:

Water, 41; albuminoids, 8.65: fat, 0.52; carbohydrates, 47.25: cellulose, 1.11; ash (containing 0 5 phosphuric acid), 1.46.

For comparison with this may be given the mean analyses of white breads collected by König:

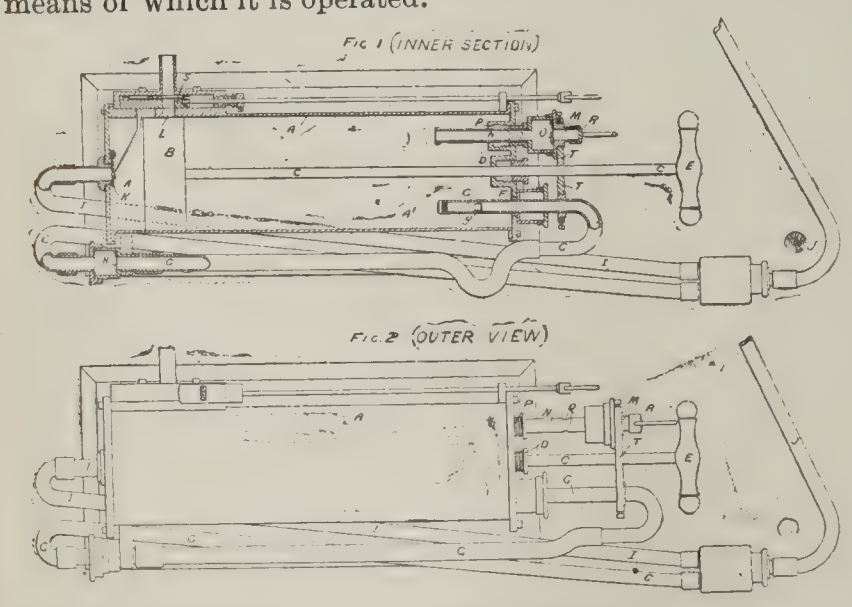
Fine Bread.—Water, 38.51; nitrogenous, 6.82; fat, 0.77; sugar, 2.37; carbohydrates, 49.97; fibre, 0.38; ash, 1.18.
Coarse Bread.—Water, 41.02; nitrogenous, 6.23; fat, 0.22; sugar, 2.13; carbohydrates, 48.69; fibre, 0.62; ash, 1.09.

The hygienic claims of the N. A. P. bread are of the same nature as those that have frequently been put forward in support of whole-meal breads—namely, a larger proportion of phosphates and nitrogenous materials. But the question of superiority cannot be settled by chemical analysis in which a few constituents only are estimated. The question is rather a physiological one, and can only be solved by experience, or by such experiments as were made by G. Meyer.

The bread has a decidedly pleasant flavour, and is stated to keep well. It may be obtained from Messrs. Callard, Stewart, and Watt, 176, Piccadilly, W.

PUMP FOR ARTIFICIAL RESPIRATION.

MR. WILLIAM MACLENNAN, M.B., Assistant to the Professor of Materia Medica and Therapeutics in the University of Glasgow, sends us the description of an air pump, the invention of a medical student of Glasgow University, which he thinks likely to be a valuable addition to hospital apparatus. The pump is designed mainly for use in restoring suspended animation in the case of persons apparently drowned or asphyxiated, and as a stomach pump, but is also otherwise applicable. It comprises a cylindrical casing (A) fitted with piston or bucket (B) and a piston rod (C) passing through a stuffing box (D) and provided with a handle (E), by means of which it is operated.



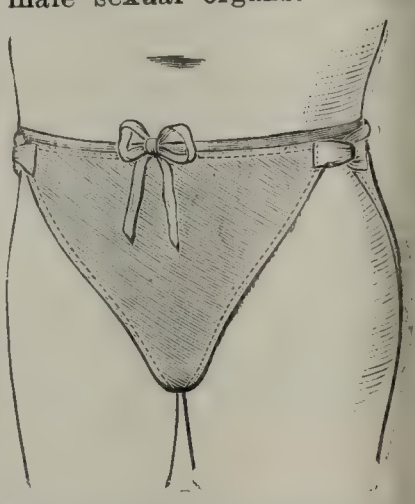
In the upper end or double-cased cover of the cylinder is an opening (F) to a discharge pipe (G) provided with a valve opening outwards, the discharge pipe being branched in (Y) form, one branch leading to and being connected with the lower or suction end of the cylinder (*a*), whilst the other (J) is provided with a nozzle suitable for application to the windpipe for inducing and maintaining artificial respiration, or with slight modification it may be employed in washing out the stomach. In the branch opening (I) to the lower end of the cylinder is a valve (K) opening inwards, so that in the operation of the pump the reciprocation of the piston forces fresh air or water as may be desired from the upper end of the cylinder and draws the foul air or water into the lower end, from which it is discharged through an outlet (L) in the lower side by the downward movement of the piston. An admission orifice (M) and connecting pipe (N) provided with an inwardly opening valve (O) is formed in the upper end of the cylinder through which the fresh air or water required in treating a patient is admitted. The pipe in this orifice is passed through a stuffing box (P) in which it is adapted to slide. In the pipe air inlets (Q) are formed through which air is drawn into the cylinder on the down stroke of the piston; but on pushing the pipe inwards so as to enclose the air inlets within the stuffing box, communication with the outer air is cut off, and on the upward stroke of the piston the air is discharged through the outlet having the branch pipes. When used for air the end of the inlet pipe (R) is closed by a cap, but when used for water the cap is removed and a water pipe is coupled to it, the air inlets in the latter case being closed by the stuffing box.

A slide or other valve (S) is fitted over the discharge orifice in the lower or suction side of the cylinder, the valve being adapted to close during the upward movement of the piston when the foul air or water is drawn into the cylinder, and to open for the discharge on the downward movement of the piston.

It is a well-known fact that suspended animation from lightning stroke is not always fatal, and there is reason to believe that if artificial respiration were only early and efficiently enough performed, a proportion of apparently hopeless cases would recover. No artificial respiration as ordinarily performed could be so efficient as that performed by this pump. It not only supplies fresh air, or oxygen, as preferred, to the circulation, but it also withdraws all exhausted air in a most complete manner. This pump might, therefore, have a useful field of application in cases of temporary asphyxia from whatever cause, arising such as by lightning stroke, drowning, chloroform anæsthesia, or that arising from choke damp in mines. In addition it can by a little adjustment form a most effective stomach pump for washing out the stomach in disease and removing poisons from that organ.

A SUSPENSORY "GIRDLE."

DR. TOM ROBINSON has sent us a specimen of a supporter which he has designed for the male sexual organs. It is made by Messrs. Mayer and Meltzer, of 71, Great Portland Street, and consists of a string material which by a simple contrivance supports these organs. It is claimed for this supporter that it does not slip, that it is easily adjusted, and as it is made of an inexpensive material it can be used with advantage in all cases where it is necessary to protect the linen or keep out of the way the testicles or penis. It is supplied at a low price, so that it can be burnt if there is any discharge. For these reasons it will be found of use in cases of gonorrhœa or other venereal diseases, varicose veins, or orchitis, and it will be a great comfort to all who ride much on horseback or bicycle.



NEW FORM OF HAGEDORN'S NEEDLES.

WITH reference to the notice of a new form of Hagedorn's needles published in the BRITISH MEDICAL JOURNAL of July 3rd, p. 24, Mr. J. H. Montague, surgical instrument maker, of 101, New Bond Street, writes to say that some years back he made to the directions of Mr. Richard Davy, then surgeon to the Westminster Hospital, a needle which he believes to be identical. He states that the description is exactly the same as Mr. Davy's, and the advantages also, except that Mr. Davy went even further, and suggested that no special form of needle holder was necessary, as any pair of forceps answered perfectly well.

[The following Reports of the Council and of the Committees will be presented at the Annual Meeting to be held in London on July 27th and 28th, and are published in accordance with the regulations for the conduct of Annual Meetings, which require that all Reports of the Committees of the Association shall be printed in the JOURNAL *before the Annual Meeting.]*

REPORT OF COUNCIL OF BRITISH MEDICAL ASSOCIATION FOR 1897.

IN submitting its annual report in accordance with By-law 19, your Council meets you again in London under exceptional circumstances on the occasion of the sixty-sixth annual meeting. Last year at the interesting and highly successful meeting at Carlisle an influential deputation from Canada waited upon the Council, and offered a very cordial invitation to the Association to hold the annual meeting of 1897 in Montreal, and although there were two other very tempting invitations, the proposal to hold the annual meeting in one of the foremost colonies in which there are three important Branches appeared so important and attractive that the invitation was unanimously accepted, and Dr. Roddick, of Montreal, was appointed President-elect. In the circumstances your Council proposes to hold the business part of the annual meeting in London, and then to adjourn to hold the Scientific addresses, the Sections, etc., at Montreal, where there are ample proofs that a very warm welcome awaits those members who propose to attend the adjourned meeting. There has been some little difficulty attending the arrangements of a meeting so distant as at Montreal, but the relations with the Canadian Executive have been so cordial and pleasant that this has been satisfactorily overcome.

ADDRESS TO HER MAJESTY.

As a loyal part of the subjects of the Queen, sharing in the pleasure which the attainment of the longest reign in English history gives to all of them, your Council has presented to Her Majesty the following congratulatory address for the completion of the sixtieth year of her reign:

TO HER MOST GRACIOUS MAJESTY VICTORIA,
QUEEN OF GREAT BRITAIN AND IRELAND AND EMPRESS OF INDIA.

THE COUNCIL of the BRITISH MEDICAL ASSOCIATION, representing a body numbering upwards of sixteen thousand members of the medical profession, residing in all parts of the world, desires most humbly to approach YOUR MAJESTY in order to offer its loyal congratulations upon the completion of the SIXTIETH year of YOUR MAJESTY'S glorious Reign, and to express its earnest prayer that YOUR MAJESTY may long continue to rule over this great Empire.

(Signed) HENRY BARNES, M.D., *President of the Association.*
ROBERT SAUNDBY, M.D., *President of Council.*
CHARLES PARSONS, M.D., *Treasurer.*
FRANCIS FOWKE, *General Secretary.*

The Association has now had the honour of addressing the Queen in terms of congratulation on four occasions, namely, on her accession in 1837 an address was presented by the Provincial Medical and Surgical Association, as the Association was then styled, the annual meeting that year being held at Cheltenham. On the second occasion, the Association presented an address to Her Majesty upon Her Jubilee fifty years later. On the third occasion, the Association presented an address of congratulation on the marriage of the Duke of York in 1893, and now for the fourth time on Her Majesty completing her sixty years reign.

FINANCES.

The revenue for the past year amounted to £38,009, and the expenditure—including £1,251 written off the amount paid for leases, alteration of premises, furniture, and fittings, and premium on redeemable stocks, also £506 written off f deaths and resignations—amounted to £36,148, leaving a sum of £1,860 to be carried to surplus fund. This sum, together with the £1,251 written off, amounting to a total of £3,000, has been invested in West Sussex Three per Cent. Corporation Stock. The invested funds now amount to £48,434. The falling off this year in the surplus of profit is due to the diminished amount received from advertisements in comparison with the previous year, when the annual meeting of the Association was held in London, and consequently a great fillip was given to this source of income. This item has been carefully worked up, and your Council is glad to be able to report a satisfactory increase for the present year. A large amount of legal charges also was incurred during 1896, which your Council hopes will be absent from future financial statements.

THE JOURNAL.

The reports published in the JOURNAL on the evils of the aggregated Poor-law Schools, and the subsequent deputation to Mr. Shaw Lefevre, were followed by the appointment of a Departmental Committee, by which the medical and other aspects of the question were thoroughly considered, and which ultimately reported in exact accordance with the recommendations of the JOURNAL, and advised the substitution of a system of cottage and home training under the supervision of a central Board. Mr. Chaplin has partly carried out these recommendations by handing over those of the children who suffer from various forms of sickness and physical disablement to the charge of the Metropolitan Asylums Board; but this is not considered to fully attain the desired object, and a national association has been formed, called the State Children's Aid Association, under the presidency of Lord Peel, of which many distinguished medical men are forming part, with a view of carrying out more fully the desired reforms.

Similarly, an important Committee has been formed in Dublin to carry out the recommendations of the JOURNAL in respect to the much-needed amelioration of the treatment of the sick poor in the workhouse infirmaries of Ireland, as disclosed in the reports published in the pages of the JOURNAL.

The reports on milk typhoid, containing a summary of epidemics and of the information derivable from special investigation since 1881, have been warmly welcomed by eminent medical officers of health in various parts of the country as affording valuable information, and will, it is hoped, lead to further legislation such as that which has already followed the report of 1881, of which it is a sequel.

The Jenner Centenary Number of the JOURNAL was a considerable literary effort, in which the services of a great number of distinguished writers were utilised, and which redeemed in some measure the country and the profession from the reproach of neglecting to do suitable honour to the memory of this great physician and benefactor of mankind, such as has been done in other countries than that of his birth.

The Victorian Number will serve to mark and emphasise the great advances which have been made in the science and practice of medicine and the collateral sciences during the rule of Her Majesty, while it may also be considered as a tribute to the glories of her illustrious reign.

Arrangements were made at the close of the Carlisle meeting by which a much more rapid and complete report of that meeting was presented and completed in the course of a limited time, and this precedent will be followed in future years.

THE LIBRARY.

The usefulness of the Library and reading room has been fully maintained during the year. There have been 4,992 attendances, which is an increase of nearly 500 on those of the preceding twelve months. Over 700 volumes have been presented, besides a number of pamphlets. These presentations include many of the new textbooks and new editions of the year and several important illustrated works. The collection being made of the reports of medical officers of health for London and the provinces for several years past may now be consulted. The Paris *Thèses* are quite complete from 1891 up to the end of June, 1897. An important collec-

tion of Colonial Medical Acts has recently been made by the Honorary Librarian and added to the Library.

It is satisfactory to state that the Library now possesses the complete series of the *Transactions* of the International Medical Congresses, from the first in Paris, 1867, till the eleventh in Rome, 1894.

NEW BRANCHES AND NUMBER OF MEMBERS.

Important new colonial Branches have been recognised for New Zealand, Quebec, and Ottawa; while the Canadian Branches, more especially the Montreal, have largely increased, no doubt in consequence of the annual meeting being held at Montreal this year. It is a source of great satisfaction to your Council, and must be to all, that the Association is extending so largely throughout the Empire. The number of members on the books last year was 16,332; during the year 1,243 new members have been elected, 182 have died, and 438 resigned, leaving on the books 16,955.

MEDICAL DEFENCE.

It will be remembered that at a special meeting of members held during the annual meeting at Carlisle, the special resolution passed at Birmingham for the alteration of the Memorandum and Articles of Association, in order to permit medical defence to be undertaken under a scheme propounded by the Council, was confirmed. But at the same annual meeting the following resolution and rider were passed:

That the scheme provisionally adopted by the Council, and the amendments proposed thereto, shall be remitted to the Branches for their consideration, and that they report thereon to the Council by March 31st, 1897. That in the opinion of this meeting it is desirable that the Council shall appoint a special committee to consider the claims of medical defence, and present a definite scheme for the approval of the Branches. That it be a recommendation from this meeting to appoint some members from outside the Council to act on this committee,

Resolved: That in the opinion of this meeting no scheme for medical defence is adequate which does not provide that the privileges and obligations of medical defence should be shared by all members of the British Medical Association in the United Kingdom.

In accordance with the suggestion of this resolution, your Council appointed a committee consisting of: Dr. Robert Saundby, Dr. James Barr, Dr. T. Bridgwater, Dr. W. F. Cleveland, Dr. H. Radcliffe Crocker, Dr. W. A. Elliston, Mr. Victor Horsley, F.R.S., Mr. R. H. B. Nicholson, Mr. T. Jenner Verrall, and Dr. A. G. Welsford.

This committee drew up a scheme which was submitted to the Branches together with the following questions:

1. Is your Branch in favour or not of the Association undertaking the duties of individual and collective medical defence?
2. Is your Branch in favour or not of the scheme as finally drafted by the Committee?
3. If not, what amendments does your Branch suggest?

And in accordance with the resolution of the last annual meeting the decisions of the Branches were requested to be sent in by March 31st. Your Council now has to report to you the result of the deliberation of the Branches.

The number of Branches in favour of medical defence being taken up by the Association	19
The number of Branches against medical defence ...	20
Branches who were neutral	2
Branches which have not replied, of which 22 are Colonial	26
Total...	67

In face of this result, your Council cannot advise any further action in the matter of the alteration of the Memorandum and Articles of Association for the present.

MEDALS FOR DISTINGUISHED MERIT.

It will be remembered, at the last annual meeting, a very hearty vote of thanks—namely:

That the thanks of the British Medical Association be hereby tendered to Mr. C. G. Wheelhouse and Sir Walter Foster for their earnest and valuable work as direct representatives on the General Medical Council during the past ten years.

was given to Mr. Wheelhouse and Sir Walter Foster for the great services which they had rendered as the two first direct representatives on the General Medical Council. In consideration of this fact, and having regard to the very great services that both Mr. Wheelhouse and Sir Walter Foster have rendered to the Association, and to the valuable assistance rendered by Sir Walter Foster upon medical questions in Parliament, your Council has awarded to each of these gentlemen the Gold Medal for Distinguished Merit, and these will be presented to them during the meeting in London.

CONSTITUTION COMMITTEE.

A Committee was appointed to consider the desirability of an alteration in the government and executive upon the suggestions made by Sir Willoughby Wade at the last annual meeting, consisting of six members of the Council and four members of the Association who were not members of the Council: Dr. Robert Saundby, Dr. C. Parsons, Dr. J. Ward Cousins, Dr. Stamford Felce, Sir Walter Foster, M.D., M.P.; Dr. Leonard Sedgwick, Dr. E. Markham Skerritt, Mr. Lawson Tait, F.R.C.S.; Mr. Walter Whitehead, Dr. S. Woodcock. The Committee held four meetings, and presented a report which will be found printed in the Appendix to the Report of Council. This report was received by the Council, a proposal to send it to the Branches for their consideration having been negatived.

CIVIL SERVICE OF INDIA.

A motion, moved at the last annual meeting by Dr. Bahadurji, of which the following is a copy:

That the present constitution of the Civil Medical Service of India, whereby all important educational, scientific, and sanitary appointments are exclusively reserved for members of a military medical service—namely, the Indian Medical Service, who are only lent for civil work till required for war purposes, is wrong in principle, prejudicial in the interests of medical education, science, and sanitation, and unsuited to existing conditions and requirements; and that in the interests of medical education and sanitation in India, and for the general advancement of medical science, the Civil Medical Department should cease to be any appendage of, or a close reserve for, a military service, and all educational, scientific, and sanitary appointments in the department should be thrown open to the best talent available from the open profession of medicine—

has been sent out to all Indian Branches as requested, but up to the present time replies from two Branches have been received—namely, the Burmah Branch and the South Indian Branch. These replies are given below:

"The members of the Burmah Branch of the British Medical Association are of opinion that the appointments in question by being reserved for the members of the Indian Medical Service, are, by reason of the competitive examination held in London, thrown open to the best talent available from the open profession of medicine, and that, under existing circumstances, when the up-keep of large armies is a necessity, they do not see how, in time of peace, the surplus members of the Indian Medical Service can be better employed than in these appointments, and how these appointments can be better filled.

"C. DUER, Surgeon-Captain,
Honorary Secretary,
Burmah Branch, British Medical Association."

"The members of the South Indian Branch of the British Medical Association disagree with Dr. Bahadurji's statement 'that the present constitution of the Civil Medical Service of India is wrong in principle, prejudicial to the interests of medical education, science, and sanitation, and unsuited to existing conditions and requirements.' They are of opinion, on the contrary, that the history of that service displays a long record of success achieved by its officers in all branches of their profession, as well as in other departments of the public services, and that Dr. Bahadurji has entirely failed to prove the existence of the shortcomings he alleges to exist in the Civil Medical Service.

"It is further necessary to point out that it is incorrect to state that all important educational, scientific and sanitary appointments are exclusively reserved for members of the Indian Medical Service, as quite a number of such appointments are held by officers not belonging to that service.

"The words 'military Medical Service' and 'lent' as used by Dr. Bahadurji, although literally true, convey a distinctly erroneous impression, the Indian Medical Service being recruited for definite civil appointments as well as for the Indian army.

"This Branch fails to understand Dr. Bahadurji's proposition that 'all educational, scientific, and sanitary appointments in the department should be thrown open to the best talent available from the open profession of medicine,' seeing that the Indian Medical Service has been for the past thirty-two years open to all members of the medical profession who are subjects of Her Majesty, and includes in its ranks, not only those born in the United Kingdom, but also forty-four officers who belong to the native races of India, as well as many Eurasians and members of other British dependencies."

"The members of the Branch are strongly of opinion that the introduction of any system of recruitment for the Civil Medical Service of India other than one of open competition would be a retrograde step and highly prejudicial to the interests of the country.

"JOHN SMYTH, M.D., Surgeon-Major,
Honorary Secretary, South Indian Branch,
British Medical Association."

ADELAIDE HOSPITAL.

Most members are familiar with the unfortunate dispute between the Government of South Australia and the medical staff of the Adelaide Hospital, the result being that the latter resigned. It might have been hoped that no member of the profession would have consented to take the vacant appointments until the dispute had been settled in terms of fairness to the former medical staff. Two medical gentlemen, however, whom your Council regret to report are members of the Association, went out from England to fill the appointments. Steps having been taken in due course to bring their conduct under the notice of your Council, their names were removed from the list of members of the British Medical Association in accordance with By-law 3, and this act now requires your confirmation.

LORD LISTER.

Since the last annual meeting an honour has been conferred upon the medical profession in the bestowal of a peerage upon Sir Joseph Lister, and it is a great satisfaction to your Council that the first medical peerage has been conferred on so distinguished a surgeon. An address of congratulation was presented to him by your Council in commemoration of such a significant event in the history of the medical profession.

THE JENNER SOCIETY AND VACCINATION.

Upon the application of Dr. Bond, of Gloucester, a grant of £100 was made to the Jenner Society, which your Council considers is doing good work in supporting the principles of vaccination by leaflet, pamphlets, and correspondence. Your Council also considered a suggestion for a leaflet to be drawn up and issued by the Association for the use of medical practitioners, to be handed over to those parents who show any objection to vaccination.

INEBRIATES LEGISLATION COMMITTEE.

The work of the Inebriates Legislation Committee during the past year has practically been limited to repeatedly urging on the Government and the Home Secretary the clamant need of amended legislation. The investment of properly constituted authorities with power to compulsorily seclude habitual drunkards has been the main point; but strong representations have also been made on the desirability of substituting therapeutic and hygienic treatment for the existing useless penal procedure in the case of police court inebriate offenders. The Prime Minister and the Home Secretary have both replied in response to communications from the Chairman of the Committee that it is the intention of the Government, if time permits, to introduce a Bill to amend the present legislation.

RAILWAY SERVANTS' AND MARINERS' EYESIGHT COMMITTEE.

The Committee on the Control of Railway Servants' and Mariners' Eyesight make a short report upon their work for the past year.

PARLIAMENTARY BILLS COMMITTEE.

Many subjects of great interest and importance to the medical profession have occupied the attention of the Parliamentary Bills Committee during the past year. Among them have been the questions of Army Medical Reform, the Obstetric Nurses Bill, the Public Health (Scotland) Bill, the Sale of Food and Drugs Act, the Contagious Diseases Acts, the Infant Life Protection Act, and such matters as the Sick Pauper Children, Shell Fish and Disease, the Superannuation of Public Vaccinators, the Vaccination Report, and the Sale of Carbolic Acid, and many others. Some of these questions have been dealt with very fully, special reports having been made by Subcommittees and others appointed to make inquiries concerning them. A special report on the conclusions arrived at and the results attained will be made by the Committee, and presented in due course.

SCIENTIFIC GRANTS COMMITTEE.

The Scientific Grants Committee have had a vote for the past year of £399 10s., which has all been allotted, and three research scholarships, to which scholars have been appointed.

COMMITTEE ON THE MENTAL AND PHYSICAL CONDITIONS OF CHILDREN.

This Committee, in presenting their ninth annual report, draw attention to the usefulness of the report on 100,000 children published by your liberality. Evidence has been supplied to Committee of Local Government Board, Home Office, and Education Department; philanthropic and other societies have also used the results of their inquiries. In many directions this investigation is producing results, and the Committee ask to be reappointed to supervise its practical outcome.

THERAPEUTIC COMMITTEE.

The Therapeutic Committee have issued a short report of their work for the past year, and will also issue a detailed account of the ammonium phosphate inquiry for publication in the JOURNAL.

OBITUARY.

Your Committee have to mourn the loss of the following members of the Association:

Dr. Richard Jansz, of Singapore, for two years Treasurer of the Malaya Branch of the British Medical Association; Mr. Thomas O'Connor, F.R.C.S., of March; Dr. A. T. Brett, of Watford, a former District Vice-President of Herts for the Metropolitan Counties Branch; Dr. J. A. S. Grant Bey, LL.D., of Cairo; Mr. John Brankerd, F.R.C.S., of Torquay, President of the West Somerset Branch of the Association, and a representative of that Branch on the Council for many years; Mr. Christopher Gayleard, of Kingston, Jamaica, at different times Secretary and President of the Jamaica Branch of the Association; Mr. Arthur Henry Williams, M.B., of St. Leonard's-on-Sea; Mr. J. J. Merriman, of Worthing; Sir John Eric Erichsen, Bart., F.R.S., LL.D. (London), Surgeon-Extraordinary to Her Majesty the Queen; Dr. William Hoad, of Singapore; Sir George Murray Humphry, M.D., F.R.C.S., F.R.S., of Cambridge, a former President of the Association; Mr. H. S. Taylor, F.R.C.S., of Guildford; Dr. J. D. Macdonald, of Colombo, at one time Hon. Sec. of the Ceylon Branch of the Association; Dr. J. L. Langdon-Down (London), who was largely instrumental in founding the Thames Valley Branch of the Association, of which he was the first President, and for many years a member of the Council; Dr. Edwin Morris, of Rickmansworth; Mr. John Kilner, F.R.C.S., President of the combined East Anglian, Cambridgeshire and Huntingdonshire Branches of the British Medical Association; Dr. George Harley, F.R.C.P., F.R.S.Lond.; Mr. W. F. Favell, J.P., of Sheffield, an old President of the Yorkshire Branch of the Association; Dr. N. H. K. Kane, of Kingston, formerly President of the Thames Valley Branch; Mr. F. B. Hallowes, of Redhill, President of the South-Eastern Branch in 1881; Sir B. W. Richardson, Kt., M.D., F.R.S., F.R.C.P., of Manchester Sq., W.; Dr. P. Fraser, of Stoke D'Abernon, one of the original or at all events very early, members of the British Medical Association; Dr. E. F. Fussell, of Brighton; Mr. George Padley, of Lilliput Hall, near Mumbles, the first President of the revised South Wales Branch of the Association; Mr. S. W. Broadbent, of Easington, an ex-President of the North of England Branch of the Association; Dr. Edward Ballard, F.R.C.P., F.R.S., of High Barnet; Surgeon-Major R. Manser, M.D., I.M.S., of Bombay; Sir Thomas Spencer Wells, Bart., F.R.C.S., of Upper Grosvenor Street; Dr. James Ellison, Surgeon to Her Majesty's Household, Windsor; Mr. C. A. de Silva, of Colombo; Mr. Oliver Pemberton, F.R.C.S., of Birmingham; Dr. G. B. Barron, of Southport, for many years a representative of the Lancashire and Cheshire Branch on the Council of the Association; Mr. C. E. L. B. Hudson, F.R.C.S.Lond.; Dr. P. S. H. Colmer, of Yeovil; Mr. J. W. Teale, F.R.C.S., of Scarborough; Dr. G. P. L'Estrange Nugent, of Dublin; Mr. Walter Rivington, M.S., F.R.C.S.Eng.; Deputy-Surgeon-

General H. Vandyke Carter, M.D., I.M.S., of Scarborough, who received the Stewart Prize of the Association on the first occasion of its award; Dr. A. J. Richardson, of Brighton; Dr. William Gardner, of Melbourne; Dr. G. C. Briggs, of Harrow-on-the-Hill; Mr. F. A. Nixon, F.R.C.S.I., of Dublin; Dr. J. G. Smith, F.R.S.E., of Bristol; Dr. F. Eastes, of Folkestone; Mr. E. F. Weston, of Stafford, President of the Staffordshire Branch of the Association in 1878-79; Dr. W. W. Campbell, of Duns.

APPENDIX.

REPORT OF CONSTITUTION COMMITTEE.

PREAMBLE.

The Committee was appointed by the following resolution of Council:

3660. Moved by the PRESIDENT OF COUNCIL, seconded by Dr. HOLMAN, and

Resolved: That the Committee consist of the following members: The President of Council, the Treasurer, Dr. Woodcock, Dr. Markham Skerritt, Dr. J. Ward Cousins, Sir Walter Foster, Mr. Lawson Tait, Mr. Walter Whitehead, Dr. Leonard Sedgwick, and Dr. Stamford Felce.

ATTENDANCES OF MEMBERS.

The Committee has held four meetings, at which the attendances have been as follows:

The President of Council	4
The Treasurer	1
Dr. Woodcock	2
Dr. Markham Skerritt	3
Dr. J. Ward Cousins	1
Sir Walter Foster	1
Mr. Lawson Tait	4
Mr. Walter Whitehead	0
Dr. Leonard Sedgwick	4
Dr. Stamford Felce	3

THE REFERENCE TO THE COMMITTEE.

The question submitted to this Committee is indicated in the following resolution of the annual meeting at Carlisle, which was moved by Mr. Lawson Tait and seconded by Dr. Barr:

That the question of the desirability of an alteration in the government and executive of the British Medical Association be referred to a Special Committee to be appointed by the Council.

To this Committee, moreover, the Council referred certain alterations of the by-laws, proposed by Sir Willoughby Wade, and a number of amendments to the constitution suggested by Dr. Rentoul. The Committee had also before it the Report on the Constitution of the Association prepared by a committee appointed by the Lancashire and Cheshire Branch; and all these received due and careful consideration.

ELECTION OF MEMBERS OF COUNCIL.

The first subject which engaged the attention of the Committee was the method of election of the Council, which is the supreme authority in the Association.

It seems to the Committee a grave defect that such a body be elected by constituencies which only comprise about 58 per cent. of the members of the Association.

Number of Members of the British Medical Association resident in the United Kingdom on December 31st, 1896.

Attached to Branches.	Unattached.	Total.	Percentage Unattached.
7,535	5,417	12,952	42 per cent.

This so seriously detracts from the representative character of the Council that, in the opinion of the Committee, it is essential that this state of things should be altered, and that every member of the Association residing within the area of a Branch should have a right to vote at the election of representatives upon the Council of the Association.

This recommendation necessarily carries with it the abolition of the present system, by which some representatives upon the Council of the Association are elected by the Council of their Branches instead of by the general body of members.

ASSOCIATION TO PAY ELECTION EXPENSES.

In order to remove the unfairness that would arise if persons who do not contribute towards the expenses of Branch organisation were allowed to share in its benefits, it is recommended that all expenditure of the Branches incurred for the elections and other purposes of the parent Association should be paid for from the general funds upon a scale and other conditions to be determined by the Council of the Association.

MEMBERS TO BE REGISTERED AS ELECTORS IN ONLY ONE BRANCH.

In order to overcome the difficulty that Branch areas in certain instances overlap, and that some persons belong to more than one Branch, it is recommended that such persons must make choice of the Branch in which they wish to exercise electoral privileges, and that an official list should be kept by the General Secretary of the electors in each Branch, and a copy supplied annually to the Branch Secretaries for their information.

COUNCIL TO REPORT IN FIRST INSTANCE TO THE BRANCHES.

That inasmuch as the Council is elected by the Branches, and the representatives are responsible only to their constituencies, it is recommended that the report of the Council should be presented in the first instance to the Branches not later than the end of the second week in May, and it is further suggested that the annual meetings of the Branches for the consideration of the report of the Council and the election of representatives thereto should be held uniformly in June.

MEMBERS OF THE ASSOCIATION TO BE ELECTED BY THE COUNCIL OF ANY BRANCH WITHIN THE AREA OF WHICH THEY RESIDE.

With the object of increasing the local prestige of the Branches, and in order to ensure greater personal knowledge of the individuals elected into the Association, it is recommended that in future all persons proposed for membership of the Association shall be elected by the Council of any Branch within the area of which he, the candidate, resides, and by a majority of the Council then present, such election to carry with it the right to vote at the election of representatives upon the Council of the Association and upon other business of the parent Association submitted to the Branches. The names and addresses of all candidates for election should be sent to each member of the Branch at least six clear days before the date of election by the Branch Council. If this were adopted the Council of the Association would only be called upon to elect candidates not resident within any Branch area.

EXPULSION OF MEMBERS.

It is desirable that every Branch should possess the power of expelling members from the Branch, and that this should be done by a majority of three-fourths of the members present at a Branch meeting after due notice has been given. Each expulsion should be reported to the Council of the Association.

APPOINTMENT OF AN EXECUTIVE COMMITTEE BY THE COUNCIL.

The Committee is also of opinion that, for the better management of the affairs of the Association, it is desirable that an executive committee should be appointed by and from the Council at its first meeting; this committee to consist of ten members, together with the President of Council and the Treasurer, and to meet at least once a month. This committee should have complete control over the affairs of the Association and over its officials, and over the conduct of the JOURNAL, and should report to the Council at each quarterly meeting.

PAYMENT OF THE EXECUTIVE COMMITTEE.

It is, moreover, recommended that for every complete attendance at the offices of the Association, each of the members of this Committee should be entitled to an honorarium of £3 3s., in addition to first class return railway fare.

ROBERT SAUNDBY, M.D., President of Council, Chairman.

REPORT OF THE PARLIAMENTARY BILLS COMMITTEE.

MANY subjects of great interest and importance to the medical profession have occupied the attention of the Parliamentary Bills Committee during the past year. Among them have been the question of army medical reform, an amendment to the Lunacy Acts, the Obstetric Nurses Bill, the Public Health (Scotland) Bill, the Sale of Food and Drugs Act, the Contagious Diseases Act, the Infant Life Protection Act, and such matters as the sick pauper children, shellfish and disease, the superannuation of public vaccinators, the Vaccination Report, the sale of carbolic acid, and many others. Some of these questions have been dealt with very fully, special reports having been made by subcommittees and others appointed to make inquiries concerning them.

THE APPOINTMENT OF CHAIRMAN.

The first matter which came before the Committee was the appointment of a Chairman. Mr. ERNEST HART stated at the first meeting that, in accordance with the expressed wish of the Committee, he had during the recess acted temporarily as Chairman, in order that the public business of the Association might not suffer; but he was desirous that the question of the appointment of a successor should be considered.

After some discussion it was stated that no one seemed willing to assume the onerous duties of the office, and it was proposed by Mr. GEORGE EASTES, and seconded by Dr. C. HOLMAN, and unanimously resolved:

That Mr. Hart be asked to continue to act as Chairman until other arrangements can be made.

AMENDMENT OF THE LUNACY ACTS.

The following resolution, passed in the Section of Psychology at the annual meeting in Carlisle, was brought up by the CHAIRMAN.

That the Psychological Section recommends that the Council of the British Medical Association should consider the desirability of obtaining for England and Wales some provisions for the temporary care of incipient and non-confirmed insanity similar to that which exists in the Scottish Lunacy Law.

He reported that a memorandum (which appeared in the BRITISH MEDICAL JOURNAL, 1896, vol. ii. p. 1382) had been drawn up dealing with the whole question, and after some consideration it was resolved:

That a Subcommittee be formed to consider this memorandum, consisting of Dr. Urquhart, Dr. Douglas, Mr. Eastes, Dr. Cleveland, Dr. Shuttleworth, and Dr. Mickle, to confer with the Medico-Psychological Society, and report to the next meeting.

The subject came up again for discussion at the Spring meeting, when the following report was adopted:

At a conference held on Friday, March 5th, 1897, between the Subcommittee of the Parliamentary Bills Committee of the British Medical Association and the Special Committee of the Medico-Psychological Association of Great Britain it was conjointly recommended that in order to provide more efficient treatment of the incipient and non-confirmed insane, the lunacy law in England and Wales should be amended on the general lines of the Scotch Lunacy Act, Section XLI, 21 Vict., Cap. 71, with certain modifications hereafter to be considered.

Dr. DOUGLAS moved:

That the report of the Subcommittee be approved and adopted, and the recommendations contained therein carried into effect.

The resolution was seconded by Dr. SHUTTLEWORTH and carried. The Subcommittee have since had an interview with the Commissioners in Lunacy after which they again met and directed that a series of suggestions, which had been drawn up, should be submitted to a parliamentary draftsman who should prepare a clause to be presented to the Lord Chancellor. This is now being done, and there is a strong feeling in the profession that if such a provision for early certification be incorporated in the English Acts a great reform will take place in the early treatment of mental cases.

ARMY MEDICAL REFORMS.

The subject of Army Medical reforms has received a large amount of consideration at the hands of the Committee.

At the Autumn meeting the CHAIRMAN reported that a Subcommittee on Army Medical Reform had been appointed at the last meeting of the Committee, and that Dr. Gordon had prepared an elaborate and able memorandum on the matter.

After some discussion it was proposed by the PRESIDENT OF COUNCIL, seconded by Dr. OGILVIE GRANT, and resolved:

That the report of the Subcommittee be received, printed, and circulated amongst the members of this Committee.

Whereupon it was proposed by Dr. GORDON, seconded by Mr. VICTOR HORSLEY, and resolved:

That a special meeting of the Parliamentary Bills Committee be held early in December to further consider the question.

This report is printed in full in the BRITISH MEDICAL JOURNAL, 1897, vol. i, p. 732, *et seq.*

Dr. GORDON reported he had been in communication with various medical officers of high rank, and some of the suggestions which he had received he proposed to embody in the report.

After some discussion it was proposed by Dr. GORDON, seconded by Dr. PHILLIPS-CONN, and resolved:

That a copy of the memorandum be communicated to Lord Lansdowne, and that arrangements be made that it should be placed in his hands by a small but influential deputation privately, if he (Lord Lansdowne) would be willing to receive it.

It was further resolved:

That the arrangements for presentation be left in the hands of the Chairman and Dr. Gordon.

The CHAIRMAN proposed the following resolution, which was carried unanimously:

That the Parliamentary Bills Committee wishes to express its thanks to Dr. Gordon for the great trouble he has taken in drawing up the report on the army medical reform.

At the meeting held in March Dr. GORDON reported that he had forwarded the report of the Subcommittee mentioned above to Lord Lansdowne. The War Office had acknowledged the communication, and had subsequently written for six extra copies of the report, so there was no doubt that it had met with careful consideration. From statements made in the House of Commons it was apparent that while some of the things which had been asked for had been granted, others on which the Subcommittee had laid most stress had been negatived. Dr. Farquharson had ascertained, by question in the House, that the real number of vacancies was in excess of the number announced; and Sir Walter Foster had in the same way elicited the fact that the War Office had actually lowered the standard of entrance examination.

After discussion, it was proposed by Dr. GORDON, seconded by Mr. GALTON, and resolved:

That the report of the Subcommittee be approved and adopted, and the recommendations contained therein carried into effect.

[The Subcommittee recommended that the report and appendix should be sent to the medical schools, together with a circular letter requesting the deans to bring it under the notice of those contemplating entering the Army Medical Service; that the report be published in the BRITISH MEDICAL JOURNAL; that copies of the amended report should also be sent to the editor of each London and provincial paper for his information and comment; that thanks be tendered to Dr. Farquharson for his speech on the Army Estimates, and to Sir Walter Foster for his question in the House; and that the Secretary of State for War be requested to receive a deputation on the subject of the Army Medical Service.]

At the meeting in April the CHAIRMAN reported the further steps that had been taken to raise public interest in the matter, which had resulted in leading articles appearing in many of the leading London and provincial papers, strongly supporting the views of the Committee.

The CHAIRMAN also submitted a comparison of claims submitted to the War Office in 1893, and since granted in whole or in part, which ran as follows:

1. *Formation of a Corps.*—This was recommended on lines similar to those of the Royal Engineers, Army Service Corps, etc., by the consolidation of the Medical Staff and the Medical Staff Corps, a fusion already existing in the Volunteer Medical Staff Corps and the Militia Medical Staff Corps; the present scale of pay and allowances to remain. Note: Not carried out.

2. *Foreign Service.*—To restore old periods, five in India and

healthy colonies, three in unhealthy colonies. Note: Granted as regards India, but the four years apparently retained in the former three-years' station.

3. *Titles.*—Existing titles declared to be cumbrous and awkward, especially that of brigade-surgeon-lieutenant-colonel. Recommended that the latter title be abolished, and all placed under that of surgeon-lieutenant-colonel, but the first fifty on the list to be headed in brackets "brigade-surgeons," as recommended also by the Camperdown Commission. Further that the word "and" be inserted between the word surgeon and the military affix, as surgeon and lieutenant, etc. Note: Not granted. Mr. Brodrick lately stated in the House of Commons that Lord Lansdowne did not consider revision of titles "desirable."

4. *Retirement Regulations.*—Three years in a rank before retirement considered too long; one or two suggested in the spirit of the Camperdown Commission, which spoke only of "a certain time." Note: Not granted.

5. *Extension of Service of Surgeon-Major-Generals.*—Recommended that such should be very exceptional, and the officer granted it seconded. The frequent moves of principal medical officers declared very harassing and prejudicial to the service. Note: There have been fewer extensions of late, but no seconding. Officers of the rank have lately been guaranteed a certain fixity in a station, three years usually.

6. *Detailing Medical Officers for Service in Particular Presidencies.*—System of merely ordering medical officers to "India" declared to be a grievous hardship, borne by no others, and intensely unpopular. Note: It has been altered under the new Army Corps organisation in India; medical officers now know broadly where they are going.

7. *Officers of Medical Staff compelled to take Charge of Native Troops without Extra Pay.*—This was a proposal of Surgeon-Major-General Rice with the Government of India. Note: Has been dropped.

8. *Extension of Warrant of 1879 to India in its Financial Aspects.*—Note: Lately done, but on a very inadequate scale; increases given only to medical officers under the rank of surgeon-majors and to brigade-surgeons. Junior medical still receive less pay in India than junior veterinary officers. No charge pay given.

9. *Study Time.*—Note: This is promised, but seems impossible with an attenuated establishment.

10. *Exchanging.*—Declared to be needlessly hampered with restrictions. Note: Understood to be simplified and restrictions relaxed.

After an interval of three months, Mr. Campbell Bannerman replied in a letter to the Chairman of the Parliamentary Bills Committee, dated August 26th, 1893, practically declining to entertain any of the proposals submitted to him; but postponing decision on points 6 and 7, an answer at the time characterised as not merely displaying a *non possumus*, but a *non volumus* as well.

Since then, points 2, 5, 6, 7, 8, 9, and 10 have been either fully or partially conceded; while points 1, 3, and 4 remain unfulfilled; the two first embracing the essential parts of army medical reform, as being those relating to the army status of medical officers. The Committee recommend that members of the Association should keep medical students informed of the difficulties and disadvantages of the Army Medical Service under existing conditions, and that the Association continue to bring before Government the grievances which still exist.

THE OBSTETRIC NURSES BILL.

This Bill has been considered at several meetings. The Subcommittee appointed to consider this Bill and the Medical Acts Amendment Bill, consisting of Dr. A. G. Bateman, Dr. R. W. Batten, Mr. George Brown, Dr. J. Spottiswoode Cameron, Mr. E. H. Galton, F.R.C.S., Mr. Ernest Hart, D.C.L., Mr. Victor Horsley, F.R.S., Mr. Evan Ty-mawr Jones, Dr. C. H. Milburn, Dr. A. B. Ritchie, Dr. G. E. Shuttleworth, Dr. R. Somerville, Dr. S. Woodcock, was reappointed at the meeting held in October, 1896, and at the meeting held in March it was not prepared to report, but was empowered to take any action which might be required.

At the meeting held in April Mr. Galton reported that the Subcommittee had gone very carefully into all the suggestions made by the Branches, which they had as far as possible incorporated in the Bill (see page 158).

SALE OF FOOD AND DRUGS ACT.

At the meeting in March, 1897, the Bill introduced by Mr. Kearley, and read for the first time on January 27th, came up for discussion. A memorandum on the subject (which appeared in the BRITISH MEDICAL JOURNAL, 1897, vol. i., p. 729), was considered, and after some discussion it was resolved:

That the Parliamentary Bills Committee support the Bill as at present before the House of Commons: and that a Subcommittee, consisting of Dr. Cameron, Mr. Galton, Mr. George Brown, and the Chairman, be appointed to watch the progress of the Bill through the House.

At the meeting in April the matter was further considered.

THE CONTAGIOUS DISEASES ACTS.

At the meeting in March the following resolution from the Council of the Metropolitan Counties Branch was considered:

The Council of the Metropolitan Counties Branch begs to urge upon the Parliamentary Bills Committee the desirability of taking into consideration the results of the repeal of the Contagious Diseases Acts, as recently reported in the daily press, and to take such active steps they may deem necessary to remedy the evil.

A memorandum was also submitted on Venereal Diseases among White Troops in India. The document, which appeared in the BRITISH MEDICAL JOURNAL, 1897, vol. i., page 730, entered fully into the condition of affairs at present existing, and into the regulations necessary to prevent a continuance of the growing evils complained of. The results of the present system were summarised as follows:

1. Prostitution greater than ever.
2. Virulence of disease much increased.
3. Direct inefficiency alarming, indirect, incalculable.
4. Taint spread at home by returned time-expired men.
5. Soldiers' morals not elevated by fear of venereal diseases.
6. Moral gain absolutely *nil*.
7. Physical suffering wantonly aggravated.

It was proposed by Mr. George Eastes, seconded by Mr. E. H. Galton, and resolved:

That the Parliamentary Bills Committee put itself in communication with the private Committee recently formed, to consider the question of the Contagious Diseases Acts, to ascertain in what way the Committee can help.

At the meeting in April the Chairman reported that he had been in communication with the Army Health Protection Association, India, and was co-operating with them.

SHELLFISH AND DISEASE DISSEMINATION.

At the meeting in March a memorandum which had been prepared for the use of the Committee on Oysters and other Shellfish and Typhoid Fever was considered. This memorandum, which is printed in the BRITISH MEDICAL JOURNAL, 1897, vol. i., page 731, enters fully into the question, and ends with the following suggestions:

(1) That the Local Government Boards, being the central health authorities, should have power to inspect all oyster layings and to prevent the sale of oysters from such as may be found to be liable to pollution until such time as improvements shall have been effected which would prevent the possibility of sewage pollution.

(2) That all oyster layings, shops, stalls, or other places where oysters are sold to the public should be subject to provisions similar to those contained in Section IV (the Milk Clause) of the Infectious Diseases Prevention Act, 1890.

(3) With regard to foreign oysters, it is suggested that all such oysters should be deemed to be directly imported foreign oysters unless they have been laid for thirty days at least on approved layings in this country, and all purveyors of oysters should be required to declare whence their supplies are derived, with a penalty for false declaration.

(4) Any regulations for the control and inspection of oyster layings, shops, etc., or for the control of the import trade, should apply to the whole of the United Kingdom.

It was proposed by Dr. Cameron, seconded by Mr. Verrall and resolved:

That a recommendation to the effect contained in the Memorandum be forwarded from this Committee to the Local Government Board.

SICK PAUPER CHILDREN.

At the meeting in April the Chairman reported that in response to a deputation the President of the Local Government Board had appointed a very strong Committee on the Aggregation of Children in Pauper Schools, who, after careful investigation, extending over eighteen months, had reported in precisely the sense of the resolution of the Parliamentary Bills Committee—that is, that barrack schools ought, as far as possible, to be abolished and replaced by boarding out, and that there should be special arrangements for the children suffering from illness. Mr. Chaplin had only adopted that part of the report which related to sick children, and he proposed, in the first instance, to appoint a special Board to deal with the sick children, which did not go to the root of the evil, and will do little to remove the great evils which arise out of the existing system. A special Association had been formed, under the presidency of Lord Peel, to carry out the whole of the objects as asked for. He had drafted a a statement which recapitulated their demands and stated reasons. The Chairman was authorised to circulate it among members of Parliament, and to submit it to the Government.

Among the other subjects claiming the attention of the Committee were the Vaccination Report, the Tenure of Office of Scottish Poor-law Medical Officers, the Poor-law Officers Superannuation (Ireland) Bill, the Public Health (Scotland) Bill, the Infant Life Protection Act, the Sale of Carbolic Acid, the case of Surgeon-Major Fowler, and the Superannuation of Public Vaccinators. All these subjects have been carefully dealt with by the Chairman in Parliament and elsewhere: many of them at the cost of much labour, and the more important of the proceedings taken have been published from time to time.

ERNEST HART, Chairman.

REPORT OF THE SCIENTIFIC GRANTS COMMITTEE.

THE Scientific Grants Committee have to report that during the past year, 1896-7, the sum of £399 10s. has been granted in aid of scientific research, and £450 for three scientific scholars; the following are particulars of the grants made:—

	£ s. d.
ABRAHAMS, BERTRAM L., M.B., 14, Welbeck Street, Cavendish Square, W.—For experiments having for their object the investigation of the nervous mechanism of gastric secretion, and the influence upon it of drugs and the products of digestion	15 0 0
BALLANCE, CHARLES A., M.B., and SHATTOCK, SAMUEL G., Esq., 106, Harley Street, W.—For carrying on an investigation into cancer	20 0 0
BARRATT, J. O. W., M.D., B.S., F.R.C.S., 26, Upper Wimpole Street, W.—For experiments on the excretion of water and carbonic acid gas by the skin in health and under pathological conditions, and also the influence of temperature of surrounding air	20 0 0
BRODIE, T. GRIGOR, M.D., Lindfield, Uxbridge Road, Surbiton.—For continuation of work upon muscle extensibility and irritability	10 0 0
BRUNTON, T. LAUDER, M.D., F.R.S., and TUNNICLIFFE, F. W., M.D., St. Bartholomew's Hospital, E.C.—1. For an investigation of the different effects on the heart and vessels of various preparations and other so-called cardiac tonics. 2. For a research on the exact physiological effect on the circulation of baths and other forms of cutaneous stimulation and of muscular movements	15 0 0
BUNCH, J. LE MARE, M.D., B.S., 6, Gordon Place, Gordon Square, W.C.—Towards expenses of material and apparatus to be incurred in investigating the innervation of the intestine and the effect of drugs thereon	10 0 0
EYRE, JOHN, M.D., 14, Trinity Square, S.E.—For an investigation on the organisms present in the secretions found in the normal conjunctival fornices, fully testing their pathogenicity by means of inoculation, experiments, etc.	10 0 0
GOODBODY, F. WOODCOCK, M.D., 35, Bedford Court Mansions, Bloomsbury Street, W.C.—For continuing a research on the seat of formation of uric acid	30 0 0
GRÜNBAUM, ALBERT S., M.A., M.B., University College, Liverpool.—1. To determine between the agglutinative and immunising action of human serum (described by Gruber and Durham for animals) with especial reference to enteric fever and its use in the diagnosis thereof. 2. The relation between peristalsis and peritonitis; is the former primarily increased, and if so, for how long?	10 0 0
HALLIBURTON, W. D., M.D., F.R.S., 9, Ridgmount Gardens, Gower Street, W.C.—For work in various chemico-physiological directions: 1. Precipitability of carbohydrates by neutral salts. 2. Influence of ferments on the disappearance of rigor mortis	40 0 0
HUTCHISON, ROBERT, M.D., Toynbee Hall, Commercial Road, E.—For an investigation into the chemistry of the thyroid gland and the character of its constituent	5 0 0
JONES, H. S. WANSBROUGH, M.B., Poplar Cottage, Harrow.—For a research on the physiological action of the injection of diphtheria toxins and antitoxins	10 0 0
KANTHACK, A. A., M.D., Pathological Laboratory, New Museums, Cambridge.—To continue some experiments on tetanus	10 0 0
LAZARUS-BARLOW, WALTER S., M.D., Pathological Laboratory, New Museums, Cambridge.—In aid of researches upon the pathology of œdema and the action of the diphtheria toxin on the heart	15 0 0
LEEDHAM-GREEN, CHARLES, M.D., 9, Newhall Street, Birmingham.—For a research into the relative value of various agents used in the disinfection of the skin, consisting briefly of a series of bacteriological experiments made upon the hands of the surgeon after they have been treated in various ways with a view of rendering them aseptic	5 0 0
MARSHALL, C. R., M.B., and TAYLOR, J. J., Esq., Pharmacological Laboratory, Downing College, Cambridge.—For a research into the manner of absorption of drugs, more especially of mercurial compounds. The method proposed to be adopted is first to determine the compounds formed *in vitro;* afterwards those formed in the alimentary canal; finally by means of cannulæ in the thoracic and excretory ducts the compounds formed during or after absorption	10 0 0
PAKES, W. C. C., M.R.C.S., 14, Trinity Square, S.E.—For the continuation of the study of the life-history of the bac. typhi abdom. in the presence of other organisms, and the elaboration of a new method of obtaining this organism when in conjunction with other organisms	10 0 0
PATON, D. NOEL, M.D., 33, George Square, Edinburgh.—Towards the expense of a research on the influence of severe muscular exertion on the metabolism	10 0 0
PEMBREY, M. S., M.D., Physiological Laboratory, Charing Cross Hospital, W.C.—For expenses incurred in a research especially as regards the regulation of temperature in fever, both in the case of man and animals	10 0 0
ROWLAND, SYDNEY, Esq., Fairlawn, Totteridge.—1. For an investigation into the possible effect of the *x* rays in differentiating certain histological elements, and by means of a fluorescent screen to obtain microphotographs of the various microscopic structure and constituent parts of the animal body. 2. For the purchase of Crookes's tubes and the preparation of certain large crystals of potassium, platinocyanide, and the purchase of pentadecylparatolylketone and other fluorescent materials. (Recommended by Professor Michael Foster.)	10 0 0
SHAW, CECIL, E., M.D., 14, College Square, E., Belfast.—To defray expenses of an experimental investigation into the etiology of sympathetic ophthalmia	15 0 0
SHERRINGTON, C. S., M.D., F.R.S., 16, Grove Park, Liverpool.—For an inquiry into the physiology of the innervation of pelvic viscera	14 0 0
STEPHENS, J. W. W., M.B., Pathological Laboratory, St. Bartholomew's Hospital, E.C.—1. For continuing a research on the pathogenic properties of the bacteria coli commune. 2. The relation of the so-called pseudo-diphtheria bacillus to other forms of diphtheria bacillus	15 0 0
STOCKMAN, RALPH, M.D., F.R.S.E., 12, Hope Street, Edinburgh.—1. To carry out a research on the iron metabolism in man. 2. The exact causes of anæmia in Bright's disease. 3. On the amount of iron in certain foods	10 0 0
STODDART, W. H. B., M.B., Bethlem Royal Hospital, S.E.—For continuing a research to find out what muscles are supplied on the same side of the body by the fibres of the direct pyramidal tract	20 0 0
SURVEYOR, N. F., M.D., 145, Queen's Road, Bombay.—For continuing an investigation into the action of opium and its alkaloids	16 10 0
WALKER, NORMAN, M.D., 7, Manor Place, Edinburgh.—1. For determining some doubtful points in connection with the fungi of ringworm. 2. The histology of the syphilides	14 0 0
WELLS, S. RUSSELL, M.D., 24, Somerset Street, Portman Square, W.—1. For carrying on a series of investigations on the presence or absence of bactericidal substances in normal animal organs, such as spleen, etc. 2. For continuing a research by studying the *post-mortem* changes in the nerves of animals ...	10 0 0
WHITE, ARTHUR, Esq., London County Lunatic Asylum, Claybury, Woodford Bridge, Essex.—For an inquiry into the nature of the granules found in the corpuscles of pus and into their micro-chemical reactions, etc....	5 0 0
WILKINSON, GEORGE, M.B., 109, Park Road, Liverpool.—For continuing a research on leucocytes, especially to study the action of other drugs, phosphorus, etc.	5 0 0
Total	399 10 0

The following sums have been returned as unused:—

	£ s. d.
Dr. B. L. Abrahams	6 0 0
Dr. A. S. Grünbaum	2 2 2
Dr. H. S. Wansbrough Jones	2 10 0
Dr. W. L. Lazarus-Barlow	8 2 2
Dr. C. R. Marshall	5 4 1
Dr. Noel Paton	1 15 0
Dr. Ralph Stockman	2 5 0
Dr. W. H. B. Stoddart	15 0 0
Dr. N. F. Surveyor	14 0 0
Dr. S. R. Wells	10 0 0
Total	66 18 5

Dr. BERTRAM L. ABRAHAMS, in making his report, states that the experiments hitherto performed tend to show that the peristaltic action of the stomach in guinea-pigs, cats, and dogs is inhibited by chloroform anæsthesia, and cannot under such conditions be evoked by stimulation of the vagi. Similar results have been obtained by an observer working simultaneously but independently in Kronecker's laboratory at Berne. No wave-like contraction of the stomach can be obtained by direct faradic stimulation in an anæsthetised animal; the sole result of such topical stimulation is local "hour-glass" contraction, which comes on after a little while and passes away very slowly. Experiments are at present in progress on the chemical changes in the gastric juice produced by the introduction of irritant substances into the stomach; these are not yet complete, but Dr. Abrahams hopes to continue them during the coming year in Professor Vaughan Harley's laboratory. He desires to acknowledge his great indebtedness to Professor Harley for his assistance and advice.

Mr. C. A. BALLANCE and Mr. S. G. SHATTOCK report that they have been continuing an attempt to discover whether it is possible to obtain an antitoxin for cancerous diseases. The method adopted is comparable to that which is employed in the production of the antitoxins for specific parasitic diseases. The animal selected by them for the above purpose is the horse. They hope in the autumn to try the value of the serum on selected inoperable cases of malignant disease in man. The work has been delayed on account of the loss of two horses on which the plan of intravenous injection was adopted.

Dr. J. O. WAKELIN BARRATT has been engaged on a research on the excretion of water and carbonic acid gas by the skin in health and under pathological conditions. The object of research has been the study of the normal and morbid elimination of water and carbon dioxide by the skin. Up to the present the only pathological condition which has been investigated is that produced by the application of a ligature to the upper part of a limb, causing compression of arteries, veins, lymphatics, and nerves, and thereby influencing the skin on the distal side of the ligature, producing marked cyanosis and some œdema. It was found necessary, however, before any investigation could be made on the effect of a ligature upon the skin, to obtain a series of normal data representing the activity of the skin in health. An obstacle to this preliminary work was encountered in the circumstance that the records of the mode of estimation of water and carbon dioxide employed by the various experimenters who have studied the activity of the skin are scanty, and afford but little help. The absence of a detailed method of estimation of carbonic acid gas and water as given off from the skin rendered it necessary to work out a method specially adapted to the particular conditions under which estimations have to be made, and further to ascertain, with as much precision as possible, the degree of accuracy of which the method adopted was susceptible. Partly owing to the difficulty of adaptation to the conditions of experiment, and partly owing to the smallness of the quantities dealt with (in the case of carbon dioxide) and the slightness of the variations met with under some of the normal and pathological conditions studied, a considerable amount of time was taken up in this preliminary work, and numerous failures were at first encountered. Ultimately, however, a method of estimation was devised, possessing the requisite adaptation to the restrictions and limitations under which the investigation has to be carried on, and yielding results of considerable delicacy and a readily ascertainable degree of accuracy. When this had been accomplished the normal output of water and carbon dioxide from the skin of the upper limb at different temperatures was investigated, and by the aid of the data thus obtained the effect of the pathological state induced by the application of a ligature to the limb as near the trunk as possible, so as to obtain the largest workable area, has been studied. The investigation of the effect of pathological conditions on the activity of the skin is complicated by the fact that the output of carbon dioxide and water, though presenting a fairly constant average, nevertheless exhibits diurnal variations which are very nearly of the same extent as the variations of output induced by some of the pathological conditions studied. After many attempts to overcome this difficulty it was found that the normal output changed but slowly during short periods of time, its variation from hour to hour being in fact inconsiderable, so that by making in immediate succession two estimates of the output of water and carbon dioxide from the same area of skin, the pathological state being induced during the second estimation, it was found that the course of investigation was no longer impeded by the diurnal variations of output. The character and extent of the diurnal variations in output have been made the object of lengthened study, and numerous series of experiments have been devised to determine the external and internal factors which act as variants; but, with the exception of the influence of temperature, the significance of these variations has not, so far, been explained, though much careful observation and comparison of the conditions of experiment, as far as ascertainable, have been made. This failure of interpretation is scarcely to be wondered at when it is considered that the external conditions of experiment are only to a limited extent capable of being controlled and subjected to measurement, while the internal conditions of experiment are almost entirely beyond control and measurement, and indeed are only imperfectly understood. Further experiments are still being made with the object of gaining a more extended knowledge of the causation of the diurnal variation of output, and, notwithstanding the complexity of the investigation, it is hoped that the influence of additional variants may be recognised. The elimination of water by the skin has been found to be nearly 200 times greater than that of carbon dioxide. Temperature affects the elimination of water but slightly, while its influence on the production of carbon dioxide is considerable. The effect of a ligature causing marked cyanosis of the surface is to produce a diminution of the moisture given off from the skin and an increase of the carbon dioxide output, and this influence has been found in each case to be uniformly produced, both at the temperature of the body and at lower temperatures. The alteration in the activity of the skin caused by the application of a ligature has also been found to be proportional to the tightness with which the limb is compressed. A fuller account of this research, giving details of the actual experiments made, will be forwarded later. Further experiments are also in progress upon the effect of inflammation and of varnishing upon the aqueous and gaseous exchange of the skin, but as yet the work is not sufficiently advanced for report. The research has been carried out in the department of pathological chemistry at University College, London, by the kind permission of Professor Vaughan Harley, for whose valuable advice and criticism Dr. Barratt's warmest thanks are due.

Dr. T. G. BRODIE reports that during the past year he has extended the experiments upon the influence of variations of temperature upon the length of muscle, which were not completed last year. Working in conjunction with Mr. S. W. F. Richardson, he has shown that with all loads a muscle elongates if its temperature is raised, until a temperature of 34° C. is reached. This increase in length at low temperatures is very slight with low loads, but as the load is increased becomes very considerable. He has confirmed the results previously found by Joule and Schmulewitsch, that if a piece of unvulcanised rubber is warmed it elongates if it is unloaded, but that it contracts if loaded. Dr. Brodie has extended these results in showing that the amount of contraction is a function of the load. As the load is increased the amount of shortening produced for a given rise of temperature rapidly increases up to a maximum, when it is loaded with a tension sufficient to extend it to about five times its initial length. If loading is carried beyond this point, the degree of contraction gradually and progressively diminishes until, when a load sufficient to extend it eight times its original length is reached, the rubber elongates instead of contracting. With tensions above this amount the elongation occurring becomes greater, and leads to early rupture as the temperature rises. These results have already been published in a recent number of the *Journal of Physiology*. Studying the contraction occurring as the temperature above 34° C., he has estimated its amount under different loads, the work it is capable of exerting, and its absolute force. One of the most interesting results he obtained is the contraction occurring when the load is very low. Dr. Brodie obtained four contractions, namely: (1) From 34° to 40° C.; (2) from 47° to 50° C.; (3)

from 55° to 60° C.; and (4) above 65° C. By many variations of the experiments he has gained evidence to show that these contractions are due to the proteid coagulations occurring at the same time. They occur at the same temperatures at which the proteids of frogs' muscle plasma coagulate. In mammalian muscle the lowest contraction does not occur, and associated with this the proteid coagulating at 34° C. is absent. A paper upon this work will shortly be published by the Royal Society. Continuing this work, Dr. Brodie examined the heat contractions of muscle which have entered into rigor mortis. He finds that the first proteid to be precipitated is that coagulating between 47° and 50° C., and then at a later stage that coagulating at 55° to 60° C.; finally, the one coagulating at 34° to 40° C. This piece of work is not yet fully completed.

Dr. T. LAUDER BRUNTON, F.R.S., and Dr. F. W. TUNNICLIFFE, M.R.C.S., have sent (1) an epitome of a research on the cause of the rise of blood pressure produced by digitalis. Conflicting opinions having been expressed upon this question, and it being under certain conditions of great clinical importance, the authors examined the subject by a new method. They caused cardiac still-stand for equal periods of time in the same animal, both when its circulation was normal and under the influence of digitalis, and compared the rate and extent of the subsequent fall of pressure. They found that the fall of pressure was less extensive and more gradual under digitalis than normally. The conclusion to be drawn from this was that digitalis not only increases the force of the cardiac contractions, but also increases peripheral resistance by contracting the arterioles. (2) Epitome of a research on the effect of resistance exercises upon the circulation in man. The result of the research was to show that during gradual resistance exercises there was at first a rise of blood pressure, subsequently a fall, and that the fall continued for a considerable time after the cessation of the exercises. Further, that immediately after the contraction of the gastrocnemius muscle against resistance in man a dilatation of the arteries contained in it takes place. (3) Epitome of a research on the relative potency of infusions of digitalis made from leaves collected from different localities, and from flowering and non-flowering plants. (Not completed.) The results so far obtained show that concentrated infusions of digitalis leaves will keep, dilute infusions will not. Further, that there is no difference in the potencies of infusions of the same strength made from flowering and non-flowering plants.

Dr. J. L. BUNCH has continued his research on the innervation of the intestine, and will publish a full account of it before long.

Dr. JOHN EYRE during the past year has been engaged in (*a*) an inquiry into the bacteriological flora of the normal conjunctival sac, and in the course of his investigations he has examined microscopically and by means of culture experiments the conjunctival secretion from 150 healthy eyes. The various organisms met with have been isolated, fully worked out and identified, and whenever considered advisable, their pathogenicity tested upon suitable animals. The results of this investigation and the deductions therefrom are fully detailed in a paper entitled, A Contribution to the Bacteriology of the Normal Conjunctival Sac, which he forwarded for publication. As this paper may possibly appear in the columns of the JOURNAL it is unnecessary to do more than refer to it here. (*b*) An inquiry into the etiology and bacteriology of the various acute forms of conjunctivitis. Circumstances prevented him from carrying out this portion of his work in the exact manner he had intended, for he early met with a series of cases of conjunctivitis resulting from an infection with a streptococcus, and then invariably associated with a purulent inflammation, more or less severe, of the lachrymal sac, and following up this side issue, devoted some time to the study of dacryocystitis. The results of Dr. Eyre's work upon this subject he is embodying in a paper which he hopes to have ready for publication very shortly. He would mention, however, that the pyogenic organism met with in cases of acute or subacute dacryocystitis has been, with one exception, the streptococcus longus. The one exception was a pneumococcus of a low degree of virulence (as tested upon mice), and this particular case is of some interest as it is the only occasion that he has met with the pneumococcus in the conjunctival sac—an experience contrary to that of Continental observers, who frequently observe epidemics of conjunctivitis, where the micro-organism responsible for the lesion is the diplococcus pneumoniæ of Fraenkel. Nevertheless a large number of observations has been made upon individual cases of acute conjunctivitis, from which it would appear that groups of cases of conjunctivitis (which can generally be distinguished clinically), are met with apparently as the direct result of the invasion of the conjunctival sac by Weck's bacillus, the streptococcus longus, the gonococcus, the pneumo-bacillus of Friedlænder, the Klebs-Loeffler bacillus, and diplo-bacillus (which is identical with that described by Morax) respectively. Dr. Eyre's researches in this direction are, however, by no means complete. From that variety of conjunctivitis known as follicular he has not yet been able to isolate an organism which could, with any show of reason, be designated as specific.

Dr. F. WOODCOCK GOODBODY has been engaged on an investigation into the seat of formation of uric acid, and states that physiologists are still at variance as to where uric acid is absolutely formed in the human organism, and as it is of great importance in studying the pathology of the uric acid diathesis to have some idea as to its site of formation, at the suggestion of Professor Vaughan Harley he took up this investigation, with the view of trying to throw some light on the vexed question. The experiments were divided into two series. First, those in which the effect of destruction of the liver was investigated; and, secondly, those in which pilocarpin was given subcutaneously so as to increase the leucocytes, and thus increase the excretion of uric acid by the kidneys. In order to make the liver functionally inactive Pick's method of investigation was employed; one-fortieth N. sulphuric acid was injected into the common bile duct. At first cannulæ were introduced into the ureters through an abdominal incision, but afterwards a change was made through the difficulty of preventing the ureters twisting, and the cannulæ were inserted into the ureters through an incision in the outer borders of the spinal muscles. In the dogs in which sulphuric acid was to be injected into the bile duct a still further incision was made parallel with the right costal margin, and the bile duct injected close to its entrance into the duodenum. The amount of sulphuric acid injected was from 20 to 40 c.cm. per kilo of animal weight, and at a pressure from 50 to 110 mm. mercury was employed. The dogs thus operated on were, previous to the injection of sulphuric acid or the administration of pilocarpin, kept under observation for a varied period of one to two hours, in order to obtain normal samples of the urine, and other samples hour by hour were collected after. In all cases the experiments were performed on dogs, and they were kept under the influence of ether during the entire experiment. In the cases in which sulphuric acid was injected the immediate effect was to cause a considerable increase in the quantity of urine excreted per hour, and a corresponding decrease in the specific gravity, due to an absorption of the water injected by the lymphatics of the liver. In the experiments as well as investigating the uric acid all the other nitrogen-containing substances were investigated in each case. The total nitrogen, urea, ammonia, and uric acid showed various effects after the injection. The general result was the diminution in the amount of nitrogen and urea excreted, though the diminution in the amount of urea was not so great as one would be led to expect to be the case if the liver were entirely inactive. The ammonia showed a slight increase, but in some cases remained the same as the normal, or even showed a slight decrease. The quantity of uric acid excreted fell in some cases and rose in others. In all those cases in which the uric acid was increased, there was also noted an increased leucocytosis. If too great a pressure was used when injecting sulphuric acid, through rupture of the bile ducts, the injection reached the circulation and caused shock which was accompanied with anuria, and this complicated the results. In those cases in which pilocarpin was injected there was an increase in the amount of uric acid excreted for the first two or three hours after the injection. The effect of pilocarpin on the excretion of nitrogen, urea, and ammonia was to cause a steady diminution in their amounts. In every case in which the pilocarpin was investigated the ratio of the white to the red blood corpuscles was estimated, and an in-

crease in the number of leucocytes was observed. The results so far obtained are not sufficient to enable Dr. Goodbody to draw any definite conclusion. At the same time they promise to turn out profitable, as many of the difficulties which have so far had to be got over are now understood.

Dr. ALBERT S. GRÜNBAUM states that his investigation of the serum of typhoid patients and other individuals showed that the former possessed a strong agglutinative action on typhoid bacilli, so that with proper dilution it could be made available for diagnostic purposes. The serum of many other individuals exhibited a similar property, but not so specific nor so powerful. The serum of newborn children was generally inactive, even if that of the mother was active. Artificially-induced peritonitis was found to increase peristalsis for the first twenty-four hours, and to diminish or abolish it after this time, thus confirming to some extent clinical experience.

Dr. HALLIBURTON reports that the grant he received has been expended in the prosecution of the following researches, which are being carried out under his supervision: (1) On the precipitation of colloid carbohydrates by neutral salts. This research is nearing completion, and Dr. R. A. Young, who has been carrying it out, has already published a preliminary communication on his results in the *Proceedings* of the Physiological Society, February 13th, 1897. These show that this new method of separating carbohydrates is likely to be as useful here as with proteids, where it has long been used. (2) On the disappearance of rigor mortis. This research, which is being carried out by Mr. A. Edmunds. B.Sc., is not yet complete for publication, but has been diligently prosecuted during the past year. (3) On the digestion of glycogen. This research, carried out by Miss C. Tebb, is also at present incomplete, but is being actively prosecuted. It aims at the separation of the dextrines, the intermediate substances formed in the conversion of glycogen into sugar by various ferments.

Dr. ROBERT HUTCHISON has been engaged on a research on the active constituent of the thyroid gland, and reports that the object of the research was to test the different chemical ingredients of the thyroid as regards their power of preventing or removing the acute symptoms which follow thyroidectomy in dogs. In all five preparations were examined: (1) the extractives of the gland, (2) the colloid matter as a whole, (3) the non-proteid part of the colloid, (4) the proteid part of the colloid, (5) the nucleo-albumin of the thyroid. The results of the experiments showed quite clearly (1) that the extractives were inactive, (2) that the colloid is active as a whole, (3) that this activity is due chiefly to its non-proteid constituent and only in small measure to the proteid part, (4) the nucleo-albumin is inactive. The colloid matter is therefore the only active constituent of the gland, and it is active as a whole. Full details of the experiments will be found in an article in the *Journal of Physiology*.

Dr. H. S. WANSBROUGH JONES has been engaged in a research on the blood of horses used in the preparation of antitoxin. The work has been done at the laboratory of the British Institute of Preventive Medicine at Sudbury, by the kind permission of Drs. MacFadyen and Bulloch. An attempt was made to estimate the number of chromocytes and leucocytes and the proportion of the different varieties of the latter in normal horses' blood. The result went to show a greater variation in the number of these elements in horses' than in human blood. Apparently slight alterations in "condition" produces considerable alterations in these numbers. Several of the horses were old, and these showed a diminished number both of chromocytes and leucocytes. The number of chromocytes was found to vary between 4,000,000 and 7,200,000 per c.mm., and the proportion of leucocytes to chromocytes from 1:400 to 1:700. The average number of chromocytes per c.mm. in the horse which subsequently yielded the best antitoxin was 6,650,000, and the proportion of leucocytes 1:450. Polynuclear leucocytes always formed a large proportion of the whole (about 70 per cent.). Large hyaline leucocytes were the least common, and in many specimens were not found at all. The number of coarsely granular eosinophile leucocytes varied considerably, but some were generally present, and the number in some cases amounted to 6 per cent. of the whole. The small lymphocytes varied from 20 to 30 per cent. The horses which had been under treatment for some time and bled repeatedly showed a considerable diminution in the number of all or any of these elements. The injection of diphtheria toxin invariably causes both chromocytosis and leucocytosis, but the chromocytosis was never considerable. This leucocytosis was observed an hour after the injection. No preliminary "leucolysis" or "hypoleucocytosis" could be discovered, though this was observed on one occasion after the injection of mallein. The increase in the number of leucocytes was found to equal 25 to 75 per cent. of the original number, and appeared to bear some relation to the local reaction observed. The leucocytosis was found to diminish rapidly after a maximum had been reached, but a certain amount persisted for several days. It was, however, impossible to make a sufficient number of consecutive observations to formulate any general law as to the rate of this increase and subsequent diminution. The most marked increase was found always in the polynuclear variety; the coarsely granular eosinophile ones also showed increase.

Dr. KANTHACK reports that during the past year he has continued researches on tetanus, begun while working for the Jacksonian Essay: (1) He has attempted to grow the bacillus aërobically, but has invariably failed. (2) He has studied the drumstick bacilli in the gut, bronchi, and earth which are aërobic, and has convinced himself that they are not tetanus bacilli. (3) He has begun to study the paths of infection, and has found that if the bacilli travel from the seat of infection they do so along the nerves preferably. Dr. Kanthack is at present continuing this work, and is now investigating the paths of intoxication, and is studying the effect of nerve section on the spasms. He has continued his observations on the morphology of the tetanus bacillus, especially with regard to flagellation and formation of branched forms.

Dr. W. S. LAZARUS-BARLOW reports that in consequence of pressure of other work he has not been able during the past year to forward the work for which he received a grant to a sufficient extent to make a report, and states that he intends to return a large part of the grant to the Association.

Mr. CHARLES LEEDHAM-GREEN, during the past year, has been making a bacteriological inquiry into the relative value of various agents used in the disinfection of the hands. A very large number of experiments were made both on the normal hands and on hands which had been artificially infected, with a view to learning how far it is possible to render the skin sterile. All the usual methods advocated for this purpose were carefully examined and tested bacteriologically. It was found that the difficulty of sterilising the hands and skin has been very greatly underestimated, for it would seem that none of the methods at present in use can be relied upon to procure absolute sterilisation. The inquiry is still being pursued. Reports have appeared from time to time in the BRITISH MEDICAL JOURNAL, *Deutsch. med. Woch.*, and *Centralbl. für Chir.*

Drs. C. R. MARSHALL and J. J. TAYLOR report that during the past year they have turned their attention to the absorption of mercury. The two compounds which they have so far investigated are calomel and corrosive sublimate. At present two theories are held regarding the absorption of calomel: (1) That it is transformed into mercuric chloride and is absorbed as such. (2) That it undergoes no such transformation but is absorbed as calomel or as a compound of the subchloride with some other salt or with albumen. As far as their investigations go they point to a transformation into the perchloride, although in herbivorous animals there seems to be some evidence that calomel may be absorbed unchanged. In these animals calomel (free from perchloride) produces inflammation of the cæcum and vermiform appendix, and often also of the ileum. In carnivora, however, no such result occurs, as the substance is quickly discharged. As regards the perchloride, their investigations show that the greater part is absorbed by the lacteals, and is discharged by the thoracic duct into the circulation. The compound formed appears to be intimately connected with albumen, but what this relation is they have not yet determined. The experiments of Voit and others have been repeated and extended

with interesting results. These will be published with a description of the other experiments and an account of previous researches at some future time.

Mr. W. C. C. PAKES during the past year has been investigating the bacillus typhi abdominalis, and his researches have included: (1) The various conditions affecting the life and growth of the bacillus typhi, especially in association with other organisms. (2) the action of the sera of animals (normal and immune) and of human subjects upon the bacteria. (3) The presence of the organism in fæces, urine, water, etc. A portion of his research is approching completion, and he hopes shortly to publish his results.

Drs. NOEL PATON, STOCKMAN, DUNLOP, and Mr. IVISON MACCADAM have been engaged in a research on the influence of muscular exercise, sweating, and massage on the metabolism. The research, for which a grant was given last year, has been duly carried out in the Royal College of Physicians' Laboratory, Edinburgh, and the chemical laboratory of Mr. Maccadam, Surgeons' Hall, Edinburgh. Five experiments were made, of these three were on the influence of muscular exercise, and one each on that of sweating and massage; these latter being considered necessary to exclude certain evident fallacies from the former. The experiments were all performed according to the methods prescribed by Von Noorden for accurate metabolic research,[1] and, being conjoint work, were carried out in greater detail than any previously recorded. A detailed report of the investigation is now nearly ready for publication, and it is considered better to reserve any reference to the results of the observation or to the conclusions to be derived from them until this detailed account has appeared.

Dr. PEMBREY has been engaged in a research which has been chiefly confined to the investigation of the changes occurring in the temperature of man after traumatic section of the spinal cord. For this purpose the surface temperature has been determined by special thermometers, and the amount of moisture given off by the skin has been estimated by a hygrometer. A preliminary account of one case has been given before the Physiological Society. Another patient is now under observation. An account of this work will be communicated for him by Dr. Waller to the meeting of the British Medical Association at Montreal. Numerous determinations of the temperature of man and of various animals have been made in order to determine the influence of various factors, such as age, food, exercise, time of day, etc., upon the variation in temperature. These observations were found to be necessary as a preliminary to the study of fever in man and animals. The results will probably be published this year. In addition to this work, for which the Committee made a grant, a research upon the physiological action of hydrastin hydrochlorate has been carried out in conjunction with Dr. C. D. F. Phillips, at the request of the Therapeutic Committee of the Association, a preliminary communication upon the subject was given at a meeting of the Physiological Society on January 16th, 1897. Although no grant was made for this research, some of the animals and apparatus required for the work on temperature were available.

Mr. SYDNEY ROWLAND reports that he has been following the lines suggested by Professor Michael Foster and Professor Ray Lankester, and has spent considerable time in experiments to produce a fluorescent screen of sufficient smoothness of surface for microscopical work. The only way of doing this is by preparing a sufficiently large crystal of the fluorescent substance and grinding a fine section of this. It was found impracticable to get the crystals of potassium platino-cyanide (the material employed) to grow uniformly to a sufficient size. Accordingly the plan of procedure was altered, and the microscopical effects were studied by means of cutting fine sections of the tissue after exposure to the rays and comparing with similar sections of normal tissues. This work is still in progress, and he hopes to have sufficient material for a detailed paper shortly. Much time has been spent in various experiments to determine the most efficient form of tube and degree of exhaustion necessary to produce the best physiological effects. Mr. Rowland has devised a new form of tube in which the degree of vacuum can be varied at will. This tube is in process of manufacture, and will be ready shortly. In course of another month or so he hopes to have determined the particular rays to which the known physiological effects are due, in addition to determining with exactness the precise nature histologically of these effects.

Dr. CECIL E. SHAW has been engaged in a research into the etiology and pathology of sympathetic ophthalmia. This research has been carried on steadily since last summer, but owing to the nature of the experiments no detailed report will be possible for at least another year. The theories of the causation of sympathetic ophthalmia have hitherto been divided broadly into two kinds: those which attribute it (1) to nerve irritation, and (2) to microbic invasion. The method of research has been an attempt to combine these two in one process, by prolonged irritation before and after the introduction of microbic infection into the eye. An additional line of work has been the histological and bacteriological examination of a number of eyes removed on account of injuries, in many cases sympathetic ophthalmia having already started in the other. Judging from the statistics recently quoted by Panas, it would seem that sympathetic ophthalmia is of relatively frequent occurrence in the North of Ireland, and consequently the facilities for its investigation proportionately great.

Professor C. S. SHERRINGTON, M.D., F.R.S., reports that the two experiments made in connection with his investigations were in examination of the influence of the cerebral cortex upon the innervation of the urinary bladder. Distinct results were obtained on excitation, but the stage reached by the investigation is too early to justify any confident statement of a direct cerebral effect.

Mr. S. W. W. STEPHENS, who is at present in India, has worked in Dr. Kanthack's laboratory at (1) the varieties of the bacterium coli; (2) the distribution of the members of this group of organisms; (3) the bio-chemistry of the bacterium coli; (4) the significance of the bacterium coli when present in water, milk, food, etc.; (5) the part played by the bacterium coli in putrefaction. He is at the present time putting matters together for a long report, which will be submitted later.

Dr. RALPH STOCKMAN has been engaged in a research on the ingestion and excretion of iron in health, which has been completed and published in the *Journal of Physiology* (vol. xxi, 55, 1897). Four adults were put on a fixed diet in which the amount of iron had been accurately estimated, and then the iron in the excretions was determined for some consecutive days. This research was done along with Dr. E. D. W. Greig. They are now engaged in investigating the action of arsenic as a hæmatinic, but they are not yet in a position to state their results.

Dr. W. H. B. STODDART has submitted a report on twelve satisfactory experiments with remarkably uniform results. The conclusions arrived at are as follows: (1) The number of fibres (channels) in the direct pyramidal tract does not appear to be the same for all individuals of the same species. (2) Nearly all the fibres of the so-called direct pyramidal tract ultimately cross to the opposite side of the cord. (3) Its fibres convey some of the impulses from the cortex cerebri to the hind limb of the opposite side. (4) A few fibres remain on the same side of the cord to supply the tail muscles of that side. (5) The tract conveys no impulses to the fore limbs or to the trunk.

Dr. N. F. SURVEYOR has returned the full amount of grant made to him, not having had time to pursue his research.

Mr. NORMAN WALKER has returned the full amount of his grant; having been abroad, his work is incomplete.

Dr. RUSSELL WELLS has been engaged on researches as to the bactericidal action of extracts of animal organs. A large number of experiments have been carried out, but the investigation is not yet complete; when it is, the full results will be published.

Dr. ARTHUR T. WHITE reports that he has examined the pus taken from twenty-three cases in the human subject only, both acute and chronic abscesses, in various situations. The investigation has been directed to a microscopical examination of the granules of the pus corpuscle as regards their reaction to stains and reagents, on the lines of Ehrlich's work on the white corpuscles of the blood. A second series of investigations has been directed to a chemical examina-

[1] *Beiträge zur Lehre vom Stoffwechsel*, Heft 1, p. 118.

tion of the pus cells and serum, on the lines of the work of Meischer and Hoppe Seyler, to determine the nature of the nucleins present in the cells, and the constituents of different samples of pus. This is as yet very incomplete. He has also examined the effect of various reagents on the mobile granules of the cells, with a view to ascertaining the action of these reagents on their motility. Dr. White also examined all cases for glycogen, which has been described by Ranvier and Salomon. The inquiry is as yet very incomplete, and the facts ascertained require further examination before they are fit for publication. He hopes to have it completed shortly.

Dr. G. WILKINSON reports that he has confined his observations up to the present to the action of pilocarpin. The rabbit was chosen as the subject of experiment, because of the fact that its blood contains a large percentage of leucocytes with well-marked granules. The pilocarpin was administered in solution by hypodermic injection, large doses being given on consecutive days so as to keep the animal more or less saturated with the drug. The duration of the experiments varied in different instances from two to fourteen days. The changes in the leucocytes which he has observed may be briefly summarised as follows: Besides the very great increase in the number of the finely granular oxyphile cells, which invariably follows the injection of pilocarpin, many of these cells exhibit distinct alterations in the character of their protoplasm, and in the degree to which they react to staining agents. The change consists principally in a disappearance of the granules, the protoplasm assuming a homogeneous and more or less hyaline character. Others, again, present a curious pitted or reticulate appearance. At the same time, the reaction of the leucocytes to staining agents is diminished, sometimes to such an extent that they look like mere phantoms. On the other hand, the coarsely granular eosinophile cells show no change, either in structure or in staining reaction.

RESEARCH SCHOLARS.

Dr. J. B. LEATHES has been engaged in a research into the nature of mucin-like proteids contained in ovarian cysts. It has long been known that these cysts contain proteids (metalbumin and paralbumin), which, like mucin, reduce Fehling's solution if they have previously been boiled with mineral acids; this property is now known to be due to pseudomucin, which is common to metalbumin and paralbumin; but another proteid, paramucin, has been found, which differs from pseudomucin in the property, amongst others, of reducing without previous treatment with acids. No attempts hitherto have succeeded in isolating or determining the nature of the group in the mucin molecule to which the reducing properties are due, but it has been commonly assumed to be a sugar. In any case, it would be an important addition to our knowledge of the pathology of ovarian disease, and of the chemical relation of carbohydrates to proteids. The important protection against putrefactive action afforded by mucin to all mucous membranes of the body must be due to the prosthetic group in the molecule. Some of the specimens of paramucin with which he has been working, and which resist simple putrefaction for months, have a reducing power equivalent to 12 per cent. of their weight of glucose. Dr. Leathes's researches are divided into two groups: (1) Attempts to determine the products of the action of boiling saturated hydrochloric acid; from these, amongst other results, he has succeeded in obtaining an osazone which crystallises typically and melts at 186° C., the same melting point as that of an osazone prepared from bronchitic mucin. This, therefore, proves the presence of a sugar group. (2) Attempts to split off from the complex proteid molecule a substance, as little altered as possible, which would enable him to determine the chemical relation of the carbohydrate moiety to the albumen moiety. After trying various methods he found the best results from artificial gastric digestion. This gives peptones and albumoses and a compound, which can be separated as a copper sodium salt in a state of purity, and which reduces Fehling's solution strongly. By this method he will soon have enough of this interesting substance for analyses and a determination of its structural composition. Attention may be drawn to an analogy with chondroitin, the specific chemical component of cartilage, the close relation of which to carbohydrates was made out by Schmiedeberg six years ago, an analogy which is borne out by the fact that in paramucin, too, the reducing substance is paired with sulphuric acid, as in chondroitin sulphuric acid; about one-fourth of the sulphur of paramucin is separable as sulphuric acid by the action of acids according to his determinations. Further details and other facts which he has made out, but not yet brought into relation with the main points alluded to above, he will reserve for communication when his work is further advanced.

Dr. J. S. RISIEN RUSSELL reports that the results of the investigation of the cervical nerve roots in relation to the subject of wry-neck will be published in the next number of *Brain*, as it was impossible for the Editor to find room for the paper in the JOURNAL; an abstract will, however, appear in the JOURNAL about the time when the full paper is published. The research into the origin and destination of some of the afferent and efferent tracts of the medulla oblongata, which was in progress when he last reported to the Scientific Grants Committee, has been completed, and the results embodied in a paper read before the Royal Society, but not yet published. A short abstract of this paper has already appeared in the JOURNAL. The problems that are now engaging Dr. Russell's attention are: (1) The effects of destruction of the inferior olive; (2) the division of a series of nerve roots followed by an attempt to obtain union between the proximal end of one divided root with the distal end of another, so as to bring the anterior horn cells of one segment of the spinal cord, which were formerly connected with one group of muscles, in relation with an entirely different group, in order to determine whether voluntary movement of a limb is possible under such circumstances, and if so, what kind of voluntary movement results.

Dr. SWALE VINCENT reports that his previous researches on the comparative anatomy and histology of the suprarenal capsules, 1, 2, 3, 4, have been followed by an investigation upon the comparative physiology of these organs. He has tested the effects of extract of fishes' suprarenals upon the arterial system of amphibians and mammals. The conclusions arrived at are as follows: 1. The suprarenal capsule of the mammalia corresponds to two distinct glands in elasmobranch fishes. 2. In teleostean fishes the medullary gland appears to be absent, the suprarenal bodies in this order consisting entirely of "cortex." 3. The same is probably true of ganoids. Thus it appears from these researches that two primary groups of the class *pisces* (teleosts and ganoids), embracing the great majority of species of fishes, have no "medulla," but only "cortex," so that a large group of vertebrates seems to be able to dispense with an organ which is of vital importance to mammals. It may be after all that the cortex is the more important and essential constituent of the gland, although everything we know about the functions of the capsule at present applies only to the medulla. These results are published in a fuller form in the *Anatomischer Anzeiger*, xiii Bd., Nos. 1 and 2, 1897; *Proc. Roy. Soc.*, vol. lxi, No. 370, April 14th, 1897; *Proc. Physiol. Soc.*, March 20th, 1897; *Journ. of Phys.*, vol. xxi, Nos. 4 and 5, May 12th, 1897, p. xxi. Dr. Swale Vincent gives the following references to previous papers: (1) *Proc. Birm. Nat. Hist. and Phil. Soc.*, 1896, vol. x, part 1, p. 1. (2) *Trans. Zool. Soc.*, vol. xiv, part 3, No. 1, April, 1897. (3) *Birm. Med. Rev.*, August, 1896. (4) *Anat. Anz.*, Bd. xii, Nos. 9 and 10, 1896.

ROBERT SAUNDBY, M.D., Chairman.

REPORT OF INEBRIATES LEGISLATION COMMITTEE.

YOUR Committee regrets to have to report that the Government has as yet been unable to carry out its intention to introduce a Bill into Parliament providing for amendments in the existing Inebriates Acts.

The Prime Minister (the Marquis of Salisbury), and the Home Secretary (Sir M. W. Ridley), in response to communications from the Chairman of the Committee, have both stated that it is the design of the Government, if time permit, to introduce a Bill into Parliament this session for amended legislation for inebriates. Seeing how remarkably strong and widespread is public opinion in favour of such a step, there

can be little doubt that a measure of the kind would be heartily welcomed, and would meet with great support.

Your Committee trusts that the session will not terminate before the introduction of the promised Bill.

Such a Bill should include:

1. The compulsory therapeutic detention of habitual drunkards, after a judicial process, on sworn medical testimony, and with every possible safeguarding of the liberty of the subject.

2. The establishment and management of special homes for inebriates for the poorest, for criminal and non-criminal inebriate offenders.

3. The inclusion of intoxication by any narcotic in the term "habitual drunkenness."

4. The appearance of voluntary applicants for curative detention before one justice instead of two justices as at present, or before some other authorised official.

5. Magisterial discretion to award a term of curative restraint in a reformatory or hospital, instead of a term of imprisonment in a gaol.

It would also be desirable to have all habitual drunkards under curative treatment subject to State or municipal inspection.

The Committee is glad to learn that in Austria, while the authorities are considering the project of special legislation for inebriates, one clinic has been set apart specially for the treatment of habitual drunkards.

The Committee has to thank Sir Charles Cameron, Bart., M.P., Dr. Farquharson, M.P., and Mr. Lees Knowles, M.P., for excellent parliamentary services. The reports of the Massachusetts State Hospital for Inebriates have been specially valuable.

The Committee recommends its re-election as follows: The President and President-elect, *ex-officio*, the President of Council, Mr. D. B. Balding, J.P., F.R.C.S.; Dr. R. Welsh Branthwaite, Dr. T. Bridgwater, J.P.; Sir Charles Cameron, Bart., M.D., M.P.; Dr. C. R. Drysdale, Mr. Geo. Eastes, Dr. J. W. Eastwood, J.P.; Dr. R. Farquharson, M.P.; Dr. W. T. Gairdner, F.R.S.; Dr. J. Hill Gibson, Dr. A. Grant, Mr. F. J. Gray, Dr. C. J. Hare, Dr. Arthur Jamison, Mr. H. R. Ker, Dr. Norman Kerr, Dr. Longhurst, Mr. R. H. Nicholson, Surgeon-Major G. K. Poole, M.D.; Brigade-Surgeon-Lieutenant-Colonel R. Pringle, M.D.; Fleet-Surgeon Geo. Robertson, M.D.; Dr. Jas. Stewart, Dr. Geo. Danford Thomas (coroner), Dr. Wynn Westcott (coroner), and Dr. H. W. Williams.

Norman Kerr, M.D., Chairman.

REPORT OF THE SUBCOMMITTEE OF THE MEDICAL CHARITIES COMMITTEE.

Your Committee beg to report that as they had shortly before the last annual meeting communicated with the authorities of the chief metropolitan medical charities or personally interviewed them in regard to the reforms suggested as necessary to the better administration of the out-patient departments of hospitals, it has not been deemed necessary during the past year to take any further steps in the same direction.

Your Committee are, however, confident that the work done since the Medical Charities Committee was first constituted in 1891 has been, and still continues to be, productive of good results. The publication of the exhaustive reports of our Subcommittees and the promulgation of the recommendations of the Association have directed public attention to the subject, and, we believe, stimulated others outside the profession to action on similar lines, and we may hope that their efforts will have considerable influence in assisting to bring about the object we all desire, namely, a more satisfactory administration of our medical charities. It is most gratifying to observe that during the last few months the question of hospital reform has been much discussed both in the London and the provincial newspapers, and that the public now generally recognise the fact that reform of the out-patient departments of our medical charities to more effectually check abuse is absolutely necessary.

It is especially satisfactory to find that the Charity Organisation Society has taken up this subject, and has formed a strong Committee, consisting of leading members of the medical profession as well as influential representatives of the general public interested in medical charities to endeavour to effect the reforms aimed at by our Association. This Committee have adopted a petition to H.R.H. the Prince of Wales, asking for the formation of a Central Hospital Board to administer the Hospital Fund founded in commemoration of the Diamond Jubilee of Her Majesty the Queen.

Your Committee believe that such a Board would be of the greatest service in bringing about hospital reform, and suggest that the opinion of the members of the Association should be taken at the forthcoming annual meeting of the Association as to the desirability of supporting the action of the Charity Organisation Society, by passing a resolution to be forwarded to H.R.H. the Prince of Wales, expressing approval of the suggested Board as a guarantee to the benevolent public that the administration of our medical charities has been placed on a sound basis.

During the past year the efforts of your Committee have been supplemented by the recently-formed Hospital Reform Association, of which Dr. Ward Cousins, our late President of the Council, is President. The investigations of this new organisation confirm in their entirety the reports of our Subcommittees, and although its chief recommendations are identical with those suggested in the report of our Subcommittee dated April 6th, 1892, and which have been repeatedly laid before the managers of the various metropolitan medical charities, the fact that the Hospital Reform Association consists of members of the general public as well as medical men renders it probable that the conclusions of the new organisation may have some weight with persons who would not be influenced by the opinions and suggestions of an association wholly composed of members of the medical profession.

Your Committee suggest that they be authorised to take such action as may be necessary either alone or in combination with the Charity Organisation Society to promote the formation of a Central Hospital Board.

Thomas Bridgwater, Chairman.

REPORT OF COMMITTEE ON THE MENTAL AND PHYSICAL CONDITIONS OF CHILDREN.

Your Committee on their reappointment continued the study of the conditions of childhood in conjunction with the Committee appointed by the Congress of Hygiene and Demography. Last year we referred to the Report[1] on 100,000 children seen in schools 1888-94 as published by the help of your liberality; that report has been circulated, and forms a basis of facts that has been appreciated by many engaged in advancing the welfare of children, especially those less favoured in mental and physical development. The report, or census of childhood, has been used in Governmental inquiries by Committees of the Local Government Board, the Home Office, and the present Departmental Committee of the Education Department on Defective Children; extended evidence from these researches was given to each by Dr. Francis Warner at the request of the Committee.

During the past year it was decided that it was desirable to found a society to continue the work initiated by the Council of the British Medical Association in 1888, the usefulness of which has been established; this has been effected under the title of the Childhood Society, for the scientific study of the mental and physical conditions of children. Lord Egerton of Tatton is the President, and Sir Douglas Galton, F.R.S., is Chairman. This Society proposes to continue scientific inquiry and research, and to report on schools and institutions as well as to give evidence or advice on questions concerning educational methods as far as they relate to mental and physical conditions of childhood, especially the training of feeble-minded children.

Lectures by members of the Society and others have been delivered during this year on the scientific and educational aspects of child life followed by useful discussions.

The work conducted by your Committee for a period of nine years has been followed by efforts for the benefit of children

[1] Report on the Scientific Study of the Mental and Physical Conditions of Childhood, with particular reference to children of defective constitutions, and with recommendations as to education and training.—Published at Parkes Museum, Margaret Street, London.

in many directions. The National Association for Promoting the Welfare of the Feeble-minded has been formed to establish homes for this afflicted class. The British Child Study Association was founded in 1894 as a psychological society to investigate child nature: we look with interest for the results of their work. In several towns, as well as in London, separate classes for children receiving special instruction have been established, and in many other directions there are indications of a desire to obtain knowledge as to the exceptional conditions of childhood to be provided for and the best means of making such provision.

The experience gained by your Committee, and the fact that this work has been found useful in various directions, lead us to ask for reappointment in order that we may be in a position to give continued assistance in shaping the practical outcome of investigations conducted under your auspices. The Committee therefore ask to be reappointed.

Francis Warner, Hon. Sec.

REPORT OF THE ANÆSTHETICS COMMITTEE.

Since the reappointment of the Committee at the last annual meeting, the work, being for the most part clerical, has been largely accomplished by clerks, under the supervision of the assistant honorary secretary. The "complicated cases," 733 in number, were first submitted to the same thorough scheme of analysis that had been employed in dealing with the "uncomplicated cases." Owing to the many facts chronicled, often supplemented by considerable correspondence with the observers, the devotion of much time to this work became necessary. The different data collected from the entire analysis were then tabulated, and averages worked out where necessary; so that the Committee is now in possession of tables which show the result of the whole analysis of the record books. Upon these tables as a basis a full report of the investigation is now in process of construction.

The Committee beg that the Council will again reappoint it, and are applying for a further grant.

Jonathan Hutchinson, Chairman.
Christopher Childs, Hon. Sec.
George Rowell, Assistant Hon. Sec.

REPORT OF THE THERAPEUTIC COMMITTEE.

During the past year the Therapeutic Committee have continued their inquiry relating to the frequency of employment of certain drugs at present included in the *British Pharmacopœia*. The interest taken in the inquiry conducted in 1895, and further evinced in the inquiry in 1896 concerning extract of aconite, has encouraged the Committee to endeavour to ascertain the views of members of the Association concerning ammonium phosphate. Circular letters have been addressed to those members of the Association who in 1895 stated that they employed this drug, and they have been requested to supply information as to the doses they employ and the objects for which they have given ammonium phosphate. The answers have been tabulated, and they show much agreement concerning the dose; the answers relating to the conditions for which it has been prescribed show greater difference of opinion; some use it for gouty conditions, but even of these a large number state that they have found it of little service and have now discontinued using it. Very many answers indicate that in their original statement of employing it often or rarely they have made an error. As answers to this inquiry are still being received it is inexpedient at present to give full details of this inquiry.

At the request of the Committee Dr. C. D. F. Phillips has continued his investigations concerning the physiological and therapeutic actions of hydrastis. Some of the results of the work of Dr. Phillips and Dr. Pembrey were embodied in a paper recently read by them before the Physiological Society. In a recent communication to the Therapeutic Committee Dr. C. D. F. Phillips gave a summary of the constituents of hydrastis canadensis, and referred to the physiological action of the various constituents. In his more recent experiments he has mainly employed the hydrochlorate of hydrastine, and he notes the readiness with which it produces salivation in cats. He is convinced that it does not act upon the muscles of the uterus, and that it causes abortion by producing contraction of the blood vessels. As he proposes reading his paper at the Montreal meeting of the Association, it would be unfair to give his conclusions in greater detail.

Other subjects which have engaged the attention of the Committee during the past year are the actions of preparations of quillaia upon the heart, and the uses of senecio; upon both of these subjects preliminary reports have been made to the Committee.

Nestor Tirard, Hon. Sec.

REPORT OF THE COMMITTEE ON THE CONTROL OF RAILWAY SERVANTS' AND MARINERS' EYESIGHT.

The Committee regrets to have to report that its recommendations endorsed by the influential deputation of ophthalmic surgeons which waited upon the President of the Board of Trade in 1895 have not yet been adopted by the Government.

So far as the eyesight of railway men is concerned, the Board of Trade asserts that it has not as yet any legal authority to interfere. Fortunately much stricter precautions are now taken by the majority of the railway companies, and although further reforms are desirable, the case is not so urgent as that of the mercantile marine.

The Committee is of opinion that the time has come when Parliamentary powers must be obtained to enforce at least the eyesight examination on every seaman at the outset of his apprenticeship, and steps are now being taken to inform Members of Parliament of the facts of the case.

The Committee desires again to draw attention to the international character which the movement for reform has now assumed. Seeing the importance of international agreement in the conduct of marine traffic, and in the visual requirements of mariners, the Committee hopes that the Council will delegate one or more of the Committee to attend the Second International Conference on Railway and Marine Hygiene proposed to be held at Brussels this autumn.

N. C. Macnamara, Chairman.
George Mackay, Hon. Sec.

REPORT OF THE GENERAL PRACTITIONERS AND ETHICAL COMMITTEE.

The General Practitioners and Ethical Committee have held four meetings during the past year. The question as to the desirability of medical education including instruction in medical ethics was again considered, and the following resolution unanimously adopted:

That the examining bodies be asked to send a copy of any ethical rules or declarations to which their diplomates have to subscribe on obtaining their diplomas.

Your Committee have to report that this communication has elicited replies and valuable help from the following Universities and Corporations:—

Royal College of Physicians, London.
Royal College of Physicians, Edinburgh.
Royal College of Physicians, Ireland.
Royal College of Surgeons, London.
Royal College of Surgeons, Edinburgh.
Royal College of Surgeons, Ireland.
Royal University of Ireland.
University of London.
University of Oxford.
University of Cambridge.
University of Durham.
University of Edinburgh.
University of St. Andrews.
University of Aberdeen.
University of Glasgow.
Trinity College, Dublin.
Victoria University.
Faculty of Physicians and Surgeons, Glasgow.
Society of Apothecaries.

The Committee are specially indebted to Dr. Liveing, the Registrar of the Royal College of Physicians, London, for his full and courteous response to their communication. A copy of the replies has been recentiy forwarded to all the Branches, with the request that they be laid before the Ethical

Committee or Council of the Branch. A second time your Committee also memorialised several universities and corporations, as their replies were considered indefinite and unsatisfactory, "suggesting the desirability of requiring from their graduates or diplomates, on admission, a subscription to an ethical declaration and submission to the authority of the corporation in matters concerning professional conduct." Satisfactory replies have been received to these communications.

MEDICAL AID ASSOCIATIONS.

The matter of the dispute of the Coventry Provident Dispensary and the profession residing in the neighbourhood was referred to the Ethical Committee of the Birmingham and Midland Counties Branch for investigation and report. The Branch has sent in a very full report, giving the whole constitution and management of the dispensary, together with certain abstracts from the report which your Committee authorised the secretary to send to each of the medical officers of the Coventry Provident Dispensary.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.—*Report of the Ethical Section on the Coventry Medical Dispute.*—The origin of the dispute dates from December, 1892, when at a meeting of the medical profession in Coventry, a paper was read denouncing the management of the Coventry Provident Dispensary.

This institution was founded in 1831, "on principles of self-help and philanthropic patronage," the rules in operation as late as 1886 say, "The object of this institution is to enable the working-classes to ensure to themselves and their families efficient medical advice and medicine during illness, by their own small periodical payments during health, and by the contributions of the more opulent to assist them in attaining this object."—*Coventry Herald and Free Press*, December 14th, 1894.

"In 1868 the report of the Committee contains the following significant passage; 'The honorary fund has again lost, by death or otherwise, some subscriptions, but no effort has been made to replace them, as it is the great wish of the Committee to make the institution as self-supporting as possible.'"—*Coventry Herald and Free Press*, December 21st, 1894.

A meeting of the whole profession was called in July, 1893, to consider and take action for the reform of some acknowledged abuses existing in the management of the Dispensary; and in consequence of the report of this meeting being published in the BRITISH MEDICAL JOURNAL, with a statement that the medical men on the Dispensary staff were opposed to remedying these abuses, the whole of the members of the Dispensary staff withdrew from their colleagues and refused to atiend any more meetings or take further united action with them till a public apology was inserted in the JOURNAL by the author of the letter.

It may be noted that the minutes of the meeting show that the Dispensary staff expressed themselves as quite willing to attempt to rectify some abuses in connection with the Dispensary, and were voted on a Committee with that object in view.

Also, that after the rupture at the meeting held by the other side, called hereafter the Coventry Public Medical Service, a resolution was passed denying all knowledge of the author of the letter, stating that it had been written and published without their knowledge or sanction, and asking the Dispensary doctors to rejoin the Committee; this they refused to do; and from that day onwards the medical profession in Coventry have been divided into two nearly equal camps—those connected with the Dispensary staff and those in Coventry Medical Service; and such feelings existed that the latter have passed a resolution that no one on the Dispensary staff is eligible for election into the ranks of the Coventry Medical Service.

Attempts on the part of the Coventry Medical Service to submit the points in dispute to arbitration were not successful, as the other side would not consent to arbitration.

The following points have been inquired into by the Ethical Committee of the Birmingham and Midland Counties Branch:—

1. That the Dispensary Medical Staff hold appointments in an Institution which has been condemned by the BRITISH MEDICAL JOURNAL.

This seems proved from the circumstance that, when the JOURNAL had its attention called to the fact that in its issue of July, 1896, it had published an advertisement for a surgeon to fill a vacant post at the Coventry Dispensary, the issue of August 15th, 1896, stated that the said advertisement was inserted in error and out of accordance with its usages; also, in editorial footnotes to letters in the issues of November 3rd and November 24th, 1894, the management of the institution in respect to admission without wage limit is expressly condemned.

"At any rate, as we said in the BRITISH MEDICAL JOURNAL of October 13th, the Dispensary (Coventry) is not an undertaking the advertisement of which would knowingly be admitted in our JOURNAL."—BRITISH MEDICAL JOURNAL, November 3rd, 1894.

"As far as we can see at present the Dispensary authorities have put themselves wholly in the wrong."—BRITISH MEDICAL JOURNAL, November 24th, 1894.

2. The low scale of remuneration they accept seriously interferes with all medical fees in the town; this seems proved. Population of Coventry is 52,000, 26,000 are members of the Dispensary, and the staff receive a varying sum in remuneration equal to 1s. 1d. to 1s. 4d. per head per annum.—*Coventry Herald*, December 19th, 1894.

3. There is no proper attempt at enforcing what is known as a wage limit; this seems proved. The Dispensary passed, at its Annual Meeting in 1893, a resolution that the pecuniary circumstances of an applicant should be no bar to membership. The Medical Staff of the Dispensary opposed this, but it was carried, no member of the Staff resigning; this rule was repealed at the Annual Meeting of 1895, but in 1896, on December 4th, the *Coventry Herald* in large type editorial says: "There is no wage limit in the Coventry Provident Dispensary, and the Public Medical Service has been established expressly to uphold the principle." Neither statement has been controverted, and instances can be given if required of people joining who could well afford to pay doctors' bills.

4. The Dispensary Staff refuse to meet in consultation with other doctors in the town on Dispensary cases. There still exists on the books of the Dispensary a rule that the Medical Officers should not hold consultation with anyone outside their Staff. The Dispensary Staff on their side offer to make the rule a dead letter according to their statement.

5. That the Dispensary Staff are in the hands of a Lay Committee.

Rule 4 states that the government is in the hands of all the members from the President to the ordinary members; no surgeon is included.

Rule 8 states that the Committee shall consist of 24 members, and Rule 17 that the Medical Staff shall send 2 members to the general meeting.

6. That the Dispensary touts for members. Active canvassing used to exist, but since the Dispensary has absorbed half the population of Coventry, it is no longer required, but anyone can join, even when ill (according to the rules), if he or she can procure two healthy persons above the age of 12 to enter at the same time and pay one year's subscription in advance.

7. That they exploit the medical profession for pecuniary gain. This seems proved from the fact that surplus funds are not all divided up amongst the profession. In 1893 £500 was invested on mortgage and property in addition purchased, and the Medical Staff do not receive quite two-thirds of the members' subscriptions according to rule.

It would appear from the above that there are grave flaws in the management of this institution from a professional point of view.

Signed on behalf of the Committee,
M. ARDEN MESSITER,
Chairman.

February 18th, 1897.

The staff held a meeting, and have forwarded the following reply:—

1. It is true that the management of our institution in respect of admission without wage limit is expressly condemned by the BRITISH MEDICAL JOURNAL, and on this account they refused to admit an advertisement sent by the Committee last year, though they had accepted these advertisements on previous occasions. For a considerable time we have been and are still endeavouring to induce our Committee to introduce a wage limit as well as other reforms.

2. These statements are incorrect. In consequence of so many misstatements which were mere guesses as to the number of members in the Dispensary, having been made in public speeches on different occasions, at the beginning of last year (1896), in order to arrive at an accurate knowledge of the number a careful estimate of both ordinary and club members was made, which showed that the total number did not exceed 18,000, and this number had never been exceeded in previous years. The census of the population of this city taken in March 1897 by the municipal authorities showed 62,000, so that the Dispensary included very much less than one-third of the population. Last year there were eighteen medical men in Coventry, which included the six members of the staff of the Dispensary, so that the share of the population under the care of the staff does not appear to us at all disproportionate. Respecting our remuneration, the total receipts for 1896 from members' payments (including both ordinary and club members) amounted to £2,864 1s. 10d. Of this £1,718 1s. 6d. was divided amongst the staff, and the rest was spent in the working expenses of the institution, namely, dispensers' salaries, drug bills, etc., etc., that is, the staff received two-thirds of the receipts from members' payments after the collector's salary had been deducted.

3. There is no wage limit, the Committee believing that they can better restrict the institution to the proper classes by individual consideration of the list of applicants at each monthly meeting. We do not agree with this, and have long been, and still are, fighting for a wage limit. The resolution that the pecuniary circumstances of an applicant should be no bar to membership was passed in a spirit of pique on account of the attacks which had been made on the institution and individual members of the Dispensary by some of the medical men of the town. We opposed it, and on our urgent representations of the position in which we were placed by it, it was rescinded shortly afterwards. With regard to admission of people who could pay a doctor's bill, every month the list of applicants is examined by the staff as well as the Committee, and improper cases objected to and inquired into, and in our opinion it is rare for anyone to be admitted who is able to pay a doctor's bill. The deputation of medical men in the town which waited on the Committee some time ago gave a list of about thirty names, almost all, if not everyone of whom were members of clubs similar to those held by the medical men themselves. These men joined their clubs as working-men, and in course of years had improved their pecuniary position, and many though still remaining members of their clubs, come to us and pay us as private patients. There are no clubs in Coventry in or out of the Dispensary which have a retrospective rule regarding the pecuniary position of their members, and there are not more members in the clubs in the Dispensary than there are in those outside who are able to pay doctor's bills in proportion to their total numbers.

4. This statement is incorrect. The only rule referring to consultations is Rule 16, which says:—"The Medical Officers, in cases of danger or difficulty shall, if they think it necessary, or if the patient so desires, call in for consultation any or all of the medical staff, or any specialist, the specialist's fee only to be paid by the member." The Committee have no power to say we shall call in any other medical man except the staff, unless they undertook to pay their fees, but they do not say we should not hold consultation with them; on the contrary, we have often done, so, and we have also offered, as far as this rule gives us any power to refuse such consultations, to make it a dead letter and to meet in consultation over dispensary patients as we do over our private ones.

5. The management consists of a General and Medical Committee, both of which meet monthly. Two members of the staff represent the Medical Committee on the General Committee.

6. This is incorrect. The Committee have always boasted that they have never allowed canvassing, and the collector of more than twenty years' standing states that he has never entered a house unless asked, or

in any way solicited a single member. The rule for admission is as follows: If ill a person may join by paying 10s., and be entitled to the benefits at once, otherwise an applicant must be in good health, must pay three months' subscription, and must wait three months before becoming entitled to benefits. There is an old rule, that if a person is ill and can procure two healthy persons above twelve to enter at the same time, and pay one year's subscription in advance, he may be entitled to benefits at once, but this rule is so little known that it is rarely taken advantage of; certainly there is not an average of one applicant a year under this rule.

7. Of the total sum received from members' payments, the amount which is *not* divided amongst the medical men is expended in the working of the institution, drugs, salaries, etc. No moneys received from members' payments are used in any other way than the above. There is another source of income in the institution derived from annual subscriptions, interest on bequests, interest and rents of properties bought by legacies. This income is expended in improving the buildings, and also helps to pay the working expenses. The medical staff *do* receive two-thirds of the members' subscriptions after the collector's salary has been deducted according to Rule 3.

In conclusion, we think that this is a question that requires much more knowledge than can be gained by *ex parte* statements from either side, and we shall be glad to send a deputation from our staff to meet any of your representatives, or to receive any representative you may send to us, and show him the working of the institution. At the present time we have before our Committee a memorial from the staff asking for various reforms, such as a wage limit, etc., as suggested by the British Medical Journal and other authorities. This is still *sub judice*, and though we may not get all we ask for, we fail to see how our resignation, as suggested in Paragraph 3, would remove the abuses or improve the position of the rest of the profession in the town. Only two months ago a vacancy on the staff, caused by death, was filled up; there was no dearth of applicants, and an M.B.Camb. was elected, recommended for the appointment by some of the leading men on the staff of the London hospitals. And we have been told by some of the leading men in our profession in Birmingham that they could send us fifty qualified men to take our places, and that we should be foolish to think of resigning as a remedy for the abuses which exist in the institution. These we are doing our best to get remedied, as it is as much in our own interests as those of the rest of the medical men in the town.

We are, Sir,
Yours faithfully,
D. McVeagh, M.K.Q.C.P., etc.

Charles Davidson, M.D.
W. J. Pickup, M.D.
T. A. Hird, M.B.
John A. Loudon, M.B.
William Fletcher, M.B.
} The Staff of the Coventry Provident Dispensary.

To Francis Fowke, Esq.

Your Committee have also considered the following resolution which was passed in the Ethical Section at the last annual meeting, and referred to them by the Council:

That it is unprofessional for any medical man to hold office in any club or similar organisation, such as insurance companies or medical aid associations, in which advertising or canvassing is resorted to; that it is unprofessional for any registered medical man to farm his skill and labour to any person or persons not possessing a medical licence—by "farming" being understood a condition of service whereby such unqualified persons may make money either by direct profit or by obtaining in a co-operative way medical attendance for less than the fees ordinarily paid and accepted by the profession generally.

The resolution was duly received and entered on the minutes, but no definite decision has been arrived at, as the Committee feel that as the constitution and management of these organisations are very dissimilar, each case ought to be dealt with on its merits.

The attention of this Committee having been drawn to the operations of the London and Manchester Industrial Assurance Company, Limited, as to the amount paid to its medical officers, it was decided to communicate with the Company, and ask them to "state whether the medical advantages offered for a payment of 1½d. a week were restricted to the weekly wage-earning class, and whether they are used by canvassers as an inducement to join the Company, and what is the rate of remuneration of the medical officers." The Company replied very fully to the Committee's communication, stating (1) that it was their desire to act in unison with, and not antagonistically to the interests of the doctors; (2) that it is their desire to secure life assurances, medical aid in combination with same being a secondary matter; and (3) their general rate to medical officers is 1s. per quarter per member; they pay the medical officer for each name that appears on the list at the commencement of each quarter whether the Company receives the premium or not: thus in many instances the payment is in reality considerably more than it appears.

Your Committee have also forwarded requests to the Branches asking for specific information regarding the operations of the Company within their areas. Up to the present time no definite replies have been received.

A large number of communications from members of the Association has also been considered, referring to various ethical and personal questions, to all of which your Committee have given their attention.

J. Ward Cousins, Chairman.

OBSTETRIC NURSES REGISTRATION BILL.

The following is the Bill prepared by the Subcommittee of the Parliamentary Bills Committee, after consideration and amendment by the Branches:

ARRANGEMENT OF CLAUSES.

Clause.
1. Short title.
2. Definitions.
3. Registration.
4. Privileges of registration.
5. Provision for existing midwives.
6. Constitution and duties of Obstetric Nurses Board.
7. Training and examination of candidates.
8. Confirmation of rules.
9. Fees and expenses.
10. Register of obstetric nurses.
11. Publication of register.
12. Notice of death of obstetric nurses.
13. Penalty for obtaining registration by false representation.
14. Penalty for wilful falsification of register.
15. Prosecution of offences.
16. Civil and legal liabilities of midwifery nurses.
17. Exemption for registered medical practitioners.
18. Extent of Act.

A BILL FOR THE PROTECTION OF PREGNANT AND LYING-IN WOMEN AND NEWLY-BORN CHILDREN, BY PROMOTING THE BETTER TRAINING OF WOMEN AS OBSTETRIC NURSES, AND THEIR COMPULSORY REGISTRATION AS SUCH.

Whereas it is expedient that lying-in women and newly-born infants be protected against the evils arising from the practice of midwifery or midwifery nursing by ignorant and untrained persons:

Be it enacted by the Queen's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

1. *Short Title.*—This Act may for all purposes be cited as "The Obstetric Nurses Act, 1896."

2. *Definitions.*—In this Act

The term "obstetric nurse" means a woman who attends in cases of natural labour, and during the lying-in period, under the rules, regulations, and medical control or supervision set forth in this Act.

"Obstetric Nurses Register" means a register of obstetric nurses kept in pursuance of this Act.

"Obstetric Nurses Board" hereinafter called the Board means the Board constituted under this Act for the purpose of carrying out the provisions of the Act under the authority, control, and direction of the Privy Council.

3. *Registration.*—(1) From and after the first day of January, one thousand eight hundred and ninety —, no woman shall be entitled to take or use the name or title of obstetric nurse, midwifery nurse, or midwife (either alone or in combination with any other word or words) or any name, title, addition, or description implying that she is registered under this Act, or is in fact possessed of the skill necessary to act as an obstetric nurse or midwife unless she be registered under this Act.

(2) Any person who, after the first day of January, one thousand eight hundred and ninety-six, and whose name is not upon the Register provided under this Act, shall take or use the name of obstetric nurse, midwifery nurse, or midwife, or any such other name, title, addition, or description as aforesaid, or who habitually and for gain shall attend or undertake to attend lying-in women, shall be liable upon summary conviction to a fine not exceeding five pounds.

(3) No woman shall be placed on the Register until she shall have complied with the rules and regulations for admission to registration, to be laid down in pursuance of the terms of this Act by the Board acting under the direction of the General Medical Council.

(4) Any person or persons in *bonâ-fide* practice as a midwife or midwifery nurse at the date of the passing of this Act, failing to register as an obstetric nurse within a period of one year after such date, who shall, habitually and for gain, attend or undertake to attend women during labour, unless registered under this Act, shall be liable to a penalty not exceeding £5 for each offence, or indictment for a misdemeanour; provided always, that nothing in this Act shall apply to any person or persons attending a woman during labour in a case of emergency, where the services of a person registered under this Act, or of a duly-qualified medical practitioner, are not available.

4. *Privileges of Registration.*—A woman registered under this Act shall be entitled to act as obstetric nurse in England and Wales. From and after the first day of January, one thousand eight hundred and ninety —, no woman shall be entitled to recover any fee or charge in any court for attendance or service rendered as an obstetric nurse unless such woman be registered under this Act, and the certificate of registration under this Act shall be a certificate entitling a woman to act as an obstetric nurse in cases of natural labour only in accordance with the terms of this Act, and under the rules, regulations, and medical control or supervision set forth in this Act, and any amendments of, or additions to, such regulations which may be laid down by the Board in pursuance of the terms of this Act. A certificate under this Act shall not confer upon any

woman any right or title to be registered under the Medical Act, 1858, or the Acts amending the same in respect of such certificate, or to assume any name, title, or designation implying that she is by law recognised as qualified to practise medicine, or surgery, or midwifery, or to act otherwise than as an obstetric nurse as aforesaid, or that she is qualified to grant a certificate of death, or of stillbirth, or any medical certificate. Provided always that no obstetric nurse shall be entitled to recover any fee or charge for attendance as such, unless she has either personally or by a substitute (who must be a person registered under this Act) performed the duties specified by the Board.

5. *Provision for Existing Midwives.*—Any woman who at the passing of this Act has been in *bond-fide* practice as a midwife or midwifery nurse, of which fact the Board shall be the sole and final judge, or has obtained such certificate in midwifery as may be approved by the Board, and claims to be registered before the expiration of one year from the passing of this Act, and produces to the satisfaction of the Board both evidence of her title to be so registered and evidence of good character, shall be entered on the Obstetric Nurses Register at such a fee as the Board shall prescribe.

6. *Constitution and Duties of the Board.*—(1) Within six months after the passing of this Act the General Medical Council shall appoint a Board consisting of twenty-four registered medical practitioners as members of and to constitute a Board, which shall meet on an appointed day to draft rules, arrange meetings, appoint a chairman, registrar, treasurer, and other officials, and an Executive and other Committees. The members of the Board shall be elected for a period of three years, and on the death, resignation, or withdrawal of a member, the General Medical Council shall elect a successor from the district vacated.

2. The Board shall be selected as follows, from registered medical practitioners resident in practising in or or prepared to do duty in the following districts as defined by the Registrar-General:

London and South Eastern	7 Reps.
South Western, West Midland, and Welsh ...	6 ,,
Eastern, North Midland, and South Midland ...	5 ,,
York and Northern	4 ,,
North Western...	3 ,,

3. No member of the Board shall act as teacher, instructor, or examiner of obstetric nurses, and no member of the Board shall take any part in any inquiry respecting the conduct of any obstetric nurse to whom he has acted as teacher or instructor.

4. The Board shall

(*a*) Lay down rules for education and training for qualification of obstetric nurses.

(*b*) Make rules for conducting and superintending the examinations for qualification of obstetric nurses.

(*c*) Conduct the examinations and appoint the examiners.

(*d*) Decide upon the places where and the times when examinations shall be held.

(*e*) Frame and if necessary from time to time alter rules and regulations governing the practice of obstetric nurses.

(*f*) Frame regulations for the proper conduct and inspection of any premises an obstetric nurse may reside in or rent or be tenant of, and wherein she receives for obstetric care and attendance a pregnant or lying-in woman.

(*g*) If any obstetric nurse shall be convicted in England or Ireland of any felony or misdemeanour or in Scotland of any crime or offence or shall after due inquiry be judged by the Board to have been guilty of misconduct as an obstetric nurse the Board may if they see fit direct the Registrar to erase the name of such obstetric nurse from the Register, or suspend her registration certificate for a definite period. For the purposes of this Bill misconduct as an obstetric nurse shall include any omission to send for a registered medical practitioner where the case is not one of natural labour. The Board may after due inquiry restore to the Register the name of any person removed therefrom.

(*h*) The Board shall have power to delegate the duty of inquiry into cases of misconduct to Committees of their number, and such Committees shall have power to suspend the registration certificate of any nurse pending inquiry by the Board.

(*i*) And generally, by Committee or otherwise, do any such duty as may be necessary for the due and proper carrying out of the provisions of this Act.

7. *Training and Examination of Candidates.*—(1) For the purpose of the examination of women desiring to act as obstetric nurses the Board shall as soon as may be after the passing of this Act frame rules regulating the conditions of admission to examination, the course of study to be pursued previous to examination, the method, the period, and the subjects of such examinations, and the general standard to be attained by women passing the examinations.

(2) Evidence of attendance on a course of lectures on, or of practical instruction in, obstetric nursing shall not be accepted as entitling the holder to enter for the pass examination, unless such lectures and practical instruction shall have been given personally by a registered medical practitioner.

8. *Confirmation of Rules.*—The Board shall submit all rules approved by them to the Privy Council for confirmation, and the rules, when so confirmed, shall be forthwith officially published under the superintendence of Her Majesty's Stationery Office.

9. *Fees and Expenses.*—There shall be payable by every woman presenting herself for examination such fee as the Board may from time to time determine. Should a candidate fail to pass the fee paid by her for any subsequent examination shall not exceed half the amount of the first fee. All the expenses of the Board, and such as are necessary for carrying out the requirements of this Act, shall be defrayed by the Board, and all moneys paid in respect of fees or otherwise shall be paid to the Treasurer of the Board.

10. *Register of Obstetric Nurses.*—The Board shall provide by their regulations for the keeping and the publication from time to time of a Register of Obstetric Nurses.

11. *Publication of Register.*—The Board shall cause a new edition of the Register kept by them under this Act to be printed and published before the end of January in each year, and a copy of such Register for the time being shall be evidence in all courts that the women therein specified are registered according to the provisions of this Act; and the absence of the name of any woman from such copy shall be evidence until the contrary be made to appear that such woman is not registered according to the provisions of this Act, unless evidence is produced that such persons have been disregistered, when the onus of proof of reregistration or restoration shall lie upon the respondent. Provided always that in the case of any woman whose name does not appear in such copy, a certified copy under the hand af the Registrar of the entry of the name of such women on the Register shall be evidence that such woman is registered under the provisions of this Act.

12. *Notice of Death of Obstetric Nurses.*—The local registrar of deaths shall at once transmit the notice of death of any obstetric nurse in his district to the Registrar of the Board, with particulars of time and place of death, and may charge the cost of such certificate and transmission as an expense of his office, and on receipt of such certificate the Registrar shall erase the name of such deceased obstetric nurse from the Register.

13. *Penalty for Obtaining Registration by False Representation.*—Any woman who wilfully procures, or attempts to procure, herself to be placed on the Register of Obstetric Nurses by making or producing, or causing to be made or produced, any false or fraudulent declaration, certificate, or representation, either in writing or otherwise, and any person assisting her therein, shall be deemed guilty of a misdemeanour, and shall, on conviction thereof, be liable to a fine not exceeding £10, or to be imprisoned with or without hard labour for any term not exceeding three months.

14. *Penalty for Wilful Falsification of Register.*—Any person who wilfully makes, or causes to be made, any falsification in any matter relating to the Register of Obstetric Nurses shall bedeemed guilty of a misdemeanour, and shall be liable to a fine not exceeding £20, or to be imprisoned with or without hard labour for any term not exceeding six months.

15. *Prosecution of Offences.*—Any offence under this Act punishable on summary conviction may be prosecuted, and any fine under this Act, recoverable on summary conviction, may be recovered in manner provided by the Summary Jurisdiction Acts; and all penalties shall be paid to the Treasurer of the Obstetric Nurses Board, anything contained to the contrary in the Metropolitan Police Acts or any Act passed before the passing of these Acts notwithstanding.

16. *Civil and Legal Liabilities of Midwifery Nurses.*—In any civil or criminal proceedings against any person practising midwifery or obstetric nursing (except in emergency by an unregistered person who has sent for a duly-qualified practitioner or registered midwifery nurse if obtainable), such person shall be liable for any conduct or practice which shall fail to show a reasonable amount of skill or knowledge in the delivery or subsequent attendance of a lying-in woman.

17. *Exemption for Registered Medical Practitioners.*—Nothing in this Act contained shall prejudice persons registered under the Medical Acts.

18. *Extent of Act.*—This Act shall not extend to Scotland or Ireland.

MEMORANDUM BY THE BRITISH MEDICAL ASSOCIATION OF THE REGULATIONS PROPOSED FOR ADOPTION BY THE OBSTETRIC NURSES BOARD.

WOMEN who are registered as obstetric nurses in England, and who wish to act as such, must conform to the following regulations and instructions:

SECTION A.—GENERAL.

1. The instruments which an obstetric nurse must always keep carefully clean and in order, and take with her when called to a confinement, are the following:

A medium-sized syringe with a vaginal tube, a flexible catheter, a pair of umbilical cord scissors, a clinical thermometer, and a nail brush.

Besides these, the obstetric nurse must take with her in clean, well-stoppered bottles the following or other antiseptics and lubricants which may be approved by the Obstetric Nurses Board.

(1) 3 oz. of liquefied carbolic acid, *B.P.*, for making a disinfectant solution of the strength of one tablespoonful to a pint of water (1 in 40).

(2) 2 oz. of vaseline, with which is incorporated 5 per cent. of carbolic acid.

As carbolic acid in crystal and liquid state, and also in strong watery solutions, is corrosive when applied externally, and when given internally is a POISON, the obstetric nurse must take particular care to avoid its misuse.

The obstetric nurse must not leave any of the above appliances with the pregnant or lying-in woman.

An official appointed by the Obstetric Nurses Board shall from time to time inspect the appliances, to see if they are kept in complete working order.

Every obstetric nurse must possess an approved book of instruction for obstetric nurses.

2. Obstetric nurses must keep themselves scrupulously clean, and avoid contact with sick persons and decomposing substances of every kind, so that their fingers, appliances, or clothes may not contain any infective material which might be conveyed to the lying-in woman during examinations, and thereby produce puerperal fever. Obstetric nurses are strenuously enjoined before touching a lying-in woman to wash their hands and instruments thoroughly with a disinfectant.

3. If an obstetric nurse has charge of a lying-in case she must not leave during the delivery, and must stay with the woman at least one hour after the expulsion of the afterbirth in a normal labour. In cases of abnormal labours, or in threatened danger, she must always await the arrival of the doctor, and remain with the case as long as he thinks necessary, and faithfully carry out his instructions.

4. In cases of threatened danger or in abnormal conditions occurring to women either pregnant or in labour, or to their newborn children, or at the sudden death of a pregnant or lying-in woman, the obstetric nurse must at once see that a registered medical practitioner is called in.

5. In apparently dead children of viable age in whom no signs of putrefaction have developed, the obstetric nurse, in the absence of the medical practitioner, who must be summoned at once, should practise the methods for resuscitation taught her, for at least half an hour or until the child breathes regularly.

6. Any obstetric nurse who procures the death or expulsion of a fœtus, the substitution or changing of a child, or who is accessory thereto, is performing a criminal action.

7. Obstetric nurses must conscientiously guard the secrets of their patients, and must only divulge them if the law requires them to do so.

8. The obstetric nurse shall be responsible for the cleanliness, comfort, and proper dieting of the mother and child during the lying-in period, which shall be held in a normal case to mean the time occupied by the labour and a period of ten days thereafter.

9. If a registered medical practitioner be also in attendance, the obstetric nurse shall act in accordance with the instructions given by him, and shall be responsible for the carrying out of the same.

10. A "normal case of labour" (styled "natural labour" in the Act) shall, for the purposes of the Act, and of this its appendix, be held to mean a labour which occurs at full time, in which the presentation is that of the vertex, and in which there are none of the conditions specified in Section C.

SECTION B.—INSTRUCTIONS FOR OBSTETRIC NURSES.

Precautions for the obstetric nurse to avoid the risk of carrying infectious diseases, especially puerperal fever.

1. The obstetric nurse must be scrupulously clean in every way, because the smallest particle of decomposing matter may set up puerperal fever.

It is particularly dangerous for an obstetric nurse who is attending a lying-in woman, where there are foul-smelling emanations, to go direct to another case without first thoroughly cleansing her hands and appliances, and changing her clothing.

Unless the cleansing process be thoroughly carried out, even after a healthy confinement, there will be remains of blood, lochia, or liquor amnii on the fingers, and especially under the nails, which will there decompose, and thereby be dangerous to the next case attended. The obstetric nurse must, therefore, keep her nails cut short, and preserve the skin of her hands from chaps, injuries, and indurations.

2. The obstetric nurse shall see to the proper ventilation of the lying-in chamber, and to the keeping of the bed and body linen in a thorough state of cleanliness.

3. An obstetric nurse must not attend cases of general illness of an infective or contagious character. In the case of a lying-in woman contracting puerperal fever or any septic condition whatever, the obstetric nurse must notify the same to the sanitary authority, and abstain from attending any other woman at the same time, until she have obtained the written permission of the medical officer of health for the district.

4. An obstetric nurse must not under any circumstances assist in the laying out of dead bodies.

SECTION C.—CONCERNING THE SUMMONING OF REGISTERED MEDICAL PRACTITIONERS.

1. An obstetric nurse is bound, in all cases of abnormal pregnancy, labour, or lying-in, as well as in illness of the child, to demand medical assistance. She must, under the following circumstances more particularly, insist upon a registered medical practitioner being called:

(a) *In the Case of a Pregnant Woman:*
(1) When she suspects, or has discovered, a narrow pelvis.
(2) Where there is hæmorrhage.
(3) When the patient is threatened with an attack of any illness.
(4) When the patient dies suddenly.
(b) *In the Case of a Woman during Labour:*
(1) In all cases of abnormal position of the child, if possible, before the liquor amnii escapes.
(2) In presentation of hands, feet, or when the cord presents with the head.
(3) In every case where either from the smallness of the pelvis, or largeness of the child's head, or from any cause whatever the normal descent of the head is interfered with, by which undue pressure may be caused to the parts between the child's head and the pelvis.
(4) In disturbance of the labour pains, leading to delay of birth, or in cases of excessive pains followed by exhaustion. To this category belong the cases where a child whose head has already deeply descended is not delivered for two hours after the opening of the mouth of the womb and the escape of the liquor amnii.
(5) In hæmorrhage, at whatever time in the labour it may occur.
(6) In presenting placenta, even when the obstetric nurse does not at the moment of the examination perceive any bleeding.
(7) If the placenta be not expelled an hour after the birth of the child, even if no bleeding has occurred.
(8) In all cases of rupture of the perineum, as soon as such occurs.
(9) In all cases where abortion or premature labour is threatening or has occurred.
(10) In twins, or multiple births, or monstrosities.
(11) In all cases of apparent sickness or threatened danger, as well as in the event of the sudden death of the woman.
(12) In the apparently dead newborn child.
(13) In all cases of stillbirth, no matter what the stage of development of the child.
(c) *In the Case of Lying-in Women and in the Case of Newly-born Children:*
(1) In the lying-in woman, when she notices a rise of pulse or temperature, rigor, tender abdomen, stoppage of the lochia, or bad smell of the same.
(2) In all cases of illness attacking the newly-born child.

2. When a doctor is sent for to a protracted labour, the obstetric nurse shall, when possible, send a written description in a few words of the cause of the delay, such as narrow pelvis with head presentation, cross presentation, hæmorrhage during the afterbirth period, so that the doctor may at once know what it will be necessary for him to bring with him.

3. If a patient or her relations wish for the doctor to be called in, even if the obstetric nurse does not see any abnormal symptoms, she is not to object, or try to persuade them not to do so.

The choice of the medical practitioner rests with the patient or her relations, and the obstetric nurse is not to express any opinion unless requested to do so.

4. The obstetric nurse must inform the medical practitioner truthfully and accurately of all that she has observed about the case previous to his arrival, and stay as long as he wishes, to assist him, and conscientiously carry out his orders.

SECTION D.—CONCERNING THE DAY BOOK.

Every obstetric nurse must keep an accurate account in a day book of all the cases she attends in her capacity of obstetric nurse.

An official appointed by the Obstetric Nurses Board shall from time to time examine the day book, which must be delivered to him on demand.

Upon demand the day book must be laid before the medical practitioner called in to the labour, who shall be at liberty to write his own remarks upon the same.

DEATHS UNDER ANÆSTHETICS.

THE ADMINISTRATION OF SAFE ANÆSTHETICS.

H. BELLAMY GARDNER, M.R.C.S., L.R.C.P.Lond., Assistant Anæsthetist to Charing Cross Hospital and to the Male Lock Hospital (Welbeck Street, W.), writes: Under the heading of "The Safe Administration of Anæsthetics" several communications have appeared lately in the pages of the BRITISH MEDICAL JOURNAL, chiefly devoted to the worship of weird and manifold remedies (always a sign of their futility) for the difficulties and dangers of chloroform administration. I would beg to humbly suggest that if this title were transposed, and our attention, and more especially the teaching in the schools, were directed to the administration of safe anæsthetics we should have less of the terrible mortality from chloroform which week by week is reported in the medical press of the present day.

From the most carefully collected statistics we know that the mortality from chloroform in England and the Continent is very nearly 1 in 2,300 administrations, that of the A.C.E. mixture is 1 in 5,000 cases, that of ether 1 in 13,500 inhalations, while nitrous oxide gas has a scarcely appreciable mortality, and yet practitioners in Ireland and the English provinces keep writing about chloroform as if they had never heard of ether at all. Dr. Junker's methylene and chloroform inhaler, which has been used for a score of years, was actually figured in this JOURNAL during last month as if it were a heaven-sent gift and panacea for all perturbed anæsthetists. The fact is that several deaths have occurred in connection with its employment. It is not by "methods" with chloroform, but by learning how to give ether and nitrous oxide gas properly that the number of these lamentable deaths under chloroform can be reduced.

Those of our London anæsthetists who have a lifetime of experience rely almost exclusively upon ether and gas and ether for the whole of their routine work; only giving chloroform when ether becomes inadmissible. Snow and Clover did the same. We must, indeed, be blind and prejudiced if, to save taking a little trouble, we go on giving chloroform to the most trivial cases requiring anæsthesia, knowing all the time that the drug is so difficult to eliminate when grave symptoms appear that we dare hardly expect to save the patient whose respiration ceases under its influence. The extreme rarity of a death from ether, and its stimulant effect upon the whole system, obvious even to a layman, is daily being more appreciated by the public, who are after all the best judges. They care little for the "schools" of this and that drug; but they very rightly do not want to risk their lives for no justifiable reason, and we ought not to tempt them to do so.

SOCIETY FOR THE STUDY OF INEBRIETY.—A quarterly meeting was held at the Medical Society's rooms on July 12th, the President, Dr. Norman Kerr, in the chair. Dr. J. J. Pitcairn, Deputy Surgeon to H.M.'s Prisons, Holloway and Newgate, read a comprehensive paper on Alcoholism and the Penal Laws connected therewith in nearly all European Countries. In the discussion which followed, Drs. Douglas, Hazell, Brown, and Mr. Thomas Smith (Johannesburg), Mr. Hilton, Mr. Riley, Mr. Skinner, Mr. Wilkinson, and the President took part, a vote of thanks being awarded to Dr. Pitcairn. An address to the Queen, with the reply, was read.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

SUBSCRIPTIONS to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, JULY 17TH, 1897.

SMALL-POX AND VACCINATION STATISTICS.

WE recently dealt with Mr. Milnes's paper on "Statistics of Small-Pox and Vaccination" mainly from the logical and pathological points of view. We now propose to consider the paper from its statistical aspect.

Mr. Milnes's paper, while it purports to be a rejoinder to Mr. Noel Humphreys's paper on the same subject, read before the same Society a few months previously, is remarkable for its omission to deal with some of the strongest points claimed by the believers in the efficacy of vaccination. None but the very slightest reference is made to the remarkable Gloucester epidemic last year, and when attention was called to this omission in the discussion which followed the reading of the paper, Mr. Milnes expressed his entire disbelief in all the statistics relating to that epidemic that had yet been published. Such disbelief of inconvenient statistics has long characterised the tactics of the opponents of vaccination, but in a paper to be read before a scientific Society such a course can scarcely be justified. The paper, probably on the same ground, entirely ignores the evidence of the protective effect of vaccination afforded by the widely different case-mortality of the vaccinated and unvaccinated in small-pox hospitals, and by the varying intensity of the type of the disease suffered by the vaccinated and unvaccinated. The effect of revaccination as a protection to doctors, nurses, and attendants in small-pox hospitals, conferring as it does a degree of immunity from the disease which has no parallel in the case of hospitals treating typhus, typhoid fever, scarlet fever, and diphtheria, is not even referred to. These are a few of the points dealt with statistically in Mr. Humphreys's paper, which Mr. Milnes distinctly avoids.

With regard to the statistical method as regards some of the points that are dealt with in Mr. Milnes's paper, we feel bound to protest against his hypothetical treatment of his facts, obviously with a view to help the cause which he advocates. As examples of this method we may refer to his assumption (1) that all fatal cases of small-pox in which the certifying practitioner omits to state whether the deceased person was or was not vaccinated are unvaccinated; and (2) that all deaths referred by certifying practitioners to chicken-pox are fatal cases of small-pox. These assumptions are unjustifiable on their merits and are indefensible, more especially as Mr. Milnes in his paper deprecates "special pleading."

We may now proceed to examine more closely one or two of the statistical arguments urged by Mr. Milnes as ground for disbelief in the beneficial effect of vaccination. One of the points he endeavours to make is expressed in the following words: "Vaccination and small-pox attained their maximum together, and together they have steadily declined." This statement is both inaccurate and misleading. The proportion of successful infant vaccinations reached its maximum in 1876, some years after the maximum small-pox mortality in 1871 due to the epidemic in that year. It is true that the proportion of successful infant vaccinations has declined somewhat steadily since 1876, and more rapidly in recent years, during which small-pox mortality has been remarkably low, excepting a few local epidemics. Mr. Milnes refers to these official returns of infant vaccination as if they afforded a measure of the proportional vaccinated condition of the general population, and entirely ignores the fact that neglect of infant vaccination must be maintained for a long series of years before the proportion of unvaccinated persons in the whole population is materially affected. It was, however, pointed out by Mr. Humphreys in his paper that during the last ten years, in which infant vaccination has been increasingly neglected, the proportion of child-mortality from small-pox, among the fatal cases recorded, has markedly increased. This is ignored by Mr. Milnes, but is proved by official figures, of which it is useless to affirm disbelief.

A table published in Mr. Humphreys's paper also showed that the proportion of child-mortality from small-pox in each of the six recent local small-pox epidemics specially investigated and dealt with in the report of the Royal Commission on Vaccination varied with the proportion of successful infant vaccinations in the years preceding the epidemics. For instance, in Warrington and Sheffield, in which towns more than 95 per cent. of the infants had been successfully vaccinated, the proportion of fatal cases of small-pox occurring among children under 10 years of age was 23 and 26 per cent. respectively. In Gloucester and Leicester, in both of which only 32 per cent. of the infants had been successfully vaccinated, no fewer than 65 and 71 per cent. respectively of the fatal cases of small-pox were of children under 10 years of age. Mr. Milnes appears to recognise that these figures are damaging to his cause, and takes much pains to explain them away. He asserts that, specially in Leicester, there were exceptional reasons why children were exposed to infection, and he comes to the conclusion that the proportion of fatal cases of children was large because the proportion of children attacked was large. The argument so far is probably sound, but it is obviously necessary to inquire why the proportion of children attacked was so much higher in those towns in which infant vaccination had been neglected than in those towns which showed the largest proportion of infants successfully vaccinated. Does not the neglect of vaccination afford the explanation?

The theoretical assertion that small-pox mortality is governed by sanitation rather than by vaccination is fully dealt with in Mr. Milnes's paper, with especial reference to Dr. Farr's Life Tables of Diseases published in the Decennial Supplement to the Registrar-General's Reports for the ten years, 1861-70. These tables undoubtedly show that small-pox during those years was far more fatal in Liverpool than in the rural districts taken to represent the English healthy districts. Mr. Milnes, however, claims this fact as proof of

his assertion that small-pox is governed by sanitary condition, although he admits in another part of his paper that "small-pox is a question of exposure to infection." Does not this admission afford a sufficient explanation of the different rates of mortality from small-pox in Liverpool and in the healthy districts shown in Dr. Farr's tables?

With a view to support the assertion that the decline of small-pox mortality, concurrently with the increased practice of vaccination, is the result of improved sanitary conditions, and not of vaccination, the declining rates of mortality from diseases other than small-pox are fully discussed by Mr. Milnes. He certainly shows that fever and cholera mortality, for instance, have declined in recent years, as well as small-pox mortality, but he ignores the fact that while fever and cholera are distinctly attributable to defective sanitation, there are no grounds for attributing small-pox to the same cause. He moreover completely fails in his attempt to prove any change of age-incidence in the fatal cases of any other zymotic disease comparable with the changed age-incidence of small-pox since infant vaccination became more general.

One other example of Mr. Milnes's method of assuming instead of proving his conclusions may be referred to. He shows that small-pox mortality is relatively higher among male adults than among female adults, and uses this fact as an argument against the efficacy of revaccination by assuming that revaccination is far more general among males than among females. The main ground on which this assumption is based is that revaccination is compulsory in the army, navy, and postal service. The proportion of the total male adult population engaged in these services is, however, comparatively small, and no figures are given from which the conclusion that revaccination is more general among males than females is justified.

Such are a few of the points on which Mr. Milnes's statistical methods and conclusions are obviously open to objection and criticism. The value of the paper, however, as a contribution to the statistics of the subject is still more depreciated by what is omitted from the paper than by the defective statistical treatment to which we have called attention.

TOWN AND COUNTRY MILK.

The valuable and instructive report which, as has been mentioned by our Liverpool correspondent, was presented recently to the City Council by Dr. E. W. Hope, medical officer of health of Liverpool, on tuberculosis as affecting the milk supply of the city, embodies the result of an investigation which has been made into the condition of 168 samples of milk. Of these, 122 were taken from cans in dairies and shippons, 24 from railway cans on arrival, 13 from hospitals, while 9 were unmixed milk. The milk dealt with, it is added, fairly represented the city supply. The samples were forwarded to Professors Boyce, Delépine, Hamilton, and Woodhead, who examined them for the presence of tubercle bacilli, both microscopically and by inoculation in guinea-pigs. When tubercle bacilli are present in the milk in sufficient numbers to be a source of danger, tuberculosis, it is said, will be produced in the inoculated animal. There is, however, reason for believing that the converse is true, and it is, in reality, this that we are concerned with. The results of the inoculation tests were as follows: 89 samples examined by Professor Boyce gave positive results in 3 instances, 36 examined by Professor Delépine gave 1 positive result, 36 examined by Professor Hamilton 6, and 6 examined by Dr. Woodhead none. Of the 144 samples of milk taken from sources within the city, 3, or 2.8 per cent., were found tuberculous; while of 24 taken at the railway stations, 29.1 per cent. proved able to infect the guinea-pig.

The inference drawn by Dr. Hope from these striking, and even startling, figures naturally is that as regards tuberculosis, the cows inside the city are much healthier and under better conditions than those outside, and that measures are called for to prevent the importation into cities of the diseased products of insanitary country shippons. As to the causes in operation which have produced a contrast so remarkable, we are told that "shippons in Liverpool are under the immediate supervision of two well qualified and competent inspectors, whose whole time and undivided attention are devoted to the examination of shippons to ensure that the requirements of the by-laws as to light, ventilation, cleanliness, etc., are carried out. They are also prepared to advise in regard to the construction of new shippons. In regard to the health of the cows themselves, the shippons are systematically visited by the leavelookers, five in number, who examine the cows."

Assuredly if the contrast between the condition of town and country milk which Dr. Hope has found were due exclusively to sanitary supervision and improvements in the former, no limit could be placed to the results of ordinary sanitary work. It is, however, necessary to remember that it is the common custom among cowkeepers in towns to retain their cows only for one season, and then to slaughter them. It is, therefore, to their interest to buy as healthy cows as they can find, for experience has shown that the cows in town shippons are specially liable to contract tuberculosis. All cowkeepers, however, do not get perfectly healthy animals, and the presence of the disease is thus maintained in the town shippon. Perhaps by a rigorous inspection of new cows, combined with sufficient sanitary supervision, Dr. Hope may succeed in getting the disease almost excluded from the city. Meanwhile Liverpool is to be congratulated on the effective measures which are taken to improve the milk produced within the city, a necessary preliminary to dealing with the unhealthy conditions outside.

As regards the astonishing proportion of infective milks obtained at railway stations, it is most desirable that these observations should be extended and controlled by other towns. If the figures prove to be a fair representation of what is going on, there can be no question about the urgency of dealing adequately with the condition of external farms. Indeed, it is difficult to see how any revisal of Dr. Hope's investigation can materially diminish its importance. Even if every sample taken at the railway station had been specially selected, the condition of disease revealed would be astonishing.

Dr. Hope's opinion that the condition of the cowsheds is the most important factor in the situation, but not the only factor of importance, will meet with general acceptance. Two requirements are clearly indicated by this excellent report as urgent. The one is that adequate provision should be made of well-constructed cowsheds, and the other that the supervision of cattle should be under a specially trained

class of men sufficiently well acquainted with disease to use the tuberculin test sensibly, and in due relation to other knowledge.

THE HEALTH OF THE ARMY IN INDIA.

THE Bill to repeal the Cantonment Acts of 1895 was introduced in the Legislative Council of India by Mr. Chalmers on July 8th. In the course of the debate, a report of which was telegraphed to the *Times*, Mr. Chalmers said that the Government fully recognised the good intentions of those few opponents who are still active, even after the recent disclosures, against the notification and removal of cases of venereal disease. The Government did not propose compulsory examination; but they could not and would not let the army be decimated by syphilis, and send back to England men ruined in health to infect innocent women and children. He added that it is a cruel wrong to India to tax her for the keep of men who are unfit to do their work; and that the absolute exclusion of all native women from cantonments, even if it were possible, which it is not, would tempt men to far worse vice. General Sir E. H. Collen admitted that the Cantonment Acts of 1864, passed by Lord Lawrence's Government, had opened a way to abuses; the present Bill would not do this; and he urged that education, occupation, recreation, and temperance had not availed to check the frightful increase of venereal disease during recent years. The Commander-in-Chief quoted again those statistics that have lately appalled all England. In 1895 the admissions into hospitals for venereal diseases were 36,681; and of these, 22,702 were syphilis. The duration in hospital was 31½ days; there were more than a million of days of work lost every year, and paid for by the native taxpayer. The ratio for primary syphilis had increased 137 per cent. since 1887, and secondary syphilis was in 1895 four times more prevalent than in 1873. The Viceroy himself closed the debate with a few grave words, taking his full share of the responsibility of the Government, and emphasising their fixed resolve to help forward all moral and religious influences that may best keep men out of vice; "not only to point out to the young soldier the condemnation and punishment which such acts bring with them, but also to encourage, stimulate, and assist him in forming higher ideals and pursuing purer pleasures."

One thing is certain: that those who took part in this most memorable debate are in no need of advice from England. The few and inexperienced opponents of the Bill, who call it the "regulation of vice," are answered by the Viceroy himself in one notable and final sentence: "I say that sin of this nature is one which is not worthy of a true soldier." The Viceroy and the Council deserve the gratitude of all English men and English women who have at heart the morality, as well as the health, of our army in India. They will earn the everlasting gratitude of our own profession if they succeed, not only in safeguarding and advancing the honour and self-control of our soldiers, but in checking the fearful spread and fatality of syphilis among them. And this notification of venereal disease is rendered necessary, not only because syphilis is syphilis, but because the Indian Government is bound to show justice to the Indian taxpayer and to offer treatment to those women who are infected.

MEDICAL MAGISTRATE.—Sir R. M. Craven, of Hull, has been appointed to the Commission of the Peace for the East Riding of Yorkshire.

AFTER the dinner of the Hospital Reform Association at the Holborn Restaurant on July 26th, a discussion will take place on "Hospital Abuse, the Remedies for its Cure."

DR. C. THEODORE WILLIAMS has been requested to represent the University of Oxford at the International Medical Congress which will commence at Moscow on August 19th, and has accepted the nomination.

THERE is a strong feeling at Simla that the Medical Department has been poorly recognised in the Honours List, and that a C.S.I. to Surgeon-General Cleghorn is by no means an adequate reward for the head of such an important department.

A REUTER'S telegram from Suez, dated July 9th, states that Dr. Ruffer, the President of the International Sanitary Board, and Dr. Morrison are leaving for the quarantine stations on the Asiatic coast, where some cases suspected to be plague are under treatment. Seven pilgrim ships, including one bringing back the holy carpet from Mecca, are under observation at El Tor.

DR. PATRICK MANSON has been appointed Physician and Medical Adviser to the Colonial Office, in succession to Sir Charles Gage Brown, K.C.M.G., who has retired after many years' service. Dr. Patrick Manson is eminently fitted, by his wide experience of exotic disease and by his high scientific attainments, for the duties of this office, and Mr. Chamberlain is to be congratulated upon the choice which he has made.

THE RISKS OF THE STUDY OF MALARIA.

WE regret to learn that Surgeon-Major Ronald Ross, I.M.S., who has been employing three months' leave in investigating the malaria mosquito theory, has unfortunately contracted the infection upon which he was endeavouring to throw light. Deeming himself fever-proof he had gone to a highly malarious district—the Sigur Ghat, some distance from Ootacamund—in order to have abundant material for work. We are glad to hear of his recovery, and also to learn that notwithstanding his recent illness he has made some important and hopeful observations in connection with the theory for which he has done so much. We trust that the devotion which he has shown in the cause of medical science and humanity will have a better reward than a dose of jungle fever, and that every facility will be granted to enable him to bring his disinterested and arduous labours to a satisfactory conclusion and with as little danger to his health and life as possible.

SUMMER CLOTHING FOR THE METROPOLITAN POLICE.

GREAT bodies move slowly, and on the whole they prefer, if possible, to take but half a step at a time. It is now nearly two years since we called attention in these columns[1] to the necessity for providing alternate uniforms for summer and winter wear for the Metropolitan Police Force, as had been done even then by several provincial police authorities. Questions have been asked in Parliament on several occasions on the subject, and at last as a tardy concession to public opinion serge tunics have been supplied to certain divisions of the metropolitan force this year, while other neighbouring divisions have been left to swelter in their winter clothing through the heat and fatigue of the Jubilee season. It would be too much to expect, of course, that the police contractors should be able to supply all the force with summer garments by the beginning of July, and it should always be remembered that those divisions which only receive theirs by August or September will have them in good time for next summer, but what are we to say as to the administrative

[1] BRITISH MEDICAL JOURNAL, August 31st, 1895.

ability of those who sanction a serge tunic being supplied to be worn with the heavy cloth trousers such as are worn in midwinter? The new helmets are said to be several ounces lighter than the winter ones, but the cloth caps, which, as we pointed out two years ago, afford great relief to the wearer in sultry weather, are still only to be seen on the heads of inspectors in London, though served to all the force in provincial places. The loss of the belt detracts somewhat from the smartness of the men's appearance, and the staff has now for some time been carried in the breeches pocket. By next year we may perhaps hope to see the summer uniform of the Metropolitan Force equal at least to that of the provincials.

THE PAUPER NURSE.

A MESSAGE of hope comes to us from across the sea; we have always felt that when the public conscience was really aroused to the iniquity of the pauper nurse system it would then have a short shrift. Moreover, we were convinced that when our warm-hearted brethren in the sister country could be awakened to the evil system under which the hapless inmates of the workhouses were "nursed," they would lead the way in demanding this most humane reform. Ireland is rapidly coming to the front in this matter; the Catholic hierarchy has with one voice endorsed the action of the Irish Workhouse Association in recommending to the Local Government Board the necessity of superseding the pauper nurse by the trained servant of the sick, whether she be nun or nurse. The whole Irish press, with a unanimity for which we have looked in vain in England, is protesting against this horrible system; those in high places are working with a will to destroy the monster. But it is not dead yet; behind it are the vested interests of the supine officials who have exploited the pauper for their own ends—the masters and matrons, who struggle to maintain the pauper nurse, because when she falls they come down likewise; with the advent of the trained nursed the reign of tyranny and official cruelty will be a thing of the past. We hope that this sixtieth year of the reign of Her Most Gracious Majesty may not close before the pauper nurse has been blotted out of the Statute Book of the United Kingdom.

ANTI-RINDERPEST SERUM.

THE report of the principal veterinary surgeon of Natal on the rinderpest investigation in the Marico District records results of great interest. The report is dated February 15th, 1897, and its conclusions were reached before Professor Koch was commissioned by the Cape Government to undertake his investigations. It will be remembered that in December last Mr. Watkins-Pitchford, the Principal Veterinary Surgeon to the Colony, stated that he had been able to discover a process by which undoubted immunity could be conferred. Since making this statement investigations have been continued. The line of work pursued has had for its aim the production of an immunity by the injection of the serum of an animal recovered from, and immune to, the disease; and attempts have also been made to bring about an attenuation of the virus. The serum taken from the blood of an animal actually suffering from the disease failed to produce the disease at all, even in a mild form, thus showing, in the opinion of Mr. Watkins-Pitchford, the absence of the specific organism from the serum itself, and indicating the corpuscles of the blood as its probable habitat. The first injections were made with a mixture of virulent blood and carbolic acid, and the animals took the disease only after a prolonged period, and then became "salted." As soon as it was considered that the salted animals had attained a sufficiently intense degree of immunity, and were able to stand the injection of 100 c.cm of virus without showing any fever or other reaction, the blood was withdrawn and the serum separated. A fresh series of experiments on clean animals was started on November 28th, 1896, and the results are described as highly encouraging. Those animals receiving doses of the serum up to 50 c.cm. remained immune and resisted the effects of injection of virulent blood for about three weeks, but, when placed in contact with diseased animals, some showed the disease in a mild form and salted, and those who had received the smallest dose died, but only after a mild and prolonged form of the disease. The animals receiving the larger doses resisted all efforts to produce the disease. A further modification in the procedure was then introduced. Animals were inoculated with virulent blood eight days after they had received doses of the protective serum. This proved very successful; for, in spite of immediate contact with diseased animals, they remained healthy, although the control animals all died within twelve days. A drawback to this system was the large amount of serum required—50 c.cm. for each experiment. Similar success also followed the artificial production of a mild form of the disease by the injection of varying proportions of virus and immunising serum. These results are certainly remarkably promising, and do great credit to Mr. Watkins-Pitchford, but we must await further statistics before being satisfied as to the ultimate value of the method. We cannot, however, refrain from remarking on the regrettable manner in which the whole subject of rinderpest prophylaxis has been allowed to become the field of isolated researches. If on the arrival of Professor Koch a united investigation had been arranged, we cannot help feeling that before this the whole subject would have been placed on a far more satisfactory basis than it is at present. United investigation by men already familiar with the disease in all its practical bearings, under the direction of a great master, would surely have been the best way in which to seek for a solution of one of the greatest trials that South Africa has yet had to face.

MILK AND INFECTION.

WE are glad to note the action taken recently by the Sunderland Bench in the matter of an indictment against a milk vendor for selling milk which had been stored in a room wherein was a child suffering from scarlet fever. As a matter of fact, four separate charges were laid at the vendor's door—namely, non-registration, unnotified occupation of premises, assistance in business by a person who had been in contact with infectious sickness, and storage of milk on infected premises. In respect of the latter, the Bench imposed a fine of £5, with costs of £3 7s. 6d., dismissing the other charges preferred by the Town Council. The Bench held that the lack of proof of actual disease conveyed by the milk did not lessen the risk of danger. But we cannot understand on what grounds, save those of charity, the third indictment was dismissed. Instances of disease conveyed through the milk and by the person where the dairying business has been conducted by sick-nursing mothers and the like are not wanting; and assuredly intercommunication of sick-chamber nursing and milk manipulation needs to be strenuously put down as a practice dangerous to the public health.

BILL CONCERNING NEGLECTED CHILDREN.

IT is good news that the State Children's Aid Association are promoting a Bill which it is believed will be introduced this session, even if it gets no further, to give the guardians greater power over neglected and vagrant children, as well as over those technically known as "Ins and Outs." That this measure is needed is acknowledged by all who are acquainted with the class recently referred to by Her Royal Highness the Princess of Wales as "poor beggars;" and the guardians of Winchester and Chelsea have already advanced one step by passing resolutions declaring that some action to obtain control over neglected children is of pressing importance. Quite apart from the untrained minds and the moral lawlessness which are the normal conditions of these neglected children's lives, it must not be forgotten that to them and their vagrancy must be traced some of the causes of the persistent presence of certain classes of zymotic

disease, both in the pauper schools and in their low haunts. Dr. Barnardo makes the computation that no fewer than 30,000 children are nightly homeless in and around our large cities, a fact which is a veritable skeleton at this time of Jubilee feasting. We do not yet know whether the State Children's Aid Association proposes to include in their Bill this class, or to limit its good offices strictly to obtaining further control over those children who already come within reach of the Poor Law. If so they have ample scope, for the family mentioned by Mr. Lockwood, which had been in and out of the Marylebone Workhouse sixty-two times in thirteen months, is no isolated case, and is repeated by unscrupulous parents, with variations as to rapidity and choice of workhouse, in most of the unions of the metropolis.

PROPOSED MEMORIAL TO JOHN AND WILLIAM HUNTER.

A MOVEMENT is now on foot to do honour to the memory of two of Glasgow's most distinguished sons—John and William Hunter. A public meeting, convened by Lord Provost Richmond, Sheriff Berry, Principal Caird, and Dr. Bruce Goff (President of the Faculty of Physicians and Surgeons), was held recently in the Municipal Buildings, and was well attended. The movement originated with the late Dr. Mather. Mrs. Mather was present at the meeting, and stated that she had a sum of £850 with which to head the subscription list. At the close those present were formed into an Executive Committee, and several other names were added. The Lord Provost was appointed chairman, Professor Cleland vice-chairman, Dr. Oswald Fergus honorary secretary, and Dr. David Murray honorary treasurer. The Hunters were sons of a small Lanarkshire farmer, and were born at Long Calderwood, East Kilbride, about ten miles from Glasgow, . They sprang from that class to which Scotland owes Burns, and most of her greatest men. Near East Kilbride is the village of Bothwell, where in the manse there their distinguished niece, Joanna Baillie, the poetess, was born. Joanna Baillie kept house for her famous uncles in London for some time, and so was closely associated with them. It is hoped that very great interest will be taken in the movement, and that a fitting memorial will be erected.

THE PUBLIC HEALTH (SCOTLAND) BILL.

THE report stage of the Public Health (Scotland) Bill is not likely, it is stated, to come on for a fortnight. As our readers are aware, serious objection is taken to the clause which places sanitary inspectors on a footing in many respects equal to and independent of the medical officer of health, a clause which was introduced in the committee stage. We have taken active steps to support these objections, and Scottish members of Parliament as well as English members have been very freely and urgently communicated with on the matter. It is now stated that the Lord Advocate will propose amendments to meet this objection in a satisfactory way, but too much dependence should not be placed upon this somewhat vague rumour. Every effort should be used to obtain the necessary amendments. The matter is one of principle, and would form a most mischievous precedent, and one greatly against the interests of the medical officers of health throughout the country, as well as the best interests of the public.

CAMBRIDGE UNIVERSITY.

PROFESSOR CLIFFORD ALLBUTT returns in a powerful letter addressed to the *Times* to the subject of the need of Cambridge University for extensive national aid in the way of re-endowment of some of the most important parts of the University. He speaks thus of the School of Medicine: "The School of Medicine is the largest in numbers in England; yet for the purposes of this faculty a poor and utterly insufficient building was put up, thus cheaply, about a hundred years ago. We are now told that unless £500 is spent upon it at once, it will fall about our ears. Bad as it is, it is better than nothing; yet we have no £500 to spare, and it must tumble down. Even as it is, it will not accommodate some of the most important departments, such as the laboratory and rooms of the Downing Professor, who is indebted to Downing College for such inadequate accommodation as he has. The more our students the poorer we become, as the utmost practicable fees do not cover more than 65 per cent. of their cost in staff, buildings, and appliances." The School of Medicine of Cambridge is one of such eminent usefulness and importance, and has attained already so great a degree of success—a success actually embarrassing in the absence of adequate funds—that it is earnestly to be hoped that this appeal will receive a most liberal national response.

AMBULANCES FOR HILL WARFARE.

A CORRESPONDENT draws our attention to the fact that, while the mule or horse litter has for some time been condemned and discarded as a portion of our army sick transport, nothing has been substituted for it, so that we are at present absolutely without any organised hill sick transport. This is surely a scandalous, not to say hazardous, state of affairs. When the litter was condemned—we are not defending it—hand transport, it was understood, would be substituted, but sick bearers of this kind have to be trained and organised; yet, we are told, there is not a sign of anything of the kind being done. The French retain the litters, and it would have been time enough to have abolished them in our own army when we had something to put in their place. Our military rulers seem to be entirely indifferent to the efficiency of the Army Medical Service; it is high time the matter w ventilated in Parliament and the press.

MORTALITY AND METEOROLOGY DURING THE PLAGUE EPIDEMIC.

WE have received a series of valuable charts, drawn up by Brigade-Surgeon-Lieutenant-Colonel T. S. Weir, health officer, Bombay. They appertain to the mortality and meteorology of the city of Bombay for the period during which bubonic plague prevailed, and deal with the total mortality, the mortality from plague, and the state of the atmosphere as judged by the barometer, the thermometer, and the anemometer. The observations extend from the month of August, 1896, until March, 1897. During December, 1896, and January and February, 1897, the total mortality rose to an alarming extent; nor had the abnormal condition subsided altogether when the observations ceased. In a city of the extent of Bombay the epidemic did not, of course, reach its maximum intensity at the same time in every locality, but in all parts it was during the cold season—January and February—that plague swept off most of its victims. The period at which the general mortality was greatest was on January 15th, 1897, when it reached 345, but it was during the following month that deaths from bubonic plague attained their maximum as on February 9th, 12th, 16th, 19th, and 26th the number ranged between 130 and 140 daily. When the general mortality was greatest the charts show that the divergence between the maximum and minimum temperatures was most pronounced. In the market district—a poor section of the city—the relation between sudden and pronounced falls of the temperature during the night and a high mortality is more marked than in the better localities of the city. So much is this the case that, whilst any increase in the mortality in the more wealthy quarters is seen to rise and fall in consonance with the spread of plague, in the poorer districts the total mortality varies more with the variance in temperature than with the increase or subsidence of plague. The records show that a northerly wind, veering to north-west, prevailed during the period of time under review. A variable state of cloud and sunshine existed during the season. The barometric pressure rose fairly gradually and consecutively

throughout the months from August, 1896 to January, 1897, and from thence onwards there was a gradual fall. The register of the dew point showed a fall from August until it reached its lowest point, 52.2° F., on January 19th, 1897. In harmony with the above record, the humidity gradually subsided as 1896 waned, to rise again slightly as 1897 wore on. The charts record no pronounced meteorological abnormality during the plague season of seven months. The observations constitute a valuable record, and the care and completeness with which they are drawn up commend themselves to all interested in the subject of the relation between epidemics and the meteorological states.

BARRACK SCHOOLS AND THE DEMANDS OF THE "BRITISH MEDICAL JOURNAL."

MR. CHAPLIN'S reply to Lord Peel's memorial in reference to certain classes of Poor-law children which the State Children's Aid Association (in support of the proposals contained in the reports of the BRITISH MEDICAL JOURNAL), desired to see transferred to the Metropolitan Asylums Board, has been received. The President of the Local Government Board assures the memorialists that their suggestions, relating as they do to matters of undoubted importance, are deserving of all attention, and that the questions connected with further provision for dealing with the children known as "ins and outs" and for the boarding out and emigration of children are at present engaging the special attention of the Board. He points out that the suggestion made in the memorial as to the appointment of a children's committee for the carrying out of the necessary measures connected with the establishment, control, and management of the various institutions for children that may be provided by the Metropolitan Asylums Board, has been carried into effect, but all mention as to the intention of the Government to strengthen the Metropolitan Asylums Board is omitted. Mr. Chaplin says th at he sees no cause to fear that the guardians will not use the provision made by the central Board for children suffering from ophthalmia or ringworm and those other disorders which require seaside air or special treatment; but he assures Lord Peel, the chairman of the State Children's Aid Association, that if on experience it is found that they exhibit any unwillingness to do so, the Board would then consider what action it was necessary should be taken to transfer the children.

THE REORGANISATION OF THE BOMBAY HEALTH DEPARTMENT.

THIS subject has for some time past been under the consideration of a Committee of the Municipal Corporation. A special strengthening of the health department took place during the recent prevalence of the plague; but it is felt that a permanent increase of staff and a rearrangement of health executive is necessary in order to perpetuate the sanitary awakening which the plague has caused. The Commissioner of Bombay, who is the chief executive municipal authority for the city, has accordingly submitted to this committee a scheme of increase and reorganisation of sanitary agencies. The keynote of his recommendation is decentralisation. He divides the island of Bombay into four areas of similar extent and population, and proposes to appoint an assistant health officer, of superior qualifications and well paid, supported by a sufficient subordinate staff of inspectors, to each of these four divisions. Each of these officers is to be supreme in his division, and to report to and be under the control of the Commissioner. The health officer for the city is to exercise no authority over these divisional health officers, and his duties are to be mainly of a consultative kind. He is to advise the Commissioner on health questions, to receive returns and prepare reports, to have a central laboratory for analysis of food and drink, and bacteriological investigation sufficiently equipped and manned under his control, and to submit reports regarding the working of the same. The Commissioner is thus to be the principal sanitary authority for the city, and the health officer is to act as an assessor or sanitary coach. We have no hesitation in pronouncing this to be a faulty if not impracticable scheme. The various health officials should assuredly, for efficient and harmonious action, be subordinated to one supreme sanitarily educated, trained, and experienced head—the health officer of the city—who should, of course, act in subordination to the chief executive authority, or be associated with him and the city engineer on an executive sanitary board. Any other management is certain to result in confusion, divided councils, and sanitary disaster. By all means decentralise, and develop, and organise special laboratories for examination of food and drink, and investigation of disease causes; but do not dissociate sanitary agencies, divide sanitary responsibility, or place the community at the mercy of sanitary amateurs. One point of great importance has been urged by the Commissioner in this memorandum—namely, the special education and testing of sanitary inspectors. This point has already been prominently dealt with in the sanitary resolutions issued by the Government of India in 1895, and it is to be hoped that it will not be lost sight of.

DIPHTHERIA AT DEVONPORT.

AN outbreak of diphtheria is reported among the women and children of the troops at Devonport owing to a defective state of the drains in the Raglan barracks, where the King's Own and Gloucester Regiments were quartered. Some 15 or 16 cases of the disease have occurred with 2 deaths (the children of an officer), and but for active medical and sanitary measures, a larger number of attacks and increased mortality might have had to be recorded. Leakage of sewer gas is believed to have been the cause of this outbreak, as a defective sanitary condition of the drains had been known to exist for some time past. We can be sure that the medical department responsible for sanitary recommendations has not failed to perform its share towards getting known defects remedied; but, with considerable experience of War Office dilatoriness and apathy in granting money to carry out remedial measures recommended by the medical or engineering services, we can well understand postponements until health is injured and fatality ensues. In the case of the present outbreak there was great difficulty on the occurrence of the outbreak in finding places wherein to place the families removed from quarters, as the civil medical officer of health very reasonably refused to sanction their being removed into lodgings. The only alternative was to accommodate them under canvas or in empty forts. The Raglan barracks have now been evacuated, and the necessary rectification of drainage is to be executed, a work which will presumably take quite a year and a half, and cost a considerable sum of money.

EARLSWOOD ASYLUM FOR IDIOTS.

IN these days, when many schemes are in the air for benefiting defective children, it may be well to recall the fact that for nearly fifty years Earlswood has undertaken the training not only of idiots and imbeciles, but of the higher class, which it is now the fashion to call "feeble-minded." It is, perhaps, desirable, in accordance with modern views of classification, that these last should be separately dealt with: but the principles of special education, which, starting from the physiological basis of Seguin, have been practically worked out at Earlswood and other kindred institutions, must guide any new departure. The good result of appropriate manual training is especially to be noticed. The annual report of this useful institution has recently been issued. From it we learn that since the first election in 1848 3,015 patients had been admitted to the asylum, and that 587 remained as inmates. The amount of annual subscriptions was £4,527 16s. 3d., and of life subscriptions £3,731; the

aggregate receipts from all sources, including £10,751 18s. 6d. from the payment of patients, being £34,595 14s. 11d. The establishment of a Ladies' Auxiliary, headed by the Countess of Radnor, had resulted in the addition of £1,624 8s. to the funds. The report of the medical superintendent, Dr. Charles Caldecott (who entered upon his duties in succession to Dr. Corner in October last), gives particulars as to changes in the asylum population, from which it appears that during the year 64 patients had been admitted, 40 had been discharged, and 20 had died. The death-rate calculated on the total number under treatment had been 3.1 per cent. (or about 3.5 per cent. if calculated on the average number resident). The only infectious ailments that had occurred were German measles and chicken-pox. Of the cases discharged, all were reported to have benefited by treatment, and one boy was sent out able to earn his living. The average age of admission had been 14 years, and, considering the desirability of early training in such cases, this might with advantage be reduced. No fewer than 14 out of the 64 new patients were epileptic. Of the 587 inmates, 280 attended school, and 242 were industrially employed.

OPENING OF THE NEW PARK HOSPITAL.

THE new Park Hospital, which was opened on July 12th by the Prince of Wales at Lewisham, is the ninth, and probably the largest, building of the kind erected by the Metropolitan Asylums Board. It is situated on an elevated site at Hither Green, about three-quarters of a mile from Lewisham. The building, which is surrounded by grounds measuring some twenty acres in extent, is divided into three blocks, the scarlet fever wards lying to the right, the diphtheria and enteric fever wards to the left, and the isolation blocks to the rear of the former. When completed it will have accommodation for 368 scarlet fever and 120 diphtheria and enteric fever patients, in addition to 60 isolation patients. The Royal visitors were received on their arrival by Sir Edwin Galsworthy, Chairman of the Board, who, after the new buildings and grounds had been inspected, read an address of welcome, on behalf of the Board, to the Prince. In reply the Prince, who was received with great enthusiasm, said that he was much interested in hospital work. Not only were the sick far better off in institutions than they could possibly be in their own homes, but the inmates of those homes were relieved of a heavy burden, and the surrounding families of a serious source of danger. It was a tribute to the efforts of the Board that the death-rate from scarlet fever alone had been reduced during the last sixty years by two thirds. The Prince's speech is another proof of the interest which he has always displayed in matters relating to the treatment of the sick poor.

THE PLAGUE IN THE FENS: 1636.

DR. PERRY, the President of the Gentlemen's Society at Spalding, is about to publish a copy of the orders made during the visitation of the plague in the Fens during the year 1636. The orders will appear in a forthcoming issue of the *Fenland Notes and Queries*. Many of the orders are well known. A few throw light upon local customs which still survive in particular families. Thus it is ordered "that noe person which is knowne to dye of the plague shall be burryed on the day time, but eyther in the morninge before sonn-riseing, or in the Eveninge after sunsettinge when most people are in their houses and at rest. And if none will carry them to the Church, then a horse and a sleade to bee provided for that purpose and the same to remaine where the infected was burryed last. Item that all persons within the said Townes upon oppen warninge given in the Church, shall keepe their Doggs, Catts, and Swyne surela chayned or tyed up, or else hange them, that they goe noi abroade, especially in the nighte, and after warninge given if any dogge shal be taken abroad out of his Maisters house, to be killed and burryed by some appoynted for that purpose, and they to have of the owner of such dogge two pence. Item that the persons appoynted to watch and attend the visited, doe carry a white Rodde in theire handes to the end Others may avoyde theire companies." Quarantine was enforced for six weeks, and the infected were ordered to carry a white wand in their hands. "Item that if any Inne or Alehouse shal bee visited, the Signe shal bee taken downe for the tyme of such restraint and a Cross to be sett on their doore. Item that all signes of Innes or Alehouses bee pulled downe for the time of this visitation and to lodge no wayfareing men or woemen without the consent of the Minister, Churchwardens and Constable or some of them."

TYPHUS FEVER IN NORTHERN CHINA.

THE last fasciculus of the Medical Reports of the Internal Maritime Customs of China contains an admirable clinical study of typhus as it occurs among Europeans in Pekin by Dr. J. J. Matignon of the French Legation in that city. Although unknown in the south, epidemics of typhus are of common occurrence in the northern parts of the Chinese Empire, and have claimed not a few victims among the European residents in Pekin and Tientsin; more particularly among the Catholic missionaries, who, in many instances, live in constant and intimate association with the natives and under hygienic conditions which, both as regards food and dwelling, are of the most insanitary description. The existence of typhus exanthematicus in North China has long been known to the European practitioners there, but until the present we had no detailed account of the disease as seen in that part of the world. Dr. Matignon's paper, therefore, is well worth the careful attention of epidemiologists. Dr. Matignon has remarked certain peculiarities in the Chinese form of the disease. Amongst other things he notes the shortness of the incubation period—not over twenty-four hours in some instances; the eruption which, coming out in successive crops and lasting for a week only, disappears just at the time when the eruption in the European variety becomes petechial; the absence of pronounced constipation and of the typhus odour; and the occasional occurrence as a sequela of a peculiar and permanent impairment of visual acuity. The value of this important paper is very much enhanced by a carefully prepared and detailed clinical account of 10 illustrative cases, together with their temperature charts.

PILLS.

THE advance in pharmacy which has taken place during the Queen's reign is very remarkable and very creditable to everybody concerned. At the commencement of the reign people seem rather to have preferred that their draught should be nauseous. "Elegant pharmacy" was hardly dreamed of. The first great advance was the preparation of active extracts in place of decoctions and infusions which were not only nauseous but uncertain. The object of Squire and his immediate successors was to obtain the active principles of the drug in a small compass and in a thoroughly active state. This was a move in the right direction, and the services rendered by pharmacy to medicine in this way can hardly be exaggerated. At the same time it must be recognised that in elegant pharmacy, as in everything else, discretion must be mingled with zeal, and that we must not sacrifice essentials for externals. The means taken to render the dose agreeable to look at, and not disagreeable to take, must not be such as to prevent the drug from acting. A case in point was mentioned to the Royal Medical and Chirurgical Society not long ago. A lady had been swallowing a certain drug without the expected benefit, and it turned out that the compressed pellets had been passed undissolved. A druggist in Brooklyn has recently been enlivening the pages of a pharmaceutical contemporary by an account of his experiences with coated pills. Accident led him to the observation

that it was easy, by putting certain gelatine-coated pills between two deal boards, to embed the pill in both by hammering upon the outer surface of one of them. He publishes a photograph rather like a gunmaker's target showing rows of pills sticking for half their thickness into the lid of a packing case. The experiment led him to make certain obvious reflexions on the fate of such pills in the human stomach and intestine. Two things may and do happen: one is that the pill is never dissolved at all, and is expelled as any other foreign body would be expelled, having produced no therapeutic result whatever; the other is that the pill is very slowly dissolved, and instead of producing the desired result at the desired time, produces its result later, perhaps at some very undesirable time. The moral is most certainly not that we should go back to the barbaric pharmaceutical methods of early Victorian days, but that the manufacturers of compressed drugs and coated pills should bear in mind this possible disadvantage in their products. The evil can easily be prevented, and there are many manufacturing chemists who are fully alive to the point on which we are now dwelling. In ordering pills and compressed drugs the matter should be kept in mind, and the solubility of various samples tested, for the patient may suffer, and very undeserved discredit may fall upon the practitioner if this precaution be neglected.

BERI-BERI AT THE RICHMOND ASYLUM.

At the last meeting of the Governors of the Richmond Asylum, Dublin, Dr. Conolly Norman, the Medical Superintendent, stated that 21 cases of beri-beri had appeared in the female department since the beginning of June, and that within a fortnight 12 female patients and 3 nurses had been attacked. Of the 18 patients 2 had suffered in 1894, and 8 in 1896, the rest were first attacks; of the nurses 1 suffered in 1896, but the other 2 were first attacks. One of the patients and one of the nurses had been in the institution only six weeks. Dr. Norman added that there had been as many as 70 patients suffering at the same time from the disease. It apparently got worse in summer, attained its height in autumn, and ceased in winter and spring. The Lord Mayor of Dublin, who was in the chair, observed that the governors must wait until the buildings at Portrane were completed, and then at once vacate the Richmond Asylum.

THE NEW TUBERCULIN IN LUPUS.

At the meeting of the Dermatological Society on July 14th, Mr. Malcolm Morris showed a series of cases of lupus treated during the last few months by repeated injections of Professor Koch's "new tuberculin." The results were sufficiently encouraging to appear to render it desirable that the facts should be published, and Mr. Morris has been good enough, at our request, to furnish notes and comments by himself and Dr. Whitfield, which will be published in an early number. In two at least of the cases the effect of the treatment on the disease has been very remarkable, and in all, as has been said, it has been encouraging. Lupus of the face of the most virulent kind, which could not be controlled by any treatment, has been altogether altered in character, and has not only ceased to spread, but has begun to heal at various points, which are now occupied by white, soft scars. The effect is most marked in the cases with much "apple-jelly" material, and little scarring due to previous applications. It remains to be seen how far this curative effect of the new tuberculin will go, and whether the disease process will be merely held in abeyance for a time, or permanently suppressed. The hope is that the course of injections when completed will produce a condition of immunity to the bacillus tuberculosis, and that the whole process in the skin will then cease. The new tuberculin produces in moderate doses a general reaction, which is sharp but short. This reaction is an objection to the treatment which patients suffering from this disfiguring disease do not make much of. A difficulty which is likely to stand more seriously in the way of a general use of the new preparation is its cost, which is very high and apparently out of proportion to the cost of production. Mr. Morris stated that with some of his cases he had already reached doses which cost 8s. 6d. for each injection, and before the case is finished and immunity produced, doses probably twice as large will be required. At the present time, also, there seems to be some difficulty in obtaining a sufficient supply. As will be seen from the letter of our Berlin correspondent, this question of cost has caused much comment also in Germany, and there seem some grounds for believing that all the samples of the new tuberculin sent out are not of equal composition and strength, and produce, therefore, a general effect which varies to a serious degree in the same patient.

"PURE" MILK?

Commenting on the fact that only two prosecutions were undertaken during the past year by the Corporation of Birkenhead in respect of adulterated milk despite some forty samples having been put to the test by the public analyst, Dr. Marsden, the medical officer of health, says that it is not to be supposed that the remaining samples were of a quality or nature to be passed by without comment. The penalties imposed by the Bench, he states, are by no means of a kind to discourage fraudulent manipulation of milk by vendors, but rather tend, by their smallness, to invite milk-sellers to run the risk of detection in their profitable malpractices. The public analyst frequently has to pass milk as "pure" whilst feeling that but for the very low standard adopted at Somerset House the sample should be brought to the courts. The milk, whilst in his mind clearly adulterated, is still within the wide limits of the Government authorities, and hence he has felt constrained to allow much produce of a distinctly inferior quality to pass unheeded. Such procedure is common enough, and is well known to the trade, with the result that dairymen and others either add water or separated milk to the natural article to an extent which, while robbing the milk of a great portion of its nutritive properties, still permits it to pass the Somerset House standard as milk of poor quality yielded by poor cows. We need hardly point out that it becomes a matter of no small importance to infants and invalids whether or no poor milk is being supplied, and the excuse (it is seldom anything else) that the milk is the produce of a cow in poor condition should not suffice to exonerate traders. The milk of many cows, mixed, will result in an average yield; if not, the intervention of some authority charged with safeguarding the public health should inquire into the health of the cattle. Dr. Marsden very pertinently remarks that given a cow labouring under such health conditions as to lead her to secrete milk of the questionable quality now in question, that cow ought to be removed from the business of the dairy until such time as her restored health results in a normal produce.

On the occasion of his retirement from the Chair of Practical Chemistry in the school of the Pharmaceutical Society of Great Britain, Professor John Attfield, F.R.S., was the recipient, on July 10th, of a handsome testimonial, consisting of an autograph album and silver plate. The former contained the names of many eminent scientific men of England and the Continent.

Under the will of Mrs. Gee, widow of the late Mr. Robert Gee, Lecturer on Diseases of Children in the Medical School of the University College, Liverpool, that College receives over £7,000 for the purpose of advancing the medical department and promoting study and research in medical science. It has been decided by the Medical Faculty to institute a Robert Gee Fellowship in Anatomy, of the value of £100, for one year, and four entrance scholarships of £25 each for one year.

THE UNIVERSITY OF ST. ANDREWS AND DUNDEE UNIVERSITY COLLEGE.

BEFORE Lord Stormonth-Darling, in the Court of Session at Edinburgh on July 10th, an action was disposed of in which John McGregor and five others, members of the University of St. Andrews, sought reduction of certain ordinances of the Commissioners under the Universities (Scotland) Act, 1889, in so far as they purported to effect a union between that University and Dundee University College.

The judge sustained a plea for the defenders that the averments of the pursuers were irrelevant and insufficient in law to support the conclusions of the action, and assoilzied the defenders with expenses.

Lord STORMONTH-DARLING, in giving judgment, said: This matter has already been the subject of a regrettable amount of litigation. On April 8th, 1895, the House of Lords found that two orders of the Commissioners, dated March 21st and 10th, 1890—by the first of which they purported to affiliate the Dundee College to and make it form part of the University, and by the second of which they declared the new University Court to be duly constituted—were not made in conformity with the Universities Act of 1889, and must be set aside. Decree to that effect was pronounced by the Second Division of this Court on June 4th, 1895. Thereafter the pursuers of that action asked that certain documents forming the agreement between the two bodies on which the orders of the Commissioners had been based should also be reduced, but on March 4th, 1896, the Second Division refused to do this, and dismissed the action *quoad* these documents. This judgment was affirmed by the House of Lords on July 6th, 1896, the main ground of judgment being that the agreement for an incorporating union as distinguished from the mere affiliation of a College to a University, might competently contain a provision, as this did, that the union should be indissoluble except by Act of Parliament. In the meantime the Commissioners had issued a draft ordinance dealing with a number of matters connected with the University of St. Andrews, and in order to anticipate the possible success of the objection which had been taken to the mode of procedure in 1890 they had inserted in the ordinance a clause incorporating the Dundee College with the University, subject to the conditions of the same agreement which had formed the basis of their former order. This ordinance, which forms the main object of attack in the present action, ran the gauntlet of the various public bodies and persons mentioned in Section XIX of the Act; it was laid before both Houses of Parliament, and finally it came before the Privy Council. The University Court and General Council of the University having lodged petitions against the ordinance, the matter was referred by Her Majesty to the Universities Committee, and counsel were heard for the objectors and for the present compearing defenders, who are the governing body of Dundee College. In the end the Committee reported to Her Majesty in favour of the ordinance being approved, subject to the deletion of certain passages. The effect of these deletions I shall consider presently. On January 15th, 1897, the Queen was pleased to approve of the ordinance in its altered form. In these circumstances, the defenders state a preliminary plea that the approbation of the Queen in Council is conclusive, and that this Court has no jurisdiction to examine the procedure which led up to it, even with the view of ascertaining whether the statutory conditions have been complied with. I cannot assent to that argument. This case does not involve any question as to the exercise of the royal prerogative. The powers committed to the Queen in Council are purely statutory. All questions of policy and discretion as to the approval or disapproval of an ordinance are absolutely committed to the Queen in Council, subject to an address from either House of Parliament, and this Court has no jurisdiction to entertain for a moment any question of the kind. But that does not in the least derogate from the jurisdiction of the Supreme Court to decide whether a statute has or has not been complied with. That is a kind of jurisdiction which it alone can exercise, and it cannot escape from deciding whether a statutory duty has been lawfully performed, however august may be the authority to which the duty has been entrusted. I proceed, therefore, to examine the grounds on which the pursuers allege that the statute has been violated. The first of these, as I understand the argument, is that when the Commissioners issued the ordinance in February, 1894, they were not entitled to proceed on the consent of the Old University Court, which had been obtained in 1890. I ask, why not? It is quite true that under Section XVI (1) the Commissioners had not power to incorporate these two institutions except with the consent of the governing body of each. The power to consent had been expressly conferred on the Old University Court by Section V (4). The consent had been given, and it had never been withdrawn. I can find nothing in the Act to warrant either of the propositions contained in the second branch of the pursuers second plea-in-law. The pursuers' second ground of objection is that the deletions made by the Queen in Council materially altered the meaning and intent of the ordinance, and accordingly that the ordinance in its final shape effected a union to which the University Court had never consented. But that seems to me to involve the fallacy that the consent of the Court had to be given to the ordinance itself. Now, the consent required by Section XVI (1) is an initial consent. The Commissioners cannot move a step without it, but, having got it, they proceed to frame their ordinance, and it follows as a necessary consequence from that being held to be the proper form of procedure that the ordinance must run its appointed course. It cannot, under the statute, have any new term added to it, but it is subject to partial disapproval either at the instance of Parliament or the Privy Council; and partial disapproval may, of course, have the effect of materially altering the conditions of union. But the two bodies, having consented to union, must be understood to have taken their risk of all that—and no very great risk it is—because they have the amplest opportunity of satisfying the Queen in Council that partial disapproval would be unfair to one or other of them. In the present case it is quite plain that no injustice was done to the interests which the pursuers represent by the deletions made in the ordinance. Most of these were purely verbal, and consequential on the reduction of the Commissioners' order of 1890. The only alteration which had any substance in it was the deletion of Article 4 of the scheduled agreement, and it is stated by the defenders, without contradiction, that this was done because they intimated that their consent to the union would not be affected by giving effect in this way to one of the contentions urged by the St. Andrews Court. In plain English, the pursuers, as representing the University, are now seeking to take advantage of a concession obtained by the University before the Privy Council in order to upset the ordinance altogether. To that kind of argument no court of law can give effect. The pursuers' third ground of objection is that when the Commissioners issued the draft of their ordinance, there was no University Court legally in existence to which it could be referred. There was, of course, a *de facto* court, because the Commissioners, by their order of April 10th, 1890, had declared the new Court to be duly constituted. But this declaration was one of the documents cut down by the House of Lords in 1895, and the Commissioners' new declaration was not issued until October 8th of that year. I do not understand it to be disputed that the Commissioners had power to issue this latter declaration, because Section XVI (2) expressly empowered them to appoint a new Court to be elected, even although incorporation had not taken place. But the argument, as I understand it, is that in the interval between April 10th, 1890, and October 8th, 1895, the *de facto* Court was not legally constituted, because it contained the new members allowed by the Act of 1889, instead of being limited to the six persons who formed the Court under the Act of 1858. The conclusion sought to be drawn is that all its proceedings during these five years, including its consideration of the draft ordinance, were illegal. It would be a great misfortune if the law were so hidebound by logic as to make such a conclusion inevitable. But, happily, it is not so. The judgment of the House of Lords in Livingstone *v.* Proudfoct (6 *Bell's Appeals*, 469) is directly in point. The judgment was that the judicial proceedings of a presbytery were not rendered void by the circumstance that for nine years it had contained a number of members who were not properly qualified, and the ground of

judgment was that stated by Lord Stair, where he says that to any reduction upon such a ground "holden and reputed will be a sufficient defence." There can be stronger kind of general and *bonâ fide* repute than that which is founded upon formal recognition by a statutory body of commissioners. These are the pursuers' main pleas. They state some others, such as that the Commissioners have no powers over the Dundee College, and that an ordinance effecting incorporation ought to have dealt with nothing else. But these, I think, cannot be seriously maintained. I have dealt with the action as if it related solely to the ordinance of incorporation, because unless the pursuers succeed in reducing that, their case is gone. I would only add that the proposal in the summons to reserve the effect of the ordinance as an apportionment of the Parliamentary grant seems to me quite inadmissible in any view, because plainly the amount was fixed with reference to the enlarged University, and if the incorporation were to go, the apportionment would have to go with it. The result is that, in my opinion, the defenders' fourth plea-in-law is well founded, and that they are entitled to absolvitor.

THE INFANT LIFE PROTECTION ACT (VICTORIA) AND ITS ADMINISTRATION.

IN the evidence which our Special Commissioner on "The Baby-farming System and its Evils"[1] gave before the Select Committee of the House of Lords on the Infant Life Protection Bill (1896), reference was made to the Act for the Protection of Infant Life passed by the Government of Victoria in 1890; and much interest was evinced by the members of the Committee in the *précis* of this Act which was laid before them. An endeavour was made to obtain a complete copy of the Act, and details were asked for concerning its working. But it was not possible to obtain any information in respect thereto at the time. Since then we have made the fullest inquiries from the Melbourne police, and the replies which have reached us upon the subject contain many details of interest and importance.

A SERIES OF QUESTIONS.

In the first place a series of questions was drafted and forwarded to the Chief Commissioner of Police at Melbourne, of which the following is a copy: 1. Has the administration of the Act in Melbourne proved to be satisfactory? 2. Has the number of registered houses increased or diminished during the time that the Act has been in operation? 3. Has there during this time been any fall in the death-rate among illegitimate children? 4. Has the number of inquests upon such children diminished during the same period? 5. Has the administration of the Act by the police been found to be unpopular? 6. Are there any published statements concerning the working of the Act? 7. Have any instances of evasions of the Act by baby farmers come under the notice of the police?

THE ADMINISTRATION OF THE ACT BY THE POLICE IN MELBOURNE.

For police purposes Melbourne is divided into three divisions, the whole including a population of 450,000 persons. In Districts 1 and 2 the baby-farms are visited at regular intervals by lady visitors. These latter are selected by the sergeant of police, and there are philanthropic women who voluntarily undertake the work of visiting the homes and inspecting the children and their surroundings. They report to the police. The idea of having lady visitors originated with the belief that the women who had charge of the baby-farms would be more easily dealt with by this arrangement than would be the case were male inspectors to be employed.

THE REPLIES TO THE SERIES OF QUESTIONS.

In regard to the first question, the inspectors for the three police divisions unanimously admit that the administration of the Act in Melbourne has proved satisfactory. Secondly, the figures show that there has been a diminution in the number of registered houses since the Act came into force in 1893, in Divisions Nos. 1 and 2, and an increase in Division No. 3. Thirdly, the death-rate among illegitimate children does not seem to have been perceptibly influenced. Fourthly, the number of inquests upon illegitimate children have naturally increased, since according to the Act every case of death in a registered house has to be reported to the coroner, with a view to a *post-mortem* examination being made, and a public inquiry held. Fifthly, in reply to the question as to the unpopularity or otherwise of the administration of the Act, two of the inspectors affirm that they have had no complaints upon this head, while the third admits that the Act is unpopular, owing to the publicity which it causes the baby-farmer and her work. The replies to the sixth query are to the effect that no official or detailed report of the working of the Act is published. Seventhly, the inspectors report that only a few cases of evasion of the Act have come under the notice of the police, the worst and most revolting being that of Mrs. Knorr, who expiated her crime on the gallows in Melbourne Gaol on January 15th, 1894.

LADY VISITORS VERSUS POLICE CONSTABLES.

The facts under this heading are certainly interesting. In the single division in which lady visitors are not employed, the inspection duty is carried out by plain-clothes constables, and curiously enough the baby-farmers here concerned have stated that they prefer the constables to the lady visitors. Moreover, in all the divisions in which a body has to be removed from the home to the morgue, the duty is discharged by a plain-clothes constable. With regard to the lady visitors, the custom is to have reports from them respecting all applications under the Act as follows: (1) For registration in the first instance, (2) for renewal of registration in December of each year, (3) respecting change of residence of the licensed baby-farmers, and (4) quarterly reports upon all homes of persons licensed under the Act. Thus the supervision of the licensed baby-farmers is left as much as possible to the lady visitors, and it is quite conceivable that this arrangement may prove both judicious and expedient. A great deal of power, of course, is thus placed in the hands of the lady visitors, but it is not at all likely that they ever abuse it. The inference from the above facts is that the police endeavour as much as possible to keep themselves in the background so far as the administration of the Act is concerned.

IS THE MELBOURNE ACT DEFECTIVE?

Some attention may now be directed to this important aspect of the subject. All the inspectors agree in stating that the Act is defective, and that its great blemish is the publicity given to the name of the mother, and they hold to the opinion that the insistence upon this detail is an inducement to crime. Moreover, they affirm that an amendment of the Act in this respect is urgently called for. Reference in this connection is made to a similar Act in France, by which the name of the mother is not required. Mr. Sadleir, the Chief Inspector of Police in Melbourne, states: "After considerable experience I believe that the publicity given in cases where the children are illegitimate in some measure acts as an incentive to the mothers to make away with their offspring instead of encouraging them to take advantage of the Act, as they probably would do were it not that they seem afraid of the exposure to which they are subject under its provisions. I think also that the coroner should be requested not to call mothers as witnesses at inquests, that lady visitors should not be permitted to inspect the roll book [of the licensed houses], and that inquiries be conducted by specially selected discreet members of the force." Clearly no good can come from adding to the parents' shame by giving it publicity.

SOME STARTLING FACTS.

As bearing upon the Act, mention may here be made of some statistics showing the number of infants found dead by the Melbourne police during a period of nine years. Between 1888 and 1896, both years inclusive, 198 infants were found dead, and of these no fewer than 145 were declared by a coroner's jury to have been murdered. It is pointed out, however, as more than probable that these figures do not by any means represent the real number of such cases, and that only a small proportion have come to light. The

[1] The reports of our Commissioner were published in the BRITISH MEDICAL JOURNAL for February and March, 1896.

inference, therefore, is that although since the Act came into operation there has been a statistical diminution in such cases, nevertheless there is reason to believe that a vast increase has taken place in the proportion of cases in which unmistakable evidence of murder is present. Again, the increased proportion of undoubted murders during the past two years is referred to as forming a very grave feature in the figures. A prominent official in the Melbourne police has thus been led to believe that more skilful methods have been adopted of late to destroy life without leaving any marks of violence, and he is of the opinion that, inasmuch as of the thirty-three of the infants found murdered during the past two years, all but one were destroyed, according to the evidence at the inquests, immediately after birth, the mothers could not have been the active agents in these murders, but that perhaps whole families have been implicated.

CONCLUSION.

In view of the fact that the Infant Life Protection Bill, which has passed the House of Lords, will presumably soon come before the House of Commons, it is believed that the above details relating to the working of the Melbourne Act will prove useful for reference.

It only remains for us to accord our thanks to Mr. Chomley, the Chief Commissioner of Police, Melbourne, and especially to Dr. Louis Henry, of Melbourne, for their kindness and trouble in furnishing us with the information and facts dealt with in this report.

ROYAL COLLEGE OF SURGEONS.

MEETING OF COUNCIL.

AN ordinary Council meeting was held at the College on Thursday, July 8th, Sir WILLIAM MAC CORMAC, Bart., President, in the chair.

The minutes of the last meeting were read and confirmed.

Mr. Howse, Mr. Ward Cousins, Mr. Owen, Mr. Godlee, and Mr. Watson Cheyne were introduced to make a declaration in the terms of the oath prescribed by the Charter of 1800, and to take their seats as members of the Council. Mr. Ward Cousins being fifth and Mr. Watson Cheyne fourth on the poll became respectively substitute members of Council for the late Mr. Walter Rivington and the late Mr. Oliver Pemberton.

Votes of congratulation were passed to Sir William Mac Cormac and Sir Thomas Smith on the honour of baronetcy lately conferred upon them.

A sum was voted for the redecoration of portions of the College buildings.

The Council determined to take steps with a view to prosecuting a practitioner for assuming the title of M.R.C.S.

A letter of July 5th from Dr. R. R. Rentoul enclosing for the consideration of the Council a copy of his draft Bill for the registration of midwifery and other nurses was referred to the President and Vice-Presidents for consideration.

The PRESIDENT stated that two vacancies on the Court of Examiners would be filled up at the next ordinary meeting of the Council on July 29th. One of these is occasioned by the retirement of Mr. Davies-Colley, who is, however, a candidate for re-election; the other by that of the President, who is not seeking re-election.

Sir William Mac Cormac, Bart., was unanimously re-elected President; and Mr. Willett and Mr. Howse, Vice-Presidents.

As Hunterian Professors, Mr. Henry Norris, Mr. F. G. Parsons, and Mr. Charles Stewart were appointed. As Arris and Gale Lecturer, Dr. Thomas Grigor Brodie; and as Erasmus Wilson Lecturer, Mr. H. J. Waring.

MEDICAL AID ASSOCIATIONS.

An answer was framed to the memorial signed by 27 Fellows and Members of the College practising in and about Plymouth, Devonport, and Stonehouse, asking whether the Council, on the submission of proper evidence, would be prepared to restrain Fellows and Members of the College, by means of the disciplinary powers provided by the by-laws, from practising as medical officers of medical aid associations under certain conditions specified in the memorial, and asking the advice of the Council in reference to a resolution adopted by the memorialists on the subject of their relations with the medical officers of the "Three Towns Friendly Societies Medical Institution."

The memorialists were informed that the Council were of opinion that the disciplinary powers provided by Section XVI of the by-laws do not entitle them to question the legality of Fellows and Members of the College holding the appointment of medical officer to medical aid associations such as those referred to in the memorial; and the Council could not, therefore, endorse the refusal of any Fellow or Member of the College to meet in consultation (particularly in urgent cases) registered practitioners when acting in uniformity with their legal rights.

MEETING OF FELLOWS.

At the annual meeting of Fellows the PRESIDENT reported the result of the poll of Fellows as to the desirability of giving Members of the College direct representation on the Council. The result, as announced some time ago, was unfavourable to the proposal, 201 voting in favour of it, and 284 against.

Mr. R. B. ANDERSON moved a resolution asking the Council to explain why the civil rights violated in his case did not bring it within Section XV of the College by-laws, which laid it down that it was a duty of the Council to protect every Fellow or Member of the College disturbed in the exercise and enjoyment of the rights, privileges, exemptions, and immunities acquired by him as a Fellow or Member.

Mr. GEORGE JACKSON seconded the motion.

The PRESIDENT said that the Council had considered Mr. Anderson's case fully. Mr. Anderson had failed to prove his case at law, and however much they might individually sympathise with him the Council could not be expected to set themselves above the law.

Mr. F. J. GANT moved an amendment expressing sympathy with Mr. Anderson, but suggesting to the Council that no further action should be taken in the case.

The amendment was seconded by Sir R. M. CRAVEN (Hull), both speakers expressing the opinion that a private subscription should be raised to defray Mr. Anderson's expenses.

After Mr. ANDERSON had replied the amendment was carried by 26 to 4. Many did not vote.

THE SYMPTOMS AND PATHOLOGY OF PLAGUE: CLINICAL STUDIES.

AT a meeting of the Bombay Medical and Physical Society held on May 7th, 1897, various papers were read upon plague —its concomitants and sequelæ.

Surgeon-Captain J. G. HOJEL contributed some valuable information under the heading of Clinical Types of Plague, with Analyses of the Urine. He contended that, step by step, with the increase of mortality from plague, so did that from remittent fever, phthisis, and other respiratory diseases increase. Surgeon-Captain Hojel states "that while the plague mortality is at its highest, that from remittent fever, phthisis, and other respiratory diseases shows a marked decline. In my opinion, these point to one conclusion—namely, that there was no concealment (except to a very small extent) of plague on the part of the community, but that the increase in the diseases mentioned was due to faulty diagnosis." The same speaker also drew attention to the "abdominal type of plague." The observations are in harmony with those recorded by Dr. Lowson during the 1896 epidemic in Hong Kong. He gave a comparative table of diagnosis between plague and enteric, and stated that "we very soon come to the conclusion that there is no one sign or symptom pathognomonic of plague." The results of a complete qualitative analysis of the urine in over 70 cases of plague showed that albumen was present in 72 per cent. of the cases; that the quantity of urine was diminished; that it was sharply acid; and that urea, uric acid, chlorides, phosphates, and solids generally were diminished. "Globulins were present in 16 per cent., peptones in 6 per cent., albumoses in 28 per cent., bile in 32 per cent., sugar in 2 per cent., and indican was marked in 74 per cent."

Surgeon-Captain B. H. F. LEUMANN cited cases showing the likelihood of inoculation of plague by the skin; cases showing "acute plague, causing little more than simple

enlargement of the lymphatic glands, ending fatally by a septic pneumonia;" and instances of "what I have learnt to call the 'hæmorrhagic form of plague septicæmia.'" The same speaker stated that "although I have frequently seen the mesenteric glands enlarged, I have not yet seen a case in which they alone were enlarged," and bears out what Dr. Lowson has maintained that local inoculation through the skin is the most common mode of invasion.

Surgeon-Major W. R. LYONS advocates a clinical division of plague into (1) cerebral, (2) pulmonary, (3) gastro-intestinal.

THE REPORT OF THE RUSSIAN PLAGUE COMMISSION.

At the meeting of the Society on June 21st, 1897, the members of the Russian Plague Commission gave an account of their work and the conclusions at which they had arrived.

Infection.—Experimental research on monkeys showed that "the infection by the skin can develop itself without producing any lesion apparent at the point of inoculation of the virus."

Buboes.—After inoculation with plague bacilli the nearest lymphatic gland was always the one most severely attacked, and "the primary bubo differed from the consecutive hyperplasias of all other lymphatic glands, not only by its thickness, but by surrounding infiltration and its characteristic yellowish grey or deep red colour and yielding softness, and by the conglomeration of several glands forming a cluster."

Plague-pneumonia seems a definite form of expression of the disease. It may be either primary or secondary, and should be classed as a broncho-pneumonia in which there is a tendency towards a confluence of patches of pneumonia one with another. Clinically this pneumonia is frequently unaccompanied by either cough or expectoration.

Intestinal Infection.—"In no instance have we encountered primary infection by the stomach or by the intestines."

Bacilli in the Blood.—An interesting statement is that "never have we observed the bacilli in the blood before twenty-four hours before death." So far as we know this is a new fact of considerable scientific import.

Yersin's Treatment.—The opinion of the Russian Plague Commission upon both Yersin and Haffkine's method of treatment is favourable. "I must say that in several cases I have observed most interesting and striking results from it" (Yersin's serum). "On the whole, the results have not been so encouraging as we had hoped, but they have, however, reduced the mortality by 40 per cent. in treated cases." In monkeys "the immunity conferred by preventive inoculation in both Yersin's and Haffkine's serum does not last beyond ten or fourteen days."

BACTERIOLOGICAL RESEARCH LABORATORY FOR INDIA.

WE have already mentioned that the native princes of India have warmly taken up Mr. Ernest Hart's proposal made at the Indian Medical Congress at Calcutta, and in subsequent open letters addressed to the Indian Government, for the creation of one or more bacteriological institutes for the investigation of Indian diseases. It is announced that the Rana of Dholpore has recently addressed the Government of India on the subject of the princes of India endowing such an institute in commemoration of Her Majesty's long reign. The following passages occur in the reply sent through the Foreign Office:

"Your proposal seems well calculated to attain those ends, and there could be no more fitting commemoration of Her Majesty's long and beneficent reign. Every year there is an appalling mortality from malarial fever and from cholera, typhoid fever, and other zymotic diseases. Snakebite and rabies also add to the annual death-roll. During the present year there has been a visitation of bubonic plague which, in addition to destroying many thousand lives, gravely imperilled the foreign commerce of India, on which the prosperity of the country so largely depends. The best hope of combating these diseases which are the cause of much suffering and loss of life, appears to lie in the development of bacteriological and cognate researches under scientific medical guidance, and carried on with due regard to medical requirements and the interests of humanity. The Government approve of the general outline of the scheme, which is that the property of the institute should be vested in a governing body consisting of six representative ruling chiefs, and three nominees of the Government of India; but there are certain important though subordinate matters which Government must reserve for consideration before they can give their approval to any detailed scheme. For example there is the question of a site. On one hand, it would be appropriate that the institute should be in State territory. On the other hand it is important it should be easily accessible to as large a part of India as possible, Then, again, the scientific work of the institute must necessarily be subordinate to medical science as a whole. It is, therefore, important that the technical work of the institute should be directed under the best medical advice obtainable in India. Probably this could be effected by putting purely technical work under a small committee chosen, subject to the approval of Government, with a view to the scientific attainments of its members. At any rate, the practical work of the institute and the appointment of experts to conduct it must be subject to regulations sanctioned by Government. Finally, the approval of the Government of India to your scheme, excellent and enlightened though it be, must be subject to the condition that sufficient funds can be raised to bring it into effectual operation.

THE HARBEN LECTURES.

THE BEARING OF RECENT BACTERIOLOGICAL INVESTIGATIONS ON PUBLIC HEALTH WORK.

THE third Harben Lecture was given at King's College, under the auspices of the British Institute of Public Health, on Wednesday, July 7th, by Dr. Sims Woodhead. The lecture dealt with the subject of tuberculous infection, and the following is an abstract:

TURERCULOSIS AS BROUGHT ABOUT BY THE CONSUMPTION OF TUBERCULOUS MEAT AND MILK.

It must be remembered that infection from food can account for only a small proportion of the cases of tuberculosis that occur, and that this occurs chiefly among the younger portion of the population. The affection will in most cases have its primary seat in the alimentary tract. Some years ago the lecturer examined 127 cases of tuberculosis in children. Of these, he found that intestinal lesions were present in 43 cases. Some years ago he pointed out that invasion through the tonsils frequently occurred. There have been numerous cases recorded of direct infection of the human subject, both through wounds and through the respiratory tract, but there is still great want of definiteness as to the conditions under which the tubercle bacillus is transmitted from animals to man. In a report to the Royal Commission on Tuberculosis, Dr. Woodhead showed that, taking the meat as it came from the butcher and inoculating or feeding guinea-pigs with the juice or fragments of such meat, a certain percentage became distinctly tuberculous, indicating that tubercle bacilli were in some way or other attached to or embedded in the meat from tuberculous animals. Thus, taking the meat from twelve cows in various stages of tuberculosis and inoculating guinea-pigs subcutaneously, 9 out of 43, or 20.9 per cent., developed tuberculosis.

EFFECT OF COOKING.

Having proved the danger of the spread of tubercle from meat not properly selected, it was desirable to determine how far tuberculous glands in which the germs most frequently are found could be rendered innocuous by the ordinary process of cooking. In the experiments quoted it appeared that after cooking there was still some danger attending the ingestion of cooked tuberculous material. This is all the more important inasmuch as glands are undoubtedly sometimes accidentally left in the joints sent up to table, for in at least two instances Professor Hamilton, of Aberdeen, has found such glands in joints that had been served for consumption. There was also a great danger from tuberculous material remaining in joints not thoroughly cooked, especially in such joints as rolled sirloins, in which the meat was tightly rolled and bound round with string. That there is a substantial danger from such contingencies was amply proved

in a series of experiments quoted. Thus in one case, of 38 guinea-pigs inoculated with the scrapings from an infected joint cooked in the ordinary manner, 55 per cent. became tuberculous. It is evident, then, that if tubrculous material is left adhering to meat that may be made up into rolls, roasting and boiling as ordinarily conducted *secundum artem* cannot be relied upon to destroy its infectivity. A good practical test of the temperature recorded in the centre of a large joint is afforded by the colour; when a temperature of 70° C. has been reached the red colour is lost.

The Danger from Infected Milk.

As far as the lecturer's experiments and observations went, he could fully bear out Bang's recent position, that the milk of tuberculous cattle is dangerous only when the mammary gland is infected. In many cases in which no bacilli can be demonstrated under the microscope, the injection of the milk intraperitoneally or subcutaneously sets up the disease. It must be recognised that in a certain percentage—probably about 2 per cent. in some towns, and in a smaller or larger proportion in others—there is a distinct danger of infection, especially of weakly children.

Method of Sterilising Milk.

On heating milk to a boiling temperature, even for a few seconds, the tubercle bacillus is rendered perfectly innocuous. When heated to 75° C. for 20 minutes, its activity is similarly destroyed; the same holds good if heating is continued for 45 minutes at 70° C.. for 4 hours at 65° C., for 7 hours at 55° C., for 15 hours at 50° C. Any periods less than these mentioned leaves the bacilli capable of setting up tuberculosis.

ARCHÆOLOGICA MEDICA.

XXXIII.—HOSPITALS IN ANCIENT GREECE.

That history repeats itself, and that self-deception is one of the most constant of human inconsistencies, must have been the thoughts that occurred to those who listened to Miss Jane Harrison's admirable lecture on Hospital Life in Ancient Greece, at the South-West London Polytechnic last week. For, although in ancient Greece rational medical and surgical practice was not unknown, yet the greater part of the treatment consisted in that curious mixture of "hypnotism and humbug" not wholly unknown at the present time. Yet in spite of the inconsistencies of the bulk of the practice the ancients were in advance of us in some respects, for "first aid" was taught in the preparatory schools, together with gymnastics and other forms of physical training.

As was usual in those days science and religion were intimately blended. The worship of Æsculapius, affiliated with that of Apollo, was conducted in the temples, which at the same time did duty as the hospitals, while the attendant priests acted as nurses. The temples of Æsculapius were peculiar, for in addition to provision for the shrine of the deity, long corridors did duty as wards, and a highly-prized sacred well embraced the sanitary appliances.

The treatment consisted in a curious ceremony, the ἐγκοίμησις or *incubatio*. At specified times patients would collect at the temple, and its courts and corridors would present the appearance of an out-patient waiting room of a large London hospital. The ceremony consisted in sleeping within the temple precincts, and the essential part of the cure was to dream a dream inspired by the god. Of this ceremony Aristophanes has left us a graphic account in the *Plutus*, in which an Athenian citizen comes home to tell his wife of his experiences of one of these ceremonies after a cure for blindness had resulted. How much fraud was combined with these functions? We must distinguish between fraud and unconscious fraud. Of the former there was probably not more than is to be found at the present day in the faith cures as practised at Lourdes, with all their religious associations and excitement, placing the minds of the patients in fit condition for the most intense auto-suggestion. We can imagine, however, that awkward situations occasionally arose. The habitual non-dreamer and the deep sleeper would have to be arranged for. Miss Harrison quaintly suggests that in "the half dawn of the grey morning," when temperature is lowest and life at its lowest daily ebb, some dream-like pageant could be arranged by the priests, and so the disgrace of not dreaming saved the patients, and the efficacy of the shrine was assured.

In the last report of the British School at Athens is an account of similar observances or remnants of them being continued to the present day in some of the more remote Grecian isles, and Miss Harrison gave a graphic account of an almost identical function at which she was present at the island of Tenos.

It is the eve of the feast, and pilgrims have been arriving all day, and continue to do so far into the night. The whole place is full of them. They present a weird spectacle; many are lame, not a few blind or paralytic and most dirty. The houses are all full, and sleeping accommodation cannot be obtained anywhere. Many make a night of it, and the cafés do a roaring trade. Dancing begins in the streets, and the whole night is one long unrest. Meanwhile the Church plays its part. Service has been held in the afternoon, and vast colonnades have been prepared for the reception of the patients. The more fortunate have secured places in these, and amidst the lurid flare of quickly-prepared fires the night is passed in cooking food and attending to the wants and cries of the children. Round the sacred well the crowd is thickest.

The ceremony commences with a procession of priests, which threads its way between the worshippers, the great object of whom is to be touched or actually walked over by the bearer of the eikon. Next morning printed lists are published by the priests of the cures accomplished during the night. In the church itself may be seen numbers of votive offerings bearing testimonies to cure wrought on previous occasions. These consist of models of the affected limb and other emblems of the disease. Large numbers of these have been excavated from the tombs of ancient Greece, many of them of great value, being made of solid gold.

The lists of cures or "thaumata," published even to-day, are clearly paralleled by the rock inscriptions found at Epidorus, of which the following is a typical example:

M. Julius Apellas, who was suffering from many complaints and from attacks of indigestion, was sent for by the god, but on the journey when I was at Arginia he bade me not be so nervous about myself. And when I was come to the precincts, he bade me go about for two days with my head covered. I was to eat bread and cheese, a salad of celery with lettuce. I was to attend to myself in the bath and to drink lemonade, rub myself against the wall of the bath, take exercise in the loggia, practice on the trapeze, rub myself with sand, and go barefoot, pour wine into the hot water of the bath before I got in, bathe myself alone and give the bath attendant an attic drachma, make offerings to Asklepios and Epione and the Eleusinian goddess in common, and drink honey mixed with milk. And one day when I was drinking milk alone the god said to me, Put honey in your milk that you may be easier of digestion. When I prayed the god to heal me more quickly I felt as if I was rubbed all over my body with salt and mustard and was going from the shrine to the baths, I saw a youth with a smoking censer, and the priest said: "Your cure is accomplished and now you must pay your fee." I stayed on still longer and he bade me use anise and oil for my headache, but just then I had no headache; however it happened that from working too hard I got a rush of blood to the head. I used the oil and my headache went. He ordered me to gargle with cold water for a swelling in the glands. He ordered me also to make up the record of this. Cured and grateful I have departed.

THE BATTLE OF THE CLUBS.

Medical Referee to Friendly Societies.

Medicus asks whether there is any medico-ethical reason against accepting an appointment of medical referee to a combination of friendly societies for the purpose of examining all cases who have been "on the club" over a certain time. He would also like to know what would be a fair remuneration for such work.

*** Speaking generally, there would seem to be no objection to such an appointment; but the holder of such an office would have to be very careful how he criticised the certificates given by the doctors in charge of the cases referred to him. The remuneration for such work ought to be far above the ordinary club rate, but would have to be governed in a measure by local conditions.

Juvenile and Female Foresters' Lodges.

F. G. writes that he is threatened with the loss of a Foresters' court, that pays at the rate of 4s. a year for each member, unless he is willing to accept a juvenile lodge in connection with it, the members of which (women and children) are accepted without examination at the rate of 3s. per member.

*** Our correspondent cannot be advised to accept such a lodge. It would be better to lose the senior lodge than to undertake professional work at such a scale of remuneration. It cannot be too emphatically

laid down that club rates for women and children ought never to be less than those paid for men, and a medical examination previous to admission is quite as necessary in the case of the former as in that of the latter.

LITERARY NOTES.

THE Scientific Press will shortly publish a book by C. F. Marshall, M.D., F.R.C.S., entitled *Elementary Physiology for Nurses*. The work does not profess to treat the subject exhaustively, but simply deals in a clear and concise manner with the points with which every nurse should be acquainted.

Among many other kindly references in the foreign medical press to the Queen's Commemoration Number of the BRITISH MEDICAL JOURNAL we cannot resist the temptation of quoting the following from the *Coimbra Medica* of July 1st. After referring to the manner in which the medical journals of this country had set forth the progress of the healing art during the reign of Queen Victoria our Portuguese contemporary proceeds:—

> One of them, the most important of all, the BRITISH MEDICAL JOURNAL, issued a number in every respect extraordinary—in the richness of its information, in the propriety and authority of the articles, in the selection of subjects, in the abundance and execution of the illustrations—a number which will be kept for reference in all studies. In it are found all the points in the amazing progress that has been made in all departments of medical science. It is a publication entirely in harmony with the history, the services, and the spirit of the powerful Association of which it is the organ.
>
> In contemplating that monument, and knowing the difficulties of giving to the public even a journal so insignificant in size as this of ours, there is borne in upon us a keen sense of our own littleness, against which, however, we say boldly, is to be placed the greatness of our good will.

In a recent number of the *Zeitschrift für Ethnologie*, C. F. Lehmann calls attention to what he considers to be the oldest representation of massage in existence. In the Assyrian Section of the new Museum in Berlin there are a number of objects from the palace of the Assyrian hero-king Sanherib, who reigned in Nineveh some 2,600 years ago (from 705 to 681 B.C.). Among these is a small alabaster relievo representing a fortified camp, in which not only the tents, but the occupations of those inside them, are visible. Among others, there is a group consisting of two men, one of whom is lying on a couch while the other is busy about him. The position of the hands of the attendant shows that he is performing massage on the other, the part operated on being probably the abdomen.

In the July number of the *Caledonian Medical Journal* there is an interesting article by Dr. W. A. Mac Naughton on "The Medical Heroes of the 'Forty-five." In the *List of Persons concerned in the Rebellion of 1745*, published by the Scottish Historical Society, are to be found, it appears, the names of twenty-eight surgeons, two doctors of medicine, and two physicians who were drawn into the movement. Besides these, several members of the medical profession were led by their political enthusiasm to shoulder their muskets, and fight on one side or other as common soldiers. Not a few medical students also joined the rank of the combatants. Among the "rebel" doctors were the ill-fated Archibald Cameron, younger brother of Lochiel, whose betrayal is attributed by Mr. Andrew Lang to Pickle the Spy (whom he identifies with the great Highland Chieftain, Glengarry), and who was the seventy-seventh and last of the Jacobite prisoners executed for having taken part in the rebellion; Dr. George Colvill, a younger son of Lord Colvill of Culross, a man of great organising capacity, which would probably have given him a high position in a Jacobite administration if the rising had been successful; Dr. Erskine Douglas, son of Sir William Douglas of Kellhead, and younger brother of Sir John Douglas, the lineal ancestor of the present Marquis of Queensberry; Dr. John Burton of York, the original of "Dr. Slop" in *Tristram Shandy*, an eminent obstetrician, inventor of a forceps (as to the use of which implement there is a good deal of discourse in the immortal work just named), and an antiquary of renown, whose Jacobite zeal was not cooled even by several months of imprisonment; George Lauder, a leading surgeon in Edinburgh, remarkable for his skill in lithotomy, who took the field with the Prince, and was afterwards imprisoned for many months; and George Hay, a pupil of Lauder, who went campaigning with his master, and was imprisoned till the general amnesty of 1747 set him free, to become a bishop of the Roman Catholic Church in Scotland, in whose annals his name is writ large. On the other side we find Dr. Thomas Dimsdale, who inoculated the Empress Catherine of Russia, and received one of the largest fees on record for doing so; and Dr. James Grainger, author of an epic on the sugar cane, a translation of *Tibullus* which was severely handled by Smollett, himself a doctor as well as an author.

One of the features of the Jenner Centenary Number of the BRITISH MEDICAL JOURNAL (May 23rd, 1896) which excited most interest was the beautiful series of coloured plates of vaccinia and inoculated variola reproduced from an original set of which no history could be traced beyond the fact conveyed in the artist's signature, "G. Kirtland fect., 1802." Of Kirtland nothing could be discovered, except that he exhibited some pictures at the Royal Academy at the close of the last century, and illustrated some veterinary works. The following passage from Bransby Cooper's *Life of Sir Astley Cooper* (London, 1843, vol. ii, p. 109), which we recently had occasion to refer to in the preparation of the Queen's Commemoration Number, gives some further particulars of this forgotten artist:

> The first artist whom he [Astley Cooper] regularly employed was a person of the name of Kirtland. His abilities are sufficiently exhibited in the early productions of his pencil. Many of the engravings in the work on Hernia were executed by him. This person had a table in one of the dissecting rooms over the stables, and used to attend there every day. It was his business to draw the specimens as soon as Mr. Cooper or Mr. Lewis had arranged them for preservation, or sometimes in their original condition as removed from the subject. For some time he was very regular in his attendance, and conducted himself with due propriety; but at length he fell into habits of drinking, so that he could never work at last without some stimulating beverage at his side. From this time he became very irregular in the performance of his duties, and so little dependence could at last be placed upon him that my uncle was obliged to discharge him.

Mr. R. E. P. Squibbs, M.R.C.S., L.R.C.P. (Nottingham) writes:

> May I point out that Dr. Saundby in his recent address on the ground-work of therapeutics misquotes the verse attributed to Dr. John Lettsom. The following is probably the correct version:
>
> When patients sick to me apply,
> I physicks, bleeds, and sweats 'em;
> Then—if they choose to die,
> What's that to me? I lets 'em.

Will some Bentley or Porson of medical literature settle this disputed text? Thus may he earn for himself the title of *vir clarissimus* which classical scholars are so ready to bestow on each other for such exploits.

In some interesting reminiscences by Dr. Ed. Borck, of Saint Louis, now in course of publication in the *Tri-State Medical Journal*, an account is given of the movement for post-graduate instruction in that city. The first efforts of the pioneers were so successful that, according to Dr. Borck, they became somewhat too ambitious in their aims. At last there came a meeting, when the debate waxed so hot that Dr. Borck, on being invited to give his opinion, delivered himself in the following eloquent terms: "Mr. President and Gentlemen,—If I had you all in my stomach I would take an emetic and vomit you into the Mississippi river. Here is my resignation." This recalls the scenes which tradition records of the early days of the London University. Sir Charles Bell relates that when Leonard Horner determined to resign the Wardenship of the institution, "fairly scared and worn out by vexation and injustice," he asked what he should say on the occasion. Bell's reply was: "My dear Leonard, stand up and show yourself, and say, 'Gentlemen, I came to your university comfortable and well filled up. Look at me now—shrivelled and thin; my clothes a world too wide!' That would be true eloquence." Dr. Brock's eloquence, if less classical, was not less effective. When the hubbub caused by his explosion had subsided, he was informed by his colleagues that "they could run the college without him." He wished them God speed, took a trip to Europe to soothe his feelings, and when he returned—the College for Medical Practitioners was no more.

Probably few in this country are aware that the profession in the Balearic Islands enjoys the luxury of a medical journal of its own. It is called *Rivista Balear de Ciencias Medicas*, it appears fortnightly, and it has reached the thirteenth year of its existence. It is published in Palma de Mallorca under the auspices of the Medico-Pharmaceutical College of Palma, and is edited by Dr. Enrique Fajarnés y Tur, assisted by numerous subeditors and collaborators, two or three of whom practise in Barcelona. The current number

(June 30th, 1897) contains the report of a case of polydactyly affecting all the extremities, by Dr. José Ogazón, some notes on practical pharmacy by Dr. José Pons y Bennasar, and a paper by Dr. Rafael Weiss on some curious obstetrical cases, including the birth of a very large fœtus, the occurrence of menstruation in a newborn infant, and three instances of labour with the occipito-posterior position of the head terminating spontaneously. There is also the translation into Spanish of Pavinsky's paper on accelerated respiration; there is a periscope of therapeutics and the review of a book, and the part concludes with some interesting scientific notes.

THE ANNUAL MEETING AT MONTREAL.

IN our notes on the medical institutions of Ontario, published in the BRITISH MEDICAL JOURNAL of June 5th, the account of Kingston was, owing to unavoidable circumstances, very brief. The following fuller notes will be read with interest:

Kingston is beautifully situated on Lake Ontario, near the Port of the St. Lawrence, rendered most attractive by the "Thousand Islands." It is the seat, among other institutions, of Queen's University, the Military College, etc. The former has a flourishing Arts Faculty, a Scientific School, and a Medical School. There is in the City of Kingston a good modern hospital, excellently utilised for teaching as well as charitable purposes.

The Rev. Dr. Grant, the head of the University, is well known as an enthusiastic Canadian and a good public speaker and writer. Kingston had the first medical college for women in Canada, but for some years it has ceased to exist.

Among the other institutions of special interest to medical men is the Rockwood Hospital for the Insane, a large asylum conducted on modern lines. Its Superintendent, Dr. C. K. Clarke, was the first in America to test the influence of thyroid feeding on the insane, and with success. Canada's largest prison is also in this old place, well termed the "Limestone City."

We are indebted to Dr. Fife Fowler of Kingston for the following reminiscences: The history of the medical profession in Kingston might be traced back by enthusiasts in ethnology to the medicine man, who with his roots and charms did much towards alleviating suffering and the prolongation of life. In the early days of the settlement of the country following the medicine men of the Indian tribes, the surgeons attached to the garrison at Point Frederick rendered many a time and oft kind and efficient services, both of a medical and surgical character, and from time to time attracted by various considerations a few remained permanently in Kingston after the removal of their regiments.

While my advent to Kingston is considerably prior to that of my fellow practitioners now residing in the city, my personal knowledge of the profession here dates back only so far as 1854. Prior to that date, in the ever memorable year of the emigrant fever, Drs. Sampson and Stewart, two men whom I afterwards well knew—great and grand, both in bodily and intellectual stature—did noble and self-sacrificing work, not only by close supervision of the hygienic and medical treatment of the poor suffering emigrants, but by personally, when occasion demanded, administering nutriment and stimulants, and cleansing their suffering and dying frames. Dr. Stewart, with a frame of iron and an indomitable will-power, threw himself into this work with unbounded enthusiasm, and the mound under which rest such numbers of the victims of this scourge is a monument not only to the emigrants but also to the devoted men and women who cared for them.

When I first met Dr. Stewart he at once said, "You are the man I want; we are starting the medical department of Queen's College; I want you as one of the professors." I replied, "Will the University appoint me?" "Never mind that; I appoint you." And so it was. At that time there were in the city ten or twelve medical men all engaged in general practice, there being no specialist in surgery, gynæcology, or for the eye, ear, and throat. All the practitioners appeared equally willing to undertake any case whatever. There were undoubtedly some who had, and deservedly so, a higher reputation for special forms of work than others. Dr. John R. Dickson had always a high reputation as a surgeon; for many years he was surgeon to the Penitentiary, and subsequently, as long as his health would permit him, he zealously and successfully acted as superintendent of the Rockwood Hospital for the Insane. Dr. Horatio Yates had been for some years engaged in the practice of his profession before my advent to the city. His geniality of manner and his high professional attainments made him for many years a leader in the profession he loved so well. Dr. Strange, for nearly half a century, has been a most highly esteemed and eminently successful member of the profession, and for some years has been Surgeon to the Provincial Penintentiary. My old and greatly esteemed friend, Senator Sullivan, must of necessity be an important feature in any history of the profession in Canada from his bright intellectual attainments, his ability as a teacher, his great success as a surgeon, and his eloquence as a public speaker.

The medical profession in Kingston, while keenly alive to the advancement of professional knowledge and improved modes both of the treatment and the stamping out of disease, have not avoided participation in public affairs. Many of them have served the public and that right well as aldermen and mayors of the city. But there is a gloomy side to which I must needs allude; many have fallen by the way. Dr. R. N. Fenwick and Dr. H. Saunders, men of high professional attainments, full of zeal and at the height of their success in life, fell victims to septic poisoning while discharging their professional duties, leaving behind them the fragrance of well-spent and successful careers.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING OF COUNCIL FOR 1897.

A MEETING of the Council will be held on October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the meeting—namely, September 30th.

ELECTION OF MEMBERS.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

FRANCIS FOWKE, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

NORTH OF ENGLAND BRANCH.—The annual meeting of this Branch will be held at the College of Medicine, Newcastle-upon-Tyne, on Wednesday, July 21st, at 5 P.M. The officers of the Branch for 1897-98 will be elected, and the President-elect, Dr. McDowall, will deliver the annual address. The dinner after the meeting will take place at the Douglas Hotel, at 6.30 P.M.; 6s. 6d. each, without wine.—G. E. WILLIAMSON, Honorary Secretary, 8, Eldon Square, Newcastle-upon-Tyne.

SOUTH MIDLAND BRANCH.

THE annual meeting of this Branch was held at Cambridge on July 8th, 1897, prior to a combined meeting with the East Anglian and Cambridgeshire and Huntingdonshie Branches.

Report of Committee of Management.—The report of this Committee was read; and on the motion of Dr. JONES, seconded by Mr. HEMMING, was received and adopted.

Honorary Treasurer's Report.—The HONORARY TREASURER presented his annual report, showing a balance in favour of the Branch amounting to £31 12s.

Honorary Secretary's Report.—The HONORARY SECRETARY reported that two members had left the Branch during the past year, and one (Mr. Terry) had died, while nine new members had been elected. Mr. Terry had been a zealous and regular attendant at the meetings of the Branch for a great number of years—from its earliest formation, until de-

clining health compelled him to retire; and he took the liveliest interest in its success. He was one of the original secretaries, and was President of the Branch in 1875. A vote of condolence and sympathy with his family was unanimously accorded, on the motion of Mr. HEMMING, seconded by Mr. CREW.

New Members.—Mr. H. M. Meyrick Jones, of Guilsborough, and Mr. William Alfred Easte, of Hanslope, were elected members of the Association and Branch; and Mr. F. C. W. Hounsell, of Bugbrooke, of the Branch only.

Medical Defence.—A report on the question of the Association taking up medical defence of its members was presented, a majority of 16 being in favour of it, but only about one-third of the members of the Branch recorded their opinion.

Vaccination.—The replies of the members to Dr. Braidwood's questions on vaccination were also laid before the meeting.

Autumnal Meeting.—It was resolved that the autumnal meeting should be held at Northampton on October 7th.

Election of Officers.—Mr. Horace Sworder, of Luton, was appointed President-elect for 1898. Mr. Hemming was re-elected Representative of the Branch to the General Council and on the Parliamentary Bills Committee. Mr. Percival and Mr. Evans were also re-elected to the offices of Honorary Treasurer and Honorary Secretary respectively. The vacancies in the Committee of Management, caused by the retirement of Messrs. Walker, Crew, Kinsey, and Rogers, were filled up as follows: Dr. Jones and Dr. Allison were elected for Northamptonshire, Mr. Chillingworth for Bedfordshire, and Dr. Kennish for Buckinghamshire.

Subscriptions.—The annual subscriptions of £1 1s. each were voted to the Royal Medical Benevolent College and British Medical Benevolent Fund. The SECRETARY reported the names of those candidates for whom he had voted on behalf of the Branch at the recent election at Epsom College, with the result.

Representative to Montreal Meeting.—It being understood that Mr. H. Cropley intended being present, he was officially appointed Representative of the Branch at the said meeting. On the proposal of Mr. DE'ATH, seconded by Dr. GOLDSMITH, the Treasurer was instructed to grant the sum of £10 10s. to Mr. Cropley as the representative of the South Midland Branch at the Canadian meeting towards his expenses. This resolution was carried unanimously.

Vote of Thanks.—A cordial vote of thanks was passed to the retiring President for his zealous and able services during his year of office.

OXFORD AND DISTRICT BRANCH.

THE annual meeting of this Branch was held on July 6th at Banbury, Dr. MOORE (President) in the chair. Thirty members were present, and were entertained by Dr. Pemberton (President-elect) at luncheon.

Installation of New President.—Dr. PEMBERTON was installed as President.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

New Member.—Dr. Stein was elected a member of the Branch.

Report of Council and Treasurer's Report.—The report of the Council was received and adopted. The Treasurer's report was received. It showed a balance in favour of the Branch of £35 18s.

Election of Officers.—Mr. A. Winkfield resigned his appointments as Treasurer and Representative of the Branch, and Mr. W. L. Morgan resigned the office of Secretary. A hearty vote of thanks to these two gentlemen, who had held their offices since the formation of the Branch twelve years ago, was unanimously carried. Mr. W. Lewis Morgan was elected Treasurer and Representative of the Branch on the Council and the Parliamentary Bills Committee. Dr. Collier (St. Mary's Entry, Oxford) was elected Honorary Secretary. Dr. Rice and Mr. Drew (Oxford), Dr. Freeborn (Clifton Hampton), and Dr. Holmes (Steeple Aston) were elected members of the Branch Council.

President's Address.—The PRESIDENT (Dr. Pemberton) delivered a most interesting address on Banbury from its Physical and Medical Aspects, with special reference to the Etiology of Cancer and Consumption.

Votes of Thanks.—A most hearty vote of thanks was given to the President for his address and for his sumptuous hospitality. A most cordial vote of thanks was given to Dr. Moore, the ex-President, for his kindness during his year of office.

Visit to Places of Interest.—Dr. Pemberton then conveyed the members to Wroxton Abbey, where Lord North showed them over the building, and afterwards to Broughton Abbey.

EAST ANGLIAN, SOUTH MIDLAND, AND CAMBRIDGESHIRE AND HUNTINGDONSHIRE BRANCHES.

THESE Branches held a combined meeting at Cambridge, on Thursday and Friday, July 8th and 9th.

CAMBS AND HUNTS BUSINESS MEETING.

Confirmation of Minutes.—The minutes of the last annual meeting were read and confirmed.

Installation of New President.—The President, Dr. Morris, then vacated the chair in favour of the new President, Professor T. Clifford Allbutt.

Election of Officers.—Dr. Joseph Griffiths was re-elected Hon. Secretary; Mr. Stear re-elected Representative on the Council; Mr. Balding re-elected Representative on the Parliamentary Bills Committee; and Professor Bradbury, Mr. Hough, and Mr. Gray re-elected members of the Council of the Branch.

New Members.—The following were duly elected members of the Branch: Dr. M. G. Foster, London; Dr. Dalton, Cambridge; Mr. Cory, Cambridge; Mr. Andrew, Haddenham; and Mr. Graham, Soham.

COMBINED MEETING.

Address by President of Cambs and Hunts Branch.—At the general meeting of the three Branches, the PRESIDENT of the Cambs and Hunts Branch delivered a most interesting address upon the Relation of Theory to Practice.

Discussions.—After the reading of the notes of two cases of Acute Obstruction of the Small Intestine by Gall Stones, by Professor BRADBURY, Dr. E. GARRETT ANDERSON, President of the East Anglian Branch, introduced a discussion upon Conditions Resembling Uræmia, but Independent of Renal Degeneration. The President and others spoke upon the subject.—A more general discussion was that introduced by Dr. LATHAM upon the Treatment of Chlorosis. In this each speaker was reluctant to adopt any other method than that which he had found efficacious in his own hands.—In the last discussion—namely, that introduced by Mr. GIFFORD NASH upon the Diagnosis and Treatment of Movable Kidney—the conditions met with were ably expounded, and the line of treatment was clearly set forth. The discussion was short, in consequence of the lateness of the hour.

Demonstrations.—On Friday, July 9th, the Physicians and Surgeons of Addenbrooke's Hospital had made arrangements for the demonstration of clinical cases, all the clinics being well attended. Afterwards Dr. LANGLEY, in the Physiological Laboratory; Dr. KANTHACK, in the Pathological, and Dr. MARSHALL in the Pharmacological Laboratory in Downing College, gave interesting demonstrations. — Dr. JOSEPH GRIFFITHS exhibited a selection of specimens and drawings in the Museums; and Dr. NEWMAN showed a large series of skiagraphs of ordinary and rare conditions of the bones.

Luncheon.—Luncheon was provided by the President (by the kind permission of the Master and Fellows) in the Hall of the Gonville and Caius College.

Garden Party.—In the afternoon the President of the Cambs and Hunts Branch and Mrs. Allbutt received the members and their ladies at a garden party at St. Radegund's, Chaucer Road.

SOUTHERN BRANCH.

THE annual general meeting of this Branch was held at the Guildhall, Winchester, on June 18th, under the presidency of Dr. WATSON, of Southsea, thirty-six members being present.

Election of Officers.—The result of the poll for the election of officers was declared as follows: *President-elect:* Mr. W. E.

Green, Sandown. *Vice-Presidents:* Dr. Beavan, Alton; Dr. Robertson, Ventnor. *Honorary Secretary and Treasurer:* Mr. H. J. Manning, Laverstock. *Representatives on General Council of the Association:* Mr. H. J. Manning, Mr. J. Groves, Carisbrooke. *Representative on the Parliamentary Bills Committee:* Mr. C. R. Straton, Wilton. *Members of Branch Council:* Dr. Harland, Ryde; Mr. C. R. Straton, Wilton; Mr. J. F. Bullar, Southampton: Mr. C. Knott, Southsea; Mr. J. Green, Southsea; Dr. G. F. England, Winchester.

Communications.—Papers were read by Dr. G. F. ENGLAND, Winchester, and Mr. BULLAR, Southampton.

Financial Statement.—The TREASURER presented his balance sheet, showing a balance in hand of £64 os. 4d. It was resolved that a donation of 5 guineas should be sent to the Royal Medical Benevolent College, Epsom.

Installation of New President.—Dr. WATSON resigned the chair, and was succeeded by Dr. WM. HARMAN, of Winchester, who read an address, for which a hearty vote of thanks was accorded.

Visits and Entertainments.—During the afternoon visits were paid to Winchester College, the Cathedral, and other places of interest. The members were very kindly entertained at luncheon before the meeting, and at an "At home" after the business of the day was concluded, by Dr. HARMAN, President of the Branch.

WEST SOMERSET BRANCH.

THE fifty-fourth annual meeting of this Branch was held at Dunster on July 6th, under the presidency of Mr. F. G. HAYES. Fourteen members and three visitors were present.

Vote of Thanks to the Past President.—Mr. HAYES, having been introduced by the retiring President, on taking the chair proposed in complimentary terms a vote of thanks to his predecessor, Dr. Rutherfoord, which was carried by acclamation.

Absence of the Honorary Secretary.—Mr. RIGDEN apologised to the meeting for the absence of the Honorary Secretary, Dr. Kelly, and offered his services *pro tem.*, which were accepted with thanks.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Report of Council.—The report of Council was read as follows: Since the last annual meeting the Branch has suffered a reduction in the number of its members; for whereas there were 69 on the roll then, there are now only 65, including 2 new members elected to-day. The losses have been 8—6 by removal from the district, 1 by resignation, and 1 by the death of Mr. J. B. Sincock, of Bridgwater. He was for many years a regular attendant at the Branch meetings, and in 1885 was President. During the past year two intermediate meetings have been held as usual. At the autumnal meeting members of the neighbouring Branches were invited to be present to hear an address given by Dr. Wm. Burnet on Perityphlitis in its Medical and Surgical Aspects, and eight visitors came. At the same meeting the subject of objectionable practices connected with medical aid societies was brought forward, and a resolution was proposed for memorialising the General Medical Council to take action with a view to putting a stop to such practices; but after a discussion the resolution was negatived. At the spring meeting the question of whether or not it was thought desirable that the Association should undertake individual and collective medical defence was placed before the Branch for its opinion, and after full discussion the meeting by a majority of one resolved that it was not. A paper on Chronic Inflammation of the Female Pelvic Organs was read by the President, and for which he received the hearty thanks of the meeting. The Treasurer's audited accounts will be laid before the Branch; it will be seen that he has a balance in hand of £8 15s. 9d.

Treasurer's Accounts.—The Treasurer's accounts were presented. The following resolution was put and carried:

That the report of Council and the Treasurer's accounts be received and adopted.

Election of Officers.—The following were elected for the ensuing year:—Mr. W. L. Winterbotham, *Representative of the Branch on the General Council and on the Parliamentary Bills Committee;* Mr. W. L. Winterbotham, Mr. J. G. Bain, and Dr. R. L. Meade-King, *on the Branch Council;* and Dr. W. M. Kelly as *Honorary Secretary and Treasurer.*

President-Elect and Next Annual Meeting.—It was resolved that the next annual meeting should be held at Bridgwater, and that Mr. R. H. F. Routh be President-elect.

Intermediate Meetings.—It was resolved that the Council should arrange for intermediate meetings being held in the autumn and spring.

Medical Aid Associations.—The following resolution was passed after some discussion:

That the representatives of the Branch be requested to bring before the Council of the Association the injurious results which are happening to the profession from the establishment and working of medical aid associations, and from medical men taking appointments in these associations, with a view to the Council considering whether it is in their power to propose or undertake remedial measures.

President's Address.—Mr. HAYES delivered a very interesting and instructive address on Some Cases Bearing on the Question of Prognosis in Pleuritic Effusion.

Vote of Thanks.—A very hearty vote of thanks to the President for his address was carried by acclamation.

Luncheon and Excursions.—An excellent luncheon, provided by the host of the Luttrell Arms, having been disposed of, the party broke up; some went off to the golf links, and others to view the numerous attractions at Dunster Castle. The weather was very propitious, and the meeting proved an extremely pleasant one.

GRIQUALAND WEST BRANCH.

THREE general meetings were held during the year 1896, at which papers were read, cases and specimens shown, and matters of interest to the Branch discussed.

At the general meeting held on March 9th, 1896, the PRESIDENT (Dr. Mathias) read a paper on The Causation and Prophylaxis of Camp Fever, and urged that this fever was truly malarial in its nature, and suggested that to a large extent it was due to a large "pan" lying to the north-west of Kimberley, and advised that this "pan" should be prevented from receiving the drainage of the town, with a view to drying it up.—In the discussion which followed a good deal of difference of opinion was shown as to the true nature and signs of camp fever.—The SECRETARY (Dr. Symonds) read two papers sent by Dr. CAIGER (Jacobdaal) describing (1) A Case of Cyclic Albuminuria; (2) A Case of Hyperpyrexia following measles.

At the general meeting held on June 1st, 1896, Dr. WATKINS and CAIGER described a case of Scirrhus of the Splenic Flexure of the Colon, in which abdominal section was performed for obstruction.—Dr. CAIGER read notes of a case of so-called Deciduoma Malignum.—Dr. WATKINS read a paper on Inebriety, in which he showed the close parallel which existed between inebriety and lunacy, and urged that they should be treated in a similar fashion, through the medium of inebriate homes.

At the general meeting held on September 14th, 1896, the SECRETARY read a letter he had received from the Graham's Town Branch in which the question of another non-metropolitan member for the Colonial Medical Council was raised. After discussion, it was resolved that:

This Branch of the British Medical Association is in favour of the principle of up-country members being represented by a non-metropolitan member on the Medical Council, but thinks it would be impossible to secure such representation unless the Council is prepared to divide its business, as, while dealing with the routine matters at its ordinary monthly meetings, to provide for meetings at longer intervals (say three months) to consider matters affecting the profession as a whole. It would recommend this matter being fully discussed at the ensuing Congress at Graham's Town.

Dr. WATKINS showed a boy on whom he had operated for Cleft Palate.—Dr. BOOTH showed two very interesting pathological specimens: (1) Colloid Carcinoma of the Peritoneum, starting in the sigmoid flexure of the colon, and involving the whole peritoneum; (2) a very large Encephaloid Carcinoma of Liver, in which case no primary growth outside the liver was found.—Dr. GRIFFITH showed a Larynx and Trachea in which the latter was affected with an ulcerating new growth, probably carcinoma.—Dr. FULLER read a paper on Extrauterine Fœtation, which he exemplified by four cases that had occurred in his own practice, three of which had ended in recovery without operation.

BRITISH MEDICAL ASSOCIATION.

SIXTY-FIFTH ANNUAL MEETING.

NOTICE OF EXTRAORDINARY GENERAL MEETING.

In pursuance of a requisition made in writing and signed by 100 members of the Association,

Notice is hereby given that an extraordinary general meeting of the British Medical Association will be held at Exeter Hall, Strand, London, on Tuesday, the 27th day of July, 1897, at 11 o'clock in the forenoon, for the purpose of considering, and if thought expedient of passing, the following special resolutions. Should the resolutions, or any of them, be passed by the required majority, such resolution or resolutions as require confirmation will be submitted for confirmation as a special resolution or special resolutions to a second extraordinary meeting which will be subsequently convened.

No. 1. To be moved by way of special resolution, under the Companies Acts, by Arthur Maude, L.R.C.P.Lond., M.R.C.S.Eng., and seconded by Surgeon-Major Poole or other mover and seconder:

That whereas long delay has taken place in giving effect to and carrying into execution certain resolutions of general meetings of this Association relating to the taking up of medical defence by the Association, and uncertainty is thereby imported whether such resolutions are binding upon the Association and the Council, and it is desirable that such uncertainty be removed, the following amendment of the twenty-fifth Article of Association be adopted as a special resolution; that is to say, that at the end of the twenty-fifth Article the following words be added, namely:

"And it shall be the duty of the Council to give effect to, or carry out as speedily as possible, all resolutions of general meetings unless otherwise duly provided."

No. 2. To be moved by Hugh Woods, B.A., M.D., and seconded by Thomas Stevens Gimson, M.R.C.S.Eng., or other mover or seconder:

That the Council of the British Medical Association be and is now hereby instructed to forthwith take all necessary steps to complete and legalise the special resolution adopted by the extraordinary general meeting held at Birmingham on the 13th day of July, 1896, and confirmed by that held at Carlisle on the 28th day of July, 1896,[1] which resolution amplifies the Memorandum of Association, and provides explicitly for the application of the funds of the Association to the purposes of medical defence; and that until a detailed "scheme" of medical defence shall be agreed to, the Council shall act in any case or matter of medical defence upon the instruction of a general meeting of the Association.

No. 3. To be moved by Dr. Robert Reid Rentoul, and seconded by Mr. Richard Benjamin Anderson, or other mover or seconder:

That this meeting of the members of the Association firmly maintains that under the original memorandum of Association (August 17th, 1874, paragraph 3), one of the fundamental and highest objects of the Association is, as now laid down in the memorandum—"the maintenance of the honour and interests of the medical profession"—wherever such honour or interests have been attacked so as to affect either the medical profession as a whole, or any individual member of it, and to expend part of its funds, if duly agreed to, for such purpose, and that the special resolution of 1896 above mentioned—which only amplifies the original memorandum in this particular—has been adopted to strengthen it and to remove any possible doubt which might exist upon this vital subject, and is not in any respect an abandonment of the fact that the said objects are, and were, already provided for in the original Memorandum of Association.

And we do hereby further require you to convene such further extraordinary general meeting as may be necessary to confirm the said special resolution, should the same be duly passed at the said first-named extraordinary general meeting.

[Here follow one hundred signatures.]

Francis Fowke,
General Secretary.

429, Strand, July 14th, 1897.

[1] See British Medical Journal, August 1st, 1896, pp. 287 and 288.

NOTICE OF ANNUAL GENERAL MEETING.

Notice is hereby given that the Sixty-Fifth Annual General Meeting of the members of the British Medical Association, for the transaction of business, the consideration of Reports of Council and the Committees, will be held at Exeter Hall, London, on Tuesday, the 27th instant, immediately on conclusion of the business of the Extraordinary General Meeting which is called at 11 o'clock in the forenoon, and Wednesday, the 28th instant, at 12 o'clock at noon.

Notice is hereby also given that at the same meeting on the 27th day of July next (after hearing the report of the Council) it is intended to submit for confirmation resolutions of the Council for the expulsion of two members of the Association.

The meeting will be adjourned to August 31st, to be held at Montreal, for the scientific business of the meeting, reading of Addresses, meetings of Sections, etc.

Tuesday, July 27th.

9.30 a.m.—Meeting of Council 1896-97.
11.0 a.m.—First General Meeting, Exeter Hall:
- Report of Council.
- Presentation of the Association Gold Medal of Merit to C. G. Wheelhouse, Esq., F.R.C.S.
- Presentation of the Association Gold Medal of Merit to Sir Walter Foster, M.P., M.D.
- Reports of Committees.
- Notices of Motion.
- Any other business.

Wednesday, July 28th.

9.30 a.m.—Meeting of Council 1897-98.
12.0 (noon).—Adjourned General Meeting. Consider proposal for Annual Meeting, 1898, and appoint President-elect; any business adjourned from General Meeting of previous day.

Notices of Motion.

Dr. Brassey Brierley gives notice that he will move that:

First: The disabilities of medical students and duly qualified medical practitioners owing to the unsatisfactory state of the laws purporting to control the study and practice of medicine, and will propose the following resolution:

That a Committee of the British Medical Association consisting of seven members, two only of whom may be on the central Council, be and is now appointed for the purpose of drafting a Bill for the amendment of the Medical Acts. They shall have power to employ legal assistance. They shall meet once every three weeks at least, and shall confer from time to time with the Parliamentary Bills Committee and the Council of the Association, and also with them finally adopt such Draft Bill and secure influential members of Parliament, including, if possible, all the medical members to back it, and bring it before the House as early as possible next session, and shall make an effort to secure from Government facilities for its discussion. The travelling and other reasonable expenses of the Committee shall be paid by the Association.

Second: Midwives' legislation, and the action of the Parliamentary Bills Committee in laying aside the Obstetric Nurses Bill.

Third: The common practice of medical advertising by lectures on medical subjects to lay people.

Fourth: Direct representation on the General Medical Council and the attitude of the Journal towards the question during the recent contest, and will propose the following resolution:

That in the opinion of this meeting it is advisable that candidates to fill up vacancies should be selected and supported by this Association.

The adjourned annual meeting of the British Medical Association will be held at Montreal on Tuesday, Wednesday, Thursday, and Friday, August 31st, September 1st, 2nd, and 3rd, 1897.

President.—Henry Barnes, M.D., F.R.S.E., Senior Physician to the Cumberland Infirmary, Carlisle.

President-Elect.—T. G. Roddick, M.D., Professor of Surgery in McGill University, Montreal.

President of the Council; Robert Saundby, M.D., F.R.C.P., Physician to the General Hospital, Birmingham.

Treasurer: Charles Parsons, M.D., Dover.

An Address in Medicine will be delivered by W. OSLER, M.D., F.R.C.P., Professor of Medicine in the Johns Hopkins University, Baltimore, U.S.A.

An Address in Surgery will be delivered by WILLIAM MITCHELL BANKS, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

An Address in Public Medicine will be delivered by HERMAN M. BIGGS, M.D., Director of the Bacteriological Laboratory of the Health Department, New York City.

The Scientific Business of the Meeting will be conducted in Eleven Sections, as follows, namely:

A. MEDICINE.

Macdonald Chemical Building.

President: STEPHEN MACKENZIE, M.D., London. *Vice-Presidents:* J. E. GRAHAM, M.D., Toronto; W. BAYARD, M.D., St. John, N.B.; J. P. ROTTOT, M.D., Montreal: F. W. CAMPBELL, M.D., Montreal; JAMES STEWART, M.D., Montreal; H. P. WRIGHT, M.D., Ottawa. *Hon. Secretaries:* H. A. LAFLEUR, M.D., Montreal; W. F. HAMILTON, M.D., Montreal; WILLIAM PASTEUR, M.D., 4, Chandos Street, Cavendish Square, London, W.

The following discussions will take place:

1. The Dietetic Treatment of Diabetes, to be opened by Dr. Robert Saundby (Birmingham).

2. Arthritis Deformans (Rheumatoid Arthritis), more especially its Relation to Rheumatism, Nervous Disease, and Tuberculosis, to be opened by Dr. James Stewart (Montreal).

3. Cholelithiasis; its Causation, Symptomatology, Diagnosis, and Treatment, to be opened by Dr. William Hunter (London), and Dr. Graham (Toronto).

The following, among others, are expected to take part in the discussions in this Section: Dr. Reginald Fitz (Boston), Dr. Jacobi (New York), Dr. Musser (Philadelphia), Dr. Pepper (Philadelphia), Dr. F. C. Shattuck (Boston), Dr. E. L. Trudeau (Saranac Lake, N.Y.), Dr. Jas. Tyson (Philadelphia), Dr. Wyman (Marine Hospital Service, Washington), Dr. R. L. Bowles (London), Mr. Wm. Armstrong (Buxton), Dr. Sydney Coupland (London), Professor Osler (Baltimore), Dr. S. Monckton Copeman (London), Dr. H. Handford (Nottingham), Dr. Myrtle (Harrogate), Dr. Graham (Toronto).

The following papers have been promised:

ARMSTRONG, William, M.R.C.S. The Exciting Cause of Rheumatoid Arthritis.

BOWLES, Dr. R. L. (London). Further Experiences of dangers connected with Respiration and their avoidance, with special reference to Anæsthesia, Hæmoptysis, Drowning, Apoplexy, and all Paralysed and Unconscious Conditions.

FUSSELL, Dr. M. H. (Philadelphia). Two Cases of Hæmophilia.

GRAHAM, Dr. J. E. (Toronto). A Case of Crossed Hemiplegia the Result of Injury to the Pons Varolii.

HAMILTON, Surgeon-Major-General (P.M.O. Plymouth). The Enteric Fever of Armies, contrasting the Disease in Tropical, Subtropical, and Temperate Climates.

OSLER, Dr. Wm. Exophthalmic Goître (*a*) Development of Maniacal Symptoms in, (*b*) Scleroderma with, (*c*) Myxœdema following.

PEPPER, Dr. Wm., and STENGEL, Dr. Alfred (Philadelphia). A Contribution to the Clinical Study of Venesection.

STARR, Dr. M. Allen (New York). A Contribution to the Subject of Brain Tumours and their Surgical Treatment.

STOCKTON, Dr. Chas. G. (Buffalo). A Type of Diarrhœa associated with Gastric Anacidity.

TYSON, Dr. James (Philadelphia). Note on the Proper Use of Terms to denote Myocardial Changes.

WHITTAKER, Dr. James T. (Cincinnati). Generalisations from Seven Years' Use of Tuberculin.

B. SURGERY.

Large Lecture Room, McGill Medical College.

President: CHRISTOPHER HEATH, F.R.C.S., London. *Vice-Presidents:* Hon. Sir WILLIAM HINGSTON, M.D., Montreal; Hon. M. SULLIVAN, M.D., Kingston, Ontario; Hon E. FARRELL, M.D., Halifax, Nova Scotia; I. H. CAMERON, M.D., Toronto; F. LE M. GRASETT, M.D., Toronto; JAMES BELL, M.D., Montreal; GEORGE E. ARMSTRONG, M.D., Montreal. *Hon. Secretaries:* ROBERT C. KIRKPATRICK, M.D., Montreal; THOMAS WALKER, M.D., St. John, N.B.; JORDAN LLOYD, F.R.C.S., Broad Street, Birmingham.

The President will give a short introductory address.

A discussion will take place upon the Surgical Treatment of Appendicitis, which will be opened by Dr. G. E. Armstrong (Montreal). Dr. J. Ward Cousins, Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham), will take part in the discussion.

A discussion will also take place upon the Treatment of Cancer of the Rectum by Kraske's Operation, to be opened by Dr. James Bell.

Among those who, it is anticipated, will take part in the discussions in this Section are: Dr. W. W. Keen (Philadelphia), Dr. Collins Warren (Boston), Dr. John Ashhurst (Philadelphia), Dr. Cheever (Boston), Dr. Dennis (New York), Dr. Murphy (Chicago), Dr. McGraw (Detroit), Dr. J. C. White (Boston), Dr. Chas. T. Bull (New York), Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham).

The following gentlemen have given notice of their intention to read papers in this Section:

BALL, Professor C. B. (Dublin). On Trans-sacral Resection of the Rectum.

COUSINS, J. Ward, M.D., F.R.C.S. (Southsea). Operative Treatment of Organic Stricture of the Urethra.

FERGUSON, Dr. W. W. (Kingston, N.B.). Varicosity of the Lingual and Buccal Veins.

GARROW, Dr. A. E. (Montreal). Ventral and Umbilical Hernia in the same Patient.

LLOYD, Jordan, F.R.C.S. Stone in the Ureter and its Treatment.

MARCY, H. O., M.D. (Boston). On the Suturing of Wounds.

MCGRAW, Theo., M.D. (Detroit). Invagination of the Cæcum and Vermiform Appendix.

NEWMAN, David, M.D. (Glasgow). (1) Cases illustrating some Interesting Points in the Pathology and Surgical Treatment of Renal and Vesical Hæmaturia. (2) Transitory Hydronephrosis and Albuminuria in cases of Movable Kidney treated by Operation.

ROSS, James F. W., M.D. (Toronto). Some Rare Conditions of the Kidney.

ROTH, Bernard, F.R.C.S. (London). Analysis of One Thousand Consecutive Cases of Lateral Curvature of the Spine treated by Posture and Exercise exclusively (without mechanical supports).

SHEPHERD, F. J., M.D. (Montreal). A case of Abdominal Tumour, in which nearly eight feet of the small intestine were resected.

SMITH, Dr. A. Lapthorn (Montreal). Seven cases of Appendicitis with Pus Tubes.

SPANTON, W. D. F.R.C.S. (Hanley). Two cases of Meningocele successfully operated on.

THOMSON, Alexis, M.D., F.R.C.S. (Edinburgh). Stricture of Intestine as Sequel of Strangulated Hernia.

C. PUBLIC MEDICINE.

Large Lecture Room of the Redpath Museum.

President: E. P. LACHAPELLE, M.D., Montreal. *Vice-Presidents:* F. MONTIZAMBERT, M.D., Quebec; ROBERT CRAIK, M.D., Montreal; P. H. BRYCE, M.D., Toronto; Sir JAMES GRANT, Ottawa; R. H. POWELL, M.D., Ottawa. *Honorary Secretaries:* WYATT JOHNSTON, M.D., Montreal; E. PELLETIER, M.D., Montreal; HARVEY LITTLEJOHN, M.B., C.M., Surgeons Hall, Edinburgh.

The business of the Section will be carried out as follows:

The President will give an address on Sanitation in Canada; its Progress Up-to-date.

LACHAPELLE, Dr. E. P. (President of the Board of Health of the Province of Quebec, Montreal). Sanitation in Canada: its Progress up to date.

NEWSHOLME, A., M.D. (M.O.H. Brighton). A Plea for the International Study of Diphtheria, Illustrated by Facts and Figures.

KAYE, J. R. (M.O.H. to the Council of the West Riding of the County of Yorkshire). The Relationship of the Health Officer to the Registration and Certification of Deaths.

Dr. F. Montizambert (Superintendent of the Canadian Quarantine Service, Grosse Ile, Quebec), and Dr. W. Wyman (Superintendent of the Quarantine and Marine Hospital Service, Washington) will open a discussion on the Utility of Quarantines as now Conducted (Inspection, Disinfection, and Isolation Stations) in Certain Countries at Least.

Dr. P. H. Bryce (Secretary of the Provincial Board of Health, Ontario), Dr. H. Handford (M.O.H. to the County of Nottingham), and Dr. C. B. Probst (Secretary, State Board of Health, Ohio), will open a discussion on How Far should Mandatory Measures go in Dealing with (*a*) Measles, (*b*) Whooping Cough, (*c*) Tuberculosis, (*d*) Leprosy.

JOHNSTON, Wyatt, M.D. (Bacteriologist, Board of Health, of the Province of Quebec). Experiments with Disinfectant Gases.

JANIN, G., C.E. (Montreal). On the Different Processes recommended for the Treatment of Sewage; Mechanical, Chemical and Epuration by the Arable Soil.

MOTTER, Dr. D. Murray Galt (Washington). Underground Zoology and Legal Medicine: a Study of Fifty Disinterments, with Additional Experimental Observations.

KINYOUN, Dr. Jos. J. (United States Marine Hospital Service, Washington). Methods of Disinfection.

NEECH, Dr. James T. (M.O.H. for Atherton). The Period of Infection of Scarlet Fever.

COPEMAN, Dr. Monckton (Medical Inspector to the Local Government Board of England). Some Alleged Dangers of Vaccination and their Prevention.

Dr. R. F. Ruttan, Chemist to the Board of Health of the Province of Quebec, will open a discussion on The Respective Value of the Chemical and Bacteriological Methods of Water Analysis.

D. Obstetrics and Gynæcology.

Large Lecture Room, McDonald Physics Building.

President: William Japp Sinclair, M.D., Manchester. *Vice-Presidents:* William Gardner, M.D., Montreal; James Perrigo, M.D., Montreal; J. A. Temple, M.D., Toronto; J. C. Cameron, M.D., Montreal; T. Johnston Alloway, M.D., Montreal; James Ross, M.D., Toronto. *Honorary Secretaries:* D. J. Evans, M.D., Montreal; W. Burnett, M.D., Montreal; Arthur E. Giles, M.D., 58, Harley Street, Cavendish Square, London, W.

The following discussions will, it is proposed, be held in this Section on the days indicated:

September 1st.—The Causation and Treatment of Hyperemesis Gravidarum.

September 2nd.—The Vaginal *versus* the Abdominal Route in dealing with Inflammatory Conditions and Tumours in the Pelvis. To be opened by Mr. Lawson Tait.

September 3rd.—The Palliative and Radical Treatment of Uterine Flexions and Displacements. To be opened by Dr. Barton Cooke Hirst (Philadelphia).

The following papers are promised:

Alloway, T. G., M.D. (Montreal). Title not announced.
Anderson, Professor Winslow, M.D. (San Francisco). Uterine Fibroids, their etiology, pathology, symptoms, diagnosis, and treatment.
Barnes, Robert, M.D. (London). Notes and a drawing to illustrate "Barnes's Boundary Line" in Placenta Prævia.
Campbell, John, M.D., F.R.C.S.Eng. (Belfast). Labour Complicated by Abnormalities of the Cervix Uteri and Vagina.
Eden, T. W., M.D. (London). Title not announced.
Garrigues, H. J., M.D. (New York). The Treatment of Abortion.
Hart, D. Berry. M.D. (Edinburgh). The Pathology and Treatment of Chronic Non-suppurative Conditions of the Uterus and Appendages.
Lucas, T. P., M.R.C.S. (Brisbane, Australia). Menstruation, its Purpose and Design.
Macdonald, A. A., M.D. (Toronto). Title not announced.
Maclean, Ewen J., M.D. (London). The After-history of some Gynæcological Operations.
Madden, T. More, M.D., F.R.C.S.I. (Dublin). 1. On some Points in Modern Treatment of Tedious Labour with description of a new Traction Forces; (2) On the Conservative Treatment of Fallopian Tube Disease.
Mundé, Paul F., M.D. (New York). Pelvic Abscess.
Parsons, J. Inglis, M.D. (London). A New Method of Treatment for Prolapse of the Uterus.
Robson, A. W. Mayo, F.R.C.S. (Leeds), to be read by Dr. Collier (Ripon). Porro's Operation for Tumour of the Pelvis complicating Pregnancy.
Smith, Dr. (Montreal). Diagnosis and Treatment of Retroversion of the Uterus, with Fixation.
Temple, G. Algernon, M.D. (Toronto). Title not announced.

It is expected that Dr. Howard Kelly, of Baltimore, will give a demonstration on Genital Endoscopy.

Among those who are expected to take part in the work of this Section are Professor A. W. Mayo Robson (Leeds), Mr. Lawson Tait (Birmingham), Dr. T. W. Eden (London), Dr. Inglis Parsons (London), W. H. A. Kelly (Baltimore), Dr. P. F. Munde (New York), W. R. Goffe (New York) and Dr. John Campbell (Belfast).

E. Pharmacology and Therapeutics.

Lecture Hall of the Wesleyan College.

President: D. J. Leech, M.D., Manchester. *Vice-Presidents:* A. D. Blackader, M.D., Montreal; James Thorburn, M.D., Toronto; C. R. Church, M.D., Ottawa; J. B. McConnell, M.D., Montreal; F. J. Austin, M.D., Sherbrooke; Walter George Smith, M.D., Dublin. *Honorary Secretaries:* F. X. L. de Martigny, M.D., Montreal; J. R. Spier, M.D., Montreal; C. R. Marshall, M.B., Pharmacological Laboratory, Downing College, Cambridge.

The President will deliver a short Introductory Address.

Discussions on the Treatment of Insomnia, the Treatment of Syphilis, and Diuretics will be held on September 1st, 2nd, and 3rd respectively.

1. The Treatment of Insomnia will be opened by Dr. C. K. Clarke, Physician to the Rockwood Hospital, Kingston, on General Treatment; by Dr. R. W. Wilcox, Professor of Medicine and Therapeutics in the New York Post-Graduate School on the Value of Individual Drugs, with special reference to the newer Hypnotics; by Dr. A. McPhedran on the Ill Effects and Contraindications to the Use of Drugs; and by Dr. R. Ferguson, Lecturer on Therapeutics in the Western University, on the Mode of Action of Hypnotics.

2. The Treatment of Syphilis will be opened by Dr. Whitla (Belfast). The introducer will deal with questions under the following heads: (*a*) How mercury and iodides are supposed to act in syphilis; (*b*) when should mercurial treatment be started, especially should it be given in the primary stage; (*c*) the various methods for its routine administration, dosage, etc., and the length of time necessary for mercurial treatment; (*d*) the treatment of tertiary and congenital syphilis.

(Hypodermic and intravenous medication will be dealt with by a dermatologist.)

The question of Diuretics will be opened from the clinical side by Dr. Barr (Liverpool), and from the experimental by Mr. Marshall (Cambridge).

Among those who have promised to take part in the discussions are: Professor Richet (Paris), Dr. A. R. Cushny (University of Michigan, Ann Arbor), Dr. H. A. Hare (Philadelphia), Dr. A. D. Blackader (Montreal), Dr. H. Barnes (Carlisle), Dr. Saundby (Birmingham), Dr. Donald MacAlister (Cambridge), Dr. Whitla (Belfast), Dr. J. A. Campbell (Carlisle), Dr. Brookhouse (Nottingham), Mr. Jordan Lloyd (Birmingham), Dr. J. Ward Cousins (Southsea), Dr. D. Berry Hart (Edinburgh), Dr. R. C. Stewart (Leicester), Dr. H. A. Mc'Callum (Western University), Dr. J. J. Cassidy (Toronto), Dr. James Watson (Southsea), and others.

Those who have promised papers are:

Hare, W, A. The Importance of Studying the Absorption and Elimination of Drugs.
Blackader, A. D. On Aponcynum Cannabinum.
Cushing, A. R. A Contribution to the Pharmacology of the Mammalian Heart.
Leech, D. J. On Quillaia Bark.
Phillips, C. D. F., and Pembrey, M. S. On the Physiological and Therapeutical Actions of Hydrastis Canadensis.
Halliday, A. (Nova Scotia). The Effect of Certain Drugs on Gastric Secretion.
Fotheringham, J. T. (Toronto). On the Prescribing of Proprietary instead of Pharmacopœial Preparations.
Hutchison, R. On the Pharmacology of the Thyroid Gland.
Marshall, C. R. On the Treatment of the Heart Failure of Arteriosclerosis.
Marshall, C. R., and Taylor, J. J. On the Absorption of Mercury.
Chisholm, M. (Halifax). The Opposite Effects of Drugs in Large and Small Doses.
Bazin, M. On Diphtheria Antitoxin.
Marshall, C. R. Further Experiments on Indian Hemp.

F. Pathology and Bacteriology.

Lecture Room II, McGill Medical College.

President: Watson Cheyne, F.R.C.S., F.R.S., London. *Vice-Presidents:* J. G. Adami, M.D., Montreal; J. Caven, M.D., Toronto; J. Stewart, M.D., Halifax; J. C. Davie, M.D., Victoria, B.C.; L. C. Prevost, M.D., Ottawa; M. T. Brennan, M.D., Montreal. *Honorary Secretaries:* W. T. Connell, M.D., Kingston, Ontario; C. F. Martin, M.D., Montreal; Rubert W. Boyce, M.B., University College, Liverpool; William Hunter, M.D., 54, Harley Street, Cavendish Square, W.

The following will be the subjects for discussion:

1. Serum Diagnosis and the Agglutinating Action of Serums, to be introduced by Professor Wyatt Johnston (Montreal).
2. Immunisation.
3. The Bubonic Plague.

Among those who will take part in the discussions will be Professor Welch (Johns Hopkins), Professor Crookshank (London), Dr. W. Hunter (London), Dr. A. S. Grünbaum (Liverpool), Dr. A. C. Abbott (Philadelphia), Dr. T. M. Cheesman (New York), Dr. R. Fitz (Boston), Dr. E. Hodenpyl (New York), Dr. Trudeau (Saranac), and Dr. F. F. Wesbrook (Minneapolis).

It is urged that British pathologists unable to be present should send to Dr. Rubert Boyce lantern slides and other material for demonstration bearing upon the subjects selected for discussion.

The following papers are promised:

Adami, J. G., M.D., and Staples, E., M.D. (Montreal). On the Appendices Epiploicæ.
Barker, Lewellys F., M.D. (Baltimore). On the Changes in the Nerve Cells in Epidemic Cerebro-spinal Meningitis, with special reference to lesions in the lower motor neurons.
Boyce, R. The occurrence of the B. Tuberculosus in Milk.
Caren, Professor J., M.D. (Toronto). Title of Paper not received.
Connell, W. (Kingston, Ont.) Title of Paper not received.
Copeman, S. Monckton, M.D. (London). On Vaccinia.
Flexner, Simon, M.D. (Johns Hopkins University). Pseudo-tuberculosis Hominis Streptothricia.
Goldman, Professor (Freiburg). On Early Infection of Blood Vessels in Carcinoma and Sarcoma (lantern slides).
Grünbaum, A. S., M.D. The Smegma Bacillus.

HERTER, C. A., M.D. (New York). Experimental Observations on the Relation between Bacterial Activity in the Intestine and the Indican in the Urine.
HODENPYL, Eugene, M.D. (New York). On the Occurrence of Typhoid Fever without Lesions of the Small Intestine.
MANSON, Patrick, M.D. On Filaria Sanguinis Hominis, with the demonstration of a new Species from Central and South America.
STILES, H. J. On the Evolution of Cancer Bodies (lantern slides).
THOMSON, Alexis H. Epithelioma of Penis.
VAN GIESON, Ira, M.D. (New York). On Hæmato-myelopore and its Relations to Syringomyelia.
WASHBOURN, J. W., M.D. Demonstration of Specimens of an Infective Neoplasm from the Dog.
WELCH, Professor (Baltimore). The Distribution and Pathogenic Effects of the B. Aerogenes Capsulatus.
WRIGHT, Hamilton K., M.D. (Montreal). On the Topography of the Posterior Columns.

G. PSYCHOLOGY.

Morris Hall, Presbyterian College.

President: R. M. BUCKE, M.D., London, Ontario. *Vice-Presidents:* D. CLARKE, M.D., Toronto; T. J. BURGESS, M.D., Verdun, Quebec; A. VALLEE, M.D., Quebec; G. WILKINS, M.D., Montreal. *Honorary Secretaries:* J. V. ANGLIN, M.D., Montreal; GEORGE VILLENEUVE, M.D., Montreal; J. G. BLANDFORD, M.R.C.S., D.P.H., London County Asylum, Banstead, Sutton, Surrey.

The officers of this Section, believing that many of the papers already offered will be provocative of considerable debate, have determined to announce no special subjects for discussion. Among those who have offered to contribute papers are:

BUCKE, R. M., M.D. (London, Ontario, Asylum). On Mental Evolution.
CLARK, W., M.D. (Toronto Asylum). The Reflexes in Psychiatry.
HOBBS, —, M.D. (London, Ontario, Asylum). Surgical Gynæcology in Insanity.
RUSSELL, J., M.D. (Hamilton, Ontario, Asylum). Insanity in its Relation to the State.
VILLENEUVE, George, M.D. (Longue Pointe). Crime and Insanity.

Among those who intend to take part in the business of the Section are Dr. N. H. Beemer (Mimico Asylum, Ontario), Dr. G. Alder Blumer (Utica, New York), Dr. C. K. Clark (Rockwood Hospital, Kingston, Ontario), Dr. Edward Cowles (Waverley, Mass.), Dr. T. D. Crothers (Hartford, Conn.), Dr. G. Stanley Hall (Worcester, Mass.), Dr. Hazlitt (Sunbury), Dr. Henry Hurd (Baltimore), Dr. Rogers (Asylum for the Feeble-Minded, Faribault, Minn.), Dr. George H. Rohe (Maryland Hospital for the Insane, Catonsville). Dr. Rothesay Stewart (Leicester) and Dr. A. R. Urquhart (Perth).

H. OPHTHALMOLOGY.

Lecture Room I, McDonald Engineering Building.

President: EDWARD NETTLESHIP, F.R.C.S., London. *Vice-Presidents:* F. BULLER, M.D., Montreal; R. A. REEVE, M.D., Toronto; ED. DESJARDINS, M.D., Montreal; A. A. FOUCHER, M.D., Montreal. *Honorary Secretaries:* W. H. SMITH, M.D., Winnipeg; J. JEHIN-PRUME, M.D., Montreal; THOMAS HERBERT BICKERTON, M.R.C.S., 88, Rodney Street, Liverpool.

It is intended that a discussion should take place on the Prevention of Accidents to the Eyes of Persons engaged in Industrial Employments. The following gentlemen have expressed their intention of contributing papers to the Section:

BICKERTON, T. H. (Liverpool). (1) The Question of Colour Vision in the Public Services; (2) on Mules's Operation.
BULLER, Dr. F. (Montreal). Abnormalities in the Functions of the Extrinsic Ocular Muscles.
FOUCHER, Dr. A. A. (Montreal). Auto-Infection in Pustulous Keratitis.
FULTON, Dr. John F. (St. Paul, Minn., U.S.A.) Amblyopia of Strabismus.
JEHIN-PRUME, Dr. Jules (Montreal). A Contribution to the Treatment of the Syphilitic Affections of the Eye.
LEE, Charles G. (Liverpool). On an Unusual Case of Orbital Tumour.
WÜRDEMANN, Dr. H. V. (Milwaukee, Wis., U.S.A.) Relation of Skiascopy to other Objective and Subjective Methods for the Estimation of the Ocular Refraction (with Exhibition of Hand Skiascope).

Specimens.—Specimens will be shown by Mr. TREACHER COLLINS Mr. PRIESTLEY SMITH, and Dr. C. H. USHER.

I. LARYNGOLOGY AND OTOLOGY.

Lecture Room II, McDonald Engineering Building.

President: GREVILLE MACDONALD, M.D., London. *Vice-Presidents:* W. TOBIN, M.D., Halifax; G. A. S. RYERSON, M.D., Toronto; H. S. BIRKETT, M.D., Montreal; G. R. McDONAGH, M.D., Toronto. *Honorary Secretaries:* A. CHRETIEN, M.D., Montreal; H. D. HAMILTON, M.D., Montreal; W. PERMEWAN, M.D., 7, Rodney Street, Liverpool.

The following papers are announced in this Section:

BRYAN, J. H. (Washington). A Contribution to the Anatomy of the Fronto-Ethmoidal and Frontal Maxillary Regions.
DELAVAN, Dr. D. B. (New York). Surgical Treatment of Malignant Disease of the Larynx.
FARLOW, Dr. Jno. W. (Boston, Mass., U.S.). Presentation of Instruments, with remarks.
HOBBS, Arthur G., M.D. (Atlanta, Ga.). When not to Inflate the Middle Ear.
HORNE, Jobson, M.D., and YEARSLEY, Macleod, F.R.C.S. (1) On Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose, and Ear. (2) On Turbinectomy.
INGALS, E. Fletcher, M.D. (Chicago). On the Relation of Nasal Diseases to Pulmonary Tuberculosis.
JONES, T. W. Carmallt, F.R.C.S.Ed. Some After Effects of Turbinotomy.
KNIGHT, Chas. H., M.D. (New York). Upon a Foreign Body (Metallic Button Hook) removed from the Larynx by Laryngo-Fissure.
MACKENZIE, Dr. John N. (Baltimore, Ind., U.S.). The Physiological and Pathological Relations between the Nose and the Sexual Apparatus.
O'DWYER, J., M.D. (New York). Acute Syphilitic Stenosis of the Larynx in the Adult treated by Intubation.
ROE, John O., M.D. (Rochester, New York). The Correction of Nasal Deformities by Subcutaneous Operations.
SPICER, Scanes, M.D. (London). (1) On Reduction of the Inferior Turbinate Bone in Certain Cases of Nasal Obstruction. (2) On the Significance and Treatment of Recurrent Retention of Secretion in the Lacunæ of the Tonsils. (3) A Case of Multiple Papillomata of Larynx in a Man aged 73.
WÜRDEMANN, Dr. H. V. (Milwaukee, Wis., U.S.A.). Phosphoric Necrosis of Temporal Bone.

Among those who intend to take part in the business of the Section are also Dr. J. Solis-Cohen (Philadelphia), Dr. Birkett (Montreal), Dr. Chretien (Montreal), Dr. G. R. McDonagh (Toronto), Dr. D. B. Delavan (New York), Dr. Charles Warden (Birmingham) and Dr. J. W. Mackenzie (Baltimore).

J. ANATOMY AND PHYSIOLOGY.

Lecture Room I, McGill Medical College.

President: AUGUSTUS D. WALLER, M.D., F.R.S., London. *Vice-Presidents:* F. SHEPHERD, M.D., Montreal; A. B. MACALLUM, M.D., Toronto; T. WESLEY MILLS, M.D., Montreal; A. PRIMROSE, M.D., Toronto; J. B. A. LAMARCHE, M.D., Montreal; D. B. FRASER, M.D., Stratford, Ontario. *Hon. Secretaries:* J. M. ELDER, M.D., Montreal; W. S. MORROW, M.D., Montreal; ROBERT HUTCHISON, M.D., Physiological Laboratory, London Hospital Medical College, Turner Street, Mile End, E.

The following have been selected as subjects for the discussions:

September 1st. Anæsthetics, to be introduced by the President of the Section (Dr. A. Waller). Among those who are expected to take part in this discussion are Dr. Shore (Cambridge), Dr. Kemp, F.R.S. (Baltimore), Professor W. D. Halliburton, F.R.S. (London), Dr. A. B. Macallum (Toronto), Dr. H. A. Hare (Philadelphia), Dr. G. T. Kemp (Baltimore), Dr. G. Gordon Campbell (Montreal), Dr. Kenneth Cameron (Montreal).

September 2nd. The best methods of Teaching Anatomy, to be introduced by Professor Alex. Macalister (Cambridge) and Dr. F. J. Shepherd (Montreal).

September 3rd. The Causation of the Heart Beat and its Modifications, introduced by Dr. Gaskell, F.R.S. (Cambridge) and Professor T. Wesley Mills (Montreal). Dr. Porter (Boston), Dr. Howell (Baltimore), and Dr. Bowditch (Boston) Dr. W. Townsend Porter (Boston), Dr. A. B. Macallum (Toronto), Dr. T. Wesley Mills (Montreal), Dr. G. Carl Huber, (Ann Arbor, Mich.), Dr. A. P. Knight (Kingston), are expected to take part in the discussion.

The following papers have been promised:

HUBER, G. Carl, M.D., Assistant Professor of Histology and Embryology, University of Michigan, Ann Arbor. A brief account of some observations on the Sympathetic Ganglia of Vertebrates.
KEMP, G. T., M.D., Ph.D. (Baltimore). Nitrous Oxide Anæsthesia.
KNIGHT, A. P., M.A., M.D., Professor of Physiology, Queen's University, Kingston, Ontario. Action of certain Chemical Salts on the Heart Beat of Fish Embryos.
LOMBARD, Warren, P., M.D., Professor of Physiology, University of Michigan, Ann Arbor. Anatomy of the Knee-joint of the Frog, with special reference to the action of Flexor and Extensor Muscles.
MACALISTER, Professor Alex. (Cambridge). The Influence of Head Shape on Cranio-cerebral Topography.
MACALLUM, A. B., M.B., P.H.D., Professor of Physiology, Toronto University. Some observations on the Micro-Chemistry of Cells and Tissues.
MELTZER, S. J., M.D. (New York City). On the effect of Anæsthesia upon the Reflexes of Deglutition and of the Closure of the Glottis.
MILLS, T. Wesley, M.D., L.R.C.P., Professor of Physiology McGill University. Title of paper not yet received.
PATON, Dr. Noel (Edinburgh). The Phosphorus Compounds and the Exchange of Phosphorus in the Salmon.
PEMBREY, Dr. M. S. Title not received.

Stewart, Dr. G. N. The relation of Electrolytes to the other Constituents of Animal Cells and Liquids, with especial reference to the Blood Corpuscles and Blood Plasma.
Thompson, Professor W. H. (Belfast). Degenerations resulting from Lesions of the Sensory Area of the Cortex Cerebri.

Dr. Gustav Mann will send for exhibition specimens illustrating the Minute Histology of the Liver in Active and Resting Conditions. Dr. D. A. Welsh (Edinburgh) will exhibit specimens illustrating the Histology of the Parathyroid Glands. Dr. Geo. Oliver will exhibit his new Hæmoglobinometer and Hæmocytometer.

Dr. Shore and Professor Sherrington will take part in the proceedings.

K. Dermatology.

Lecture Room III, McDonald Engineering Building.

Vice-President: Malcolm Morris, F.R.C.S.Ed., London. *Presidents:* J. E. Graham, M.D., Toronto; F. J. Shepherd, M.D., Montreal; J. A. S. Brunelle, Montreal; G. L. Milne, M.D., Victoria, B.C. *Hon. Secretaries:* Gordon Campbell, M.D., Montreal; J. M. Jack, M.D., Montreal; James Galloway, M.D., 54, Harley Street, Cavendish Square, W.

A subject selected for discussion in this Section is the Clinical and Pathological Characteristics of Vesicular Skin Diseases, especially the Dermatitis Herpetiformis Group.

It is intended that a joint meeting should be held with the Section of Pharmacology and Therapeutics for the discussion of the subject of the Treatment of Syphilis (see p. 180).

The following papers are announced:

Fox, T. Colcott. Demonstration of the Biology of the Trichophyte.
Galloway, James (London) On Melanotic Conditions of the Skin preceding Malignant Disease of the Skin.

Among those who are expected to take part in the discussions of this Section are Dr. E. B. Bronson (New York), Dr. L. D. Bulkley (New York), Dr. J. A. Fordyce (New York), Dr. J. N. Hyde (Chicago), Dr. G. T. Jackson (New York), Dr. Stephen Mackenzie (London), Dr. A. Eddowes (London), and Dr. White (Boston).

Programme of Proceedings.

Tuesday, August 31st, 1897.

11 A.M.—Cathedral Service.
2.30 P.M.—Opening Ceremonies. Welcome by His Excellency the Governor-General, Lord Aberdeen, the Mayor of Montreal, and others. Address by the President-elect, Dr. T. G. Roddick.
4 P.M.—Garden Party at the Royal Victoria Hospital (Mr. W. B. Angus, President of Royal Victoria Hospital), etc.
9 P.M.—*Conversazione* at Laval University. Address by Professor Richet, Delegate from the French Government, etc.

Wednesday, September 1st, 1897.

10 A.M.—McGill University: Opening of Sections.
2.30 P.M.—Windsor Hall: Address in Medicine by Dr. W. Osler.
4 P.M.—Excursion down the St. Lawrence; Garden Parties, etc.
9 P.M.—Reception by the Hon. Sir Donald A. Smith, High Commissioner of Canada.

Thursday, September 2nd, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
2.30 P.M.—Windsor Hall: Address in Surgery by Mr. W. Mitchell Banks.
4 P.M.—Excursion across the Island, International Golf Match, etc.
7.45 P.M.—Annual Dinner of the Association.

Friday, September 3rd, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
1 P.M.—Lunch on the Mountain, given by the Mayor.
2.30 P.M.—Windsor Hall: Address in Public Medicine by Dr. Herman Biggs; Concluding Speeches, etc.
4 P.M.—Excursion down the Lachine Rapids; Garden Parties, etc.
9 P.M.—*Conversazione* at McGill University.

Saturday, September 4th, 1897.

Excursions to Lake Memphremagog, Saranac, Ottawa, Quebec, etc.

ANNUAL MUSEUM.

The Pathological Museum.

The Pathological Museum will be established in the Dissecting Room of McGill Medical College, a large, lofty, and well-lighted room. The Secretary of the Pathological Subcommittee of the Museum Committee is Dr. C. F. Martin, McGill Medical College, Montreal, who will be glad to receive the loan of specimens, drawings, and photographs illustrative of both normal and morbid anatomy, as also any new apparatus for research in physiology, pathology, or bacteriology.

Specimens illustrating diseases peculiar to the remoter portions of the Empire are especially desired. It is proposed to make a special collection of photographs and microphotographs of morbid conditions. These will be suitably mounted and carefully returned to the owners.

Suitable vessels and jars, and spirit and other media will be provided for moist specimens.

Foods, Drugs, and Appliances.

Regulations Regarding Exhibits.

1. Communications on general matters connected with the Museum and applications from intending exhibitors should be addressed to the Honorary Secretaries, Drs. J. W. Stirling or J. M. Jack, 2204, St. Catherine Street (British Medical Association Rooms).

2. Applications for space must be in the hands of the Secretaries before July 25th, accompanied with a brief descriptive account of each exhibit for insertion in the Museum Catalogue. Information of the allotment of space will be furnished as promptly as possible, and on receipt of cheque for the cost of such space, a card for the admission of the exhibit will be forwarded.

3. All cheques to be made payable to J. W. Stirling, M.B.

4. All exhibits should be directed to the British Medical Museum, Victoria Skating Rink, Drummond Street, Montreal, Canada, with the name of the Section for which they are intended. Packages must also be addressed to a firm's representative at the Museum.

5. Exhibits must be delivered between August 27th and 28th; they must each bear a card indicating the name and address of the exhibitor; they must be arranged in their allotted space before 2 P.M. on August 28th, and it is desirable that they be not removed till September 6th.

6. Signs or placards must be so arranged as not to interfere with adjacent exhibits: on the central tables no sign or placard must reach higher than 2 feet 6 inches from the table.

7. The Committee will not be responsible for any risks or expenses incurred; they reserve discretionary power to exclude any exhibit they may consider unsuitable; they will only receive exhibits conditionally upon strict compliance with the foregoing regulations, and in all matters of doubt and difficulty their decision shall be final.

8. The Museum Committee or its representatives must be recognised as being in full control of the exhibition building and its management.

Tables occupying the centre of the Hall, and other prominent positions, are to be let by private tender; other tables varying in charges from 4s. to 2s. per square foot. Certain floor space will be let at 1s. per square foot.

SPECIAL CORRESPONDENCE.

PARIS.

The French Law and Criminal Lunatics.—Disinfection of Dwellings with Formol.—Mortality among Colonial Troops.—Hospital Patronage Committee.

M. Cruppi, a distinguished French barrister, in a series of articles on law reforms published in the *Revue des Deux Mondes*, deplores the incredible hiatus in the French code, which leaves the question of the criminal insane undealt with. This class of criminals, he writes, after having committed several crimes, would doubtless after being acquitted be placed in an asylum. But if after a short time he or she appeared calm and reasonable, there is no law extant authorising the detention of such a patient. The legal position is thus a false one, greatly perplexing to juries. Acquitting the prisoner is dangerous to others, whereas a verdict of guilty constitutes an injustice. M. Cruppi expresses a hope that France will follow the example of England given fifty years ago, and formulate a criminal law. The question of legal experts is exhaustively treated. At the present time expert evidence too often leads jurors into error. Yet this form of evidence will become daily more and more important in criminal cases. M. Cruppi advocates the contradictory form of experts' evidence. Two experts are to be appointed, one by the judge, another by the accused. When the experts do not agree a tribunal of superarbiters should be appealed to. Such a tribunal exists in Germany, and M. Cruppi wishes

to see one created in France. He believes that much that is lamentable frequently occurring in trials of medico-criminal cases would thus be obviated; the pseudo-scientific controversies between ignorant and biassed disputants would be done away with.

Dr. Lemaire has carefully studied the question of the disinfection of dwellings. During a considerable time perfect results were supposed to be obtained by corrosive sublimate sprays. By more perfect methods of microscopic investigation it has been demonstrated that in dwellings disinfected in this manner the microbes are not effectually destroyed. By means of M. Trillat's autoclave, which is easily manipulated, formol disinfection is easily accomplished. Experiments with it have been made at Paris, Montpellier, Lyons, Rouen, Lille, Nancy, and Venice, with excellent results, as ascertained by microscopic investigations made by distinguished men. At Lille M. Calmette controlled the results of the formol disinfection of a ward of 480 cubic metres, and declared it to be thoroughly disinfected. This method of disinfection is quite harmless. The most delicate silk hanging and artistic papers, likewise gilding, are left untouched.

The recent report of Dr. Bonafy, *médecin en chef* of the navy, on the mortality of Colonial troops, shows that the death-rate has increased by one-half since 1893. From 13 to 20 per 1,000 is the increase noted in the army statistics of Cochin China during years of normal sickness-rate, neither epidemics nor military expeditions entering into the question. The terrible increase among Colonial troops is attributed to the fact that formerly no men under 22 years of age were sent out, whereas now youths of 18 and 19 are accepted, and, being unable to resist the influence of the climate, "they die off like flies."

On May 4th, 1897, Hospital Patronage Committees were organised by the Municipal Council. A few days ago a general meeting of these Committees was held at the Public Assistance. Rules and regulations were drawn up to the following effect: The Hospital Patronage Committees are to be entirely independent of political or religious differences. The patients and also their families are to be visited and succoured. On leaving the hospital the patients are to be kept in view, and every facility is to be afforded them for returning to their former employers, or seeking for new places if necessary. In order to be a member of the Committee of Patronage the candidate must be presented by two members and accepted by the Executive Commission. The Executive Commission is composed of the Vice-President of the Council of the Public Assistance, of the President of the fifth Commission of the Municipal Council, of three delegates from the Supervising Commission named by the fifth Commission, three delegates from the Supervising Committee of the Public Assistance, three mayors or deputy mayors appointed by their colleagues, three administrators from the Bureaux de Bienfaisance chosen by their colleagues, three members of the Patronage Committees. The Executive Committee is entrusted with the supervision of the working of the Patronage Committees. The lady visitors and the patronesses are requested not to make presents of any kind to the patients. Their mission is to visit the patients and their families, to report on their condition, and personally to give them moral support.

BERLIN.

The New Tuberculin.—State Institute of Actinography.—Professor Koch in East Africa.—Medical Practitioners in the German Empire.—Ambulance Service in Berlin.—General News.

Professor Koch's new tuberculin (the so-called T.R. tuberculin) was the subject of discussion at the last meeting of the Berlin Dermatological Society. Professor Lassar demonstrated five lupus cases treated with the new preparation according to Koch's directions, two of them since April of this year. He said there was no question of "cure" as yet, but that he had the impression that the new tuberculin influenced lupus favourably, without essentially disturbing the general condition. This favourable action was irregular; time alone could prove whether it would be lasting. A great disadvantage of the new tuberculin was its high price; each cubic centimetre cost at present M.8.50 (8s. 6d.), so that the amount used for the five patients came to 17s. a day. In the throat and nose disease clinic of the Charité Hospital the new tuberculin has been tried in no fewer than 19 cases—4 lupus, 12 laryngeal tuberculosis, 2 simple phthisis, and 1 with asthmatic attacks. The total number of injections given was 334, and the quantity of tuberculin used was 125.46 c.cm.—that is, above £50 worth. Staff-Surgeon Dr. Bussenius has published an account of these experiments. He says that only four of the patients were able to go through with the cure to its completion according to Koch's directions—that is, to rise from the initial dose of $\frac{1}{500}$ mg. to the 20-mg. dose. The preparation was not uniform in its action. One supply caused a rise of temperature, accompanied by rigors, up to 40.7°, in one case up to 41.3°, which lasted about twenty hours in most cases. One of these cases was a patient who had completed her course of treatment, and who had borne her last dose of 4 c cm. (of a previous supply) a fortnight before without the slightest reaction; 2 c.cm. were injected to test her immunity; the results were fever and severe general symptoms, besides an extraordinary local reaction in the lupus nidus itself. These and similar experiences lead Dr. Bussenius to conclude that the new tuberculin is not uniform as regards virulence, that its chemical nature is not fully known. It is prepared from highly-virulent living dried tubercle bacilli, of which Koch himself says he had the impression that he was dealing with "explosive substances." Bussenius adds that the effect of the injections was such a "variable quantity" that he was unable to come to any decisive opinion. In no single case was the assumption justified that the T. R. tuberculin treatment gave better results than the therapeutic methods in use up to the present.

The new State Institute for researches with Roentgen rays, or "actinography" (as the new term runs) has been opened under the direction of Professor Grunmach. It is close to the Charité Hospital and its clinical institutions, and has every convenience for the transport of severe cases. Needless to say, the institute is furnished with all the newest appliances; it contains a laboratory, a lecture theatre, photographic rooms, and a room where the patients are examined according to the usual methods before being subjected to the *x* rays. In the first week after the opening of the new institute, two of the rare cases of inversion of the viscera were sent from the Charité, actinography revealing the inverted displacement of the organs, their size and motions, with the greatest distinctness.

Professor Robert Koch has arrived in East Africa, accompanied by several assistants. He intends visiting those places on the coast where fever is most prevalent—Dar-es-Salaam amongst others. Later on he means to return to South-West Africa, with a view to further observation of the rinderpest.

Official statistics have been published of the percentage of doctors in the German empire, as compared with the population. It appears that ten years ago there was one doctor for 2,961 individuals; whereas in 1896 the numbers were one to 2,187 individuals.

The Voluntary Hygiene Committee of Berlin doctors has worked out a plan for the reorganisation of the ambulance service and accident stations in Berlin. Ambulance stations in sufficient number are to be affiliated to hospitals, fire stations, police-stations, markets, railway stations, factories, chemists' shops, etc., etc. Medical and surgical aid is to be given, for fixed charges, by qualified medical men only. Only first aid is to be given, and the patient afterwards (if necessary) transported to his own house or to a hospital. All poli· clinical treatment is to be excluded. Separate ambulance stations are to be established along the river and canals. In case of epidemics an enlargement of the entire organisation would be necessary. Officially-appointed doctors are to exercise a control over the work done. The administration is to consist of a committee, to which a number of Berlin doctors are to belong by election, and which is to comprise representatives of the "Cultus" ministry, of the municipality, the police, the army, the post, the railway, as also of the fire brigade and of the various ambulance organisations at present in existence.

The French Academy of Sciences has elected Professor Virchow a foreign member.

CORRESPONDENCE.

THE CAUSE OF THE FIRST SOUND OF THE HEART.

Sir,—Among the criticisms of Sir Richard Quain's theory you do not mention the following, which should suggest itself to everyone who has an instinct for mechanics:

If the movement of the blood in the heart is "directed against a fixed and definite resistance, as that of the blood pressure in the aorta and pulmonary artery," do the valves and the muscular walls of the ventricle offer no resistance? Surely their resistance is greater than that of the column of blood pressing on the semilunar valves; and if, according to this new theory, the blood and semilunar valves contribute something to the sound, the auriculo-ventricular valves must contribute more.

As the result of a number of experiments relating to this subject,[1] I am satisfied that Hope's theory requires but little modification. If brought up to date it may be expressed as follows: (*a*) The heart muscle gives a sound of single contraction, a kind of thud; (*b*) the whole ventricular wall (including the valves) and the contained blood are thrown into vibration, and the auriculo-ventricular valves, being the most mobile portion, contribute most to the sound; (*c*) the vibration is communicated to all adjacent organs, including the columns of blood in the great arteries, and all these modify the sound.—I am, etc.,

F. J. Allen.

Mason College, July 12th.

THE REMUNERATION OF THE GENERAL PRACTITIONER.

Sir,—I have read with interest and appreciation "A G.P.'s" letter in the British Medical Journal for July 3rd. It is time the medical men combined to adopt some scheme whereby their social and pecuniary position is raised to the same status as that which they have attained in skill and ability. No science has made more rapid progress during the Queen's reign than surgery, and nothing has contributed more to civilisation during that time than the medical man, and yet what advantage has he gained to himself? Almost every class of society has benefited by the progress and prosperity of the last sixty years, and yet the general practitioner's remuneration is often very scanty and generally inadequate for his work. What other body of men—professional or otherwise—would devote time and skill, often night as well as day, to hard work and anxiety without proper remuneration? Certainly none; but if one meets with an individual who makes such sacrifices in any cause he is held up as a philanthropist, but in a medical man it is taken as a matter of course.

My observation has led me to the conclusion that there is a sort of vague notion amongs a certain thriftless class that a doctor is a sort of public servant, like the policeman or nuisance inspector, whose services they are entitled to at their convenience; it is this class who have the least consideration for the doctor's time and comfort, and who never pay him. If payment is suggested to them, they probably send for another practitioner, and so ring the changes on all the doctors in the town, and pay none of them.

Is there any wonder that the general practitioner is held so cheap when this system of bamboozling is allowed to go on year by year without steps being taken to maintain the dignity of the profession? Truly doctors are a long-suffering race. Do we not despise the individual who has no self-respect, and will suffer any indignity from his neighbour without asserting himself?

As long as the general practitioner submits to such treatment, he will remain the social nonentity he now complains that he is, and his life will continue to be one of unremunerative hard work. Undoubtedly he is chiefly to blame himself; but, on the other hand, he has inherited a precedent in the matter of leniency, and it has become established in the minds of the present generation that the doctor is the last man to be paid, and that he is in some way endowed trom Heaven with a frame that knows no weariness of either body or mind, and is, therefore, only too pleased to be at the service of his fellow men at all times and in all places gratis. Would our friends the lawyers give us their advice without a proper fee? Why should a doctor? No one sets a value on what can be got without cost; therefore let the medical men assert themselves, and claim legitimate and fair remuneration and a proper place in society. Let a doctor be as charitable as he likes towards the poor but let him be paid for his work first like everyone else, and not be robbed of his rights because he has perhaps been too lenient and considerate in the past towards his suffering fellow men. The number of those who really cannot pay a doctor is comparatively small; the greater number of non-payers are those who are only too ready to forget his services and won't pay. No man is more deserving of his pay than a doctor, and if at this time the interest of the profession could be roused to take measures for establishing their rights, it would be another move in the right direction among the many set on foot at this jubilee time.—I am, etc.,

S.

July 8th.

LUNACY ACT AMENDMENT BILL.

Sir,—Some of the clauses of the Bill cannot fail to command the approval of all who have any intimate experience of the working of the Lunacy Law in its present form. Section II, Subsection (4), which prohibits the taking of fees in respect of any proceedings before a judicial authority for a reception order; Section IX, which delegates to a county court judge within his district the powers of a judge or master in lunacy in cases of small property; Section XIV, which is directed against overcrowding in registered hospitals; Section XVI, which compels the registration of branch establishments and prohibits the reception of a patient under a reception order in the first instance in a branch establishment, more particularly commend themselves as being provisions calculated to remedy known defects in lunacy administration.

In one or two respects, however, the Bill will, in the view of many whose intimate association with our hospitals and asylums entitle their opinions to respect, work serious mischief. By Section I (1) of the Bill the period during which urgency orders shall remain in force is reduced from seven days to four.

So far as official reports show, no well-authenticated case has occurred of the abuse of the principle of Urgency Orders. To those who have constant practical knowledge of the difficulty of obtaining necessary consents, and of procuring necessary documents, the shortness of the present period is a frequent source of difficulty. If the patient has no friends at hand, or if the relatives entitled to the arrangements for the disposition of the patient are, as commonly happens, resident in Scotland or Ireland, the seven days now permitted are hardly sufficient in a case demanding immediate action; and the operation of the proposed section in such a case would be that a patient in a condition perhaps of danger to himself or others, would of necessity be discharged or committed to the care of the police.

The great flaw in the Bill, however, is involved in the provision of Section xxix. That section provides that if any person wilfully or through negligence make a misstatement of any material fact in any statement accompanying an urgency order, or in any petition, statement of particulars, or reception order, or makes a misstatement in any medical or other certificate, or in any statement or report of bodily or mental condition under the Lunacy Acts, he shall be liable to penalties ranging from a fine not exceeding £50 to imprisonment with or without hard labour for a term not exceeding two years. The section further provides that no prosecution shall be instituted except at the instance of either the Commissioners in Lunacy or the Attorney-General.

In passing, it may be observed that in subparagraph (*b*) of this section the words "of a material fact" are omitted, leaving the word "misstatement" alone; surely this is a mistake of the draftsman. To a lawyer, this section may not appear to present any elements of danger to the honest man, the lawyer understanding that no prosecution would be instituted unless the action of the person in question was corrupt, or unless his negligence was so gross as to be criminal. There is, however, a much more practical aspect of the question which at once occurs to everyone acquainted with the diff-

[1] On the Nature of the Heart Sounds. By F. J. Allen, *Proc. of Cambridge Phil. Soc.*, 1885, Vol. v, Part v.

culty of obtaining signatures of magistrates and medical men in cases of unquestionable insanity. Amongst magistrates, there are already a large number who under no circumstances will perform any of the duties of their office in relation to the insane; and, though especially appointed under the Act, it is by no means uncommon to find magistrates who decline to expose themselves to the remote possibility of action by a litigious patient. Of the rest, particularly during holiday time, a proportion are not to be found, so that even under present conditions it is in some parts of the country and at some times a matter of no slight difficulty to procure necessary magisterial signatures. Amongst general practitioners, again, there are many who will in no case sign a certificate; there are many who will only sign in the evident cases; and only very recently has the knowledge gained ground that a medical man, acting honestly and in good faith, will be protected by the law. Neither magistrates nor medical practitioners will be inclined to act when, should this Bill pass into law, they are acquainted that the possibility of prosecution is superadded to the horror of persecution by a lunatic litigant.

The Bill contains no definition of the quality of negligence which is to be attended by such serious consequences; and in cases of obscurity there can be no doubt as to the result which will attend the enactment of this provision. The effect, which I have indicated above, will, despite the fact that it was not against the magistrate and the general practitioner that the section was designed, unquestionably result; and in pointing out such a probability, I speak in the interests of the insane. For the useful elements in the Bill and for the spirit which has dictated it, the public owe much; and it is only with a view to the bettering of a good Bill that I have taken up my pen.—I am, etc.,

MAURICE CRAIG, M.B., M.R.C.P.

Bethlem Royal Hospital, S.E., June 7th.

THE TREATMENT OF VARICOSE ULCER.

SIR,—The treatment of varicose veins of the lower extremity, whether accompanied or not by ulceration, by ligature, and resection of the internal saphena vein in the groin, has, according to my experience, been highly satisfactory. On April 16th, 1896, I read a paper before the Liverpool Medical Institution, which was published in the *Liverpool Medico-Chirurgical Journal*, No. 31, July, 1896, p. 278, and the conclusions there arrived at were similar to those now mentioned in an article by Santorecchi, of which you give an abstract in the EPITOME, No. 484, in the BRITISH MEDICAL JOURNAL of June 26th, 1897. From a series of cases now numbering over thirty, with severe ulceration in twelve, my results have been all that one can desire. The ulcers heal in a remarkably short time, and although the ulcer in the first case I operated upon (March 10th, 1894) had existed for four years, there has been no recurrence up to date. Some ulcers that had existed for ten or twelve years are also well.

I resorted to this proceding after failure with Trendelenburg's operation (ligature of the saphena, with division in the middle of the thigh), and can confidently recommend the proceeding to those who have not tried it as a great advance on the usual methods in vogue.

In a certain proportion of cases, analysed and illustrated in my article, it is necessary to resect a portion of the external saphena vein, and occasionally, but rarely, a localised bunch of varices needs excision. The proceeding necessary in each case can readily be ascertained before operating.—I am, etc.,

W. THELWALL THOMAS, F.R.C.S.,
Hon. Assistant Surgeon, Royal Infirmary, Liverpool.

July 3rd.

EXTIRPATION OF THE OVARIES AS A CURE FOR CANCER.

SIR,—May I be permitted to express an opinion on the questions raised in the BRITISH MEDICAL JOURNAL as to the frequency of malignant disease of the ovaries? I shall not attempt to differentiate between carcinoma and other forms of malignant disease.

In many instances in which an ovarian tumour is described by the microscopist as malignant, often as sarcomatous, the patient does not after ovariotomy show any clinical evidence of malignancy. Mr. Doran may be said to have established this as a fact so far as solid ovarian tumours are concerned.[1] My personal experience fully corroborates his view, and I believe the same observations hold good as regards many semisolid ovarian growths. On the other hand, there are many cases in which an ovarian tumour is clinically malignant, and gives rise to secondary deposits in other tissues. I am confident that such cases occur much more frequently than is commonly believed by the profession, and, so far as I know, it is impossible to tell definitely, either by the naked-eye appearances or by the appearances under microscopic examination, whether a particular tumour which has been removed will recur or not.

I have published a case in which malignant disease of the head of the pancreas and an apparently simple ovarian cyst developed so nearly at the same time, that it was not possible to say which preceded the other.[2] I have notes of two other cases in which secondary malignant disease was found in the liver associated with ovarian tumours which had not been removed, and I know of many cases in which malignant disease of the peritoneum or liver has followed ovariotomy within a period to be measured by months. There are also cases in which patients die of obscure diseases—obstruction of the bowels, for instance—for which no definite cause is diagnosed, and the explanation of which cannot be cleared up without a *post-mortem* examination. I have no doubt that in some at least of these cases the deaths are due to secondary malignant disease.

As to the question of actual numbers, on October 5th, 1896, I completed a series of 50 consecutive cases in which recovery took place from operation for the removal of ovaries containing new growths. Two of these have already died of malignant disease. In the course of this series I refused operation in two cases, in which I diagnosed irremovable malignant disease of the ovary. I refused operation in one other case, and there were no cases set aside on the score of being incomplete or complicated in any way. This gives 4 malignant cases in 53 cases coming under observation consecutively, or a little over $7\frac{1}{2}$ per cent. There may be other cases in this series of which I have not heard, or in which malignant growths may yet develop.

Statistical papers on ovariotomy are often so constructed as not to bring out the malignant cases well. It is quite common for incomplete cases and complicated cases to be placed in supplementary lists, where they are more or less lost sight of. Statistics of ovariotomy have little value if there is no account given of the cases coming under observation in which the disease might possibly have been ovarian in origin, but in which operation was refused for any reason.

My clinical experience would lead me to support strongly the view expressed by Dr. Beatson that in many cases in which malignant disease follows ovariotomy within a few months or years, there is an intimate association between the ovarian tumour and the malignant development, and I give the fullest adhesion to his view that in at least a large proportion of Sir Spencer Wells's cases of death from malignant disease after ovariotomy, "in all probability the diseased ovaries that had been removed were themselves the seat of malignant changes, and that the subsequent carcinomatous growths were merely secondary manifestations of a primary ovarian malignant condition."

Mr. C. Hamilton Whiteford asserts in the most confident manner that this view is simply a "flight of the imagination." I should much like to know the evidence on which he relies in support of this, and of his other statement that "primary, as distinguished from secondary carcinoma of the ovary is most rare." Clinical facts point to a different conclusion. I should say that secondary new growths of any kind are rare in the ovary.

I would not wish to convey that I agree with Dr. Beatson's theory that malignant disease has an ovarian or testicular origin.—I am, etc.,

London, W., July 12th. JOHN D. MALCOLM.

SIR,—As bearing to some extent upon the subject of the above title introduced by Dr. Beatson, I should like to ask permission to record the results of some experience of the

[1] *Obstetrical Society's Transactions*, 1896.
[2] *Lancet*, 1894, vol. ii.

treatment by ovariotomy of certain tumours occurring in the vaginal tract of the bitch.

It is by no means uncommon in a large canine practice to meet with vaginal tumours which ulcerate and are the cause of an offensive, dirty, sanguineous discharge from the vulva, making the animal unbearable to the owner. Total extirpation, even by the curette, is very difficult, especially when the vagina is small and the tumour situated at its upper extremity; and it is a matter of common experience to find the patient returning in the course of a few weeks with the discharge as offensive as ever and the tumour larger than before. After reading the article by Dr. Beatson I determined to test the value of ovariotomy in these cases, and the idea that it might be of value was strengthened by the observation that during the period of œstrum the tumour appeared to grow more rapidly and the discharge to increase in amount. I have only been able to operate on three cases because of the objection on the part of the owners on account of its rendering their animals useless for stud purposes; but I certainly think that the results justify further trial.

CASE I. July 29th, 1896, was a pug bitch, 18 months old, suffering from an ulcerating papilloma of the vagina. There was an offensive, sanguineous discharge, rendering the animal very obnoxious in the house. Ovariotomy was performed under chloroform and a portion of the tumour removed. The vaginal passage was syringed daily with a solution of Condy's fluid. A month later the discharge was scarcely perceptible, and shortly afterwards ceased altogether. Up to the time of death in May, 1897, there was no return of the symptoms, or any sign of recurrence of the growth.

CASE II, November 16th, 1896, was a bull bitch, 3 years old, suffering from an ulcerating papilloma of the vagina. She had recently been in œstrum, and the discharge was very profuse and objectionable. The tumour was not interfered with, ovariotomy alone being performed under chloroform. There was no perceptible diminution in the size of the growth at the end of a month, and, as the discharge still continued, unfortunately the owner had the animal destroyed without my knowledge.

CASE III, November 24th, 1896, was a Russian poodle, 3 or 4 years old, suffering from an ulcerating papilloma of the vagina. the discharge being profuse and objectionable. Ovariotomy was performed under chloroform, and as much of the tumour removed as possible with a curette. The vagina was syringed daily with zinci sulph. lotion., and the discharge soon ceased. In April, 1897, the vagina was examined, and, as the tumour appeared to be a little larger than immediately after the operation in November, the parts were curetted. I examined her again last week and could detect no signs of recurrence.

Had not ovariotomy been performed, I feel sure from previous experience that both Cases I and III would have needed curetting about every five or six weeks, and that eventually the animals would have had to be destroyed.—I am, etc.,

Royal Veterinary College, N.W., July 10th. FREDK. HOBDAY.

THE DOCTOR'S HOLIDAY.

SIR,—It has been frequently remarked that the doctor's holiday does not rank sufficiently high in the economy of the doctor's year. Holiday making is all very well for patients; it hastens convalescence, recruits the exhausted brain worker, beguiles the impatient into waiting calmly and undrugged for tardy recovery, but for the doctor such things are not. He loves to pose as the hero of fiction, whose days and nights are never free from the calls of humanity—that is at least as querulous and fanciful as it is suffering, and more eager to make the doctor the slave of its caprice than the fresh and competent servant of the race.

There are many causes for this. The doctor has a knowledge of his patients and their disabilities of mind, body, and estate that he feels it impossible to transmit to the best *locum tenens*. His life is never so assuredly prosperous, his patients never so absolutely devoted, that he can feel completely easy in leaving them; and there is the difficulty with the "local demon"—that is undoubtedly a real one—and the question of the expense of holiday making.

Many men must be in the condition of a friend of my own who recently journeyed to town to consult a specialist about alarming symptoms which, in an abstemious cautious man, appeared to be undeserved. Almost the first question he was asked was when had he last had a holiday, and the event showed that the life of struggle familiar to most professional men, unrelieved as it was by holidays, was enough to occasion his trouble. I need not enlarge on this. We all acknowledge the true economy of holiday making for everybody but ourselves.

As to the difficulty with the *locum*, is it not an exaggerated one, caused as often by the practitioner as his substitute? I had very little difficulty in these matters. I was, perhaps, unduly fortunate when conducting a large general practice. My working theory was that, as my Sundays were invariably occupied, I was entitled to take them out in bulk during the summer. Thus I got an extended holiday, and, strange to say, did not ruin my practice! One *locum* was a misfit, unfortunately. He was always to be found, however, and it was happily at the "nearest." Another achieved great success from the fact that he was a most vigorous auscultator. Patients remarked with enthusiasm that "he tewed hard." But, if one gets one's *locum* in good time, tries to secure a gentleman, and seeks rather for tactfulness and kindly feeling than for the raw, rasping, scientific freshness of the schools, neither practice nor patients will suffer much. The senior surgeon to a hospital once condescendingly remarked that an assistant surgeon could possibly be just as much a gentleman as his senior colleague. We should apply this enlightened discovery to the *locum*. The doctor should set the example to his family and patients of treating his substitute with complete respect, confidence, and consideration.

But, really, the doctor's holiday is not cultivated because we do not all of us know how to make holiday. We are a self-conscious folk, and think, speak, and live in frock coats and silk hats. I fancy the public imagine we sleep in similar attire. Fortunately, here in Liverpool, we are not quite so conventional. It is an immense comfort to younger men to find their portly seniors "cavorting around" on bicycles, wearing bowler hats, or worse, and proving that a man can positively smoke cigarettes and be equal to an amputation. In some respects we are nearer New York than London, and are probably demoralised by proximity to American ideals; but nobody seems a penny the worse for economising absurd conventionalities. Until we realise that we can dispense with professional attire, display, and habits, at least on the holiday, we shall never enjoy one.

Having decided that holidays are essential, and that they can be indulged in without resorting to fashionable spas—unless, like my American friends, we follow our patients there (from which heaven defend us!)—the vital question arises, Where to go? Well, anywhere, so long as we are away from "shop," too familiar pursuits, and impure air. Nor need it be outside the British Isles. I have visited most countries held in favour by tourists, but it is impossible, in my opinion, to beat our own for a thoroughly enjoyable holiday. It can be done here as cheaply as abroad, too, if one goes the right way about it.

Take Ireland, for example: a lovely country, which is abominably neglected. One can get a very cheap holiday there; its people are the kindest on the earth, and you need not fear being hamstrung or eaten up either by landlords or tenants. A journey at night, which is extremely like going to bed in a first-class hotel in Liverpool, and waking up in Belfast; a quick run to Enniskillen; a free trip (on Tuesdays) up Lough Erne, on Mr. Porter's steam launch, or, on other days, a fourteen mile car drive through a pretty country (on roads that would please the cyclist) at a cost of six or seven shillings, and we find ourselves at Knockninny Hotel, situated beautifully on the lake. There, for thirty shillings a week, one may be comfortably lodged and liberally boarded by the kindest of hostesses. There one can spend the day on the lake, fishing or rowing amidst bewitching scenery, or wander down lanes whose hedgerows are smothered in honeysuckle and wild fruit. The naturalist can have a delightful time, the geologist crack stones to his heart's content, the sportsman shoot, the amateur mountaineer climb, or he who, like myself, prefers unmitigated loafing in company with a pocket edition of a favourite author, can do so most conscientiously. It would be difficult to imagine a more enjoyable holiday. It is cheap, too; rates are low, travel convenient, and as a change it is perfect.

At home are endless opportunities. I am confining myself to cheap holidays. There are farms in Cumberland, Wales, Warwickshire, Derbyshire, and everywhere, where one may be decently boarded and lodged for £1 a week. Patients often help one with holiday suggestions. It was a patient from Enniskillen who sent me there. North Yorkshire is a fine ground. Clapham and its neighbourhood offers many delights; the valley of the Wharfe is most beautiful, to the east (Pickering and district) are magnificent moors, and between Whitby and Saltburn romantic spots, both

picturesque and bracing. In Wensleydale one can obtain real enjoyment. I well remember a three days' drive from Kendal to Richmond, when we explored all the churches, some most interesting monastic remains in the neighbourhood, and encountered numberless culinary surprises, the commonplaces of unpretentious wayside hostelries, but luxuries to us. Such a holiday could not well be surpassed from any point of view. All these districts offer accommodation—at cottages, farmhouses, in small, tidy, well-conducted hotels—which is cheap, clean, and sufficiently civilised. It is not necessary to carry with us the tedious details of civilised life.

Again, Warwickshire—all through Shakespeare's country—is a fascinating holiday ground, and it is always as cheap as you like to make it. Indeed, if one has a bicycle or is not afraid of walking a few miles, and is not hidebound in his tastes or urgent for fashionable hotels, he will find England the ideal country for a holiday, and its less-crowded haunts worth consideration. Wales is, of course, a notable holiday resort. It is cheap almost everywhere, and almost everywhere charming. The Isle of Man, if one gets into the country villages, whose lanes scarcely know the excursionist, has fine sea air, romantic glens, and streams and bays whose crystal clearness and abounding attractions are difficult to match. In the south, the valley of the Wye, the neighbourhood of Clifton, the Devonshire coast, the New Forest, and a hundred other places have each their particular beauty.

The point to realise is, that if he only understands that it is possible, wherever one lives, to obtain a holiday almost next door, that will be as much a change, as restful or stimulating, as a pilgrimage to the most foreign land, and that it is after all rather a question of management than of expense or means, the doctor will make holidays and add to his days and their happiness. This means, too, that the week ends can be also used to store up impressions and oxygen. Several railway companies not only provide cheap excursions, but issue guides to picturesque localities for a penny, supply the inquirer with a list of addresses where he may obtain accommodation at any cost he is willing to pay. The perusal of the booklets issued by, say, the Midland or North-Eastern Railways, which open up the most exquisite spots of Derbyshire and Yorkshire to the tourist, will be a revelation to the medico who has always thought holidays beyond him. It will offer suggestions, too, that patients will value. One need not dwell here on easy foreign excursions, or indicate how, for a five-pound note, the country practitioner can spend a week in running through Brittany or Holland, in exploring Paris or Brussels and Antwerp, and other lively towns that will freshen his ideas and brush off cobwebs. It is enough to have hinted at the necessity for the holiday, and the possibility of enjoying one without making calls on one's resources to which the practice of modern medicine would not be equal.—I am, etc.,

Liverpool. G. A. Hawkins-Ambler, F.R.C.S.

MEDICAL DEFENCE.

Sir,—It seems an opportune time to say a few words about the present position of medical defence. Members will remember that at the annual meeting in London the Council were requested to take the question into consideration. The Council, having done this, summoned an extraordinary meeting at Birmingham to make certain alterations in the Articles of Association, to allow the Association to carry out the wish of their members. These alterations having been passed were confirmed at the annual meeting held in Carlisle. At that meeting it was resolved that a special committee should be appointed to consider in detail schemes which could be efficiently brought into operation. This work the committee carried out, and the Council forwarded to the various Branches copies of the scheme proposed by that committee, and also copies of schemes originally proposed by (1) the Council, and (2) by the Treasurer (Mr. H. T. Butlin).

I have called attention to these matters because it appears there is some misunderstanding existing in the minds of the members. It cannot be denied that the members present at the London meeting by an overwhelming majority did carry a resolution affirming the necessity of taking up medical defence; that they approved at Birmingham of certain alterations in the Articles of Association; that they confirmed those alterations at Carlisle; and finally that they requested the Council to appoint a committee to draw up a scheme and forward copies of it to the various Branches for their consideration.

I have no hesitation, therefore, in saying that the principle of medical defence has been adopted—and adopted at two of the largest annual meetings ever held—and that all that remains to be done is to decide at the next annual meeting which scheme shall be adopted by the Association. I may add that it does appear strange that the Council has not up to the present time taken any steps to have the necessary alterations sanctioned by the legal authorities; and it is to be hoped that some satisfactory explanation of this omission will be forthcoming.

In conclusion, I would strongly urge all those members who are favourably disposed towards the defence scheme to attend the annual meeting. In my humble opinion, nothing is so well calculated to promote the unity of the profession, and at the same time increase very materially the power and usefulness of the Association.—I am etc.,

July 6th. T. Garrett Horder.

THE MIDWIVES BILL OPPOSITION.—A BRANCH SECRETARY'S "GRANT."

Sir,—In the British Medical Journal of June 26th, p. 1693, I called attention to a most extraordinary blunder made by the Secretary of the Lancashire and Cheshire Branch, which occurred in the Branch balance-sheet, in which he states that a "grant" of £50 had been made to me by my Branch. I took grave objection to this statement, not because I am opposed to accepting a grant, but because no grant of any kind has ever been made to me. In your issue of July 3rd, p. 51, the Branch Secretary kindly corrects his extraordinary blunder by quoting from the minutes of the Branch, where it states as follows, "that the Branch contribute £50 to the fund which is being raised to repay Dr. R. R. Rentoul his expenses incurred in defeating the first and second Midwives Registration Bills." Several other Branches, and a few Medical Societies, also contributed to this repayment fund, but I trust they will not contend that this was making a contribution, which would go into my private purse. In 1896 a motion was before the Council of the Association proposing that a grant of £200 should be made to me out of the funds of the Association, but unfortunately this was not carried. This would have been a genuine "grant."

I am more compelled to drive home the absurdity of the above-named "grant," for the following reasons:

I have time after time stated, "not one penny of the money subscribed to defray the cost of opposing the Midwives Bills has ever gone into my pocket." I reiterate this statement, and the person who denies it is a wilful falsifier of fact. Next, at the last meeting of my Branch a member said to me that "agitation must pay you well, as I see we have given you a grant of £50." This is untrue.

Again, just now a circular letter has been sent by me to about 1,500 practitioners in which the following words occur: "Not one penny of which go, or have gone into my pocket." This statement is true. If it be false, let those who hint that it is so produce proof. Again, it so happens that my printer is the person who prints for the Lancashire and Cheshire Branch. I am always reminding him to quote as low a figure as possible for printing, as the cost comes out of my pocket. Yet, he prints that I received a "grant" of £50 from my Branch. How can he understand these two statements?

I wish to be quite fair and straight with practitioners on this question. Some time ago a practitioner in reply to a letter of mine in which I was asking for funds to carry on the opposition to the Midwives Bills said, "he thought, as the profession had put me on the General Medical Council, and thereby practically granted me £1,500 for five years work, I should use this money." Well, in the first place, I am nominally paid in all about £6 per annum for attending the May and November Sessions of the General Medical Council. I say nominally, because I have been put upon the Midwives Bill Committee and the Medical Aids Committee of the

General Medical Council. This will entail my going to London on at least two occasions. But, be it noted, no payment is made to any members for attending such Committee. Therefore the "payment" made for attending a session of the General Medical Council is practically paid back by me in attending these Committees. Add to this that one loses three days practice in so attending, and it will be seen that the remark of the above practitioners is far removed from the truth, a point he will find out by referring to the minutes of the May session of the General Medical Council, 1897.

Now, sir, I wish to drive home these facts, and to show that if practitioners wish for any reform to be done, they must see that those who do it are, at least, not out of pocket. All badly-paid public work is badly-done work. Let each member of the General Medical Council be paid £500 per annum and then better work will be done. Let each practitioner agree to pay an annual tax of £1 to the funds of the General Medical Council (not £6, as solicitors pay), and we shall have about £30,000 per annum. Practitioners are so steeped in the rant and cant of "medical charity" that not a few apply it all round. This is not business, and without business rules we are doomed to failure. Even in the Government Cabinet, who help to manage the business affairs of our country, each person therein receives from £20,000 downward per annum, and a similar amount of pension. This is only what it should be. This is not even a "grant" for work done, but a plain, business-like payment.

I must take strong objection, finally, to the remark of my Branch secretary, that I "am quibbling over a money question." I have no intention of quibbling, and I fancy those who know me, even my falsest friends, cannot honestly apply such an epithet to me of all persons.—I am, etc.,

ROBERT R. RENTOUL.

Liverpool, July 10th.

THE WAR OFFICE AND THE MEDICAL PROFESSION.

SIR,—The letters of "Miles Medicus" and "Olim Miles Medicus" are quite to the point, and if the advice contained in these letters is followed out by the professors of the various medical schools, I believe that the authorities at the War Office will be obliged to yield to the complaints of the medical officers of the army.

I am at a loss to understand why there should be any objection to granting the formation of a corps of "Royal Surgeons," with full military titles, and thus attract the *élite* of the profession to offer themselves as candidates for the service.

I hope you will urge the importance of the suggestion to cut off the supply at the fountain head, until the conditions of the service have been rendered more honourable to the profession.—I am, etc.,

PERSEVERE.

July 6th.

TREATMENT OF PYROGALLIC ACID POISONING.

SIR,—You have recorded in the "Memoranda" of July 10th an interesting case of poisoning by pyrogallic acid, authenticated by Dr. F. Bradshaw Reilly. As regards this particular case I have nothing to remark, as the large quantity taken and the time elapsed before identifying the poison taken, together remove this case from the range of my suggestions. For some years past I have laboured to show that oxidisation in the treatment of all organic poisons stands co-ordinated with emesis in value, that is, that permanganate of potash, chlorine water, the old euchlorine mixture of Watson's *Practice of Physic*, or even chlorinated lime, stand as co-ordinates of stomach pump and emetics.

I have elsewhere published a long list of organic poisons of which the antidote should be an oxidiser, such as permanganate of potash; not only have I given *primâ facie* evidence of such antidotal value, but I have given the exact quantities required.

Pyrogallic acid, hydroxylamine, morphine, apomorphine, veratria, brucia, antipyrin, etc., are all oxidisable substances included in my list, and published with exact data.

In the forty articles on this subject,[1] such exact quantities will be found by those interested in the subject. In these articles I have raised the question whether irrigation of the alimentary canal should not be attempted in cases of poisoning by organic oxidisables.

As regards atropine, cocaine, hyoscyamine, and crystallised aconitine, there is no *primâ facie* evidence that permanganate of potash is of any value.—I am, etc.,

J. BARKER SMITH, L.R.C.P.Ed.

Herne Hill, S.E., July 12th.

[1] *Medical Times and Hospital Gazette*, 1894-1896. Also in pamphlet, *Quantitative Analysis of Urine*, published by Baillière, Tindall and Cox, 1897.

THE INTERNATIONAL MEDICAL CONGRESS.

SIR,—May I call attention to certain matters connected with the approaching International Congress at Moscow?

First, as to the need for clear instructions as to how to send money to Russia. Postal orders payable in Russia are not issued in England. English banks will not supply drafts on Russian banks for less than £10. Bank notes are not allowed to be sent through the post in Russia. Money can be sent by English cheque crossed "Credit Lyonnais," but then the exact amount seems hard to ascertain. One friend of mine sent a cheque for £1, which he thought was the equivalent of 25 francs, 20 marks, or 10 roubles, but he only got a receipt for 8 roubles 50.

Secondly, the Moscow managers of the Congress seem what we in England should call dilatory. Another friend of mine sent his subscription a month ago, but has had neither receipt nor card of membership. No one in England, I believe, has yet had a card of membership. The trouble that has to be taken before starting over passports and railway tickets will make it very inconvenient if the issue of the cards of membership is put off till the last moment.

Perhaps the ventilation of these matters may lead to a closer study of the convenience of intending members.—I am, etc.,

F.R.C.P.

July 13th.

AN EXAMINATION PAPER ON PHYSIOLOGY.

SIR,—As some discussion has been going on recently over the question of fairness of examination questions, I take the liberty of enclosing a physiology paper for school teachers set recently, and expected to be answered in three hours. You may perhaps think it worth insertion.—I am, etc.,

E. WAYMOUTH REID,
Professor of Physiology in Dundee College.

June 7th.

UNIVERSITY OF ST. ANDREWS.

L.L.A. EXAMINATION, 1897.

Physiology (Honours). [Time, 3 hours.]

1. Contrast the fœtal and adult circulation. Indicate the structure and uses of the placenta. In what way is the blood of the fœtus aërated and the fœtus itself nourished?

2. State what structures go to form the skin; enumerate the different kinds of nerve endings found therein. Point out where the skin is most and least sensitive, and how the different degrees of sensibility may be accurately ascertained.

3. What happens when the cerebral lobes of a pigeon are gradually sliced away in a direction from above downwards? What light does such an experiment throw on the intellectual processes in man? (Describe in this connection the experiments of Fritz, Hitzig, and Ferrier on the cerebral convolutions.)

4. Explain where phrenology fails as a science. Distinguish between phrenology and physiognomy as indices of character. Show how will acts upon the soft tissues of the body, and how mind impresses itself on the features of the face.

5. From what is the heart originally formed? Describe its appearance and history in the chick. Does the formation of the heart precede the formation of the blood, or the contrary, or are the heart and blood produced simultaneously? Does the heart set the blood in motion, or is the heart set in motion by the blood? What causes the rhythmic movements of the heart?

6. Name the structures concerned in the production and maintenance of healthy blood. What is meant by leukæmia, and how is it produced? To the degeneration of what gland is it usually attributed?

7. State what you know regarding the several kinds of microbes and micro-organisms, their mode of formation and cultivation, their use in health, and the diseases to which they may give rise. Explain by what methods such of them as are inimical to life may be destroyed.

8. State what relation the white corpuscles of the blood hold to microbes in the healthy individual. Give a history of the white blood corpuscles, their numbers as compared with the red blood corpuscles, their size, shape, movements, etc.

9. Explain the physiological action of vaccine and other lymphs in wholly preventing, or in greatly modifying and rendering less fatal, certain specific diseases, such as small-pox, hydrophobia, etc.

10. When workmen suddenly fall down insensible when engaged in cleaning out brewers' vats, old wells, and unused obstructed sewers, what has happened?

11. What is meant by the "after-damp" in pits? State the nature of after-damp, and explain how it explodes when a naked light comes in contact with it.

12. Give the microscopic appearances presented by the nerve cells found in the cortex of the cerebral lobes and cerebellum of man.

*** We have consulted a distinguished Professor of Physiology in England, who writes: The paper appears to me to be eminently ridiculous. Some of the questions, like No. 4 and part of No. 5, are simply foolish; others involve a knowledge of pathology, bacteriology, hygiene, and medicine, as well as of physiology and histology. To answer the questions at all adequately, I should recommend three years as the minimum time instead of three hours.

GUARDIANS AND MEDICAL FEES.

SIR,—As a district medical officer of many years' standing I cannot help expressing both surprise and indignation at the action of the guardians of the Romford Union[1] in refusing to pay an extra medical fee on the ground that the order was lost. It would have been simple enough for the relieving officer to have granted a duplicate order. Why was this not done?

It is more than a mere question of technicality—it is a question of dishonesty or honesty. Suppose it had been a load of flour or a leg of mutton, the order for which had been lost, would a similar excuse have been made? Certainly not. But the case is worse than that, for the medical officer is their own servant, and no doubt will have made due entries of his attendances in his district medical book.

I hope the matter will not be allowed to rest here, but that a question will be asked in the House of Commons about such a proceeding.—I am, etc.,

Leigh, Lancashire, July 10th. B. JONES, M.D.

OBITUARY.

DR. MICHAEL MURPHY, who died at his residence, Camden Quay, Cork, on July 4th, appeared to be in his usual health up to the time of his decease, and was out walking the previous evening. After a highly-successful college career, he took the degree of M.D. in the Royal University of Ireland in 1886, and was soon after appointed Resident Medical Officer to the Cork Workhouse. In 1892 he was appointed Physician of the Mercy Hospital. He held also the position of Consulting Medical Officer to the Cork Union, and up to a short time before his death was Treasurer of the Cork Medical and Surgical Association. Death was due to latent heart disease.

THE death of Mr. HENRY WINTERBOTTOM took place on July 2nd at Birkdale, Southport, in his 74th year. He was a son of Captain J. Winterbottom, R.N., and was born near Ashton-under-Lyne in 1823. He was educated at the Wakefield Grammar School, Guy's and St. Thomas's Hospitals, and partly at the Royal School of Medicine, Manchester, and became M.R.C.S. in 1845 and L.S.A. in 1846. After studying a short time at the Hôtel-Dieu, Paris, he was appointed Surgeon to St. Mary's Hospital, Manchester, and subsequently became Lecturer on the Diseases of Women and Children there. He held this office for some years when the demands of a large general practice compelled his retirement, and was appointed to the Consulting Staff. He continued to practise in Bury New Road, Manchester, until about sixteen years ago, when he developed symptoms of angina pectoris, and at once relinquished practice. In the early part of his career he contributed various papers to the medical journals. He was Surgeon to the Manchester Post Office. His death occurred after a week's illness from pulmonary embolism.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently passed away are Dr. Johan Gerlach, of Reichenberg, Surgeon to the Stephanie Hospital of that city, and an ophthalmologist of great reputation throughout Northern Bohemia, aged 72; Dr. P. C. Plugge, Professor of Pharmacology and Toxicology in the University of Groningen; Professor Johann Ritter von Leich, formerly Dean of the Medical Faculty of the University of Vienna, and Dean of the Doctoren-Collegium of that city, aged 84; and Professor Letamendi, of Madrid.

[1] BRITISH MEDICAL JOURNAL, July 3rd, p. 39

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.

LUNACY BILL.

THE LORD CHANCELLOR moved the second reading of this Bill, calling attention to the clause dealing with pensions, which, in the case of certain officers in the asylums, was deserving of attention.—The Earl of KIMBERLEY emphasised the claims of those officers who were brought into contact with the patients. He had received representations from Norfolk, in which he resided, and from other counties making suggestions as to the age of retirement and pensions, which he thought deserved careful consideration.—The Bill was read a second time.

HOUSE OF COMMONS.

THE LONDON WATER QUESTION.

MR. CAUSTON asked the President of the Local Government Board whether his attention had been drawn to the fact that the Southwark and Vauxhall Water Company was only giving an intermittent supply of water to many of the large blocks of workmen's dwellings in certain parts of West Southwark; and whether he proposed to take any, and if so what, measures to compel the company at once to comply with the law, and give a constant supply?—Mr. CHAPLIN: The Local Government Board have received no complaints of the water supply being intermittent in the cases referred to, and I have, therefore, no compulsory powers even if the facts were as stated. When notice was given of the question I instructed General Scott to make inquiries into the matter. The company did not admit the allegations, and I am informed by the company that the buildings in West Southwark continue to be well supplied with water, and no complaint exists.—Mr. TRITTON asked a question as to the great inconvenience and danger to which the inhabitants of Norwood had been lately exposed by the failure in the water supply.—Mr. CHAPLIN: I have communicated with the Lambeth Water Company and impressed upon them the great importance of giving early notice, as far as circumstances will permit, of any probable deficiency in the water supply of their district. I think I should add that the deficiency in the supply was very sudden, that it was occasioned by causes which could not have been foreseen, and was at an end after five or six days. Under such circumstances it would have been very difficult to give notice to the many thousands of water consumers in the district in time to be of practical service.

BUBONIC PLAGUE.

Mr. KNOX asked the President of the Local Government Board whether his attention had been called to the bacteriological report and the despatch of March 10th from the Government of India, showing that mice inoculated with an infusion from grain infected by the plague bacillus died in some cases though the grain had been for thirteen days free from fresh infection, and that the bacilli might at a later date reacquire toxic properties under favourable conditions; and whether he could state what steps had been taken to prevent the introduction of the plague into the United Kingdom.—Mr. CHAPLIN: My attention has been drawn to the report and despatch referred to. From the report it would appear that an experiment in which mice were deliberately injected beneath the skin with preparations of nine different species of grain which had been purposely infected with microbes of bubonic plague, one single mouse injected with one of these nine preparations died after twenty-four hours, whilst all the others survived. As regards the mouse that died it is stated that it "showed no appearances microscopically or otherwise, of having succumbed to bubonic infection," and I am advised that no scientific conclusion should be drawn from such a result. I do not gather that the report shows "that the bacilli might at a later date reacquire toxic properties under favourable conditions." What the report says is that the Government of India are advised that the experiments are not conclusive, since such reacquirement of toxic properties may be possible. The steps which have been taken to prevent the introduction of plague into England and Wales are embodied in an order relating to plague, cholera, and yellow fever, which was issued by the Local Government Board in November, 1896. These regulations were brought under the direct notice of every urban, rural, and port sanitary authority in England and Wales. I also instructed medical inspectors of the Department to pay special visits to a number of ports which are in somewhat frequent communication with ports of India.

EXPERIMENTS ON LIVING ANIMALS.

Mr. JOHN ELLIS asked the Home Secretary whether the figures of experiments on living animals contained in Return No. 239 of this session were obtained from the licensees who performed them, and in that case whether any steps were taken to verify their accuracy? Whether each of the "licensed places" was inspected during the year to which the return related, and how many of them more than once? Whether any of the visits of inspection were surprise visits; and, if so, how many? And whether he had personally satisfied himself that the licences and certificates were all issued only to such places and persons, and with such objects as are contemplated by the Cruelty to Animals Act, 1876?—Mr. JESSE COLLINGS (for the HOME SECRETARY) said: Yes, the returns are obtained from the licensees, and the check, of course, upon them is supplied by the visits of the inspectors, which, with a few exceptions, are paid without notice. Four registered places at which no licences were in force, and the laboratory attached to the Board of Agriculture, which was only registered on December 1st, were unvisited during the year. Five places were visited once only; eight twice; twenty-five three times; two four times, three five times, and one six times. No licensee was found during any of these visits to be exceeding his powers. The answer to the last paragraph of the question is in the affirmative.—Mr. WEIR asked the Home Secretary whether he had yet been able to institute the promised inquiry into the allegations made by Dr. E. Berdoe, in regard to the use of curare in the practice of vivisection; and, if so, would he state the result of his inquiry?—The HOME SECRETARY: Yes, I have made full inquiry into the allegations contained in the letter and statement which he

hon. member forwarded to me, and find that they are absolutely baseless. The experiments referred to were performed on animals under full chloroform anæsthesia; the morphine, to which alone allusion was made in the published account of the experiments, being used in addition. Curare was used, but not as an anæsthetic.

ELECTION OF MEDICAL OFFICERS OF HEALTH.

Mr. HELDER: I wish to ask the President of the Local Government Board if his attention has been directed to the recent elections of medical officers of health, especially for the urban district of Keswick and the borough of Brighouse, Yorks? And whether he is aware that for both of these posts, although there were candidates possessing special diplomas in sanitary science and special training in public health work, the candidates appointed in both districts were non-possessors of any special diploma in public health, and had not received any special training in this particular department?—Mr CHAPLIN: The Local Government Board has received reports of the recent appointments of medical officers of health by the urban district council of Keswick and the town council of the borough of Brighouse. I have no information as to the qualifications of the other candidates for these appointments, but in both cases the candidate appointed possessed the qualifications prescribed by statute. The Act only requires that a medical officer of health should be the holder of a diploma in sanitary science, public health, or State medicine when the district for which he is appointed has, according to the last published census, a population of 50,000 or more. The population of Keswick in 1891 was 3,905, and of Brighouse 20,666.

DOG MUZZLING.

Mr. SCHWANN asked the Home Secretary what was the number of convictions for infringement of the order for muzzling of dogs for the last four or five years respectively in England?—The HOME SECRETARY: I cannot give the hon. member precisely the information he asks for, but I may quote the numbers given in the judicial statistics of persons proceeded against for offences generally in relation to dogs, a heading that includes, besides infringements of muzzling orders, infringements of certain statutory requirements as to keeping dogs muzzled or otherwise under proper control. The number so proceeded against in the years 1893 and 1895 were 3,529, 9,265, and 31,434, of whom respectively 2,952, 7803, to 27,527 were convicted. No doubt the great majority of the proceedings were for infringements of muzzling orders.—Mr. J. W. WILSON asked the President of the Board of Agriculture, whether he was prepared to bring in a Bill giving effect to that part of the Departmental Committee's Report which advised the annual issue of a metal disc to be worn by the dog when licensed, with a view to reducing the number of stray dogs, and thus avoiding, as in many foreign countries, the necessity for muzzling orders: And whether it might be possible for such legislation to be pressed forward with a view to taking effect as soon as the present muzzling order could be relaxed. Mr. WALTER LONG: A Bill for giving effect to those recommendations of the Departmental Committee on the dog laws which cannot be carried out without further legislation is now in course of preparation and will, I hope, be introduced very shortly. Whether it will be possible for it to be passed into law this session must depend upon circumstances over which I have no control, but I do not anticipate of any great difference of opinion will arise with regard to the proposals.

CLASSIFICATION OF PATIENTS IN COUNTY ASYLUMS.

Mr. WEIR asked the Home Secretary if he would state the result of his inquiry in regard to the classification of patients in county asylums whose maintenance was either wholly or partly recouped by sums received from relatives: And whether it was intended to continue to classify such patients as paupers? The HOME SECRETARY: The inquiry I have made confirms the supposition which I expressed in my previous answer on this subject that no real grievance exists. The present classification is based on the definition of the word "pauper" in the Lunacy Act of 1890, and I do not see sufficient reason for introducing the legislation which would be necessary if any alteration were to be made.

DISPENSERS TO POOR-LAW UNIONS.

Mr. LYTTELTON asked the President of the Local Government Board if he could state why the standard of qualification for appointment as dispenser to a Poor-law union had been reduced, so that persons other than those possessing a statutory qualification in pharmacy were now eligible for such appointments; and whether, having regard to the special technical training required in such dispensers, the Local Government Board would take steps to obtain for the sick poor in the various unions under their jurisdiction the security afforded by dispensers possessing a statutory qualification to dispense medicines?—Mr. CHAPLIN: The Local Government Board in June, 1895, issued an order by which compounders of medicines duly qualified in accordance with the regulations for the Army Medical Staff Corps were recognised as qualified for appointment as dispensers by Boards of Guardians. The Board had previously issued similar orders as regards particular cases. The order referred to was not issued without careful consideration.

THE CARE OF STATE-AIDED CHILDREN.

Mr. PICKERSGILL asked the President of the Local Government Board whether, in compliance with the request contained in a memorial addressed to him by Lord Peel on behalf of the State Children's Aid Association, he would take steps to secure that the Children's Committee of the Metropolitan Asylums Board should be strengthened by the nomination thereon of men and women experienced in dealing with children and interested in educational matters.—Mr. CHAPLIN: There are at present no vacancies in the number of nominated managers, but when it again becomes necessary for the Local Government Board to nominate members, in March of next year, or if before that time the number of elected managers should be increased, I shall certainly in making such nominations have regard to the new duties with regard to children which now devolve on the managers.

FEVER IN THE BELMULLET UNION.

Mr. G. BALFOUR, in reply to a question by Mr. CRILLY as to the epidemic of typhus fever in the Belmullet Union, said that two cases of fever had been reported to the Local Government Board as having occurred on the mainland, and both were removed to hospital. The Board of Guardians had applied to the Commissioners of National Education for the use of the schoolhouse on the island for the purpose of a temporary fever hospital, and this application, which was supported by the Local Government Board, had been complied with. The Board had further advised the guardians of their powers, under Section 155 of the Public Health Act, to provide temporary places for the treatment and reception of the sick or convalescent, and the Congested Districts Board had placed at the disposal of the guardians a large shed on the island for this purpose. The staff of paid nurses at present on the island consisted of two trained and two untrained nurses. The nursing was under the direction of a temporary medical officer specially engaged for the island during the continuance of the fever. The guardians have power to appoint as many additional nurses as the medical staff recommends, and the inspectors of the Local Government Board were advising them in the matter. Of the two trained nurses belonging to the City of Dublin Hospital who were suffering from fever in the Belmullet Hospital, as a consequence of attending the fever-stricken patients on the Island of Inniskea, one was doing well but the condition of the other was not satisfactory.—Mr. FIELD asked the Chief Secretary whether he was aware that in February, 1897, the medical officer, Dr. Cleary, reported to the guardians of Belmullet Union an epidemic of fever, and asked that proper sanitary precautions should be taken; whether the Government would give a grant to relieve the distress and provide the nourishment necessary for the islanders of Inniskea; and whether, as the communication between the mainland and the island was by open boat, it would be improved and facilitated during this exceptional period?—Mr. G. BALFOUR: The facts are as stated in the first paragraph. The fever cases referred to occurred on the mainland, where, I regret to state, fever is seldom entirely absent owing to the insanitary condition of many of the dwellings of the people. The necessary sanitary precautions were at once adopted by the guardians, and the medical inspector of the Local Government Board was instructed personally to satisfy himself that all the requisite steps were taken as well as to assist the guardians by his advice. As regards the islanders of Inniskea, relief and nourishment have already been provided for those of them who are sick or destitute. The Congested Districts Board have placed their steamer at the disposal of the guardians and the local officials for the purpose of communication with the island —Mr. CRILLY asked if any report was to hand intimating that the epidemic of fever which had been prevailing had broken out on the mainland in the populous village of Glencastle, close to the town of Belmullet; and, if any such report had been received, could the dimensions of the latest outbreak be stated.—Mr. G. BALFOUR: Two cases of fever are reported to have occurred near Glencastle, and the necessary steps are being taken by the medical officers on the spot to prevent spread of the disease.—Mr. CRILLY: In view of the fact that there is an additional nursing and medical staff applied for, although there are eleven nurses and one additional doctor there already, will the Local Government Board pay for this extra nursing staff which is required?—Mr. G. BALFOUR: It is the duty of the guardians to deal with the outbreak; but if they are unable or unwilling to bear the additional expense, it is the duty of the Local Government Board to do it.—Mr. CRILLY: I hope the Local Government Board will take note of that answer.—In reply to a further question, Mr. G. BALFOUR said that, in regard to the two nurses as to whose condition he had made a statement on a previous occasion, the condition of one remained favourable while that of the other was improving.

COTTON CLOTH FACTORIES.

A Bill to give power to make regulations with respect to cotton cloth factories has been brought in by the Home Secretary, Sir Matthew White Ridley, and Mr. Jesse Collings.

THE COMMITTEE ON PETROLEUM.

The report from the Select Committee, with minutes of evidence, was read. The inquiry is not yet completed.

THE YORKSHIRE CORONERS BILL.

The House has had this Bill under consideration in Committee, but progress was reported before the stage had been concluded.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF ABERDEEN.

THE University Court of the University of Aberdeen, at its meeting on July 13th, appointed as additional examiners, each for a period of four years from February 1st, 1898, the following:

In Anatomy.—A. Keith, M.D.Aberd., of the London Hospital Medical College, London, E.

In Physiology.—M. S. Pembrey, M.A., M.D.Oxon., of Charing Cross Hospital Medical School, London.

CONJOINT BOARD IN ENGLAND.

THE following gentlemen have passed the Second Examination of the Board in the subjects indicated:

Anatomy and Physiology.—T. Sayer, H. Leach, and E. S. G. Fowler, Yorkshire College, Leeds; A. C. Oliver, University College of South Wales, Cardiff; G. P. Smith, L. A. W. Johnston, J. B. Stanley, V. H. Symons, and B. S. Hollick, Mason College, Birmingham; A. E. U. Hawkes, University College, Liverpool; F. B. Alderson and W. H. Forshaw, Firth College, Sheffield; W. F. H. Coke, St. George's Hospital; S. J. Willcox, University College, Bristol; O. L. Addison, University College, London; A. C. S. Waters, Cambridge University; S. H. Modi, Grant Medical College, Bombay and St. Bartholomew's Hospital; W. B. Parsons and W. J. McCoy, Medical College, Madras; R. A. Lloyd, A. T. Compton, G. S. A. Smith-Wynne, F. W. Sheppard, C. S. Chalk, A. E. J. Lister, and T. M. Pearce, St. Bartholomew's Hospital; D. P. Chapman, Charing Cross Hospital; H. C. Pretty

and C. A. Gill, University College, London; E. M. Ridge, B. C. Broomhall, C. R. Porter, and E. W. Bain, London Hospital; B. G. Patch and H. G. Pinches, St. Thomas's Hospital; S. G. Penny, St. George's Hospital; A. F. Hayden, St. Mary's Hospital; S. J. Peake, King's College, London; R. R. Cruise, E. O. Faulkner, H. T. Newling, R. A. Facey, and C. E. Thwaites, St. Mary's Hospital; F. W. Longhurst, St. George's Hospital; J. S. Smith, Middlesex Hospital; H. W. Hodgson, A. B. Soltau, London Hospital; B. S. Bartlett, R. L. Hagger, G. A. Upcott-Gill, University College, London; M. J. Rees, F. G. Gibson, Guy's Hospital; J. E. Richards, W. M. Anderson, Charing Cross Hospital; E. A. Donaldson-Sim, St. Bartholomew's Hospital; J. G. Glasgow, St. Thomas's Hospital and Mr. Cooke's School of Anatomy and Physiology; C. H. Downer, King's College, London; T. P. Allen, W. C. B. Smith, P. B Grenfell, and R. T. Cooke, St. Bartholomew's Hospital; T. S. D. Enderby, E. Raven, and D. D. Turner, St. Thomas's Hospital; J. H. Hart, St. Thomas's Hospital and Mr. Cooke's School of Anatomy and Physiology; W. A. McEnery, Middlesex Hospital; E. V. Aylen and J. Davey, London Hospital; A. C. D. Newton, W. L. Steele, University College, London; A. W. Talbot, E. H. Felton, Guy's Hospital; F. B. Jefferiss, King's College, London; W. G. Hopkins, St. Mary's Hospital; E. R. Walker, Charing Cross Hospital, S. B. Green, H. C. Adams, and D. Davies, St. Bartholomew's Hospital; T. D. Miller, St. Thomas's Hospital; J. R. Clemens, Jefferson College, Philadelphia, and St. Thomas's Hospital; A. St. J. Bateman and W. L. Stuart, King's College, London; E. C. Clements, Middlesex Hospital; C. E. Last, St. George's Hospital; P. Dalgado, Grant Medical College, Bombay; H. Somerville, Westminster Hospital; G. E. Goode and S. N. Foulkes, London Hospital; T. C. Savage, University College, London; T. S. Smith, St. Mary's Hospital.

Anatomy only.—S. M. Dowling, the Catholic University of Ireland, Dublin and University College, Bristol; J. E. Jones, University College, Bristol; H. Charles, Middlesex Hospital; L. F. Enthoven, Cambridge University and Mr. Cooke's School of Anatomy and Physiology; T. L. Butler, St. Mary's Hospital.

Physiology only.—E. R. L. Thomas, London Hospital; and F. A. Simpson, St. Mary's Hospital and Mr. Cooke's School of Anatomy and Physiology.

Eighty gentlemen were referred in both subjects, 5 in Anatomy only and 3 in Physiology only.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following gentleman, having previously passed the necessary examinations and having now conformed to the by-laws and regulations, has been admitted a Member of the College:

D. J. Armour, M.D., Toronto, Toronto University and University College Hospital.

CONJOINT BOARD IN IRELAND.

SECOND PROFESSIONAL EXAMINATION.—The following candidates have passed this examination:

Completed the Examination.—Honours: Miss E. A. B. Marks. Pass: W. R. Blackwell, Miss M. E. Bridgford, J. W. Clarke-Bayliss, J. F. Cleary, V. F. Connor, W. A. Cooke, E. Duffy, R. B. Elliott, H. Graff, J. E. Hannigan, D. L. Harding, G. C. L. Kerrans, P. J. McGinn, J. H. O'Connell, T. A. E. Rooke, G. F. Sheehan, T. N. Smith, G. Tickell.

In Anatomy.—M. Ballesty, J. F. Brogan, H. M. Clarke, P. N. Creagh, W. C. Croly, A. La T. Darley, W. H. Dodd, G. Downing, G. H. Enright, C. H. Falvey, D. A. Faris, A. Fitzgerald, M. M. Goldfoot, M. Graham, Mrs. Hennessy, G. F. Kennedy, G. Lacy, Miss La Fontaine, C. C. Meeke, D. F. O'Donaghue, J. J. O'Halloran, J. O'Leary, E. M. Pennefather, J. Roberts, C. J. Sullivan, H. H. Swanzy, E. R. Townsend, A. L. Tyndall.

In Physiology.—M. Ballesty, S. Browne, G. Canilla, W. N. L. Cherry, A. La T. Darley, W. H. Dodd, G. H. Enright, M. M. Goldfoot, J. Hutch, J. J. O'Halloran, J. O'Leary, E. M. Pennefather, C. J. Sullivan, H. H. Swanzy, J. Verdon.

In Materia Medica.—J. F. Brogan, S. Brown, C. H. Falvey, D. A. Faris, T. Farrell, Mrs. Hennessy, R. A. Johnston, G. Lacy, Miss La Fontaine, C. C. Meeke, J. J. McInerney, D. F. O'Donoghue, C. J. Sullivan, H. H. Swanzy, J. Verdon, H. J. Westropp.

In Histology.—S. Browne, W. N. L. Cherry, W. C. Croly, A. La T. Darley, C. H. Falvey, A. Fitzgerald, M. M. Goldfoot, Mrs. Hennessy, J. Hutch, J. J. Huston, C. C. Meeke, E. M. Pennefather, E. R. Townsend.

In Hospital Practice.—J. F. Brogan, J. Lacy.

ROYAL COLLEGE OF PHYSICIANS IN IRELAND.

THE undermentioned candidates, who had passed the required examinations, have been admitted to their respective grades in the College:

Membership.—H. Jellett, M.B Univ. Dubl.

Licence in Midwifery.—W. Davies, M.R.C.S.Eng.

SOCIETY OF APOTHECARIES OF LONDON.

PRIMARY EXAMINATION: PART II.—The following candidates have passed in:

Anatomy.—K. M. Betts, Royal Free Hospital; T. Burdekin, University College Hospital; C. E. C. Child, Charing Cross Hospital; H. H. Cotman, Aberdeen; T. B. Fawley, Leeds; K. E. Gregg, Royal Free Hospital; T. A. B. Harris, Sheffield; W. M. Hocken, Liverpool; T. E. Holman, Guy's Hospital; H. N. Horton, Middlesex Hospital; H. E. D. Lloyd, St. Bartholomew's Hospital; R. A. Lyster, Birmingham; H. Macmaster, Sydney and Edinburgh; D. V. Muller, Charing Cross Hospital; E. C. Pratt, Birmingham; M. E. Rocke, Royal Free Hospital; L. Sells, St. Thomas's Hospital; S. H. Smith, Royal Free Hospital; A. E. Whitehead, Sheffield; W. R. Wilson, Dublin.

Physiology.—W. Asten, Birmingham; H. H. Beale, St. Mary's Hospital; J. R. Bentley, Cambridge and Middlesex Hospital; K. M. Betts, Royal Free Hospital; A. J. Blair, Belfast; A. F. Carlyon, Middlesex Hospital; A. Croneen, Guy's Hospital; A. M. Crosfield, Edinburgh T. B. Fawley, Leeds; O. H. C. Fulton, Dunedin and Edinburgh; G. H. L. Hammerton, Sheffield; T. A. B. Harris, Sheffield; A. T. Harvey, London Hospital; H. N. Horton, Middlesex Hospital; H. E. D. Eloyd, St. Bartholomew's Hospital; E. C. Pratt, Birmingham; M. E. Rocke, Royal Free Hospital; F. E. Shean, London Hospital; S. H. Smith, Royal Free Hospital; A. E. Whitehead, Sheffield; J. H. Williams, London Hospital.

PRIMARY EXAMINATION: PART I.—The following candidates have passed in:

Biology.—E. M. Forsyth, Royal Free Hospital; K. M. H. Hawkins, Royal Free Hospital; T. G. Prosser, Royal Free Hospital.

Chemistry.—T. M. Burton, Royal Free Hospital; A. E. Gilford, Royal Free Hospital; C. Hind, Royal Free Hospital; H. M. Jones, Royal Free Hospital; D. E. Lockwood, Royal Free Hospital; F. H. Maberly, Birmingham; L. S. Molony, Royal Free Hospital; F. M. Payne, Royal Free Hospital; E. J. Polito, Royal Free Hospital; F. M. Rodgers, Manchester; C. M. Scott, Royal Free Hospital; G. E. Soltau, Royal Free Hospital; M. E. Unwin, Royal Free Hospital.

Materia Medica and Pharmacy.—J. Buckley, Manchester; H. H. Cotman, Aberdeen; E. A. Dunn, Royal Free Hospital; R. F. Ellery, St. Bartholomew's Hospital; W. J. H. Hepworth, Edinburgh; S. F. Hickman, Royal Free Hospital; W. Hunter, Durham; R. O. Jones, Guy's Hospital; E. McD. Judge, Guy's Hospital; J. A. Wolverson, Birmingham.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

THE following appointments have been made at the Admiralty: JAMES C. F. WHICHER, Staff-Surgeon, to the *Scout*, July 13th; HOWARD J. McC. TODD, Staff-Surgeon, to the *Caledonia*, July 13th; JOSEPH R. McDONNELL, M.D., Staff-Surgeon, to the *Flora*, undated; HUGH ST. D. GRIFFITHS, Surgeon, to the *Barrosa*, for charge of the *Flora*, July 19th; GEORGE McGREGOR, Surgeon, to the *Vernon*, July 19th; OSWALD REES, M.D., Surgeon, to the *Pembroke*, July 13th.

CHANGES OF STATION.

THE following changes of Station amongst the officers of the Army Medical Staff have been officially notified to have taken place during the past month:

	From.	To.
Brig.-Surg.-Lt.-Col. R. C. Eaton ...	... Bombay ...	... Newcastle-on-Tyne.
Surg.-Lieut.-Col. I. B. Emerson ...	... Norwich ...	... Colchester.
Surg.-Major J. F. Brodie, M.D. ...	... Ballincollig	... Fermoy.
,, A. E. J. Croly	... Hounslow	... Madras.
,, T. F. MacNeece ...	... Bombay ...	... Portsmouth.
,, R. W. Barnes	... Madras ...	... Hounslow.
,, E. O. Milward ...	... Bengal ...	... C. of G. Hope
,, G. Wilson, M.B. ...	... Chatham ...	... Sheerness.
,, R. J. M'Cormack, M.D.	... W. Africa...	... Woolwich.
Surg.-Capt. F. W. G. Hall, M.B....	... Bermuda...	... Curragh.
Surg.-Lieut. J. A. Murison, M.B.	... Half Pay ...	... Dublin.
,, F. S. Brereton ...	... Chester ...	... Ashton-under-Lyne.

Surgeon-Lieutenant-Colonel J. Hoysted, retired pay, has been transferred from Newcastle-on-Tyne to Norwich; and Brigade-Surgeon I. Hoysted, retired pay, has been succeeded by Surgeon-Lieutenant-Colonel W. M. James, retired pay, in the charge of the troops at Beverley.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,790 births and 3,192 deaths were registered during the week ending Saturday last, July 10th. The annual rate of mortality in these towns, which had declined from 15.8 to 14.7 per 1,000 in the three preceding weeks, rose again to 15.1 last week. The rates in the several towns ranged from 7.3 in Croydon, 8.7 in Huddersfield, 8.8 in Swansea, and 9.3 in West Ham to 20.0 in Liverpool, 20.6 in Burnley, 21.3 in Salford, and 23.1 in Preston. In the thirty-two provincial towns the mean death-rate was 15.2 per 1,000, and almost corresponded with the rate recorded in London, which was 15.1 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.4 per 1,000; in London the rate was 2.5 per 1,000, while it averaged 2.3 in the thirty-two provincial towns, among which the highest zymotic death-rates were 4.8 in Wolverhampton, 5.2 in Birkenhead, 9.3 in Burnley, and 10.9 in Preston. Measles caused a death-rate of 1.9 in Manchester, 2.3 in Birkenhead, 3.9 in Salford, 5.9 in Burnley, and 8.6 in Preston; whooping-cough of 1.0 in Burnley, 1.1 in Oldham, and 1.4 in Norwich; and diarrhœa of 1.7 in Liverpool, and 2,3 in Leicester. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 59 deaths from diphtheria in the thirty-three towns included 43 in London, 4 in Burnley, 2 in Portsmouth, and 2 in Liverpool. No fatal case of small-pox was registered during the week either in London or in any of the thirty-two large provincial towns. There were no small-pox patients under treatment last week in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 2,821 at the end of the ten preceding weeks, had further risen to 2,885 on Saturday last, July 10th; 349 new cases were admitted during the week, against 274, 267, and 310 in the three preceding weeks.

HEALT OF SCOTCH TOWNS.

DURING the week ending Satu day last, July 10th, 987 births and 529 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 19.4 and 18.7 per 1,000 in the two preceding weeks further declined to 17.7 last week, but was 2.6 per 1,000 above the mean rate during the same period in the thirty-three large English towns. The lowest rates in the eight towns were 11.8 in Greenock, and 14.3 in Aberdeen, and the highest rates 22.1 in Leith and 22.6 in Dundee. The zymotic death-rate in these towns averaged 2.8 per 1,000, the highest rates being recorded in Edinburgh and Leith. The 230 deaths registered in Glasgow included 2 from measles. 2 from scarlet fever, 6 from whooping-cough, 5 from "fever," and 19 from diarrhœa. Nine fatal cases of measles, 4 of scarlet fever, and 4 of whooping-cough were recorded in Edinburgh: and 6 of measles in Leith.

MEDICAL NEWS.

THE fifty-sixth annual meeting of the Medico-Psychological Association of Great Britain and Ireland will be held on Thursday, July 29th, and the following day, at the College of Medicine, Newcastle-on-Tyne, under the presidency of Dr. T. W. McDowall. The Treasurer will present his report. An illuminated address will be presented to Dr. Fletcher Beach, late Honorary General Secretary. Dr. Mercier will move the adoption of amended regulations for the examination for the nursing certificate. Dr. Clouston will move: "That the Secretary of the Educational Committee for the time being be an *ex-officio* member of Council." At 3.30 P.M. the Presidential address will be delivered by Dr. T. W. McDowall. After the President's address papers will be read and discussed, and demonstrations will be given. The annual dinner of the Association will be held at the Grand Hotel, Newcastle-on-Tyne, at 7.30 P.M., on Thursday, July 29th. Those intending to be present should communicate with Dr. T. W. McDowall, County Asylum, Morpeth, Northumberland.

MR. FAGAN, recently appointed Chairman of the Board of Industrial Schools for Ireland, has been the recipient of two addresses from his professional brethren of Belfast and neighbourhood, one from his late colleagues on the staff of the Royal Hospital, and the other from the Ulster Medical Society. The former was presented at a dinner given at the house of one of Mr. Fagan's former surgical colleagues, and the latter at a special meeting of the Ulster Medical Society. Both addresses dwelt in warm terms upon Mr. Fagan's uniformly cordial and friendly relations with his professional brethren, upon his good work as a surgical operator and clinical teacher, his valuable contributions to the *Proceedings* of the Medical Society, and upon the hospitality so often exercised by Mrs. Fagan and himself. Sincere regret was expressed at his removal from Belfast, while hearty congratulations were offered to him upon his appointment to an important and responsible public position.

ROYAL COMMISSION ON TUBERCULOSIS.—Further sittings of this Commission were held at No. 7, Whitehall Place, on July 8th, 9th, and 12th, Sir Herbert Maxwell in the chair. The following witnesses were examined: Mr. Morgan Hopkin of Swansea, Mr. Pearson and Mr. Hides of Sheffield, Mr. Ward of Middleton, near Manchester, and Mr. Berwick of Bradford, all of whom represented various butchers' associations, and gave evidence as to direct personal loss from the condemnation for tuberculosis of the carcasses of animals which had been bought as apparently quite healthy. Other witnesses called were Mr. Davies, medical officer of health of Swansea; Dr. Harvey Littlejohn, medical officer of health of Sheffield; Mr. Hedley, chief inspector of the Irish Privy Council, Veterinary Department; and Mr. Sinclair, Superintendent of Exports for the Victorian Government. This concluded the evidence which the Chairman proposes to call, but before considering the report he intends, with other members of the Commission, to visit a few towns in the United Kingdom to see the method of meat inspection, etc., adopted in them. On Thursday, July 15th, they visited the foreign cattle market at Deptford.

SOCIETY OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS.—The annual meeting of this Society was held at 146, Harley Street, on June 30th, Mr. Page, the Chairman of the Executive Council, in the chair. In briefly reviewing the work of the Society during the past year, the Chairman stated that it was the intention of the Council to pursue the same policy as heretofore, and to be in readiness to take such action as might seem advisable when any question of importance arose in connection with the affairs of the College. Happily, there was a much more tranquil state of affairs in Lincoln's Inn than there had been for years, and the Council of the College was believed to enjoy the complete confidence of the Fellows. On the motion of Mr. Wallis, Honorary Secretary, it was decided to invite Mr. Fripp, Assistant-Surgeon to Guy's Hospital, to become a member of the Executive Council.

THE SANITARY INSTITUTE.—The twenty-first anniversary of the Sanitary Institute was celebrated on July 7th by a dinner held at the Holborn Restaurant, under the presidency of the Duke of Cambridge, K.G., President of the Institute. The toast of the "Royal Family" was given by Lord Kelvin, F.R.S., who referred at some length to the great progress in sanitary science accomplished during the Queen's reign, and to the eminent services rendered to the cause by Dr. E. A. Parkes, in whose memory the Hygienic Museum, now under the charge of the Sanitary Institute, was founded. The toast of the "Naval and Military Forces" was given by Sir Francis Sharp Powell, Bart., M.P., and the Duke of Cambridge in the course of an interesting speech referred to the opposition which measures for the promotion of the welfare and the preservation of the health of the people encountered from faddists, instancing especially the opposition to vaccination and the outcry against the regulations which the Government of India had found it necessary to enforce to prevent the spread of venereal disease. The toast of the "Houses of Parliament" was given by Dr. W. J. Collins, the Chairman of the London County Council, and acknowledged by the Earl of Stamford and Dr. Farquharson, who claimed that as the member in charge of private Bills, he committed more legislation than the whole of the rest of the House of Commons. The toast of "Success to the Sanitary Institute" was given by Sir H. C. Burdett, and acknowledged by Sir Douglas Galton, Chairman of Council.

THE annual meeting of the Durham University Medical Graduates Association was held at the rooms of the Medical Society of London on July 7th, when the following officers were elected for the year 1897-98: President, Dr. T. Outterson Wood, in the place of Professor Arnison. Vice-Presidents: S. Fielden, M.D., and T. H. Openshaw, M.S. Council: Drs. C. C. Cripps, C. J. Cullingworth, J. W. Hemborough, F. S. Palmer, H. B. W. Paige, H. T. Heiring, G. H. Philipson, G. W. Ridley, W. J. Sheppard, T. C. Squance, and R. Steele. Honorary Treasurer; Dr. W. C. Beatley. Honorary Secretaries: Drs. W. D. Arnison and R. H. Milson. The members afterwards dined together at the Café Royal, Dr. T. Outterson Wood, President, in the chair. After the usual patriotic toasts had been proposed by the President, Mr. H. T. Butlin proposed the University of Durham and Professor Philipson responded. The President in proposing "Success to the Durham University Medical Graduates Association," gave an interesting account of the history of the medical college, from its foundation in 1832 to the present time, and congratulated the Association upon its great success, numbering as it does nearly 300 members. The Honorary Secretaries replied, Sir James Crichton Browne, who was a former lecturer, and who was elected an Honorary Member of the Association proposed the health of the President, and Dr. Cullingworth proposed "The Visitors," which was responded to by Professor Ernest White. Among those also present were the President of the Royal College of Surgeons, Sir William MacCormac, Bart.; the Treasurer of the Royal College of Physicians, Sir Dyce Duckworth; the President of the Royal Medical and Chirurgical Society, Dr. Howship Dickinson; the President of the Medical Society, Mr. Reginald Harrison; the President of the Durham University Medical College, Professor Philipson; the President of the Harveian Society, Dr. R. H. Milson; the Coroner for Middlesex, Dr. Danford Thomas, and members and guests to the number of fifty-seven.

ANNUAL REPORT OF THE ST. JOHN AMBULANCE ASSOCIATION.—The Central Executive Committee reports that the session 1895-96 has been one of continued progressive development. The work of the association amongst railway men has always been of the greatest importance and value, and with a view to improving the organisation and lessening the cost of

classes facilities are now offered for the formation of Railway Centres. Such centres have already been formed in connection with the North Eastern, Great Western, and Great Eastern companies. The trained officers and men on the Great Eastern Railway rendered aid in upwards of 900 cases during the year 1895-96. Classes formed and supported by County Councils under the Technical Education Acts, and the Evening Continuation Schools' Code have been increasingly numerous and successful. In order to facilitate the obtaining of the Government grants, a new subject, "hygiene," has been added to the syllabus of the St. John Ambulance Association. Undoubtedly the high standard attached to the certificates and medallions of the Association depends to a great extent upon the fact that it is known that both instruction and examination are conducted by qualified medical men, and if holders of honours certificates from Her Majesty's Science and Art Department, graduates of science of any recognised university, and persons of either sex possessing the St. John's "teacher's certificate" are, as it is proposed, to become the teachers and examiners in this most important subject, then there is a fear lest the value of such training may become discredited. A further extension of work is foreshadowed in the recommendation of the Central Executive to the Council and Chapter that it may be permitted to hold examinations on "cottage nursing" of members of the staff of the Affiliated Benefit Nursing Association. Very wisely it has been suggested that the certificate shall, when issued, have specifically detailed on its back a list of the subjects in which the candidate has been examined and passed, thus preventing confusion with the duly trained sick nurse. The total number of medallions issued to date to persons who have followed the three years course and successfully passed the examination is 43,800.

MEDICAL VACANCIES.

The following vacancies are announced:

ABERDEEN ROYAL INFIRMARY.—Medical Superintendent. Salary, £350 per annum, without residence. Applications to William Carnie and Charles M. Brown, Joint Treasurers, by July 24th.

BRADFORD UNION WORKHOUSE.—Resident Assistant Medical Officer; unmarried, and doubly qualified. Salary, £100 per annum, with prescribed rations, washing, and apartments in the Workhouse. Applications to Thomas Crowther, Clerk to the Guardians, Poor Law Offices, 22, Manor Row, Bradford, Yorks, before July 31st.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E—Assistant Physician. Must be F. or M.R.C.P.Lond. Applications to the Secretary by July 24th.

GARTLOCH ASYLUM AND HOSPITAL FOR MENTAL DISEASES, Glasgow.—Assistant Medical Officer (Senior). Previous hospital and asylum experience most desirable. Salary, £150 per annum, with all found. Applications, marked "Assistant Physician," to Mr. Dempster, 318, Parliamentary Road, Glasgow, by July 19th.

EPSOM (RURAL) SUTTON, CARSHALTON, AND LEATHERHEAD JOINT HOSPITAL BOARD.—Medical Officer of the Isolation Hospital at Cuddington, Surrey.—Salary, £200 per annum. Applications, marked outside "Medical Officer," on forms provided, to be sent to W. O. Reader, Clerk, "Lonsdale," Epsom, by July 27th.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—Senior House-Surgeon and Junior House-Surgeon. Appointments for six months. Salary of the Senior House-Surgeon at the rate of £60 per annum, board, lodging, and washing provided with each appointment. Applications to Lewis H. Glenton Kerr, Secretary, by July 19th.

GRIMSBY AND DISTRICT HOSPITAL.—Resident House-Surgeon. Salary, £80 per annum, with board, lodging, and washing. Applications to John Wintringham, Secretary, by July 24th.

HARTISMERE UNION, Suffolk.—Medical Officer and Public Vaccinator for the Gislingham District. Salary at the rate of £60 per annum, exclusive of vaccination fees and such other extra fees as are allowed by the Local Goverment Board. Applications to John Bond, Clerk, Guardian's Offices, Eye, Suffolk, by July 23rd.

HEREFORD GENERAL INFIRMARY.—Resident House Surgeon; doubly qualified, and unmarried. Salary, £100 per annum, with furnished rooms, board, washing, gas, coals, and attendance. Applications to C. B. Beddoe, Secretary, 37, Bridge Street, Hereford, by July 24th.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, Bloomsbury, W.C.—House-Surgeon. Appointment for six months. Salary £20, with board and residence in the Hospital. Must be unmarried. Applications on form provided to be sent to the Secretary by July 24th.

JARROW-ON-TYNE MEMORIAL HOSPITAL.—House-Surgeon, doubly qualified. Salary, £80, rising £10 annually to £100. Board and residence provided in the Hospital. Applications to James Campbell, Secretary, Ivy Bank, Jarrow-on-Tyne, by July 21st.

KENSINGTON, GUARDIANS OF.—Second Assistant Medical Officer for the Workhouse and infirmary. Salary, £80 per annum, with apartments, board, and washing. Between 21 and 30 years of age, doubly qualified, and must devote whole time to the duties. Applications on forms to be obtained on application to the Clerk to the Guardians, Marloes Road, Kensington, to whom they must be delivered, filled in, not later than 10 A.M. on July 31st.

LIVERPOOL, MILL ROAD INFIRMARY.—Medical Superintendent. Must be under 40 years of age; must be accustomed to the management of insane cases. Preference given to a F.R.C.S.Eng., or a Graduate in Medicine and Surgery of a British University. Salary, £500, with unfurnished house, coals, gas, rates and taxes (inclusive of all fees. Applications to Harris P. Cleaver, Clerk to the Guardians, West Derby Union, Brougham Terrace, Liverpool, by July 27th.

LONDON LOCK HOSPITAL, 91, Dean Street, Soho, W.—Registrar, doubly qualified. Applications to the Secretary, Harrow Road, W., by July 24th.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Assistant Resident Medical Officer, doubly qualified. Appointment for six months. Residence, board, and washing provided, and an honorarium given at the termination of the appointment. Applications to A. W. Bodger, Secretary, by July 21st.

MACCLESFIELD GENERAL INFIRMARY.—Senior House-Surgeon and Junior House-Surgeon, doubly qualified. Salary of the former, £100 for the first year, with board and residence, and of the latter £70 per annum, with board and residence at the institution. Applications to the Chairman of the House Committee by July 19th.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the South-Western Fever Hospital, Stockwell, S.W. Salary, £160 during the first year, £180 during the second year, and £200 during the third and subsequent years, with board, lodging, and washing. Candidates must be unmarried, doubly qualified, and must not exceed 35 years of age. Applications on forms, to be had at the chief office of the Board, Norfolk House, Norfolk Street, Strand, W.C., where they must be delivered by July 26th.

METROPOLITAN HOSPITAL, Kingsland Road. N.E.—Surgeon and Assistant House-Surgeon. Must be F.R.C.S.Eng. Applications to C. H. Byers, Secretary, by July 19th.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich Road, S.E.—Junior Resident Medical Officer. Salary, £30 per annum, with board, attendance, and washing. Appointment for six months, with prospect of re-election as Senior. Applications to the Secretary, by July 20th.

NATIONAL DENTAL HOSPITAL, Great Portland Street, W.—Anæsthetist. Applications to G. Almack, Secretary, by July 21st.

NORTH WALES ASYLUM, Denbigh.—Second Assistant Medical Officer. Salary, £100, with board, washing, and apartments. A knowledge of Welsh essential. Applications to W. Barker, Clerk to the Visitors, by July 19th.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Appointment for or six months. Board, lodging, and washing in the hospital. An honorarium of 10 guineas will be given on completion of six months' service. Applications to the General Secretary, General Hospital, Nottingham, by July 30th.

RIPON DISPENSARY AND COTTAGE HOSPITAL, Ripon.—Resident House-Surgeon and Dispenser; unmarried. Salary, £70 per annum, with board and lodging. Applications to F. D. Wise, Hon. Secretary.

ROTHERHAM HOSPITAL AND DISPENSARY.—Assistant House-Surgeon. Salary, £30 per annum, with board, lodging, and washing. Applications to the House-Surgeon.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston Road.—Resident Medical Officer, doubly qualified. Salary, £105 per annum, with residence and attendance. Applications to H. P. Bodkin, Honorary Secretary, 23. Gordon Street, Gordon Square, W.C., by July 19th.

SALFORD UNION.—Assistant Resident Medical Officer at the Union Infirmary, Hope, near Eccles; doubly qualified. Appointment for twelve months. Salary, £130 per annum, with furnished apartments and attendance. Applications, endorsed "Assistant Medical Officer," to F. Townson, Clerk to the Guardians, Union Offices, Eccles New Road, Salford, by July 22nd.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House-Surgeon, doubly qualified. Appointment for two years, subject to re-election. Salary, £100 per annum, with board, lodging, and washing. Applications to Richard Battle, Secretary *pro tem.*, 7, Meyrick Road, Stafford, by July 31st.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Fourth Assistant Surgeon; must be F.R.C.S Eng. Candidates must attend, with testimonials, the meeting of the House Committee on July 27th, at 1 P.M.

MEDICAL APPOINTMENTS.

BAILEY, J. Ridley, M.D.Edin., appointed Certifying Factory Surgeon for the Bilston District, *vice* Mr. James Wells, Wolverhampton, resigned.

BOWHAY, Albert, L.R.C.P.Lond., M.R.C.S.Eng., D.P.H.Camb., reappointed Medical Officer of Health to the Calstock District Council.

BURNETT, John R., M.D., C.M.Edin., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer for the Urban District of Keswick, *vice* Dr. C. Gore Ring, deceased.

CLARK, J. S. F., L.R.C.P.Edin, M.R.C.S.Eng., appointed Medical Officer and Public Vaccinator for the Moretonhampstead District of the Newton Abbot Union, *vice* F. G. Engelbach, L.R.C.P.Lond., M.R.C.S. Eng., resigned.

CLAYTON, Thomas M., M.B., B.S.Durh., reappointed Medical Officer of Health to the Felling District Council.

CRANSTOUN, Chas. V., M.B.Durh., M.R.C.S.Eng., appointed Medical Officer of Health for the Borough of Ludlow.

DALY, C. F., M.D.Irel., L.R.C.S.Edin., appointed Medical Officer for the Silverdale District of the Wolstanton and Burslem Union.

DAVEY, Dr., reappointed Medical Officer for the Ringwould District of the Dover Union.

DICKSON, John D., M.D. R.U.I., M.Ch., appointed Medical Officer of Health to the Marlow Urban District Council.

DIXON, Dr., appointed Medical Officer for the Second (Shepherdswell) District of the Dover Union.

DOUGLAS, A. R., L.R.C.P., D.R.C.S.Edin., appointed Deputy Medical Officer to Portland Prison.

EDWARDS, A. A., M.D., C.M.Edin., appointed Medical Officer for the No. 1 Rawtentall District of the Haslingden Union.

EDWARDS, L. C., M.B., C.M.Edin., appointed Casualty Surgeon to the Bristol General Hospital.

FISHER, H. H., M.D.Lond., appointed Medical Officer for the No. 2 (Sittingbourne) District of the Milton Union, and Medical Officer at the Infectious Hospital at Keycolhill.

FRENCH, Mr. D. M., appointed Medical Officer for the Debenham District of the Bosmere and Claydon Union.

GOWAN, Campbell, L.R.C.P.Lond., M.R.C.S.Eng., reappointed Medical Officer of Health to the Hendon Rural District.

HOWES, H. A., L.R.C.P., L.R.C.S.Edin., reappointed Medical Officer for the Hemingby District of the Horncastle Union.

IVES, W. R. Y., L.R.C.P.Lond., L.S.A., appointed Medical Officer for the No. 2 District of the South Stoneham Union.

JELLY, G. Aubrey, M.R.C.S., L.R.C.P., appointed House-Surgeon and Registrar at the Royal Eye Hospital, Southwark.

LONG, A., M.R.C.S.Eng., reappointed Medical Officer for the River District of the Dover Union.

LOW, Chas. W., M.B.Dub., M.R.C.S.Eng., appointed Medical Officer of Health to the Stowmarket Urban District Council.

MARMION, E. J., B.A., M.B.Dub., L.F.P.S.Glasg., appointed Medical Officer to the Workhouse of the Milton Union, *vice* C. H. Fisher, M.D.Glasg.

MORGAN, J. A., M.R.C.S.Eng., L.R.C.P Lond., appointed Medical Officer for the Llandulas and Llanwrtyd District of the Builth Union.

PARTRIDGE, Sydney, M.D.Edin., L.R.C.P., appointed Medical Officer of Health to the Darlaston Urban District Council, *vice* Samuel Partridge, M.R.C.S.Eng., resigned.

SHACKEL, G. A., L.R.C.P.Lond., M.R.C.S.Eng., appointed Medical Officer of Health to the Ludlow Rural District Council, *vice* W. Thursfield, M.D., resigned.

SMITH, T. F. Hugh, M.R.C.S.Eng., L.S.A., appointed Medical Officer to St. Bartholomew's Hospital Convalescent Home.

SQUIRE, M. F., M.B.Durh., M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant Medical Officer to the Infirmary and Workhouse of the Paddington Parish.

WATSON, Wm. D., L.R.C.P.Lond, M.R.C.S.Eng., appointed Medical Officer of Health to the Leigh-on-Sea Urban District Council, and Medical Officer for the Leigh District of the Rochford Union.

WHITAKER, E. T., M B., C.M.Edin., appointed Medical Officer of Health to the Wellington (Salop) Urban District Council.

WILKINS, Walter, M.R.C.S., L.R.C.P. (late House-Surgeon and House-Physician, Charing Cross Hospital), appointed House-Surgeon to St. Peter's Hospital for Stone, etc.

WILLIAMS, J. H., M.D.Edin., reappointed Medical Officer of Health to the Flint Town Council.

WORSLEY, R. Carmichael, M.R.C.S.Eng., L.R.C.P.Lond., appointed Honorary Surgeon to the Ramsgate and St. Lawrence Royal Dispensary, *vice* Dr. T. J. Styan, resigned.

DIARY FOR NEXT WEEK.

WEDNESDAY.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

RAMSEY.—On the 29th June, at Jesmond Dene, Bournemouth, the wife of F. Winson Ramsay, M.S., F.R.C.S.E., of a son.

MCNAUGHTAN.—At South View, H.M. General Prison, Perth, on 7th inst., the wife of John McNaughtan, M.D., of a daughter.

SYMES.—On July 13th, at 59, Brondesbury Villas, N.W., the wife of W. Legge Symes, of a son.

MARRIAGES.

ATKINSON—MORETON.—On the 7th inst., at the parish church, Tarvin, near Chester, by the Rev. E. S. Richardson, B.A., Vicar of St. Matthew's, Bolton, brother-in-law of the bride, assisted by the Rev. A. Heygate, M.A., Vicar of Ashton Hayes, and the Rev. T. J. Evans, M.A., Vicar of Tarvin, Bernard Nathan Atkinson, M.A., Curate of Tarvin, to Janet Steel (Nettie), second daughter of J. E. Moreton, F.R.C.S., Earlscroft, Kelsall.

GILL—DINGLE.—On July 16th, at the parish church, Linkinhorne, Cornwall, by the Rev. Lyde-Hunt, cousin of the bridegroom, assisted by the Rev. A. L. Brown, M.A., Vicar of Looe, and the Rev. C. R. Bennett, M.A., Curate-in-charge, Joseph William Gill, L.R.C.P., D.P.H.Lond., M.R.C.S.Eng., to Susan, fourth daughter of John W. Dingle, Esq., J.P., C.A., of Darley.

DEATH.

COLLINS.—On 13th inst., at Sydenham, the residence of his son, Dr. Thomas Collins, formerly of 28, Harcourt Street, Dublin, in his 89th year.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 2.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances* —M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations* —M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Tu. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Tu., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Tu., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M. Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

CYMRO asks where he can procure a Roentgen rays apparatus on hire from August 9th to August 14th, and at what cost.

M.D. desires to know where an unmanageable hysterical young lady could be sent for treatment. The relations cannot afford to pay anything.

W. A. C. would be glad to know if any member is acquainted practically with a system of bookkeeping which can be carried out quickly and which will save time.

DISTRICT NURSING ON A PROVIDENT BASIS.

DR. JAMIESON B. HURRY (Abbotsbrook, Reading) will be glad to hear of any centre where district nursing has been organised on a provident basis, or where a payment is required, in return for the services of the district nurse, from all persons except those actually destitute. A copy of the annual report of any such centre will be valued.

MEDICAL ETIQUETTE.

R. B.—A correspondent asks the following question: A practitioner (A.) is ill, and a professional neighbour (B.) agrees to act for him in his practice. A visitor to the district is taken ill and sends for A., and hearing that he is disabled from attending, consents to accept the services of B. B. however is unfortunately detained, so that when he arrives he finds C., another practitioner, in charge of the case. He explains that he is acting for A., but C. refuses to withdraw, and declines to recognise A.'s claim. Was C.'s conduct in accordance with medical etiquette?

*** Under the circumstances stated it does not appear that C. was bound to retire, although it would have been a graceful act on his part to have done so.

MEDICAL EVIDENCE AT INQUESTS.

E. W. J. reports a case, in which it appears that a man was found dead in his bed with a tumbler of oxalic acid by his side, and a bullet wound in his chest. He had left letters saying he intended to commit suicide. Our correspondent was called to see the deceased man, but was afterwards informed by the coroner that no *post-mortem* examination was necessary, and that medical evidence would not be required at the inquest. The question we are asked is, Whether it is customary to do without medical evidence in cases of this sort?

*** In cases in which inquests are held it is usual for medical evidence to be summoned, but it is optional on the part of the coroner and jury. In the case in question it is probable that the coroner came to the conclusion that the cause of death was self-evident, and it appears also the jury came to the same conclusion, but inquests can hardly be considered satisfactory unless the cause of death is ascertained by *post-mortem* examination.

PROVIDENT MEDICAL FEES FOR MINISTERS.

PERPLEXED asks for advice as to what would be a just annual sum for Congregational ministers to pay on the provident system for medical attendance on themselves and their families, consisting of wife and an average of three children, and living on an average six miles from his residence. The ministers are paid a stipend varying from £115 to £120 per annum and have a house and garden rent free.

*** We are advised that the inclusive rate for each family ought not to be less than 2 guineas a year, if there are no chronic invalids, and of course exclusive of confinements. It is quite possible, however, it might not be worth our correspondent's while to attend them at such rates, and he ought to be the best judge himself of a question of this kind.

A MEDICO-ETHICAL QUERY.

T. S. G. writes: A. is asked by a patient of his to go and see his father, who has been dead a day or two, just before closing the coffin, as the relatives so far had noted no change. A. found that deceased had been attended by C., to whom he wrote a very courteous letter explaining the case. The course C. has always adopted in similar cases is that the medical attendant should be present, or his sanction in writing should be previously obtained. What is the proper course to pursue in such cases?

*** Although there is no specific ethical rule relating to the above exceptional question, we entertain no doubt that, it would devolve on a practitioner placed in the position of A. specially to solicit the presence or obtain the assent of the medical attendant on the deceased to the suggested proceeding; otherwise he would commit a breach of medical courtesy.

SALE OF PRACTICE AND PUBLIC APPOINTMENTS.

THE following question is asked by two correspondents: A. and B. hear of a death vacancy through an agent, and enter into negotiations for the purchase of the practice. With the practice is a public appointment, which, although it had been held by the deceased, on his death had been thrown open by advertisement in several papers to public competition. A. is the successful purchaser, and endeavours also to get the appointment, but is beaten in the competition by B., who has also become a candidate. It is asked whether B. was justified in becoming a candidate under the circumstances.

*** The vendor of a medical practice in which there is a public appointment cannot claim to sell the latter to a purchaser of his practice. If, however, the knowledge of the vacancy of the appointment could only have been obtained through the negotiations for the sale of the practice, an honourable man would be debarred from becoming a candidate for it unless he purchased the practice. But where the appointment has been publicly advertised such a restriction does not apply.

ANSWERS.

FOREIGN STUDENT might communicate with Dr. Fletcher Little, 32, Harley Street, London, W., the Secretary of the London Post-graduate Course.

DURHAM.—We sympathise with our correspondent, but fear that it is not likely that he would succeed in obtaining any redress.

BEACON PROPER.—The matter is purely a private one, and does not appear to call for comment here.

P. N.—The prescription for alkaline soap spirit is as follows: ℞ Sapo. mollis ʒ viij; spt. vin. rect. ʒ iv; solve et filtra; deinde adde ol. lavand., gtt v. *Sig*: spirit. sapo. kalin. (Hebra). Mix with sufficient water to form a lather.

OBLIGED.—There is a distinctive hood and gown associated with the degree of M.D.Brux. They may be obtained of Messrs. Ede, Chancery Lane, London, E.C. Photographs of the robes (full dress and plain) may likewise be had from Mr. Cleare, photographer, Lower Clapton, London, N.E.

THE FERTILITY OF TWIN SISTERS.

M.D. writes in reply to "B. T. H.": I may inform him that I am married to a twin and have a healthy female child. Her sister married a cousin of mine, they also having a healthy female child. I may add that both sisters exhibit a tendency to extraordinary fertility.

IMBECILE ASYLUMS.

M.D.—The Royal Albert Asylum, Lancaster, receives imbecile patients from the northern counties at 25 guineas a year provided their friends cannot pay more, the usual age of admission being between 6 and 15; if older than this the case might be admitted to Baldovan Asylum, Dundee (Physician Superintendent, Dr. D. M. Greig). Patients are sometimes received as permanent inmates on payment of a life composition fee at Earlswood and the Royal Albert Asylums.

ADVERTISEMENT OF DISSOLUTION OF PARTNERSHIP.

R. M., M.D.—Such an advertisement in the local paper would be undesirable and not in accordance with medical custom. Notice of change in a partnership ought only to be sent to the patients of the firm, and the outgoing partner is not justified in advertising further than may be necessary to render himself free from liability arising out of his late partnership.

RECIPROCITY IN MEDICAL DIPLOMAS.

M.R.C.S., L.R.C.P.—There is no actual reciprocity between Germany and England with regard to medical practice. Any person who practises medicine in Germany, if he do not possess a State qualification obtained by passing the State examination, is liable to fine and imprisonment if prosecuted and convicted. Germans can practise in this country; but if they commit a breach of the Medical Acts (1858) by implying by the use of medical or surgical titles that they are registered under the Act or are recognised by law as physician, etc., they are liable to prosecution; under certain circumstances they could also be proceeded against under the Apothecaries Act.

CYCLE SADDLES.

M.D.—We referred our correspondent's query to Mr. E. B. Turner, F.R.C.S., who writes as follows: I should think it very doubtful if any one with procidentia uteri requiring a stem pessary should be allowed to ride at all, but if she does she requires a special saddle, such as the Henson peakless, or, better still, such a one as Dr. Richmond's. Anyone suffering from hæmorrhoids may use any saddle which suits him, and which on proper adjustment he finds comfortable. He does not require any particular make. (A description of Dr. Richmond's saddle will be published shortly).

PROFESSIONAL SECRECY.

INQUIRER.—First, "Inquirer" should say as little as he possibly can. The less he says the fewer questions will he be asked. If directly asked by the brother he should say that he has given his opinion to the patient, and refer the brother to her. If asked by the father the case may be different, and "Inquirer" should judge what will be best for the patient. The course she proposes to take may be a wise one, in which case he should respect her confidence, and tell her father that she is suffering from a temporary derangement of health, which with a complete change of air and scene will be put right. It may be that she is acting foolishly, and taking a course that will lead to trouble; and if "Inquirer" is satisfied that this is so, he might be well advised to take upon himself the responsibility of communicating the state of things to her father.

ECTOPIA TESTIS.

DR. E. HARDING FREELAND (Beaumont Street, W.) writes: "Sterility" (BRITISH MEDICAL JOURNAL, July 10th, p. 123) may find the following references helpful:—Jacobson discusses the matter critically and intelligently (*Diseases of Male Organs of Generation*, ed. 1893, pp. 45-49). Humphry and Jacobson say: "At least three cases have been recorded comparatively recently in which cryptorchids have married and begotten children" (*System of Surgery*, Holmes and Hulke, vol. iii, p. 466, ed. 1883). H. Morris says: "Retained and ectopic testicles must not be regarded as being invariably functionless. It is pretty certain that a misplaced testis is healthy and functional, though small, until by pressure and repeated attacks of inflammation it degenerates and becomes sterile. Even then the man need not be sexually incapable" (*Injuries and Diseases of Genito-urinary Organs*, p. 23, ed. 1895). Bowlby says: "It is now tolerably clear that whereas in the majority of cases the testes are undeveloped and the patient sterile, in a few the gland is active, and semen is secreted" (*Surgical Pathology*, p. 389, ed. 1887). The chief points in favour of capability of impregnation would seem to be:

(1) Age under 30; (2) testis in abdomen; (3) virility; (4) presence of spermatozoa in semen; (5) absence of inflammatory attacks or injury to testes; (6) absence of signs of degeneration. If "Sterility" could get a chance of examining the semen for spermatozoa it would be helpful. This I managed to do in a similar case, but with a negative result.

NOTES, LETTERS, Etc.

SANITARY TOWELLETES.

WE have received from the Sanitary Wood Wool Company samples of a new form of Hartmann's sanitary towellettes, which are sold at a price which is equivalent to a halfpenny each. The idea of using this material for the purpose of catching the menstrual fluid is no doubt a good one, but it is always necessary to choose a pad adapted to the needs of the particular case.

AN EIGHT HOURS' WORKING DAY FOR MINERS.

DR. WILLIAM HARDMAN (Blackpool) writes: I do not quite follow all the arguments relating to this subject in your article in the BRITISH MEDICAL JOURNAL of July 3rd. You say that it is unfair to compare miners with the general population as regards the incidence of disease, and you object to Dr. Ogle's conclusions drawn therefrom. You then proceed to compare miners with agricultural labourers, and seem to infer that these conclusions should be accepted rather than the others, But it appears to me that it is much more unfair to compare miners with the healthiest class in the community—to wit, the agricultural labourers—than it is to compare them with the population at large. Why are miners "from the very nature of their calling men of far stronger frame and greater endurance than the average"? and why is it "therefore unfair to compare them with the general population"? I might argue as fairly that they are strong because of the nature of their employment, and that they ought to have the benefit of this in comparing the class with the general population. Why should they be compared with the agricultural labourers, who only number about 10 per cent. of the population, rather than with the other 90 per cent.? How would medical men compare with the agricultural labourers, for instance, or any other class you like to take excepting ministers of religion? You do not mention that the chief opposition to an eight hours' working day comes from the miners themselves, about 100,000 of whom object to it because they do not work anything like eight hours a day. Mining work is mostly piecework, and the men work as long or as short as they please. I do not think the matter needs advocating from the point of view you have taken, which is quite out of date. The arguments you adduce are self-evident propositions. The difficulty is to make the men see it; to get unanimity amongst them. There would not be the least trouble with the employers.

*** Our correspondent is surely somewhat hasty in assuming that "there would not be the least trouble with the employers," in the face of the fact that in many colliery districts the miners have failed by combination to force an eight hours' day on the owners. The fact—if it be a fact—that 100,000 miners object to an eight hours' day "because they do not work anything like eight hours a day," is irrelevant; it is not proposed by legislation to force anyone to work, but to prevent others, especially young people, from being overworked. Our arguments may be "self-evident propositions," but they are clearly not "out of date," or the Mines Eight Hours Bill would have been law before now. The comparison of miners with agricultural labourers in point of health was taken from Sir Walter Foster's speech on the motion for second reading of the Bill, but we think it a fair one. Whether the physique of the average miner be the result of his occupation or not, it is unquestionably superior to that of the average member of the general population; it is therefore misleading to treat the two as equal quantities for statistical purposes. Agricultural labourers as a class are probably inferior in physique to miners; this makes the higher death-rate among the latter all the more remarkable.

CRIMEAN NURSES.

MR. E. TEGART, Secretary to the Hospital of St. John and St. Elizabeth, 50, Great Ormond Street, W.C., with reference to the announcement in the *Gazette* stating that "the Queen has been graciously pleased to confer the decoration of the Royal Red Cross upon the undermentioned ladies (under Clause 5 of Her Majesty's Warrant dated April 23rd, 1883), in recognition of their services in tending the sick and wounded: Sister Mary Helen Ellis, Sister Mary Stanislaus Jones, Sister Mary Anastasia Kelly, Sister Mary de Chantal Huddon," writes: "It may be of interest to the public to learn that these sisters have received this decoration as being the only survivors of the Catholic sisters who gave their services in nursing our soldiers during the Crimean war over forty years ago. Their services were very much appreciated by Miss Nightingale, who indeed has ever since shown her interest in them in many ways. The three first mentioned, together with another who has died since, were, on their return from the East, asked to undertake the nursing of a hospital just then being established in Great Ormond Street for incurable and dying female patients, and to this hospital they have been attached to the present time. This gracious recognition by Her Majesty will be felt by the sisters all the more because it has been made in this year when all the events of her long reign are being recalled to mind."

A SEPTUAGENARIAN STUDENT.

MEDICAL men justly pride themselves in their devotion to their noble profession, but very few of them show it so practically as M. Boryski, a student of Warsaw, who has just obtained his diploma at the age of 75. This persevering son of Æsculapius began, says the *Daily Chronicle*, his studies at the age of 21, but funds failed him, and he took a spell of twenty years as a tax collector returning then to his first love with a modest competence. Just then a Polish rising occurred, and he became implicated in it, with the result that he was sent for life to Siberia. For thirty-two years he worked in the silver mines, obtaining at last in 1895 a remission of his sentence. Losing no time, he hurried back to Warsaw, resumed the thread of his educational course, and is now fully qualified for practice.

LETTERS, COMMUNICATIONS, ETC., have been received from:

(**A**) A. B. C. D.; F. J. Allen, M.B., Birmingham. (**B**) Mr. J. R. Burnett, Keswick; Dr. J. Beddoe, Bradford-on-Avon; Messrs. Burroughs, Wellcome, and Co., London; Bombay Medical and Physical Society, Secretary of the, Bombay; Mr. R. Barwell, London; Dr. T. R. Bailey, Bilston; Dr. E. M. Brockbank, Manchester; Dr. J. O. Brookhouse, Nottingham; Dr. J. H. Bryant, London; Beacon Proper. (**C**) Mr. J. Clough, Leeds; Messrs. Cassell and Co., Limited, London; Sir R. M. Craven, Hull; Miss J. Cock, M.D., London; Mr. J. Cahill, London; Mr. H. Carus-Wilson, London. (**D**) Mr. A. S. Dawson, London; Durham; Sir William Dalby, London; Mr. M. B. Doine, London; District Medical Officer; Doubtful. (**E**) Enquirer; Mr. L. C. Edwards, Bristol; A. M. Elliott, M.B., Titchfield. (**F**) Dr. T. R. Fraser, Edinburgh; Mr. W. M. Frobisher, Leeds; Mr. H. G. Falkner, Hull; W. Fletcher, M.B., Coventry; Mr. E. H. Freeland, London. (**G**) F. T. Griffin, M.B., Southampton; Mr. T. S. Gimson, London; Mr. H. B. Gardner, London; Dr. J. H. Goodliffe, Lancaster; Dr. J. Griffiths, Cambridge; M. Gilchrist, M.B., Glasgow; Mr. M. Grettin, London. (**H**) Mr. N. Humphreys, London; Dr. W. Hutchinson, Buffalo, N.Y.; Dr. A. Hughes, Barmouth; Dr. R. Harris, London; Dr. J. Highet, Workington; Dr. J. B. Hurry, Reading. (**J**) Dr. C. M. Jessop, Redhill; Dr. B. Jones, Leigh; Mr. J. A. Jelly, Macclesfield; Mr. T. R. Judson, Liverpool. (**K**) Mr. W. King, London; Dr. W. M. Kelly, Taunton; Messrs. Krohne and Sesemann, London. (**L**) Mr. F. W. Lane, London. (**M**) Mr. K. W. Millican, Keswick; Dr. R. Maguire, London; Dr. J. W. Moore, Dublin; M.D.; Mr. J. Moss, London; Medical Student; Mr. A. MacLennan, London; Medical Defence. (**N**) Mr. P. Newell, Crowborough. (**O**) Omega; Mr. G. Okell, Middlewick; Obliged. (**P**) Dr. M. Perry, Spalding; Dr. N. Paton, Edinburgh; Mr. J. P. Pendlebury, Ormskirk; Dr. W. Pasteur, London; P. V.; Perplexed; Mr. R. B. Pilcher, London; Poor-House Officer (Scotland); Dr. E. Pelletier, Montreal; Pro Utilitate Hominum. (**R**) Dr. R. R. Rentoul, Liverpool; Mr. A. W. M. Robson, Leeds; Mr. R. N. Ramsay, Edinburgh; Mr. J. Roberts, Cadishead. (**S**) Mr. G. Stoker, London; S.; Dr. J. O. Symes, Clifton; Dr. M. A. Starr, New York; W. H. B. Stoddart, M.B., London; Dr. G. E. Shuttleworth, Richmond Mr. J. B. Smith, Probus; Dr. E. M. Sympson, Lincoln; Mr. T. F. H. Smith, Farningham. (**T**) W. Thomson, M.B., Monte Video; Thrift. (**W**) Mr. G. E. Williamson, Newcastle-on-Tyne; Mr. A. T. Winterbotham, Swinton; Dr. R. Wise, London; Dr. S. White, Sheffield; Dr. W. R. Williams, Preston; J. L. Williams, M.B., Wrexham; Mr. A. Winkley, London; Mr. W. Wilkin, London; Dr. F. J. Waldo, London; Mr. R. C. Worsley, Ramsgate; etc.

BOOKS, ETC., RECEIVED.

The History and Technique of the Vaginal Radical Operation. By Dr. L. Landau and Dr. T. Lendau. English Translation by B. L. Eastman, M.D., and A. E. Giles, M.D. London: Baillière, Tindall, and Cox. 1897.

Hallucinations and Illusions. A Study of the Fallacies of Perception. By Edmund Parish. London: Walter Scott. 1897. 1s. 6d.

On the Synthesis and Molecular Constitution of Dead and Living Proteid. By P. W. Latham, M.A., M.D. Cambridge: Deighton Bell and Co. 1897. 1s. 6d.

Die Hefen als Krankheitserreger. Von Dr. O. Busse. Berlin: August Hirschwald. 1897. M.3.60.

***** In forwarding books the publishers are requested to state the selling prices.**

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N.B.—It is against the rules of the Post Office to receive letters at *Postes Restantes* addressed either in initials or numbers.

AN ADDRESS
ON
THEORY AND PRACTICE.

Delivered at the Combined Meeting of the Cambridge and Huntingdon, the East Anglian, and the South Midland Branches of the British Medical Association at Cambridge.

BY T. CLIFFORD ALLBUTT, M.D., LL.D., F.R.C.P., F.R.S.,
Regius Professor of Physic in the University of Cambridge.

AFTER thanking the Branch for the honour of his election to the Presidency, and expressing his particular sense of the generous support of the Downing Professor of Medicine, whose long services to the Branch made his own election seem like a usurpation, the President went on to say:

On the difficulty of finding a subject proper for such an address as this I will not discourse; many of you have been in the same position, and beset by a like embarrassment. Yet, almost without deliberate choice, I found myself drifting into thoughts which are now occupying the keenest attention both of contemplative men and of men of affairs; thoughts, moreover, which have a peculiar propriety within the walls of a university. I propose to speak to-day of the relative importance of theory and of practice in the arts; and especially, of course, in the art of medicine. It is said that Englishmen are falling behind other nations, and especially behind the German nation, in their perception of the value of theory in the practical arts. Now this is somewhat strange and inconceivable to us. Englishmen proudly feel in this year of the Greater Jubilee that their achievements in the conduct of life are not only great but incomparable. Not only has England become great as an empire, as the Roman Empire; it is great also in the achievements of the intellect: the land of Roger Bacon, of Francis Bacon, of Newton and Adams, of Berkeley, Locke and Hume, of Boyle, Priestley, Cavendish and Dalton, of Young and Faraday, of Harvey, Owen, and Darwin, need not be ashamed even before the brilliant nation of Descartes and Laplace, of Lavoisier and Cuvier, of Paré, Bichat, and Bernard. Nor will I forget to speak of our place in letters, wherein we acknowledge none as our masters; for it is of the gifts of imagination no less than of the gift of analysis that scientific theory is born. Can it be true, then, that with these endowments we are to fall behind in the practice of the arts because, as a nation, we have no due sense of the bearing of theory upon practice?

It cannot be doubted, I fear, that, in some departments of knowledge we are falling behind relatively if not absolutely; that we have failed to keep before ourselves a due sense of the value of theory, and have forgotten that, although in generalisation we should never lose our hold upon detail, nor lose our tact in converse with the manifold aspects of life, nor our memory of the devices whereby we must meet the incursions of contingencies often themselves incalculable, we shall nevertheless fall behind in the fight with reluctant Nature if we do not incessantly revise our formulas in the light of progressive research on more and more general lines. We have perhaps forgotten that the work of Watt and Stephenson would have made little progress but for the great modern advances in thermodynamics in which, among others, are eminent the names of our own Joule and Thomson; we have perhaps forgotten that, brilliant as is the work of the modern electrician, his achievements depend upon the theoretical researches of disinterested students such as Faraday and Hertz; we have perhaps forgotten, as a contributor to *Nature* said last year, that "Kekulé first gave definite form to Frankland's conception of valency, and his application of this idea to the study of the carbon compounds was nothing less than epoch making. Out of this conception grew the famous theory of cyclic compounds which has been prolific to an extent almost unparalleled in the history of pure science, and which on the practical side has made Germany what it is in the domain of organic chemical technology."[1] In our own art, proud as we may be of Jenner and Lister, yet we have to remember that the recent advances in the theory of infection are due rather to the schools of Pasteur and Koch than to our own; while the scarcely less remarkable advance in the discovery and manufacture of new drugs is almost entirely of foreign growth.

How comes it, then, that if we are a people of contemplative as well as of practical gifts, we have so far forgotten ourselves as to fall behind—in many respects far behind—in discovery and, consequently, in practical success? Some of the reasons are not far to seek. The most important of all is, no doubt, that Englishmen, by their practical genius—that is, by their gifts of adventure, of restless energy, of perception of contingency and accident in daily life, and of a correlative readiness of resource—have achieved so much in the mastery over man and Nature, that in their day of prosperity they have lost reverence for those qualities of the mind upon which the development of science and art must in the main depend. The system of practical rules and maxims which they have built up are now becoming obsolete, and need revision in the face of larger requirements; as the rules of the first steam engineers had to be revised in the face of the discovery of the mechanical equivalent of heat, a discovery not made by engineers but given to them. That practical rules shall from time to time be brought up for revision, and be remodelled on the lines of advancing theoretical research, is essential to the continuance of our progress and of all successful practice.

Another reason of our defect is that our people are above all things efficient in the manual arts. Now the manual arts are less open to theoretical inadequacy than the chemical arts or the art of medicine; the complexity of the conditions is less, the incursions of incidental contingencies are fewer, and the necessary calculations are both simpler and in their effects more immediate and obvious. Hence we are tempted to assume that the ready calculations of the practical man are roughly sufficient for all other arts, as they are for the manual; and that they pay as promptly and obviously. But this is not the case; as we pass from the manual arts to the chemical, let us say, or to the physiological, we have to deal with causes of much greater complexity, contingencies are multiplied and are less and less easily foreseen; thus it is that even valid generalisations have to wait for the fulfilment, or practical fulfilment, of a number of secondary verifications before they can be utilised; meanwhile they are as useless to the practical man as, for example, the more general laws of meteorology are to the navigator. Now thus to wait means time and men's lives; both must be spent without reward until a considerable block of discovery is made, verified and applied. Research, then, in the chemical and biological sciences at any rate, cannot be self-supporting, but must rest on large endowments. The American people and the people of Lancashire and Yorkshire now see this more or less darkly, and they are endowing research with a generous hand; but national aid—liberally given in the United States as well as in France and Germany—is refused in England, and will be refused until the nation, aroused by the urgency of pressing need, determines no longer to be governed by the clerks of the Treasury.

Another reason for our defect is the want of a bridge between the contemplative and the practical man. The man of abstract speculation, the experimenter absorbed in his single desire to wrest her secrets from Nature begins at the opposite pole from him whose whole activity is absorbed in industrial adventure. How are we on the one hand to impress a philosophical character upon the arts and on the other to bring the student into relation with the artist and the workman? I remember in 1870, or thereabouts, that a mathematical friend of my own, seeing in an engineer's shop some piles of cog wheels with fractured cogs, exclaimed to the proprietors that the mutual bearings of cog-wheels had been calculated by Professor Willis thirty years before; but his protests were received with the scornful exclamation, "What could a cloistered university don know of the needs of a Yorkshire mechanic's shop!" On the other hand Oxford of the seventeenth century looked with superb disdain upon Boyle whom, as a man of breeding, it accused of abandoning himself to base and mechanical pursuits. That, as societies grow larger, the progress of the higher life of man is inseparably bound up with the industrial, was not then understood; indeed, it is often hidden from us to-day. It is the pride of modern Cambridge that this truth has come home to her;

that this bridge between the student and the practical man is being built; that she is pouring her great stores of abstract learning into the arts—into the art of engineering, the art of agriculture, the art of medicine—and elevating them by the influence of her liberal traditions. Indeed I conceive that another cause of our blindness to the place of theory in industrial progress may be traced to the seclusion of Oxford and Cambridge in the earlier part of this century, and to the absence of teaching universities in our great hives of industry. In Scotland, where teaching universities have been a closer part of the daily life of the folk, we find a more frank and sincere recognition of the power of theoretical conceptions, and in the north of England the liberal foundations of the Victoria University are beating up against a heavy leeway of ignorance and neglect. But in London, the centre of our industrial life, not only is there no teaching university, but the so-called University of London, great in some respects as its services have been, has brought upon us the penalty of a false ideal of education by ingraining more deeply in Englishmen that dangerous and facile confidence in obvious and immediate results which is bred of familiarity with the simpler manual and commercial industries. Thus it is that examinations have obtained in England a factitious and mischievous predominance over education properly so-called.

Once more the man of science may legitimately search either for the effects of known causes, or for the causes of known effects. The two methods are not essentially distinct, and the one or the other will be used as the subject matter, the occasion, or the bent of the observer may determine. But for the practical man the former method—the search for the effects of causes—is usually sterile, unless for the purpose of verifying his inferences. If, for example, on the study of certain patients who present a peculiar œdema of the skin associated with dementia we surmise the cause to be a deprivation of the thyroid function, taking this as a cause we may endeavour to renew our particular effects from it, and by removal of the thyroid we may learn whether this cause has the efficiency we had assumed. Nevertheless, were we, as physicians, to take up some general and well verified cause—say, the coagulation of the blood—and to endeavour to work down from this to its consequences, we might well fail to hit upon those processes of thrombosis in veins or of the healing of wounds which are important for our work; in such a pursuit we should probably be led to interesting discoveries but probably not to the particular truths with which the medical art is primarily concerned. This distinction it is which medical and other practical men often intend to emphasise when, speaking inaccurately, they oppose deduction to induction, to the proscription of the former; for the practical man wants to know how to produce not any effect but some particular effect, which he desires as an end.

Finally, not Englishmen only, but men of all nations, have to contend as societies against the mental indolence of individuals. As Mill says,[2] "It would be a great error to assert that speculation, intellectual activity, and the pursuit of truth are among the more powerful propensities of human nature."

Such, as it appears to me, are some of the chief causes of the present divorce between theory and practice which, unless we can repair it, is fraught with evil for us in the future. In the past the harm has been less felt; from the cutting of a drain to the government of kingdoms, we are a pioneering people, and rough and ready methods do well enough for rough and ready ends. In a recent Franco-Egyptian journal it was petulantly said that when French people want a bridge experts are called in and a project is drawn up. This is submitted to the administration, and in time is reported upon; then, in due course, a revised project is sent in, in its turn to be re-reported upon, and recommitted; and so on to infinity. Whereas, when Englishmen want a bridge, the governor sends for the local surveyor and says "A bridge is wanted; make one!" and it is made. The French bridge would no doubt be the finer piece of work, if it ever came into existence. Now, however, it is time for us to show the world that, pioneers as we are, we are still, as we have been in the past, more than pioneers, and as capable of original, patient, and intimate research, as of satisfying instant practical needs.

Against disadvantages I have partially indicated we have to contend if we decide that it is worth while to teach men the theory as well as the practice of their calling. Whether it be worth while I will briefly consider. Now the aim and purpose of an art is to set forth some desirable end: science, however, knows nothing of ends; the purpose of science is an inquiry into the order of Nature; of art, to scheme some way of combining the results of the inquiry in order to attain the end. But ends are desired before the means can be fully known—often very long before; indeed, in no case can it be said that our means are fully adapted to secure the ends which we desire; thus we contrast ends which we call practicable with ends which we have to be content to dismiss for a time as visionary. The artist or workman then contents himself with immediately practicable ends; yet, even for these, science at first can equip him but ill.

That a simple fracture of a limb should be healed is not a very remote object of desire; it is an end, moreover, for which science has thought out an appropriate combination of causes. A compound fracture is a more difficult piece of work, yet science has been equal to this emergency, and by bacteriological and other investigation some fairly adequate scheme has been worked out by the surgeon. That chronic Bright's disease should be cured is an object of desire for which science has not yet provided the means; by no combination of causes as yet known can this end be definitely attained, yet a malady of far more hopeless aspect—namely, a tumour of the brain—has been cured over and over again by scientific means, whether surgical or, as in the case of syphilis, medical. In all these cases, however, and in almost all others, art demands far more than science can yet give. Nay, in none of these cases has science mastered the larger problems concerned; yet art cannot wait, and happily need not be wholly inactive, until science has thoroughly investigated the conditions of the phenomena.

The way in which we are enabled thus provisionally to act is by the formulation of certain rules, rules partly built up of the more abstract formulas or "laws" of the student, partly of the more homely schemes of the artist or workman himself. These rules or maxims we call "empirical laws," and, temporary and provisional as they are, by their means we are enabled to compass considerable ends. Where the navigator or the engineer in astronomy or in physics has to deal with an exact science these empirical laws or rules may be of very wide application and of great practical service. In meteorology, on the other hand, wherein even if the sciences concerned be of the more exact kind, yet the phenomena are dependent, not upon a few wide and simple causes, as in astronomy let us say, but upon the interaction of many subordinate causes which so cross and deflect the course of them and of each other that contingencies and disturbances are manifold and incessant, it becomes as difficult for the navigator, as in meteorological practice we know that it is, to formulate weather rules of any general utility.

When, further, we come to physiology, the larger causes of which are not only deflected in their operation by complex and intercurrent causes in various combinations, but the subject matter of which is concerned also with more sciences than one, and these largely of the inexact kind, the difficulty of framing empirical laws is enormously multiplied, and the frail and provisional nature of these laws, maxims, or rules becomes more evident. For instance, Bretonneau and others made a rule, or empirical law, that a certain group of symptoms, of which disease in the throat is a prominent feature, can be marked off as having certain properties and a certain course; and is thus to be distinguished from other maladies with sore throats by a special name, the name of diphtheria. This rule was soon extended to certain peculiar sequels of the primary group—certain palsies and so forth, and the highly infectious quality of the disease was connoted.

These empirical rules or laws lasted awhile, and then were found by close observers and investigators to be imperfect. On comparing the rules with later experience, they were subordinated to a far wider generalisation, and a new rule was formulated which expressed the origin of the disease in a local attack by a certain poisonous fungus, the venom of which more or less rapidly permeates the system. Now this rule is being enlarged and supplemented so as to include a certain behaviour in respect of

immunity; and diphtheria, its toxin and its antitoxin, are brought under new generalisations so wide as to include infections superficially so dissimilar as small-pox, tetanus, and snakebite.

I will take another instance: in respect of ague the empirical rule was formulated that it is a disease of such and such features and curable by quinine. This rule had a long period of acceptance until M. Laveran showed its inadequacy, and we learnt that quinine does not cure ague; that ague cures itself, and that quinine destroys the cause of ague, a very different proposition: thereupon our provisional rule is altered, and a new one of wider generality is framed. And so on, wherever we take instances of this kind we find that in the defect of the more general laws of the exact sciences which are at the service of engineers and chemists—such, for example, as the law of the conservation of energy, of the velocity of falling bodies, the kinetic theory of gases, or the classification of organic compounds—we have to be content with rules of much narrower application and of a more provisional validity. It is especially our duty, therefore, always to use our rules with two reservations—first, that they have no general validity; and, secondly, that they have but a short life, being destined from time to time, as our theoretical knowledge advances, to be dissolved and perhaps made up again into wider and more permanent, though still provisional maxims.

Thus, then, by erecting temporary scaffoldings of laws of provisional validity—rules or aphorisms rather than laws—the edifice of an art, such as that of medicine, is built up. These rules first formulated by the workers themselves for their own guidance are improved into maxims—the well-known "middle axioms" of Bacon; though they are to be distinguished from the far more valid middle axioms which at a later stage are brought down for practical purposes from ascertained laws of a more abstract kind. Of such is the doctrine of vaccination. As in morals, so in medicine; practical precepts serve us for a time, continually undergoing enlargement as our conceptions widen, until those large generalisations can be safely formulated which we call more strictly "laws." These early rules are, as I say, first proposed by the journeyman, as when the working doctor says, "Quinine cures ague;" or, again, that a certain disease with a sore throat and a peculiar red rash is catching; but as these simple and rudimentary generalisations are gradually replaced by wider and wider postulates or laws—as, for example, that quinine does not cure ague but kills a certain animal which is the cause of ague, they become merged in generalisations so wide that the ordinary worker can no longer deal with them. In like manner he finds his simple rules about infection being caught up into broader formulas concerning infection and immunity; and these, again, becoming so involved with other laws of the life of low vegetable organisms, that he has to resign the study of them to persons specially adapted by education, equipment, and relative leisure for research.

Here, then, begins that divorce of the workers in an art from the thinkers, which is one of its graver dangers; and here lies the fertility of the Cambridge method of carrying on the pursuit of the arts themselves side by side with the sciences with which they are concerned; thus the worker in the concrete is constantly reminded of his debt to the abstract thinker, and the abstract thinker is less tempted to forget that, in the application of his wider generalisations to practice, he is apt to ignore contingencies and heterogeneous perturbations which cut in and modify their practical applications.

It is not, then, that theory and practice are essentially opposed, but that the man of theory loves to move in the larger sphere of those more general laws which express the order of phenomena in their wider orbits, and therein to neglect those incidental and subordinate causes which after all are the main concerns of the journeyman. It is as though a mathematician would work at his problems, neglecting friction; a political economist at the secular aspects of industrial problems, without taking account of the passions of mankind; a hydrographer at the sweep of the great systems of oceanic currents, without taking account of the whirlpools, races, and undercurrents which modify them on every coast and in every gulf; yet the journeyman is mainly concerned with the irregularities of which the abstract thinker may be ignorant. While, therefore, the theorist may rightly reproach the practical man with the narrowness of his outlook, the practical man may usefully retort that a theory which only accounts for the larger recurrent cycles is imperfect, even as a theoretical statement; and that in respect of cases not only are the wider laws to be formulated, but also the smaller periods of those many contingencies and perturbations which, in a complete theoretical statement, have all to be reckoned with. If we forecast our weather on barometrical pressure alone, we shall be disappointed; a complete theory of meteorological cases must comprehend formulas for the phenomena of moisture, of temperature, of electricity, of oceanic currents, and so forth. A meteorologist, who pursued his studies in the Islands of the Blest, might become a very learned philosopher, but would be a very untrustworthy guide to the weather; and one who should work, say at physics or physiology in a university where engineering and medicine are unknown, would likewise fall out of touch with the practical ends which are the ultimate purpose of all science. There is a casuistry in the arts, as there is in morals; particular instances are apt to elude general principles: and although it be true that, as with statistics, by taking a sufficiently large number of instances we may eliminate incidental causes, yet this is precisely what the practical man must avoid. It is no help to a patient who fears health may break down at 30 years of age to assure him that the average expectation of life at his age is considerably more than 30.

For success in practice then we must not only seek after some knowledge of the scope and direction of the larger generalisations which are worked out in the laboratory, but we shall still hold, together with these, certain rules or precepts of narrower scope, and of more provisional value, which we have framed for ourselves in our conflict with the variety of determining agencies which meet us in everyday work; such as the contingencies in the individual case of inheritance, habits, and circumstances, causes which in the individual may even prevail over more general causes. The contemplative man will work all these out some day, but he cannot as yet, nor in the near future, cope with all possible combinations of partial and subordinate causes, so as to obtain a constant or a nearly constant formula applicable to single instances; and even if he achieved this, the formula would be so cumbrous that it would have to be cut up into "middle" or practical axioms.

We shall not, as practical men, whether in medicine or in morals, allow ourselves to be blinded by the light of the brilliant generalisations of the laboratory and the lecture room, helpful as this light is, to the value of the empirical rules which have been painfully gathered together in the trials and errors of generations of men. As Oliver Wendell Holmes says, "Science is a first-rate piece of furniture for a man's upper chamber if he has common sense on the ground floor; but if a man has not got plenty of good common sense, the more science he has the worse for his patient." A sagacious man is not to be driven too readily out of his rules, absurd as they may seem. It would be difficult to quote a more grotesque example than Sir Kenelm Digby's remedy of the "sympathetic powder;" yet by ensuring eight days' seclusion of the wound, and abstention from fussy and dirty dressings, union by first intention was discovered, and the visionary Digby became the unconscious forerunner of Lister. Again, the rustic who said that Tenterden Steeple was the cause of Goodwin Sands was right after his fashion, for it is recorded that the money which built Tenterden Steeple was diverted from its proper purpose of maintaining the bulwarks against the encroachments of the sea.

On the other hand, while clinging to our rules until something better is demonstrated to us, we practical men must not forget day by day to submit our empirical laws to revision; we must bear in mind that empiricism is science without roots. We are right in our paradoxical tolerance of anomalies; we are right in our instinct that broad generalisations are too often impracticable in that they may not take account of incidents and contingencies, but this is not all. The legislator who in his love for consistency forgets human nature rues his pedantry or his children rue it; yet, on the other hand, the practical man is no less a pedant who forgets that his empirical laws, his "admonitions" as they have been called, are but a temporary scaffolding. Such an one is

like Thomas Diafoirus in the *Malade Imaginaire*, who thought it a crime to examine into the validity of his rules, who saw nothing doubtful, nothing difficult in the application of them. He means no harm to his patients, says Béralde; he dismisses you from the world in the best of faith; in killing you he only does what he did to his wife and children, and what, in case of need, he would do for himself. Toinette may well retort upon the doctor: "Hippocrates may say whatsoever he pleases, but the coachman is dead."

If we reason from individual cases only, as too often we do, we may possibly score even some small successes, but such successes may be in conflict with larger and more important ends. We may lower arterial pressure or we may bring down temperature, but we may be as far or even farther away from the cure of the patient. We shall rather visit continually the sources of the contemplative man and, entering into his researches, select from his store certain parts of his science, parts adapted to our ends, and arrange them for practical purposes; they may include our empirical aphorisms or they may dissipate them, or indeed they may conflict with them; if they conflict with them we shall hold to our own imperfect maxims a little longer and meanwhile take the problem back again and again to the laboratory, which is good for the contemplative man, as it brings him down to mother earth where, like Antaeus, he will renew his strength. Thus between theory and practice we shall put together some intermediate truths, which will serve us for a while; and although we are certainly doomed but too often to fail *ex ignorantiâ*—that is, for lack of fuller enlightenment—we shall not fail *ignoranter*—that is, for lack of teachableness. Blindfold too often we are; headstrong we need not be.

Englishmen, then, although second to none in their speculative power, have succeeded in life hitherto by remembering that practice is one thing, speculation another: as a man is one thing and a woman another. Yet in our practical success we are apt to forget that either is barren alone, and that in the union of the two only is the continuance of life. In England the man of thought and the man of action have been too much apart; thus both have suffered. So long as our national work has been pioneering work, rough practical rules of thumb, applied with indomitable energy, have been irresistible; but as industrial pursuits become more complex, and the sciences concerned also more complex, rule of thumb is no longer wide enough or refined enough; methods based upon wider theoretical considerations have to be introduced.

We cannot stand still; we must advance, revolve, or degenerate; pathology must be renewed by the new meanings and new bearings of biology and by a comparative method, embracing in experience no less than the diseases of all living things. We must work out, or obtain from our fellows who work them out, the mechanical and chemical laws which underlie all life, and by a method of exclusion ascertain what the residuum is which may be peculiar to living matter. We shall not assume vitality as a principle, and grudgingly admit a little chemistry and physics to fill up a few holes in a threadbare principle. Medicine depends upon theoretical advance, not in physiology only, but in all sciences; and upon the practice of many, as upon practical optics in respect of our microscopes, upon mechanics in respect of our graphic machinery and so forth; as we change we change our circumstances, and circumstances reacting on us change us again; so that we depend upon a highly compound process of advance and need theoretical reinforcement from all sides.

As an instance of an empirical observation which has grown up from a narrow law of cardiac function into a law of wide biological generality, I may mention inhibition, which is now seen to lie at the root of almost all living organisation. Indeed disease, in the higher animals, is but an escape or divulsion of parts from that inhibition of each and every part by the whole in which the harmony of bodily dynamics consists; every advance depends upon a new inhibition. It is said that treatment has not kept pace with diagnosis; but the truth is we are learning that the means assumed by our grandfathers of immediate modification and rebuilding of diseased organs or tissues scarcely exist. We are discovering that medicine is rather prophylactic and compensatory than direct in its methods; its endeavours must be to redistribute function, temporarily or permanently, on a new scheme, and to guard against dangers and accidents so that the body may, if possible, repair itself; a few specifics, a few direct antidotes of morbid processes may perhaps be retained or discovered, but this kind of aid does not seem indicated as an important method on the charts of our present progress. Indeed the word "specific" always seems to me to be a plaster for our ignorance. Quinine, as I have said, is no longer to be regarded as a specific, it does not counteract ague, it kills the parasite which produces ague; henceforth, then, it takes its place beside turpentine as a cure for an animal parasite.

I have shown the limitations under which the results of the contemplative man can be applied in practice, and the dangers of brushing aside the rules of the practical man too readily and without a full analysis; even if these rules have some aspect of absurdity. Yet we shall remember two things: first, that, after all, theory is the explanation of experience, and that laws, whether of narrow or wider scope, are no more than the *memoria technica* of our experience of the order of things. He who does but compare two facts begins to abstract, to theorise; and even as a practical man he cannot afford to theorise wrongly. When the practical man proclaims that the sun goes round the earth, or that the inhabitants of the Antipodes could not walk with their heads downwards, he is theorising, and there is no theoriser so headstrong in his abstractions, so deeply committed to vague principles as your practical man; for, however ignorant he may be of the true method of speculation, he can no more avoid theorising with the rest of us than he can jump clear of his own shadow. The very dog who quests around a post is making abstractions and drawing inferences. If then we are not to permit ourselves to use the wider abstractions of the contemplative man as soon as they are urged upon us; we may and must learn from him the nature of his methods. Too often the journeyman has not had any training in scientific method, and herein lie some cardinal faults in our system of education, so that in our everyday life we may stand amazed at the magnificence of the hypotheses and the reach of the inferences of illiterate men. Even in making the empirical rules and precepts of the hour, we should be guided by a right method, and should avoid common logical errors. Our faults then, and they are many, are not that we shun theory, but that the inferences we make and the maxims we found upon them are too often made on a false method. We are not taught scientific method, and we blunder accordingly. If I may judge from the papers of candidates for medical degrees, some manuals of therapeutics must be pitiful reading. Certain effects are attributed to the action of a particular drug, and to explain them the candidate begins to roam about in three or four alternative hypotheses, although, as in the case of King Charles and the gold fish, it may be far from established that the effects he alleges can be predicated of the drug at all. To take an instance from our last examinations, it is currently taught not only that tincture of iodine applied externally is a parasiticide, and again, that by some stimulant action it may modify sluggish degenerations of the skin, but also that when thus applied it can, by an alleged "counter-irritant action," ameliorate morbid processes going on in joints, glands, or serous cavities below the medicated surface. Then we have elaborate hypotheses to account for these alleged benefits: one student tells us that the iodine by reflex influence dilates the vessels in the inner parts, and so promotes nutritive activity; another tells us, on the contrary, that it causes a reflex contraction of these vessels and so averts congestion; another tells us that the cutaneous irritation, reflected upon certain nerves called "trophic," alters the internal morbid process in some intimate way for the patient's good. Now can any education be more mischievous than this? Thus practical men in one breath plume themselves on their aversion from speculation, and in the next they hatch or incubate wild surmises to explain consequences which themselves may be imaginary—*ignotum per ignotius*; for no one has produced a tittle of evidence to show that iodine painted on the skin ever had any influence, beneficial or other, upon diseases of inner parts, while the explanations are not only hypothetical but vague, and even mutually contradictory. I will not multiply instances of such foolish disquisitions; but it was in view of this kind of error that the Downing Professor of Medicine, the University

Lecturer on Medicine, and myself, protested against the action of the College of Physicians when our learned colleagues of that body deliberately threw the study of pharmacology out of their scheme of education. By this action they went over to the party of "cram" as opposed to the party of mental training; and a few months later, when the tears of their lament for the heavy burdens of the hapless student were scarcely dry on their cheeks, they dictated to his professors of pathology, a scheme for a compulsory course of bacteriology—a course of instruction in a large field of delicate manipulations which no busy practitioner would ever find time to pursue, and which, if I may speak for myself, perhaps not half a dozen of the Fellows who voted are competent themselves to undertake.

Sagacity in practice, the art of applying so much of larger theory as may be useful and of combining it readily with current empirical rules, a good memory for symptoms, and a quickness in giving what painters call true values to each symptom of a group are qualities partly innate, partly learned in the wards, partly in the world. But even these great qualities are of less effect if associated, as too often they are, with unverified premisses and random speculations.

Another source of fallacy is the vicious circle of illusions which consists on the one hand in believing what we see, and on the other in seeing what we believe. If we believe that a necklace of coral fades with the health of the wearer, we shall see what we look for; if we see a child after taking pæony root get the better of an epilepsy, we may forget that this prescription of Oribasius always contains with the root an active purgative. When we read in the life of Charles Wesley that a plaster of egg and brimstone on brown paper cured his sickness, we may omit to observe that, as Dr. Paris tells us, he also followed the prescription of Fothergill, which was country air, rest, asses' milk, and horse exercise.

Another besetting fallacy lies in what has been called, since the days of Aristotle, equivocal terms. The meaning of words is not precisely defined, and we, as we argue, slip unconsciously out of one meaning into another. That study of language which our public schools so loudly profess, but which, if I may judge by my own students, they carry out so ill, is the best foundation for clear thinking, as it teaches the student to compare words in various contexts and under widely different conceptions and to perceive their concords and discords as they move from one language into another; in a word, to realise the equivocations which lie always like nets about his feet. Mill well pointed out how great a disadvantage it was to the ancient Greeks that they knew but one language; so that for lack of the study of comparative meanings they were often led astray by merely verbal differences.

Finally, let me point out one more danger—that is the danger not only of attaching too high and too permanent an estimate to our empirical laws or maxims within their own sphere, and of forgetting how relative and transitory their values are, but also of carrying them beyond our own sphere, and applying to other orders of phenomena rules which, even within their own order, have to be used with caution and reserve. Yet this error is committed daily, even by medical men. Medical men, let us say, formulate a maxim that insanity, speaking generally, is apt to be hereditary; or that phthisis pulmonalis is infectious—both useful maxims, and indicative of much truth, but far enough from scientific laws. Yet with these imperfect and rather rickety instruments some medical men do not hesitate to invade the sphere of jurisprudence, or the sphere of ethics and civil order, and to order people about in courts of law or in contracts of marriage, forgetting that the very difficulty of using general laws on any large scale, even in medicine itself, and that the difficulties of particular cases which arise under the incursions of the causes of secondary and tertiary perturbations, and which are embarrassing enough in medicine, are still more embarrassing in the more complex orders of ethics and of society. When we are angry with a judge because he declines to discuss a prisoner's guilt "from a psychological point of view," as in a recent celebrated trial was the grotesque appeal of a notorious scoundrel, let us remember that the lawyer, too, has his empirical formulas, which no doubt he ought to revise from time to time in the light of enlarging medical and other knowledge, but which meanwhile, like a sagacious doctor, he will prefer to broader principles which neglect the multiform and heterogeneous elements which are woven into the complex web of the lives of men and women.

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AN ADDRESS
ON
MEDICAL REFORM.

Delivered at the Annual Meeting of the Lancashire and Cheshire Branch on June 30th, 1897.

BY SAM. WOODCOCK, M.D.,
President.

GENTLEMEN.—My first duty is to thank you for the great honour you have conferred upon me in electing me to the presidency of this Branch. I esteem it a very high compliment and I hope I may be able to discharge the functions of the office in a manner to justify the confidence you have reposed in me. It shall be my strenuous endeavour to preside over your meetings with impartiality, courtesy, and patience, but I hope I shall never be lacking in the firmness necessary to the maintenance of the dignity of the chair.

What has been designated "the Diamond Jubilee," the unique celebration of an unrivalled reign, has not only evoked a spontaneous and hearty outburst of loyalty on the part of Her Majesty's lieges, proving that after sixty years of wise and beneficent rule, our good Queen has

> Kept her throne unshaken still,
> Broad-based upon her people's will;

but it has called forth many eloquent panegyrics in review of the widening of the bounds of freedom, the augmentation of the aids to culture and comfort, and of a general enhancement of the moral and material condition of the population, unparalleled in any previous reign.

The march of progress in the Victorian era has been nowhere more marked than in the realm of science and in no province of that realm have greater and more glorious victories been achieved than in that of medicine. It is, however, not my purpose now to pass in review even the great stepping stones by which we have been able to attain to the position in which the knowledge of the science and art of our profession stands to-day. A few great landmarks as, for instance, anæsthesia, antisepsis, and abdominal surgery, offer a tempting theme. For we have here indications of a progress during the Victorian age incomparably above and beyond previous achievements; but the review has already been made in a manner and to a degree much better and more fully than I could possibly hope to do it in the time at my disposal. I must content myself with congratulating the profession upon entering into the labours of the great men with whose names this splendid work will be for ever associated. But, gentlemen, the achievements to which I have referred, as others which have greatly contributed to the progress of medicine and the alleviation of human suffering, have been mainly due to the unwearied patience and assiduous devotion of individual workers whom learning has "lured into her private maze," and we cannot be too grateful for men of matchless endowments whose extraordinary faculties have been employed in wresting secrets from Dame Nature to the advantage of mankind.

There is, however, other necessary work which has to be accomplished by the united efforts of many labourers, and it is to work of this character that I wish mainly to ask your attention to-day. I allude to the subject of medical reform; and here, I believe, a review of sixty years of effort and result would be more accurately expressed in the terms "miserable failure" than even by those of "modified success." I am speaking of legislative rather than administrative reform.

In Queen Victoria's first Parliament there sat a man who may be justly described as the pioneer of medical reform—Thomas Wakley, the founder of the *Lancet*, who was designated in the House of Commons "the Member for

Medicine;" and although one cannot speak of Wakley's methods in terms of unqualified praise, nor always find excuse for the violence of his language, there can be no doubt that his splendid efforts and the high courage with which he advocated the cause he had at heart laid the practitioners of medicine in this country under immense obligation, and were amongst the most potent means by which the small instalment of reform in the Medical Act of 1858 was secured.

More than fifty years ago Wakley introduced a measure into Parliament for the registration of qualified practitioners and for amending the law relating to the practice of medicine in Great Britain and Ireland. This measure aimed, among other objects, at the suppression of quackery; at the punishment of persons guilty of practising without qualifications; and insisted upon the principle of one portal to the medical profession in each part of the kingdom. To-day quackery is rampant; blatant advertisements, imposing upon the credulity of the public, appear on the pages of nearly all our periodical literature; unqualified men practise with impunity, the present law only taking cognisance of the assumption of titles; and there are still twenty gates opening into the avenues of professional life.

I will not weary you with the history of obstruction to Wakley's efforts; but, as now, the cause of failure was apathy and want of agreement in the ranks of the profession, and hostility on the part of the medical corporations whose representatives appear to have had more regard for vested interests than for the general welfare either of the public or the profession. It was the difficulty—I suppose the impossibility—of meeting the views and satisfying the demands of the medical corporations that brought into existence the General Council of Medical Education and Registration whereon each body should be represented. It took that august council all the years that span a generation to summon courage to put its limited disciplinary powers into operation.

I ought not to omit mention of the fact that our Association has had, from the year of the Queen's accession, some regard to the necessity of legislation for the improvement of the organisation of the profession. At the annual meeting in 1837 a Committee was appointed to "watch over the interests of the profession"; but I fear they watched as King Alfred watched the cakes. Of course this Committee issued a report. It resolved to negotiate with other associations. Again and again the question of reform was submitted at annual meetings, probably by one of the class of earnest men who from time out of reckoning have been regarded as rude disturbers of the peace. In 1852 a Reform Committee was appointed, and that Committee laboured assiduously in endeavouring to make the Act of 1858 a measure of reform which should improve the conditions under which the medical profession laboured.

There has also been in existence for some thirty years the Parliamentary Bills Committee, whose functions were to watch the progress of all Bills introduced into Parliament affecting the medical profession. But what can a committee meeting in London three or four times a year do? For twenty-five years Mr. Ernest Hart has been Chairman of that Committee, and for twenty-five years Mr. Hart has assiduously discharged his duties, and has done all that mortal man could do. I know no other man who could have done so much or have done it so well. He has ascertained the views of his Committee; he has, with their authority, approached members of the Government and private members of Parliament who were specially interested in certain measures, and has exerted what influence he could upon them. Indeed, Mr. Hart has been to all intents and purposes the Parliamentary Bills Committee, but I hope, gentlemen, before I have done, to indicate to you "a more excellent way" of influencing Parliament to give heed to the reasonable demands of reasonable men.

I am not insinuating that the Parliamentary Bills Committee has been without influence upon legislation affecting directly or indirectly the medical profession. That would be as unjust as it would be ungenerous; but it is not within the scope of my address to allude in detail to particular measures affected by the labours of that Committee. There is a full and fair account of the labours of the Parliamentary Bills Committee published in the British Medical Journal of June 19th, and it is work for which one should be grateful. But I want to keep clearly in view the present need for and the failure hitherto of efficient and adequate medical reform.

There has been, as you know, amendment of the Act of 1858, but that it has been inadequate and defective, inadequate to the maintenance of the honour and dignity of the profession, and to the protection of the interests of the public, it will not, I think, be difficult to demonstrate. That is what I propose to do, and to offer some suggestions with regard to the way in which further amendment can be accomplished, and, indeed, that is the object and purpose of my address.

The Medical Act of 1886 is more entitled to attention for what it omitted to do than for what it accomplished. It gave the practitioner of medicine in Great Britain and Ireland a miserably small share of direct representation on the General Medical Council. It cannot be denied, however, that the accession of five direct representatives had some effect in stimulating that lethargic body; but this was due more to the quality of the men it introduced, in the first place, than to their number. There can be no more convincing proof of the imperative demand for a reconstitution of that Council, and of the urgent need for an augmentation of its powers, than that five capable and earnest men—men for the most part of commanding influence, in real sympathy with the aspirations of their constituents—should have been able to achieve so little in the way of improving the conditions under which the profession laboured.

The Act of 1886 also made examination in the three branches of medicine, surgery, and midwifery compulsory. But what it did not do was to amend the 40th clause of the Act of 1858, which would appear to have been drawn with a view to further the interests of the legal rather than those of the medical profession. I need not, however, dwell upon the inadequacy of the Act to safeguard the interests of the profession and the public. This has been pointed out again and again in the reports of your Parliamentary Bills Committee. It does not prevent certain kinds of unqualified practitioners from assuming titles which lead the public to believe that they are qualified to practise, and it is notorious that prosecutions of unqualified persons for assumption of medical titles have repeatedly failed. I am not just now concerned with the Act as relating to medical education and registration. I do not overlook these important provisions, but I am anxious to consider matters which are outside the questions of education and registration, and to show how utterly inadequate the law is to protect the public from the most impudent and dangerous class of charlatans and quacks.

Less than three years ago the Parliamentary Bills Committee had placed before them letters from eminent counsel on proposed amendments of the Medical Acts, and Mr. Muir Mackenzie, Mr. Costelloe, and Mr. Turner agreed that "the state of the law is, in our opinion, insufficient to deal properly with many classes of cases, such as that of the Indian oculists, or any other persons who, without assuming any definite title or specifying any particular qualification, do nevertheless pretend to the medical skill for which the law has made registration the *primâ facie* test." That, gentlemen, is the unsatisfactory position in which we as a profession, and the public, stand to-day.

Now, it cannot be too emphatically insisted upon that in striving to achieve an amendment of the Medical Acts we are seeking to safeguard the interests of the general public no less than those of the medical profession. We have been accused of pursuing class legislation, but all legislation is class legislation, inasmuch as it affects primarily some class whose particular requirements it is intended to meet.

Men in all ranks of life are consulted—wisely and properly consulted—by Governments and legislators with regard to the character of measures intended to affect specifically the classes to which they belong. It is thus that expert evidence is afforded and defects are discovered and sometimes repaired in the legislative machinery.

None know so well as medical practitioners the disastrous consequences to the public, and more especially to the poor and ignorant portion of the community, of the laxity of the law with regard to irregular and unqualified practice. There is not another profession in the world, no class anywhere, that has given such abundant and continual proof of a desire

and willingness to subordinate selfish interests to the public weal, which has stronger claims to confidence, and has more right to be consulted by the State about the nature and character of the legislation by which it should be regulated. In the past we have trusted too much to lawyers, who are notoriously bad law makers except when they are doing it for themselves. I shall have more confidence in them when, as Oliver Wendell Holmes says, they are prepared "to give what they will take." If you examine the constitution and powers of the Incorporated Law Society, and those of the General Medical Council—the two bodies supposed to maintain the dignity and safeguard the interests of the legal and medical professions respectively, you will see at once how incomparably more efficient an instrument the one is than the other, and how much more speedily and effectively it can be applied. We are, however, not entirely blameless. It is not exactly that the members of the medical profession have consistently exhibited the Christian virtues of long-suffering, meekness, and patience. That would be to suggest that we are too good for this world. But this is true: that though we have recognised the evils which vex and harass us, we have hitherto lacked the wisdom and the energy necessary to the attainment of means for their removal.

These are union and efficient organisation. Parliament, like Hans Breitmann, "doesn't think much of people that goes mit themselves alone." It is combination and union that tell. And here has been our weakness. We have not been united; and, with regard to organisation, what have we? The British Medical Association; the largest, the richest, the most extensive medical association the world has ever known; and, as at present constituted, the most clumsy, and awkward, and inefficient piece of machinery ever put into operation. The objects of the British Medical Association, as indicated in the Memorandum of Association, are "the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession." Here are clearly indicated two distinct lines of operation: the scientific and the political; and I think it would not be unjust to say that the one has been successfully worked, and the other has been badly managed. Speaking generally, one would say that the maintenance of the honour and the interests of the medical profession were objects that had not been kept clearly in view, and had at last been lost to the sight of those mainly responsible for the management of the Association. This has been the position: Those in front, weighted with the responsibilities of office, gratified by, and proud of, the achievements in one direction, see nothing but the possibilities of failure, and perhaps the danger of precipitancy in vigorously following the other, maintained consistently a policy of "masterly inactivity." Those in the rear, feeling the pressure of injustice, daily exposed to the abuses of irregular practice, and harassed by unfair competition, growing dissatisfied with the general result of the operations and vehemently clamouring for a forward policy. But those behind cried "forward," and those before cried "back." Both parties—and there is a distinct cleavage in the Association—have perhaps merited the ancient rebuke to onesidedness, "these things ye ought also to have done, and not have left the others undone."

The political line of the Association cannot be successfully worked under existing conditions. It is a block system calculated not to avoid danger, but to make progress impossible. Let me illustrate: Recently activity in a Branch of the Association eventuated in the preparation of a Bill intimately affecting the profession. This Bill was submitted to the Council of the Association. It was referred to the Parliamentary Bills Committee. The Parliamentary Bills Committee referred it to a Subcommittee. The Subcommittee met for a few hours in London. It adjourned for three months, met again, and again adjourned. After several meetings, extending over a period of many months, the result of its deliberations, in the form of an amended Bill, was submitted to all the Branches. The Subcommittee again met to consider the reports of the Branches. Ultimately a report was prepared for submission to the Parliamentary Bills Committee, where it was determined to submit the whole question to the next annual meeting. And in two years all that has been attained is vexation of spirit to those who are most in earnest. Surely this is circumlocution—the way how not to do it.

To busy men, weighted with the responsibilities of professional life, it is a provoking sacrifice of time and energy to be thus vainly employed. The fact is the Association cannot be efficiently, satisfactorily, and advantageously worked upon existing lines. Reform must come, or revolution, which is always reform too long delayed. I do not wish to see the Association abandon, even in the smallest degree, the scientific work it has so successfully prosecuted; but I do wish to see it become an efficient organisation for promoting and defending the interests of the profession. And when this is effected, I believe there will be a large accession to its membership, and it will become an association from which few members of our profession will care to stand aloof.

I am not here alluding to the question of medical defence. That is a subject requiring great deliberation. I am thinking of administrative reforms which can be accomplished without alteration of the Memorandum and Articles of the Association. Now experience has taught us the danger of too much centralisation, and the advantage of what has been called "the process of devolution." Local government has had much to do in contributing to the growing contentment and the increased prosperity of the people during the present reign.

We want first of all increased and improved local government in our Association. It is by strengthening the Branches that we shall succeed in improving our methods of administration. The Branches of the Association are governed by their respective councils, except where they are left ungoverned, or governed by the honorary secretary—as is, I believe, the case in some places. But these councils are elected in a haphazard sort of way, and there is sometimes a suggestion of wirepulling in the process. This is unsatisfactory. The Branch Councils are, *ipso facto*, the ethical committees of the Association, whose province it is to maintain a high standard of honour on the part of its members, and they ought to be representative of localities, and men ought to be elected to the Council who have intimate knowledge of the districts represented.

The National Union of Teachers, an association only established in 1870, affords an admirable example of what may be accomplished by efficient local organisation. It has 424 local associations, and nearly 33,000 members. Out of a subscription of less than 10s. per annum, in addition to permanent officials, it is served in the law courts by three standing counsel, a general solicitor, and 300 local solicitors of repute. It has a local agent in every parliamentary division. At the end of 1895 its funded investments amounted to £65,600. It has raised £103,000 for benevolent purposes. Its provident department owns £22,100. A reserve of £5,850 is at disposal for the defence of teachers at law. The income for legal assistance and sustentation was £4,000 during 1895. The income for parliamentary action was over £3,200, and the amount in hand was £4,450. More than 90 per cent. of certified male teachers are members of the association, all of whom are obliged to enter through the local branches.

The British Medical Association does not include in its membership half of the profession in Great Britain and Ireland, and of those who are members nearly half of them are unattached—that is, not members of the Branches. I would take means to compel all new members joining the Association to enter through the Branches in which they practise or reside. It must be by strengthening, enlarging, and invigorating the Branches that the Association will receive the impulse which shall move it onward to the position of influence it ought to hold as the great representative organisation of the medical profession.

I would suggest that the local Councils should be composed of representatives from the Parliamentary divisions in the area of the Branch, so that in every constituency we should have a man in touch on the one side with our organisation, and on the other with a member of Parliament. He would, when necessary, act as convener of any meeting of medical men in the division, and they would probably be able to influence the Parliamentary representative. Members of Parliament can only be moved by voters, because they are the only means by which they can be removed. The Association would in this way be in touch with Parliament to an extent and degree not hitherto experienced, and if the profession were agreed upon any measure, it would be able to exert an irresistible influence upon the powers that be.

A central reform committee should be elected. It should be composed of men who have given evidence of their interest in the subject. This committee should be small, and its members should not be asked to fritter away their time and energy by making "pop" visits to London once a quarter. It would, I believe, not be difficult for the Association to agree upon the broad principles that should underlie a medical Bill. Take, for instance, the six lines indicated by Dr. Ritchie in his excellent paper on Medical Polity submitted to the Medico-Ethical Association in this city, that is:

1. The constitution of the General Medical Council.
2. The powers of the General Medical Council.
3. The powers of Corporations and Universities.
4. Practice by unregistered persons.
5. Medical advertisements.
6. Certification and registration of deaths.

Upon some such lines as these let this central committee go to work with the object of preparing a measure to be submitted to Parliament. It would, of course, be necessary to have several consecutive days' deliberations, and members making the sacrifice of time should be allowed reasonable expenses out of the funds of the Association. Experience has taught me the utter futility of attempting to attain satisfactory results from the existing plan of meeting for an hour or two at intervals of many months. The time of such meetings is almost absorbed in efforts to establish continuity and in trying to remember where you left off.

I am not here dealing with nor offering suggestions for a reconstitution of the Council of the Association, though I am not indifferent to movements in that direction. The burden of my complaint is that during a period which has been marked by salutary changes and beneficent amendment of the conditions under which men labour in other callings the medical profession has not received a due share of consideration from the State. That with the advance of civilisation, the increase of knowledge, and the enhanced dignity accruing therefrom, new demands have been made upon and have been met by Parliament because those demanding have been united and organised. That little progress in the direction of medical reform has been made because of our want of unity and the need of an efficient instrument with which to operate upon the Legislature.

I want the Association of which we are all members, and under the auspices of one of the most important Branches of which we meet to-day, to be tempered and sharpened with a view to making it equal to the accomplishment of our aims. The profession of medicine has in its ranks more than 30,000 more or less highly-educated men, and of cultured women not a few (I do not regard with anything approaching dismay this reinforcement of an Amazonian contingent, though I am not without commiseration for ladies who hope to find in the practice of medicine in this country a congenial sphere of labour, and who have dreams of thus living in the confidence and regard of a grateful public). But that is a parenthesis. If the nearly 35,000 members of our profession could arrive at any approach to agreement they could make their own terms; Parliament is only an instrument for giving effect to the will of the people, and I strongly maintain that the best interests of the profession and the best interests of the public are in no way antagonistic. But we are not united and we are not organised, and I have seen enough of public life to know that want of organisation means failure and defeat.

Now, gentlemen, let me here say that I do not want to see the British Medical Association become a great political organisation to the neglect of the scientific work, for which I admit it was mainly established. I will go further, and say that I hope to see much less of the time of our meetings absorbed by the consideration of medical politics than has recently been the rule. I would like to be able to determine a strict limit that should be put to the period for the consideration of these matters, that the pursuit of scientific work might be resumed, and this, I think, would be done with great enhancement both of the dignity and usefulness of our meetings. But I don't want to be playing at politics. I want our efforts, such as they are, to be the means to an end worthy of attainment. The end I have in view is such amendment of the Medical Acts as will afford protection both to the public and the profession. That end is not likely to be attained by the means now employed. We spend our strength for naught, and shall bequeath only a legacy of failure to those who come after us unless we adopt better methods of procedure.

I have merely indicated what I regard as preliminary steps. It will not, I know, be an easy matter to induce all the Branches to adopt my suggestions. I hope, however, to see some attempt made in our own Branch, and if we succeed the influence of our example will not be lost. Personal efforts to approach and interview members of the Legislature during the past few years have convinced me that many of them will yield to fear what they deny to reason. You require the influence of constituents to make them attentive. When we have a local agent in every constituency alive to the needs of our profession, then probably the reasonable requirements of medical men will receive something like the consideration that now has to be given to those whose combination has already compelled Parliament to meet their demands.

It is well to remind ourselves that not only have we failed to obtain redress and amelioration of the conditions under which we labour; but that our efforts have had to be devoted in recent days to avert encroachments upon the rights we already possess. And it is significant evidence of the want of unity in our profession that in the battle we have waged many of our own fraternity have been in the ranks of our foes. Recent events have, however, given indications that their "guns are spiked," and these men are making concessions which I, at all events, am prepared to accept as an instalment of a better state of mind.

The Lancashire and Cheshire Branch of the Association was formed in June, 1837; its establishment was synchronous with the Queen's accession. During the sixty years of its existence it has done much to advance the progress of medicine and promote good fellowship among the members of the profession residing in the counties from which its designation is derived. I believe it has been as successful as any other Branch, and that to-day it exercises a not less potent influence in the Council of the parent Association; but that it is capable of more strenuous effort, which if calmly, wisely, and vigorously directed, will result in achievements in the near future greater than have been accomplished in the past, I am profoundly convinced. There is a discontent which must find emphatic expression somewhere before the Association will be awakened to a due sense of its responsibility and duty with regard to medical reform. Lancashire has led the way in many a successful battle for reform in the past. We are somehow less susceptible to the reproaches of those in authority than some people. We believe that when things ought to be done, they can be done and must be done; and

> If it were done, when 'tis done, then 'twere well
> It were done quickly.

My admiration for the present sovereign is such that I fervently desire for her many additional years upon the throne, and my optimism is such that I confidently hope to see efficient and beneficent medical reform associated with the Victorian reign. Let us strive for this. It is no selfish, no unworthy ambition. It does not mean that in seeking its attainment we are to neglect the cultivation and encouragement of scientific pursuits. It does not imply that we shall be justified in resorting to methods calculated to offend those who are incapable of being stirred to enthusiasm in a good cause. It does mean, however, that there shall be earnest effort, strenuous endeavour to make the need for the amendment of the Medical Acts understood and appreciated not only by the profession but by such members of Parliament as we may be able jointly and severally to approach and influence. And, above all, it requires to be reiterated with marked and indubitable emphasis that medical reform is urgently demanded for the protection of the health, the safety, and the general well-being of the public, not less than for those engaged in the arduous duties of professional life, and who have a right to claim immunity from many existing harassments which vex them, and from the undignified competition which at present degrades their high calling —a calling which, honourably and faithfully pursued, is that of a constant and patient endeavour to extend the span of human life and mitigate the burden of human suffering.

AN ADDRESS
ON
MEDICAL PRACTICE, OLD AND NEW.

Delivered before the Yorkshire Branch of the British Medical Association at the Annual Meeting of the Branch at Harrogate.

BY A. S. MYRTLE, M.D.,

Late Consulting Physician to the Harrogate Bath Hospital; President of the Branch; President of the British Balneological and Climatological Society.

THE Presidential address of Mr. Stanmore Bishop, delivered last March before the Stockport Medical Society, on Antisepsis and Asepsis in Abdominal Surgery, made me turn my thoughts to the many and marvellous changes which have taken place in medicine and surgery during my own life.

THERAPEUTICS AND PHARMACY.

Fifty-eight years ago I commenced my medical career as an apprentice to a general practitioner. Before I had read a word or heard a lecture I was taught practical pharmacy, to bleed, bandage, and dress wounds. I saw most patients who came to the surgery, and some outside as well. I assisted in difficult cases of midwifery, and long before I had attended the class on that subject had attended simple cases in the absence of my master. The great advantage this state of pupilage gave was that the youth saw the experienced hand using "the tools of his trade" and the materials he had to work on. Bleeding was resorted to for the relief of every pain, and one would just as soon have gone his rounds without his lancet as without his hat and coat. Every medical man dispensed his own drugs; for everyday use he had his white mixture, his brown, and red; if the one failed the other did not. The list of drugs was by no means large, and the form these took was neither pleasing to the eye nor agreeable to the palate. As a rule there were only two, or at most three, preparations of any drug, so the memory was not overtaxed. Now we have nothing but groups and series with the most unspellable, unpronounceable names.

The great improvement in therapeutics came with the discovery and separation of their active principles or alkaloids and the opportunity these afford for giving the maximum dose of any medicine in minimum bulk or by hypodermic injections. The group which has proved of the greatest value and reach is known as the coal tar series. In my early days coal tar was a waste product, got rid of by top-dressing pasture lands and painting wooden sheds or palings. Now it is of the highest commercial value, and its derivatives are recognised as the most powerful antiseptics and germicides, as well as the most reliable analgesics and febrifuges. Another group consists of the different preparations of sodium, potassium, and ammonium in combination with bromine and iodine. These are not only the most powerful remedies we have whilst dealing with grave central nerve lesions, but are almost specific in most minor neurotic disturbances. I remember when potassium bromide came out, Sir James Simpson gave me a bottle, and said, "In 3-grain doses you will find this a wonderful sedative in hyperæsthesia of the uterus or even in cancer." Now we give it in any quantity. I saw a lady the other day to whom I prescribed it for epilepsy of a very severe type twenty-one years ago. She has taken it ever since, and on making a calculation I find she has consumed on an average 4 lbs. each year, and has never felt any inconvenience, not even bromic acne to any extent. So with potassium iodide; look at the enormous doses given in secondaries, 30, 40, 60 grains twice or thrice a day for weeks and months.

Among the innumerable recently discovered drugs I have found none that have proved more reliable, more prompt, and satisfactory in their action than nitroglycerine, amyl nitrite, and sodium nitrite in lowering blood pressure. I have used them very boldly, and place the greatest reliance on the last named; in the worst cases of angina I have thought it relaxed spasm more rapidly, and, what is of some import, it does not induce the headache which is almost certain to follow the free exhibition of the other two.

SURGICAL WARDS HALF A CENTURY AGO.

As regards outward remedies, there has been as great progress as has taken place in those given internally, and by the use of carbolic and boracic acids, iodoform, dermatol, ichthyol and glycerine, not forgetting medicated cotton and wood fibre, the success attending the treatment of wounds and surgical operations is one of the most astonishing features of our time. What is equally remarkable is that when some of them are administered internally they are found to exert the same influence as when applied externally, destroying the germs of diseases in the stomach and intestines, arresting their development, preventing fermentation, and favouring the elimination of poisonous products which invariably accompany the presence of bacteria in any force. In my student days the wards in all hospitals were anything but inviting. Every sore—and there was little chance of healing by first intention—was covered with a huge poultice. This was changed three or four times a day, and the stench from this putrescent mass and purulent discharge was sickening. At this time the actual cautery was a favourite remedy in chronic affections of the joints, and the odour of the frizzled skin was very pronounced. Add to this, the horrible fœtor caused by the victims of mercury, and you may form a faint idea of the awful state of the atmosphere which patients and attendants had to breathe; after an hour's dressing, no wonder one felt queer or had a touch of diarrhœa or splitting headache. The operating theatres crowded with students were torture chambers; the victim, when brought in, cast a terrified look around; he was put on chair or table, held by strong hands or bound with stronger thongs, and as the surgeon, with all the despatch at his command, did what was necessary, the compressed lips, quivering muscles, low moans, or piercing screams, spoke of the terrible agony which had to be endured.

I need not take up your time by showing the reverse side of the picture. No more bleeding no poulticing, no firing, no salivation; the wards are free from such contamination, and on the operating table there is placed the patient insensible to pain and thus the surgeon with the greatest deliberation performs the most complicated, severe, and dangerous operations, and when finished the subject of them is gently carried to his bed where in a few minutes he awakes to consciousness. No one who has entered our profession after the discovery of anæsthesia and antisepsis can possibly realise the blessing the first has been to operator and patient; and as to the second, who can calculate the boon conferred on suffering humanity by the marvellous and rapid recovery after the most severe operations and accidents to say nothing of the great saving of life? These are matters we shall never be able to estimate aright; they are beyond our ken, but not beyond our sense of indebtedness to that great surgeon from whose brain the idea sprang. Had he been a soldier instead of a surgeon and taken as many lives as he has saved, a nation's gratitude would not only have made Lord Lister a peer of the realm, but with the title have bestowed a life pension of £30,000 a year!

From 1840, till the days of Spencer Wells, ovariotomy was occasionally performed, but with such fatal results that the operation was condemned and the surgeon who performed it was, according to some of his own brethren, to be looked on as simply a murderer. I remember Professor Lizars operating on several women. One after another died. At last, a woman about sixty was put on the table and after Lizars made his incision from the ensiform cartilige to the symphysis the tumour looked so enormous his heart failed him, and he sewed the wound up. In 1843 I took Sir James Simpson to see this old woman, and we found her attending to her household duties quite cheerily. After looking at the cicatrix Sir James in bidding "good-bye" left a nice memento of his visit. About the same time surgeons had a terrible dread of laying open large joints, and this dread continued until Jones, of the Isle of Wight, performed excision of the knee for ulceration of the cartilages.

In 1854 or 1855 I assisted in two cases which were most successful. In October, 1856, a case came under my care; but so anxious was my friend Gillespie, senior surgeon at Edinburgh Infirmary, to perform the operation before his class, that I sent it to him about the middle of October. He ordered him to bed. The students would not arrive for

three weeks, so the patient was kept quiet and well fed. The rest for the time had such a healing influence that the man left the hospital, returned to work, and in a month was as bad as ever. He was a collier, and working at a colliery where a friend of mine, an enthusiastic surgeon, had charge. He heard the man's story, came to me, and asked me to assist him in excising the joint. This I did. I shall never forget the result—a gap of an inch and a-half in the fore aspect when the posterior edges of the bones were brought in contact. The leg was put in splints, everything kept quiet; but in a month the poor fellow wrote and begged me to take his leg off.

Puerperal Fever.

From 1848 till 1858 I attended about 600 midwifery cases—the majority in cottages, all in rural districts. I lost four from puerperal fever, and each was directly traced to a visit from a friend who had scarlet fever in her house or to the nurse coming straight from a case of puerperal fever. Now, this was before the days of aseptic midwifery. I never paid special attention to my nails or disinfected my hands or patients' skin; the only precaution I followed was to refuse to visit any woman in childbed whilst I was in attendance on cases of scarlet fever or erysipelas.

With such experience I was struck by the observations of Dr. Cullingworth, in his inaugural address to the Obstetrical Society in March, and the facts furnished him by Drs. Boxall and Williams, of Cardiff, who make out that, in spite of antiseptic and aseptic measures, the mortality of puerperal fever is as great at present, if not greater, than it was before their systematic use. Also by the statement that this fever had nothing to do with density of population, but was most commonly met with in mountainous districts, thinly peopled, where there were difficulties in the way of locomotion, consequently delay in the arrival or total absence of skilled attendants. For my part, I imagine that the explanation of its prevalence is the fact that in certain districts a doctor is seldom applied to, and the woman is entrusted to the care of incompetent midwives, as was proved by Dr. Hayward in his evidence before the Select Committee on the Midwives Registration Bill. When we remember that the woman recently delivered is in a condition exactly similar to the person who has undergone a surgical operation, it seems incredible that the mortality in her case in these days should remain the same when the mortality after operations of the gravest nature has been reduced to less than 2 per cent. This requires clearing up. Does the evil rest with the woman and her surroundings or with her attendants?

Bacteriology.

All the discoveries and improvements in medicine and surgery are insignificant when placed side by side with those of the bacteriologist. I confess when the bacillus of tubercle was first brought to notice as the cause of phthisis I refused to believe in it, and after listening to a most interesting address on the subject given at our Belfast meeting by Sir Douglas Powell, I remember going to him and asking how he could explain the fact that he and all the officials at the Brompton Hospital, according to his account, breathing an atmosphere loaded with these bacilli, never felt any the worse. I forget his answer, but I very soon found the evidence was too strong for me, and became a believer in the microbic origin of many diseases, but not of all. I have not yet accepted the proposition, for instance, that baldness is caused by the ravages of some micrococcus yet undiscovered, or even that eczema and psoriasis have their special bacteria playing havoc with our skins. One result of the germ theory of disease will be to create a number of specialists, as no ordinary medical man could by any possibility devote sufficient time to their study and cultivation.

Nursing and Nurses.

Another immense improvement has taken place in the qualifications of our nurses and system of nursing. Before Florence Nightingale appeared we had scarcely nurses worthy of the name, except among the Sisters of Mercy in Catholic communities. Now, through the instrumentality of that noble-hearted woman and her fellow workers, nursing has been made perfect; the sick room has been made bright and homelike, fit for inspection night or day, and the sick are watched and cared for tenderly, faithfully, with a knowledge of their wants and skilful handling such as could not be obtained from the most anxious and kind-hearted friends. With this admission, I must add that the trained nurses of to-day are becoming in many ways a little too pronounced—too marked. I do not believe in their costumes, their shoulder straps, bands, belts, and badges, either in the sick room or out of doors. A simple cotton gown is all we want for the former, and for the latter ordinary attire. These would be more useful, more in harmony with their calling, though much less "fetching." Many of them talk and believe as if they really were responsible for the entire management of the case. I am afraid this arises from the laxity of the doctor, and the absurd system generally adopted by the young practitioner of requesting the nurse to keep a chart. In the morning he is presented with this, looks very grave, finds recorded: "9 P.M. Temperature 100 1°, pulse 98; took cup of beef-tea at 11. Slept for three-quarters of an hour, passed flatus at 12;" and so on. Now this in the general run of cases is simply a piece of humbug, but it gives the nurse a fictitious importance in the patient's eyes, of which she readily takes advantage. If a doctor has to treat his patient by the reading of his clinical thermometer, I am sorry for the patient. It has its uses, but the principal one is to warn not the doctor, but the patient or friend, "'tis time you had advice, there is mischief at hand." This is especially true when, with a rise of temperature, there is a corresponding increase of the heart's action.

Another step in the right direction is the establishment of ambulance classes. This ought to be encouraged everywhere. The practical useful knowledge imparted by the surgeon in a very short course of lectures to the public has proved in thousands of instances of the greatest value and the means of saving many lives.

Animal Extracts.

Since Brown-Séquard introduced testicular fluid to our notice, many animal products have been manufactured, and are now widely advertised as specifics in diseases of those organs. The brain and spine, every gland has given up its special secretion, and we find the most astounding cures following their use. Cardin increases the heart's power and number of red corpuscles. Cerebrin and myelin prove of value in neurasthenia and paralysis. Spermin not only restores virile power to the wizened remains of a "Gay Lothario," but, more wonderful still, rehabilitates the ancient female, causing her monthly periods to return after years of absence. I confess that I have tried them all, and been thoroughly disappointed, except with thyroid extract in myxœdema.

At the Newcastle meeting Dr. Byrom Bramwell exhibited several cases of chronic eczema and psoriasis cured by thyroid extract. It was said that marked improvement was visible after a few doses, and in a few days the skin was clear. At this time Harrogate season was at its height, and I had many skin cases under my care. I selected typical examples of psoriasis, eczema, lichen, and lupus. To these I gave thyroid tabloids for days and weeks. In several cases I had to stop on account of its producing unpleasant symptoms, feverishness, headache, nausea, loss of appetite, and mental depression. I used preparations made by the best London houses. At this time, in almost every number of the British Medical Journal I read of the wonders effected by this treatment, but I never saw the slightest benefit follow its administration in my hands.

In conclusion I may add that it has been my privilege to be associated with the very greatest men in the profession, metropolitan and provincial, and what has struck me is that the more experienced we become the simpler our methods of treatment. An old hand called in to see a child apparently in a state of high fever, after careful examination will say "I think the child has too many clothes on. The room is too hot." The removal of the excess of blankets, and the admission of fresh air, will be followed by immediate relief, and the little thing will drop asleep.

One word about diet. This, in my opinion, is made too much of. I know medical men in this matter are great faddists, prone to prescribe for their patients what suits themselves. In certain cases diet plays an important part, but in many more it is rigidly enforced unnecessarily. In my expe-

rience the patient who is least benefited by dietary is the martyr to chronic dyspepsia. How often have I seen such an one, after being dieted too strictly, improve so soon as he was allowed to eat and drink whatever he fancied. Now it is the fashion that each patient should be presented with a card telling him what to eat, drink, and avoid—all are favoured with the same ticket, and, to my mind, all might with equal reason be provided with the same prescription.

SIX CASES OF LUPUS VULGARIS TREATED BY KOCH'S NEW TUBERCULIN:

A PRELIMINARY NOTE.

BY

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IT may not be out of place, before proceeding to the report of the cases which form the subject of this communication, to summarise very briefly the main points in Professor Robert Koch's own account of his discovery published in the *Deutsche medicinische Wochenschrift* of April 1st, 1897. It is there pointed out that immunity is not, as used to be believed, simple and indivisible, but is composed of at least two factors. There is, for instance, immunity to the toxin produced by the bacillus, and on the other hand there is immunity to the bacillus itself—in other words the power of destroying the bacillus. Immunisation of the former kind can be produced in the case of tetanus; of the latter in the case of cholera and typhoid fever. The ideal immunisation would be to protect the organism against all the noxious influences which pathogenic microbes are capable of exerting, and not against only one of those influences. That such an immunisation is conceivable in the case of tuberculosis is supported by the fact that in general tuberculosis there is usually a later stage when the bacilli which previously were present in swarms are so diminished in number as to be hard to find. Koch therefore tried to obtain a fluid which, injected into the body, should call bactericidal powers into play. His attempts to bring about absorption of the unchanged dead bacilli were unsuccessful owing to the production of suppuration. Treatment with decinormal caustic soda was the first step towards success, but still he was hampered by occasional suppuration, due, he believes, to the presence of unaltered bacilli. Further researches led him to adopt the following method: Dry virulent cultures are pulverised in an agate mortar. The powder is then diffused in distilled water and the fluid centrifugalised from the sediment, which is again dried and powdered and again centrifugalised, the process being repeated until no sediment forms. The fluid from the first centrifugalisation he calls T.O., and it contains all the toxins of the old tuberculin. The other quantities of fluid derived from centrifugalisation are similar in constitution, and he calls them T.R. It is this T.R., containing not the toxin but the components of the bacilli themselves, which is now in use.

Guinea-pigs were rendered immune by this fluid and then inoculated with virulent tubercle bacilli. They manifested no disturbance either locally or remotely. Guinea-pigs in which immunising treatment was incomplete suffered from tuberculous glands near the site of injection, but no tuberculosis of internal organs. Those which were inoculated first and injected afterwards became tuberculous, but showed signs of healing as immunity began to set in. In man lupus was much improved, and phthisis without great suppuration seemed to improve also.

Koch lays stress on the following points: Begin with a small dose ($\frac{1}{5000}$ mg.). Raise the dose as rapidly as possible, taking care not to excite constitutional reaction. Never give a second dose until the temperature has fallen to the normal point or near it. Koch thinks immunity commences one or two weeks after the injection of the larger doses (0.5—1 mg.).

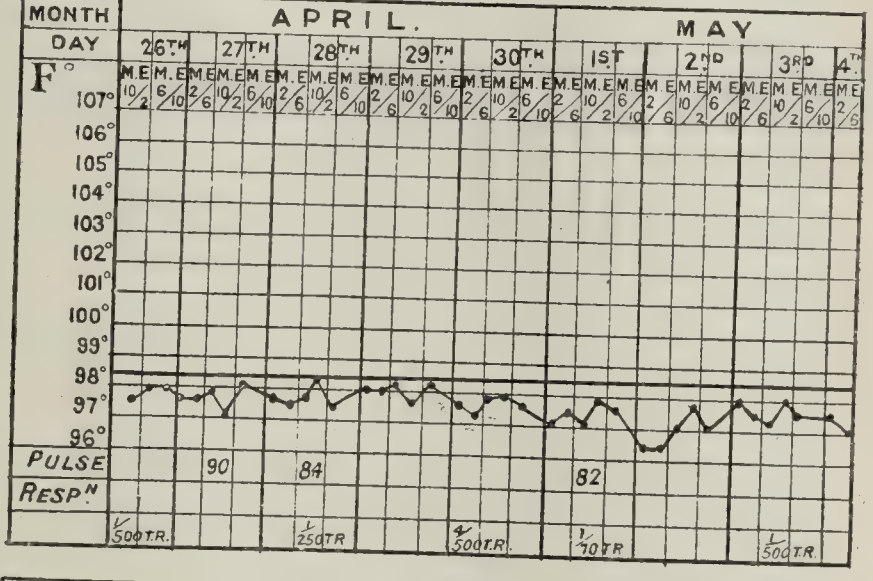
CASES.

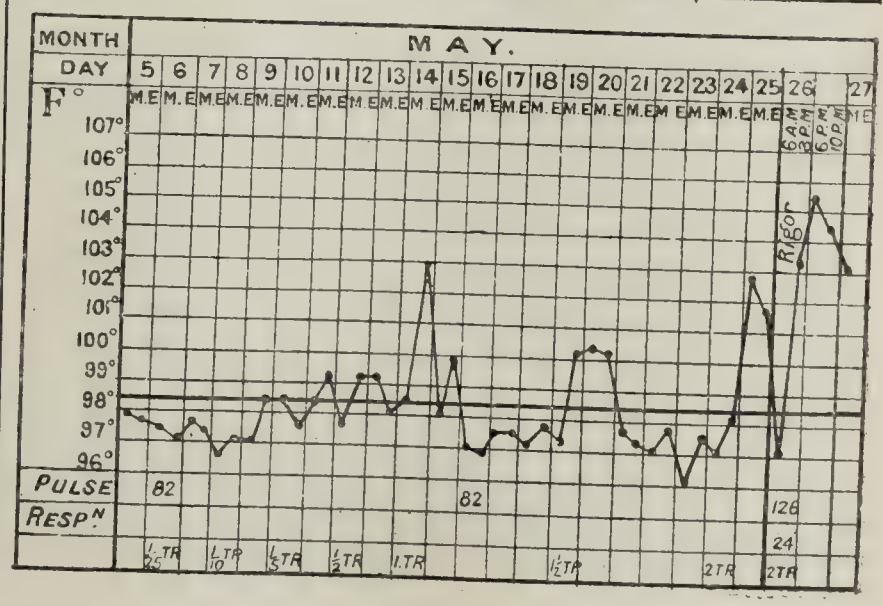
CASE I.—H. W., aged 18½ years, readmitted to St. Mary's Hospital April 26th, 1897. *History:* Patient is a tall and ill-nourished boy, with an extensive lupus of the face of eleven years' duration. In 1890 he was treated for the first time actively with nitric acid twice a week for six months. In 1891 he underwent at a London hospital a course of Koch's tuberculin, which lasted ten or twelve months with intervals of rest. He derived some benefit from the treatment. Since then he had been at another hospital, where the diseased surface was scraped three times, and a portion at the right angle of the mouth was excised. Creasote and zinc chloride, and afterwards "another kind of zinc," were applied. He had no further treatment until he came to St. Mary's Hospital on September 10th, 1896. He was treated here with thyroid, and derived some benefit from it. He remembers no illness of any kind except "bad eyes" at the age of 7 years.

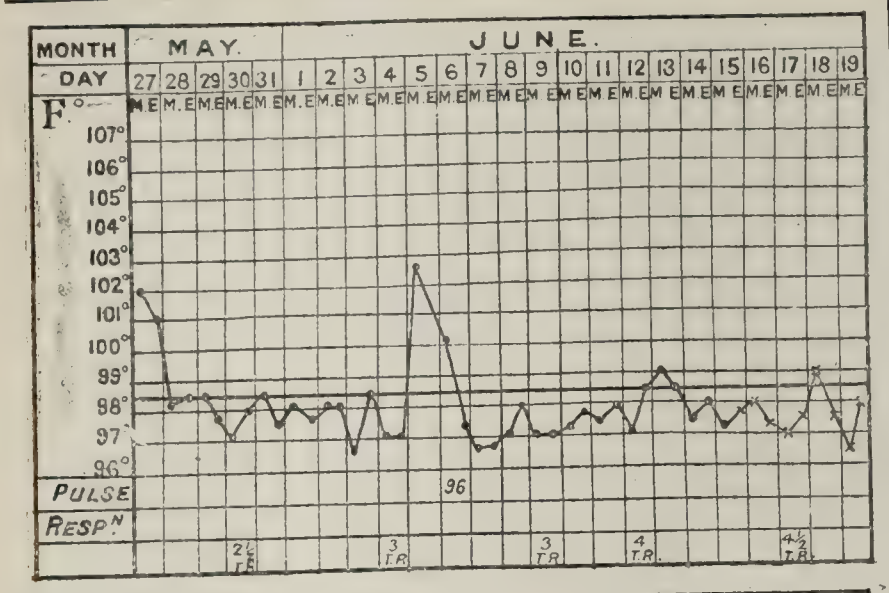
Present Condition.—Beyond the fact that the nutrition and development are feeble there are no signs of constitutional disease. The patient is fair haired and complexioned, with blue eyes. The face is the seat of disease over the following area: Beginning at the middle of the bridge of the nose the boundary line runs out on each side for about an inch on each cheek horizontally. It then, on the left side, follows a curve with the convexity outwards down to the angle of the mouth. On the right side there is a short curve from the upper boundary to a point an inch above the angle of the mouth, from which it runs abruptly outwards and then curves round again to the angle of the mouth, leaving a corner of almost healthy skin above the second curve. The disease then follows a curved line round the lower lip, extending about 1½ inch below it on the left side and about 1 inch on the right, enclosing the whole of the transverse fold of the chin. Practically the whole of the nasal cartilages are destroyed, and the tip of the nose is curved backwards to the face. The nasal apertures are ulcerated and the cavities are diseased as far as one can see, which is not far owing to the extensive swelling and crusting. The lips are the seat of enormous œdema and hypertrophy, and the whole surfaces of both are ulcerated. Owing to the stiffness of the lips one cannot see the gums, but the patient states that his teeth have been breaking and falling out for the last few months. He states also that the disease has only attacked the lips during the last year, and is now starting round the inside of the mouth. Otherwise his face has not altered much for three or four years. Except on the lips and in nasal apertures there is no ulceration, but rather a diffuse, bright red, swollen, and very inflamed looking surface, in which it is difficult to distinguish the lupus nodules, but on firm pressure they are found to be numerous throughout, especially on the edges. The scarring is red, swollen, and unhealthy looking, and at no part of the diseased area can one point to a quiescent piece.

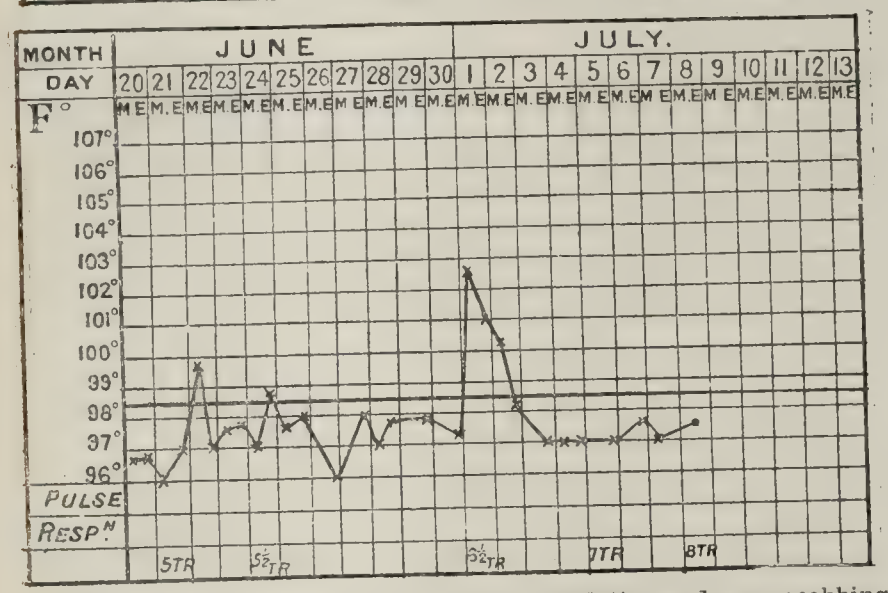
On April 26th $\frac{1}{200}$ mg. of the new tuberculin was injected between the shoulders.

April 27th. No rise of temperature. Slept rather badly and complains of slight headache. Pulse 90 to 104, increasing during vomiting. He is evidently very excited, remembering the old tuberculin. The face may be slightly redder, but one can see no definite reaction, no oozing or swelling. No reaction at seat of injection.









April 28th. There seems to be rather freer exudation and more scabbing of the ulcerated parts. Pulse 84. No rise of temperature; $\frac{2}{100}$ mg. injected.

April 29th. No local or temperature reaction. Feels rather ill, headache and lassitude. all very indefinite.

April 30th. The disease seems slightly flatter, but there is no change of colour and no rise of temperature. He says he can open his mouth better. $\frac{1}{100}$ mg. injected.

May 1st. No disturbance of any kind. Feels perfectly well, and says that the swelling is going down considerably in the lips.

May 2nd. No disturbance. The whole area is considerably flatter and paler, and the extent has become apparently less by the disappearance of the surrounding redness. The lips are less sore and are still shrinking. $\frac{1}{70}$ mg. injected.

May 3rd. Improvement in the lips becoming quite noticeable. No reaction of any kind.

May 4th. $\frac{1}{50}$ mg. injected.

May 5th. All the nodules at the margin are now showing umbilication, and are scaling.

May 6th. $\frac{1}{25}$ mg. injected.

May 7th. Still no disturbance. Marked improvement. Outlying nodules are fading away.

May 8th. Lower lip is getting cleaner. Upper lip is nearly all healed. He opens his mouth much wider. $\frac{1}{10}$ mg. injected.

May 10th. Sleeps badly and has pain in jaw. Now that the teeth can be seen they are found to be mostly carious. $\frac{1}{5}$ mg. injected.

May 12th. Temperature yesterday evening rose for the first time above the normal line, but only to 99.2°, and is down again this morning. He has caught a cold and his face is redder. $\frac{1}{2}$ mg. injected.

May 14th. Redness is subsiding again. Feels quite well. 1 mg. injected.

May 15th. An hour or two after the injection yesterday morning he had a rigor, and felt very ill. Temperature rose to 103° in the evening, and his face reddened, swelled, and discharged. Temperature down again this morning.

May 16th. Redness subsiding again. Still discharging on chin a little. No tuberculin left, and so had no injection.

May 18th. Discharge stopped. Redness gone down again. Œdema gone except in lips. $1\frac{1}{2}$ mg. injected.

May 23rd. Temperature rose to 99.2° on the 20th, but no other change. No tuberculin left.

May 24th. Lips still healing. The depressed lupus nodules show signs of cicatrisation. 2 mg. injected.

May 25th. Smart reaction last night. Temperature rose to 103°. Only slight local reaction with dirty brownish crusting from dried discharge over the ulcerated parts. His head aches, and the glands in the neck and at angle of the jaw are a little swollen.

May 26th. Temperature dropped suddenly last night. The lupus is paler again. He feels quite well except for sinking sensation in stomach. 2 mg. injected.

May 27th. Severe reaction again last night. Temperature 105½°; down to 100° this morning. He had a rigor and headache, and his breathing was rather bad. Lungs re-examined, nothing found. Lupus about the same.

May 30th. Temperature fell to normal on the evening of the 28th. He feels well. Given $2\frac{1}{2}$ mg.

June 2nd. Great improvement; all ulceration healed except for a small patch on upper lip and a line on the lower one. No tuberculin left.

June 4th. 3 mg. injected.

June 6th. Temperature rose to 103° yesterday morning; face very red. Temperature is down now, but have not given him any more. Glands in neck enlarged again.

June 9th. Face very tender yesterday, but temperature has not risen since last note. 3 mg. injected.

June 12th. 4 mg. Under lip nearly healed.

June 17th. $4\frac{1}{2}$ mg. injected.

June 21st. 5 mg. Improving steadily. No disturbance.

June 24th. $5\frac{1}{2}$ mg.

June 28th. No tuberculin left.

July 1st. $6\frac{1}{2}$ mg. Great improvement in scar of upper lip, from which several nodules have disappeared. An outlying nodule on the left cheek is much smaller.

July 2nd. Temperature rose at 6 P.M. last night (July 1st) after a rigor. He had a good deal of headache, and has still. Temperature is down again.

July 5th. Quite well again. 7 mg. injected.

July 6th. Face redder, but feels quite well.

July 8th. 8 mg.

CASE II.—M. G., aged 45, married, admitted into St. Mary's Hospital April 27th, 1897. *History.*—Family healthy. Personal health always good with the exception of an attack, probably of subacute rheumatism, seven years ago. At the age of 13 had an abscess in the left side of the neck, which burst and left a small red patch on the neck, which has remained unaltered ever since. The disease on the face began in December, 1893 (at the age of 42) on the centre of the tip of the nose and spread. A few months later it began also independently on the right cheek, and also spread. She went to a homœopathic lady, who gave her globules for nearly a year, but as the disease steadily increased she came to Mr. Morris in April, 1895, and had the nose and cheek both scraped. At this time the patches on the nose and cheek were quite separate, that on the nose having already caused some loss of substance, whereas that on the cheek had not yet done so. On the cheek were two patches about $\frac{3}{4}$ inch across; that on the nose covered the entire tip. It almost entirely disappeared after the scraping, but she did not cease treatment, which was then pyrogallol ointment. The disease relapsed again immediately. Has been several times treated with the galvanocautery, and in November, 1895, had an attack of erysipelas, which, however, was not followed by any improvement. She has also apparently had some phlyctenular ulceration of the eyes.

Present condition, April 28th, 1897.—There is a patch of red, infiltrated, scaling and scabbed skin about $1\frac{3}{4}$ inch long by $\frac{1}{2}$ inch wide lying at the edge of a large scar, about an inch behind and below the angle of the jaw. It is difficult to make out any true lupus nodules in the tissue. The patch on the face includes the whole of the nose from the root to the upper lip. It spreads out in somewhat bat's-wing form, leaving $\frac{1}{3}$ inch of sound skin below the right lower eyelid, and extends to $\frac{1}{4}$ inch beyond the right outer canthus, with a concave upper margin. It then has an almost vertical boundary nearly down to the level of the mouth, 1 inch external to the angle, and then runs upwards to the ala nasi, sparing the upper lip except for one small downward process the size of a threepenny-piece, which extends nearly to the mucous membrane. On the left cheek the disease is much less extensive, the margin sweeping almost straight downwards and outwards, at an angle of 45 degrees with the nose, to within 1 inch of the angle of the mouth, and then curving upwards to the left ala nasi, so that a lobe-shaped patch is included. The whole patch, with the exception of a small cicatrix on the right half, is prominent, thickened, and of a very bright and inflammatory red. When the skin on the cheeks was put on the stretch nodules of lupus could be seen. Ulceration is limited to scattered areas the size of a pin's head all over both cheeks and nose. The loss of tissue is slight, the alæ nasi and septum being well preserved, though there is a small pit on the left ala nasi. The nasal mucosa is apparently free, or at any rate the disease does not extend continuously to it. The gums and mouth generally are healthy. There is some enlargement of the glands in front of the sterno-mastoid.

April 28th. Pulse 96, temperature 98-97°. $\frac{1}{100}$ mg. injected subcutaneously between shoulders.

April 29th. No change of any kind.

April 30th. $\frac{2}{100}$ mg. given.

May 2nd. $\frac{4}{100}$ mg. No change in face or constitutionally, but there is considerable pain and temporary redness and infiltration at site of injections.

May 3rd. Face was painful and burned yesterday.

May 4th. $\frac{1}{70}$ mg.

May 5th. Seems generally flatter; ulcers are healing.

May 6th. $\frac{1}{50}$ mg.

May 8th. $\frac{1}{25}$ mg. Much paler; ulcers still healing. Last injection caused a good deal of pain.

May 10th. $\frac{1}{10}$ mg. Nodules are less red; healing rapidly.

May 12th. The place on the lip (the most active previously) is flattening. The injections still give pain at site. $\frac{1}{5}$ mg.

May 14th. Slight erythematous rash over clavicles, especially right. Does not itch. $\frac{1}{2}$ mg.

May 16th. 1 mg.

May 18th. $1\frac{1}{2}$ mg. Still very red but perhaps slightly flatter.

May 23rd. 2 mg. Great improvement. Almost all ulcers are now healed. Less red and less tender. The part on the upper lip is shrinking.

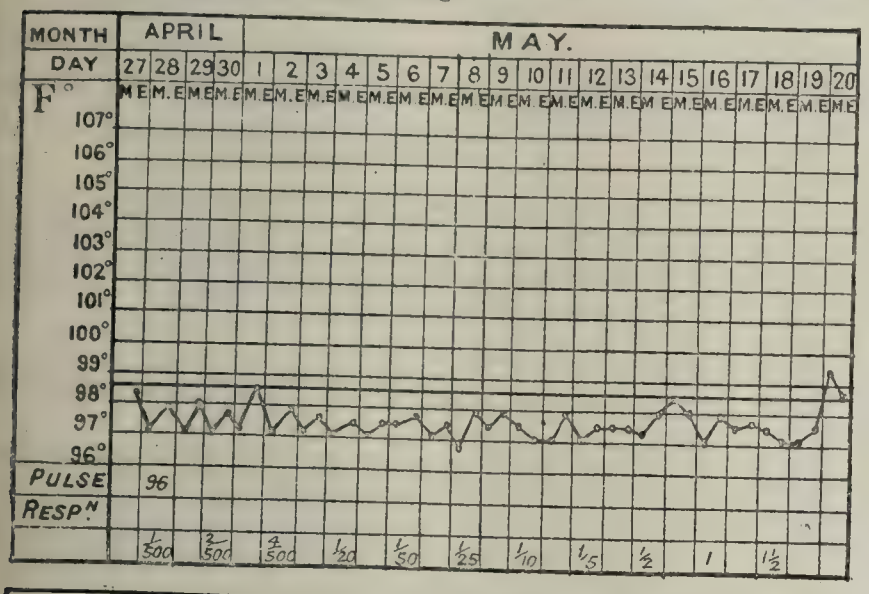
May 25th. 3 mg. Very marked red infiltration at site of last injection.

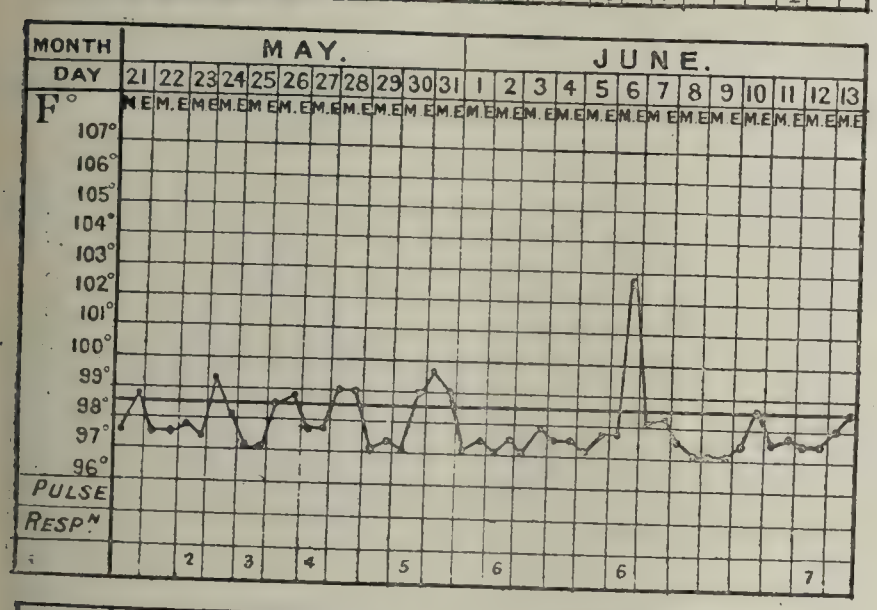
May 26th. Face rather redder.

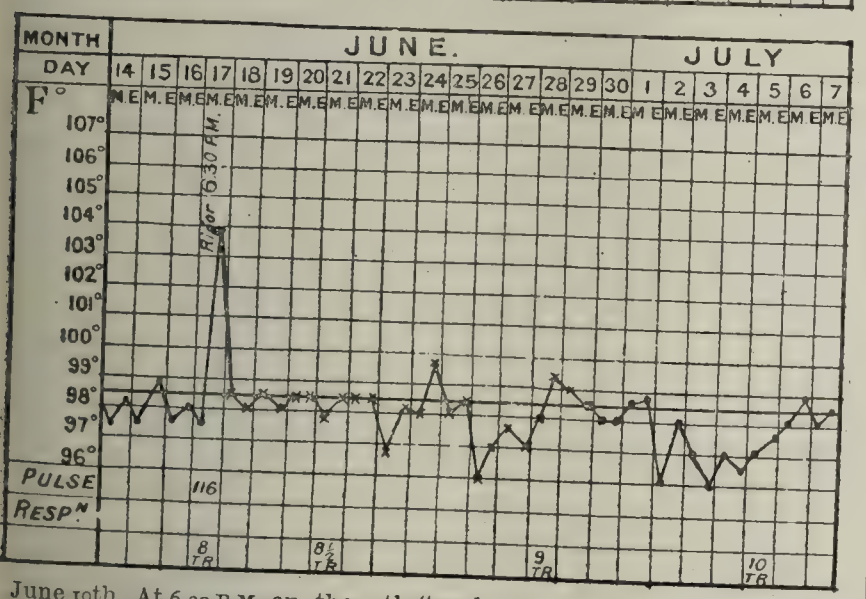
May 27th. 4 mg. All ulcers now healed entirely. Affected skin seems getting soft and wrinkled.

May 30th. 5 mg.

June 2nd. 6 mg.
June 3rd. Good deal of swelling but no rise of temperature. Injections make patient feel heavy and sleepy.
June 6th. Freely crusted again. 6 mg.
June 9th. Rise of temperature on the 6th with rigor at 3 P.M. Temperature rose to 103°. Nose somewhat more crusted.
June 10th. Crusts separating. No tuberculin.
June 12th. Nose still crusted, other parts cleaner. 7 mg.
June 17th. Crusts off nose now. An islet of scar looking almost normal kin is appearing on left cheek. 8 mg.





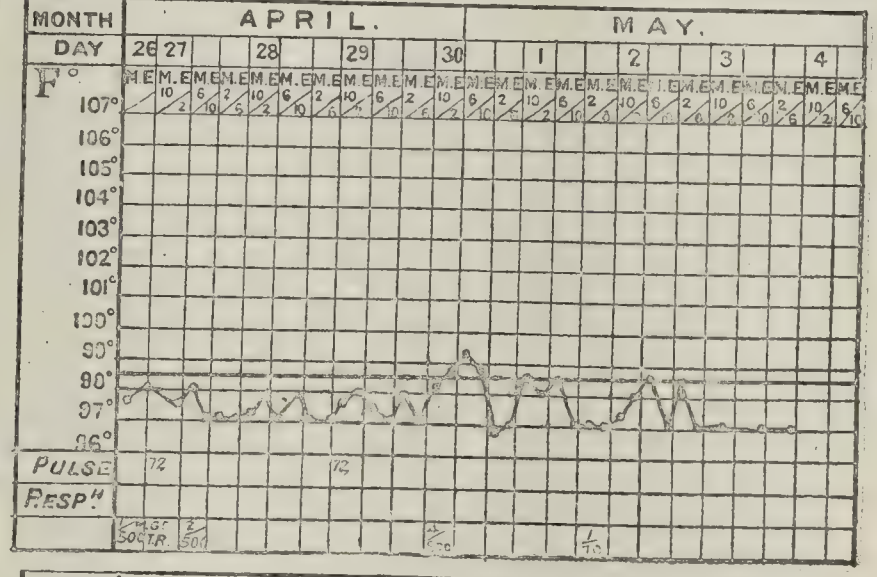


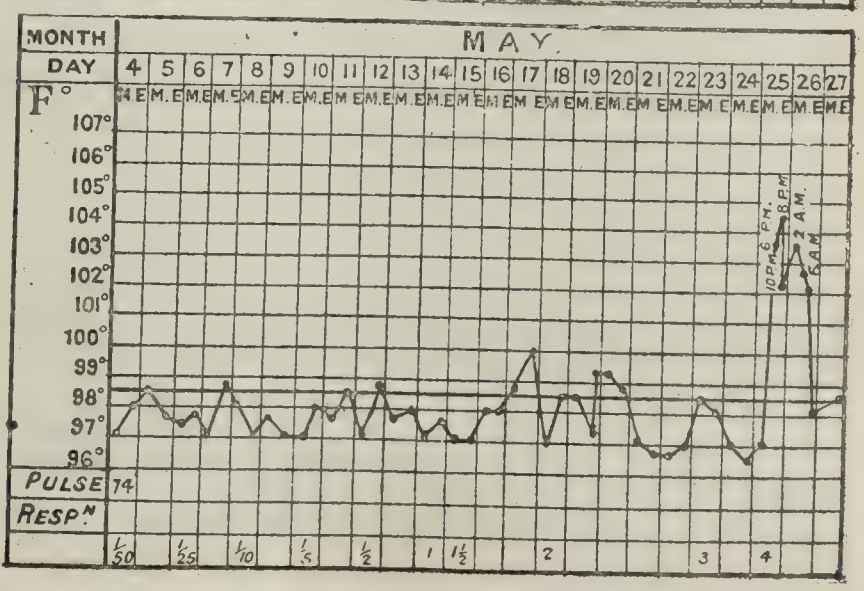
June 19th. At 6.30 P.M. on the 17th (two hours after injection) she had a rigor, and the temperature rose to 104°; 9.30 P.M. temperature 104°, pulse 120. Severe headache. Lupus raised, and dark red, and felt very hot. No increase of swelling of glands. She had another rigor in the night, and on the morning of the 18th temperature was 102°, pulse 100. Lupus less raised and scaling freely.
June 21st. 8½ mg.
June 28th. 9 mg.
June 29th. She began to feel ill about two hours after injection. Severe headache and shivering. Nausea but no vomiting. Pains in limbs "like rheumatics." "Temperature 99.4°, pulse 80. Face very red and swollen, and her nose felt blocked. She does not feel well this morning and has not got up. Temperature 99°.
July 1st. Quite well again. Scarring taking place on right cheek as well. The nose is still desquamating but much less inflamed looking, and quite free from swelling.
July 5th. Face quite pale again. A new scar area forming at upper part of right side. 10 mg.
July 6th. Face rather redder. Slept badly. Head aching severely. Complains of pain under the heart. Temperature normal. A broad band of scar tissue formed in left cheek looking like normal skin. No sign of lupus nodules. Interlacing scars on the nose and right cheek. The halo of redness has disappeared, and all the ulcerations have healed and scarred.

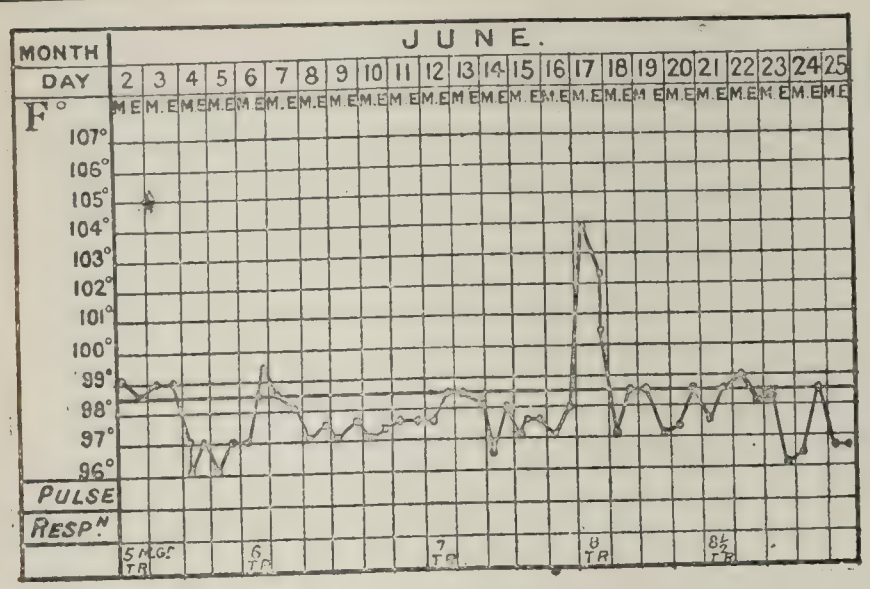
CASE III.—A. P., 28, single. Admitted at St. Mary's Hospital on April 26th, 1897.

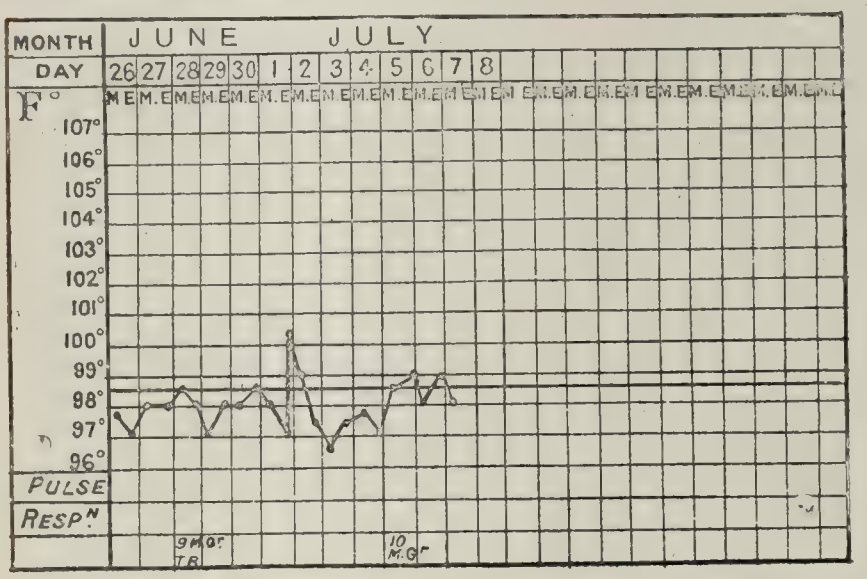
History.—The disease in the face commenced at 16 years of age, with a spot on the right cheek 2½ inch from the angle of the mouth. During a whole year she went without treatment, by the end of which time the disease had spread to the tip of the nose. In 1886 she went to a hospital where it was burned with the actual cautery every week for seven months. It improved greatly, and then she went to Margate for five months with further benefit. In January, 1887, she again entered the same hospital, and the cauterisation was resumed, but she does not know for how long. Every year she used to attend up to 1891, when the left cheek and upper lip were still quite free. In 1891 she entered another hospital and underwent injections of Koch's tuberculin, and was very ill for the first two days (temperature 106.5°) her face being "completely healed" at the end of a month. It all broke down again, however, at the end of another month, and then for the first time spread to the other cheek and upper lip. She therefore returned to the first hospital where the disease was scraped every year until she came here. The alæ nasi were destroyed a year ago. Since coming here, on February 4th, 1897. she has been treated by pyrogallol only. She had a patch on the leg for four years, which was scraped three times. She has always enjoyed good health, but had smallpox a year before the disease in the face began, and had scarlatina as a child. There is no definite tuberculous history, but all her uncles died of lung complaint at about 40 years of age.

Present Condition.—The disease on the face reaches from the root of the nose above to the lower edge of the upper lip in a continuous sheet of diseased skin. From the upper limit at the root of the nose, the margin of the lupus on the right side runs down to a point 1½ inch from the angle of the mouth at its level, and then curves in to meet the angle itself. The line thus formed has its convexity outwards, but does not actually reach the eyelids. On the left side the margin runs almost horizontally outwards to a point on the cheek ½ inch outside and ¾ inch below the outer angle of the left eye. Thence it drops almost vertically with two little inlets of normal skin to the horizontal ramus of the jawbone, and it then curves round to the angle of the mouth. There is also a small isolated patch under the left side of the chin. The alæ nasi are destroyed,









the left rather more completely than the right, and the septum is also destroyed as far as the cartilaginous portion is concerned. The whole of the surface included within the boundaries indicated is dark red, firm, raised, and infiltrated. The greater part of it is covered with scabs and scales, but there is no very definite ulceration to be seen on removal of these. Round a broad band all down the left margin and the lower part of the right margin the disease consists of large nodules the size and thickness of lentils, which are very firm to the touch. The upper lip, which is entirely included in the diseased area, is much thickened, infiltrated, and elongated, so that in profile its curve is convex. The upper gums are healthy; the lower ones are rather inflamed. The disease spreads into the nose as far as can be seen. Beyond the margins of this large patch of lupus there are a few outlying nodules, but there is very little scarring to be seen anywhere, the whole surface seeming to be a mass of lupus tissue. There is a patch the size of a shilling under the ball of the left great toe, which is fissured, scabbed, and superficially ulcerated. There are no nodules to be seen in it, and it is not very characteristic. All other organs healthy.

April 26th, 1897. Temperature being 98°, $\frac{1}{100}$ mg. of Koch's new tuberculin (T.R.) was injected into the skin of the back.

April 27th. No rise of temperature; slept well; feels quite well. No alteration in lupus; pulse 72.

April 28th. No change; $\frac{2}{100}$ mg. injected.

April 29th. No local or temperature reaction; feels quite well.

April 30th. $\frac{4}{100}$ mg. injected.

May 1st. Skin feels slightly sore and "prickly." She says also that she can breathe more freely through the nose. The nodules seem to be a little more isolated, as if the intervening redness were disappearing. Temperature last night 99.5°.

May 2nd. Patch is rather paler, and feels less stiff. $\frac{1}{10}$ mg.

May 4th. $\frac{1}{10}$ mg. injected. No further change, except a gradually increasing pallor of patch.

May 5th. She thinks it a little more swollen. No obvious change.

May 6th. $\frac{1}{5}$ mg.

May 8th. $\frac{1}{10}$ mg. Breathing is much more free through the nose. The whole patch is drier, especially on the bridge of the nose.

May 10th. $\frac{1}{5}$ mg. Enlarged glands in left axilla, which she dates from last injection on the left side. This is the first sign of anything to do with the puncture in this patient.

May 12th. $\frac{1}{5}$ mg. No obvious change.

May 14th. The whole face is now covered with dry white scabs, which came on after the last injection. She says the face "burned" a good deal after the last dose. The left canaliculus seems blocked, and her eye is painful. 1 mg. injected.

May 16th. 1½ mg. Good deal of œdema round left eye.

May 18th. 2 mg. Eye much improved. The canaliculus has been slit up and probed by Mr. Juler.

May 23rd. Improvement is now very marked. Many of the peripheral nodules can be seen to be flattening down, and the scar area is standing out much whiter. 3 mg. injected.

May 25th. 4 mg.

May 26th. Yesterday afternoon had a rigor, and at 6 P.M. the temperature rose to 103.6°, at 8. P.M. 104.4°, at 10 P.M. 102.2°, at 2 A.M. 103 6°, at 6 A.M. 102°. She had a very bad headache, and the house-physician gave her phenacetin gr. x. The face was very red and swollen yesterday, and is still slightly so. There is no tenderness nor discharge.

May 30th. 4 mg. Lupus paler. Patient quite well.

June 2nd. 5 mg.

June 3rd. A good deal of swelling of the face since last injection.

June 6th. 6 mg.

June 9th. Great deal of swelling and crusting of face since last time; skin very painful; no constitutional symptoms.

June 10th. Crusts are separating. She was told to work them off with carbolic oil; no tuberculin left.

June 12th. 7 mg. Nearly all the crusts have fallen off, leaving a much flattened, deep-red base without any sign of ulceration.

June 17th. 8 mg.

June 18th. Had a sharp reaction an hour and a quarter after injection. Temperature rose to 104°, with a rigor. She had a very violent headache, and felt very weak. At 10.30 P.M. the temperature was 102°, pulse 116. This morning the temperature is 99°, and she feels much better. The glands did not become enlarged, though the skin was hot and somewhat reddened. Now covered with papery scales.

June 21st. 8½ mg.

June 28th. 0 mg. No change.

June 29th. Had slight headache and giddiness after injection, but feels quite well this morning. Temperature 98.4°. Some local reddening last night.

July 1st. Face quite pale again.

July 5th. Face swelled up on the 2nd in the afternoon (four days after injection), the lupus went very blue in colour, and the glands in the neck were swollen. Temperature rose with a rigor to 102.5° at 2 A.M. (3rd). Felt very ill and weak, and had severe headache and sore throat. Given 10 mg. to-day. After she had had injection she said that she had a tender spot on the forehead. This is hardly visible, but on close inspection there is a little œdema, and the place is shiny. It is not on the diseased part of the face, but immediately above and between the eyebrows.

July 6th. Slept well and feels well, but face has discharged a good deal, and is still somewhat red and swollen. Forehead less tender, and there is now nothing visible there. Place on foot now healed up.

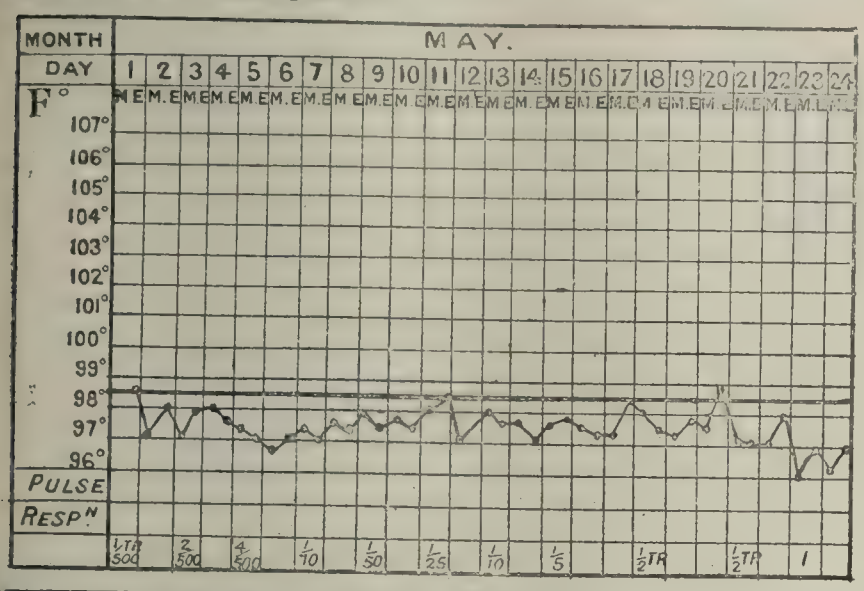
CASE IV.—H. W. P., aged 17¾ years. Admitted May 1st, 1897.

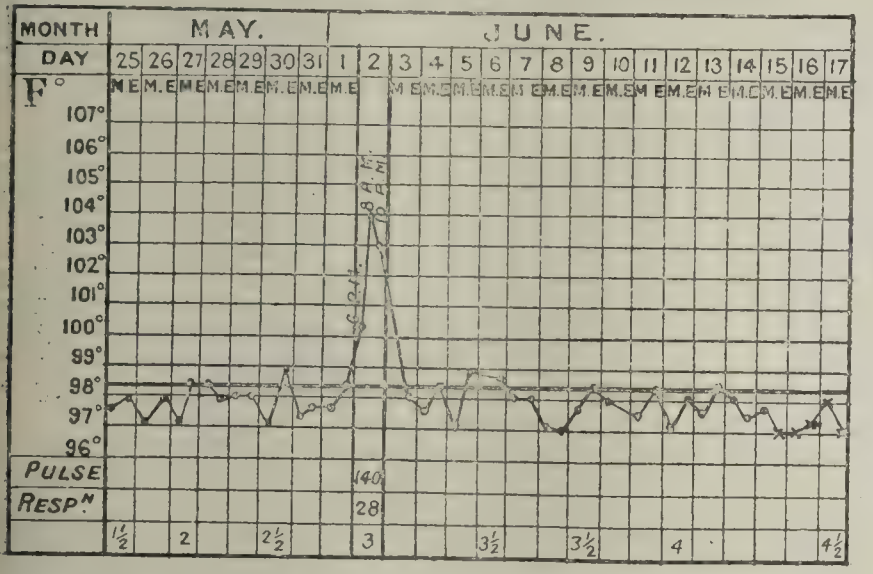
History.—Parents living and healthy. No consumption or skin disease in the family. At 5 years of age he had "measles," then "congestion of the lungs," then "blister-pox," and then the present skin disease began. Apparently, therefore, the lupus began before the age of 6 years, and he thinks it began on the left cheek. At 10 years of age he went as an outpatient to a country infirmary, where they afterwards took him in and scraped the lupus, and then treated it with ointments. At this time he had a patch on the left buttock, one at the back of the left knee, one on the front of the left shin, and one over the front of the right knee, besides the disease on the face. The patch on the left shin healed spontaneously, and all the other patches were scraped at the same time as the face. The disease, however, spread on the face, and about four years ago a small place started inside the nose and spread to the outside. In May, 1896, he went into a London hospital, where the disease was scraped with great benefit. For the last two or three months it has been getting rapidly worse, and it has spread to the right cheek, and the upper lip has swollen very much. Last winter he noticed a place coming on his left hand, which he attributes to pricking his hand with a thorn in the summer. The place under his chin appeared about three years ago. His health has been generally good, though he is sometimes short of breath, and he suffers with rheumatism in the left leg.

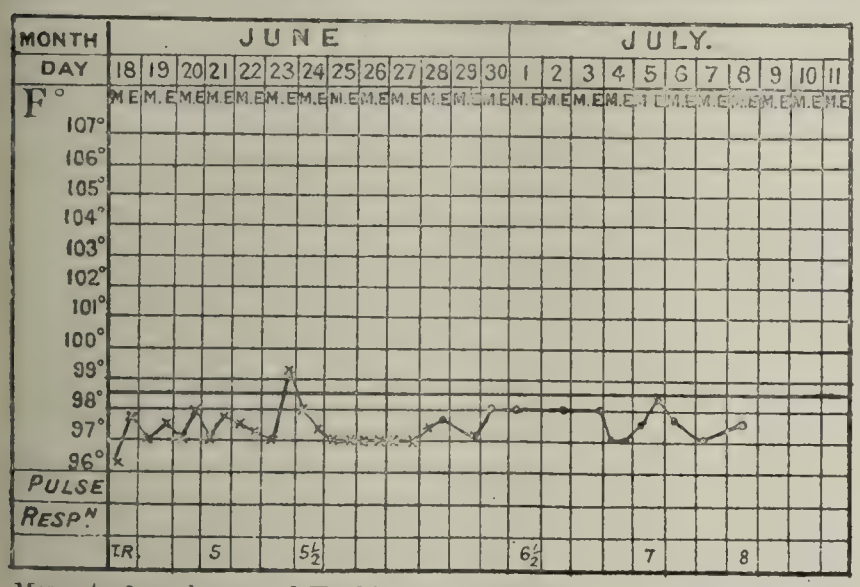
Present Condition: Face.—The left cheek now shows two areas of scar, one the size of a sixpenny piece, with a single nodule at the upper edge, lying just external to and below the left eye; the other, which lies over the malar prominence, is about the size of a five-shilling piece, and has several isolated, scabbed, and ulcerating nodules round the margin, while the centre is, for the most part, sound. The outlying nodules of this patch extend below the angle of the mouth. The nose is hntirely covered with the exception of about ½ inch below the glabella, with active lupus tissue, which is somewhat raised, dull red, and scabbed with a few outlying nodules. The tip of the nose, parts of the alæ nasi and the lower part of the cartilaginous septum are gone and their position covered with blood crusts. The right cheek shows a single active, scabbed and ulcerating patch the size of a shilling and somewhat elliptical in shape; also there is an active, partially scabbed area extending continuously from the nose downwards and outwards with a convex upper margin to an inch external to the right angle of the mouth. The upper lip itself is enormously swollen, and is the seat of active disease except for about ½ inch at the left angle. There is a scabbed spot over the inner end of the right eyebrow 1½ inch above it, and another spot about ¾ inch above the outer end of the left eyebrow. Under the chin is a single patch of cheloidal scar 2½ inches transversely and 1½ inch vertically, in the edges of which are still some active nodules. The upper gums are just becoming affected, lower healthy.

Limbs.—On the left hand, at the back of the metacarpo-phalangeal joint of the ring finger, is an irregular ulcer with a granulating base and thin blue, undermined edges looking like an ordinary tuberculous ulcer. On the middle finger in front, and extending between it and the ring finger at the metacarpo-phalangeal joints, is an ulcerating deep fissure also with undermined edges. On the right leg just above the knee on the extensor aspect is an irregular patch, bigger than the palm of the hand, composed mostly of scar but with a good many lupus nodules. He says this patch has hardly progressed since he was in the hospital. On the left buttock is a patch of similar size, scratched and irritated, and extending nearly but not quite to the anal aperture by a small and very active process of lupus tissue. At the back of the left thigh, just above the knee is a patch of scar almost completely sound, with only a few nodules at the lower edge. Above the outer malleolus is a sound scar. At the level

of the top of a shoe, over the tendo Achillis, is a swollen, violet, unhealthy-looking, almost fungating ulcer. Also there is a place, the size of half-a-crown, over the apex of left shoulder red, swollen, and crusted, being more suggestive of scrofulodermia than lupus. No signs of disease in internal organs; pulse 100.







May 1st, 1897. $\frac{1}{500}$ mg. of Koch's new tuberculin injected between the shoulders.
May 2nd. No change or disturbance of any kind.
May 3rd. $\frac{2}{500}$ mg.
May 5th. $\frac{4}{500}$ mg.
May 7th. $\frac{1}{10}$ mg. Complains of rheumatism in the joints.
May 8th. Diseased areas looking a little cleaner. Slight central depression in some of the nodules.
May 10th. $\frac{1}{5}$ mg.
May 12th. $\frac{1}{2}$ mg. The redness of the face is subsiding, and the patch on the hand is healing a little.
May 14th. $\frac{1}{1}$ mg.
May 16th. $\frac{1}{5}$ mg. Improvement very slight.
May 18th. $\frac{1}{2}$ mg.
May 21st. $\frac{1}{2}$ mg.
May 23rd. 1 mg. Great improvement in the nose, not much to be seen otherwise.
May 25th. $1\frac{1}{2}$ mg.
May 27th. 2 mg. Not much change.
May 30th. $2\frac{1}{2}$ mg.
June 2nd. 3 mg. The nodules are flatter. Patient says he notices improvement every time he dresses his face. Only boracic acid ointment is being used. The ulcer on the hand is healthier looking.
June 4th. Temperature rose to 104° at 8 P.M. on the 2nd. He had no rigor, but felt hot and cold. Head ached severely, and his throat became sore. There is an eruption of pin's head vesicles over fauces and soft palate now. Patient also had pricking sensations wandering about over the skin.
June 6th. Quite well again now. Face a good deal improved. $3\frac{1}{2}$ mg.
June 9th. No reaction since last injection. Face much cleaner, as many of the scabs have fallen off. The lip is healing, but the swelling remains. There is a remarkable change in the ulcers on the hand, which have healed entirely. $3\frac{1}{2}$ mg.
June 12th. 4 mg. The fissure in the fingers is now completely closed. Forehead cicatrising and the lip is covered with florid granulations.
June 17th. $4\frac{1}{2}$ mg.
June 21st. 5 mg. Some leaked away from site of injection. Left side of the face is a good deal flatter.
June 24th. $5\frac{1}{2}$ mg.
June 28th. Tuberculin ran short.
July 1st. $6\frac{1}{2}$ mg. Face generally less scaly and improving, but swelling of upper lip does not go down.
July 5th. 7 mg.
July 6th. No rise of temperature, but he complains of headache and pain under the heart.
July 8th. 8 mg. Some diminution in size of lip.

CASE V.—A. R., married, aged 37, admitted into St. Mary's Hospital, May 3rd, 1897.

History.—Some doubtful consumptive history on mother's side. At the age of 15 (1875) she had a large swelling appear over the left elbow, which was opened twice and discharged a lot of fluid. After this some patches developed on the elbow like that present on the arm now, and these patches spread. About the same time patches the size of peas developed on the right cheek, left temple, and on outer side of right arm, which all increased in size. She was at first treated with internal medicines, and then, in 1878, she went to London to a surgeon who treated all the patches with nitrate of silver, with great benefit. The patch on the temple was thus cured, and most of the patches round the elbow were also cured. At one London hospital the disease was scraped three times, and thus greatly improved. She then left it alone for two or three years, when she went to another hospital, and was treated with salicylic acid and lysol plasters, which took down the swelling a good deal, and she afterwards was treated with Koch's tuberculin. She never showed any local reaction to tuberculin, and never any fever, but she used to feel rather ill. For the last two years she has been treated by Mr. Morris, and has been scraped two or three times, and cauterised with some improvement.

Present Condition.—Face: There is a large patch of lupus situated on the right side of the face. The boundaries are—posteriorly, immediately behind the ear, and involving almost the whole of the edge of the pinna, which is swollen to about three times its normal thickness; above, a nearly straight line from the upper part of the ear to the outer canthus of the right eye, and along the lower margin of the orbit nearly to the inner angle of the eye. Here a small and actively growing process, which has been under observation for some time, is threatening to attack the lid. From this point the boundary follows the naso-labial groove; leaving the nose quite free, and runs down to a point $\frac{1}{4}$ inch external to the angle of the mouth, and thence to the edge of the jaw-bone. Below the jaw it runs forward again towards the middle line, and curving round again runs backwards beneath the jaw to about $\frac{1}{2}$ inch behind the lobe of the ear. All this surface is more or less composed of scar tissue, with scarcely any redness, but is plentifully besprinkled all over with typical yellowish lupus nodules, which are more prominent and thickly set at the edges. There is free scaling, but no ulceration or scabbing. At the points of greatest activity, the inner angle of the right eye, behind the vertical ramus of the jaw and the ear, the nodules stand prominently forth to the size of a split pea.

Right Shoulder.—On the front and outer surface of the right upper arm, $4\frac{1}{2}$ inches above the olecranon, there is an ovoid patch $3\frac{3}{4}$ inches long by $3\frac{1}{2}$ inches wide. It is freely scaling, and consists mostly of scar tissue, but still shows signs of activity by numerous nodules at the margin and scattered throughout the scar. The lower and outer margin is markedly hypertrophic The patient says this patch is very itchy.

Left Arm.—The extensor surface of the left forearm is the seat of numerous more or less circular depressed white scars, and there is one patch on the inner side about the size of the bowl of a teaspoon, which still shows active lupus. It is thickened, painful, and somewhat irregular in shape. No signs of disease in internal organs. Health good.

May 3rd, 1897. $\frac{1}{500}$ mg. of Koch's new tuberculin injected between shoulders.
May 5th. No local or constitutional disturbance. $\frac{2}{500}$ mg.
May 7th. She thinks it is flatter. No obvious difference. $\frac{4}{500}$ mg.
May 10th. $\frac{1}{10}$ mg.
May 12th. $\frac{1}{50}$ mg. Some flattening of the active part by the root of the nose.
May 14th. $\frac{1}{10}$ mg.
May 16th. $\frac{1}{5}$ mg. No disturbance of any kind
May 19th. $\frac{1}{2}$ mg. Nodules under eye and near ala nasi shrinking.
May 21st. 1 mg.
May 23rd. The base is somewhat reddened, but not threatening looking. The nodules have mostly sunk below the surface now, and the improvement in this way is especially marked at the advancing edge by the nose.
May 25th. 2 mg. The patch on the arm is now much flatter.
May 27th. 3 mg.
May 30th. 4 mg. No reaction, but felt very sleepy and tired.
June 2nd. 5 mg.
June 6th. The last injection caused a good deal of swelling, and she felt very hot but not ill. No difference to-day. 6 mg.
June 10th. Marked contraction taking place both in face and arm. $6\frac{1}{2}$ mg.

June 14th. 7 mg.
June 17th. 8 mg. Swelling going down in ear a little.
June 21st. Felt weak and sleepy after last injection, but no swelling or feverishness. 8½ mg.
June 28th. Not enough tuberculin.
July 1st. Nothing fresh to note, but steady and gradual improvement. 9 mg.
July 8th. 10 mg.

CASE VI.—E. S., aged 24, admitted into St. Mary's Hospital May 3rd, 1897.

History.—No consumption or skin disease in the family. Patient has had only the usual childish complaints. The present disease began at the age of 8 or 9 (1881) with three patches—on the left malar bone, under left side of chin, and in front of the left ear. Apparently it started as an abscess, which was opened. He was then treated with ointments and had it burned with some liquid twice a week. Up to this time it had not spread, but as it began to do so he was taken to a hospital, where it was scraped twice, but without much benefit, and it continued to spread. Then in 1885 (?) he came here and was scraped and cauterised frequently. In 1891 he underwent treatment with Koch's tuberculin. At this time the disease was as extensive as at present and very swollen, but never ulcerated. He never reacted to tuberculin, but it improved his face immensely, and it only began to relapse again a few months ago. Since Koch's treatment was employed he has been treated with pyrogallol ointment.

Present Condition.—He has a roughly butterfly-shaped patch of lupus on the face, including the whole nose and upper lip, and having a greater extent on the right side of the face than on the left. On the right side it extends from the root of the nose, along the lower edge of the orbit, up to the external angle of the eye; then, with a convex outward curve, it sweeps downwards to below the jawbone, rises forwards, and, encircling the angle of the mouth, merges into that of the lip. On the left side there is a lobe-shaped, obliquely-lying patch, extending down from the nose to 1 inch outside the angle of the mouth and a little below it. The septum is left, but the nostrils are almost closed by cicatricial contraction, and the alæ nasi are mostly destroyed. By far the greater part of this area is a reddish, shining scar, but, especially on the right side, there are patches of active lupus round the margin. The centre is for the most part clear, but here and there there are nodules in the scar. The right side generally is more active and the nose on that side is less sound. There is still one active nodule to be seen on the right upper eyelid. The gums are sound. No sign of disease in internal organs. Health good.

May 4th, 1897. $\frac{1}{500}$ mg. Koch's new tuberculin injected between shoulders.
May 6th. $\frac{2}{500}$ mg. No disturbance of any kind.
May 8th. $\frac{4}{500}$ mg.
May 10th. $\frac{1}{70}$ mg. He thinks it is better. No obvious change.
May 12th. $\frac{1}{30}$ mg.
May 14th. $\frac{1}{10}$ mg. Left hospital yesterday to attend regularly for treatment.
May 16th. $\frac{1}{5}$ mg. No disturbance of any kind. No obvious local change.
May 19th. $\frac{1}{2}$ mg.
May 21st. Wednesday (19th) evening felt ill. Had no shivering. Went to bed but could not sleep. Very weak all Thursday (20th). Felt feverish. Temperature normal to-day. Some vesication of the lupus nodules.
May 23rd. Did not appear.
May 24th. 1 mg. Lupus generally paler. More active parts, especially on right side, are flattening.
May 26th. 1½ m. Felt a little cold and shivery after last injection.
May 30th. 2 mg. Felt a slight lump under right armpit after last injections. Injections always make him feel a little ill now. Lupus seems clearer, but it is difficult to see in the hard scar.
June 2nd. 3 mg.
June 10th. 3½ mg. Had a severe local reaction after last dose. His face swelled up, so that he was unable to go out. Swelling gone now, and face is improved. Feels quite well.
June 14th. Nose and lip swelled slightly after last injection, but nothing else. Nodule on right eyelid has disappeared. 4 mg.
June 17th. Had a smart reaction five hours after injection. His face swelled up, and he was unable to rise next morning. Quite well again now. 4½ mg.
June 21st. Only felt a trifle unwell. Much of the active lupus has now disappeared. Only 2½ mg., as tuberculin ran short.
June 24th. Quite well in himself. 5 mg.
June 28th. No disturbance. Could only give him 5 mg., as tuberculin ran short.
July 5th. No trouble after last injection. Face contracting slowly. 6 mg.
July 8th. Only the slightest *malaise* after last injection. 7 mg.

REMARKS.

Koch, in his paper referring to the results obtained by the use of his new tuberculin, expressly declines to speak of any case as cured, "although in a number of observations one would be warranted in speaking of a cure in the current sense of the word." He prefers to say that in the cases of lupus, as well of other forms of tuberculosis, treated with T. R., he has "invariably seen a considerable improvement take place." The good effects of the new tuberculin on lupus thus cautiously referred to by Koch are fully confirmed by our experience. The cases above related speak for themselves. The improvement in one or two, and those the worst, of them is so remarkable, that the necessarily bald clinical record fails to convey an adequate idea of the change that has been wrought in the appearance of the affected parts; to be fully appreciated it must be seen.

Summarising the effects of the new tuberculin in the order in which they were observed, there was: 1. A diminution of the surrounding halo of redness in those cases in which this had been present to a marked degree before the commencement of the treatment; in cases in which there were simply yellowish brown nodules in a white scar, the injections produced no visible effect at this stage. 2. The next change noticed was a slight depression in the centre of the nodules, leading to wrinkling, and later to desquamation of the cuticle. Then there occurred, 3, steady healing of all ulcerated surfaces; and, 4, slow subsidence of the previously permanent œdema of the lips, ears, etc. In two cases (I and VI) actual disappearance of the characteristic lupus nodules was observed, in the former on the upper lip, in the latter on the eyelid. In other cases there was distinct shrinking of nodules with diminution in the scaling of the surface. Another marked effect of the injections was the softening and flattening of pre-existing scars. In no case has there been the slightest sign of progress in the disease since the treatment was begun. This fact is especially noteworthy in regard to Case II, which had previously shown a very marked and ever-increasing tendency to recurrence and extension under so many forms of treatment.

As regards the immediate effect of the injections, there is at first little or no reaction, although in some cases a feeling of heaviness and drowsiness is complained of. When the larger doses are reached, there is, as may be seen from the temperature charts, considerable febrile disturbance, sometimes with headache and pains in the limbs, and even some trouble in breathing, and a general feeling of depression with broken sleep. Locally the erythema is generally increased, and the whole affected area, including even old-standing cicatricial tissue, is swollen. In two of our cases, however, in which there were sound scars, probably from previous lupus, no reaction was observed in the scar. The phenomena of reaction quickly disappear, and then the patients without exception describe themselves as feeling better than they did before. As showing how slight comparatively is the general reaction following the use of the new tuberculin, it may be pointed out that in Cases V and VI the patients are going about, and only come to the hospital from time to time to have the treatment applied. We do not, however, think this course advisable as a rule.

On the whole we are able to state that the local effects of the new tuberculin in the cases of lupus vulgaris in which we have tried it have been uniformly good, in some cases distinctly brilliant. The constitutional disturbance has in no case been severe, and has always been of a very transitory character. As far as can be judged at present, the injections do no harm whatever.

We think it well, however, to repeat most emphatically that we do not claim the results here reported as "cures." We have recorded as faithfully as we could what we have seen in a small number of cases; time alone can show whether the great improvement that has taken place in the appearances of the disease in these cases will be lasting. The present must be taken strictly as only a preliminary note written in compliance with a request from the Editor of the BRITISH MEDICAL JOURNAL. A full report of the cases, with their subsequent history in detail, will be given to the profession later.

We may say in conclusion that, without committing ourselves to a definite judgment as to the value of this new remedy, we should have no hesitation in recommending it in any case of lupus vulgaris in which the constitution is not hopelessly broken down. In recommending it, we should be careful to warn the patient that he must not look for any miraculous effect. It is clear that a sufficient length of time must be allowed for the operation of the remedy if it is to be effectual; how long that may be it is impossible to say at present. As regards the production of the immunity aimed at by Koch, that is obviously a very difficult matter to test in the human subject.

Finally, we may be allowed to express the hope that the new tuberculin may soon be made more easy to procure, and less costly than it is at present.

THE Drapers' Company have sent a donation of £100 to the funds of the London Hospital.

A NOTE AS TO WHEN INCISION OF THE TYMPANIC MEMBRANE SHOULD BE PERFORMED IN ACUTE INFLAMMATION OF THE MIDDLE EAR.

By Sir WILLIAM DALBY, F.R.C.S.,
Consulting Aural Surgeon, St. George's Hospital, London.

I read with great satisfaction, in the issue of the British Medical Journal of June 12th, on "acute otitis media in young infants presenting symptoms simulating those of meningitis," statements by Drs. Cheadle, Barlow, and Lees which are remarkable for the lucidity and care with which their views are expressed. I cannot but reflect how gratified the late Mr. Hinton would have been if his views and practices had been so fully recognised in his lifetime in a similar manner. Those who knew him will remember how persistently he advocated incision of the membrane in acute inflammation of the tympanic cavity, and how he became at one time enthusiastic on the subject of incision in cases of chronic catarrh when he suspected mucus in the tympanum. Without doubt he incised the membrane in these latter cases far more frequently than his more matured judgment approved of, and more than subsequent experience has justified, so that probably his enthusiasm in the latter class of cases may have prevented (and I believe did prevent) his correct views in the acute forms of inflammation being recognised at the time as they deserved to be. However, incision of the membrane when pus is believed to be within the tympanum has for many years been the established practice with surgeons. As far back as 1872, in a lecture delivered at St. George's Hospital, in advising that "so long as there is sufficient evidence of purulent matter in the tympanic cavity, there can be no question of the propriety of making an opening," and "to thus provide an exit for purulent matter in these cases is demanded by the recognised rules of surgery which guide us in similar instances," I was not enunciating any original view, but simply explaining the practice which has now for many years represented the routine amongst aural surgeons, so it was somewhat remarkable to find the observation of Mr. Field in the paper referred to (read at a meeting of the South Eastern Branch of the British Medical Association), that his attention was first drawn to this subject, in the case of infants, by the physicians. Still more startling is the statement that "I feel confident that every year, owing simply to the non-discovery of pent-up pus in the tympanic cavity, scores of children die or fall victims to chronic hydrocephalus, or complete idiocy." That they frequently die is of course well known, but if we are to accept this opinion in regard to hydrocephalus and complete idiocy, Mr. Field will, I am sure, forgive me saying that the accepted views of the pathology of hydrocephalus will have to be completely reconstructed, and at the same time additional idiot asylums to be constructed.

In my own experience I cannot recall a single instance in which inflammation of the tympanic cavity has produced either hydrocephalus or idiocy. Nor can I conceive the pathological processes which could lead to either when inflammation of the tympanum was the exciting cause, although of course I am familiar enough with its results in the way of meningitis, cerebral abscess, septicæmia, and deafness productive of deaf mutism.

Mr. Hinton was deeply impressed with the urgent necessity of affording relief by incising the membrane in the cases of young infants and children where the symptoms of otitis media simulate those of meningitis, and says "such cases are generally taken for affections of the brain, and all the time during which relief might be given and the ear saved from damage is lost." He then relates a case written by Dr. (now Sir Samuel) Wilks in great detail, of a child two years old, in which the inflammatory process within the tympanum lasted for four weeks before the membrane gave way first on one side, then on the other, with discharge and recovery. Before the discharge appeared the child "sometimes for a whole day did not sleep, and was wasted to a mere shadow." All the symptoms are mentioned—the restlessness, the throwing the head about, the screaming, temperature, etc.; but Dr. Wilks says "there were no symptoms indicating any cerebral mischief," and Mr. Hinton writes, "it is a fortunate instance as regards its result: but how great a risk was run, and what, probably, needless pain endured!"

The real difficulty in these cases is to decide upon the precise period when the incision should be made. We are so often unaided by any physical signs in the membrane, and in dealing with an infant we cannot elicit the physical signs within the tympanum as we can do in the case of adults. Neither can we get the additional help by interrogation as regards sensations which point to fluid within the cavity of the tympanum. When there is added to this difficulty the additional one of the smallness of the parts (for it is an undoubted fact that the larger the canal and membrane the more complete is the illumination of the membrane, so is the greater facility of arriving at a correct estimate of the state of the tympanum), the subject is not without its difficulties. Let it be said at once that the physical appearances in the membrane are usually of no help in these cases, for they are often absent, and as frequently as not the most that can be seen to be abnormal are the appearances showing a closed Eustachian tube, and perhaps some congestion of the vessels.

In the case of infants, then, the constitutional symptoms and the demeanour of the little patient as indicating pain of an acute and agonising character, or pain prolonged over many days, are the sole evidences within our hands. The screaming, the turning about of the head, the sleeplessness, the general illness which oftentimes we are helpless to relieve, make these cases distressing beyond measure to those who are witnesses of them. Taken alone the heightened temperature is an insufficient guide, for in all cases of pain in the ear in children depending on slight inflammation or even congestion of the tympanum, the temperature at once rises considerably.

In the large proportion of cases leeches and hot fomentations will cut short inflammations of the tympanic cavity, but it would be safe to adopt the rule that when they do not (for if they relieve they do so at once) a vertical incision should be made in the posterior section of the membrane; a rule, of course, subject to the general aspect of the case.

As Dr. Barlow very justly observes, the operation does no harm, although there may not be any pus to provide an exit for, and it should not be forgotten that it was Hinton who demonstrated this. For in this lies the justification for the procedure, as nothing is more certain than that there may be pus within the tympanum associated with an absence of physical signs of its presence in the case of infants. In order to estimate properly the fact, in order also to estimate the exceeding difficulty of offering the same kind of relief in cases of scarlet fever, measles, typhoid, etc., the character of the various courses which inflammation of the tympanum pursues, must be studied closely.

In the infantile forms of this inflammation (not connected with the exanthemata) the process is often slow, subacute, the case dragging on day after day without the membrane giving way. I have quoted the case (by Sir S. Wilks) in which perforation by ulceration was delayed for four weeks as an example, although personally I have never known the membrane to resist for over two weeks. But when we come to consider the cases of scarlet fever, measles, or the like, we ought always, theoretically, to be able to prevent the ulcerative process by incising the membrane. Practically, however, this is more frequently than not quite impossible, and for this reason. Perhaps in the evening the ear is not involved, and before morning breaks the inflammation has commenced, and the membranes, or one membrane, is perforated, so rapid is the process. Or, again, in the desquamating stage the same rapid ulceration will take place. The damage will be done before the surgeon can be called in. And, indeed, the graver symptoms very naturally absorb the attention of the attendant. In the case of adults whose tympanic cavities are inflamed, the whole subject is inordinately more simple and relief more feasible. It is easy enough to estimate the presence or absence of secretion within the tympanum, for the passing of air into the tympanic cavity gives the characteristic moist *râle* (through the otoscope) indicative of secretion. Also when the pressure of fluid has been brought to work changes in the aspect of the membrane, such as a discoloration in a circumscribed spot,

or a generally sodden appearance, no further indication is required.

In passing, it may be said that when this sodden appearance is present, and the knife cuts not crisply but as if passing through soaked blotting-paper, the opening thus made is frequently permanent, or at any rate remains for long periods; for the membrane has become so disorganised as to impair its tendency to repair.

ACUTE SUPPURATIVE MIDDLE-EAR DISEASE IN INFANCY.

BY J. H. MARSH, M.R.C.S., L.R.C.P.LOND.,

Late Senior House-Surgeon Manchester Royal Infirmary and Macclesfield General Infirmary.

I HAVE had during the last three months under my care four cases of acute suppurative middle-ear disease in young infants. The children were all under 6 months of age, and in none of the cases was there any history of specific fever, diphtheria, or injury to account for the onset of the disease.

The earliest symptoms were restlessness, vomiting, refusal of food, and feverishness. In 2 of the cases the abdomen had been carefully poulticed and teething powders administered under medical directions. One of the cases simulated acute meningitis, and in another no treatment had been applied to the ear until the child was brought to me suffering from complete unilateral facial paralysis. In this case the onset had been insidious, constitutional disturbance being less marked. The discharge had in all the cases been going on for some weeks previously; the pus was fœtid and occasionally sanious.

It was, of course, impossible in infants so young to test the hearing power. Examination with the speculum showed that in three of the cases the disease was unilateral in the remaining one it was bilateral. The membrana tympani was perforated in all the cases, and in two Shrapnell's membrane was involved.

In the case attended by facial paralysis the whole of the tympanic membrane seemed to be destroyed, none of the ossicles were visible, and the middle ear was filled with highly vascular granulation tissue, from amongst which pus was freely oozing. Tenderness and "egg shell crackling" were well marked on pressure over the mastoid. There was also secondary corneal ulceration on the same side.

Under these circumstances I at once freely opened the mastoid antrum and scraped away a quantity of granulation tissue and *débris*, from which the bleeding was fairly free, and, finally, I gently syringed through a warm saturated solution of boracic acid, plugged the antrum, wound, and ear with iodoform gauze, and dressed with absorbent iodoform wool. There was no difficulty in opening the antrum, a mere shell of bone constituting the outer wall. The result was satisfactory; the discharge is rapidly ceasing, the granulation tissue has not returned, and the facial paralysis is slowly recovering.

In the other case of attic suppuration, I washed it out daily through the perforation by means of an intratympanic syringe, after previously removing a polypus. Izal lotion was used as being a comparatively unirritating but powerful antiseptic, after carefully drying out with iodoform wool a few crystals of acetanilide were insufflated. Acetanilide reduces the amount of discharge, keeps the cavity sweet, and does not form an impervious scab like iodoform.

In the remaining two cases, including the bilateral one, the perforation was situated below and behind the handle of the malleus and was of the "pinhole" type. Gentle daily irrigation with izal lotion, and insufflation of acetanilide resulted in a speedy cure.

These cases are, I think, of interest as showing how acute primary inflammation of the middle ear may give rise to grave errors of diagnosis, the case frequently being mistaken for one of acute primary meningitis, acute gastro-enteritis, or teething fits, and much valuable time may be lost whilst the abdomen is being carefully poulticed or the gums lanced.

The early symptoms which should suggest the ear as the cause of the illness are

1. The child constantly endeavours to rub the affected ear.
2. It utters a sharp cry of pain on pressure being made below the meatus.
3. It refuses to rest its head on the affected side.

The onset of convulsions usually indicates severe cerebral hyperæmia, retracted head, followed by coma; actual meningeal inflammation usually by extension. It is during the early stage that the greatest benefit follows from the use of Politzer's bag with warm instillations.

Field states that the bag is not requisite for young children—blowing into the nostrils through a piece of rubber tubing is amply sufficient. Paracentesis is indicated if there is bulging of the membrane. Poultices only tend to increase the suppuration and so promote rupture of the membrane.

The rapid cure which follows on the use of thorough cleanliness and mild antiseptics and astringents suggests that in the majority of these cases the disease is primarily an acute catarrhal inflammation of the mucous membrane of the middle ear, which owing to the tension of retained secretion becomes suppurative. In some no doubt is it primarily tuberculous.

Milligan in the *Medical Annual* for 1896 points out the extreme difficulty of microscopically demonstrating the presence of tubercle bacilli either in the discharge from the ear or in the scrapings removed after opening the mastoid, subcutaneous inoculations being usually required to establish a definite diagnosis.

The clinical signs which would suggest that the lesion had a tuberculous origin are: (1) A slow non-sthenic onset; (2) early glandular enlargement; (3) early facial paralysis; (4) resistance to the ordinary measures of treatment; (5) the presence of other tuberculous disease. These cases require the establishment of a free opening into the middle ear through the mastoid.

TWO CASES OF ABDOMINAL OPERATION IN EARLY CHILDHOOD.

BY F. EVE, F.R.C.S.,

Surgeon to the London and to the Evelina Hospitals.

THE two following cases, in one of which I performed laparotomy for suppurating ovarian cyst in an infant, and in the other nephrectomy in a child under 4 years, will, I believe, be read with interest, partly because the first case is an example of an extremely rare condition in an infant, and partly because they show that abdominal operations may be undertaken even in very young children with good prospect of success.

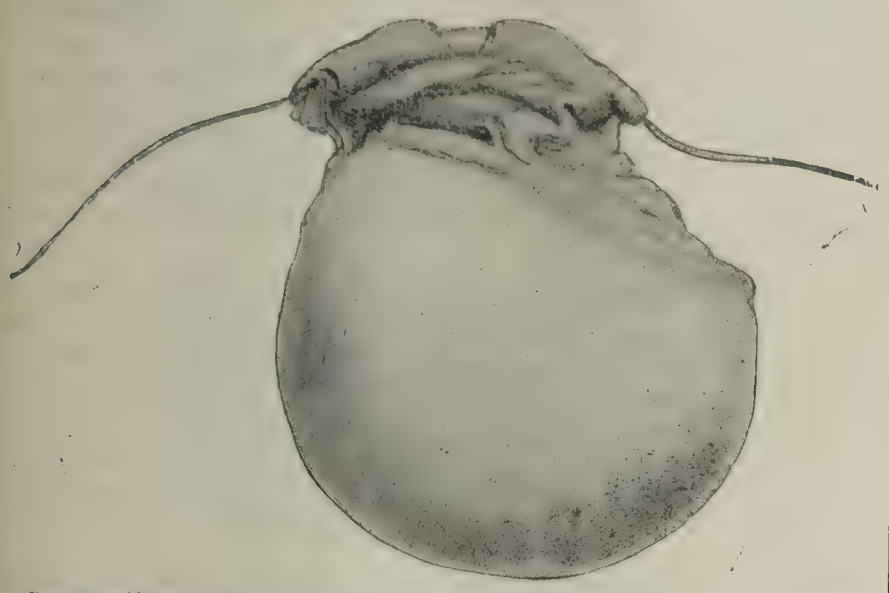
CASE I. *Suppurating Ovarian Cyst in an Infant aged 22 months: Removal: Recovery.*—A. W., aged 1 year and 10 months, a pale, weakly child, with an enlarged abdomen, had been ill from birth, and for the last fourteen days had suffered from diarrhœa. She came under the care of my colleague Dr. Carpenter at the Evelina Hospital, to whose kindness I was indebted for the case. He noticed a swelling in the right iliac region, and on making a systematic rectal examination under chloroform, found a tumour about the size of a tangerine orange. It lay to the right of the uterus, with which it appeared to be connected, was freely movable, could be carried to the middle line, fluctuated, and no attachment could be detected above it. The right ovary could not be made out, but the left was normal in size and position.

There were well-marked Parrot's nodes around the bregma, and the spleen was distinctly enlarged. No other evidences of congenital syphilis existed. The child was admitted under my care on July 1st, 1895. A few days later Dr. Carpenter and myself made another examination under chloroform. When the abdominal muscles were relaxed by the anæsthetic, a tumour could be distinctly felt through the abdominal parietes. From its position, its relation to the uterus (which could be clearly made out through the rectum), and from the presence of fluctuation and some pyrexia a diagnosis of pyosalpinx was made. The child had slight bronchitis, and, as some suspicions of tuberculosis were entertained, it was decided to watch the case. Within the next few weeks she continued to suffer from cough, and had occasional rises of temperature. The highest point reached was 102.5° F. Later, her general condition having improved and the tumour being distinctly larger, it was decided to operate.

On August 13th, the child being under A.C.E., I opened the abdomen in the middle line and came down on a smooth elastic rounded swelling occupying the right side of the pelvis, and attached by many firm adhesions to the surrounding structures. Adhesions connecting it with the cæcum, the bladder, and the rectum were separated by tearing and by the use of the scalpel. After detaching the cyst it was drawn into the wound and punctured with a trocar, which let out some foul-smelling pus. After closing the puncture with forceps the pedicle was secured with silk in the usual manner close to the uterus, and the cyst removed. A glass drainage tube was inserted and the wound closed. There was little shock, no sickness, and no rise of temperature after the operation.

The tube was removed on the third day, and the sutures on the seventh day. Subsequently the general condition of the child improved; she was sent to a convalescent home on October 3rd, and at the present time (January, 1897) continues quite well.

The cyst (which is shown in the accompanying drawing) is



Suppurating ovarian cyst, removed from an infant. Above is the Fallopian tube with a bristle passin through it.

unilocular, of the form of a flattened sphere, 1½ inch in diameter; its inner surface is somewhat rugose and furrowed, but is not beset with papillæ. Above it runs the Fallopian tube, which is slightly thickened but patent. Microscopically the cyst wall was composed of fibronuclear tissue with an inner lining of granulation tissue. No remains of true ovarian tissue could be observed either with the naked eye or with the microscope. It is therefore impossible to say whether the cyst originated in the oöphoron or paroöphoron, but probably in the former.

Dr. Carpenter has kindly placed at my disposal a list which he has collected of 35 cases of ovarian tumour removed from infants and children under 12 years of age. From this it appears that in 15 the tumours were dermoids, in 10 simple cystic growths, in 9 malignant, and 1 was a fibromyoma. The youngest patient was 1 year and 9 months old. This was a case of dermoid cyst successfully removed by Roemer.[1]

My own patient at the date of the operation was 1 year and 11 months old, so that as far as I have been able to ascertain this is the youngest recorded case but one in which an ovarian tumour has been successfully removed.

The presence of pus within the cyst, evidently due to the intimate adhesions to the bowel, fully explains the pyrexia and constitutional disturbance, which completely disappeared after the operation. It was the existence of these symptoms which, in the first instance, gave rise to the suspicion that the tumour was a pyosalpinx, possibly of tuberculous origin. Had the nature of the swelling not been carefully ascertained by rectal bimanual examination, it is probable that the case would have drifted on until the child was attacked with suppurative peritonitis.

CASE II. *Tuberculous Disease of Kidney in a Child under 4 years: Nephrectomy: Recovery.*—A. F., aged 3 years and 9 months, a patient at the Evelina Hospital, was transferred to my care by my colleague, Dr. Carpenter. Three months before admission the mother noticed that the child was wasting, micturated frequently, passing very little urine at a time, and that the water contained slime. For two months she had complained of pain in the abdomen. When admitted the child was emaciated, the abdomen enlarged by a tumour, evidently renal, which occupied the left lumbar region; it extended from beneath the costal cartilages downwards below the level of the anterior superior spine, and forwards to within 2 inches of the umbilicus. The colon was pressed forwards towards the middle line; the liver was slightly enlarged; the lower edge of the right kidney could just be felt; the urine, specific gravity 1012, contained a faint trace of albumen; the temperature was typically hectic, reaching at 9 P.M. on the day of admission 105.5° F.

On June 15th, 1895, under anæsthesia, an incision was made into the kidney through the loin, a considerable quantity of pus let out, and a drainage tube inserted. After the operation the child was greatly collapsed.

On June 25th the urine contained albumen and pus. The child complained of pain in the left shoulder. The temperature, although improved by the first operation, was still hectic in type, and on the evening of July 1st it reached 105°.

On July 2nd, as the child was evidently dying of hectic, it was decided to remove the kidney as a last resource, although her condition appeared most unfavourable. Under A.C.E. the wound in the loin was prolonged obliquely downwards as far as the crest of the ileum and the kidney exposed, but was found to be so large that any attempt to remove it by the ordinary incision was evidently impossible. The lower end of the incision was, therefore, prolonged horizontally forward through the abdominal parietes as far as the outer edge of the rectus, the peritoneum being detached and pressed forward. This gave ample room for the kidney to be drawn out and the pedicle secure. The ureter was tied separately and pure carbolic acid was applied to the stump. The wound was closed and a drainage tube inserted in the upper angle, which had already been infected as a result of the previous operation. The operation had to be performed as rapidly as possible owing to the collapsed condition of the child, but reaction subsequently took place.

Great improvement followed the operation. On July 10th the temperature had not been above 99.8° since July 5th, when it was 100°. The wound healed by first intention except where the old incision was. Subsequently an abscess formed beneath the pectoral muscle just below the acromial end of the left clavicle. This was incised and a considerable quantity of pus let out. Later the child was sent to a convalescent home and returned quite fat, but with a sinus still existing in the shoulder; this ultimately closed.

The kidney measured 4¾ inches in length, 2½ inches in breadth, and had a circumference of 9 inches. Its surface was lobulated. A section showed calyces extending into the lobules, but they were not dilated as is usual, but formed slit-like spaces containing caseous matter and pus. The pelvis was not materially dilated, hence there was no common cavity which could be opened up and drained by nephrotomy.

With a knowledge of the high mortality following removal of the kidney for tumour in infants, and in consideration of the exhausted condition of the child, I should not have undertaken nephrectomy in this case had not improvement under existing conditions been impossible. After exposing the kidney by the ordinary incision, and freely opening it, I had expected that its bulk would have diminished sufficiently to allow of its delivery through an ordinary incision, and was not a little surprised when I found the size of the mass which had to be removed.

The prolongation of the lower part of the incision horizontally forward, as described, allowed of the tumour being extracted with the greatest ease and rapidity. It was necessarily of the highest importance that the peritoneum should not be opened, seeing that the original opening into the kidney was, from the nature of the case, highly septic. The child was so collapsed that no time could be spared to refresh the edges or otherwise effectually cleanse this part of the wound.

The child is now (January, 1897) seemingly in perfect health, and has grown quite fat.

REFERENCE.

1 *Deut. med. Woch.*, 1883, p. 762.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

THE FIGURE-OF-EIGHT SUTURE IN THE RADICAL CURE OF INGUINAL HERNIA.

THE reappearance of the buried sutures, which close the canal in operating for the cure of inguinal hernia, forms one of the minor drawbacks of the operation. Two theories have been propounded to account for this reappearance. One considers the suture to be septic when inserted; the other that the suture, instead of being absorbed or encapsuled, acts as a foreign body, possibly aseptic, lying among tissues more or less constantly moving, and so cause a local lesion, in which any bacteria passing through the tissues find a home. Whatever the true explanation may be, the fact remains that in a certain percentage of cases of radical cure, either a small sinus with sentinel granulations remains, or, after healing by first intention has taken place, the patient, at an interval varying from a few days to a few months, has some tenderness and swelling in the scar, followed by the formation of a sinus which declines to heal till one or more of the buried sutures is shed. The suture on the neck of the sac hardly ever reappears if the stump of the sac is allowed to retract well within the internal ring. With the exception of this suture, buried stitches may be dispensed with by employing a figure-of-eight stitch, the lower loop of which includes the edges of the canal. The superficial loop may be used to approximate the edges of the skin incision, but the following modification is better, and allows inspection of the canal as each stitch is tightened.

Starting at the internal ring, the suture (silkworm gut for choice) is passed through the sides of the canal, superficial

to the cord. Then both ends of the suture, threaded on one needle, are passed obliquely upwards and outwards through the muscles and skin on the outer side of the canal, perforating the skin three-quarters of an inch from the cut edge. The needle is then unthreaded and withdrawn. Stitches are inserted in this way the whole length of the canal. A row of punctures is thus formed, from each of which both ends of a suture project. The ends of each suture, from above downwards, are then crossed once and tied over a glass rod, forming the figure of eight, the lower loop of which, as it is tightened, closes the canal. Care must be taken not to compress the cord. If the sutures are tied over the rod without being crossed, they tend to dilate the skin punctures, and do not close the canal. The skin incision is then closed by a superficial row of sutures. The deep sutures, if causing no irritation and not cutting out, may be left from fourteen to twenty-one days. The after-treatment is the same as in any other method. By passing the needles, threaded with both ends of the sutures upwards and outwards, the natural obliquity of the canal is to some extent restored on tightening the sutures. By twisting the neck of the sac, and simply transfixing without tying, and then bringing both ends of the suture through the skin and muscles as before and tying over a glass rod, the twist in the sac would be maintained, and the suture could be removed with the rest. This is not essential, as the ligature on the sac rarely gives trouble, peritoneum being very tolerant. This method of approximating deep surfaces is applicable to many operations other than those for hernia.

C. Hamilton Whiteford, M.R.C.S., L.R.C.P.,
Medical Officer to the Provident Branch of the Plymouth Public Dispensary.

SCHOTT'S TREATMENT OF CARDIAC DISEASES.

In connection with this valuable treatment in cases of cardiac disease there is a very important point to which the physician recommending it should draw the attention of the patient undergoing the course, and that is the sense of weakness it produces; this I find in most cases very marked, and tends to lead the patient to believe that he is receiving no benefit from the treatment, but actually the reverse, and is apt to discourage him from continuing. To prevent this the indications of improvement should be explained to him, such as the disappearance or lessening of the dyspnœa, œdema, albuminuria, the diminution in the size of the heart, and the increase in the force of the pulse, as demonstrated by the pencil tracings of the chest, and sphygmographic tracings, taken from time to time. These usually satisfy him. As the course progresses towards its termination the sense of weakness greatly diminishes, although the patient is left with a good deal taken out of him. After the completion of the course a fortnight or three weeks' holiday, in some bracing place, should be enjoined. This usually completes the cure.

Devonshire Street, W. Alexander Mitchell, M.D.

A CASE OF SPASMODIC TORTICOLLIS TREATED WITH THYROID EXTRACT.

A. S., a man, aged 37, first came under my care on April 9th. 1897. Beyond the mother and one brother being of a somewhat nervous temperament, there was no neurotic history in the family.

He had had four attacks of influenza, and it was from the third attack in November last that he dated the following symptoms; the last attack appears to have had little or no effect upon the disease. He noticed then on first leaving his bed neuralgic pains on the right side of the neck, right shoulder, upper arm and side; also the feeling, as he expressed it, of a rope tied round his body at the level of the costal margin in the nipple line, and slight numbness in the legs; he was able to walk perfectly well.

A few days later, on attempting to get up in the morning, he had a violent attack of pain, during which his head was drawn down towards the right shoulder. From that date the attacks became frequent, eventually occurring as often as three or four times in an hour.

On first seeing him, I noticed the sterno-mastoid was slightly hypertrophied. I prescribed bromide of potassium and valerian in increasing doses, neither of which, either alone or in combination, had the slightest influence on the attacks. On April 19th I ordered him 10♏ doses of thyroid extract to be taken three times in the day, which is equal to about one average-sized gland.

After having taken about ℥ij of the extract, the attacks became less frequent, and were attended with less pain, and after taking about ℥ij of it he suffered so little inconvenience that he discontinued the treatment, and did not come to see me again. Three weeks after, however, he met with an accident for which I was called in.

I found that he had been kicked by a horse on the outer and mid part of the right thigh. The force of the blow was not great, as he was standing close to the horse, and he was able to walk a few yards, but was eventually carried home, as he felt faint.

On examining him in bed, there was great tonic muscular spasm; in the region of the kick, the circumference measured 3 inches more than in the corresponding limb. At first sight I suspected a fracture, but on careful examination found that was not the case. The skin was not injured, nor did discoloration appear later; there was a considerable amount of shock, with occasional retching. For two days the spasm continued unabated, when I decided to renew the thyroid extract. After taking 30♏, the spasm became gradually less, and on taking the drug for two more days had completely subsided.

There was slight recurrence of the neck trouble, which likewise disappeared. Since then he has been practically well, only occasionally complaining of very slight neuralgia in the neck and shoulder.

Henry H. P. Cotton, L.R.C.P., M.R.C.S., L.S.A.Lond.
Westerham.

MELÆNA NEONATORUM.

I have had two cases of this rare disease in private practice during the last ten years. The first ended fatally within a few hours. I was unable to obtain an examination of the body. The other recovered. The following is a report of the case:

A healthy male child was born on March 20th, about five days before the time calculated. The labour was natural. Both parents are quite healthy, and there is no history of hæmophilia on either side. They have one other child, who has always been strong and healthy. About twenty-four hours after birth the child was put to the breast, and appeared to get some milk. An hour afterwards it got restless, and the nurse noticed it looked rather pale. In about two hours it became sick, and vomited what the nurse described as a teacupful of blood. I saw the child about six hours after the commencement of the symptoms; it was then very pale, and frequently gaping; it vomited a small quantity of fresh blood, and dark blood flowed almost constantly from the anus; a relatively enormous quantity of blood was lost. The child's father is a medical man, so I had the great advantage of his skilled co-operation as well as that of another medical friend.

We injected ergotine hypodermically, and gave repeated small doses of turpentine and hazeline by the mouth, keeping the child perfectly quiet. There was no good result from this treatment, and the child seemed to be steadily sinking, so we gave it half a teaspoonful liquor ferri perchloridi, *B.P.*, diluted with double the quantity of water; this was a strong solution, and caused a good deal of discoloration of the tongue and lips, but it proved to be effectual in stopping the hæmorrhage. We could not see that any benefit would be likely to be derived from the dilute solutions recommended in books. We were inclined to pass a catheter down the gullet and irrigate the stomach with the iron solution, but the child was so prostrate we feared that doing so would only precipitate the expected fatal termination.

We now began rectal feeding, keeping the child perfectly still and warm. Every hour there was injected one-sixth part of a whole egg beaten up with liquor pancreaticus and sodium bicarbonate, to which were added a few drops of brandy and Valentine's juice, and warm water up to half an ounce. We found a glass and vulcanite glycerine syringe very convenient for the injections. During the following day the child appeared to be dying, but rallied after the injection of minute quantity of strychnine hypodermically. In the evening there was a recurrence of the melæna, which was again checked by injecting ergotine and administering the solu-

tion of iron. From this time the child steadily improved. In a couple of days we commenced giving a small quantity of the Aylesbury Company's No. 1 humanised milk, and gradually left off the enemata. At present the child is quite as big and strong as an average child of the same age.

The principal points in the case are: (1) The bleeding appeared to be due to capillary oozing. (2) The strong iron solution appeared to be be effective in checking it. (3) Great attention to warmth, careful nutrition and stimulation, are most important after the hæmorrhage ceases.

LEONARD D. GAMBLE, M.B., C.M.Edin.

Abergavenny.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

LEEDS GENERAL INFIRMARY.

A CASE OF CÆSAREAN SECTION.

(Under the care of Dr. BRAITHWAITE.)

[Reported by J. A. CLOUGH, M.B.Lond., Resident Obstetric Officer.]

E. A. O., aged 26, was admitted on May 17th last. She had had one child six years before, and the labour was easy. The patient became pregnant for the second time about October, 1896, but as she did not remember the date of her last menstrual period, this was a little uncertain. At the beginning of December, however, she felt a "click or crack," but no pain or faintness. She noticed nothing else, and went about her work as usual. A week after this she felt the movement of the child, and then went on satisfactorily.

Dr. Salisbury of Stanningley, on being sent for on May 17th, the patient thinking labour had commenced, found the following state of affairs: A large centrally placed tumour was felt, resembling a full term pregnant uterus, in which the parts of a child could be distinctly felt; the head was placed to the left and the limbs felt to the right, the back lying behind. The placental *souffle* could be heard, and also the fœtal heart sounds. (These were never audible subsequently, nor after her admission to the infirmary could they be detected.) The child could be felt to move distinctly by palpating the abdomen. Bulging into the roof of the vagina was a fluctuating tumour, completely filling the pelvis, and feeling like a thin-walled cyst, soft, but somewhat tense from the pressure it was subjected to. The finger could not be passed between this and the walls of the pelvis in any direction. Anteriorly and high up behind the pubes was the cervix, which could only be touched with difficulty.

Dr. Braithwaite saw the patient at her own house with Dr. Salisbury, the same afternoon. The os was closed and labour had not actually commenced, but it seemed threatening, and it was evident that the pregnancy had reached full term. She was brought to the Leeds General Infirmary for operation at once, as there could be no doubt that the pelvis was occupied by a tumour, probably broad ligament or ovarian, and that delivery, except by Cæsarean section, was impossible.

The operation was done by Dr. Braithwaite on May 19th, with the assistance of myself. The patient being under ether, an incision was made just to the right of the middle line from above the umbilicus to within 1½ inch of the pubes, and the peritoneal cavity was opened. The uterus when exposed was found to be of a slaty blue colour, closely resembling that of a multilocular ovarian cyst, but of a darker blue. This unusually dark colour was probably due to the placenta having its attachment anteriorly. An incision was made into it, when bleeding took place freely. The incision was very rapidly enlarged, the hand passed into the uterus, and the head of the child brought out, the rest of the body quickly following, with the placenta and membranes, which were carefully peeled off the uterine walls. The hand passed into the uterus felt the cervical canal open. A sponge wrung out of hot boracic lotion was put into the uterine cavity, and several placed around the uterus, and the latter then pressed upon to promote contraction. No elastic ligature was used around the base of the uterus, and it is probable that if it had been used the hæmorrhage would have been no less, on account of the anterior position of the placenta. The wound in the uterine wall was closed by silkworm gut sutures placed at intervals of about two to the inch, and just missing the surface of the interior of the cavity, but including the edge of the peritoneum at the edge of the incision. A curious fact was noticed which I cannot find to have been previously mentioned, viz., the extreme looseness and movability of the peritoneum upon the whole surface of the empty and contracted uterus. This results from this membrane not having quite the same shrinking power as the uterus itself, or, in other words, its elasticity does not equal the contractile power of the organ it covers. Taking advantage of this, Dr. Braithwaite closed the peritoneum over the wound by a continuous catgut ligature, completely burying the original silkworm gut sutures and making the wound quite safe from the possibility of leakage. Behind and below the uterus was found the tumour, which, when brought out of the wound, proved to be a multilocular ovarian cyst. The pedicle was tied with strong silk, and the cyst removed. The left ovary was found to be normal. The uterus was contracted thoroughly by means of hot sponges, the abdominal cavity sponged out, and abdominal wall closed.

Owing to the loss of blood, saline solution was transfused into the basilic vein as a matter of precaution. It was not absolutely necessary, as the loss, although considerable, was not excessive. The child, a female, was living, and found to be fully developed. The mother made an uninterrupted recovery, and was discharged on June 16th, both mother and child quite well.

ROYAL NAVAL HOSPITAL, HAULBOWLINE.

CASE OF ACUTE YELLOW ATROPHY OF THE LIVER.

(Under the care of Fleet-Surgeon R. S. P. GRIFFITHS, R.N.)

[Communicated by the DIRECTOR-GENERAL OF THE MEDICAL DEPARTMENT OF THE NAVY.]

AN ordinary seaman, aged 19, belonging to H.M.S. *Pelorus*, lately commissioned, was admitted on the morning of June 15th. The medical officer of the ship stated that he was placed on the sick list on June 2nd, complaining of loss of appetite and vomiting. He was slightly jaundiced, bowels confined, and tongue soft, flabby, and white. The jaundice gradually became more marked. During the night of June 14th he became delirious and unconscious. On reception to hospital at 9 A.M. he was unconscious and delirious, throwing his limbs about. The skin was deeply jaundiced, the pupils equal and semidilated, the conjunctivæ insensitive. The bowels were still confined, but urine was passed copiously and involuntarily. Hepatic dulness was greatly reduced. The pulse was strong and regular; the heart sounds normal. The temperature was 100.° We ordered croton oil ♏2, followed by a drachm of glycerine injected into the rectum, and as diet beef tea, milk and soda water at intervals.

At noon he continued in the same condition. The temperature was 101°; there had been no action of bowels, and we ordered magnes. sulph., ℥jss.; magnes. carb., ℥j: aquæ, ℥vj. ℥j. every three hours. At 3 P.M. the temperature was 101.2°, the skin was perspiring, the pulse very much weaker. He was given a soap and water enema, which was retained two hours and a half, and came away without any fæces; the urine contains bile but no albumen. He was ordered brandy ½ oz. every hour and a half, fomentations to hepatic region and ol. ricini, ℥j. He remained totally unconscious, had recurring convulsive seizures about every twenty minutes, and at 5 P.M. his temperature was 105.4°, and he was given an enema of soap and water with turpentine, which failed to cause any evacuation of fæces; death occurred at 8 P.M.

Post-mortem examination June 17th, thirty-seven hours after death. Rigor mortis well marked; commencing decomposition over abdomen; *post mortem* staining, skin yellow; liver much atrophied, weight only 28 ozs., friable, and deeply stained with bile; large deposit of fat. Spleen, weight 10 ozs., normal on section. Kidneys, weight both

6 ozs. cortical substance increased and yellow in colour. Microscopical examination of sections of the liver showed disappearance of the lobular structure; some of the liver cells were filled with granular matter, others partially or wholly broken up, and only oily detritus remaining.

FIELD HOSPITAL, ESHOWE, ZULULAND.

CASE OF LIGHTNING STROKE; RECOVERY AFTER ARTIFICIAL RESPIRATION.

(By Surgeon-Captain G. A. WADE, M.D.Dub., A.M.S.)

THE comparative rarity of recovery after severe lightning stroke, and a desire to draw the attention of others to the use of artificial respiration in such cases, as advocated by Professor O. Lodge and noted in the BRITISH MEDICAL JOURNAL of October 24th, 1896, warrants me, I hope, in reporting the following cases that have recently come under my care.

On February 25th a severe thunderstorm with unusually heavy rain broke over this station, and in a few minutes the weight of the rain broke down the iron piping round the roof of the field hospital. The orderly on duty and a patient ran out to replace the piping, and as they were holding it up above their heads fitting it into the retaining brackets they both were struck by lightning. I was on the spot in about five minutes, and found Private J. P., 2nd Battalion West Riding Regiment, lying on a bed apparently dying; respiration had ceased, though the heart was still acting feebly, the face and lips were livid, the pupils widely dilated, the cornea insensitive, the head drawn towards the right shoulder, and the mouth towards the right ear. I at once commenced artificial respiration, and in about ten minutes he began to breathe, but did not recover consciousness for half an hour. He then commenced shrieking with pain in the abdomen and the small of the back, and had paralysis of both lower limbs. Hot beef-tea was given and ammonia, while hot bottles were applied to his feet. On examination I found a burn 2 inches wide extending from just below the bend of the left elbow upwards to the anterior fold of the axilla, whence it extended downwards along the chest wall to the lower margin of the ribs, passing external to the nipple; below the ribs there was a gap of 2 inches, and then another burn 3 inches long extended obliquely across the abdomen below the umbilicus. The lightning apparently took an erratic course, for the next injury was on the back of the right thigh, which was burnt from the gluteal fold to the popliteal space; another burn ran from the upper part of the calf downwards behind and below the internal ankle, and, crossing the sole, ended at the base of the little toe in a wound 1½ inch long. His trousers and boots were blown to shreds. The burn through most of its extent was of the second degree. Shock was severe, and lasted sixteen hours. Morphine was given hypodermically to relieve pain. While his foot was being washed in warm water before dressing it he yelled with pain, saying "ice was being held to his foot." On the following day he had recovered power over his legs, but complained of numbness and weakness for a week. He was discharged to duty on March 12th, having been under treatment sixteen days.

Private W. T., Medical Staff Corps, was struck by the same flash as the above case, but his injuries, though curious, were trivial. He had three small burns in the right groin, and one over the left testicle, which was retracted and very painful, while the hair on the right side of the pubes was singed off, as was also that on the front of the right thigh and leg as far as the ankle. The burns were apparently caused by a key and some money in his trouser's pocket being heated by the flash. As in the preceding case his chief complaint was of pain in the abdomen and small of the back, which was very severe, so that he writhed in agony and required morphine hypodermically to relieve him. He recovered completely in six days.

THE foundation stone of the new wing of Middlesex Hospital was laid by H.R.H. Princess Christian on July 15th. The new building, which is to be specially set apart for cancer cases, will provide accommodation for thirty-six patients, with a staff consisting of matron, eleven nurses, and six servants.

REPORTS OF SOCIETIES.

BRITISH GYNÆCOLOGICAL SOCIETY.

Professor MAYO ROBSON, F.R.C.S., President, in the Chair.

Thursday, July 8th, 1897.

SPECIMENS, ETC.

MR. SKENE KEITH showed an Ovarian Cyst from a patient who had marked bronzing of the skin and other symptoms of Addison's disease. A year ago she appeared so ill that he decided to tap the cyst; 30 lbs. of fluid were removed. All the symptoms subsided, and the bronzing became less marked. The cyst refilled, and he had removed it.—Dr. DUTCH showed an Instrument for Removing Fragments of Placenta after labour or abortion.—The PRESIDENT showed two specimens of Tubal Pregnancy. In the first the tube had not ruptured, and the ovum was *in situ;* blood had been poured out through the unoccluded ostium. In the second case the tube had ruptured.

THE MECHANISM OF INVERSION OF THE UTERUS.

This paper was read by Professor HECTOR TREUB, of Amsterdam, who related a case of inversion of the uterus in a patient who had been pregnant three times. Each pregnancy had ended in abortion, and the last abortion was seven years ago. For some time she had observed that something was protruding in the vulva, but she could always reduce it easily. Eleven weeks ago a prolapse appeared suddenly, and could not be reduced. This caused much pain, and brought about hæmorrhage to the extent of making her swoon. Her general health had deteriorated; she had lost meat-juice like fluid, and had been feverish. On examination a total inversion of the uterus, including the cervix, was found. Hysterectomy was performed, and the patient made a good recovery. Besides the œdematous mucous membrane, the uterus only showed a very small intramural fibroid near the fundus. Microscopical examination showed that the muscular tissue was in a normal condition, and that there was no question of atrophy of the uterine wall. The author went on to discuss the views held as to the mechanism of inversion. In only one group of cases was this wholly understood, namely, in those following immediately after labour. The two elements upon which, according to Gaillard Thomas, the inversion depended, were there present—namely, (1) relaxation and inertia of the uterine walls, (2) downward traction or pressure. In other cases the explanation was less obvious. The theories of Küstner and of Schauta and Gottschalk were insufficient, and Professor Treub submitted the following theory: The base of a sessile tumour cannot contract because of the implantation of the tumour, which diminishes or altogether abolishes the contractility of that part of the wall. And it cannot be that only the contractility of that base is diminished; the surrounding parts must necessarily be feebler within a greater or smaller circumference. If from the outset the tumour was intramural, the smaller degree of resistance of that part of the uterine wall, coupled with intra-abdominal pressure, may occasionally bring about a slight beginning of inversion; and, when this is the case, the conditions are essentially the same for sessile and intramural tumours and for the partial inversion described by Rokitansky. A circle of uterine tissue is abruptly curved in the place where Rokitansky found the external indentation. In that incurved circle the uterine muscle must be absolutely paralysed; and this paralysis, again, will not be confined to a linear circle, but, gradually diminishing, will extend over a greater or lesser surface. The contractions of the normal part of the uterine wall will try to expel the part of the wall that acts as a foreign body. These expulsive efforts may slightly increase the inversion as far as the paralysis surrounding the circle of inversion permits, thus displacing the circle itself and paralysing another part of the uterine wall. Necessarily the extension of the partial paralysis proceeds farther in the uterine wall, too, and by the repeated action of this muscular play the inversion may gradually become complete as regards the body of the uterus. As soon as the body is inverted there is no longer any excitement for uterine contraction, and the inversion of the cervix generally

does not take place; and it is the intra-abdominal pressure, again, that may invert the cervix too.

Dr. Purcell on one occasion had assisted his colleague Mr. Elam in a case of tumour in the vagina. The tumour, which proved to be an inverted uterus, was removed. The presenting surface was epitheliomatous; there was no tumour growth to cause inversion by traction.

Dr. Heywood Smith remarked that Dr. Purcell's case supported Professor Treub's theory. The epithelioma might have caused paralysis of the underlying muscle, and so have been the stating point of the process.

After some remarks by Mr. Skene Keith, Professor Treub replied.

Escharotics in the Treatment of Uterine Cervical Cancer.

Dr. Herbert Snow read this paper. Of the various caustics used two stood out pre-eminently—chloride of zinc and potassa fusa. As caustics they were on a par; but whereas the pain induced by the former was difficult to relieve, the pain resulting from potassa fusa could be instantly checked by the application of water; and the author regarded potassa fusa as the ideal caustic for malignant disease of the uterus. He thought it better not to scrape the uterus for cancerous disease under any circumstances; that method involved hæmorrhage, shock, risk of sepsis, besides the mechanical difficulty of seeing clearly what one was doing. Caustic potash promptly shrivelled up all the soft granular tissue of carcinoma, with no bleeding. Further, the entire cervix could be eradicated without risk by escharotics; hence, in dealing with cancer of the cervix, he thought this method preferable to hysterectomy, which was not an entirely radical procedure. For the advantage offered by removal of the whole uterus lay only in the concurrent extirpation of the cervical endometrium and its underlying tissue; and it was obvious that this could be as thoroughly carried out by caustics as by the knife, and without risk. Even cases of advanced cervical disease showed remarkable improvement after potassa fusa. The author records several illustrative cases. Lastly, cauliflower excrescence of the cervix was advantageously treated by crystallised iron-perchloride, as a prelude to radical extirpation by potassa fusa.

The President thought that some of them would not agree with Dr. Snow's conclusion that hysterectomy was not a radical curative procedure, because they could point to cases where this operation had been done, and where the patients had remained well for much longer than the three years generally considered necessary to establish a cure. He would like to hear further details of the mode of application of potassa fusa; he had always regarded it as rather difficult to control, on account of its deliquescent properties.

Mr. Skene Keith had used potassa fusa a good deal, and believed it was an old Edinburgh remedy. He applied it through a large Ferguson's speculum, rubbing it in in the form of a stick. To prevent it from unduly spreading, he employed pyroligneous acid. He had never seen any bad results, but had heard of a case where the surgeon had lost a piece of the caustic inside the uterus. At the *post-mortem* examination a hole was found in this organ.

Drs. Purcell and Heywood Smith joined in the discussion; and Dr. Snow replied.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Obstetrics.

Friday, May 28th, 1897.

Lombe Atthill, M.D., President, in the Chair.

Specimens.

Dr. Jellett exhibited two Cirrhosed Ovaries removed by vaginal colpotomy. In reply to Drs. A. Smith, Kidd, and Purefoy, he said that, where it was possible to remove the ovaries by the vagina in a woman who was not going to become pregnant, he thought that by such a procedure there was very great absence of shock and less risk of sepsis, but the latter fact he could not explain. The extremely small size of the vagina and the shortness of the ovarian ligaments made the difficulty. He believed the pain to have been caused by pressure of the fibrous tissue on the nerves in the ovary.—Dr. Alfred Smith showed three large Dermoid Cysts of the Ovary which he removed from patients aged 21, 38, and 24 respectively. The patients made good recoveries.—Dr. Kidd exhibited a Double Dermoid, which he had removed from a patient, aged 33. After operation the temperature rose to 100.8°, but fell again next morning, and never again touched 99°. She made an uninterrupted and excellent recovery.—Dr. Purefoy exhibited two specimens of Myoma Uteri removed by panhysterectomy. He thought it would be well to leave the ovaries behind in such cases.

Hæmorrhage into the Broad Ligament complicating the Puerperium.

A paper by Dr. J. H. Glenn on this subject was read for him by the Secretary. In January, 1894, through the kindness of Dr. Smyly, then Master of the Rotunda Hospital, he removed a left ovarian cyst from a young married woman, whose age was stated to be 27. The operation was simple, and the only feature of interest was an excessively varicose condition of the pedicle. This gave rise to a little more hæmorrhage than usual, but was carefully ligatured, and the patient went on uninterruptedly. On January 27th, 1895, Dr. Glenn delivered her of a living female child by forceps. On September 19th, 1896, he was called again but the baby was already born on his arrival; this time it was a boy, which was interesting as she had only the right ovary. The uterus was firmly contracted, and the placenta came away easily, and there was no oozing. On palpation there was nothing now to be detected, but he did not feel satisfied as her pulse was 110 and her aspect anxious. About fifteen minutes after the expulsion of the placenta he felt a swelling on the left corresponding to the height of the firmly-contracted uterus, and strangely simulating a uterus bicornis. He sent for Dr. Smyly. The swelling was now almost as high as the lower border of the ribs in the mammary line but little over the middle abdominal line. On examination, and taking into consideration the way the patient was holding her own, an expectant course was pursued and was justified by the event, the patient never going back, her highest temperature being 99.4°. Dr. Glenn believed that there was a rupture of one of the varicose veins as seen in the pedicle, and predisposed to this by the softening of pregnancy and the strain of parturition. The other possible condition was an incomplete rupture of the uterus; against this might be placed no pelvic deformity, no prolonged labour, no lacerated cervix; and the pulse, though rapid, did not display the intermittent character, nor the patient the very profound shock usually associated with this condition. He had an opportunity of examining the patient five months after confinement, and the hæmatoma had dwindled to the size of a fœtal head and was distinctly fluctuating. Reference was made to a case reported by Tergrigoriantz, in which a broad ligament hæmatoma through pressure necrosis communicated with the posterior vault, and was emptied of offensive bloody fluid after four months.

Dr. Winifred Dickson said that it seemed to her difficult to imagine how the broad ligament could have become distended so suddenly to allow the tumour to reach up to the ribs. On the other hand, the blood must have been confined or fatal hæmorrhage would have occurred.

Dr. Purefoy said the case recalled to his mind another case in which a woman was operated on for an ovarian tumour. About a week afterwards, when the patient was doing well, she unfortunately ate some delicacies brought her by her daughter. Violent vomiting and gastric disturbance followed, and a hæmatocele was produced, owing to the rupture of a vein. Convalescence was delayed, but complete recovery ensued.

Double Ovariotomy with Eighteen Months' Interval between the Operations.

Dr. Winifred Dickson reported the following case. Mrs. M. K., aged 40, was admitted to the Richmond Hospital in May, 1895, suffering from ascites and an abdominal tumour. Laparotomy was performed, and an ovarian papillary cystoma removed from the left side. She made an aseptic recovery. Eighteen months later she presented herself in a very similar condition with ascites and a right-sided tumour. Respiration was very much impeded by the distension of the abdomen,

but the laparotomy scar had not yielded. The abdomen was opened for the second time in November, 1896; a similar tumour was removed from the right side, and about six quarts of ascitic fluid. The patient rallied well after the operation, but died about six weeks later with all the clinical appearance of malignant disease, but the necropsy showed that it was an unusual form of recurrence.

Mr. O'SULLIVAN said that he examined both tumours after their removal, and found them to be of the same character, and to be papillary cystic tumours, which appeared to him to be of a benign character. At the necropsy he found an extensive fibrinous peritonitis. Nodules, some solid and some cystic, were found in the peritoneum covering the intestines and in the thickened capsule of the liver. Under the microscope they showed the characters of the original growth. No secondary growths were found except in the peritoneum. He regarded it as a case of peritoneal infection by dissemination of the tumour cells through the abdominal cavity.

Dr. A. SMITH had recently operated on a case presenting a similar clinical history to that of Dr. Dickson's. In that case Professor McWeeney had made the diagnosis of malignant adenoma. The tumour did not return. The point of interest in such cases was the question of the escape of fluid originally into the peritoneal cavity. It was said that in cases of papillomata the escape of fluid contents into the peritoneal cavity was often followed by the grafting of small cells into the peritoneum, these cells subsequently showing a malignant tendency. In Dr. Dickson's case he thought that she had acted properly in not removing the second ovary at the first operation. The recurrence of the disease in the opposite ovary was rare.

Dr. PUREFOY mentioned a case in which a non-malignant ovarian tumour had been removed, followed by normal convalescence for about three weeks, when malignant disease rapidly showed itself in the pelvis, and death occurred. He believed that in Dr. Dickson's case the escape of some fluid into the peritoneal cavity, and the fact of the second ovary showing the same disease as the first, was a mere coincidence. He considered that when the ovary presented an appearance at all healthy it was the proper treatment to leave it.

Dr. DICKSON and Mr. O'SULLIVAN replied.

EDINBURGH OBSTETRICAL SOCIETY.—At a meeting on July 14th, Dr. A. BALLANTYNE, President, in the chair, Sir John Williams, Bart., M.D., London; George Granville Bantock, M.D., London; and Paul F. Mundé, M.D., New York, were on the recommendation of the Council elected honorary Fellows of the Society.—A discussion *in camerâ* took place on the question, Are Checks to Conception ever Legitimate? It was opened by Dr. HALLIDAY CROOM.—After the discussion the Fellows held their annual dinner in the Waterloo Hotel.

ULSTER MEDICAL SOCIETY.—At the annual meeting of the Ulster Medical Society, held in the Museum, Belfast, upon July 9th, the following were elected the office-bearers for the ensuing session:—*President:* J. A. Lindsay, M.D., M.R.C.P.Lond. *Ex-President:* Professor Johnson Symington, M.D., F.R.C.S.Edin. *Vice-Presidents:* Professor W. H. Thompson, M.D., F.R.C.S.Edin.; H. L. McKisack, M.D. *Council:* Dr. Campbell; Dr. Calwell; Dr. Bingham; Dr. Kevin; Professor Byers; Dr. Gaussen. *Honorary Treasurer:* Dr. McCaw. *Honorary Secretary:* Dr. Colville. *Honorary Librarian:* Dr. Shaw. *Honorary Pathological Secretaries:* Dr. Lorrain Smith; Dr. Lynass.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.—At a meeting held in the New Hospital for Women on July 6th, Miss COCK, M.D., President, in the chair, the PRESIDENT showed a case of Intrathoracic Tumour, in a woman of 48, probably malignant.—Mrs. NASH, L.R.C.P. and S.E., showed a case of Lipoma of the Neck, presenting points of diagnostic interest.—Mrs. DICKINSON BERRY, M.D., B.S., read a paper on Some Points in Connection with Carcinoma Uteri. The paper was mainly statistical, and was founded on the investigation of cases in the cancer wards of Middlesex Hospital, and in the practice of the New Hospital for Women. The following points were considered: the influence of age, child-bearing, and family history, and the value of treatment by operation, especially of vaginal hysterectomy.—Miss JENKINS, L.R.C.P. and S.E., contributed a paper describing a case in which symptoms of obstruction of the bowels were associated with pregnancy on two occasions in the same patient.

REVIEWS.

A SYSTEM OF DISEASES OF THE EYE. Edited by W. F. NORRIS, A.M., M.D., and C. A. OLIVER, A.M., M.D. Vol. I: Embryology, Anatomy, and Physiology of the Eye. London and Philadelphia: J. B. Lippincott Co. 1897. (Roy. 8vo, pp. 682, 23 plates, 362 illustrations. 20 dollars.)

THIS "System" is intended to take a place in the English language by the side of the well-known works of Graefe and Saemisch in German, and De Wecker and Landolt in French. The first volume, embracing embryology, anatomy, and physiology, is written for the most part but not entirely by American authors, the exceptions being Dr. Alex Hill, of Cambridge, who writes on the Anatomy of the Intracranial Portion of the Visual Apparatus; Mr. W. Lang and Mr. E. Treacher Collins, of the Moorfields Hospital, who undertake the Congenital Malformations and Abnormalities of the Eye; Dr. Carl Mays, of Heidelberg, assistant to Professor Kühne, who contributes an article on the Photochemistry of the Retina; and Dr. E. Brodhun, who deals with Binocular Vision and certain other Visual Phenomena.

The Development of the Eye was written by Professor Ryder, of the University of Pennsylvania, who unfortunately has died before the publication of the book. It is a clearly-written and careful account of the subject, not, of course, confined to human embryology, and not pretending to be based upon original researches. The illustrations are fairly numerous but might with advantage be added to, for this is a subject which requires superfluity of illustration, especially in the way of diagrams.

The Anatomy of the Orbit and the Appendages of the Eye, by Dwight, of Harvard, is a valuable and original contribution to the subject; it is, however, too short, so that an insufficient amount of space is devoted to the description of certain parts which are of great practical importance.

The Anatomy of the Eyeball, by Dr. Baker, of Georgetown, is one of the most complete and interesting parts of the book. It is characterised by a wealth of statistical, historical, and etymological annotations, which lend a special value to an otherwise excellent description of the subject. *Inter alia*, an account is given of the history of the discovery of the ciliary muscle, the priority of which at least in modern times is claimed, and to all appearance with justice, for Dr. W. C. Wallace. Dr. Wallace published an account of the muscle in an article, "On the Accommodation of the Eye to Distance," in the *American Journal of Sciences and Arts* in 1835. This was eleven years before Bruecke's communication to the *Medicinische Zeitung* of Berlin (1846) entitled "Ein neuer Muskel im Auge," and twelve years before Bowman's Lectures on the Parts Concerned in the Operations of the Eye, delivered at Moorfields (1847). Curiously enough the muscle was described and figured by Eustachius as the *ligamentum seu musculus ciliaris*. Wallace saw and described both the radial and the circular fibres, although the latter have often been called after H. Müller (1855). Professor Baker's article also includes an interesting account of the history of the long controversy as to the existence of a dilatator pupillæ, now practically settled by the histological evidence brought forward by Juler (1894) and the physiological experiments of Langley and Anderson (1892).

The microscopical anatomy is dealt with by Piersol, and necessarily occupies a considerable space, since it includes the structure of the retina. It is worthy of all praise, well written, clearly illustrated, disputable points carefully discussed and balanced; a sufficient but not pedantic bibliography; in short, an admirable exposition of a very complex subject.

The Dioptrics of the Eye, by Jackson, gives the impression of being rather elementary for a specialised book of this kind; but it is possible that a more advanced and mathe-

matical account would have overshot the mark, and that the author has after all done well to confine himself within bounds where he will be "understanded of the multitude."

There are also articles on Light Perception and on Colour Perception, besides the others above notified, but the space at our disposal will not enable us to do more than intimate that they are all worthy of perusal, and well maintain the high character of the whole. The editors are to be congratulated upon having produced a book which cannot fail to be of great service to both teachers and students of anatomy and physiology or to take a high place as a scientific introduction to the practical study of ophthalmology, the purpose for which it is primarily intended.

ERGEBNISSE DER ANATOMIE UND ENTWICKELUNGSGESCHICHTE. (Recent progress in Anatomy and Developmental History.) Herausgegeben von Fr. MERKEL und R. BONNET. Band v. Wiesbaden: J. F. Bergman. 1896. Seiten, 731. (25s.)

THE growth of a science is inevitably attended with a great and constantly increasing difficulty: that of being readily able to ascertain what has been and is being done by one's fellow workers. So long as such fellow workers could be reckoned upon the fingers of one, or at the most of two hands, it was humanly possible to follow the progress of their investigations and to be *au courant* with the advance of any particular branch of knowledge; and this the more easily because the number of periodicals in which results of scientific research were wont to appear was limited, and they were, moreover, accessible to any who could read the three chief languages of western civilisation. But at the present time, when the number of investigators is legion and of periodicals in all languages scarcely less numerous, it is a sheer physical impossibility for any single individual to master the contents of one half the number of articles which appear in even a comparatively well bounded branch of science in the course of a few years, and were not some means contrived for giving a condensed account of what may be going on in that science, there would necessarily result large gaps in the information at the disposal of teachers and investigators of the science.

Such an account has hitherto been furnished to anatomists by the well-known *Jahresbericht* of Hofmann (Hermann) and Schwalbe. In this work a list of articles published during the preceding year upon each branch of anatomy and development was followed by an attempt to give in a short paragraph, devoted to each one, the gist of each separate article. This attempt, however, ultimately proved too great a task to be carried on continuously, and the *Jahresbericht* in question, so far as concerns its morphological side, has now ceased to exist. Its place has, however, been taken, and taken very efficaciously, by the series of volumes having the above title, of which the one here noticed is the fifth. These volumes are conceived on a somewhat different plan from the *Jahresberichte*, but none the less serve to fulfil the same function. For the several writers have the same idea in view and begin similarly with a list of works published in the branch of the subject with which they respectively deal. But in place of a short special account devoted independently to each paper in the list, the papers are dealt with either as a whole or in groups, a general account of the advance in each particular branch being thus arrived at in a manner which not only furnishes a more readable summary of the material drawn upon, but gives opportunity to the abstractor to compare and criticise the results of a number of investigators in a way which was impossible under the older system of separate abstracts.

Neither are the subjects in the successive volumes of these *Ergebnisse* always the same, nor are the papers dealt with in them always confined to those which have appeared during the preceding year. It is wisely arranged for the writers of such critical accounts as are here given to review the progress of the particular subject of study during a far longer time, if need be, than the few preceding months; so that in some cases the accounts furnish a valuable contribution to the history of the subject. This is the case, for example, in the present volume, with the article dealing with the formation of red blood corpuscles, by Disse, which includes papers going as far back as 1869, and with that of the convolution and sulci of the brain, by Waldeyer, which works back to Bischoff (1868), if not earlier.

As in all other co-operative undertakings of this kind, the articles are of very unequal value. In some of them no attempt is made to furnish a summary of the work upon the subject, the authors contenting themselves with a list of papers only. On the other hand, the accounts given by other authors are both long and important, and some of these have all the interest of original communications.

The subject of microscopical technique is dealt with by Weigert, but he confines himself mainly to an account of the newer developments of Golgi's celebrated method, discussing at some length the reasons for the predilection which the chromate of silver appears to exercise for particular nerve cells.

The article on the endings of sensory nerves (185 papers on which subject are enumerated) is written (by Kallius) on different lines from this, and is a more comprehensive account of recent work upon the subject, but is yet hardly sufficiently full to be of much value to investigators. That by Flemming, on the subject of cell-structure, on the other hand, like all contributions from the Professor of Anatomy at Kiel, is marked by the masterly manner in which it is treated, and, from the point of view of the teacher and investigator, is one of the most valuable in the book. And although Waldeyer could not and does not attempt to give an account of all the 447 papers upon brain sulci and gyri which are enumerated at the commencement of his article, the mere registration of so large a bibliography will earn for him the gratitude of all who are working at this extensive and difficult object of study. We remark with pleasure that the English writings on this subject, and especially those by Turner and Cunningham, occupy a prominent place amongst the few works of which alone it has been possible for any account to be given, a fact which may be taken to indicate that the study of the anatomy of the brain, which was always a favourite one with the older English and Scottish anatomists, has by no means been neglected by their present representatives.

Amongst the other noteworthy articles in the volume are that on regeneration and involution by Barfurth, who deals in an interesting manner with the work which has been done of late by Roux and others on the conditions of development of isolated blastomeres, and on the production of semi-embryos, and also with that by Friedlander and others on the regeneration of worms, and with the theories of regeneration of Herbert Spencer, Pflüger and Roux; that on the maturation and fecundation of the ovum by Sobotta, who amongst other things furnishes a valuable account of the history of these subjects, and a critical examination of Boveri's hypothesis of the activity of the sperm-centrosome in the phenomena of fecundation; and that on the development of the head by Kupffer, who deals at considerable length with the important subjects of development and morphological value of the cranial nerves, the works of O. Strong and of Miss Julia Platt, as well as his own observations (on Ammocœtes), being especially drawn upon in connection with this subject. But perhaps the most interesting article in the volume is that by Keibel dealing with the phylogeny and ontogeny of hairs and feathers, and in which, although the author disclaims all pretension to completeness, no fewer than 102 papers, dating from 1858 to the present day, are enumerated! The value of the article arises, however, from the manner in which is reviewed the interesting hypothesis of Maurer, that hairs and feathers are phylogenetically entirely different structures, the latter being derived from developments of the scales of reptiles, whilst the hairs of mammals are modifications adapted to a terrestrial existence of the bud-like epithelial cutaneous sensory organs of fishes and amphibia. The arguments of Maurer, which are based upon a very extensive series of observations, are given by Keibel at great length, and the account is illustrated by reproductions of many of Maurer's figures. The objections which have been raised to Maurer's theory by Poulton and others are clearly set forth, and then follows an exhaustive criticism of the facts and arguments adduced by Maurer in favour of his hypothesis, and a statement of the author's own views regarding the phylogenetic relation of scales, feathers, and hairs.

Not the least valuable feature of the book is to be found in the accounts (by Romiti and Stieda respectively) of the more important papers on various branches of anatomy, which have been published recently in the Italian and Russian languages.

THE TREATMENT OF WOUNDS, ULCERS, AND ABSCESSES. By W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S. Edinburgh and London: Young J. Pentland. 1897. Second Edition. (Cr. 8vo, pp. 210. 3s. 6d.)

IN this work Mr. WATSON CHEYNE gives an account of the method which he adopts in the treatment of wounds, ulcers, and abscesses.

In the preparation of the skin before making an operation wound he advocates the following method: The area which is to be operated upon, and the adjacent parts, are washed with soap and a mixture of 1 to 20 carbolic acid lotion containing a 500th part of corrosive sublimate in solution. Next the part is saturated with turpentine, and after two or three minutes thoroughly washed with the soap and mixture as before. This proceeding takes about five minutes, and in Mr. Cheyne's opinion is both clinically and bacteriologically quite sufficient. The method of washing with hot soap and water, then with ether, and finally perchloride of mercury 1 in 500, however, takes up less time and removes completely all grease and sebaceous matter in which micro-organisms may be located. He states that some error has crept into the bacteriological methods which were adopted by Mr. Lockwood in his experiments upon the bacteria in the skin, after it had been prepared by the different methods. This is based upon a series of experiments similar to those of Mr. Lockwood, but which were productive of different results.

In the preparation of instruments, immersion in a solution of carbolic acid, 1 in 20, for two or three hours is advocated, but usually sterilisation by boiling is easier of application and more reliable. A similar method is recommended for the sterilisation of silk ligature material. The material for dressing which is advised is gauze impregnated with double cyanide of mercury and zinc.

In the treatment of the different varieties of wounds, ulcers, and abscesses, a great deal of prominence is given to carbolic acid; but the directions which are given are very good and explicit, and on this account the book will well repay perusal.

The author rightly insists that a thorough practical acquaintance with bacteriological work is of the first importance to the surgeon, since in this case the manipulations which are necessary to keep bacteria out of wounds become automatic, and undivided attention can be given to the operative details without omitting any precaution which is essential for ensuring asepticity in the wound.

NOTES ON MALARIA. By Surgeon-Major E. M. WILSON, C.M.G. London: H. K. Lewis. 1897. (Demy 8vo, pp. 16. 1s.)

THESE notes are an attempt, by means of a series of tables, to ascertain the effect (if any) produced by meteorological conditions on the malarial fevers of Sierra Leone. The tables appear to be carefully constructed, and seem to justify the following conclusions. West Indian troops suffer exceptionally from fever during the first year on the West Coast of Africa; they suffer much less during the second and third years. White troops suffer much more than black. The largest number of cases occur in the rainy season, that is when humidity is highest and temperature lowest—July and August. Cases are fewest during the time of highest temperature and least humidity. Humidity influences prevalence more than temperature. Black troops are more affected by changes of weather than are white. The case mortality is small at all periods. Surgeon-Major WILSON makes no attempt to discriminate between malarial attacks from recent or fresh infection and recurrences—an important omission in his otherwise very valuable notes; the season at which malarial fever is most common is not necessarily the time at which malaria is most about, and therefore most likely to be contracted.

NOTES ON BOOKS.

THE *Calendar of the University of Sydney* for the year 1897, contains in addition to the by-laws and regulations the syllabus of the various courses and the examination papers. It is published in Sydney by Angus and Robertson and can be obtained in London from Mr. Young J. Pentland.

What to Do in Cases of Poisoning. By WILLIAM MURRELL, M.D., F.R.C.P., Physician to, and Lecturer on Pharmacology at, the Westminster Hospital. Eighth edition. (London: H. K. Lewis. 1897. Royal 32mo., pp. 290. 3s. 6d.)—It is unnecessary to give a detailed review of this useful little book, the popularity of which is sufficiently shown by the fact that it has reached its eighth edition. The treatment of poisoning in the present edition is brought well up to date, and especially is this noticeable in the directions for the treatment of cases of opium poisoning and of hydrocyanic acid poisoning.

Toxicology. Catechism Series. (Edinburgh: E. and S. Livingstone. Crown 8vo, pp. 48. 1s.)—This pamphlet is a very good example of a third-rate cram-book. On one point only can we congratulate the author, and that is that he had the good sense not to append his name to such a production. At times he has the habit of breaking out into the use of chemical formulæ, with occasional extraordinary results. Thus on p. 8 sulphuric acid figures as $H S O_4$, and ammonia or ammonium hydrate as $N H_4$. It would be very remarkable if by his method he could succeed in extracting morphine from viscera in a condition fit for its chemical detection. We positively tremble both for the fate of the unfortunate patient suffering from hydrocyanic acid poisoning if subjected to the treatment advised in this book, and for the fate of the unlucky student at an examination who might countenance such treatment.

Electricity: its Medical Applications, being also an Exposure of Electric Quackery, written in plain language. By G. R. PEERS, A.S.C.E., etc. (Manchester: Published by the Author. Demy 8vo, pp. 32. 3d.)—The avowed object of this little pamphlet is to place before the reader a short account of the many uses to which electricity is put in the treatment and cure of disease, together with a description of the apparatus used for this purpose. It cannot be said, however, that it fulfils such an ambitious aim; nevertheless it accomplishes a very useful purpose in pointing out the difference between the genuine apparatus and the appliances called "electric" brought so much before the public by means of specious advertisements. The author writes for a lay audience, it must be assumed, for the most inexperienced of medical men would hardly be caught by the pretensions of even the most ingenious of the electric belts, etc., exposed in the pamphlet. It is written in a non-technical manner, and the introduction, which gives the rudiments of the science of electricity, might with considerable advantage be read by that portion of the public which allows itself to be victimised by electric quackery.

Practical Diagnosis: The Use of Symptoms in the Diagnosis of Disease. By HOBART AMORY HARE, M.D., Professor of Therapeutics in Jefferson Medical College of Philadelphia. (London: Henry Kimpton, 1897. Cr. 8vo, pp. 582, 191 engravings, 13 coloured plates.)—This book is the converse of an ordinary systematic work on medicine. The symptoms and manifestations of disease are discussed first, and their application to diagnosis is then pointed out. The volume is therefore one which is calculated rather to be of use as a clinical handbook than for systematic perusal. With this object in view, the author has done well to supply a copious index of symptoms, organs, and terms, as well as of diseases. The first part of the book consists of notes upon the methods of carrying out the clinical examination of the various organs and parts of the body. Here we find introduced descriptions of the various instruments used for the clinical investigation of disease and for the microscopical examination of pathological products. In the second part certain

manifestations of disease, fever, headache, coma, convulsions, vomiting, cough, etc., are discussed and analysed with the view of indicating the assistance which may be derived from them in reaching a correct diagnosis. The illustrations are numerous, and, as a rule, really assist the understanding of the text; but some of the coloured plates, as for instance those of the tongue, are rather crude and exaggerated in colouring. The book is one which is likely to be of considerable use for reference.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

"BANANINA."

THIS new product is a flour made from the plantain, a vegetable which is well known as a staple article of food in South America. It is said that in many districts of Cuba infants are fed with success on banana flour immediately after being weaned. It is stated to be made from the plantain by a simple process, and one which does not necessitate much handling. After the skin has been separated and the heart extracted the soft pith is artificially dried in ovens, ground and reduced to a fine powder, and having been sifted is ready for the market.

It is of a white yellowish colour. Under the microscope some black specks may be discerned. It has an agreeable smell, is soft to the touch, and slightly sweetish in taste. Microscopically it is seen to consist entirely of starch, with the exception of a small amount of vegetable fibre and foreign matter. The starch is of a peculiarly soluble variety, and is rapidly converted by an artificial digestive mixture. The analysis given by the makers is as follows: Water 10.62, albumen 3.55, fat 1.15, carbohydrate 82.82, phosphoric acid 0.26, salts 1.60. From this it is seen that the product is essentially a starch food, and from the fact that the particular variety of starch of which it is composed is very soluble it will doubtless prove of value where such food is indicated. The presence of an appreciable amount of phosphates adds to its dietetic value. It can be cooked in any of the ways usually employed for this class of material, and its pleasant taste should add to its utility.

The product is prepared by G. Urquiola, Gibara, Cuba, and may be obtained from R. de Ronan, 26, Sterndale Road, West Kensington.

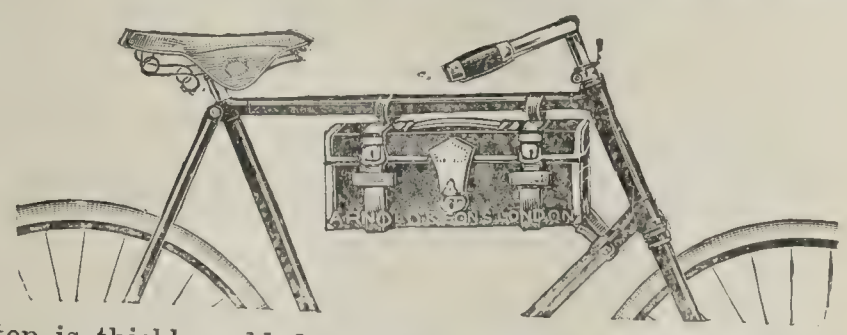
NASAL TABLETS.

COMPRESSED tablets are made by Messrs. Parke, Davis, and Co., 451, Oxford Street, W., in accordance with a formula suggested by Dr. Murray McFarlane, Laryngologist to St. Michael's Hospital, Toronto. The tablets are composed of the soluble salts of the blood plasma—the chlorides, sulphates, and phosphates of sodium and potassium, and when dissolved in warm water form a saline solution resembling it. There is also present in each tablet one-fifteenth of a grain of menthol. They dissolve readily in the stated quantity of warm water, forming a slightly alkaline solution, which does not irritate when applied to a mucous membrane.

A CYCLE MIDWIFERY BAG.

DR. JAMES C. CLARK (Bedford) writes that he has suggested this bag to Messrs. Arnold and Sons, West Smithfield, as he has been unable to find a suitable one in which to carry instruments, etc., when cycling. Although planned for a cyclist's midwifery bag to be easily adjusted to the cycle even in the dark, it can, however, be carried in the hand, as the straps are all removable. It also forms a good useful bag for the practitioner whether cyclist or not.

It is of light weight, and is made of stiffened water-proofed mail canvas bound with leather. It is carried on the frame of the cycle suspended from the horizontal tube by two detachable leather straps; these are passed through stout india-rubber rings before being attached to the bag in order to neutralise concussion when passing over rough roads, and as they encircle the bag they give support to its bottom. Another detachable leather strap is attached at one end of the bag near the bottom and passed round the framework to prevent swinging. The bag is fitted with lock and key and a flat leather handle for carrying. Inside it is lined, and as the

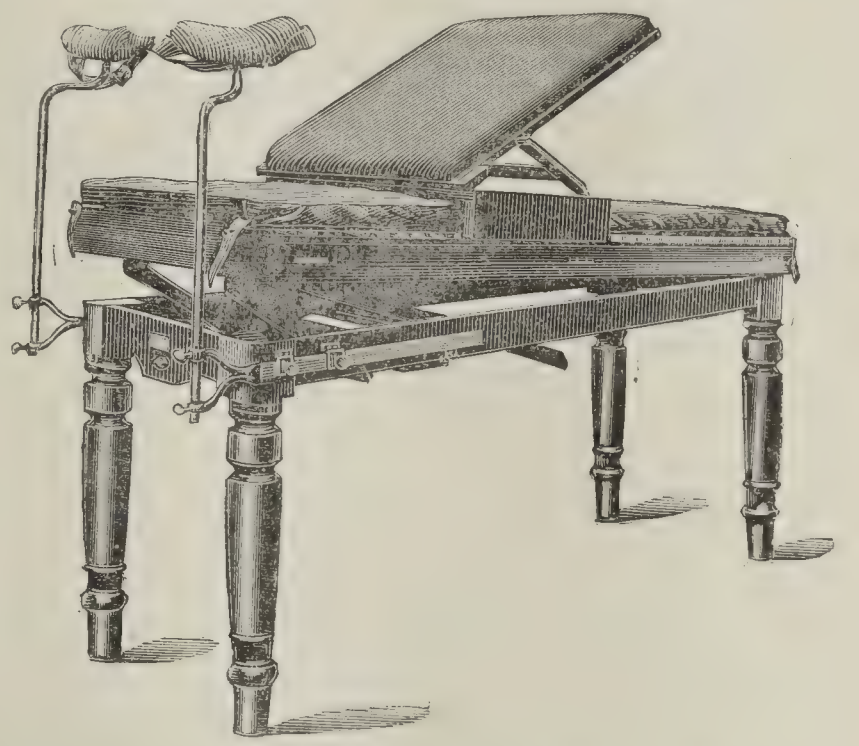


top is thickly padded and well overlaps the sides, the bag is when closed, quite dusttight. Near the bottom are six lappets of material fastened to the end of the bag, these are to be placed between the instruments.

The bag, whilst holding all the usual obstetric instruments, has room for a pocket midwifery case, Higginson's syringe in case, hypodermic syringe in case, and Barnes's bags. Dr. Clark has found no harm come to either instruments or bottles even over rough country roads. It is not in the way when riding, and even when filled its weight is hardly noticeable.

COUCH TABLE.

WE have received from Dr. Robert Wise (Crouch End) a description of a couch table devised by him and exhibited to the Obstetrical Society some time ago. The table measures 72 inches in length, is 31¾ inches high, and 25½ inches broad. By means of the back support the head and shoulders can be raised or lowered to any angle. The back support can be moved to any part of the table top and there fixed. As will be seen by the figure the lower end of the table top can be



raised or lowered to any angle, and the Trendelenburg position obtained. At the end of the table are a pair of stuffed buckskin crutches with removable steel fittings; the crutches can be raised, lowered, or separated. The lithotomy and other positions can be obtained by adjusting the crutches and the sliding back as shown in the figure. The table top can also be tilted from either side to any angle useful in the side position of the patient. The table top is made of cane work and covered by a movable cushion. Dr. Wise informs us that the table was made for him by Mr. Carter, New Cavendish Street, at a cost of 20 guineas.

PARLIAMENTARY BILLS COMMITTEE.

A meeting of the Parliamentary Bills Committee was held at the office of the Association, 429, Strand, W.C., on Tuesday, July 13th, 1897.

Present:

Mr. Ernest Hart in the Chair.

Dr. C. Parsons, Treasurer.

Dr. S. H. Agar (Henley-in-Arden).
Dr. T. Bridgwater (Harrow-on-the-Hill).
Dr. J. S. Cameron (Leeds).
Dr. W. A. Carline (Lincoln).
Dr. W. F. Cleveland (London).
Dr. J. Ward Cousins (Southsea).
Dr. T. M. Dolan (Halifax).
Dr. W. Douglas (Leamington).
Brigade-Surgeon-Lieutenant-Colonel E. F. Drake-Brockman (London).
Mr. George Eastes (London).
Dr. R. Esler (London).
Mr. E. H. Galton (London).
Mr. A. Godson (Cheadle).
Dr. Bruce Goff (Bothwell).
Dr. Wm. Gordon (Exeter).
Dr. A. J. Harrison (Clifton).
Mr. J. H. Hemming (Kimbolton).
Dr. W. Hugh Hughes (Ashton-under-Lyne).
Mr. Evan Jones (Aberdare).
Dr. A. R. Manby (East Rudham).
Dr. W. J. Mickle (London).
Dr. C. H. Milburn (Hull).
Dr. J. W. Miller (Dundee).
Dr. J. W. Moore (Dublin).
Dr. J. Murphy (Sunderland).
Dr. H. H. Phillips-Conn (Reading).
Dr. J. Rolston (Devonport).
Dr. G. E. Shuttleworth (Richmond).
Dr. R. Somerville (Galashiels).
Mr. C. T. Street (Newton-le-Willows).
Dr. S. Woodcock (Old Trafford).

The minutes of the last meeting having been printed and circulated, were taken as read, and confirmed.

Letters of apology for non-attendance were read from Dr. Henry Barnes (President), Dr. R. Saundby (President of Council), Mr. D. B. Balding, Dr. R. W. Batten, Mr. George Brown, Dr. Ogilvie Grant, Mr. T. C. Langdon, Mr. D. Spanton Dr. Urquhart, and Dr. Ritchie.

The Annual Report of the Committee.

The Chairman said the first item on the agenda was the consideration of the annual report of the Committee. As it was necessary that the report should be sent up to the Council on the following day for confirmation and approval, he thought it would be undesirable to criticise it at the meeting that day, and he had therefore circulated it to the members of the Committee, asking them to communicate any suggestion, correction, or addition they might wish made. A great number of replies had been received approving of the report without alteration. A paragraph had been interpolated, stating the Subcommittee on the Lunacy Acts Amendment Bill had had an interview with the Commissioners in Lunacy, and a few verbal corrections made.

Dr. Woodcock said he objected to the last clause in the passage of the report relating to the Obstetric Nurses Bill, which stated that the report of the Subcommittee be accepted and submitted to the Council, but that no further steps be taken in the matter until it had been brought before the annual meeting. It appeared to him to be very undesirable that representatives of the various Branches should come to London from time to time and be seriously engaged in considering the matter, and then, when the report is brought up, the Committee pass a resolution to the effect that the matter should be referred to the annual meeting, which was in no sense representative, and which was only an accidental meeting. He should move that the paragraph should stop at the word "Council." He was sorry to see it made the Committee look very foolish to have passed such a resolution.

Mr. Galton said that the resolution which had been passed at the last meeting of the Committee was proposed as a sort of compromise, as there was a good deal of difference of opinion on the Bill.

Dr. Bridgwater said it seemed to him a great waste of time that, after the Subcommittee which they had appointed had taken a great deal of trouble to investigate the matter, the Committee should simply sit upon their report, and say that it should send somewhere else. He should like very much to hear the opinion of the Committee as to the course which had been adopted at the last meeting. He thought the Bill, which had been very carefully gone through by the Subcommittee, ought to have been submitted to the Council as it was, and it was for them to deal with it as they thought proper, and not for the Committee to send it on to the general meeting.

The Chairman said that, as it had been stated by Mr. Galton, the resolution had been adopted as an amendment to Dr. Shuttleworth's resolution, which was to the effect that the Committee adopt the Bill which had been drawn up by the Subcommittee. There was a strong party who were disposed to object to any legislation and to object to any Bill whatever, and so the resolution which was carried was really a compromise.

Dr. Woodcock said he would move at the meeting of the Council the rejection of the resolution.

After further discussion it was resolved:

That the report now laid before the Committee be approved and be forwarded to the Council.

Public Health (Scotland) Bill.

The Chairman submitted a memorandum on the Public Health (Scotland) Bill, which he had prepared, suggesting certain emendations in the Bill which was at present being considered by the Grand Committee of the House of Commons. He said the members of the Committee would all have received a communication from him on the subject, asking them to bring the memorandum under the notice of their respective local member of Parliament, and to obtain if possible their influence in getting the necessary amendments. The difficulty arose out of the action of the Grand Committee in dealing with the Bill. Mr. Calderwood had moved a new clause in the Bill, the effect of which would be to give the Scottish inspector separate, co-ordinate, and equal jurisdiction in a great number of cases with the medical officer. The whole of the medical officers in Scotland were much opposed to so retrograde a step, and it had caused great excitement. He had been in communication with Dr. Nasmyth, Dr. Russell, Dr. Campbell Munro, Dr. McVail, and a great number of other leading authorities on the subject in Scotland, and he had had their assistance in preparing the memorandum which had been sent out. Copies had been sent to the members of the Grand Committee sitting on the Bill and also to members of Parliament. It would want all the assistance the Committee could give to obtain the necessary amendments. Sir William Priestley had made a gallant effort to oppose the measure in Committee, but was quite ineffectual. Several members of the Committee stated the substance of the replies which they had received from their various local members of Parliament in answer to communications asking them to assist in getting the amendments sought.

The Army Medical Service.

The Chairman asked Dr. Gordon to report on the work of the Subcommittee on Army Medical Reform.

Dr. Gordon said that a letter had been sent to the Dean of each of the medical schools, and with it had been sent a copy of the report amended up to date, and a copy of the appendix which had been drawn up by the Subcommittee. In consequence thereof the entries for the service were smaller at the last examination than they had been for some time. At the examination in February in order to make up the number of competitors the War Office lowered the standard of the examination by abrogating the rule which prevented men from going up more than twice for examination. They had again lowered the standard of examination, and had announced that candidates for the Indian Medical Service, who failed to obtain appointments might, if they succeeded in making a certain minimum number of marks, pass at once into the Army Medical Service. The Subcommittee had received a communication from the Senate of the University of Edinburgh to which they proposed to make a suitable reply. The report and appendix of the Subcommittee had been published in the British Medical Journal of March 27th, 1897, and copies of them had been sent to the leading newspapers, in most of which had appeared favourable comments. At the meeting of the Committee in March a resolution was passed to send a deputation to the Secretary of State for War, but from information received it was thought

that it would then be undesirable for a deputation to wait on the Secretary of State for War, but it was necessary that something should be sent him by way of a preliminary, and accordingly a letter was drafted and sent as a preliminary to a deputation which the Subcommittee trusted would shortly wait on the Secretary of State for War, as the time had come when it was considered necessary to approach him personally on the subject. To the communication sent only a formal reply had been received.

The Subcommittee suggested (1) that the report of March 11th and the appendix of the same date be reprinted and brought up to date after the result of the examination was known, and that five copies of the report and one of the appendix be sent to every medical school, with a letter to the Dean requesting him to bring them before the notice of their senior students. (2) That a copy of the report and appendix be sent to every medical paper and to some of the London, Scottish, and Irish papers as the last time with a letter to the editor. (3) That a copy of the report and appendix be sent to each member of the Parliamentary Bills Committee with a letter asking them to bring the subject before the Branches at the earliest possible moment. (4) That the deputation to the Secretary of State for War should include delegates, if possible, from the various colleges in England, Ireland, and Scotland. (5) That the proposed reply be sent to the Senatus of the University of Edinburgh.

Proposed by Dr. Gordon, seconded by Dr. Parsons, and resolved:

That the suggestions which have been made by the Subcommittee on Army Medical Reform be approved and adopted.

Mr. George Eastes said before passing to any other business the Committee ought to thank Dr. Gordon for the great pains which he had taken in the matter. He had much pleasure in proposing:

That a vote of thanks be passed to Dr. Gordon for the able way in which he had conducted the work of the Subcommittee.

The resolution having been seconded by Mr. Hemming was carried with acclamation.

Dr. Gordon thanked the Committee for the way in which they had passed the vote of thanks.

The Amendment of the Lunacy Acts.

Dr. Cleveland said that, as Chairman of the Joint Subcommittee of the Parliamentary Bills Committee and the Medico-Psychological Association on the subject of incipient insane, he wished to report that the Subcommittee had gone through the draft clause on the subject of incipient insanity which had been prepared by counsel, and suggested certain small emendations. The Subcommittee wished to have the power given it to consider the new Lunacy Bill now before Parliament.

The Chairman said it was very desirable that the Committee should refer that Bill to the same Subcommittee.

It was proposed by Dr. Douglas and resolved:

That this Committee empower a deputation to wait upon the Lord Chancellor and present to him the proposed clause on the subject of incipient insanity for insertion in the Lunacy Bill.

It was further resolved:

That the joint Subcommittee of the Parliamentary Bills Committee and the Medico-Psychological Association be requested to consider the Lunacy Bill now before Parliament, and take the necessary steps to introduce amendments thereto that may be thought desirable.

Amendment of the Oaths Act.

The Chairman said that Sir Richard Webster had stated that if the Committee wanted anything done in this matter they should get a small Bill drafted, and get it brought in the House. He had had the Bill drafted, and now Sir Richard Webster said that the practice of swearing in the Scotch fashion had become so general that a Bill was hardly necessary.

After some little discussion it was resolved:

That the Bill be put in the hands of suitable members of Parliament with a view to its introduction.

Superannuation of Public Vaccinators.

The Chairman said the Subcommittee appointed to look into the question of superannuation of public vaccinators had come to the conclusion that public vaccinators, being paid by fees and by fees only, it was impossible to include them in the Superannuation Bill.

The Food and Drugs Bill.

The Chairman stated that the Subcommittee on the Food and Drugs Bill had found out that there was no prospect of the Bill coming forward this session, and they had not completed their examination of all the proposed amendments.

The Pharmacy Acts.

Dr. Bruce Goff read the following memorial from the Scottish Midland and Western Medical Association.

To the Parliamentary Bills Committee of the British Medical Association.

The Memorial of the Scottish Midland and Western Medical Association

Sheweth—That the Association is composed of medical men practising chiefly in the mining and iron working centres of Scotland.

That your memorialists believe that injustice results from the manner in which certain clauses of the Pharmacy Acts are presently being administered, especially those clauses which provide for regulating the sale of poisons.

That your memorialists further believe that the original intention of the Pharmacy Acts was to prevent unqualified persons—persons, that is, who were neither registered chemists nor medical practitioners—from keeping drug shops and selling poisons; but that, according to a recent decision in the higher courts in Scotland, the seller of a poison within the meaning of these Acts is the person who actually hands the preparation to the purchaser.

That certain persons—who were dispensing assistants to several medical men practising in the Airdrie and Coatbridge districts—were recently charged with a contravention under the Pharmacy Acts in respect that, while not being duly qualified as these Acts require, they had sold poisons.

That at their trial before the Sheriff Court of Lanarkshire at Airdrie, Sheriff Mair, in convicting the offenders, made the following observations, which are quoted from the report of the trials in the *Coatbridge Express* of March 17th last.

"Sheriff Mair said he was not entitled, in dealing with these cases—in one view of them, at all events—to express his own individual opinion as to the policy of these Pharmacy Acts. If it were not that he, sitting in the Sheriff Court, might be considered presumptuous, he would have had very little hesitation in condemning these Pharmacy Acts. And not only so, but he would be perfectly warranted in saying that but for the decisions of the Supreme Court in Scotland and in England, he would have had great difficulty in holding that the parties now before him fell under that Act at all. The section of the Act of 1868 under which the prosecutions were brought provided that from and after December 31st, 1868, any person who shall sell or keep open a shop for the retailing or selling of poisons shall be guilty of an offence if he is not duly qualified. One could easily see the possibility of holding that that section of the Act was not intended to apply to assistants employed in a shop at all, but was against the person to whom the shop belonged. His lordship could not help expressing his surprise that, while it is notorious that in all the cases brought before him the parties keeping the open shops are duly qualified, these parties' assistants should be selected for prosecution under these Acts. It seemed very strange to him also that since 1868, well on to thirty years, although these shops in Coatbridge were open under the same conditions as now, and unqualified assistants were employed, not a single prosecution had been brought till now. He could not help having his own suspicion that, instead of these prosecutions being for the public interest, some private interest was involved of which the Court knew nothing. It looked to him as if there were some persons behind the scenes for purposes of their own that these prosecutions were being instituted. It was still more remarkable that Airdrie and Coatbridge should have been selected as the hunting ground for these prosecutions."

Your memorialists believe that it is the declared intention of the Pharmaceutical Society to compel all assistants to become members thereof, and your memorialists are in full sympathy with this endeavour, but it appears to them that the compulsion should be applied equally to the unqualified assistants of chemists as well as to those in the employment of medical men conducting dispensing businesses.

Your memorialists also believe that much of the present dissatisfaction arising from the exercise of these Acts is due to the legal interpretation of the phrase "seller of a poison," and their prayer is that your Committee should consider whether it be advisable to take such steps as are necessary to amend the definition so that the seller of a poison be clearly defined to be the responsible owner of the shop or dispensary where such thing is sold. Your memorialists would alternately suggest, although fully aware of the difficulty in giving effect to the suggestion, that as certain clauses of the Pharmacy Acts are penal in their intention and effect, your Parliamentary Bills Committee will be pleased to consider whether the exercise of these clauses might not with advantage be withdrawn from the Pharmaceutical Society and placed in the hands of the Public Prosecutor.

Signed in name and by authority of the Scottish Midland and Western Medical Association,

Arch. K. Chalmers, M.D., President.
C. Crawford, M.D., Secretary.

Glasgow, April 16th, 1897.

It was proposed by Dr. Goff, seconded by Dr. Miller, and resolved:

That the memorial be printed and circulated to the Committee with a view to its being fully considered at the next meeting of the Committee.

THE HARBEN LECTURES.

LECTURE IV.—BACTERIAL FILTRATION.

THE fourth Harben Lecture was given by Dr. Sims Woodhead on July 14th last at King's College, under the auspices of the British Institute of Public Health. The subject of the lecture was Bacterial Filtration, that is, the method of treating sewage by taking advantage of the natural decomposing activity of the soil bacteria.

BACTERIA IN THE SOIL.

Down to a depth of 12 feet there exist a large number of bacteria. These are anaërobic, that is, able to carry on their functions without the presence of free oxygen. It is owing to these bacteria that the natural conversion of organic refuse in the soil takes place; this process being known as mineralisation. It is the aim of the process of bacterial filtration to determine conditions similar to those that take place in Nature in artificially-prepared filter beds. It is a well-known fact that fæces, if covered with a layer of garden soil, are entirely disintegrated and mineralised in the short time of six weeks.

THE PROCESSES IN USE AT PRESENT.

At present there are three chief processes of bacterial filtration in active operation: The Dibdin process, the Scott-Moncrieff, and the Exeter process.

In the first of these processes much of the solid matter is removed from the sewage by a preliminary precipitation with lime, leaving only the soluble organic constituents for further treatment.

In the second process advantage is taken of the peptonising action of many bacteria, and a process of microbial digestion breaks down the solid organic matters. By passing the sewage slowly over a bed of bacteria this peptonising and dissolving action is easily and cheaply obtained.

THE EXETER PROCESS.

The third, or Exeter process, was described in detail by the lecturer. In this process the whole sewage is allowed to accumulate in a large tank, constructed in an exactly similar manner and serving the same purpose as a cesspool. It is a matter of common observation that a cesspool takes far longer to fill with solids than can be accounted for by the mass of solid material falling into it in a given time. This is due to the disintegrating and dissolving properties of the contained bacteria. Exactly similar processes occur in this first tank, which is called the

PRELIMINARY FERMENTATION TANK.

It is a large cemented tank 64 × 18 × 9 feet. It is so constructed as to allow the processes going on to be observed. In the case of Exeter it receives the whole sewage of about 2,000 people. It has been calculated that in this amount of sewage there are sufficient solids to completely fill the tank in three years. The process has now been working for eleven months and yet there exists at the bottom of the tank a layer of only a few inches of sediment. This resembles a light kind of matters mostly in suspension, and therefore represents a far less proportion of actual solid matter. On the surface is found a thick leathery scum of fæces, etc. From the under surface of this layer flocculi are continually breaking off and falling to the bottom; thus the surface scum, although continually being added to, is continually breaking down. In this scum a liquefying process is continually going on, a process of an exactly similar nature to that by which a gelatine culture is liquefied by certain bacteria. The effluent from this tank is darker in colour than ordinary sewage liquor, slightly opalescent, and contains a greatly increased amount of organic matter in solution. From the surface of the tank a gas is continually being given off which possesses good illuminating qualities.

THE AËRATING WEIR.

From the first tank the liquor flows into a V-shaped trough, and running over its edges in a thin layer, rapidly takes up oxygen from the air. It then passes to

THE FILTER BEDS.

These are cemented tanks which resemble filters in name only. They are filled with coke breeze, through the interstices of which the liquor permeates. The surface of the coke particles becomes coated with micro-organisms which further act upon the organic matters in solution in the liquor. They are arranged in a series, and so operated that one set is full while another is being emptied. In these filter beds an active oxydising process goes on, and CO_2 is evolved in large quantities. The organic matter is then further broken up, its carbon constituent escaping as carbonic acid gas. When emptied the tanks are drawn off from the bottom; air thus enters from above, and supplies the necessary oxygen, which is conveyed to the carbon of the organic matter by means of the vital activity of the bacteria resident on the surface of the coke breeze. The effluent from this tank is described as bright, odourless, and containing a very small percentage of organic matter. Dr. Woodhead thinks that in these processes exists the elements of a very important method of sewage treatment, which will soon become very widely and successfully used.

MEDICAL DEFENCE UNION.

THE interim half-yearly report of the Medical Defence Union, Limited, has just been presented to the Council, and the necessity for such a society again fully established by the amount of good work accomplished by its executive. The number of members upon the register to June 30th, after deducting resignations and deaths, is 3,909. The number of new members to the same date, 215. The financial position of the Union is satisfactory; after payment of all accounts to date, there remains a balance of more than £1,000 in the bank, and the Guarantee Fund (not called up), but which is an available asset in case of urgent necessity, amounts to over £5,000.

The Council meetings are held at the offices on the third Thursday in each month, and, should necessity arise, executive meetings are held when required; 278 cases have been dealt with by the Council during the half-year, and of these 105 have been referred to the solicitor of the Union, Mr. Hempson, for legal action. Legal costs have been incurred and paid to the amount of £325 7s. 5d in 9 cases, and the remaining 82 have cost £168 12s. 2d. In 12 cases payment of fees due to members were withheld by patients under threats of action at law for malpraxis, and in each of these the intervention of the Union was instrumental in enforcing payment of the amounts due, and the consequent abandonment of the actions threatened. In 14 cases the Union has been successful in suppressing libels and slanders made concerning members in circumstances under which, apart from such intervention, the members would personally have been unable to have acted successfully, or, if successfully, at great cost of time and money to themselves. Of the remaining cases with which the legal report deals, 3 involved the suppression of the wrongful use of members' names by medical aid societies.

Numerous prosecutions under Medical Acts have been considered, and prosecutions under the Apothecaries Acts been successfully carried out.

In no single instance has an adverse decision been recorded against the Union in the Law Courts during the past half-year. Every case undertaken has terminated successfully, and in every instance the intervention of the Union, or such action as has been advised or taken on the members' behalf has resulted favourably to the member involved.

A very important case has been brought by the Union before the General Medical Council, and two prosecutions conducted successfully before that tribunal, which establish the principle for which the Union has long contended, namely, that qualification without registration is no qualification at all, and that a person holding medical titles, but without registration, must be considered by professional men as unqualified practitioners, and that to meet such in consultation or to aid them in any way to carry on medical or surgical practice is "infamous conduct in a professional respect."

All applications for forms for candidates for membership should be made to the General Secretary of the Medical Defence Union, Dr. A. G. Bateman, 20, King William Street, W.C.

THE JENNER SOCIETY.

When a theory has been confirmed so completely by facts as has the proposition that vaccination effectually performed will prevent an individual from contracting small-pox, or at least so fundamentally modify the disease that it is no longer a serious malady, there is in many minds a natural distaste to fight the battle again or to be constantly defending the position against the attacks of ill-informed or prejudiced persons. It is unfortunately the case that in the past this feeling has been allowed to influence too much the attitude of the medical profession towards antivaccinators. The opponents of vaccination have formed an aggressive organisation, which, after having been engaged for years in circulating misstatements about vaccination, is now occupied in trying to minimise the importance of the finding of the large majority of the Royal Commissioners.

The National Antivaccination League, as it now styles itself, used to be called the London Anticompulsory Vaccination Society. It is true that it has all along, through its most active supporters and speakers, carried on a crusade, not against compulsory vaccination, but against the vaccination laws as a whole; now, however, it openly admits that its object is the entire repeal of the Vaccination Acts, the abolition of the practice of vaccination under the auspices of the State, and the abrogation of the regulations which enforce vaccination before entry into the public services.

Even during the progress of the epidemic of small-pox in Gloucester the antivaccinists endeavoured to induce the inhabitants still to refuse vaccination and revaccination. The League had long been active in Gloucester, but in spite of the object-lesson which Gloucester afforded of the consequence of their mischievous activity, its leaders still hoped to be able to beguile the citizens. It was in this emergency that the Jenner Society was founded. It was felt that, as the public mind had been systematically poisoned by the misrepresentations of men who could or would not recognise the mischief they were doing, it was necessary that an effort should be made to provide an antidote. It is satisfactory to find that as soon as the matter was brought under the notice of the leading men in the county of Gloucester, they showed themselves ready to support the movement. Sir John Dorington, M.P., the Chairman of the Gloucestershire County Council, brought the details of the proposed society under the notice of the Standing Joint Committee of that body and of the Court of Quarter Sessions, and the Committee expressed their cordial approval of the movement. The Lord Lieutenant of the county, the Earl of Ducie, whose valuable services to the cause of sanitation as President of the Royal Sanitary Commission of 1869 are well known, became President of the Society, and the Dean of Gloucester Chairman of its Executive Committee, which was joined by all the leading authorities of the county.

The Society was appropriately given the name of the Jenner Society, in commemoration of Dr. Edward Jenner, the discoverer of vaccination, who resided in Berkeley, in the county of Gloucester, and it is an interesting coincidence that the Society was founded in the year in which fell the centenary of his great discovery. Under the able direction of its energetic Honorary Secretary, Dr. Francis T. Bond, the medical officer of health for the combined districts of Gloucester, literature containing correct information as to the history of small-pox and vaccination, and refuting misrepresentations which were actively distributed by the opponents of vaccination, was circulated in Gloucester and in other parts of the county where the disease had broken out.

Of the value of the work in Gloucester a satisfactory proof was early obtained, but it also became obvious at an early date also that a similar need existed in other parts of the country, and the Jenner Society, even before it had completed its local work, already found itself regarded as in some sense a national organisation.

The Executive Committee of the Jenner Society are willing to undertake to carry on the work of the enlightenment of the public upon a national basis. The early work of the Society, however, since it had a local character was carried on by means of funds subscribed locally; the national work must be given a broader basis, and it is much to be desired that this Society should receive support from all those in all parts of the country who are impressed with the importance of vaccination. The Council of the British Medical Association early in the present year voted the sum of £100, and financial aid has also been received from the Royal College of Physicians, Edinburgh, but the strength of such a society and its influence on public opinion must be the greater the wider the field from which its supporters were drawn.[1]

The first annual report of this Society records the obligation under which it has been to numerous individuals, both in and out of the medical profession, who have advised and aided them in the provision of literature and in other ways, "especially to Dr. McVail and to Mr. Ernest Hart, whose services in the cause of vaccination are so well known to all who are acquainted with its history." But a work of this kind should not be left to individual enterprise or private exertion. The Antivaccination League, as we have already stated, is an active and aggressive body, and it would be a great mistake to underestimate the harm which such an organisation might do in misleading public opinion. The League claims to have upwards of 120 local branches in various parts of the kingdom. It is able to incur considerable legal expenses, and it has recently made an appeal for a subscription of at least £1,000. Its misguided efforts should be met with knowledge, energy, and discretion, and the advantage of the existence of a central body such as the Jenner Society to render assistance to local efforts in combating the propaganda of the National Antivaccination League must be obvious.

CHOLERA IN INDIA IN 1895: THE REVISED RULES.

Cholera Regulations for Troops.

The necessity of revising the cholera rules for troops and prisoners was strongly urged by Mr. Ernest Hart when he visited India. He pointed out that they were largely founded on obsolete principles leading to absurd and useless manœuvres. Consequent upon his public criticism, they were recalled, and have now been subjected to revision by a committee specially appointed, composed of the Quartermaster-General, the Principal Medical Officer of the Sanitary Commission, and Mr. Hankin. They have now been satisfactorily brought into harmony with the doctrines of the day. The need of habitual sanitation of cantonments and camps is fully recognised, and the necessity of special sanitation in view of an impending or actual outbreak acknowledged. The possible conveyance of infection by water and food, by supplies from contaminated villages and bazaars, and by the agency of persons, native servants, coolies, etc., living in infected quarters, constitute the main groundwork of the scheme; and the habit of localisation which the disease affects is fully taken into account. Escape from infected areas is the measure resorted to when sanitary precautions, habitual and special, prove unavailing; and the manner of escape is made to depend upon the gravity of the occasion and information obtained as regards the incidence of the disease in the neighbourhood. The rules are divided into sections concerning (1) precautions necessary in anticipation of cholera; (2) measures to be adopted on appearance of cholera; (3) fumigation and disinfection; (4) other points requiring the special attention of medical officers; (5) returns and reports; and (6) responsibility of commanding officer. On each of these heads the instructions are ample and clear. The direction to march at right angles to the wind is retained, but it is stated to be dictated by a regard to the comfort of the troops rather than for the purpose of dodging a cholera-laden breeze.

Scope of the Report.

The report of the Sanitary Commissioner with the Government of India for the year 1895 sets forth in great detail facts relating to the prevalence of cholera amongst the general population and amongst troops, European and native, and prisoners throughout India. Information is also given regarding outbreaks among pilgrims proceeding to Mecca, and the results of bacteriological investigations conducted

[1] The Treasurer of the Society is Mr. G. E. Lloyd Baker, Hardwicke Court, Gloucester, and the Honorary Secretary, Dr. Francis T. Bond, Gloucester.

by Dr. D. D. Cunningham and Mr. Hankin are summarised. Reference is made to M. Haffkine's anticholeraic inoculation, and it is stated that the tabulated numerical results are very encouraging.

CHOLERA AMONGST THE TROOPS.

1895 was a dry, hot year, and the number of cholera deaths registered throught India was 320,979, against 529,049 in 1894. There was a decrease of prevalence in every province except the Central Provinces, Behar, and Lower Burmah. There were 44 cases and 32 deaths among European troops, 75 cases and 53 deaths among native troops, and 132 cases and 85 deaths among prisoners—results which compare very favourably with those of preceding years. The outbreaks in these communities took place mostly at places where the disease was prevailing epidemically, and presented the aspect of isolated attacks or small groups rather than explosions affecting large numbers. In only one instance was a general movement of European troops considered necessary, in ten instances of native troops, and on eleven occasions of prisoners. Quarters were evacuated on the appearance of one or a few cases. These measures appear to have been productive of benefit. Investigation regarding the origin and transmission of the disease led to no satisfactory conclusion, and the results of bacteriological inquiries by Mr. Hankin were disappointing. Microbes were found in water consumed by large numbers with impunity, and it is evident that some other condition or factor is necessary to account for virulence. Dr. D. D. Cunningham holds that cholera is "not necessarily characterised by the presence or prevalence of any one species of vibrionic organism within the digestive tract." He has found vibrionic organisms similar to the cholera vibrio in the intestines of healthy and diseased fishes, and in bodies of water unassociated with cholera. He contends that the organisms elaborate a toxin in the environment under special conditions, as originally surmised by Pettenkofer. The etiology of cholera is thus, as far as India is concerned, and as represented in this report, left in a very confused and doubtful plight, and, as we think, quite unnecessarily so.

INSANITARY STATE OF CAMARAN.

The facts as regards the outbreak of cholera at Camaran are interesting. A quarantine of ten days on this island is imposed on pilgrim ships from Indian ports. Under this rule the passengers from three steamers among others from Bombay were landed, and cholera broke out among them within a week after arrival at Camaran; 31, 57, and 21 persons were attacked respectively, and 27, 48, and 16 deaths took place. Dr. Vaume, the medical officer of Camaran, contends that these pilgrims, mostly Malabaris from Calicut, carried the infection along with them in a latent state, and that circumstances encountered at Camaran caused the latent germs to assume virulence. It really does not make much difference whether these persons caught their cholera from Camaran germs or the Camaran environment. The case against Camaran is equally strong on either supposition, and it appears further that, cholera apart, the death-rate during residence on the island was higher than it had been on board ship, so that from every point of view quarantine at Camaran sacrifices rather than saves life.

SANITARY REFORM IN EGYPT.

SOME TIME ago we published a letter on this subject in which our correspondent maintained that no real advance in sanitation could be made until the present inadequate staff of the sanitary department was increased, and the hands of the sanitary administration strengthened by the passing of a Sanitary Act.[1]

The official report on the epidemic of cholera during the years 1895 and 1896, recently issued by the Sanitary Department of the Ministry of the Interior, not only emphasises the reasonableness and justice of our correspondent's strictures, but gives point to the assertion of the chief sanitary authority in Egypt, that "sanitation in the real sense of the word has not yet been begun."

In the report under consideration, Rogers Pasha, while reviewing the existing sanitary conditions of the country, insists very strongly, and with reason, on the danger, which is constantly present, of an imported infective disease, such as cholera, rapidly assuming severe epidemic proportions, owing to the peculiarity of the water supply, which for the whole country is practically derived from one source—the Nile and its canals. These being the waterways and at the same time the drains of the country, are, owing to the generally filthy habits of the natives, liable to constant pollution; while the mosque latrines, which are really the latrines for the whole of the male population of the villages, also drain into the river itself or into the canals along its whole course. In the larger towns the wells were in most cases found contaminated from adjacent cesspits, and except in five towns—Cairo, Alexandria, Port Said, Suez, and Assiout—there is no attempt at filtration of water, while even in these filtration is only imperfectly carried out, as shown by bacteriological examination. The general sanitary condition of the country is thus summed up: "It is sufficient to say that not a town or village in Egypt is drained; not one has a satisfactory water supply; in not one is even superficial cleansing carried out as it should be; and that all the conditions necessary for the propagation of a filth disease exist to perfection."

The sanitary organisation of the country is little better than its sanitary condition. Concealment of infectious disease is the rule, notification the exception. This, however, can hardly be otherwise, when in the majority of villages notification is entrusted to uneducated barbers, who also carry out vaccination and perform other minor operations. For purposes of sanitary administration the country is divided into a certain number of provinces, or *moodeereyehs*, in charge of native sanitary inspectors; the provinces are subdivided into districts (*markazes*), with a subinspector in each, and a district is made up of a number of villages, forty-nine on an average, each provided with a midwife and a barber who combines with his other duties those of local surgeon and sanitary inspector, reporting all cases of epidemic disease to the district inspector, who in turn reports to the sanitary inspector of the province.

We would urge upon the responsible authorities the advisability of giving effect to the sanitary reforms suggested in the *Egyptian Gazette* of September 1st, 1896, and in doing so cannot do better than repeat what we have already said on this subject: "Sanitation in Egypt, as in India, has to contend with an ignorant, apathetic, and obstructive population, and progress must originate and proceed from above rather than from below—from the governing power rather than the governed masses."[2] It is only by penalising insanitary conditions, and constituting a really effective sanitary executive that public hygiene can be at all advanced in a country so peculiarly placed as Egypt, both as regards liability to attack by imported infective disease, and the tendency for such disease to become epidemic owing to the almost certain contamination of the water supply.

THE PLAGUE IN BOMBAY.

ALTHOUGH it is known and believed that plague is rapidly disappearing from Bombay, it is advisable for scientific and statistical reasons to state exactly the condition of the epidemic from time to time. The latest returns are as follows:

	June 10	June 11	June 12	June 13	June 14	June 15	June 16	Total.
New Cases.	10	5	7	1	15	12	13	63
Deaths ...	2	2	4	4	7	5	0	24

The *Times of India* of June 18th, 1897, is able to state that the steady decline of plague both in Bombay and Sind continues from day to day, and so far there is no sign of recrudescence.

The decision of the Bombay authorities to reduce the plague staff by one-half is most strongly opposed by the health officer, Dr. Weir, who states that it will be a grave mistake to relax any efforts now put forward for one year at least.

[1] BRITISH MEDICAL JOURNAL, October 17th, 1896, p. 1165.

[2] BRITISH MEDICAL JOURNAL, October 17th, 1896, p. 1156.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

SUBSCRIPTIONS to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429 Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, JULY 24TH, 1897.

WORKMEN'S COMPENSATION BILL.

THE Workmen's Compensation Bill having passed its third reading in the House of Commons on July 15th, has gone forward to the House of Lords. In the Upper Chamber it will probably be to some extent amended, since of the Peers there are some sufficiently interested in the operations of the measure who may endeavour to have its terms modified. During its transit through the House of Commons the Bill was subjected to considerable adverse criticism on account of its supposed socialistic tendencies.

As this idea is still prevalent, it enables us to understand the action of the National Individualist Club in petitioning the Peers to throw out the Bill on the ground that it will limit individual freedom, entail a burden upon trade, and check industrial enterprise. The Bill will, in all probability pass through the House of Lords, and thus something will have been done to make provision for working men injured while following their daily avocation. What its effect upon trade will be it is impossible to say, but however gloomily the measure has been viewed by several employers, the consequences to trade and employers are not likely to be so disastrous as some have supposed. Time was when Parliamentary legislation was all in favour of the employer, but the trend of modern politics has of late been in the other direction. The present Bill illustrates the change that has crept over public feeling. It is an attempt to assign to human life a money value and to compensate it when injured or destroyed through accident. If the experience which a working man has gained in his own trade is his invested capital, the only property he possesses is sound health and supple limbs. The nation now recognises what the loss of these means to the artisan himself and his family, and is arranging matters so that when the loss occurs through accident at work some provision shall at any rate have been made to minimise the effects of the unfortunate occurrence.

The Bill is far reaching in its individual, social, and national consequences. It touches the pocket of employers, allays anxiety in the minds of working men as to their future in case of injury, and introduces into our commercial and social life a new element whereby the State is inclined to show its hand in directing industries in a manner hitherto unprecedented.

From a humane point of view the Bill is a step in the right direction. The measure is a national attempt to safeguard the working classes. The reproach so long levelled against our country that it cares little for their welfare is being gradually wiped out. A national wish, not less than a personal, must not, however, outrun the ability to fulfil. Legislators must therefore act with caution and not rush to extremes on either side. Industry can only bear its proper weight of taxation, and, as theory is always in advance of practice, it is well to remember that the economic conditions of trade at any given time can allow of only limited advances. Legislation in order to be effective should therefore be gradual. Whether government by party is the best or not for this country does not politically concern us; but there is just the danger of a party in its eagerness to obtain votes allowing itself to have its judgment warped, and for the sake of expediency and political ends passing measures to outdo in extravagance those of its opponents. Such is the opinion expressed by many people in the country in regard to the present Government and the Workmen's Compensation Bill. They maintain that the Government was returned by a large majority to prevent socialistic legislation, and that it has introduced a measure more drastic than Mr. Asquith's. The times are too busy; no parliament can be allowed to sleep. Questions keep pressing for solution, and if these of late have touched upon the social side of life, they have assumed importance rather through the tendencies of the age in which we live than as the voluntary action of either political party.

Casual readers even of the daily papers must have noticed that in the country generally and in the House of Commons particularly the opposition to the Accidents Bill has come principally from the coal owners. This is not to be wondered at, since under the Bill the consequences of an explosion for example in a pit may spell ruin to many a mine owner. It is not so much the large capitalist as the smaller in our industries that will suffer. To a small and struggling employer the consequences of even a very limited accident may prove to be an incubus which may be lifted only after several years of commercial prosperity. So far as the coal owners are concerned, there is nothing to support their original objection that the Bill will impose a tax of 3d. upon every ton of coal raised. In a previous article dealing with this subject we pointed out the extravagance of this statement, and that three farthings would probably cover the cost. Without doubt the Bill will fall unequally upon different trades, and unequally too upon localities. In the northern coal fields the getting of coal is accomplished with little risk to life and limb compared to other districts, for example, South Wales and Lancashire, where, owing to the larger seams of coal and at greater depths from the surface, there are more accidents due to the yielding state of the roofs requiring more timbering, and the more serious effects of falls of stone upon the miners. There is, too, a greater liability to explosions. Colliery proprietors will be obliged to contract out, and form assurance associations, in order to meet the demands of the injured workmen. It is a mistake to think that the allowance of contracting out or its prevention by Parliament has much influence one way or the other so far as the number of accidents is concerned. Employers, for the sake of their purse and peace of mind, as a rule take all precautions possible to prevent accidents, since, apart from the expenses incidental to them, they are unwilling to

supply opportunities for an irritated public opinion to aim its shafts either at themselves or their industries. Accidents, however, will happen, and to us as a profession it is of no moment what is the fund from which a workman receives compensation when injured. All we wish is that he shall get the money, and with as little legal and other expense as possible.

To show how very slightly other trades included in the Bill are likely to be affected by its operations it may be mentioned that the textile industries estimate that it will entail a tax of only 2s. 6d. upon every £100 paid in wages. The cotton trade can surely stand this small addition to its financial responsibilities.

We have written as if the whole of the monetary responsibility of the Bill rested upon the employers, but although this is the general opinion, the burden will only primarily fall upon them. Sooner or later prices will rise, when the consumer will experience his share of the burden, and finally, when the question of a rearrangement of wages comes to be discussed by employers, there will be an anticipation of expenditure necessitated by the Bill which can only be met, not by charging products, but by taxing labour. Upon the working men themselves will ultimately fall the compulsory provision for compensation after injury. To those people therefore who consider the Bill a purely socialistic measure it really ought to appear as a working man's provident fund. No matter the source of the fund, it will be extremely helpful in time of need.

The Workmen's Compensation Bill has been objected to on the ground that as it primarily throws an additional burden upon employers, they in order to minimise their responsibility will rid themselves of their older workmen who are naturally slower in their movements, and therefore unable to escape as quickly from danger as the younger men. Although we have frequently heard this remark, it has probably been used only as a threat, for facts tell both ways. The younger hands, it is true, are more rash and less careful than the older; but in the event of an injury requiring to be met by compensation extending over a lengthened period, the prospective longevity of the individual would not be a question outside the sphere of consideration.

It is to be hoped, whatever be the compensation a working man is entitled to under the Bill, that in the event of injury he will receive the money which is his due with as few deductions as possible. In its amended form it has been stated that the Bill will cause considerable rejoicing among members of the legal profession. There are people ill-natured enough to say that there is a similar rejoicing in the ranks of medicine. To speak of the measure as a Doctors' Employment Bill, and that as a profession we are never slow to promote our pocket interests by legislation is not only an inopportune remark, but is a complete misjudgment of the relation of the profession generally to all forms of industrial legislation, and all means adopted for improving social welfare. In the event of litigation we are told that there will be three doctors to look after one patient—the employer's doctor, the workman's, and the State doctor, and that the expense in the long run will have to be met by the working men themselves. The medical profession is not ecstatic over the measure so far as obtaining employment through it is concerned. It is our wish not less than it is our hope that the injured working men, in whose favour the Bill has been drafted, shall receive the compensation they are entitled to with the fewest deductions possible, either medical or legal.

CHLOROSIS.

CHLOROSIS had been studied so long and so exactly that it had passed into the commonplace. But a new method always produces a new theory, so complex is Nature and we so simple, and thus Roy's invention for weighing a drop of blood has given, in Lloyd Jones's hands,[1] a new meaning to chlorosis. After examining 1,400 healthy persons, he has found that in males the specific gravity of the blood rises rapidly from infancy until the age of 17, remains stationary during middle life, and falls slightly in old age, while in women it rises until puberty, but falls from that time until the age of 45, and rises from this until old age, when it again falls a little. Persons of fair complexion have lighter blood than those who are dark. The weight of blood varies with the quantity of hæmoglobin, and less closely with the number of cells.

After many researches into natural conditions, he turned to disease, and, among others, to chlorosis. This he found to be characterised by a very light blood, containing little hæmoglobin and few cells. "Nothing," he says, "is more characteristic of chlorotic blood than *extreme* diminution of the volume of red blood corpuscles, together with an equally marked reduction in the amount of hæmoglobin." In this he is at variance with other authorities, for it is usually allowed that the condition referred to is rather that of pernicious anæmia, and that in chlorosis the hæmoglobin is reduced in far greater proportion than the cells. He obtains his results not by counting the cells, but by measuring their volume after whirling the blood centrifugally, and this method may not compare strictly with the other. This question will have to be re-examined; but that the blood is much lighter than natural is the more important result of his researches, and is antecedently probable if its weight vary with the hæmoglobin.

Chlorosis appears to have some connection with child-bearing, for it is rarely, if ever, seen in men, and closely follows the age of puberty in women. This has long been remarked, but Lloyd Jones's observations on healthy females led him to the conclusion that chlorosis is but an exaggeration of a condition which is natural during the child-bearing period, and which may therefore be considered to have some favourable influence on fertility. During the whole period the blood of women is not only lighter than that of men, but even lighter than that of girls below 14, and the difference is most marked in women between 25 and 35 years old.

This idea received a curious confirmation from the statistics of light and dark complexioned persons, which showed a distinctly greater fertility in the families of the former, whose blood we have seen to be the lighter. Lighter blood seems therefore to mean greater fertility, and while all women undergo this change to some extent, chlorotic women carry the tendency to excess. This is the novelty and the interest of Lloyd Jones's research.

A few cases of primary anæmia occur in young men, but these have remarkably heavy blood. From this and one

[1] *Chlorosis: the Special Anæmia of Young Women, its Causes, Pathology, and Treatment.* By E. Lloyd Jones. London: Baillière, Tindall, and Cox. 1897. Roy. 8vo. 2s. 6d.

or two other facts he believes that in chlorosis there is an excess of plasma, but that in these heavy-blooded cases the plasma is relatively deficient. He calls this condition "oligæmia," an old term with a new meaning. But his conclusions are a little weakened in that he allows that the two conditions may be combined. Of these mixed cases we must hear more.

With these views it is natural that he should hope to explain chlorosis by some auto-intoxication from the generative organs. The ovaries have failed him hitherto, and he is now examining the uterus. He has no difficulty in showing that the stomach and the intestines have not yet been proved guilty; whether he will have more success with the organ now accused remains to be seen.

THE PREVENTION OF WOOLSORTERS' DISEASE.

The report of the Departmental Committee of the Home Office just issued appears at an opportune moment, for almost on the day of its publication a coroner's jury was sitting at Queensbury, inquiring into the death of a workman supposed to have been caused by anthrax. The Committee, which was well qualified for the work, had for its Chairman Colonel Meade-King, one of Her Majesty's superintending inspectors of factories, who was supported by Dr. Whitelegge, now of the Home Office, Messrs. Jonas Whiteley and Hatton as representing the trades, and for its Secretary, Mr. W. A. Beaumont, one of the factory inspectors. The procedure adopted in the report is that observed in similar Government publications—a description of the processes and of the dangers encountered, followed by recommendations for the reduction or abolition of these dangers.

Anthrax—better known in this country as "woolsorters' disease" and "splenic fever"—attacks men and such animals as horses, cows, sheep, and goats, and, while apparently non-infectious between man and man, it is readily transmitted by inoculation, the virus gaining entrance through a wound or abrasion of the skin, and very possibly, too, through an abrasion of the mucous membrane of the respiratory tract. Two forms of the disease are met with—the internal and external. The latter is better known as "malignant pustule." The incubation period lasts for three days. As might be expected, while malignant pustule is amenable to treatment, the internal type of the disease is unusually severe and generally fatal. This is the form it assumes in men who are engaged in sorting infected hides, an operation which is usually very dusty. Rags as well as hides may carry the poison. In Austria-Hungary, for example, there occurs among ragsorters a kind of rag disease known as "*Hadernkrankheit*," but in our own country, although foreign rags are largely imported, this form of illness is unknown.

To Dr. William Budd belongs the honour in Britain of having first drawn attention to anthrax, and to Dr. Russell, the Medical Officer of Health for Glasgow, we are indebted for the first accurate scientific and bibliographical account of the disease.

Outbreaks of anthrax in this country have not been confined solely to the human subject. Through its ravages farmers have lost their cattle. The horse is particularly susceptible to the poison. Depending as the disease does upon a micro-organism, the bacillus anthracis, which exists in the form of rods and spores, it would be a boon to those whose daily occupation brings them into contact with suspicious hair and hides, could the microbe be readily killed, particularly the spores, which are extremely tenacious of life. A solution of carbolic acid to be destructive to spores must contain not less than 5 per cent. of the acid, and to this mixture the immature micro-organism must be exposed for twenty-four hours. After a few minutes' exposure to bichloride of mercury solution (1 in 1,000) Koch maintains the spores are destroyed, and within an hour by formalin of a similar strength. Steam kills, but dry hot air of 212° F. has no effect upon them. The bacillus, on the contrary, is readily destroyed by any of the means just mentioned.

When an animal dies of anthrax, if it is immediately buried and oxygen thereby largely excluded, the bacilli die during the ordinary processes of putrefaction, but if access to the air is allowed spore formation is favoured. Therein lies the danger of wool or hair with portions of skin adherent to them, for in all probability these have been plucked off a dead animal. To such pieces of skin and hair the term "fallen fleeces" is applied. They constitute the most dangerous form of hides that are imported. In England anthrax among animals is rare, but in certain parts of Russia, Turkey, and Asia the disease is endemic. Of the foreign wools the most dangerous are Van mohair, Persian and camel's hair, alpaca, and Turkey mohair. Van mohair is the fleece of the mohair, a species of goat raised in flocks by Arab tribes in Kurdistan; Persian wool comes from Bagdad, while camel's hair, which is a very dusty material, is imported from Russia and China. The camel, like the horse, is extremely susceptible to anthrax and the poison is very deadly.

Wool and hair reach this country in a very dusty condition. It has to be sorted. The work is extremely dangerous, and in order to diminish risk to life the Committee recommend that the bales should be opened by skilled men, and that the sorting should be done over fans, the exhaust pipe of which should be funnel-shaped and not too small, so as to allow of 25 cubic feet of air per minute being removed. Dr. Bell of Bradford, who has had a large experience of woolsorters' disease, draws attention to the very important fact that while the fans withdraw the dust these have to be cleaned, a proceeding attended with some danger. More than this, by means of the fans the dust is conveyed to the atmosphere outside the factories, and if there is a strong wind blowing it is carried to pasture land where it may infect cattle. Only thus, as Dr. Bell maintains, can we explain the large percentage of cases of anthrax among cattle in the West Riding compared to other parts of Yorkshire. The Departmental Committee recognise the necessity of attacking the hides before they reach the factory. Disinfection would have to be thorough, and therein lies the difficulty. Even in domestic illness disinfection is not always satisfactory. What must it be therefore where we are dealing not with a few bales of hair but with thousands of bales. The only effectual method is to adopt Dr. Bell's recommendation and disinfect the bales by steam under a pressure of 6 lbs. to a square inch (the temperature 230° F.) for a few hours. By this means all the bacteria and spores are destroyed. The material thus dis-

infected would not only be rendered safe for the sorter, but would in no way be injured for manufacturing purposes.

Into the other recommendations of the Committee we need not enter. The report is valuable from the care which has been exercised in accumulating and sifting details, and as it deals with such allied industries as wool-combing, blanket-stoving, feather cleaning, etc., it covers industrial ground with which hitherto we have not been very familiar.

MR. HAROLD J. STILES, F.R.C.S.E., has been appointed Assistant-Surgeon to the Edinburgh Royal Infirmary, and Mr. R. F. C. Leith, M.B., F.R.C.P.E., Assistant-Physician.

DR. E. S. MACBRIDE, Fellow of St. John's College, and Demonstrator in Animal Morphology in the University of Cambridge, has been appointed to the Chair of Zoology in the M'Gill University, Montreal, Canada.

DR. ALLAN MACFADYEN has been appointed Director of the British Institute of Preventive Medicine. Dr. Macfayden has for some time held the office of Lecturer on Bacteriology in the Institute.

THE Prince of Wales has been pleased to appoint Sir William Mac Cormac, Bart., President of the Royal College of Surgeons, and Alfred Downing Fripp, M.S., F.R.C.S., Assistant Surgeon to Guy's Hospital, to be Surgeons in Ordinary to His Royal Highness.

HEALTHY LOWESTOFT.

THE borough of Lowestoft, with a population of over 26,000, had only 4 zymotic deaths during the second quarter of this year, namely, diarrhœa 1 and whooping cough 3. This gives the exceptionally low zymotic death-rate of 0.61. The corrected death-rate for the same period was 14.8.

SEVERE STRAIN ON THE INDIAN MEDICAL SERVICE.

THE arrangements for the Tochi Valley Field Force will, says the *Homeward Mail*, practically close the leave recently open for the Indian Medical Service, as all members of the Punjab Medical Staff lent to the other provinces are being recalled for duty in their own presidency. In all eight men now on plague duty in Bombay, one in Bengal, and three in the Punjab will be employed in the expedition, and more may be wanted hereafter, so that an additional strain upon his already overworked department will be considerable.

INDIAN JUBILEE HONOURS LIST: NEGLECT OF THE SERVICES.

THE *Civil and Military Gazette* publishes some strong and well-deserved strictures on the neglect of the medical services of India on this occasion. It points out that it would be altogether too optimistic to presume that it were possible to prepare a list of honours, however long and comprehensive it might be, which was not the subject of adverse criticism. "Under ordinary circumstances," says the *Civil and Military Gazette*, "there would be no occasion to allude to this, or at any rate not to do more than to pass lightly over the method, or the want of method, which appears to govern the distribution of honours in India. Unfortunately, the circumstances attending a most marked omission in the long Jubilee honours list are far from ordinary. The omission referred to has been noticeable on previous occasions, but never has it been brought into such unpleasant prominence. We refer to the neglect of the medical services. Omitting Surgeon-Major-General Hooper, who has left the country, one, and only one, doctor receives a decoration. This is Surgeon-General Cleghorn, the head of the Indian Medical Department, an officer of over thirty years' service, who has just returned from representing the Government of India at the Venice International Sanitary Conference. Surgeon-General Cleghorn is given a C.S.I.; and as if to give point to the irony of such a decoration, about the next person on whom a similar honour is conferred is the Viceroy's Private Secretary, a young gentleman who has been in the country not quite four years. As for the circumstances that render the omission so remarkable at the present time, let the Government of India speak for itself. Its letter to the Rana of Dholepur regarding a health institute, fully illustrates our meaning. The stress of fighting the plague and famine has been felt by no department more than the Medical Department; that the great relief camps have been spared almost entirely the terrible scourge of epidemics is due to the sanitary authorities. The Government of India deplores constantly the slowness with which medical aid reaches the women of India; and again it regrets the tardiness with which the people of the county turn to technical education. The medical schools afford one of the only two active systems of technical education; it is through the hospitals alone that aid can reach the women of India; nevertheless, the officers directly responsible for the direction of both schools and hospitals are thus publicly ignored on the most notable occasion of recent years. It is not merely the injustice of the neglect that stirs us, but the folly of it in a country where so high a value is set on personal distinctions. The injustice, however, is so great that, paradoxical though it sounds, we are convinced it is largely unintentional. Protests have, however, been lodged before, but without success. We are fully aware that by writing in this strain at a time when felicitations should be only heard we lay ourselves open to a charge of bad taste; but we do so in the firm conviction that it is a public duty to lodge a vehement protest against such a flagrant oversight, and in the hopes that by making this protest at the very earliest opportunity we may assist in bringing the Government of India to a more true and lively sense of the benefits which the medical services are conferring on India and the very vital part which these services must occupy for many years to come in its good administration."

A MEDICAL SAINT.

IT may interest some of our readers to learn that of the two new saints added to the Calendar by the Pope in the solemn canonisation on Ascension Day one was a member of the medical profession. Saint Antonio Maria Zacaria was born at Cremona in 1503, and studied medicine in the University of Pavia, where in due course he took his doctor's degree. He practised his profession among the poor, and died in his native town, Cremona, in 1563. Among other medical saints in the Roman Calendar besides St. Luke, the "beloved physician," may be mentioned Saints Cosmas and Damian. The former gave his name to the old College of Surgeons (Saint-Côme) in Paris.

THE ARMY MEDICAL EXAMINATION.

THE examination for commissions in the Medical Staff advertised for July 30th is again likely to prove a fiasco. Thirty-six commissions are offered, for which we understand there are only eighteen candidates. It is well known that the real number of vacancies is almost double that officially stated, and it will soon be next to impossible to administer the department in its present depleted condition. The military authorities will therefore shortly be face to face with a crisis against which the ostrich-like policy of concealment will be unavailing. Even for the Indian Medical Service there are only nineteen candidates for eighteen vacancies. The ensuing examination must prove a turning-point in these services.

THE UNIVERSITY QUESTION IN LONDON.

THE Duke of Devonshire has at length introduced into the House of Lords a Bill to make further provision with respect to the University of London. The Bill, which was read a first time, is not yet printed, but its provisions are understood to be substantially the same as those of the Bill introduced last session. The graduates who form the London University Defence Committee, led by Mr. J. Fletcher Moulton, Q.C., have, it is reported, held a meeting and resolved by anticipation to oppose the Bill strenuously on the ground that it will not secure that the standard of the graduation examinations shall be the same for collegiate and non-collegiate students. The prospects of an opposed Bill introduced at so late a period of the session are obviously very remote, and as the opponents have not been conciliated it would appear that the time spent on the negotiations of the last six months has been entirely wasted.

BERI-BERI IN THE RICHMOND ASYLUM, DUBLIN.

IN the beginning of last month 4 male and 6 female patients remained over under treatment from the epidemic of 1896, still showing some signs of illness. The case of one of the women was interesting as she presented along with other symptoms unilateral ptosis, external strabismus, and dilatation of the pupil. Engagement of the third nerve has rarely, if ever, been before observed in beri-beri. Early in June fresh cases began again to occur. At first only women were attacked; recently male patients have also suffered. It will be remembered that in the epidemic of 1894 males chiefly were attacked, and in the epidemic of 1896 this order, which is the usual one in this affection, was reversed. In the present epidemic, up to now 43 women have suffered and 18 men. The women include 3 of the nursing staff, among whom it has been possible to observe interesting sensory conditions—anæsthesia, hyperæsthesia, and "painful anæsthesia." One female patient (one of the insane) has died, the immediate determining cause of death being apparently œdema of the lungs, for, so far, most of the cases have been of the type described by Scheube as the rudimentary form of beri-beri. Ten of the male and 26 of the female patients have been attacked this year for the first time. The others suffered in 1896, and of these a few also in 1894. The tendency to repeated attacks in this disease is well known.

PHILANTHROPIC INJUSTICE.

WE regret to learn from the local newspapers that Dr. D. S. Kennedy, of Perth, has been dismissed from the office of medical officer of the Craigie School of Refuge for Destitute Girls under what appear to be circumstances of grave injustice. The sudden dismissal of a medical officer in terms of gratitude for long and valuable services, on grounds which were shifted on the first attempt at investigation, constitutes a serious question, not only for the profession but also for the public at large. We have, on the one hand, an outspoken testimonial in support of Dr. Kennedy presented to him by his professional brethren, and, on the other hand, the report of the Committee of Management assenting to a similar motion of sympathy in a full meeting of the subscribers to the school. The practical unanimity of the practitioners of Perth in their expression of sympathy with Dr. Kennedy in the unfortunate circumstances in which he has been placed must be very gratifying to him, and his position seems assured by a similar feeling having been expressed by the general public, not only in meeting assembled, but also in public prints and in less formal ways. We shall not now enter on the merits of the question, as matters are not likely to be allowed to remain in the present unsatisfactory state. The Government Inspector reported unfavourably last summer; his report was not submitted to the medical officer; he returned in the end of the year to find his remarks apparently unheeded. Consequent upon that, Dr. Kennedy was summarily dismissed. After repeated attempts, he obtained what purported to be extracts from the report in question, written by the matron, and was not permitted to enter upon a discussion of the charges brought against him. It is the plain duty of the inspector to sift this thoroughly. The school exists for the benefit of destitute girls, and it is primarily in their interests that a searching investigation is required.

VENEREAL DISEASE AMONGST THE INDIAN TROOPS.

IN discussing the proposed proceedings in this regard of the Indian Government Lord George Hamilton expressed the opinion that the inspection of soldiers, penal stoppages from admission to hospital, and the punishment of men concealing disease appear to be well calculated to check the spread of the mischief so seriously affecting the health of the British troops in India. He does not agree with the Government of India that the employment of female hospital assistants in the examination and treatment of women would be unnecessary and unsuitable. The system should be tried.

SIR JOHN BUCKNILL.

WE deeply regret to have to report the death of Sir John Bucknill, the eminent alienist, at the advanced age of 79. The loss of Sir John Bucknill will perhaps be less deeply felt in that he had, owing to an advanced age, for some years been in retirement from active medical pursuit, but it makes a gap which cannot easily be filled in that distinguished branch of the profession which he adorned. But to ourselves it is a great personal loss, for Sir John Bucknill was much more than a member of the editorial staff of this JOURNAL and a frequent contributor; he was an attached and much esteemed personal friend, to whose counsel and friendly offices we have been in the habit of frequently referring not only in all the difficult questions arising in his own department of knowledge and professional activity, but also in many cognate and collateral subjects. His clear judgment, his integrity and firmness of purpose, his militant opposition to all abuse and his support of reforms were the natural complements of his character, but they rendered him alike a firm and valued friend and an independent and weighty adviser whose loss we greatly mourn.

THE PRINCE OF WALES AND THE MEDICAL PROFESSION.

THE Prince of Wales was unanimously elected an Honorary Fellow of the Royal College of Physicians of London at a meeting held a short time ago, and the ceremony which took place at Marlborough House on July 19th was the formal admission of His Royal Highness into the College. The Prince of Wales is the only Honorary Fellow. There are in fact not many precedents for the election of Honorary Fellows. The earliest is afforded by the election of the Marquis of Dorchester, who was a man distinguished for his learning. We are told by a contemporary writer that at an early age "he had read the whole body of philosophy, mathematics, and physics." He was a faithful adherent of Charles I, and soon after that monarch's execution, falling into bad health, took very seriously to the study of physic, and was elected an Honorary Fellow of the Royal College of Physicians, at the instance, as would appear, of Harvey, and during the presidency of Sir Edward Alston, though his formal election and admission did not take place until July 22nd, 1658, and therefore after Harvey's death. Other precedents are afforded by the election as honorary Fellows of the Duke of Montagu in 1717, and of the Duke of Richmond in 1728, but here the parallel is less exact, for both these noblemen had already received the degree of Doctor of Medicine from the University of Cambridge before their admission to the College of Physicians. The ceremony of Monday last followed the precedent of the admission of the

Marquis of Dorchester, and was of a simple character. The Prince was formally admitted by the President (Sir Samuel Wilks, Bart.), who delivered a brief speech. He was accompanied by the Censors of the College (Drs. Church, Cayley, Bastian, and Payne), by the Treasurer (Sir Dyce Duckworth), and the Registrar (Dr. Liveing). By thus publicly associating himself with one of the great medical corporations the Prince has once more shown the deep personal interest which he takes in matters which so nearly touch the welfare of the people as the maintenance of medical learning and of a high standard of professional zeal and probity. Technically the College of Physicians consists of a small number of Fellows, but in fact it embraces among its Licentiates a large part of the great body of practitioners throughout England, and, indeed, throughout the British Empire, who will be touched by the demonstration of interest in their labours and aspirations thus given by the heir to the Crown.

PROFESSOR KOCH ON THE PLAGUE.

THE German Commission which, under the direction of Professor Koch, visited India to investigate the recent epidemic of plague, have issued a report dealing with the bacteriology of the disease. It is stated that the bacillus outside the bodies of men or animals has very brief vitality. Pure cultures were killed by sublimates at boiling temperature immediately, by mineral acids in five minutes, by a 1 per cent. solution of carbolic acid in ten minutes. Eight to ten days were found to be the duration of life of the bacillus. For the serum experiments Yersin's preparation was employed; in the case of brown apes its protective power did not exceed eight days. Strong injections of the same serum proved to be of unquestionable curative efficacy. Haffkine's serum showed undoubted protective results, although a number of the patients were seriously indisposed by the inoculation.

THE EXTRAORDINARY AND ANNUAL MEETINGS OF THE BRITISH MEDICAL ASSOCIATION.

IT will be seen by the official notices which have appeared in this and the preceding number of the BRITISH MEDICAL JOURNAL, that an extraordinary general meeting of the British Medical Association has, in accordance with a requisition signed by 100 members, been summoned at Exeter Hall, at 11 A.M., on Tuesday next, July 27th. The special business to be transacted at this extraordinary meeting is embodied in three resolutions, which will be found at p. 241. One of these proposes to add to the 25th Article of Association a clause setting out that it is the duty of the Council of the Association to give effect as speedily as possible to all resolutions of general meetings unless otherwise duly provided. The second resolution seeks to apply this principle to the question of medical defence, and would require the Council to provide explicitly for the application of the funds of the Association to the purposes of medical defence. The third resolution is a declaratory resolution to the effect that such disposition of the funds of the Association is only an amplification of the original Memorandum which set out that one of the fundamental objects of the Association was "the maintenance of the honour and interests of the medical profession." Should these resolutions or any of them be passed, such as require confirmation will be submitted to a second extraordinary meeting which will be convened subsequently. It will be seen that the matters to be raised at the extraordinary meeting are of great importance, not merely because it is sought by them at once to charge the Association with the duty of individual and collective medical defence, but also because a fundamental principle in the government of the Association is raised. Whether the proposed change will operate to the advantage of the Association is a matter upon which many members will feel legitimate doubts. However this may be, it is to be hoped that at whatever inconvenience members of the Association both in London and the provinces, as well as in Scotland and Ireland will make a serious effort to be present at the meeting on Tuesday next. Immediately after the conclusion of the business of the extraordinary general meeting, the 65th annual general meeting for the transaction of business and for the consideration of the reports of the Council and the committees will be held, and will be adjourned to the following day at noon. At the conclusion of the business the meeting will be adjourned to August 31st at Montreal, when the scientific business of the meeting will commence under the presidency of Dr. T. G. Roddick, who will deliver an address on the afternoon of that day. The meetings of the Sections will be held on September 1st, 2nd, and 3rd, in Montreal.

THE PUBLIC HEALTH (SCOTLAND) BILL.

STRONG representations have, it is stated, been made in favour of the report stage of the Public Health (Scotland) Bill being taken next week. It is believed that one sitting should suffice for it. It is expected that an arrangement will be agreed to by the Government regarding the question of the position of sanitary inspectors and of some readjustment of the 43rd Clause, as to which we have now frequently and urgently asked the assistance of our readers in bringing pressure to bear upon the Government. We are glad to learn that that pressure has been persistent, and that it is likely to have some effect.

NOTIFICATION OF MEASLES AND WHOOPING-COUGH IN DUNDEE.

THE Town Council of Dundee having asked the medical officer of health to report on a proposal to make the notification of measles and whooping-cough compulsory, he has reported strongly against the proposal. He points out that in Aberdeen, where notification has been compulsory since 1882, the death-rate from measles has increased 78 per cent. as compared with 17 per cent. in Dundee, and that the whooping-cough death-rate has increased 73 per cent., while in Dundee it has decreased 31 per cent. He argues that notification does not in practice reduce the prevalence of the diseases, and that without means of securing efficient isolation the only result of notification would be an addition to our knowledge, which would not be sufficient to justify the expenditure involved.

MEDICAL ARRANGEMENTS FOR THE TOCHI FIELD FORCE.

SURGEON-MAJOR-GENERAL GORE, Principal Medical Officer in India, has settled on the following arrangements for the Tochi Field Force, which is comprised of two brigades, with, approximately, a force of two British regiments, six native infantry corps, with native cavalry, two mountain batteries, and Bengal Sappers and Miners. With the 1st Brigade will be No. 2 British Field Hospital, A and B Sections; No. 28 and A and B Sections 29 Native Field Hospital. With the 2nd Brigade, No. 2 British Field Hospital, C and D Sections; No. 30 Native Field Hospital, and C and D Sections 29 Native Field Hospital. On the lines of communications, No. 32 Native Field Hospital, C and D Sections. The field hospitals will be mobilised at Rawal Pindi, Peshawar, and Mian Mir, under the orders of the General Officer Commanding the Forces, Punjab. The authorised reserve of medical comforts are arranged for—riding mules or ponies with saddles will be substituted for ambulance tongas for the field hospitals belonging to the 1st Brigade, and corps belonging to the Punjab Frontier Force will take with them their ambulance kajawas. Addittional ambulance tongas, with cattle and drivers, will be arranged for. Special provision will be made in the hospitals on the line of communications from the front to Bannu, for the reception of British sick. A general hospital of 50 beds for British troops and another of 150 beds for native troops will be established at Bannu in

British privates' tents. Bedsteads with wire-woven mat tresses will be supplied for British sick; ice will be pro vided; two Congo stoves for cooking in the British Genera Hospital will be sent to Bannu; punkahs will also be arranged for. A few notes on the Tochi Valley are not out of place. Bannu, the base of operations, is the chief town of the tahsil of that name, forming a basin drained by the Kurrum and Todu rivers. It has the usual Punjab climate. The river Todu yields a good and wholesome water, and the valley is extremely irrigated. Edwardesabad, the canton- ment and headquarters of the district, is practically the town of Bannu, and lies one mile south of the river Kurrum, east of Kohat and north of Dera Ishmael Khan, and twenty- four miles from the nearest railway station, Kushalgurh, of the Northern Punjab State Railway. The cantonment is well laid out, and is a market for the large produce of the district. Owing to the extreme irrigation the climate is malarious, and the chief diseases are due to climate and hill. The average strength of the ordinary garrison is some 1,571, the number usually sick 42. The chief diseases malarial fevers, pneumonia, rheumatism, and dysentery, but the mortality among native troops is not higher than 21.01 per mille. The area of the valley is 3,868 square miles, with a population of some 400,000. There are two summer sana- toria, Sakka Zifrat and Shekth Budin, both over 4,000 feet above sea level. The climate of both is good, but there is some difficulty in procuring water in the latter, and therefore tanks are in use.

MIXED BOARDS.

At Leeds on July 14th, a Board assembled to report on the fitness for occupation of a block of married quarters, consist- ing of a major as president, a captain, officer R.E., and an officer of the Army Service Corps as members. "A medical officer will be detailed by the P.M.O. to attend." This is exactly as we anticipated. The late order as to the equality of medical officers on such Boards will be set aside, while the military order permitting medical officers to dance attendance on these Boards as witnesses remains uncancelled. We shall be glad to pillory all such evasions of the Queen's regulations.

GLADIATORS OR SOLDIERS?

The current number of the *United Service Magazine* contains an article on the Army Medical Service by "An Old Soldier," which should in the public interest have the widest possible publicity. The drunken helot of the ancient Spartans was doubtless a useful object lesson; and in the same way the writer of the remarkable effusion referred to will help to enlighten the public mind as to the real spirit which animates the men who oppose reforms in the medical service of the army which have been clearly shown to be necessary for its efficiency. It is impossible to analyse the arguments of the "Old Soldier," for there is no trace of argument in his article; it is mere literary horseplay, the "chaff" being of that Bœotian kind which one may imagine to be adapted to the intelligence of a tenth-rate messroom. His graceful ridicule of the compound titles will doubtless be appreciated by the military authorities who conferred them. His statement that medical officers are ashamed of their "splendid profession, and seek to pass themselves off as manslayers and professional gladiators" is simply untrue, and his insinuation that they are "anxious to claim com- batant military rank" is absurd. We do not know whether soldiers in general are prepared to accept "An Old Soldier's" implied description of them as "professional gladiators;" it is likely enough that he does not know the meaning of the word, but the whole tone of his article suggests that he looks upon the soldier as a kind of prizefighter, "trained," as he says, and "devoted to the taking of human life." But it is surely obvious even to the military mind that the soldier as a fighting machine cannot work or even exist by himself. The medical officer is a vital part of the organisa- tion of an army; indeed, from the experience of several of our recent "little wars" we are disposed to say that in campaigns in unhealthy climates, where the greater part of the fighting is against disease, he is the most necessary of all. It is not too much to say that Lord Wolseley's laurels have mainly come out of the medicine chest. When "An Old Soldier" suggests that the War Office should try the effect of "a little firmness and common sense" in this matter we are delighted to find ourselves in unexpected agreement with him; "common sense" is just what is wanted, and a little "firmness" on the part of the Secretary of State for War in dealing with military obstructiveness would speedily settle the question in a satisfactory manner. We gather, however, that "An Old Soldier's" notion is that the War Office is to show its "firmness and common sense" by "putting an end once for all to the 'Army Medical Staff.'" All we can say as to this is that if any commander- in-chief were foolish enough to propose such a solution of the difficulty, the nation would unquestionably make him the object of an exhibition of its "firm- ness and common sense" which would be unpleasant to his feelings. This talk of sweeping away the Army Medical Department is mere bluster of a peculiarly silly kind. The substitution of medical attendance by civilian practitioners, on the contract system, for a regular service, would not work in an army such as ours in times of peace, and it must inevitably break down in war. The military authorities will never bring this question to a settlement until they recognise the fact which is the key to the whole position—that the medical profession can do without the army, but the army cannot do without the medical profes- sion. The War Office objects to the boycott as applied by the medical schools to the Army Medical Department in its present condition; it has the remedy in its own hands. In the meantime we cannot refrain from expressing a hope that all the warriors in the clubs, which appear to think that their precincts would be defiled by the presence of medical officers, may follow the lead of the "Old Soldier" who has unburdened his martial soul in the *United Service Magazine*. No better means of hastening the inevitable reform of the Department could be devised than the circulation of this kind of literature among the younger members of the profession who may be thinking of entering the medical service of the army.

CHAIR OF MATERIA MEDICA IN GLASGOW UNIVERSITY.

A correspondent writes: A letter lately appeared in the columns of the *Glasgow Herald*, which expresses a general feeling amongst medical men with regard to the appoint- ment of a successor to the late Professor Charteris in the above chair. It asserts "that growing feelings exist that it would be a grave error on the part of Lord Balfour to appoint an outside man when so many applicants from our own school are men of proved ability and thoroughly competent to discharge the duties of the chair." It is desirable in the interest of the University and of the students that the very best man for the position should be appointed. Primarily a good teacher is wanted—one who can rouse the interest of his students and awaken them to the knowledge that his subject is not the "dry-as-dust" one it is so frequently represented to be. In Glasgow such a one is undoubtedly to be found. Can a better be found elsewhere?

MEDICAL RETICENCE.

At the annual meeting of the Medico-Psychological Associa- tion, which commences on July 29th at the College of Medicine, Newcastle-on-Tyne, the first business after the delivery of the presidential address by Dr. T. W. McDowall will be the adjourned discussion on medical reticence. It may be remembered that Dr. Mercier, at the meeting of the Medico-Psychological Association in London on November

19th, 1896,[1] moved a resolution to the effect that information afforded by a sane patient, for the better understanding or treatment of this malady, to a medical man, is sacred and ought not to be revealed without the consent of the patient. This resolution will be brought up again, and a further resolution will be proposed to the effect that information obtained by a medical man from an insane patient may be revealed when, and only when, it is expedient for the welfare of the patient or for the public safety. The annual meeting of the Association will be continued on Friday, July 30th.

THE NEW SYDENHAM SOCIETY.

THE thirty-ninth annual meeting of the New Sydenham Society will be held on Tuesday, July 27th, at 4 P.M., in the rooms of the Royal Medical and Chirurgical Society, Hanover Square. The chair will be taken by the President, Dr. Hermann Weber. The annual report and balance sheet for 1896 will be presented, and the officers for 1897-98 will be elected. We are asked to say that the attendance of any persons interested in the Society, even if not members, will be welcomed, and that they will have an opportunity of inspecting some of the plates, etc., which have been adopted for publication.

THE INTERNATIONAL MEDICAL CONGRESS, MOSCOW.

As will be seen from the letter by Mr. Makins, F.R.C.S., Secretary of the English Committee of the International Medical Congress at Moscow, Professor Roth, the Secretary-General in Moscow, has been able to answer by anticipation some of the questions raised by our correspondent "F.R.C.P." last week. A cheque for £1 is accepted in full discharge of the membership subscription, and it appears that a delay of eight days is inevitable owing to the slowness of the post between this country and Moscow. This is the case even when the Executive Committee in Moscow is able to answer by return of post, which has not always apparently been found possible. The length of the post renders it desirable that all members who desire to obtain railway tickets should apply at once to the Secretary-General (Professor W. K. Roth), stating precisely the point at which it is proposed to enter Russia. Neither should there be any further delay in making application for lodgings to "Professor Chervinsky, Secrétariat-Général, XII Congrès International de Médecine, Moscou." All who intend to go to Moscow should provide themselves with passports, properly *visés* by the Russian Consulate (17, Great Winchester Street, London, E.C.).

POISONOUS ICES AND SWEETS.

WHATEVER may be the composition of the stuff sold in the streets to children as ice cream and under the name of "hokey pokey" experience has shown that it is in many instances of a nature or in a condition that renders it extremely dangerous and not unfrequently fatal to the consumers. In the Islington Coroner's Court an inquest was held last week by Dr. Danford Thomas on a child who died two days after eating some of this noxious stuff, and the medical evidence attributed her death to the effects it produced. The jury in returning a verdict of death by misadventure added a rider suggesting that vendors of this commodity should be placed under strict inspection. This is certainly a case in which the services of public analysts should be utilised, though there may be some uncertainty as to whether the definition of the term "food" given in the Sale of Food and Drugs Act is sufficiently comprehensive, as it now stands, for that purpose. Prosecutions for the sale of sweetmeats containing paraffin wax have been successful in several instances, and a grocer was last week fined two guineas for selling them, but the material of which the sweetmeats were represented to consist being chocolate it came distinctly within the scope of the legal definition and more fully than the ice-creams sold under the name of "hokey pokey" might do. This, however, is a point to which attention should be given whenever the Food and Drugs Act Amendment Bill comes before Parliament, and meanwhile it is desirable that the articles in question should be submitted to examination as to their capability of causing injury.

[1] BRITISH MEDICAL JOURNAL, November 26th, 1896, p 1600.

THE MEDICAL BOARD, INDIA OFFICE.

AMONG the changes involved in the appointment of Brigade-Surgeon-Lieutenant-Colonel Macleod to Netley is the filling of his post as a member of the Medical Board of the India Office by the appointment of Brigade-Surgeon-Lieutenant-Colonel Drake-Brockman, Madras Medical Service (Retired). This is a most judicious appointment, and no man is better known for personal energy and wide acquaintance with the conditions of Indian service. We congratulate Brigade-Surgeon-Lieutenant-Colonel Drake-Brockman and the service on the appointment.

NATIONAL ASSOCIATION OF MASTER PLUMBERS.

Now that the craft of plumbing has reached, owing to its importance from a sanitary point of view, such a high position among similar trades, any association that has for its object the maintenance of the standard of the craft, even if its objects are mainly of a trade protection character, must be considered to be doing important work. The London Branch of the National Association of Master Plumbers held its annual dinner at the Holborn Restaurant on June 29th. The chair was taken by Mr. Marshall, President of the Association, and he was supported by Mr. Charles Thomerson, Vice-President, and Mr. D. T. Beattie, Honorary Secretary. The Association was formed in 1895, and though only a young society it has already accomplished useful work, and its members now number over 700. This is good progress for a society which has no paid officials or organisers. In addition to that of raising generally the status of the trade, the objects of the society are to bring about improvements in the system of contracting by enforcing a system of separate tendering to architects by plumbers, and by securing to its members the profits in prime costs of plumbers goods supplied on jobs on which its members are engaged. Not the least important, in view of the issues that arise from faulty technique, is their third object of confining plumbers work to plumbers. During the short time that the Association has been in existence it secured some important benefits to the trade generally. Thus arrangements have been made with many of the principal manufacturers and merchants to allow all members the usual trade discount on goods supplied to other than plumbers on jobs where its members are engaged, while in conjunction with the United Operative Plumbers' Association a conciliation Board has been formed for the purpose of arranging disputes between masters and operatives, with the object of avoiding strikes and lock-outs. This Board may be called upon when the efforts of local committees have failed, and has already achieved success in more than one dispute. Good plumbing is good sanitation, and good plumbing means a high position and facilities of working for plumbers. A society, therefore, which has these objects in view may indirectly do much towards improving the health of a country. It is better to prevent than to cure disease.

PROFESSOR ALLEN of Mason College, Birmingham, has unfortunately been bitten in the hand by a fox terrier suspected of rabies. Within forty-eight hours he submitted himself for treatment at the Pasteur Institute. The veterinary surgeon who made a *post-mortem* examination of the animal found appearances indicative of rabies, and the carcass of the animal is being further examined at the Brown Institution. We sincerely hope that Professor Allen will come successfully through his trying ordeal.

THE LUNACY ACTS AMENDMENT BILL.

IT will be seen from our parliamentary reports that the new Lunacy Bill has passed through the committee stage and been reported to the House of Lords. The Bill contains many useful and important provisions, but there are parts where amendments are very desirable, and it is to be hoped that in the Commons it will receive the attention it deserves, and that its present defects will be remedied. We are glad to see that the Lord Chancellor was favourable to Lord Northbrook's very reasonable suggestion that the authorities of rate-supported asylums should have an opportunity of making representations regarding the required alteration, etc. (Clause 15), and that he will welcome an amendment in this direction. Why should not this power be granted to other asylum managers?

The only alteration in the Bill in the Lords was the removal of Clauses 23, 24, and 25 relating to pensions. It is very desirable that the question of pensions should be settled in the present Bill, but we much doubt if the Poor-law Superannuation Act would meet the just claims of the very useful body of public servants who are in direct association with the insane without consideration for the specially harassing, and often dangerous, nature of the duties they have to perform. Such consideration would surely require more favourable treatment for them than the other officers and servants connected with asylums; any pension scheme should also be sufficiently elastic to permit the recognition of special merit.

There are some other weak points of the Bill. Clause 1 reduces the time limit for urgency orders to remain in force, from 7 days to 4. While the latter is sufficient for ordinary circumstances, it may often be too little when friends at a distance have to be communicated with. We would suggest that 4 days should be the usual time, but, if more is required, up to 7. The cause should be shown in the necessary papers.

Clause 5 prohibits medical men and others connected with any asylum or licensed house from signing certificates, petitions, or orders, for patient or relatives. Thus many leading consultants could not sign a certificate, which is obviously absurd. Also, a class of medical men would be deprived of certain rights and duties as citizens. It would seem that this effect can scarcely be intended, and that there may be a mistake in the drafting.

It also looks as if there were an error in omitting to repeat "of any material fact" in Clause 29 (now 26), after misstatement in Paragraph B. This same clause, quite unnecessarily, as it seems to us, increases the penalties already existing.

It is a great weakness in the English Lunacy Acts that no proper provision exists for the temporary care of incipient and non-confirmed cases of mental unsoundness, such as has been made for many years in the Scottish Acts. Many of these cases are not suitable for the present form of certification, but are nevertheless quite unfit to take care of themselves or their property, and there is no doubt that the want of proper supervision in the early stages causes many who might otherwise be cured to swell the long list of the insane in this country. A joint Committee of the British Medical Association and the Medico-Psychological Association has held many meetings and given this matter very careful attention, with the result that clauses have been drafted which, it is hoped, will be acceptable to the Legislature and the public. These clauses will be found below. If adopted there is every probability that early treatment will bring better results, and that certain irregularities which now exist will be greatly lessened or removed.

PROPOSED CLAUSE TO BE INSERTED IN THE LUNACY BILL AFTER CLAUSE 5.

Temporary Orders.—(1) In cases where a person (not a pauper) is suffering from mental disorder but the disorder is likely to be of a temporary nature and it is expedient with a view to the recovery of the patient that he should be placed under temporary treatment he may be received and detained upon a temporary order by the person to whom the order is addressed. The temporary order shall be accompanied by the medical certificate which shall be in accordance with the Form 3 in the First Schedule to this Act.

(2) A temporary order may be signed before or after the medical certificate, and shall be in accordance with the Form 4 in the First Schedule to this Act.

(3) A temporary order shall not authorise the reception of the patient in an institution for lunatics.

(4) A temporary order shall be signed (i possible) by the husband or wife or by a relative of the patient and if not so signed it shall contain a statement of the reasons why it is not so signed and of the connection with the patient of the person signing the order and the circumstances under which he signs it.

(5) A person shall not sign a temporary order unless he is at least twenty-one years of age and has within two days before the date of the order personally seen the patient.

(6) A medical certificate under this section shall not be made by the person who signs the temporary order or by the person who is to take charge of the patient under the temporary order or by the husband or wife father or father-in-law mother or mother-in-law son or son-in-law daughter or or daughter-in-law brother or brother-in-law sister or sister-in-law or the partner or assistant of any of the foregoing persons.

(7) A patient shall not be received or detained upon a certificate founded only upon facts communicated by others.

(8) A temporary order may be made as well after as before a petition for a reception order has been presented. A temporary order if made before a petition has been presented shall be referred to in the petition and if made after the petition has been presented a copy thereof shall forthwith be sent by the petitioner to the Judicial Authority to whom the petition has been presented.

(9) A temporary order shall remain in force for the period specified in the accompanying certificate not exceeding six months from the date of the order and thereafter for two successive further periods neither of which shall exceed three months if before the expiration of the first and second periods respectively a further medical certificate is made. A further certificate shall specify the period for which the further detention of the patient is expedient and shall be in accordance with the Form 3 in the First Schedule to this Act.

(10) If a temporary order has been twice continued it shall be lawful for any two of the Commissioners by writing under their hands to continue the same for a further period not exceeding six months.

(11) Any such further certificate shall be made (if possible) by the medical practitioner by whom the original certificate was made and if not so made shall contain a statement of the reasons why the same is not so made and of the circumstances under which the same is made.

(12) On the expiration of the period for which the temporary order remains in force under the provisions hereinbefore contained it shall not be lawful for the person to whom the order was addressed further to detain the patient.

(13) After the expiration of a temporary order another temporary order shall not be made with reference to the same person until at least one year has elapse since the expiration of the last temporary order.

(14) The person making the temporary order or any person who would be entitled to discharge the patient under Subsection (2) of Section 72 of the Principal Act if the temporary order were a reception order or any two of the Commissioners may at any time by notice in writing to the person having charge of the patient discharge the temporary order.

(15) Any person who detains a patient after he has knowledge that the temporary order made in his case has expired shall be guilty of a misdemeanour and shall also be liable to a penalty not exceeding Fifty pounds or to imprisonment for a term not exceeding six months or on conviction on indictment to a fine not exceeding Two hundred pounds or to imprisonment with or without hard labour for a term not exceeding two years or to both.

(16) A copy of every temporary order and a copy of any medical certificate made under this section shall be sent by the person receiving the patient to the Commissioners within two clear days of the reception of the patient.

(17) The person having charge of a patient under a temporary order shall send to the Commissioners notice of the discharge or death of the patient within two clear days of such discharge or death.

(18) A patient received under a temporary order may at any time during the continuance of the order on the request in writing of any person entitled to discharge the order and with the consent in writing of one of the Commissioners be transferred from the charge of the person to whom the temporary order was addressed to the charge of any other person named in the request if the temporary order might have been addressed to such other person in the first instance. A request under this subsection shall be addressed to the person to whom the patient is to be transferred and a copy thereof shall be sent to the person having charge of the patient at the time of the request.

(19) A copy of any request and notice of any transfer under the last preceding subsection shall be sent to the Commissioners within two clear days of the transfer by the person to whom the patient is transferred. The notice shall state the name of the person to whom and the address of the house to which the patient has been transferred together with a short statement of the reasons for the transfer.

(20) It shall not be lawful for any person to receive or detain any other person as a lunatic together with a patient under a temporary order or to receive or detain any patient under a temporary order in any house where that person is not himself residing. Any person who receives or detains a patient contrary to the provisions of this subsection shall be liable on summary conviction to a penalty not exceeding Fifty pounds.

(21) The protection conferred by Section 330 of the Principal Act shall extend to persons acting or purporting to act under this Section as if a temporary order were a reception order under the Principal Act.

(22) The Commissioners or any one or more of them may visit any patient detained under this section at any time and may make any inquiry they or he may think fit as to the treatment and mental condition of such patient and the power conferred by Section 332 of the Principal Act shall be exercisable by the Commissioners in reference to any such inquiry.

(23) The provisions of Part IV of the Principal Act still apply to persons detained under temporary orders as if such persons had been mentioned in Section 116 Subsection (1) of the Principal Act [Section 29 of the Bill should be amended by inserting the words "or temporary order" after "reception order" in line 4 and striking out the word "or" before "reception order."] [This does not form part of the Clause.]

FORM 3.

CERTIFICATE OF MEDICAL PRACTITIONER TO ACCOMPANY TEMPORARY ORDER.

In the matter of A.B. of [1]
in the county of [2] [3]
I the undersigned C.D. do hereby certify as follows:—

1. I am a person registered under the Medical Act 1858 and I am in the actual practice of the medical profession.

2. On the day of 18 at [4]
in the county of I personally examined the said A.B. and came to the conclusion that the said A.B. is suffering from [5]
but that such disorder is likely to be of a temporary nature and that it is expedient with a view to his (or her) recovery that he (or she) should be placed [6] with [7] E.F. at his house [8]
until the [9] day
and that this course will be more beneficial to the said A.B. than if he (or she) were to be treated under the provisions of the Lunacy Acts 1890 to 1897 other than those relating to temporary orders.

3. I have formed this conclusions on the following grounds namely:— [10]

(*a*) Facts observed by myself at the time of examination [11].

(*b*) Facts communicated by others [12].

4. I am not related to or connected with G.H. of [13]
the person making the temporary order accompanying this certificate or with the said E.F. in any of the ways mentioned in the margin [14].

[In the case of a further certificate add whichever of the following paragraphs numbered 5 may be applicable.]

5. I am the medical practitioner who previously examined the said A.B. and who made the certificate dated the day of accompanying the temporary order in the matter of the said A.B. dated the day of [15] and the further certificate dated the

or this:

5. The certificate [or certificates] made on the day of [and the day of] in the matter of the said A.B. was [or were] made by [16]

[State the reasons why the certificate is not made by the same practitioner and the circumstances under which this certificate is made.]

6. I give this certificate having first read the part of the Section of the Act of Parliament printed below.

Dated

(Signed) C.D. of [17]

Extract from Section 29 of the Lunacy Act, 1897.

"If any person wilfully or through negligence . . . . . makes a statement in any medical or other certificate . . . . . uuder the Lunacy Acts 1890 to 1867 . . . . . he shall be liable on summary conviction to a fine not exceeding Fifty pounds or to imprisonment for a term not exceeding six months or on conviction on indictment to a fine not exceeding Two hundred pounds or to imprisonment with or without hard labour for a term not exceeding two years or to both."

N.B.—The person making this certificate is required under the penalties imposed by Section 320 of the Lunacy Act 1890 to send a copy of the same within two clear days of making it to the Commissioners in Lunacy, 19, Whitehall Place, London, S.W.

FORM 4.

Temporary Order.

I the undersigned being a person upwards of twenty-one years of age hereby authorise you to receive as a temporary patient at your house. [18] No.
[19] A B
whom I last saw at
on the [20] day of
I am not related to or connected with the person signing the certificate which accompanies this order in any of the ways mentioned in the margin [21]

Signed

Name and Christian name at length rank profession or occupation (if any).

Full postal address.

How related to or connected with the patient

[If not the husband or wife or a relative of the patient the person signing to state as briefly as possible (1) why the order is not signed by the husband or wife or a relative of the patient (2) his or her connection with the patient, and the circumstances under which he or she signed.]

Dated this day of

To [22]

N.B.—The person making this order is required under the penalty imposed by Section 320 of the Lunacy Act 1890 to send a copy of the same within two clear days of making it to to the Commissioners in Lunacy 19 Whitehall Place, London, S.W.

[1] Insert residence of patient.
[2] City or borough as the case may be.
[3] Insert profession or occupation if any.
[4] Insert the place of examination giving the name of the street with the number or name of the house or should there be no number or name the Christian and surname of the occupier.
[5] State the nature of the disease.
[6] In case of a further certificate say "should continue under the charge of."
[7] Give full Christian and surname.
[8] Give address as in the case of the place of examination.
[9] Date up to which order is to remain in force.
[10] Give the specific grounds why a temporary order is preferred.
[11] If the same or other facts were observed previous to the time of examination the certifier is at liberty to subjoin them in a separate paragraph.
[12] The names and Christian names (if known) of the informants to be given with their addresses and descriptions.
[13] Insert full name and postal address.
[14] Husband wife father father-in-law mother mother-in-law son son-in-law daughter daughter-in-law brother brother-in-law sister sister-in-law partner or assistant.
[15] To be added in the case of a third certificate.
[16] Give the name of the medical practitioner who made the original certificate.
[17] Full postal address.
[18] Give the full postal address of the house.
[19] Give name sex age address and rank profession or occupation (if any) and state whether married single or widowed.
[20] Some day within two days before the date of the order.
[21] Husband wife father father-in-law mother mother-in-law son son-in-law daughter daughter-in-law brother brother-in-law sister sister-in-law partner or assistant.
[22] Giving the full name and address of the person to whom the order is addressed.

THE BATTLE OF THE CLUBS.

THE NORWICH MEMORIAL.

A MEETING of the medical profession in Norwich was held on July 17th (Sir FREDERIC BATEMAN in the chair) to consider the replies from the Royal Colleges of Physicians and Surgeons (already given in the BRITISH MEDICAL JOURNAL), and from the Council of the British Medical Association, to a memorial addressed to these bodies with regard to a medical institute in Norwich and consultations with the medical officers thereof.

The following resolutions were unanimously passed:

(1) *Royal College of Physicians, London.*—"That whilst the thanks of this meeting be given to the Council of the Royal College of Physicians for their reply to the memorial, the medical men of Norwich desire to express the hope that the College will in due course so alter its by-laws that it would not be considered 'a departure from its customary procedure' to forbid its Fellows, Members, or Licentiates from accepting positions derogatory to the honour and contrary to the best interests of the profession."

(2) *Royal College of Surgeons of England.*—"That this meeting, whilst acknowledging with thanks the reception of their deputation and the reply of the Council of the Royal College of Surgeons to their memorial, desire to express the opinion that steps should be taken so to amend Section XVI of the College by-laws as to enable the Council to prevent its Fellows and Members accepting positions derogatory to the honour and contrary to the best interests of the profession."

(3) *British Medical Association.*—"That a vote of thanks be accorded to the Council of the British Medical Association for so far answering their memorial in undertaking to memorialise the General Medical Council to take further steps to prevent the growing evils of medical aid associations, but that this meeting regrets that the Council of the British Medical Association declines to give an answer to that part of the memorial which refers to consultations with the medical men of these trading associations."

(4) *The General Medical Council.*—The memorial had been acknowledged, but no reply received.

(5) *Royal College of Physicians, Ireland.*—This College passed the following resolution on November 3rd, 1893, and confirmed it on May 28th, 1897: "The Royal College of Physicians of Ireland desire to express their disapproval of their Licentiates accepting office in medical aid associations as conducted in England, inasmuch as the independence of the physician is destroyed by the system and his services are used so as to produce a profit for lay persons."

(6) The meeting unanimously resolved: "That no further steps be taken with regard to meeting the medical officers of the Norwich Institute in consultation, as this had already been decided in the negative by a large meeting (33) held on January 16th, and subsequently endorsed by the signatures of 41 medical men in the city of Norwich."

LITERARY NOTES.

THE *American X-Ray Journal* is the title of a new monthly periodical devoted to the promotion of investigations on the properties of the Roentgen rays, which has just been started at St. Louis. The editor is Dr. Heber Robarts.

We congratulate our Belgian contemporary *Le Scalpel* on having completed its fiftieth year of journalistic life. Its founder, Dr. A. Festraerts, was throughout his career a vigorous and uncompromising champion of the dignity and interests of the medical profession, and under the able editor

ship of Dr. L. Dejace *Le Scalpel* has fully maintained its well-deserved popularity.

The following verses, which were found by Mr. Francis Fowke, General Secretary of the Association, among some old papers of his father, the late Mr. John Fowke, F.R.C.S., of Wolverhampton, will doubtless be new to many of our readers. We are unable to give the name of the author; perhaps the publication of his verses here may lead to his being *déterré*, as Pope said of Johnson. The lines are intended to supply an answer to a question addressed to a patient of Dr. Jephson, of Leamington, whether that famous physician did not make walking a very prominent feature in his system of treatment:

He does, Sir—so much so that some have a notion
The secret is his of perpetual motion;
For all his disciples who Jephson obey,
Walk out in all seasons, all hours of the day.
They walk when the north wind blows piercing and bleak,
They walk when their mouths are so stiff they can't speak.
They walk in the mists and cold fogs of November,
They walk in the drizzle and damp of December.
They walk when it thaws, they walk when it freezes,
They walk for all causes, to cure all diseases.
They walk when they have not a limb that is sound,
They walk when they cannot put foot to the ground.
They walk tho' each limb in their bodies may ache,
They walk tho' their poor backs are ready to break.
They walk when they're fasting, they walk when they're eating,
They walk when so weary they'd rather be beaten.
They walk after fainting, hysterics, and fits,
They walk in their senses, and out of their wits.
They walk if they're Commons, they walk if they're Peers,
They walk whether middle-ag'd, young, or in years.
Epileptic, dyspeptic, neuralgic, what not,
No matter what ails them, they set off and trot—
The plethoric walk in the hope to get pale,
The pallid ones walk in the hope to grow hale—
The stout and unwieldy they're walking for that,
The bony and skinny they walk to get fat.
If some walk too slowly they're joined by the master,
Then surprising to see, they walk faster and faster.
At other times body or mind makes resistance,
But with him they can walk any pace, any distance.
'Tis rumoured Jephsonian infants are able
To walk the first month, but that must be a fable.
However, we may soon see perhaps without wonder
Small babies all walking at six months and under—
Liliputian pedestrians standing quite strong,
Tiny peripatetics, not yet two feet long;
For who knows what wonders may meet our inspection
When walking, like steam, shall be brought to perfection?
Which it must be in Leamington, where without strife
Walking forms the chief end, the main business of life.

The *American Medical Journal* estimates the number of medical periodicals now published in the United States and Canada at 275. Of these only 10 are Canadian. The remainder take for their province the art of healing as a whole or special departments thereof as follow: Medicine and surgery, 135; drugs and therapeutics, 22; eye, ear, throat, and nose 10; nervous system 6; gynæcology and obstetrics, 5; pædiatrics, ; genito-urinary and rectal diseases, 2. Homœopathy has 3 organs, eclectic medicine 8, and the physio-medical school . Thirty-one periodicals are classified as "miscellaneous." Dentistry has 15 journals.

The *Medical News*, of New York, in a notice of the Queen's ommemoration Number of the British Medical Journal, fter enumerating the references made to the share taken by merican workers in the advancement of medical science in ıe Victorian era, complains that "in the article on anæs-ıesia, no mention is made of Morton as the discoverer of ther." We do not quite understand this complaint. There as no special article on anæsthesia in the Queen's Com-emoration Number, an omission which we think justified 7 the fact that a considerable amount of space had not long ·fore been devoted to the subject. In view of the fact that in ır issue of October 17th, 1896, we dealt fully with the history the discovery of anæsthesia, giving Morton's share therein eater prominence than was given to it in any American medi-l journal at the time, we must say that the *Medical News* does scant justice in this matter. We venture to remind our con-mporary that the article referred to was reprinted in full in ; own columns, only the part relating to Morton's discovery ing omitted for the reason that it was familiar to American aders.

Medical Magistrate.—Mr. Patrick Murison, M.B., has en appointed a Commissioner of the Peace for the County the City of Dundee.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETINGS.

Meetings of the Council will be held at Exeter Hall, Strand, on Tuesday and Wednesday, July 27th and 28th, at 9.30 o'clock in the forenoon on each day.

Francis Fowke, *General Secretary.*

July, 1897.

NOTICE OF QUARTERLY MEETING OF COUNCIL FOR 1897.

A meeting of the Council will be held on October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the meeting—namely, September 30th.

Election of Members.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

Francis Fowke, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

Cork and South of Ireland Branch.—The annual general meeting of this Branch will be held in the Medical Society Rooms, 118, Patrick Street, Cork, on Saturday, July 24th, at 4.15 P.M. Business:—Election of representatives on Parliamentary Bills Committee. Election of representative on Council of the Association. Election of officers of the Branch for next session. Treasurer's report, and any other necessary business.—Philip G. Lee, Hon. Sec., Cork.

North of Ireland Branch.—The annual meeting of this Branch will be held in the Museum, College Square North, Belfast, on Thursday, July 29th, at 4 P.M. The annual dinner will take place in the Grand Central Hotel, at 7 P.M. on the same day. Mr. John Faga[illegible] F.R.C.S., will be the guest of the Branch, and will receive an address. [illegible]rice of dinner, without wine, 10s.—John Campbell, M.D., F.R.C.S.Eng., Hon. Sec., 21, Great Victoria Street, Belfast.

GRIQUALAND WEST BRANCH.

A quarterly meeting was held on March 1st, Dr. Mathias (President) in the chair.

Election of Officers.—The following officers were appointed for the current year:—*President:* Dr. H. Symonds. *Vice-President:* Dr. J. E. Mackenzie. *Treasurer:* Dr. A. Fuller. *Honorary Secretary:* Dr. R. D. Booth.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Medical Defence.—The Secretary was requested to intimate to the British Medical Association, in answer to the communication received on medical defence, that this Branch of the Association did not see its way to participate in the proposed scheme.

Proposed Maternity Hospital at Kimberley.—The question of establishing a maternity hospital in connection with the Kimberley Hospital, having been referred by the Hospital Board to the medical practitioners of the district for their opinion on the matter, was then discussed. All the members present joined in the discussion, and the following resolution was passed, with one dissentient:

That this meeting of medical men advises that it is desirable to establish a lying-in hospital as a separate building in connection with the Kimberley Hospital; that its uses would be: accommodation for paying patients, carefully limited accommodation for paupers, and particularly for the training of midwives, the latter being a want felt all through the country; that this meeting would further point out that it will be necessary not only to obtain a sum of money for the original cost of the institution, but also to arrange for the raising of an annual fund towards its maintenance.

The Secretary was requested to send in a copy of this resolution to the Hospital Board.

Specimens.—Dr. Watkins showed an Ovarian Cyst which he had removed the previous day from a patient in hospital.—Dr. Booth showed the Sternum of a native woman exhibiting a fine linear wound inflicted by a knife, which penetrated the heart and proved fatal about half an hour after admission to hospital.

PROCEEDINGS OF THE COUNCIL.

At a meeting of the Council held in the Council Room at the office of the Association, 429, Strand, London, W.C., on Wednesday, July 14th, 1897,

Present:

Dr. Robert Saundby, President of Council, in the chair.
Dr. Charles Parsons, Treasurer.

Dr. James Barr, Liverpool.
Dr. Michael Beverley, Norwich.
Dr. Thomas Bridgwater, Harrow-on-the-Hill.
Mr. H. Langley Browne, West Bromwich.
Mr. Henry T. Butlin, London.
Dr. James Cantlie, London.
Mr. Andrew Clark, London.
Dr. William F. Cleveland, London.
Dr. John Ward Cousins, Portsmouth.
Dr. H. Radcliffe Crocker, London.
Dr. George W. Crowe, Worcester.
Dr. E. H. Dickinson, Liverpool.
Dr. T. M. Dolan, Halifax.
Brig.-Surg.-Lieut.-Col. E. F. Drake-Brockman, London.
Dr. W. Dyson, Sheffield.
Mr. George Eastes, London.
Dr. William A. Elliston, Ipswich.
Dr. David W. Finlay, Aberdeen.
Mr. R. S. Fowler, Bath.
Dr. Bruce Goff, Bothwell.
Dr. C. E. Goodall, Brighton.
Mr. John D. Harries, Shrewsbury.
Mr. J. Hughes Hemming, Kimbolton.
Dr. C. Holman, London.
Dr. T. F. I'Anson, Whitehaven.
Mr. T. Vincent Jackson, Wolverhampton.
Mr. Evan Jones, Aberdare.
Mr. Jordan Lloyd, Birmingham.
Mr. N. C. Macnamara, London.
Mr. H. J. Manning, Salisbury.
Dr. J. W. Miller, Dundee.
Dr. John William Moore, Dublin.
Mr. R. H. B. Nicholson, Hull.
Dr. J. W. J. Oswald, London.
Dr. Isambard Owen, London.
Mr. C. H. Watts Parkinson, Wimborne Minster.
Dr. Frank M. Pope, Leicester.
Dr. Edwin Rayner, Stockport.
Dr. John Rolston, Stoke, Devonport.
Dr. L. W. Sedgwick, London.
Dr. Alfred Sheen, Cardiff.
Dr. G. E. Shuttleworth, Richmond Hill.
Dr. E. Markham Skerritt, Clifton.
Dr. Robert Somerville, Galashiels.
Mr. Henry Stear, Saffron Walden.
Mr. T. Jenner Verrall, Brighton.
Mr. J. Hopkins Walters, Reading.
Mr. Joseph White, London.
Mr. Alfred Winkfield, Oxford.
Dr. W. L. Winterbotham, Bridgwater.
Dr. S. Woodcock, Old Trafford.

The minutes of the last meeting having been printed and circulated, and no objection received, were taken as read and signed as correct.

Read letters of apology for non-attendance from Dr. Henry Barnes (the President), Dr. R. W. Batten, Dr. J. H. Galton, Dr. G. H. Philipson, Dr. Ogilvie Grant, Surgeon-Major-General O'Dwyer, Dr. Handford, Dr. R. W. Philip, Dr. Lindsay, Dr. C. E. Glascott, Dr. W. Russell, and Dr. Trend.

The President of Council brought before the meeting a requisition which had been received, signed by 100 members. See page 241.

Resolved: That the notice calling the meeting be approved.

The Council then considered motions of which notice had been duly given, that the names of two members be struck off the list of members.

The Council, after hearing counsel for the two members, passed resolutions by the requisite majority that their names be struck off the list of members.

The President of Council reported that counsel had drafted an agreement with the New South Wales Branch to meet any difficulties that might occur in the incorporation of that Branch separately from the Association.

Resolved: That the agreement as drawn out by counsel be approved, and that the General Secretary be authorised to write to the New South Wales Branch asking them to accept it as a solution of any possible difficulty.

Read report of adjudicators of the Middlemore Prize.

Resolved: That Dr. Hill Griffith be awarded the Middlemore Prize.

Read report of adjudicators of the Stewart Prize.

Resolved: That the Stewart Prize be awarded to Dr. German Sims Woodhead.

Resolved: That the prizes just awarded be presented at the London part of the annual meeting.

Read letter from Dr. H. G. Barron, acknowledging vote of sympathy on his father's death.

Resolved: That the same be received and entered on the minutes.

Resolutions of Branches of which the following are copies were then considered:

Dr. Beverley reported that the following resolution had been passed in the East Anglian Branch:

The Council of the British Medical Association be requested to memorialise the Medical Council on the urgent necessity to take steps to prevent the growing evils of medical aid associations and medical institutes

And moved that a memorial be addressed to the General Medical Council in accordance with the resolution.

Resolution passed by the Lancashire and Cheshire Branch:

That the Council of the British Medical Association be requested to memorialise the Medical Council on the urgent necessity to take steps to prevent the growing evils of medical aid associations and medical institutes. Jas. Barr, Hon. Sec.

Resolution from the Midland Branch:

That the Council of the British Medical Association be requested to memorialise the General Medical Council on the urgent necessity to take steps to prevent the growing evils of medical aid associations and medical institutes. W. A. Carline, Hon. Sec.

In addition to the resolution passed by the Branch Council, the South-Eastern Branch at their meeting passed the following:

That the Council of the British Medical Association be requested to memorialise the Medical Council on the urgent necessity to take steps to prevent the growing evils of medical aid associations and medical institutes. T. Jenner Verrall.

Resolution adopted at the Glasgow and West of Scotland Branch meeting held on June 16th, 1897:

That the Council of the British Medical Association be requested to memorialise the General Medical Council on the urgent necessity of taking steps to prevent the growing evils of medical aid associations and medical institutes.

Dr. Winterbotham reported that a similar resolution had been carried in his own (West Somerset) Branch calling attention to the matter.

The resolution having been put by the chair the same was declared to be carried.

It was moved and seconded:

That the Council should express an opinion on the question of consultations with the medical officers of medical aid associations and medical institutes—that is, whether they should be accepted or declined.

Whereupon the previous question was moved and duly seconded, and having been put the same was declared to be carried.

Resolved: That the minutes of the Journal and Finance Committee of to-day's date and special meeting of June 11th be received and approved, and the recommendations contained therein carried into effect.

The minutes of the Journal and Finance Committee contain a resolution that no marked copies of the Journal be sent out from this office at the request of members of the Association or other private individuals; a statement of the cost of printing and publishing the extra pages in the Journal for the Sections of last year's annual meeting; the accounts for the quarter amounting to £8,380 12s. 4d. and the Auditors' Report.

Read letter from the Right Hon. Lord Lister, asking for a grant in aid of the work of the British Institute of Preventive Medicine.

Resolved: That a sum of £200 be subscribed to the funds of the British Institute of Preventive Medicine.

Resolved: That the minutes of the Parliamentary Bill Committee of June 13th be received and approved, and the recommendations contained therein carried into effect.

Read letter from Dr. Nestor Tirard, as Honorary Secretary to the Therapeutic Committee.

Resolved: That a grant of £50 be made to the Therapeutic Committee when appointed.

Read further correspondence from Dr. Tirard, asking for a further grant of £19 3s. 4d. expended in the previous year.

Resolved: That a further grant of £19 3s. 4d. be made to the Therapeutic Committee.

Read reply from the South Indian Branch in reference to minutes of Council, 3,654, on the present constitution of the Civil Medical Service in India (see Annual Report of Council, page 143).

Resolved: That the letter be received, entered on the minutes, and that a copy be published in the annual report (see Annual Report of Council).

Read letter from Dr. Bond, the Hon. Secretary to the Jenner Society, thanking the Council for the grant of £100 towards the expenses of the Committee.

Read letter from Dr. Fletcher Little upon the ventilation of the Association offices.

Resolved: That the letter be referred to the Premises and Library Committee with a request that they report on the sanitary state of the premises.

Read letters from Dr. Arthur Pearce, Dr. H. Osborne Grenfell, and Dr. W. H. Andrews.

Resolved: That a copy of the letter from the Local Government Board in reply to the memorial of the Association be sent to Drs. Pearce, Grenfell, and Andrews, with an expression of sympathy with them in the matter.

Read new by-law of the Southern Branch.

Resolved: That the proposed new by-law of the Southern Branch be approved.

Read proposed alteration of Rule 4 of the Midland Branch.

Resolved: That the proposed alteration of Rule 4 of the Midland Branch be approved.

The Council then considered the revised by-laws of the New Zealand Branch.

Extract of letter from New Zealand Branch dated March 22nd, 1897:

Christchurch.

In reference to the by-laws, I have sent you two copies, one unmarked and one with some suggested alterations. If your solicitor in going over them would recommend them as advisable alterations, and your Council adopt his suggestions, on the by-laws being received here and altered there would be no further necessity of returning them to you and having the sanction of the Council repeated.

GRAHAM CAMPBELL, Gen. Sec. New Zealand Branch.

Resolved: That the revised By-laws of the New Zealand Branch be approved and entered on the minutes.

Read letter from the International Medical Congress, to be held at Moscow, asking the Council of the Association to appoint delegates to the meeting.

Resolved: That Dr. Shuttleworth, Dr. Crocker, and Mr. Parkinson be appointed delegates from the Association to the Congress.

Read letter from the Home Office acknowledging the receipt of an Address of Congratulation to the Queen.

Read letter from the International Conference concerning Hygiene on Railways and Ships.

Resolved: That the Committee on Railway Servants' and Mariners' Eyesight be requested to appoint some of their members as delegates.

Resolved: That the 75 candidates whose names appear on the circular convening the meeting be and they are hereby elected members of the British Medical Association.

The Annual Report of Council was then considered.

Resolved: That the Report of the Council be received, approved, and published in the JOURNAL for presentation to the annual meeting in London on July 27th. See page 143.

Resolved: That the Report of the Parliamentary Bills Committee as amended be received and approved and published in the JOURNAL for presentation to the annual meeting in London on July 27th. See page 147.

Resolved: That the Report of the Scientific Grants Committee be received and approved and published in the JOURNAL for presentation to the annual meeting in London on July 27th. See page 149.

Resolved: That the Report of the General Practitioners and Ethical Committee be received, approved, and published in the JOURNAL for presentation to the annual meeting in London on July 27th. See page 156.

Resolved: That the Report of the Committee on Legislation for Inebriates be received, approved, and published in the JOURNAL for presentation to the annual meetiug in London on July 27th. See page 154.

Resolved: That the Report of the Medical Charities Committee be received, approved, and published in the JOURNAL for presentation to the annual meeting in London on July 27th. See page 155.

Resolved: That the Report of the Committee on Scientific Examination of School Children be received, approved, and published in the JOURNAL for presentation to the annual meeting in London on July 27th. See page 155.

Resolved: That the Report of the Anæsthetics Committee be received, approved, and published in the JOURNAL for presentation to the annual meeting in London on July 27th. See page 156.

Resolved: That the Report of the Therapeutic Committee be received, approved, and published, in the JOURNAL for presentation to the annual meeting in London on July 27th. See page 156.

Resolved: That the Report of the Committee on the Efficient Control of Railway Servants' and Mariners' Eyesight be received, approved, and published in the JOURNAL for presentation to the annual meeting in London on July 27th. See page 156.

Resolved: That the minutes of the Medical Charities Committee of the 6th inst. be received, approved, and the recommendations contained therein carried into effect.

The minutes of the Medical Charities Committee contain the adoption of the annual report of the Committee and a resolution asking for the Committee to be reappointed with the addition of Dr. Walter Smith in the place of Dr. Langdon-Down, deceased.

Resolved: That the minutes of the Scientific Grants Committee of the 9th inst. be received, approved, and the recommendations contained therein carried into effect.

The minutes of the Scientific Grants Committee contain the appointment of Mr. Sydney Rowland to the vacant Research Scholarship, a vote of £126 for renewed grants, and £274 new grants and the adoption of the annual report of the Committee.

Resolved: That the minutes of the Parliamentary Bills Committee of the 13th inst. be received and approved, and the recommendations contained therein carried into effect.

For the proceedings of the Parliamentary Bills Committee, see page 224.

Resolved: That the minutes of the General Practitioners and Ethical Committee of 13th inst. be received and approved, and the recommendations contained therein carried into effect.

The minutes of the General Practitioners and Ethical Committee contain a number of communications respecting various ethical questions; a report and memorial of the medical officers of the Coventry Provident Dispensary as to its management; a communication from the South-Eastern Branch as to the operations of the London and Manchester Industrial Assurance Company, Limited, and the adoption of the annual report of the Committee.

Notices of motion for the annual meeting were then considered.

BRITISH MEDICAL ASSOCIATION.

SIXTY-FIFTH ANNUAL MEETING.

NOTICE OF EXTRAORDINARY GENERAL MEETING.

IN pursuance of a requisition made in writing and signed by 100 members of the Association,

Notice is hereby given that an extraordinary general meeting of the British Medical Association will be held at Exeter Hall, Strand, London, on Tuesday, the 27th day of July, 1897, at 11 o'clock in the forenoon, for the purpose of considering, and if thought expedient of passing, the following special resolutions. Should the resolutions, or any of them, be passed by the required majority, such resolution or resolutions as require confirmation will be submitted for confirmation as a special resolution or special resolutions to a second extraordinary meeting which will be subsequently convened.

No. 1. To be moved by way of special resolution, under the Companies Acts, by ARTHUR MAUDE, L.R.C.P.Lond., M.R.C.S.Eng., and seconded by Surgeon-Major POOLE or other mover and seconder:

That whereas long delay has taken place in giving effect to and carrying into execution certain resolutions of general meetings of this Association relating to the taking up of medical defence by the Association, and

uncertainty is thereby imported whether such resolutions are binding upon the Association and the Council, and it is desirable that such uncertainty be removed, the following amendment of the twenty-fifth Article of Association be adopted as a special resolution; that is to say, that at the end of the twenty-fifth Article the following words be added, namely:

"And it shall be the duty of the Council to give effect to, or carry out as speedily as possible, all resolutions of general meetings unless otherwise duly provided."

No. 2. To be moved by Hugh Woods, B.A., M.D., and seconded by Thomas Stevens Gimson, M.R.C.S.Eng., or other mover or seconder:

That the Council of the British Medical Association be and is now hereby instructed to forthwith take all necessary steps to complete and legalise the special resolution adopted by the extraordinary general meeting held at Birmingham on the 13th day of July, 1896, and confirmed by that held at Carlisle on the 28th day of July, 1896,[1] which resolution amplifies the Memorandum of Association, and provides explicitly for the application of the funds of the Association to the purposes of medical defence; and that until a detailed "scheme" of medical defence shall be agreed to, the Council shall act in any case or matter of medical defence upon the instruction of a general meeting of the Association.

No. 3. To be moved by Dr. Robert Reid Rentoul, and seconded by Mr. Richard Benjamin Anderson, or other mover or seconder:

That this meeting of the members of the Association firmly maintains that under the original memorandum of Association (August 17th, 1874, paragraph 3), one of the fundamental and highest objects of the Association is, as now laid down in the memorandum—"the maintenance of the honour and interests of the medical profession"—wherever such honour or interests have been attacked so as to affect either the medical profession as a whole, or any individual member of it, and to expend part of its funds, if duly agreed to, for such purpose, and that the special resolution of 1896 above mentioned—which only amplifies the original memorandum in this particular—has been adopted to strengthen it and to remove any possible doubt which might exist upon this vital subject, and is not in any respect an abandonment of the fact that the said objects are, and were, already provided for in the original Memorandum of Association.

And we do hereby further require you to convene such further extraordinary general meeting as may be necessary to confirm the said special resolution, should the same be duly passed at the said first-named extraordinary general meeting.

[Here follow one hundred signatures.]

Francis Fowke,
General Secretary.

429, Strand, July 14th, 1897.

NOTICE OF ANNUAL GENERAL MEETING.

Notice is hereby given that the Sixty-Fifth Annual General Meeting of the members of the British Medical Association, for the transaction of business, the consideration of Reports of Council and the Committees, will be held at Exeter Hall, London, on Tuesday, the 27th instant, immediately on conclusion of the business of the Extraordinary General Meeting which is called at 11 o'clock in the forenoon, and Wednesday, the 28th instant, at 12 o'clock at noon.

Notice is hereby also given that at the same meeting on the 27th day of July next (after hearing the report of the Council) it is intended to submit for confirmation resolutions of the Council for the expulsion of two members of the Association.

The meeting will be adjourned to August 31st, to be held at Montreal, for the scientific business of the meeting, reading of Addresses, meetings of Sections, etc.

[1] See British Medical Journal, August 1st, 1896, pp. 287 and 288.

Tuesday, July 27th.

9.30 A.M.—Meeting of Council 1896-97.
11.0 A.M.—First General Meeting, Exeter Hall:
- Report of Council.
- Presentation of the Association Gold Medal of Merit to C. G. Wheelhouse, Esq., F.R.C.S.
- Presentation of the Association Gold Medal of Merit to Sir Walter Foster, M.P., M.D.
- Presentation of Middlemore Prize to Alexander Hill Griffith, M.D., M.B., C.M.
- Presentation of Stewart Prize to German Sims Woodhead, M.D., F.R.C.P., F.R.S.E.
- Reports of Committees.
- Notices of Motion.
- Any other business.

Wednesday, July 28th.

9.30 A.M.—Meeting of Council 1897-98.
12.0 (noon).—Adjourned General Meeting. Consider proposal for Annual Meeting, 1898, and appoint President-elect; any business adjourned from General Meeting of previous day.

The adjourned annual meeting of the British Medical Association will be held at Montreal on Tuesday, Wednesday, Thursday, and Friday, August 31st, September 1st, 2nd, and 3rd, 1897.

President.—Henry Barnes, M.D., F.R.S.E., Senior Physician to the Cumberland Infirmary, Carlisle.

President-Elect.—T. G. Roddick, M.D., Professor of Surger in McGill University, Montreal.

President of the Council; Robert Saundby, M.D., F.R.C. Physician to the General Hospital, Birmingham.

Treasurer: Charles Parsons, M.D., Dover.

An Address in Medicine will be delivered by W. Osler, M.D., F.R.C.P., Professor of Medicine in the Johns Hopkins University, Baltimore, U.S.A.

An Address in Surgery will be delivered by William Mitchell Banks, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

An Address in Public Medicine will be delivered by Herman M. Biggs, M.D., Director of the Bacteriological Laboratory of the Health Department, New York City.

The Scientific Business of the Meeting will be conducted in Eleven Sections, as follows, namely:

A. Medicine.

Macdonald Chemical Building.

President: Stephen Mackenzie, M.D., London. *Vice-Presidents:* J. E. Graham, M.D., Toronto; W. Bayard, M.D., St. John, N.B.; J. P. Rottot, M.D., Montreal: F. W. Campbell, M.D., Montreal; James Stewart, M.D., Montreal; H. P. Wright, M.D., Ottawa. *Hon. Secretaries:* H. A. Lafleur, M.D., Montreal; W. F. Hamilton, M.D., Montreal; William Pasteur, M.D., 4, Chandos Street, Cavendish Square, London, W.

The following discussions will take place:

1. The Dietetic Treatment of Diabetes, to be opened by Dr. Robert Saundby (Birmingham).

2. Arthritis Deformans (Rheumatoid Arthritis), more especially its Relation to Rheumatism, Nervous Disease, and Tuberculosis, to be opened by Dr. James Stewart (Montreal).

3. Cholelithiasis; its Causation, Symptomatology, Diagnosis, and Treatment, to be opened by Dr. William Hunter (London), and Dr. Graham (Toronto).

The following, among others, are expected to take part in the discussions in this Section: Dr. Reginald Fitz (Boston), Dr. Jacobi (New York), Dr. Musser (Philadelphia), Dr. Pepper (Philadelphia), Dr. F. C. Shattuck (Boston), Dr. E. L. Trudeau (Saranac Lake, N.Y.), Dr. Jas. Tyson (Philadelphia), Dr. Wyman (Marine Hospital Service, Washington), Dr. R. L. Bowles (London), Mr. Wm. Armstrong (Buxton), Dr. Sydney Coupland (London), Professor Osler (Baltimore), Dr. S. Monckton Copeman (London), Dr. H. Handford (Nottingham), Dr. J. A. Myrtle (Harrogate), Dr. Graham (Toronto), Dr. R. Shingleton Smith (Bristol).

The following papers have been promised:

ACHESON, Dr. Geo. (Galt., Ont.). Atony of the Rectum.
ARMSTRONG, William, M.R.C.S. The Exciting Cause of Rheumatoid Arthritis.
BOWLES, Dr. R. L. (London). Further Experiences of dangers connected with Respiration and their avoidance, with special reference to Anæsthesia, Hæmoptysis, Drowning, Apoplexy, and all Paralysed and Unconscious Conditions.
FUSSELL, Dr. M. H. (Philadelphia). Two Cases of Hæmophilia.
GRAHAM, Dr. J. E. (Toronto). A Case of Crossed Hemiplegia the Result of Injury to the Pons Varolii.
HAMILTON, Surgeon-Major-General (P.M.O. Plymouth). The Enteric Fever of Armies, contrasting the Disease in Tropical, Subtropical, and Temperate Climates.
LYMAN, Dr. Henry M. (Chicago). Osteomalacia following Complete Occlusion of the Common Bile Duct, due to Angio-cholitis following Typhoid Fever.
MACKINNON, Dr. Angus (Guelph). The Empyema of Pneumonia, with Cases.
MCCONNELL, Dr J. B. (Montreal). Pyopericardium following Pleuro-pneumonia: Pericardiotomy: Recovery.
MCPHEDRAN, Dr. A. (Toronto). Raynaud's Disease following Protracted General Erythema.
PEPPER, Dr. Wm., and STENGEL, Dr. Alfred (Philadelphia). A Contribution to the Clinical Study of Venesection.
STARR, Dr. M. Allen (New York). A Contribution to the Subject of Brain Tumours and their Surgical Treatment.
STOCKTON, Dr. Chas. G. (Buffalo). A Type of Diarrhœa associated with Gastric Anacidity.
TYSON, Dr. James (Philadelphia). Note on the Proper Use of Terms to denote Myocardial Changes.
WHITTAKER, Dr. James T. (Cincinnati). Generalisations from Six Years' Use of Tuberculin.
WILLIAMS, Dr. Francis H. (Boston). Some of the Medical Uses of the Roentgen Rays.

B. SURGERY.

Large Lecture Room, McGill Medical College.

President: CHRISTOPHER HEATH, F.R.C.S., London. *Vice-Presidents:* Hon. Sir WILLIAM HINGSTON, M.D., Montreal; Hon. M. SULLIVAN, M.D., Kingston, Ontario; Hon E. FARRELL, M.D., Halifax, Nova Scotia; I. H. CAMERON, M.D. Toronto; F. LE M. GRASETT, M.D., Toronto; JAMES BELL, M.D., Montreal; GEORGE E. ARMSTRONG, M.D., Montreal. *Hon. Secretaries:* ROBERT C. KIRKPATRICK, M.D., Montreal; THOMAS WALKER, M.D., St. John, N.B.; JORDAN LLOYD, F.R.C.S., Broad Street, Birmingham.

The President will give a short introductory address.

A discussion will take place upon the Surgical Treatment of Appendicitis, which will be opened by Dr. G. E. Armstrong (Montreal). Dr. J. Ward Cousins, Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham), will take part in the discussion.

A discussion will also take place upon the Treatment of Cancer of the Rectum by Kraske's Operation, to be opened by Dr. James Bell.

Among those who, it is anticipated, will take part in the discussions in this Section are: Dr. W. W. Keen (Philadelphia), Dr. Collins Warren (Boston), Dr. John Ashhurst (Philadelphia), Dr. Cheever (Boston), Dr. Dennis (New York), Dr. Murphy (Chicago), Dr. McGraw (Detroit), Dr. J. C. White (Boston), Dr. Chas. T. Bull (New York), Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham).

The following gentlemen have given notice of their intention to read papers in this Section:

BALL, Professor C. B. (Dublin). On Trans-sacral Resection of the Rectum.
COUSINS, J. Ward, M.D., F.R.C.S. (Southsea). Operative Treatment of Organic Stricture of the Urethra.
FERGUSON, Dr. W. W. (Kingston, N.B.). Varicosity of the Lingual and Buccal Veins.
HARROW, Dr. A. E. (Montreal). Ventral and Umbilical Hernia in the same Patient.
LLOYD, Jordan, F.R.C.S. Stone in the Ureter and its Treatment.
MARCY, H. O., M.D. (Boston). On the Suturing of Wounds.
MCGRAW, Theo., M.D. (Detroit). Invagination of the Cæcum and Vermiform Appendix.
NEWMAN, David, M.D. (Glasgow). (1) Cases illustrating some Interesting Points in the Pathology and Surgical Treatment of Renal and Vesical Hæmaturia. (2) Transitory Hydronephrosis and Albuminuria in cases of Movable Kidney treated by Operation.
OSS, James F. W., M.D. (Toronto). Some Rare Conditions of the Kidney.
OTH, Bernard, F.R.C.S. (London). Analysis of One Thousand Consecutive Cases of Lateral Curvature of the Spine treated by Posture and Exercise exclusively (without mechanical supports).
CEPHERD, F. J., M.D. (Montreal). A case of Abdominal Tumour, in which nearly eight feet of the small intestine were resected.
ITH, Dr. A. Lapthorn (Montreal). Seven cases of Appendicitis with Pus Tubes.
ANTON, W. D. F.R.C.S. (Hanley). Two cases of Meningocele successfully operated on.
OMSON, Alexis, M.D., F.R.C.S. (Edinburgh). Stricture of Intestine as sequel of Strangulated Hernia.

C. PUBLIC MEDICINE.

Large Lecture Room of the Redpath Museum.

President: E. P. LACHAPELLE, M.D., Montreal. *Vice-Presidents:* F. MONTIZAMBERT, M.D., Quebec; ROBERT CRAIK, M.D., Montreal; P. H. BRYCE, M.D., Toronto; Sir JAMES GRANT, Ottawa; R. H. POWELL, M.D., Ottawa. *Honorary Secretaries:* WYATT JOHNSTON, M.D., Montreal; E. PELLETIER, M.D., Montreal; HARVEY LITTLEJOHN, M.B., C.M., Surgeons Hall, Edinburgh.

The business of the Section will be carried out as follows:

The President will give an address on Sanitation in Canada; its Progress Up-to-date.

LACHAPELLE, Dr. E. P. (President of the Board of Health of the Province of Quebec, Montreal). Sanitation in Canada: its Progress up to date.
KAYE, J. R. (M.O.H. to the West Riding of the County of Yorkshire). The Relationship of the Health Officer to the Registration and Certification of Deaths.

Dr. F. Montizambert (Superintendent of the Canadian Quarantine Service, Grouse Isle, Quebec), and Dr. W. Wyman (Superintendent of the Quarantine and Marine Hospital Service, Washington) will open a discussion on the Utility of Quarantines as now Conducted (Inspection, Disinfection, and Isolation Stations) in Certain Countries at Least.

Dr. P. H. Bryce (Secretary of the Provincial Board of Health, Ontario), Dr. C. O. Probst (Secretary State Board of Health, Ohio), Dr. H. Handford (M.O.H. to the County of Nottingham), will open a discussion on How Far should Mandatory Measures go in Dealing with (*a*) Measles, (*b*) Whooping Cough, (*c*) Tuberculosis, (*d*) Leprosy.

JOHNSTON, Wyatt, M.D. (Bacteriologist, Board of Health, of the Province of Quebec). Experiments with Disinfectant Gases.
JANIN, G., C.E., formerly of the Corps des Ponts et Chausees of France (Montreal). On the Different Processes recommended for the Treatment of Sewage; Mechanical, Chemical and Epuration by the Arable Soil.
MOTTOR, Dr. D. Murray Galt (Washington). Underground Zoology and Legal Medicine: a Study of Fifty Disinterments, with Additional Experimental Observations.
KINYOUN, Dr. Jos. J. (United States Marine Hospital Service, Washington). Methods of Disinfection.
NEECH, Dr. James T. (M.O.H. for Atherton). On the Duration of the Period of Infectiousness in Scarlet Fever.
COPEMAN, Dr. Monckton (Medical Inspector to the Local Government Board of England). Some Alleged Dangers of Vaccination and their Prevention.

Dr. R. F. Ruttan, Chemist to the Board of Health of the Province of Quebec; Dr. G. W. Fuller, Louisville, Ky.; and Dr. J. J. Mackenzie, Bacteriological Provincial Board of Health of Ontario, will open a discussion on The Respective Value of Chemical and Bacteriological Methods of Water Analysis.

MACLEOD, Dr. James (Charlottetown). Observations on the Pollution of Ground Air.
HOUGH, Dr. G. de N. (New Bradford, Mass.). Cadaveric Fauna.
CHUTTLEWORTH, Dr. E. B. (Bacteriologist to the City Board of Health, Toronto). Observations on the Etiology and Dissemination of Diphtheria.
MACKENZIE, Dr. J. J. (Bacteriologist Provincial Board of Health of Ontario). Results of Mechanical Filtration Plants in Ontario.
MULLINS, Dr. G. Lane (Sydney, N.S.W.). Consumption in Australia.

D. OBSTETRICS AND GYNÆCOLOGY.

Large Lecture Room, McDonald Physics Building.

President: WILLIAM JAPP SINCLAIR, M.D., Manchester. *Vice-Presidents:* WILLIAM GARDNER, M.D., Montreal; JAMES PERRIGO, M.D., Montreal; J. A. TEMPLE, M.D., Toronto; J. C. CAMERON, M.D., Montreal; T. JOHNSTON ALLOWAY, M.D., Montreal; JAMES ROSS, M.D., Toronto. *Honorary Secretaries:* D. J. EVANS, M.D., Montreal; W. BURNETT, M.D., Montreal; ARTHUR E. GILES, M.D., 58, Harley Street, Cavendish Square, London, W.

The following discussions will, it is proposed, be held in this Section on the days indicated:

September 1st.—The Causation and Treatment of Hyperemesis Gravidarum.

September 2nd.—The Vaginal *versus* the Abdominal Route in dealing with Inflammatory Conditions and Tumours in the Pelvis. To be opened by Mr. Lawson Tait.

September 3rd.—The Palliative and Radical Treatment of Uterine Flexions and Displacements. To be opened by Dr. Barton Cooke Hirst (Philadelphia).

The following papers are promised:

ANDERSON, Professor Winslow, M.D. (San Francisco). Uterine Fibroids, their etiology, pathology, symptoms, diagnosis, and treatment.
BARNES, Robert, M.D. (London). Notes and a drawing to illustrate "Barnes's Boundary Line" in Placenta Prævia.

CAMPBELL, John, M.D., F.R.C.S.Eng. (Belfast). Labour Complicated by Abnormalities of the Cervix Uteri and Vagina.
CULLEN, Thos., M.D. (Baltimore). The Value of the Microscope in the Early Diagnosis of Cancer of the Uterus.
EDEN, T. W., M.D. (London). On Spurious Abortion with three Cases.
GARRIGUES, H. J., M.D. (New York). The Treatment of Abortion.
HART, D. Berry. M.D. (Edinburgh). The Morphology of the Vagina.
HENROTIN, F., M.D. (Chicago). The Operation of Choice in the Surgical Treatment of Septic Pelvic Diseases, with Special Reference to the Early Vaginal Incision.
KELLY, Howard, M.D. (Baltimore). (1) On the Conservative Treatment of the Ovary. (2) Demonstration on the Examination of the Bladder and Ureters.
LAWRIE, J. M., M.D. (Weymouth). Notes on Thirty-Three Cases of Abdominal Section.
LUCAS, T. P., M.R.C.S. (Brisbane, Australia). Menstruation, its Purpose and Design.
LUSK, W. C., M.D. (New York). A contribution to the study of the First Stage of Labour (from a frozen section).
MACDONALD, A. A., M.D. (Toronto). Title not announced.
MACLEAN, Ewen J., M.D. (London). The After-history of some Gynæcological Operations.
MADDEN, T. More, M.D., F.R.C.S.I. (Dublin). 1. On some Points in Modern Treatment of Tedious Labour with description of a new Traction Forces; (2) On the Conservative Treatment of Fallopian Tube Disease.
MUNDÉ, Paul F., M.D. (New York). Pelvic Abscess.
PARSONS, J. Inglis, M.D. (London). A New Method of Treatment for Prolapse of the Uterus.
ROBSON, A. W. Mayo, F.R.C.S. (Leeds), to be read by Dr. COLLIER (Ripon). Porro's Operation for Tumour of the Pelvis complicating Pregnancy.
SMITH, Dr. (Montreal). Diagnosis and Treatment of Retroversion of the Uterus, with Fixation.

E. PHARMACOLOGY AND THERAPEUTICS.

Lecture Hall of the Wesleyan College.

President: D. J. LEECH, M.D., Manchester. *Vice-Presidents:* A. D. BLACKADER, M.D., Montreal; JAMES THORBURN, M.D., Toronto; C. R. CHURCH, M.D., Ottawa; J. B. MCCONNELL, M.D., Montreal; F. J. AUSTIN, M.D., Sherbrooke; WALTER GEORGE SMITH, M.D., Dublin. *Honorary Secretaries:* F. X. L. DE MARTIGNY, M.D., Montreal; J. R. SPIER, M.D., Montreal; C. R. MARSHALL, M.B., Pharmacological Laboratory, Downing College, Cambridge.

The President will deliver a short Introductory Address.

Discussions on the Treatment of Insomnia, the Treatment of Syphilis, and Diuretics will be held on September 1st, 2nd, and 3rd respectively.

1. The Treatment of Insomnia will be opened by Dr. C. K. Clarke, Physician to the Rockwood Hospital, Kingston, on General Treatment; by Dr. R. W. Wilcox, Professor of Medicine and Therapeutics in the New York Post-Graduate School on the Value of Individual Drugs, with special reference to the newer Hypnotics; by Dr. A. McPhedran on the Ill Effects and Contraindications to the Use of Drugs; and by Dr. R. Ferguson. Lecturer on Therapeutics in the Western University, on the Mode of Action of Hypnotics.

2. The Treatment of Syphilis will be opened by Dr. Whitla (Belfast). The introducer will deal with questions under the following heads: (*a*) How mercury and iodides are supposed to act in syphilis; (*b*) when should mercurial treatment be started, especially should it be given in the primary stage; (*c*) the various methods for its routine administration, dosage, etc., and the length of time necessary for mercurial treatment; (*d*) the treatment of tertiary and congenital syphilis.

(Hypodermic and intravenous medication will be dealt with by a dermatologist.)

The question of Diuretics will be opened from the clinical side by Dr. Barr (Liverpool), and from the experimental by Mr. Marshall (Cambridge).

Among those who have promised to take part in the discussions are: Professor Richet (Paris), Dr. A. R. Cushny (University of Michigan, Ann Arbor), Dr. H. A. Hare (Philadelphia), Dr. A. D. Blackader (Montreal), Dr. H. Barnes (Carlisle), Dr. Saundby (Birmingham), Dr. Donald MacAlister (Cambridge), Dr. Whitla (Belfast), Dr. J. A. Campbell (Carlisle), Dr. Brookhouse (Nottingham), Mr. Jordan Lloyd (Birmingham), Dr. J. Ward Cousins (Southsea), Dr. D. Berry Hart (Edinburgh), Dr. R. C. Stewart (Leicester), Dr. H. A. Mc'Callum (Western University), Dr. J. J. Cassidy (Toronto), Dr. James Watson (Southsea), Dr. R. Shingleton Smith (Bristol), Dr. G. Armstrong Atkinson (Newcastle), and others.

Those who have promised papers are:

HARE, W, A. The Importance of Studying the Absorption and Elimination of Drugs.
BLACKADER, A. D. On Aponcynum Cannabinum.
CUSHING, A. R. A Contribution to the Pharmacology of the Mammalian Heart.
LEECH, D. J. On Quillaia Bark.
PHILLIPS, C. D. F., and PEMBREY, M. S. On the Physiological and Therapeutical Actions of Hydrastis Canadensis.
HALLIDAY, A. (Nova Scotia). The Effect of Certain Drugs on Gastric Secretion.
FOTHERINGHAM, J. T. (Toronto). On the Prescribing of Proprietary instead of Pharmacopœial Preparations.
HUTCHISON, R. On the Pharmacology of the Thyroid Gland.
MARSHALL, C. R. On the Treatment of the Heart Failure of Arteriosclerosis.
MARSHALL, C. R., and TAYLOR, J. J. On the Absorption of Mercury.
CHISHOLM, M. (Halifax). The Opposite Effects of Drugs in Large and Small Doses.
BAZIN, M. On Diphtheria Antitoxin.
MARSHALL, C. R. Further Experiments on Indian Hemp.

F. PATHOLOGY AND BACTERIOLOGY.

Lecture Room II, McGill Medical College.

President: WATSON CHEYNE, F.R.C.S., F.R.S., London. *Vice-Presidents:* J. G. ADAMI, M.D., Montreal; J. CAVEN, M.D., Toronto; J. STEWART, M.D., Halifax; J. C. DAVIE, M.D., Victoria, B.C.; L. C. PREVOST, M.D., Ottawa; M. T. BRENNAN, M.D., Montreal. *Honorary Secretaries:* W. T. CONNELL, M.D., Kingston, Ontario; C. F. MARTIN, M.D., Montreal; RUBERT W. BOYCE, M.B., University College, Liverpool; WILLIAM HUNTER, M.D., 54, Harley Street, Cavendish Square, W.

The following will be the subjects for discussion:

1. Serum Diagnosis and the Agglutinating Action of Serums, to be introduced by Professor Wyatt Johnston (Montreal).
2. Immunisation.
3. The Bubonic Plague.

Among those who will take part in the discussions will be Professor Welch (Johns Hopkins), Professor Crookshank (London), Dr. W. Hunter (London), Dr. A. S. Grünbaum (Liverpool), Dr. A. C. Abbott (Philadelphia), Dr. T. M. Cheesman (New York), Dr. R. Fitz (Boston), Dr. E. Hodenpyl (New York), Dr. Trudeau (Saranac), and Dr. F. F. Wesbrook (Minneapolis).

It is urged that British pathologists unable to be present should send to Dr. Rubert Boyce lantern slides and other material for demonstration bearing upon the subjects selected for discussion.

The following papers are promised:

ADAMI, J. G., M.D., and STAPLES, E., M.D. (Montreal). On the Appendices Epiploicæ.
BARKER, Lewellys F., M.D. (Baltimore). On the Changes in the Nerve Cells in Epidemic Cerebro-spinal Meningitis, with special reference to lesions in the lower motor neurons.
BOYCE, R. The occurrence of the B. Tuberculosus in Milk.
CAREN, Professor J., M.D. (Toronto). Title of Paper not received.
CONNELL, W. (Kingston, Ont.) Title of Paper not received.
COPEMAN, S. Monckton, M.D. (London). On Vaccinia.
FLEXNER, Simon, M.D. (Johns Hopkins University). Pseudo-tuberculosis Hominis Streptothricia.
GOLDMAN, Professor (Freiburg). On Early Infection of Blood Vessels in Carcinoma and Sarcoma (lantern slides).
GRÜNBAUM, A. S., M.D. The Smegma Bacillus.
HERTER, C. A., M.D. (New York). Experimental Observations on the Relation between Bacterial Activity in the Intestine and the Indican in the Urine.
HODENPYL, Eugene, M.D. (New York) On the Occurrence of Typhoid Fever without Lesions of the Small Intestine.
MANSON, Patrick, M.D. On Filaria Sanguinis Hominis, with the demonstration of a new Species from Central and South America.
STILES, H. J. On the Evolution of Cancer Bodies (lantern slides).
THOMSON, Alexis H. Epithelioma of Penis.
VAN GIESON, Ira, M.D. (New York). On Hæmato-myelopore and its Relations to Syringomyelia.
WASHBOURN, J. W., M.D. On Antipneumococcic Serum.
WASHBOURN, J. W., M.D., and SMITH, Dr. G. Bellingham. Demonstration of Specimens of an Infective Neoplasm from the Dog.
WELCH, Professor (Baltimore). The Distribution and Pathogenic Effects of the B. Aerogenes Capsulatus.
WRIGHT, Hamilton K., M.D. (Montreal). On the Topography of the Posterior Columns.

G. PSYCHOLOGY.

Morris Hall, Presbyterian College.

President: R. M. BUCKE, M.D., London, Ontario. *Vice-Presidents:* D. CLARKE, M.D., Toronto; T. J. BURGESS, M.D., Verdun, Quebec; A. VALLEE, M.D., Quebec; G. WILKINS, M.D., Montreal. *Honorary Secretaries:* J. V. ANGLIN, M.D., Montreal; GEORGE VILLENEUVE, M.D., Montreal; J. G. BLANDFORD, M.R.C.S., D.P.H., London County Asylum, Banstead, Sutton, Surrey.

The officers of this Section, believing that many of the papers already offered will be provocative of considerable

debate, have determined to announce no special subjects for discussion. Among those who have offered to contribute papers are:

BRUCE-SMITH, Dr. R. W. (Physician to Asylum for Insane, Hamilton, Ontario. Title of paper not received.
BRUSH, Dr. E. N. Title of paper not received.
BUCKE, R. M., M.D. (London, Ontario, Asylum). On Mental Evolution.
CLARK, W., M.D. (Toronto Asylum). The Reflexes in Psychiatry.
CROTHERS, Dr. J. D. (Hartford, Conn.) Some New Phases of Inebriety in Clinical Studies.
GOODING, Dr. W. W. (Washington). Title of paper not received.
HOBBS, —, M.D. (London, Ontario, Asylum). Surgical Gynæcology in Insanity.
ROGERS, Dr. (Asylum for Feeble Minded, Taribault, Minn.). Cases of Mongolian Idiocy.
ROHE, G. H., M.D. (Maryland Hospital for Insane, Catonsville). The Etiological Relation of Pelvic Disease to Insanity in Women.
RUSSELL, J., M.D. (Hamilton, Ontario, Asylum). Insanity in its Relation to the State.
STEARNS, Dr. H. P. (Retreat for Insane, Hartford, Conn.). Heredity as a Factor in Etiology of Insanity.
VILLENEUVE, George, M.D. (Longue Pointe). The Proof of Insanity in Criminal Cases.
WISE, Dr. P. M. (Albany). Title of paper not received.

Among those who intend to take part in the business of the Section are Dr. N. H. Beemer (Mimico Asylum, Ontario), Dr. G. Alder Blumer (Utica, New York), Dr. C. K. Clark (Rockwood Hospital, Kingston, Ontario), Dr. Edward Cowles (Waverley, Mass.), Dr. T. D. Crothers (Hartford, Conn.), Dr. G. Stanley Hall (Worcester, Mass.), Dr. Hazlitt (Sunbury), Dr. Henry Hurd (Baltimore), Dr. Rogers (Asylum for the Feeble-Minded, Faribault, Minn.), Dr. George H. Rohe (Maryland Hospital for the Insane, Catonsville). Dr. Rothesay Stewart (Leicester) and Dr. A. R. Urquhart (Perth).

H. OPHTHALMOLOGY.

Leeture Room I, McDonald Engineering Building.

President: EDWARD NETTLESHIP, F.R.C.S., London. *Vice-Presidents:* F. BULLER, M.D., Montreal; R. A. REEVE, M.D., Toronto; ED. DESJARDINS, M.D., Montreal; A. A. FOUCHER, M.D., Montreal. *Honorary Secretaries:* W. H. SMITH, M.D., Winnipeg; J. JEHIN-PRUME, M.D., Montreal; THOMAS HERBERT BICKERTON, M.R.C.S., 88, Rodney Street, Liverpool.

The following subjects have been chosen for discussion:—

1. Heterophoria; the Indications for and Limitations of its Operative and Non-Operative Treatment. In connection with this subject Dr. F. Buller (Montreal) will read a paper on Abnormalities in the Functions of the Extrinsic Ocular Muscles.

2. How far can accurate Colour Vision be relied upon to Prevent Accidents on Railways and at Sea. In connection with this subject Mr. T. H. Bickerton (Liverpool) will read a paper on the Question of Colour Vision in the Mercantile Marine.

3. Antiseptics in Eye Surgery.

4. (If opportunity occurs) On the Prevention of Accidents to the Eyes of Persons engaged in Industrial Employments.

The following communications on other subjects are promised:

ALT, Dr. A. (St. Louis, Mo., U.S.A.). Histology of an unusual case of Total Blindness after Injury to the Skull.
BEAUPRÉ, Dr. W. J. (Quebec). Abscission of the Cornea *versus* Enucleation.
BICKERTON, T. H. (Liverpool). On Mules's Operation.
BURNHAM, Dr. G. H. (Toronto). The Hypodermic Use of Pilocarpin in Eye Disease.
COLLINS, Mr. Treacher, and MARSHALL, Mr. Devereux (London), will send Pathological Specimens in Jelly.
FOUCHER, Dr. A. A. (Montreal). (1) The Etiology of Dacryocystitis. (2) Auto-Infection in Pustulous Keratitis.
FULTON, Dr. John F. (St. Paul, Minn., U.S.A.). Amblyopia of Strabismus.
GOULD, Dr. Geo. M. (Philadelphia, U.S.A.). Retinitis Pigmentosa without Typical Pigmentation.
JEHIN-PRUME, Dr. Jules (Montreal). A Contribution to the Treatment of Syphilitic Eye Diseases.
LEE, Charles G. (Liverpool). An Unusual Case of Orbital Tumour.
MATHEWSON, G. H. (Montreal). Case of Metastatic Carcinoma of the Choroid.
PROUDFOOT, Dr. A. (Montreal). The Value of Weak Lenses in Certain Cases.
REEVE, Dr. R. A. (Toronto). Experiences with Cataract.
SMITH, Mr. Priestley (Birmingham), will send: (*a*) Pathological Specimens in Formol; (*b*) A Model illustrating Tscherning's Theory of the Accommodation.
STIRLING, Dr. J. W. (Montreal). Title of paper not received.
USHER, Mr. C. H. (Aberdeen) will send Microscopical Sections of Opaque Optic Nerve Fibres (Human).
WÜRDEMANN, Dr. H. V. (Milwaukee, Wis., U.S.A.) Skiascopy in Relation to other Methods of Estimating Ocular Refraction.

I. LARYNGOLOGY AND OTOLOGY.

Lecture Room II, McDonald Engineering Building.

President: GREVILLE MACDONALD, M.D., London. *Vice-Presidents:* W. TOBIN, M.D., Halifax; G. A. S. RYERSON, M.D., Toronto; H. S. BIRKETT, M.D., Montreal; G. R. MCDONAGH, M.D., Toronto. *Honorary Secretaries:* A. CHRETIEN, M.D., Montreal; H. D. HAMILTON, M.D., Montreal; W. PERMEWAN, M.D., 7, Rodney Street, Liverpool.

The following discussions will take place: (1) On Turbinotomy, to be opened by the President. (2) On the Ultimate Results of Operations on the Mastoid in Suppurative Ear Disease. (3) On the Significance of Laryngeal Paralysis.

BLAKE, Dr. Clarence J. (Boston, Mass.). The Operative Treatment of Mastoid Disease.
FARLOW, Dr. J. W. (Boston, Mass.). Presentation of Instruments with remarks.

The following papers are announced in this Section:

BRYAN, J. H. (Washington). A Contribution to the Anatomy of the Fronto-Ethmoidal and Frontal Maxillary Regions.
DELAVAN, Dr. D. B. (New York). Surgical Treatment of Malignant Disease of the Larynx.
FARLOW, Dr. Jno. W. (Boston, Mass., U.S.). Presentation of Instruments, with remarks.
HOBBS, Arthur G., M.D. (Atlanta, Ga.). When not to Inflate the Middle Ear.
HORNE, Jobson, M.D., and YEARSLEY, Macleod, F.R.C.S. (1) On Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose, and Ear. (2) On Turbinectomy.
INGALS, E. Fletcher, M.D. (Chicago). On the Relation of Nasal Diseases to Pulmonary Tuberculosis.
JONES, T. W. Carmallt, F.R.C.S.Ed. Some After Effects of Turbinotomy.
KNIGHT, Chas. H., M.D. (New York). Upon a Foreign Body (Metallic Button Hook) removed from the Larynx by Laryngo-Fissure.
MACKENZIE, Dr. John N. (Baltimore, Ind., U.S.). The Physiological and Pathological Relations between the Nose and the Sexual Apparatus.
O'DWYER, J., M.D. (New York). Acute Syphilitic Stenosis of the Larynx in the Adult treated by Intubation.
ROE, John O., M.D. (Rochester, New York). The Correction of Nasal Deformities by Subcutaneous Operations.
ROSS, G. T., M.D. (Montreal). Bilateral Abductor Paralysis from Recurrent Laryngeal Nerve Paralysis.
SPICER, Scanes, M.D. (London). (1) On Reduction of the Inferior Turbinate Bone in Certain Cases of Nasal Obstruction. (2) On the Significance and Treatment of Recurrent Retention of Secretion in the Lacunæ of the Tonsils. (3) A Case of Multiple Papillomata of Larynx in a Man aged 73.
WÜRDEMANN, Dr. H. V. (Milwaukee, Wis., U.S.A.). Phosphoric Necrosis of Temporal Bone.

Among those who intend to take part in the business of the Section are also Dr. J. Solis-Cohen (Philadelphia), Dr. Birkett (Montreal), Dr. Chretien (Montreal), Dr. G. R. McDonagh (Toronto), Dr. D. B. Delavan (New York), Dr. Charles Warden (Birmingham) and Dr. J. W. Mackenzie (Baltimore).

J. ANATOMY AND PHYSIOLOGY.

Lecture Room I, McGill Medical College.

President: AUGUSTUS D. WALLER, M.D., F.R.S., London. *Vice-Presidents:* F. SHEPHERD, M.D., Montreal; A. B. MACALLUM, M.D., Toronto; T. WESLEY MILLS, M.D., Montreal; A. PRIMROSE, M.D., Toronto; J. B. A. LAMARCHE, M.D., Montreal; D. B. FRASER, M.D., Stratford, Ontario. *Hon. Secretaries:* J. M. ELDER, M.D., Montreal; W. S. MORROW, M.D., Montreal; ROBERT HUTCHISON, M.D., Physiological Laboratory, London Hospital Medical College, Turner Street, Mile End, E.

The following have been selected as subjects for the discussions:

September 1st. Anæsthetics, to be introduced by the President of the Section (Dr. A. Waller). Among those who are expected to take part in this discussion are Dr. Shore (Cambridge), Dr. Kemp, F.R.S. (Baltimore), Professor W. D. Halliburton, F.R.S. (London), Dr. A. B. Macallum (Toronto), Dr. H. A. Hare (Philadelphia), Dr. G. T. Kemp (Baltimore), Dr. G. Gordon Campbell (Montreal), Dr. Kenneth Cameron (Montreal), Dr. Richet (Paris).

September 2nd. The best methods of Teaching Anatomy, to be introduced by Professor Alex. Macalister (Cambridge) and Dr. F. J. Shepherd (Montreal).

September 3rd. The Causation of the Heart Beat and its Modifications, introduced by Dr. Gaskell, F.R.S. (Cambridge) and Professor T. Wesley Mills (Montreal). Dr. Porter (Boston), Dr. Howell (Baltimore), and Dr. Bowditch (Boston) Dr. W. Townsend Porter (Boston), Dr. A. B. Macallum (Toronto), Dr. T. Wesley Mills (Montreal), Dr. G. Car Huber, (Ann Arbor, Mich.), Dr. A. P. Knight (Kingston), are expected to take part in the discussion.

The following papers have been promised:

Huber, G. Carl, M.D., Assistant Professor of Histology and Embryology, University of Michigan, Ann Arbor. A brief account of some observations on the Sympathetic Ganglia of Vertebrates.

Kemp, G. T., M.D., Ph.D. (Baltimore). Nitrous Oxide Anæsthesia.

Knight, A. P., M.A., M.D., Professor of Physiology, Queen's University, Kingston, Ontario. Action of certain Chemical Salts on the Heart Beat of Fish Embryos.

Lombard, Warren, P., M.D., Professor of Physiology, University of Michigan, Ann Arbor. Anatomy of the Knee-joint of the Frog, with special reference to the action of Flexor and Extensor Muscles.

Macalister, Professor Alex. (Cambridge). The Influence of Head Shape on Cranio-cerebral Topography.

Macallum, A. B., M.B., P.H.D., Professor of Physiology, Toronto University. Some observations on the Micro-Chemistry of Cells and Tissues.

Meltzer, S. J., M.D. (New York City). On the effect of Anæsthesia upon the Reflexes of Deglutition and of the Closure of the Glottis.

Mills, T. Wesley, M.D., L.R.C.P., Professor of Physiology McGill University. Title of paper not yet received.

Paton, Dr. Noel (Edinburgh). Metabolism of the Salmon in Fresh Water.

Pembrey, Dr. M. S. Title not received.

Stewart, Dr. G. N. The relation of Electrolytes to the other Constituents of Animal Cells and Liquids, with especial reference to the Blood Corpuscles and Blood Plasma.

Thompson, Professor W. H (Belfast). Degenerations resulting from Lesions of the Sensory Area of the Cortex Cerebri.

On September 2nd Dr. Waller will give an experimental demonstration of the Relative Efficacy of Chloroform and of Ether as Nerve Anæsthetics.

Dr. Gustav Mann will send for exhibition specimens illustrating the Minute Histology of the Liver in Active and Resting Conditions. Dr. D. A. Welsh (Edinburgh) will exhibit specimens illustrating the Histology of the Parathyroid Glands. Dr. Geo. Oliver will exhibit his new Hæmoglobinometer and Hæmocytometer. Drs. Leonard Hill and Barnard will exhibit a new and accurate form of Sphygmometer.

Dr. Shore and Professor Sherrington will take part in the proceedings.

K. Dermatology.

Lecture Room III, McDonald Engineering Building.

President: Malcolm Morris, F.R.C.S.Ed., London. *Vice-Presidents:* J. E. Graham, M.D., Toronto; F. J. Shepherd, M.D., Montreal; J. A. S. Brunelle, Montreal; G. L. Milne, M.D., Victoria, B.C. *Hon. Secretaries:* Gordon Campbell, M.D., Montreal; J. M. Jack, M.D., Montreal; James Galloway, M.D., 54, Harley Street, Cavendish Square, W.

A subject selected for discussion in this Section is the Clinical and Pathological Characteristics of Vesicular Skin Diseases, especially the Dermatitis Herpetiformis Group.

It is intended that a joint meeting should be held with the Section of Pharmacology and Therapeutics for the discussion of the subject of the Treatment of Syphilis (see p. 244).

The following papers are announced:

Fox, T. Colcott. Demonstration of the Biology of the Trichophyte.

Galloway, James (London) On Melanotic Conditions of the Skin preceding Malignant Disease of the Skin.

Among those who are expected to take part in the discussions of this Section are Dr. E. B. Bronson (New York), Dr. L. D. Bulkley (New York), Dr. J. A. Fordyce (New York), Dr. J. N. Hyde (Chicago), Dr. G. T. Jackson (New York), Dr. Stephen Mackenzie (London), Dr. A. Eddowes (London), and Dr. White (Boston).

Programme of Proceedings.

Tuesday, August 31st, 1897.

11 A.M.—Cathedral Service.
2.30 P.M.—Opening Ceremonies. Welcome by His Excellency the Governor-General, Lord Aberdeen, the Mayor of Montreal, and others. Address by the President-elect, Dr. T. G. Roddick.
4 P.M.—Garden Party at the Royal Victoria Hospital (Mr. W. B. Angus, President of Royal Victoria Hospital), etc.
9 P.M.—*Conversazione* at Laval University. Address by Professor Richet, Delegate from the French Government, etc.

Wednesday, September 1st, 1897.

10 A.M.—McGill University: Opening of Sections.
2.30 P.M.—Windsor Hall: Address in Medicine by Dr. W. Osler.
4 P.M.—Excursion down the St. Lawrence; Garden Parties, etc.
9 P.M.—Reception by the Hon. Sir Donald A. Smith, High Commissioner of Canada.

Thursday, September 2nd, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
2.30 P.M.—Windsor Hall: Address in Surgery by Mr. W. Mitchell Banks.
4 P.M.—Excursion across the Island, International Golf Match, etc.
7.45 P.M.—Annual Dinner of the Association.

Friday, September 3rd, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
1 P.M.—Lunch on the Mountain, given by the Mayor.
2.30 P.M.—Windsor Hall: Address in Public Medicine by Dr. Herman Biggs; Concluding Speeches, etc.
4 P.M.—Excursion down the Lachine Rapids; Garden Parties, etc.
9 P.M.—*Conversazione* at McGill University.

Saturday, September 4th, 1897.

Excursions to Lake Memphremagog, Saranac, Ottawa, Quebec, etc.

ANNUAL MUSEUM.

The Pathological Museum.

The Pathological Museum will be established in the Dissecting Room of McGill Medical College, a large, lofty, and well-lighted room. The Secretary of the Pathological Subcommittee of the Museum Committee is Dr. C. F. Martin, McGill Medical College, Montreal, who will be glad to receive the loan of specimens, drawings, and photographs illustrative of both normal and morbid anatomy, as also any new apparatus for research in physiology, pathology, or bacteriology.

Specimens illustrating diseases peculiar to the remoter portions of the Empire are especially desired. It is proposed to make a special collection of photographs and micro-photographs of morbid conditions. These will be suitably mounted and carefully returned to the owners.

Suitable vessels and jars, and spirit and other media will be provided for moist specimens.

Foods, Drugs, and Appliances.

Regulations Regarding Exhibits.

1. Communications on general matters connected with the Museum and applications from intending exhibitors should be addressed to the Honorary Secretaries, Drs. J. W. Stirling or J. M. Jack, 2204, St. Catherine Street (British Medical Association Rooms).

2. Information of the allotment of space will be furnished as promptly as possible, and on receipt of cheque for the cost of such space, a card for the admission of the exhibit will be forwarded.

3. All cheques to be made payable to J. W. Stirling, M.B.

4. All exhibits should be directed to the British Medical Museum, Victoria Skating Rink, Drummond Street, Montreal, Canada, with the name of the Section for which they are intended. Packages must also be addressed to a firm's representative at the Museum.

5. Exhibits must be delivered between August 27th and 28th; they must each bear a card indicating the name and address of the exhibitor; they must be arranged in their allotted space before 2 P.M. on August 28th, and it is desirable that they be not removed till September 6th.

6. Signs or placards must be so arranged as not to interfere with adjacent exhibits: on the central tables no sign or placard must reach higher than 2 feet 6 inches from the table.

7. The Committee will not be responsible for any risks or expenses incurred; they reserve discretionary power to exclude any exhibit they may consider unsuitable; they will only receive exhibits conditionally upon strict compliance with the foregoing regulations, and in all matters of doubt and difficulty their decision shall be final.

8. The Museum Committee or its representatives must be recognised as being in full control of the exhibition building and its management.

Tables occupying the centre of the Hall, and other prominent positions, are to be let by private tender; other tables varying in charges from 4s. to 2s. per square foot. Certain floor space will be let at 1s. per square foot.

Medical Magistrate.—Dr. J. Llewelyn Williams, of Wrexham, has been appointed a magistrate for the County of Denbigh.

The Committee of the Central London Ophthalmic Hospital, Gray's Inn Road, have received a donation of £400 from Mr. James Packe towards the building fund of the hospital.

A telegram from Bombay, dated July 12th, states that official statistics show that the plague has disappeared. An abnormal mortality, supposed to be due to natural causes, has appeared in one district, and the Plague Committee have been asked to investigate it.

SPECIAL CORRESPONDENCE.

PARIS.

The Action of the X Rays on Tuberculosis.—The Paris Water Supply.—The Russian Plague Commission.—A New Pasteur Medallion.—General News.

PROFESSORS BERGONIÉ AND MONGOUR, of Bordeaux, have made experiments to ascertain the action of the *x* rays on tuberculosis. The results are not very favourable. In two cases of acute phthisis, in which alcoholism and privation aggravated the condition, their influence was absolutely negative, both locally and generally. In three cases of chronic pulmonary tuberculosis there was immediate general improvement. During six weeks there was general and local improvement, but afterwards a fresh development of tuberculous material took place. In three other cases of pulmonary tuberculosis treated by the Roentgen rays, the disease ran its usual course apparently quite uninfluenced by the rays. Professors Bergonié and Mongour consider that probably the pulmonary parenchyma under the influence of the *x* rays becomes so organised that it is better able to resist the inroads of Koch's bacillus.

Paris has a supply of 240,000 cubic metres of water for a population of 2,500,000. During the drought in 1895 the supply fell to 197,000 cubic metres; certain districts were supplied with Seine water, and the public health thus endangered. Since the recent discussion in the Chamber of Deputies and the Senate, in which all who spoke advocated passing the law for bringing the Loing and Lunain waters into Paris, and thus adding to its water supply, M. de Selves, the Prefect of the Seine, has declared that he will take counsel with the best scientific authorities as to the mode of carrying out the project. A Commission has been formed, of which M. de Selves is president.

M. Roux, of the Pasteur Institute, laid before the Paris Academy of Medicine an account of the result of the researches made by the Russian scientific mission in the laboratory organised at the French Consulate at Bombay. The cases of plague studied by the mission belong to two groups—bubonic plague and plague pneumonia. The primary bubo observed in most of the patients is generally formed by a mass of glands. Bacilli are present in abundance in the buboes, and also in the spleen and blood. The plague pneumonia is lobular; the bronchial glands are swollen. Death always ensues. Plague does not appear to be transmitted by the digestive tract. Virus was introduced into the stomach of monkeys with negative results. Monkeys were also treated with Yersin's serum. After 10 or 14 days' immunity it ceased. Monkeys attacked by plague are cured if Yersin's serum is administered sufficiently early. This treatment fails in plague pneumonia. The mortality appears to have been lowered from 80 to 40 per cent., although owing to want of time the quality of the serum used is inferior to that experimented with by Yersin in China.

A medallion was voted for by the Municipal Council in 1894 for the purpose of commemorating Pasteur's work achieved in the laboratories of the Rue d'Ulm, which are now the École Normale Superieure. The marble slab was placed in the outer wall of the school bearing the following inscriptions:—

Here was Pasteur's Laboratory.
1857. Fermentations.
1860. Spontaneous Generations.
1865. Diseases of Wines and Beers.
1868. Silkworm Diseases.
1881. Virus and Vaccines.
1885. The Prophylaxis of Rabies.

On July 13th the bronze medallion which completes the monument was placed on the black marble slab. It is the work of M. Patey, a pupil of M. Roty. The medallion is of bronze with a gilded background. A marble rose-coloured oak and laurel leaf wreath frames it. The features of M. Pasteur were drawn from the celebrated Pasteur Medal by Roty.

The library at the St. Louis Hospital founded by Dr. Foulard, who perished in the Charity Bazaar fire, is to be named after him. A subscription is opened for collecting funds to erect a bust to his memory.

M. Auguste Lumière has pointed out to the Minister of Commerce that the use of *x* rays for examining the parcels sent by parcel post would spoil photographic plates and paper contained in them.

Eighteen thousand children born in Paris are inevitably put out to nurse every year.

BERLIN.

A Leprosy Conference in Berlin.—The Housing of the Pathological Specimens of the Berlin University.—General News.

PRINCE HOHENLOHE, the Chancellor of the German Empire, has, by diplomatic dispatch, informed the Governments of all civilised States that an International Leprosy Conference is to be held in Berlin in October; and has requested that steps may be taken to draw the attention of those interested in the subject both at home and in the Colonies to the meeting, as well as to aid such persons in attending it. No addresses will be delivered at the Conference, though papers will of course be read.

A new fireproof building is about to be erected for housing the collections of the Pathological Institute of the Berlin University. These celebrated collections—many of the specimens in which are unique—have hitherto been stored in a place that offered little protection in event of fire. At last Professor Virchow's earnest and oft-repeated demand for safer quarters has been acceded to.

A homœopathic Pharmacopœia for Germany is in course of preparation, which is to be officially recognised. On August 11th the Superintending Committee, which is composed of homœopathic doctors, dispensing chemists, and a few university professors, will hold its first meeting in Berlin.

ST. PETERSBURG.

The International Congress in Moscow: a Correction.—The Reception of Deputations by the Czar.—An International Prize.—Proposed International Jenner Society.—The General Meetings and Orations.—Other Arrangements.

THE approaching Congress in Moscow is naturally the chief topic of medical interest at present in this part of the world. I regret that one detail in my last letter to the BRITISH MEDICAL JOURNAL relating to the free railway tickets was incorrect, though at the time it was written it was in accordance with the public statement of the Organising Committee. But a second statement has since been published from which it seems that both the homeward and outward routes selected by an intending member should be mentioned in applying for the railway tickets and not the outward route only.

The arrangements for the reception by the Czar of representative members of the Congress have recently been published. This will take place on August 17th (5th) in St. Petersburg. The deputation will consist of one representative from each country, the choice of representatives being left to the national committees of the different countries. The presentations will be made by Professor Sklifosovski, the President of the Organising Committee of the Congress. The interest of the Court in the approaching Congress has been further shown by the offer of the Ministry of the Court to accommodate twenty-three members in the Maison des Cavaliers, one of the official residences in the Kremlin. These members will be put to no charge for anything; they will be in all respects treated as guests of the Court.

The Town Council of Moscow has by a small majority decided not to give any public entertainment to the members of the Congress, but instead it has voted a capital sum sufficient to institute a triennal prize of £200, which will be offered for the best work upon public hygiene or the study of epidemics. The prize will be open to members of all nationalities, and will presumably be awarded at each successive Congress. No further details of the proposal have yet been published.

The Secretary of the Russian National Health Society, Dr. Hubert, will propose at the International Congress in Moscow the formation of an International Jenner Society. The object of such a society would be the encouragement of vaccination and the collection and publication of facts and statistics in connection with small-pox and vaccination. No-

details of the proposal are yet at hand, but the suggestion seems one well worthy of consideration. The Society would have branches in every country in the world. The author of the proposal suggests that the society should be called "Jennerianum."

The three general meetings of the Congress are fixed for August 19th (7th), August 22nd, (10th), and August 26th (14th). The first will take place in the "Nobility Club" (Blagorodnoé Sobranjé), the other two in the Grand Theatre. The following orations will be read at the general meetings in addition to those already announced by Professor Virchow on "The *Rôle* of the Vessels in Inflammation"; by Professor Lannelongue of Paris on "The General Treatment of Surgical Tuberculosis"; by Professor Robert of Barcelona on "The Characteristics of Human Pathology in its Relation to Therapeutics"; by Professor Metchnikoff on "Plague"; and by Professor Lukianof on "Inanition of Cell Nuclei."

The various offices in connection with the Congress will all, it is said, be accomodated in the great Manège, or riding school, which at the time it was built had the largest span of roof, unsupported by column or pillar, of any building in the world. This building is almost exactly opposite the university. The medical profession of Moscow will entertain the members of the Congress at a concert conducted by the Philharmonic Society. It has been found impossible to arrange for a gala theatrical performance in the Grand Theatre, as at this time of year all theatres are closed in Russia and the actors dispersed in various directions.

CORRESPONDENCE.

MEDICAL DEFENCE.

SIR,—As signatories of the requisition for an extraordinary general meeting, and under the ninth Article of Association, we avail ourselves of the medium of the BRITISH MEDICAL JOURNAL to point out to other members of the Association that our requisition and motions, though based solely on the course of events, question the claim to "supreme authority" now formally adopted and put forward by the Council in the report of the Constitution Committee.

We invite careful consideration of the important issues raised, and co-operation in satisfactorily deciding them. It is not difficult to show that the claim of the Council is unfounded. It is essential to do so, because upon our doing so rests the vital issue whether the Association is or is not to take up medical defence, that is, whether it is to "maintain the honour and interests of the profession"—which is one of the objects for which it exists—or is ignominiously to abandon them.

At no time has the profession stood more in need of firm combination, complete organisation, or adequate funds, nor could these at any time have been applied with better hopes of good results.

It is a common error to regard or represent medical defence as consisting of the prosecution of quacks and the defence of individuals from actions at law. True "medical defence" embraces all measures and objects necessary to, or consistent with, "the honour and interests of the profession," as, for instance:

1. The maintenance of our established rights, entrusted to us to promote the study and practice of our profession.
2. Prosecution of those illicit practitioners who offend against law—an office which might, perhaps, be better transferred to the police, acting under our advice.
3. Amendment of the laws against unqualified practice, and especially as to liability for fraud, injuries, and failures, by attention to which the policy of the State in restricting practice to registered practitioners can best be successfully pursued.
4. Obtaining more just conditions and a more secure tenure of office in the services than we now enjoy, as seen in the Army Medical Department and the cases of Surgeon-Captain Fowler and Dr. Lionel Smith, unjustly, perhaps illegally, dismissed Her Majesty's Service.
5. Securing a just share in State administration, with a Public Health Department under our control, as legal departments are under that of lawyers.
6. Amendments of the Medical Acts and reform of our professional corporations; giving a share in the government of the corporations to their members; securing through the corporations and otherwise control of the General Medical Council by the body of the profession, and leading to the single portal system, and some limitation of undue internal pressure and competition.
7. The correction of hospital abuse, recognising the interest of outside practitioners in their cases in hospital.
8. Restoration to practitioners of their rightful interest in medical education by return to a modified system of apprenticeship.
9. The protection of the individual practitioner against unfounded actions at law and other wrongs inimical to the pursuit of science and to the fulfilment of our delicate and highly responsible duties.

In the advancement of these natural aspirations and worthy objects, we are entitled to expect the influence and, as far as possible, the help of our leading men and great professional corporations; but such influence and help are for the most part systematically withheld.

The General Medical Council refuses to make good or maintain the rights for which it takes our fees under the Medical Acts, and connives at breaches of the Acts by consenting to licences in midwifery being granted to unregistered persons—permitting an Act of Parliament entrusted to it to be overridden by the sanction of the Privy Council.

The Royal College of Surgeons of England refuses to protect the rights of its Members as promised in its by-law, though grossly and maliciously violated; and declares that to canvass for patients or earn profits for lay employers is not, in its Members', conduct which it can control. See its minutes for February, May, and July, 1897, and memorials from Plymouth in the *Medical Times and Hospital Gazette* for May 15th and 23rd, 1897.

As a member of the General Medical Council, Mr. Bryant repudiates responsibility to those who appoint him, and they acquiesce. The Council of the College of Surgeons repudiates responsibility to its electorate, and its electorate, in general meeting, solemnly acquiesces. In these instances the profession falls under usurpations of despotic control.

To overcome these usurpations and reform our Corporations, including the General Medical Council, energetic combined action, organisation, and funds are, as we have said, absolutely necessary; and they could be applied with every prospect of success, for in the instances referred to our rights are irresistible. Only the British Medical Association possesses the organisation and the means to inaugurate and maintain a great movement for these great ends, and all who do not profess to be ashamed to defend the rights by which they live desire to see it take lead in such a movement.

We will leave it to you to judge whether, instead of assisting us to defend our rights and to resist the encroachments and reform the errors of our Corporations, our Council is not following in their footsteps in repudiating medical defence, and in attempting to usurp "supreme authority" (*vide* Report of Constitution Committee, BRITISH MEDICAL JOURNAL, July 17th, 1897). By adopting the report of the Constitution Committee the Council adopts the claim it contains. It has delayed for two years to carry out the resolution of the annual meeting of 1895, passed with only two dissentients at a meeting attended by over a thousand members, directing it to take power to undertake medical defence. It has delayed for one year to legalise the Birmingham special resolution, confirmed at the large meeting at Carlisle, amending the Memorandum of Association, and expressly providing for medical defence, and has thus assumed and exercised the supreme authority it now formally claims. For such a claim, for such a usurpation, the Council has not a vestige of justification.

The pretext—*vide* the same report—is that its members are responsible only to the Branches which elect them. But the Branches do not elect the whole Council. There would be a Council with the same powers if not a single Branch returned a member—*vide* By-law 17. "Until election by any Branch of.....representative members, or so far as such election shall not be complete, all the powers conferred on the Council shall be exercised by the *ex officio* members thereof alone."

Therefore, representatives of Branches bring no new powers to the Council, and relieve it of no responsibility whatever.

The Articles of Association are of higher authority than the by-laws, which must be construed subject to the Articles. Article 25 is as follows: "The business of the Association shall be managed by the Council, and the constitution, duties, powers, and mode of procedure of the Council shall be determined on from time to time by the Association in general meeting."

In face of this supreme power of general meetings, which constituted and can modify or remove the Council, limit its powers, and specify and define its minutest duties, what becomes of the claim of the Council to supremacy or to independence?

Article 27 defines the position of the Branches. Their sole object is "the wider diffusion of the benefits of the Association," and the article proceeds, "Branches shall be so constituted and shall have such powers and privileges and shall be subject to such obligations as shall be determined on from time to time by the Association in general meeting." So that the right of appointing representatives to the Council was conferred, and can be rescinded, by general meetings, and, of course, its exercise in the like way be limited and controlled.

We think we have shown that in making such a claim there has been a grave error of judgment, and that the Council has been ill-advised. Even more to be regretted is, we fear, the cause of this amazing error—apparently a determination to prevent the Association from taking up medical defence.

The grounds long advanced by the Council for resisting this measure were:

(1) That under the Memorandum of Association our funds could not be applied for the purpose.
(2) That the Association is a purely scientific body.

If the first contention were correct, much of the work of the Parliamentary Bills Committee would be outside the scope allowed by the Memorandum of Association, expenditure for that work would be a misappropriation of our funds, and the money misappropriated would be recoverable from those who misappropriated it.

The contention that the Association is purely a scientific body is negatived by the Memorandum of Association, which declares one of its object to be "the maintenance of the honour and interests of the medical profession." This is not science. It is medical defence. But by the alteration of the Memorandum of Association these chimerical objections are swept away.

By rejecting the Treasurer's amendment to postpone further proceedings till a scheme should be adopted, the Birmingham meeting, in effect, instructed the Council to proceed without waiting for a scheme. This instruction was not modified by the meeting at Carlisle, which authorised the Council to submit to the Branches the schemes and proposed amendments, but not the question of taking up medical defence. The Council disregarded the instruction, and deferred legalising the special resolution, and, besides intricate and conflicting schemes bristling with novelties and difficulties, submitted to the Branches the question whether they were in favour of taking up individual and collective medical defence—a measure three times resolved on by the Association in general meetings.

The terms of the question, by connecting both forms of defence together, arrayed against collective defence the opponents of individual defence, whilst the over-detailed, intricate, and unwieldy schemes were well calculated to alarm and deter even warm advocates of medical defence. A short and comprehensive scheme dealing with leading principles would have met with general acceptance; but the complacency with which the Council reports the results of its policy cannot fail to suggest the ancient maxim, "*divide et impera.*"

The root of the stubborn opposition to medical defence is the idea that it is derogatory to our dignity.

In every calling, in every society, the defence of common rights and mutual interests is accounted honourable. Those who affect to despise it must cease to use their rights, or be convicted either of gross inconsistency or Pharisaical hypocrisy. Contempt can attach only to claims of rights not justly ours, or to an ungenerous use of our rights.—We are, etc.,

HUGH WOODS, Archway Road.
JOHN GABE, Mecklenburgh Square.
R. B. ANDERSON, 30, Montague Place, W.C.
THOS. S. GIMSON, Fitzroy Square, W.
H. R. SMITH, Gordon Street, W.C.
JOHN H. VINRACE, Gower Street, W.C.

SIR,—I think it will be interesting to the members if you will allow me to supplement the report of the Council on this question by giving the results of the voting as far as I have been able to ascertain them. It is much to be regretted that some of the Honorary Secretaries did not send out voting cards to all their members.

TABLE I.—*Branches in Favour of Medical Defence.*

Name.	Number of Votes For.	Number of Votes Against.	Majority For.
Bath and Bristol	61	0	61
East York and North Lincoln	11	5	6
Edinburgh	72	59	13
Hong Kong and China	14	0	14
Jamaica	14	8	6
Lancashire and Cheshire	70	5	65
North of Ireland	45	0	45
North Wales	10	8	2
Oxford and District	?	?	?
Perthshire	6	5	1
Queensland	?	?	?
Shropshire and Mid Wales	9	3	6
South-Eastern	93	43	50
Southern	16	5	11
South Midland	28	13	15
South Wales and Monmouthshire	56	7	49
South-Western	87	8	79
Thames Valley	24	20	4
Worcester and Hereford	18	17	1
South Midland	?	?	16

TABLE II.—*Branches not in Favour of Medical Defence.*

Name.	Number of Votes For.	Number of Votes Against.	Majority Against.
Aberdeen, Banff, and Kincardine	?	?	?
Birmingham and Midland Counties	16	21	5
Border Counties	4	17	13
British Guiana	0	22	22
Burma	0	6	6
Cambridge and Huntingdon	1	13	12
Dorset and West Hants	?	?	?
Dublin	?	?	?
Dundee and District	13	19	6
East Anglian	26	54	28
Glasgow and West of Scotland	?	?	?
Halifax and Nova Scotia	?	?	?
Metropolitan Counties	20	41	21
Midland	0	13	13
North of England	8	10	2
Reading and Upper Thames	?	?	?
Staffordshire	2	23	21
Stirling, Kinross, and Clackmannan	8	9	1
*West Somerset	11	11	0
Yorkshire	0	29	29
Northern Counties of Scotland	?	?	?

* This Branch should have been placed in both Tables.

It will be noticed that there is a very considerable majority of members in favour of medical defence. It will also be noticed that many of the larger branches—for example, the Bath and Bristol, the Lancashire and Cheshire, the South-Eastern, the South-Western, the South Wales and Monmouthshire, and the Edinburgh—have recorded a large number of votes in favour of it.—I am, etc.,

Cardiff, July 19th. T. GARRETT HORDER.

SIR,—The present position of the Association with regard to medical defence requires clear definition, so that at the approaching annual meeting there may be no misunderstanding on the subject. At the annual general meetings

of 1895 and 1896 resolutions were passed in favour of systematic medical defence being undertaken by the Association, and in deference to resolutions of the same tenour passed by twenty-eight Branches, it was decided that a scheme of medical defence should be drawn up, and placed before the Branches for their approval. During the past year this has been done, with the result that there appears to be much difference of opinion in the Association, not only as to the merits of the scheme, but also as to the advisability of our Association systematically undertaking medical defence. Whether it is that members cannot make up their minds on the subject, or whether it is that the majority will not take the trouble to record their votes, the fact remains that only one tenth of the members entitled to vote on this subject have voted, and the result is about equal. It is quite certain that it would be an extremely ill-advised action to make such a pronounced departure in the policy of the Association, without an overwhelming majority in favour of it, and this majority we have not as yet obtained. It therefore follows that at the present time the scheme proposed, under which the Association should systematically undertake medical defence, cannot be further proceeded with.

The case is entirely different with regard to the resolutions passed in a constitutional manner by two special general meetings held in 1896—under the provision of the Companies (Memorandum of Association) Act, 1890—which directed that the Memorandum of Association should be made perfect. The case for the proposed amendment was shortly as follows: The present Memorandum states that the objects for which the Association was founded are two in number: First, the promotion of medical and allied sciences; and, secondly, the maintenance of the honour and interests of the medical profession, but through an oversight on the part of those who drew up the Memorandum, while power is given to the Council to spend money on the first object, no further mention is made of the second. Our position, therefore, is somewhat remarkable. In effect, we say that our Association is to do what it can to promote medical science, and to maintain the interests of the profession, and that the Council may spend money on the advancement of medical science, leaving the question as to how the second object is to be attained an open one. The resolutions passed at the special meetings aimed at amending this anomalous and faulty Memorandum, and the Council was directed to take the necessary steps to add the omitted permission to spend money on the second object of the Association's existence to the Memorandum.

These resolutions are only indirectly connected with medical defence, and do not in any way bind the Association to systematically undertake medical defence, about the advisability of which there is much difference of opinion. The Memorandum, amended according to these resolutions, gives the Council power to devote money when and how they think fit towards the maintenance of the honour and interests of the medical profession, and leaves to the Council the right of deciding whether in any particular case such expenditure is justifiable.

It would be most lamentable if such a desirable amendment of the Memorandum were opposed by any member under the mistaken impression that it had directly to do with the proposed systematic undertaking of medical defence by the Association, which cannot at present be further proceeded with. We are all agreed as to the advisability of having a perfect and satisfactory Memorandum of Association, and as to the necessity of amending our present one, which is so vague and ambiguous that every question relating to it has to be referred to counsel, often with the result of making confusion worse confounded, and always with a useless expenditure of money.

It will be seen in another column that a special meeting has been called before the annual general meeting to consider various resolutions relating to the delay that has taken place in the carrying out of the resolutions of the special meetings of 1896. It is most earnestly hoped that every member who has the welfare of the Association at heart will attend the meeting and vote on the subject, and that in voting he will disabuse his mind of the impression that the resolutions in question necessarily involve the systematic undertaking of medical defence by the Association.

I have no doubt that a satisfactory reason will be given for the delay, and that the Council will strive now, as it has always done, to meet the wishes of the members. It is difficult to see how any reasonable objection can be raised to the resolutions, when they are understood thoroughly.—I am, etc.,

Great Bookham, July 19th. A. G. WELSFORD.

THE PROPOSED OBSTETRIC NURSES BILL.

SIR,—I have read the Obstetric Nurses Bill with great interest. It is obviously founded on the draft Bill of the Lancashire and Cheshire Branch, upon which it is a great improvement. The "Austrian" absurdity clause, which permitted obstetric nurses to "operate" upon women and children, is gone. Gone, too, is the famous 15th clause, with its elaborate nonsense. It is to be admitted that to be exempted from the "Act" is better for medical practitioners than to be exempted only from "this Section." It is satisfactory also to learn that the Obstetric Nurses Board is to find the necessary funds to carry on this Act—may they never be required!—and not the General Medical Council. But with these points the satisfaction ceases. The obstetric nurse is still "to see at once that a registered medical practitioner is called in" in certain eventualities; "to demand medical assistance" on other occasions; and to "more particularly insist upon a registered medical practitioner being called" on special occasions, as when "the perineum is ruptured." Of course she cannot "see" or "demand" or "particularly insist" upon a medical practitioner being called in at all, nor will she be desirous of doing so except in such cases as she cannot "manage" by herself. If she "manages" to get a confinement "over" without medical assistance, whether it comes under the scheduled prohibitions or not, nothing more will be heard of it.

I venture to predict that if this Bill or a similar one be passed by Parliament, it will be the first step on a road which will ultimately lead to the practice of midwifery being taken out of the hands of the general practitioner altogether. Of course I only refer to England and Wales.—I am, etc.,

Salford, July 18th. R. HANSON WOLSTENHOLME.

INTERNATIONAL MEDICAL CONGRESS, MOSCOW.

SIR,—I have to-day received a letter from Professor Roth, in which he states (1) that cheques for £1 are received in full discharge of the membership subscription; (2) that the preparation of the free railway tickets in Russia, and the *cartes de légitimation* is in active progress, but that delay is occurring from the want of exact information from members as to the route chosen by them in entering and leaving Russia; (3) that in a few days a fresh supply of the pamphlet, *Renseignements divers*, will arrive.

To meet the second difficulty a small form, to be sent at once to Professor Roth, has been prepared and issued to every member of the profession who has obtained his form of inscription from me, and copies of this form will be issued to anyone requiring them.—I am, etc.,

47, Charles Street, Berkeley Square, W., July 19th. G. H. MAKINS.

EXTIRPATION OF THE OVARIES AS A CURE FOR CANCER.

Sir,—In the BRITISH MEDICAL JOURNAL of July 17th, I am surprised to find Dr. Malcolm hesitating to accept Dr. Whiteford's statement "that primary, as distinguished from secondary carcinoma of the ovary, is most rare."

There cannot be the slightest doubt as to the accuracy of this statement, which has an important bearing on the matter under discussion.

Dr. Malcolm asks for evidence in support of it. This I have much pleasure in giving, as follows:—

Primary cancer of the ovary is a decidedly rare disease. Of 4,628 cases of primary cancer in women, consecutively under treatment at four large London hospitals, in only 27 was the ovary affected, or in 0.58 per cent. of 7,035 cases of primary cancer in women, under treatment at the chief Vienna hospitals, Gurlt found that the ovary was the seat of the disease in 71, or in about 1 per cent.

Thus of these 11,663 primary cancers in women, the ovary was the seat of the disease in 98, or in 0.84 per cent.

Now of 155 consecutive necropsies in women who had died of all kinds of cancer, I have found that secondary deposits were present in the ovaries in 15, or in 9.6 per cent.

Of Török and Wittelshöfer's 423 necropsies for breast cancer, in 8 per cent. there were secondary deposits in the ovaries.

Similarly of 167 mammary cancer necropsies by Nunn and myself, secondary disease of the ovaries was noted in 8 cases, or in 4.8 per cent.

It follows from what has been stated that secondary cancer of the ovary is at least ten times more frequent than the primary form.—I am, etc.,

Preston, July 17th. W. ROGER WILLIAMS.

SIR,—Dr. Malcolm's letter, by mixing sarcoma with carcinoma, tends to obscure the point at issue. My last letter, and this, refer exclusively to carcinoma. The authority for whom Dr. Malcolm asks is Mr. Bland Sutton, who, in Treves's *System of Surgery*, sums up as follows:

"*Carcinoma.*—Many tumours described as cancer of the ovary are sarcomata, the alveolar disposition being due to ovarian follicles entangled in sarcomatous tissue. Primary cancer of the ovary requires further investigation. Infection of the ovary secondary to cancer of the mamma or the uterus is very common."

The conviction "that secondary new growths of any kind are rare in the ovary," if acted up to, is likely to produce some remarkable operations.—I am, etc.,

Plymouth, July 18th. C. HAMILTON WHITEFORD.

AN EXAMINATION PAPER ON PHYSIOLOGY.

SIR,—The meaning of the mystic letters L.L.A. is unknown to me, also the authorship of the paper you published last week. A sufficiently obvious explanation of the apparent grotesqueness of that paper might lie in the fact that it was set on a certain textbook or course of lectures, not on a branch of learning. It is by no means unique; scores of such papers come into existence yearly.

The art of passing scientific examinations is said to consist in a careful study of the examiner's opinions on debatable points; if he be a man with a well-marked *kakoëthes scribendi*, this is comparatively easy; if not, the paper must be taken on common-sense lines, the *vivâ voce* must embrace a delicate probing of the examining mind on the part of the examinee.

It would be vain to suggest that this system was avoidable or even undesirable—postulating the necessity of examinations. Progress is the outcome of individual energy; the breed is improved by selections, not by wholesale cramming of mediocre crops. No doubt the fittest men achieve examinership; it is then only decent and becoming that their predilections be allowed.—I am, etc.,

Doncaster, July 18th. SIDNEY K. VINES.

THE ARMY MEDICAL EXAMINATION.

SIR,—Next week the list closes for intending candidates for the forthcoming examination for commissions in the Army Medical Staff. This will be the last opportunity the BRITISH MEDICAL JOURNAL will have for some months of again impressing on the misguided young men who intend presenting themselves at this "competition" how utterly hopeless it is to expect any concessions to our just demands from the "military authorities," and the present Commander-in-Chief if they persist in coming forward to fill up the vacancies that exist in this snubbed and down-trodden department. If once again you tabulate the "advantages" of the Army Medical Staff and its disadvantages, including the latest, namely, eighteen months to two years home service after five and a half years of India, and they still persist in offering themselves, all I can say is, that they richly deserve all they get, and any sympathy from the civil profession is utterly wasted on them. For once in a way ask them to be true to their profession and to their colleagues in the service, most of whom are looking for and with longing for release from a branch of the army where they are grudged gentlemanly treatment and their proper position.—I am, etc.,

July 18th. B. R.

ANTIVENOMOUS PROPERTIES OF THE BILE OF SERPENTS.

SIR,—With reference to Dr. Fraser's recent addition to his valuable papers on Serpent Venom, in which he states that the bile of serpents possesses anditotal properties, it may interest some of your readers to know that in Buckinghamshire we used always to be told by wise villagers that the remedy for a viper bite was to kill the common viper, cut it open quickly, extract the liver, and rub the liver well on to the bitten part. This was considered an infallible cure, and I remember we were told that the viper's liver contained an oily substance which was an antidote to the reptile's bite. This treatment was laughed at by the educated, but was firmly believed in by the peasants, and I have seen two individuals who told me that they had been "cured" in this way. But I myself have never had an opportunity of testing the efficacy of the treatment.—I am, etc.,

Savile Club, W., July 19th. F. L. SANDWITH, M.D.

THE MIDWIVES BILL OPPOSITION.—A CORRECTION.

SIR,—In the BRITISH MEDICAL JOURNAL of July 17th, p. 187, and in my letter, you print the word "£6." It should be "£60."—I am, etc.,

Liverpool, July 19th. R. R. RENTOUL.

*** Dr. Rentoul's letter was printed exactly according to his manuscript.

NAVAL AND MILITARY MEDICAL SERVICES.

A.M.S. AND I.M.S. OF THE TOCHI FIELD FORCE.

THE following are the medical officers of the Tochi Field Force:

P.M.O.—Surgeon-Colonel Carew, A.M.S., D.S.O.

No. 2 British Field Hospital.—Surgeon-Majors Townsend and Skinner, Surgeon-Captains Manby and Johnson.

Sections A. and B. No. 3 British Field Hospital.—Surgeon-Major Kelly, Surgeon-Captain McDowell.

No 28 Native Field Hospital.—Surgeon-Lieutenant-Colonel Mawson, Surgeon-Major Cretin, Surgeon-Captains Gee and Mulvaney.

No. 29 Native Field Hospital.—Surgeon-Lieutenant-Colonel Simmonds, Surgeon-Captain McLeod, Surgeon-Lieutenants Morgan and James.

No. 38 Native Field Hospital.—Surgeon-Major Hudson, Surgeon-Captain Elliott, Surgeon-Lieutenants Scott Moncrieff and Morehead.

Native General Hospital at Bannu.—Surgeon-Major Mukerji, Surgeon-Captain Rogers, Surgeon-Lieutenant Dee.

With the Argyle and Sutherland Highlanders, Surgeon-Captain Swan; the Rifle Brigade, Surgeon-Major O'Donnell; 14th Sikhs, Surgeon-Captain Irvine; 25th Bengal Infantry, Surgeon-Captain Drake-Brockman; 33rd Bengal Infantry, Surgeon-Captain Evans; 1st Sikhs, Surgeon-Captain Seton; 1st Punjab Infantry, Surgeon-Captain Ozzard.

THE A.M S. SECRETARY TO P.M.O. INDIA.

IT is difficult, owing to conflicting statements on the subject, to estimate how far the abolition of this appointment at Simla is due to the former P.M.O. in India, or to the officer at present holding that position. One thing is clear, that during the Army Corps reorganisation some years ago it was settled that one Secretary alone would be sanctioned by the Government, and that this officer should belong to the Indian Medical Service. It was, however, permitted that the second Secretary (of the A.M S.) should be continued for a year. Under this ruling Brigade-Surgeon-Lieutenant-Colonel Exham retained his appointment until quite recently. It should be distinctly understood that the condition on which the Government of India gave an extra surgeon-major-general as Principal Medical Officer, under the Army Corps organisation, was that there was to be a reduction of expense, and it is reported, on information which appears to be authentic, that Surgeon-Major-General Bradshaw, formerly P.M.O. in India, sanctioned the abolition of the Army Medical Staff Secretary at the time the Government of India contemplated the changes in army commands. The retention for an extra year of the A.M.S. Secretary was, we are informed, due to representations by the present P.M.O. in India. It is much to be regretted that an appointment worth some Rs.1,400 a month should be lost to the executive rank of the British medical service, but it would appear to be a necessary outcome of the Indian Army reorganisation scheme. A second Secretary would have enabled the Principal Medical Officer in India to have taken one officer to accompany him on tours of inspection, a very necessary step on such occasions.

THE NAVY.

THE following appointments have been made at the Admiralty: BERNARD RENSHAW, Fleet Surgeon, to the *Victory*, July 20th; ISAAC H. ANDERSON, M.D., Fleet Surgeon, to the *Pembroke*, July 20th; WILLIAM E. HOME, M.D., Surgeon, to the *Tamar*, July 20th; ROBERT HILL, Surgeon, to the Royal Marine Artillery, Eastney, July 20th; ALBERT X. LAVERTINE, Surgeon, to the *Victory*, July 20th; ARTHUR H. H. VIZARD, Surgeon, to the *Urgent*, July 20th; WALTER BOWDEN, D.S.O., Surgeon, to the *Crescent*, July 20th, GEORGE T. COLLINGWOOD, Surgeon, to the *Renown*, July 20th, and afterwards to the Jamaica Hospital, undated; OCTAVIUS S. FISHER, Surgeon, to the *Crescent*, undated.

ARMY MEDICAL STAFF.

SURGEON-GENERAL ADAM GRAHAM YOUNG died at Leith on June 10th. He was appointed Assistant-Surgeon, May 5th, 1854; Surgeon, June 20th, 1865; Surgeon-Major, March 1st, 1873; Brigade-Surgeon, November 7th, 1879; Deputy-Surgeon-General, August 23rd, 1882; and Honorary-Surgeon-General on retirement, December 10th, 1884. He served in the Crimea with the 2nd Battalion Rifle Brigade, and was present thoughout the size of Sebastopol (medal, with clasp, and Turkish medal). He was also in medical charge of the 2nd Battalion 60th Rifles throughout the campaign of 1860 in China, receiving the medal, with two clasps, for the capture of the Taku Forts and the surrender of Pekin.

Surgeon-Major PATRICK J. NEALON, M.D., is placed on temporary half-pay on account of ill-health, June 5th.

Surgeon-Captains JOHN D. FERGUSON and GEORGE S. M'LOUGHLIN are seconded for service in East Africa, June 18th.

ARMY MEDICAL RESERVE.

SURGEON-CAPTAINS JOHN P. ATKINSON. M.D, and JOHN P. MASSINGHAM are promoted to be Surgeon-Majors, July 21st.

INDIAN MEDICAL SERVICE.

BRIGADE-SURGEON GEORGE EDWARD WHITTON, M.B., late of the Madras Establishment, died at Kensington Mansions, Nevern Square, on July 8th, at the age of 65. He was appointed to the department, January 29th, 1857, became Surgeon twelve years thereafter, and retired from the service, August 8th, 1882, with the honorary rank of Brigade-Surgeon.

Surgeon-Colonel G. C. ROSS. Bengal Establishment. is permitted to retire from the service, from October 1st next. He was appointed Assistant-Surgeon, October 2nd, 1865, and became Surgeon-Colonel, January 1st, 1894.

Brigade-Surgeon-Lieutenant-Colonel G. A. MACONACHIE, M.D., Bombay Establishment. also retires from June 22nd. He entered the service as Assistant-Surgeon. April 1st, 1867, and was made Brigade-Surgeon-Lieutenant-Colonel, May 1st, 1890. He was with the 3rd Sind Horse in the Abyssinian war in 1867-8, and received a medal for that campaign.

THE VOLUNTEERS.

SURGEON-MAJOR W. S. BURROWS, 1st Sussex Artillery (Eastern Division Royal Artillery), is promoted to be Surgeon-Lieutenant-Colonel, July 14th.

Surgeon-Lieutenant W. B. MACDONALD, M.B., 1st Midlothian Artillery, is promoted to be Surgeon-Captain, July 14th.

The undermentioned gentlemen are appointed Surgeon-Lieutenants in the corps specified, dated July 14th; WILLIAM MCCLELLAND, M.B., 4th Lancashire Artillery; JOHN R. I. RAYWOOD, 5th Volunteer Battalion the South Wales Borderers; CHARLES F. SPINKS, 1st Dumbartonshire Rifles.

The undermentioned officers have resigned their commissions, July 14th; Surgeon-Lieutenant G. GEDDES. M.B., the Highland Artillery; Surgeon-Captain N. STARK, M.B., 1st Volunteer Battalion the Highland Light Infantry.

Surgeon-Captain M. E. LING, 1st Volunteer Battalion the Suffolk Regiment, is promoted to be Surgeon-Major, July 14th.

Surgeon-Captain C. C. MOXON, 2nd Volunteer Battalion the York and Lancaster Regiment, resigns his commission, and is appointed Second Lieutenant in the same corps, July 14th.

The undermentioned Surgeon-Lieutenants are promoted to be Surgeon-Captains, dated July 21st: S. W. WOOLLETT, 1st Norfolk Artillery (Eastern Division Royal Artillery); A. W. DALBY, 3rd Volunteer Battalion the Prince Albert's Somerset Light Infantry; G. HERSCHELL, M.D., 22nd Middlesex Rifles (Central London Rangers).

The undermentioned gentlemen are appointed Surgeon-Lieutenants in the corps specified, dated July 21st: THOMAS EASTON, M.D., 1st Ayrshire and Galloway Artillery; CHARLES E. HUMPHREYS. 5th Volunteer Battalion the South Wales Borderers; ROBERT P. SHEARER, M.B., 1st Nottinghamshire (Robin Hood) Rifles.

Surgeon-Captain A. MECHAN. M.B., 1st Lanarkshire Engineers, is promoted to be Surgeon-Major, July 21st.

The Volunteer Officers' Decoration has been conferred upon the undermentioned officers: Surgeon-Major JOHN KNOX, 2nd Volunteer Battalion the Sherwood Foresters (Derbyshire Regiment); Surgeon-Lieutenant-Colonel W. T. WHITMORE, 3rd London Rifles; Surgeon-Lieutenant-Colonel JOHN J. K. DUNCANSON, M.D., 1st Edinburgh (City) Volunteer Artillery.

VOLUNTEER MEDICAL STAFF CORPS.

MR. THOMAS W. BARTLETT is appointed Surgeon-Lieutenant in the Woolwich Company, July 21st.

A WORD TO CANDIDATES.

AN OLD ARMY MEDICAL OFFICER writes, warning candidates for the Medical Staff of the position they will find themselves in should they enter. No matter what their qualifications, or how high they may stand in their universities and schools, they will sink to a dead, low level in the service: and even be spoken of as professional dullards and the "scum of the schools." They will find the title of "doctor" in the army not one of honour, but carrying with it social and service disabilities intolerable to a proud and sensitive gentleman.

SURGEON-MAJOR also writes, relative to material advantages and "concessions" lately supposed to be made to the Army Medical Service, they practically really mean nothing; as regards leave, for instance, a mere "regret you cannot be spared at present" overrides all rules. So of equality on mixed Boards: the medical officer will be detailed to "attend" as before. Also, if a medical officer holds out for his official rights he runs the risk of being confidentially reported by his military superiors as "wanting in tact," which report will effectually bar his promotion to the higher ranks.

DIPHTHERIA AT DEVONPORT.

THE reply given in the House of Commons to Captain Cecil Norton's question on this subject on July 15th, substantiates in every particular the comments we made in the BRITISH MEDICAL JOURNAL of July 17th. It now appears that as far back as April, 1896, the Administrative Medical Officer at Devonport reported the drains at the Raglan Barracks to be in an unsatisfactory state, and yet this insanitary condition was allowed to continue without any remedial action being taken. As might have been expected loss of health and loss of life ensued. This is not by any means the only example of sanitary recommendations by the Medical Department being set aside until circumstances arise which justify the views of the Medical Service, and force the War Office to act up to them.

INSTRUCTION IN HAFFKINE'S SYSTEM.

GOVERNMENT have approved of the suggestion put forward by the Surgeon-General with the Bombay Government that civil surgeons may be ordered as a matter of duty to proceed to the nearest station, where they can learn M. Haffkine's system of cholera inoculation, so that they may be entitled to travelling allowances, which they would not be if sent on casual leave.

LEAVE FOR MEDICAL OFFICERS.

FROM communications we receive, the "concession" announced with a flourish some short time ago—that civil practitioners would be employed in districts shorthanded, to enable medical officers to get leave—is practically a dead letter. "Disgusted" writes: Instead of civil medical practitioners being engaged for duty in districts in order to let medical officers get their leave, it is a fact that in at least one station two medical officers have had their leave cancelled on account of shorthandedness. What, he asks, is the good of a promise not carried out? Will such treatment draw candidates for August next? "Sold Again" also writes: The recent order to employ civilians when medical officers require leave is completely ignored, study leave a myth. More than that medical officers of senior rank are now placed on orderly duty every third and even on alternate days. All this is most encouraging for would-be candidates.

THE LATE SURGEON-GENERAL READE, C.B., V.C.

THE memory of this gallant officer is still so fresh and affectionately held in his old regiment, the 61st, that, although it is thirty-five years since he served in it, Colonel Leatham, commanding the corps. ordered mourning to be worn in it as a token of respect to a superlatively brave comrade former days.

RECALL TO SERVICE.

MEDICAL OFFICER OF 25 YEARS' SERVICE writes: I have seen it stated that, in the present dearth of numbers in the Army Medical Department, retired medical officers might be asked to serve again.

*** This is positively humorous, seeing that everyone who can afford it is retiring at the earliest opportunity. Another correspondent asks where the order empowering recall is to be found? He should consult the last Royal Warrant.

ARMY MEDICAL STAFF EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

A SURGEON-MAJOR, A.M.S., who probably has fifteen months more in England, is willing to exchange with an officer who has done part of his tour at Gibraltar. Apply—"Gibraltar," care of Messrs. Holt and Co., 17, Whitehall Place.

UNIVERSITIES AND COLLEGES.

EDINBURGH UNIVERSITY.

UNIVERSITY COURT.—At a meeting on July 12th the recognition held by the Edinburgh School of Medicine for Women, and by the Edinburgh Medical College for Women, for purposes connected with the medical education of women was continued for next academical year. The Court, after consultation with the Senatus, appointed Dr. P. McBride, Edinburgh, to be University Lecturer on Diseases of the Ear, Nose, and Throat.

UNIVERSITY OF GLASGOW.

FINAL PROFESSIONAL EXAMINATION.—The following candidates have satisfied the examiners:

M.B., C.M.—K. Adamson, J. Allan, J. Andrew, J. M. Bonar, J. R. Brown, J. R. Burns, C. Cairnie, M.A.; J. S. Christie. W. Colquhoun, M.A.; J. Crawford, J. Donaldson, W. Duncan, C. E. Fleming, G. W. Francis, J. Graham, J. Hogg, J. D. Holmes, R Kirk, G. L. Le Fevre, A. Livingston, W. Martin, M.A., B.Sc.; S. Martyn, G. B. Murdoch, A. B. Murray, N. M'Callum, J. A. C. Macewen, B.Sc.; J. M'Laws, M. N. Macleod, N. Macnair, B.Sc.; R. Nelson, W. Park, H. J. Rankin, J. Rankin, B.Sc.; J. F. Ratcliffe, N. Robson, W. K. Russell, D. S. Service, H. M. Watson, J. Wells, R. Wilson. Women: A. J. Anderson, A. K. Anderson, U. Chaplin, M. P. Graham, N. Kemp, M. A. Vakil, B.A.

M.B., Ch.B.—A. S. Allan, J. Alston, W. C. Burns, D. L. Cairns, F. J. Charteris, J. A. Clarke, G. Coats, G. W. Coats, J. D. Cochran, J. M. Corbett, W. S. Findlay, M.A.; J. F. Fleming, A. A. Forrester, T. B. Garvie, L. W. Harrison, T. Hunter, M.A., B.Sc.; A. Lawrie, W. M. Lindsay; W. G. Liston. J. W. Little, J. MacDonald, J. M'Haffie, D. M'Kail. J. M'Queene, M.A.; J. S. Ormond, J. Reid (Glasgow), N. E. H. Scott, R. Scott, A. B. Sloan, S. M. Sloan, D. S. Smith, J. M'C. Stewart, J. Strang, D. R. Thomas, W. L Thomson, W. J. A. Walker, W. Watson, E. Watt, E. R. Weir, J. Wotherspoon, D. J. Young. Women: J. H. Smith.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE Prince of Wales, on behalf of the Queen, received a deputation at St. James's Palace, on July 21st, from the Royal College of Surgeons in Ireland, consisting of Sir W. Thomson (President), Mr. R. L. Swan (Vice-President), Sir Charles Cameron (Honorary Secretary), Mr. A. H. Jacob, Mr. F. T. Heuston, and Mr. L. H. Ormsby (members of the Council), when the following address was presented:

To Her Most Excellent Majesty Victoria, Queen of Great Britain and Ireland; Empress of India.

May it Please your Majesty,—We, the President, Vice-President, and Council of the Royal College of Surgeons in Ireland, desire to be associated with your Majesty's loyal and devoted subjects in offering our warmest and most heartfelt felicitations on your completing the sixtieth year of your glorious reign; a reign unique in the history of the United Kingdom, not merely from its length but also from its being synchronous with a period of prosperity, of progress in the arts and sciences—notably in those to which we have devoted our lives—and of civil and religious liberty, which is unexampled in the annals of this realm.

We trust that your great and ever extending Empire may continue to enjoy the signal blessings that have accrued to it under Your Majesty's beneficent rule, and that the most precious gifts granted to us—health, happiness, prosperity, and peace, may for many years to come be bestowed on Your Majesty, as well as on those who are nearest and dearest to you.

William Thomson, *President.*
Robert L. Swan, *Vice-President.*
Charles A. Cameron, *Secretary.*

Council.

Archibald H. Jacob
Philip C. Smyly
Henry Gray Croly
William Stokes
W. J. de Courcy Wheeler
Thornley Stoker
Henry R. Swanzy
Edward H. Bennett
Henry Fitzgibbon
Austin Meldon
Francis T. Heuston
Charles B. Ball
Thomas Myles
Arthur H. Benson
John Lentaigne
Richard D. Purefoy
L. Hepenstal Ormsby
George M. P. Murray

Robert H. Woods, *Secretary of Council.*
George F. Blake, *Registrar.*

CONJOINT BOARD IN IRELAND.

THIRD PROFESSIONAL EXAMINATION (Four Years' Course).—Candidates have passed this examination as undernoted:

Completed the Examination.—J. C. Baskin, D. B. Bradlaw, A. Gill, D. Jackson, A. A. Woods.

In Anatomy.—E. S. Barnard, R. Crean, A. Daly, W. J. Shortt.

In Physiology.—E. S. Barnard, A. Daly, W. J. Murphy.

In Medicine.—T. S. G. Martin.

In Surgery.—W. S. Burke, T. S. G. Martin.

THIRD PROFESSIONAL EXAMINATION (Five Years' Course).—Candidates have passed this examination as undernoted:

Completed the Examination.—F. A. Benson, R. L. Davies, M. W. Falkner, P. H. Falkner, W. O'Connor, C. J. Vahey.

In Medicine.—J. M. Ahern, R. V. Brews, E. P. Connolly, D. Hadden, M. J. Hynes, S. Jacob, G. R. McDonald, W. C. Ross, G. F. Sheehan.

In Surgery.—W. R. Blackwell, R. V. Brews, E. P. Connolly, D. Hadden, G. R. McDonald, R. W. Orpen, W. C. Ross, G. F. Sheehan, F. S. Walker.

In Pathology.—W. J. P. Adye-Curran, J. M. Ahern, W. Bennett, W. R. Blackwell, D. Hadden, A. W. A. Irwin, S. Jacob, R. W. Orpen, E. E. Roberts, W. C. Ross, F. S. Walker.

In Therapeutics.—W. J. P. Adye-Curran, W. Bennett, R. V. Brews, D. Hadden, M. J. Hynes, A. W. A. Irwin, S. Jacob, R. W. Orpen, W. C. Ross, G. F. Sheehan, J. F. Preston, F. S. Walker.

In Forensic Medicine, etc.—J. M. Ahern, W. R. Blackwell E. P. Connolly, M. J. Hynes, A. W. A. Irwin, S. Jacob, W. Meagher, R. W. Orpen, F. S. Walker.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.

LONDON UNIVERSITY BILL.

THE DUKE OF DEVONSHIRE brought in this Bill, and moved the first reading without comment. The Bill was accorded a first reading.

VERMINOUS PERSONS BILL.

The EARL OF STAMFORD moved the second reading of this Bill, which, he said, was permissive in its character, and could therefore do very little harm, if any, while it might be productive of much good.—Lord HARRIS stated that the Local Government Board had no objection to the measure, and the Bill was read a second time.—At a subsequent sitting, the Bill passed through Committee, was reported without amendments, and recommitted to the Standing Committee.

This Bill came before the Standing Committee of the House of Lords, Lord HERSCHELL presiding. The chief amendment made an alteration in the short title of the Bill from "The Verminous Persons Act, 1897," to "The Cleansing of Persons Act, 1897." The Bill was ordered to be reported with amendments to the House.

LUNACY BILL.

The House went into Committee on the Lunacy Bill. On Clause 15, which gives power to the Commissioners to require amendments of regulations of hospitals, Earl RUSSELL, by way of amendment, moved the omission of the clause on the ground that it was not necessary to give such powers to the Commissioners in the case of county and other asylums which were managed by large public authorities, the members of which were elective, and whose actions were subject to criticism.—The LORD CHANCELLOR could not accept the amendment. He thought the alteration proposed by the clause was well advised. If the noble lord had suggested an alteration in the clause, or the placing of some restriction upon it, that would have been considered at a later stage before the Standing Committee, but his present proposal was to leave out the clase altogether.—Lord MONKSWELL entirely agreed that the clause as it stood gave too much power to the Commissioners in the internal management of asylums.—The Earl of NORTHBROOK suggested that where asylums were maintained out of county or borough rates the council of the county or borough should have the opportunity of making representations against the proposed rules before the Secretary of State gave his decision.—The LORD CHANCELLOR thought this a very reasonable suggestion, and said he would welcome an amendment in that direction.—The clause and clauses down to Clause 18 were agreed to.—On Clause 19, Earl RUSSELL said he did not oppose the clause, but if enforced too rigidly at first it would press somewhat hardly upon London in the present congested state of lunacy accommodation. The London County Council had 2,000 lunatics under charge for whom they had no accommodation in asylums. He frankly admitted their asylums were somewhat overcrowded, not to an extent prejudicial to health, but in a way that would be affected by this clause. The clause was reasonable in itself, but he trusted that in putting it into force some allowance would be made for the condition of things that had necessarily arisen in London. The clause and clauses to 22 were agreed to. On Clause 23, the Earl of NORTHBROOK said he had been requested by the County Councils Association to suggest that this clause might with advantage be omitted. It did not appear to have essential connection with the rest of the Bill, and county councils said, as he thought with justice, there were strong objections to it. It provided that the provisions of the Poor-law Superannuation Act, 1896, should be applied to the officers and employees of lunatic asylums, and the objection to this was that the nature of the employment of persons in lunatic asylums in constant communication with lunatics was such that the length of time required to give superannuation allowances to persons employed under Boards of Guardians was not properly applicable to persons employed in lunatic asylums. Under the present law, visiting committees could grant to any officer of fifty years of age and not less than fifteen years' service an allowance not exceeding two-thirds of his salary, subject to the control of the County Council. This law had not worked badly, and though these officials had not the absolute right to a pension, as a matter of practice it was never refused. Under the proposal in the clause future officers in the asylums would be at a disadvantage, receiving a smaller superannuation, and being subject to a 2 per cent. deduction from their salaries. The Poor-law Superannuation Act had not been received with unqualified approval throughout the country; it had been said, and he believed with truth, that the percentage was not sufficient to protect the ratepayers from loss, and there would be strong objection to the extension of the Act to another class of employees.—Earl RUSSELL joined in the appeal to the noble and learned lord to omit the clause. It would be very strongly opposed in that House and elsewhere, both on the ground taken by the noble earl and on the ground that the scale of allowance was too liberal.—The Earl of KIMBERLEY submitted that the objections urged to the clause indicated the necessity for giving careful attention to the pension scheme, and looking at the period of the session he advised the omission of the clause.—The LORD CHANCELLOR pointed out the period of the session was a cogent argument. When he introduced the Bill he mentioned that these superannuation clauses would not be pressed against any strong opposition. The proposals were attacked from two points of view—that the scale was too liberal, and that it did not do justice to persons employed in asylums. Of course, the attempt to force these clauses through might imperil the other clauses, to which there was no opposition and for which there was urgent necessity. Under the circumstances he yielded, for the prospect of opposition in the other House was a conclusive argument in the middle of July. He would propose the omission of all the superannuation clauses.—The clause, as well as Clauses 24 and 25, were omitted from the Bill. The remaining clauses were agreed to, and the Bill, as amended, was reported to the House.

Lord HERSCHELL presided over the Standing Committee on the Bill. Several of the earlier clauses, the object of which is to amend the Lunacy Acts, were agreed to. The Lord Chancellor moved the omission of Clause 9, which proposed to give to county court judges the powers conferred by the principal Act on the Judge and Masters in Lunacy in relation to persons of unsound mind within their districts whose property does not exceed £500 in value, or whose income does not exceed £50 a year. The clause was rejected. On Clause 12, which empowers the Commissioners to grant licences to houses for the reception of idiots and imbeciles, the Lord Chancellor proposed a new subsection to the effect that every house so licensed should be visited and inspected once at least in every twelve months by one or more of the Commissioners.—Earl RUSSELL said that the subsection would not be satisfactory to the London County Council, because they did not feel that such an amount of control was necessary in the case of asylums managed by public bodies. He suggested an amendment to the effect that the section should not apply to houses under the management of a committee appointed by a county or borough council.—The LORD CHANCELLOR said that he could not accept any such amendment, and the new subsection was agreed to.—On Clause 25, which gives the visiting committee of an asylum power to allow remuneration to each pauper lunatic for his labour in the asylum at the rate of one-tenth of the sum at which the committee estimate the value of the labour. Earl RUSSELL said the clause had been considered that morning by the Asylums Committee of the London County Council, and they were afraid that it would cause a good deal of confusion in working, and might possible do more harm than good. It was true that the clause was only permissive, but of course it would in practice become compulsory. The Asylums Committee thought there would be great difficulty in carrying it out, and would like to have it omitted from the Bill.—The LORD CHANCELLOR said that the reasons given by the noble earl were not convincing to his mind, and he could not accept them. The clause was ordered to stand part of the Bill.- Some other amendments having reference to the inspection and management of licensed houses, hospitals, and branch establishments of hospitals were, on the motion of the LORD CHANCELLOR, agreed to, and the Bill as amended was ordered to be reported to the House.

VENEREAL DISEASE IN THE ARMY.

A copy has been presented to both Houses of further correspondence regarding the measures to be adopted for checking the spread of venereal disease among the British troops in India.

HOUSE OF COMMONS.

"A MALEVOLENT FABRICATION."

Mr. MACNEILL asked the Secretary of State for India whether his attention has been directed to a letter of the late Mr. Rand, dated April 9th, 1897, stating that women in Poona would not in the future be examined in the public streets for plague spots without the consent of the male members of their families; and whether, having regard to this statement in his letter, he still adhered to the declaration that no charge of indignity inflicted on females by the officials of the Indian Government at Poona had been substantiated.—Lord G. HAMILTON: The hon. gentleman in his question asserts that the late Mr. Rand stated in a letter dated April 9th, 1897, that women in Poona were examined in public streets for plague spots. The late Mr. Rand made no such statement in his letter of April 9th. What he said was that no inspection of any females should hereafter take place in the streets if they or their families objected. Upon this word "inspection" the hon. baronet the member for Banffshire chose to put the interpretation attached to the word "examination," that it meant stripping women in the public streets in order to detect plague spots, and currency to this interpretation has been given by the press. The following telegram from the Government of Bombay disposes of this legend: "Street inspection mentioned in Rand's letter of April 9th last arose thus: When searching was first instituted, women in many houses remained in dark rooms, where it was impossible to see whether they were ill, so householders were desired to cause their women to come into open place, such as reasonably light room or courtyard or street, merely that it might be seen whether they looked ill. If there appeared reason for actual medical examination, it was conducted with every regard for decency, not in public, and in case of women never by anyone but a woman, unless no objection was raised to examination by a commissioned medical officer. Allegation that women were stripped in street to detect plague symptoms is malevolent fabrication. The native gentlemen and lady doctors must have been cognisant of street inspection, as of all that went on." This being so, I adhere to the answer I previously gave to the effect that in the opinion of the Bombay Government no charge has been substantiated that indignity was offered by search parties to native ladies.—Mr. CALDWELL asked the Secretary for India, having regard to the reply given by Lord Sandhurst as to certain allegations relative to the methods adopted at Poona for the suppression of the plague, and more particularly as to the statement that in the case of the inspection of the inmates of houses there was no possibility of indignity to native women, owing to the presence of lady doctors and other ladies with search parties, whether he would state the number of lady doctors at Poona and their names.—Lord G. HAMILTON: I am informed by the Bombay Government that the lady doctors engaged with search parties were Miss Bernard, M.D.; Miss Crawley, L.R.C.P.; Miss Dids, hospital assistant; Mrs. Goodall, a Parsee with some medical qualifications. Other ladies were Mrs. Taylor, Miss Kelly, Mrs. Fernandez, Mrs. Balubai Awte (Hindu), Mrs. Bhimabai Awte (Hindu), Miss E. Barnard, Miss Tarkhad (Hindu), Miss M'Intosh, the Hong Kong nurse, when not employed as a nurse.—Sir M. BHOWNAGGREE said that, arising out of the question, he wished to ask the noble lord whether, besides lady doctors, many other ladies did not, together with independent gentlemen, at Bombay, Poona, and other plague centres, accompany those search parties which went to private houses to perform the work of inspection and other duties in connection with relief measures.—Lord G. HAMILTON: Yes: I believe that such assistance was given, and I understand that the Government encouraged such assistance.

MEDICAL MESSES.

Colonel DENNY asked the Under-Secretary for War when the Secretary for War would be in a position to carry out the intention expressed by the Under-Secretary when the Army Estimates were introduced last February of affording assistance to form medical messes at the large stations?—Mr. BRODRICK: Messes for medical officers have been established at the principal stations. The Secretary of State will be prepared to consider any case in which it may be represented that a mess is still required.

BERI-BERI IN AN IRISH ASYLUM.

Mr. PATRICK ALOYSIUS M'HUGH asked the Irish Secretary whether he was aware that the Eastern disease, beri-beri, was at present prevalent in Richmond Lunatic Asylum, Dublin; how long had this institution been afflicted with this disease, and how many nurses had suffered from it; whether medical experts, including medical gentlemen of the highest eminence connected with the institution, attributed the existence of the disease to overcrowding; was he aware that the Board of Control of Lunatic Asylums was responsible for the overcrowding; and would he take steps to secure that the Board of Control would not be permitted to stand in the way of necessary reforms in connection with this asylum.—Mr. G. BALFOUR: Thirty-six patients and three nurses in the Richmond Asylum are at present suffering from the disease known as beri-beri. The disease first appeared in the institution about May, 1894, and continued until October, after which no fresh cases occurred. There was no outbreak in 1895, but it reappeared in August, 1896, since when the institution has not been entirely free from it, although it almost died out in the colder months. Ten nurses in all have suffered from it, namely, seven in 1896 and three during the present year. Medical experts are of opinion that the disease was fostered by overcrowding. It is the duty of the Board of Control to provide such accommodation as is necessary in the district asylums in Ireland. In consequence of the rapid increase of lunacy in the Richmond district, it was decided in 1892 to build an additional asylum for 1,200 patients at Portrane, and that work is now in progress. In 1893 and 1894 temporary buildings were erected at Richmond Asylum for 298 patients, and since then accommodation has been provided for 224 patients, and further buildings are now being erected, which, it is anticipated, will make the total accommodation sufficient for the number at present in the asylum. The Board of Control are anxious to aid and promote by every means in their power any reforms necessary for the improvement of the Richmond Asylum, and works are being carried out with the view of effecting that object.

CLASSIFICATION OF ASYLUM PATIENTS.

Mr. WEIR asked the Home Secretary if he would state under what circumstances a person in a county asylum who was classified as a pauper under Sec. 111 of the Lunacy Act, 1891, was entitled to be classified as a private patient.—The HOME SECRETARY: As soon as the asylum authorities have reasonable grounds for believing either that the patient is entitled to property which will be available for his maintenance and sufficient to render him no longer partly chargeable to a union, county or borough, or that an undertaking has been given by a friend or relative to provide a sum sufficient for the purpose, he would no longer be classed as a pauper.

THE USE OF CURARE IN VIVISECTION.

Mr. WEIR asked the Home Secretary, having regard to the allegations made by Dr. E. Berdoe relative to the use of curare in the practice of vivisection, and to the statement of the Home Office that the experiments referred to were performed under anæsthetics, and that curare, though used, was used when the animals could not suffer pain, would he state what anæsthetics were so used. Was he aware that it had been held on the highest authority (Professor Claude Bernard) that an animal stupefied with morphine was still conscious to suffering, and that an animal under the influence of curare became absolutely paralysed, but was still sensible to pain though unable to show it by sound or struggle. And would he state whether in the experiments to which he referred, dogs were the animals experimented upon.—The HOME SECRETARY: I informed the hon. gentleman, in reply to a previous question, that chloroform was the anæsthetic used. The answer to the second paragraph of the question is in the negative, and to the third in the affirmative.—Mr. WEIR further asked the Home Secretary if he would state the number of experiments in which curare was used in the practice of vivisection during last year, and the number of licensees by whom that drug was used; and would he state the names of the licensed places where curare was used in the practice of vivisection during the year?—The HOME SECRETARY: I cannot see that the returns for which the hon. member asks would serve any good purpose, and I do not propose, therefore, to call for them. Curare is prohibited by law for being used as an anæsthetic, and I am satisfied that it is not so used.—Mr. WEIR subsequently asked the Home Secretary, seeing that an animal subjected to a true anæsthetic, such as chloroform, was insensible to pain, would he state whether there was any reason why the use of curare in the practice of vivisection should not be forbidden, especially in view of the fact that an animal under the influence of curare had been held by the highest authority, Professor Claude Bernard, to be acutely sensible to pain, notwithstanding the fact that it was so paralysed by the drug as to be unable to express its pain by sound or struggle?—The HOME SECRETARY: As I have already stated, I am satisfied that curare is not used as an anæsthetic. There are cases, however, in which its use along with the anæsthetic is indispensable for the success of the investigation, but its use does not make the anæsthetised animal sensible to pain.

DIPHTHERIA AT DEVONPORT.

Captain NORTON asked the Under-Secretary for War whether, in reference to the recent outbreak of diphtheria at Devonport, by which two lives were lost, any sanitary recommendations had been made, and if so, how far back, by the Army Medical Department or Royal Engineers respecting defects in the drainage of the Raglan Barracks; and, if recommendations were made, what were the circumstances that prevented the War Office from carrying them out?—Mr. BRODRICK: In April, 1896, the medical officer at Devonport reported that the drains of the Raglan Barracks were in an unsatisfactory state. Inquiry was made with the result that the general officer commanding submitted a comprehensive scheme involving a large cost This had to be examined before the work could be undertaken. Money is taken in this year's estimates, and every effort will be made to press on the work as quickly as possible.

THE PLAGUE AT POONA.

Sir WILLIAM WEDDERBURN asked the Secretary for India whether he could now state what inquiry was made at the time into the detailed allegations of oppression contained in the Poona memorial of May 10th regarding plague administration, and what reply was given to the memorialists?—Lord G. HAMILTON: In reply to an inquiry which I addressed to the Governor of Bombay, I am informed that on the receipt of this memorial Mr. Rand was desired to report upon the allegations which it contained, and that the reply of the Government was postponed until his report should be received. The report was, however, still incomplete at the time of his murder, and consequently no reply has yet been given. I should point out that the memorial was not sent to the Governor until the special plague duties had ceased. There was no ground for considering the possibility of a change of system. I am further informed that all complaints made to Government officers during plague operations were inquired into, and any matters including general allegations were subject to Lord Sandhurst's own personal inquiry.

GLYCERINATED CALF LYMPH.

Mr. STRACHEY asked the President of the Local Government Board when the report on the preparation and employment of glycerinated calf lymph will be completed and circulated.—Mr. CHAPLIN: The report referred to will very shortly be presented to Parliament and circulated.

THE DOGS BILL.

Sir CHARLES DILKE asked the President of the Board of Agriculture if he had any intention of introducing a Dogs Bill in the present session; and if he would undertake to give time for its consideration in the country.—Mr. LONG: I hope to be able very shortly to lay on the table a Bill for the better regulation of dogs on the lines recommended by the Departmental Committee by which the question was recently considered. So far as I can gather, the proposals to be embodied in the Bill commend themselves to the general opinion of the country, but it is not intended to make substantial progress with the measure during the present session.

OBITUARY.

SIR JOHN CHARLES BUCKNILL, M.D., F.R.S.

SIR JOHN CHARLES BUCKNILL died at his house at Bournemouth on July 20th, after a long illness.

John Charles Bucknill was born at Market Bosworth, Leicestershire, in 1817, and was the son of Mr. John Bucknill. He received his early education at Market Bosworth School and at Rugby. He proceeded subsequently to University College, London, and in 1840 took the degree of M.B. in the University of London with honours in surgery and medicine. In 1844 he was appointed the first Medical Superintendent of the Devon County Lunatic Asylum, and his whole life subsequently was devoted to the study of mental diseases. In 1853 he was one of the founders of the *Journal of Mental Science*, a periodical which he edited down to the date of his appointment as Lord Chancellor's Visitor in Lunacy in 1862. He retained this office until 1876, when he retired, and subsequently lived for the most part in the country, at first near Rugby and subsequently at Bournemouth.

Sir J. C. Bucknill was a voluminous writer, and published many books, essays, and articles, and on many occasions in the past we have had the advantage of his ripe knowledge and literary skill as a contributor to the BRITISH MEDICAL JOURNAL. His earliest published work was the Sugden Prize Essay entitled *Unsoundness of Mind in Relation to Criminal Acts*, which was published in 1857. In the following year was published the work by which he is best known to the medical profession the *Manual of Psychological Medicine* of which he was co-author with the late Dr. Hack Tuke. In the two following years he published interesting essays, the one on *Mad Folk of Shakespeare*, and the other on the *Medical Knowledge of Shakespeare*. In 1876 he published notes on the *American Asylums*, and in 1878 on *Habitual Drunkards and Insane Drunkards*. Two years later he published a work on the *Treatment of the Insane and their Legal Control*.

He became a Fellow of the Royal College of Physicians of London, and in 1877 delivered the Lumleian Lectures. He was for the usual periods a member of the Council of the College and a Censor.

Sir. J. C. Bucknill was one of the originators of the volunteer movement in 1852, and with the co-operation of Earl Fortescue, obtained the permission of the Government that the 1st Devon and Exeter Volunteer Rifles should be embodied, and he was the first recruit of this the primary regiment of volunteers. He served for many years as a volunteer, and the knighthood conferred upon him in July, 1894, was designed to be in part at least a recognition of his public services in this respect. He was a justice of the peace for the county of Warwick, a Visitor of the County Asylum, and a Governor of Bethlem Hospital.

We are indebted to a distinguished alienist physician for the following notes on Sir J. C. Bucknill's work:

His contributions to the literature of mental disease were numerous and often interesting. Possessed of a striking and vigorous style in writing, and of strong views on all subjects, he was able to hold the attention of his readers, and to press his opinions with much directness and force. He was in his most reliable vein when dealing with a purely scientific subject, noncontroversial, and free from the qualities or circumstances which so often import a strong personal element into the discussion of so many subjects, and not seldom even into that of scientific ones. For the variety of topics on which he touched was great, and some of them were controversial; and as a controversialist he was of far too extreme views, expressed at times in language overstrained.

During the time he was an editor of *The Journal of Mental Science*, which for a number of years at first was published under the name of *The Asylum Journal*, he contributed very largely and ably to its pages.

It was chiefly as a literary exponent of current views that he shone, and a touch of originality of view added to the effect. Evidently he did not seek so much the bedside inspiration of original clinical observation. He studied the broad traits of disease and the broad facts of pathology. But his graceful and powerful literary style was conspicuous in his part of the *Manual of Psychological Medicine*, and in his works on the mad folk and the medical knowledge of Shakespeare. His wide reading also stood him in good stead in these contributions to the literature of psychological medicine.

Sir John Bucknill was buried at Clifton-on-Dunsmore on July 22nd.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Professor M. J. Oertel, the distinguished laryngologist, of Munich, aged 62; Dr. José Esteban Lorenzo, Professor of Surgery and Dean of the Faculty of Medicine in the University of Salamanca; Dr. Paul Hulin, member of the Medical Commission of Belgium, and Physician to the Civil Hospitals and Prisons of Louvain, aged 65; Professor O. Boer, a prominent practitioner of Berlin, a dermatologist and bacteriologist of considerable repute, aged 50; Professor W. T. Preyer, a distinguished physiologist and psycho-physiologist, author of works on the psychology of the child, on embryology, etc.; and Dr. José Lopez Diez, a distinguished ophthalmologist of Madrid.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

ENGLISH URBAN MORTALITY IN THE SECOND QUARTER OF 1897.—THE vital statistics of the thirty-three large English towns dealt with by the Registrar-General in his weekly returns are summarised in the accompanying table. During the three months ending June last 82,275 births were registered in these thirty-three towns, equal to an annual rate of 30.0 per 1,000 of their aggregate population, estimated at 10,992,524 persons in the middle of this year. In the corresponding periods of the three preceding years the birth-rates in these towns were 30.4, 31.5, and 31.1 per 1,000 respectively. In London the birth-rate last quarter was 29.3 per 1,000, while it averaged 30.6 in thirty-two provincial towns, among which it ranged from 22.2 in Halifax, 23.0 in Brighton, 23.3 in Croydon, and 24.4 in Huddersfield to 33.6 in Wolverhampton and in Sunderland, 33.9 in Salford, 34.0 in Preston, 34.2 in Liverpool, and 35.9 in Gateshead.

During the quarter under notice 46,365 deaths were registered in the thirty-three towns, corresponding to an annual rate of 16.9 per 1,000, against 17.4, 17.8, and 18.2 in the corresponding periods of the three preceding years, 1894-5-6; this death-rate is lower than in the corresponding quarter of any year on record. In London the rate of mortality did not exceed 15.5 per 1,000, while it averaged 17.9 in the thirty-two large provincial towns, among which it ranged from 11.7 in Croydon, 13.0 in Brighton, 13.3 in West Ham, and 13.4 in Swansea to 20.2 in Preston, 21.8 in Liverpool, 22.7 in Manchester, 23.4 in Bolton, and 25.5 in Salford. The 46,365 deaths registered in the thirty-three towns last quarter included 4,670 which were referred to the principal zymotic diseases, equal to an annual rate of 1.70 per 1,000; in London the zymotic death-rate was equal to 1.47 per 1,000, while it averaged 1.87 in the thirty-three large towns, among which it ranged from 0.32 in Swansea, 0.56 in Croydon, 0.58 in Halifax, 0.62 in Bradford, and 0.86 in Derby, to 2.57 in Liverpool, 3.26 in Manchester, 3.56 in Burnley, 4.85 in Bolton, and 6.37 in Salford. The 4,670 deaths referred to the principal zymotic diseases in the thirty-two provincial towns during the quarter under notice included 1,507 from measles, 1,247 from whooping-cough, 646 from diphtheria, 578 from diarrhœa, 410 from scarlet fever, 280 from "fever" (principally enteric), and 2 from small-pox. The 1,507 fatal cases of measles registered during the three months ended June last were equal to an annual rate of 0.55 per 1,000, against 0.50, 0.33, and 0.33 in the three preceding quarters; in London the death-rate from this disease was only 0.27 per 1,000, while it averaged 0.74 in the thirty-two provincial towns, among which measles showed the highest proportional fatality in Birkenhead, Bolton, Manchester, Salford, Burnley, and Preston. The 1,247 deaths referred to whooping-cough during last quarter were equal to 0.45 per 1,000, against 0.42, 0.28, and 0.50 in the three preceding quarters; in London the rate of mortality from this disease was equal to 0.42 per 1,000, while it averaged 0.48 in the thirty-two provincial towns, among which whooping-cough was proportionally most fatal in Plymouth, Liverpool, Manchester, Salford, Oldham, Burnley, and Blackburn. The 646 fatal cases of diphtheria registered during the quarter ending June last were equal to an annual rate of 0.24 per 1,000, against 0.35, 0.41, and 0.35 per 1,000 in the three preceding quarters; in London the diphtheria death-rate was equal to 0.38 per 1,000, while it averaged 0.13 in the thirty-two provincial towns, among which this disease showed the highest proportional fatality in West Ham, Cardiff, Wolverhampton, Birmingham, Burnley, and Huddersfield. The 578 deaths from diarrhœa recorded during the qnarter under notice were equal to an annual rate of 0.21 per 1,000; this disease was proportionally most fatal in Brighton, Norwich, Liverpool, Oldham, and Preston. The 410 fatal cases of scarlet fever registered during the three months ending June last were equal to an annual rate of 0.15 per 1,000 against 0.21, 0.25, and 0.17 in the three preceding quarters; in London the scarlet fever death-rate was equal to 0.14 per 1,000, while it averaged 0.16 in the thirty-two provincial towns, among which this disease showed the highest proportional fatality in Wolverhampton, Leicester, Liverpool, Huddersfield, and Hull. The 280 deaths referred to different forms of "fever" (including typhus, enteric, and simple and ill-defined forms of fever) were equal to an annual rate of

0.10 per 1,000, against 0.21, 0.23, and 0.15 in the three preceding quarters; in London the "fever" death-rate was equal to 0.10 per 1,000, while it averaged 0.12 in the thirty-two provincial towns, among which the highest "fever" death-rates were recorded in Brighton, Portsmouth, Salford, and Blackburn. Two deaths from small-pox were registered in London during the three months under notice, but no fatal case of this disease was recorded in any of the thirty-two large provincial towns.

Infant mortality in the thirty-three towns, measured by the proportion of deaths under 1 year of age to registered births, was equal to 128 per 1,000 last quarter, against 132, 139, and 141 in the corresponding periods of the three preceding years. In London the rate of infant mortality was equal to 112 per 1,000, while it averaged 139 in the thirty-two provincial towns, among which it ranged from 88 in Croydon, 100 in Portsmouth, 105 in Swansea, 107 in Huddersfield, and 108 in Brighton to 165 in Plymouth, 167 in Preston, 168 in Burnley, 174 in Bolton, and 194 in Salford.

The causes of 617, or 1.3 per cent., of the deaths in the thirty-three towns during the three months ending June last were not certified, either by a registered medical practitioner or by a coroner. The proportion of uncertified deaths in London did not exceed 0.5 per cent., while it averaged 1.8 per cent. in the thirty-two provincial towns. The causes of all the deaths in Croydon and in Derby during the quarter were duly certified; in the other towns the lowest proportions of uncertified deaths were registered in Brighton, Plymouth, Cardiff, Bolton, and Oldham, and the highest in West Ham, Birmingham, Liverpool, Preston, Halifax, and Sheffield.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,608 births and 3,501 deaths were registered during the week ending Saturday last, July 17th. The annual rate of mortality in these towns, which had been 14.7 and 15.1 per 1,000 in the two preceding weeks, further increased to 16.6 last week. The rates in the several towns ranged from 11.2 in Croydon, 11.4 in Halifax, 11.6 in Derby, and 11.7 in Bristol to 23.5 in Salford, 24.2 in Sunderland, 24.5 in Wolverhampton, and 32.2 in Preston. In the thirty-two provincial towns the mean death-rate was 16.9 per 1,000, and slightly exceeded the rate recorded in London, which was 16.3 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.7 per 1,000; in London the rate was equal to 2.8 per 1,000, while it averaged 2.7 in the thirty-two provincial towns, among which the highest rates were 4.8 in Manchester, 5.4 in Burnley, 6.1 in Salford, and 11.3 in Preston. Measles caused a death-rate of 1.9 in Birkenhead, 2.9 in Manchester, 3.7 in Salford, 4.4 in Burnley, and 10.0 in Preston; whooping-cough of 1.0 in Huddersfield and in Salford; and diarrhœa of 1.8 in Leicester and in Sheffield, 1.9 in Liverpool, and 3.0 in Wolverhampton. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 52 deaths from diphtheria in the thirty-three towns included 36 in London and 4 in Birmingham. One fatal case of small-pox was registered in Hull, but not one in any other of the thirty-three large towns; and no cases of small-pox were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 2,885 at the end of the eleven preceding weeks, had further risen to 2,903 on Saturday last, July 17th; 381 new cases were admitted during the week, against 267, 310, and 349 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, July 17th, 924 births and 534 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 19.4 and 17.7 per 1,000 in the two preceding weeks, rose again to 17.9 last week, and was 1.3 per 1,000 above the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the lowest death-rates were 12.8 in Aberdeen and 15.6 in Glasgow and the highest rates 24.9 in Leith and 32.4 in Perth. The zymotic death-rate in these towns averaged 2.7 per 1,000, the highest rates being recorded in Greenock and Leith. The 418 deaths registered in Glasgow included 15 from diarrhœa, 12 from whooping-cough, 3 from "fever," and 2 from scarlet fever. Six fatal cases of measles and 5 of whooping-cough were recorded in Edinburgh, and 6 of measles in Leith.

TENURE OF OFFICE OF POOR-LAW MEDICAL OFFICERS.

HALIFAX.—A district medical officer, who is fully qualified and resident in the district for which he has been appointed, holds his post for life during good behaviour. Being non-resident or only partially qualified for the post, he would probably be at the disadvantage of having to be reappointed annually, or at least at some periodic intervals. We know of no change in the law touching the matter.

NON-RESIDENT DISTRICT MEDICAL OFFICERS.

PRO UTILITATE HOMINUM states that he is medical officer of health of a rural district, and is the only qualified and registered medical practitioner in his district. Since he came there the post of district medical officer has been vacant, and the vacancy has been filled, without advertisement of the office, by a practitioner, non-resident, as was also the former officer. Members of the Board of Guardians, as rural councilmen, knew of the residence in the vacated district of our correspondent.

*** Under the terms of Article 4 of the Medical Officers Order of May 25th, 1857, the appointment of the non-resident medical officer can only

Analysis of the Vital and Mortal Statistics of Thirty-three of the Largest English Towns during the Second Quarter of 1897.

Towns.	Estimated Population middle of 1897.	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Zymotic Diseases.	Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Fever.	Diarrhœa.	Deaths of Children under one year of age to 1,000 Births.	Rate per cent. of Uncertified Deaths.
33 Towns	10,992,524	82,275	46,365	30.0	16.9	1.70	4,670	2	1,507	410	646	1,247	280	578	128	1.3
32 Provincial Towns	6,529,355	49,863	29,104	30.6	17.9	1.87	3,040	—	1,209	259	218	776	195	383	139	1.8
London	4,463,169	32,412	17,261	29.1	15.5	1.47	1,630	2	298	151	428	471	85	195	112	0.5
West Ham	273,682	2,007	906	30.7	13.3	1.56	106	—	43	14	19	19	4	7	126	3.1
Croydon	121,171	705	354	23.3	11.7	0.56	17	—	1	3	—	7	5	1	88	—
Brighton	121,401	697	393	23.0	13.0	1.09	33	—	—	3	1	12	6	11	108	0.5
Portsmouth	182,585	1,175	662	25.8	14.5	1.34	61	—	9	1	2	24	13	12	100	0.6
Plymouth	97,658	680	451	27.9	18.5	1.84	45	—	4	1	3	29	1	7	165	0.2
Bristol	232,242	1,531	914	26.4	15.8	1.03	60	—	2	6	5	32	5	10	120	1.1
Cardiff	170,063	1,289	606	30.4	14.3	1.84	78	—	36	8	16	9	4	5	122	0.5
Swansea	100,309	703	334	28.1	13.4	0.32	8	—	—	2	—	2	2	2	105	1.5
Wolverhampton	87,287	731	373	33.6	17.1	1.62	35	—	8	5	8	6	1	7	134	1.1
Birmingham	505,772	4,142	2,310	32.8	18.3	1.89	238	—	92	13	30	45	21	37	143	3.3
Norwich	110,154	848	421	30.9	15.3	1.03	28	—	—	1	2	15	1	9	133	1.2
Leicester	203,599	1,523	773	30.0	15.2	1.40	71	—	2	25	9	23	8	4	137	2.3
Nottingham	232,934	1,679	901	28.9	15.5	0.97	56	—	4	11	3	16	7	15	134	1.0
Derby	103,291	712	388	27.6	15.1	0.86	22	—	1	4	1	8	1	7	131	—
Birkenhead	111,249	859	449	31.0	16.2	1.99	55	—	28	3	3	11	3	7	126	0.7
Liverpool	633,078	5,401	3,448	34.2	21.8	2.57	406	—	147	40	24	115	20	60	156	3.2
Bolton	121,433	953	709	31.5	23.4	4.85	147	—	123	4	3	10	1	6	174	0.4
Manchester	534,299	4,370	3,025	32.8	22.7	3.26	434	—	219	26	8	128	8	45	158	1.4
Salford	213,190	1,802	1,358	33.9	25.5	6.37	339	—	245	10	5	40	17	22	194	2.1
Oldham	145,845	934	675	25.7	18.6	2.09	76	—	22	3	3	28	5	15	158	0.4
Burnley	106,122	761	480	28.8	18.1	3.56	94	—	50	1	14	20	4	5	168	1.7
Blackburn	131,330	899	565	27.5	17.3	1.58	52	—	4	2	1	26	8	11	140	2.3
Preston	115,103	976	580	34.0	20.2	2.50	72	—	44	—	1	12	3	12	167	4.0
Huddersfield	101,454	617	409	24.4	16.2	1.15	29	—	5	8	5	11	—	—	107	2.0
Halifax	95,747	531	410	22.2	17.2	0.58	14	—	2	4	2	4	2	—	126	3.7
Bradford	231,260	1,443	895	25.0	15.5	0.62	35	—	3	2	5	9	7	9	124	0.8
Leeds	409,472	3,260	1,704	31.9	16.7	0.89	90	—	25	15	12	12	12	14	118	0.8
Sheffield	351,848	2,896	1,702	33.0	19.4	1.50	131	—	41	19	17	34	6	14	132	3.3
Hull	225,045	1,850	868	33.0	15.5	1.11	62	—	1	14	9	17	5	16	121	1.8
Sunderland	142,107	1,190	652	33.6	18.4	1.53	54	—	12	6	2	25	3	6	141	1.5
Gateshead	101,070	904	419	35.9	16.6	0.96	24	—	3	1	1	13	4	2	134	1.0
Newcastle-on-Tyne	217,555	1,705	970	31.4	17.9	1.25	68	—	33	4	4	14	8	5	141	0.8

be held for a limited period at a time, and our correspondent might bring to the notice of the Local Government Board all the circumstances which have led to the conferring of the office upon a non-resident medical man—an arrangement intended to meet only an exceptional emergency, which, *primâ facie*, has not arisen in the case in question.

PROVISION OF CALF LYMPH.

P. V.—The fact that some Boards of Guardians are themselves either providing or purchasing calf lymph for the use of public vaccinators, lays them open to the risk of having the amounts disbursed for this purpose disallowed at the auditing of their accounts. Naturally, vaccinations so performed carry with them no higher scale of fees. Increased fees are for the cost entailed by the vaccinators in the purchase of calf lymph.

MEDICAL NEWS.

QUEEN MARGARET COLLEGE MEDICAL SCHOOL FOR WOMEN.—At a recent meeting of Glasgow University Court a letter was read from Mr. Campbell, of Tullichewan, Dumbartonshire, intimating a gift from a friend of £50 for the purchase of preparations and models for the anatomy classes of Queen Margaret College. Thanks to the generosity of Mr. John Elder, the Bellahouston trustees, and others, this is now one of the best equipped women's school of medicine in the Kingdom.

THE JUBILEE CELEBRATIONS.—By command of the Queen a court was held on July 21st at St. James's Palace by His Royal Highness the Prince of Wales on behalf of Her Majesty. Among the deputations which presented addresses to His Royal Highness on behalf of the Queen were representatives of the Royal College of Physicians of Ireland, the Royal College of Surgeons of Ireland, the Royal Academy of Medicine in Ireland, the Royal College of Physicians of Edinburgh, and the Royal College of Surgeons of Edinburgh. The University of Dublin, the Royal University of Ireland, and the University of St. Andrews also presented addresses.

THE BRUSSELS MEDICAL GRADUATES' ASSOCIATION.—The annual general meeting of this Association took place on July 15th at the Cafe Royal, Regent Street. Dr. C. T. Brookhouse was elected President for the ensuing year, and Dr. A. W. Thomas Vice-President. Dr. Sunderland, the retiring President, congratulated the members present on their excellent organisation, and cordially thanked the officers of the Association for their kind co-operation with him during his year of office. The members and their friends, to the number of fifty-one, afterwards dined together, and there were present among others Sir John Williams, Dr. A. E. Sansom, Dr. Clement Godson, and Mr. Howard Marsh. Dr. Sansom proposed the health of the Association, which was responded to by the Hon. Secretary, Dr. Major Greenwood, who in the course of his remarks pointed out that the flourishing condition of their Association was not a little due to the supineness of the English Universities in neglecting to afford reasonable facilities for graduation in this country. Mr. Franklin Clive and Madame George sang several excellent songs during the evening, and Dr. Haydon also assisted with some admirable violin solos.

MEDICAL VACANCIES.

The following vacancies are announced:

BIRMINGHAM CITY ASYLUM.—Junior Assistant Medical Officer. Salary £80 per annum, with board, lodging, and washing. Application to the Medical Superintendent.

BRADFORD UNION WORKHOUSE.—Resident Assistant Medical Officer; unmarried and doubly qualified. Salary, £100 per annum, with prescribed rations, washing, and apartments in the Workhouse. Applications to Thomas Crowther, Clerk to the Guardians, Poor Law Offices, 22, Manor Row, Bradford, Yorks, before July 31st.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—House-Surgeon. Rooms, coal, and light provided. Applications, with testimonials, to Secretary by August 9th.

DEVONPORT ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon for six months, from August 1st next. No salary. Board, lodging, and washing. Applications to "Hon. Secretary of Medical Committee," by July 31st.

DUDLEY GUEST HOSPITAL.—Resident Medical Officer; doubly qualified. Salary, £100 per annum, rising £10 annually to £120. Board, with residence, attendance, and washing. Applications to the Secretary by August 12th.

EPSOM (RURAL), SUTTON, CARSHALTON, AND LEATHERHEAD JOINT HOSPITAL BOARD.—Medical Officer of the Isolation Hospital at Cuddington, Surrey.—Salary, £200 per annum. Applications, marked outside "Medical Officer," on forms provided, to be sent to W. O. Reader, Clerk, "Lonsdale," Epsom, by July 27th.

GUILDFORD ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Board, residence, and laundry. Applications to the Hon. Secretary.

HULME DISPENSARY, Dale Street, Stretford Road, Manchester.—House-Surgeon, doubly qualified. Salary, £130 per annum, with apartments, attendance, coal and gas. Applications to the Hon. Secretary of the Medical Committee by July 28th.

KENSINGTON, GUARDIANS OF.—Second Assistant Medical Officer for the Workhouse and infirmary. Salary, £80 per annum, with apartments, board, and washing. Between 21 and 30 years of age, doubly qualified, and must devote whole time to the duties. Applications on forms to be obtained on application to the Clerk to the Guardians, Marloes Road, Kensington, to whom they must be delivered filled in not later than 10 A.M. on July 31st.

LIVERPOOL, MILL ROAD INFIRMARY.—Medical Superintendent. Must be under 40 years of age; must be accustomed to the management of insane cases. Preference given to a F.R.C.S.Eng., or a Graduate in Medicine and Surgery of a British University. Salary, £500, with unfurnished house, coals, gas, rates and taxes (inclusive of all fees). Applications to Harris P. Cleaver, Clerk to the Guardians, West Derby Union, Brougham Terrace, Liverpool, by July 27th.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the South-Western Fever Hospital, Stockwell, S.W. Salary, £160 during the first year, £180 during the second year, and £200 during the third and subsequent years, with board, lodging, and washing. Candidates must be unmarried, doubly qualified, and must not exceed 35 years of age. Applications on forms, to be had at the chief office of the Board, Norfolk House, Norfolk Street, Strand, W.C., where they must be delivered by July 26th.

NOTTINGHAM CHILDREN'S HOSPITAL.—House-Surgeon (non-resident). Appointment for six months, but eligible for re-election. Salary at the rate of £100 per annum. Applications to the Secretary, Mr. A. F. Kirby, St Peter's Church Walk, Nottingham, by August 11th.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician. Appointment for or six months. Board, lodging, and washing in the hospital. An honorarium of 10 guineas will be given on completion of six months' service. Applications to the General Secretary, General Hospital, Nottingham, by July 30th.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Appointment for four months. Salary, at the rate of £50 per annum, with board, residence, and washing. Applications to the Secretary by July 31st.

QUEEN'S COLLEGES, Ireland.—Professorship of Medicine in the Queen's College, Cork. Applications and testimonials to the Under-Secretary, Dublin Castle, by August 7th.

ROTHERHAM HOSPITAL AND DISPENSARY.—House-Surgeon; doubly qualified. Salary £105, with board, lodging, and washing. Appointment for three years. Applications to the Hon. Secretary by August 31st.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, S.E.—Resident Medical Officer. Appointment for six months, when re-election is required. Salary, at the rate of £100 per annum, with furnished apartments, board, and washing. Applications to the Secretary by July 28th.

SHEFFIELD UNION.—Resident Assistant Medical Officer for the Workhouse, Fir Vale, Pitsmoor. Single or widower, not under 26 years of age. Salary, £100 per annum, with apartments, rations, and other usual allowances. Applications to Joseph Spece, Clerk to the Guardians, Union Offices, Sheffield, by July 24th.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House-Surgeon, doubly qualified. Appointment for two years, subject to re-election. Salary, £100 per annum, with board, lodging, and washing. Applications to Richard Battle, Secretary *pro tem.*, 7, Meyrick Road, Stafford, by July 31st.

STOURBRIDGE DISPENSARY.—House-Surgeon and Secretary; doubly qualified. Salary, £120 per annum, rising £5 annually to £130, with furnished rooms, coals, and gas, with £25 for travelling expenses. Applications to Hon. Secretary, T. F. Bland, The Firs, Norton, Stourbridge, by August 4th.

SUNDERLAND BOROUGH ASYLUM, Ryhope, Sunderland.—Resident Clinical Clerk. Appointment for six months, and eligible for re-election. Nominal salary, with board and lodging. Applications to Dr. Elkins, Medical Superintendent.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Fourth Assistant Surgeon; must be F.R.C.S.Eng. Candidates must attend, with testimonials, the meeting of the House Committee on July 27th, at 1 P.M.

MEDICAL APPOINTMENTS.

ADAMS, Alexander S., M.B., C.M.Aberd., appointed Medical Officer for the Rillington District of the Norton Out-Relief Union, *vice* A. C. Young resigned.

ALEXANDER, A., M.R.C.S., L.R.C.P.Lond., appointed Medical Officer for the Wellsbourne District of the Stratford-on-Avon Union, *vice* R. Pitt, L.F.P.S.Glasg., L.S.A., resigned.

AMENÁBAR, Julius Daniel, M.R.C.S., L.R.C.P.Lond., appointed House-Surgeon to the Wolverhampton Eye Infirmary.

ANDERSON, J. A., M.D.Glasg., appointed Medical Officer to the Leswalt (Stranraer) Parish Council, *vice* Hugh Cochrane, L.R.C.P.Edin., L.F.P.S.Glasg.

ASHTON, George, M.B., Ch.B.Vict., M.R.C.S.Eng., L.R.C.P.Lond., late House-Surgeon, Manchester Southern Hospital, appointed Senior Resident Medical Officer to the Chorlton Union Hospitals, Withington, Manchester.

BENSON, Thomas, L.R.C.P.Edin., M.R.C.S.Eng., appointed Medical Officer of Health to the Annfield Urban District Council.

BROUGH, Daniel, M.B., C.M.Edin., appointed House-Surgeon to the Bridgwater Infirmary, Bridgwater.

CLUCKIE, Andrew, M.B., C.M.Glasg., appointed Medical Officer to the Stranraer Parish Council, *vice* Hugh Cochrane, L.R.C.P.Edin., L.F.P.S.Glasg.

DAVIDSON, Percival, M.B., B.S.Durh., appointed Senior House-Physician, Royal Infirmary, Newcastle-on-Tyne.

FRENCH, Dr. D. M., appointed Medical Officer for the Debenham District of the Bosmere and Claydon Union, *vice* M. H. Hannigan, M.D.R.U.I., resigned.

GOSSE, William, L.R.C.P.Lond., M.R.C.S., D.P.H.Camb., appointed Public Vaccinator to the Sittingbourne District of the Milton Union.

HARRISON, James, M.R.C.S., L.R.C.P.Edin,, appointed Medical Officer in Charge of East Grinstead Isolation Hospitals.

HILLIARD, Harvey, M.R.C.S.Eng., L.R.C.P Lond., appointed Resident Medical Officer to St. George Hanover Square Dispensary.

HOYSTED, C. G., L.R.C.P., L.R.C.S.Edin., appointed Medical Officer and Public Vaccinator for the Third District of the Dartford Union, *vice* R. G. Tucker, L.R.C.P.Edin., M.R.C.S.Eng.

LLOYD, Jordan, M.B., F.R.C.S., appointed Honorary Consulting Surgeon to the West Bromwich District Hospital, *vice* O. Pemberton, F.R.C.S., deceased.

MACFADYEN, Allan, M.D.Edin., appointed Director of the British Institute of Preventive Medicine.

MACLAREN, J., M.B.Edin., appointed Certifying Factory Surgeon for the Oughtibridge District, and Medical Officer and Public Vaccinator to No. 3 District of the Wortley Union, *vice* P. E. Barber, M.R.C.S., resigned.

MONCKTON, Frank Parr, L.R.C.P., L.R.C.S , appointed Assistant Medical Officer at the Roxburgh District Asylum, Melrose.

MORGAN, J. A., M.R.C.S., L.R.C.P.,, appointed Medical Officer for the Llanddulas and Llanwrtyd District of the Builth Union.

ROWELL, William Henry, M.B., B.S.Durh., appointed Junior House-Physician, Royal Infirmary, Newcastle-on-Tyne.

SIMPSON, W. P., M.B., C.M.Edin., appointed Medical Officer of the Pelham Lounds District of the Boston Union, *vice* J. F. Carruthers, M.B., C.M.Edin., resigned.

TORRENS, J., M.D., appointed Medical Officer to the Quatt District School, and Medical Officer and Public Vaccinator for the Claverley District of the Bridgnorth Union, *vice* T. W. Haslehurst, M.R.C.S.Eng., resigned.

VERNON, William, L.R.C.P.Edin., M.R.C.S.Eng., appointed Medical Officer for the Bitton District of the Warmley Union, *vice* G. G. D. Willett, M.R.C.S.

WHITMARSH, R. P. H., M.D.Brux., L.R.C.P., L.R.C.S.E., L.S.A.Lond., appointed Resident House-Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

HOUGHTON.—On July 18th, at East Looe, Cornwall, the wife of Leonard F. Houghton, M.R.C.S., L.R.C.P., of a son.

NUTTALL.—On July 13th, at 41, Great Bolton Street, Blackburn, the wife of Frank Nuttall, L.R.C.P & S., etc., of a daughter.

OLIVER.—At 7, Ellison Place, Newcastle-upon-Tyne, on 10th July, the wife of Thomas Oliver, M.D., F.R.C.P., of a son.

MARRIAGES.

BLACKER—MARRIOTT.—On July 7th, in the Cathedral, at Exeter, by the Rev. Canon Edmonds, assisted by the Rev. William David, Arthur Barry Blacker, M.D., B.S., of 15, West Eaton Place, S.W., son of the late Rev. Maxwell J. Blacker, M.A., and grandson of the late Lieut.-Colonel Valentine Blacker, C.B., Surveyor-General of India, to Zaré Elizabeth Marriott, widow of George Herbert Marriott, of Orotava, Teneriffe.

HALAHAN—GALTON.—On July 14th, at St. Paul's, Upper Norwood, by the Rev. H. Stevens, M.A., Vicar of Holy Trinity, Sydenham, assisted by the Rev. R. B. Bansford, M.A., Vicar of St. Paul's, S. Crosby Halahan, of Leigh Manor, Cuckfield, Sussex, eldest son of the late Colonel S. H. Halahan, of Haighlands, Sydenham, to Maud Ethel, second daughter of W. Smith Galton, M.D.Lond., of Chunam, Sylvan Road, Upper Norwood.

REID—BRUCE.—At Strathpeffer Church, on July 15th, by the Rev. Jas. Fraser, M.A., minister of Blair-Atholl, assisted by Rev. John M'Gilchrist, B.D., minister of Fodderty, Wm. Reid, M.D., Physician-Superintendent of the Aberdeen Royal Lunatic Asylum, to Grace Garden, eldest daughter of Wm. Bruce, M.A., M.D., LL.D., The Castle, Dingwall.

DEATH.

OWEN.—July 16th, at Clifford House, Southport, aged 61, William Hunter Owen, M.R.C.S.Eng., and L.R.C.P.Edin., of Lower House, Lepton, Huddersfield.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 12.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females, W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

A LIFE ABSTAINER will be glad to be put in communication with some medical man in Harlesden who is a teetotaller.

JUNIOR MEMBER B.M.A. asks for advice as to the best local treatment for the parasitic skin disease over the sternum and back of the chest in a case of fibroid phthisis. Itching at night is intolerable. The duration of the disease is something like six years.

D. writes: An M.B.Edin., who has been in general practice for ten years' is contemplating giving up medicine in favour of the English Bar. Would any member kindly advise as to the course to be adopted and approximate cost?

M.R.C.S. writes: Three years ago I suffered from ptomaine poisoning followed by colitis; this has more or less disappeared, and the chief trouble now is extreme neurasthenia, the symptoms of which are palpitation, giddiness, and profuse perspiration in both axillæ coming on about a quarter of an hour after meals and lasting an hour or more. I am thus totally unfit for any exertion whatever; in fact I can walk but a short distance without assistance. I am terribly nervous, especially in strange places. The bowels are fairly regular, the appetite is good, and I sleep well as a rule, no loss of flesh. Almost every drug has been tried at some time or another, namely, turpentine, salol, hydr. perch., sod. sulph. carb., nux vom., sod. brom., belladon., strych., Fellows's syrup, celerina, glycero-phosp. of lime, bismuth carb., arsenic, cod liver oil, terrol, etc.; careful dieting was kept up for eighteen months with no benefit. I should be extremely grateful indeed if any member could suggest any further treatment, which would be willingly carried out.

RECURRENT ERUPTIONS.

W. F. asks for advice in the treatment of three patients who have for the past four years suffered from annual attacks of a cutaneous eruption, which commences on the hands, but gradually extends to the arms, body, and face. It is at first vesicular, but subsequently present all the characteristics and appearance of erysipelas. The sanitary arrangements of the house are good. He would also like to know the names of any plants other than the primula that can give rise to eruption.

OPERATIONS IN POORHOUSES (SCOTLAND).

POORHOUSE MEDICAL OFFICER (Scotland) will be very indebted if medical officers holding poorhouse appointments will favour him with their opinion on the following. He writes: The poorhouse appointment I hold has an average of 125 inmates, with 4 sick wards seldom containing less than 12 patients, in winter as many as 25. It accordingly cannot be called a poorhouse infirmary, and cases have occurred such as an empyema, as well as occasionally cases sent in by the various district Poor-law medical officers requiring surgical interference. My committee refused to grant me any extra assistance, and remuneration, where chloroform and operation is absolutely necessary. As this is sure to occur again, what steps am I entitled to take to have the matter settled once and for all? My agreement with the committee is simply medical officer to the poorhouse, including care of the sick.

ANSWERS.

'ERPLEXED.—Such an addition to a visiting card would, we believe, be unusual.

V. C. A.—We believe that under the special circumstances mentioned it would not be customary to call upon practitioners other than those with whom our correspondent may have some personal acquaintance.

.. P.—The regulations with regard to cemeteries are under the control of the Home Office. Our correspondent had better apply to the Inspector of Burial Places attached to that office, Mr. H. W. Hoffman, M.A.

D. W.—(1) Gould's *Dictionary of Medicine, Biology, and Allied Sciences* (London, Baillière, Tindall, and Cox. 1894, £2) is an excellent lexicon of medical terms. *Quain's Dictionary of Medicine* (Longmans, Green and Co., 1894, £2) is a work of reference containing articles on the various diseases, treating of their pathology, symptoms, and treatment. The articles are written by well-known authorities. (2) We are not acquainted with the composition of the cosmetic referred to.

SPECIAL PRACTICE.

.B.—We apprehend that the best course which a practitioner who intends to pursue a speciality could adopt would be to call upon the medical men practising in the neighbourhood and to intimate his intention to them.

FERTILITY OF TWIN SISTERS.

2. J. C. M. GIVEN (Liverpool) writes: In answer to the query of "B. T. H." about the fertility of twin sisters, I may say that I know of an instance in which twin sisters who bore a remarkable likeness to each other, married, and each had one child; one of the mothers died in childbirth of her first and only child, the other died soon after her only child was born.

MEDICAL BOOK-KEEPING.

2. T. W. AIRD (Thorn Bank, Wallington, Surrey) will be glad to explain a simple and expeditious system of book-keeping, if "W. A. C." will communicate with him.

. RICHARD S. HARDMAN (Cheadle Hulme, Stockport) writes: I find the "A B.C." system of medical book-keeping very simple, quick, and efficacious. All particulars may be obtained from B. Allsop, *Times* Office, Shipley, Yorks, on forwarding stamp.

. THEODORE MAXWELL (Woolwich Common) recommends the following system, which he has carried out for about twenty years: Mark all work, even consulting-room advice and "repeat medicines," in the visiting list, comparing this nightly with the daybook, with which it must accurately correspond as far as the signs used permit. Post from the visiting list into the ledger. Two figures are enough usually—the first for the visits, the second for the number of medicines; these can be counted up for a whole quarter from the visiting list in a tenth part of the time it would take to extract them from the daybook, which need only be referred to in cases of something special, such as a "truss supplied." The whole account usually takes up but a single line in the ledger, and little or no addition is needed. Thus, "17 vts., 14 med." would be charged 17 half-crowns, three-and-sixpences, etc., according to the means of the patient, and "17 vts., 23 med." would be charged as above, with any addition that might be made for the six extra "medicines." I generally consider a few pills or powders as equivalent to half a "medicine," and mark such by half a horizontal bar. I shall be happy to give "W. A. C." details if he will write, and to explain how to keep household and practice expense books.

CONSULTING ROOM WEIGHING MACHINE.

DR. ALFRED B. LAWRENCE (Walthamstow) writes: In answer to Dr. Percy Newell, I have much pleasure in recommending "The Midget." I have found it a singularly accurate and reliable machine; its price is 60s. or 65s., with brass or enamelled dial respectively. The platform is 2 feet square, and its height is 2 feet 11 inches.

MESSRS. ARNOLD AND SONS writes to call attention to the portable weighing machine made by them, and of which a brief description was published in the BRITISH MEDICAL JOURNAL of April 17th, p. 987.

POWDERED MEAT IN THE TREATMENT OF PHTHISIS.

C. L.—Dr. Arthur Ransome (*The Treatment of Phthisis*, London, Smith, Elder and Co., 1896) gives the following description of Debove's method of making dried raw meat: "The meat is first thoroughly dried at a temperature of about 150° F. (65° C.). The temperature may then be carried to above boiling point, in order to sterilise the food, for, after drying, the heat does not render the albumen indigestible. About ¾ lb. of this powdered meat, mixed with milk, is at first administered three times a day, and the quantity is gradually increased until the patients are taking from 1 to 2 lbs. of the dried meat, mixed with 4 or 5 pints of milk, in the twenty-four hours."

NOTES, LETTERS, Etc.

A NOVEL kind of service was recently held at St. John's Church, Streatham—an "egg service." The congregation was asked to bring offerings in the shape of new laid eggs for the sick and convalescent in the hospitals. More than 5,000 eggs, including some from the Duchess of York, the Duchess of Fife, and Prince Christian, arrived; and 4,972 were safely stacked in the chancel. After the service they were repacked and sent to the medical charities for consumption by the patients.

TRAVEL IN CANADA.

DR. G. F. BODINGTON (F.R.C.S.Eng., Medical Superintendent, Provincial Asylum for the Insane, New Westminster, B.C., Canada) writes: I observe in the BRITISH MEDICAL JOURNAL of June 5th, page 1439, a recommendation that the excursion to the Pacific coast "had better be undertaken before the meeting in Montreal." This seems to me unadvisable for the following reasons: July and August are the hot and dry months in Canada, and the journey from Montreal to the Rockies across the prairies is during those two months insufferably oppressive from heat, dusty, and disagreeable. Moreover, July and August are the months in which the settlers in British Columbia take advantage of the dry weather to clear their land by burning the timber and brush. Consequently the whole atmosphere during this period is filled with smoke and the scenery is absolutely hidden. I have seen Burrard Inlet, the bay on which Vancouver is situated, as thick with smoke as Fleet Street in the densest London fog. On the other hand September and October are very pleasant months here, the weather being much the same as fine autumn weather in England. Travelling is agreeable and the scenery at its best. I caution members of the Association against making the excursion to this coast before the Montreal meeting, and recommend them to come on after it is over, when they will have pleasant travelling and a clear atmosphere.

THE SCHOOL OF MEDICINE OF THE ROYAL COLLEGES, EDINBURGH.

MR. R. N. RAMSAY, Secretary of the School of Medicine of the Royal Colleges, Edinburgh, writes to state with reference to the article on the Scottish Medical Schools published in the BRITISH MEDICAL JOURNAL, of June 19th, that within the last few years (between 1893 and 1895) the school has been wholly reorganised, and is now under the direct supervision of the Royal Colleges, acting through a governing board appointed in equal proportions by both colleges and the lecturers themselves. He adds that Mr. McDougal is not the author of the historical sketch of the school prefixed to the official calendar issued from the office of the School of Medicine.

*** There appear to be three calendars in existence, and one of these, we are informed, does contain a brief but admirable historical sketch of the school, by Mr. McDougal.

THE DOCTOR'S HOLIDAY.

DR. JOSEPH DULBERG (Manchester) writes: I should like to supplement the information contained in Mr. Hawkins-Ambler's most interesting letter on the above subject by giving my experience of a most ideal holiday which I took quite recently as a member of one of the Polytechnic parties to Switzerland. Judging from the number of medical friends who have never heard of these parties until I spoke to them about my holiday, I should imagine there must be a good many among your readers who are not aware of the fact that one can go to Switzerland for a week or a fortnight and see sights which will last one a lifetime at practically the same cost, or very little more, as that incurred by a visit to some crowded and uncomfortable seaside resort nearer

home. The manner in which the Polytechnic carries out its programmes and looks after its members deserves the highest praise, and one continually wonders how the thing can be done at the price. The question of language need not deter one in the least, for not only does nearly everybody on the way and in Switzerland speak English, but one is practically from the moment one leaves London in the hands of a competent conductor who sees to everything. The Polytechnic parties have special facilities and reduced fares for all excursions, etc., and those who are contemplating a holiday should by no means decide on one before they have carefully studied the prospectus of this useful institution. If anyone cares to ask me any questions I shall be most happy to furnish particulars, and by this means show my gratitude to the Polytechnic authorities for the grand holiday which I was able to enjoy through their instrumentality. In conclusion, I wish to say that the Polytechnic tours are not a source of profit to any individual, but that what surplus remains at the end of the season goes to help the good work carried on by the institution.

Medical Defence.

Dr. Thomas Laffan (Cashel) writes: I hope Dr. Woods will persevere with his notice of motion and that he will receive the support of every man who understands his own best interests and those of the profession. It is intolerable that the upper ten, meaning thereby the gentlemen of the colleges and medical schools who have done their best for two generations to degrade the mass of the profession, should be able to successfully oppose the proposal to apply some of our own funds for our own defence. I shall do my best to be present myself, and if I be I shall move a vote of censure on you for the way you play into the hands of the upper ten.

*** We are not aware who the "upper ten meaning thereby the gentlemen of the colleges and medical schools who have done their best for two generations to degrade the mass of the profession" may be, nor are we aware that they have opposed any proposals of the kind referred to. These proposals were referred to all the Branches throughout England, Ireland, and Scotland, and the result has been to show that there exist great differences of opinion on the subject among the members generally. What is meant by our "playing into their hands" we are unable to define. We have simply published the Branch debates and resolutions as forwarded to us and in their due order.

Culpable Ignorance.

Canon Doman, Vicar of St. Mark's, Bolton, preached lately on the "horrors of vivisection," and at the end of the service a pamphlet, written by him, was distributed among the congregation. From the pamphlet it appears that he has not read the Government Inspector's report for 1896, knows nothing of bacteriology and preventive inoculation, and, in general, has not attempted to learn the truth about experiments on animals. We have sent him a copy of the Inspector's report, and we hope it may be the beginning of better things for him; and we trust that he will for a short time study the facts of the case till he knows something about them.

Hospital Sunday Fund and Surgical Appliances.

The Rev. W. St. Hill Bourne (Vicar of St. Luke's, Uxbridge Road, W.) writes: Will you, in the interest of the poor of the metropolis, devote a small portion of your space to calling the attention of medical and surgical practitioners to the great amount of disappointment and hardship they occasion by ignorance or forgetfulness of certain rules affecting the operation of the above fund? We parochial clergy are continually asked to obtain help towards the cost of some expensive instrument or appliance which a surgeon has instructed some poor person to have made, assuring them that the Hospital Sunday Fund will pay for it.

Now the fixed rule of the Committee is to contribute nothing whatever unless, before the appliance is put in hand, a doctor's statement of what is required is laid before them for their sanction, with an estimate of its cost. This is the absolutely necessary first step, and if it be neglected, as it seems to be habitually both in hospitals and outside, the clergy are powerless to obtain help from the fund, and the poor sufferers are left with a heavy claim from the instrument maker hanging over their heads, and in most cases unable to obtain the greatly-needed appliance through inability to pay for it. I have several such cases in my parish at the present time.

Medical Terminology.

Dr. Lewis Lewis (Plymouth) writes: In 1864, according to the provisions of the Medical Act of 1858, and by the order of the General Medical Council, was published the first edition of the *British Pharmacopœia*, by which "uniformity of strength and composition in medicines" were secured. In 1869 a similar uniformity in the naming of diseases was brought about by the first edition of the *Nomenclature of Diseases*, under the auspices of the College of Physicians. Since that date no medical man has been justified in any vagueness in the wording of a certificate of the "cause of death." When are we to have an official terminology, so that we may know what is exactly meant by some of the words and phrases used nowadays? Some of these convey to different people the very opposite meanings. One such word is enough as an illustration—nyctalopia, on which Professor Tweedy wrote a learned paper, somewhat in vain apparently. Also every week there are being coined new words and phrases, some never to become current though perhaps of good metal, whilst others of base metal become rapidly recognised as though of the best. Medicine aims at being scientific, and its instruments should be accurate and polished. Language is one of these, and it should be as accurate as possible. At present this is very much left to chance. An official terminology would be a boon. Who will take the matter in hand?

LETTERS, COMMUNICATIONS, Etc., have been received from:

(**A**) Dr. J. Alexander, Paignton; J. M. Atkinson, M.B., Hong Kong; G. Ashton, M.B., Manchester; Mr. W. J. Addison, Glasgow; Mr. T. W. Aird, Wallington; Mr. W. C. Arnold, London; A. B.; Mrs. E. Garrett Anderson, M.D., London; (**B**) Mr. J. G. Blandford, Banstead; Dr. G. F. Bodington, New Westminster, B.C.; Mr. E. S. Bishop, Manchester; Mr. W. St. H. Bourne, London; Messrs. Bland and Co., London; R. D. Booth, M.B., Kimberley, South Africa; Mr. A. H. Bird, London; E. Baily, M.B., Oban; Mr. T. Blaney, Bombay; Mr. J. B. Blackett, London. (**C**) Messrs. Arthur Cox and Co., London; Mr. J. Cowley, London; Messrs. Cassell and Co., London; Mr. G. W. Cazelet, Coventry; Colliery; Mr. G. Cooper, London; Mr. H. M. Castledine, Hull. (**D**) District Medical Officer; Doctor; Disgusted; F. Deighton, M.B., Cambridge; Dr. J, Dulberg, Manchester; Mr. M. B. Doine, London. (**E**) Enquirer; Dr. J. W. Eastwood, Darlington. (**F**) Mr. A. Fournet, London; Mr. W. Fairbank, Windsor; Mr. W. J. L. Ffrench, Barnetby-le-Wold; Mr. G. M. Foy, Dublin; F.R.C.S. (**G**) Mr. B. Gordon, London; Mr. W. W. Goodliffe, Lancaster; P. G. Griffith, M.B., Hayward's Heath; Mr. W. Gosse, Sittingbourne; Mr. J. A. Gillett, Banbury; Growler. (**H**) Mr. F. Hobday, London; Mr. W. J. Hodgson, Rochdale; Mr. J. Harrison, East Grinstead; Mr. R. W. Hornibrook, London; H. H.; R. H. Hardman, M.B., Stockport; Mr. H. Hilliard, London; E. W. Haydon, M.B., Leicester; Messrs. J. Haddon and Co., London; W. J. Horne, M.B., London; Mr. J. Hutchinson, London. (**J**) Mr. J. J. Jones, Liverpool; Dr. J. E. Jones, Dolgelly; Junior Member B.M.A.; J. M.; Mr. H. Jones, Pentre; J. R. L. (**K**) Mr. W. King, London. (**L**) Dr. C. Latter, Folkestone; Life Abstainer; Dr. P. G. Lewis, Folkestone; Mr. T. Laffan, Cashel; Mr. W. Latham, Earlestown; Mr. C. Lumley, London. (**M**) Dr. J. W. Moore, Dublin; Mr. F. C. Melhado, London; M. B.; Mr. J. McCarthy, St. George's, Salop; Mr. J. C. McEwen, Liverpool; Mr. P. McDougall, Sydney, N.S.W.; Member B.M.A.; J. Maclaren, M.B., Sheffield; Dr. T. Maxwell, London; M.B.Edin.; Medicus. (**N**) Mr. H. S. Norris, London; Messrs. Newbery and Sons, London; Mr. E. Nettleship, London. (**O**) J. E. O'Connor, M.B., Lowestoft. (**P**) A Puzzled Member; Dr. R. Petch, York; Dr. F. L. Phillips, Birmingham; Mr. H. C. Phillips, London. (**R**) Dr. A. Raines, York; Dr. R. R. Rentoul, Liverpool; Mr. H. J. Robson, Leeds; Dr. W. C. Rockliffe, Hull; Mr. D. J. Robertson, Glasgow. (**S**) Dr. J. O. Symes, Clifton; Messrs. Spalding Bros., London; Mr. G. V. Shann, Oldswinford; Messrs. Street and Co., London; Dr. W. Sykes, Gosport; Dr. J. M. Smith, Dundonald; Mr. F. M. Sandwith, London; Sartorius; Dr. J. F. W. Silk, London; Dr. L. M. Scott, London; Mr. G. B. Stocker, London. (**T**) Mr. J. H. Thompson, Aberdeen. (**V**) Mr. S. K. Vines, Doncaster; Mr. S. Vincent, London. (**W**) Mr. C. H. Whiteford, Plymouth; Dr. A. G. Welsford, Great Bookham; W. A. C.; Mr. R. Walker, Aberdeen; Dr. C. T. Williams, London; W. P.; Messrs. Whitson and Methuen, Edinburgh; W. J. B.; Mr. W. R. Williams, Preston; Mr. R. H. Wolstenholme, Salford; Mr. F. C. Wood, Ripley, Derby; etc.

BOOKS, Etc., RECEIVED.

Vorlesungen über Kriegschirurgie. Von Dr. L. Lühe. Berlin: August Hirschwald. 1897. M.6.

Eye Strain in Health and Disease. By A. L. Ranney, A.M., M.D. Philadelphia: F. A. Davis Co. 1897. $2.

The Life Histories of the British Marine Food Fishes. By W. C. McIntosh, M.D., and A. T. Masterman, B.A., B.Sc. London: C. J. Clay and Son. 1897. 21s.

Das Genus Sarcina in morphologischer, biologischer, und pathologischer Beziehung mit besonderer Berücksichtigung der Magensarcine. Von Dr. F. C. Stubenrath. Munich: J. F. Lehmann. 1897. M. 3.

*** In forwarding books the publishers are requested to state the selling prices.

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CLINICAL LECTURE
ON A
CASE OF CHYLURIA.

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THIS, gentlemen, is a remarkable specimen of urine. It looks exactly like milk. The condition—chyluria—is rare in this country. I myself have only seen one other instance in which the milky appearance was so marked, though I have met with one or two other slight cases. I therefore take the opportunity of showing you the urine. I have two specimens of the urine. Let us examine their characters more carefully.

The first specimen, which was passed before breakfast, is, you will see, only slightly milky; it has a reddish tint. The second specimen, which was passed after breakfast, is perfectly white; it looks like pure milk. After standing, a thick, cream-like layer collects on the top of the urine. The reaction of the urine is strongly acid; the specific gravity 1024; the urine contains a considerable quantity of albumen and blood, but no sugar. After shaking up a small quantity of the urine with a large quantity of sulphuric ether, the white milky appearance entirely disappears, and a yellowish-coloured fluid, which is turbid, remains below the ether.

On microscopic examination the urine is found to contain a considerable quantity of granular *débris*, a considerable number of corpuscles which look like lymphoid cells, and some large round or oval crystalline-looking bodies which on careful examination appear to be globules of oil to the outer surface of which the granular *débris* adheres, and gives the resemblance of a crystalline deposit.

Dr. Noël Paton kindly examined a specimen of urine, and reported as follow:

Buff yellow, milky; reaction acid; specific gravity (pyenometer) 1019.5. Urea=1.90 per cent.; fats=1.70 per cent.; native proteids=0.97 per cent.; ash=1.03 per cent. Proteids not coagulated on boiling; albumoses and nucleo-proteids are also present. Sugar absent. Another specimen of urine received on October 26th looked exactly like milk; it was alkaline in reaction, the specific gravity 1020; it gave no precipitate with heat, but a dense coagulum with nitric acid; it did not reduce Fehling's solution. On microscopic examination it was found to contain numerous vibrios and a good deal of granular *débris*.

How these characters show, as the naked eye appearance of the urine suggests, that the case is one of chyluria.

ETIOLOGY.

Before considering the special features of this case in more detail, let me briefly refer to the more important points connected with the etiology of the condition. Cases of chyluria are, as I have already stated, extremely rare in this country. In the great majority of typical cases of chyluria the condition is due to the obstruction of the lymphatic channels by the filaria sanguinis hominis. Hence it is that chyluria is rarely met with in this country, and very rarely indeed even then except in persons who have lived in tropical and subtropical countries in which the filaria sanguinis hominis abounds. You remember that the disease elephantiasis Arabum has the same distribution and is due to the same cause. Recently I showed you a case of solid œdema which seemed to be due to obstruction of the lymphatics, a condition which, from a clinical point of view, exactly resembles elephantiasis Arabum, and we then discussed the subject of elephantiasis. We saw that elephantiasis Arabum is usually due to the presence of the filaria in the blood and tissues.

The filaria sanguinis hominis, which is quite microscopical in size, is the embryo form of a long thin worm, which measures about three inches in length, and one-ninetieth of an inch in breadth, and which has been termed the filaria Bancrofti, after Dr. Bancroft, of Australia, who first described it. The worm resembles a piece of horsehair, and has been found in the dilated lymphatics. The female produces large quantities of young, which are discharged into the circulation in the form of the filaria sanguinis hominis, or rather in the embryo of the filaria sanguinis hominis nocturna; for three varieties of filaria have been discovered—one which only appears in the blood at night, another only seen in the blood during the day, and another which is seen in the blood persistently both during the day and the night. The filaria nocturna is about the diameter of a red blood corpuscle, and about one seventy-fifth of an inch in length. It seems to live in the lymphatic channels, and to migrate into the blood between the hours of 9 P.M. and 6 A.M. The number of filaria which the blood may contain is enormous; every single drop of blood may contain several specimens. It has been computed that, in some cases, at least forty millions are present in the blood during the night time, whereas none of this particular variety seem to be present during the day. It is found, however, that if the habits of the patient are reversed as regards day and night the filaria also reverses its habit; if the patient is made to sleep during the day, and keep awake and go about through the night, the filaria migrates into the blood during the daytime, and disappears at night. The embryo of the filaria, or masses of these little organisms, obstruct the lymphatic channels and produce elephantiasis Arabum, lymph scrotum, and chyluria.

In cases of chyluria the dilated lymphatics and lacteals must obviously communicate with some part of the genito-urinary tract.

I further told you that mosquitos seem to be the active agents by which the disease is propagated. The mosquito bites a man or an animal affected with the filarial disease. The filaria curls itself round the proboscis of the mosquito, is sucked into the stomach of the mosquito, passes into the tissues of the mosquito, grows and develops there. When the mosquito dies the worm is set free, and, getting into drinking water, is again introduced into the human subject through the stomach and alimentary canal.

It must, however, be remembered that all cases of chyluria do not appear to be due to the filaria sanguinis hominis. Cases are certainly met with occasionally in this country in which the patients have never lived in districts where the filaria sanguinis hominis abounds, and in which microscopical examination of the blood and of the urine fails to show the presence of these organisms. It seems certain that if the abdominal lymphatics are obstructed in any way, and if a communication is formed between the dilated and varicose lacteal or lymphatic channels and the urinary tract, the urine assumes the characters of chyluria. But, although this is possible, it must be admitted that the vast majority of cases of typical chyluria are due to the presence in the body of the filaria sanguinis hominis. Sir William Roberts, in his *Diseases of the Urinary Organs*, states that, of 30 cases which he has collected and analysed, 24 occurred in persons who had lived in hot climates and in districts where the filaria was known to occur—in the Mauritius, the Isle of Bourbon, Brazil, the West Indies, or India. Chyluria is common also in Barbadoes, Australia, and China.

It seems probable that in many cases of chyluria the lymphatics in the wall of the bladder, ureter, or pelvis of the kidney are dilated and in a varicose condition. Sir William Roberts has reported a case which supports this theory.[1]

In this country the majority of cases occur in males, but this is owing to the fact that men travel much more than women, and that they contract the disease in the countries where the filaria is prevalent, and bring it home to this country. In filarious districts women are said to suffer in a somewhat larger proportion than men. Such are the general facts connected with the etiology of the condition.

Let me now briefly detail the clinical features of this particular case. They are as follows:

The patient, a single lady aged 66, was seen with Dr. A. on November 2nd. She was born in the Mauritius, and lived there till she was 30 years of age. She then came to this country, and has resided here ever since. She states most emphatically that she has never had anything like chyluria before. For some years she has suffered from bronchitis, bronchitic asthma, and has not been very strong. For some years past the tongue has been large and sore, but she has never suffered from dyspepsia. Three months ago the feeling of weakness increased, and she began to lose flesh. Her friends noticed that she looked ill. It was about this time (three months ago) that the chyluria commenced; it has continued ever since. The morning urine has frequently been quite clear, but the urine passed in the afternoon and evening has always been milky. The heart was weak, but all the organs appeared to be normal; in particular, there is no evidence of disease in the abdominal cavity.

The urine passed on November 2nd was quite clear and pale, specific gravity 1010, neutral in reaction, and free from albumen, blood, and fat. The blood examined at 11 A.M., and also at 11 P.M., was quite normal in

appearance. There were no filarial embryos. The patient was advised to continue the malto-peptin, which she had been taking for the past three days, and to which Dr. A. attributes the improved condition of the urine; to carefully regulate the diet and bowels; and a tonic containing dilute nitric acid, strychnine, and infusion of gentian was prescribed.

I have had no opportunity of seeing the patient again professionally. She is now quite well. Under the treatment which was adopted the chyluria rapidly disappeared, and has never returned.

The Characters of Chylous Urine.

In some cases of chyluria every specimen of urine is milky; in others the chylous appearance is only seen at intervals or at some particular time of day. In many cases the urine which is first passed in the morning is clear, and it only becomes milky after eating and after exercise; and this seems to be so in the case which I have brought before you. In many cases of chyluria the morning urine is either quite normal or it contains some blood and gelatinous mucus. After eating it assumes the chylous appearance, particularly in the afternoon after dinner. The fact that the milkiness only appears after eating is of course highly suggestive of chyluria. It shows that the fatty material only gets into the urine when the lacteal and lymphatic vessels are distended during the process of digestion.

In our case the morning urine gives, as you have observed, a very definite reaction with guaiacum and ozonic ether; it evidently contains a considerable quantity of blood.

And here let me say that every student nowadays seems to know that guaiacum and ozonic ether are the reagents which we employ at the bedside for detecting the presence of blood in urine—one of the stock questions asked at a clinical examination. But my experience tells me that many students who know that guaiacum and ozonic ether are used in testing for blood seem to have had very little if any practical experience in the use of the test. I base this opinion upon the fact that they do not know the naked-eye appearance of tincture of guaiacum; they have to pick out the tincture of guaiacum by reading the label upon the bottle. Now, a student who has been in the habit of using tincture of guaiacum at the bedside knows it at once by its appearance and colour. When asked to test a case for blood, he at once picks out the tincture of guaiacum, even if the bottle is unlabelled; and I sometimes take care, with the object of seeing if the students who come before me are practically acquainted with urine testing, to turn the bottles containing such reagents as tincture of guaiacum and Fehling's solution, which can be at once picked out by their appearance, so that the labels cannot be seen. I at once see, by this little device, whether the candidate has been accustomed to work with the reagents in the wards. If he has to turn round the bottles to see their labels, I at once know that he has little or no practical experience with the test. The mere fact that a man who does not know the appearance of tincture of guaiacum or of Fehling's solution is able to tell you that these are the tests for blood and sugar, should not, I think, count for much. Candidates often cram up information of this kind, or are coached up in it, just before the examination. They may be able to remember the test for a brief time, and perhaps to use it in some sort of fashion, but often in a way which shows the examiner that they have had little or no experience with it. This is only one illustration of the sort of discrimination which examiners ought, I think, to use in judging of the clinical knowledge of candidates. A correct answer does not necessarily imply that the student knows, understands, and intelligently comprehends the question which has been put to him, and which he has answered correctly. What the examiner wants to do is to try and find out whether the candidate has a real knowledge of the subject, or whether he has merely a superficial (cram) knowledge. By observing the way in which the candidates examine patients, test urine, etc., one can in most instances very soon make up one's mind whether they have a practical knowledge of clinical medicine or not.

As I have already stated, in many cases of chyluria blood and gelatinous mucus are passed, particularly, so far as my limited experience enables me to judge, with the specimens of urine which are not distinctly milky. Now this must have some significance. The presence of blood possibly suggests an eroded condition of the bladder mucous membrane or of some other part of the genito-urinary tract. In many cases, after standing for a time, the chylous urine sets into a gelatinous mass like blancmange, and the jelly-like mass which is formed sometimes has a distinct pink colour. In this particular specimen no such setting has taken place. The milky appearance of the urine is due to the presence of fat. In many cases the fat is in the form of an emulsion, the fat particles being so small that they cannot be recognised, even by high powers of the microscope. In other cases definite fat globules can be seen under the microscope. That seems to be the case in this particular specimen.

In cases of chyluria the kidney is rarely diseased, the urine very rarely contains tube casts. This is an important point, for it tends, I think, to show that the theory which some authorities have advocated, namely, that in cases of chyluria the fat is separated from the blood by the kidney, is erroneous. If the kidney were separating fat from the blood for long periods of time—and in some cases the chylous condition of the urine persists for years—it is probable that in the course of time the kidney substance would become diseased, and if this were so the evidence of such disease would be present in a considerable proportion of cases of chyluria.

Clinical Symptoms.

The clinical symptoms which cases of chyluria present are very various. In some cases there are no symptoms at all. Cases have been known in which the patients have passed chylous urine for years, apparently without any disturbance of the general health or any local symptoms. Sir William Roberts mentions one case in which the patient began to pass chylous urine at the age of 25, and went on passing it until she died, at the age of 73.

In most cases the patients complain of debility; in many cases the patients become emaciated, in some cases markedly so. In some cases they are anæmic. Diarrhœa is by no means uncommon. Occasionally some of the other pathological alterations which result from the presence of the filaria sanguinis hominis in the body (such as elephantiasis of the legs or scrotum) are also present.

Treatment.

In the tropical (filarial) common form of the disease the object of treatment is to destroy the filaria, and to remove the lymphatic obstruction. Iodide of potassium, tincture of perchloride of iron, gallic acid, and a decoction of mangrove bark are said to be the most useful remedies. My friend Professor Lawrie of Hyderabad claims to have cured several cases by the internal administration of thymol, 1 grain three or four times a day. Benzoic acid has also been recommended. Boracic acid should, I think, be tried and possibly also corrosive sublimate.

In the non-filarial cases, the treatment must be guided by the supposed cause in each individual case; but it is rarely possible to diagnose the exact cause of the lymphatic obstruction. And in the rare cases in which the cause can be definitely determined, the nature of the lesion (malignant disease, etc.), usually precludes successful operative interference.

These, then, are some of the chief facts relating to this peculiar and interesting condition. As I have already said, it is of great rarity, and hence I have taken the opportunity of showing you the specimens, and of detailing the more important clinical characteristics of the condition.

Reference.

1 *Urinary and Renal Diseases*, p. 377.

Oral Instruction of the Deaf and Dumb.—The annual meeting of the Association for the Oral Instruction of the Deaf and Dumb was held recently at 11, Fitzroy Square, W., when Miss Amy Paget distributed the prizes to the scholars. Mr. L. Van Oven presided, and a short but interesting demonstration of the system of tuition was given. Mr. W. Van Praagh, the Director, read the report, which showed that there were now 23 girls and 22 boys in attendance at the school, and that the training college had been attended by 9 students, 7 of whom had obtained certificates. The Committee regretted that they did not receive sufficient applications from students to be trained, owing to which they were unable to supply all the demands made upon them for teachers.

A CLINICAL LECTURE
ON
THE SIGNIFICANCE OF DILATATION OR GASTRECTASIA IN FUNCTIONAL AND ORGANIC DISEASES OF THE STOMACH.

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Gastric dilatation or gastrectasia in one or other of its forms is so frequently present in almost all organic or functional affections of the stomach, and its existence is so frequently overlooked by us in hasty examinations of that organ that I may be pardoned for going into details of the various affections in which this symptom is met with. I may say at the outset dilatation of the stomach is not a disease, but only a symptom of disease.

Gastric dilatation presents itself in two forms: complete dilatation and incomplete or partial dilatation.

In complete dilatation all the coats of the entire stomach are stretched, and its cavity enlarged to twice or perhaps thrice its original size, the organ extending across the abdomen from one hypochondriac region to the other, or when the stomach is dislocated downwards by the weight of its own fluid contents and the yielding of the gastro-hepatic ligaments, we may find it occupying the entire of the lower portion of the abdominal cavity, extending from one iliac region to the other.

In the second form—incomplete or partial dilatation, sometimes spoken of as distension of the stomach, which is quite a different condition—we find only one portion of the stomach dilated, the cardiac end. That this form is a true dilatation and not a distension is shown by its liability to persist as long as the causes that produce it are present; in this it resembles dilatation of the cavities of the heart. In this variety the dislocation is upwards, by which I mean the yielding of the stomach wall at this portion causes it to press upwards against the diaphragm, or upwards and to the left in front of the spleen, where it does not meet with the same resistance as is offered by the diaphragm. When the latter is in a lax condition the dilated stomach presses directly upwards against the heart, producing a sense of uneasiness in the cardiac region, pain in left side, and occasional attacks of syncope.

The first variety, or that of complete dilatation, is mainly associated with organic disease of the stomach itself, accompanied by obstruction at the pyloric end. Obstruction giving rise to this aggravated form of dilatation is traceable to conditions in the pylorus itself, or the walls of the stomach in its vicinity, or to conditions outside of them. As a rule, it may be broadly stated that persistent dilatation in an aggravated form is always due to lesions within the stomach cavity. The causes acting from within the stomach leading to obstruction of the pylorus in the order of their frequency according to my experience are (*a*) cicatrisation of simple ulcers in the neighbourhood of pylorus; (*b*) malignant disease attacking the pylorus; (*c*) fibroid thickening of pylorus, the result of inflammatory changes; (*d*) inflammatory conditions of the mucous membrane of the stomach and pylorus leading to pyloric spasm; such is the condition found in fatal cases of what is called the acute dilatation of alcoholics; (*e*) foreign bodies such as coins or plum stones retained in the stomach and forming sacculated diverticula in the neighbourhood of the pylorus; (*f*) pedunculated tumours growing from the wall of the stomach and falling against the pyloric opening.

The causes arising outside the pyloric walls leading to obstruction and dilatation are (*a*) pressure on the pylorus and duodenum by an enlarged organ in its vicinity, such as we find in some forms of enlargement of the liver or gall bladder; (*b*) tumours in the fissure of the liver especially; (*c*) pressure on pylorus of peritoneal or retroperitoneal tumours; (*d*) floating kidney; (*e*) cystic disease of kidney pressing forward; (*f*) kinking of duodenum or pylorus from non-yielding of gastro-hepatic ligaments when stomach is dragged down by the weight of its own fluid contents when in a dilated condition.

If we direct our attention to the second form of dilatation which I have alluded to as partial, and which is the form most frequently met with in all functional gastric troubles, and consider the causes that give rise to it, we find these causes for the most part associated with derangements of digestion where from alteration in the gastric contents gases are generated which by their continued distending action lead to dilatation of the stomach cavity. But the most frequent cause of this partial dilatation in my experience is an atonic condition of the muscle wall of the stomach, and as the cardiac end is the most muscular portion, an atonic condition of this muscle is more likely to be followed by yielding of this particular end than towards the pyloric one, which is more fibrous in structure. This form of dilatation is consequently found in all adynamic conditions. It is present in all forms of anæmia, pernicious anæmia included, and is constantly present in chlorosis, but not where gastric ulcer is associated with that affection, as the condition of the stomach in gastric ulcer is the very opposite to that of dilatation—namely, one of irritable contraction of its muscle from the irritation produced by the ulcer and the excess of HCl. present with it. When dilatation of the cardiac end is present in association with gastric ulcer, hour-glass contraction of the stomach is usually found.

You find this form of dilatation in nearly all cases of advanced phthisis, also as a consequence of long-continued illnesses with pyrexia, such as in typhoid fever, being frequently present during the convalescent period following that affection. You find it accompanying the exhaustion of long-continued suppuration either in bones or elsewhere, also after many of the exanthemata and after influenza. In children such form of stomach dilatation follows subacute gastritis or gastro-enteritis, but dilatation is rare in children except from this cause. We meet with it in that important form of degeneration of muscles characterised by fatty changes, and also in chronic alcoholism, which is frequently accompanied by such changes. Acute dilatation due to paralysis of the essential nerves of the stomach, the pneumogastrics, should be here mentioned, but it more properly belongs to the graver forms of dilatation.

Having enumerated the causes that lead to both forms of dilatation, I will briefly allude to the symptoms characteristic of each.

In the first form, where there is aggravated dilatation, and where sooner or later the stomach is dislocated downwards, the symptoms of this condition are most characteristic. Prominent amongst these symptoms is vomiting. This vomiting differs in the time at which it occurs and in its character from the vomiting that takes place in other affections of the stomach; it does not take place after a meal, nor does it come on once a day, or twice a day, but generally every other day, and frequently takes place only at night (a most characteristic symptom of dilatation), or the intervals between attacks of vomiting may be extended to days, or even to a week or longer.

In other forms of stomach affection where vomiting occurs it is usually the result of some article of diet that disagrees, or some inflammatory or irritable condition of the stomach produced by food, and the vomiting as a rule follows the ingestion of such food; such is the condition of things in gastric ulcer and acute and subacute gastritis. Though patients with dilated stomachs do not suffer from vomiting after food, some hours after food is is taken they complain of pain, heartburn, and gaseous eructations, which are repeated after each meal, and are ultimately only relieved by vomiting. When the intervals between the acts of vomiting are counted by days, the stomach, in my experience, is usually found dislocated, and very much dilated.

In no other gastric affection accompanied by vomiting is the vomited matter so acid or so large in quantity as in cases of dilatation. Patients themselves will express the opinion that they vomit more than they eat or drink. The vomited matter is, as a rule, frothy, and, when allowed to stand for some time, bubbles will appear on the surface due to fermentation and the evolution of gases.

If we examine it chemically and by the aid of the micro-

scope, it will be found that the acidity is rarely due to hydrochloric acid, but to the volatile or organic fatty acids—lactic, butyric, or acetic. Microscopically, we find great numbers of fungi associated with fermentation sarcina, when the liquid contents are retained for a considerable period, say a number of days; torula, when the intervals between the attacks of vomiting are shorter. We find also bacteria in great numbers. During normal digestion bacteria are never found, nor are they likely to exist in healthy gastric contents, more especially the hurtful organisms which are destroyed by the antiseptic action of the hydrochloric acid in the gastric secretion. In aggravated cases of dilatation this acid is found in only small quantity, not sufficient to kill off bacterial growths, which continue to grow and generate toxins.

The most salient and characteristic physical sign of dilatation is splash on succussion of the stomach. It is not easy in all cases to ascertain the presence of this peculiar splash. Mere jogging of the stomach alone in one direction or another will not always determine its presence, and especially if this manœuvre is confined to the epigastric region alone. When dislocation has taken place, the entire abdominal cavity has to be searched before this symptom is elicited, even though dilatation to a formidable extent is present. It is also absent in many cases, owing to the stomach being emptied by vomiting previously, and after lavage by the stomach tube, as a considerable quantity of fluid and air must be present for its production. To nothing can I better compare this peculiar splash than the sound produced in an incompletely filled water bed by jogging or shaking it, or to the splash produced in a water tank by agitation. It has come to be known by the students of our hospital as the water-tank sound of dilated stomach.

Another constant symptom of the graver form of dilatation is obstinate constipation, the bowels often not moving without the aid of purgatives for days or even weeks at a time, and then only imperfectly, the evacuations being dry and lumpy, and lodgments in the colon being not an infrequent accompaniment. This condition always indicates a very considerable narrowing of the pylorus, through which the stomach contents are not passing; and the intestines, losing the stimulus the stomach contents afford, cease to secrete, and pass themselves into an atonic condition. If with this dryness of the bowel vomiting of all stomach contents is constantly taking place, a desiccation of the tissues ensues, and some authorities consider a fatal termination results from this cause more than from any other.

Tetany extending from the muscles of the abdomen to the extremities and muscles of the neck and back often accompanies this condition, and I have seen it prove fatal. This tetany would seem to be due not so much to this desiccation as to the absorption of some toxin from the stomach contents. Another symptom associated with dilatation and generally indicative of considerable obstruction at the pylorus is visible contraction of the stomach seen through the abdominal wall. The contractions generally travel from left to right, and may be excited by pinching or stroking over the stomach. They are due to hypertrophy of the muscle wall of the stomach in trying to force its contents through the narrowed opening of the pylorus, such hypertrophy being similar to what occurs in the left ventricle of the heart in aortic obstruction. Cramps in the fingers are frequently complained of by patients the subjects of dilatation, and nodular growths on some of the joints of the phalanges are present in a great many cases, as pointed out by Bouchard. Coldness of the feet and hands, and redness of the nose, acne of the face and back, and attacks of urticaria are frequent symptoms. We sometimes find evidences of vasomotor disturbances such as sweating of the face and body, often of one side only, and accompanied by a peculiar pungent acid smell, probably due to the elimination of the fatty acids by the skin.

I will now direct your attention to the symptoms that are indicative of the second form of dilatation I have alluded to as that of partial dilatation, as this form of dilatation is found accompanying almost all the stomach affections known as dyspepsias. It is constantly present in that form of functional derangement known as catarrh of the stomach, an affection which may arise from ordinary cold catching, as a patient may get a cold in the stomach as readily as in the head or throat. It is also found in the gastric catarrh associated with cirrhosis of the liver and with valvular lesions of the heart where the liver is enlarged. Gastric catarrh, however, owes its origin more frequently to ingestion of unsuitable food or liquid, which, when retained too long in the stomach (the gastric secretion being defective) undergoes fermentative changes, such, for instance, as the catarrhal dyspepsia which is so common an affection in those who live constantly on tea and uncooked starch foods.

Here not only the quantity of the liquid taken but the character of the food is favourable to fermentation and the formation of the fatty acids. We find as articles of diet amongst the poor bread unsuitably baked or other badly-cooked starchy food, such as potatoes, which are very prone to undergo fermentative changes leading to the formation of acids, especially acetic acid. Amongst the poor, too, there is a great tendeney when dyspepsia is present to seek relief by means of alcohol in some form. The alcohol taken under these conditions is liable to contribute still more to the acetic acid fermentation, and to cause, with lactic and butyric acids, the acid sensation and heartburn such patients so frequently complain of.

You will always find the minor form of dilatation present in such cases if you look for it, and the splash characteristic of it in the left epigastric and hypochondriac regions. In a former portion of my paper I alluded to the frequency with which this minor form of dilatation is met with in all atonic conditions. In some cases it would seem that an intrinsic atonic condition of the gastric muscle just as frequently results from the poisons that are absorbed into it during defective digestion and directly paralyse its functions. Turck has quite recently investigated the toxins of the stomach in cases of gastritis associated with dilatation, and found that the filtered contents injected into rabbits produced paralysis in an hour and a-half, and in larger doses killed. A reference to his paper will be found in the *New York Medical Journal* of February 22nd, 1896.

Constipation in patients the subjects of the minor form of dilatation is a very frequent symptom, but not to the same extent as in the graver form, and vomiting as a rule is not present, the stomach contents ultimately finding their way into the intestines, by which they are absorbed with the toxins contained in them, and which produce the vague nervous symptoms such patients complain of. Amongst these symptoms hypochondriasis is a common one; weariness on the slightest exertion and a disinclination for exertion; headache, pain in the left side, and palpitation of the heart, and transient or intermitting anæmia are frequently present also. You also find symptoms referable to the lungs, throat, or bronchi in dilatation of the stomach where the contents are for some time retained, especially in the more aggravated form of the affection.

I have lately had under my care in the Mater Misericordiæ Hospital a patient with dilatation, who, while undergoing some preliminary examination of his stomach contents preparatory to lavement, got a severe attack of spasmodic asthma to which he was not previously liable; he had not vomited for days previously, and succussion showed the stomach dilated and filled with fermenting contents. In the middle of the night, without being exposed to cold in any way, he got an attack of asthma, with considerable dyspnœa and bronchial obstruction, which persisted until his stomach was washed out, when it gradually subsided. That his attack of asthma was due to some toxin absorbed from his stomach I think there could have been no doubt. What the nature of that toxin was I am unable to say; possibly it may have been due to the fatty acids, butyric or lactic acid being eliminated by the bronchial mucous membrane. They are principally eliminated by the skin, but also by the lungs, and it is possible the attack of asthma in this case may have been due to their elimination by this channel.

We know other toxins in the blood produce asthma, uræmia, and gout, for instance, and we know that many of the toxins formed in the stomach affect the individual in various ways, some of them causing spasm and cramps, and others, as in Turck's experiments, causing paralysis and neuritis. The most reliable symptom indicative of the partial form of dilatation, as it is of the graver form, is splash or succussion. This splash in cases of left-sided dilatation is invariably found when the stomach contents are delayed and

fermenting, and is never found in a healthy stomach no matter what the amount or what the character of its contents. It can always be obtained by succussion of the stomach in the left epigastric region in an upward and outward direction in a line between the umbilicus and the left costal cartilages. When the stomach is dilated but empty a tympanitic note takes its place, with this difference, that the tympanitic note is heard over a large area of both the left epigastric and hypochondriac regions, and extending from here upwards to the left nipple and outwards from this level to the mid-axillary line. Under few circumstances is a tympanic note heard in this situation differing from that of ordinary thoracic resonance except in dilatation of this end of the stomach. It is consequently always as reliable of this condition as the splash sound, and both together are conclusive.

Our methods of diagnosis at the Mater Misericordiæ are: If in an hour or two after a test meal splash is elicited or splash and a tympanic note extending to or near the nipple line dilatation is diagnosed. If the splash is heard at the end of five hours or longer an atonic condition of the muscle wall of the stomach is assumed to exist. To ascertain whether the dilatation is due to fermenting contents or atony alone we siphon off the contents at different periods after the test meal, and examine it chemically. If lactic acid persists for some hours after the test meal, hydrochloric acid being absent or present in only small quantities, lactic acid fermentation is present; if it is constantly present with hydrochloric altogether absent, cancer of stomach or pylorus is usually diagnosed.

If butyric, latic, and acetic acids are found there is no doubt fermentation of food contents is going on. If the solvent power of the pepsine present is feeble in its action on proteids, or produces no solvent action on them, secretion is defective or atrophy of gastric glands is diagnosed. For the determination of the existence of hydrochloric acid either Toepfer's test (dimethyl-amido-azobenzol) the benzopurpurin, or Gunzburg's phloroglucin and vanilin tests are used. For the detection of lactic acid a watery solution of perchloride of iron is used which is a very certain test. Butyric and acetic acids are detected by their smell when the filtered gastric contents are treated by ether, which extracts them out.

The chemical test for an atonic condition of the muscle wall of the stomach (the pylorus being pervious) is the administration of salol, which is unchanged by the stomach but splits up into its component elements phenol and salicylic acid when it reaches the intestines, the salicylic acid being secreted by the kidneys and appearing in the urine as salacyluric acid.

If this acid is not found in the urine until hours after the administration of the salol, an atonic condition of the muscle wall of the stomach is assumed to exist. For the extraction of the contents of the stomach we find the ordinary siphon india-rubber tube, such as is used for washing out purposes, is quite sufficient. When passed into the stomach and allowed to remain for a few minutes the part projecting in front of the teeth is throttled, and held so until withdrawn, a drachm or two of the contents of the stomach is found in the end of the tube near its point, which is found quite sufficient for all purposes of examination. The tube and funnel which I use for both extraction and washing out has a stop-cock fitted to it, which insures all air being shut out in the process of extraction.

The title of my paper did not include a description of the methods of treatment in cases of dilatation, but I do not wish to dismiss the subject without a few words on that all-important subject. For cases of the graver form of dilatation associated with obstruction at the pylorus, whether arising from or within the stomach, a suitable pylorectomy or gastro-enterostomy is the only form of treatment likely to produce a cure or to procure amelioration of the distressing conditions present, and when contractions and cramp of the stomach or symptoms of tetany arise operation should be urged at once.

The only other alternative to procure temporary relief is washing out the stomach. I know of no other treatment in the graver form of dilatation which brings so much comfort to our patient, and even in the lesser form of dilatation I have no hesitation in resorting to it when catarrh of the stomach with fermentation and acidity distress the patient. It is not necessary I should describe the methods of its performance, but a few words as to the best time for doing it may not be out of place. Lavage of the stomach is always best done in the morning, before food is taken, as by that time the food of the previous day, if not digested normally, is at all events liquefied sufficiently, either by fermentation or by growing colonies of bacteria, to prevent its blocking the tube in the process of extraction. Having ascertained the size to which the stomach is dilated, from a pint to two pints of hot water is first injected through the tube, and then siphoned back so as to thoroughly wash the cavity. Next, a pint of some alkaline solution is introduced without withdrawing the tube, and allowed to remain for a few minutes (while the stomach is agitated between the fingers) and then siphoned back and the tube withdrawn.

The selection of the solution is not a matter of much importance; lime water answers very well, or a few teaspoonfuls of bicarbonate of soda or potass of lithia dissolved in a pint of hot water, or if the breath is fœtid, some boric acid, peroxide of hydrogen, or Sanitas may be substituted.

Turck has lately introduced a novelty in the shape of an instrument for gastric dilatation which he has called a gyromele. This instrument consists of a flexible cable to the end of which is attached a spiral spring covered with a sponge. To determine the outlines of the dilated stomach the tube is introduced into the organ and the apparatus set in motion. The revolving sponge can be easily palpated through the abdominal wall along the entire length of the stomach. The gyromele can be used as a therapeutic agent as well. In chronic catarrh of the stomach the revolutions of the sponge are extremely useful in effecting the removal of mucus from the surface of the mucous membrane, while in atonic conditions of the organ the friction thus applied to its inner surface acts as a stimulant to the muscular tissue. Weak solutions of nitrate of silver on the sponge have been recommended as an application to the mucous membrane in this manner. Massage of the stomach is also a most important method of treatment in the atonic variety of dilatation. Electricity I have tried, but I am disappointed with it, and rely more on careful massage to effect good results.

To check fermentation I generally prescribe creasote or carbonate of guaiacol combined with bismuth, or sulphurous acid, or the hyposulphites just as I find them to agree best, and where pain is present iodoform, carbolic acid, or ichthyol in pill combined with opium or Dover's powder.

The minor form of dilatation is generally very amenable to treatment, careful regulation of the diet being in many cases the principal treatment necessary where injudicious dietary leading to fermentation is the cause. When a certain amount of catarrh is associated with this I find the alkaline carbonates, especially the bicarbonate of soda with nux vomica, and a vegetable bitter taken before food, very efficacious; it has the double property of dissolving mucus and exciting a more healthy acid secretion afterwards, besides lessening the tendency to acid fermentation. The addition of bismuth to such a combination is also very comforting if there is much gastralgia or heartburn present. If after this treatment for some days splash is still elicited four or five hours after a meal, an atonic condition of the gastric muscle is probably present, and I then give in addition four or five drops of liquor strychninæ after each meal. I consider no other drug to compare with it when a lax and atonic condition of the stomach wall exists. Purgatives given at the same time have a most wonderful influence in emptying a full dilated stomach; the peristalsis of the intestine excited by them seems to be communicated to the gastric wall reversely and to excite its contractions. Where catarrh is chronic and constantly leading to dilatation occasional lavage, combined with the above treatment, will generally effect a cure. Pepsine, though often prescribed in such cases, I have little faith in as a means of treatment; it is at best but temporising, and its administration seems to me both unscientific and useless; in my experience it often sickens the patient, and increases the dilatation present, and certainly does not lessen the fermentation.

In cases of atrophy of the gastric glands and of marasmus in advanced cancer of the stomach walls when combined with hydrochloric acid, it assists the patients to digest proteids, but it is not as efficacious with a mixed diet in this respect as many of the malt extracts.

A consideration of the various kinds of food suitable for the different conditions that lead to dilatation I have not touched on, and I have contented myself with calling attention to the more obvious methods of treatment I have usually found efficacious.

WIDAL'S SERO-DIAGNOSIS OF TYPHOID FEVER.*

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INTRODUCTORY.

IN the practice of medicine certain and early diagnosis is the most important factor. To Widal belongs the honour of having shown that it is possible with some certainty to diagnose enteric fever by a method he terms "sero-diagnosis." I propose to give a cursory history of the evolution of this method. As long as eight years ago work directly bearing upon this subject was published, since then much more has been learned; but it was not until last year that these observations were turned to practical use.

In 1889 Charrin and Roger, while working at the cause of immunity, found that sera from animals, which had been injected with living or dead cultures of bacillus pyocyaneus, exerted an effect on the living bacillus pyocyaneus; they proved this by growing bacillus pyocyaneus in a test tube in serum from an animal immunised against it; the bacilli formed flakes and fell to the bottom of the tube, whereas the supernatant fluid became clear. If the bacillus pyocyaneus were grown in serum from a non-immunised animal uniform turbidity resulted.

In 1894 Issaeff and Ivanoff made a like observation on a vibrio described by Ivanoff.

In 1894 R. Pfeiffer injected into the peritoneal cavity of a guinea-pig, previously immunised against spirillum choleræ, a culture of living cholera microbes. He found on examining the peritoneal exudation that the spirilla had lost their motility and had come to rest in clumps, and also that after a time they underwent a granular degeneration and ultimately disappeared.

He also found the same phenomena happened with bacillus typhosus. If bacilli not of the same species as the one which had been used to immunise the animal were injected, clumping did not take place.

He also showed that the phenomena of degeneration and ultimate absorption of the microbes occurred when a living typhoid culture was mixed with serum of an animal immunised against typhoid and injected into the peritoneal cavity of a non-immunised animal. This came to be used as a test for doubtful cultures of bacillus typhosus.

The clumping, granular degeneration, and ultimate absorption of the microbes observed when specific living organisms were injected into the peritoneal cavity of an animal immunised against that organism, as a whole, came to be known as "Pfeiffer's Reaction."

Metchnikoff and Bordet next showed that the phenomena, which Pfeiffer observed in the living animal, could be seen in the hanging drop preparation under the microscope. To apply this test one drop of serum of an animal immunised against the specific microbe is added to two drops of an emulsion of the doubtful culture; if the microbe be the specific one the organisms come to rest in clumps, and if more serum be added granular degeneration takes place. Vibrios or bacilli other than the one against which the animal is immunised do not react in this way. Gruber and Durham mixed in a test tube the microbe to be tested with a more or less diluted serum from an animal immunised against the microbe to be found. If the microbe were the specific one, the organisms in half to one hour fell to the bottom of the test tube and the supernatant fluid became clear; if the microbe belonged to a species different from the one against which the animal has been immunised, the contents of the tube remained uniform.

The above experiments showed that the serum from an animal in a state of immunity exhibited definite qualities when mixed with the specific organism only. The changes which resulted were also used as a test for doubtful microbes. Hitherto these changes in the organisms had only been shown with sera from animals in the stage of immunity.

Widal, however, believed that the blood of patients suffering from typhoid fever acquired qualities which gave the changes mentioned above at a period long before immunity could have been reached, indeed during the period of infection. On this hypothesis, he thought it would be more practical to mix typhoid bacilli with serum from typhoid patients, and see whether the same changes observed by Pfeiffer *in vivo* or *in vitro* by Metchnikoff, Bordet, and Durham took place, and if so to make use of these phenomena for the diagnosis of typhoid fever rather than of typhoid bacilli.

This he did, and last June brought before the Medical Society of Paris a new method for the diagnosis of typhoid fever which he termed "sero-diagnosis." He described several processes. One consisted in adding a few drops of serum from a suspected typhoid case to a bouillon culture of Eberth's bacillus, already cloudy, and observing a few hours later whether it became clear at the top with a precipitate at the bottom of the tube. Another consisted in adding a few drops of serum from a supposed typhoid patient to a bouillon tube, then inoculating with Eberth's bacillus and observing whether the same phenomena took place as mentioned above. A third method was the mingling of one drop of serum from the supposed typhoid patient with ten drops of a young bouillon culture of bacillus typhosus on a cover glass, and then examining under the microscope to see whether the microbes formed heaps or agglomerations. He also showed that the reaction could be obtained with dried serum or blood emulsified and then added to bacillus typhosus.

In fairness to Grünbaum, it must be stated that he had been working at the same subject simultaneously with Widal; but his theses were not published till two months after Widal's announcement; he cannot, therefore, have the same claim as Widal to this most important discovery.

Chantemesse added typhoid organisms to sera from cases of pneumonia, influenza, erysipelas, and peritonitis, and found that no agglutination of the organisms took place.

Professor Wright, acting on an observation of Widal that serum from patients suffering from typhoid fever showed the agglutinative action when added to dead typhoid organisms in the same way as when mixed with living ones, published a paper on this point in the BRITISH MEDICAL JOURNAL of May 15th, 1897.

He has experimented with the bacillus typhosus and the micrococcus melitensis of Bruce. Emulsions of the living organisms were taken up, placed in capsules, and then subjected to a temperature of 60° C. for five to ten minutes; serum was then taken from a subject who had been vaccinated against typhoid fever six months previously, and from a patient suffering from Malta fever; these sera were added to the respective specific dead organisms in a sedimentation tube. He found that the reaction was quite as definite as when these sera were added to living organisms, and that there was no difference in the method of agglomeration.

If this new method be found reliable, it will greatly facilitate the performance of the test, and any practitioner who cares to provide himself with sterilised cultures of bacillus typhosus will be able to conduct it.

The serum of typhoid patients shows this agglutinative reaction early in the disease. Johnston and McTaggart state that they observed an incomplete reaction within forty-eight hours of the attack of the fever. Most observers are agreed that the serum obtains this agglutinating power by the end of the first week.

The serum from patients who have had typhoid fever seems to retain these qualities for a remarkable length of time, and may as a rule be reckoned by years. This fact bears strongly on immunity to second attacks of typhoid fever, for it is well known that two attacks of the disease in the same individual is a rare coincidence. Besides the serum of typhoid patients reacting in this way with typhoid bacilli, it is claimed that the milk of nursing women suffering from typhoid fever, the tears, the exudations from blisters, and the urine give the same reaction.

Achard states that the blood of a fœtus from a mother in the acute stage of typhoid fever gave no reaction; so it

* This is part of a Thesis written for the M.D. degree of Cambridge University.

appears that this quality of the serum does not pass to the offspring.

Devoto states that the product in the serum which causes this action is a globulin; he finds that this globulin, which he separated, is chemically indistinguishable from globulin obtained from the blood of other people. If dried at 55° C. he found that it lost its bacillus-precipitating properties, but if dried at ordinary temperature it preserves them for eight to ten days.

Jemma has found that a temperature of 70° C. for ten minutes completely destroyed the agglutinative properties of the serum.

Technique.

It is now apparent from the above introductory note that there are many ways in which the reaction may be obtained. For a method to be of practical usefulness it must be free from complications and easy of performance, and therefore in the conduct of my own experiments I have chosen Widal's microscopic method, which has given very satisfactory results. "All that is necessary," Widal says, "is to have at one's disposal pure cultures of Eberth's bacillus, a microscope, and a few drops of serum, or even only one drop of the blood of of the patient." I will indicate the way in which I have carried out this method. With a sterile needle a prick is made on the dorsum of the finger near to the base of the nail, into a sterilised capillary pipette about three drops of blood are taken, and the end of the tube is then sealed in the flame, taking care that the blood does not get heated. The finger is cleaned, but not sterilised, a precaution which does not seem to be necessary.

In twenty-four hours the serum is completely separated from the blood clot, and can be blown out almost free of corpuscles, or the blood may be centrifugalised. A culture on agar of the bacillus typhosus was used which reacted to all the tests. An emulsion of the cultures with a few drops of water was made, and this was used to add to the serum. The agar tubes were inoculated about every fortnight; this method, however, led to serious error, and had to be abandoned. After the agar tubes had been inoculated at intervals of a fortnight for about three months, I suddenly found that on the addition of serum from patients suffering from other diseases and from healthy individuals, a clumping resulted at once which exactly resembled that obtained with typhoid serum. It appeared, therefore, that the cultures inoculated in this way became attenuated, and so some other method of keeping culture going had to be tried. Professor Delépine has experienced the same thing, and emphasises the fact that fresh and virulent cultures of the bacillus typhosus must be used.

In order to obtain such cultures he recommends that the bacillus should be grown on a solid medium, and that fluid cultures should be made from day to day as required. In my later experiments I have followed this plan, and have had no recurrence of the trouble. I have inoculated agar tubes weekly, and from these tubes made bouillon cultures, and used them after growing at 37° C. for twenty-four hours. If the culture becomes attenuated, inoculation on agar daily for four days seems to restore its virulence.

A clean coverglass is now taken, and nine loopfuls of the emulsion, in my early experiment, but later of the twenty-four hour old bouillon culture, are placed on the coverglass; to this is added one loopful of the serum; the serum and the culture are now mingled, the preparation is placed on a slide and examined with the oil immersion lens, a positive reaction is denoted by the organisms running together in clumps becoming motionless and by the clearance of the field between the clumps. It is well to examine the emulsion or the bouillon culture from time to time to see if clumps are present, or if they form after a short time.

In most of my experiments I have used two proportions of serum to culture, this one to nine mentioned above and one serum to two of culture as well. Grünbaum lays great stress on adequate dilution of the serum. Thus he finds that in a case of carcinoma with icterus serum undiluted and in the proportion of one to four gives a "good reaction" with bacillus typhosus, but not in a one to sixteen solution, and thus he meets the difficulty of diagnosing a doubtful reaction. Durham, however, does not mention the most important points, to my mind, about the reaction as regards the clumps themselves, the loss of motility in field and clumps, and whether the field cleared or not. I have found the one to nine dilution work very well for all cases, and although I have frequently seen small clumps within half an hour, yet by studying the reaction as a whole, I have rarely found any difficulty in estimating its value. The stronger proportion, although it increases the reaction in somewhat weak sera from typhoid patients, has never given rise to definite clumping, with clearance of the field, in cases that were not typhoid within the time limit I have fixed for the reaction, namely, half an hour.

In the majority of the experiments observation was made of the preparation at once, and in my earlier ones at the end of twenty-four hours; in my later experiments I only examined the preparation once if clumping had occurred, and again at the end of half an hour if the reaction at first was only partial or negative.

I am quite sure that it is unsafe to make a diagnosis of enteric fever from clumping that occurs after the lapse of twenty-four hours; for in my experiments I found that many diseases other than typhoid gave rise to this, though as a rule the reaction does not show the loss of motility observed in a typhoid reaction. I therefore came to the conclusion that it is necessary to affix a definite time limit for the appearance of this reaction; I have fixed this at half an hour from the time of making the preparation. Grünbaum, Durham, and Gruber have all laid stress on this point, and fixed the same time limit.

In one case a typical positive reaction was obtained after the lapse of an hour and a-half; the patient died, and at the necropsy no lesion of enteric fever was found. In some cases I used the hanging-drop method, but this method appeared to have no advantages over that which I have generally followed.

In carrying out this series of experiments I have nearly always tested on the same day sera from patients suffering from diseases other than typhoid, so that my results have been controlled.

I have not used the dried blood method, concerning which Wyatt Johnston and McTaggart, of Montreal, published a paper in December last, recording results of 290 examinations. In their hands this appears to have yielded satisfactory results; they report, however, that it is necessary to use a somewhat attenuated culture of typhoid bacilli. This seems the weak point in the method, for many observers, including myself, have noted the great readiness with which attenuated cultures clump by themselves and when mixed with sera from diseases other than typhoid.

Neither have I used to any extent the reaction in the test tube for diagnosis. This appears a very reliable method, but requires abstraction of more blood from the patient, and is altogether rather more complicated. Professor Wright has lately invented some very ingenious capillary pipettes for taking blood from the finger, and also what he terms "sero-sedimentation tubes" for carrying out the test tube reaction.

The Reaction.

As soon as the preparation is made it is put under the microscope, and, if the reaction be positive, the following phenomena are seen:

1. Formation of clumps of non-motile organisms. These clumps are composed of organisms at times closely packed together, at others more loosely so; they are made up of organisms in a heap and not all in focus at the same time, and so differing very much from pseudo-clumping, which often comes on after a varying period in sera from patients suffering from other diseases. In pseudo-clumping the organisms lie very much in the same plane, and are not, as a rule, densely packed together.

2. Almost immediate clearance of the field between the clumps; this is the most characteristic part of the reaction. The few organisms that remain in the field move sluggishly about, and often can be seen running up to the clumps to increase their size.

3. If the preparation be watched, the reaction not being complete, the field soon becomes quite clear, and the clumps increase in size. At times, however, with serum from a typhoid patient the reaction is not always so definite at once. In fact, at first nothing can be noted beyond a loss of

the usual motility of the organisms; in a short time, however, very small clumps or clusters of organisms form, and these increase in size till at the end of half an hour the reaction is quite positive. Reactions intermediate between this, and the above typical phenomena occur.

In cases where the 1 to 9 proportion has failed to give clumps at once the 1 to 2 proportion has at times given them, and has indicated what almost invariably follows in the weaker dilution. It is extremely rare for any serious difficulty to arise in determining a positive reaction. In the false reaction obtained with other sera there is rarely loss of motility of organisms in the field, and the clumps that form are generally very small, being composed of a few organisms only, and these very often actively motile. There is never within the time limit I have fixed clearance of the field. At a later period I have often observed definite clumping, with clearance of the field and some loss of motility. Many of these reactions, indeed, would have been called positive had they occurred within half an hour.

Discussion of Results of Experiments.

The results I have obtained are based on 161 cases; 81 of these were cases of typhoid fever during disease or early convalescence; 21 were cases of typhoid fever at a period remote from the original attack; 21 were cases simulating typhoid fever; and 38 were cases of various diseases and of persons in health.

In a large number of the 81 cases of typhoid fever the diagnosis was at the time of examination undoubted. In these cases the purpose of testing the serum was to see whether in all cases of typhoid fever the serum gave the agglutinative reaction, and thus to prove the value of the test.

As to the results obtained I think they may be said to be satisfactory. Taking the 81 cases of typhoid during disease or early convalescence, 73, or 90.1 per cent. of these cases, the reaction was considered positive in 8, or 9.8 per cent. negative. This shows clearly that a negative result does not absolutely disprove the case to be one of enteric fever. It is difficult to understand why this 9.8 per cent. of typhoid sera did not give the reaction exhibited by far the larger number. How is it that the agglutinative power does not belong to all cases? Three explanations may be given.

1. There may have been some mistake in the performance of the experiment, such as heating the serum; however, in cases where it was possible I have tested the serum twice, in one case four times, after sterilisation of the patient's finger, and the result was always the same.

2. These cases may not have been enteric, but out of these 8 cases on only 1 can any reasonable doubt be thrown, and the clinical symptoms were definitely those of enteric fever.

3. The agglutinative properties might have been present at an earlier date. The latest day from date of attack was the 76th. The objection to this explanation is that the power of the serum lasts for many months as a rule.

Durham found that out of 10 patients suffering from typhoid fever, 4 failed to give the reaction. Delépine, on the other hand, obtained a positive reaction in 25 consecutive cases of typhoid fever. Johnson and McTaggart in their paper only had 6 failures to record out of 129 cases of enteric fever.

As regards the earliest day of disease on which this reaction appears, I have not many apposite cases. I have found it very difficult to get sera from patients early in the disease, as in hospital practice patients do not, as a rule, present themselves till they are definitely ill.

The earliest case taken was one in which the serum was examined on the fourth day, and the reaction was entirely negative; on the eighth day it was decidedly positive, so it would appear that in this case the serum might have shown its qualities on the sixth day. Seven other cases gave a decided positive reaction from the sixth to the ninth day. Judging from these cases, it may be stated that the reaction always appears in the first week of the disease, but that, if it is not present in the first few days, a re-examination should be made.

The reaction appears to reach its greatest intensity very rapidly. I have not found that it bears any relation to the severity of the attack; in fact, a mild case often gives a more decided reaction than a very severe one. I had a case which illustrated this; the disease was most severe, yet the reaction was not positive with a 1 to 9 dilution, but only with a 1 to 2. Possibly the weak action of the serum may have been the cause of the severe type of the disease.

Nor does there seem to be any decided relation between the degree of reaction and tendency to relapse. Three cases had relapses, and in all of them the reaction was feeble; but, on the other hand, four other cases of relapse all gave very positive reactions. The reaction in convalescence is generally quite as intense as during the height of the fever.

The Diagnostic Value of the Test.

Many of these 81 cases showed the great value of the test for diagnostic purposes. Enteric fever is practically never absolutely ascertained by clinical means of diagnosis before the tenth day; so that a positive reaction in a case before the tenth day has much diagnostic value.

Besides this, there are many cases which clinically remain in some doubt for two weeks or longer, and some which are doubtful throughout. I have mentioned most of the cases which gave the reaction before the tenth day. I will now speak shortly of a few cases which were doubtful at some later period of the disease, and in which a positive reaction being obtained were, I maintain, diagnosed correctly and the doubt removed at once.

CASE I.—Here there were definite signs of phthisis complicated with some other illness of a doubtful nature. The serum gave a positive reaction, and therefore in my opinion the patient had enteric fever concurrently with phthisis.

CASE II.—This patient had a very doubtful attack of enteric clinically; besides this he had syphilitic ulceration of the rectum, so that there was much doubt as to whether the latter lesion might not have been the cause of the whole illness. I think the test cleared up the diagnosis in favour of a concurrent attack of enteric fever. Diagnosis of cases such as these would be very important in tracing the epidemiology of an outbreak of enteric fever.

CASE III was entirely uncertain as to diagnosis on the sixteenth day. I diagnosed enteric fever by Widal's method, and the ultimate course of the case showed that I was correct.

CASE IV was very doubtful even at the twentieth day. Enteric was diagnosed by the serum test.

CASE V is of extreme interest. Originally it was thought to be influenza, and on arrival at hospital a universal rather punctate erythema suggested scarlet fever. The disease ran the course of enteric fever, and to it the patient succumbed. The test gave a correct diagnosis on the ninth day.

CASE VI on the sixteenth day was extremely doubtful clinically, but was diagnosed correctly by the serum test.

CASE VII was one of doubt throughout; clinically it seemed to be a combination of enteric fever and malaria. The surgeon considered the disease to be appendicitis, yet the serum gave a most positive reaction in favour of enteric fever.

CASE VIII was impossible to diagnose clinically at the eleventh day, yet the serum test gave a most positive reaction.

CASE IX on the fourteenth day was doubtful, but the course of the case showed that the diagnosis of enteric fever, by a positive reaction from the serum, was correct.

CASE X at the fourteenth day was very doubtful, but the reaction, which was positive, cleared up the diagnosis.

I think these cases are sufficient in number to show that this sero-diagnosis method is a great aid to the clinician. The 21 cases at periods subsequent to the attack, varying from three months to eight years and a half, show the long period that the reaction lasts; of these 18 gave a positive reaction, 1 a doubtful positive, and 2 were negative. The longest period after attack at which a positive reaction was obtained was seven years and a half. Of the two negative reactions, one was fifteen months from the onset of the disease, the other eight and a half years. Thus the time this quality of the serum lasts is not definite. In many cases the reaction was as marked as I have seen it in the height of the disease. Whether all subjects, if exposed severely to the poison of enteric fever, would remain immune so long as the serum retains these active qualities, is a doubtful point, and one not yet worked out.

As this action goes on for such a long time it is always well to ask about any previous attack of enteric fever before applying the test. In fact it may be stated that a positive reaction obtained with serum from a patient who previously suffered from enteric fever is absolutely valueless. The diagnosis must be made by the clinician.

As to the 21 cases which simulated enteric fever, in all of these at the time of testing the blood the disease was indistinguishable from enteric fever. Yet all of these patients proved to be suffering from some other disease, and not from enteric fever. Every serum in this class gave a complete

negative reaction. These cases show that for diagnosis a negative reaction is fairly strong evidence that the disease is not enteric fever. This, I have said above, is not absolute, for 9.8 per cent. of my cases of enteric fever gave a negative reaction.

The last class is made up from 35 patients who were suffering from various diseases, and 3 cases who were in perfect health. Not one positive reaction was obtained. Many pseudo-agglomerations were observed, but these occurred only after the preparation had been made some time; and, as explained above, the false reaction as a whole differs greatly from the true. In fact it seemed very unusual to find diseases, especially if attended with fever, whose sera did not give rise to clumps after a certain period. The motility always seems to become lessened after twenty-four hours, and as a rule a few clumps appeared; and often, indeed, a few clusters of organisms could be seen at once. In one case a typical reaction showed itself in an hour and a-half with a to 2 dilution. This impressed upon me the necessity of fixing a time limit, namely half an hour, for the reaction to take place in. This patient died, and at the necropsy no lesion of enteric fever was found.

I have tried the action of typhoid sera, which react with typhoid microbes, on bacillus coli communis; clumping never took place in a 1 to 9 or 1 to 2 dilution; in twenty-four hours in some cases there were a few clusters, but active motility was retained. I have also tried the action of the urine from typhoid patients upon typhoid organisms. In a few cases this certainly gave rise to clumping, but the result was not so rapid or so clear as the serum reaction. The saliva from healthy people gave clumps as well as that from typhoid patients. Other typhoid saliva gave no sign of clumping. This, therefore, is obviously untrustworthy, and there is no doubt that it is the blood serum which gives the best results.

CONCLUSIONS.

1. Absolutely certain and virulent cultures of bacillus typhosus are needed. If the culture becomes attenuated it will clump to any serum in a typical manner. It is well to examine the culture first to see that there are no clumps before the addition of the serum.
2. It is well to make two dilutions, in the proportions of 1 to 9 and in 1 to 2.
3. It is necessary to have a time limit for the reaction to take place in, from experience half an hour is a sufficient interval.
4. A positive reaction is, I believe, absolute proof of enteric fever (provided there is no history of a former attack), and is found in a very large percentage of cases.
5. A negative reaction is strong evidence against typhoid fever.
6. The reaction nearly always appears in the first week of the disease, therefore the diagnosis can be made earlier by this means than by clinical.
7. The agglutinative power of the serum lasts for an indefinite but as a rule lengthy period, so it is necessary to have evidence as to former attacks.
8. There appears to be no relation between the intensity of the agglutination, the severity of the case, or the degree of the fever.
9. It is undoubtedly the best method we have of certain diagnosis of enteric fever.

[Since writing this Dr. Kanthack has informed me that he obtained a typical positive reaction with serum from a patient suffering from an obscure disease; death followed, and at the necropsy no lesion of enteric was found, and cultures made from the spleen were entirely negative.]

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GASTRO-INTESTINAL TOXINS: THEIR CLINICAL SIGNIFICANCE AND THERAPEUTIC INDICATIONS.

BY WM. ARMSTRONG, M.R.C.S.,
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THE fact that processes are always going on in our bodies, the products of which, by reason either of excess in formation or of deficiency in elimination, may become harmful to comfort, health, or even life itself, should arrest immediate attention.

The morbid manifestations of this condition are spoken of as "auto-intoxication," or "self-poisoning of the individual." Careful study of these processes throws much new light upon the causation of many chronic and intractable ailments, and encourages the hope that an increasing measure of success may attend our efforts to combat them.

Ptomaines, formed from decomposed food substances, had long been recognised as the cause of certain occasional cases of severe and deadly illness. It was not, however, until 1885, when Gautier demonstrated that poisonous bodies, to which he gave the name of leucomaines, were formed from sound food during normal digestion (and in larger quantities and more virulent form if those digestive processes were interfered with), that consideration was given to the possibility of these obscure bodies being responsible for the genesis of many forms of confirmed ill-health.

Gautier's researches showed that the animal economy was frequently poisoned by its own products. He pointed out that poisonous matters were being continuously formed by the decomposition of albumen in the intestinal canal during the process of digestion; and also in the blood and tissues by the metabolism which occurs during the functional activities of life. The normal products of digestion are poisons of considerable power; and if, through inadequacy of the organic functions, they reach the circulation in any considerable quantity, alarming or even dangerous symptoms occur.

Autointoxication may be either slight and transient, or severe and lasting. The most common form of all is, I consider, a daily storage of small quantities of noxious material which gradually deteriorates the nervous system, and disturbs the nutrition of the various organs of the body. Vital action is much more quickly interfered with through the accumulation of waste products within the organs than by any want of nutriment of those organs themselves.

The toxins developed in the human body are many and varied:

1. Alkaloids, divided into two groups:
   (*a*) Ptomaines, formed from the action of bacteria, or of ferments, on the albuminoid substance of the dead tissues.
   (*b*) Lencomaines, which are elaborated by the vital energy of the cells themselves.
2. The primary products of the albuminous decomposition of digestive ferments, such as peptones.
3. Acids—acetic, butyric, valeric, and sulphuric.
4. Ammonia and the ammonia compounds.
5. Leucin, tyrosin, indol, skatol, cresol, and phenol.
6. The salts of potash.
7. Bile acids.
8. Biliary colouring matters, especially bilirubin.
9. Various gases, of which sulphuretted hydrogen is probably the most toxic.

All these are capable, under conditions of excessive formation or deficient elimination, of setting up a train of morbid symptoms without any organic disease being present.

The fact that self-poisoning more or less acute is not constantly present is probably due to two factors:

1. The action of the liver, which seems to have the power, when in good working order, of destroying or modifying certain poisons and of eliminating others.
2. The antagonistic action of the poisons themselves.

The chief causes of excessive formation of these poisons seem to be:

(*a*) Defective action of the nervous system, leading to a failure of the processes of digestion, such as deficient or abnormal secretion of the various gastric and intestinal juices; or to torpidity of the muscular structures of the stomach and bowels, and a consequent loss of power to make the necessary movements. Then follows retention of food products, and consequent fermentation and putrefaction.
(*b*) The taking of food in too large a quantity, in wrong form, or, as is most common, in improper combination.
(*c*) Gastric dilatation.
(*d*) Duodenal dyspepsia and atony.
(*e*) Atony of the small and large intestines.

Defective elimination and failure to burn up the leucomaines in the blood by the aid of its contained oxygen are factors of great importance. The kidneys are by far the most important organs of elimination. Much dietetic unrighteousness is forgiven to the possessor of sound and active kidneys; they eliminate two-thirds at least of the solids, especially mineral matter; also urea, colouring, and odoriferous materials, but not gases.

Bouchard says that seven toxic substances are found in normal urine:

1. A diuretic substance, which is probably urea.
2. A narcotic substance.
3. A sialogenous substance.
4. A substance which contracts the pupil.
5. A heat-reducing substance.
6. An organic convulsive material.
7. An inorganic convulsive material, probably potass.

The liver possesses the important function, amongst others, of destroying the poisonous properties of peptones, ptomaines, and other substances produced during digestion; and possibly, also, the toxic products of tissue waste. Anything, therefore, which interferes for any length of time with its functions must cause more or less deterioration of the general health.

By the skin is eliminated water, salts in small quantity, carbonic acid, and some volatile fatty acids; and it is interesting to note that in many hypochondriacs fatty acids are eliminated more abundantly by the skin than in normal health. By the lungs are eliminated poisonous substances, such as carbonic acid, and also volatile poisons accidentally introduced into the digestive canal. The bowels carry off much toxic matter; this toxicity is due chiefly to potass and ammonia, and in a less degree to the union of organic principles, especially alkaloidal substances.

Cases of self-poisoning may be divided into two groups, acute and chronic. The first is represented by certain phases of typhoid fever and cholera, and by the more acute forms of uræmia; the second, with which I am chiefly concerned at present, by the slower, but not less harmful, changes going on more or less hourly within the bodies of many of those around us.

I believe that autointoxication is an important factor in the causation of the following diseases:

1. Gout, especially the so-called latent and neurotic forms of that disease.
2. Rheumatism.
3. "Uric-acidæmia" and oxaluria.
4. The nervous irritability attending dyspepsia, especially when gastric dilatation is present, and also the "sinking" feeling some two hours after food complained of by many neurasthenics.

And some forms also of the following ailments:

5. Rheumatoid arthritis.
6. Asthma and wheezing.
7. Vasomotor disturbances as cardiac irregularity and neuroses, false angina, pseudo-Raynaud's disease.
8. Urticaria.
9. Tetany.
10. Migraine and insomnia.
11. Hypochondriasis, and even mental derangement.

With regard to gout and rheumatism Aitken says: "These diseases develop under the influence of agents generated within the body itself through the continuous exercise of its functions in the daily course of nutrition, development, and growth." A considerable experience of gout in its many and various forms has convinced me that in the majority of cases of that disease there is more or less self-poisoning present. And I would venture to submit that from this standpoint we can reconcile the apparently conflicting theories as to the cause of this disease, and also the diverse opinions (each strongly backed by clinical experience) held as to its proper treatment. For whether we incline to the view that gout is due to excess of animal food, to maldigestion of the carbohydrates, to the imprudent mixing of foods of different classes, or to the introduction of substances favouring fermentation, we can see how each of these factors may form toxic material, which (if we accept the recent and most able researches of Dr. Luff) in all probability passes on to the kidneys, where it forms uric acid, excess of which, reabsorbed into the blood, causes the phenomena of gout. For whether defective action of the kidneys, inactivity of the liver, dilatation of the stomach, nerve strain, or want of exercise is considered the main contributing factor to the gouty diathesis, I would urge that any one of these conditions is capable of giving rise to a condition of autointoxication.

Dilatation of the stomach, a much more frequent condition than generally supposed, leads to the formation, amongst other toxins, of large quantities of acetic and butyric acids. Abnormal conditions in the duodenum cause increase of indol, which points to rapid decomposition and bacterial activity. Sulphuretted hydrogen is frequently formed in considerable quantity in the large intestines. It is a most powerful poison, acting upon both the nervous system and the blood, producing depression, headache, vertigo, and disturbances of sight and hearing.

To get exact indications through the medium of the urine is a most difficult matter, for many alkaloids can only be detected by chemical processes so long, complicated, and delicate as to make them of little use in clinical work. There is, however, a port wine-coloured reaction with ferric chloride which is frequently found in cases of gastric dilatation. Indican again can be detected in the urine by the chloride of lime test, or by the fact that it gives a purple ring with nitric acid; this shows the presence of indol in excess in the small intestine. In cases of fæcal retention there is often a brown reaction with nitric acid, which Herschell found in over 50 per cent. of cases of this class. Sulphuretted hydrogen can be detected by the blackening of paper impregnated with acetate of lead as well as by its characteristic odour, and also by the change in the relative quantities of the normal and ethereal sulphates.

The therapeutic indications are important. I have seen remarkable results follow treatment acting upon the nervous system. It is through this that such factors as change of air and scene, visits to elevated inland resorts or to the coast act. I am convinced that in a large number of cases the true key to the position is to be found in the condition of the nerve centres. The kidneys come next in order of importance, then the liver, the bowels, the skin, and the lungs. The vapour or hot-air-box bath is of great service in helping to carry off poisonous substances by the skin.

In typhoid fever Dr. Burney Yeo has had excellent results from the use of a solution of chlorine gas. Dr. Fisher, of King's Langley, has found the internal administration of izal of much service, while Dr. Headley Neale, of Leicester, has published a remarkable series of cases treated by the biniodide of mercury.

The drinking of hot water when the stomach is empty is a most excellent practice; it carries away with it much toxic material from the digestive organs, and ends by flushing out the kidneys.

The liver needs stimulation in most cases, and there is no better remedy than a single grain of calomel given every second or third night, followed by a full dose of the phosphate or sulphate of soda in hot water the next morning fasting; the calomel acts also as a duodenal antiseptic. In a number of cases of fairly early deltoid rheumatism, where I have found indican in excess in the urine, the calomel has quickly removed both this substance and the pain at one and the same time.

The state of the bowels should be carefully watched. A saline aperient in the morning is an excellent routine practice, but if much atony be present small doses of aloin and cascara with strychnine and belladonna are indicated. If fæcal retention is present, large enemata passed by means of the long tube into the descending colon are necessary.

In gastric dilatation many antiseptics have been tried; amongst others creasote, guaiacol, iodoform, carbolic, and sulphurous acids, and the sulpho-carbolates. Most of these possess the disadvantage of being unpleasant to take, and apt to repeat. I have found a weak solution of fuming hydrochloric acid (8 to 10 drops in 6 ounces of water) freshly mixed just before each meal, of considerable service. It is a most powerful antiseptic; half of the quantity named is taken in divided doses while eating, and the remainder at the end of the meal. Washing out the stomach is frequently useful in severe and obstinate cases; it immediately relieves severe migraine due to gastric dilatation.

When duodenal fermentation is present calomel and betol are the most useful antiseptics. Takadiastase in $2\frac{1}{2}$ to 5 grain doses, taken with meals greatly assists the digestion of the carbohydrates. Salol sometimes causes unpleasant sym-

ptoms. The long-continued administration of salicylic acid affects the nervous system, and the salicylate of bismuth is not sufficiently powerful unless given with betol.

As an intestinal disinfectant it is desirable to use some drug which is only sparingly soluble, so as to pass uninjured through the stomach and duodenum; or to have it made into pills specially coated to resist the action of first digestive juices. In that case it often resists also all other efforts to dissolve it, and the drug passes from the body with its coating intact.

Bouchard recommends large doses of iodoform mixed with charcoal; but the former is both unpleasant and toxic. I have found napthaline much more useful and much less objectionable. It is not absorbed, and may be given in doses of from 4 to 8 grains in cachet. I consider it a most valuable intestinal antiseptic. Methylene blue is also of service in doses of 2 grains twice or three times daily; but the patient should be warned of the deep blue coloration of the secretions caused by it. Charcoal fixes the colouring matter of the bile, takes up gases, and prevents the absorption of some of the products of putrefaction. It is a remedy of great value, especially when given in cachets.

The needle, or circular spray bath, is most effective as a nervine tonic, as is also the double mustard pack. This is made of mustard bran, one portion being applied to the nape of the neck and down the spine, and the other over the stomach and liver, for from fifteen to twenty minutes every second day. It stimulates and strengthens the sympathetic nervous system, especially that portion connected with the process of digestion. The general faradisation of Rockwell is also useful, especially when the hand of the operator is used as the labile electrode. This method, which I consider has not received the attention it deserves, has a most helpful influence in cases of nerve failure. It is pleasant to the patient, and can be administered to the most delicate subject without causing weariness or exhaustion, and in most cases is followed by a feeling of greatly improved health. It may be conjoined with massage, which is indicated in many of these cases; for if we stimulate the nervous system by friction of its cutaneous branches, we obtain, in a reflex manner, quickening of the renal circulation, and, consequently, increased secretory activity of the kidneys.

Resisted Swedish exercises should not be lost sight of; for in the muscles the surrounding fascia forms a pumping arrangement; the two layers of which it consists are separated from each other at each muscular relaxation and pressed together at every contraction. The contained lymph and waste products are thus pumped out of the muscles at each contraction, and are sent into the large lymph spaces and lymph channels. The movements of the abdomen and thorax in the act of respiration form a similar pumping arrangement, by which any excess of the serous fluid which bathes the intestines and the lungs is pumped out of the peritoneal and pleural cavities. These movements also indirectly influence the removal of waste products from the brain and spinal cord. When the brain is overworked and the respiration and muscular movements are underworked the nutrition of the brain is diminished by the imperfect removal of waste products from its substance. Its cells and fibres may also be poisoned by the circulation within the blood vessels which supply them of noxious substances due to imperfect digestion and assimilation. The best remedy for this condition is to be found in bodily exercise; but no course requires so carefully prescribing in these cases as exercise. Excess in this particular at once causes a great increase in the amount of toxic products formed; and the difficulty is that so small an amount is in some cases excessive. Walking, cycling, and golf are all useful; but I have seen many patients (in whom all these caused increase of morbid conditions) completely cured by a course of saddle exercise.

Inhalation of compressed air or of oxygen decreases the toxicity of the urine, as does steady work or labour of any kind; while nothing is so bad as for a person to take little or no exercise for days, weeks, or months, and then suddenly to take violent or long-continued exertion for a short period. Such a course almost invariably causes great increase of toxins in the system.

In uræmia, baths of hot dry air are often of great use, given in bed by means of Arnold's apparatus. I have often seen children rescued from the jaws of death by this means when constant vomiting, suppression of urine, and convulsions were present. Bleeding should not be lost sight of as a remedy in this complication, for we are told on good authority that we can remove from the system a greater proportion of extractives by bleeding than by any other channel, the renal tract excepted. We should also try to obtain intestinal antisepsis, should use inhalations of oxygen, and act freely upon the bowels.

The question of dietary in autointoxication is of the utmost importance. Excellent cures are reported where red meat has been absolutely forbidden, and equally excellent ones where nothing but red meat and hot water have been taken. In amylaceous dyspepsia, with or without gastric dilatation, a meat dietary is often efficacious.

When evident putrefaction is taking place lower down the alimentary canal, or where premonitory symptoms of uræmia are present, then a strict dietary of milk, koumiss, and farinaceous foods is indicated. Alcohol should be avoided as much as possible, especially in the form of spirits. When actually needed I find most useful (unorthodox as it is) a glass of sugarfree champagne, or one of port wine thoroughly matured in the wood, taken with food only. Above all the mixing of different classes of food at one meal should be avoided. In gastric dilatation the meals should neither be too frequent nor too bulky, and fluid should be taken in as small a quantity as possible with food, the necessary fluid being taken one hour before meals.

PARTIAL ANÆSTHESIA WITH CHLOROFORM.

BY SURGEON-LIEUTENANT-COLONEL EDWARD LAWRIE, M.B.EDIN.,

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UNTIL two years ago the rule in the Afzulgunj Hospital was to produce complete anæsthesia with chloroform if the patient desired to have it, in every case, without exception, that was fit for an operation. In a large majority of the cases the operations were of a trifling description and of short or momentary duration, but the Edinburgh doctrine was almost invariably followed, and no operation, however trivial, was performed, or even commenced, before the patient was fully under the influence of the anæsthetic. In this way much valuable time was wasted, and patients who suffered from whitlows, abscesses, fistulæ, hydroceles, and the thousand and one conditions which necessitate minor but painful surgical procedures were often incapacitated for a whole day or more afterwards by chloroform sickness or dyspepsia. However, as the Hyderabad Commission has proved that chloroform and shock are incompatibles, and that "primary chloroform syncope" is a myth, the old prejudice against beginning an operation before the patient is "over" was finally cast aside in 1895, and since then nearly all minor operations have been performed under partial anæsthesia with chloroform. In this method the chloroform is administered in drachm doses, poured on to the cap at minute intervals until the patient becomes unconscious. The moment consciousness is abolished the incision, or puncture, or whatever it may be, is made. The chloroform is then usually stopped, and the dressings are applied while consciousness is returning. Partial anæsthesia has been employed in this manner in more than 2,000 cases, and it is now established as a routine method of practice. It is of incalculable benefit in such conditions as hepatic abscess, which cannot be treated successfully in any other way but by aspiration.

Cases of liver abscess are constantly met with complicated by severe dysentery or malaria. At times a cutting operation is inadmissible, and it becomes a matter of almost life and death to the patient to avoid the shock of pain on the one hand, and the possibility of sickness from chloroform on the other. Unconsciousness to pain is easily obtained by partial anæsthesia with chloroform; it is attended with absolutely no risk, and is never followed by the discomfort and sickness which are so often inseparable from full chloroformisation. The only drawback to it is that reflex struggling

may be set up occasionally on the infliction of the wound, but this is merely a temporary inconvenience, which can be removed if necessary by pushing the chloroform until the struggling ceases, or until anæsthesia is complete.

The following case, taken from the anæsthesia notebook, illustrate the method of administration:

AFZULGUNJ HOSPITAL.

April 28th, 1897. Mir Soobhan Ali, aged 31, years, male, had food last at 7 o'clock to-day. Is very weak and emaciated, passing twelve to fourteen dysenteric stools a day. Operation, aspiration of liver abscess. Chloroformist, Miss Tenducey, fourth year student. Administration commenced in one drachm doses at:

H.	M.	S.	
8	50	30	Breathing naturally, quiet.
8	51	30	Chloroform added to the cap, one breath of air.
8	52	15	Unconscious. Aspirated in seventh space. Six ounces of serum evacuated.
8	53	31	Needle withdrawn.
8	55	0	Patient removed on a stretcher.

The entire operation, from the time the chloroform was begun till the patient was taken away, occupied 4½ minutes, and there was no sickness or discomfort afterwards. A brief account of the case will show how important a part the partial anæsthesia played in the patient's recovery. He was admitted into the Afzulgunj Hospital on April 21st, 1897, suffering from dysentery and a large abscess of the liver. The dysentery was treated throughout with bismuth and Dover's powder, which he is still taking; and the aspirations were carried out as follows:

April 22nd. First aspiration under partial anæsthesia with chloroform. Thirty-five ounces of thick sterile pus were evacuated. The operation lasted 9 minutes and 45 seconds.

April 24th. Second aspiration under partial anæsthesia with chloroform. Fourteen ounces of pus were removed; and the operation lasted 5 minutes and 55 seconds.

April 25th. Third aspiration under partial anæsthesia. Eight ounces of pus and serum were evacuated, and the operation lasted 5 minutes and 25 seconds.

April 28th. Fourth aspiration under partial anæsthesia. Six ounces of sterile serum only were removed, and the operation lasted 4½ minutes.

May 6th. Fifth aspiration under partial anæsthesia. The abscess cavity was found entirely empty. The exploratory operation lasted 5 minutes. Rapid improvement had taken place after the aspiration on April 28th, when nothing but serum was found, and the temperature remained normal. The patient passes from one to three stools, free from blood and mucus, in the twenty-four hours; he is free from pain and feels quite well.

One word of warning must be added with regard to the employment of partial anæsthesia. It demands precisely the same undivided care and attention on the part of the chloroformist as the production of full anæsthesia. It has happened rarely that, intending to produce only unconsciousness with the 1 or 2 drachm dose, complete anæsthesia has unexpectedly supervened. If on these occasions, the chloroformist had not been attending properly to his duty, accidental overdosing might unawares have taken place, and the case been cited to bolster up the waning belief in shock under chloroform and primary chloroform syncope.

DEEP TISSUE TRAUMATISM FROM ROENTGEN RAY EXPOSURE.

BY DAVID WALSH, M.D.EDIN.,
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MANY instances have now been recorded of injury to the superficial structures of the human body, such as skin, hair, and conjunctivæ, by the process of skiagraphy. It has been generally assumed, however, that no harm has been done to the deeper structures by the passage through the body of rays from the focus tube. So far from that view representing the exact state of affairs, it seems to the present writer that the method of Roentgen ray diagnosis may exert a definite harmful action upon some of the deeper tissues of the human body. The facts that have suggested that opinion may be gathered from the following briefly noted cases:

Professor Waymouth Reid,[1] of Dundee, experienced a severe dermatitis and loss of hair after four exposures, from twenty to forty minutes each, within a period of four days. The focus tube was placed over the front of the body, and on the evening of each exposure marked erythema of the chest and belly was noticed, as well as slight redness of the back. This interesting observation seems to point to a kind of selective action traumatism of the deeper epidermis and dermis by rays capable of passing through the substance of the body.

The only recorded instance, so far as the writer knows, of apparent injury to deep structures by the Roentgen methods is one given by an American surgeon, Mr. Gilchrist.[2] It was that of a demonstrator, aged 32 years, affected by a severe dermatitis after frequent and prolonged exposures. At the same time the bones of the hand became tender on pressure. A skiagraph showed the presence of a distinct osteoplastic periostitis, and probably an osteitis of the first and second phalanges of the index and second fingers, and also of the heads of the corresponding metacarpal bones.

A remarkable instance of apparent injury to brain structures by the rays of the focus tube has come under the notice of the present writer. The sufferer, a man 49 years of age, had demonstrated the rays for some months, and had suffered from several slight attacks of dermatitis. At length he experienced a severe illness after a week's prolonged demonstration, during which the tube was constantly near his head, although separated by a wooden screen. The main features of his attack were giddiness, slight headache, vomiting, diarrhœa, high temperature, and prostration. He was under the care of Dr. Murray, of Clacton-upon-Sea, who has kindly furnished the following note. When the patient came under observation his temperature was 103.5°, pupils sluggish, frequent diarrhœa and vomiting, great languour and debility. Dr. Murray regarded the attack as in some way due to Roentgen ray exposure, and compared it at the time with the symptoms of "sunstroke." The giddiness persisted for a couple of months. On the whole the facts of this illness appear to be consistent with a theory of gastric and cerebral irritation set up by focus-tube exposure in a subject proved to be susceptible by previous dermatitis from a similar cause.

Another case has come under the writer's notice. A practical worker, Mr. Greenhill, was carrying out a series of experiments involving exposure of the region of the stomach for a period of about two hours daily. After some weeks he complained of gastric symptoms, such as pain, tenderness on pressure, flatulency, colic, and diarrhœa. He went away into the country for a fortnight and got well. On his return he resumed his experiments, and after a fortnight experienced a similar attack. He subsequently shielded his stomach with a thin sheet of lead, and his symptoms finally disappeared. This history certainly suggests that in his case the rays of the focus tube caused a direct inflammation of the gastro-intestinal mucous membranes.

Other facts pointing to deep action of the focus tube rays are the local tremors often set up by exposure, and the apparent shrinking of the heart noticed in several instances by Dr. Bezly Thorne.[3] Lastly, there is the action, noted by Despeigne[4] and others, of these rays in the relief of the pain of cancer.

If from the foregoing grounds we may assume that focus-tube traumatism of the deeper structures of the human body occurs, then we have at once a remarkable analogy with the results of exposure to the sun. Severe resulting rashes are common to both agencies, and may follow a single exposure. Pigmentation of skin is another common effect. In the case above mentioned Despeigne used the rays to relieve the pain of cancer; he reported that after the eightieth sitting the skin of the patient's neck became as black as that of a negro. Then in the case of Dr. Murray we have a perfect mimicry of mild-heat apoplexy. So far as any ill-effect of the sun on gastro-intestinal mucous membranes is concerned, the writer knows of no direct evidence; on the other hand, however, obstinate constipation is the rule, together with what is usually regarded as cerebral vomiting. From the inherent conditions of the exposure, the brunt of the sun's rays would naturally fall upon the head, and it is commonly supposed by anatomists that the thickness of the negro skull is an acquired character due to prolonged exposure to the rays of a tropical sun. We know that sunlight has a powerful influence upon the general health, and it seems quite possible that the sun may have a much greater and more direct effect upon the deeper structures of the human body than has been hitherto imagined.

Three chief theories have been mentioned by Gilchrist, in the paper already alluded to, as the cause of focus tube dermatitis:

1. Professor E. Thompson thinks that the injury is caused by the *x* rays, or by something that constantly accompanies them. He himself was sceptical as to the traumatism, and exposed his own hand at a distance of a few inches to a Crookes's tube, an experiment which resulted in a severe dermatitis.

2. Tesla maintains the effect to be due to ozone liberated in the surface tissues. His theory, however, is upset if we accept the existence of focus tube traumatism of the deeper structures, where ozone is not generated.

3. Gilchrist fancies the result to be due to actual particles of platinum carried by the cathode rays. If so, they must have been carried through a board in Dr. Murray's case.

Personally the writer is inclined to think that the focus-tube traumatism may ultimately prove to be due to heat rays, in other words, to be a kind of burn. The cathode rays strike the platinum anode or anti-cathode and make it hot; there they are in part converted into Roentgen or *x* rays. What becomes of the rest of the cathode rays is not quite known, but it is generally believed that some of them, at any rate, are converted into heat rays, by which means a tube in action becomes warm.

This heatburn theory was suggested to the writer by the following cases, brought under his notice by Mr. Webster, of Blackheath, a gentleman who has had considerable experience of Roentgen-ray work. In the first instance he exposed an individual something like a score of times during a period of six months. Six weeks after the last exposure the hair fell out from one side of the head. The only differing condition of experiment, so far as could be ascertained, in the last exposure was that the cathode end of the Crookes's tube had been kept continually heated.

The other case was that of Mr. Webster himself. For a year or more he had undergone constant exposure to the rays without bad results. He then injured himself with a metal developing solution, and shortly afterwards a diffuse dermatitis appeared on the back of his hand. This traumatism, again, coincided with the heating of the cathode end of the tube.

Now in both the above instances previously insusceptible persons became susceptible under altered conditions of experiment. The alteration consisted in heating the cathode end of the tube, which means, when applied to a Crookes's tube in action, an increased production of cathodal rays which are, as already stated, in part converted into heat rays. There is therefore some probability that in heating the cathodal end of the tube we increase the resulting heat rays thrown off from the tube. Lastly, the cathode rays strike the platinum anode or anti-cathode and render it red hot, and it is not unreasonable to suppose that their contact with the skin surface might also have a calorific effect. The identity, however, of the actual damaging factor to the living human tissues is still unascertained. It may possibly prove to be a non-luminous ray common to sunshine and to the rays emitted from a focus tube. In both sun and focus-tube traumatism individual predisposition plays a vital part. Whatever the real nature of the irritant ray, it is obvious that the subject is pregnant with future possibilities as it is instinct with present interest.

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DENTAL HOSPITAL OF LONDON.—At a *conversazione* given recently by the staff and lecturers of the School of Dental Surgery of the Dental Hospital, London, at the Royal Society of British Artists, Sir F. Lockwood, M.P., distributed the prizes to the students of the hospital. In his address he referred to the great progress which had been made in the profession of dentistry during recent years. He was much impressed by the fact that last year relief was granted to 57,654 cases too poor to pay for surgical aid. The Committee have commenced the erection of a new hospital in Leicester Square, upon a larger site, near the existing hospital, at a cost of £25,000, exclusive of the site. The new building will largely increase the accommodation by providing 150 operating chairs. At present only 40 are available.

CIRSOID ANEURYSM OF THE ORBIT, FOREHEAD, AND SCALP.

By W. M. BEAUMONT, M.R.C.S.,

Surgeon to the Bath Eye Infirmary.

CASES of cirsoid aneurysm are not very common. Amongst the last 20,000 patients at the Bath Eye Infirmary the following is the only one; and although the brow and orbit are favourite sites, it is probably very much rarer at ophthalmic institutions than these figures would indicate:

A. B., a servant, aged 22, presented herself at the Bath Eye Infirmary on February 8th, 1894, complaining of a pulsating tumour, which appeared to start from the upper part of the interior of the left orbit, spreading upwards to the lid of the eye, the brow, and the left half of the frontal bone. It consisted of a tortuous, dilated, and plexiform condition of the vessels, and extended backwards behind the coronal suture, whilst anteriorly it was lost in the roof of the orbit. Strongly pulsating vessels ran into it from the occipital artery behind, from the temporal on the left side and from the angular in front, whilst vessels crossed the median line from the right frontal and temporal regions. They were all of a dusky hue. The skin was raised and depressed by varicose vessels, which were convoluted upon each other. These were soft and resilient, and in them a vibratory thrill could be felt and a rasping murmur heard. On deep pressure an irregular ridge-like margin could be distinguished, bounding the angeiomatous swelling all round as though there were either an absence of bone under the tumour or that it had been deeply grooved by a prolonged erosion. The area involved corresponded approximately with that of a case of Bruns illustrated by Bland Sutton.[1] The veins were not visibly enlarged, and there was no evidence that they were in any way abnormal. The swelling she said had existed from birth, and she had never had an injury to her head or brow; it had grown with her growth, but had never given her much trouble nor caused her any anxiety. Lately, however, she had developed a left external squint, and she had had severe headaches, which was not the case in childhood. Her friends noticed the swelling, and whereas formerly she could easily cover it by a fringe of hair brought over the forehead, this was now no longer sufficient to hide the disfigurement. Her vision in that eye was reduced to $\frac{6}{36}$, and the disc was white with pigmented borders. Pressure on the temporal artery or on the external carotid lessened the thrill, but it was evident that much of the circulation was due to anastomosing vessels running up from the occipital, the opposite temporals, the right angular and other arteries. In the photograph (Fig. 1) the right anterior temporal and angular arteries are plainly seen.

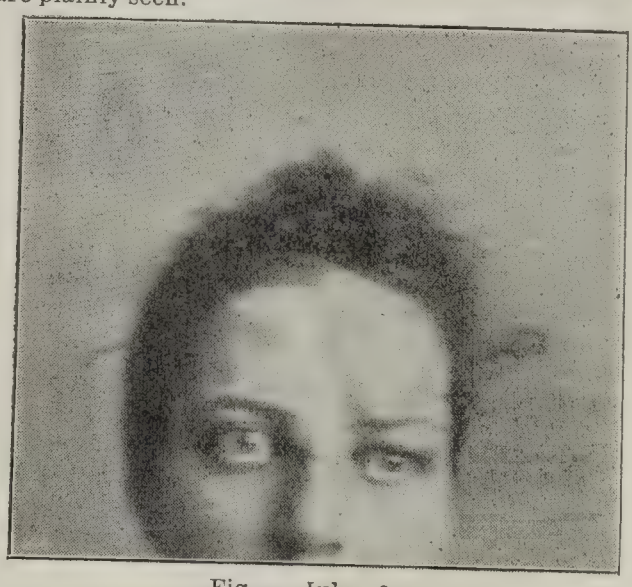

Fig. 1.—July, 1894.

The next few months clearly demonstrated that she was right in her statement that the tumour was increasing. The eye became proptosed and more displaced downwards and outwards; the skin more dusky and the headaches more frequent. They prevented her from carrying out her household duties in a satisfactory manner, and that part of the swelling which could be seen on the forehead and brow was very disfiguring her appearance, for her sight, and for possibly stronger reasons, that The time had arrived when it was necessary for the patient's comfort, for some surgical attempt should be made to check the increase. Her consent having been obtained, the hair was cut off close to the scalp over the left half of the frontal bone, the rugose condition of the head preventing a razor from being used, and ether was administered on July 29th, 1894. An incision was then made through the skin over the temporal artery just before it divides and at right angles to the course of the vessel. No attempt to dissect down upon it was made, but the edges being retracted the site of the vessel was found by the pulsation, and a catgut ligature was passed under it by means of a sharp aneurysm needle. The ends of the ligature were then tied, including in the knot the artery and tissues surrounding it, after which the edges of the wound were brought together by sutures. In the same way ligatures were rapidly applied to seven other arteries, including the angular, supra-orbital, occipital, and on the other side of the head the anterior and posterior temporals and angular, in each case before the vessel became varicose. All the principal feeders, with the exception of possibly some branches of the ophthalmic, which being within the orbit could not be reached, were thus occluded, and the thrill and pulsation were immediately very much reduced in intensity

The next step was to insert subcutaneously, in an opposite direction to each other, two needles, with an exposed surface of about an inch, into the anterior and outer part of the tumour. When in position the needles were parallel, and an inch apart. A current of 100 milliampères was passed through for ten minutes, then, the current being stopped, the needles were withdrawn and reinserted in the anterior and inner quarter in a similar manner for another ten minutes. The posterior outer and posterior inner quadrants were also thus treated, a current of 100 milliampères being allowed for each section. It was now found on withdrawing the needles for the fourth time that all parts of the tumour were harder, that its resiliency was absent, and the pulsation could barely be felt. The operation was somewhat prolonged, but the patient quickly recovered from the anæsthetic, and was quite comfortable the next day. On the third day the skin sutures over the seats of ligature were removed.

During the following week two new vessels enlarged at the posterior and external part of the swelling, and three weeks after the operation it was thought advisable to ligature them, and electrolysis of the part supplied by them was resorted to. The final result was quite satisfactory; she made a good recovery, and was discharged from the infirmary on September 15th, 1894. Since then she has presented herself for examination from time to time. The second illustration, from a photograph taken in January, 1895, five months after tha second operation, shows her condition much as it is now (May, 1897). The tumour is very much lessened in size,

Fig. 2.—January, 1895.

the surface inequalities have disappeared, and it feels almost solid. A soft-blowing murmur can be faintly heard with the stethoscope, but it gives her no trouble. The headache has gone, the eye has returned to its place, and there is nothing unusual in her appearance. I am much indebted to Mr. H. G. Terry for superintending the battery and helping me with the operation generally.

In reviewing this case, there are one or two points of interest which deserve some observation. It will be noticed that the feeders were ligatured, a method of treatment which alone is not usually sufficient to cure cirsoid aneurysm, and which has consequently fallen into disrepute. Even such severe measures as ligature of the common or external carotid have usually failed. The statistics collected by C. Heine[2] show that "in 32 cases out of 60 the external carotid was tied, and in 3 only with successful result, and that doubtful, and the results of ligature of both carotids in 7 cases were equally unfortunate." Although ligation on the one hand would probably have failed, I think it is open to doubt whether the result would have been quite as satisfactory on the other if electrolysis alone had been relied upon.[3] It was a large mass to deal with, measuring probably if the orbital portion were included at least 7 inches by 5, and the pulsation through it was very strong. The ligatures were put on the vessels in an unusual manner, but much time was saved thereby, and no ill-results ensued from including nerves or veins in the knot, the wounds having healed painlessly in three days when the dressings were first changed. Although nothing was done directly to the orbital portion it partook in the general benefit, due probably to the starvation which ensued from distal obstruction through it, the shrinkage being sufficient to allow the eye to return to its normal position in the orbit.

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[1] *Tumours Innocent and Malignant*, 1893, p. 163. [2] Biennial Retrospect of Medicine and Surgery for 1869-70, *New Sydenham Soc. Trans.*, p. 287. [3] J. E. Erichsen, *Science and Art of Surgery*, 9th edit., vol. ii, p. 68; J. Duncan, BRITISH MEDICAL JOURNAL, 1888, vol. ii, p. 984.

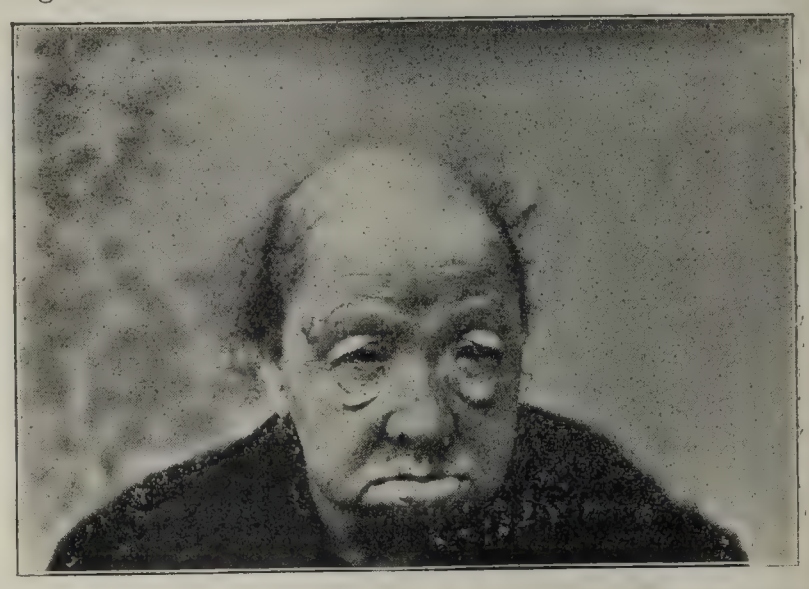
M. CAMBON, Governor of Algeria, has commissioned Madame Chellier, M.D., to make a tour of inspection through Southern Algeria, with the object of introducing scientific medicine and midwifery among the natives.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

REGROWTH OF HAIR IN MYXŒDEMA UNDER TREATMENT WITH THYROID TABLOIDS.

IN the BRITISH MEDICAL JOURNAL of January 6th, 1894, I published an account, with illustrations, of the treatment of an old case of myxœdema with thyroid extract. The portraits, which were reproduced from photographs, showed the striking change that had been effected by five weeks' treatment.



I now supplement my paper of that date with the accompanying portraits, which represent the same patient, a woman aged 66, as she appeared before any treatment was attempted and as she appeared after taking two thyroid tabloids daily for fifteen months.

I would ask the question, Does not the remarkable influence of thyroid extract upon hair growth suggest that the thyroid gland in its function is largely occupied with nutrition of the skin?

THOS. F. RAVEN, M.R.C.S., L.R.C.P.

Broadstairs.

AIR EMBOLISM FROM WOUND OF THE FEMORAL VEIN.

I WAS called to perform a *post-mortem* examination on a Chinese coolie, who had died the previous afternoon from the effects of a spear wound in the right thigh. He received the wound in a faction fight; and seemed to have died about an hour after its receipt. When I examined the body *post-mortem* rigidity was absent; *post-mortem* lividity was marked over the back of the neck and over the lower part of the lumbar region and the right thigh. The only wound was a punctured one

o the right thigh, at the junction of the middle and lower third anteriorly. Dark clots distended the wound, which on probing seemed about 2½ inches deep. The whole thigh was bluish and crepitant. On careful dissection of the thigh bloody infiltration of the muscles and connective tissue was found, and a large quantity of dark coagulated blood effused in the muscular planes. The sartorius muscle was found to be punctured, and the femoral vein opened. The femoral artery was dissected out, and found intact. On opening the thorax and exposing the heart it was found semi-collapsed, but crepitant with air. On compressing the heart air was readily forced out of the wound in the femoral vein. The chambers of the heart when opened were found quite empty of blood or clots, and they collapsed completely. The lungs were apparently healthy.

I formed the opinion that death was caused partly by hæmorrhage and partly by the entrance of air in the heart, or air embolism. Air embolism is a common cause of death in wounds of the veins of the neck and upper extremity, but I have not read of any case of air embolism from a wound of a vein of the lower extremity. The lower veins being supplied with valves these should act as a barrier to the entrance of air. I do not believe that this coolie received any surgical assistance, and the air in the heart may have been a *post-mortem* change induced by the rapid venous hæmorrhage causing collapse of the valves.

J. P. A. WILSON,
Senior Medical Officer, Johore.

DYSTOCIA DUE TO CONGENITAL CYSTIC DISEASE OF THE KIDNEYS.

THE patient, a woman aged 29, had previously had three children. The family history showed nothing unusual. She enjoyed good health, and had had no difficulty of any kind in her three previous labours, and the children were healthy, as was also the husband. I closely inquired into any syphilitic history, and am convinced there is no specific disease either of the husband or wife.

I was called to see her on the afternoon of September 30th, a month earlier than the date for which I was engaged. On making the usual abdominal and vaginal examination I found everything normal, and was not struck by any unusual shape or feeling over the abdomen. The heart sounds of the child were very distinct. The os was almost fully dilated; the head was well down, and was born in about twenty minutes without any trouble. After a number of strong, regular, and firm uterine contractions there seemed however to be no disposition for the shoulders to come down. As the child was looking asphyxiated I relieved both shoulders, but although the pains continued unusually quick and strong there was no progress made, and the trunk remained fixed. I then again examined, and found a large abdominal swelling of the child. As the child was then in danger of being completely asphyxiated I made gentle traction with my right hand, whilst I kept my left hand in the vagina to guide me as to what extent the swelling was stretching the os. Failing to make any impression I administered chloroform, and made a more careful examination, and had no difficulty in determining that the tumour was not fluid but solid.

I then sent for my friend Dr. R. O. Adamson to assist me, and on his making an independent examination he came to the same conclusion as to the solid nature of the tumour. We again tried traction, and as the child was then dead, it was carried out much more forcibly, always taking care that the os was not being stretched beyond its safe limits. Finding it quite impossible to deliver without danger of rupturing the uterus and damaging the maternal soft parts with so much interference and continual pressure, we determined to eviscerate, which was easily done. On the removal of the liver, intestines, etc., there was immediate collapse of the abdominal walls, and we determined to try again. Dr. Adamson made steady traction, whilst I kept my left hand over the abdomen of the mother and my right in the vagina to regulate the traction and guard the os. Labour was at once completed without further trouble.

It is not usual to have an obstruction to the satisfactory completion of the second stage arising from some abnormality of the child. The only case I personally have had experience of was an enormous spina bifida.

I asked Dr. Bryce, Queen Margaret's College, to report upon the fœtus and tumour, which he kindly consented to do. The subject of examination was a female fœtus, somewhat premature. Judging from external appearances it was about the eighth month. It measured from vertex to heel 50 cm. (19¾ inches), from vertex to tip of coccyx 34 cm. (13⅓ inches). It weighed 6 lbs. 1 oz. 12 drms. It had been the subject of evisceration. The bowel was empty and collapsed. The liver was relatively small and compressed. The whole abdominal cavity was occupied by two immense tumours. The circumference of the trunk round the most prominent part was approximately 44 cm. (17 inches). Examination proved that the tumours were the kidneys much enlarged. The right weighed 14 ozs. 4 drms, and measured 24 cm. (9½ inches) by 14 cm. (5½ inches). The left weighed 16 oz. 12 drms., and measured 25 cm. (9¾ inches) by 15 cm. (6 inches). The ureters and bladder were of normal size, and the rest of the organs were also normal. The kidneys were the subject of cystic degeneration, the entire kidney substance being displaced by a multitude of small cysts.

Glasgow. ARTHUR MECHAN, M.B., C.M.

REPORTS
ON
MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

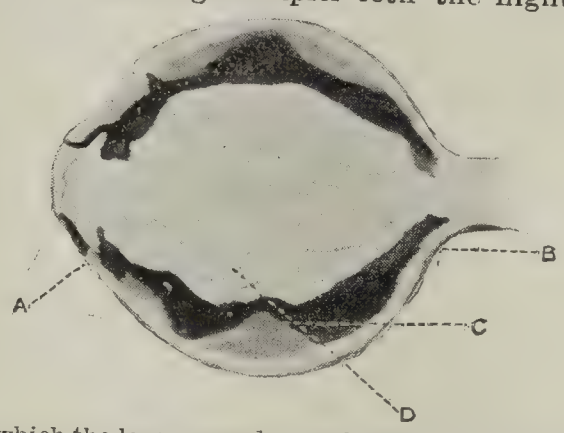
STANLEY HOSPITAL, LIVERPOOL.

SPONTANEOUS EXPULSION OF BOTH LENSES IN A CHILD.

(By ROBERT J. HAMILTON, Assistant Ophthalmic Surgeon to the Hospital.)

E. G., a child, aged 4 months, was admitted under my care on April 11th, with an apparent rupture of the right eyeball in the sclero-corneal margin in the outer and lower quadrant. The mother brought at the same time the lens of the child's right eye, with the history that it had come out of the eye as she turned the baby on her knee. She absolutely denied that a blow, fall, or other violence could have happened to the child. She had noticed nothing previously wrong with the eyes. A small piece of protruding iris was snipped off and the eye treated with cold pads. There was no sign of mischief in the other eye, though no ophthalmoscopic examination was made.

Early in the morning of April 18th the night nurse reported that the other lens had come out. This was so, the lens being on the pillow, having evidently come out while the child was asleep. The eye presented the same appearance as the right one did on admission. The child was ill-nourished and jaundiced, and died on April 19th.



A, point at which the lens escaped. B, sclerotic. C, detached choroid. D, white fibro-cellular membrane. Enlarged to a little more than twice (⅔) natural size.

For notes of the case I am indebted to Dr. Deas, senior House-Surgeon.

Post mortem both globes were enucleated, though a general examination was not obtained. The eyes were smaller than normal. Sections were cut after preparing in formol solution, and the following appearances were noted: In the one in which a vertical section was made in the median line in the anterior-posterior diameter, the vitreous chamber was occupied by a white opaque membrane, which, attached posteriorly to the centre of the optic disc, spread out in a pear-shaped manner, and was attached at several points in its circumference to the choroid. It had in contracting almost

completely separated this coat from the sclera. This giving way of the choroidal coat gave the membrane a collapsed balloon appearance, and being attached anteriorly to the *pars ciliaris retinæ* had in its collapse pushed the lens forward and so forced its escape through a weakened corneo-scleral margin. The specimen shows the peak of this membrane occupying the anterior chamber.

The points I wish to emphasise are that the force expelling the lens was a *vis a tergo*, for as the balloon-shaped membrane collapsed it naturally increased in length. Next, that the lens was pushed out at the weakest point of the eye in early life—namely, the sclero-corneal margin. The mode of formation of this membrane has been discussed by Treacher Collins in his researches into the *Anatomy and Pathology of the Eye*; and I am of opinion that the above case also is one of congenital defect, due to an abnormal development of mesoblastic tissue rather than to any inflammatory change.

ROTUNDA HOSPITAL, DUBLIN.

CASE OF NEGLECTED SHOULDER PRESENTATION COMPLICATED BY RUPTURE OF THE UTERUS: RECOVERY.

(Under the care of Dr. H. WILSON, Assistant Master.)

M. D., aged 30, 7-para, sent to the Rotunda Hospital on the evening of April 5th, 1897, requiring attendance at her own home. Two students went out to the case and found her pregnant, about full term. She complained of pain in the back, the result, she said, of a kick which she received in the lower part of the abdomen the previous night. The patient would not allow a vaginal examination to be made, but was apparently not in labour, so she was left and told to send to the hospital if pains set in.

At 7.30 P.M. on April 6th she again sent for assistance; she said that labour pains began at 3 A.M., and had continued all day, with occasionally severe pain in the hypogastrium. She still refused to allow any vaginal examination, but nothing abnormal was noticed until about an hour later, when a hand was seen protruding from the vulva, the membranes being still intact. The extern maternity assistant, Dr. Lyle, was sent for, and on arrival he found that the membranes had ruptured and that the woman was getting strong pains. On palpation, the uterus was found to be tightly contracted down on the child, and a large hard mass was felt in the right iliac region. On anæsthetising the patient and after taking the usual antiseptic precautions, by vaginal examination the shoulder was felt impacted in the brim. Concluding that the case was one contra-indicating version, Dr. Lyle sent for me as assistant physician on duty.

The general condition of the patient was good. The child was lying in an oblique position dorso-anterior, with the head to the right. On vaginal examination, the left shoulder was found firmly fixed, the hand and forearm protruding at the vulva. All the ribs of the left side were easily felt bulging down into the vagina. On passing my hand into the uterus, I found that it was ruptured on the right side; the greater part of the head, however, was lying within the uterus, being held down or anchored, as it were, by the prolapsed forearm and impacted shoulder. With the tips of my fingers I could feel the intestines. The umbilical cord was flaccid and pulseless.

I decided that the case was one for decapitation, and performed the operation with Braun's blunt hook. The body of the child was easily delivered by traction on the arm and the head delivered by pressure on the fundus, my internal hand protecting the soft parts from injury. The placenta was lying detached in the uterus and was removed manually, also a very considerable quantity of blood clot, but there was no sign or symptom of continuing hæmorrhage. The rent in the uterus was about 3 inches in diameter, situated in the lower segment to the right and posteriorly. A thick plug of iodoform gauze was passed through the rent into the peritoneal cavity for the purpose both of drainage and also to keep the intestines out of the wound, the lower end of the gauze being left in the vagina. A hypodermic injection of ergotinine was given.

Owing to the fact that the family occupied only one room I brought the patient into hospital. She was very weak, her pulse being 120; the temperature was 99.2° F. A hypodermic injection of morphine, $\frac{1}{4}$ gr., which had to be repeated in four hours, gave her some sleep, after which she was quiet and suffered no pain. About half the plug of gauze was removed in twenty-four hours and the remainder twenty-four hours later. Her condition improved rapidly, her pulse steadily dropping to its normal rate, while the highest temperature was 99.2°. She was discharged cured on April 22nd.

REPORTS OF SOCIETIES.

BRITISH ORTHOPÆDIC SOCIETY.—At an ordinary meeting held at Liverpool by invitation of Mr. Robert Jones on June 5th, 1897, Mr. THELWALL THOMAS in the chair, 4 cases of Congenital Displacement of the Hip were shown, also cases of Tuberculous Knee, Infantile Paralysis of both Legs, Traumatic Talipes Valgus, Spasmodic Talipes Valgus, Genu Valgum, and many others, amounting in all to about 50. A discussion took place on some of the cases, especially on one by Mr. NEWBOLT, of Lobster-claw Deformity, and Mr. TUBBY referred to his case which had been published in the *Lancet*, 1893, in which the genealogy was given. In Mr. Tubby's case the deformity had passed through five generations.—Another case shown was one of Ganglion. Mr. TUBBY asked the opinion of the members and visitors present as to the origin of ganglion. He thought that in most cases it was due to a localised dilatation of the tendon sheath, including the synovial membrane, but there could be no doubt that in other cases it was due to hernial protrusion of the synovial membrane. Mr. Martyn Jordan had shown that the best way of treating these cases was not by incision, but by inserting a somewhat coarse exploring syringe and withdrawing about half the fluid contained in the ganglion, and then injecting 5 to 15 minims of pure carbolic acid. Mr. ROBERT JONES, Mr. THELWALL THOMAS, and Mr. FREER also took part in the discussion.—Mr. ROBERT JONES gave a demonstration, illustrated by numerous lantern slides, of Calot's new method of Reducing the Deformity of the Spine in Pott's Disease. He spoke of the possible dangers of such cases, but at the same time he alluded to the successful results said to have been obtained in Calot's clinic. He had recently been to Paris and seen Rédard, who had adopted Calot's method, and now gave the Society the results of his observations. He carefully described the method adopted, and pointed out that, in the first place, the patient was placed under an anæsthetic, and and then was put into the prone position. Forcible extension was then made on the head by aid of a bandage properly adjusted, and then at least four assistants forcibly extended the spine by pulling on the limbs. The operator stood over the patient, then pressed downwards with all his force on the prominence, which in some cases was felt to yield with a distinct crack, and in others yielded slowly and without a crack. When the operator thought that sufficient had been accomplished in this one sitting the patient was then suspended and put into plaster. In many cases it was necessary to repeat this operation, the projection being reduced more and more each time. Mr. Jones quoted Rédard's opinion that lumbar cases are more successful than dorsal, and dorsal than cervical. Messrs. TUBBY, W. THOMAS, and LUKE FREER took part in the discussion that followed, the general impression of the Society being that good results might accrue in carrying out this treatment with proper care and precaution.—Mr. TUBBY raised a question on the formation of Flexion after Excision of the Knee, and quoted the experiments of Halsted as to the increased force which the flexors exerted once the knee is bent ever so slightly out of the perpendicular. Flexion thus started the body weight tends to increase it. Mr. Tubby was of opinion that in nearly all cases erasion should be preferred to excision.—Mr. WILLIAM THOMAS challenged this, and said that it was quite easy in an excision to clean the popliteal notch of diseased tissue.—A vote of thanks was passed to the Liverpool members for the excellent manner in which they had entertained the Society, and another to the Liverpool Medical Institute for the use of their rooms. In the course of the afternoon the members witnessed several important operations at the Southern Hospital, and prior to the ordinary meeting were entertained at dinner by Mr. Robert Jones at his house.

Cambridge Medical Society.—At a meeting on April 2nd Mr. Hedley Bartlett reported a case of Right Tubal Pregnancy, Rupture, Intra-peritoneal Hæmorrhage, Laparotomy, Recovery. The case was under the care of Dr. Alex. Smith, Newport.—Mr. Deighton read notes of two cases of Gall Stones.—Mr. Wherry showed: 1. A case of Injury to the Superior Oblique Muscle of the Left Eye in a Compound Fracture of the Orbit. A lad aged 14 fell on a large steel hook, which split the upper eyelid and broke the upper rim of the orbit outside the centre, a fragment of bone was removed, and the torn eyelid adjusted. The lad had a drooping lid at present, but whenever it was lifted he had the usual vertical diplopia below the horizon of superior oblique paralysis. 2. A case of Paralysis of the Fifth and Third Cranial Nerves in a man aged 35. The left optic nerve was atrophied—white disc with no swelling seen with ophthalmoscope. The eye was sound otherwise until the recovery of the ptosis. 3. A second case of Paralysis of the Fifth Cranial Nerve associated with Paralysis of the Sixth (external rectus). The patient was a young man with nebulous corneæ. The lesion in this case, as also in the other, was probably peripheral and in or near the sphenoidal fissure. 4. A case of Retinal Displacement probably from intraocular new growth in a young and otherwise healthy labouring man. Seen with the ophthalmoscope. The lower half of the retina was bulged forward in a double curve with cleft between. Retinal vessels could be seen wandering over the pearly-grey projection.—Dr. Holden showed a patient with Displacement and Destruction of the Central Bones of the Face.

REVIEWS.

Diseases of the Liver, Gall Bladder, and Biliary System: their Pathology, Diagnosis, and Surgical Treatment. By H. J. Waring, M.S., B.Sc.Lond., F.R.C.S. Edinburgh and London: Young J. Pentland. 1897. (Demy 8vo., pp. 385. 12s. 6d.)

This work is, with some additions and rearrangements, the Jacksonian Prize Essay of 1894. It contains an account of all the diseases and injuries of the liver, gall bladder, and bile passages that have been submitted to operative treatment. Medical treatment is not entirely excluded, as may be seen in the chapters on cholelithiasis, syphilis of the liver, intestinal obstruction due to gall stones, etc.

The chapters that will naturally attract most attention are those on cholelithiasis, abscess, and hydatid disease of the liver, and traumatic affections of the liver and bile passages. The other diseases are so rare or so little amenable to any except palliative treatment that little need be said of them here, except that the information given is abreast of our present knowledge. It is difficult to believe that malignant disease of the liver can be ever really amenable to operative treatment, except, perhaps, carcinoma of the gall bladder. It may be quite possible to remove one or more foci of the disease, but to what advantage? A case was recently reported in which the gall bladder and adjacent part of the liver were successfully extirpated, and the prognosis then appeared on the whole favourable. While the paper was passing through the press, manifestations of malignant disease were again present, as a footnote explains. Operative treatment adopted in syphilitic disease of the liver, unless under the most exceptional circumstances, must be regarded as undesirable.

Abscess of the liver is very fully described. The proportion of things is however here, as in some other parts of the book, in danger of being lost. What the reader really wants to know with regard to etiology is a description of the commonest causes of this affection. All other possible causes from a practical point of view might easily be grouped together in a single paragraph, with a few lines of description. In the same way tuberculous abscess of the liver and actinomyces rather unnecesarily occupy two separate chapters; such rare cases will present themselves as abscess of the liver, and unless they be but a part of a more general infection, their exact nature will probably remain undetermined until the pus is let out. It is asserted in more than one place that if exploratory puncture is adopted in abscess of the liver everything should be ready for immediate operation on account of the fear of leakage along the needle track. Surely these fears are exaggerated, if one may judge from the frequency of such exploration without any such unpleasant result. The difficulty of diagnosis in some cases of hepatic abscess is certainly not too strongly emphasised. A slight evening rise of temperature has been known to be practically the only manifestation of the disease.

There is an adequate account of cholelithiasis, and the indications for operative treatment are moderately stated. Under the heading of the causation of gall stones, Naunyn's well-known writings are largely drawn upon. Hydatid disease of the liver receives full consideration. Traumatic affections of the liver and bile passages constitute an interesting chapter. The remarks of the author upon immediate operation in suspected rupture are judicious. Chapter III on jaundice contains a well-arranged summary of our present knowledge. Chapters I and II are given to the anatomy and functions of the liver. The surgical procedures are detailed at the end of the book, where the set operations of hepatotomy, hepatectomy, operations on the gall bladder and bile passages are fully and clearly described, but the operative treatment is also discussed at the end of each chapter. Perhaps a doubt is permissible as to whether the prognosis is not sometimes stated too hopefully; it should be remembered that successful cases are naturally more likely to be placed on record than other cases with a less happy result.

A well accomplished work of this kind, in which the author largely draws upon the literature of the subject, will be welcomed warmly, as providing an easily available summary, and those interested in the subject will find this book a useful one. An extensive bibliography is appended.

Mittheilungen aus der gynaekologischen Klinik des Professor Dr. Otto Engström in Helsingfors [Contributions from the Gynæcological Clinic of Professor Otto Engström of Helsingfors]. Band. 1, Heft 1. Berlin: S. Karger. Glasgow: F. Bauermeister. 1897. (Roy. 8vo, pp. 56. M. 2.)

The first part of the first volume of reports from the gynæcological clinic of Professor Otto Engström contains a series of valuable papers upon important subjects and causes us to look forward with pleasurable anticipation to the parts which will follow.

The subject of the abdominal enucleation of myoma of the body of the uterus is treated by Dr. Engström himself. After a brief review of the symptoms and dangers of fibroid disease of the uterus and of the other methods of surgical treatment, the author recommends the abdominal enucleation of the tumours while they are small, a method of treatment which has been especially practised and recommended by A. Martin, and is generally known as Martin's method. After the enucleation of the tumour the raw surface is stitched up in layers with silk or catgut. The author gives a short account of each of 100 cases so treated by himself, with the history subsequently to the operation as regards the condition of the uterus; but unfortunately information is not given as to the permanent relief of symptoms. In the 100 cases the size of the tumour varied from that of a hazel nut to that of a man's head. In more than half the cases the tumour was not bigger than a duck's egg. In 63 cases the tumour was solitary, in 37 multiple. Of the 100 cases, 5 died. The objection that small fibroids left in the uterus after this operation might subsequently grow and cause trouble is met by the author by the statement that in only 4 cases of those—he does not give the number—which he has been subsequently able to examine, did this development take place. In 4 cases (out of 22 married and under 40 years of age) pregnancy occurred after the operation. The paper is an important contribution to the subject of the treatment of fibroid tumours of the uterus; but a death-rate of 5 per cent. can hardly be held to justify surgical interference in small fibroids unless they give rise to much pain or hæmorrhage which does not yield to milder measures.

The second paper in this volume is by Forsström, and deals with repeated tubal pregnancy in the same woman, illustrated by a case of Professor Engström's. An abstract of 19 cases collected out of literature is added. We notice, however, that this list is not complete, as it does not contain Walter's case.

The third paper is by Möller, and gives an account of 4 cases of idiopathic hypertrophy of the portio vaginalis.

Professor Engström contributes the fourth paper, upon supernumerary ovaries. He concludes that there are two kinds of supernumerary ovaries, one congenital and the other due to pathological causes. The case he figures is clearly not a case of supernumerary ovary, the occurrence of which is still denied by many observers.

An elaborate paper by Boije on the etiology and nature of chronic endometritis completes the volume, which is highly creditable to the Helsingfors clinic.

LIGAMENTS: THEIR NATURE AND MORPHOLOGY. By J. BLAND SUTTON. Second Edition. London: H. K. Lewis. 1897. (Pp. 120, 37 illustrations. 4s. 6d.)

JOINTS and ligaments have long been a dry study with students of medicine; but if the industrious and intelligent student read the present book along with his textbook on "bones," he will find that this part of his work has become very interesting. According to Mr. BLAND SUTTON, some of the more important ligaments of the human body are derived by regression and metamorphosis from muscles, and others are due to the degeneration of osseous and cartilaginous tissues.

By the term regression is understood that change which takes place in muscular tissue owing to morphological or pathological causes, and results in the amount of contractile tissue becoming diminished. From this the parts take on the character of fibrous tissue and become ligament. Metamorphosis includes those changes which take place in muscle as a result of physiological causes; thus, when the extremities of a muscle cannot act advantageously these portions degenerate, lose part of their blood supply, and take on the form of tendon. If a tendon at the extremity of a muscle become detached owing to "migration," it usually gives rise to the development of a ligament. The "ligamentum teres" of the hip-joint is said by Sutton to arise in this manner, and to be the detached tendon of the pectineus muscle.

We have one fault to find with the book, and this is that the arguments which are urged by other authorities against the author's conclusions are, for the most part, not mentioned. Thus, in connection with the morphology of the "ligamentum teres," it is not stated that by many it is regarded as a modification of the synovial membrane of the hip-joint.

To this edition a short chapter on the morphology of the ligaments of the larynx has been added.

LA CHIRURGIA DEL COLLO: STUDIO CLINICO [The Surgery of the Neck: a Clinical Study.] By ENRICO BOTTINI. Milan: F. Vallardi. (Roy. 8vo, pp. 300. Lire, 8.)

As the sub-title implies, this is not a systematic treatise on the subject, but rather a record of impressions derived from a large clinical experience. Typical cases of each disease discussed by the author are recorded, and a series of excellent photographic reproductions (48 in all) illustrate the results of surgical treatment where this can be shown. Statistical tables are expressly excluded. As might be expected, a large share of the book is devoted to goître, upon which the author has operated about 400 times. Wherever possible he advises total extirpation. Palliative measures, partial extirpation, and enucleation are each considered inferior modes of treatment.

It is strange that with this practice the author never once saw symptoms of cachexia strumipriva, the only bad after-effects he lays stress on are tetany and hypophonia (which improved in time). This absence of cachexia is attributed in part to the author's method of operating, which is fully described. There is an interesting account of retro-sternal goître (*goître plongéant*). As to etiology the author thinks that the bad influence of insufficient ventilation and overcrowding has not been sufficiently recognised.

For branchial fistulæ dilatation by laminaria tents followed by free cauterisation with heated platinum wire has proved highly successful in the author's hands. The treatment of hydrocele of the neck by irritating injections is only mentioned to be condemned; free excision is advised in all cases. So also, with regard to enlarged cervical glands excision is recommended unless the skin is much broken down, when shelling out and scraping is preferred. No other line of treatment is suggested. Operation in malignant tumours of the thyroid is of such little curative value that the decision as to whether it should be done or not should be left to the patient. In a clinical record of this nature it might have been expected to find some account of the so-called sterno-mastoid tumours seen in young children, but a careful search has failed to reveal any account of them. In several places the author wisely draws attention to the advantages of free as opposed to small incisions in operations for the removal of tumours in the neck.

THE VERTEBRATE SKELETON. By SIDNEY H. REYNOLDS, M.A. Cambridge: University Press. 1897. (Cr. 8vo, pp. 576. 12s. 6d.)

THE *Biological Series*, now appearing under the able editorship of Mr. A. E. Shipley, is doing good service to biological literature. Hitherto there has been a great scarcity of reliable students' manuals in this branch of scientific literature. The latest addition to the series is by Mr. REYNOLDS, and deals with the morphology and anatomy of the vertebrate skeleton. Considering the enormous number of facts of which the subject is composed, it is treated on a well-connected and arranged system, and although written in a somewhat terse and disjointed style, is on the whole as good reading as could be expected.

The term "skeleton" is used in its widest sense, and includes exoskeletal or tegumentary structures as well as endoskeletal structures, and very wisely some account is given of the skeleton of the lowest chordata. The plan adopted in the treatment of each group has been to give first an account of the general skeletal characters of the group in question and of its several subdivisions; secondly, to describe in detail the skeleton of one or more selected types; and, thirdly, to treat the skeleton as developed in the group, organ by organ. The result is a volume which will certainly take its place amongst the standard textbooks of the day.

NOTES ON BOOKS.

The Induction Coil in Practical Work, including Roentgen Rays. By LEWIS WRIGHT. (London: Macmillan and Co. 1897. Demy 8vo, pp. 178.)—This is a very practical little volume dealing with the construction and uses of the induction coil. It is written in the same precise and lucid style that characterises Mr. Wright's other publications, and should prove of real value to the now large number of investigators who have, in consequence of Roentgen's discovery, taken to using a coil. Such persons are often unaware of the many beautiful uses to which the instrument can be put. To such the present volume will most strongly appeal. The author begins with the elements of his subject, and gradually takes his reader to practical *x*-ray work. Full working instructions are given on the technique of the process. The book is one that can be placed in the hands of the veriest beginner, and we congratulate the author on having so successfully supplied a real want.

Heart Disease and the Nauheim Treatment. By JOSEPH KIDD, M.D. (London: Hodder and Stoughton. Demy 8vo, pp. 64. 1s.)—This is really no more than a pamphlet, though by dint of thick paper and wide spacing it has been made into a slim book. It does not appear to contain any novel information, and the author states that his object in writing it was to encourage practitioners to resort to the use of the methods employed at Nauheim in the treatment of patients in their own homes.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

SEAT SADDLE FOR CYCLES.

MR. W. STEPHENSON RICHMOND, M.R.C.S. (Sloane Street, S.W.) has designed a bicycle saddle which has been tried for us by Mr. E. B. Turner, F.R.C.S., who reports that it does away with all injurious pressure, and the most unskilful rider can do himself no harm riding it. In its present form it wants

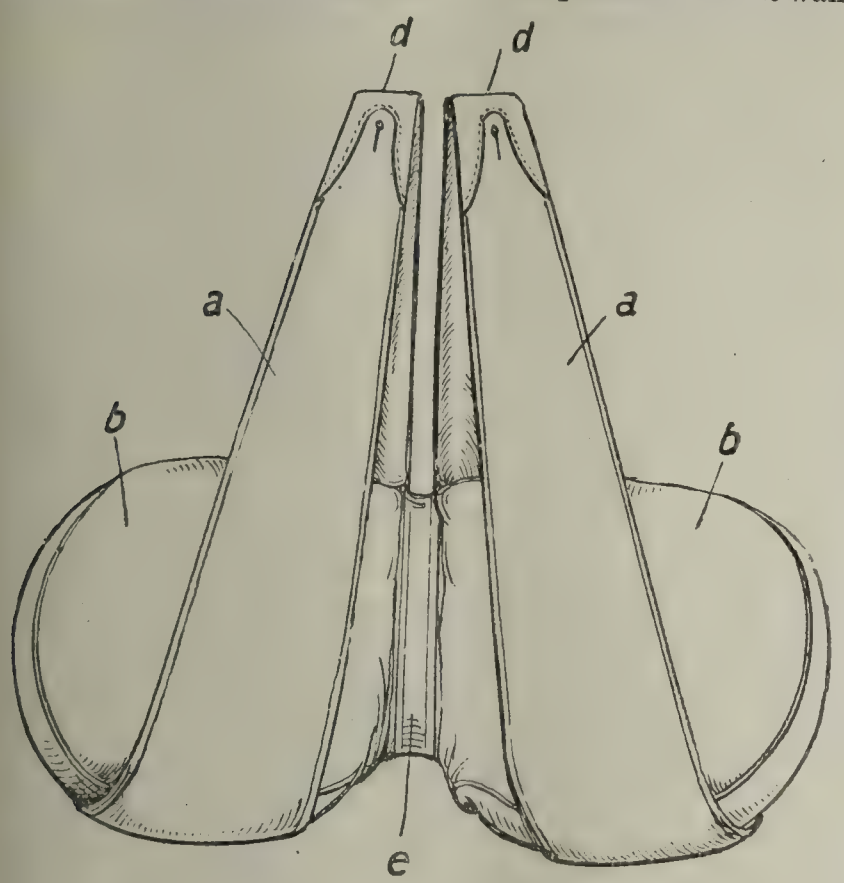


Fig. 1.

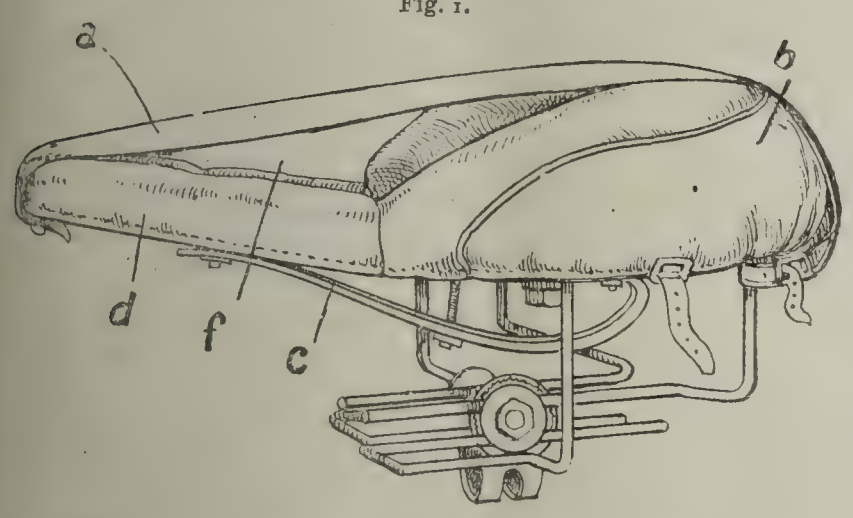


Fig. 2.
a, straps; *b*, pads; *c*, supporting springs; *d*, peaks; *e*, interspace; *f*, interspace between straps and peaks,

very little adjustment, and it is quite comfortable. The following is Mr. Richmond's description:

This cycle seat consists essentially of a framework of finely-tempered steel cut out in such a fashion that the posterior part is expanded for the support of two well-stuffed pads (*b*) for the reception of the main weight of the body, whilst the anterior portion is prolonged in two peaks (*d*), which are supported beneath by corresponding springs (*c*). Between the two halves of the saddle is an interspace (*e*) for the avoidance of pressure on the perineum and median subpubic line.

Two broad straps (*aa*) are stretched from the extremities of the peaks (*dd*) over the superior surface of the pads and attached by minor straps at the back. The tension of these straps can be altered at will. The padding of the seat is raised high enough above the level of the peaks to form a considerable interspace (*f*) between the straps and the peaks. The advantages of the straps are easily understood. Whether the "grip" required be narrow or wide, the soft yielding straps accommodate themselves to every movement of the thighs, whilst they are capable of supporting any amount of pressure without injury to the soft delicate parts beneath the pubic arch. At the same time, a comfortable and firm seat is obtained for the reception of the tuber ischii and the main weight of the body. There is absolutely no central pressure. The advantages of the peak are thus preserved without its injurious attributes. The saddle may be seen at Kingstone and Co.'s cycle school, 47, Sloane Street, Belgravia, S.W.

BOVRIL STAMNOIDS.

THESE are compressed tablets of about 10 grains each, and are prepared by Bovril, Limited, of 30, Farringdon Street, for the use of athletes, cyclists, and others requiring a portable food. The stamnoids have a pleasant flavour and readily disintegrate in the mouth. On examination we found them to contain nearly 14 per cent. mineral constituents, and only 4 per cent. moisture, the rest being composed of the fibrin of meat and meat extractives. They will no doubt be appreciated by travellers and others who may require a meat food in a compact and portable form.

NEW PALATINOIDS.

MESSRS. OPPENHEIMER, SON AND CO., Limited, 14, Worship Street, E.C., have added to their list of palatinoids succinate of iron, a salt stated to possess the power of preventing the formation of gall stones. The palatinoid form is a convenient one for the administration of this remedy, and as it is protected from atmospheric influence its decomposition is prevented.

Duodenin palatinoids contain a grey dry powder stated to be the excretion from the glandular structure of the duodenum. It is brought forward as a remedy in promoting the assimilation of proteid matter, farinaceous foods, and fats.

Ichthyol is a most nauseous remedy, but its administration enclosed in a palatinoid can certainly be effected without difficulty.

A WATER ANALYSIS CASE.

THE importance of medical officers of health for rural districts being able by means of some simple and reliable test to ascertain the purity of potable waters is obvious. In many cases the water supply of such districts is obtained from the most varied sources, and it is not infrequent to find a single district deriving its supply from a number of distinct wells, ponds, and springs. Cases frequently arise in which the medical officer desires to know something of the character of the water, and as it is almost useless to recommend his authority to send a sample to an analyst, unless he himself can undertake the work it must remain undone. Hence, when Dr. Thresh published his *Simple Method of Analysis*,[1] he made a valuable addition to the usefulness and resource of the medical officer, for the tests advocated in this little work are so simple that they can be safely undertaken after a little practice, and in the great majority of cases this "simple method," together with an examination of the source, will give the information necessary for pronouncing an opinion upon the suitability of any sample of water for domestic purposes.

Messrs. Burroughs, Wellcome and Co. have produced in a portable form all the tests and apparatus necessary for carrying out this simple analysis. The chemicals used are in the form of soloids, each containing exactly the requisite quantity. They dissolve easily, and with very little experience very accurate results can be obtained. The whole set of chemicals and apparatus is packed in a case of convenient size for carrying, and much ingenuity is shown in the method of disposal of the various pieces. Particularly convenient and neat are the

[1] *A Simple Method of Water Analysis*, by John C. Thresh, M.D. London: J. and A. Churchill.

glass capsules, each containing a certain quantity of Nessler's solution. Each capsule, which can be broken under the surface of the water to be examined, corresponds to a known quantity of ammonia. With the case is provided a supply of the special report forms as advised by Dr. Thresh. The price of the case is £2 2s., and it can be obtained from Messrs. Burroughs, Wellcome, and Co., Snow Hill Buildings, E.C.

PUBLIC HEALTH QUESTIONS IN LONDON.

Annual Address of the Chairman of the County Council.

The annual address of the Chairman of the London County Council (Dr. W. J. Collins) necessarily contained many references to important questions affecting public health in the metropolis.

Lamp Accidents.

Among other points he observed that arising out of their administration of the Petroleum Acts which dealt with precautions for the safe keeping in bulk of petroleum as statutorily defined, the committee's attention had been attracted to the cause and prevention of lamp accidents; 370 such casualties were investigated during the year, no fewer than 40 deaths resulted, and in many other cases much suffering was occasioned by serious burns. A Select Committee of the House of Commons was continuing its investigations into this question, and the chief officer had given evidence before it. It would appear that the flash point of the oil burnt in lamps, as well as the construction of the lamps, required to be taken into account in suggesting means for the prevention or reduction of risks attendant on this mode of illumination.

Glanders.

The number of cases of glanders reported to the committee had fallen continuously from 2,336 in 1892-93 to 867 in 1896-97, and had corresponded in time with the more vigorous policy of the Council in dealing with this equine scourge. The fall was the more satisfactory in view of the extension of the number of reported cases due to the use of mallein as a diagnostic. If the Council was to embark upon a stamping-out policy it would be necessary to be forearmed with larger powers, for which it had made repeated application to the Board of Agriculture.

Rabies.

Under the muzzling regulation made by the Council on February 17th, 1896, 44,743 dogs were seized, 11,192 were reclaimed by their owners, and 32,568 were destroyed or disposed of; the Committee was to be congratulated on the minimum of friction with which it carried out a duty beset with many difficulties.

Coroners' Courts and Mortuaries.

The Joint Committee, which was charged with the provision of proper accommodation for the holding of inquests, had continued its useful labours, and was able to report considerable progress during the year. Arrangements had now been made, or were approaching completion, throughout all the districts in London, which would practically obviate the necessity for holding any inquest amid the desecrating surroundings of the publichouse. In co-operation with the various sanitary authorities good mortuary accommodation had now been provided in nearly all districts.

Death-rate of London.

The year 1896 was characterised by the lowest death-rate but one in London since registration of deaths began in the year of Her Majesty's accession. It amounted to 18.2 per 1,000 living on a population of 4,421,955. For the decade 1885-94 the death-rate of London was lower than that of any of the capitals of Europe. This year the death-rate for the first half was only 16.5 per 1,000. The medical officer had, at his request, made a calculation which, though statistical, was, he thought, very interesting. He had compared two periods of seven years, one before and the other since the passing of the Local Government Act, 1888, 1882-88 with 1889-95. The result showed that had the rate of mortality observed in the earlier period been maintained in the later period there would have been 13,294 more deaths in London in the later period than actually occurred. This saving of life had been mostly at the younger ages, and seemed to show that the sanitary efforts made in recent years by the local sanitary authorities in co-operation with the Council had not been unfruitful. The only zymotic disease which caused exceptional mortality in London last year was diphtheria, of which nearly 14,000 cases were notified, and over 2,600 terminated fatally. The medical officer had continued his inquiries into the causes contributing to the propagation of this disease.

Water Supply.

With regard to the water supply the Council could not be accused of undue precipitation in applying to Parliament for the necessary powers to carry out the scheme of the chief engineer, endorsed by the Water Committee, for bringing from the hills of Wales an uncontaminated and ample supply of soft water to augment the future needs of London. Now that Sir Benjamin Baker and Mr. Deacon had practically confirmed the conclusions of their engineer progress would doubtless be accelerated in view of the admission on all sides that further delay might be perilous to the health and interest of the metropolis. A wide diversity in reports of analysts on the amount of suspended matter in water supplied by the various companies led the committee to instruct the chemist to continue his investigations by microfiltration. While it was difficult to assess the relative merits of chemical and bacteriological analyses as determining the potability of any water, presumption in favour of one from an uncontaminated source, as against one "initially polluted, and subsequently more or less purified," might perhaps be justified on stronger grounds than sentimental prejudice.

FEEBLE-MINDED AND IMBECILE CHILDREN:

The report just issued by the Special Committee of the Metropolitan Asylums Board on the administration of the Children's Imbecile Asylum at Darenth, is a sign of the times, and points to the now general acceptance of principles which we have strenuously advocated. The Committee's recommendations include the immediate removal of all educable children and improvable children from contact or relation with the hopelessly imbecile, and in order that their education should be carried on, it is proposed that they be placed in an entirely different establishment situated nearer London, and which "should as far as possible be of a homely character." The report advocates that steps should be taken to obtain by legislation the removal of the existing age limit in the case of educable children, and that as these children arrive at adolescence arrangements should be made by which they should be kept and maintained in an institution where the training they have already received should be continued and utilised in proper workshops, and where much of the work and repairs required in connection with other institutions of the Board, such as tailoring, carpentering, upholstering, shoemaking, shall be carried on by the inmates.

So far so good; but we would point out that if the Metropolitan Asylums Board makes the institution for the educable children large enough to house 300, no number of resolutions will succeed in making it "homely," which, as shown by the previous recommendation, is what the Board wish it should be, and which we affirm it is imperative it should be if the uncertain qualities and flickering intelligence of this difficult class of patients are to obtain individual attention. Neither is this all. An adequate supply of teachers must be engaged, and the term "adequate" interpreted not by the permissive clauses of the code which affect normally-minded children, but by experience in America and elsewhere, which has shown that the staff now employed at Darenth is far below the number required if justice is to be done to the pupils.

We do not altogether follow the recommendation which proposes to remove the medical care of the children from a resident medical officer, and to place them under a "visiting physician of eminence, expert in the treatment of the mentally deficient, with such local assistance as might be deemed necessary." The Special Committee seem to be wishful to get rid of the services of resident medical officers alto-

gether in this branch of their work, for they propose to place the improvable children under the control of a lady superintendent. We shall have, we believe, our readers with us in protesting against this proposal. All Poor-law institutions should be made available for medical education, and should have a visiting staff and a resident house surgeon; but to place an institution for a class of children requiring not only skill, but a special kind of expert skill, under a lady who is not required to be a qualified practitioner is, we venture to predict, to court failure.

We should not be averse to seeing a medically trained woman at the head of such an institution, but to leave 300 imbecile children who by their very affliction are rendered more subject to illness, and more helpless when sick, without the ready aid which the resident medical officer is alone able to render, would, we hold, be both unwise and inhuman.

The Committee also recommend that, subject to the adoption of their plan for removing the 300 educable children from the main institution, application be made to the Local Government Board for their sanction to the abolition of the office of medical superintendent of the Darenth schools. It is somewhat difficult to follow the full import of this suggestion, but we conclude that the plan involved is to place both the Darenth asylums—namely, the one for children and the one for adults, under one medical head. We cannot concur with this proposal, and we trust that the Local Government Board will not sanction it. Dr. Downs has stated emphatically that in his opinion 2,000 children in a barrack school are too many to receive due attention from one medical officer, and this is especially true in the case of imbeciles. Unfortunately there can be little doubt that the places of the 300 improvable children will be soon taken by 300 of the helpless order, which will again bring the figure of the Darenth Children's Asylum up to 1,000, which, in addition to the large staff of nurses, attendants, servants, and officers, will not leave the medical officer much vacant time.

Before the Metropolitan Asylums Board erect another building and add yet another institution to those which a recent Colonial visitor has declared to be an "English disgrace," we would counsel that attention be paid to Dr. Jane Walker's evidence before the Poor-law Schools Committee, as well as to some of the experience recently laid before the Departmental Committee constituted by the Education Department on Feeble-minded Children. To many who study the evidence there given it will be a matter of surprise to learn what success has attended the boarding out of educable feeble-minded children, and what an astonishing capacity these helpless, often offensive, units have of evoking affection among their caretakers, an affection which is among the most educating of influences.

THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

AN interesting exhibition was held at the Queen's Hall, Langham Place, W., from July 26th to July 30th inclusive. The exhibition included surgical apparatus, instruments, and medicaments, many of which were either new or interesting.

Among the more interesting exhibits were:

The Sanitary Wood Wool Company (26, Thavies Inn, E.C.) had a good display of their well-known specialities.

Messrs. Maw, Son, and Thompson (Aldersgate Street) showed a selection of aseptic instruments of the latest patterns, together with a collection of instrument cases and outfits designed for portability. They showed also their stethonoscope, a new instrument for auscultation.

Mr. B. Kuhn (36, St. Mary-at-Hill, E.C.) exhibited a collection of vegetable digestive ferments and other preparations.

Messrs. Mayer and Meltzer, among a selection of modern surgical instruments designed to meet the requirements of aseptic surgery, exhibited a complete selection of anæsthetic apparatus of the latest pattern to combine cleanliness with simplicity. Among these they showed Dr. Dudley Buxton's chloroform inhaler and Vajna's glass chloroform inhaler. The same firm also had a good collection of gynæcological instruments.

Messrs. Weiss (Oxford Street, W., and Manchester) exhibited a collection of aseptic instruments, operating tables, and theatre fittings.

The Rebman Publishing Company (11, Adam Street, Adelphi) had an extensive display of their well-known medical publications, together with their other specialities, pure calf lymph in tubes, and pure vaccine cream in *flaçons*.

Messrs. Evans and Wormull (Stamford Street, S.E.), among other exhibits, showed their special department of medical equipment as used in the army.

Messrs. Oppenheimer, Son, and Co. (Worship Street), had a very interesting collection of medical, surgical, and pharmaceutical antiquities. This collection, which was made by a Roman physician on behalf of Mr. Oppenheimer, included a good selection of terra-cotta votive offerings of ancient Italy. The surgical instruments, which number more than 300, date from the 1st to the 15th century, and include duplicates of the more important and unique instruments preserved in the museums of Naples, Paris, and Berlin. The same firm also exhibited their well-known palatinoids. An interesting section of their exhibit consisted of examples of the products of the Pasteur Institute in Paris, and these included antidiphtheritic serum, antistreptococcic serum, Dr. Calmette's antivenomous serum and antitetanic serum.

Mr. K. Schall, of Wigmore Street, W., showed his selection of medico-electrical apparatus, some very well designed outfits for taking Roentgen photographs, together with the accessory apparatus for the same.

The exhibit of Messrs Ingram and Royle (26, Upper Thames Street) consisted of Vichy water, the natural Carlsbad salts, and Hunyadi Janos, a mineral aperient water.

Messrs. J. Defries and Son (147, Houndsditch) were represented by some of the most modern types of the Pasteur filter arranged both for pressure and non-pressure. The Delepine Indicator shown by the same firm is a useful instrument for indicating the precise time when the chamber of the steam disinfecting apparatus is free from air. Its object is to prevent the recording gauge from giving any indication until all air has been eliminated. They also showed photographs of the Pasteur filters designed for the Municipal Waterworks of Darjeeling which are capable of an output of 3,000,000 gallons a day. This is perhaps the largest output that has ever been attempted with a porcelain filter.

Messrs. Hoff (New Bridge Street and Hamburg) showed their well known preparations of malt extract.

Messrs. Coxeter and Son (Grafton Street, Gower Street, W.C.) had a good display of the latest improvements of surgical instruments and appliances, and of hospitals and nursing requisites. The same firm also showed some interesting examples of Roentgen photography.

The Aylesbury Dairy Company (St. Petersburgh Place, Bayswater) exhibited a collection of specimens illustrating the researches carried out in the Company's laboratories on the composition of human milk and its comparison with that of the cow, goat, ass, and mare, together with an exhibition of their well-known milk products.

Mr. Henri Nestlé (Cannon Street) exhibited samples of his infants food and condensed Swiss milk. In connection with his exhibit Mr. Nestlé had a cinematograph in operation.

Messrs. Down, Bros. (St. Thomas's Street, Borough) exhibited a large number of aseptic surgical instruments and instruments of the latest type for special operations.

Messrs. Parke, Davis and Co. (North Audley Street, W.), among a collection of their standard fluid extracts and digestive ferments, exhibited a fine collection of food products.

Messrs. Bailey and Son (Oxford Street) exhibited various novelties in surgical instruments and appliances, a collection of enemas and douches.

Messrs. Callard (Regent Street) had an exhibition of their diabetic specialities.

Among the large collection of modern pharmaceutical preparations shown by Mr. Martindale (10, New Cavendish Street, W.) may be mentioned eucaine hydrochloride, a local anæsthetic resembling cocaine, and holocaine hydrochloride, a synthetic anæsthetic recommended for ophthalmic practice.

The Berkefeld Filter Co. (Oxford Street) exhibited arrangements by which their filter can be made either for household service or in the form of an aseptic irrigator for surgical use.

The Anglo-Swiss Condensed Milk Company (Mark Lane, E.C.), in addition to their well-known "Milkmaid" brand of condensed Swiss milk, exhibited their Ideal milk, sterilised but not sweetened, and enriched by the addition of cream.

Messrs. Armour and Co. (Tooley Street, S.E.) exhibited a long series of their laboratory products, together with a collection of desiccated powders and tabloids of various animal substances.

Mr. Walter Severn had an interesting exhibition representing the work of the West End Pathological Laboratory. The exhibit included a series of microscopic preparations of various pathogenic bacteria, a collection of hair and skin fungi, and several photomicrographs, drawings, etc.

Among the other exhibitors were Messrs. Warrick Brothers; Goss and Co.; Messrs. Schacht and Co.; Messrs. Tidman and Son; Beanes and Co.; Claudius Ash and Sons; Potter and Sacker; G. Van Abbott and Sons; Arthur and Co.; Hockin, Wilson and Co.; John Bale, Sons, and Danielsson; Schramm and Co.; The Peat Industries Syndicate; Sadler, Firth and Ross; Mr. R. J. Downes; Mr. W. K. Stacy; Lawes Chemical Company; The Norwegian Milk Condensing Company; The Vimbos Company; L. Rose and Co.; the Whitely Exercise Company; J. G. Ingram and Son: Mr. B. Lampe; Greenlees Brothers; Liebig's Extract of Meat Company; Broomfield and Co.; the "Lattice" Elastic Stocking and Marette Company; the Formalin Hygienic Company; Miss Maria J. Webb; Riddle and Co.; Idris and Co.; Compressed Gas Company; Mellin's Food; Blair and Co.; Frank A. Rogers; Hiram Walker and Son; Burberry and Sons; Kirby and Co.; Bovril, Limited; the "Ceres" Automatic Letter and Card File Company; the Medico-Hygienic Inventions Company; the Scientific Press; Plucknett and Co.; Ewart and Son; Cooper and Co.; Liverpool Lint Company; Newton, Chambers and Co.

THE UNIVERSITY OF LONDON BILL 1897.

This Bill, introduced into the House of Lords by the Lord President of the Council last week, passed through Committee on July 26th. It consists of a preamble, six clauses, and a schedule consisting of Part I and Part II.

The Preamble refers to the report of the Royal Commission on the Gresham University in London, which recommended the appointment of a Statutory Commission to carry out the reconstitution of the University of London recommended by the Royal Commission.

Clause 1 nominates the Commissioners as follows: Lord Davey; the Bishop of London; Lord Lister; Sir Wm. Roberts, M.D.; Sir Owen Roberts, D.C.L.; Dr. R. C. Jebb, Regius Professor of Greek in the University of Cambridge; and Mr. E. H. Busk, M.A., B.C.L., Chairman of the Convocation of the University of London. In the event of a vacancy among the Commissioners, his successor shall be appointed by the Crown, but his name shall be laid before both Houses of Parliament. The Commissioners may employ persons, who shall be remunerated by the Treasury, for the execution of their duties under the Act.

Clause 2 limits the duration of the Commissioners' powers to the end of 1898, with power to the Queen in Council to extend the period to the end of 1899. Lord Davey is appointed Chairman. The quorum is fixed at three.

Clause 3, Par. (1) is as follows: "The Commissioners shall make statutes and regulations for the University of London in general accordance with the scheme of the report hereinbefore referred to, but subject to the modifications specified or indicated in Part I of the schedule to this Act, and to any other modifications which may appear to them expedient after considering the changes which have taken place in London education of a University type since the date of the said report and any representations made to them by or on behalf of the Senate or Convocation or any 50 graduates of the University of London, or by or on behalf of any body or person affected." In framing statutes and regulations the Commissioners must have regard to the various matters specified or indicated in the Schedule, Part II.

Clause 4 directs that the statutes and regulations shall be published in the *Gazette* and laid before Parliament, and either House may within forty days present an address to the Queen praying her to withhold her assent, and no further proceedings shall be taken on the statute or regulation objected to. The Senate or Convocation of the University of London, or any person or body directly affected by a statute or regulation, may within three months of its publication in the *Gazette*, petition the Queen in Council to withhold her approval, and the petitioner may then be heard before a Committee of the Privy Council.

Clause 5 gives power to the Senate of the University after the expiry of the powers of the Statutory Commission to make statutes and regulations supplementing those made by the Commissioners, but subject to the provisions of Clause 4, and it is required that the draft of every such statute shall be communicated to Convocation, whose opinion thereon, if returned within two months, shall be taken into consideration.

The Schedule directs that the Commissioners in framing statutes and regulations shall give effect to a scheme for the constitution of the University (Part I), and shall be guided by certain general considerations (Part II).

Part I.

The Senate shall consist of the Chancellor and 55 other members, namely:

- 5 appointed by the Crown,
- 17 by Convocation, namely, the Chairman of Convocation and 16 elected by the registered graduates in their separate faculties in such proportions as the Statutory Commission shall determine.
- 2 by the Royal College of Physicians,
- 2 by the Royal College of Surgeon,
- 4 by the Inns of Court,
- 2 by the Incorporated Law Society,
- 2 by University College, London,
- 2 by King's College, London,
- 1 by the Corporation of London,
- 2 by the London County Council,
- 16 by the Faculties.

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The Senate shall be the supreme governing body and executive, and shall have three standing Committees as follow (the Chancellor, Vice-Chancellor, and Chairman of Convocation to be *ex-officio* members of all three Committees):

The Academic Council, being a Committee for Internal Students, shall consist of the:

- 16 members of the Senate appointed by the Faculties, the
- 3 *ex-officio* members, and
- 1 Senator elected by the Senate.

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The Council for External Students, being a Committee for those students of the University, whether collegiate or non-collegiate, who are not internal students of the University, shall consist of the:

- 16 members of the Senate appointed by Convocation, the
- 3 *ex-officio* members, and
- 9 Senators elected by the Senate.

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The Board to Promote the Extension of University Teaching, consisting of the 3 *ex-officio* members and Senators elected by the Senate.

Teachers of the University shall be (1) professors, assistant professors, readers, and lecturers directly appointed as officers of the University, (2) Members of the teaching staff of educational institutions within thirty miles from the University buildings who have been recognised (in the first instance by the Commissioners) as teachers of the University.

Faculties.—The Commissioners shall determine what the faculties are to be and what teachers are to be members of the respective faculties. The faculties would consist of the "teachers of the University," as defined above, and the examiners.

Boards of Studies shall be appointed for the several subjects of University study by the Senate from members of a faculty or other teachers of the University who teach the Board's subject, with the addition of other persons, not exceeding one-fourth of the total number, as the Senate may think fit.

Internal students of the University will be students who have matriculated at the University, and who are pursuing a course of study approved by the University in a school or schools of the University, or under one or more of the recognised teachers of the University.

Examinations.—Unless otherwise determined by the Senate, separate examinations shall be held for internal and external students, and the certificate and diploma shall state whether the candidate has passed as an internal or external student, but the degrees conferred shall represent the same standard of knowledge and attainments. Internal students shall be admissible to the examinations for external students, if they so prefer. In all examinations the Senate shall, if practicable, appoint in each subject at least one examiner who is not a teacher of the University.

Part II.

The Statutory Commissioners, in framing statutes and regulations, shall see that provision is made for securing adequately the following:

1. The adequate protection of the interests of all classes of students, whether external or internal, collegiate or non-collegiate.
2. The recognition as teachers of the University of duly-qualified teachers and lecturers, giving instruction of a University type in public educational institutions situate within a radius of thirty miles from the University buildings, whether such institutions be schools of the University or not.
3. The inclusion under proper regulations as internal students of the University of students who have matriculated at the University, and are, under the personal direction of one or more of the teachers of the University, pursuing a course of study approved by the University.
4. The due representation on the Senate and the Academic Council of all subjects of study and all sections of teachers of the University.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.

The usual monthly meeting of the Executive Committee of the Medical Sickness and Accident Society was held at 429, Strand, W.C., on July 23rd. There were present Dr. de Havilland Hall (Chairman), Dr. J. B. Ball (Medical Examiner), Dr. F. J. Allan, Dr. J. Pinkett, Dr. M. Greenwood, Dr. Walter Smith, and Mr. E. Bartlett.

The accounts presented showed that the Society is paying sickness benefit to its members to a greater amount than in any previous year since its foundation in 1884. The average age of the members of the Society is still increasing, and as

an appreciable addition to their number is made every year, the amount of sickness pay expected by the table necessarily grows. So far the amount of sickness pay required has never in any year exceeded the expectation, while the very successful experience of the Society hitherto has enabled a substantial reserve to be formed. The total funds now amount to over £100,000. A considerable proportion of the claims which have arisen during the last few weeks has been caused by bicycle accidents. It is clear that cycling is becoming very popular with the profession, and it may be fairly assumed that this healthy form of exercise will, in the long run, cause no loss to the Medical Sickness and Accident Society. However, until its cycling members have become more experienced, the Society must reckon upon receiving a good number of accident claims.

A considerable number of the members are going to Canada this autumn to attend the meeting of the British Medical Association there, and some inquiries have been made as to the position of those who may meet with accidents or fall ill while out of the United Kingdom for this purpose. By a recent modification of the rules the Committee now have power to allow sickness pay to members temporarily abroad, and they will favourably consider any such cases as may be brought before them.

Prospectuses and all information on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

THE HOSPITAL REFORM ASSOCIATION.

ANNUAL DINNER.

THE first annual dinner of the Hospital Reform Association was held at the Holborn Restaurant, on Monday, July 26th. Dr. WARD COUSINS took the chair.

After the usual loyal toasts had been given by the CHAIRMAN,

Mr. GARRETT HORDER, in proposing the toast of "Medical Defence," said he considered that the British Medical Association was the proper body to take up the question, as they had both the money and the ability to do so. As far as he was concerned, the question was already decided, but for some reason the Council, although the question had now been before the Association for some years, had decided to hold their hands.

Dr. WELSFORD, in reply, said he considered the subject a dangerous one for the British Medical Association to take up, unless it could be adopted with a great majority. Owing to the reference of the matter to the Branches, it would be impossible to take any further steps in the matter during the present year.

In proposing the toast of "The Hospital Reform Association," Mr. C. S. LOCH said that, speaking as a layman, he considered that the present meeting was a natural sequence of the Carlisle meeting last year. He considered that a solution of the difficulties of hospital abuse rested on an effectual co-operation between the hospitals, the general practitioners, and charity organisation. He strongly advocated the formation of a Central Hospital Board, while the co-operation between hospital treatment and general charity would ensure the provision of those most important adjuncts to treatment —fresh air and good food. In order to provide this co-operation, he would attach to all general hospitals a staff of well-skilled almoners.

In reply, Dr. WARD COUSINS advocated the abolition of the letter system, and the establishment of a system of hospital consultations in properly selected cases. Only cases selected by a practitioner should be admissible for treatment in the casualty department.

Mr. TIMOTHY HOLMES, who spoke next, considered that previous attempts at a solution of the difficulty had failed because of the want of the co-operation of the general practitioner. Hospital cases ought to be selected, and the casualty department limited to street accidents and urgent cases.

Dr. GLOVER also advocated co-operation between the general practitioner and the hospitals, and would establish a system of hospital consultation.

Dr. DOLAN said he thought that the medical profession by excessive charity had succeeded in not only pauperising the general public but also themselves. In any town the hospital ought to be the great centre of medical work. At present when any young man was appointed to a hospital post he at once considered himself on an "elevated platform," and so the desired co-operation was very difficult to bring about.

Dr. KNOWSLEY SIBLEY deprecated the system of giving death certificates in the out-patient department. He considered such a system not only a grave error, but one which encroached on the duties of the private practitioner.

Dr. JAMES MYRTLE advocated the absorption of the Hospital Reform Association in the British Medical Association.

After "The health of the Chairman" had been proposed and drunk with acclamation the proceedings terminated.

THE PRINCE OF WALES AND THE COLLEGE OF PHYSICIANS.

As we mentioned briefly last week, His Royal Highness the Prince of Wales was on July 19th formally admitted to the Honorary Fellowship of the Royal College of Physicians of London, to which he had been elected at the comitia on April 29th last. The following account of the ceremony will be read with interest:

The President (Sir Samuel Wilks, Bart.), the Censors (Dr. Church, Dr. Cayley, Dr. Bastian, and Dr. Payne), the Treasurer (Sir Dyce Duckworth), and the Registrar (Dr. Liveing) attended by appointment at Marlborough House in their College robes, accompanied by the Bedell with the College insignia—the mace and cushion, the College statutes, bound in velvet, with the Corporation seal attached, and the caduceus of Dr. Caius.

The officers having been presented to the Prince, the PRESIDENT addressed His Royal Highness as follows:

"Sir,—We, the President and principal officers of the Royal College of Physicians, have assembled here, in compliance with an intimation received of Your Royal Highness's pleasure, to admit you to the Honorary Fellowship of our College, which you have been graciously pleased to accept. In fulfilment of my duty as President, and in accordance with the usage of the College, I have to ask Your Royal Highness to give your assent to a declaration which is in these terms: 'You give your faith that you will, as far as in you lies, maintain the honour and defend the rights of the College unimpaired.'"

The Prince willingly gave his assent, and then subscribed his name to the same form of words inserted in the Register of Fellows.

The PRESIDENT, again addressing His Royal Highness, formally admitted him a Fellow in the following words:

"I, Samuel Wilks, President of the Royal College of Physicians of London, admit Your Royal Highness Albert Edward Prince of Wales to the Honorary Fellowship of our College." And, taking the Prince's hand, wished him "all happiness" in the name of the College.[1]

The Prince was then presented with a diploma on vellum, illuminated with the College arms, contained in a case of red morocco; and with a gold-headed cane, after the fashion of those formerly carried by physicians, with a vinaigrette in the head to ward off infection. These were graciously accepted and courteously acknowledged by His Royal Highness.

The following is the text of the diploma:

SCIANT OMNES NOS

SAMUELEM WILKS, Baronettum, Medicinæ Doctorem et Præsidentem Collegii Regalis Medicorum Londinensis, una cum consensu Sociorum ejusdem Collegii, auctoritate nobis a Domino Rege et Parliamento concessa, in Societatem nostram, honoris causâ, cooptasse virum illustrissimum ALBERTUM EDVARDUM, Walliæ Principem, Cornubiæ Ducem, Nobilissimi Ordinis Periscelidis Equitem. In cujus rei fidem et testimonium Sigillum nostrum commune præsentibus apponi fecimus.

Datum Londini in Collegio nostro die vicesimo nono mensis Julii, annoque Domini millesimo octingentesimo nonagesimo septimo.

The PRESIDENT then addressed the following concluding words to the Prince: And now, with your Royal Highness's permission, I should like to add a few words to my formal duties. Standing here as the representative of this ancient and learned body, I desire to assure your Royal Highness that the announcement of your willingness to join our

[1] The *omnia fausta precor* of the old Latin form.

Fellowship was received with the greatest enthusiasm and satisfaction by the Fellows. For, remembering as we do that our College received its first Charter from the hands of King Henry VIII, and that the illustrious Harvey, who may be regarded as its second founder, was on terms of friendship with King Charles I; remembering also that, during the two centuries which followed, our annals show the close connection which existed between many of our eminent Fellows and the Royal Family, until we reach the time when, through the influence of our President, Sir Henry Halford, with King George IV, the site of the present College was secured to us from the Crown; and further, that on the completion of the edifice its inauguration took place under the auspices of the Royal Family, the Duke of York, accompanied by the other Royal Dukes, his brothers, being present on the occasion, and the King graciously conferring that day on our President the star of a Knight Commander of the Order of Hanover—when we recall, I say, all these events, it must be evident to your Royal Highness with what satisfaction the College sees that there is no abatement in the kindly feeling which has ever been shown towards us by the Royal Family, but that it is perpetuated by your illustrious name being now enrolled in our annals.

The PRINCE in courteous terms expressed the pleasure it gave him to be connected with so ancient and honourable a corporation, and then took leave of the President and officers.

WORKMEN'S ACCIDENTS AND SOCIAL ASSURANCE.

INTERNATIONAL CONGRESS AT BRUSSELS.

[FROM A CORRESPONDENT.]

ON July 26th the fourth session of the Congrès International des Accidents du Travail et des Assurances Sociales took place in the beautiful Salle des Fêtes of the Palais des Académies, in Brussels, under the presidency of M. BEERNAERT, President of the Chamber of Representatives, and also of the Congress. The room is of excellent proportions, and, like our House of Commons, it is lit from the ceiling. Its walls are lined with paintings. In such matters as the provision of rooms for the accommodation of congresses the Belgian Government is ahead of our own.

The inaugural meeting was a great success. It was largely attended, there being representatives of no fewer than fourteen nationalities. The language of the Congress, as is usual in most international meetings on the Continent, is French. The Congress numbers 820 adherents, of which 550 are foreigners. Among the names of official delegates we observe Vieriara-Monteira, the Minister Plenipotentiary of Brazil; Linder, Inspector-General of the Mines of France; representatives of Greece, Hungary, Austria, Sweden and Norway: Chimini from Italy; from the United States, Mr. Carrol Wright, the head of the Labour Department, and as representing Great Britain, Mr. Edward Gould, Her Majesty's Superintendent-Inspector of Factories; and Professor Thomas Oliver, Newcastle-upon-Tyne. Looking over the list of members of the Congress, England has the fewest. Of those present and expected, in addition to the official delegates, the names of Sir Charles Dilke, M.P., Mr. Geoffrey Drage, M.P., Mr. and Mrs. Vaughan Nash, and Mr. Johnson of the Warwickshire Miners' Association, appear.

The Congress has undertaken to discuss a series of very burning questions—for example, reparation to workmen for injuries received while following their employment, the establishment of accident hospitals, legislation for industrial diseases, and mutual assurance against accidents. The scope of the inquiry of the Congress is therefore wide. It is to be hoped, owing to the large number of representatives, many of whom seem to be Parliamentary faddists, that the limit of discussion will be kept well within bounds.

In his opening address the PRESIDENT analysed the work accomplished by previous Congresses at Berne and Milan, and after indicating the state of the labour question in different countries in Europe, he appealed to the Congress—composed as it is of actuaries, engineers, physicians, and medical jurists—so to discuss questions and come to conclusions, that as a result of their combined efforts some of the important problems affecting the risks of working men when following their employment, and compensation for accidents, might be satisfactorily settled. He concluded an admirable address by expressing the hope that the Congress would rise to the occasion, and that it would succeed as it deserved to.

In proposing a vote of thanks to the President of the Congress, M. NYSSENS, the Belgian Minister of Industry, took the opportunity of extending a hearty welcome to the Congress, passed a eulogium upon distinguished members of the previous congresses, and, while admitting that reparation for accidents to workmen imposed heavy liabilities upon employers, he also acknowledged that the question was one surrounded by conditions and hampered by limitations. Dr. BÖDIKER, formely President of the Imperial Office for Assurance in Berlin, who spoke in German, supported the vote of thanks, and made it perfectly clear that his recent retirement from public life in Germany did not in any way imply his abandonment of those principles of German legislation with which his name has been so honourably and long connected.

WORKMEN'S ACCIDENT INSURANCE.

On the following day the work of the Congress began in real earnest.

Dr. BÖDIKER, in his remarks, recommended compulsory assurance for injuries to workmen. This is no new subject with him, for at the Berne Congress in 1891, at Milan in 1894, and in his book, *Working Men's Assurance in the European Countries*, he has again and again reiterated this opinion. During 1896, he tells us, in Germany workmen were indemnified to the extent of 57,347,673 marks, the whole of the insurance being paid by employers. Since the introduction of the method proposed by Dr. Bödiker, it does not appear as if the number of accidents had increased. Taking the year 1894, Dr. Bödiker stated that, out of 5,243,965 people who were assured, 33,739 met with accidents; in 1895, of 5,409,218 assured, 34,788 received injuries. In other words, during 1894, for every 1,000 people insured, 6.4339 met with injuries, but in 1895 the number was slightly reduced, namely, 6.4312. It is scarcely fair to draw conclusions from one year; the period is too short. During every year that is passing we observe a gradual reduction in the amount of work done by hand and its replacement by machinery which is more or less dangerous. Increasing numbers of workmen, too, are being congregated in our factories, and this is not without risk to the labouring classes. In the present race for wealth and the haste and feverish excitement attendant upon all our methods of production it is said that our workmen are becoming more nervous and therefore more liable to accidents.

Mr. GEOFFREY DRAGE, M.P., replied to Dr. Bödiker in French, in a speech characterised by great vigour, and spoken with an ease and warmth which added considerable force to his expression. He could not accept the compulsory assurance system, maintained that it was entirely foreign to the English mind, and that there was small prospect of it being adopted in Britain. He was in favour of individual liberty in the matter, and maintained that workpeople should be in receipt of such wages as would allow of a small margin out of which voluntary insurance could be accomplished. Whether if such favourable conditions existed the artisan classes would make the necessary use of them it is impossible to say, but it was interesting to observe how a speech which pleaded for individualism and personal freedom forcibly delivered was warmly applauded by the Congress, the tenor of which is decidedly socialistic.

Of the numerous speakers who followed there was evidence of German, Austrian, Italian, and French political opinion being rather favourable to compulsory than voluntary insurance.

FURTHER BUSINESS.

Of the other subjects to be discussed that of legislation for industrial diseases is likely to give rise to some warmth of feeling. Among the names of writers of papers are those of Sir Charles Dilke, Dr. Oliver (Newcastle-upon-Tyne), Mr. Carrol Wright (Washington, U.S.A.). The Congress is to sit for six days.

BRITISH MEDICAL JOURNAL REPORTS.

REPORTS ON THE HYGIENIC CONDITION AND ADMINISTRATION OF METROPOLITAN DISTRICT AND SEPARATE SCHOOLS.

BASED ON THE EVIDENCE LAID BEFORE THE DEPARTMENTAL COMMITTEE.[1]

(By Our Own Commissioner.)

X.—MITCHAM.

THE schools at Mitcham belong to the Holborn Union, and are certified to receive 500 children. The buildings are about nine or ten miles from London, near an open common, and are placed, as are so many of these institutions, on sites which should command health and enjoyment; but at Mitcham, as elsewhere, the health statistics show bad hygienic results. From Appendix 17, col. 2, we learn that the number of children treated in the infirmary during the year ended Lady Day, 1894, was 453, and that in 1893 (col. 4):

107 suffered from ophthalmia; 56 suffered from itch; 75 suffered from eczema and other skin and scalp diseases; 45 suffered from ringworm; and 8 suffered from glandular swelling.

Making a total of 291 or three-fifths of the whole school.

These are the diseases of aggregation fostered by massing children together, and among whom (as was the case in 1894) scarlet fever, measles, whooping-cough, and chicken-pox find an already prepared soil.

In the opinion of the medical officer the children are of average growth, girth, and height (col. 25), but as he has weighed them neither on their admission nor discharge he has no opinion to give as to their weight in comparison with those in normal circumstances. He has but few suggestions to make, considering that the diet and clothing are sufficient (col. 22), but he thinks "more advantage might be taken of our open common and greens in the locality for the children to be taken out and allowed to sport and play upon. Dumb-bell and gymnasium would be useful for both boys and girls."

Not so content, however, is Miss Baker, a lady manager of thirteen years' standing, and a member of the Metropolitan Asylums Board, and a glance at the "ancient history," as supplied by her, is not without interest.

THE VALUE OF THE LOCAL GOVERNMENT BOARD INSPECTION.

"When I came," she said, "I was very much horrified with the state of the schools altogether."....."A very large number of the children were sleeping two in a bed." (2350.) "They used to have their breakfast and tea, which was bread and butter or bread and cheese, on the bare table without even plates. They had not got a nightdress in the school." (2351.) "They slept in their day underclothing for a week, slept and lived in it." (2355.) "And," inquired the chairman, evidently not without surprise, "the school was under the inspection of the Local Government Board, was it not?" "Yes," replied the witness; and in this relation it is interesting to turn to the inspector's own view of the same school. "When I went there," said Dr. Bridges, "I found just the same recklessness with regard to the mixture of children with different diseases all together. I found an infirmary which was an old dwelling house, and therefore extremely unsuitable for the treatment of sick children, and I found a very indifferent and careless superintendent. Holborn occupied a great part of the time of the Poor-law Board first, and then of the Local Government Board, with a view of trying to effect various changes in the schools, and certainly changes for the better have been made. I do not say that the school is now satisfactory." (650.)

That things are in some ways better now there can be no doubt, but the question of the chairman still remains unanswered. What was the value of the inspectors if such things were allowed to go on? Where now is the power which would enable them to bring a refractory or wilfully ignorant Board to book or to reform? It is folly to talk of the liberty of local government when the local governors are allowed to curtail the liberty of the child's right to growth, health, and happiness.

THE RESULTS OF MISS BAKER'S EFFORTS.

"It is largely owing to the exertions of Miss Baker and others that the school has been brought into a very much better state than before" was the evidence of the inspector, and those efforts have included visitation on Sunday (2404), a time when, without a watchful eye, the officials are very apt to let things manage themselves; visitations before 7 o'clock in the morning (2472), when she found "all the children up, or getting up, and the officers in bed;" visitations at all hours, in season and out of season, as well as a vast amount of strenuous and patient work on all sorts of matters, both trivial and important—work which has, however, again and again been inoperative owing to the apathy or ignorance of the Board (2527, 2528).

ONE HUNDRED AND TEN INFANTS WASHED IN FOUR BATHS.

For six years baths for the girls were asked for before they were granted, and then no provision was allowed or made for the personal privacy necessary for growing girls. One hundred and ten infants are tended by four women (2533-5), each attendant washing daily 40 or 45 infants, as well as tubbing 12 babies (2536). The lack of accommodation almost equals the scarcity of attendance, four baths and nine basins being supposed to be adequate in which to cleanse these 110 infants (2540). The spray system was not in operation in the infants' department (2541), although it was "being introduced"—rather tardily we must add. Neither have the children tooth brushes (2504), nor a change of shoes (2505); and the younger boys, numbering about 80, have but one room for play room, dining room, and day room (2518), a room which, by the way, has no

[1] The previous articles appeared in the BRITISH MEDICAL JOURNAL of January 2nd, p. 39, 9th, p. 90, 16th, p. 163; 23rd, p. 214; February 6th, p. 340; March 13th, p. 657; March 27th, p. 812; April 10th, p. 935; and May 1st, p. 1102.

pictures (col. 20, Appendix 10), and is described as "bare" (2520).

TRADE TRAINING INEFFECTIVE.

We have already drawn attention to the opinion of one of the Brentwood School managers (8176) on the ineffective industrial training which is given in the large school for which he was partially responsible; and this opinion becomes all the more valuable because we find that the inspectors of the Local Government Board join with him in condemning the system in vogue in most of the schools. Mr. Knollys, the Chief Inspector, considers that "the industrial training given to most pauper children is very unsatisfactory" (16706). Mr. Holgate, the educational inspector, agrees with him, and quotes an instance of a master who refused to take a lad from one of the school shops where it was supposed he had been trained, because he said there the lads learnt only what he should have to "unteach them;" for that in the school workshops they learnt only to "botch and cobble." Similar evidence is given by the other inspectors and many witnesses.

In some schools the labour of the lads is utilised on the broad acres which surround the schools. On the first appearance it would seem that this was an excellent practice, and for ourselves we confess that we should have thought that nothing was better for town-bred lads with inherited weakness of physique than the fine air and health-promoting exercise that are necessary corollaries of farm labour; but the evidence of the witnesses who were heard on this subject goes far to prove that, as at present organised, the labours of the farm are not desirable. Mr. Martin—who to judge from reading his evidence must be a person who is not only master of his facts, but is able to marshal them in a lucid and instructive manner—asserts his opinion that all the boys in the Sutton schools (4618) have not sufficient education before they are put to industrial training. He commends the band as useful technical training, but finds that the boys who go to work on the farm do not receive much benefit from their attendance on the cows and pigs. The educational inspector of the Local Government Board goes beyond this, and considers that the "big, lubberly, half-witted boys who are put to the farm become still more debased by the work they have to do" (15368). Indeed, it may be said that there is no evidence to support farm training as now given to pauper boys. On this subject the report sums up the evidence with the remark "that it is much to be regretted that it has not been found practicable to turn to educational uses the work which has to be done upon a farm, and at the same time to inculcate lessons of kindness to animals; but before much can be accomplished in these directions it will be necessary to secure the services of a superior class of officers for the posts of farm managers." This is one of our contentions—to do well and humanely the work of rearing the lowest class of children requires that people of right feeling, thoughtful intelligence, and high standards should undertake it; but these are not the persons who, as things are now, offer themselves for the posts, or the class of persons whom the guardians elect when they by chance do offer.

The best method of teaching domestic work is to do it, but it is not possible to teach hundreds of girls the ordinary practices of a small household. In some of the schools (we believe as far as we learn from the volumes before us that it is in four schools) the guardians have started small training schools where six or eight of the girls receive instruction in the methods of labour such as they will have to carry into practice when in service or as householders; but although this is excellent for the six or eight who enjoy the advantage, it leaves the large majority of the young girls quite untrained. In one school 35,000 articles are washed per week (App. 7, col. 15), the total number of towels washed in another amounting to 1,684,680 in the year (1965). It is of course impossible to employ anything but steam machinery to accomplish that amount of labour, and the consequence is the girls remain ignorant of domestic laundry work.

THE INSPECTORS CONDEMN, BUT NO IMPROVEMENT OCCURS.

A great many witnesses comment with severity on the results of these practices on the characters and intelligence of the girls, but no one is perhaps quite so severe as the inspectors. Dr. Bridges (689), Mr. Holgate (15599), Mr. Knollys (16078) all combine to condemn and deplore the existing system. We can but ask, Why has it been allowed to continue? On the one side are thousands of children so badly trained that it is impossible to even hope for them that they should be able to take their place in the labour market. On the other side are the inspectors, gentlemen of experience and repute, uniting to condemn the method of training. Here are the guardians, some such as Miss Tillard (3056), who, speaking of the recent past, when these same inspectors were at work, affirms that the girls were made "slaves to the needlework." Here are charitable persons who (6105) after long experience with the young women when they have left the school, state that they "are incapable of lighting a fire or laying a cloth," and are "utterly unfitted for service" (8512-6). There is no mistake or exaggeration; the weight of evidence is overwhelming. The question why it has been allowed to continue can only be answered by a thrice-told reply, "Because the Local Government Board is impotent; because the guardians are ignorant; because hitherto the public have been indifferent."

CITY BURIALS AND GRAVEYARDS.

DR. HOPE, Medical Officer of Health for Liverpool, has some remarks on this subject in his annual report which are of interest far beyond the limits of his city, and are indeed of general application so that we may with advantage refer to them.

He says that interments in some of the old city graveyards are still permitted, and much ingenuity is displayed in storing away the dead in the limited space available. It is fortunate that restrictions are placed upon these interments, and that a certain space and depth are requisite before the grave can be used, for the injurious effects of the decay of human bodies in the vicinity of dwellings cannot be doubted. The number of interments requiring supervision by the sanitary officers is diminishing year by year. In 1886 the attention of the sanitary officer was required in 52 cases, against 70 in 1895. In accordance with an instruction of the Health Committee, the medical officer reported early in the year upon the subject of intramural burials in Liverpool. There can be no doubt that the places as well as the methods of interment have been in the main dependent upon custom, sentiment, and convenience. The subject is one to which little, if any, unbiassed consideration is given by the public, as it is forced upon the attention at a time when the judgment is clouded by sentiments of sorrow and affection, and as a consequence the sanitary features involved are thrust out of sight. It is owing to this that public opinion has done nothing to help sanitary authorities in their endeavours to ensure that the disposal of the dead shall be effected without the probability of injury to the living. Interments under certain conditions are still permitted in eleven burial grounds in Liverpool.

The greater number of interments appear to take place in the Necropolis. No notice is required to be sent to the sanitary department when these interments take place, but occasional interments are made to this burial ground. Here there is an arrangement of tiers, separated by a course of flagging, and with the brickwork between each coffin. The walls between the vaults are $4\frac{1}{2}$ inches in thickness, and a stone flag covers over the top course of coffins, about 2 feet 6 inches below the surface of the ground. The vaults contain about 36 coffins, and it is probable that within an area of 10 yards square there will be over 300 bodies of adults and children. Interments in this greatly overcrowded graveyard not only take place in family graves and vaults, but new graves are also being opened. The approximate number of interments (not including stillborns) which have taken place in the cemetery since it was opened is 82,341. There is said to be accommodation for 2,160 more bodies, besides graves already sold, but which have not yet been fully utilised. The inhabitants of the houses abutting on the Necropolis have, as a whole, occupied them but a short time. Many of them complain of offensive smells which they believe come from the cemetery. In many instances the occupiers also state

that their houses are infested with mice of a peculiar light fawn colour, which they believe come from the cemetery.

Some light may be thrown upon the probable condition of the subsoil in this city graveyard from the following extract from a report by Inspector Beck, of the City Engineer's Department, who has been thirty-five years on that district. It will be noticed from this report that the offensive condition described was in that part to which material from the burial grounds would be most likely to gravitate. It was not found in the sewer nearer the surface. The inspector says:

The sewer in West Derby Road is what is known as a rock sewer, and is cut in the sandstone. It is about 14 or 15 feet below the surface, and is between 2 and 3 feet in width. This sewer was undergoing reconstruction in 1889. The bottom was very much worn, and "liners" were to be put in. The top is arched over with brick, and the sides were to be cased. When opposite to the Necropolis in West Derby Road, a large quantity of black jelly was found adhering to the side of the sewer nearest the Necropolis, the other side was the natural colour of the rock. When this material was touched or pricked, it emitted a frightful stench. The opinion of the other men and myself was that it came from the burial ground. One of the men at work was taken seriously ill, and died while the work was in progress. The other men objected to work there. The jelly was scraped off, and several coats of cement put on to try and keep the stuff from oozing through. There is also another sewer in West Derby Road, which runs above the preceding one at a slight angle. This sewer is only about 9 feet below the surface, and is supposed to drain the burial ground. The vaults in the burial ground are about 14 or 15 feet deep. The sewer is of similar construction to the other one, and was reconstructed at the same time. None of the jelly material was found in this sewer. None of the jelly material was found in the Everton Road Sewer, which is about 9 feet below the surface. The jelly was only found in that particular length of the sewer outside the Necropolis.

St. Mary's Cemetery. Kirkdale, is a proprietary cemetery, in which interments are restricted by the proprietors to family graves. No new graves are opened. The area of the cemetery is a little over two acres, and a part of this area has been only used superficially—that is, for the interment of one body, whilst in other portions there are common graves in which large numbers of bodies have been placed. There is no memorial stone to indicate the number so interred, and the records have been lost. It is considered by the proprietors that about 200 square yards of unused ground, nearest to the roadway, is still available for burials. About 250 bodies have been interred during the last five years, all in sold graves, and in addition to these a large number of stillborn infants have also been buried. These amounted to 139 in 1893, and 136 in 1895. It would appear that the proprietors are not unwilling that this burial ground should, under certain conditions, be turned to other uses.

Many of the city graveyards have been appropriately dealt with by the sanitary authority, laid out into gardens, and converted into attractive and suitable recreation grounds. There can be no more striking contrasts than between the graveyards so dealt with and the city graveyards still in use. These latter are in appearance sufficiently dismal, consisting in the main of long rows of flat stones, often cracked and uneven by subsidence of the soil beneath, many with illegible inscriptions, others, recording the names of sixteen persons upon one slab, testify to the great amount of putrescible matter lying beneath. Many of the graves are sunken, and headstones cracked and leaning at all angles. In instances coming under his notice in which municipal necessities have led to absorption of parts of a city churchyard, the medical officer has observed that commonly the remains of more human beings are found beneath a single tombstone than the record on the tombstone indicates.

Where many circumstances combine, as in cities, to affect injuriously the public health, it may be difficult, or even impossible to prove by statistics the precise influence exercised by each, individually, but all conditions, which, as a matter of common knowledge are liable to be prejudicial, should be avoided. From the report of the Royal Commission appointed some years ago to inquire into the practice of intramural interments, the following may be quoted:

As there appear to be no cases in which the emanations from human remains in an advanced stage of decomposition are not of a deleterious character, so there is no case in which the liability to danger should be incurred either by interment (or by entombment in vaults, which is the most dangerous) amidst the dwellings of the living, it being established as a general conclusion, from which no adequate grounds of exception have been proved—that all interments in towns, where bodies decompose, contribute to the mass of atmospheric impurity, which is injurious to the public health.

It may be observed that one great object in paving courts and alleys and the poorer back streets with setts, or in some other impermeable way, is to prevent the pollution of the subsoil by materials which may be thrown upon the surface. The importance and utility of this no one questions, but in marked contrast to such an object, human remains no less dangerous nor offensive are placed underground within a stone's throw of the habitations of the living.

THE QUEEN'S COMMEMORATION NUMBER OF THE BRITISH MEDICAL JOURNAL.

THE Commemoration Number of the BRITISH MEDICAL JOURNAL published on June 19th was considered by a great number of our readers to have so great a public and national interest as recording the beneficent progress of medical science during the reign of the Queen, that in accordance with various suggestions a few copies were separately printed on special paper and suitably bound. One of these was respectfully offered for the acceptance of Her Majesty through Sir James Reid, Bart. The following letter has been received, conveying the Queen's gracious acceptance of the same:

OSBORNE,
26th July, 1897.

Dear Sir,

I have received from Sir James Reid and laid before the Queen a copy of the Queen's Commemoration Number of the BRITISH MEDICAL JOURNAL, which you have been good enough to offer for Her Majesty's acceptance. I am commanded to express to you the thanks of the Queen for this interesting record of the progress of the medical science during Her Majesty's reign.

I am, dear Sir,
Yours very faithfully,
ARTHUR BIGGE.

ERNEST HART, Esq.,
BRITISH MEDICAL JOURNAL,
429, Strand, W.C.

The following gracious letter has also been received from H.R.H. the Prince of Wales:

Marlborough House,
Pall Mall, S.W.,
27th July, 1897.

My dear Sir,

Sir W. Broadbent has laid before the Prince of Wales a copy of the Queen's Commemoration Number of the BRITISH MEDICAL JOURNAL, which he informed His Royal Highness you expressed a wish should be presented to him. The Prince desires me to thank you for sending him so interesting a volume, and to say that he has much pleasure in accepting it.

I remain,
Yours truly,
FRANCIS KNOLLYS.

THE BATTLE OF THE CLUBS.

CONSULTATION FEES IN CLUB PRACTICE.

JACOBUS asks whether the medical officers to friendly societies are expected to meet consultants called in by members of these societies without any extra fee. The members pay 3s. per annum for medical attendance, including medicines, and are able to pay at times 5 and 7 guineas to a consultant.

*** If the consultant be called in in consequence of the recommendation of the medical officer, the latter might be required to meet him without an extra fee; but he could not be required to meet a consultant he had not recommended, and under the circumstances of a member wishing such a one to be called in, an extra fee might legitimately be claimed for meeting him. It is very distressing to learn that members able to pay fees of from 5 to 7 guineas to consultants can get respectable medical practitioners to attend them at the rate of 3s. per annum.

THE annual service of the Guild of St. Luke will be held this year at St. Paul's Cathedral, on October 19th, at 7.30 P.M. The sermon will be preached by the Archbishop of York. We are asked to state that academical dress will be worn by members of the medical profession who are graduates.

BRITISH MEDICAL ASSOCIATION.

SIXTY-FIFTH ANNUAL MEETING.

THE adjourned annual meeting of the British Medical Association will be held at Montreal on Tuesday, Wednesday, Thursday, and Friday, August 31st, September 1st, 2nd, and 3rd, 1897.

President.—T. G. RODDICK, M.D., Professor of Surgery in McGill University, Montreal.

President-Elect.—Sir T. GRAINGER STEWART, M.D.Edin., F.R.C.P.Edin., etc., Professor of the Practice of Physic and Clinical Medicine in the University of Edinburgh; Physician-in-Ordinary to the Queen for Scotland.

President of the Council; ROBERT SAUNDBY, M.D., F.R.C.P., Physician to the General Hospital, Birmingham.

Treasurer: CHARLES PARSONS, M.D., Dover.

An Address in Medicine will be delivered by W. OSLER, M.D., F.R.C.P., Professor of Medicine in the Johns Hopkins University, Baltimore, U.S.A.

An Address in Surgery will be delivered by WILLIAM MITCHELL BANKS, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

An Address in Public Medicine will be delivered by HERMAN M. BIGGS, M.D., Director of the Bacteriological Laboratory of the Health Department, New York City.

The Scientific Business of the Meeting will be conducted in Eleven Sections, as follows, namely:

A. MEDICINE.

Macdonald Chemical Building.

President: STEPHEN MACKENZIE, M.D., London. *Vice-Presidents:* J. E. GRAHAM, M.D., Toronto; W. BAYARD, M.D., St. John, N.B.; J. P. ROTTOT, M.D., Montreal: F. W. CAMPBELL, M.D., Montreal; JAMES STEWART, M.D., Montreal; H. P. WRIGHT, M.D., Ottawa. *Hon. Secretaries:* H. A. LAFLEUR, M.D., Montreal; W. F. HAMILTON, M.D., Montreal; WILLIAM PASTEUR, M.D., 4, Chandos Street, Cavendish Square, London, W.

The following discussions will take place:

1. The Dietetic Treatment of Diabetes, to be opened by Dr. Robert Saundby (Birmingham).

2. Arthritis Deformans (Rheumatoid Arthritis), more especially its Relation to Rheumatism, Nervous Disease, and Tuberculosis, to be opened by Dr. James Stewart (Montreal).

3. Cholelithiasis; its Causation, Symptomatology, Diagnosis, and Treatment, to be opened by Dr. William Hunter (London), and Dr. Graham (Toronto).

The following, among others, are expected to take part in the discussions in this Section: Dr. Reginald Fitz (Boston), Dr. Jacobi (New York), Dr. Musser (Philadelphia), Dr. Pepper (Philadelphia), Dr. F. C. Shattuck (Boston), Dr. E. L. Trudeau (Saranac Lake, N.Y.), Dr. Jas. Tyson (Philadelphia), Dr. Wyman (Marine Hospital Service, Washington), Dr. R. L. Bowles (London), Mr. Wm. Armstrong (Buxton), Dr. Sydney Coupland (London), Professor Osler (Baltimore), Dr. S. Monckton Copeman (London), Dr. H. Handford (Nottingham), Dr. J. A. Myrtle (Harrogate), Dr. Graham (Toronto), Dr. R. Shingleton Smith (Bristol).

The following papers have been promised:

ACHESON, Dr. Geo. (Galt., Ont.). Atony of the Rectum.
ARMSTRONG, William, M.R.C.S. The Exciting Cause of Rheumatoid Arthritis.
BOWLES, Dr. R. L. (London). Further Experiences of dangers connected with Respiration and their avoidance, with special reference to Anæsthesia, Hæmoptysis, Drowning, Apoplexy, and all Paralysed and Unconscious Conditions.
FUSSELL, Dr. M. H. (Philadelphia). Two Cases of Hæmophilia.
GRAHAM, Dr. J. E. (Toronto). A Case of Crossed Hemiplegia the Result of Injury to the Pons Varolii.
HAMILTON, Surgeon-Major-General (P.M.O. Plymouth). The Enteric Fever of Armies, contrasting the Disease in Tropical, Subtropical, and Temperate Climates.
LYMAN, Dr. Henry M. (Chicago). Osteomalacia following Complete Occlusion of the Common Bile Duct, due to Angio-cholitis following Typhoid Fever.
MACKINNON, Dr. Angus (Guelph). The Empyema of Pneumonia, with Cases.
MCCONNELL, Dr J. B. (Montreal). Pyopericardium following Pleuro-pneumonia: Pericardiotomy: Recovery.
MCPHEDRAN, Dr. A. (Toronto). Raynaud's Disease following Protracted General Erythema.
PEPPER, Dr. Wm., and STENGEL, Dr. Alfred (Philadelphia). A Contribution to the Clinical Study of Venesection.
STARR, Dr. M. Allen (New York). A Contribution to the Subject of Brain Tumours and their Surgical Treatment.
STOCKTON, Dr. Chas. G. (Buffalo). A Type of Diarrhœa associated with Gastric Anacidity.
TYSON, Dr. James (Philadelphia). Note on the Proper Use of Terms to denote Myocardial Changes.
WHITTAKER, Dr. James T. (Cincinnati). Generalisations from Six Years' Use of Tuberculin.
WILLIAMS, Dr. Francis H. (Boston). Some of the Medical Uses of the Roentgen Rays.

B. SURGERY.

Large Lecture Room, McGill Medical College.

President: CHRISTOPHER HEATH, F.R.C.S., London. *Vice-Presidents:* Hon. Sir WILLIAM HINGSTON, M.D., Montreal; Hon. M. SULLIVAN, M.D., Kingston, Ontario; Hon E. FARRELL, M.D., Halifax, Nova Scotia; I. H. CAMERON, M.D. Toronto; F. LE M. GRASETT, M.D., Toronto; JAMES BELL, M.D., Montreal; GEORGE E. ARMSTRONG, M.D., Montreal. *Hon. Secretaries:* ROBERT C. KIRKPATRICK, M.D., Montreal; THOMAS WALKER, M.D., St. John, N.B.; JORDAN LLOYD, F.R.C.S., Broad Street, Birmingham.

The President will give a short introductory address.

A discussion will take place upon the Surgical Treatment of Appendicitis, which will be opened by Dr. G. E. Armstrong (Montreal). Dr. J. Ward Cousins, Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham), will take part in the discussion.

A discussion will also take place upon the Treatment of Cancer of the Rectum by Kraske's Operation, to be opened by Dr. James Bell.

Among those who, it is anticipated, will take part in the discussions in this Section are: Dr. W. W. Keen (Philadelphia), Dr. Collins Warren (Boston), Dr. John Ashhurst (Philadelphia), Dr. Cheever (Boston), Dr. Dennis (New York), Dr. Murphy (Chicago), Dr. McGraw (Detroit), Dr. J. C. White (Boston), Dr. Chas. T. Bull (New York), Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham).

The following gentlemen have given notice of their intention to read papers in this Section:

BALL, Professor C. B. (Dublin). On Trans-sacral Resection of the Rectum.
COUSINS, J. Ward, M.D., F.R.C.S. (Southsea). Operative Treatment of Organic Stricture of the Urethra.
FERGUSON, Dr. W. W. (Kingston, N.B.). Varicosity of the Lingual and Buccal Veins.
GARROW, Dr. A. E. (Montreal). Ventral and Umbilical Hernia in the same Patient.
LLOYD, Jordan, F.R.C.S. Stone in the Ureter and its Treatment.
MARCY, H. O., M.D. (Boston). On the Suturing of Wounds.
MCGRAW, Theo., M.D. (Detroit). Invagination of the Cæcum and Vermiform Appendix.
NEWMAN, David, M.D. (Glasgow). (1) Cases illustrating some Interesting Points in the Pathology and Surgical Treatment of Renal and Vesical Hæmaturia. (2) Transitory Hydronephrosis and Albuminuria in cases of Movable Kidney treated by Operation.
ROSS, James F. W., M.D. (Toronto). Some Rare Conditions of the Kidney.
ROTH, Bernard, F.R.C.S. (London). Analysis of One Thousand Consecutive Cases of Lateral Curvature of the Spine treated by Posture and Exercise exclusively (without mechanical supports).
SHEPHERD, F. J., M.D. (Montreal). A case of Abdominal Tumour, in which nearly eight feet of the small intestine were resected.
SMITH, Dr. A. Lapthorn (Montreal). Seven cases of Appendicitis with Pus Tubes.
SMITH, Noble, F.R.C.S.Edin. (London). Congenital Dislocation of the Hip.
SPANTON, W. D. F.R.C.S. (Hanley). Two cases of Meningocele successfully operated on.
THOMSON, Alexis, M.D., F.R.C.S. (Edinburgh). Stricture of Intestine as Sequel of Strangulated Hernia.

C. PUBLIC MEDICINE.

Large Lecture Room of the Redpath Museum.

President: E. P. LACHAPELLE, M.D., Montreal. *Vice Presidents:* F. MONTIZAMBERT, M.D., Quebec; ROBERT CRAIK, M.D., Montreal; P. H. BRYCE, M.D., Toronto; Sir JAMES GRANT, Ottawa; R. H. POWELL, M.D., Ottawa. *Honorary Secretaries:* WYATT JOHNSTON, M.D., Montreal; E. PELLETIER, M.D., Montreal; HARVEY LITTLEJOHN, M.B. C.M., Surgeons Hall, Edinburgh.

The business of the Section will be carried out as follows:

LACHAPELLE, Dr. E. P. (President of the Board of Health of the Province of Quebec, Montreal). Sanitation in Canada: its Progress up to date
NEWSHOLME, Dr. A. (M.O.H. Brighton). A Plea for the Internation Study of Diphtheria, illustrated by facts and figures.
KAYE, J. R. (M.O.H. to the West Riding Council of Yorkshire The Relationship of the Health Officer to the Registration and Certification of Deaths.

Dr. F. Montizambert (Superintendent of the Canadian

Quarantine Service, Grosse Isle, Quebec), and Dr. W. Wyman (Superintendent of the Quarantine and Marine Hospital Service, Washington) will open a discussion on the Utility of Quarantines as now Conducted (Inspection, Disinfection, and Isolation Stations) in Certain Countries at Least.

Dr. P. H. Bryce (Secretary of the Provincial Board of Health, Ontario), Dr. C. O. Probst (Secretary State Board of Health, Ohio), Dr. H. Handford (M.O.H. to the County of Nottingham), will open a discussion on How Far should Mandatory Measures go in Dealing with (*a*) Measles, (*b*) Whooping Cough, (*c*) Tuberculosis, (*d*) Leprosy.

JOHNSTON, Wyatt, M.D. (Bacteriologist, Board of Health, of the Province of Quebec). Experiments with Disinfectant Gases.
JANIN, G. C. E., formerly of the Corps des Ponts et Chausees of France (Montreal). On the Different Processes recommended for the Treatment of Sewage; Mechanical, Chemical and Epuration by the Arable Soil.
MOTTOR, Dr. D. Murray Galt (Washington). Underground Zoology and Legal Medicine: a Study of Fifty Disinterments, with Additional Experimental Observations.
KINYOUN, Dr. Jos. J. (United States Marine Hospital Service, Washington). Methods of Disinfection.
NEECH, Dr. James T. (M.O.H. for Atherton). The Period of Infection in Scarlet Fever.
COPEMAN, Dr. Monckton (Medical Inspector to the Local Government Board of England). Some Alleged Dangers of Vaccination and their Prevention.

Dr. R. F. Ruttan, Chemist to the Board of Health of the Province of Quebec; Dr. G. W. Fuller, Louisville, Ky.; and Dr. J. J. Mackenzie, Bacteriological Provincial Board of Health of Ontario, will open a discussion on The Respective Value of Chemical and Bacteriological Methods of Water Analysis.

MACLEOD, Dr. James (Charlottetown). Observations on the Pollution of Ground Air.
HOUGH, Dr. G. de N. (New Bradford, Mass.). Cadaveric Fauna.
CHUTTLEWORTH, Dr. E. B. (Bacteriologist to the City Board of Health, Toronto). Observations on the Etiology and Dissemination of Diphtheria.
MACKENZIE, Dr. J. J. (Bacteriologist Provincial Board of Health of Ontario). Results of Mechanical Filtration Plants in Ontario.
MULLINS, Dr. G. Lane (Sydney, N.S.W.). Consumption in Australia.

D. OBSTETRICS AND GYNÆCOLOGY.

Large Lecture Room, McDonald Physics Building.

President: WILLIAM JAPP SINCLAIR, M.D., Manchester. *Vice-Presidents:* WILLIAM GARDNER, M.D., Montreal; JAMES PERRIGO, M.D., Montreal; J. A. TEMPLE, M.D., Toronto; J. C. CAMERON, M.D., Montreal; T. JOHNSTON ALLOWAY, M.D., Montreal; JAMES ROSS, M.D., Toronto. *Honorary Secretaries:* D. J. EVANS, M.D., Montreal; W. BURNETT, M.D., Montreal; ARTHUR E. GILES, M.D., 58, Harley Street, Cavendish Square, London, W.

The following discussions will, it is proposed, be held in this Section on the days indicated:

September 1st.—The Causation and Treatment of Hyperemesis Gravidarum.

September 2nd.—The Vaginal *versus* the Abdominal Route in dealing with Inflammatory Conditions and Tumours in the Pelvis. To be opened by Mr. Lawson Tait.

September 3rd.—The Palliative and Radical Treatment of Uterine Flexions and Displacements. To be opened by Dr. Barton Cooke Hirst (Philadelphia).

The following papers are promised:

ALLOWAY, T. Johnson, M.D. (Montreal). Gauze Packing in Pelvic Surgery.
ANDERSON, Professor Winslow, M.D. (San Francisco). Uterine Fibroids, their etiology, pathology, symptoms, diagnosis, and treatment.
BARNES, Robert, M.D. (London). Notes and a drawing to illustrate "Barnes's Boundary Line" in Placenta Prævia.
CAMPBELL, John, M.D., F.R.C.S.Eng. (Belfast). Labour Complicated by Abnormalities of the Cervix Uteri and Vagina.
CULLEN, Thos., M.D. (Baltimore). The Value of the Microscope in the Early Diagnosis of Cancer of the Uterus.
EDEN, T. W., M.D. (London). On Spurious Abortion with three Cases.
GARRIGUES, H. J., M.D. (New York). The Treatment of Abortion.
HART, D. Berry, M.D. (Edinburgh). The Morphology of the Vagina.
HENROTIN, F., M.D. (Chicago). The Operation of Choice in the Surgical Treatment of Septic Pelvic Diseases, with Special Reference to the Early Vaginal Incision.
KELLY, Howard, M.D. (Baltimore). (1) On the Conservative Treatment of the Ovary. (2) Demonstration on the Examination of the Bladder and Ureters.
LAWRIE, J. M., M.D. (Weymouth). Notes on Thirty-Three Cases of Abdominal Section.
LUCAS, T. P., M.R.C.S. (Brisbane, Australia). Menstruation, its Purpose and Design.
LUSK, W. C., M.D. (New York). A contribution to the study of the First Stage of Labour (from a frozen section).
MACDONALD, A. A., M.D. (Toronto). Title not announced.
MACLEAN, Ewen J., M.D. (London). The After-history of some Gynæcological Operations.
MADDEN, T. More, M.D., F.R.C.S.I. (Dublin). 1. On some Points in Modern Treatment of Tedious Labour with description of a new Traction Forces; (2) On the Conservative Treatment of Fallopian Tube Disease.
MUNDÉ, Paul F., M.D. (New York). Pelvic Abscess.
PARSONS, J. Inglis, M.D. (London). A New Method of Treatment for Prolapse of the Uterus.
ROBSON, A. W. Mayo, F.R.C.S. (Leeds), to be read by Dr. COLLIER (Ripon). Porro's Operation for Tumour of the Pelvis complicating Pregnancy.
ROSS, James F. W., M.D. (Toronto). The Diagnosis and Treatment of Intrapelvic Tuberculous Disease.
SMITH, Dr. (Montreal). Diagnosis and Treatment of Retroversion of the Uterus, with Fixation.

E. PHARMACOLOGY AND THERAPEUTICS.

Lecture Hall of the Wesleyan College.

President: D. J. LEECH, M.D., Manchester. *Vice-Presidents:* A. D. BLACKADER, M.D., Montreal; JAMES THORBURN, M.D., Toronto; C. R. CHURCH, M.D., Ottawa; J. B. MCCONNELL, M.D., Montreal; F. J. AUSTIN, M.D., Sherbrooke; WALTER GEORGE SMITH, M.D., Dublin. *Honorary Secretaries:* F. X. L. DE MARTIGNY, M.D., Montreal; J. R. SPIER, M.D., Montreal; C. R. MARSHALL, M.B., Pharmacological Laboratory, Downing College, Cambridge.

The President will deliver a short Introductory Address.

Discussions on the Treatment of Insomnia, the Treatment of Syphilis, and Diuretics will be held on September 1st, 2nd, and 3rd respectively.

1. The Treatment of Insomnia will be opened by Dr. C. K. Clarke, Physician to the Rockwood Hospital, Kingston, on General Treatment; by Dr. R. W. Wilcox, Professor of Medicine and Therapeutics in the New York Post-Graduate School on the Value of Individual Drugs, with special reference to the newer Hypnotics; by Dr. A. McPhedran on the Ill Effects and Contraindications to the Use of Drugs; and by Dr. R. Ferguson, Lecturer on Therapeutics in the Western University, on the Mode of Action of Hypnotics.

2. The Treatment of Syphilis will be opened by Dr. Whitla (Belfast). The introducer will deal with questions under the following heads: (*a*) How mercury and iodides are supposed to act in syphilis; (*b*) when should mercurial treatment be started, especially should it be given in the primary stage; (*c*) the various methods for its routine administration, dosage, etc., and the length of time necessary for mercurial treatment; (*d*) the treatment of tertiary and congenital syphilis.

(Hypodermic and intravenous medication will be dealt with by a dermatologist.)

The question of Diuretics will be opened from the clinical side by Dr. Barr (Liverpool), and from the experimental by Mr. Marshall (Cambridge).

Among those who have promised to take part in the discussions are: Professor Richet (Paris), Dr. A. R. Cushny (University of Michigan, Ann Arbor), Dr. H. A. Hare (Philadelphia), Dr. A. D. Blackader (Montreal), Dr. H. Barnes (Carlisle), Dr. Saundby (Birmingham), Dr. Donald MacAlister (Cambridge), Dr. Whitla (Belfast), Dr. J. A. Campbell (Carlisle), Dr. Brookhouse (Nottingham), Mr. Jordan Lloyd (Birmingham), Dr. J. Ward Cousins (Southsea), Dr. D. Berry Hart (Edinburgh), Dr. R. C. Stewart (Leicester), Dr. H. A. Mc'Callum (Western University), Dr. J. J. Cassidy (Toronto), Dr. James Watson (Southsea), Dr. R. Shingleton Smith (Bristol), Dr. G. Armstrong Atkinson (Newcastle), and others.

Those who have promised papers are:

HARE, W. A. The Importance of Studying the Absorption and Elimination of Drugs.
BLACKADER, A. D. On Aponcynum Cannabinum.
CUSHING, A. R. A Contribution to the Pharmacology of the Mammalian Heart.
LEECH, D. J. On Quillaia Bark.
PHILLIPS, C. D. F., and PEMBREY, M. S. On the Physiological and Therapeutical Actions of Hydrastis Canadensis.
HALLIDAY, A. (Nova Scotia). The Effect of Certain Drugs on Gastric Secretion.
FOTHERINGHAM, J. T. (Toronto). On the Prescribing of Proprietary instead of Pharmacopœial Preparations.
HUTCHISON, R. On the Pharmacology of the Thyroid Gland.
MARSHALL, C. R. On the Treatment of the Heart Failure of Arteriosclerosis.
MARSHALL, C. R., and TAYLOR, J. J. On the Absorption of Mercury.
CHISHOLM, M. (Halifax). The Opposite Effects of Drugs in Large and Small Doses.
BAZIN, M. On Diphtheria Antitoxin.
MARSHALL, C. R. Further Experiments on Indian Hemp.

F. PATHOLOGY AND BACTERIOLOGY.

Lecture Room II, McGill Medical College.

President: WATSON CHEYNE, F.R.C.S., F.R.S., London. *Vice-Presidents:* J. G. ADAMI, M.D., Montreal; J. CAVEN, M.D., Toronto; J. STEWART, M.D., Halifax; J. C. DAVIE, M.D., Victoria, B.C.; L. C. PREVOST, M.D., Ottawa; M. T. BRENNAN, M.D., Montreal. *Honorary Secretaries:* W. T. CONNELL, M.D., Kingston, Ontario; C. F. MARTIN, M.D., Montreal; RUBERT W. BOYCE, M.B., University College, Liverpool; WILLIAM HUNTER, M.D., 54, Harley Street, Cavendish Square, W.

The following will be the subjects for discussion:

1. Serum Diagnosis and the Agglutinating Action of Serums, to be introduced by Professor Wyatt Johnston (Montreal).
2. Immunisation.
3. The Bubonic Plague.

Among those who will take part in the discussions will be Professor Welch (Johns Hopkins), Professor Crookshank (London), Dr. W. Hunter (London), Dr. A. S. Grünbaum (Liverpool), Dr. A. C. Abbott (Philadelphia), Dr. T. M. Cheesman (New York), Dr. R. Fitz (Boston), Dr. E. Hodenpyl (New York), Dr. Trudeau (Saranac), and Dr. F. F. Wesbrook (Minneapolis).

It is urged that British pathologists unable to be present should send to Dr. Rubert Boyce lantern slides and other material for demonstration bearing upon the subjects selected for discussion.

The following papers are promised:

ADAMI, J. G., M.D., and STAPLES, E., M.D. (Montreal). On the Appendices Epiploicæ.
BARKER, Lewellys F., M.D. (Baltimore). On the Changes in the Nerve Cells in Epidemic Cerebro-spinal Meningitis, with special reference to lesions in the lower motor neurons.
BOYCE, R. The occurrence of the B. Tuberculosus in Milk.
CAREN, Professor J., M.D. (Toronto). Title of Paper not received.
CONNELL, W. (Kingston, Ont.) Title of Paper not received.
COPEMAN, S. Monckton, M.D. (London). On Vaccinia.
FLEXNER, Simon, M.D. (Johns Hopkins University). Pseudo-tuberculosis Hominis Streptothricia.
GOLDMAN, Professor (Freiburg). On Early Infection of Blood Vessels in Carcinoma and Sarcoma (lantern slides).
GRÜNBAUM, A. S., M.B. (1) The Smegma Bacillus. (2) Specimens of Pseudo-hypertrophic Paralysis.
HERTER, C. A., M.D. (New York). Experimental Observations on the Relation between Bacterial Activity in the Intestine and the Indican in the Urine.
HODENPYL, Eugene, M.D. (New York) On the Occurrence of Typhoid Fever without Lesions of the Small Intestine.
KANTHACK, A. A., M.D. Cancer of the Testicle.
MANSON, Patrick, M.D. On Filaria Sanguinis Hominis, with the demonstration of a new Species from Central and South America.
STILES, H. J. On the Evolution of Cancer Bodies (lantern slides).
THOMSON, Alexis H. Epithelioma of Penis.
VAN GIESON, Ira, M.D. (New York). On Hæmato-myelopore and its Relations to Syringomyelia.
WASHBOURN, J. W., M.D. On Antipneumococcic Serum.
WASHBOURN, J. W., M.D., and SMITH, Dr. G. Bellingham. Demonstration of Specimens of an Infective Neoplasm from the Dog.
WELCH, Professor (Baltimore). The Distribution and Pathogenic Effects of the B. Aerogenes Capsulatus.
WRIGHT, Hamilton K., M.D. (Montreal). On the Topography of the Posterior Columns.

G. PSYCHOLOGY.

Morris Hall, Presbyterian College.

President: R. M. BUCKE, M.D., London, Ontario. *Vice-Presidents:* D. CLARKE, M.D., Toronto; T. J. BURGESS, M.D., Verdun, Quebec; A. VALLEE, M.D., Quebec; G. WILKINS, M.D., Montreal. *Honorary Secretaries:* J. V. ANGLIN, M.D., Montreal; GEORGE VILLENEUVE, M.D., Montreal; J. G. BLANDFORD, M.R.C.S., D.P.H., London County Asylum, Banstead, Sutton, Surrey.

The officers of this Section, believing that many of the papers already offered will be provocative of considerable debate, have determined to announce no special subjects for discussion. Among those who have offered to contribute papers are:

BRUCE-SMITH, Dr. R. W. (Physician to Asylum for Insane, Hamilton, Ontario. Title of paper not received.
BRUSH, Dr. E. N. Title of paper not received.
BUCKE, R. M., M.D. (London, Ontario, Asylum). On Mental Evolution.
CLARK, W., M.D. (Toronto Asylum). The Reflexes in Psychiatry.
CROTHERS, Dr. J. D. (Hartford, Conn.) Some New Phases of Inebriety in Clinical Studies.
GOODING, Dr. W. W. (Washington). Title of paper not received.
HOBBS, —, M.D. (London, Ontario, Asylum). Surgical Gynæcology in Insanity.
ROGERS, Dr. (Asylum for Feeble Minded, Taribault, Minn.). Cases of Mongolian Idiocy
ROHE, G. H., M.D. (Maryland Hospital for Insane, Catonsville). The Etiological Relation of Pelvic Disease to Insanity in Women.
RUSSELL, J., M.D. (Hamilton, Ontario, Asylum). Insanity in its Relation to the State.
STEARNS, Dr. H. P. (Retreat for Insane, Hartford, Conn.). Heredity as a Factor in Etiology of Insanity.
VILLENEUVE, George, M.D. (Longue Pointe). The Proof of Insanity in Criminal Cases.
WISE, Dr. P. M. (Albany). Title of paper not received.

Among those who intend to take part in the business of the Section are Dr. N. H. Beemer (Mimico Asylum, Ontario), Dr. G. Alder Blumer (Utica, New York), Dr. C. K. Clark (Rockwood Hospital, Kingston, Ontario), Dr. Edward Cowles (Waverley, Mass.), Dr. T. D. Crothers (Hartford, Conn.), Dr. G. Stanley Hall (Worcester, Mass.), Dr. Hazlitt (Sunbury), Dr. Henry Hurd (Baltimore), Dr. Rogers (Asylum for the Feeble-Minded, Faribault, Minn.), Dr. George H. Rohe (Maryland Hospital for the Insane, Catonsville). Dr. Rothesay Stewart (Leicester) and Dr. A. R. Urquhart (Perth).

H. OPHTHALMOLOGY.

Leeture Room I, McDonald Engineering Building.

Vice-President: EDWARD NETTLESHIP, F.R.C.S., London. *Vice-Presidents:* F. BULLER, M.D., Montreal; R. A. REEVE, M.D., Toronto; ED. DESJARDINS, M.D., Montreal; A. A. FOUCHER, M.D., Montreal. *Honorary Secretaries:* W. H. SMITH, M.D., Winnipeg; J. JEHIN-PRUME, M.D., Montreal; THOMAS HERBERT BICKERTON, M.R.C.S., 88, Rodney Street, Liverpool.

The following subjects have been chosen for discussion:—

1. Heterophoria; the Indications for and Limitations of its Operative and Non-Operative Treatment. In connection with this subject Dr. F. Buller (Montreal) will read a paper on Abnormalities in the Functions of the Extrinsic Ocular Muscles.
2. How far can accurate Colour Vision be relied upon to Prevent Accidents on Railways and at Sea. In connection with this subject Mr. T. H. Bickerton (Liverpool) will read a paper on the Question of Colour Vision in the Mercantile Marine.
3. Antiseptics in Eye Surgery.
4. (If opportunity occurs) On the Prevention of Accidents to the Eyes of Persons engaged in Industrial Employments.

The following communications on other subjects are promised:

ALT, Dr. A. (St. Louis, Mo., U.S.A.). Histology of an unusual case of Total Blindness after Injury to the Skull.
BEAUPRÉ, Dr. W. J. (Quebec). Abscission of the Cornea *versus* Enucleation.
BICKERTON, T. H. (Liverpool). On Mules's Operation.
BURNHAM, Dr. G. H. (Toronto). The Hypodermic Use of Pilocarpin in Eye Disease.
COLLINS, Mr. Treacher, and MARSHALL, Mr. Devereux (London), will send Pathological Specimens in Jelly.
FOUCHER Dr. A. A. (Montreal). (1) The Etiology of Dacryocystitis. (2) Auto-Infection in Pustulous Keratitis.
FULTON, Dr. John F. (St. Paul, Minn., U.S.A.). Amblyopia of Strabismus.
GOULD, Dr. Geo. M. (Philadelphia, U.S.A.). Retinitis Pigmentosa without Typical Pigmentation.
JEHIN-PRUME, Dr. Jules (Montreal). A Contribution to the Treatment of Syphilitic Eye Diseases.
LEE, Charles G. (Liverpool). An Unusual Case of Orbital Tumour.
MATHEWSON, G. H. (Montreal). Case of Metastatic Carcinoma of the Choroid.
PROUDFOOT, Dr. A. (Montreal). The Value of Weak Lenses in Certain Cases.
REEVE, Dr. R. A. (Toronto . Experiences with Cataract.
SMITH, Mr. Priestley (Birmingham), will send: (*a*) Pathological Specimens in Formol; (*b*) A Model illustrating Tscherning's Theory of the Accommodation.
STIRLING, Dr. J. W. (Montreal). Title of paper not received.
USHER, Mr. C. H. (Aberdeen) will send Microscopical Sections of Opaque Optic Nerve Fibres (Human).
WÜRDEMANN, Dr. H. V. (Milwaukee, Wis., U.S.A.) Skiascopy in Relation to other Methods of Estimating Ocular Refraction.

I. LARYNGOLOGY AND OTOLOGY.

Lecture Room II, McDonald Engineering Building.

President: GREVILLE MACDONALD, M.D., London. *Vice-Presidents:* W. TOBIN, M.D., Halifax; G. A. S. RYERSON, M.D., Toronto; H. S. BIRKETT, M.D., Montreal; G. R. McDONAGH, M.D., Toronto. *Honorary Secretaries:* A. CHRETIEN, M.D., Montreal; H. D. HAMILTON, M.D., Montreal; W. PERMEWAN, M.D., 7, Rodney Street, Liverpool.

The following discussions will take place: (1) On Turbinotomy, to be opened by the President. (2) On the Ultimate Results of Operations on the Mastoid in Suppurative Ear Disease. (3) On the Significance of Laryngeal Paralysis.

BLAKE, Dr. Clarence J. (Boston, Mass.). The Operative Treatment of Mastoid Disease.
FARLOW, Dr. J. W. (Boston, Mass.). Presentation of Instruments with remarks.

The following papers are announced in this Section:

BRYAN, J. H. (Washington). A Contribution to the Anatomy of the Fronto-Ethmoidal and Frontal Maxillary Regions.
DELAVAN, Dr. D. B. (New York). Surgical Treatment of Malignant Disease of the Larynx.
FARLOW, Dr. Jno. W. (Boston, Mass., U.S.). Presentation of Instruments, with remarks.
HOBBS, Arthur G., M.D. (Atlanta, Ga.). When not to Inflate the Middle Ear.
HORNE, Jobson, M.D., and YEARSLEY, Macleod, F.R.C.S. (1) On Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose, and Ear. (2) On Turbinectomy.
INGALS, E. Fletcher, M.D. (Chicago). On the Relation of Nasal Diseases to Pulmonary Tuberculosis.
JONES, T. W. Carmallt, F.R.C.S.Ed. Some After Effects of Turbinotomy.
KNIGHT, Chas. H., M.D. (New York). Upon a Foreign Body (Metallic Button Hook) removed from the Larynx by Laryngo-Fissure.
MACKENZIE, Dr. John N. (Baltimore, Ind., U.S.). The Physiological and Pathological Relations between the Nose and the Sexual Apparatus.
O'DWYER, J., M.D. (New York). Acute Syphilitic Stenosis of the Larynx in the Adult treated by Intubation.
ROE, John O., M.D. (Rochester, New York). The Correction of Nasal Deformities by Subcutaneous Operations.
ROSS, G. T., M.D. (Montreal). Bilateral Abductor Paralysis from Recurrent Laryngeal Nerve Paralysis.
SPICER, Scanes, M.D. (London). (1) On Reduction of the Inferior Turbinate Bone in Certain Cases of Nasal Obstruction. (2) On the Significance and Treatment of Recurrent Retention of Secretion in the Lacunæ of the Tonsils. (3) A Case of Multiple Papillomata of Larynx in a Man aged 73.
WÜRDEMANN, Dr. H. V. (Milwaukee, Wis., U.S.A.). Phosphoric Necrosis of Temporal Bone.

Among those who intend to take part in the business of the Section are also Dr. J. Solis-Cohen (Philadelphia), Dr. Birkett (Montreal), Dr. Chretien (Montreal), Dr. G. R. McDonagh (Toronto), Dr. D. B. Delavan (New York), Dr. Charles Warden (Birmingham) and Dr. J. W. Mackenzie (Baltimore).

J. ANATOMY AND PHYSIOLOGY.

Lecture Room I, McGill Medical College.

President: AUGUSTUS D. WALLER, M.D., F.R.S., London. *Vice-Presidents:* F. SHEPHERD, M.D., Montreal; A. B. MACALLUM, M.D., Toronto; T. WESLEY MILLS, M.D., Montreal; A. PRIMROSE, M.D., Toronto; J. B. A. LAMARCHE, M.D., Montreal; D. B. FRASER, M.D., Stratford, Ontario. *Hon. Secretaries:* J. M. ELDER, M.D., Montreal; W. S. MORROW, M.D., Montreal; ROBERT HUTCHISON, M.D., Physiological Laboratory, London Hospital Medical College, Turner Street, Mile End, E.

The following have been selected as subjects for the discussions:

September 1st. Anæsthetics, to be introduced by the President of the Section (Dr. A. Waller). Among those who are expected to take part in this discussion are Dr. Shore (Cambridge), Dr. Kemp, F.R.S. (Baltimore), Professor W. D. Halliburton, F.R.S. (London), Dr. A. B. Macallum (Toronto), Dr. H. A. Hare (Philadelphia), Dr. G. T. Kemp (Baltimore), Dr. G. Gordon Campbell (Montreal), Dr. Kenneth Cameron (Montreal), Dr. Richet (Paris).

September 2nd. The best methods of Teaching Anatomy, to be introduced by Professor Alex. Macalister (Cambridge) and Dr. F. J. Shepherd (Montreal).

September 3rd. The Causation of the Heart Beat and its Modifications, introduced by Dr. Gaskell, F.R.S. (Cambridge) and Professor T. Wesley Mills (Montreal). Dr. Porter (Boston), Dr. Howell (Baltimore), and Dr. Bowditch (Boston) Dr. W. Townsend Porter (Boston), Dr. A. B. Macallum (Toronto), Dr. T. Wesley Mills (Montreal), Dr. G. Car Huber, (Ann Arbor, Mich.), Dr. A. P. Knight (Kingston), are expected to take part in the discussion.

The following papers have been promised:

HUBER, G. Carl, M.D., Assistant Professor of Histology and Embryology, University of Michigan, Ann Arbor. A brief account of some observations on the Sympathetic Ganglia of Vertebrates.
KEMP, G. T., M.D., Ph.D. (Baltimore). Nitrous Oxide Anæsthesia.
KNIGHT, A. P., M.A., M.D., Professor of Physiology, Queen's University, Kingston, Ontario. Action of certain Chemical Salts on the Heart Beat of Fish Embryos.
LOMBARD, Warren, P., M.D., Professor of Physiology, University of Michigan, Ann Arbor. Anatomy of the Knee-joint of the Frog, with special reference to the action of Flexor and Extensor Muscles.
MACALISTER, Professor Alex. (Cambridge). The Influence of Head Shape on Cranio-cerebral Topography.
MACALLUM, A. B., M.B., P.H.D., Professor of Physiology, Toronto University. Some observations on the Micro-Chemistry of Cells and Tissues.
MELTZER, S. J., M.D. (New York City). On the effect of Anæsthesia upon the Reflexes of Deglutition and of the Closure of the Glottis.
MILLS, T. Wesley, M.D., L.R.C.P., Professor of Physiology McGill University. Title of paper not yet received.
PATON, Dr. Noel (Edinburgh). Metabolism of the Salmon in Fresh Water.
PEMBREY, Dr. M. S. Title not received.
STEWART, Dr. G. N. The relation of Electrolytes to the other Constituents of Animal Cells and Liquids, with especial reference to the Blood Corpuscles and Blood Plasma.
THOMPSON, Professor W. H. (Belfast). Degenerations resulting from Lesions of the Sensory Area of the Cortex Cerebri.

On September 2nd Dr. Waller will give an experimental demonstration of the Relative Efficacy of Chloroform and of Ether as Nerve Anæsthetics.

Dr. Gustav Mann will send for exhibition specimens illustrating the Minute Histology of the Liver in Active and Resting Conditions. Dr. D. A. Welsh (Edinburgh) will exhibit specimens illustrating the Histology of the Parathyroid Glands. Dr. Geo. Oliver will exhibit his new Hæmoglobinometer and Hæmocytometer. Drs. Leonard Hill and Barnard will exhibit a new and accurate form of Sphygmometer.

Dr. Shore and Professor Sherrington will take part in the proceedings.

K. DERMATOLOGY.

Lecture Room III, McDonald Engineering Building.

President: MALCOLM MORRIS, F.R.C.S.Ed., London. *Vice-Presidents:* J. E. GRAHAM, M.D., Toronto; F. J. SHEPHERD, M.D., Montreal; J. A. S. BRUNELLE, Montreal; G. L. MILNE, M.D., Victoria, B.C. *Hon. Secretaries:* GORDON CAMPBELL, M.D., Montreal; J. M. JACK, M.D., Montreal; JAMES GALLOWAY, M.D., 54, Harley Street, Cavendish Square, W.

A subject selected for discussion in this Section is the Clinical and Pathological Characteristics of Vesicular Skin Diseases, especially the Dermatitis Herpetiformis Group.

It is intended that a joint meeting should be held with the Section of Pharmacology and Therapeutics for the discussion of the subject of the Treatment of Syphilis (see p. 244).

The following papers are announced:

FOX, T. Colcott. Demonstration of the Biology of the Trichophyte.
GALLOWAY, James (London) On Melanotic Conditions of the Skin preceding Malignant Disease of the Skin.

Among those who are expected to take part in the discussions of this Section are Dr. E. B. Bronson (New York), Dr. L. D. Bulkley (New York), Dr. J. A. Fordyce (New York), Dr. J. N. Hyde (Chicago), Dr. G. T. Jackson (New York), Dr. Stephen Mackenzie (London), Dr. A. Eddowes (London), and Dr. White (Boston).

PROGRAMME OF PROCEEDINGS.

TUESDAY, AUGUST 31ST, 1897.

11 A.M.—Cathedral Service.
2.30 P.M.—Opening Ceremonies. Welcome by His Excellency the Governor-General, Lord Aberdeen, the Mayor of Montreal, and others. Address by the President-elect, Dr. T. G. Roddick.
4 P.M.—Garden Party at the Royal Victoria Hospital (Mr. W. B. Angus, President of Royal Victoria Hospital), etc.
9 P.M.—*Conversazione* at Laval University. Address by Professor Richet, Delegate from the French Government, etc.

WEDNESDAY, SEPTEMBER 1ST, 1897.

10 A.M.—McGill University: Opening of Sections.
2.30 P.M.—Windsor Hall: Address in Medicine by Dr. W. Osler.
4 P.M.—Excursion down the St. Lawrence; Garden Parties, etc.
9 P.M.—Reception by the Hon. Sir Donald A. Smith, High Commissioner of Canada.

THURSDAY, SEPTEMBER 2ND, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
2.30 P.M.—Windsor Hall: Address in Surgery by Mr. W. Mitchell Banks.
4 P.M.—Excursion across the Island, International Golf Match, etc.
7.45 P.M.—Annual Dinner of the Association.

FRIDAY, SEPTEMBER 3RD, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
1 P.M.—Lunch on the Mountain, given by the Mayor.
2.30 P.M.—Windsor Hall: Address in Public Medicine by Dr. Herman Biggs; Concluding Speeches, etc.
4 P.M.—Excursion down the Lachine Rapids; Garden Parties, etc.
9 P.M.—*Conversazione* at McGill University.

SATURDAY, SEPTEMBER 4TH, 1897.

Excursions to Lake Memphremagog, Saranac, Ottawa, Quebec, etc.

ANNUAL MUSEUM.

THE PATHOLOGICAL MUSEUM.

The Pathological Museum will be established in the Dissecting Room of McGill Medical College, a large, lofty, and well-lighted room. The Secretary of the Pathological Sub-

committee of the Museum Committee is Dr. C. F. Martin, McGill Medical College, Montreal, who will be glad to receive the loan of specimens, drawings, and photographs illustrative of both normal and morbid anatomy, as also any new apparatus for research in physiology, pathology, or bacteriology.

Specimens illustrating diseases peculiar to the remoter portions of the Empire are especially desired. It is proposed to make a special collection of photographs and microphotographs of morbid conditions. These will be suitably mounted and carefully returned to the owners.

Suitable vessels and jars, and spirit and other media will be provided for moist specimens.

FOODS, DRUGS, AND APPLIANCES.

Regulations Regarding Exhibits.

1. Communications on general matters connected with the Museum and applications from intending exhibitors should be addressed to the Honorary Secretaries, Drs. J. W. Stirling or J. M. Jack, 2204, St. Catherine Street (British Medical Association Rooms).

2. Information of the allotment of space will be furnished as promptly as possible, and on receipt of cheque for the cost of such space, a card for the admission of the exhibit will be forwarded.

3. All cheques to be made payable to J. W. Stirling, M.B.

4. All exhibits should be directed to the British Medical Museum, Victoria Skating Rink, Drummond Street, Montreal, Canada, with the name of the Section for which they are intended. Packages must also be addressed to a firm's representative at the Museum.

5. Exhibits must be delivered between August 27th and 28th; they must each bear a card indicating the name and address of the exhibitor; they must be arranged in their allotted space before 2 P.M. on August 28th, and it is desirable that they be not removed till September 6th.

6. Signs or placards must be so arranged as not to interfere with adjacent exhibits: on the central tables no sign or placard must reach higher than 2 feet 6 inches from the table.

7. The Committee will not be responsible for any risks or expenses incurred; they reserve discretionary power to exclude any exhibit they may consider unsuitable; they will only receive exhibits conditionally upon strict compliance with the foregoing regulations, and in all matters of doubt and difficulty their decision shall be final.

8. The Museum Committee or its representatives must be recognised as being in full control of the exhibition building and its management.

Tables occupying the centre of the Hall, and other prominent positions, are to be let by private tender; other tables varying in charges from 4s. to 2s. per square foot. Certain floor space will be let at 1s. per square foot.

BERI-BERI AT RICHMOND LUNATIC ASYLUM.

AT the meeting of the Governors of the Richmond Lunatic Asylum, Dublin, on July 27th, Dr. CONOLLY NORMAN, the Medical Superintendent, stated that there had been 1 death from beri-beri since the last meeting; 124 cases had occurred since the beginning of June. He then read a special report on the outbreak. It set forth that the epidemic of 1896-97 began in the middle of August of the former year, and slowly increased during the autumn and early winter, appearing to attain its maximum about the beginning of December. After that time it decreased rapidly. In the beginning of June, 1897, there were 4 male and 6 female patients still suffering from the symptoms. On June 3rd a female patient was taken ill who had suffered in 1894. Between that date and the end of June 9 cases occurred, all amongst women. Since July 1st 81 cases had occurred amongst female patients and 3 amongst nurses, making, with the June cases, a total of 93. Amongst male patients 30 cases had occurred, making in all a total of 124 cases belonging to the present epidemic. Numerically, the present was the most severe epidemic they had had, but the type of the disease was very mild. There was nothing to lead them to fear a heavy mortality; but the disease was so treacherous that it was difficult to predict its course with any confidence. As to what was to be done, he thought it would be well to remove all the sufferers to a high situation on dry soil, such as might be found in the county of Wicklow. That was the way in which the disease was treated in other countries. Whether it would be possible to find such a place was open to doubt; but some provision should be made at once to put out of occupation a considerable section of the asylum so that it might be disinfected in the most thorough manner. Not until the building should have been thus treated would it be possible to say that the poison did not linger in the woodwork or other portions of the building. If the disease should return the question of the the entire abandonment of the site would arise. The disease was eminently one that attached itself to localities. It had been observed to haunt certain rooms of buildings, and even certain definite portions of wards. Those observations tended to the conclusion that beri-beri spread itself by contamination of the soil of the buildings and other such surroundings.

Dr. O'FARRELL (Inspector) said that during the last two years the death-rate in that asylum had been lower than that of any big asylum in the United Kingdom so far as he was aware.

Dr. NORMAN stated that in 1879 the death-rate of the Richmond Lunatic Asylum was 19 per cent. After the year 1886 it went down in consequence of the sanitary improvements that had been made. In 1888 it was 77 per 1,000. In 1889 it was 79 per 1,000. It rose in 1890, and was down in 1891, and rose again from 1892 to 1894. In 1894, which was the first year in which they had a visitation of beri-beri, it rose to 165.

The LORD MAYOR suggested that they should make further accommodation at Portrane for 100 or 150 patients for the months of August and September. This ought to enable them to have the beri-beri patients isolated in the Richmond. The alarm of the epidemic which at present prevailed in the asylum was altogether exaggerated.

The CHAIRMAN said it was right to reassure the public mind that Dr. Norman was of the same opinion, that there was no necessity for alarm. There was no beri-beri in Dublin outside the asylum.

Dr. O'FARRELL read a joint report made by himself and Dr. Courtney, Inspector to the Asylum. The report stated that in many respects the accommodation was defective, and that such defects could not be remedied until the asylum was remodelled, so as to meet modern requirements, and that such remodelling of the asylum as a whole could not be undertaken until a large portion of the buildings could be given up by the transfer of the patients to Portrane. Richmond Asylum was built to accommodate 1,100 patients. In 1894 and 1895 temporary buildings were erected to accommodate 298. An infectious hospital provided for 26. In 1896 it was decided to build a new residence for the resident medical superintendent, and his old residence was converted into accommodation for 50 patients. Portrane house was occupied by 30 females. In 1897 temporary buildings provided at Portrane accommodated 164. At present further temporary buildings were in course of erection at Portrane which would accommodate 130. That provided accommodation for 1,798. The old hospital accommodation of the asylum was deficient and unsuitable for the treatment of the sick, and they urged on the governors, pending the erection of a permanent hospital building, the necessity for which existed, to establish temporary hospital buildings to accommodate 150 or 200 patients. With a view to the immediate treatment of the cases suffering from the existing epidemic, they suggested that if possible some suitable detached building in an isolated position should be rented where a number of the convalescent patients should be sent. They suggested that the Pigeon House Fort should be rented for that purpose for a few months, as they believed it would be suitable.

On the motion of Mr. BALFOUR, seconded by Alderman KENNEDY, it was resolved to apply to the Board of Control for a new isolated temporary hospital for 150 patients, to be constructed in the grounds of the Richmond Asylum, and that a fresh application be made to the Irish Government for the loan of Grangegorman Prison during the reconstruction of the Richmond Asylum.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, JULY 31ST, 1897.

THE PUBLIC HEALTH (SCOTLAND) BILL.

The Success of the Opposition of the British Medical Association.

This Bill, after a tedious delay full of great anxieties to those most deeply interested in its provisions, was read a third time in the House of Commons on July 28th. It seemed the wish of the Lord Advocate, who had charge of the measure, to limit discussion and to get rid of it as quickly as possible, regardless of the important amendments which had been proposed. That he did not succeed in this seemed to irritate him unduly, and accordingly he made an attack on a member who criticised the Bill at some length, in a way happily not often experienced in Parliament.

The discussion of most interest to medical officers of health referred to Clauses 15, 22, 36, and 45, and in the end certain amendments were carried which materially improved the positions of those officials. By the amendments made on clause 15 it will now be possible to regulate the duties and position of sanitary officials, notwithstanding the provisions of certain clauses in the Burgh Police Act. In the discussion the Lord Advocate was thrown into a state of considerable alarm and excitement at the proposal to appoint the medical officer of health to superintend and enforce the provisions of the Public Health Acts. This, he stated, was putting the medical officer over the local authority, making him master whereas he was only servant. The complexion of the proposal, however, was changed when it was pointed out that in the Burgh Police Act, however incredible it may appear, the sanitary inspector is appointed to superintend and enforce the provisions of the Public Health Acts. The importance of the concession which enables local authorities to regulate the duties of their officials as they think fit will now be apparent.

In the Bill as it left the Grand Committee on Law the rights, powers, and duties of existing officials were to be the same as formerly, but another amendment secures that the regulations are to extend to existing officials. Clause 22 has been considerably improved. It will be remembered that an amendment was carried in the Committee on Law whereby the sanitary inspector was empowered to grant certificates on matters dangerous to health. It is important that the exact words of the clause should be given, as no part of the Bill called forth more indignation than this, and it aroused the whole medical profession in a manner which was most gratifying to their brethren in the public health service. The clause was as follows: "In any case where the existence of a nuisance is ascertained to their satisfaction by the local authority, or is certified to them in writing signed by the medical officer or by the sanitary inspector" .... "the local authority may. . . ." The amendment arranged by Sir William Priestley and the Lord Advocate removes all reference to the two officials and leaves it to the discretion of the local authority, on whose report or certificate legal action is to be taken, as in the corresponding section in the English Public Health Act. This is infinitely preferable to the objectionable clause as it stood, and to the amendment which the Lord Advocate suggested. This amendment provided that a local authority might take legal action "upon a certificate by the medical officer or after a report by the sanitary inspector or otherwise." It is difficult to see any concession in this, but rather the reverse, as it implied that a sanitary inspector's report was to rank with the medical officer's certificate. If the wording had been reversed one could have seen a concession, and the proper corollary to a sanitary inspector's report would have been the medical officer's certificate in those cases where he was of opinion that the matters complained of were dangerous or injurious to health, and ought to be dealt with before a sheriff or magistrate.

In Clause 45 it was contemplated to authorise a sanitary inspector to visit houses where there was reason to believe infectious disease existed. This has been altered, and now the sanitary inspector has no legal authority to enter houses where infectious diseases exist. In the present frame of mind of the Scottish sanitary inspectors doubtless there will be more heard of this, and attempts will be made to absolve them from all duties in connection with visiting houses where infectious cases exist, removing cases to hospital, and disinfecting the rooms, etc., afterwards. This question, however, will be capable of solution by the framing of suitable regulations under Clause 15.

At the time of writing the Bill has not entirely passed; it has to go to the Lords, and the session is nearly at the end; whether it will become law this session must therefore be regarded as doubtful. It may be that again will the Scottish medical officers of health have to appeal to their brethren for help and support against even more adverse circumstances than were found in the present Bill. Covert hints have been dropped in influential quarters that the present attempt to subordinate and reduce the medical element in sanitary administration is to be followed up by an open attack to undermine the position of the medical officer of health, and to elevate the sanitary inspector. To be forewarned is to be forearmed, and any Government which attempts this will have to deal with a definite, coherent, homogenous opposition, which the British Medical Association can, and doubtless will, undertake with at least the same success as rewarded the efforts of the Parliamentary Bills Committee on the present occasion. Warm thanks are due to Sir William Priestley for the very valuable aid which he has given in this matter, and, indeed, throughout his short parliamentary career in all matters affecting the sanitary welfare of the public and the just interests of the medical profession. Thanks are due, likewise, to Sir Walter Foster and Dr. Farquharson, who gave most valuable assistance from the other side of the House. Of course the chief labour has fallen, in conjunction with the

Chairman of the Parliamentary Bills Committee, upon the Association of Medical Officers of Health of Scotland, in the opposition which they succeeded in organising for the purpose of bringing pressure to bear on the Government and the House of Commons. In this matter Dr. Campbell Munro and Dr. Nasmyth may be especially thanked and congratulated on their arduous and successful labours. The whole matter is a lesson on the good results which may follow upon effective organisation and energy on the part of the medical profession where their public interests are unjustly threatened.

THE BACTERIOLOGY OF YELLOW FEVER.

A TRANSLATION of Dr. Sanarelli's lecture describing the results of his researches into the etiology and pathogeny of yellow fever was published in the BRITISH MEDICAL JOURNAL of July 23rd, 1897; and quite recently an abstract of a memoir on some experimental and anatomical researches on yellow fever, by Dr. W. Havelburg, of Rio de Janeiro, has been published in the *Annales de l'Institut Pasteur*.

At first Dr. Havelburg studied only the various organs such as the liver, the kidney, spleen, mesenteric glands, the walls of the gall bladder, the blood and the bile. With portions of these he made cultures in gelatine, but in the first case examined the whole of his cultures remained sterile. In other cases he was able to find single organisms, sometimes in one organ sometimes in another, but always very few in number. These he has also been able to find in the stomach and intestines, and in the "black vomit." He has found the same organism to be pathogenic to guinea-pigs, with a certain constancy in all the cases he has examined, especially in grave cases. He states that it was almost the sole organism found in the blood contained in the stomach from these cases. He was successful in obtaining pure cultures of this organism by passage through guinea-pigs, and it was then suggested to him by M. Roux that even in the absence of the micro-organism it might be possible to find toxic products in the blood of yellow-fever patients. In order to test this he injected 10 c.cm. of blood, taken from a patient who was extremely ill, into the peritoneal cavity of a guinea-pig. There was slight elevation of temperature, and in five days the animal lost 60 grammes, and then began to recover. He therefore came to the conclusion that there was no specific poison in the blood in this case, but on repeating the experiment with three or four times this quantity of blood the animals died on the fourth day, if the patient from whom the blood was obtained was extremely ill; when the patient was not very ill the guinea-pigs recovered. When, however, 1 to 2 c.cm. of the contents of the stomach of a patient who had succumbed to yellow fever were injected under the skin of a guinea-pig the animal died, and a pure culture of an organism, which Havelburg considers to be specific, was found in the blood. This experiment was repeated twenty-one times, and did not fail in any instance. Animals injected with the contents of stomachs of two patients who had died from another disease in both cases gave a negative result. Injections of small quantities of the contents of the stomach, either bloody or catarrho-bilious, was followed by death in from eight to twenty-four hours, and in one case in five hours, the bacillus being then found in pure culture in the blood of the heart in abundance.

The micro-organism is an exceedingly small straight bacillus, 1μ in length and from 0.3 to 0.5μ in breadth; it may be single or in pairs. It does not occur in threads in any of the media on which it was grown. The ends of the bacillus stained more deeply than the centre, so that it resembled somewhat the bacillus of fowl cholera, and might even look like a diplococcus. Havelburg has not succeeded in staining the cilia, although Sanarelli's organism is undoubtedly ciliated; and he believes that movements he observed are merely Brownian. The organism contains no spores. In gelatine plates the organism is visible at the end of twenty-four hours as a white point, which increases in size during the next twenty-four or forty-eight hours; the gelatine is not liquefied. These colonies, whether small or large, present a yellowish disc, finely granular, with a delicately serrated border.

In the depth of the stab culture the micro-organism grows as a fine thread of white grains forming a white, thick, raised nail-head growth on the surface. The growth on agar does not appear to be specially characteristic, as in the case of Sanarelli's organism. It caused broth to become cloudy, set up rapid fermentation of sugar, and in agar containing milk, sugar, or glucose there was production of gas. It grew as a greyish layer on potato and curdled milk at the end of twenty-four hours. It produced large quantities of indol and set free sulphuretted hydrogen. It grew extremely well in acid media. The organism is a facultative anëarobe and grew freely in hydrogen, and then appeared to be more virulent than when grown aërobically. The guinea-pig could be infected by this organism both hypodermically and intra-peritoneally. Mice were also susceptible, rats far less so, whilst fowls appeared to have a perfect immunity. The contents of the stomach when injected under the skin of a dog gave rise only to the formation of a local abscess, but 5 c.cm. of a culture when injected into the peritoneal cavity caused death in two days, the symptoms being those of an intoxication. This bacillus rapidly loses its virulence.

Dr. Havelburg did not succeed in obtaining any toxin separable from the body of the bacillus itself, in this respect differing very materially from Dr. Sanarelli; and it will also be observed that the comparative virulence in different animals differed very markedly from that given by Sanarelli. Dr. Havelburg concludes that "yellow fever is a disease of which the specific toxic agent enters the stomach where, and in the intestines, it develops; it is only exceptionally that it makes it way from these positions to other organs, and then in small numbers." He argues that the toxic substances formed in the stomach and intestine are probably the result of the breaking down of the bodies of the bacilli by the digestive juices, and that it is to the absorption of the poison so formed that the various alterations in the tissues and death are brought about. He maintains that it is essentially analogous to Asiatic cholera.

It is evident that Sanarelli and Havelburg cannot both be right, and it is, perhaps, as well that the points at issue should be put to the test at once. The differences between the two observers are not merely those of detail, there is a fundamental disagreement on almost every important point, so far, at any rate, as the descriptions at hand enable us to form any opinion. One finds the organism in the stomach, and considers that this is its habitat; the other finds it only under certain conditions in the stomach, when there has

been a possibility of its escaping from the tissues. One holds that it is a visceral parasite, the other that it is a tissue parasite. One holds that certain animals are immune, the other that these same animals are readily infected. One holds that toxins similar to those produced in diphtheria cultures can be obtained in considerable quantities, and that these, when injected, give rise to very definite lesions; the other maintains that the poisons are bound up in the substance of the bacillus, and that they can only be separated by means of the action of the gastric juice, and so on through a whole series of essential differences. It may be stated that anyone who reads Havelburg's paper will insensibly arrive at the conclusion in the first instance, in spite of certain appearances and properties described, that Havelburg was dealing with the bacillus coli, but Havelburg himself points out certain very marked differences, and he places it much more near the bacilli of hæmorrhagic septicæmias, to which he says it has certain points of resemblance.

We hope that the authorities of the Pasteur Institute, who appear to have cultures of both these bacilli, will make public an impartial description of the two organisms, which, they say, at first sight certainly appear to be different.

THE NEW UNIVERSITY OF LONDON BILL.

THE new University of London Bill, which was read a third time in the House of Lords on July 27th, if it does not fulfil all aspirations, succeeds in meeting many objections. It is accepted by the Chairman of Convocation, who is named as one of the Commissioners for carrying the provisions of the scheme into effect, and by Messrs. T. B. Napier and J. B. Benson, as representatives of the Gresham Amendment Committee, which was an active opponent of preceding schemes. King's College and other denominational institutions, as well as those who objected to the compromise embodied in the Bill of last year are believed also to be satisfied. The opposition is thus reduced to small proportions. Unfortunately it would appear that Mr. Fletcher Moulton and his friends remain unreconciled, and their opposition may be sufficient, at this late period of the session, to prevent the Bill passing through the House of Commons.

The Duke of Devonshire described the new Bill as substantially the same as the Bill which passed the House of Lords last year, and the modifications which have been introduced do not very greatly affect the interests of the medical colleges and schools. The scheme would practically create a dual university with one supreme governing Senate, possessing full executive powers. There would be two classes of students—internal and external. Internal students would be matriculated students of the University pursuing a course of study approved by the University in a school or schools of the University, *or* under one or more of the recognised teachers of the University. In all matters touching the interests of internal students the Senate would be advised by an Academic Council of twenty, consisting, as will be seen from the analysis of the Bill published at page 82, of the members of the Senate elected by the Faculties (16), the *ex-officio* members (Chancellor, Vice-Chancellor, and Chairman of Convocation) and a senator selected by the Senate.

The Academic Council would therefore be the body in the new University which would be brought into most intimate relation with medical education in London. In it is embodied the idea of a teaching university. Practically it would be chosen by the teachers, for the faculties would consist (1) of the professors and other teachers appointed by the University; (2) of members of the staff of educational institutions within thirty miles of London recognised as University teachers, and admitted to the Faculty by the Senate; and (3) of the examiners of the University. The Medical Faculty would, therefore, consist, at first at least, of the examiners and of the teachers of the medical schools in London, or such of their teachers as the Senate may consider it desirable to admit to the Faculty. This would doubtless include all teachers holding the position of professor or lecturer in the medical schools, for the Bill instructs the Statutory Commission to secure (Schedule, Part II, 2) the recognition as teachers of the University of duly qualified teachers and lecturers, giving instruction of a University type in public educational institutions situate within thirty miles of London. Subsequently, if professors, lecturers, or readers were appointed by the University itself, they would also be members of the Faculty. The Medical Faculty would elect four members of the Academic Council, but there would also be a Board of Studies for Medicine appointed from the teachers and examiners in medical subjects, and the Senate and the Academic Council would in practice be guided in the main, no doubt, by its recommendations.

The interests of external students would be entrusted to a Council for external students. It would consist of the members of the Senate elected by Convocation (16), the *ex-officio* members (3), and 9 senators chosen by the Senate. The degrees conferred on internal and external students are to represent the same standard of knowledge and attainments, but the examinations would be separate. The task of maintaining an identical standard will not be easy, but it will be facilitated by the proviso that at least one of the examiners in every subject shall not be a teacher of the University.

The main points of difference between this and the previous scheme is the larger share of direct power in the hands of the Senate, and the increased representation of Convocation (one-third instead of one-fourth as at present) on that body. The Senate would consist of the Chancellor (elected by Convocation), the Chairman of Convocation, and sixteen members elected by Convocation, sixteen members elected by the Faculties, two each by the Royal Colleges of Physicians and Surgeons, two each by University and King's College, six by legal institutions (four by the Inns of Court and two by the Incorporated Law Society), two by the London County Council, one by the Corporation of London, and five nominated by the Crown—fifty-six in all, including the Chancellor.

So far as can be judged at present the representation of Medicine and of the medical schools of London on the Senate under the scheme is not likely to exceed one-fifth. No representation is accorded to the Apothecaries' Society, but the two Colleges of Physicians and Surgeons would elect four members of the Senate. The medical graduates, members of Convocation, would elect certain representatives, but the number is not fixed, and would certainly not exceed four, and might be only three. So with the Medical Faculty consisting of the teachers and examiners; the number

which it would elect to the Senate is not fixed, but it would probably be three or four. The total representation of medicine in the Senate of fifty-six cannot be expected to be more than twelve, and might very well be only ten.

The task of framing the new statutes and regulations is entrusted by the Bill to a Commission which will be generally recognised as strong and representative. The chairman will be Lord Davey, who for many years before he became a Lord of Appeal was the acknowledged leader of the Chancery bar. Surgery and medicine find well-qualified representatives in Lord Lister and Sir William Roberts. The Bishop of London and Professor Jebb will bring to the services of the Commission the traditions of the older universities and a wide experience of practical affairs. Sir Owen Roberts is specially acquainted with matters affecting technical education, while Mr. Busk as Chairman of Convocation will represent the interests of existing graduates. The decisions of this Commission are guarded with perhaps an excess of precaution. In the first place they are required to take into consideration any representation made to them (1) by the Senate, (2) by Convocation, (3) by any fifty graduates of the University, or (4) by any body or person affected. The statutes and regulations when framed must be published in the *Gazette* and laid before Parliament. Either House of Parliament may within forty days object to any statute or regulation, which shall then not be proceeded with. Further, the Senate or Convocation, or any person or body directly affected may petition the Queen in Council, and the petition may then be referred to a Committee of the Privy Council, which shall hear evidence, and the statutes and regulations will only be valid when approved by the Queen in Council. Ample opportunity is thus afforded to every interest to make itself heard before the new constitution is fixed. Lastly, no alteration could in the future be made by the Senate of the new University when constituted without passing through a similar ordeal and without consultation with Convocation.

How far will the University of London if reconstituted on these lines obviate the disadvantages under which medical students at London schools are acknowledged to labour as compared with those educated at other centres? It is impossible to say, but it may be conjectured that the burden of the examination in preliminary science will in the event be lightened, not necessarily by lowering its standard as a test of real knowledge, but by bringing it into closer touch with the best teaching, by decreasing the temptation to cram, and by rendering the regulations more elastic. As has been abundantly proved, and has been again and again pointed out in these columns, it is this examination, and to a less extent the matriculation examination, which have been the great stumbling blocks. The latter might easily be made a better test of ability, but to a lad who has been properly prepared, it never presented any real difficulty. The trouble has been that the majority of schoolmasters knew little or nothing about the requirements, and that parents have not understood the importance of putting their sons into the way to obtain a university degree in medicine. It seems to be clear that the curriculum of the average London student who seeks a medical degree from the University of London under any new regulations which are likely to be drawn up will be not less than six years—one for the preliminary sciences, and five for the medical curriculum.

THE President of the Local Government Board is about to appoint a Departmental Committee to inquire concerning the disposal of the sewage of large towns and cities.

Mr. FORTESCUE FLANNERY, M.P., has announced his intention to move on a day not yet fixed; "That in the opinion of the House it is desirable that a department of Public Health be constituted, and that the same be under the charge of a responsible Minister having a seat in Parliament."

THE select committee appointed to inquire into the subject of burial grounds provided by local authorities, and the select committee to inquire into the sufficiency of the law relating to the keeping, selling, using, and conveying of petroleum, etc., have each reported that they are unable to conclude their investigation this session, and recommend the appointment of a similar committee next session.

BY the election of Professor Virchow as a Foreign Associate of the Académie des Sciences of France the list of those who now hold this distinguished honour is as follows: Lord Kelvin, Baron Bunsen of Heidelberg, Lord Lister, Baron Nordenskjold, Professor Weierstrasse, and Sir Edward Frankland, K.C.B.

POST-GRADUATE CLASSES IN EDINBURGH.

ARRANGEMENTS have been made in Edinburgh for a series of post-graduate courses to commence simultaneously about September 27th. Full particulars can be obtained from the Honorary Secretary, Post-graduate Courses, Surgeons' Hall, Edinburgh. The courses which have been arranged include Anatomy (Medical and Surgical), Bacteriology, Neurology, Dermatology, Modern Methods for the Diagnosis and Treatment of Diseases of the Stomach, Diseases of the Chest, of Children, of the Ear, Throat, and Nose, Electricity in Medicine, Gynæcology, Infectious Diseases, Ophthalmology, Ophthalmoscopy, Pathology, Practical Sanitation, Surgery, Clinical, Practical, and Operative, and Minor Surgery in Children.

MIXED BOARDS.

WE learn that at Aldershot, the first military station in this country, with H.R.H. the Duke of Connaught in Command, the recent army order on mixed boards is carried out in a liberal and rational spirit. Not only are medical officers appointed members of such boards, but on two occasions lately medical officers presided over a mixed board and a court of inquiry when there were medical questions of importance to be dealt with. We trust the enlightened administration of a royal duke will broaden the views of less exalted officers in command; and have much pleasure in making known the above facts.

CREMATION AT THE HAIRDRESSERS.

THE unfortunate occurrence of the death of a lady by burning resulting from the ignition of petroleum hairwash at a fashionable hairdresser's affords abundant material for reflection. The custom of using petroleum preparations for the hair originated some years ago, but the majority of the best West-End hairdressers state emphatically that they have never employed them, and that they have persistently declined to do so, even at the request of their customers. How the particular preparation which was being used on this occasion ignited is an open question, but it must be remembered that the more volatile kinds of petroleum give off inflammable vapours, even at ordinary temperatures, and that these vapours when mixed with air form explosive mixtures. That the ignition could have resulted from the heat of the sun on the skylight we can hardly believe, whilst we reject unhesitatingly the theory that the mere fact of tying up the hair could have generated such an amount of "human elec-

tricity" as to produce the result. It is well known that this is not an isolated case, for not long ago a lady who had been using a petroleum hairwash set herself on fire and was burnt to death from striking a match to light a cigarette. It is probable that some restriction will be placed on the sale and use of these explosive preparations. We recently published a report on the composition of face powders and other cosmetics, which showed conclusively that too little care is taken in the concoction of these compounds. It is abundantly clear that before long steps will have to be taken to check the vagaries of irresponsible hairdressers.

CARBOLIC ACID AS A POISON.

IN a communication addressed by Mr. Ernest Hart, Chairman of the Parliamentary Bills Committee to the Lord President of the Privy Council on July 1st, attention was called to the fact that the *Dublin Gazette* of June 18th contained an order from the Privy Council providing that, in accordance with a resolution passed by the Royal College of Physicians in Ireland, carbolic acid should be deemed poison in accordance with the provisions of the "Act to Regulate the Sale of Poisons in Ireland," and stated that the Parliamentary Bills Committee would be glad to learn whether they might anticipate a similar provision being shortly made in respect to England and Scotland. A reply has been received to this communication to the effect that a Bill dealing with the subject is at present under the consideration of the Government, and that pending its introduction in Parliament it is not proposed to include carbolic acid in the schedule to the Pharmacy Act, 1868.

THE INFANT LIFE PROTECTION BILL.

THE Infant Life Protection Bill has now passed both Houses of Parliament. In the course of the discussion of the Bill before the Committee we were glad to note that Sir William Priestley raised the question of making the Bill applicable to houses in which a single child was received for hire or reward. The point, of course, is a very controversial one; nevertheless we have consistently contended that unless the Bill is amended in this particular its value would be very seriously diminished. The experience of the working of the Act at present in force, which the Bill is designed to supersede, has undeniably proved that a grievous mistake was made by allowing baby-farmers to receive one child without having to submit to legal interference. However, despite this blemish, there can be no question that the Infant Life Protection Bill now before the House of Commons is a vast improvement upon the present Act. Upon these grounds, then, it would have been clearly inexpedient and impolitic to try and enforce upon the House of Commons an amendment to the Bill which from the opposition which it would raise would be calculated seriously to imperil its progress. No doubt these facts were in Sir William Priestley's mind when he discussed the Bill before the Committee above mentioned, and in declining to press his contention respecting the application of the Bill to houses in which only one child was kept he adopted a wise and tactful course which deserves full commendation.

THE ARMY MEDICAL STAFF IN PARLIAMENT.

CAPTAIN CECIL NORTON'S help in the House of Commons to elicit information on army medical affairs has been invaluable. He put two questions to the Under Secretary of State for War on July 23rd, the first inquired whether the rumour were true that the War Office has been exerting pressure, owing to the paucity of medical officers, to obtain students as volunteers to form an ambulance corps for service in the Soudan; and the second as to the number of candidates forthcoming for the next Army Medical Staff examination. Mr. Brodrick's reply to the first question is neither clear nor comprehensive. The rumour is undeniably current that the War Office has been in motion to obtain students (chiefly 3 years' men) for ambulance service in Egypt during the proposed expedition to the Soudan. Mr. Brodrick's reply that "no force is being prepared in this country for service in the Soudan," does not deny that an element of truth underlies the report that the War Office has been touting (whether successfully is not stated) in the civil hospitals and schools for candidates. In reference to the Under Secretary of War's reply to the second question as to the candidates forthcoming, namely, 27, for the next examination, we must bear in mind that although the number given differs from that stated by us in the BRITISH MEDICAL JOURNAL of July 24th, still the date up to which applications from candidates were to be received was July 22nd. Thus we may now say definitely that 27 candidates have offered themselves for 36 vacancies. Deduct men who are not likely to obtain qualifying marks, and those physically unfit, and we are forced to admit that the state of the Army Medical Service is now as unpromising as it was many months ago. Will the War Office never learn that the present position of the medical department is a national danger, irrespective of the immediate disadvantage to the Army at large? Will Lord Lansdowne not show his power to carry out the remedial measures we have times out of number indicated, or is the prejudice of "my military advisers" to be a permanent hindrance to the medical staff being placed on a satisfactory basis?

INTERNATIONAL MEDICAL CONGRESS, MOSCOW.

THE Executive Committee wishes to make known the fact that the free railway passes from the Russian frontier to Moscow and back will be available from August 1st only, and not from July 1st as originally stated. The committee also requests that immediate application, accompanied by a statement of the frontier town by which the member intends to enter and leave Russia should be made by all requiring these tickets. The route selected must be a direct one from the frontier, thus St. Petersburg cannot be taken on the way except by extra payment, although this town is considered a frontier town for those who enter and leave Russia by it. The English Committee has nominated its president, Sir W. MacCormac, Bart., President of the Royal College of Surgeons of England, to represent the English contingent of the medical profession at the audience to be given by the Czar at the Peterhof on August 16th.

THE CONGRESS OF THE SANITARY INSTITUTE.

THE sixteenth Congress of the Sanitary Institute will be held at Leeds, under the presidency of Dr. Robert Farquharson, M.P., from September 14th to 18th. There will be three sections, which will each meet on two days. The Section of Sanitary Science and Preventive Medicine will be presided over by Mr. T. Pridgin Teale, F.R.S.; that of Engineering and Architecture by Mr. Lewis Angell, M.Inst.C.E., F.R.I.B.A.; and that of Chemistry, Meteorology, and Geology by Mr. William Whitaker, F.R.S. Six special conferences will also be held; Major Lamerock Flower will be President of that on River Pollution; Council Womersley will preside over a conference of municipal representatives; Dr. Edward Seaton over a conference of medical officers of health; Mr. Thomas Hewsen, M.Inst.C.E., over a conference of municipal and county engineers; and Mr. Peter Fyfe, F.R.S.E., over a conference of sanitary inspectors. There will also be a conference on domestic hygiene. In connection with the Congress an exhibition of apparatus and appliances relating to health and domestic use will be held. Over 300 authorities, including several county councils, have appointed delegates to the Congress, and as the number of Members and Associates of the Institute now number over 2,000, a full attendance at the Congress is anticipated. The local arrangements are in the hands of an influential Committee, of which the Lord Mayor of Leeds is Chairman, and Dr. Spottiswoode Cameron, Dr. A. E. Pearson, and Mr. W. Spinks, Assoc.M.Inst.C.E., are Secretaries. Excursions to

places presenting special points of sanitary interest will he arranged. There is every reason to expect that the Congress, under its able and popular President, Dr. Farquharson, will be most successful.

CHAIR OF MATERIA MEDICA IN GLASGOW UNIVERSITY.

From several communications which have reached us it would appear that the views expressed by a correspondent last week as to the appointment to the vacant Chair of Materia Medica at Glasgow are not shared by many members of the profession. The note, which was published as received by us, purported to reflect an opinion held by some as to the desirability of giving special recognition to local claims in making such appointments. On the other hand, it appears that a strong opinion is entertained by many that local claims should not be given undue weight, and that in filling up University chairs regard should be had solely to the scientific attainments of the available candidates. It was not our intention to express any opinion as to the merits of those whose names have, we find, been mentioned for the appointment.

PAUPER NURSING AND MANSLAUGHTER.

The verdict of manslaughter against a pauper nurse which was found by a Dublin jury after hearing the evidence concerning the death of an infant in the South Dublin Union, as noted elsewhere, ought to lead to a searching inquiry. The cause of death as revealed by the *post-mortem* examination was starvation. The so-called nurse was an aged pauper, and this unhappy woman is now awaiting the next stage in the tragedy; but it is the system and not the agent which should be put on its trial. It is to be hoped also that the Local Government Board in Ireland will devote some attention to the dietary for infants for which one of the witnesses declared that body to be responsible. Perhaps also they will consider whether lay inspectors are the proper persons to inquire into and report upon the management of workhouses and workhouse infirmaries. Such an arrangement is laughable in these days, but it is also responsible for much of the wretchedness which our Commissioner found, and which, in spite of ill-mannered denials, is gradually forcing itself on public attention.

NEW BATHS AT HARROGATE.

The Royal Baths at Harrogate which have been recently erected were opened by the Duke of Cambridge on July 23rd. The foundation stone of the building was laid in July, 1894, the old Montpellier Baths being removed in October, 1895, to allow of the completion of the new building. The public parts of the baths are all with a trifling exception, on one level, and consist of central hall or pump room, gentlemen's baths, ladies' bath, Turkish bath, general rooms, and winter garden. The comfort and convenience of visitors have been considered in every way, and the result is a handsome building, almost unique in this country. The "local douche" room is so arranged that, without undressing, a limb may be douched by thrusting it through a screen which protects the rest of the person. The doors of the dressing halls are wide enough for the passage of a bath chair, so that invalids may be conveyed into the rooms without having to walk. The separate bath and dressing rooms are all 15 feet high and well ventilated. Douches, needle baths, and the Harrogate combination bath are found in the gentlemen's and ladies' departments; in the latter also are "crane" and "well" baths. The "well" is a deep bath in which a person may stand or sit immersed to the neck; the "crane" bath is similar, but is so arranged that an invalid may be taken direct from a bath chair, seated in a chair attached to a hydraulic lift, and lowered into the bath. In the "Turkish" bath the "hot" rooms are three in number, of gradually-ascending temperature. The air is drawn from the gardens, and heated in a Crumblehulme's apparatus in the basement. The shampooing room is fitted with marble shampooing slabs. In the inhalation room a sulphur water fountain fills the room with a slight vapour that can be inhaled while sitting about the room, reading or writing, one's clothing being protected by a peignoir. The pulverisation room is fitted with delicate instruments used for applying waters in a pulverised state to throat, eyes, nose, or ears. The whole establishment with the land has cost considerably over £100,000, and the Wells and Baths Committee of the Corporation seem to have endeavoured to make the baths second to none in the world. A large number of medical men were invited to the ceremony, most of whom were able to attend. Dr. and Mrs. A. S. Myrtle held a crowded reception in the Winter Garden on the evening of July 23rd, which was attended by some hundreds of guests. The baths and gardens were decorated and brilliantly illuminated, and the band of the Royal Horse Guards, conducted by Mr. Charles Godfrey, supplied the music. On the following day the Harrogate Medical Society gave a picnic to their many guests at Fountains Abbey.

"X" RAYS AND THEIR PHYSIOLOGICAL EFFECTS.

The further investigation is carried into the vital effects of Roentgen rays, the more obscure and less defined these effects seem to be. It cannot be doubted that under certain conditions and in particular tissues the rays have decided activity. The long list of cases collected by Dr. Walsh is ample evidence of this fact, but when it is attempted to obtain individual instances of this action for experimental purposes, or to obtain similar effects under conditions that can be conveniently reproduced, none but negative results have so far been obtained. Thus Sahazés and Rivière find that the rays are absolutely without action on the growth and pigmentation of micro-bacillus prodigiosus, even when the bacilli were exposed to their influence for twenty days. In like manner the leucocytes of the blood of a living frog were not affected in any way, nor was their phagocytic action perceptibly modified in any way. It has been stated that the Roentgen rays have affected the heart when patients have been exposed to their influence. The authors find, however, that when the living heart of a frog is placed under an intense source of the rays the rhythm is in no way affected, even when the experiment is prolonged for more than an hour. With regard to the effects that have been described—for instance, the production of inflammation of the skin as in Dr. Crocker's case published in the British Medical Journal last January—Professor W. Crookes believes that these effects are largely due to personal idiosyncrasy. What the determining element is cannot at present be defined. That the effect is not constant is evident, for those who have worked longest at the rays have in many cases been absolutely unharmed, while in other cases one exposure is sufficient to produce a violent reaction. It is evident that even with the facts already known, vague and uncorrelated as they are, there is great promise of definite physiological effects being discovered. At present the whole position might be described in the words of a well-known physiologist as consisting of "guesses and gaps."

"X" RAYS AND TUBERCULOSIS.

Mr. Sydney Rowland writes to us: The outcome of some experiments recently communicated to the Paris Académie de Médecine by M. Gariel, on the effect of Roentgen rays on pulmonary tuberculosis, does not seem to be more encouraging than other similar attempts. MM. Bergonié and Mongour, of Bordeaux, subjected five patients to the action of the rays. In two cases of acute phthisis there was absolutely no effect. Three cases of chronic pulmonary tuberculosis gave, it is stated, the first a negative result, the second an immediate improvement of the general condition with no change in the local state, and the third an improvement in both the local and general conditions f

a month and a half, followed by a further advance of the malady. There are already several cases recorded in which it has been sought to determine a bactericidal action of the *x* rays, and in none of them has positive effect been observed. That the rays do, however, exert a definite influence on living tissue is beyond dispute. Possibly, when some observer has succeeded in isolating the particular radiations to which these effects are due, some advance may be made in this direction. At present, considering the complexity of the *x* rays, it is quite possible that the specific effect, if it exists, has been overlooked. The well-known difficulty of getting a given tube to emit consecutively the same radiations renders this all the more probable.

A PRACTICAL EXPERIMENT IN DISINFECTION.

DR. WYATT JOHNSTON, Bacteriologist to the Board of Health of the Province of Quebec, has been commissioned to make a large number of experiments with a view of determining the degree of disinfection obtained by the methods as actually carried out in routine house disinfection in the province. The special object of the inquiry is to ascertain the relative value of gaseous disinfectants. The method of inquiry consists in sending outfits, with directions for their use, in cases of disinfection. The outfits consist of pure cultures of suitable bacteria, spread on smooth surfaces, and enclosed in small porous packets. These are suitable for testing the degree of disinfection by sulphur and other gases, as well as by steam or dry heat, but are not intended for testing disinfectant solutions. Each packet is marked by a distinctive colour, and with them directions are sent how they are to be used. These packets are then sent back and examined culturally. In this way it is expected that valuable results will be obtained. The investigation is all the more important inasmuch as it will investigate the efficiency of the ordinary and routine methods in use.

PROPOSED HOSPITAL FOR SOUTH LONDON.

THE Vestries of Lambeth, Camberwell, and Battersea have received a letter from Messrs. Busk and Mellor, solicitors, stating that one of their clients (who does not wish his name to appear in the matter) is prepared to contribute to the provision of a large general hospital the sum of £10,000, upon condition that the site of the said hospital shall be in either of the parishes of Lambeth, Camberwell, or Battersea, that the contract for the erection of such hospital shall be entered into not later than August, 1899, and that no medical school shall at any time be formed or carried on in connection with such hospital. The letter adds that their client's idea is that the control and administration of such hospital shall be vested in the three parishes referred to, and that the funds shall be invested in the names of (say) nine trustees, three to be chosen by each parish. The letter will be discussed at the next meeting of the vestries concerned.

DUAL NOTIFICATION AGAIN.

A CASE of considerable importance to medical men, and especially so to those having consulting practices, has lately been decided in the Stonehouse County Court before Judge Edge. It would seem that the Town Council of Devonport had contended that Dr. Clay, of that town, having been "called in" by a medical attendant on certain patients ill of infectious disease, was not entitled to be paid any fees in respect of his notification of such cases because they had already been certified by the medical attendant. The strongest argument on the part of the Town Council lay in absence of any good gained by a second notification of one and the same case of sickness, such not being required by the Act. The judge, fully sympathising with the position thus taken by the defendant body, reserved judgment, but later gave a verdict for the plaintiff, stating that the Act directly laid on every medical man called in to visit a patient the specific duty of notifying, and that no option was given in the matter. On the head of unnecessary double notification by different medical men the judge pointed out that the Act expressly laid an obligation on the part of the householder as well as the medical attendant to notify cases, and hence the defendant's argument did not hold. The ruling seems without doubt to be on the lines of the statute itself, however faulty the enactment may be; and the Town Council seem determined to use the decision as a means of obtaining an amendment of the law; but the matter is one of no little difficulty. It is not hard to imagine many circumstances in which notification by a consulting practitioner will be of the utmost importance, and some clear and definite exceptions to any proposed sweeping amendment will no doubt have to be made. The statute in question is bristling with points which need careful and speedy legislative attention.

SUB-EDITING BY HEALTH COMMITTEES.

WHEN the annual and special reports of medical officers of health cease to be the free, untrammelled, and outspoken utterances of the writers, the sanitary progress of the country will receive a serious check. This is a general axiom, since it cannot be questioned that the annual and other productions of health officers would often not lose any of their value by careful and discriminate revision and excision. But that the needed work should be done by the health committee of the local authority most interested in the document we very much doubt. Indeed, the revision should not be done by the members of a council, but if, in any general direction, the authority deem that an alteration in the method or the like would be an improvement, they should approach their officer and secure his co-operation. So soon as matters of principle become involved or considerations of expenditure lead to a desire to expunge reference to sanitary improvements or the necessity for any measures which will involve burdens on the rates—when, in fact, the pockets of the ratepayers are made to conflict with vital considerations affecting the public health—then the onus of inaction should rest upon the "health body" with the facts before them, and not with the health officer by implication. We feel impelled to these remarks by the circumstance that it has come to our knowledge that in certain quarters health officers are smarting under a sense of injustice in this matter. A faithful discharge of duty by a health officer will be found to be the most economical method of procedure in a sanitary district, and the "burking" of unpleasant references and recommendations by no means the money-saving policy which apparently it is sometimes thought to be.

MEDICAL ASPECTS OF LIFE ASSURANCE.

WE referred some time ago to a paper read by Dr. Leslie Ogilvie before the Actuarial Society of Edinburgh. This, together with another communication read before the Insurance Institute of Ireland has been published as a pamphlet. Dr. Ogilvie very rightly insists on the value of general observations of the proposer without decrying the supreme value of a careful physical examination. The case he urges should be investigated from five points of view: (1) The personal history: (2) the family history; (3) the physical condition as ascertained by careful medical examination; (4) the personal appearance; and (5) the environment, including habits and mode of life. In order to record rapidly the salient features of assurance cases Dr. Ogilvie has constructed a table in which he assigns certain values to the different headings. Thus personal history, family history, and personal appearance are each credited with 20 per cent., to physical examination 30 per cent. is assigned, and to environment 10 per cent. Exception might certainly be taken to some of these figures, for instance to environment, including as it does, according to Dr. Ogilvie, habits, should be allotted a greater influence as one of the most important factors in life assurance is the question of temperance. With some modification, however, such a table will be useful in correcting a hasty judgment

by bringing into review the various circumstances which bear upon life assurance. In discussing the influence of heredity on life assurance, Dr. Ogilvie asks the crucial question, "Do we, or do we not, inherit enfeebled or robust constitutions from our ancestors?" To this he answers emphatically Yes, and as a consequence insists upon the importance of family history in life assurance, giving it an equal value with personal history. In regard to personal history, Dr. Ogilvie makes some useful remarks bearing upon the value to be attached to the various manifestations of gout. In speaking of cases in which rejection by an assurance office has been followed by long life, he points out that "the very rejection may have been one of the elements which determined that careful life which conduces to longevity." He lays stress on the importance of ascertaining the cause of the structural alteration in the valve giving rise to a murmur, in view of the fact that a murmur due to degenerative changes in the valve is of much graver import that one originating from acute disease. With regard to the influence of syphilis on life assurance, Dr. Ogilvie advises that those should be declined who show degeneration of any kind, although no active symptom of syphilis was present; he would refuse or postpone those who had recently suffered from malaria or gout, or who showed any suspicion of alcoholism. If there were signs of the active disease the life must be postponed, but given a good family history and an otherwise good personal record, and evidence that the applicant had been under careful treatment for a year or more, and that there had been no signs of the malady for many months, Dr. Ogilvie advises a temporary addition of five or seven years, provided the individual has the appearance of a man likely to lead a careful life. After efficient treatment lasting two years off and on, and an interval of a year without treatment or symptoms, the author is of opinion that a proposal at the ordinary rate might be accepted.

GUNSHOT WOUND OF THE UTERUS: RECOVERY.

NEUGEBAUER, of Warsaw, relates a bold piece of surgery undertaken by Dr. Wrzesniowsky in Poland. A woman, aged 34, when in the eighth month of her eighth pregnancy was wounded by her husband, who carelessly fired off an old pistol loaded with small shot. The accident occurred on October 22nd, 1895. She bled freely, and was taken in a cart to a hospital at Czenstochau, over 20 miles from her home. There was a round wound, big enough to lodge the tip of the little finger, in the hypogastrium 3 inches above the pubes and a little to the right of the middle line. The integuments around were blackened by the gunpowder. A piece of omentum hung out of the wound. The temperature was 103° F., pulse 120. Labour pains set in; no fœtal heart could be heard. There was evidence of incipient pneumonia. Abdominal section was performed, and a lacerated wound was found 2 inches below the insertion of the right Fallopian tube. A fœtid fluid, blood mixed with lochia, and gas issued from it and filled Douglas's pouch; the front of the uterus being covered with omentum, the fluid was prevented from escaping freely through the abdominal wound. An elastic ligature was placed around the uterus, then a longitudinal incision was made, and the fœtus and placenta removed. As the latter came away 4 grains of small shot dropped out of the uterine cavity. The posterior uterine wall was uninjured. A wedge-shaped piece of tissue was cut out of the uterus around the gunshot wound, then that wound and the surgical incision were closed by suture as in an ordinary Cæsarean section. The uterus contracted well. An iodoform-gauze drain was inserted in Douglas's pouch, and the abdominal wound closed. The fœtus had been shot dead, a pellet of paper as big as a bean having wounded the left ventricle; several shot had also entered the embryo. The mother did very badly at first, the pneumonia developed, and icterus set in on the fifth day. Pelvic suppuration also occurred, and not only did the abdominal wound break down, but the uterine sutures all gave way and the uterine cavity gaped forwards and could be seen with the naked eye, full of pus! On the eleventh day Dr. Wrzesniowsky amputated the uterus, passed two pins through the cervix, and treated the case like an extra-peritoneal hysterectomy for fibroid. The suppuration soon ceased, but it is not stated how drainage was carried out. Lastly the pneumonia was subdued, and the patient came out of the jaws of death. Exactly two months after the injury she returned home. Eight months later she was in excellent health. The *Münchener medicinische Wochenschrift* for May 11th publishes this remarkable case, with a valuable summary of previous cases, the majority of which are American. Dr. Wrzesniowsky deserves great credit for his courage, rewarded by the ultimate rescue of the patient threatened at the same time by hæmorrhage, sepsis, and pneumonia. We believe, however, that it is safer practice to amputate a uterus wounded by shot than to attempt to save it by the suture of the wound. Even in a simple Cæsarean section the suturing of the uterine wound is not always satisfactory. A gunshot wound, after the most careful trimming, can hardly heal well, and when small shot is found under the placenta there may be plenty more imbedded in the uterine walls.

AN INTERESTING DOCUMENT.

DR. SIDNEY RINGER has recently been able to rescue from oblivion the clinical records upon which John Hunter founded one of the most fruitful of his many papers—that on Introsusception. Lord Dartmouth gave him several papers referring to illnesses of various members of his family, and amongst these is one headed "A Copy of the Account of the Dissection of the Body of the Hon. Mr. Howard, aged 9 months and 1 day." The document is dated June 16th, 1789, and it is signed by John Ash and Everard Home. In a note added to the record Dr. Ash speaks of it as "a hasty account drawn up immediately on the dissection, and on the same table on which it was performed." He also gives various clinical details of the case. He says that the child was suddenly taken ill at Ashstead with a strong convulsive spasm, that immediately after the spasm it passed a large, copious, and natural stool of a liquid form, and that, "on attentively considering the whole abdomen I felt, or thought I felt, under the lower ribs on the left side some enlarged substance not very hard to the feel. The child..... was otherwise in full health and habit, with a placid countenance, smiling almost in the arms of death. Every kind of purgative was given by the mouth, sixteen enemata were administered of every kind from plain saline clysters to more stimulating ones, tobacco in infusion and in fume, as well as others with fœtids and assafœtida, but all without effect; it never had any other stool during the sixty hours that it continued in life." Dr. Ash then goes on to say that he knew of but two other cases, of which one was of doubtful authority, the other was published by Dr. Lettsom in 1786. The specimen, with Dr. Ash's notes and Home's account of the *post-mortem* examination came into John Hunter's hands. He worked it up into a paper which he read on August 18th, 1789, at the Society for the Improvement of Medical and Chirurgical Knowledge, which met at Slaughter's Coffee House in St. Martin's Lane. His description became classical, and the specimen is one of the most valued possessions of the Hunterian Museum, where it is No. 2,703. It is so well preserved that Mr. D'Arcy Power in his recent Hunterian lectures exhibited microscopical sections showing the minute details of its structure even to the fibrin in the inflamed tissue and the red and white corpuscles in the engorged vessels. The original report was probably lost when Hunter's papers were destroyed wholesale by his unworthy executor, but we understand that Dr. Ringer proposes to present this copy to the Library of the Royal College of Surgeons of England.

THE DUCHESS OF TECK has laid the foundation stone of the new hospital at Isleworth to be erected by the Richmond Corporation and the Heston Isleworth District Council.

SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in London, July 27th and 28th, 1897.

EXTRAORDINARY GENERAL MEETING.

Tuesday, July 27th.

An extraordinary general meeting of the British Medical Association was held at Exeter Hall, Strand, London, on Tuesday, July 27th for the purpose of considering, and if thought expedient of passing, certain special resolutions. The chair was taken by Dr. Henry Barnes, President of the Association.

The General Secretary having read the notice convening the meeting,

The President called upon Mr. Arthur Maude to move the first resolution. He called attention to the fact that the same rules would prevail which governed general meetings, and that ten minutes only would be allowed to each speaker.

Mr. Arthur Maude then moved:

That, whereas long delay has taken place in giving effect to and carrying into execution certain resolutions of general meetings of this Association relating to the taking up of medical defence by the Association, and uncertainty is thereby imported whether such resolutions are binding upon the Association and the Council, and it is desirable that such uncertainty be removed, the following amendment of the 25th Article of Association be adopted as a special resolution; that is to say, that at the end of the 25th Article the following words be added, namely:

"And it shall be the duty of the Council to give effect to, or carry out as speedily as possible, all resolutions of general meetings unless otherwise duly provided."

He said that the resolution would create no new powers and would change none of the old powers. It merely cleared the air of a good deal of doubt which appeared to exist in the minds of many members as to the powers of the Council and the powers of the members over the Council. The Council had undoubtedly met the members fairly, but whether the instructions which were given by the general meeting to the Council in the appointment of the Committee and the carrying out of the questions referred to the Branches had been judiciously and fully followed was rather doubtful. The resolution now before the meeting was merely an alteration in the wording of the Memorandum, and did not alter any principle of constitution; it simply emphasised the fact that the Council had no legal powers to refer any question to the Branches for consideration unless they were specifically instructed by the general meeting to do so. There was no such power in the Articles of Association, and the motion stated that no such power was to be created by the precedent of last year. The Branches had no power to give instructions to the Council, although, of course, the Council might consult them just as they might consult the man in the street. The motion, if carried, would not prevent the Association in general meeting if it chose—and he trusted it might often choose—from referring any question to the Branches, and asking their advice or instruction. The fact that some of the members of Council were elected by the Branches directly made no difference; they were responsible to the shareholders in general meeting, and to them only, unless the shareholders chose to delegate their powers to the Council or to the Branches. In conclusion, he would say that had they had the report of the Constitution Committee in their hands earlier they might not, perhaps, have formulated the resolution at all. He deprecated the habit of the Council in keeping back reports so late that members attending the general meeting did not have time to consider them, and to shape their conduct accordingly.

Surgeon-Major Poole seconded the motion. The Article of Association, he said, to which it was proposed to add a paragraph was Article 25: "The business of the Association shall be managed by the Council, and the constitution, duties, powers, and mode of procedure of the Council shall be determined on from time to time by the Association in general meeting." It was proposed to add to that, "and it shall be the duty of the Council to give effect to, or carry out as speedily as possible, all resolutions of general meetings unless otherwise duly provided." The Council was elected by the Branches—by the members of a great Association. What for? To carry out the wishes of its constituents. If the majority of members required anything special to be done, whether in the way of medical defence or alteration of the Articles of Association, or anything else, the Council were in duty bound to help forward the opinions of their constituents. The question was: Did the Council carry out the wishes of their constituents? The Council were elected by the Branches, and it was absolutely necessary that the members of the Council should be in touch with all their constituents; that was, that they should know what the members wanted, and knowing this, should carry it out. The Council were the friends of the members, and the members trusted the Council, and he was quite sure that the Council would be ready to carry out the wishes of the members.

Surgeon-Major Ince, who rose amid cries of "Vote, vote," said he took the opportunity of intervening in the discussion at an early moment in order, if possible, to shorten the proceedings. The proposer of the motion had said that whatever decision was come to, it would make no difference whatever in the actual nature of the rules and by-laws of the Association. Therefore, bringing the subject before the meeting seemed to him (Surgeon-Major Ince) quite unnecessary. He proposed as an amendment to the motion:

That as the report of a strong committee on the subject of the reform of the constitution of the Association is about to be submitted to the members generally by the General Council, any discussion upon a motion affecting the duties of the Council is for the present, at least, both premature and inexpedient.

Dr. Jas. Brassey Brierley seconded the amendment. He thought it was a misfortune that the report of the Council had not been in the members' hands before the questions were brought before the meeting; but even without that report he should object to the resolution being put, for the very substantial reason that the Council was responsible under the present government of the Association to those who elected it. The Council was responsible to the Branches, and no one could get behind that fact. Another reason was that the Reform Committee had made suggestions whereby the whole of the arrangement in the election of the Council might be altered.

Mr. Lawson Tait said he had not intended to intervene in the discussion at all until he found that both sides of the argument were giving him as a reason for appealing to them to withdraw alike the motion and the amendment. He appealed to the common sense of all present. It was difficult for a man to serve two masters. The Council were responsible to the constituents of the Branches, and they were governed by the annual meetings. The Constitution Committee had drafted a very fair report, and the gentlemen who originated the Committee, who were on it, but who were not members of the Council, had received the fairest and most complete support from the members of the Council. Under those circumstances it was not fair to pass a resolution such as was proposed. It would hamper the proceedings, hamper progress, and do harm to the whole thing.

Dr. Saundby (President of Council) said it was due to the meeting that he should say just one word on the matter before the meeting. The resolution which had been brought forward was of course an amendment to the Articles of Association, and although Mr. Maude, in the very able speech with which he moved this resolution, told them that it would not alter anything, yet the mere fact that an amendment was necessary seemed to him to show that he did intend it to alter something. In his opinion, and in the opinion of the Council and its legal advisers—for in this matter the Council was guided by its legal advisers—it would substantially alter matters. At the present time the effect of such a resolution

passed by the annual meeting had no legal force, and had no power of binding the Council. If they passed the resolution now proposed they would be placed at the mercy of any chance vote of an annual meeting. All those who had been at the meetings knew that often important resolutions were passed late at night when there was only a very small number of members present. Therefore he would ask them not to vote for the resolution under the impression that it would make no alteration—it really would make a very essential alteration. He was one of those who were not by any means satisfied that the present constitution was the best possible, still he did not think it would be wise to go in the direction proposed by the resolution. It was stated by the seconder, Dr. Poole, that the Council were appointed by the Branches, and that they were the mouthpieces of their constituents, yet, as Mr. Tait had pointed out, if they passed the resolution they would have a Council which was not only responsible to its constituents, but to the annual meeting. It was the case that the annual meetings and the Branches were not always in accord, and it would be a question which of two masters they were to serve. He would like to see the Branches made stronger, and the Council more thoroughly representative. The proposal would altogether upset the present state of affairs, and put the Council under the control of the annual meeting.

Dr. Rentoul said he wished to ask a question. Supposing they adopted the altered Memorandum, must the Association take up medical defence?

A Member said he wished to ask the proposer and seconder of the resolution and of the amendment to withdraw.

The Chairman asked whether the amendment was withdrawn. (No answer.)

The amendment was then put, 62 voting for, and 41 against.

On the President preceding to put the amendment as a substantive motion.

Dr. Hine said there was a misstatement of facts in the amendment. They had no knowledge that it was adopted by the Council, or that it would be laid before the meeting. The amendment said that a report was about to be submitted to the members of the British Medical Association. That was not a fact. They had no facts whatever before them to make them believe that the conclusions of that Committee would ever be adopted by the Council, or that they would have come before the members of the Association as the favoured report or the disapproved report of the Council.

The President of Council said he wished to state exactly what would happen. The report was the result of the labours of the Committee, who worked at it very carefully for some months. It came before the Council, the Council refused to send it to the Branches, and it was practically quashed. He felt that it would not be right for the matter not to come before the annual meeting in some form, and he suggested that it should go into the appendix to the report, and the Council adopted that arrangement. Therefore the annual meeting in London would be able to see what was done by the Committee which the Carlisle meeting had desired the Council to appoint. It would be for them to say what should be done with it. Mr. Lawson Tait had some especial notices of motion upon the paper which would of course take precedence in the matter.

Mr. Lawson Tait said the notices of motion which he had given were carefully drawn for the purpose, if adopted by the general meeting, of making the report a substantial alteration of the by-laws.

Mr. R. B. Anderson thought that the issues were placed before the meeting in a lamentably confused condition.

The amendment was then put as a substantive motion and lost, 55 voting for and 71 against.

Motion by Dr. Hugh Woods.—The President ruled that the second part of this resolution after the words "medical defence" was out of order.

Dr. Hugh Woods then moved the following resolution:

That the Council of the British Medical Association be and is now hereby instructed to forthwith take all necessary steps to complete and legalise the special resolution adopted by the extraordinary general meeting held at Birmingham on the 13th day of July, 1896, and confirmed by that held at Carlisle on the 28th day of July, 1896, which resolution amplifies the Memorandum of Association, and provides explicitly for the application of the funds of the Association to the purposes of medical defence.

He thought it was discreditable to the whole Association that a subject of such importance should be bandied about from general meetings to Branches, and from Branches to general meetings, and fooled with in the manner in which it had been. It was perfectly well known that the Branches were not in a satisfactory condition—[Oh, oh]—as representative of the Association. It was very doubtful what view they took; but all who had attended the Branch meetings would know that the opinion was not the opinion of the Association. He quite sympathised with those who thought that the Association ought not to take up medical defence. There were very grave reasons for thinking that; but he thought they ought to arrive at the real opinion of the whole Association in a proper manner. He was quite sure that the Society with which he was connected, the Medical Defence Union, and the British Medical Association, would co-operate in doing all they could to promote the interests of the medical profession. His resolution simply instructed the Council of the Association to carry out previous instructions of the general meetings. First of all they must make up their minds definitely on the broad general principle of whether they wished the Association to take up medical defence or not. Medical defence had been taken up, and would be taken up, and he was glad to say that it was progressing in a most satisfactory manner.

Mr. George Jackson (Plymouth) in the absence of Dr. Gimson, seconded the resolution.

Dr. Ward Cousins said that according to the Companies Act, where a company was started for the purposes of profit and gain it was perfectly certain that the directors were appointed by the annual meeting, but where a company was started for purely scientific purposes, and the questions of gain were not in any way involved in the action of the company, it was then perfectly legal for the company to decide what method of government it should adopt.

Mr. Lawson Tait reminded Dr. Ward Cousins that, when it was said that resolutions passed by the annual meetings were very rarely neglected by the Council, two years ago a resolution was passed to the effect that the report should be in the hands of the members at least a month before the annual meeting, but no attention appeared to have been taken of it.

Dr. Welsford said that as he could not fairly support the resolution in its entirety he proposed to move the following amendment:

Instead of the words "medical defence" to substitute "carrying out the second object of the Society's existence as laid down in the Memorandum, namely, maintenance of the honour and interests of the medical profession."

As was known to many of the members, he had been associated with the bringing forward of a scheme that the British Medical Association should systematically undertake medical defence. The question was, according to the resolution of the last annual general meeting, referred to the Branches. He regretted to say that the support which they anticipated had not been given to them, the result being that at the present time they could not go on any further with the scheme. The only complaint he had to make against the Council was that it was content to let things drift a little bit too much. He did not think it ought to be terrified by the future to such an extent as not to lead them, for they most urgently wanted leaders of the class of men that the Council was composed of. No class of men could be so magnificently their leaders as the Council of the British Medical Association. They had the interests of the Association at heart; all that they did was, in their eyes, for the good of the Association, and if they would only lose their timidity of the future they would make the Association a grand organisation for the benefit of the profession and the public as well.

Dr. Rentoul in seconding the motion reminded the meeting that in 1894 Dr. Welsford brought the subject before his Branch, and his Branch asked the Council of the Association to report upon it. The Council of the Association appointed a Committee, and the Committee of the Council reported

against Dr. Welsford's proposal at the 1895 meeting of the Association held in London. The motion which was before them at present, to which Dr. Welsford had moved an amendment, had nothing whatever to do with the question of medical defence. He asked them to try and eradicate that from their minds. They could alter the Memorandum of Association, but at a subsequent meeting they could absolutely refuse to adopt a scheme of medical defence.

Mr. VICTOR HORSLEY said he was personally a strong supporter of the scheme which was issued by the Committee. At present they had nothing to do with that scheme, but simply to keep to the words of medical defence, but it had evidently been conveyed to the minds of members present that they were discussing that scheme. What they wanted to do was to complete the work they went to Birmingham for. He would therefore venture to suggest to Dr. Hugh Woods that he should withdraw his resolution in favour of Dr. Welsford's.

The PRESIDENT OF COUNCIL said that at the Birmingham meeting Dr. Welsford and Mr. Horsley had been extremely angry with the Council, and had said: "Do you mean to say if you pass this you are going straight to the judge and then force some scheme of yours on us?" The Council had replied that their object was to save time; they wanted to be prepared, and to be ready to move on when the Association had found a scheme of medical defence which it was willing to support. A Committee was appointed to form a scheme which would be acceptable, and upon that Committee Dr. Welsford and Mr. Horsley sat. A scheme had been worked out which, they believed, had been rejected by the Branches. The Council had acted quite consistently in not going on with the proposal which had for its main object, if not for its sole object, the bringing the Articles of Association into harmony with a scheme of medical defence. He had been under the impression until that morning that Mr. Upton, the solicitor of the Association, thought the judge would not give his consent to any alteration unless he had a definite scheme before him. Mr. Upton now said that his meaning was that the judge would be more likely to agree if he saw precisely what was wanted.

Dr. HUGH WOODS said he great pleasure in withdrawing his resolution in favour of the amendment proposed by Dr. Welsford, as that would carry out all that he wished.

The PRESIDENT OF COUNCIL said that the formalities necessary for the alteration of the Memorandum of Association had been complied with, but the consent of the judge had not been asked. Dr. Welsford thought they ought to ask that consent. That was the position.

The resolution of Dr. Welsford was then put to the meeting, when 65 voted in favour and 64 against.

Surgeon-Major INCE moved that a poll be taken.

The PRESIDENT OF COUNCIL said it would be simpler to take a division.

The members then divided, Dr. Rentoul and Dr. Ward Cousins being appointed tellers for those in favour of the resolution, and the President of Council and Dr. Welsford tellers for those against.

The PRESIDENT announced that 89 had voted in favour and 88 against. The resolution was therefore carried by a majority of one vote.

Dr. RENTOUL withdrew the next motion on the agenda, which stood in his name.

The meeting then adjourned for a short time.

ANNUAL GENERAL MEETING.

The minutes of the last annual general meeting having been taken as read,

The PRESIDENT said his official life as President had now come to a close. It was usual for the President-elect to take the chair at the commencement of the ordinary proceedings of the annual meeting. The President-elect this year was Dr. Roddick, of Montreal, and although Dr. Roddick braved the perils of an Atlantic passage during the middle of the winter in order to facilitate the arrangements for the meeting at the end of next month, he had not been able to attend the general meeting. It had been decided therefore that the President of Council should take the chair at the annual meeting. Continuing, the President said that in retiring from the position which by the kindness of the members he had held during the past year he took the opportunity of expressing his thanks for the great courtesy and consideration which had been shown to him by every member of the Association. His period of office had been an exceedingly happy one, and he looked back upon it with great satisfaction and pleasure. He also thanked the officials of the Association for the great assistance they had given him. He trusted that the Association, which had prospered in numbers during the last year in almost an unprecedented way, would still continue to prosper.

Dr. BARNES then vacated the chair, which was taken by Dr. SAUNDBY, President of Council, who moved:

That the best thanks of the Association be given to Dr. Henry Barnes for the courteous and able manner in which he has filled the office of President during the past year, and that he be and he is hereby elected a Vice-President for life.

In moving the resolution he said that Dr. Barnes had been for long a member of the Council, and was known to most of the members of the Council and the Association as an active member of the Council. Some two years ago, when the Association was in some difficulty to know where to go, Dr. Barnes, in the most generous manner induced his little Border Branch—one of the smallest Branches in the Association—to undertake what was unquestionably a very plucky enterprise—to ask the Association to come to Carlisle. It had long been the desire of the Council to make it known generally that the Association desired to go to towns which were not of the first magnitude, and it had been their object, too, to show that such meetings need not be very expensive, and need not throw a very great burden on the local Branch or on the local profession. At Birmingham a meeting had been held very economically, and at small cost to the Association; but at Carlisle, with not a quarter of the resources of Birmingham, a meeting was held which was in every way as successful as a meeting could possibly be, and the cost, so far as the general fund was concerned, was less than that of the Birmingham meeting. With regard to Dr. Barnes's personal qualities little needed to be said. They all knew him, and he was a favourite with every member of the Council. He was the most popular man in his own district, and he was a popular man with the Association.

Dr. WARD COUSINS seconded the motion, and most cordially endorsed what had been said by the President of Council. The meeting at Carlisle was most successful, and he was sure the members were greatly indebted to Dr. Barnes for his energy during the twelve months preceding that week. His kindness and courtesy to all members of the Association and his great hospitality could not have been exceeded.

Dr. BRAIDWOOD, as a very old friend of the ex-President, expressed the opinion that Dr. Barnes had acted most excellently as President of the Association.

The resolution was carried with acclamation.

Dr. BARNES, in replying, thanked the members very cordially for the way in which they had received the resolution, and said that he could assure them that the meeting at Carlisle was a source of great satisfaction to the Branch, inasmuch as they felt that they were doing the Association good service. It was also a source of satisfaction because it had shown that a small place could compete with larger places in giving hospitality and welcome to the Association. Although credit had been given to him by Dr. Saundby for initiating the proposal that the Association should come to Carlisle, it was taken up very heartily by the members of the Branch. He also thanked the members for the honour which had been conferred upon him in electing him a Vice-President of the Association. He should always look back with pride and pleasure to the fact that he held the chair during the past year, and would look forward as a Vice-President to taking part in the proceedings of the Council of the Association for many years to come.

Presentations of the Association Gold Medal.—The PRESIDENT OF COUNCIL said that the two gentlemen to whom the medals had been granted by the Association and to whom he had to present them were gentlemen who had served the profession and the Association in a most eminent manner. The Council were always exceedingly jealous of giving medals, and only gave them when the matter had been fully and carefully considered and for very due reason. Mr. Wheelhouse, to whom he had the honour of giving the medal, had been for

many years a member of the British Medical Association. He was President of Council for one term, President of the Association in Leeds, and then, some ten years ago, became one of the direct representatives—the first direct representative—on the General Medical Council, and in the latter capacity he had done an immense deal of work for the profession. It was on account of those services that the Council of the Association had thought it right to present the medal to Mr. Wheelhouse.

The medal was then presented to Mr. C. G. Wheelhouse, amidst great and prolonged cheering.

In replying, Mr. WHEELHOUSE said that such a reception as he had received touched him very much. To feel that he had earned the goodwill of the members, and that he had been able for some years to do good service, not to them only, but, he hoped, to the whole profession, was in itself a reward which should satisfy any man. At the same time to be the recipient of the medal added a hundred—nay, a thousand—fold to any reward the profession might have thought it right to confer upon him. It had been his great pleasure to serve the Association, under varying circumstances, for upwards of forty years. He could not tell exactly when he became a member, but he knew that through various administrations, through a great variety of circumstances, through poverty, through impecuniosity, through bankruptcy even, up to wealth, he had been actively engaged in serving the Association. During the early years of the Association things were very different from what they were now. They had now a prosperous Association that had spread its flag over the whole of the empire; they had a Branch wherever the British flag flew; they had members all over the world who watched their action, and who took their line of action from that which they saw done at home; and therefore he could say that the Association was a large, a wealthy, a prosperous, and a happy Association. That had not always been so. There had been times when the Association had found it difficult to live. There was a time when it was doubted seriously whether the Association could live at all, and unless it had been guided by the counsels of men who knew what they were doing, who knew wherein the interests of the profession lay, and who put their shoulders to the wheel, not only to help the Association, but to help the profession with the Association, the Association would never have been the prosperous Association it was to-day. He could only say that whatever he had done for the Association had been done with all his heart and with all his soul. He had looked to the advancement of the Association as being the first means of increasing the advancement of the profession; and he had served the Association and the profession in every capacity that he had been able to do, and he sincerely thanked the members for the honour they had conferred upon him in showing their approval of the way in which he had done his duty.

The PRESIDENT OF COUNCIL then presented the medal to Sir Walter Foster. In doing so he pointed out that Sir Walter Foster had been for very many years an active member of the Association and a member of the Council, and formerly of the Committee of Council. He had been also President of the Council, and gave the Address in Medicine at the Birmingham meeting. In addition he had, like Mr. Wheelhouse, for the last ten years been one of the direct representatives on the General Medical Council, and thus had rendered great service to the profession. But, as was well known, besides that Sir Walter was also a member of the House of Commons; and if the late Mr. Wakley was called the "member for medicine," it might justly be said that the title had been earned by Sir Walter. It had been felt that he had always been able, in his place in the House of Commons, to represent the views of the profession, and when he was Under-Secretary to the Local Government Board it was felt that the profession had one of the best possible men in that place. Therefore he (the President of Council) was quite sure that the whole profession would join with the Council of the Association in feeling that to no one more fittingly than to Sir Walter Foster could the medal of the Association be given.

Sir WALTER FOSTER, in responding, said that on such an occasion simple, sincere, and unpremeditated words were the best in which to return thanks for what was, both to Mr. Wheelhouse and himself, the crowning distinction of their lives. He held it in that esteem himself, because no other honour that could ever be conferred could come to him with the gratefulness with which that honour came. In the first place it was one to which he could appeal always, as time went on, in the presence of critics and in the presence of friends, as one which was an irresistible testimony that in his time and generation he had tried to do his best for the medical profession. He should hand it down to his children and his children's children, he hoped, as evidence of his having tried to do his duty in that position in which he had been placed by the favour of the members and the suffrages of his fellow citizens. It was an additional satisfaction to him because it came under peculiar circumstances. It came, first of all, from men—on the motion of men and on the action of men—with whom he had been associated for something more than a generation, who had been his closest intimates in the district in which he lived, and who had been his closest associates on the Council on which he had had the honour to serve, and from such men a testimony of approbation and regard was doubly and trebly dear. But it also had the great further satisfaction that it came from the representatives of the British Medical Association, and practically through them from the profession at large. All he had in this world, all he had been able to do in the somewhat busy life that he had led, had been due to the medical profession. Among the members and in the Council he first learnt the rudiments of public business. Through the experience he gained in the work of the Association he had been able from time to time to do some humble work in the House of Commons, not only in the interests of the medical profession but still more in the interests of the general public, and he owed to the medical profession to a large extent the business training which he had found useful elsewhere. Above all it was dear to him because it enrolled his name—and that was an honour which would be appreciated by his children—in the list of honourable men, some of whom on the battlefield had risked their lives for their fellow creatures, some of whom had not hesitated to expose their lives to the terrible gloom and darkness of pits after colliery explosions on errands of mercy and humanity, and some who had given the work of their lives to the improvement of medical science, and to the increased social and general advantages of the profession to which they belonged. With any one of those classes of men it was an honour to be associated—to be associated with them all, as he was by the generous and kindly gift of the members, was an honour which he might well call the crowning honour of his life, and which called forth from him his deepest and most heartfelt gratitude.

Presentation of the Stewart and Middlemore Prizes.—The PRESIDENT OF COUNCIL said the next business was also of a pleasing nature, on which he thought they would all be at one. He had to present to Dr. German Sims Woodhead the Stewart Prize, consisting of £50 and a certificate. Dr. Stewart was a very old and valued member of the Association, and was particularly interested in the study of fevers and other infectious diseases. Dr. Stewart was one of the first to describe—it was a controverted point who was the first—the difference between typhoid and typhus fevers, and he was always an eminent authority upon fevers. He therefore left a sum of money to the Association to found a prize to be given to those who had done most recent work in connection with the study of infectious diseases. It would perhaps have surprised Dr. Stewart if he had known that tubercle would one day be regarded as one of the subjects for which his prize would be awarded. Dr. Woodhead had done eminent work in connection with the study of tuberculosis, particularly in regard to the Royal Commission on the subject, and it was for that work that the prize was given to him.

Dr. WOODHEAD said he need hardly say that if he had had the awarding of the prize it would not have come to him. To a certain extent he felt very much the creature of circumstances. Undoubtedly he had had very great opportunities of doing work on the subject of which Dr. Saundby had spoken. He had also had colleagues who had worked with him and worked hard, and he would like to take the opportunity of saying how deeply he was indebted to them. He

wished to mention specially the names of Dr. Sidney Martin, Dr. Cartwright Wood, and Dr. Brodie. He thanked the Association most heartily for awarding the prize to him, and if he did not now deserve it fully, it would be an incentive to him to continue the work which he had begun.

The PRESIDENT OF COUNCIL, in presenting the Middlemore Prize to Dr. Alexander Hill Griffith, said Mr. Middlemore was one of the first surgeons to the Birmingham Ophthalmic Hospital, and one of the first to specialise himself in connection with diseases of the eye, and he left a sum of money to the Association to found an annual or triennial prize for an essay which should give the best account of what had taken place during the preceding three years in the study to which he had specially attached himself. But the Council of the Association found that this did not answer, and that matter brought forward did not merit the prize, and he interviewed the donor, and got him to consent to alter the terms under which the prize should be given, namely, that it should be awarded to one who had done the best work in connection with the science and practice of ophthalmology.

Dr. HILL GRIFFITH, in returning thanks, said it was a very unexpected honour to him, but a great honour to be associated with the recipients of medals and prizes that day. The prize constituted a great incentive to do what work he could in ophthalmic science. He sometimes felt glad he associated himself with that special branch of surgery, for it was one which was held in high regard by all members of the profession.

Report of Council.—The PRESIDENT OF COUNCIL said that having got through the pleasant part of the proceedings, it was his duty to go on to the report of the Council, which embraced also the whole of the Committees. He took it they would not wish the whole of it to be read, as copies had been printed and circulated.

This was agreed to.

The CHAIRMAN said the next business was the expulsion of two members of the Association (page 9 of the agenda), but before proceeding to that the room would have to be cleared of all but members of the Association and the official reporters.

Dr. MYRTLE (Harrogate) asked whether members were at liberty to speak on any portion of the printed minutes, and was answered by the PRESIDENT OF COUNCIL in the affirmative.

Expulsion of Two Members from the Association.—THE PRESIDENT OF COUNCIL said the resolutions which, in his capacity as President of Council and chairman of the meeting, he had to bring before them, were as follows:

That the resolution of the Council that the name of Dr. A. D. Leith Napier be struck off the list of members be and it is hereby confirmed.

That the resolution of the Council that the name of Dr. Wm. Ramsay Smith be struck off the list of members be and it is hereby confirmed.

He hoped what he was going to speak of was common knowledge. The two gentlemen named in the resolutions had accepted office offered them by the Government of South Australia in the General Hospital of Adelaide at a time when the whole of the staff of that hospital had resigned in consequence of the conduct of the Government towards the governing body and the staff, and when no efficient persons were to be found in South Australia to take their places, such was the general sympathy and support which that staff met with. It was for that reason solely that the Council had passed the resolutions that those gentlemen should be expelled from this Association. A great many other questions had been mixed up with the matter, and some of them had found expression in medical papers. But the Association did not deal with those questions at all. Both cases were identical, and they both took the posts knowing the circumstances.

The TREASURER seconded the resolutions. He said the Council regarded the matter as a very solemn one. They were unanimously convinced that the conduct of the two gentlemen in accepting positions at the infirmary at Adelaide deserved the reprehension and condemnation of a large body of that Association. He was very sorry to have to second such a resolution.

Mr. LORRIMER HART felt sure most of them would agree with the decision of the Council; he thought it should have gone a little further, and mentioned the name of another gentleman whose name had been well known to medical men and had been published in the medical journals as having recommended the candidates for the post. He knew he was treading on dangerous ground from a certain point of view, but he felt it his duty to mention the fact, without necessarily mentioning the man.

Mr. ROWLAND HUMPHREYS said they were asked to give a decision on the matter at once, and thus judge men without hearing their defence, which was very unfair. They constituted a court of appeal on the matter. It had been acknowledged that several gentlemen in the country had supported those who were the objects of censure, and these men had been consulted by Dr. Napier and Dr. Ramsay Smith and recommended to the appointment.

The PRESIDENT OF COUNCIL said he omitted to mention that the matter was first brought forward in October, and not before the January meeting, and from that adjourned to July, to give the members ample opportunity of appearing. At the last Council meeting they did appear by counsel, Mr. Bucknill, Q.C. Mr. Bucknill's argument was that they did not know when they went out how they were placing themselves in relation to the rest of the profession. He urged that after they got there they were attacked on the ground of incompetence, and the greater part of counsel's speech dealt with the quarrels which had occurred. With that, however, the Council felt they had nothing to do.

Surgeon-Major INCE remarked that the question they were asked to vote on was a very serious one, namely, to cast an aspersion upon professional brethren for the reasons that had been assigned. He would be the first to vote for the expulsion of a criminal, namely, one who had disgraced himself, but the present matter was different.

Dr. RENTOUL asked the President in Council to read the by-law under which the course was taken.

The PRESIDENT read the by-law as follows: "Any member may be expelled from the Association by a resolution of the Council if carried by three-fourths of the members present, subject to confirmation by the next annual meeting, and he shall thereupon cease to be a member, and shall not be eligible for re-election. One month's notice of the intention to propose such resolution shall be given to any member affected thereby."

The resolution of the Council that the name of Dr. Leith Napier be struck off the list of members was then confirmed by 74 votes to 4.

The resolution of the Council that the name of Dr. Ramsay Smith be struck off the list of members was then confirmed with 3 dissentients.

The PRESIDENT OF COUNCIL then moved:

That the Report of the Council, together with the financial statement for the year ending December 31st, 1896, be received and adopted, subject to the matter of the Constitution Committee.

The resolution was seconded by the TREASURER and agreed to.

Report of the Parliamentary Bills Committee.—The PRESIDENT OF COUNCIL said that it was not customary to move and second the report of the Parliamentary Bills Committee, but if anybody wished to raise any point upon it they could do so.

The paragraphs down to that on "Army Medical Reforms" passed without discussion.

Obstetric Nurses' Bill.—Mr. VICTOR HORSLEY said that the question of drafting a Bill to deal with the subject of obstetric nurses was referred to a subcommittee of the Parliamentary Bills Committee. That subcommittee also received the amendments to its original draft, such amendments being passed by the Branches, and it adopted those amendments so far as it was possible to interpolate them in their final draft of the Bill. That was published by the BRITISH MEDICAL JOURNAL. So far that was very good business, but now, as a matter of fact, they were almost stultifying the whole of their previous work. When the report was brought up before the Parliamentary Bills Committee, instead of its being adopted by the Committee and sent to the Council, things were not done in a business-like and constitutional way. The matter was hung up, and now they were going to drift

again on that very important and pressing question. He believed if they did drift, they were running a very grave danger indeed with regard to the welfare of the general practitioners of the kingdom. He moved:

That the Council do receive the Draft Obstetric Nurses Bill, and take it into consideration and report thereon to the Association.

The PRESIDENT OF COUNCIL said that in that case it would be brought up perhaps next year. He should advise the meeting to accept it. It would be competent for any one who wished to call an extraordinary meeting in order to have the matter discussed if that was their wish, but the ordinary course would be that it would stand over to next year. It was simply a question of procedure.

The resolution was agreed to.

Reports.—The reports of the Parliamentary Bills Committee, Scientific Grants Committee, and the General Practitioners' and Ethical Committee were then agreed to.

Inebriates' Legislation Committee.—Dr. NORMAN KERR moved:

That in view of the great emergency for amended legislation for habitual drunkards the members of the British Medical Association be requested to urge personally and by letter on their representatives in Parliament the extreme importance of prompt and effectual amendments in the Inebriates Act 1879 and 1888 providing for compulsory curative detention of habitual drunkards, with provision for the poorest.

Mr. GEORGE BROWN seconded the resolution, which was agreed to.

Reports.—The reports of the Medical Charities Committee, Committee on the Mental and Physical Condition of Children, Anæsthetics Committee, Therapeutics Committee, and the Committee on the Control of Railway Servants and Mariners' Eyesight were agreed to.

The Amendment of the Medical Acts.—Dr. BRASSEY BRIERLEY then moved:

That a Committee of the British Medical Association consisting of seven members, only two of whom may be on the central Council, be and is now appointed for the purpose of drafting a Bill for the amendment of the Medical Acts. They shall have power to employ legal assistance. They shall meet once every three weeks at least, and shall confer from time to time with the Parliamentary Bills Committee and the Council of the Association, and also with them finally adopt such Draft Bill and secure influential members of Parliament including, if possible, all the medical members to back it, and bring it before the House as early as possible next session, and shall make an effort to secure from Government facilities for its discussion. The travelling and other reasonable expenses of the Committee shall be paid by the Association.

The PRESIDENT OF COUNCIL said the first part of the resolution was clearly out of order. If Dr. Brierley would move that it be a recommendation to the Council to appoint a Committee for the purpose of drafting a Bill for the amendment of the Medical Acts and stop at that point the Council would accept it.

Dr. BRASSEY BRIERLEY said he would amend his resolution to read:

That it be a recommendation to the Council to appoint a Committee for the purpose of drafting a Bill for the amendment of the Medical Acts.

Dr. WARD COUSINS seconded the resolution as amended, which was agreed to.

The Case of Mr. R. B. Anderson.—Dr. RENTOUL moved:

1. That the thanks of the British Medical Association be and are now hereby tendered to the Civil Rights Defence Committee (and especially to the Earl of Stamford [and General Graham, as not being medical practitioners) for their active defence of essential professional rights as involved in the trials of Mr. R. B. Anderson, F.R.C.S.—namely, the right to retire from a case according to the ethics of the profession; and the right to a remedy for forcible violations of the rights by damages, bail, and imprisonment.

2. That to further defend these rights, the Council of the British Medical Association be and now is instructed as early as possible to hand over £2,000 of the funds of the British Medical Association to the Civil Rights Defence Committee, and that a Defence Committee (consisting of seven members of the Association, of whom four shall be members of the Council) be forthwith appointed by the Council to act with and on the Civil Rights Defence Committee and with the Council, in actively promoting the defence of the very important issues raised in Mr. R. B. Anderson's trials.

3. That it be a special object and instruction of and to such Defence Committee to seek the co-operation of the General Medical Council: the authorities represented upon it, the Branches of the Association, other professional and public bodies, and public men, in defending the undoubted rights of our profession, which are so powerfully and dangerously assailed; that the Council and Parliamentary Bills Committee of the Association be instructed to aid in these several respect in order that the whole power of the Association and the profession shall be exerted in maintaining the honour and interests of the medical profession.

After some little discussion,

Dr. SMITH moved that they should proceed to the next business.

This was seconded and agreed to.

Pensions.—Mr. NELSON HARDY then moved the resolution of which he had given notice as to the retiring pensions of the Editor and Secretary of the Association, but, at the suggestion of the President of Council, he withdrew his proposition.

By-Laws.—Mr. NELSON HARDY then moved:

In (*a*) subdivision of same by-law, line 1, for "every Branch" insert "the Association members residing in the district of each Branch," and in lines 2 and 3, for "every Branch consisting of more than 200 members' insert "each Branch containing more than 400 members of the Association within its area," and in line 4 for "200" substitute "400."

To (*b*) subdivision of same by-law add: "But no representative member who has served as such for five consecutive years shall be eligible for re-election until one year has passed from the period of his retirement."

In (*c*) subdivision of same by-law insert at the commencement: "The election of the representative member or members shall be conducted by means of voting papers to be issued through the BRITISH MEDICAL JOURNAL to all members of the Association residing within the district of the Branch, the expense of such voting papers being borne by the Association."

Dr. LAFFAN seconded the motion.

The PRESIDENT OF COUNCIL said that he thought it would be much better that the question should be postponed, and come up again in discussing the report of the Constitution Committee.

Mr. LAWSON TAIT moved the adjournment of the meeting which was seconded by Dr. WOODCOCK, and agreed to.

The meeting then adjourned till 12 o'clock on Wednesday.

ADJOURNED ANNUAL GENERAL MEETING.

Wednesday, July 28th.

The annual general meeting resumed its sitting on Wednesday, Dr. ROBERT SAUNDBY, the President of Council, again occupying the chair.

New Representatives.—The GENERAL SECRETARY reported the following new representatives as having been elected by the various Branches: Dr. R. H. Perks (Adelaide and South Australian Branch), Dr. J. A. Campbell (Border Counties), Dr. Wm. Turner (Gibraltar), Dr. A. Godson (Lancashire and Cheshire), Sir W. H. Hingston (Montreal), Dr. M. Ahern (Quebec), Dr. H. H. Phillips-Conn (Reading and Upper Thames), Dr. W. J. Tyson (South Eastern Branch), Mr. J. Groves (Southern Branch), and Dr. J. C. McVail (Stirling, Kinross, and Clackmannan).

Annual Meeting, 1898.—The PRESIDENT OF COUNCIL said that at a meeting of the Council held that morning a deputation had attended from the Edinburgh Branch of the Association and had given the Association an invitation to meet in Edinburgh on July 26th next year. The Council had decided to recommend to the meeting that the invitation should be very cordially accepted. It was therefore his duty to move:

That Edinburgh be the place of meeting for the year 1898, and that Sir Thomas Grainger Stewart be the President-elect.

Sir Thomas Grainger Stewart had long been the Professor of Medicine in the University of Edinburgh, and was known to all the members not only as a very distinguished Professor of Medicine and an eminent writer on medical subjects, but also as a frequent attendant at the annual meeting. He had on several occasions held high office in the Association, and it would be with the greatest pleasure that the members would see Sir Thomas Grainger Stewart President of the Association.

Dr. BARNES seconded the motion, endorsing the President of Council's remarks in proposing it.

The resolution was carried with acclamation.

Sir THOMAS GRAINGER STEWART, who was received with great cheering, said that only two meetings had been held in Edinburgh up to the present, the first in 1858 and the other in 1875. Both those meetings were eminently successful. Since then Edinburgh had grown, and he hoped that the members there would be able to offer a welcome worthy of the Association and of the immense progress that it had made since the year 1875. He could assure the whole Association that they would receive a most cordial welcome, not only on the part of the medical profession but on the part of the College of Physicians, on the part of the University, and on the part of the municipality. He hoped that the Association would have a delightful time of scientific work and social intercourse, and an immense gathering worthy of the Association and of the Northern metropolis, which had had so much to do with the advance of medicine, surgery, and midwifery in past years. He cordially thanked the President and Dr. Barnes for the way in which they had spoken of himself personally, and he could only say that he considered it the high honour of his life that he had been chosen to be President of the Association for the meeting in Edinburgh.

Representation of Unattached Members.—The PRESIDENT OF COUNCIL said that the meeting would now proceed to discuss Mr. Nelson Hardy's motion, in Law 17, lines 4 and 5, instead of "members representing the Branches," insert "members representative of Association members residing in Branch districts."

Dr. DRAGE said the proposal of Mr. Hardy's was one which he could thoroughly back up. He was afraid it was not quite as far reaching as he could wish, and he felt so, because he felt that nothing but a definite reform of the whole of the constitution would really remedy the trouble with which they had to deal. He had been to a great number of annual meetings, and nobody could say that the conduct of business at these meetings was exactly satisfactory. [Oh.] The remedy was in their hands. To him there seemed a lack of sympathy between those who sat on the platform and those in the body of the meeting. He thought it most desirable in the interests of the great Association that both parties should be in closer touch with one another. The proposal of Mr. Hardy went in that direction.

The PRESIDENT OF COUNCIL said they were discussing a resolution giving the power of voting for representatives of the Council, and Dr. Drage's remarks were not relevant to that.

Dr. DRAGE explained that he was under a misapprehension; he supported the resolution of Mr. Nelson Hardy.

Mr. LAWSON TAIT said he thought the wording of the resolution was unfortunate, and to a large extent points were included in the resolution down in his own name, and he suggested the discussion should be taken on his one resolution.

Surgeon-Major INCE hoped the resolution would be withdrawn.

The PRESIDENT OF COUNCIL said his own view was that the resolution of Mr. Hardy should be withdrawn. The wording was very vague, and if the resolution were passed what would it mean? Probably that members residing in Branch districts should be able to vote, but it did not say so.

Dr. WOODCOCK hoped the motion would be proceeded with because it appeared to aim at interfering with the autonomy of the Branches. It recognised the principle of men who were not sufficiently interested in the Association to join a Branch and pay the subscription. They mostly joined the Association to get the JOURNAL more cheaply than they otherwise would.

Dr. WARD COUSINS said he brought the matter before the Association ten years ago, moving that a vote should be given to the unattached members, but that was negatived by the Council. He then brought forward a map showing the area of the various Branches. The unattached members did not want a vote, and if they were given the power they would not vote. A large number of men residing in the area of Branches wanted to come into the Association through the Council.

Surgeon-Major INCE said he was not attached to any Branch—[shame]—but he thought it very unjust that he was debarred from voting for a President or members of the Council. He thought every member entitled to a copy of the BRITISH MEDICAL JOURNAL should be entitled to vote for the represesentatives of the Branch within the radius of his own residence. [No, no.] Yet he supported Mr. Nelson Hardy's idea.

Dr. G. H. BROADBENT (Manchester) agreed with Surgeon-Major Ince and disagreed with Dr. Ward Cousins and Dr. Woodcock, because unattached members were just as sound members of the Association as those who were attached. Indeed, as members of the Association they ought to treat them with as much respect as those who were attached. Though they did not see fit to join a Branch they ought to be given certain privileges which they did not now possess. If they desired to increase the organisation of the profession they ought to hold out every inducement to practitioners to join.

Dr. LAFFAN, as an unattached member, did not see why they should be shut out from voting. In Ireland especially, very many practitioners lived much too far away from Branches to enable them to attend their meetings, and he therefore supported the idea embraced in Mr. Hardy's motion.

Dr. MYRTLE pointed out that rules allowed for each member to have "one vote and no more"; and he failed to see whether that applied to attached members only, or unattached, or both.

The PRESIDENT OF COUNCIL explained that the by-law just quoted referred simply to voting at the annual meeting, whereas Dr. Myrtle's remarks referred to members voting at Branch meetings.

Mr. VICTOR HORSLEY thought the time had come for some statement from the chair as to the conduct of business for the day, for the information of those who were attending at great trouble and inconvenience. He suggested to Mr. Hardy that it would be wise to withdraw his motion, so that they might settle the principle before discussing details. Would the President of Council also say what would be the result if the proposed alterations were carried?

The PRESIDENT OF COUNCIL said if alterations to by-laws were carried the alterations would take effect at once. He had already indicated the course of business before Mr. Horsley entered the room. The motion before the meeting involved the question which was being discussed, and that was why he allowed the discussion to go on.

Mr. NELSON HARDY, on the assurance of the President of Council that the principle embodied in his resolution would be discussed later on, withdrew his resolution.

The Reference Committee.—Mr. LAWSON TAIT moved:

That inasmuch as it is specifically ordained in the 9th Article of the Association that the BRITISH MEDICAL JOURNAL "shall be conducted by a paid Editor who shall be responsible for all that appears in its pages, except such matters as may be printed by direction of the Council. The JOURNAL shall contain papers on medical science, and shall be considered the medium of communication between members of the Association"; it is desirable that the Council should exercise a more complete control over this paid Editor, should secure the exclusion of such matter from the columns of the JOURNAL as does not come within the strict limitation made in the said article, and such matter as tends to defeat the legitimate objects of the JOURNAL; and, further, should secure that the said Editor is responsible under the terms of the 9th Article of the Association.

He based what he was about to say not on a by-law, but on the 9th paragraph of the Articles of Association, which was as follows: "A journal, under the name of the BRITISH MEDICAL JOURNAL, shall be published weekly in London by the Association, and shall be conducted by a paid Editor who shall be responsible for all that appears in its pages except such matters as may be printed by the direction of the Council. The JOURNAL shall contain papers on medical science, and shall be considered the medium of communication between members of the Association." Since the meeting at Carlisle he had been deluged with letters of complaints of individuals who had felt themselves aggrieved at not having admission to the JOURNAL for letters and articles which they desired to appear. It was manifestly unfair, and it would be exceedingly risky to take any instance of an individual complaint, for the simple reason that it was impossible for a private person like himself to know both sides of the question. Grievances

might be genuine, and they might not. He had no means of satisfying himself with regard to it, and he dared not produce any evidence before such a meeting, as it might prove to be one-sided. He was, however, perfectly content to base his argument on evidence which was indisputable, and which he took from the pages of the Journal itself. In a leading article on the report of the Lancashire and Cheshire Branch with regard to the perennial midwifery question, he found that the complaint of the Branch was that they could not get their requirements fulfilled by the full publication of some reports of proceedings which they considered of very great importance. What he wished to point out was that the Reference Committee was a wholly illegal thing, being a direct contravention of the 9th Article of Association, which stated that the Editor was to be responsible for what appeared in the Journal, except such matters which appeared by the direction of the Council. How was it possible that an Editor should be responsible when he had a Reference Committee behind, with whom lay the responsibility? The thing was preposterous. How was it possible to maintain the action of the Articles of Association when the Editor was interfered with by such clumsy machinery as Reference Committees? It was illegal and improper, and the Council must take the responsibility on themselves of what he condemned. He deprecated it as an unbusiness-like and improper proceeding, because it was illegal to have such machinery in connection with the Journal. The article which he had quoted further stated that the Reference Committee consisted of the President of Council, Dr. Ward Cousins, and an ex-President of Council, Dr. Bridgwater. There was an omission there, because the Editor himself acted as a member of the Reference Committee.

The President of Council said that that was not the case. The Editor now only attended the Committee *ex officio*.

Mr. Lawson Tait said he read, "In every department of the Journal the difficulties of selection and representation are very great and rapidly increasing." Nobody would deny that. There was a persistent condition of repletion in the Journal so that complaints were frequently arising from members who could not get individual communications answered, or letters affecting the affairs of the Association, or articles on medical science published which they desired in their own interests, or in the interests of the art of medicine and surgery, to appear in the columns of the Journal. He complained that Mr. Hart devoted himself to a particular department of the profession, namely, the department of public health. Mr. Ernest Hart might be a great sanitarian, but the writing on sanitary subjects ought not to be editorial work when there were hundreds of able young sanitarians anxious to write them and to be paid for them. The conduct of the Journal, he contended, was governed by an article of Association, and the Council ought to be brought strictly to its business in managing the Journal according to it.

Dr. G. H. Broadbent seconded the motion, and, in doing so, said he thought it should be clearly understood that Mr. Ernest Hart should not be a member of the Reference Committee.

The President of Council said that Mr. Ernest Hart had sat on the Reference Committee from its beginning, and his presence was often absolutely necessary. There had been, however, a misconception as to his present position. For some time he did occupy the position of chairman, but since the reconstruction of the Committee he now simply attended as Editor, and not as a member of the Committee.

Dr. G. H. Broadbent asked when that took place?

The President of Council: Last winter.

Dr. Brindley James had much pleasure in supporting the motion.

Dr. Brassey Brierley asked whether the resolution did not simply mean a vote of censure upon the Reference Committee. The Reference Committee was the instrument of the Council through which it did certain kinds of work, and obtained direction and control of the Journal and its contents, and therefore the Council was responsible for any dereliction of duty on the part of the Editor of the Journal, who was their officer, and over whom they had authority. The Council failed in expressing their policy through the Journal. What was done during the whole of the canvass for seats on the General Medical Council? There was absolute silence on the part of the Journal. The Association practically represented the medical profession, and yet there was not a word said in the columns of the Journal on the merits or demerits of the prospective representatives on the General Medical Council. To his mind that was a great reflection on the management of the Association and its affairs. What had been the ultimate result of that? They had representatives on the Council, and where were they? The Journal did not express an opinion as to their merits or qualifications.

The President of Council said that such a charge which had been made as to the inability of the Association to take any part in the contest in connection with the General Medical Council required an answer. It was a matter of the deepest regret to the Council that this was so. The majority of the Council felt that their hands were tied by circumstances, and it was only due to those circumstances that no action was taken. He quite agreed with Dr. Brassey Brierley that the Association was a great organisation, and that it ought on that occasion to have been able to come forward with candidates, nominate them in due time, and to have carried them. That would have been done but for the peculiar circumstances of the case. No good would arise from reverting to the circumstances. They originated really in the uncertainty as to whether Mr. Wheelhouse and Sir Walter Foster would stand again or not. That was the real difficulty, and as long as it remained the Council were unable to proceed. It was finally understood at Carlisle that the two gentlemen he had mentioned would not stand. It was too late then to take any steps. For anybody who was not familiar with the real circumstances of the case to criticise the Council was to do an injustice to them. He could assure Dr. Brierley that the views which he had expressed to the meeting were really the views of the Council.

Dr. Brassey Brierley accepted that as a substantial reason, but pointed out that the resignations of Mr. Wheelhouse and Sir Walter Foster were published in the Journal officially at a very early date.

The President of Council said it was perfectly true that the resignations were published in the Journal, but it was being asserted right and left that those gentlemen would go on. It was because the Council were uncertain as to whether the resignations were final or not that their hands were tied.

Mr. Victor Horsley said that if the resolution went to the vote he trusted it would be understood that a vote of censure was being passed on the Reference Committee, but not on the Editor. They could not blame the Council, who were honest in purpose and always did their best, and he ventured to think that the entire responsibility rested with the Reference Committee.

The President of Council said that the words of the resolution must be taken in their plain significance, and the censure would be upon the Council.

Mr. Victor Horsley thought that no censure ought to be passed on the Council, and he should therefore vote against the resolution.

Mr. Lawson Tait said he had no intention of censuring anybody; he only wanted things improved. After the discussion which had taken place he would ask leave to withdraw his resolution.

This was agreed to.

The Committee on Constitution.—Mr. Lawson Tait said that with regard to the next motion standing in his name he was in this difficulty, that he was moving amendments to by-laws on the basis of a report of a Committee appointed by the Council, which report did not yet exist. It was not technically before the meeting, and the only way in which he could bring it before them was to move that the report of the Constitution Committee be approved by the meeting. Then he would be in order to move any amendment to the by-laws upon that.

The President of Council said that the position was this. At the last meeting at Carlisle a resolution was moved that a Committee should be appointed to consider the various reforms suggested in the constitution of the Association. After a good deal of discussion the motion was withdrawn on the understanding that the Council would appoint a committee to consider the constitution of the Association, and to

report to the next annual meeting. The Committee reported to the Council, but the motion to send the report to the Branches was rejected. It appeared as the appendix to the report. He thought it should appear there as the report of what was done in accordance with the resolution of the last annual meeting, and it was open for discussion. Although he had not contemplated a motion for the approval of the report, and did not know that it would carry any weight with it, he was quite prepared to accept such a motion as being in order. He then moved:

That this meeting do approve of the report of the Constitution Committee.

Mr. COLIN CAMPBELL seconded the motion.

Dr. WOODCOCK said that although, as a member of the Constitution Committee, he would be very glad to see its suggestions adopted, it must not be forgotten that they had already determined it would be a very serious matter to proceed in a hasty way, without regard to what the opinions of the Branches might be. It was a grave step to suggest a complete alteration of the constitution at such a small meeting, when a great number of people had not an idea that it was going to be discussed. He would ask what would be the effect of carrying the resolution.

The PRESIDENT OF COUNCIL said it would simply be that that meeting had expressed an opinion in favour of the report. It would not alter the constitution of the Association.

Dr. WARD COUSINS moved as an amendment:

That this report be again referred to the Council of the Association with power to appeal to the Branches upon the points contained within it.

He asked was that a representative meeting for discussing an essential part of the organisation? There were only one hundred men in the room, and yet they were discussing a proposal which would produce a revolution in the organisation, and influence the Branches throughout the world. In 1882 he was one of those who desired to establish in the Association a representative Parliament. They fought the matter at the annual meeting, and it was referred back to the Council. In 1883 they had another discussion, and then it was referred again to the Council, and a Committee was appointed to consider the question of the representation of the Branches, and after full consideration it was sent out to the Branches for their opinion. A most elaborate report was drawn up and published to the Branches, and then the Council brought it before the annual meeting. At least 2,000 members were present at Liverpool, and the whole thing was debated for two days, and then the representative system was adopted. By the present resolutions they would paralyse the representative system which was established in 1885. Before, the affairs of the Association were managed by a very small number of gentlemen who pulled the wires for all over the world. What was the result? A representative system was established; they had a representative council, and what was the position of the Association to-day? It lived for the advancement of science and the honour of the profession throughout the world. Its aim was not mere administration. Had not the great purposes of the Association been improved during the time the representative system had been in operation? They had increased in numbers, in powers, and in influence. Why disturb an organisation which was so perfect? His own opinion was that if they adopted the system proposed it would paralyse the Council. [No.] Where would the Council be? It would paralyse the power of the Council if twelve paid gentlemen were appointed to conduct the affairs of the Association. It would be a retrograde step.

Mr. VICTOR HORSLEY seconded the amendment.

Mr. LAWSON TAIT said he had refrained from making a speech on moving his resolution because he wished to give Dr. Ward Cousins a free hand to do what he thought proper. Dr. Ward Cousins was a member of the Committee, but he had not helped them in any way. At least he might have presented a minority report. The question was too important to be decided in a hurry. He would accept the amendment with a little alteration:

That the report of the Constitution Committee be referred back again to the Council, with the request that they shall consult the Branches throughout the Association, and that they shall reappoint the Constitution Committee meanwhile.

Dr. WARD COUSINS and Mr. VICTOR HORSLEY accepted this amendment.

Dr. DOUGLAS objected to the Committee being reappointed in its present form, as some of the members did not attend.

The PRESIDENT OF COUNCIL said that anyone who was not able to attend would not be reappointed, but someone would be appointed in their place. That was a reasonable and fair thing. The resolution had been withdrawn, and the amendment of Dr. Ward Cousins as altered was before the meeting.

This was agreed to.

The meeting terminated with a vote of thanks to the President of Council for his conduct in the chair.

LITERARY NOTES.

The leaf of a papyrus book found by Messrs. Grenfell and Hunt at the site of Oxyrhynchus, which during the Roman occupation of Egypt was one of the chief centres of early Christianity in that country, contains a curious addition to the oft-quoted saying as to the little honour in which a prophet is held in his own country. The leaf has been published by the Egypt Exploration Fund in *facsimile* and transcript, with a commentary by the discoverers. It appears to be a collection of "Sayings of Jesus." One of these is transcribed as follows:

Λέγει Ἰησοῦς, οὐκ ἔστιν δεκτὸς προφήτης ἐν τῇ πατρίδι αὐτοῦ, οὐδὲ ἰατρὸς ποιεῖ θεραπείας εἰς τοὺς γινώσκοντας αὐτόν.

"Jesus saith, a prophet is not acceptable in his own country, neither doth a physician work cures upon them that know him." The papyrus is believed by its discoverers to have been written at the end of the second or the beginning of the third century of the Christian era.

A small avalanche of correspondence relative to the lines describing Dr. Lettsom's therapeutic system, which were quoted by Dr. Saundby in his recent address published in the BRITISH MEDICAL JOURNAL of June 26th, has fallen upon us. There would seem to be as many versions of the little epigram as there are of the legendary jokes attributed to Sheridan or Sydney Smith. Dr. William Sykes, of Gosport, sends the following, extracted from Pettigrew's *Memoirs of the Life and Writings* of the late John Coakley Lettsom (London, 1817, vol. ii, p. 80):

When any sick to me apply,
I physicks, bleeds, and sweats 'em;
If after that they choose to die,
What's that to me,

I. Lettsom.

Dr. Sykes adds that Dr. Lettsom's correspondent and friend, Sir M. Martin, Bart., of Burnham, attempts to improve the epigram in the doctor's praise in a letter printed as the reference noted above, it must be acknowledged not too successfully. He is careful to premise that the word "'let'" is a lawful term for hindrance as well as for permission." His parody runs as follows:

Such swarms of patients do to me apply,
Did I not practise, some would surely die;
'Tis true I purge some, bleed some, sweat some,
Admit I expedite a few, still many call

I. Let-Some.

Dr. Sykes suspects that the word "call" in the last line is a misprint, and he suggests "own" as an emendation or a comma might be placed after "call." "J. M." objects to Mr. Squibb's version as ungrammatical, and sends a variant, in which the second line reads:

I physick, bleed, and sweats 'em.

The scratch in Priscian's head is here imperfectly healed. Another correspondent (who does not write from Caledonia stern and wild) is anxious that the pun in the signature should not be missed. Mr. T. Vincent Jackson, of Wolverhampton, has also some thing to say on the subject. He writes:—

In reference to the letter of Mr. Squibb, in the JOURNAL of July 17th, p. 174, referring to Dr Saundby's quotation (June 26th, p. 1650) of the verse attributed to the late Dr. John Lettsom, I write to say that I have in my possession a small engraving purporting to be a likeness of Dr. Lettsom, in an old fashioned black ebony frame, which became my property upon the death of my father, Mr. John Jackson, of Russell Square, London. On the back of the frame is a piece of paper on which is the following:—

"The underneath was written on a board over Dr. Lettsom's door:—

"I bleeds, physics, and sweats 'em,
If they will die, then
JOHN LETTSOM."

Whether the amplified version as mentioned by Dr. Saundby and Mr. Squibbs or my own copy is the correct one I must leave to the opinion of your readers to decide.

This strikes us as a mutilated version of an original imperfectly remembered by the perpetrators of the outrage recorded on the back of Mr. Jackson's engraving. Dr. R. W. Gentles (Derby) points out that in a little book of *Epigrams and Literary Follies*, without date, but published quite thirty years ago by William P. Nimmo, the verse runs:

If anybody comes to I,
I physics, bleeds, and sweats 'em;
If, after that, they likes to die.
Why, then, of course, I LETTSOM.

As for the authorship of the doggrel, which is described by Pettigrew as "an illiberal and ridiculous *jeu d'esprit*," it can hardly be supposed that it was written by the famous Quaker physician himself. We give here a passage which happens to be ready to our hand as an example of his prose style. He is describing the conduct of Dr. Benjamin Rush (whom he calls an "unappalled and luminous philanthropist") during an outbreak of yellow fever:

Even at this moment I cannot recall to mind the phenomena connected with the rise, progress, and effect of that dreadful malady without admiration; and the conduct of the physician without veneration. Contemplate the illustrious Professor, emerging from the prostration of strength induced by this fever; his aged mother dying; his sister a corpse; his pupils dead around him; flying from house to house, wherever infection is raging; at home his apartments filled with supplicants diseased and dying; death almost everywhere stalking over the victims from the raging pestilence; he nevertheless braves the uplifted and poisonous dart, emulating the Father of the Apollonean art at the plague of Athens, and the descendants of Æsculapius at the Siege of Troy!

The July number of the *Phonographic Record of Clinical Teaching and Medical Science* has a very good reproduction of a recent photograph of the President of the Society of Medical Phonographers, Sir William Gowers, who with Sir William Thomson, President of the College of Surgeons of Ireland, a member of the Society, have recently received the honour of knighthood. Under Results of Treatment Sir W. R. Gowers describes the successful treatment of tabes by chloride of aluminium. There is an interesting account of Mirror Writing in Phonography and Aphorisms for Use on Commencing Practice, by A Cynic.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING OF COUNCIL FOR 1897.

A MEETING of the Council will be held on October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the meeting—namely, September 30th.

ELECTION OF MEMBERS.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

FRANCIS FOWKE, *General Secretary*.

SOUTHERN BRANCH: ISLE OF WIGHT DISTRICT.

THE quarterly meeting of this District was held at Sandown on July 16th, Dr. H. HARLAND (President) in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Notice of Motion.—The PRESIDENT gave notice of resolution for next meeting, to alter rules up to date.

The Next Annual Meeting.—Dr. GREEN reported that at the annual meeting of the Branch Sandown was chosen for the next annual meeting in June, 1898.

Officers of Branch.—Dr. GROVES reported that Dr. Green was elected as President-Elect of the Branch, and Dr. R. Robertson one of the Vice-Presidents.

Club Use and Abuse.—Dr. BRODIE (Sandown) read a paper on this subject. After admitting that the club system as originally intended had distinct advantages, he pointed out that of late years there had been a growing tendency for people who could well afford to pay moderate fees to join these clubs, and a system originally intended as a provident scheme for the poor was taken advantage of and abused by the better classes. The wage limit would to some extent eliminate the objectionable element, but to be effectual would have to be applied in conjunction with number in family, place of residence, and permanence of work. He thought that any single man earning 35s. a week should be excluded from medical benefits, though he saw no objection to his subscribing to the other funds of a club. This would be a hardship to no one, for an increased membership meant increased capital, at least in the cases of such societies as the Oddfellows and Foresters, and if a member were taken ill he could call in any doctor he wished, who would sign the necessary club certificate for sick pay. It was curious that with largely increased funds at the disposal of the large societies the tendency was to decrease and not increase the salaries of their medical officers. Again, there was the starting of numerous juvenile branches, which in the earlier history of clubs were unknown. On what grounds were medical men supposed to take these young people at half the fees paid by adults? In former days taking a club meant an implied attendance on the wives and families of the members, and this to some extent counterbalanced the small remuneration paid for the contract work, but even this was now apparently dwindling away. It had often struck him as extraordinary that in such a large body as the Oddfellows there was no fixed scale of payment for its different branches, nor were the same rules in force. Some lodges paid an additional fee for fractures, dislocations, and operations on the same scale as the Poor-law service, others gave no extras, so that all the expense of apparatus and dressings came out of the doctor's pocket. Another point: Was a club doctor entitled to a fee if he were asked to meet an outside opinion at the request of the patient or his friends? He cited a case in point in which after he had attended a man for many weeks, his parents desired a second opinion, and without any hesitation paid the consultant his fee of £8 8s., the patient's annual subscription being 4s. Contract work was to his mind extremely unsatisfactory as a principle, and it had occurred to him that there was a simple way out of the difficulty. Why was it not possible for each club member to pay into a common fund his 4s., 5s., 6s. per annum, out of which the doctor's bill could be met. He would advocate the establishment of a scale of charges at a moderate rate, according to which visits and medicine should be charged, and at the end of the attendance or half year each account should be sent in to be met out of this fund. It would be far more satisfactory both to doctor and patient—the former would feel that he was being paid for work done, and the latter could no longer say that he was neglected because he was a club patient. It would be a misfortune if, during the initial year, there happened to be a great run of sickness, but even this could be met by a small extra levy per member, and he thought that if this plan were prominently put before members they would see it would be a mutual advantage.—An animated discussion followed the reading of Dr. Brodie's paper in which all present joined, and finally it was resolved to adjourn the matter until the next meeting for the author to prepare a resolution to be forwarded to the Council.

Communications.—Dr. PRESTON showed a case of Monstrosity still living. For want of time, Dr. Preston's paper was postponed until next meeting, for which Dr. Buck (Ryde) also promised a paper.

Next Meeting.—It was resolved that the next meeting should be held at the Pier Hotel, Sandown, on the third Friday in October at 4 p.m.

SOUTHERN BRANCH: SOUTH EAST HANTS DISTRICT.

A MEETING was held at the Medical Library, Portsmouth, on May 28th, 1897.

Elections.—Surgeon-Major-General J. Davis, A.M.S., was

elected President, and Messrs. W. B. Mason (Southsea) and T. A. M. Forde (Southsea) members.

Clinical Cases.—Dr. AXFORD showed a patient convalescent from Tetanus after Treatment by Antitoxin Serum.—Dr. LYSANDER MAYBURY showed a child afflicted with Extroversion of Bladder.

Pathological Specimens.—Dr. COUSINS showed a Vermiform Appendix removed by operation.—Mr. G. GORDON SPARROW showed a pair of Strumous Kidneys riddled with Abscesses. On the left side one had pointed near the anterior superior iliac spine, where it had been opened. On the right side a large perinephritic abscess had perforated the diaphragm and filled the right pleura, causing death.—Mr. EMMETT showed two Great Toenails of monstrous form which he had removed from a patient.—Dr. CLAREMONT showed a Large Syphilitic Sequestrum from the frontal bone. The bone had been exposed for ten years. On its removal the skin was found to be completely cicatrised beneath it, and appeared to have been so for a very long time.

Classification of Diseases.—Dr. SYKES read a paper on this subject. He gave an account of the various systems based on the Linnean system, and illustrated their effect in associating unlike and separating like diseases. He deprecated the present neglect of philosophical classification, and advocated a system founded on variations in the patient's environment as causes of disease. Our present knowledge might not enable us to find a place for every disease in the system, but this would be due to deficiency of knowledge, and would not indicate a defect in the system.

Skiagraphs.—A large number of clinical skiagraphs was exhibited.

SPECIAL CORRESPONDENCE.

ROME.

Foreign Practice in Italy.—The Italian Foundling Hospitals.—Honours to Professor Sanarelli.—An Epidemic of Diphtheria arrested by Serum Prophylaxis.

THERE is little to record in reference to the progress of the proposed change in the law as to foreign practice in Italy, but there is no doubt now that it will not be introduced into the House of Deputies until next session, because Parliament has been prorogued until November. If one may judge from the reply of the Under-Secretary of the Interior to Dr. Santini, it is evident that the steps taken by the British physicians practising in Italy have already been beneficial, because the Under-Secretary stated in his reply that, with reference to medical practice in Italy by foreigners, the law will be modified in such a way that the practice of medicine will be accorded to the medical practitioners of those nations who are disposed to afford the same facilities to Italian doctors. Dr. Santini also appears to agree with the principal of reciprocity, as he, in thanking Signor Serrena, insisted upon it. Now, as the General Medical Council are desirous that the "reciprocity clause" of the Medical Act of 1887 should be adopted with Italy, and as they have appointed a very influential Committee of their body for this purpose, there are good grounds for the hope that this clause will ere long be adopted between the two countries.

Within the last month or two important discussions have taken place in the Italian Chamber of Deputies and also in the Italian press in respect to the truly deplorable condition of the foundling hospitals in this country. These discussions arose from the report of the Commissioners on the mortality and general state of the Naples Foundling Hospital in 1895. The report states that out of 856 infants received in the institution in that year, 853 died within the year, and that another has since died. The Commissioners have accused the administration of shutting an eye, and sometimes even both, to the way in which the foundlings have been entrusted to unknown persons. They have also stated that the wet nurses in the hospital have neglected their duties, as have also the sisters in charge and the medical staff. Lately Dr. Titmanlio, a member of the medical staff and a specialist for diseases of children, has issued a reply to these charges, in which he says the statement that the deaths of 854 infants out of 856 has only a relative value when one considers that the sick foundlings only are retained in the *brefstrofio* (foundling hospital), as the healthy are placed with wet nurses in the homes of the latter. He goes on to state that the Commissioners, in not taking into consideration the 1,114 foundlings who were put out to nurse outside the institution, and the 63 consigned to their parents, making a total of 1,177, which added to the 856 gives a mortality of 854 infants in 2,030 received during 1895, that is, a mortality of 39.2 per cent. (the maximum per cent., 53.8, occurred in July, and the minimum, 24.5, in April), which he thinks not in the least excessive when the ready occasion of death of the newly born is considered. He also says that foundling hospitals, especially the large ones in a city like Naples, receive the refuse of all the miseries, of all the physical and moral depravities which feed there, and he then describes the unsuitable position of the hospital, the small and badly ventilated wards, and the very insanitary condition of the building, which he considers to be the cause of the high mortality rather than the neglect of their duties by the nursing staff and the medical officers. The Minister of the Interior has sent a circular to the prefects requesting them to send him a report of the various foundling hospitals in their province, in relation to the number of such institutions in each province, the number of foundlings received in each during the past five years, the result of the nursing of those in the hospitals and outside, the hygienic condition of the hospitals, the number of the medical staff in relation with the foundlings, the income of the institutions, etc., such report to be drawn up by the country health officer under the direction of the prefect. Since this circular was issued a Royal Commission has been appointed to institute an inquiry on the foundling hospitals of Italy; among the members are Professors Durante, Tomasi-Crudeli, and Celli.

It appears that the lecture given by Professor Sanarelli, the greater portion of which was published in the BRITISH MEDICAL JOURNAL of July 3rd, at the University of Montevideo, in which he related his discovery of the yellow fever bacillus, was attended by the Minister of Public Instruction, and the scientific and political authorities, representing the neighbouring States, especially Brazil. After the conference a banquet was given to Dr. Sanarelli, at which over 200 persons were present. On June 13th Dr. Rodriguez, Deputy for Montevideo, introduced a Bill for the purpose of presenting 10,000 pesos (£2,500) to the Professor, and another deputy moved that "the eminent Italian, who has so much honoured the Republic of Uruguay, should be elected an honorary citizen." The City Council have also presented him with a work of art. It is said that Dr. Sanarelli has for the past four months been actively engaged in endeavouring to discover the serum for the cure of yellow fever. The Brazilian Government have promised to the discoverer of a cure for the disease a prize of a million and a half francs.

Dr. Pasani, sanitary officer of Baricella, in the province of Bologna, has published an article in the *Rivista di Igiene e Sanità Publica* of July 1st on an epidemic of diphtheria which broke out in the above town, which was arrested by preventive injections of the antidiphtherial serum. It states that the outbreak developed amongst a population of 5,500 persons in the worst possible hygienic and dietetic conditions. The first case occurred towards the end of October, 1896, and 57 others followed. Of the 58 cases, 54 were treated with serum procured from the Bologna Antirabic Institute, and there were 5 deaths, equal to a mortality of 8.6 per cent. From his observations, he believes the serum by itself alone is sufficient to cure the disease, and that even in very young children it is necessary to inject 1,000 I.u., and to repeat it in twenty to twenty-four hours if the local and general symptoms are not improved. The epidemic continued, sometimes lessening, at others increasing, notwithstanding the adoption of severe prophylactic measures—isolation, disinfection, closure of the schools for a time, etc. He therefore, with the consent and at the expense of the municipal authorities, had recourse to preventive injections on a large scale. These injections were made on four-fifths of the children of the poor, between 1 and 12 years of age, and the results demonstrated very clearly their value, both as regards the immunising power of the serum and the duration of the immunity. When the epidemic was at its height he inoculated 260 children. From

the second day (February 2nd, 1897) following the injections up to May 15th, when he wrote the article, only 2 cases of diphtheria had taken place among them. Both cases were very slight; one occurred forty days and the other two months after the injections. On the other hand, 15 cases of diphtheria and primary croup occurred between February 2nd and May 15th among the children not subjected to the preventive treatment. The dose up to 2 years of age was 100 I.u., from 2 to 8 years 200 I.u., and from 8 to 12 years 300 I.u. To save time, owing to his having to inoculate such a large number, he injected the serum into the antero-external part of the arm. He sometimes noticed a cutaneous eruption around the inoculated point, and at others a slight œdema with a little pain, which disappeared in a day or two. He had not observed any internal disturbances from the injections.

CORRESPONDENCE.

MEDICAL DEFENCE.

SIR,—The resolution of the extraordinary general meeting which was held to-day under the Articles of Association 13, 14, and 15, and which confirmed the resolutions of the special meetings of 1896, unlike these last, requires no further confirmation by a second meeting. The meetings of 1896 were convened under the Companies (Memorandum of Association) Act, 1890, which requires this second confirmation. The meeting to-day could only pass recommendatory resolutions. It will be therefore obvious that the notice of meeting which appears in the BRITISH MEDICAL JOURNAL is erroneous.

It is to be hoped that the Council will take the necessary steps to legalise the proposed amendment of the Memorandum, and to clear up misunderstandings on the matter. These resolutions, while they render any further development of medical reform possible through the Association, do not sanction or authorise the Council to systematically undertake medical defence. This can only be done if there is a large majority of the Association in favour of it. At present opinions as to its advisability are about equally divided. Until the Association makes up its mind by an overwhelming majority that it wishes this work undertaken, the scheme of medical defence which has been before the Branches cannot be further proceeded with. The decision is entirely in the hands of the members.

In view of certain remarks which were made at the meeting to-day, I shall feel obliged if you will allow me, as a member who has taken a part in bringing this matter forward, to express my conviction that the Council has endeavoured to ascertain the real feelings of members on this subject, and to meet the wishes of the members. I regret with regard to the scheme proposed that the result has not been as favourable to our proposal as we expected it would be, but the decision rested entirely with the Branches, whose voting on the subject gave about equal results. Those who regret this result with me can only blame the apathy and indifference of the body of the Association for the failure. That the Council have the interests of the Association at heart must be patent to all, whether we agree or disagree with its decisions and actions. Seeing how great is the need of the profession for efficient leaders, it is to be regretted that the Council of the Association does not take the lead in the movement of progress. Nothing would strengthen the Association more than a forward policy, which would be welcomed by all who deplore the present inchoate and disorganised movements of the medical profession, struggling to liberate itself from the evils which oppress it, while deprived of the leadership of those to whom it justly looked for assistance.—I am, etc.,

Leatherhead, July 27th. A. G. WELSFORD.

SIR,—As the *plébiscite* vote is carried I desire to present a few views and aspects on the above question. It is not amiss to endeavour to strengthen the position of the British Medical Association before the eyes of the lay public, or to enhance its advantages to members even to making it almost indispensable to the welfare of every medical gentleman. Medical defence seems to me proximately and remotely to aim at effecting these advantages, so I think it ought to be supported.

The British Medical Association is attractive, not only because of its fine JOURNAL and its yearly scientific discussions of a high order, but there is something else to be added. Stated in the briefest manner at my disposal, it will involve or embrace some of the following clauses:

1. An increased subscription; the higher the better, for thus more could be accomplished.
2. Perhaps an entrance fee for general purposes.
3. The obtaining of a Medical Reform Bill.
4. Getting the governing majority of the reformed General Medical Council into our own hands.
5. A fund to maintain our rights and help other existing governing bodies to maintain the rights of our members.
6. The alternative scheme of a subsidy to some standing committee or to any existing defence union. It appears to me that most actions taken under this head would as equally benefit an individual here and there as the whole mass of members all over the world by establishing precedents, principles, discipline, and moral influence. The fear of some that they would be subscribing without adequate return is therefore unmerited.
7. The support of rights or combat of abuses of the medical profession as they arise—for example, patent medicines, civil rights, M.O.H. and Poor-law officers salaries, A.M.D. reform, etc.
8. To strengthen the hands of the Council of the British Medical Association by definitely arriving at the limit of their duty, and authorising them to disburse our funds for medical defence

However little or much comes to pass the Council will have discretionary control of details and it is on Article "three" being interpreted that reform, advance, and enhanced benefits can be made for the good of all. There are a superabundance of royal and other purely scientific societies, but none come up to the proposed full ethical vigour of the British Medical Association; and those who curtail its plentiful and proper work usurp the respect for large medical interests.

One does not cavil with the devotees of the scientific side of our affairs, but any defence scheme will not hinder their supreme efforts. I would claim their captious but judicious judgment in recognising the importance of developing another side of utility, and that they should come into honourable line with members in favour of the medical defence *plébiscite* when taken. No one need be frightened that we are moving too quickly. Internal medical reform moves wofully slowly; it has hardly had any impetus and little to record in the Queen's reign, except, for example, the General Medical Council, which most want altered.

Medical defence is in no way a dangerous and uncontrollable innovation. The Council may try to burke the matter, but it is my opinion, and I would add, that it should be under the explicit direction of delegated or representative general meetings, and the distinct voice of the whole Association. I do not believe that Bentham's saying "the greatest happiness for the greatest mass," or the greatest benefit is properly attainable in constituting the Council with more than the discretionary powers it now rightly holds, but it can hardly lay claim to possess the final and ultimate appeal of "oyer and terminer." So I wish success to the *plébiscite* vote when taken, for it will reach every member, including unattached members like myself.—I am, etc.,

London, July 28th. H. ELLIOT-BLAKE.

THE CAUSATION OF CHLOROFORM SYNCOPE.

SIR,—In a recent address to the Society of Anæsthetists, published in the BRITISH MEDICAL JOURNAL of April 17th, I ventured to criticise in somewhat strong terms the work and conclusions of the Hyderabad Commission. Naturally expectant of some hard words in return, I do not complain of the scornful tone of Surgeon-Lieutenant-Colonel Lawrie. Although my laboratory has never been honoured nor my experiments witnessed by the "Nawab Munir-ul Mulk, the Maharajah the Peshkar, and the Nawab Fakhr-ul-Mulk" (page 1 Report of the Hyderabad Commission), yet I continue to believe the evidence of my own eyes and remain undazzled by the Eastern magnificence which threw its lustre around the more fortunate Commission of the Nizam.

I clutch with confidence, "as a drowning man to a straw," when that "straw," to quote Surgeon-Lieutenant-Colonel Lawrie, is my buoyant and resourceful old friend and master, Sydney Ringer—a "straw" who, by years of patient research, has steered us into a channel in which we may hope to fathom the almost inconceivable mysteries of the chemical reactions of protoplasm.

In dealing with such opponents as Gaskell and Shore, Surgeon-Lieutenant-Colonel Lawrie has in the past been distinguished for trenchant criticism. In his rejoinder, published in the BRITISH MEDICAL JOURNAL of July 17th, he could not, therefore, justly complain of any severe treatment at my hands. There we stand quits. Now to turn to the scientific side of the question.

Surgeon-Lieutenant-Colonel Lawrie seems to me to miss the whole drift of my address. The truth which I seek to establish is that chloroform kills by primarily paralysing the whole of the vascular mechanism.

The Commission grants the primary fall of arterial pressure. By my experiments I have endeavoured to prove that the respiration fails because the arterial pressure falls, and that if by any means the arterial pressure be raised, the respiration is renewed. From all the tracings of the Hyderabad Commission, the respiratory failure appears to be secondary to the fall of arterial pressure.

Surgeon-Lieutenant-Colonel Lawrie seems to be of opinion that the heart stands apart from the vascular system. He is ready to admit vascular but not cardiac dilatation. The whole of physiological evidence is against such a view. The entire vascular system is affected by the drug at the same time. If the drug slowly enters the system, not only the arteries but the heart also will slowly dilate. If a large dose be suddenly thrown into the coronary arteries the heart, before the drug can reach the peripheral organs, will rapidly pass into paralytic dilatation.

Surgeon-Lieutenant-Colonel Lawrie apparently limits not only his own research, but also that of others, to experiments on "uncomplicated anæsthesia." He abuses the Glasgow Commission for studying the effect on an animal "of a cloth saturated with anæsthetic held over the mouth and nose."

No one would for a moment deny the statement of the Hyderabad Commission that in uncomplicated chloroform anæsthesia "the drug causes lowering of the blood pressure, then anæsthesia, then stoppage of the respiration, and then death from stoppage of the heart." It was scarcely necessary to evoke the resources of the Nizam in order to demonstrate so well known and obvious a fact.

It is not "uncomplicated anæsthesia" which requires our study, but the causation of those accidental deaths which take place in the primary stage of anæsthesia. On such the Commission failed to throw any light. Surgeon-Lieutenant Colonel Lawrie would have us believe that such a thing as chloroform syncope does not exist, and that European anæsthetists have to chronicle deaths from chloroform which roughly average 1 in 2,000 (many are never recorded), because in Europe the method of administration is controlled by false teaching, and is inferior to that in India. Now the plain matter of fact is this. It is in India practically impossible to anæsthetise a dog with ether owing to the climate and rapidity of evaporation. It is the climate which likewise acts as a safeguard in chloroform anæsthesia, and prevents syncope. I pin my faith to the following simple experiment which in England anyone can repeat for himself.

1. Kill a dog by forcing chloroform. The easiest method is to draw a sponge bag containing some chloroform over a dog's head.
2. Watch whether it is the pulse (in the femoral artery) or the respiration that ceases first. They may cease together, but usually the respiration continues the longer.
3. Immediately split the sternum, open the pericardium, and observe the heart. It will be found profoundly dilated, manifesting ineffectual waves of contraction, in a condition of paralytic dilatation, and unable to empty its cavities.
4. Hang the animal in the vertical feet-down position, and empty the heart by squeezing it rhythmically with the hand. The heart will respond with stronger and effectual beats.
5. Hang the animal in the vertical feet-up position. The heart may again pass into paralytic dilatation.

The point of importance to be noted is not when the heart ceases to make efforts at contraction, but when it ceases to expel its contents. Artificial respiration leads to recovery from chloroform syncope, not because of the oxygen supplied, but because by the compression of the thorax the dilated heart is aided mechanically. It is important to remember that the exertion of the heart muscle varies as the cube of the radius of curvature. Therefore the dilated and poisoned ventricle cannot empty its contents without mechanical aid. By struggling the venous engorgement of the right heart is mechanically increased; the chloroform produces the paralysis. Surgeon-Lieutenant-Colonel Lawrie states that it is very evident that I have not attempted to repeat Gaskell and Shore's cross circulation experiments. Mr. Barnard and I have executed the following analogous and completely confirmatory experiment:

1. In an anæsthetised dog the two carotid, the two vertebral arteries, and the two superior intercostal arteries were ligatured.
2. A cannula was placed in one carotid, another cannula was placed in the external jugular vein.
3. An artificial circulation of warm defibrinated blood was established through the brain.
4. The veins of the neck were ligatured.
5. The pressure in the femoral artery was recorded.

On injecting chloroform into the carotid artery towards the brain the arterial pressure rose.

On injecting chloroform into the jugular vein towards the heart the arterial pressure fell with the utmost rapidity, and, while the respiration remained unimpaired, the heart passed into paralytic dilatation.

This experiment is confirmatory not only of Gaskell and Shore's work, but also of experiments of Newell-Martin on the excised mammalian heart.

By means of a simple and accurate form of sphygmometer, which Mr. Barnard and I have recently invented and will shortly publish, we have recorded the pressure in the brachial artery during anæsthesia produced by chloroform, ether, gas, and oxygen.

The arterial pressure of man rapidly falls under the influence of chloroform, and remains depressed during the anæsthesia about 20 to 40 mm. Hg. (a fall equal to one-third to one-fifth of the normal pressure).

Under ether the arterial pressure remains constant at the normal level, or drops at most 5 to 10 mm. Hg.

Under gas and oxygen the pressure either rises slightly or remains constant.

On the broad question as to whether chloroform syncope be caused by primary respiratory or circulatory failure, the profession have to decide between the Hyderabad Commission, which included so eminent a scientist as Lauder Brunton, on the one side; and the Glasgow Committee—Snow, Hare and Thornton, Ringer, MacWilliam, Martin, Gaskell and Shore, and the greater majority of English physiologists—on the other. Till Dr. Lauder Brunton went to India he was with us. I believe that if he again entered into an inquiry on the action of chloroform in a cold and damp climate, he would once more join the ranks of those who teach that chloroform kills by paralysing the circulatory mechanism.—I am, etc.,

LEONARD HILL.

London Hospital Medical School, July 26th.

SIR,—If Surgeon-Lieutenant-Colonel Lawrie's arguments in the first part of his paper, which appeared in the BRITISH MEDICAL JOURNAL of July 17th, are no stronger than those contained in the concluding paragraph, Mr. Leonard Hill will have but little difficulty in answering them if he thinks it worth while to do so.

In the paragraph in question, Surgeon-Lieutenant-Colonel Lawrie suggests that the Society of Anæsthetists are prejudiced against his views, and I should be very glad indeed to know what are his reasons for coming to such a conclusion. That individual members of the Society should hold, and should have taken every opportunity of expressing, opinions which are not agreeable to Surgeon-Lieutenant-Colonel Lawrie can hardly be wondered at when it is remembered that the membership roll of the Society has included, at one time or another, nearly every "anæsthetist" both in London and the provinces; in no sense of the term can such opinions be held to prejudice the Society, and there is surely no precedent for such a Society passing resolutions either in favour of or against any views which may be brought before them. As a matter of fact, however, neither Surgeon-Lieutenant-Colonel Lawrie nor any of his friends have, as far as I know, ever brought the views in question before the Society. When Surgeon-Lieutenant-Colonel Lawrie was in England in 1894, he was approached upon the subject, but the negotiations fell through, and the well-remembered meeting of July 3rd, 1894, was held under the auspices of the Royal Medical and Chi-

rurgical Society; and, further, Surgeon-Lieutenant-Colonel Lawrie is himself a member of the Society, so that it can hardly be said that he has had no opportunity of laying his views before his fellow members. It almost seems that if there is any prejudice at all it is not on the side of the Society of Anæsthetists.

In Section v of the report of the Hyderabad Commission[1] we read: "The first Commission was applied for by Surgeon-Major Edward Lawrie because, having always believed in the truth of Syme's teaching, he desired to show by experiments upon dogs that in death from chloroform the respirations always stop before the heart"; the second Commission was appointed to confirm the results of the first, and Surgeon-Lieutenant-Colonel Lawrie was president of both Commissions. It cannot be denied that terms of reference such as these were, to put it mildly, extremely unfortunate, for it is obvious that they go very far to justify Mr. Leonard Hill's view as to the bias of the Commission. Such charges may or may not be of secondary importance or mere side issues, but it is difficult to see why they should be "infinitely amusing."

From the very earliest days specialists have been accused of pecuniary motives, and it is not in the least surprising to have the accusation levelled against anæsthetists. Surgeon-Lieutenant-Colonel Lawrie is playing the game quite correctly: when other arguments have been met or have failed to convince it is quite the right thing to introduce the question of pecuniary interests. I have noticed, too, that when matters have reached this stage the specialist usually declines further combat. I should be sorry to depart from the usual custom.—I am, etc,

Devonshire Street, W., July 19th. J. FREDERICK W. SILK.

THE DISINFECTION OF HANDS AND INSTRUMENTS.

SIR,—In the BRITISH MEDICAL JOURNAL of July 24th you review the second edition of Mr. Watson Cheyne's book on the *Treatment of Wounds, Ulcers, and Abscesses*, 1897. In this review is quoted a criticism which Mr. Cheyne has passed upon my own experiments. Inasmuch as silence might be considered acquiescence in these criticisms, and as your reviewer has pointedly alluded to them, perhaps you will allow me very briefly to reply. Mr. Cheyne says (p. 30, ch. v):

> In a recent paper by Mr. Lockwood it has been stated that the ordinary methods of disinfection of the skin are quite inefficient. Mr. Lockwood was not content with the ordinary test of scraping portions of the epidermis from the surface of the skin after the use of disinfecting agents, but actually took pieces of the whole thickness of the skin, and placed them in various cultivating fluids, and apparently, if his experiments are correct, even the use of very elaborate methods of disinfection failed to answer the purpose. I have very recently taken the trouble to repeat these experiments with totally different results, if only the experiment is done with all suitable bacteriological precautions. It is quite evident that some error in the bacteriological methods has crept into Mr. Lockwood's experiments.

Doubtless, although no reference is given, by the expression "recent paper" Mr. Cheyne means those which were published in the BRITISH MEDICAL JOURNAL of January 27th, 1894, and July 11th, 1896. The first, as its title says, deals with the disinfection of skin, sponges, and towels: the second has special reference to the disinfection of materials and of the skin. Inasmuch as the same bacteriological methods prevailed throughout, it is obvious that the same errors would prevail throughout. Now, as regards the materials the results were as follows: Silk and silkworm gut were aseptic 18 consecutive times. Towels are harder to disinfect, and two out of twenty-two were aseptic and three septic. The sepsis in these cases is commented upon and discussed. But Mr. Cheyne's criticism, as your reviewer mentions, refers more particularly to the disinfection of the skin. My experiments include the skin of the hands of the surgeon and of his assistants, and also the skin of the patient.

As regards the skin of the hands, we found that by additional care in disinfection our results grew better, so that out of forty-nine tests of the skin of the surgeon and his assistants five were septic. Mr. Cheyne having recently taken the trouble to repeat these experiments, says that his results are totally different. Doubtless he will now give us the exact details of his experiments, but I confess it seems hard to understand what he asserts, unless his results were all septic.

[1] *Lancet*, January 18th, 1897.

As regards the skin of the patient, my experiments were done with portions taken from the limbs, scrotum, groin, breast, neck, and scalp. The skin of the limbs was septic once in ten experiments. Again, I ask, how do Mr. Cheyne's experiments totally differ from these? The skin from other regions gave different results according to the position. For instance, the scrotum was septic six times in fourteen tests, and aseptic eight, and so on. Moreover, it is expressly stated that the ordinary bacteria of the skin grew in the infected tubes. However, having taken the trouble to repeat these experiments, Mr. Cheyne will now, doubtless, tell us the exact results. Obviously, he cannot have got results which totally differ from both the septic and the aseptic.

As a matter of fact, as everyone knows, the experiments which I described are the simplest in bacteriology. They were done for me under my own supervision by a gentleman who had been trained by Dr. Klein, Dr. Kanthack, and Dr. V. D. Harris. I need hardly say that we wait with interest to learn what this error is, and where and how it crept into the experiments.—I am, etc.,

Upper Berkeley Street, W., July 27th. C. B. LOCKWOOD.

MIDDLE EAR DISEASE AND MENINGITIS.

SIR,—In the BRITISH MEDICAL JOURNAL of July 24th, Sir William Dalby, under the title of A Note as to When Incisions of the Tympanic Membrane should be Performed in Middle Ear Disease, was pleased to make some remarks about a paper of mine that appeared in the BRITISH MEDICAL JOURNAL of June 12th. He says he read this with great satisfaction, apparently because it afforded him the opportunity of attacking me. I should scarcely have thought it worth while to reply to this, as I am accustomed to such friendly sallies from his pen, but I feel it necessary to correct one or two statements which might create a false impression, were they allowed to pass unchallenged.

Sir William Dalby relates, as long ago as 1872 he advocated the propriety of making an opening in the drumhead to provide an exit for pus, when there was sufficient evidence of purulent matter in the tympanic cavity, and, referring to Hinton's views on this subject, insinuates that I was entirely ignorant of them. As I worked under Mr. Hinton for some time at Guy's Hospital, I was perfectly aware of his views, and I should be the first to acknowledge how greatly I am indebted to his skilful teaching. The incision, however, to allow the exit of pus where middle ear disease has been diagnosed was not the point to which I desired to draw attention.

What I wished to insist upon was that in certain cases of young children in whom acute symptoms closely resembling those of posterior basal meningitis had developed, incision of the tympanic membrane had led to the rapid subsidence of these symptoms, even though there was no evidence of middle-ear disease on examination, and no symptoms pointed to it—in fact, cases in which ear disease was entirely unsuspected. The inference was that this early incision had prevented the more serious catastrophe of basal meningitis. I did not myself claim any credit for this discovery, which, I think I made sufficiently clear, was entirely due to Drs. Cheadle, Barlow, and Lees.

Sir William Dalby again was startled at my statement that hydrocephalus and idiocy might result from middle-ear disease, and says if we are to accept this opinion "Mr. Field will, I am sure, forgive me saying that the accepted views of the pathology of hydrocephalus will have to be completely reconstructed."

If Sir William Dalby had read more carefully Dr. Barlow's statement that in 8 cases in which a diagnosis of posterior basal meningitis was tenable the symptoms were relieved by puncture of the tympanic membrane, a little thought would have shown him my line of reasoning. If middle-ear disease may give rise to posterior basal meningitis, as seems undoubtedly to be the case, then it may also lead to hydrocephalus and mental defect, which have been shown by recent researches to be not uncommon results of basal meningitis.

I do not feel at liberty to say more about the relationship of middle-ear disease to posterior basal meningitis, as I have reason to believe that a paper on this subject will shortly be published by Drs. Barlow and Lees.—I am, etc.,

Wimpole Street W., July 27th. GEORGE P. FIELD.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

THE following appointments have been made at the Admiralty: RICHARD A. FITCH, Surgeon, to the *Barrosa*, July 21st: PERCY V. JACKSON, Surgeon, to the *St. Vincent*, July 21st; FREDERICK W. PARKER, Surgeon, to Plymouth Hospital, undated; EDWARD CUFFEY, Surgeon, to the *Halcyon*, July 21st; FRANK BRADSHAW, Surgeon, to the Haulbowline Hospital, July 21st; RICHARD W. STANISTREET, Surgeon, to Chatham Hospital, July 22nd; JAMES BRADLEY, M.D., Surgeon, to the *Egeria*, July 22nd; DANIEL J. P. M'NABB, Surgeon, to Haslar Hospital, undated.

INDIAN MEDICAL SERVICE.

SURGEON-LIEUTENANT-COLONEL STANLLY L. DOBIE, Madras Establishment, is permitted to retire from the Service, July 6th. He was appointed Assistant-Surgeon, March 30th, 1872, and became Surgeon-Lieutenant-Colonel twenty years thereafter. During the Afghan war in 1878 80, he had medical charge of the 1st Madras Cavalry, receiving a medal for the campaign. In 1885-6 he served at Suakin with the Indian Contingent in medical charge of No. 2 Field Hospital.

Surgeon-Major GRANVILLE JAMESON, Bengal Establishment, died at Krishnagar on July 3rd. He was appointed Surgeon, March 31st, 1883, and Surgeon-Major, March 31st, 1895. He served in the Soudan Campaign in 1885, receiving a medal, with clasp, and the Khedive's star.

ARMY MEDICAL STAFF.

SURGEON-MAJOR WALTER C. BEEVOR, M.B., from the Scots Guards, is appointed Surgeon-Major, Grenadier Guards, in succession to Surgeon-Lieutenant-Colonel W. Campbell, M.B., retired, June 26th. Surgeon-Major Beevor was appointed to the Scots Guards, November 28th, 1885.

Surgeon-Major PATRICK J. O'SULLIVAN, M.D., retires from the service, receiving a gratuity, July 28th. He was appointed Surgeon, August 5th, 1877, and Surgeon-Major twelve years later.

Surgeon-Major PATRICK H. FOX, F.R.C.S.I., also retires from the service with a gratuity, July 28th. His commissions were dated: Surgeon, March 6th, 1880; Surgeon-Major, March 6th, 1892.

ARMY MEDICAL RESERVE.

SURGEON-MAJOR GEORGE W. HATCHELL, having resigned his Militia appointment, ceases to belong to the Army Medical Reserve, July 28th.

Surgeon-Captain C. C. MOXON, having resigned his Volunteer appointment, also ceases to belong to the Reserve, July 28th.

THE VOLUNTEERS.

THE undermentioned officers have resigned their commissions, dated July 28th: Surgeon-Lieutenant W. H. MURDOCH, M.D., 6th Lancashire Artillery; Surgeon-Captain J. CUNNINGHAM, M.B., 1st Argyll and Bute Artillery; Surgeon-Lieutenant J. E. J. SODEN, 3rd Glamorgan Rifles; Surgeon-Lieutenant J. F. WOODS, M.D., 1st Tower Hamlets Rifles.

Mr. JOHN W. NICHOLSON is appointed Surgeon-Lieutenant in the 1st Volunteer Battalion the Lincolnshire Regiment, July 28th.

Surgeon-Lieutenant-Colonel T. M. DOLAN, M.D., 1st Volunteer Battalion the Duke of Wellington's West Riding Regiment, has resigned his commission, with permission to retain his rank and uniform, July 28th.

REDUCTION OF PAY IN INDIA.

MEDICAL STAFF writes: I shall feel obliged if someone would inform me authoritatively whether the pay of surgeon-major-generals in India was not reduced from Rs. 2,500 to Rs. 2,200 a month about two years ago, when the army corps system was introduced. because it is not so stated in the revised lists of pay lately published in the BRITISH MEDICAL JOURNAL.

THE VOLUNTEER MEDICAL ASSOCIATION.

THE competition for the challenge shield offered by the Volunteer Medical Association for the encouragement of ambulance training in Volunteer regiments took place on July 24th at St. George's Barracks. The competition, which is open to stretcher detachments belonging to any regiment or corps in the Volunteer and Yeomanry forces and the Honourable Artillery Company, consists of examinations in stretcher and waggon drill, bandaging, "first aid," and anatomy and physiology. Eight teams of four men each entered. The result of the competition was as follows: 2nd V.B. Royal Fusiliers, 252 marks; 1st squad 1st V.B. Highland Light Infantry, 245 marks; 1st Bucks V.R.C., 232 marks; 2nd V.B. Border Regiment, 222 marks; 2nd V.B. Hampshire Regiment, 221 marks; and 2nd squad 1st V.B. Highland Light Infantry, 204 marks. The highest possible marks were 300. Surgeon-Colonel O'Farrell presented the shield to the winning team, and badges to the individual members of the first three teams.

MEDICO-LEGAL.

DEFECTIVE SANITARY ARRANGEMENTS.

THE action (Wright *v.* Butler) came on in the Queen's Bench Division on July 24th, before Mr. Justice Wills. According to the report in the *Daily Mail* it was brought by Mr. Henry Wright, carman, residing at Bexley Heath, against Mr. William Daniel Butler, residing at Sussex House, Bexley Heath, to recover damages for the loss of three children through an alleged nuisance caused by the defendant. It was stated that the defendant was the owner of a block of four cottages in Sandford Road, Bexley Heath, and in August, 1889, the plaintiff became tenant of one of them. The sewage, etc., of the four cottages flowed into a cesspool in the garden at the rear of the house adjoining that in which the plaintiff resided. When the cesspool became full, sewage, it was said, was carried by means of pipes into a receptacle at the bottom of the same garden. Plaintiff's case was that the defendant failed to cleanse the cesspool with reasonable frequency, with the result that this garden became sodden with sewage matter. He also contended that the nuisance was aggravated by a pipe underneath his scullery being broken, and that although defendant's attention was drawn to the nuisance which existed, he refused to abate it. In the Autumn of last year four of the plaintiff's children were taken ill with diphtheria, and three of them died. Plaintiff said that the deaths of his children were due to the nuisance which the defendant had permitted to exist on the premises, and that therefore the defendant was liable to pay the expenses to which he had been put in consequence of the illness of his children, and damages for the loss of the services of two of the children who, prior to their fatal illness, assisted their mother in household work. Defendant denied that he permitted any nuisance to exist. He said he had received no complaint respecting the cesspool from any of his tenants, and that plaintiff never refused to pay his rent. Mr. Justice Wills held that the defendant was liable and gave judgment for the plaintiff for £50 and costs.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF ABERDEEN.

GRADUATION IN MEDICINE.

Degree of M.D.—C. B. Anderson, M.B., C.M. (thesis—Enteric or Typhoid Fever); A. Baxter, M.B., C.M. (thesis—Puerperal Eclampsia: its Clinical Aspect, with notes of cases); C. H. Dyer, M.B., C.M. (thesis—Peripheral Irritation and Reflex Disorder) (New Ordinances); E. M. Griffiths, M.B., C.M. (thesis—Some Notes on Whooping-cough, more especially in reference to Treatment); J. McRae, M.A., M.B., C.M. (thesis—The Function of the Thyroid Gland); E. T. Martin, M.B., C.M. (thesis—Some Observations upon certain Diets and Beverages, chiefly in Relation to their Effect upon the Urine); W. Moir, M.B., C.M. (thesis—Convulsions in Children: Causation and Treatment) (New Ordinances); D. Neil, M.B., C.M. (thesis—Some Intestinal Disorders in Infancy: their Cause and Treatment); W. R. Reith, M.A., M.B., C.M. (thesis—Delivery in Highly contracted Pelvis); J. Ritchie, M.B., C.M. (thesis—Clinical History of Enteric Fever).

Degrees of M.B. and C.M. (Old Ordinances)—J. V. Easton, M.A.: W. Hunter (with honourable distinction), W. A. Kinloch, A. R. Laing, H. F. Mitchell, J. A. Rose, M.A.

Degrees of M.B. and Ch.B. (New Ordinances).—W. Ainslie, W. H. Clark, J. Duff, H. W. Garden, W. S. Hall, A. W. Hare, A. A. Robb, J. Roger, M.A.; N. J. Sinclair, G. A. Turner.

W. D. M. Donald has passed the examinations for M.B. and Ch.B., but will not graduate until he has attained the necessary age.

The John Murray Medal and Scholarship has been awarded to M. G. Robertson, M.A., M.B., C.M. *Proxime accessit* T. W. Lumsden, M.B., Ch.B.

The George Thompson Fellowship has been awarded to W. Hunter.

Diploma in Public Health.—D. Buchan, M.B., C.M.Aberd.; G. Chalmers, M.B., C.M.Aberd.; W. R. Clark, M.A., M.B., C.M.Aberd., Surgeon-Captain I.M.S.; G. M. Duncan, M.B., C.M.Aberd.; J. A. R. Glennie, M.B., C.M.Aberd.; T. Harper, M.B., C.M.Aberd.; L. G. Haydon, M.B., C.M.Aberd.; J. Shearer, M.A., M.B., C.M.Aberd., Surgeon-Major I.M.S.; J. S. H. Walker, M.B., C.M.Edin.

UNIVERSITY OF GLASGOW.

GRADUATION IN MEDICINE.—On July 22nd the annual graduation in medicine took place in the Bute Hall. Amongst the graduates were six women. One of them, an Indian lady (Merbai Ardeen Vakil) received special plaudits as she passed up to be capped. Two students gained their degrees with honours—John Allan Craigie Macewen, B.Sc. (son of Professor Macewen), and Thomas Hunter, M.A., B.Sc. The Brunton Memorial Prize for the most distinguished graduate of the year, was divided between them. Professor Gairdner, in an interesting address to graduates, spoke of the necessity they would probably find of waiting before they could reap the reward of their labours. He urged them not to let the time go by unprofitably, but to learn "how to wait"—to use the time to prepare themselves to be able to take advantage of opportunities when they came. He warned them specially against two temptations which beset those entering upon a medical career—the desire for fees, and the gratification of petty personal vanity or egotism. Character, he observed, was almost more important in medicine than brilliant acquirements, and he advised them to build up this steadily and well by using the knowledge they had gained only for the highest purposes, and by acts of personal devotion in their work. Those who have studied under Dr. Gairdner, or seen him at the bedside, could well appreciate his advice to the graduates to adopt a modest attitude in youth, and to retain it in age. In closing, Dr. Gairdner pointed out to the graduates the value to them in coming up for the highest degree of M.D., of writing a thesis on a subject chosen by themselves. This, he said, "is no longer the only test for the higher degree, but it must remain the chief test for honours even under the new regulations, and it is one of the best ways in which you can improve your time of waiting, and keep in repair and develop further your faculties."

THE following is the official list of graduates:

Doctors of Medicine (M.D.)—‡J. Thomson, M.B., C.M. (thesis—Exophthalmic Goître, with special reference to its treatment by Thymus Gland); R. Boyd, M.B., C.M. (thesis—Notes and Observations from the experience gained from 150 cases of Abdominal Section performed in a provincial Hospital); A. Cluckie, M.B., C.M. (thesis—Suggestions for a Revised Pharmacopœia); O. G. Jones, M.B., C.M. (thesis—Ptomaine Poisoning); R. C. Macdiarmid, M.B. C.M. (thesis—The Anæmia of Spanish Lead Miners); H. C. T. Young, M.B., C.M. (thesis—Australasia, especially New South Wales, as a Health Resort for British Consumptives).

Bachelors of Medicine and Masters in Surgery (M.B., C.M.).—†* J. A. C.

Macewen, B.Sc.; ‡J. Rankin, B.Sc.; ‡W. Martin, M.A., B.Sc.; ‡N. Macnair, B.SC.; K. Adamson, J. Allan, Agnes Jane Anderson, Annie Kirbby Anderson, J. Andrew, J. M. Bonar, J. R. Brown, J. R. Burns, C. Cairnie, M.A.; J. S. Christie, W. Colquhoun, M.A.; J. Crawford, J. Donaldson, W. Duncan, C. E. Fleming, G. W. Francis, J. Graham, Mary Philip Graham, J. Hogg, J. D. Holmes, Norah Kemp, R. Kirk, G. L. Le Fevre, A. Livingston, S. Martyn, G. B. Murdoch, A. B. Murray, N. M'Callum, J. M'Laws, M. N. Macleod, R. Nelson, W. Park, H. J. Rankin, J. R. Ratcliffe, N. Robson, W. K. Russell, D. S. Service, Merbai Ardesir Vakil, B.A.; H. M. Watson, J. Wells, R. Wilson.

Bachelors of Medicine and Bachelors of Surgery (*M.B., Ch.B.*)—†*T. Hunter, M.A., B.Sc.; ‡W. S. Findlay, M.A.; ‡J. D. Cochran, ‡J. M'Queen, M.A.; ‡F. J. Charteris, ‡D. L. Cairns, ‡W. G. Liston, ‡J. A. Clarke, ‡J. Alston, ‡D. M'Kail, ‡D. S. Smith, ‡G. Coats, ‡N. E. H. Scott, ‡J. Reid, A. S. Allan, W. C. Burns, G. W. Coats, J. M. Corbett, J. F. Fleming. A. A. Forrester, T. B. Garvie, L. W. Harrison, A. Lawrie, W. M. Lindsay, J. W. Little, J. Macdonald, J. M'Haffie, J. S. Ormond, R. Scott, A. B. Sloan, S. M. Sloan, Jessie Hawkesworth Smith, J. M'C. Stewart, J. B. Strang, D. R. Thomas, W. L. Thomson, W. J. A. Walker, W. Watson, E. Watt, E. R. Weir, J. Wotherspoon, D. J. Young.

*Mr. Macewen and Mr. T. Hunter divide the Brunton Memorial Prize of £10, awarded to the most distinguished Graduate in Medicine of the year.

†With honours.

‡With commendation.

SOCIETY OF APOTHECARIES OF LONDON.

Pass List. July, 1897.—The following candidates passed in:

Surgery.—J. S. Barnes, St. Thomas's Hospital; A. R. Eates, Edinburgh; T. Jones, Middlesex Hospital; F. T. Knott, London Hospital; C. H. Maskew, Birmingham; A. R. O'Fflahertie, London Hospital; J. F. Porter, London Hospital; B. C. Stevens, St. Thomas's Hospital and Durham; F. H. Wilkinson, Liverpool.

Medicine.—A. R. Eates, Edinburgh; A. W. H. Edgelow, Charing Cross Hospital; R. S. Elvins, Birmingham; W. R. Kemp, Cambridge and St. Mary's Hospital; A. R. O'Fflahertie, London Hospital; J. F. Porter, London Hospital; P. D. Pywell, St. Thomas's Hospital; W. F. Reckitt, Guy's Hospital, J. M. Ritchie, Birmingham and Durham; B. C. Stevens, St. Thomas's Hospital and Durham.

Forensic Medicine.—F. W. Chesnaye, St. George's Hospital; A. R. Eates, Edinburgh; R. S. Elvins, Birmingham; W. R. Kemp, Cambridge and St. Mary's Hospital; J. F. Porter, London Hospital; P. D. Pywell, St. Thomas's Hospital; B. C. Stevens, St. Thomas's Hospital and Durham; S. A. Stride, London Hospital.

Midwifery.—A. W. H. Edgelow, Charing Cross Hospital; J. M. Edwards, Charing Cross Hospital; R. S. Elvins, Birmingham; W. R. Flint, St. Mary's Hospital; G. C. Hobbs, St. Bartholomew's Hospital; W. R. Kemp, Cambridge and St. Mary's Hospital; J. F. Porter, London Hospital; P. D. Pywell, St. Thomas's Hospital; B. C. Stevens, St. Thomas's Hospital and Durham; J. M. Wood, Middlesex Hospital.

The diploma of the Society was granted to Messrs. Eates, Jones, Kemp, Knott, O'Fflahertie, Porter, Reckitt, Stevens, Stride, and Wilkinson.

CONJOINT BOARD IN IRELAND.

Final Examination.—Candidates have passed this examination as undernoted:

Completed the Examination.—Honours in order of merit: A. I. Eades, F. J. C. Heffernan, F. Hall. Pass, alphabetically: J. M. H. Conway, Miss L. M. C. Cummins, J. M. Longford, W. M. Power, J. W. Rodgers.

In Medicine.—J. Campbell, R. L. Davies, W. C. W. Glenny, S. G. Longworth, E. M. J. O'Farrell, De C. S. Potterton, J. J. W. Prescott, W. Taylor.

In Surgery.—F. P. Lindé, F. J. O'Farrell, R. H. D. Pope, J. J. W. Prescott.

In Midwifery.—J. C. Baskin, J. Campbell, J. J. Cormack, C. A. Kenny, S. G. Longworth, F. J. O'Farrell, F. J. W. T. O'Rorke, B. R. Phillipson, R. H. D. Pope, W. Taylor.

In Mental Disease.—J. Campbell, R. L. Davies, S. G. Longworth, F. M. J. O'Farrell, F. J. O'Farrell, D. S. O'Meara, J. J. W. Prescott, W. Taylor.

In Hygiene, etc.—W. C. W. Glenny, R. Hassard, F. P. Lindé, J. F. O'Connor, W. H. O'Flinn, E. O'Neill, B. R. Phillipson, R. H. D. Pope, De C. S. Potterton.

In Ophthalmology.—C. W. Caldwell, C. A. Kenny, F. P. Lindé, S. G. Longworth, J. F. O'Connor, W. H. Odkins, E. M. J. O'Farrell, F.J. O'Farrell, F. J. W. T. O'Rorke, J. J. W. Prescott, W. Taylor.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.

Verminous Persons Bill.

This Bill has passed through all its stages in the House of Lords, and now bears the title of "Cleansing of Persons Bill." On the motion to go into Committee the Lord Chancellor raised the question as to whether steps had been taken to identify the fund out of which the expenses of working the Act were to come. The clause in the Bill which referred to the local authority did not solve the problem.—The Earl of Stamford, who has charge of the measure, said that in the case of rural authorities the cost would be met out of the general purposes rate, and in the case of other authorities it would come out of the general fund.—The Earl of Kimberley said it should be provided that the charge should fall on the common fund. On report of amendments, he moved the following addition to Clause 1: "And the objects of this Act may be met out of any rate or fund applicable by the authority for general sanitary purposes or or the relief of the poor."—The Lord Chancellor said that rates were only made for statutory purposes. He doubted the possibility of giving effect to the amendment.—Lord Harris said the words had been suggested by the Local Government Board, who did not share the noble and learned lord's difficulty.—The amendment was agreed to. Subsequently the Bill was read a third time and passed.

London University Commission Bill.

In moving the second reading of this Bill, the Duke of Devonshire declared that in substance it was the same measure as that which had passed the House with little discussion last session. Such modifications as had been introduced had been the outcome of communications which had been in progress during almost the whole of the session between persons interested, and there was reason to believe that the difficulties which had hitherto stood in the way of the progress of the measure had now been removed, and that it would now practically pass without opposition. Last year the most controversial point was the provision which it was believed would affect denominational colleges—principally King's College. The agreement which was arrived at last year had been embodied in somewhat different terms in the present Bill, and he believed it was now practically accepted by King's College and the principal bodies concerned. A glance at the list of gentlemen who were to form the Statutory Committee would show that educational interests as well as the conflicting interests which prevented the passing of the Bill last year, were adequately represented.—The Earl of Kimberley, speaking as a member of the Senate of the University, declared that the present form of the Bill was the result of very careful consideration. It was really a compromise between the differen interests.—The Bill has passed through Committee, and has been read a third time.

Lunacy Bill.

This Bill has been read a third time. Earl Russell said that when the Bill was last before the House he explained that he had not direct authority from the London County Council to oppose Clause 14, which gave, as he contended, too much power to Commissioners to interfere in the internal management of asylums. Since then the Council had passed a unanimous resolution on the subject, and, though he did not oppose the Bill at this stage, he intimated that it would in the other House be strenuously opposed at every stage.—The Lord Chancellor said the noble lord had not behaved quite fairly in not putting his objections to the Bill in the form of amendment.

HOUSE OF COMMONS.

The Public Health (Scotland) Bill.

Nearly the whole of a long sitting of the House has already been devoted to the report stage of this measure. Numerous amendments have been proposed, and discussion on some of them was long. On the motion of the Lord Advocate, amendments were agreed to defining the expressions "medical officer of health" and "medical officer," as meaning "a legally qualified medical practitioner appointed by the local authority," and "qualified veterinary surgeon" as "a member of the Royal College of Veterinary Surgeons."—Captain Sinclair in a speech lasting an hour moved an amendment with the object of throwing on medical officers, and not on sanitary inspectors, the duty of superintending and enforcing, under the local authority, the sanitary provisions of the Act, on the ground that the former had qualifications for the discharge of that duty which many of the latter did not possess. He wished to make it clear that the medical officer was the responsible head of the sanitary staff, instead of merely sharing the resposibility with the inspector.—The Lord Advocate, in resisting the amendment, after describing the length of Captain Sinclair's speech as nothing short of a Parliamentary outrage and designed to kill the Bill, said the feeling of the Grand Committee was that the local authority should be the head, and that the medical officers should be their servants; but if the amendment were carried the medical officers would practically be placed over the local authorities.—The amendment was lost on a division by 127 to 69.—On the motion of Sir C. Cameron the following words were omitted from Clause 15 on the ground that they would lower the medical qualifications of the medical officers, and would therefore be a retrograde step, namely: "No person shall, except with the express consent of the Board, be appointed as a medical officer of a burgh unless he possesses the qualifications set forth in Section lxxvii of the Burgh Police (Scotland) Act, 1892."—On Clause 22 the Lord Advocate moved an amendment providing that proceedings in regard to nuisances shall be taken "upon a certificate by the medical officer, or after a report by the sanitary inspector or otherwise."—Sir C. Cameron preferred an amendment in the name of Sir W. Priestley, which, following the English precedent, would give the authorities a free hand.—Sir W. Priestley said he should like to cut out of the clause the reference to the medical officer and sanitary inspector. A medical certificate on the subject of a nuisance was an important matter, and if the sanitary inspector were allowed to certify in exactly the same way as a medical officer it would be derogatory to the medical profession and often troublesome to the public. It was sometimes supposed that a mere sense of smell qualified a person to discover a nuisance, but that, of course, was an error. A bad smell was not necessarily injurious to health. A smell was only indicative of some decomposition which might or might not be harmful.—Sir Walter Foster was glad the hon. member opposite intended to stick to his amendment, which was better than the Lord Advocate's. He hoped that some day sanitary inspectors might become qualified to discover the chemical constituents of smells, but at present they were not so qualified. Persons who had no scientific knowledge at all were often appointed inspectors. Sometimes they were ex-policemen, and sometimes even blacksmiths who had failed in business. To put such men in the position of certifying as to nuisances dangerous or injurious to health would be to place them in a position for which they were not qualified. Local authorities would often be involved in difficulties if they had to act on the reports of inspectors having no medical or scientific training in respect of sanitary matters. After some further discussion the Lord Advocate withdrew his amendments, and the words requiring a certificate from the medical officer or sanitary inspector were struck out.—Captain Sinclair moved, in Clause 45, to leave out the words "or sanitary inspector as the case may be." He said that this clause gave power to the medical officer or sanitary inspector to enter a

house in which infectious disease was thought to exist. The right of entry ought to be given to the medical officer only.—Sir WALTER FOSTER thought that the Government might add the words "under the direction of the medical officer" after the words "sanitary inspector." The inspector ought to have authority from some person capable of detecting disease before entering private houses. This power ought to be used under judicious rules and regulations, but the clause as it stood was so awkward in its wording that it would lead to difficulties in the administration of the public health.—Mr. CALDWELL said the whole purpose of the provision was to ascertain whether disease existed, and the only man competent to form an opinion at all on that question was the medical officer. It would be extremely unfortunate if a sanitary inspector had power by statute to enter the bed-chamber of a person ill in order to ascertain whether he was suffering from infectious disease. Sir W. PRIESTLEY thought it was rather a strong measure that a sanitary inspector with no medical knowledge should have such power. It would be a violation of the feelings of a great many people to have a sanitary inspector, who might be a plumber or a stonemason, invade their residence to see whether there was a sick person in the house. He had received a great many communications from laymen in Glasgow and elsewhere, who said they would resent at once a sanitary inspector going in, while they would welcome at any time a medical man.—Sir C. CAMERON suggested that the sanitary inspector should be cut out of the clause or his powers safeguarded by a subsequent amendment.—After further conversation, the amendment was agreed to by 110 to 82.—Sir LEWIS M'IVER (at 1 A.M.) moved to add to clause 60: "The medical officer of any district, or the local authority, may in any case in which such medical officer considers it necessary or expedient for preventing the spread of infectious disease, apply summarily to the sheriff, or to a magistrate, or justice of the peace, for a summary warrant or order to stop the sale of any milk which such medical officer may deem it necessary or expedient to stop to prevent the spread of infectious disease, and the sheriff, or magistrate, or justice of the peace, as the case may be, may without previous intimation grant a warrant or order accordingly, and the local authority shall pay the value of the milk so stopped if it should be afterwards found that the same was free from infection."—The LORD ADVOCATE thought the amendment badly drafted, leaving it doubtful as to what local authority was referred to. It would allow the medical officer of a district to interfere with another local authority. Moreover, he held that merely paying the value of the milk would not cover the whole damage. The trade of a dealer might be seriously damaged. He invited the hon. member to redraft the amendment and get it moved when the Bill was before the House of Lords.—Sir C. CAMERON supported the amendment; and after some discussion Dr. FARQUHARSON said he had great sympathy with the amendment of the hon. baronet. The machinery in the Bill for meeting emergencies which frequently occurred in connection with epidemic disease caused by milk was slow, tedious, and cumbrous; and the hon. baronet had argued very forcibly indeed in favour of some more rapid action to check epidemic disease. But he was bound to say that the Lord Advocate had hit on a blot in the amendment, and it had also occurred to himself. No doubt the money compensation proposed would hardly meet the loss of prestige that a farmer or dairyman must suffer from having his business stopped summarily. That was a drawback; but perhaps some wider scheme might be eventually proposed to meet this difficulty. At all events, the national advantage might be sufficiently great to counterbalance any drawback or difficulty of that kind, and if a division were taken he should certainly support his hon. friend in the lobby.—Sir WALTER FOSTER hoped the Lord Advocate would find some way to accept the principle of the amendment. It commended himself to him in this, that it struck directly at the offending article, and prevented its sale not only in the locality in which the disease had appeared, but in any other locality. For instance, they might have disease spread from the suburb of a town to the neighbouring county. Under this clause, as the hon. baronet proposed to amend it, they would be able to go to the dairy and stop the sale altogether. Under present circumstances, if they stopped the sale only in a town where the disease was found to have broken out, the farmer might send his milk to another town and spread the disease there. They had therefore the evil absolutely unchecked, and extended to many places rather than confined to one. One of the ways of checking the spread of diseases among young people was to go to the sources of the milk supply. This amendment gave a summary and rapid method of doing that. It might be the means of saving the lives of scores of families, and they ought not to regard the losses of an individual as a barrier to doing a beneficent piece of legislation. He hoped the Lord Advocate would show a willingness to accept the principle of the amendment, and promise to draft some amendment in another place which would carry out that principle.—The LORD ADVOCATE finally said that the matter would be considered with a view to bringing up an amendment in the House of Lords, and on that understanding the amendment was withdrawn.—The debate was resumed on July 28th. Certain amendments were made on the motion of the LORD ADVOCATE, who resisted some amendments as to the land purchase clauses. The amendments were rejected. The report stage was then concluded, and the Bill was read a third time.

INFANT LIFE PROTECTION BILL.

This Bill, as amended by the Standing Committee, was considered on July 28th, and, some formal amendments having been adopted, was read a third time.

THE ARMY MEDICAL STAFF EXAMINATION.

Captain NORTON asked the Under Secretary for War whether he could state how many candidates were forthcoming for the next Army Medical Staff Examination.—Mr. BRODRICK: Up to the present time there are 27 candidates.

ARMY SERVICE IN INDIA.

Captain PIRIE asked the Under Secretary for War whether the War Office would be prepared to reconsider the question of long service in India for British troops, as being both physically and financially advantageous, especially in view of the disastrous casualties from enteric fever and venereal disease among British soldiers in India.—Mr. BRODRICK: The application of the short service system to India has been proved to possess many advantages from a physical, financial, and military point of view, and Her Majesty's Government has no intention of reverting to the old system of long service for the Indian army.

SMALL-POX HOSPITALS.

Dr. TANNER asked the President of the Local Government Board whether any definite rules now applied in the selection of sites for hospitals for small-pox, and if any evidence was now available to indicate at what distance from people aggregated in institutions or living in dwelling houses hospitals might be established without risk to persons who were susceptible of small-pox infection.—Mr. CHAPLIN: The inquiry of the hon. member raises an interesting and important question on which he is probably more competent to express an opinion than I am, but I am advised by the medical experts of the Local Government Board that no definite evidence is as yet available to show what is the distance at which small-pox hospitals may be established from aggregations of persons without risk to such persons, and pending the solution of this question we do not sanction loans for the provision of small-pox hospitals on any site where it would have within a radius of a quarter of a mile either a hospital, workhouse, or any similar establishment, or a population of 150 to 200 persons, or on a site where it would have within a radius of half a mile a population of 500 to 600 persons whether in one or more institutions or in dwelling houses.

MORTALITY IN SIERRA LEONE.

Mr. FLOWER asked the Secretary for the Colonies whether, in view of the recent mortality amongst British officials in Sierra Leone, he would endeavour to allow the same rules as to leave in that colony which were in force in the Gold Coast Colony, and what extra cost to the colony this change would involve.—Mr. Chamberlain: Nothing has occurred to lead me to modify the opinion expressed in the answer which I gave the hon. member for East Norfolk on March 12th. With regard to the cost, additional officers would have to be appointed to supply the places of those absent, and additional expenses would have to be incurred for passages, to say nothing of the indirect loss to the public service through more frequent changes, but the exact amount cannot be stated without reference to the colony.

DANGEROUS LUNATICS.

Dr. TANNER asked the Irish Secretary whether in the case of any dangerous lunatic confined in an asylum in whose behalf application had been made that he or she shall be discharged, having ceased to be insane, such application could not be entertained until it should be certified to the Lord Lieutenant by two physicians or surgeons that the individual had become of sound mind, or it has been certified by the resident medical superintendent or visiting physician that he had ceased to be dangerous, and if in the case of the two former authorities demanding such release any demur on the part of the local medical (asylum) authorities could prevent it.—Mr. G. BALFOUR: In the case of a dangerous lunatic committed to a district asylum under Section x of the Act 30 and 31 Vict., cap. 118, it is not necessary for two physicians or surgeons to certify that the individual has become of sound mind before an application for discharge can be entertained. The discharge of such lunatics is regulated by Section xi of the Act and by the latter part of Section x. Section xi requires the resident medical superintendent or the visiting physician to certify that the person has either become of sound mind or has ceased to be dangerous, while the latter part of Section x enables relatives or friends under certain conditions to take the lunatic under their care and protection on entering into sufficient recognisances for his safe keeping. But the Court of Appeal has held that there is no absolute right conferred by this Section, and that it remains optional with the governors of the asylum to so transfer the custody of the lunatic.

BERI-BERI AT THE RICHMOND LUNATIC ASYLUM.

Mr. CAREW asked the Secretary for Ireland whether any and what steps were being taken to check the spread of beri-beri in the Richmond Lunatic Asylum; was he aware that the disease originated in long overcrowding, and that, though the Inspectors of Lunatics as far back as 1891 made a special report to the governors, complaining that the Board of Control had taken no action to meet in any way the urgent requirements of the institution, with its vast population, for increased accommodation, nothing had been done to meet the requirements beyond the erection of a few wooden sheds at the Richmond Asylum and a few temporary structures at Portrane, both condemned as insanitary and insufficient by Dr. Manson and Sir Thornley Stoker; and whether the first section of the permanent structure which the Board of Control was erecting at Portrane would not be available till March, 1899; and, if so, what steps would be taken in the meantime to relieve the congestion.—Mr. GERALD BALFOUR: The outbreak of beri-beri in the Richmond Asylum has been fostered by overcrowding, consequent on the rapid increase in the number of patients. Steps have been taken to meet this overcrowding by erecting temporary accommodation at the asylum, and also at Portrane, co. Dublin. The patients have, as far as possible, been isolated, and the buildings occupied by them have been disinfected. The present outbreak is, so far, of a very mild type. There has been only one death attributed to it, and the general death-rate of the institution was never lower. The disease, though fostered by overcrowding, does not, it is believed, originate *de novo* from that cause, at least in this climate. The Inspector of Lunatics did not make any complaint in 1891 that the Board of Control had taken no action to meet the urgent requirements of the institution for increased accommodation; but in their first memorandum of inspection they called the special attention of the Board of Governors to the overcrowding, and discussed the question of how increased accommodation could be best provided. Consequent on the reports of the inspectors numerous conferences were held between the Board of Control and the Board of Governors, and it was ultimately decided to build a new and fully equipped asylum to accomodate 1,200 persons at Portrane. This asylum is now in course of erection, and it is anticipated that the first portion of it will be ready for the reception of patients in about twelve months. In addition, temporary accommodation has been provided at the Richmond Asylum for 298 patients, and at Portrane for 224 patients,

and further buildings are now being erected which, it is anticipated, will make the total accommodation sufficient for the numbers at present in the asylum. The inspectors are of opinion that these temporary buildings have been erected with the greatest care, and with every precaution that sanitation requires, and are similar to those erected recently at the London County Asylums to provide temporary accommodation.—Mr. T. M. Healy: Will the right hon. gentleman consider the desirability of getting a specialist to examine upon this strange disease, or has he yet got an opinion from a specialist?—Mr. Gerald Balfour: I am under the impression that a specialist did visit and did report, but the actual cause and origin of the outbreak still remains obscure.—Mr. T. M. Healy: Is this report a public document?—Mr. G. Balfour: I am not quite certain as to what I have stated, but I think the visit has been paid. I will make inquiries.—Mr. Carson: Is it not the fact that there are several hundreds of lunatics in this asylum more than it can conveniently hold?—Mr. Gerald Balfour: No doubt there is overcrowding, and all possible steps are being taken to reduce that overcrowding.

Nuns as Nurses in Ireland.

Sir Thomas Esmonde asked the Irish Secretary if he could explain the letter recently sent by the Irish Local Government Board to the Guardians of the Tralee Union with reference to the nuns who acted as nurses in the Tralee Infirmary; if he was aware that in the Tralee Union, as in all other unions in Ireland where the nuns had taken over the charge of the sick poor, the result of their ministration had been to vastly improve the condition of the poor people committed to their care, with a very great saving in the rates; if he would state the purport of Article 28 of the regulations referred to by the Local Government Board in their letter; if he was aware that the article in question had not been enforced in the Tralee Union during the twenty-two years that the Sisters of Mercy had had charge of the union hospital; that the enforcing of it now would result in much inconvenience to the nursing sisters; and if he would instruct the Irish Local Government Board to allow Rule 28 to remain, as it had remained for the last twenty-two years, in abeyance, until it could be amended by Act of Parliament.—Mr. G. Balfour: The letter referred to called attention to the fact that the Local Government Board had observed from the return of officers that three of the nuns who were employed as nurses in the workhouse had not been appointed by the Board of Guardians as required by the general regulations, and pointed out that unless the guardians went through the form of legally appointing them the salaries paid for their services would be liable to disallowance by the auditor. The Local Government Board are able to testify as to the efficient manner in which the nuns in Tralee and other unions generally discharge their duty. I am unable to say whether the result of their appointment has always been a great saving of the rates. Article 28 of the General Regulations provides that no officer or assistant shall be appointed in any union unless notice that such appointment will be made shall have been given and entered on the minutes at one of the two ordinary meetings of the Board next preceding that at which the appointment shall be made, and unless an advertisement giving notice of such appointment shall, by direction of the guardians entered on their minutes, have appeared in some public paper at least seven days before such appointment is made. If the guardians have omitted to conform to this regulation for the time alleged, they have done so without the knowledge or sanction of the Local Government Board. The conditions of the regulation have been complied with in other unions in Ireland where nuns have held official positions, and the Board fail to see why its enforcement should lead to any special inconvenience in Tralee Union. All union officers who receive salaries from the poor-rates or from public funds must comply with the law, and no exception can be made in the case of the nurses of the Tralee Union.

Petroleum Hair Washes.

In reply to Mr. Wootton Isaacson, who asked a question with regard to the recent death from the combustion of a hair wash, Sir M. W. Ridley said that if it should be found, as seemed likely, that the preparation was largely composed of petroleum spirit it fell, of course, within the provisions of the Petroleum Acts. He might add that the County Council, as the local authority under those Acts, were giving careful attention to the subject, and were represented at the inquest. The hon. member was no doubt well aware that the present law with regard to petroleum was in a very unsatisfactory state.

Calf or Human Lymph.

Mr. Strachey asked the President of the Local Government Board whether a Board of Guardians might instruct the public vaccinators in their union to give parents the option of having their children vaccinated with calf lymph instead of human lymph.—Mr. H. Chaplin: Public vaccinators are not subject to directions of the guardians in this matter; but they are enabled under the instructions of the Local Government Board (issued in January last) to vaccinate with calf lymph instead of human lymph whenever they so desire.

The Plague in India.

Major Rasch asked the Secretary of State for India whether his attention had been called to a paragraph in the *Daily News* of Thursday last embodying a statement from the Secretary of the Indian Association to the following effect: "Two gross cases are reported of attempted outrage on Hindu girls in the Khana plague inspection camp by two European officers, who have been suspended by the Government. Pandita Ramabai writes to a newspaper of the seduction of one of her girls in the Poona plague camp, utterly demoralising the arrangements there. These cases have created a great sensation all over the country;" and whether there was any truth in either allegation?—Lord G. Hamilton: The allegations alluded to consisted of two charges—one in connection with a segregation camp at Khana, in Bengal, for the detention of railway passengers, and the other in connection with the late plague camp in Poona. I have received the following reports upon them: "Lieutenant-Governor of Bengal reports that police-sergeant and military assistant-surgeon were charged with making immoral overtures to two Hindu circus girls and a Japanese prostitute in segregation huts at Khana plague inspection camp. Japanese consented and left with police officer; circus girls declined, and, on assistant-surgeon pressing, one of them raised alarm. Police-officer dismissed; assistant-surgeon suspended. His case being further investigated. Both are of European parentage; police-sergeant born and domiciled in India." As regards the second case, the Governor of Bombay telegraphs: "Pandita Ramabai's assertions had attracted my notice, and I inquired into them early in June. The girl she mentions was not seduced in the plague camp. She was a plague patient, and was discharged cured. What became of her afterwards is not known. The assertion about utterly demoralising the arrangements in Poona camp absolutely untrue. From first to last somewhere about 500 female patients were admitted; nearly all had relatives or friends attending them; no complaints of violated modesty were ever made. Officer in charge saw Pandita Ramabai herself on several occasions in the hospital, but she never made any complaint to him.

The Report on Vaccination.

Sir Seymour King asked the President of the Local Government Board whether he had yet ascertained when the remainder of the evidence and special reports, on which the final reports of the Royal Commission on Vaccination was based, would be published, and what was the cause of the delay?—Mr. H. Chaplin: Mr. Bret Ince, who acted as secretary to the Commission, informed me on May 12th that the whole of the as yet unpublished evidence referred to would be issued within three weeks of that time, and that the special reports would be issued at the same time, but some of them rather sooner than the evidence. I have since then twice written to him on the subject of the delay, but I regret to state that as yet I have not received any reply to my last communication, which was dated July 14th, or to the memorandum which was forwarded to him on Saturday when the notice of the question appeared on the paper.

Pauper Nursing in Ireland.

Mr. Carew asked the Irish Secretary whether his attention had been called to the report of an inquest held at the North Dublin Union on July 20th on the body of a child named Mary Davis, where the jury found that the deceased died of starvation, caused by the negligence of the pauper nurse in charge to provide proper and sufficient food; whether he was aware that at a meeting of the Board of Guardians on July 21st Mr. Keogh, one of the guardians, was reported to have stated that he had reason to know that the mothers of twenty-four illegitimate children were doing nursing in the workhouse; and whether, in view of these disclosures and the strong condemnation of the system of pauper nursing by the Irish Catholic hierarchy and the Irish press, he would take steps towards its total abolition in Ireland.—Mr. G. Balfour: The verdict of the coroner's jury is correctly stated in the question. The conduct of the officers concerned is under investigation by a committee of guardians, and will probably form the subject of an inquiry on oath by the Local Government Board. Mr. Keogh is reported in the press to have made the statement attributed to him in the second paragraph of the question. As a matter of fact, however, only four women of this class are employed in the hospital, and not twenty-four. The Local Government Board are of opinion that the abolition of pauper nursing in Irish workhouses would, if practicable, be most desirable, but it is extremely doubtful whether an order of the Local Government Board to guardians to substitute paid nurses for pauper nurses could be enforced in the present state of the law. For many years past the Board have been advising Boards of guardians to appoint paid assistant nurses instead of pauper nurses.

Health of the Navy.

A copy has been presented of the Statistical Report of the Health of the Navy for the year 1896.

Metropolitan Cemeteries.

On the motion of Mr. Jas. Stuart, a return has been ordered "of (1) the names and situation of the metropolitan cemeteries to which the Act 15 and 16 Vict., c. 85, applies; (2) the number of bodies buried in each; (3) the extent of each ground; (4) how much has been appropriated for burial purposes; (5) the date of the first interment in each; (6) how much surface space is allowed for a grave; (7) if burials still take place in what is known as the common interment system, and, if so, how many bodies are buried in each grave (in continuation of Parliamentary Paper, No. 288, of session 1889)."

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

VITAL STATISTICS OF LONDON SANITARY AREAS DURING THE SECOND QUARTER OF 1897.

[Specially prepared for the British Medical Journal.]

In the accompanying table will be found summarised the vital statistics of the forty-three sanitary areas of the metropolis, based upon the Registrar-General's returns for the second or spring quarter of this year. The mortality figures in the table relate to the deaths of persons actually belonging to the various sanitary areas, and are the result of a complete system of distribution of deaths occurring in the institutions of London among the various sanitary areas in which the patients had previously resided.

The 32,412 births registered in London during the three months ending June last were equal to an annual rate of 29.1 per 1,000 of the population, estimated at 4,463,169 persons in the middle of this year; this rate was 1.5 per 1,000 below the mean rate in the corresponding quarters of the five preceding years 1892-96. The birth-rates during the period under notice in the various sanitary areas showed, as usual, wide variations, owing principally to the differences in the age and sex distribution of the population. In Kensington, St. George Hanover Square, St. James Westminster, Hampstead, St. Martin in the Fields, City of London, and Lee, the birth-rates were considerably below the average; while they showed

the largest excess in St. Luke, Shoreditch, Bethnal Green, Whitechapel, St. George in the East, Mile End Old Town, and St. Olave Southwark.

The 16,751 deaths of persons belonging to London registered during the quarter under notice were equal to an annual rate of 15.1 per 1,000; this rate was considerably lower than in the corresponding period of any year on record, and was as much as 3.1 per 1,000 below the mean rate in the second quarters of the ten preceding years, 1887-96. The nearest approaches in any corresponding quarter to so low a death-rate as that which prevailed last quarter were 16.3 in 1895 and 16.5 in 1889. The lowest death-rates in the various sanitary areas were 10.8 in Lewisham (excluding Penge), 10.9 in St. George Hanover Square and in Lee, 11.0 in Hampstead, 11.8 in Wandsworth, 12.4 in Plumstead, and 12.7 in Islington; the highest rates were 19.0 in Bermondsey, 20.4 in St. George Southwark, 21.1 in City of London, 21.7 in Holborn, 22.2 in St. George-in-the-East, 22.8 in St. Luke and Limehouse, and 23.0 in St. Saviour Southwark. During the quarter under notice 1,616 deaths resulted from the principal zymotic diseases in London; of these, 469 were referred to whooping-cough, 423 to diphtheria, 298 to measles, 150 to scarlet fever, 76 to enteric fever, 3 to ill-defined forms of continued fever, and 2 to small-pox. These 1,616 deaths were equal to an annual rate of 1.45 per 1,000, a lower rate than in the corresponding quarter of any year on record, and 1.12 per 1,000 below the mean rate in the second quarters of the ten preceding years, 1887-96. The lowest zymotic death-rates last quarter in the various sanitary areas were 0.34 in Strand, 0.36 in St. James Westminster, 0.60 in St. George Hanover Square, 0.64 in St. Martin-in-the-Fields, 0.73 in Plumstead, and 0.78 in Hampstead; while the rates ranged upwards to 2.43 in Bethnal Green, 2.51 in St. George-in-the-East, 2.66 in Rotherhithe, 2.95 in Limehouse, 2.99 in Bermondsey, and 3.11 in St. Luke.

Two fatal cases of small-pox were registered in London during the three months ending June last, of which 1 belonged to Clerkenwell and 1 to Shoreditch sanitary areas. Measles showed the highest proportional fatality in Clerkenwell, St. Luke, Bethnal Green, St. George-in-the-East, Limehouse, Newington, and Rotherhithe; scarlet fever in Whitechapel, Bermondsey, Rotherhithe, and Woolwich; diphtheria in Chelsea, Stoke Newington, St. Luke, Whitechapel, St. George-in-the-East, Limehouse, Poplar, and Bermondsey; whooping-cough in St. Pancras, Holborn, Clerkenwell, St. Luke, St. Saviour Southwark, St. George Southwark, Newington, and Lambeth; and enteric fever in Stoke Newington, and St. Martin-in-the-Fields sanitary areas.

During the quarter ending June last 1,789 deaths from phthisis were registered in London, equal to an annual rate of 1.61 per 1,000. Among the various sanitary areas the lowest phthisis death-rates were recorded in Paddington, Kensington, St. George Hanover Square, Hampstead, Stoke Newington, and Woolwich; and the highest rates in St. James Westminster, St. Giles, Strand, Holborn, St. Luke, Limehouse, and St. Saviour Southwark.

Infant mortality in London last quarter, measured by the proportion of deaths under one year of age to registered births, was equal to 111 per 1,000, and was 21 per 1,000 below the mean rate in the corresponding quarters of the ten preceding years. Among the various sanitary areas the rates of infant mortality were lowest in St. George Hanover Square, Islington, Stoke Newington, St. Giles, Greenwich, Lee, and Plumstead; while they showed the largest excess in Hammersmith, Holborn, St. George-in-the-East, St. Saviour Southwark, St. George Southwark, and Bermondsey.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 6,543 births and 4,060 deaths were registered during the week ending Saturday last, July 24th. The annual rate of mortality in these towns, which had increased from 14.7 to 16.6 per 1,000 in the three preceding weeks, further rose to 19.3 last week. The rates in the several towns ranged from 10.1 in Derby, 10.3 in Croydon, 10.9 in Swansea and in Halifax, and 12.8 in Huddersfield, to 22.5 in Birmingham, 24.9 in Salford, 25.3 in Sheffield, and 26.4 in Liverpool. In the thirty-two provincial towns the mean death

Analysis of the Vital and Mortal Statistics of the Sanitary Districts of the Metropolis, after Distribution of Deaths occurring in Public Institutions, during the Second Quarter of 1897.

SANITARY AREAS.	Estimated Population middle of 1897.	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Zymotic Diseases.	Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Typhus.	Enteric Fever.	Simple and Undefined Fever.	Diarrhœa.	Phthisis.	Deaths of Children under 1 year of age to 1,000 births.
LONDON	4,463,169	32,412	16,751	29.1	15.1	1.45	1,616	2	298	150	423	469	—	76	3	195	1,789	111
West Districts.																		
Paddington	126,161	732	402	23.3	12.8	1.46	46	—	1	3	13	19	—	3	1	6	31	101
Kensington	171,427	922	582	21.6	13.6	0.94	40	—	1	5	17	4	—	5	—	8	46	125
Hammersmith	105,959	719	353	27.2	13.4	1.14	30	—	1	1	8	8	—	1	—	11	34	135
Fulham	120,040	1,026	398	34.3	13.3	1.38	42	—	1	4	13	16	—	4	1	3	39	114
Chelsea	96,692	633	380	26.3	15.8	1.62	39	—	—	2	18	14	—	—	—	5	36	100
St. George Hanover Sq.	80,330	345	219	17.2	10.9	0.60	12	—	—	2	2	2	—	2	—	4	21	87
Westminster	53,027	311	229	23.5	17.3	0.84	11	—	1	3	4	2	—	—	—	1	43	125
St. James Westminster	22,576	110	87	19.5	15.5	0.36	2	—	—	—	—	1	—	—	—	1	13	136
North Districts.																		
Marylebone	140,808	1,033	603	29.4	17.2	0.82	29	—	2	4	6	7	—	—	—	10	62	102
Hampstead	77,275	349	212	18.1	11.0	0.78	15	—	4	1	2	4	—	1	—	3	18	109
St. Pancras	242,255	1,666	997	27.6	16.5	1.69	102	—	15	8	18	43	—	6	—	12	123	114
Islington	341,134	2,395	1,076	28.2	12.7	0.79	67	—	2	9	23	22	—	7	—	4	112	90
Stoke Newington ...	34,136	207	110	24.3	12.9	1.99	17	—	2	1	6	4	—	4	—	—	9	68
Hackney	216,698	1,476	746	27.3	13.8	1.51	82	—	13	4	24	23	—	6	—	12	73	112
Central Districts.																		
St. Giles	37,840	261	158	27.7	16.7	0.85	8	—	—	2	1	5	—	—	—	—	36	92
St. Martin-in-the-Fields	12,711	42	56	13.3	17.7	0.64	2	—	—	—	—	1	—	1	—	—	8	119
Strand	23,552	137	89	28.3	15.2	0.34	2	—	—	—	1	—	—	—	—	1	18	124
Holborn	30,493	171	165	22.5	21.7	1.70	13	—	—	—	3	7	—	1	—	2	21	170
Clerkenwell	66,162	506	299	30.7	18.1	2.30	38	1	14	2	7	10	—	1	—	3	38	128
St. Luke	41,279	446	235	43.3	22.8	3.11	32	—	14	1	6	8	—	1	—	2	31	123
London City	30,228	102	159	13.5	21.1	1.06	8	—	2	1	2	1	—	1	—	1	18	118
East Districts.																		
Shoreditch	121,883	1,076	501	35.4	16.5	2.02	61	1	19	3	13	14	—	2	—	9	56	112
Bethnal Green	129,098	1,174	578	36.5	18.0	2.43	78	—	39	7	14	6	—	5	—	7	49	124
Whitechapel	79,724	848	342	42.7	17.2	2.05	41	—	15	6	10	2	—	—	—	8	35	114
St. George-in-the-East	47,917	549	265	45.9	22.2	2.51	30	—	13	2	9	5	—	—	—	1	26	138
Limehouse	58,508	478	332	32.8	22.8	2.95	43	—	20	3	9	5	—	1	—	5	41	117
Mile End Old Town ...	111,883	1,033	446	37.0	16.0	1.83	51	—	19	2	12	13	—	2	—	3	33	97
Poplar	169,811	1,376	724	32.5	17.1	1.57	67	—	10	4	29	17	—	3	—	4	71	126
South Districts.																		
St. Saviour Southwark	24,919	186	143	29.9	23.0	0.96	6	—	—	—	2	4	—	—	—	—	18	156
St. George Southwark	60,388	508	307	33.7	20.4	1.85	28	—	2	2	5	13	—	1	—	5	40	140
Newington	122,191	1,029	514	33.8	16.9	1.61	49	—	3	6	13	23	—	—	—	4	63	115
St. Olave Southwark	11,480	102	50	35.6	17.5	1.05	3	—	—	—	—	1	—	—	—	2	6	98
Bermondsey	85,629	745	405	34.9	19.0	2.99	64	—	5	9	16	25	—	2	—	7	47	146
Rotherhithe	40,643	316	174	31.2	17.2	2.66	27	—	9	7	4	5	—	—	—	2	23	101
Lambeth	300,048	2,266	1,139	30.3	15.2	1.69	127	—	26	8	25	46	—	4	—	18	124	118
Battersea	168,877	1,230	573	29.2	13.6	1.38	58	—	3	8	19	23	—	—	—	5	51	113
Wandsworth	195,612	1,230	574	25.2	11.8	0.95	47	—	9	8	16	9	—	3	—	2	57	93
Camberwell	257,575	1,787	827	27.8	12.9	1.32	85	—	5	6	28	33	—	4	—	9	84	103
Greenwich	178,367	1,349	621	30.3	14.0	1.42	63	—	19	7	15	11	—	2	—	9	56	92
Lee	39,215	222	107	22.7	10.9	0.91	9	—	6	1	2	—	—	—	—	—	11	72
Lewisham	86,152	527	233	24.5	10.8	0.89	19	—	3	3	3	6	—	3	—	1	24	97
Woolwich	41,409	313	153	30.3	14.8	1.16	12	—	—	3	3	2	—	—	—	4	20	115
Plumstead	61,057	479	188	31.5	12.4	0.73	11	—	—	2	2	5	—	—	1	1	24	

rate was 18.8 per 1,000, and was 1.2 below the rate recorded in London, which was 20.0 per 1,000. The zymotic death-rate in the thirty-three towns averaged 4.3 per 1,000; in London the rate was equal to 4.6 per 1,000, while it averaged 4.0 in the thirty-two provincial towns, among which the highest rates were 6.3 in Liverpool, 7.1 in Salford, 7.4 in Portsmouth, and 9.5 in Preston. Measles caused a death-rate of 3.0 in Manchester, 3.4 in Burnley, 5.1 in Salford, and 8.2 in Preston; whooping-cough of 1.1 in Sunderland, 1.4 in Oldham, and 1.5 in Sheffield; and diarrhœa of 3.2 in London and in West Ham, 3.3 in Birkenhead, 4.3 in Liverpool, 4.6 in Sheffield, and 5.7 in Portsmouth. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 60 deaths from diphtheria in the thirty-three towns included 42 in London and 4 in Liverpool. No fatal case of small-pox was registered either in London or in any of the thirty-two provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 2,903 at the end of the twelve preceding weeks, had further risen to 2,976 on Saturday last, July 24th; 396 new cases were admitted during the week, against 310, 349, and 381 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, July 24th, 952 births and 580 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 17.7 and 17.9 per 1,000 in the two preceding weeks, further rose to 19.5 last week, and was slightly above the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the lowest death-rates were 12.8 in Aberdeen and 15.2 in Greenock, and the highest rates 23.9 in Perth and 25.6 in Leith. The zymotic death-rate in these towns averaged 3.4 per 1,000, the highest rates being recorded in Dundee and Leith. The 276 deaths registered in Glasgow included 4 from measles, 3 from scarlet fever, 19 from whooping-cough, 2 from "fever," and 20 from diarrhœa. Seven fatal cases of whooping-cough were recorded in Edinburgh, and 6 in Dundee; and 8 deaths from measles occurred in Leith.

VISITATION OF INFECTIOUS SICK BY SANITARY OFFICERS.

C. R. O. G.—No officer of a local authority has any right, by virtue of his office, to visit any patient of whose illness he becomes cognisant by means of a notification under the terms of the Infectious Disease (Notification) Act. Nor will it often be necessary that he should do so. If a medical officer of health regard it as essential that he should see the patient, the consent of the sufferer must, of course, be obtained; and the customs of courtesy prevailing will demand that the co-operation of the certifying practitioner be sought.

CERTIFYING PAUPER SICKNESS.

DOUBTFUL.—Under Article 205 (1) of the General Consolidated Order of July 24th. 1847, it is the duty of a Poor-law medical officer to give to his Board of Guardians any reasonable information respecting the case of any pauper who is or has been under his care, and to make any such written reports as they may call for relative to any sickness among paupers under his care. Clause 3 of the same Article lays down that he shall, when required so to do, give a certificate under his hand to the guardians or relieving officer of the sickness of any pauper patient nnder his charge. These requirements would seem to include information as to the nature of the illness in any individual instance.

DISTRICT MEDICAL OFFICER AND SUPERANUATION ACT.

S. C. N., who is a district medical officer, aged 60, who has held his present appointment thirty-eight years, writes to ask whether he can claim superannuation under the Act of 1896 if he were now to resign his office in consequence of his salary being reduced by the guardians.

*** In order to enable S. C. N. to claim superanuation under the recent Act, he must have served forty years, or be incapacitated for further service either by old age, or mental or bodily infirmity. If not so incapacitated at the present time, he will not be able to claim superanuation until he has served for two years longer.

OBITUARY.

HENRY THOMPSON, M.A.,M.D.CANTAB., F.R.C.P.,

Consulting Physician to the Middlesex Hospital.

IT is with deep regret that we record the death of Dr. Henry Thompson, which took place on July 23rd at his residence in Welbeck Street at the ripe age of 82.

Dr. Thompson received his early education at Shrewsbury School under Dr. Samuel Butler, and from there he went to Cambridge, where he entered at St. John's College, of which he was the senior Fellow at the time of his death. He took his degree in 1838, and was seventh in the first class in the Classical Tripos. He then turned his attention to medicine, and became a student at St. George's Hospital, and having taken the degree of M.D. in his University, determined to practise as a physician, and was in due course elected a Fellow of the College of Physicians. He was elected Assistant-Physician to the Middlesex Hospital in 1855, and four years later became full Physician. He remained on the active staff until 1879, when he became Consulting Physician.

Dr. Thompson did not write much, but his volume of clinical lectures, published on his retirement from active hospital work, is an extremely able and valuable production. He was also a very active member of the Committee of the College of Physicians which prepared the first volume of the *Nomenclature of Diseases*.

WILLIAM HENRY CUTTS, M.D.EDIN., M.R.C.S.ENG.

DR. CUTTS was the son of a solicitor at Chesterfield, Derbyshire, and was born in 1828. After taking his degree at Edinburgh in 1851, he decided upon going to Melbourne, Australia, in 1852. By his abilities, high character, and devotion he acquired a large practice at Melbourne, and was for many years Physician to the hospital. Dr. Cutts took an active interest in the formation of the Victorian Branch of the British Medical Association, and on a visit to England in 1876 he attended the annual meeting of the Association at Sheffield. On another visit, in 1888, when the meeting was at Glasgow, he represented the Melbourne Branch.

Dr. Cutts had retired from active practice, and took a voyage to England to recruit his health. On the voyage, Dr. Webb, the surgeon of the steamship *Aberdeen*, found that he was suffering from a large carbuncle. Treatment afforded no relief, and on reaching London on June 29th he was removed to the London Hospital, where he received every possible attention. He died there on July 3rd, and was buried at Willesden Cemetery, in the presence of his son and other English relatives.

MEDICAL NEWS.

A DEMONSTRATION of the manipulations for the immediate reduction of the deformity in Potts's disease of the spine was given at the Royal Southern Hospital, Liverpool, on July 24th, by Mr. R. Jones and Mr. Tubby.

DR. JOHN E. JONES, J.P., Brynyffynon, Dolgelly, has been appointed Deputy-Lieutenant for the County of Merioneth by Mr. W. R. M. Wynne, Lord Lieutenant of the County, and with the consent of Her Most Gracious Majesty the Queen.

THE Vice-Chancellor of the University of Cambridge, Dr. Alex Hill, will preside at the annual distribution of prizes and certificates to the students of the St. George's Hospital Medlcal School, which will take place in the new Board Room of the Hospital on October 29th, at 3 P.M.

WE regret to learn that, while on the cricket field of the Hull Borough Asylum recently, Dr. Merson, Medical Superintendent, was rendered unconscious by a violent blow on the back of the head with a cricket bat, by one of the inmates. His condition for some time caused much anxiety, but he is now making slow but steady progress.

EPSOM COLLEGE.—Founders' Day was celebrated at Epsom College on July 26th, and the Head Master was able to announce that the Earl of Rosebery had sent a cheque to pay off the debt on the organ of the new chapel, and that a member of the medical profession had given anonymously a handsome screen for the east end of the chapel. The report showed that the work of the school was carried on in a most satisfactory manner, and that a gratifying amount of success had been achieved in contests for open scholarships at the universities and medical schools.

HARROGATE ROYAL BATH HOSPITAL AND RAWSON CONVALESCENT HOME.—At a meeting of the governors held on July 22nd, the President of the Home (the Hon. H. E. Butler) made the munificent offer of £5,000 to the funds of the Home on condition that a substantial reduction for three weeks' stay in the Home be made to each patient. This he was willing to do that the Home might be of the utmost benefit to the deserving poor of Yorkshire and other parts of the country. He asked that the offer might date from January 1st last, and he would give 3 per cent. on the money up to the present time. The gift was accepted with much applause, and it is hoped that the Home, which has hitherto been worked at a loss, may in the future be maintained in a more prosperous state. It is built to admit 800 patients a year, but the number has not exceeded 200.

Mr. CHARLES CLEMENT WALKER of Lilleshall, Salop, has left the whole of his residual estate, which it is expected will amount to over £100,000, to trustees and to the Chairman and Deputy Chairman of the Salop County Council for the following charitable purposes: (1) To establish or to contribute to the maintenance of any hospital, infirmary, convalescent home, or other institution, having for its object the relief of sickness, or the promotion of convalescence; (2) the provision of medical or surgical aid or appliances; (3) for the establishment of an institution for orphans; and (4) for educational purposes, not provided by the State or locality. Mr. Walker, it may be remembered, some years ago founded a quinquennial prize to be awarded by the Royal College of Surgeons for the best work in advancing the knowledge of the pathology or therapeutics of cancer, done during the periods intervening between the prizes. The prize, which in future will be a gift of £100, was first awarded in 1896 to Mr. H. J. Stiles, M.B., F.R.C.S.Edin.

MEDICAL VACANCIES.

The following vacancies are announced:

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—House-Surgeon. Rooms, coal, and light provided. Applications, with testimonials, to Secretary by August 9th.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant; non-resident. Appointment for three months, with honorarium of 13 guineas. Applications to J. E. Hartley, Honorary Secretary, by July 31st.

BOSCOMBE HOSPITAL, Shelley Road, Boscombe, Bournemouth.—House-Surgeon; unmarried. Salary, £60 per annum, with board (exclusive of wine or beer), lodging, and washing. Applications to the Honorary Secretary by August 1st.

CHELSEA HOSPITAL FOR WOMEN.—Clinical Assistant. Post tenable for three months on payment of £5 5s. Applications to the Secretary.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer; doubly qualified and unmarried. Salary, £100 per annum, increasing by £10 yearly to £120 per annum. Applications to the Medical Superintendent by August 14th.

CUMBERLAND INFIRMARY, Carlisle.—House-Surgeon. Salary, £70 per annum, with board, lodging, and washing. Appointment for one year. Applications to the Secretary by August 10th.

DUDLEY GUEST HOSPITAL.—Resident Medical Officer; doubly qualified. Salary, £100 per annum, rising £10 annually to £120. Board, with residence, attendance, and washing. Applications to the Secretary by August 12th.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Board, residence, and laundry found. Applications to the Honorary Secretary by Augugt 7th.

HOSPITAL FOR DISEASES OF THE THROAT, Golden Square, W.—Junior Resident Medical Officer. Appointment for six months, but eligible for re-election. Salary, £50 per annum, with board, lodging, and washing. Applications to Wm. Holt, Secretary-Superintendent, by August 7th.

LANCASHIRE ASYLUMS BOARD.—Medical Attendant for the Idiot Boys Asylum at Winwick, near Warrington. Inclusive salary, 100 guineas per annum. Must reside within three miles of Winwick Hall. Applications to Fred. C. Hulton, Clerk to the Lancashire Asylums Board, County Offices, Preston, by August 13th.

MANCHESTER: ANCOAT'S HOSPITAL.—Resident Senior House-Surgeon. Salary, £80 per annum, with board and washing. Applications to Alex. Forrest, Honorary Secretary, by August 4th.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the North-Eastern Fever Hospital, St. Ann's Road, Tottenham, N.—Salary, £160 during the first year, £180 during the second year, and £200 during the third and subsequent years of service, with board, lodging, attendance, and washing. Must be doubly qualified, unmarried, and not exceed 35 years of age. Applications on forms to be obtained at the Chief Office of the Board, Norfolk House, Norfolk Street, Strand, W.C., where they must be delivered by 10 A.M. on August 26th.

NOTTINGHAM CHILDREN'S HOSPITAL.—House-Surgeon (non-resident). Appointment for six months, but eligible for re-election. Salary at the rate of £100 per annum. Applications to the Secretary, Mr. A. F. Kirby, St Peter's Church Walk, Nottingham, by August 11th.

QUEEN'S COLLEGES, Ireland.—Professorship of Medicine in the Queen's College, Cork. Applications and testimonials to the Under-Secretary, Dublin Castle, by August 7th.

ROTHERHAM HOSPITAL AND DISPENSARY.—House-Surgeon; doubly qualified. Salary £105, with board, lodging, and washing. Appointment for three years. Applications to the Hon. Secretary by August 31st.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demonstrator of Anatomy. Applications to G. P. Field, Dean, by September 22nd.

STOCKPORT INFIRMARY.—House-Surgeon and a Junior Assistant House-Surgeon; doubly qualified. Salary, for the former, £100 per annum, with board, washing, and residence, and for the latter honorarium at the rate of £24 per annum, with residence, board, and washing. Applications to Major Tyler, Secretary, by August 3rd.

STOURBRIDGE DISPENSARY.—House-Surgeon and Secretary; doubly qualified. Salary, £120 per annum, rising £5 annually to £130, with furnished rooms, coals, and gas, with £25 for travelling expenses. Applications to Hon. Secretary, T. F. Bland, The Firs, Norton, Stourbridge, by August 4th.

MEDICAL APPOINTMENTS.

CHIENE, George L., M.B., C.M., appointed House-Surgeon to the Edinburgh Royal Maternity Hospital.

CONNAL, James Galbraith, M.B., C.M., appointed Physician to the Throat and Nose Department of the Glasgow Central Dispensary.

DUFFY, James E., L.R.C.S.I., L.M., appointed Medical Officer of the Workhouse of the Strokestown Union.

EATON, James, M.R.C.S.Eng., L.S.A., reappointed Medical Officer for the Spittlegate District of the Grantham Union.

FLANAGAN, G. B. N., L.R.C.P., L.R.C.S.I., appointed Medical Officer for the Forest Row District of the East Grinstead Union.

FLEMING, Robert A., M.A., M.P., F.R.C.P.E., appointed Pathologist to the Edinburgh Royal Infirmary.

GILES, Oswald, L.R.C.P.Lond., M.R.C.S.Eng., reappointed Medical Officer of Health to the Sleaford Rural District.

GLYNN, Dr. Patrick, appointed Medical Officer to the Turloughmore Dispensary District, *vice* F. Mary Golding, L.R.C.P., L.R.C.S.I.

GREENWOOD, Alfred, M.B., Ch.B.Vict., L.R.C.P.Edin., L.R.C.S.Edin., appointed Resident Medical Officer to the Salford Union Infirmary, Manchester.

HAYCROFT, C. H., M.R.C.S.Eng., L.S.A., reappointed Medical Officer for the Colebrooke and Chawleigh Districts of the Crediton Union.

HAYES, W. A., appointed Railway Medical Officer at Mafeking, on the Mafeking-Palapye Section C.G.R.

HUNT, T. H., M.B., B.S., appointed Senior House-Surgeon to the Royal Halifax Infirmary, *vice* J. C. Maxwell, resigned.

HUTCHINSON, Donald, M.B., C.M., appointed House-Surgeon to the Edinburgh Royal Maternity Hospital.

HYNES, Dr., appointed Medical Officer for the Workhouse of the Mohill Union.

KINGDON, WILFRED R., M.B.Durh., B.S., appointed President Medical Officer of the "Woodlands" Asylum, Ticehurst, Sussex.

LANE, Dr., appointed Junior Medical Officer at the Withington Hospital of the Chorlton Union.

LAWSON, Thomas, L.R.C.P., L.R.C.S.Edin., L.F.P.S.Glasg., appointed Resident Medical Officer for the St. Pancras and Northern Dispensary, 126, Euston Road, N.W.

LEITH, R. F.C., M.B., F.R.C.P.E., appointed Assistant Physician to the Edinburgh Royal Infirmary.

MCARTHUR, D. C., M.R.C.S., L.R.C.P., appointed Medical Officer for the No. 5 District of the Hertford Union.

O'CONOR, Dr., appointed Medical Officer of Health to the Lowestoft Town Council, *vice* John T. Thomas, L.R.C.P.I., L.R.C.S.Edin., resigned.

PAKES, W. C. C., reappointed Assistant Demonstrator of Bacteriology at Guy's Hospital, with charge of the Practical Chemistry for the D.P.H. course.

RICHARDS, J. S., M.D., appointed Medical Superintendent of the St. Saviour's Union Infirmary.

STILES, Harold J., F.R.C.S.E., appointed Assistant Surgeon to the Edinburgh Royal Infirmary.

STORR, Frederick A., B.A.Oxon., L.S.A., appointed Medical Officer of Health to the Halifax Rural District.

VAUGHAN, Ethel, M.B., B.S.Lond., appointed Assistant Medical Officer to the Camberwell Infirmary.

WILKINSON, Wm. A. Horsley, M.B., Ch.B.Vict., appointed Medical Officer of Health to the Gainsborough Urban District Council, *vice* Dr. Mackinder, resigned.

WILSON, J. S., M.D.Glasg., D.P.H.Camb., appointed Certifying Surgeon for the Walsall and Bloxwich District under the Factory Acts.

YOUNGSON, Thomas McKay, M.B., C.M.Aberd., appointed Medical Officer of Health to the Wolstanton Rural District.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps, with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTH.

DIXON. On July 17th, at Eccleshall, Staffs, the wife of Thomas Dixon, M.R.C.S.Eng., L.R.C.P.Lond., of a son.

MARRIAGES.

GLOVER—GLOVER.—On July 22nd, at Union Chapel, Islington, by the Rev. Richard Glover, D.D., of Bristol, and the Rev. W. Hardy Harwood, of Islington, Lewis G. Glover, M.A., M.D.Cantab., of 1, College Terrace, Hampstead, youngest son of John Glover, J.P., of Highgate, to Mary Mildred, only daughter of James Grey Glover, M.D., J.P., of Highbury.

HALAHAN—GALTON.—On July 14th, at St. Paul's, Upper Norwood, by the Rev. H. Stevens, M.A., Vicar of Holy Trinity, Sydenham, assisted by the Rev. R. B. Ransford, M.A., Vicar of St. Paul's, S. Crosby Halahan, of Leigh Manor, Cuckfield, Sussex, eldest son of the late Colonel S. H. Halahan, of Haighlands, Sydenham, to Maud Ethel, second daughter of John H. Galton, M.D.Lond., of Chunam, Sylvan Road, Upper Norwood. (Correction.)

DEATH.

BLACK.—Suddenly, at 95, Goldhawk Road, W., on July 19th, John Frank Black, M.B., aged 31 years.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—F., 2.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 12.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu. F., 1; Eye, Tu. F., 9.30; Ear, M. Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies.*

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

X. asks what mode of cocainising the skin is found best in removal of hairs by electrolysis?

DECIMUS desires to hear of a comfortable home where a lady suffering from myxœdema could be received and would be well nursed and cared for. She could not pay more than £2 a week, everything included.

POWDERED MEAT IN THE TREATMENT OF PHTHISIS.

C. L. informs us that he has received the following directions for the preparation of powdered meat, which may be of use to others: Lean meat (beef) is minced; it is then thrown into heated oil or butter for a few minutes, to "crisp" it; it is then put into a slow oven for about 24 hours; and is then ground in a coffee mill which is used for no other purpose.

SUCCESSION TO DEATH VACANCY.

SARTORIUS writes that he has succeeded to a death vacancy, and that there is absolutely no one to introduce him to the patients, and asks whether it would be strictly professional to have a circular printed and sent to all the patients on the books, informing them he has succeeded to their late doctor.

*** In such a case as described by our correspondent the executor of the late doctor would be the proper person to send a circular to the patients of the deceased, and it would be his duty to do so.

PROVIDENT DISPENSARIES.

J. A. wishes to know of a place with a population of 8,000 where there is a provident dispensary conducted on right principles, as it is proposed to start one in his district, and he would be glad to avail himself of the experience of others in this matter.

*** We believe there are many well conducted provident dispensaries in different parts of the country, but their rules frequently have to be varied according to local conditions. Possibly some of our readers may be able to furnish our correspondent with further information.

TREATMENT OF PRURITUS.

INQUIRER asks for suggestions as to the treatment for a desperate case of pruritus pubis, complicated by a kind of eczema and impetigo of two years' standing? The patient is about 45, healthy, temperate, and stout and active. She is of worrying disposition, cycles and walks a good deal, eats meat once or twice a day; perfectly healthy: no uterine disease. At night chiefly there is intolerable itching, scratching only giving some relief. Arsenic has been given, locally, lotio plumbi c. opio, lotio acidi carbolici, lotio calaminæ c. amylo et zinci; also menthol, huile de cade, liq. carbonis detergens, iodoform c. ichthyol, ol. olivæ c. sulphure, ungt. zinci ox. c. vasel, et lanolin, ol. eucalypt. c. menthol, cocaine; various tar preparations, all to no purpose. The patient threatens suicide.

MEDICAL ETIQUETTE AND SOCIAL OBLIGATIONS.

A PUZZLED MEMBER writes that an old friend who lives in his neighbourhood and employs another medical man was hurt by his not calling on her, when passing her house at times, and also that his wife did not call upon her. On her complaining to him he explained that his visits might be misinterpreted by her medical attendant. He would like to know what he ought to do under such circumstances.

*** Our correspondent's conduct was doubtless dictated by the best motives, and may have been a very wise course to adopt; medical etiquette, however, does not require that a medical man should be debarred from all social intercourse with a friend because he or she happens to employ the services of another doctor.

DOMESTIC HANDBOOKS.

W. P. asks for the names of two books suitable (1) for a lady about to be married, as a guide to health in sexual and other matters, and (2) as a guide to a mother in bringing up children with reference to health?

*** "W. P." might find what he requires among the following books: *Advice to a Mother on the Management of her Children*, by Mr. Pye Chavasse (London: J. and A. Churchill, 28. 6d.); *Hints to Mothers for the Management of their Health during the Period of Pregnancy, and in the Lying-in Room*, by the late Thomas Bull, M.D., revised by Mr. R. W. Parker (London: Longmans, Green and Co., 28. 6d.); and *The Maternal Management of Children*, by the same authors (London: Longmans, Green and Co., 28. 6d.). A more recent work dealing with the same subjects is *The Mother's Help and Guide in the Domestic Management of her Children*, by P. Murray Braidwood, M.D. (London: The Scientific Press, 1894, 28. 6d.). There is also the *Manual of Family Medicine and Hygiene*, written by the late Sir W. Moore (London: J. and A. Churchill, 1889, 12s.), which, though primarily written for those resident in India and hot countries, contains a great deal of information which is of general application.

PROPOSED GUIDE TO A HEALTH RESORT.

X, who is living at a health resort, wishes to know: (1) If it be contrary to etiquette, or to the regulations of the General Medical Council, or of the universities, to publish under his own name and title a *Guide* of a semi-medical and popular character, in which general advertisements are admitted; the *Guide* to be advertised and sold in the usual method applicable to such books. (2) If this plan is indefensible is it permissible to state on the title page of the *Guide* "By a Bachelor of Medicine?" (3) If (1) is answered in the affirmative would the medical man be entitled to give away the books instead of exposing them for sale?

*** (1) It would depend entirely on the character of the *Guide*. If it were no more than an advertisement of the author it would be opposed to medical etiquette, although no special regulation against such books has been issued by the General Medical Council. (2) If the name of the author did not appear no objection of this nature could be made against such a publication. (3) A medical man might be entitled to give away such books to his own patients, but not to make use of them as a means of advertising himself generally.

ANSWERS.

M. might consult Mr. Bernard Roth's article on Medical Gymnastics in Heath's *Dictionary of Practical Surgery*.

BILEE REVIEW.—We have forwarded our correspondent's cheque for £2 10s. to Sir William Broadbent, Bart., Treasurer of the British Medical Benevolent Fund.

LLIERY.—It is impossible to say from the data given what are the rights of the respective doctors. Our correspondent had better bring the matter before the Committee of the workmen's club or the managers of the colliery if he does not get the payments he is entitled to.

J. B.—Under the circumstances as stated our correspondent would be justified in retaining the case, and as he is on friendly terms with the other practitioner, it would be better for him to call on him, and to explain the circumstances of his attendance.

—It is most undesirable that medical men should append their names to testimonials to the efficacy of electric belts which are advertised as curing everything, from nervous exhaustion to varicocele, but we are advised that such a course of conduct does not fall within the category of "infamous conduct in a professional respect."

FEES TO MEDICAL WITNESSES.

OWLER.—A witness cannot be compelled to answer any questions until he is sworn and in the witness box. It is usually convenient for those who have to conduct a case to know beforehand what he is prepared to say, and his proof or statement is therefore generally obtained. He need not give any such statemeut to policeman, solicitor, counsel, or anyone else; and is within his rights if he retuses to speak till his fees are secured. If medical witnesses were to insist on such payment before they would give a proof or attend a consultation, the fees would often be forthcoming, and much subsequent difficulty would be avoided.

DENTAL PRACTICE.

UTHERN.—A qualified medical man can practise dentistry and may call himself "Dentist." The difficulty of mastering the many minutiæ of the dentist's calling is great, and our correspondent will find two years a very short time in which to learn them, and, unless he is able to operate skilfully, he will only "go to the wall" in the competition with students who have spent two years in a hospital and three years in a workroom.

FERTILITY OF TWIN SISTERS.

. ALFRED C. MUMFORD (Chorlton-cum-Hardy) writes: In answer to B. T. H." I may say that my own grandmother was one of twin sisters, hat she had three sons and one daughter, and lived to a good age; hile her twin sister had three children, and lived to the age of 63.

vrites: Twin sisters were born in the next village to the one I reside . One (A.) was married, and had three children before B. was arried. B., under the impression that she would have no children, as destined to be disappointed, for she became the mother of ten ildren, having twice twins. A. ultimately increased her number to ve.

. S. writes: In answer to "B. T. H." in the BRITISH MEDICAL JOURAL of July 10th, I may say my wife is a twin. She has had two healthy ildren, a boy and girl; the girl was born ten months after marriage. er twin sister was married last autumn, and is expecting her confinement in a few months; both are healthy and strong.

*** The answers already published appear to be sufficient to set at st any doubts which may have existed as to the fertility of twin sters.

ADMISSION TO ENGLISH BAR.

E. T. WHITAKER, M.B.Edin. (Ashleigh, Shrewsbury), writes, in reply "D.'s" query appearing in the BRITISH MEDICAL JOURNAL of July st.: For Edinburgh graduates the course consists of: (1) Admission one of the four Inns of Court; (2) attendance for three nights four nes a year for three years (thirty-six attendances in all) at the dinners en in the hall of his Inn; (3) one examination, which consists of ree parts, which may be taken separately or together. This must be mpleted before "D." can be "called" (that is, become a barrister). e cost, apart from expenses while in London, cost of books, and any aching, is a little less than £200. This amount need not be paid all once, as bonds are accepted for some portion, the exact amount ying with the Inn. If "D." will communicate with me I will give n further information as to admission, choice of Inn, examination, etc.

H. CRITCHLEY (Banbury) writes: In answer to "D.s" inquiries the al fees and charges for call to the Bar of the Inner Temple amount to 38 and about £25 less at Gray's Inn. If "D." is not a university man would have to make a deposit of £100 on admission which would be unded on "call." The greater portion of the fees become due on all," not on admission. The period of study is twelve terms, there ng four short terms in each year. Attendance is registered by dining Hall twelve times in each term. There is a very elementary preinary examination to be passed, but the Medical Preliminary Certite would grant exemption.

VESICATING PLANTS.

DR. D. CAMPBELL (Calne, Wilts) writes in reply to W. F., who asked for information respecting plants which produce eruptions on the skin: I get a yearly crop of such cases, which are caused by the "spurge," "euphorbia." It is a succulent annual plant with an acrid milky juice, and grows plentifully in gardens and allotments as a weed, and persons in weeding break the brittle stems, get the juice on their hands, and then transfer it to their faces when wiping off perspiration, midges, or flies.

In the *Encyclopedia Perthensis*, a pre-Victorian publication, it is stated that "the juice of all the species is so acrid that it corrodes and ulcerates the body wherever it is applied, so that physicians have seldom ventured to prescribe it internally. Warts and corns anointed with it disappear under its use."

If W. F. does not know it, and will write to me, I shall be pleased to send him a fresh specimen.

NOTES, LETTERS, Etc.

SMALL-POX IN THE GERMAN AND FRENCH ARMIES.

OUR attention has been called to a letter in the *Kilmarnock Herald*, by Mr. William Tebb, ex-President of the London Society for the Abolition of Compulsory Vaccination. Mr. Tebb speaks of "the revival of a notorious vaccine statistic in the BRITISH MEDICAL JOURNAL of June 19th," and he invites the readers of the *Herald* to consider "perhaps the most remarkable of the many fables invented by the advocates of vaccination." The "fable" refers to the statements made regarding the comparative small-pox mortality in the well-vaccinated German army and the much less vaccinated French army in the war of 1870-71.

The writer of the article which appeared in our issue of June 19th gave the figures for the two armies as stated by Professor Gerhardt, and at the same time gave Professor Gerhardt's name as responsible for the figures. Naturally, in the case of a great war, quite exact statistics are difficult to get, and for the last quarter of a century Mr. Tebb and his followers have taken this fact as a sufficient ground for making wild charges about fables and inventions. Such are contained in the letter in the *Kilmarnock Herald*. It happens that the Royal Commission on Vaccination, with its chairman, Lord Herschell (lately Lord Chancellor of England under a Liberal Government), deals with this question of the small-pox mortality in the two armies engaged in the Franco-German War. Whether Mr. Tebb holds Lord Herschell incompetent to weigh evidence we know not, and it matters not, but here, at any rate, is the Commissioners' report on the subject:

"347. A comparison of the mode in which the very general small-pox epidemic of 1870-71 affected the German and French armies in those years is especially worthy of attention. In the year 1834 vaccination was made compulsory for soldiers in the Prussian army. Although it may not have been enforced with complete thoroughness, there seems to be no doubt that the German army was, on the whole, a well-vaccinated class at the time of the campaign of 1870-71. We do not think there can be any real doubt that the French army was, during the same period, in a condition in that respect less satisfactory. According to the official returns, the number of small-pox deaths in the German forces during the years in question was only 316. It was stated by Monsieur de Freycinet, when Minister of War, that 23,400 French soldiers died of small-pox during the years 1870-71. We have not been able clearly to ascertain how these last figures were procured. They were not derived directly from any official return. It would seem that the average derived from a limited number of returns relating to particular portions of the army was applied to the army as a whole. It is quite possible, therefore, that the figures given may not be accurate, and that the number stated is in excess of the real number of deaths; but we do not think it is possible to doubt that the ravages of small-pox in the French army were very great, and that the mortality was enormously in excess of that suffered by the force which was opposed to them. Various facts have been deposed to, as, for example, the small-pox deaths in the ranks of the French soldiers imprisoned in Germany, to confirm this view, which receives further confirmation from a comparison of the small-pox deaths in the French and Prussian armies in the time of peace which immediately preceded the war. In 1869 there were 63 deaths from small-pox in the various French garrisons. In the four years from 1866 to 1869 there were 380 deaths from small-pox, 323 of them being in the active army. On the other hand, the total number of deaths from small-pox in the Prussian army from 1835 to 1869 was but 77."

It will be seen that, as was to be expected in such circumstances, absolute accuracy of figures is unattainable, but the outstanding fact common to all informed statements on the subject is that the small pox mortality in the German army was a mere fraction of the small-pox mortality in the French army. We note that Mr. Tebb says that 23.469 deaths would represent about 350,000 cases of small-pox. That would mean a fatality-rate of only between 6 and 7 per cent. The statement is a mere guess, and as such is a most unlikely guess. But it is Mr. Tebb who charges supporters of vaccination with "fables invented!"

THE SUPPOSED POISONOUS ORGANIC MATTER IN EXPIRED AIR.

DR. C. M. JESSOP (Redhill) writes with reference to the abstract (published in the BRITISH MEDICAL JOURNAL of June 12th) of the article in the Smithsonian Reports, and our comments on a previous letter by him in the JOURNAL of July 3rd, to point out that Dr. E. A. Parkes found (*Hygiene*, 4th edit., p. 69) "the organic matter from the lungs when drawn through sulphuric acid darkens it, through permanganate of potash decolorises it, and through pure water renders it offensive." He also refers to experiments on animals by Gavarret and Hammond, who found that the organic matter left after the removal of carbonic acid and watery vapour was highly poisonous. With regard to infection and the sense of smell, he relates the following incident:

"At the meeting of the Association in Cork in 1879 I visited the Fever Hospital to observe a well-marked eruption on a hand and arm in a darkened ward. I approached within two feet of a typhus fever case Immediately a sharp pungent odour was perceived at the right nostril

In a few seconds there was an unpleasant sensation at the epigastrium, darting like an electric shock from the spleen to the liver. Discomfort, languor, and a sense of prostration took possession of me. Washing did not remove the odour. Within an hour (at Queen's College) a profuse purgation of scalding bright yellow liquid fæces took place. Subsequently the symptoms of an abortive attack of typhus fever occurred with the recurrence three or four times of the pungent odour, fainter each time, till a critical sweat on the fifteenth day put an end to the disorder. The feeling of wellness was refreshing, and the appearance of having had a "go of typhus," as the late Dr. Kane expressed it, had left. My work was no longer a labour. I record this because it fixes the exact time of reception into and effect upon a healthy organism of a powerful poison at the instant of exposure. Also it shows that the vitality of the elements of local reception were till the fifteenth day in an unhealthy state, acting as a fountain-head of infection."

ESERIN ON SEA VOYAGES.

DR. B. SCHWARZBACH (London, W.) writes: Knowing that through the medium of the BRITISH MEDICAL JOURNAL the attention of ships' doctors may be reached, I beg leave to advise these gentlemen (or other medical practitioners who are in the habit of travelling extensively) to always provide themselves with eserin on long sea voyages. During four trips around the world I have had occasion to notice repeatedly attacks of glaucoma at sea, and on inquiry was always told by the ship's doctor that eserin is not to be found in the ordinary medicine chest on board. And yet, in my belief, attacks of glaucoma occur comparatively more frequently at sea than on land. Only recently, during a trip from Australia, I had occasion to observe no fewer than four cases of increased interocular tension. Some little time ago, while travelling from Sydney to San Francisco, acute glaucoma developed after a severe attack of sea-sickness; the sight of the lady sufferer would certainly have been lost, had I not, with the consent of the ship's doctor, performed an iridectomy then and there—and performed it under most difficult circumstances, and with instruments of rudest description. Since that time I always carry eserin when travelling at sea, and have frequently given help with it.

I know a gentleman who is constantly travelling between New Zealand and England, and who during the whole duration of the sea-trip used to see rainbow colours around lights, etc., the pupils of whose eyes looked unusually dilated, and the intersclerotic pressure used to be T + 2, though repeated ophthalmoscopical inspection gave a negative result. At my advice he now applies a weak eserin installation when at sea—every third day—and with the best advantage to his eyes, and without any injurious effect whatsoever to the system. I make this last remark, as with some ophthalmic surgeons a prolonged use of eserin seems to be out of favour.

Other ophthalmological observations at sea (such as the occurrence of an attack of neuritis retrobulbaris after sea-sickness, etc., and also why, in my opinion, sea-life rather predisposes to glaucoma), I hope to be able to detail on a future occasion. At present I wish to draw attention only to the advisability of carrying eserin on long sea voyages.

CULPABLE IGNORANCE.

ANGLICAN writes: I was much interested by your note in the BRITISH MEDICAL JOURNAL of July 24th, where you relate how an ecclesiastic is setting himself in opposition to Science, the more especially as I happen to be reading a work by Dr. Draper, called the "Conflict Between Religion and Science," wherein is related among other matter, how Galileo was cruelly treated and imprisoned for life, and how Bruno was burnt for teaching that the earth is globular, and that the sun is the centre of our Universe. It seems that Canon Doman is rowing in the same boat with the perpetrators of the above mentioned atrocities, and it would be a good thing if he could be induced to read Dr. Draper's work, and so live and learn.

THE OBSTETRIC NURSES BILL.

DR. E. J. GILLERAN (St. Helens) writes: In the draft of the proposed Obstetric Nurses Bill there is an exhaustive list of those things a midwife should do—and which it will be very difficult to compel her to do—but not a word about the things which she should not do, which will affect general practitioners more seriously than any loss of midwifery practice the Bill will cause. As a general practitioner I am aware of such practices on the part of midwives as (1) prescribing drugs, such as opium, ergot, etc.; (2) using forceps and other instruments; (3) touting for certain sharp practitioners who subsidise them, etc.; (4) prescribing for children other than the newly-born, and also for women of all ages; (5) selling remedies and appliances. These are some of the things done now, and what will these women do when they get a sort of professional status? I think it is only natural to assume that that status will cause them to think that they should be competent to prescribe for women and children, and I think, if the Bill is not to be a greater fiasco than the Medical Bill, abuses ought to be anticipated and explicitly stated. I trust that the Committee may consider the point worth noting.

LETTERS, COMMUNICATIONS, ETC., have been received from:

(A) Aluminium Supply Co., London; Anxious Vendor; Dr. F. J. Allen, Paris; Dr. R. B. Anderson, London; Messrs. Armour and Co., London; Messrs. Arnold and Sons, London; Anglican; Mrs. Alexander, Bridgwater. **(B)** Dr. H. Bramwell, Cheltenham; D. Brough, M.B., Devonport; J. M. Bramwell, M.B., London; Mr. R. C. Brown, Homburg; P. Boobbyer, M.B., Nottingham; Dr. B. Bramwell, Edinburgh; Dr. W. Bain, Harrogate; Messrs. Brown, Gore and Co., London. **(C)** Mr. R. H. Cox, Shanghai; W. W. Cheyne, M.B., London; Dr. D. Campbell, Calne; Dr. R. H. Clay, Plymouth; Dr. C. C. Claremont, Southsea; Country Doctor; Dr. E. W. Clarke, Chesterfield; Dr. J. Campbell, Belfast; Miss H. M. Castledine, Willerby. **(D)** Mr. J. Dawson, London; Messrs. Down Brothers, London; Dr. M. Dockrell, London; Decimus. **(E)** J. Erskine, M.B., Glasgow. **(F)** Mr. E. L. Freer, Birmingham; Mr. R. Foskett, London; F.R.C.S.I. **(G)** Mr. G. Gresswell, Great Grimsby; A. Greenwood, M.B., Pendleton; Mr. E. J. Gilleran, St. Helens; Mr. R. W. Gentles, Derby; Mr. C. R. O. Garrard, Pendleton; Dr. C. Gibson, Harrogate; Dr. G. A. Gibson, Edinburgh. **(H)** Mr. W. A. Hayes, Mafeking; Dr. A. P. Hillier, London; H. P.; L. E. Hill, M.B., London; H. B. C.; T. Hopkins, M.B., Chester; Dr. W. Hunter, London. **(I)** Inquirens. **(J)** Dr. A. B. Judson, New York; Jubilee Review; Jacobus; Dr. C. M. Jessop, Redhill; Mr. F. P. R. James, Leeds; Messrs. W. Judd, Limited, London. **(K)** Messrs. Krohne and Sesemann, London; W. R. Kingdon, M.B., Birmingham. **(L)** London County Council, The Chairman of the, London; Miss E. F. Lamport, London; Lecturer; Mr. P. G. Lee, Cork; Mr. C. B. Lockwood, London. **(M)** Mr. C. A. Morton, Clifton; Dr. H. H. Murphy, Twickenham; Medico-Psychological Association, The Secretary of the, London; Medical Officer of Health; Dr. G. Macdonald, London; Mr. J. MacOscar, Watlington; G. S. MacGregor, M.B., Glasgow; Mr. A. Maude, Westerham; Mr. J. M. Menzies, London; Mens Sana; J. D. Malcolm, M.B., London; Mr. C. D. Marshall, London; Medical Defence; M.O.H. **(O)** Observer; Mr. W. Osborn, Milverton. **(P)** Dr. S. T. Pruen, Cheltenham; Mr. H. B. Pullen-Burry, Liphook; Dr. J. Priestley, London; Mr. W. C. C. Pakes, London; Dr. D. N. Paton, Edinburgh; Dr. F. Page, Newcastle-on-Tyne; Dr. F. H. Pott, Bournemouth; Public Vaccinator; Portsmouth. **(R)** Dr. H. B. Robinson, London. **(S)** Dr. B. Schwarzbach, London; Dr. D. D. Stewart, Philadelphia; Dr. Styrap, Shrewsbury; Dr. E. A. Snape, London; Mr. R. H. Steede, Newcastle, co. Limerick; Southern; Scotius; Dr. F. H. Spooner, London; Messrs. Street and Co., London; Dr. J. S. Scriven, Abberley; Messrs. H. Sell and Co., London; E. W. Selby, M.B., Doncaster. **(T)** T. M.; T. W. S. **(V)** G. H. Voss, M.B., London; Mr. E. M. Vaughan, London. **(W)** Dr. Hugh Woods, London; Dr. F. J. Waldo, London; Dr. R. Wise, London; Mr. E. W. Wallis, London; Dr. A. D. Waller, London; E. T. Whitaker, M.B., Shrewsbury; Mr. D. F. Williams, Liverpool; Dr. A. G. Welsford, Great Bookham; Dr. H. Waldo, Clifton. **(X)** X.; Xerxes. **(Y)** E. S. Yonge, M.B., Manchester; etc.

BOOKS, ETC., RECEIVED.

Fruits and Farinacea, the Proper Food of Man. By John Smith. London: Ideal Publishing Union. 1897.

Introduction à la Médecine de l'Esprit. Par Dr. M. de Fleury. Deuxième edition. Paris: Felix Alcan. 1897. Fr.7.50.

Outlines of Psychology. By W. Wundt. Translated, with the co-operation of the author, by C. H. Judd, Ph.D. Leipzig: W. Engelmann. London: Williams and Norgate. 1897.

Through Finland in Carts. By Mrs. Alec Tweedie. London: A. and C. Black. 1897.

Die therapeutischen Leistungen des Jahres, 1896. Von Dr. A. Pollatschek. VIII Jahrgang. Wiesbaden: J. F. Bergmann. 1897. M.7.

Die Diagnostik innerer Krankheiten mittels Röntgenstrahlen. Von Dr. G. Rosenfeld. Wiesbaden: J. F. Bergmann. 1897. M.2.80.

Über de funktionelle Prüfung des menschlichen Gehörorgans. Von Dr. F. Bezold. Wiesbaden: J. F. Bergmann. 1897. M.6.

Stereoskopische Bilder. 24 Tafeln zum Gebrauch für Schielende. Von Dr. A. Pflugk. Wiesbaden: J. F. Bergmann. 1897. M.2.

Puerperale Psychosen. Von Dr. O. Knauer. London: Williams and Norgate. 1897. M.1.80.

A Handbook of Medical Climatology. By S. E. Solly, M.D. London: J. and A. Churchill. 1897. 16s.

Le Lavage du Sang. Par Dr. F. Lejars. Paris: Masson et Cie. 1897 Fr.1.25.

The Retrospect of Medicine. Edited by J. Braithwaite, M.D., assisted by E. F. Trevelyan, M.D., B.Sc., M.R.C.P. Vol. CXV. London: Simpkin, Marshall, Hamilton, Kent and Co.

*** In forwarding books the publishers are requested to state the selling prices.

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REMARKS
ON
THE CHANGES IN THE SPINAL CORD IN TWO CASES OF PERNICIOUS ANÆMIA.

By J. MICHELL CLARKE, M.A., M.D.Cantab., F.R.C.P.,
Physician to the General Hospital and Professor of Pathology, University College, Bristol.

The two following cases afford examples of the changes present in the spinal cord in pernicious anæmia, and also illustrate the fact that in one class of these cases careful examination failed to elicit clinical symptoms of the disease of the cord, a result possibly to be attributed in some instances to the severity of the general symptoms obscuring those due to the spinal cord affection.

E. W., aged 46, was admitted into the Bristol General Hospital on November 17th, 1896, complaining of great weakness, palpitation, and shortness of breath. Except that one sister had died of consumption the family history was good. The patient had been married twenty-six years and had one child; no miscarriages. She had rheumatic fever fourteen years ago, and jaundice one year ago, but had always been strong and healthy. She had suffered from piles but not from hæmorrhage from them. The catamenia ceased twelve months ago; previously to that she had always been regular, and had never suffered from menorrhagia. She dated her illness from a fall in June, 1896, after which she became pale, lost flesh, and suffered from increasing weakness in the legs, with a feeling of deadness in them. Nine weeks before admission she had an attack of "bronchitis and inflammation of the lungs," and was very ill for three weeks. This was followed by jaundice, with pains in the bowels, obstinate constipation, and vomiting after food. Her legs became swollen and weak, and either felt very cold or of a burning heat. She kept her bed during the whole nine weeks until admission. She had never suffered from melæna or hæmaturia.

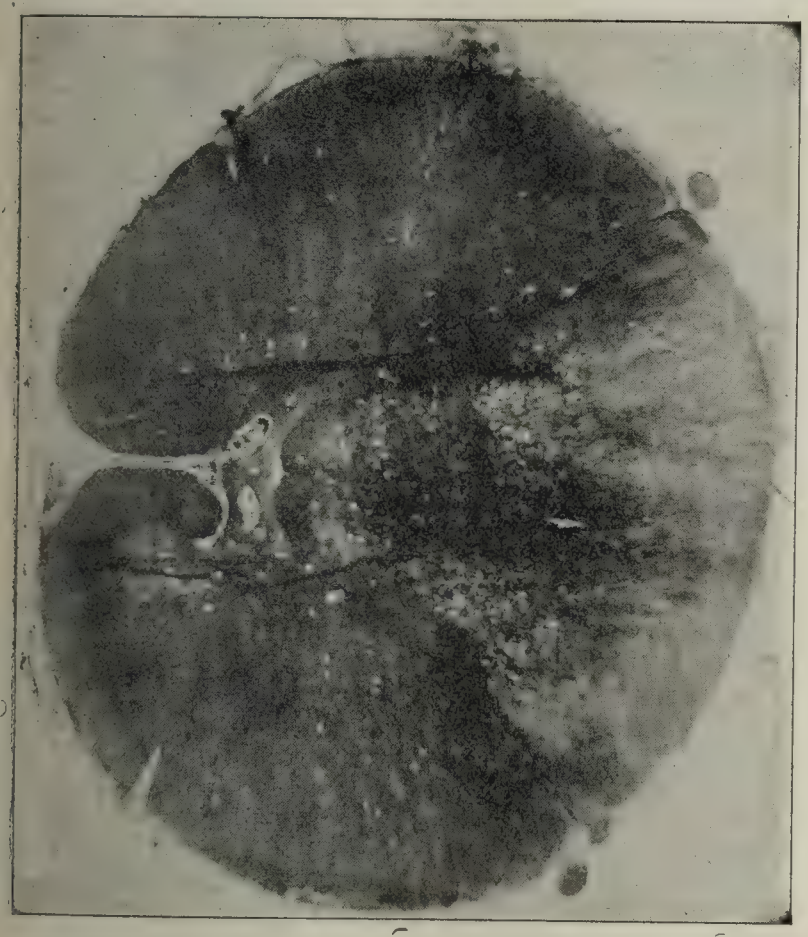

Fig 1.—Cord at level of first and second cervical roots: Degeneration in posterior columns.

On admission she was very pale and rather thin, the skin of a pale lemon colour. She was very weak and had to be fed. The mouth was dry, the gums pale, and the breath offensive; appetite bad; bowels constipated; pulse-rate 112, regular, compressible; temperature 98.4°. Examination of the chest showed the lungs to be normal, the breath sounds being rather jerky. The heart was normal in size, but a blowing systolic murmur was heard all over the præcordial area, and a venous hum was audible at the root of the neck. There was excessive tenderness in the left epigastrium but nothing could be felt there. The liver and spleen were not enlarged, and there was no ascites. The urine was acid, specific gravity 1015, and contained a slight trace of albumin. The legs were swollen, pitting on pressure; there was great loss of muscular power in them. The knee-jerks and plantar reflexes were very active. Sensation to touch, pain, and temperature was everywhere normal. Vision was normal; the pupils acted well to light and accommodation; the axillæ were pigmented. Blood: Red corpuscles 870,000 to 1 cm.; many poikilocytes, macrocytes, and microcytes, and a few nucleated red-blood corpuscles. White corpuscles, 10,000, consisted almost entirely of the finely granular oxyphil leucocyte; hæmoglobin, 30 per cent.; Blood decimal 0.6.

She was treated with arsenic, and oxygen inhalations every two hours. During the next few days she suffered from constant vomiting, pains in the abdomen, and from drowsiness, and she had retention of urine. On November 24th she began to suffer from nocturnal incontinence of urine, and the œdema increased in degree and extent. There was obstinate constipation. On November 26th the urine showed with the spectroscope a faint urobilin band, which it had not done before. Examination of the blood gave red corpuscles 830,000, white corpuscles 30,000 to 1 cm. of same characters as above. Hæmoglobin 25 per cent. The patient died on November 27th.

The *post-mortem* examination showed the body to be fairly well nourished. The lower lobes of both lungs were in the state of brown induration. There was a little serous fluid of a peculiarly bright colour in the left pleural cavity and pericardium. The heart was covered with a layer of bright yellow fat, and its muscle was in a most marked condition of fatty degeneration. The liver was rather small, smooth, and pale. A fairly well marked blue coloration to hydrochloric acid and potassium ferrocyanide was obtained in the periphery of the lobules. In the spleen, which was firm and dark in colour, this reaction was not obtained. The kidneys gave the reaction badly and only in parts of the cortex; the cortex appeared to have undergone a fatty change. On washing out the intestines and treating them with perchloride of mercury solution a faint rose pink was obtained in the duodenum, but not elsewhere in the small intestine; the large intestine was unfortunately not examined.[1]

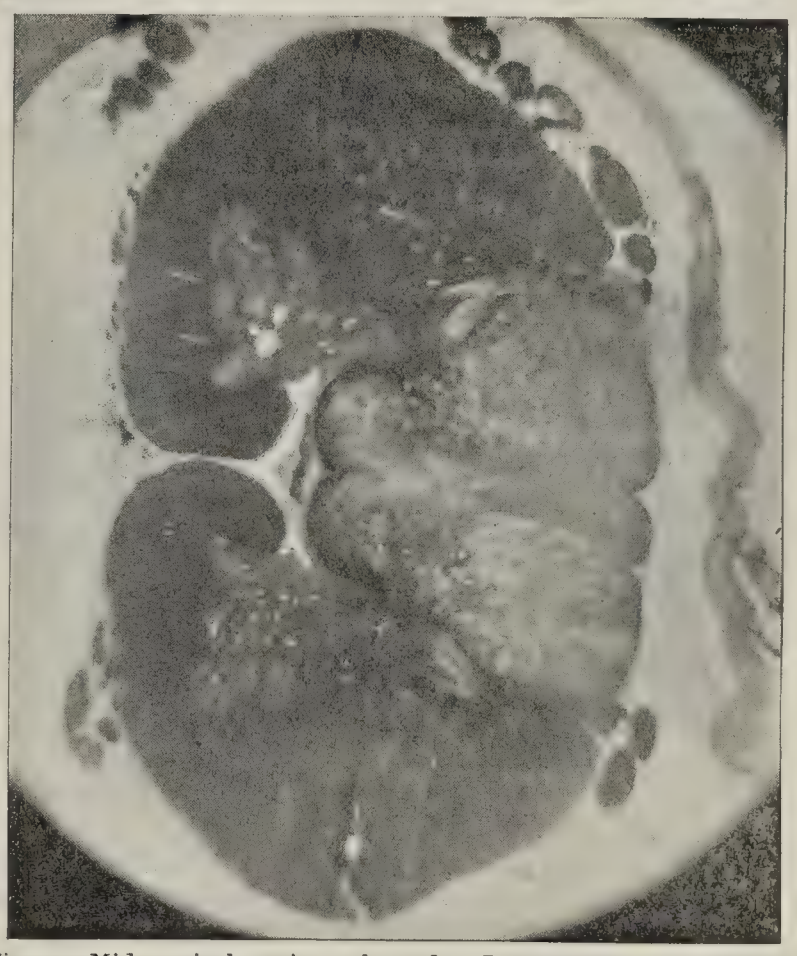

Fig. 2.—Mid-cervical region of cord: Degeneration in posterior columns.

My clinical clerk, Mr. E. V. Foss, undertook the quantitative estimation of the iron in the liver after the method recommended by Dr. Stockman,[2] and found that 100 grammes of dried liver contained 0.1034 grammes iron. The bright yellow fluid from the pleural and abdominal cavities gave a very distinct spectrum of urobilin (single band just to the red side of F).

The brain and spinal cord were hardened in Müller's fluid. Sections of the cortex of the cerebrum and cerebellum were normal, and the basal ganglia and white matter of the cerebral hemispheres were also healthy. Sections of the pons, medulla, and cord, posterior roots and spinal ganglia were stained after the Pal-Weigert and Van Gieson's methods, and in carmine, methylene blue, and aniline blue black.

The spinal ganglia examined (lumbo-sacral and cervical regions) and the posterior roots in all parts of the cord were healthy. In the cord at the level of the first and second cervical roots there was complete degeneration of the posterior columns extending from the posterior surface half way towards the posterior commissure. The posterior root zone, Lissauer's column, and all other parts of the cord were healthy.

At the third cervical root complete degeneration of the columns of Goll and Burdach for their posterior two-thirds; immediately behind the posterior commissure the columns were healthy.

In the mid-cervical region, posterior columns, a narrow zone on the posterior surface, and a small area just behind posterior commissure, were healthy. Degeneration, however, affected a narrow zone of Goll's column next the posterior fissure right up to the commissure, $\frac{3}{5}$ of the rest of that column and $\frac{2}{3}$ of Burdach's column, sparing the internal posterior root zone and Lissauer's tract. At this level a few scattered fine nerve fibres only partly degenerated could be recognised in the otherwise fully degenerated areas. Other parts of the section were normal.

In the lower cervical region the changes were similar. From the complete removal of the affected fibres the cord had undergone a slight change in shape and was rather smaller in size than normal.

In the upper dorsal region the largest portion (central parts) of the posterior columns were completely degenerated, but a narrow zone of undegenerated fibres was left on the whole periphery of these columns next the grey matter, being broadest at the posterior part of Burdach's column internal to the posterior root-zone. A very few degenerated fibres were found in the posterior part of the left lateral column. In the mid-dorsal region the posterior columns were degenerated except for a narrow circumferential zone next the grey matter, a narrow line of healthy fibres on the posterior surface, and in one section a few healthy fibres along the septa between the columns of Goll and Burdach. The nerve-cells in the anterior cornua and in Clarke's column contained much coarse pigment at this level.

Fig. 3.—Cord at about ninth and tenth dorsal roots: Degeneration in posterior columns and in one lateral column.

In the lower dorsal region the degenerated area in the posterior columns was the same, but not so intense in Burdach's column. From the level of the eighth to the twelfth dorsal roots a distinct area of degeneration appeared in the left lateral column occupying the position of the crossed pyramidal tract and the part just anterior and internal to it. This was most marked in the dorso-lumbar region, and occupied there the lateral limiting zone of Flechsig and inner part of the crossed pyramidal tract not nearly reaching to the surface of the cord; it disappeared in the upper lumbar cord, ending abruptly above and below.

In the lowest dorsal region a narrow band of healthy fibres just appeared along each side of the posterior fissure, spreading out on posterior surface of the cord.

In the middle and lower lumbar regions the area of degeneration in the posterior columns was the same, leaving a circumferential zone of healthy tissue next the grey matter, and a band extending along and on each side of the posterior fissure, and spreading out on the posterior surface of the cord (see later).

In the sacral region the posterior columns were similarly degenerated, the healthy band of fibres along the posterior fissure on the posterior surface and the circumferential zone next the grey matter being a little broader. In the affected parts the degeneration was complete, or nearly so, and equal in degree at all levels of the cord, a very few scattered fine fibres being occasionally spared. Sections stained by Golgi's method showed very well the large size, richness, and abundance of the neuroglia cells in the degenerated columns, which in this respect also afforded a marked contrast with the healthy columns, in which the glia cells were unstained. These "spider cells" were so abundant in some parts of the degenerated areas as to form almost a network, although their processes were not in contact. The structure of the diseased part was that of a loose, open network of neuroglia rich in the above cellular elements.

In places where the disease appeared to be in an early stage, and some normal nerve fibres were still present, there was a marked increase or thickening of the neuroglial tissue, even down to its finer divisions, whilst the nerve-fibre sheaths were becoming swollen and granular, or were disappearing. In the affected areas the walls of the vessels were noticeably thickened, and sometimes hyaline, and their peri-vascular sheaths were distended. This was also often the case in healthy parts of the cord.

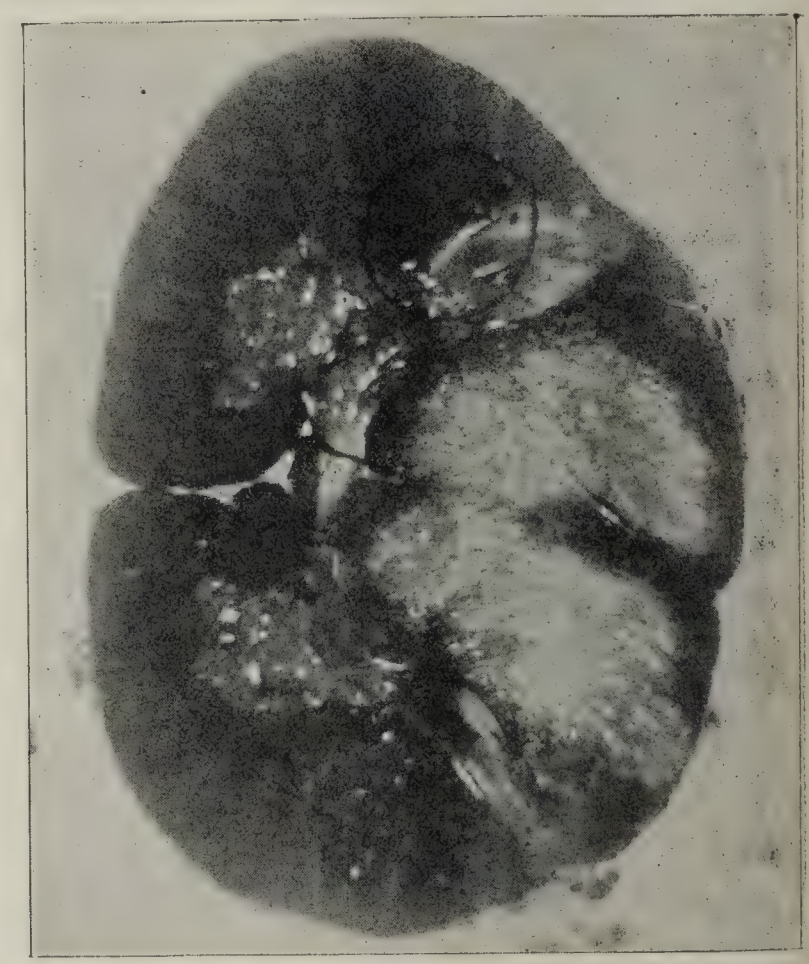

Fig. 4.—Cord at mid lumbar region: Degeneration in posterior columns. Area of septo-marginal and cornu-commissural tracts unaffected (air bubble unfortunately over posterior cornu on right hand of section).

The nerve cells in several parts of the cord appeared to be excessively pigmented, and in the anterior cornua in dorsal and cervical regions many contained a number of coarse granules staining deeply with logwood, and arranged concentrically around the nucleus in the cell protoplasm. Those of Clarke's column were normal, though there was perhaps a slight diminution in the number of fine fibres in this plexus in the lower dorsal region. The central canal of the cord was large, and its epithelium conspicuous. The anterior and posterior roots and all other parts of the cord were healthy. The meninges were healthy.

In the medulla at the level of the decussation, and just above this there were degenerated fibres, mostly large, in the

gracilis and cuneate columns, but the nerve cells in the nuclei of these columns were healthy and abundant, and the arcuate fibres leaving them seemed to be normal in number and appearance. The small oval band of medullated fibres that lies superficially in ths floor of the fourth ventricle just internal to the lingula was very small on the left side, but otherwise no evidence of degeneration was traced in the other parts of the medulla or pons Varolii.

To sum up, the changes consisted in a fairly complete degeneration of the posterior columns extending the whole length of the cord, and in the lower dorsal and upper lumbar region a small area of degeneration in the posterior part of the left lateral column.

The preservation of the knee-jerk is explained by the escape of the internal posterior root-zone; it is also interesting to note the absence of any loss of sensation, although subjective feelings of heat and cold were complained of.

Case II.—The patient was a labourer, aged 38. The family history was good. The illness began two years before admission to the hospital with great weakness and a severe attack of diarrhœa, which confined him to bed for six weeks. The weakness increased, and he suffered also from shortness of breath on exertion, from swelling of the feet, and from soreness of the mouth and tongue. He had also occasional attacks of diarrhœa, and once passed a small quantity of blood *per anum* when suffering

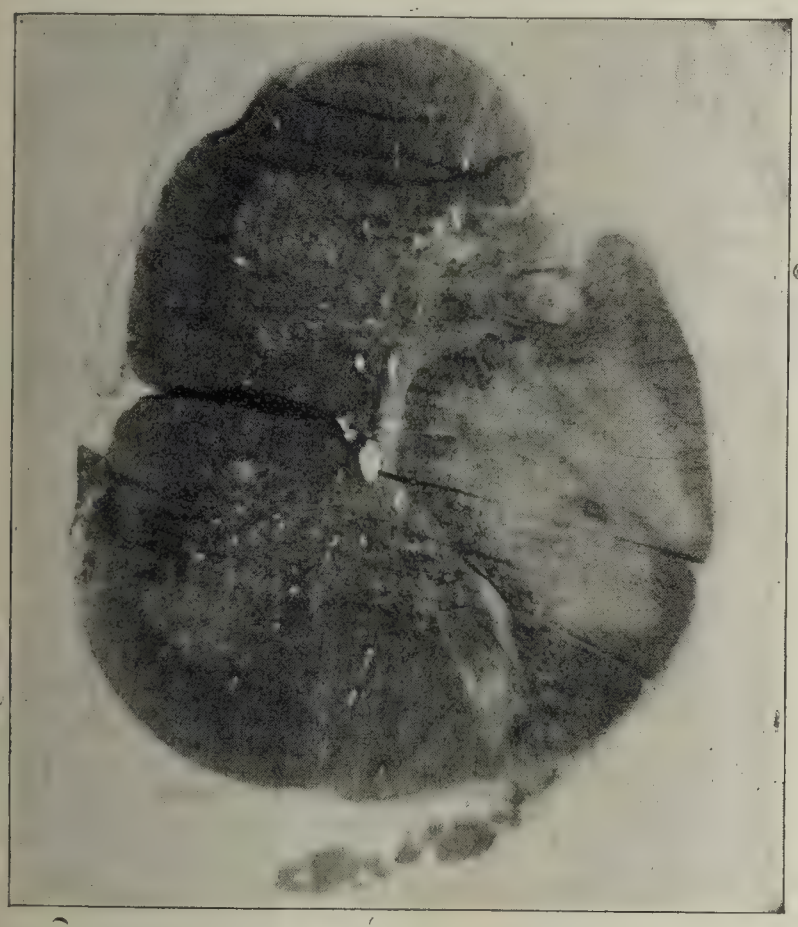

Fig. 5.—Sacral region of cord: Degeneration in posterior columns, which have become folded, and septo-marginal tract somewhat obscured thereby.

from piles, but with that exception he had never had any hæmorrhage from any source. He had had no previous severe illness, but had suffered from dyspepsia.

On admission May 9th. 1896, he was rather emaciated and extremely anæmic. He had diarrhœa, with the passage of pale loose motions. Pulse 96, regular, small, compressible. Blood—hæmoglobin 31 per cent., red corpuscles 810,000 per cm.; poikilocytes, microcytes, and many nucleated red corpuscles were observed; they did not form rouleaux. The white corpuscles were not in excess, and appeared normal in stained films. The heart was normal in size; a soft systolic murmur was audible over the whole precordial area. The lungs were healthy. There was a little ascitic fluid, but no enlargement of liver or spleen. The skin over the abdomen was somewhat pigmented. With the ophthalmoscope small retinal hæmorrhages were seen in both eyes. The urine was pale, gave a distinct, though faint, urobilin band, and contained no albumen or sugar. He was very weak, but walked with a normal gait. There was general loss of muscular power, but no localised paralysis; sensation was normal over the limbs and trunk; knee-jerk present; no muscular rigidity, nor ankle clonus; superficial reflexes present. Pupils dilated, but acted to light and accommodation. Special senses normal.

He was treated at first with hydronaphthol and subnitrate of bismuth for the diarrhœa, and with oxygen inhalations; subsequently with arsenic, and on three occasions by transfusion of blood.[3] It is sufficient to say here that he became steadily worse; towards the end a trace of albumen appeared in the urine; he became drowsy, and died on July 26th, 1896. Throughout the case no paralysis appeared, except the loss of power due to extreme general weakness, and there were no pains in the limbs nor any disturbance of sensation.

At the *post-mortem* examination, made six hours after death, the following were the chief changes: Both pleural and abdominal cavities contained a little bright yellow serous fluid. Lungs: the lower lobes were slightly indurated and pigmented. The heart muscle showed slight fatty change. Liver small and pigmented; the periphery of the lobules gave a well-marked reaction for iron. The spleen also gave a faint iron reaction. The pancreas was large, firm, and very tough. The marrow in the shaft of the right tibia was red, soft, and diffluent. The brain appeared normal to the naked eye; it was not kept for examination. The spinal cord was hardened in Müller's fluid, and sections were stained by the Pal-Weigert and Van Gieson's method, and with borax carmine; no naked eye changes were seen in the cord. In the upper dorsal region there were symmetrical small patches of partial degeneration in the lateral column, just external to the grey matter; the areas were rounded and small, the neuroglia was much thickened in them, and the nerve fibres had in great part but not entirely disappeared; the vessels were much injected, and the small patches were contiguous to and appeared to be connected with the grey matter in its median part between the anterior and posterior cornua. These small areas of degeneration were very limited in longitudinal extent, corresponding to about one dorsal segment. With this exception the white matter of the cord was healthy throughout, no systemic degenerations being present; the anterior and posterior roots were also healthy. The posterior columns stained more deeply in Müller than the other parts, but no cause could be found for this microscopically.

In this case the stress seems to have fallen upon the grey matter, which in most parts showed marked changes. The vessels were intensely injected, and there were many hæmor-

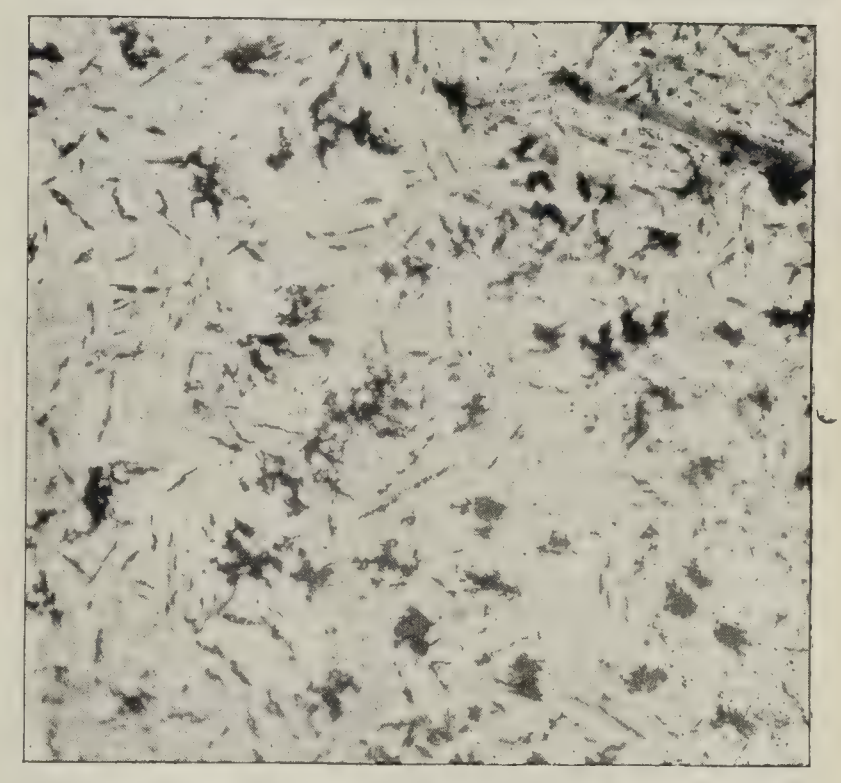

Fig. 6. Section stained by Golgi's method to show neuroglia cells in degenerated posterior columns.

rhages, varying in size, but all microscopic, into the grey matter. These hæmorrhages were distributed chiefly about the central parts of the grey matter, posterior part of the anterior cornua, and neighbourhood of the commissure. Besides the hæmorrhages there were in places small areas in which the grey matter was granular, partly disintegrated, or sclerosed. The nuclei of the glia cells were either normal or slightly increased in number.

Certain of the nerve cells of the anterior cornua were swollen, opaque, and homogeneous, their nuclei obscured; others were highly granular and deeply pigmented, and a few appeared small and shrunken, but the large majority appeared normal. The walls of the small vessels were much thickened, and very many showed hyaline change. In places the anterior fissure was broadened by the distended arterial branches. The central canal was blocked. These changes in the grey matter were judged to be of fairly recent occurrence, and not of old standing, and were most marked in the upper dorsal region. No hæmorrhages were noticed in the other organs *post mortem*.

The two cases thus afforded a very decided contrast; in the first the spinal cord changes, affecting the white matter, and

being of a chronic degenerative kind, whilst in the latter they were on the other hand almost confined to the grey matter. In neither case were there any blue granules in the nerve cells after treatment with hydrochloric acid and ferrocyanide of potash. The duration of the anæmia appeared to have little to do with the difference in the disease of the cord, for in the first case it was only six months, and in the second two years.

The frequency with which changes in the cord have now been found in cases of pernicious anæmia and the similarity of the changes in all cases leave no room for thinking that the association of disease of the cord and anæmia is an accidental one. As Dr. James Taylor concludes in his valuable paper on the subject,[4] we may best regard the anæmia and cord changes as both resulting from a common cause, and look for this cause in a toxic condition of the blood, together with, as a further cause for disease of the cord, the tendency to the occurrence of hæmorrhages, which is so marked a feature of pernicious anæmia. Since Dr. Taylor's paper many additional instances of the affection of the spinal cord in pernicious anæmia have been published.

The lesions found separately in my two cases were combined in a case reported by Teichmüller.[5] The patient died of pernicious anæmia after eleven months' illness. The knee-jerks were exaggerated, but there was no ankle clonus. *Post mortem* in the cord the anterior fissure was widened by a hæmorrhage that had occurred into it. In the grey substance there were numerous hæmorrhages, with increase of neuroglia and thickening of the vessel walls. The posterior columns were degenerated, especially in their middle third. In the lateral columns were scattered small hæmorrhages, and one also in the anterior columns, which were otherwise normal. Teichmüller insists on the importance of the changes in the grey matter, and thinks that both the small patches of degeneration in the white matter (small foci of sclerosis) and the degeneration of special tracts or columns owe their origin to small hæmorrhages. According to Rothmann, indeed, the combined scleroses are of endogenous origin, conditioned through a primary disease of the grey substance.

With regard to the occurrence of hæmorrhages in the cord in pernicious anæmia K. Pétion[6] reports 5 cases in which small hæmorrhages or small sclerotic foci, the result of hæmorrhages, were distributed through the cord, and as regards changes in the grey substance, Burr[7] has found important alterations in this. Pétion considers that small hæmorrhages in the cord lead on to sclerosis, and that the varying pathological changes in different cases are in great measure explained by the process being in different stages, the degeneration following a regular type.

On the other hand, Nonne puts most stress on an affection of the intramedullary white substance. He has examined 21 cases of fatal anæmia, and in 13 of them found morbid changes in the cord. In his paper he reports two fresh cases which he considers to represent the early stage of the disease.[8] In these cases there were a few very small foci in the lateral columns of the cord in which a number of nerve fibres were in a state of acute myelitis. The grey substance was normal. Briefly, he thinks that these cases represent the early stage of the disease, and show that it begins in the form of very small and irregularly situated patches of acute myelitis, and that the grey substance is not notably affected.

Bœdeker and Juliusberger, in describing two cases in which the clinical symptoms were well marked and the pathological changes those of the form of the "combined scleroses," think that the affection must be considered to be a disseminated myelitis with especial predilection for certain columns of the cord, and that the more or less clearly marked symmetry points to the dependence of the disease on the vascular distribution.

Bastianelli[10] makes a useful division of the cases into two categories:

I. Cases in which the general symptoms of anæmia predominate, in which those due to affection of the nervous system are slight and do not correspond with the anatomical changes in the cord, which latter consist of irregular foci of degeneration, chiefly in the posterior, and a few in the lateral columns. The course is a short one, extending to months only.

Under this category would come the cases of Lichtheim, Minnich, and some of Nonne's.

II. Cases of longer course—two to four years—in which the nervous symptoms predominate, and those due to anæmia appear later in the disease. The nervous symptoms and anatomical changes in the cord fully correspond (group of combined system-scleroses). Bastianelli does not agree with the theory which refers the degeneration in the white columns to primary changes in the vessels. He is inclined to attribute both spinal cord changes and anæmia to one cause, probably the action of a toxin. I would suggest that the first group be provisionally divided from a pathological standpoint into two sub-groups: (*a*) The cases above given under I, and (*b*) cases in which clinically, like those in (*a*), symptoms of cord lesion are masked by the symptoms due to profound anæmia, but in which the chief anatomical change consists of hæmorrhages into the grey matter.

Both my cases would fall under Group I. The exact proportion and relations between the two groups remain to be determined, and also the relation of Group II to the cases which Sir William Gowers has described under the name of ataxic paraplegia.[11]

Out of 9 cases collected by Pétion,[12] in two the clinical symptoms clearly indicated a spinal cord affection, and degeneration of the posterior columns, and in one case of a part of the lateral columns. In the other cases without such symptoms in two there was degeneration of the posterior columns, and in 5 small hæmorrhages or small sclerotic foci (sequels of hæmorrhage) were found scattered through the cord.

Hun, in a paper on 7 cases,[13] makes the observation that the posterior columns are most often affected, and may be the only parts involved, but that the lateral columns are never affected alone. He also remarks on the frequency with which a peripheral zone of healthy fibres separates the diseased parts from the grey matter. This is well exemplified in my first case, and was most marked in the lumbo-sacral regions. Respecting the degenerations in this case, another point of interest may be more especially alluded to, and that is the clear preservation of the tracts of fibres described by Dr. Alexander Bruce as endogenous or intrinsic fibres in the lumbo-sacral cord, under the name of the "septo-marginal tract." Possibly the unaffected zone next the grey matter in the posterior columns also represents the cornu-commissural tract," also mentioned by him.[14]

Most observers appear to have remarked changes in the vessel walls. The evidence above given shows clearly that extensive changes may be present in the cord in cases of pernicious anæmia without any marked clinical symptoms, and that the lesions are of somewhat diverse character. Whether the degenerations of systemic tracts depend on hæmorrhagic or myelitic foci in all cases, there seems hardly yet sufficient evidence to show; the predominant affection of the posterior columns in the majority of cases, and their degeneration throughout the whole length of the cord on both sides, rather points to an independent affection of these tracts.

I am much indebted to Mr. James Taylor for his kindness in preparing photographs of the sections.

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THE late Mr. James Billinge has by his will bequeathed £500 to the Surgical Aid Society, Salisbury Square; £1,000 to the Metropolitan Free Hospital, Kingsland Road; £500 to the Hospital for Diseases of the Skin, Stamford Street, Blackfriars; £500 to the London Fever Hospital; £1,000 to the Royal Hospital for Incurables, Queen Victoria Street; £500 to the West End Hospital for Diseases of the Nervous System, Welbeck Street; and £500 to the Hospital for Diseases of the Throat, Golden Square.

ON THE SUPPOSED IMMUNITY OF NATIVES OF INDIA TO ENTERIC FEVER.

Results of the Serum Test.

By Surgeon-Major S F. FREYER, M.D., A.M.S.,
Dagshai, India.

Early in May last, during the prevalence of an epidemic of enteric fever at this station, my attention was called to a case of sudden illness in one of the native servants (sweeper) of the Station Hospital in attendance on the enteric patients; after five days' continuous fever he convalesced slowly. The senior medical officer, strongly suspecting it to be a case of enteric fever, asked me on the second day of the illness to apply the blood test, which I did, with an immediate positive result. In consequence, however, of the often-disputed immunity of natives to this fever, it was necessary to make a control experiment.

A healthy attendant (sweeper) from the same ward was examined, but he also gave the reaction of immunity. The remaining sweepers and one ward servant—seven in all—were submitted to the test, and found immune. It then occurred to me to try whether these natives are born immune, or contract the disease after birth; and, if the latter, at what age. Three infants at the breast, from 6 to 10 months old, were tested, but none of the three showed the least reaction of immunity. Five children varying from 2 to 4 years were next examined; four of them reacted promptly and strongly; the other, a boy aged 4, showed no reaction. Lastly, six Icunis boys were taken, their ages varying from 10 to 13. Five of them gave the reaction of immunity, and one no reaction. I may mention that these boys had no connection with the hospital, and although two of them belonged to the sweeper caste, the others did not.

I should have preferred to complete the series of experiments by testing some of the rural population, but my duties at the present time confine me to cantonment limits. Besides, the interest in the question is, for the present time at least, and as far as I am concerned, entirely due to its bearings on the environment of the British soldier in cantonments.

It will, I think, be sufficiently obvious from these experiments that, at any rate in the immediate neighbourhood of cantonments, we have the forms of this disease widespread amongst the native followers, and in such intensity that only very few of the youngest children escape the disease.

This, then, reconciles the opposing views of some of the ablest medical officers who have served in India, for whilst the native is—no more than probably any other mortal—not born immune to this disease, he meets it at such an early period of life that it passes over him unobserved, or, not having received sufficient immunity in his childhood attack, he gets in adult life the masked disease still, due this time also to its mildness of form as a second bout of the disease. Such was in all probability the case in the senior medical officer's patient.

We can now give a rational explanation of the yearly increasing sickness and mortality from enteric of the British soldier in India. When in the old days the soldier came out here at a mature age, he came from a home which, from a sanitary point of view, might perhaps without much exaggeration be compared to the home of the natives of India. It ought therefore to be no matter of surprise that he remained free from the disease during his whole service in India, and in spite of the most insanitary surroundings such as we know prevailed in Indian cantonments in those days. He was, in fact, immune to enteric fever long before his arrival in this country. Such, however, is not the case at the present day. The sanitary condition of the British Isles has of late years improved by leaps and bounds. As a consequence those who arrive in the country soon fall victims to a disease which meets them at every turn.

It is necessary for me to state that the blood test used is one which I found absolutely reliable after an examination in my wards of thirty odd cases of undoubted enteric fever, many of them immediately on admission, and about the same number of cases which after further observation for a few days proved not to be this disease, but ordinary ardent fever, due to over-exposure to the sun, and lasting only three or four days, or other such slight and very temporary ailment, with a cause which was not obvious at first.

The mode of procedure was practically the same as that recently advocated in the British Medical Journal by Professor Delépine, and might be called the Metchnikoff-Widal test. After washing the finger it was treated with absolute alcohol, and when dry punctured with a piece of an ordinary sharp steel pen, which could be thrown away and not used a second time. The small pipette, recently drawn out in the flame and sealed at both ends, had the ends then broken, and again sealed when the few drops of blood ascended partly into the bulb. Whilst preparing the suspension of the bacillus on the cover glass a sufficient quantity of serum will have separated out towards the bulb of the pipette.

The suspension found most convenient for these experiments was made by adding three loops of a vigorous culture from gelatine, or preferably agar, to one-third of a watch-glassful of sterile normal saline. Ten loopfuls of this were then put on the cover glass; next the empty end of the pipette was broken off down to the bulb until it admitted the loop, which became filled with a film of serum and some corpuscles. This was then smartly rubbed into the cover glass suspension. The dilution was thus about 1 in 12, but no pretence was made to determine this accurately, as in actual practice such fine measurements were found quite unnecessary. A streak of vaseline was drawn round the cover glass, after mounting, to prevent evaporation. Thus prepared the specimen lasts for days. The vaseline may be applied on the end of a match, which should be afterwards burnt in the flame to avoid any risk of its being dipped into the vaseline pot a second time.

Observations were made within half an hour, and again after twenty-four hours. The reaction was certain within the half hour, but of course much more obvious after twenty-four hours. Air bubbles, which will be present, do not seem to interfere with the reaction, and, as Professor Delépine has remarked, the few stray corpuscles are an advantage in supporting the weight of the cover glass as a roof. They also assist in the focussing of the oil immersion lens.

At one time, owing to my gelatine culture degenerating from age and dryness, I found the reaction so slow that I was almost despairing of the test from doubts as to its uncertainty, when fortunately Surgeon-Major Davies, A.M.S., happened to arrive at our station to analyse the water supply, and was kind enough to revive the culture in his incubator on broth, and afterwards on agar.

After this experience, and although the advantages of the method are obvious, if it were proved to be quite certain, I feel no inclination at present to use dead bacilli for the suspension, as advocated by some.

I owe an apology for once more describing the blood test, but it seems to me that some of the methods at the present time followed at home, and recently described in the British Medical Journal, with their complicated apparatus, are enough to deter any beginner from attempting what is really a very simple test, and within the reach of all.

ON STONE IN THE BLADDER AND OPERATIONS FOR ITS REMOVAL.*

By Surgeon-Major J. A. CUNNINGHAM, M.D., M.Ch.,
Indian Medical Service.

Ever since I presented to the surgical museum of the Queen's College, Belfast, the collection of calculi numbering 350 which were removed from the bladder by me in India, by lithotomy and litholapaxy, I have thought it appropriate that I should exhibit them, and read a paper on the subject before this Society. I trust that what I have to say will interest the meeting, and afford a theme for profitable discussion.

You will find amongst these specimens, I believe, examples of almost every variety of calculus that affects the human bladder, and I suspect that in the various operations for their removal almost every conceivable complication or difficulty was met with in one or other of them.

* Read before the Ulster Medical Society, Belfast.

I propose to confine my observations chiefly to the operations for removing stone from the bladder, but as I would be certain to be asked to explain the real or apparent prevalence of calculous disease in India as compared with this country, I shall in anticipation endeavour to do so.

That stone is more prevalent in ratio to the population in certain districts in India than in any part of this country may, I think, be asserted; and that it is infinitely more prevalent in certain regions of India than in others is an undoubted fact.

The parts of India where stone is most prevalent are the North-Western Frontier, Scinde, the Punjab, and the North-Western Provinces. Now over these regions two general conditions hold that I believe exercise a paramount influence in the causation of stone.

First, enormous mountain ranges, composed largely of limestone, bound these territories; large rivers arising in the mountains intersect them, which carry and deposit in their alluvial soil considerable quantities of lime salts. These lime salts are in turn imparted to the drinking water of the communities inhabiting these regions. Now, if an excess of lime salts is taken into the body, it is reasonable to assume that they will appear in excess in the urinary secretion.

The second condition is great alternation of climate and temperature, excessively hot dry summers, when excessive perspiration carries off most of the fluid excreted from the body, and the urine is of minimum volume, but excessively concentrated: in fact, just such a solution of salts as precipitation or crystallisation is likely to occur in on the slightest provocation.

This provocation is supplied by a diseased or deranged condition of the urinary organs or passages brought about by the great and sudden alternations of function called forth by the sudden alternations of temperature experienced in the regions to which I refer, where the scorching summer months are followed by sharp cold weather in the winter months, especially at nights, when a good fire is very enjoyable. Each day of the cold season again provides the sudden alternations of temperature above referred to; during the day a nearly tropical sun imparts excessive heat to people exposed to its direct rays, when perspiration will be at its maximum and the urinary secretion at a minimum in volume. This will be followed by a chilly night, with perhaps frost, when the opposite state of affairs occurs as regards the secretions. To these sudden alternations of temperature, especially when not obviated by suitable clothing, avoidance of exposure, etc., are attributable not only the disease I am now considering, but many others, and especially malarial fevers, which account for perhaps more sickness and deaths in India than all other diseases combined.

Stone in the bladder is not quite so prevalent a disease in India as might at first sight be led to assume on seeing such a collection of specimens in the practice of one surgeon. The population is very large, and the number of operating surgeons comparatively small, and when a particular surgeon acquires a reputation for a special operation, this gets known amongst the people for great distances, and, accustomed as they are to making pilgrimages, sufferers often make long journeys to put themselves in his hands. For several years I have noticed that the majority of my litholapaxy cases came from districts beyond my own, and a district in the Punjab would extend for about fifty to eighty miles in each direction and have a population of about a million.

Operations.

I shall begin with litholapaxy, as in the light of recent experience this is the only justifiable operation for the removal of stone from the bladder of a male, a female, or a child when the operation is feasible, one of the cutting operations being admissible only when for one reason or another litholapaxy is impossible or unsuitable.

This operation, which consists in the crushing and removal of a stone from the bladder by the natural passages at one sitting, was introduced to the profession, named, and perfected by the late Professor Bigelow, of the United States, to whose genius and memory be all honour.

The operation was undoubtedly suggested, and led up to by the old but relatively most unsuccessful operation of lithotrity, but Bigelow's most ingenious device of the aspirator for the speedy removal of fragments, his advocacy of the necessity for at once removing all fragments from the bladder, his demonstration that the urethra is more capacious than was believed, and that prolonged instrumentation of it is practically harmless, removed gigantic obstacles to progress, and practically revolutionised this department of surgery.

Notwithstanding considerable opposition at first the operation gradually asserted its superiority over the older methods, and by the exertions of a number of surgeons, conspicuous amongst whom have been some of my brother officers in India, has been brought to such a degree of perfection as to leave little to be desired.

The operation in experienced hands diminishes the mortality by over 7 per cent. as compared with lithotomy, the figures being for litholapaxy about 4 per cent., and for lateral lithotomy about 11 per cent. of deaths.

By the kindness of Brigade-Surgeon-Lieutenant-Colonel Keegan I am able to reproduce the following table, showing the number and result of litholapaxies, lateral lithotomies, and suprapubic lithotomies performed on patients of all ages in the Punjab, North-Western Provinces, and Oudh, and in the Bombay Presidency during five years ending December 31st, 1895:

Nature of Operation.	Number of Operations.	Cured.	Died.	Percentage of Mortality.
Litholapaxy	10,073	9,665	399	3.96
Lateral lithotomy ...	7,201	6,407	794	11 02
Suprapubic lithotomy...	147	86	61	42.17

This table has been compiled from data supplied by the official medical reports published in India. A considerable proportion of the lateral lithotomies in this table were doubtless in children, as litholapaxy in children was not so frequently performed some years ago as it is now, and the favourable result following lithotomy in this class of patient tended to reduce the general mortality of lateral lithotomy to the favourable figure of 11.02.

Freyer, in his book *Modern Treatment of Stone*, quotes the statistics of 2,592 lithotomy operations performed in Indian hospitals in 1882 before the days of litholapaxy, giving a mortality of about 13 per cent. Besides the lower mortality following litholapaxy, there is the important matter of avoiding a wound, and convalescence lasts a few days instead of a few weeks after lithotomy.

The first and most important consideration after experience in the operator is the question of instruments, and I am able to show here a set of the most recent yet devised made for me by Mr. Weiss.

The lithotrite should be fully fenestrated, and the largest and most powerful instrument that can be easily introduced should be used, the best pattern I believe to be this, a combination of Thompson's blades with Bigelow's handle and locking action.

The cannula should be slightly curved, and, as with the lithotrite, the largest size that will pass easily should be used; No. 18 English scale can be usually passed in people with normal passages. It is well to have a few straight cannulæ, and for prostatic cases one with a long curve may be found serviceable.

Of aspirators in any surgical instrument catalogue quite a confusing array will be found. Nearly every operating surgeon of note apparently thinks it necessary to devise an aspirator to bear his name. Of all these creations the one I like best is Bigelow's latest aspirator, slightly modified by Freyer; it is simple in construction, easily filled and emptied, and most efficient in working. In this aspirator the fragments of stone, on entering the bulb with the return flow, fall at once by gravity into the glass receiver directly underneath, where they remain undisturbed by the current when the bulb is again compressed.

For this operation it is always advisable to have every needful instrument in duplicate; if one is broken or gets out of order, another should be at hand to take its place. It is also needful to have lithotrites and tubes of different sizes to suit

cases in which for one reason or another full-sized instruments cannot be passed.

Needless to say, the operation in children requires a special set of lithotrites and cannulæ, which are not only of smaller calibre—4½ to 10—but which are shorter than those used for adults.

Cases Suitable for Litholapaxy.

In the hands of experienced operators a very small proportion of the cases met with will be found unsuitable for this operation—I should say not more than 3 per cent. in India, and even less in this country where patients are likely to come under skilled observation and treatment at an early stage in the disease.

Those cases that are not suitable for litholapaxy, and will require to be relieved otherwise, might be tabulated thus:

1. Those with such a condition of the passages that the lithotrite necessary for the crushing of the stone cannot be passed. I have met with a few children in whom the smallest lithotrite could not be passed, and in a paper published by Surgeon-Major Gimlette, I.M.S., in the British Medical Journal of May 9th, 1891, in which he gives the details of 40 cases of litholapaxy in children, he relates the cases of 6 other children in whom this operation was impracticable. In the adult, organic structure may decide against litholapaxy.

2. The stone itself may be so large that the largest lithotrite will not lock on it, or it may be so hard as to resist the greatest force that the instrument will bear or the operator be able to exert.

3. A stone in the bladder may be complicated with one or more in the membranous or prostatic portions of the urethra which cannot be pushed back into the bladder; or the stone may be encysted or may be complicated with a tumour of the bladder.

4. A state of affairs may exist which makes it desirable to provide complete drainage and rest for the bladder after the removal of the stone, such as extensive cystitis with ammoniacal urine, and especially if associated with stricture of the urethra.

5. Such a condition of irritability of the bladder that the organ will retain no fluid even under profound anæsthesia, the stone being clasped by its hypertrophied walls. In this latter case an expert might perform litholapaxy without increasing the patient's risks, but perineal lithotomy would have considerable advantages in such cases in allowing drainage and rest to the bladder.

Cutting Operations.

In all such cases as these, one of the cutting operations should be resorted to; and I wish to state emphatically here that of the two varieties of lithotomy I infinitely prefer the perineal method to the suprapubic when the conditions admit of it.

The suprapubic method should be restricted to three classes of cases: (*a*) exceptionally large calculi, and these would probably be better dealt with by a new method—perineal lithotrity; (*b*) encysted calculi; and (*c*) those associated with tumour of the bladder, which it is advisable to remove at the same time.

A new operation—perineal lithotrity—has recently been devised and practised by which exceptionally large and hard calculi are crushed by a giant lithotrite introduced through a small perineal wound. This method would also be applicable to cases with bad urethral stricture.

Of this operation I have had little personal experience, but I anticipate that for the class of cases to which it is applicable it will be in future generally practised with great saving of life.

The danger to life in lateral lithotomy has a direct relationship to the size of the stone, a large wound in the prostate and extensive bruising in extracting the stone being the dangerous factors. Both of these will be avoided in perineal lithotrity.[1]

Litholapaxy: Steps of the Operation.

A stone having been detected in the bladder it is wise to subject the patient to a few days' preparatory treatment, with rest in bed to allay bladder irritability. The bowels should be unloaded by a purgative, followed by an enema on the morning of operation. If diarrhœa exists it may be necessary to give astringents. All lowering treatment should be avoided, as the patient's vital powers, doubtless already low, will be subjected to considerable strain during prolonged anæsthesia.

The temperature of the operating room should be regulated, and as little of the patient's body as possible should be exposed; a pair of long warm woollen stockings reaching well up on the thighs should be worn. The anæsthetic which I generally use is chloroform till the patient goes under, and then A.C.E. mixture to maintain anæsthesia. A narrow operating table not too high is most convenient, and there should be a flat cushion placed beneath the buttocks. The instruments, placed on a flat dish, should be covered with a layer of hot carbolic lotion, and placed on a small table to the right of the patient near the operator's hand; a pot of oil should be at hand to lubricate instruments. It is well to draw off any urine that may be in the bladder, and to introduce a few ounces of warm boracic lotion. In a large number of cases it will be found necessary to slit up the meatus to admit the largest instruments the urethra is capable of accommodating.

It is needful to have an assistant who understands emptying and refilling the aspirator, for which warm water or boracic lotion should be used. Care should be taken not to begin crushing until the patient is quite under the influence of the anæsthetic or while there is any straining.

To avoid injury to the bladder great care is necessary during the application of the requisite force during the crushing process. This force in the case of a hard stone will sometimes be very great. Having caught the stone and locked the blades, the left hand, which holds the lithotrite, should be so placed as to keep the blades in the centre of the bladder, and to maintain them there the fixed elbow-joint should be pressed against the operator's side. During the application of force by the right hand the attention must never be removed from the left hand and the position of the blades of the lithotrite.

In picking up fragments of stone care must be taken not to grip portions of the bladder. If in any doubt on this point the operator can satisfy himself by rotating or drawing forward the lithotrite before locking it.

Until some experience in the use of the lithotrite is acquired it is no easy matter, even in a simple uncomplicated case, to crush a stone in a reasonable space of time without inflicting injury on the bladder, and for a beginner to be confronted with a difficult case, such as an irritable or sacculated bladder, a large prostate, a partially-encysted or a very large stone, is enough to make him wish that he had never seen a lithotrite. On the other hand, with experience it is wonderful with what facility and rapidity even a large stone can be crushed.

It is well to crush as much of the stone as possible before withdrawing the lithotrite so as to have as few reintroductions as possible, and it is desirable to proceed with the various steps of the operation as expeditiously as possible, so as to minimise the time under the anæsthetic.

In cases with large prostate, or an irritable urethra or bladder, a considerable amount of blood may be lost, but in simple cases there should be no bleeding.

In using the aspirator great force should be avoided, especially in children. The amount of fluid that should be thrown into the bladder at each compression will vary with every case, and no rule can be fixed. Beginners will usually be puzzled to know when the last pieces are evacuated, but to an experienced operator the sound and feel of the fluid as it flows through the tube tell him whether evacuation is complete.

There is no operation in the whole range of surgery more perfect or beautiful in conception and application than litholapaxy, and none requiring a higher degree of skill, dexterity, judgment, and patience for its successful performance. A beginner should not attempt to operate in a complicated or difficult case, and if possible should always have an experienced operator beside him to advise and, if needful, assist him.

In the British Medical Journal of May 9th, 1891, I published a series of 102 consecutive litholapaxies, without a death in patients of all ages from 2½ to 80 years, and with calculi the fragments of which weighed from 4 grains to

4¼ ozs. These included all my cases from January, 1890, to April, 5th 1891, that were capable of operation by litholapaxy. No case was refused operation no matter in what state of general health, so there was no selection of cases.

Moreover, subsequently to April 5th, 1891, I had a continuous series of 31 litholapaxies before I met with a fatal case in the person of an old man of 80 years, who, in addition to an oxalic stone of five years' duration, was suffering from fever and diarrhœa; he died of exhaustion two days after operation without any urinary symptoms. Litholapaxy could have no more eloquent advocacy than this continuous series of 133 cases without a death in the hands of one surgeon.

My friend, Surgeon-Lieutenant-Colonel Freyer, has published a series of 100 consecutive operations for stone without a death in his practice in India, and another brother officer, Surgeon-Major Stephen Little, has also recently completed a century of consecutive successful litholapaxies.

Of my 133 cases above alluded to, the specimens of which are amongst those on the table, I find that 39 were 60 years of age or over, 35 were 12 years or under, while 59 were of ages varying from 12 to 60.

As regards time under operation, eliminating 5 cases in which no time was recorded, the average was under thirteen minutes from the beginning of the use of instruments to the completion of the operation. The shortest time was four minutes and the longest sixty-three minutes.

A moment should never be wasted during the performance of a litholapaxy, and rapidity should always be aimed at, so as to minimise the amount of anæsthetic inhaled and the time under its influence.

NOTE.

[1] An illustration of the giant lithotrite recently modified on the suggestion of Dr. Keegan by Mr. Weiss was published in the JOURNAL of July 3rd, p. 23.

REMARKS ON A CASE OF NON-TYPICAL SYPHILIS (SYPHILIS GRAVIS) CURED BY THE AACHEN SPECIFIC METHOD COMBINED WITH SURGICAL TREATMENT.

BY DRS. B. BRANDIS AND T. THISSEN,
of Aachen (Aix-la-Chapelle).

A VIGOROUS man, 62 years old, without hereditary taint, had been suffering from frequent attacks of malarial fever as long as he lived in India; they quitted him only when he left that country and settled down in a healthy place in England. He lived a regular and abstemious life, and was thought to have rather overworked himself of late. In January, 1895, after having exposed himself to infection, he noticed a sore on the penis under the foreskin, with a slight gelatinous discharge. This sore soon healed under self-adopted treatment with calomel ointment.

In February he was laid up with severe influenza, followed by high fever and bronchitis. For two months more or less continuous fever and bronchial catarrh persisted, and his medical attendant at that time, unacquainted with what had passed in January, considering malaria might have something to do with the course of the illness, submitted him to a number of hypodermic injections of quinine. From these the patient derived no benefit, and in June he was sent a sea voyage to the North Cape. He returned no better, and in the beginning of August he was reduced to a very low state, having a continuous cough with copious purulent expectoration, and an evening rise of temperature to 102.7°.

On August 18th he was seen by Mr. H. B., who found him suffering from a septic bronchitis, but no tubercle bacilli could be found. There was also discovered a smooth rounded swelling situated on the right side of the thyroid cartilage projecting upwards below the vocal cords, and almost occluding the glottis. The nature of this growth was at first doubtful, as the patient denied all knowledge of having had syphilis. However, antisyphilitic treatment in the form of large doses of potassium iodide, together with intralaryngeal injections of a 20 per cent. solution of menthol in almond oil, and the use of creasote inhalations was adopted. Under this treatment the patient rapidly improved in every way. By the end of September he had regained much weight, and was up and out most of the day, the cough having entirely disappeared.

On September 28th he complained of some painful swellings of the shins and forearms, which on examination proved to be periosteal nodes in an early stage of development. He was then ordered 20-grain doses of potassium iodide three times daily, with 4 grains of grey powder at night. Under this treatment the periosteal swellings subsided to a great extent. In November, 1895, the throat began to get worse again. The internal use of the specifics was not so efficacious this time. The swelling in the larynx reached the left side and both arytenoid eminences became much swollen and inflamed.

On January 10th, 1896, tracheotomy had to be performed for the relief of dyspnœa, and with the hope of benefiting the laryngeal disease by rest. In the course of some weeks two small pieces of cartilage, partially ossified, were expectorated. They evidently came from the sides of the thyroid cartilage. After this the tumefaction in the larynx subsided greatly, and the left vocal cord became free and movable. The right cord remained buried in the swollen mucous membrane of the false cord. In May the periosteal swelling on the left shin suppurated, and was opened, when a dense gumma extending through the bone to the medullary cavity was found. A distinct line of demarcation between the healthy and diseased bone being evident, the latter was removed by chiselling. During all this time (8 months) the patient had been taking iodide and mercury in varying quantities, but was far from being cured. In June, 1896, he was sent to Aachen to go through a regular course of baths and mercurial rubbings. So far the statements of the patient's medical attendant in England.

The patient on his arrival in Aachen put himself under Dr. Thissen's care, and was frequently seen by Dr. Brandis in consultation.

During the next two months mercurial inunctions were administered almost every day, combined with the use of the Aachen baths. All precautions were carefully used to prevent any ill effects of mercury. Iodide of potassium was also given for a short time. Enjoyment of fresh air, good food, plenty of milk were ordered. The leg was carefully dressed, otherwise it required not much treatment except once when the wound had to be enlarged on account of pain and fever, which both subsided almost immediately.

For local treatment of the laryngeal complaint, the patient was confided to the hands of Dr. Schmidthuysen, of Aachen, who on August 23rd succeeded in removing a large piece of necrotic ossified cartilage through the tracheal wound. Six days later another big piece of necrotic cartilage was taken out by means of a laryngeal forceps through the mouth. Those pieces proved to be parts of the right thyroid cartilage. The swelling of laryngeal mucous membrane quickly subsided, and on September 3rd the tracheal tube was removed for good. Breathing has been perfectly free ever since. Towards the middle of September the patient returned home, immensely improved in every way—in fact a different man.

When he returned on May 6th, 1897, for a short so-called safety cure, he had gained 1 st. 6 lbs. in weight, and showed all signs of recovered health and strength. All hoarseness had gone; his voice was good. Nothing abnormal was to be seen on laryngoscopical examination. The absence of the lost parts of cartilage could not be traced. The wound of the tibia was healed.

From the narrative of the case its pronounced peculiarity is easily noticed. A man past 60, without previous syphilitic history—a strong man—only in former days a victim of frequent attacks of malarial fever, contracts an ulcer on his penis which heals up by local treatment only. None of the well-known secondary symptoms appear, but instead of those, and apparently in combination with a severe attack of influenza, long and weakening fever comes on. The fever does not yield to quinine nor to change of climate, but is followed by necrosis of laryngeal cartilage and of tibia. Potassium iodide as well as grey powder are administered, not before seven months had elapsed after the infection, at first with strikingly favourable effect, but proving insufficient later on. Complete cure is at last brought on by the Aachen antisyphilitic method as well as surgical treatment.

Now, how is such an extraordinary course of the malady to be understood? Has advanced age anything to do with it? Is it due to a mixed infection—syphilis combined with the poison of influenza—in a system where malarial fever may have left its traces? It is well known that erysipelas, scarlatina, typhoid fever, when contracted during the time that the constitution is under the influence of syphilis, can make the symptoms of the latter disappear. The syphilitic symptoms vanish although the antisyphilitic treatment is stopped, in most cases to reappear after the cure of the intercurrent fever, in rare cases as it seems for ever.

[In this regard Dr. Thissen says: In 1882, while resident physician at the Luisinhospital of Aachen, I attended under Dr. Brandt's direction a gentleman who had come to Aachen for treatment suffering from secondaries. During his cure he was seized with typhoid fever, and had to be received in the hospital. When I first saw him his body was covered with syphilitic rash and his throat was ulcerated. The antisyphilitic treatment was stopped at once when typhoid fever was ascertained, and the patient was treated by antipyretics and cold baths. I was struck to see the syphilitic symptoms vanish almost like magic, never to reappear.]

Perhaps we may express our theory in this way. On the one hand we have erysipelas, scarlatina, typhoid fever causing the syphilitic symptoms to disappear. On the other hand there is some other complicating organic virus influencing the syphilitic one so as to give its action a turn highly different from the rule and in a mischievous direction. In fact, it seems difficult otherwise to explain our case. It will be remembered that at the last International Congress of Dermatology in London, when Tarnowsky exhibited his excellent wax models of cases of what is called malignant syphilis, the question was discussed whether such cases might not be the consequence of more than one organic virus, for instance, the septic virus acting together with the syphilitic virus, as has been frequently observed in a similar way in diphtheria. The latter opinion was maintained in the discussion by Dr. Brandis, who stated that not a small number of such observations had fallen under his observation during his long practice. He also pointed out that according to his experience what is called malignant syphilis always, or at least generally, occurs in the early stage of the malady, and that it is accompanied by high fever, which very often bears the character of pyæmic fever. We may repeat that our case seems to support such views.

The second point of importance to which we should like to draw attention is the efficacy of energetic specific treatment. It was only too natural that it should have come late, very late indeed—not before seven months after the infection—syphilitic symptoms having been undiagnosed all that time. Whatever could have been done in order to cure malarial fever—namely, quinine and change of climate—had been tried in vain, and the syphilitic virus was allowed to do all the mischief before it was recognised. The first specific treatment—potassium iodide and grey powder—showed its good effect almost immediately; however, these remedies proved insufficient afterwards, and the disease went on in its course of destruction. One year after infection tracheotomy was necessary. At last the patient was sent to Aachen, where he underwent the inunction cure for more than two months, which in combination with the use of the Aachen waters is well known to be one of the strongest, if not the most powerful, antidote to the syphilitic poison.

Lastly, we may be allowed to add a few remarks regarding the local treatment of the laryngeal complaint. Although a piece of necrotic cartilage had been previously expectorated, from which fact it was almost certain that more necrotic cartilage had to come away, the swelling of the laryngeal mucous membrane rendered examination of the larynx very difficult; and it took Dr. Schmidthuysen some time before he discovered where the necrotic part was located. Another difficulty was to prevent the latter from slipping down into the trachea. For that purpose Dr. Schmidthuysen used an instrument the shape of which was that of a hook. The handle is short and concave for the thumb of the left hand, by which, when the longer part of the instrument is introduced through the tracheal fistula into the trachea, it is held *in situ*. The longer part is also a little concave, and blunt at the end. The latter part of it is sieve-like, so as to allow free respiration below, while it leaves sufficient room above for a small, sharp hook, which is passed through the tracheal fistula into the larynx in order to loosen the necrotic piece. A fit of coughing facilitated the elimination after several attempts with a sharp hook. Six days later another necrotic piece was removed through the mouth. It was most gratifying to observe how soon after the operation all swelling subsided, so that the patient could be left without cannula, and also how very little remains of the complaint could be traced on the patient's return to Aachen this year.

A NOTE ON THE MICROSCOPIC APPEARANCES OF THE SPINAL CORD IN TETANUS.

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The importance of the examination of the spinal cord in tetanus has for long been recognised, and many careful and exhaustive observations as to its microscopic appearances have been put on record. But these observations by no means homologate one another, and, indeed, the variety of changes described as occurring in the cord in this disease is very considerable. The relation, too, of many of these changes to one another is difficult of interpretation; and the conclusion that presents itself to one's mind is that the essential changes to be found in the cord in tetanus have not yet been clearly and satisfactorily laid down. The subject is one of great interest, and I think I need urge no excuse for adding to its literature the record of three cases I recently investigated.

In each of these cases the cord was fixed and hardened in formol for twenty-four hours, and then placed in alcohol till ready for use. Sections were stained with methyl blue, with fuchsine and with congo red, all according to Nissl's method.[1] Two other spinal cords, considered as perfectly healthy, were fixed and stained in a precisely similar manner, and used as standards of comparison.

The first case was a boy aged 12. It was a typical case of tetanus supervening upon a septic wound of the subcutaneous tissue of the thigh, and the whole duration was not more than twenty-four hours from the onset of the convulsions. To the naked eye the necropsy was practically negative, and if the spinal cord differed from the normal it was in the presence of a slight hyperæmia of its posterior surface. The tetani bacillus was cultivated from the wound both before and after death. No antitoxin was administered, as the patient died a short time after admission to the hospital.

Sections from five levels of the cord, from three levels of the medulla, and from two of the pons were examined microscopically. All these showed a marked dilatation of the vessels, and this was more noticeable in the grey matter than in the white. In nearly all the sections minute hæmorrhages were to be made out. The hyperæmia and hæmorrhages, however, seemed less intense in the pons, medulla, and upper cervical than in the lumbar region of the cord. No inflammatory corpuscles were to be seen, and the only exudation present was the red blood corpuscles of the hæmorrhages. The nuclei of the neuroglia were not increased unless round the central canal, where they were collected in considerable numbers. There was no sclerosis in any of the white columns. The ganglion cells were well formed, showing no deficiency in processes, and in almost all nucleus and nucleolus were well defined. Very few of the cells contained any considerable amount of pigment. Their plasma, however, was different from that seen in the sections of the normal cords. Instead of the triangular-shaped collections of deeper stained granules in the more faintly stained groundwork of the cell the whole plasma had a more or less uniform staining and showed none of this differentiation of its substance. It was only in the upper parts of the medulla and in the pons that the ganglion cells in this respect presented a normal appearance.

The second case, a man, aged 45, was successfully treated by means of antitoxin. He subsequently developed exfoliative dermatitis, to which he succumbed after five days' illness, and fifteen days after the onset of the tetanoid con-

vulsions. No attempt was made to cultivate the bacillus of tetanus, but the diagnosis seemed undoubted. At the *post-mortem* examination considerable congestion of the posterior surface of the cord was noted.

Sections from several portions of the cervical, dorsal, and lumbar regions were examined. No hæmorrhages could be seen in any of these, and the dilatation of the vessels, which was most marked in the lumbar region, was not nearly so prominent as in Case I. Although there was a certain degree of hyperæmia, it was not much more than is seen in a normal cord fixed in formol. No inflammatory corpuscles were present in the neighbourhood of the vessels, and there was no sclerosis of any of the white fibres. Many nuclei in this case also were collected round the central canal. The ganglion cells presented an appearance similar to that in the last case. They were well formed; many of them contained a large amount of yellow pigment, but in none were the various elements of the plasma defined, the whole of it presenting a more or less uniform, almost opaque, appearance.

The third case was a child, aged 4. Here the convulsions lasted for twenty-four hours, and seemed quite unaffected by an injection of antitoxin given four and a-half hours before death. In this case also the membranes of the cord were, at the *post-mortem* examination, found much congested. It is further to be noted that the lower lobe of the left lung was in the condition of red hepatisation. The bacillus tetani was cultivated from the wound.

As in the last case various portions of the cord were examined microscopically. In this one, however, the appearances were practically normal. The vessels seemed dilated, but not so much as in Case II, and really not more so than in the normal cords which were preserved and stained in a similar manner. There were no hæmorrhages and no increase of neuroglia corpuscles unless round the central canal. The cells lining the central canal, however, seemed to have undergone some proliferation, and the canal itself had a wider lumen than is usually seen. The ganglion cells were perfectly normal, their plasma showing very distinctly the differentiation into deeper stained "triangles" and the lighter coloured ground-substance.

What conclusion, then, is to be drawn from the examination of these three cords? Two of the cases died within twenty-four hours. The cord of the former (Case I) showed a well-marked hyperæmia with hæmorrhages, as well as an alteration in its ganglion cells. The other (Case III) we may consider as being practically normal. The remaining one (Case II) also presented a hyperæmia, though in a much less degree. Its ganglion cells, too, showed changes. But it is to be remembered that this case lived for about a fortnight after recovery from the tetanus, and it is therefore impossible to say to what extent the cord may have recovered in that time.

What is the meaning of the hyperæmia—let us say in two of the cases—and the absence of it in the third? A hyperæmia of the cord seems to be the microscopic appearance most constantly met with in the cases of tetanus hitherto reported. But is this not just the same hyperæmia as is seen more less in all the tissues of the body in this disease? And may it not therefore be considered simply as a congestion resulting from spasm of the muscles of respiration? The absence of the hyperæmia in the third case is difficult to explain. Possibly the child died from syncope rather than from asphyxia, and the congestion in the left lung, too, may have lessened that of the spinal cord. Be this as it may, the hyperæmia of the spinal cord in tetanus is, I take it, to be regarded as a result of spasm in the muscles of respiration, and not as being directly due to the poison of tetanus. And it is to remembered that a hyperæmia of the spinal cord is found in most deaths from convulsious whatever be their nature. In considering the pathology of tetanus then, we cannot attach any special importance to the hyperæmia so often met with in the spinal cord.

Besides this dilatation of the vessels, signs of irritation have been found in the presence of leucocytes round these vessels, and in what have been thought to be fluid effusions, causing a disintegration of the neighbouring nervous tissue. But as these leucocytes and fluid effusions are by no means seen in all the cases reported—they were certainly absent in our three cases—we cannot give them much consideration. The same applies in even a greater degree to the yellow pigment sometimes present in the ganglion cells in large amount, and sometimes found to be almost entirely wanting, for this variation I find occurs in the ganglion cells of cords considered as being quite healthy.

Coming, then, to the changes we noted in the plasma of the ganglion cells of our first two cases, we must consider what these changes mean, and if they have any bearing on the pathology of tetanus. We noted that in Cases I and II the plasma of the ganglion cells no longer showed its normal differentiation, but stained with a uniform intensity throughout. It might be urged that this appearance was merely the result of the method of staining. I do not think this can be so, for very many sections from all the cases were examined. Those from the same cord were stained at different times with different stains and in different degrees of intensity. Yet in all the sections from the first two cases the plasma stained with uniformity throughout, while in the third case and in the two normal cords examined the ganglion cells showed the normal differentiation of their substance most clearly.

Now this change in the ganglion cells of the first two cases is of considerable interest in view of the results obtained by Marinesco[2] on injecting guinea-pigs with the tetanus toxin. He found on examining these animals after death not only hæmorrhages into the grey matter of the cord, but also alterations in the ganglion cells such as I have just described. He found these cells had become smaller than normal, taking the form of a tip-cat in place of being polygonal. The cell plasma was granular and did not show the differentiation on staining in the way the normal cells do. The cell nucleus was altered only in the cases where the convulsions had lasted for some considerable time, and then the nucleus was noted to be ill-defined and to stain more intensely than usual. In cases of chronic tetanus a degeneration of the medullated nerve fibres could be made out.

What explanation then is to be given of this altered appearance in the ganglion cells found by Marinesco in his guinea-pigs, and by me in two of the cases we are at present considering? The only suggestion I can offer is that these cells are in a state of commencing degeneration. It has been shown[3] that when a nerve fibre is cut its corresponding ganglion cell degenerates, owing presumably to loss of function. The first change to be observed in this process of degeneration is a disappearance of the deeper stained "triangles" of the plasma, these seeming to become dissolved in their lighter-coloured matrix. This is exactly the appearance presented by the ganglion cells in our first two cases, and the suggestion therefore which comes to one's mind is that these cells were commencing to undergo degeneration. What exactly this degeneration is due to I cannot pretend to know. In all probability the tetanus toxin acts as a poison on the ganglion cell and so causes its death. But it may be that the toxin is only a powerful stimulant, and that the degeneration of the cell is due to over-use, just in the same way as certain other cells in the body atrophy from over-use. It might be contended that the ganglion cells in Case II should have recovered their normal appearance in the fortnight the patient lived after the tetanoid convulsions ceased. But it is to be remembered that during much of this time the tissues generally were contending with another and very severe disease. The conditions therefore were not those favourable to regeneration of cells in any part of the body.

A difficulty remains in there being no degeneration of the ganglion cells in Case III. To this I can give no explanation.

I can therefore draw no conclusion from the examination of these three cases, especially seeing the third is a negation to the other two. The cases, nevertheless, seem worth reporting, if it only be to draw attention to the importance of noting the minute changes which may be found in the plasma of the spinal ganglion cells. And I may add that for this purpose Nissl's method of staining is, as far as I know, the only one of any use.

In conclusion, I wish to acknowledge the kindness of Dr. Lindsay Steven, by whose permission I publish Case I. The sections were cut in his laboratory; these he has examined, and he verifies my observations. I am also much indebted to Dr. Workman for the other two cords, and for permission to publish the results of their investigation.

References.
[1] Colman, *Section-cutting and Staining*, p. 101; Lee, *Microtomists' Vademecum*, p. 380. [2] Marinesco, communicated to the Société de Biologie, reported in *Gaz. Méd. de Paris*, July 11th, 1896. [3] Ballet, *Le Progrès Médical*, May 16th and June 27th, 1896.

CERTAIN POINTS IN THE CAUSATION AND TREATMENT OF SPINAL CURVATURE.

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II.

In my previous paper on this subject[1] I referred at some length to a cause of lateral curvature which in 1895[2] I had briefly mentioned under the name "amesial pelvis." One of the illustrations given (Fig. 2) was that of a young girl who

Fig. 5.—Scoliosis with pelvis amesial to right. Note.—The edge of the plate is in the same parallel; the white line of tape has inadvertently been cut away.

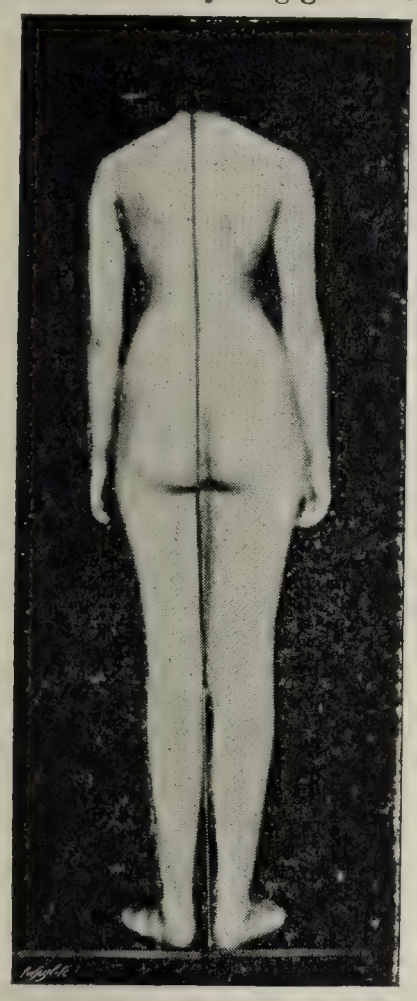

Fig. 6.—Girl with slight scoliosis, pelvis amesial. Note.—In this figure the perpendicular has been drawn a little too much to the right.

manifested this condition in exceptional severity; but it must not be supposed that amesiality in somewhat lesser degree is rare. On the contrary, it is very common as a cause of lateral curvature and of failure in such treatment as is directed to the spine only, ignoring the malposture of the lower parts of the body. To those, therefore, who have to do with spinal deformities the matter is of great importance, but has escaped notice because the figure is rarely uncovered lower than the level of the hips, the rectitude of lower limbs and pelvis being taken for granted—that is, the middle of the latter, most clearly indicated in external marking by the intergluteal fold, is assumed to lie in the middle line, while the lower limbs, or rather the centre of the space between them, is considered to be perpendicular. When about ten years ago my then newly-invented scoliometer[3] revealed that herein lay a noteworthy fallacy, I instituted a more extensive series of observations, and took, as opportunity offered, photographs of patients of various age and sex. A very restricted number of them are reproduced here, but they suffice to show the condition insisted on. It is, however, first necessary to say how a true horizontal, the white line by the patient's heels, was obtained. A piece of tape was secured to the floor, and the centre marked by a carpet pin, at each side of which even lengths—say two-foot—were accurately measured. The middle of a cord was held at the centre of the camera lens; here a knot was tied, from which absolutely equal lengths of the string were cut and the ends secured to the two-foot marks by driving carpet pins through string and tape into the floor. Thus was procured an exact isosceles triangle, the apex of which was at the lens, while the mid-point of the base was between the patient's heels. An imaginary line therefore drawn from the centre of the lens to this mid-point of the base formed with the tape exact right angles. Furthermore, in order to avoid error arising from minuteness of image two of the figures (5 and 6) were enlarged in printing. On these 9-inch images perpendiculars were drawn by means of an accurate steel square, and from these points photographic negatives were taken. The perpendiculars on the other two negatives were cut with a sharp knife through the gelatine of the plate, but their accuracy was verified also on enlarged images.

Fig. 7.—Child with markedly amesial pelvis and incipient scoliosis.

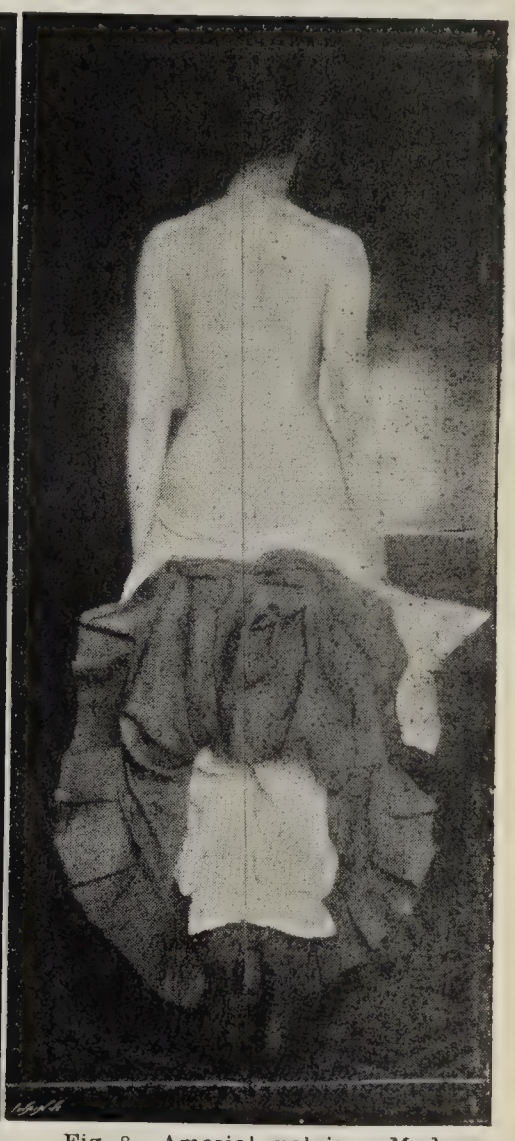

Fig. 8.—Amesial pelvis. Mode of investigation.

In estimating the variation it must be remembered that these figures are $3\frac{1}{2}$ inches long. The man stands 5 ft. $10\frac{1}{2}$ in., the girl 5 ft. 10 in., so that $\frac{1}{20}$ inch on the plate represents 1 inch on the body, or $\frac{1}{16}$ inch about the aberration in these two illustrations means $1\frac{1}{5}$ inch of real displacement. Moreover, if the rima natium is $1\frac{1}{5}$ inch from the perpendicular there is that amount of pelvis too much on the one side and the same too little on the other, therefore that bone as a whole lies $2\frac{2}{5}$ inches out of the straight.

My room is so arranged that when I have fully explained how my patient is to stand I leave until all is prepared. I then enter from behind, expose the plate, and quit the room again while garments are resumed, without ever going in front of the patient; but save in the case of young children and for investigation sake entire nudity is unnecessary.

Fig. 5 is that of a man, aged 19, with marked lateral curve, whose parents had long thought he was not straight, but surgeons, both here and abroad, had negatived the existence of spinal curvature. The pelvis is amesial, that is, the rima natium lies to the right of the perpendicular to the extent in the 4-inch plate of $\frac{1}{10}$ inch, therefore on the patient's body nearly $1\frac{1}{2}$ inch. The probability is that this amesiality gave rise to the crookedness which the parents noticed and which examination of the back alone failed to detect; that is, the cause of the subsequent scoliosis had not as yet began to operate.

Fig. 6 is from a young lady not yet 13 years old, but 5ft. 10 in. in height. The pelvis is amesial to the right to rather a less extent. The condition, that is, projection of right hip, was noticed some eighteen months ago. One shoulder was noted as unduly prominent about ten months ago. The commencement of curvature must be dated some short time anterior to this latter observation.

It must not, however, be supposed that pelvic amesiality is confined to adults; it is, on the contrary, frequent and very marked in children, so much so indeed that I have strong reason for believing that the habit commences almost always during childhood.

In Fig. 7 the left knee is slightly more valgous than the other, therefore the mid-point between the heels lies a little to the left of the true central perpendicular. I have on an enlarged print 8 inches long corrected this, and find that on that enlargement the error amounts to $\frac{1}{12}$ inch; on the $3\frac{3}{4}$ plate, therefore, it is about $\frac{1}{26}$ inch. This is hardly sufficient to make an appreciable difference in the truth of the illustration, which shows a very amesial pelvis with commencing total curve to the left. This curve, be it noted, is only incipient, because the amesiality itself is recent.

The malposture is generally, though by no means always, to the right; a certain number of my photographs show it to the left. The perpendicular lies upon—in a few cases only skirts—the inner aspect of one or other limb, the left when amesiality is to the right, and *vice versâ;* in most cases it cuts a piece of the calf, of the inner condyle, and more or less of the thigh. The condition is, after a certain time, always followed by a lateral curvature, commencing in the segment of the spine immediately above the pelvis, and always in a direction contrary to the misplacement—right amesiality induces lumbar or, after an interval, total curvature to the left, left amesiality causes right curvature. The total curve generally becomes sooner or later an S curve. The curves are very seldom, probably are never, fully compensatory of the pelvic malposture. If the reader will measure accurately a midpoint at the neck, about the level of the vertebra prominens, and will stretch a fine thread between it and the mid-point of the tape between the patient's heels, he will find the rima natium still to the side, though on these minute prints it is much more difficult to verify the aberration than on enlarged ones.

I must forego any attempts at showing what neuro-muscular condition it may be that induces a child to stand and sit, for it is also evident in sitting with the pelvis thus laterally displaced and the lower limbs aslant; occasionally it appears to originate in standing habitually on one and the same limb the other being bent and supporting no weight. Anyone may, however, convince himself that it is not a difficult posture to assume. Let the experimenter stand, the feet being turned a little out with one side, say the left, against a straight wall with which the toes and shoulder of that side must be in contact. His hip will be nearer to or further from it according to breadth of the ilium. Now let him sway the pelvis away from, while still keeping toes and shoulder in contact with the wall; he can do this easily to a considerable extent, and judging from my personal sensations, without throwing extra weight on either foot, or if any, not more than a slight inclination of the head will equalise. Now this fact, the crucial tests of the true perpendicular and of the thread stretched between the mid-point of the neck and of the tape, show conclusively that pelvic amesiality is not a mere imaginary condition, but is a highly important reality, inasmuch as my photographs from children 10 years (Fig. 2 in last paper) and 7 years old (Fig. 7) show that it is a common and efficient cause of spinal curvature, and when so of frequent recalcitrance.

Knowledge of and ability to recognise this condition is, therefore, necessary. Suspicion may be aroused, even before any garments are removed, if a hip undoubtedly project, while no very severe deformity of the back is noticeable. Still more if, on further examination, the slope of each side of the pelvis is asymmetrical, and one great trochanter project more sharply than the other. If these signs be found, investigation must be carried further, but complete nudity, save in the case of young children, is neither necessary nor desirable. I have only resorted to it for the sake of study. One can bare the back, as in Fig. 8 to the level of the hips, raise and pin the skirts to the vest or other under garment, so as to expose the heels. Then the surgeon, standing ten feet or more straight behind the patient, holds up a plummet, so that in his line of sight the cord falls on the mid-point between the heels. Keeping hand and head very still, he notes if it also correspond with the mid-line of the pelvis, or, failing to do so, fall on the gluteal region on either side. In the figures the perpendicular dark line may be taken to represent the string of the plummet.

I submit that a little consideration will show it to be impossible to correct a curve caused by this malposition of pelvis while that condition continues. Let us suppose a pelvis amesial to right, curvature, lumbar or total, to left. All curves have two limbs, one leading from the chord (in this case the middle line) to the most salient point, the other back from that point to the chord; but in these curvatures the chord itself has got awry, and the question is, shall we try (and fail) to force the spine into the line of that deviated chord or correct that deviation itself by pressing its lower end back into its normal place. Success in achieving this indication will go far towards correcting the spine above by the very necessity of balance. Indeed, in incipient cases that measure will suffice; other assistance is wanted in further advanced cases. But I must not outrun my allotted space, and hope to enter into more detail about treatment next year, when a few more columns may be granted.

It cannot be but that some will differ from these views. That is unavoidable, but I may express a hope that they will not be attributed to some other surgeon, English or foreign. I say this because in 1867 I devised and published a description of a certain "sloping seat" which, strangely enough, has since been named Volkmann's, although it was years later that he published his description, and although he actually borrowed my illustration to explain the appliance.

References.

[1] British Medical Journal, July 17th, p. 132. [2] *Causes and Treatment of Lateral Curvature of the Spine.* [3] *Clin. Soc. Trans.*, vol. xxii, p. 314. [4] The mother of one of my patients sits with the pelvis awry, and tells me she has to her knowledge always done so.

ON THE IMMEDIATE REDUCTION OF THE ANGULAR DEFORMITY OF SPINAL CARIES.

BY

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and

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Our attention having been drawn to this matter by an account of some cases of angular deformity of the spine arising from caries, which had been treated by immediate reduction by Calot of Berek-sur-Mer, and Rédard of Paris, we deemed it expedient to satisfy ourselves as to its feasibility and safety.

We must confess that we regarded the accounts received from France in a somewhat sceptical spirit, being considerably embarrassed and influenced by the authoritative statements contained in textbooks, that the only safe way of treating carious disease of the spine is by a long course of rest, every effort, of course, being made to prevent deformity in the early stages by complete recumbency, and in the later stages by suitable supports. But that when deformity follows, as it very frequently does in spite of all the precau-

tions, it must be accepted as a lamentable but unavoidable sequence of the disease.

Then, again, to us it seemed probable that the immediate result of forcible rectification might be paralysis, or at least paresis, temporary or long continued; and arguing on the analogy of what has sometimes occurred after reposition of limbs subsequently to tuberculous arthritis, we felt it was possible that so novel a proceeding in the spine might by followed either by suppuration or by an acute dissemination of tubercle. But when we come to reflect on our experience in dealing with a large number of these articular cases, we could not altogether recall more than three or four cases in which it could be distinctly affirmed that forcible rectification and acute dissemination of tubercle stood in the relationship of cause and effect. Nor has our combined experience been small.

With the statements, therefore, of the French surgeons Calot and Rédard before us, and duly considering the various possibilities, we decided to put the question to a cautious trial. After personal observation of the methods adopted in the clinics abroad, and noting the details, we commenced to operate. During the last two months we have together treated 11 cases of angular deformity. In 6 of them we obtained immediate and complete reduction. In 2 of these cases, which were extremely deformed, the reduction was very remarkable on account of the facility with which it was effected. In 5 of the 11 cases we obtained partial reduction, and of these latter cases in three of them the angle was sharp, and the area of disease limited to two or three vertebræ. In the remaining two it was prominent but obtuse, and extended over six or seven vertebræ, and was accompanied by much thickening of the tissues at the site of disease.

Among the 5 cases of partial reduction were the 2 on which we first tried this method, and we felt it to be unwise to use such force at the first sitting as we now know to be necessary to completely reduce the deformity. The remaining 3 cases of partial reduction were so consolidated as to resist a large amount of force. But we can say that in all 5, although the deformity was not entirely reduced, there was considerable lessening of the projection, we should say about three-fourths; and what is very much to the point there was an increase in the length of the spinal column from an inch upwards. This lengthening was not due to mere extensibility of the normal portion of the spine, a source of fallacy we took care to guard against in our measurements, but to the unfolding of the spine at the site of former disease.

Our method follows that of Calot, and in view of the difficulty of sometimes obtaining a sufficient number of assistants we have devised a special apparatus, by which traction is simultaneously made upon the head, arms, and legs. After steady extension of the spine, either by the aid of assistants or by the apparatus, for a few minutes, with the patient in the prone position, care being taken that the pull should be equal in all directions, downward pressure is made by the surgeon's hands upon the projections, counter-pressure being afforded by the open palms of an assistant placed on the abdomen. It is advisable to have the patient's bowels well emptied before the operation, and then the assistant's hands readily support the anterior aspect of the spine, and so prevent too rapid reduction of the deformity. When the projection is dorsal, counter-pressure can be indirectly made through the chest walls. The patient is kept under an anæsthetic from the first, and as this must be administered while he or she is in the prone position, it is a little difficult. But we have found that it is better to get the patient well under before proceeding to operate, and then but little more is required after the prone position is assumed.

Reduction, partial or complete, having been obtained, a plaster of Paris corset is put on, and is carried up over the head and neck, merely leaving the face exposed, care being taken that pressure is maintained during the application of the jacket on the site of deformity. It is well to note that a very important point in the adjustment of the plaster of Paris corset is that the spine must be maintained in hyperextension. We have found it easier to put the bandages on the head and neck if the patient is suspended from a Sayre's apparatus.

Now as to results. In not one of the cases, despite the complete or partial reduction of the deformity, has there been either paresis or paralysis following the operation, nor has there been in four cases which have been carefully watched for two months any untoward signs, either of suppuration or a renewed outbreak of tubercle in those cases in which we presumed it to be the *fons et origo mali*. And our experiences accord with those of Calot, who has gone a step further and excised some of the projected laminæ. We should mention that in some cases we have used a modification of the double Thomas's hip-splint, with a head-rest and leg-support, so constructed as to keep the spine in extension.

We submit, then, that, although the method is still on its trial as to its ultimate results, it seems to afford a good prospect of reducing the deformity without incurring dangerous consequences. This article should, however, be regarded as a preliminary statement. We hope to publish a more detailed account of the cases in a few months' time. At any rate, the lesson which has been brought home to us is that the correct way of preventing deformity from arising or increasing in Pott's disease is to maintain the spine in hyperextension by suitable support beneath it, and not simply to place the patient upon a bed or straight splint, which favours rugging of the spine at the site of disease and increase of intervertebral pressure.

In conclusion, once we can be fully assured that no symptoms of a serious character follow these manipulations, it becomes an easy matter when the spine is rectified to maintain it in the corrected position.

REMARKS ON DR. KOLLE'S REVIEW OF MY ARTICLE—"PROFESSOR KITASATO'S ANTICHOLERA SERUM."

By A. NAKAGAWA, M.D.,
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I was rather surprised to find that Dr. Kolle has, at this date, had the kindness to review the brief account of Dr. Kitasato's work on the serumtherapy of cholera, which appeared in the British Medical Journal of July 18th, 1896.[1] That Dr. Kolle is not satisfied with its contents is natural enough if one takes into consideration the fact that I purposely avoided going into the details of the experimental part of the work especially. For this reason I expected Professor Kitasato would, a little later, publish his report in German or English. Consequently I did not wish to anticipate too much of what he was going to write himself.

But as Dr. Kolle now wishes to know if the control experiments with the sera of healthy animals have been made I feel it my duty to translate that part of the original report (published in Japanese) which bears on this point.

Experiments Showing the Absence of the Antitoxin in the Serum of Healthy Animals.

No.	Guinea-pig Body Weight.	Toxin.	Serum (Normal).	Result.
	Grammes.	C.cm.	C cm.	
45	242	2 0	0.5 (S.)	Died during the night.
46	262	2.0	0.5 (H.)	Died the next evening.

N.B.—The minimum fatal dose of the toxin is 1.5 c.cm. (intraperitoneal). Toxin and serum injected simultaneously. (S.) sheep; (H.) horse. It is to be borne in mind that 0.2 c.cm. of the anticholera serum was found to neutralise 2.00 c.cm. of the same toxin.

Dr. Kitasato concludes from the above experiments that the antitoxic property is not present in the sera of healthy animals, at least to the extent claimed by Professor Pfeiffer. I have no intention to enter into that discussion. I might add here that Drs. Behring and Ransom published their report when Dr. Kitasato's work was already in progress. The report of MM. Metchnikoff, Roux, and Salimbeni appeared in the *Annales de l'Institut Pasteur* of much later date.

Dr. Kolle states that an "*unbefangene*" reader must, from reading my article, get the impression that I was reporting a new discovery. If that was the case, I am extremely sorry that I should have created such an impression. For we are

aware of the most elaborate experiments relating to cholera immunity executed by Professor Pfeiffer and his corroborators, among whom I have the pleasure to mention the name of Dr. Kolle himself. The reason why I did not give an historical survey of the researches bearing on cholera immunity was also due to my expectation of Professor Kitasato's report.

Lastly, Dr. Kolle remarks that I have given the statistical figures to prove the efficacy of anti-cholera serum. I think there is a slight misunderstanding on his part. Fortunately for me, I stated expressly what importance I attached to the apparently favourable statistics in the following words: "Without claiming to draw, from a number relatively so small, the final conclusion that the serum treatment was attended with the reduction of 20 per cent. in the mortality statistics, it is evident at least that the result of the new therapy was not an unfavourable one."

REFERENCE.
1 *Centralb. f. Bakt.* April 13th-14th, 1897.

SURGERY AT THE NEW HOSPITAL FOR WOMEN IN 1896.*

BY MRS. SCHARLIEB, M.D., M.S.LOND.,
Senior Surgeon to the New Hospital for Women, London.

ON behalf of the surgical staff of the New Hospital for Women, Euston Road, I desire to give a brief account of the surgical work of that hospital for the year 1896.

We had 192 minor operations, all the subjects recovering; and 74 major operations, with 1 death; this occurred in a case of chronic intestinal obstruction, due to a malposition of viscera inaccessible to operation.

Of the 73 successful operations:

12 were vaginal hysterectomy.
37 abdominal section.
11 amputation of breast.
8 radical cure of hernia.
2 nephrectomy.
1 nephrolithotomy.
1 Alexander.
1 radical cure of hydrocele of the round ligament.

VAGINAL HYSTERECTOMY.

Of the 12 vaginal hysterectomies, 9 were for carcinoma, the cervix alone being involved in 6 cases, the body only in 2, and the entire organ in 1. The 3 remaining hysterectomies were done for fibromata, one complicated with a hydrosalpinx.

THE VALUE OF CURETTING.

In several of these cases the value of curetting and examining the scrapings in doubtful cases was demonstrated. Thus:

Mrs. B., aged 52, four children, menopause at 48, May 4th, 1899, complained of brownish-white discharge eighteen months; no bleeding except for fourteen days one year ago; weakness and loss of flesh two months only. On examination uterus large, hard, freely movable; cervix apparently normal. Dilated to 18 Hegar; uterus explored with finger; walls rough, a polypoid mass projecting into cavity. About ½ oz. of tissue removed by curette, which on microscopic examination proved to be carcinomatous.

Hysterectomy, May 11th.—On examination after removal the uterus was large; on the posterior wall near the fundus was a rough flat mass extending towards the openings of the Fallopian tubes. It had probably occluded the orifice of the left tube, which was dilated into a cyst filled with blood-stained fluid. The patient did very well; the temperature never exceeded 100°, and she was discharged well, the vaginal roof healed, on June 1st.

In another case Mrs. S., aged 25, the information given by the curette and microscope was even more valuable. The age of the patient, the fact of a recent miscarriage, and the negative evidence given by bimanual examination would have naturally led to a wrong diagnosis, but the pathologist's report on the tissue removed by the curette prevented this error, and hysterectomy was performed on August 3rd, 1896.

Report on Specimen.—"The uterus is enlarged. Cervical canal up to os internum is filled with a soft friable growth. Uterine mucous membrane is smooth above, but below and posteriorly and at both sides it is invaded by the growth which extends upwards for ¼ inch. Ovaries large and œdematous. Tubes healthy." Recovery rapid. Patient went home at the end of three weeks. She was seen on January 9th, 1897, when she was in good health.

FIBROID TUMOUR.

One of the cases of fibroid is interesting.

C. T., single, aged 39.

Symptoms.—Three years' duration menorrhagia and metrorrhagia, increasing in severity; incapacity for exertion; chronic invalidism; incontinence of urine.

Examination.—Fibroid size of small apple in anterior uterine wall pressing on bladder. Vagina very small.

Operation, December 10th, 1895.—An incision 1 inch in length through perineum gave room for operation, which was difficult from the long narrow virgin vagina. The operation was done in the usual way, some difficulty being experienced in delivering the fundus through the incision.

Examination of Specimens.—There was a single hard interstitial fibromyoma in the anterior wall of the uterus. It was the size of a Tangerine orange. The mucous membrane of the uterus was red and soft. The left tube thickened; right tube and both ovaries apparently healthy.

Patient did well, and left hospital on January 3rd, 1896. She returned in April, 1897, saying she had still some bleeding. At the left angle of the scar there was a soft dark red growth resembling an ordinary mucous polypus of the cervix. It was removed by avulsion, and proved to be a mere collection of fibrin on a stout silk ligature. This ends the case.

On a careful perusal of our records I find that we do not adhere to any set operation in vaginal hysterectomy. We get the organ out with as little disturbance of surrounding parts as possible. Sometimes the fundus is anteverted, sometimes retroverted, sometimes the whole organ is first freed and then drawn straight out, sometimes (in case of medium-sized fibroids or sarcomata) we remove the uterus *morcellement*. In some instances we secure the stumps with ligatures, but when it is more convenient we leave clamps on for 48 hours. In cases of malignant disease we remove the ovaries and tubes if we can, especially where the body or fundus uteri are affected.

It is too early to make any statement about recurrence in this group of cases. They are all alive, and apparently well so far, except one case of advanced sarcoma, in which recurrence began almost at once, advanced rapidly, and killed the patient in nine months. In age our patients varied from 25 to 60, 2 of the 9 being under 30, an unusual proportion of young women.

ABDOMINAL SECTIONS.

The 36 successful abdominal sections may be classified as follows:

Cholecystotomy	1 case.
Hysterectomy	5 cases.
Myomectomy	2 ,,
Hysteropexy	4 ,,
Ovariotomy	9 ,,
Removal of one or both appendages ...	13 ,,

Among the more interesting of these cases was the following:

Mrs. M., who was admitted in January, 1896, with a tumour in her right hypochondrium. History of attacks of pain and of vomiting off and on during the last five years. No jaundice and no colic.

A smooth, roundish movable mass was found in the right hypochondrium, about 4 inches in length. It was pear-shaped, with a distinct neck, and was not tender on manipulation.

At the time of operation, January 28th, about 5½ ounces of clear fluid was removed by aspiration, and three gall stones were squeezed up out of the cystic duct into the gall bladder, whence they were removed by incision of its wall. The stones were soft, yellowish, facetted, about the size of a small nut. When put together they measured about 1½ inch, and one of them which was pointed was stained with bile. The opening in the gall bladder was stitched to the abdominal wound; it was drained, and eventually healed well.

Of fibromata and fibromyomata of the uterus, 7 cases needed operation. In 4 cases hysterectomy was performed, in 2 myomectomy, and in 1 the appendages were removed. There was nothing noteworthy in the hysterectomies. In all the cases there was not only a damaging amount of bleeding, but also disabling pressure on the bladder or rectum, or both these organs. In all we followed the intraperitoneal plan, forming anterior and posterior flaps of peritoneum and amputating the uterus about the level of the os uteri internum. The stump was not constricted by any ligature, but the uterine arteries were secured if possible before they were cut. The cervical canal was disinfected with carbolic acid, then the cut edge of the mucous membrane oversewn, the muscles of the stump by a second row of catgut stitches, and finally the peritoneal flaps were adjusted and sewn with Lembert's suture.

The myomectomies were very interesting. In each case the main tumour had burrowed into the folds of the right broad ligament; this being incised, the mass shelled out readily, but there was some bleeding from its attachment along the lateral border of the uterus. In one case this necessitated the ligature of the right uterine artery. In one case the uterus was left intact, also both sets of appendages; in the other, the appendages of the right side were removed.

In suitable cases this method seems to offer a good solution of the problem of dealing with a solitary fibroid which has indeed partly solved the problem itself by being more or less extruded from the uterine wall. As we have all been taught,

* Read at the annual general meeting of the East Anglian Branch at Ipswich.

it is the capsule, not the fibroid, which is vascular, and it is to the difficulty of adequate securing of the incised capsule that the principal risk of myomectomy is due. Both our patients made a good recovery, but in both the formation of a hæmatoma was recognised.

The remaining hysterectomy was done under rather peculiar circumstances:

The subject was a rachitic dwarf on whom a Cæsarean section had been done in 1895. When she came to us she was about four months' pregnant, and finding her true conjugate to be only 1½ inch, it was decided to let her go to term and then deliver her by abdominal section. She was thus delivered of a living boy, and the recurrence of pregnancy was, we thought, prevented by double ligature of both Fallopian tubes and incising them between the ligatures. The uterus was not removed at the time, as it was thought this would add greatly to the shock of the operation. Her recovery was uneventful and rapid. She left the hospital quite well at the end of a month. The child subsequently died at the age of 6 weeks of infantile syphilis. The mother continued to menstruate regularly, very profusely, and with great pain. The uterus remained imperfectly involuted, and of course an abdominal organ, the neck only being felt *per vaginam* just above the narrow conjugate. It was found impossible to curette the uterus, and yet the girl was incapacitated by the monthly pain and hæmorrhage. There was nothing unusual in the hysterectomy except that the anterior surface of the uterus was firmly adherent to the under surface of the peritoneum. Patient left the hospital for the convalescent cottage on the twenty-first day. Probably three causes continued to prevent perfect involution: 1. Specific endometritis. 2. Unnatural position of the uterus due to pelvic deformity. 3. Adhesion of the scar on the anterior surface of the uterus to the peritoneum.

The ovaries and tubes were removed—one or both—13 times for conditions other than ovarian cystomata. Of these, 7 patients had pyosalpinx, 5 chronic inflammatory disease with cystic ovaries, and one multinodular fibroid. The cases of pyosalpinx were naturally the gravest of this group, and, more frequently than any other abdominal operation, were followed by signs of general systemic infection. Thus, from the headnotes of the cases we find:

Mrs. R., operation October 22nd, 1895. Central incision; much thickening and matting; organs at first unrecognisable. Uterus found to front and right. Left tube contained pus and was removed; right ovary and tube adherent in pelvis, not enlarged, not removed. Drainage tube used. A pint and a-half of saline injected into arm after operation. Patient became cyanosed and had a rigor soon after being put to bed. Two days after operation bronchial breathing heard at angle of left scapula and crepitations just above. Sputa almost entirely purulent. Eventually a good recovery. Discharged January 2nd, 1896. Readmitted March 17th, 1896, on account of tender swelling in right broad ligament. Second section March 27th. The right tube and ovary dilated and closely adherent; removed. The patient did well, and was discharged on April 17th, 1896

Mrs. W. October 6th, 1895, unattended miscarriage at third month of pregnancy; much pain on fifteenth day, severe flooding with very large clots. This was repeated on the twenty-first day. Admitted New Hospital for Women, medical side, on November 9th, nearly five weeks after the miscarriage. Uterus size of three months' pregnancy. Temperature raised, pulse 120. The os uteri admitted tip of finger, and through it a polypoid mass was felt. Curette removed quantity of hardened placental *débris*; uterus packed with iodoform gauze. In the evening rigor, temperature 105° F., fell to 100° after intrauterine douche.

November 14th. Tumour felt per abdomen midline midway between pubes and umbilicus and filling right iliac region.

November 18th. Rigor; temperature 105°, pulse 132. Patient lying with legs drawn up, much pain in abdomen and legs, very sick.

November 19th. Rigor; temperature 103.8°.

November 20th. Temperature 104°. Abdomen does not move well on respiration; tenderness acute. Transferred to surgical side.

November 21st. Seen by Dr. Cullingworth, who agreed that there was puerperal pyosalpinx and advised immediate operation, although not sanguine as to result.

November 22nd. Operation; peritonitis; many recent adhesions; double pyosalpinx; pockets of pus amid adhesions; appendages removed; pelvic peritoneum sponged out with 1 in 2,000 sublimate lotion; drainage tube used.

November 25th. Pleurisy left side.

November 28th. Pelvic abscess; pus discharged along side of tube.

November 29th. Drainage through into vagina effected; bladder injured.

December 2nd. Signs of consolidation of left lung. Temperature 104 2°, pulse 140, respirations 40.

December 9th. Aspiration of left pleura; fluid withdrawn chiefly serous, but depositing pus on standing.

December 19th. The thoracic signs seemed to indicate an empyema, and the exploring needle was withdrawn filled with pus; 2 inches of rib were resected, but no pus appeared, and careful digital exploration failed to find the abscess cavity. No improvement in thoracic or general condition, very little in pelvic or abdominal.

January 3rd, 1806. Half a pint of pus ejected by coughing; this continued. Examination of pus showed no tubercle bacilli, but swarms of streptococci. From this time improvement was slow, but steady. The pulmonary abscess emptied itself by coughing. The abdominal and pelvic conditions became healthy, and finally patient went to convalescent home on March 18th with the wound healed, all her functious normal, and with neither cough nor expectoration. She has been seen several times since in good health.

After such stormy cases it is quite a relief to turn to the uniform progress of the nine patients after ovariotomy. Among them were two cases of dermoids; and one, a very easy operation, with an otherwise uneventful recovery was complicated by phlegmasia of the left leg.

Operations on the kidney were three—two nephrectomies and one nephrolithotomy. The two nephrectomies are not open to the charge of undue haste. One was needed in a case where a nephric and perinephric tuberculous abscess was opened through the loin in March, 1894. Since that time the sinus had discharged, and the patient was much worn down and emaciated. The atrophied remains of the kidney were removed through a Langenbuch's incision. The operation was tedious owing to dense adhesions, but the patient did well.

The second patient who was subjected to nephrectomy was originally admitted in July, 1894, complaining of pain in the left side for two years. There was an enlarged left kidney and pyuria. Nephrotomy was performed on August 2nd. A dilated sacculated kidney filled with pus was found but no stone. Readmitted March 6th, 1895, when two stones were found and removed, a fluid being spontaneously discharged; the sinus did not heal. In August, 1895, two more stones were removed from the kidney.

In June, 1896, lumbar nephrectomy was done. The kidney was found completely disorganised, and contained a number of small stones in a sacculus at the lower end. The patient did well, and was discharged after six weeks with a sinus which has since healed.

The nephrolithotomy was done for a patient who complained of pain in the right side for three years, and had had several attacks of renal colic. There was much pus and albumen in the urine but no fever. The kidney was incised from the loin; 16 ounces of purulent urine escaped. A rough three-branched stone, phosphatic on the outside, was extracted whole; one of its branches had rested in the ureter the others in calyces of the kidney. A probe passed down the ureter showed it to be patent. The patient made a very smooth and perfect convalescence.

Radical Cures.

Radical cure was done once for a small umbilical hernia, the sheaths of the recti being opened so as to admit of their being carefully stitched in the median line. There were four inguinal and three femoral herniæ submitted to this operation. Among these was a woman aged 72. She was a shopkeeper and of very active habits. The hernia had existed twenty years, and only for one year had been troublesome with attacks of pain which prevented her from doing her work. The hernia proved to be partly omental and partly enteric, the former portion being irreducible. It was removed with the sac. The patient made a good and rapid recovery, and went home at the end of a month free from pain.

CASES OF FOLLICULAR TONSILLITIS DUE TO MILK INFECTION.

BY

C. GREY-EDWARDS, B.A., M.B., B.Ch.Dub., Beaumaris, Anglesey. and WALTER D. SEVERN, Assoc. Roy. Coll. Sci., F.C.S., Director, West End Pathological Laboratory, London, W.

I.—Clinical Observations by Dr. C. Grey-Edwards.

On February 12th, 1897, I was called to a farm to see two children and a servant. They were all sitting up, and complained of general pains about various parts of the body, headache, "chilly feelings," etc. No direct complaints were made about the throat, but my inquiries elicited that "it was a little sore." On inspection, I found the tonsils enlarged, red, and spotted with the soft creamy membranous patches typical of follicular tonsillitis. The temperatures ranged from 100° to 103° F., and in each case about three days elapsed before they had come down to normal. In the case of the maid there was considerable prostration and languor; she was quite unable to work for three weeks.

Between February 12th and 24th I attended three more cases, and four other cases occurred which I did not see.

On February 20th I was called to another house, and here saw a similar case of follicular tonsillitis—that of a young

girl with exactly the same type of throat, whose temperature was as high as 104°. As the milk was supplied from the farm where the first cases had occurred, I recommended that all the milk used should be carefully boiled, and also that the case should be isolated as much as possible and every precaution taken to guard against a spread of the malady.

On February 26th there were two fresh cases, and I then sent a specimen of some of the suspected milk to the West End Pathological Laboratory in London for bacteriological examination. The report, exclusive of the technical detail, was as follows:

1. Staphylococcus pyogenes aureus—present.
2. Staphylococcus pyogenes albus—present.
3. Streptococcus pyogenes (short form)—present.
4. Bacillus diphtheriæ (Klebs-Loeffler)—absent.
5. Bacillus tuberculosis—absent.

On March 1st I saw another case from the same house, and sent a sweeping of the throat for examination. The same bacteria were found as in the milk. Three of the cases in this house had partaken of the milk, but the fourth had not; and I consider it probable that infection took place from one of the other three cases in the early stages. Three children, between the ages of 2 and 3, escaped altogether, owing, I believe, to the fact that their milk was invariably boiled.

In addition to the above cases I was called in to one more, a throat of the same character, and here again milk had been partaken of, which had been supplied from the same farm.

On receiving Mr. Severn's report on the first specimen of milk, I induced the farmer to have the cows examined by a veterinary surgeon, who however failed to detect anything wrong, and it was not until the milk from all the cows had been separately examined that the offending animal was discovered. In the milk from this cow were found the same organisms as were present in the first specimen of milk and in the sweeping from the throat.

II.—BACTERIOLOGICAL EVIDENCE BY WALTER D. SEVERN.

It is seldom that one obtains such exactly correspondent results in bacteriological research as have been obtained in Dr. Grey-Edwards's epidemic of follicular tonsillitis.

In examining the first specimen of milk, plate and Petri dish cultivations on gelatine, agar-agar, and glycerine agar-agar were poured immediately on arrival, and large surfaces of Kanthack-Stephens' medium and serum were well rubbed over with heavy platinum spatulæ and incubated at 37° C. Portions of the milk were also placed in sterilised strong glass tubes and rotated on a motor centrifuge, and from the resulting deposits after treatment with ether, etc., cover-glass preparations were stained and examined for tubercle bacilli and bacilli diphtheriæ with negative results. Other cover-glass preparations stained by the Gram-Weigert method were found to contain a few organisms resembling morphologically the pyogenic cocci. Numerous short and long rod forms were also present, but most of these latter were very faintly stained. In the deposits from this specimen, in addition to the epithelial *débris* and leucocytes of the form usually found in cow's milk, there were present true pus cells, variable in shape and dimension, multinuclear, and fairly numerous.

Staphylococcus albus was the organism which greatly predominated in the first specimen of milk, the streptococcus brevis was fairly numerous, while staphylococcus aureus only appeared to the number of three very distinct small orange colonies on a plate poured from 0.2 c.cm. of the milk.

Of the two infected specimens of milk examined, this first one was by far the richer in cocci, but it also contained rather numerous decomposition bacteria, including bacterium lactis, owing to its not having been taken with any special precautions as to sterility. The gelatine plates, which were as low as attenuations from a loopful of milk, were not rich enough in colonies of the organisms sought for, while the bacillar forms present were, even at these high dilutions, too numerous. In such cultures as could be incubated at 37° C., the temperature hastened the development of the pathogenic cocci, at the same time inhibiting the contaminating bacteria, isolation becoming fairly easy.

In the case of the throat-sweeping, no plate cultures at all were attempted. The rather large brush which was used appeared somewhat dry on arrival at the laboratory, so it was moistened with sterile water, and well rubbed over, in the following order: (1) A large glycerine agar surface; (2) a large, plain, faintly alkaline agar surface; and (3) a surface of serum. Incubation took place at 37° C., and the same organisms were found again, but only two colonies of staphylococcus albus were present. Some colonies of micrococcus citreus were easily distinguished by the size of the cocci, and by the non-liquefaction of gelatine, from staphylococcus pyogenes citreus.

The last specimens sent consisted of one of water from a well on the farm in question, and three different specimens of milk labelled each with the name of the cow which produced it. The water was carefully examined by plate culture, and may be dismissed at once as a very good water, with no suspicious feature (bacteriologically). Two of the specimens of milk were also free from suspicion. The bottles containing the milk were sterilised, and the specimens were taken with certain aseptic precautions; it was probably owing to this care that in the two specimens just mentioned very few colonies indeed appeared, even of aërial or putrefactive bacteria; the task of working up the colonies was thereby greatly simplified.

In the milk of the third cow, which we may regard as the one to which the infection has been definitely traced, the two staphylococci and the streptococcus were again found. They were, however, apparently not so abundant as in the first specimen of milk examined, and the staphylococcus albus had almost disappeared. At a rough estimation I should think that the pus was not correspondingly diminished in quantity.

In conclusion, I would like to emphasise the necessity and usefulness, in such examinations, of cultures made by rubbing the surface of already cooled and set agar plates with a small quantity of the milk or other suspected fluid, in addition to the ordinary plate cultures. Agar-agar of a high melting point is sometimes very difficult to maintain sufficiently fluid throughout at any temperature which is not distinctly inhibitory to pyogenic cocci at their first critical transition to saprophytic growth. It is also necessary to make quite sure of the identity of any cocci found by morphological appearance and aggregation, by staining reactions and by careful micrometer measurement, by culture characteristics, and finally, if necessary, by inoculations.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

TWO CASES OF "CHRONIC FOLLICULAR TONSILLITIS" IN WHICH THE TONSILS WERE HIDDEN BY AN EXPANSION BACKWARDS OF THE ANTERIOR PILLARS OF THE SOFT PALATE.

CASE I.—Mr. B., aged 39, first consulted me on February 10th, 1897; he stated that two years earlier he had had an attack of influenza and "drain-poisoning," and had never been well since, his throat having caused him constant trouble.

He was anæmic and ill, had a foul breath, a sore throat, and enlarged submaxillary glands. Upon at first inspecting the throat, the fauces were found much swollen and congested, but nothing more. After a closer examination, however, it was discovered that the tonsils were completely hidden by the expansion and folding backwards of the anterior pillars of the soft palate; a curtain, so to speak, being drawn over each tonsil respectively, and thus concealing them. Upon drawing this curtain forwards by means of a small retractor, there was exposed to view on each side an extensive "caseous tonsillitis."

The lacunæ were evacuated of their secretion and concretions, the tonsillar crypts being opened and freely curetted; the tonsils were syringed with hot boracic lotion, and afterwards swabbed with glycerine of carbolic acid during retraction of the anterior pillars; a generous diet was prescribed, together with a mixture containing sodium benzoate, gr. xv, and citrate of iron and ammonia, gr. x, and a pill containing quinine sulphate, gr. ii. The patient was instructed to paint and syringe the tonsils twice daily with weak solutions of

glycerine of carbolic acid, and Condy's fluid respectively, after in each case retracting the expanded anterior pillars.

He recovered straight away, and in a few weeks had lost all his old aches and pains, had gained half a stone in weight, and was feeling better than he had felt for two years.

On May 31st I had an opportunity of seeing his throat, and found the tonsils clean, his breath sweet, and his health good. The abnormality, however, still persisted.

Case II.—Mrs. McG., aged 23, consulted me on October 28th, 1896, on account of her throat, which, she said, "nothing seemed to touch," and which had troubled her constantly for six months, since an attack of influenza and drain-poisoning.

She was anæmic, thin and feverish, and the submaxillary glands were tender and enlarged. The fauces were congested and swollen, and a small follicle was seen on the right tonsil, which, as well as the other tonsil, appeared abnormally small. After, however, more closely inspecting the throat, it was discovered that the tonsils were really almost completely hidden, as in Case I, by an expansion backwards of the anterior pillars, which partially covered each tonsil as with a curtain; and it was only upon retracting this curtain that the enlarged tonsils were fully exposed to view and their diseased condition revealed, numerous inflamed follicles, one the size of a pea, being thus discovered.

The case was treated like Case I, and in a month's time the patient had perfectly recovered. The abnormality, however, still persisted.

Remarks.—These cases appear of special interest in that the anterior pillars had to be retracted before the disease could be either diagnosed or treated.

Had I not seen Case II before Case I, I should probably have failed to diagnose the latter, so completely were the tonsils concealed.

A gargle was of no use in Case I, but the syringing as described proved at once both efficacious and radical.

Herbert Robson, M.R.C.S.Eng., L.R.C.P.Edin.

Leeds.

FOREIGN BODY IN THE ORBIT.

An accident of such rare occurrence as the following is, I think, worthy of publication:

D. T., aged 5½ years, fell down on the pavement on July 6th, and cut her face. She was carrying a piece of slate pencil at the time. The wound was three lines in length, and was situated ½ inch internal to the right malar prominence and the same distance below the margin of the orbit. Above the wound the skin was slightly puckered, and something hard could be felt that passed over the orbital margin. On introducing a probe into the wound a hard substance could be distinctly felt.

An attempt made to extract it caused agonising pain. Chloroform was therefore administered by my friend, Dr. Newth. After enlarging the wound a piece of slate pencil was removed that measured 1⅝ inch in length and ¼ inch in diameter. It lay almost parallel with the floor of the orbit, in an antero-posterior direction. From the position of the point of entry it must have have passed first in an upward direction; it was then deflected downwards, apparently by the eyeball, and thus came to lie in this extraordinary position.

There was a considerable amount of swelling of the face for a few days after the accident, and some ecchymosis of the ocular conjunctiva in its lower half, but when the swelling had subsided vision was found to be normal. The wound healed by first intention. Neither the little patient or those who witnessed the accident had any idea as to the nature of the foreign body, and until its removal I was under the impression that it was a small pebble. It is still a matter of wonder to me that the eyeball escaped serious injury.

Hayward's Heath. P. G. Griffith, M.B.

FRACTURE OF RIBS: PUNCTURE OF LUNGS: SURGICAL EMPHYSEMA.

I was sent for about 7 P.M. on July 18th to see a patient, aged 64, who had fallen from a chair and hurt his side. I found the old man had broken one or two ribs on his left side; he was in great pain there on slight pressure, and the rib seemed to go in. I may say he had previously four times broken his ribs. He is addicted to drinking. In addition to the broken ribs there was great emphysema of the sides and neck especially. The fist could almost be buried in the side. The neck was nearly twice its ordinary size, so also the face. The eyelids were greatly distended, and he could not see at all. The air ran down to the wrists.

The next day the face and lips were rather blue, and he had a cough; the emphysematous condition was the same. On July 20th he was slightly better. The emphysema was not quite so marked on the body, but I noticed air in the thighs and abdomen.

On July 21st he was weak, but appeared better. On July 22nd he was about the same; and on July 23rd the air was disappearing from the body, and the blueness and cough had almost ceased. On July 25th air was to be felt slightly in the arms and legs, but more so in the chest and abdomen. On July 27th he appeared to be going on very favourably. He could see plainly; a little air was still present about the body, arms, and legs.

Stafford. J. H. Croudace, L.R.C.P.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

SUSSEX COUNTY HOSPITAL.

ULCERATION AND RUPTURE OF GALL BLADDER: OPERATION: RECOVERY.

(By T. Jenner Verrall, Surgeon to the Hospital.)

M. E. R., aged 44, was admitted on January 3rd, 1897. She had had several attacks of colic, with jaundice, which passed off on taking a laxative. The present illness had lasted four days, with pain over the upper part of the abdomen, and sickness. The bowels had acted naturally before this date, but she now took a laxative. Next day the bowels had acted slightly, but the abdomen was somewhat swollen. Mr. Marriott, who saw her at night, gave her some morphine. On January 1st she took two pills, but, neither from these nor from various enemas, ordered by Mr. Marriott and Dr. Black, did any action follow.

On admission she had the abdominal expression, and there was much distension, especially in the flanks, where there was some dulness. The liver dulness was pushed up slightly and diminished. There was a sense of hardness over the gall bladder. The abdomen moved with respiration. The rectum was empty and ballooned. She was frequently sick. The tongue was furred, but not brown.

The following operation was performed at 1.30 P.M. An incision 5 inches long, 3 above the umbilicus, 2 below, was made, and the cavity exposed. It was bathed in bile-stained fluid, with flakes of lymph on parts of the intestines. In the under surface of the gall bladder was a round hole, about one-third of an inch in diameter; stones could be felt in the bladder, and a dozen or so of small and very sharp fragments, and one small perfect stone, were pressed through the hole with the fingers. No stones could be felt in any of the ducts. The whole abdominal cavity was searched but no stones nor fragments were found. All but one of the first row of stitches put to close the opening had to traverse the whole wall of the bladder, as it was too much thinned for Lembert stitches to hold. This row, being doubled in, was covered by Lembert stitches, taking a good hold, placed at right angles to the first row. The abdomen was freely flushed, a large glass drain carried down to the gall bladder, and the wound closed; but, before the edges could be drawn even fairly close, the intestine had to be punctured and gas let out.

Calomel gr. v was ordered at 6 P.M., and a seidlitz powder at 4 A.M. She was ordered to be fed chiefly by nutrient enemata every four hours, with one or two teaspoonfuls of hot water by the mouth occasionally.

The drainage tube was removed after forty-eight hours, the gauze drain put into it having been frequently changed. Flatus was passed frequently with and without a rectal tube.

The bowels acted loosely twenty-six hours after the operation; and from this time nutrient enemas were necessarily given up, as they were not retained, but increased quantities of milk and beef tea, with brandy, were taken by the mouth, and there was no sickness. The tongue remained moist, and the abdominal distension gradually lessened.

In the twenty-four hours following the first motion the bowels acted 11 times, 9 times in the next twenty-four hours, 11 in the next. This flow gradually ceased, but it was several days before the average action came to 2 in twenty-four hours. The pulse was generally over 100, sometimes as high as 130; the respiration remained rapid till she left the hospital on the forty-fourth day; the temperature was very irregular, varying from 101.2° to 97 4° F. Her facial aspect was good all through, and there was very little abdominal pain or tenderness. Suppuration took place round nearly all the sutures, but the wound was soundly healed in less than three weeks. This result was very satisfactory, seeing that, even after puncturing the bowel, distension prevented the deep part of the wound from coming together, and the strain on the sutures was very great.

REMARKS.—The points of interest seem to be as follows: (1) It was thought at first that the evident intestinal obstruction might be due to an impacted biliary calculus; it proved to be caused by intestinal paresis. (2) The gall bladder stitches closed the opening well, although the first row had to be passed through the whole thickness of the wall. (3) Although patient was very weak for days, she bore the free purging well; and I think she owes her life largely to it. Undoubtedly the great dangers in such a case are intestinal inertia and peritonitis, probably parts of the same condition. Both these were combated by the purging. (4) Food was well taken from an early period; on the third day patient had 4½ pints (beef tea and milk), and brandy ℥v.

CALCUTTA STATION HOSPITAL.

CASE OF ABSCESS OF THE LEFT LUNG: OPERATION: RECOVERY.

(By Surgeon-Major R. R. H. MOORE, M.D., A.M.S.)

PRIVATE O., Munster Fusiliers, was admitted on February 18th, 1897, complaining of severe pain in the left side, 2 ins. to the left of the apex beat, cough, and fever. There was diminished resonance at the left base behind, and upwards towards the axilla as high as the fifth rib, above which the lung was resonant. Fremitus and vocal resonance appeared normal. These conditions remained unchanged till after the operation. No friction sounds were heard; signs of fluid were absent, but slight and varying crepitation could generally be heard over the lower parts of the left lung; respirations throughout were about 30 and the pulse averaged 95. The temperature for the first eight days rose and fell from 99° F. in the morning to between 100° and 101° in the evening. On the ninth and tenth days it gradually declined to normal; on the eleventh day it suddenly rose to 103° without other bad signs. It then became very irregular; it was normal five days out of the next fourteen, and only rose once above 101°.

Spasmodic attacks of coughing were a marked feature of the case. The expectoration was at first bronchitic; later on the character changed to irregular yellowish masses floating in a thin, slightly aërated serem.

On March 11th it was noticed to be offensive; on March 13th the serum had a pink tinge. The amount varied up to about ℥v in twenty-four hours. He mentioned that the taste varied, and that there were different degrees of unpleasantness. He never complained of feeling seriously ill, and did not lose strength or waste much.

On March 13th (twenty-fourth day), a hypodermic needle was inserted in the fifth interspace in the mid-axillary line where dulness was most marked and a few drops of greenish-yellow pus appeared. On the following day he was put under chloroform, and a free incision made along the upper border of the sixth rib. The two layers of the pleura were adherent, and on cutting through them about ℥vj of pus with a gangrenous odour were evacuated. The pus varied very much in colour, being yellow, red, and blackish; the prevailing colour was red like liver pus. The cavity ran inwards and slightly downwards to a depth of 4 inches. Lung tissue could be plainly felt by the finger, and fine frothy oozing was seen as from a squeezed section of congested lung. The second day after the operation the temperature fell to normal and remained so. The cough gradually disappeared, and the wound slowly healed.

On May 1st he returned to duty with his regiment, saying he was as strong as he had ever been.

This man enlisted in 1889. Since that time he had suffered from no serious illness; he presented no signs of tubercle, and there was no history of an injury.

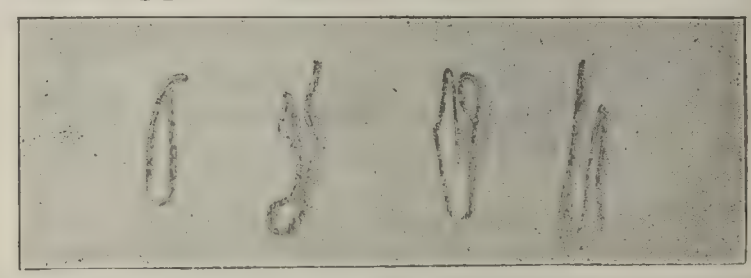
THE MARYLEBONE INFIRMARY.

FOUR PIECES OF WIRE REMOVED FROM A WOMAN'S BLADDER.

(Under the care of JOHN R. LUNN, F.R.C.S.Ed., Medical Superintendent.)

B. A., aged 24, was admitted into the St. Marylebone Infirmary at 11 o'clock one night, when she stated that she had some wire in her bladder. She had had an operation at a hospital some time ago, and ever since had suffered with retention. The day before admission she had failed to pass the catheter, and so had used a piece of wire to find the meatus, which slipped into the bladder.

The day after admission chloroform was given and the bladder was sounded; a foreign body was detected. Most of the urine was drawn off, which was acid and contained mucus and a trace of albumen. The bladder was washed out with boracic lotion and some left in the bladder. On introducing my finger into the viscus, I detected some pieces of wire, which were apparently entangled, while one small piece was loose. I disentangled them, and then easily removed them all with a long pair of dressing forceps.



The patient behaved in a most extraordinary manner after the operation, and insisted on leaving the infirmary the next day. On examining the pieces of wire, two pieces were ordinary hairpins and the other two looked like ordinary wire. The patient said that she had had some months' training at a hospital as a nurse, and so had gained a slight knowledge of the organs of generation, etc.

I am indebted to Mr. Charles Spencer for the excellent photograph of the wire extracted from the bladder, the photograph being half the size of the pieces produced.

REPORTS OF SOCIETIES.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.—At a meeting held on July 16th, Dr. MILLIGAN (President) in the chair, Mr. GEORGE STOKER showed two cases of Suppurative Otitis and a case of Ozæna, which had been treated successfully by oxygen gas after prolonged treatment by other methods had given a negative result. Dr. MACNAUGHTON JONES pointed out that the great difficulty in treating cases of suppurative otitis lay in keeping the patients a sufficient time under observation to enable the local treatment to be efficiently carried out. He had treated ozæna with oxygen by means of Mr. Stoker's apparatus without any success. Mr. WILKIN inquired as to whether treatment by alcohol drops had been tried. Mr. ST. GEORGE REID drew attention to the fact that if the result was due to the action of the oxygen the success should be directly proportional to the purity of the oxygen employed, and pointed out that whereas in the first instance the apparatus shown by Mr. Stoker admitted of a considerable contamination of the gas with ordinary air, the instrument now exhibited permitted the gas or gases to be applied to the affected part with little or no leakage, and inquired if Mr. Stoker had noticed the improvement this would lead one to expect. Mr. STOKER stated that the gas employed was a mixture of oxygen and

purified air. As a rule pure oxygen was found to be too irritating to be employed alone.—Dr. Dundas Grant showed a case of Nasal Polypus in which the growth had become displaced into the naso-pharynx and presented as a rough papillated mass, about the size and colour of a small strawberry, hanging behind the soft palate.—Dr. Milligan showed a large Exostosis removed from the right nasal passage; the growth projected upwards through the right lachrymal bone, causing displacement of the lachrymal sac; by means of an incision along the side of the nose the growth was exposed, and was found to spring from the right orbital plate of the superior maxillary bone and to have grown upwards and outwards, destroying the lachrymal bone, filling up the antrum, and almost completely occluding the right nasal passage; its pedicle, ¼ in. in length, had become gangrenous, and the exostosis lay practically free in the large cavity it had formed for itself; after its removal it was found to measure 1½ in. by 1¼ in., and weighed 9 drachms. The patient made an excellent recovery.—Mr. Bark showed a case of Epithelioma of the Right Vocal Cord removed by thyrotomy. The patient, aged 41, had suffered for two years from hoarseness, due to the presence of a greyish-white papillated growth in the right vocal cord, which, together with the ventricular band and the arytenoid cartilage, was removed after thyrotomy; the patient made a rapid and uneventful recovery.—Mr. Lennox Browne reported a case of Epithelioma of the Soft Palate in a man aged 48; the soft palate was greatly infiltrated and the seat of a warty growth, which extended to the faucial pillars but did not appear to involve the tonsils; the tongue and larynx were perfectly free. The growth was successfully removed under cocaine, and the patient made an excellent recovery and increased rapidly in weight. The growth proved on examination to be a typical epithelioma.—Mr. Lake showed a case of Disease of the Larynx, with fixation of the left vocal cord, and a red swollen condition of the right. The cases had improved slightly under iodide of potassium.—Dr. Hemington Pegler showed a case of Nasal Obstruction and Paresis of the Palate caused by two large moriform hypertrophies springing on either side from the free border of the vomer posteriorly.—Dr. Middlemass Hunt opened a discussion on the Preliminary Training and Methods of Operating on Laryngeal Growths, and referred to the great assistance cocaine was in intralaryngeal operations, both in shortening the time required to complete the operation, and simplifying the necessary manipulation. It did not, however, do away with nervousness on the part of the patient, and certain preliminary training was necessary in most cases. Under its anæsthesia cutting forceps had taken the place of snares, guillotines, caustics, etc., and the rough and uncertain methods of Voltolini had utterly disappeared. As regards the instrument employed, Mr. Bark considered that it depended very much on that to which one was accustomed. He had found Dundas Grant's forceps especially useful for removal of growths on the edge of the cords. Dr. Dundas Grant referred to the value of the laryngeal probe, both for accustoming the patient to the necessary manipulation and for diagnostic purposes. With regard to his laryngeal forceps, he had found them very useful in removing growths springing from the edge of the vocal cord or below it; for growths in the anterior commissure the snare was the instrument to be selected, while for those in the posterior commissure either the snare or curette, or his antero-posterior cutting forceps might be used. Dr. Milligan, Mr. Wood, and others took part in the discussion.

British Dental Association.—The annual meeting of the Western Branch of the British Dental Association was held at Exeter on July 23rd. It was decided to invite the parent Association to hold its annual meeting next year at Bath, with Mr. Hunt, of Yeovil, as President. Mr. J. T. Browne Mason, the Treasurer of the Branch, was presented with a pair of candlesticks in recognition of his long services, and Mr. Goard, the Honorary Secretary, was presented with a bowl on the occasion of his marriage.—The retiring President having delivered a short address, Mr. H. B. Mason took the chair and delivered his inaugural address, in which he dealt with the question of diet as a cause of caries in the teeth. He was distinctly of opinion that it ought to be a possibility in this age of discovery to devise a dietary resting on a scientific basis, which would diminish, if it could not altogether avoid, the development of lactic acid in the mouth, and he felt sure if this could be done a long step would have been taken in reducing the amount of decay of the teeth; especially did he think this ought to be a possibility in the case of children and young people generally. If this were not considered feasible then, as lactic acid fermentation did not appear to be at all a necessary part of the digestive process in the mouth, it would seem as if their efforts, instead of being directed as at present to the neutralisation of the acid after it had been formed, ought rather to have, as their object, the destruction of the bacteria, whose presence was the cause of its production.—Several papers and demonstrations were given, all more or less technical in character.—The President entertained the members at luncheon, and in the evening they dined together with their friends at the Rougemont Hotel.

Nottingham Medico-Chirurgical Society.—The annual meeting of the Nottingham Medico-Chirurgical Society was held on July 21st; Dr. W. B. Ransom (President) in the chair.—The annual reports of the Secretaries, Treasurer, and Librarian were severally read and adopted.—The following were elected the officers for the ensuing year:—*President:* Dr. C. H. Cattle. *Vice-Presidents:* W. B. Ransom and E. Snell. *Council:* J. H. Cox, G. B. Wray, A. E. Nuttall, F. Rothera, and C. MacMillan. *Secretaries:* W. E. Tresidder and E. C. Kingdon. *Librarian:* W. J. Stephens. *Treasurer:* T. Geraty. *Library Committee:* A. W. C. Peskitt, F. J. Lander, J. S. Bolton, and J. Machie. *Pathological Committee:* Miss Gray, E. J. O'Mullane, and A. Waring.—It was finally proposed by Mr. Tresidder and seconded by Dr. Cattle, and carried by acclamation that the best thanks of the Society be given to the retiring President (Dr. W. B. Ransom).

REVIEWS.

A System of Medicine by Many Writers. Edited by Thomas Clifford Allbutt, M.A., M.D., F.R.S., etc., Regius Professor of Physic in the University of Cambridge. Vol. iii. London: Macmillan and Co. 1897. (Demy 8vo, pp. 1,001, 23 illustrations, 1 plate, 12 charts. 25s.)

It is but little more than three months since the second volume of this important *System of Medicine* came into our hands, and now we welcome the third instalment. Its contents at once divide themselves into two groups, first, the general diseases of obscure origin, such as the rheumatic affections, gout, acromegaly, rickets, diabetes, and lardaceous disease, and, secondly, the diseases of the alimentary canal and peritoneum.

The first of the general diseases of obscure origin—acute rheumatism—is described by Dr. Church in an exhaustive and well-considered article. The statements and conclusions are supported by elaborate statistics, which are partly introduced in the form of charts into the body of the text and in part tabulated in six appendices. The section dealing with hyperpyrexia is particularly interesting and valuable.

Dr. Cheadle has further identified himself with acute rheumatism in children in an article containing good illustrations of subcutaneous nodules. Under the heading of the "Rheumatic Series" he lays stress on the various manifestations of the rheumatic poison, and on their tendency to appear independently of each other. Dr. Cheadle shares the late Dr. Sturges' views on carditis, and attaches considerable importance to changes in the myocardium.

Chronic rheumatism, meaning thereby a manifestation of the rheumatic poison, and in no way synonymous with rheumatoid affections, is the subject of complete essay by Dr. A. E. Garrod, who also supplies the articles on muscular and gonorrheal rheumatism. From his extensive experience at the Royal Mineral Water Hospital, and elsewhere, Dr. J. K. Kent Spender has drawn the materials for his picturesquely written description of rheumatoid arthritis. Dr. Garrod has made some valuable contributions to the account of this disease, and is responsible for the section on treatment.

Dr. Still is responsible for rheumatoid arthritis in children, and includes therein a summary of that peculiar disease in children characterised by joint lesions and enlargement of the lymphatic glands and spleen, of which he gave a detailed account at the Royal Medical and Chirurgical Society in 1896.

Rickets receives full justice in an admirable article by Dr. Cheadle, which contains some capital illustrations of salient feature of the disease.

The articles on acromegaly and hypertrophic pulmonary osteo-arthropathy are somewhat short and condensed. Gout is the subject of a masterly monograph by Sir William Roberts, and contains a full account of his researches into the behaviour of uric acid, and the factors which determine its precipitation into the tissues of the body.

Dr. Saundby's article on diabetes mellitus is most complete, both from the practical and theoretical points of view, and, being replete with references and equipped with a long bibliography, should provide a standard work of reference on this much-debated subject.

The late Dr. Ralfe contributed the article on diabetes insipidus, which is divided into hydruria and polyuria; in the former the excessive quantity of water is the most marked feature, while in the latter the drain of one or more of the solid constituents is persistent. The article is full of evidences of practical acquaintance with this rare and interesting disorder.

Dr. Dickinson's article on lardaceous disease gives an account of his own views and investigations on the nature of this interesting problem. In the 118 cases of lardaceous disease which he collected for the purpose of this article, the kidney and not the spleen was the organ most frequently attacked.

The next section is called the diseases of "alimentation and excretion," and begins with two general articles which introduce the diseases of the alimentary canal much as the "Prolegomena" in Vol. I formed a preface to medicine in general.

The late Dr. Ralfe and Dr. Soltau Fenwick give in outline the physiology of digestion and the various methods of testing and estimating the acids that occur in health and disease in the contents of the stomach.

The second of the two introductory articles entitled the General Pathology of Secretion has been wisely entrusted to Dr. Rose Bradford. The tone of the article reminds one of Foster's *Physiology*, and is remarkable for its openmindedness and caution. It deals with the normal events of the external and internal secretions, and then with their bearings on disease. There is a brief discussion as to the mechanism by which variations in the amount or alteration in the composition of the internal secretion set up disease, which is well worth reading.

Mr. Louis Cobbett contributes a valuable and original essay on shock and collapse. From experiments conducted by himself and Professor Roy it appears that the collapse following abdominal operations, cholera, diarrhœa, and peritonitis is due to the concentration of the blood. This concentration of the blood is partly compensated for by the absorption of fluid from the uninjured tissues, and the effect of this is seen in the dry withered appearance of collapsed patients; as this means of compensation fails the specific gravity of the blood rises and signs of circulatory failure result. Shock is with other authors regarded as a reflex inhibition, and is often combined with collapse. The view that Cobbett takes of collapse has an important practical bearing on treatment; the merely temporary benefit of transfusion with salt solution makes it plain that some other fluid is required which may have a more lasting effect on the specific gravity of the blood, such a one as has been suggested by Sherrington and Copeman, and consists of strong sugar solutions, but it appears to require further investigation before we should be justified in recommending its use.

A very useful and standard article of reference on the diseases of the mouth, lips, tongue, and salivary glands is from the pen of Dr. W. A. Wills. Many of the interesting conditions described are rare, such as pemphigus vegetans and black tongue; but the writer is to be congratulated on the admirable summary of our knowledge which forms his contribution.

The diseases of the œsophagus have been entrusted to Dr. Rolleston, who devotes much of the space at his disposal to a careful discussion of the frequency, cause, and symptoms of malignant disease of that organ. In the course of this he draws largely upon recent literature.

The "diseases of the stomach" are treated by many authors and from several points of view. In the articles on dyspepsia and gastritis Dr. Lauder Brunton has provided a most interesting and thoroughly practical account of these protean affections. In them the practitioner will find valuable directions, especially for dietic treatment, what to avoid and why, set out in plain and authoritative language. Dyspepsia in Children, by Dr. Soltau Fenwick, is divided into the gastric and intestinal forms, and is a succinct and readable contribution. Phlegmonous, membranous, and toxic gastritis are described by Dr. Leith. Under the last head the effects of corrosive poisons are described. Gangrene and cirrhosis of the stomach are described by the same author, whose minute and careful accounts, especially of the morbid anatomy, fill in the details necessarily left out in the broader clinical pictures of indigestion presented in Dr. Brunton's articles.

Next come two contributions of very general interest, for which it must be confessed it is hard to find a place in any rigid scheme of classification, but from their names, though for no other reason, they are conveniently inserted among the diseases of the stomach, they are sea sickness and mountain sickness. In Dr. Stocker's original and well-written account of sea sickness the pathology is discussed and the causation is referred to clonic spasms of the glottis, which instinctively occur when the vessel descends between waves. These closures of the glottis excite the various sensations and phenomena of sea sickness. It follows that deep inspirations taken at the time of descent of the ship thwart this tendency, and thus provide the proper remedy.

Professor Clifford Allbutt writes with the experience of an alpine climber on mountain sickness, and sums up in favour of deprivation of oxygen as the cause of the symptoms.

The subject of visceral neuroses is a difficult one, because it almost necessitates an excursus on functional disease of the nervous system, but it has been handled in a masterly fashion by Professor Allbutt in an article which has all the authority of a practical physician and the charm of a scholarly pen. After a philosophical introduction, the symptoms and features of the neuroses of the stomach, including gastralgia and anorexia nervosa, are graphically told, while a short description of the neuralgia of the other abdominal viscera concludes the essay. Dilatation of the stomach, from the same pen, is a most complete and critical estimate of our knowledge, and shows the great advances that have recently been made in this direction.

The important subject of gastric ulcer, with which duodenal ulcer is combined, has been fully treated by Dr. Dreschfeld in an admirable article which should serve as a standard source of reference. In cancer of the stomach Dr. Hale White has drawn on the experience of Guy's Hospital, and especially on the valuable work done by Drs. Shaw and Perry, it is interesting to note that later experience there tends to show that carcinoma at the cardiac end of the stomach may spread to the œsophagus, and that its march is not necessarily in the reverse direction, as Fagge thought. Another point showing the value of such tabulation of results is that most of the india-rubber bottle stomachs and so-called non-malignant scirrhus of the pylorus (fibrous pylorus) not due to corrosive poisoning are in reality carcinomatous. Dr. Hale White expresses himself against operative interference in gastric carcinoma. Subphrenic abscess and diaphragmatic abscess are succinctly described by Dr. Lee Dickinson. After an account of abdominal diagnosis from a gynæcological point view by Dr. Playfair, comes the first of a valuable series of articles by Mr. Treves, that on enteroptosis, or Glénard's disease, which is illustrated by some intersting examples. Out of the fulness of his experience the same author provides a most authoritative account of acute primary peritonitis, and the editor is to be congratulated on having secured such a contributor for this and for the important subjects of intestinal obstruction and appendicitis.

Acute peritonitis of undetermined nature, chronic and tuberculous peritonitis, are careful and systematic studies by Dr. Allchin. Under the first heading are included peritonitis associated with erysipelas, eruptive fevers, rheumatism, and

so forth. The new growths of the peritoneum has been treated in a very complete manner by the same writer, and affords a very interesting account of the subject.

Under the heading, Physiology of Fæcal Evacuation, Dr. Lauder Brunton discourses on the causes and treatment of constipation. The style is easy and the matter full of the knowledge gained by experience.

The diseases of the small intestine, which have not been included in other articles, are described by Dr. Rolleston, who in a few pages gives an admirable summary of knowledge with reference to malformations, tumours, vascular disturbances, ulceration, and malignant growths. Colic is the subject of a thoughtful essay by Dr. Hale White, which contains some valuable remarks on the diagnosis of the disease. Diarrhœa is dealt with in two articles; the first is by Dr. Brunton; the second, on diarrhœa in children, is a most complete and valuable account of the numerous forms of this disease from the hands of Dr. Eustace Smith. Dr. Patrick Manson contributes a very full description of sprue or psilosis. He devotes much attention to the treatment of this rebellious form of disease, and insists on the importance of a milk diet.

Mr. Treves has fortunately been retained by the editor to give an authorative account of intestinal obstruction. The causes and morbid anatomy of its various forms are first described in detail, then the symptoms and diagnosis are fully described, and lastly the prognosis and treatment are dealt with.

Perityphlitis, inasmuch as it denotes sufficiently clearly the clinical characters of the disease though not its causation, is the title Mr. Treves adopts for his article on inflammation of the appendix in preference to the uncouth name appendicitis. The cæcal origin of perityphlitis is admitted, but no support is given to the suggestions that rheumatism and gout give rise to the disease. The symptoms are fully described, and numerous illustrative cases and statistics are brought forward in the course of this interesting and valuable article. Mr. Treves raises an emphatic protest against over-operating in acute attacks, and strongly condemns the use of an exploring syringe as it is both dangerous and fallacious. The various forms of colitis and ulceration of the colon are critically considered by Dr. Hale White, who gives an excellent account of dilatation of the colon and especially of that interesting and obscure variety the idiopathic form. The editor has done well to include an article dealing with the differential diagnosis of diseases of the rectum, giving an account of the method of examination. In this section Mr. Herbert Allingham insists on the importance of examining the rectum, and on the disastrous results of blindly assuming that all rectal affections are piles.

This concludes the third volume, a worthy successor to the previous instalments, and remarkable for the combination of conciseness and completeness in its articles. The succeeding volumes are, we learn, in an advanced state of preparation, and on this and especially on the success of the present volume the editor is sincerely to be congratulated.

The Chances of Death and Other Studies in Evolution. By Karl Pearson, M.A., F.R.S., Professor of Applied Mathematics in University College. London. In two volumes. London: Edward Arnold, 1897. (Roy. 8vo, pp. 400 and 464, 25s.)

The essays and lectures contained in this volume embrace some of the less technical of the author's work during the last six years. The essay which gives its name to the volume is by far the most important of the series. In this essay Professor Pearson commences with an artistic discourse on the old "dances" of death known chiefly from the designs of Holbein. These, he tells us, crystallise the old established idea that death acts at random among the population. But random chance is capable of being investigated mathematically, and if a sufficiently large number of events be taken the result of any chance distribution can always be scientifically predicted. The incidence of a chance distribution can be represented by a curve known as the normal chance curve. In the same way the incidence of death can be expressed in the form of a curve. On comparing these two curves and trying to fit them to each other, the remarkable fact becomes evident that there is a great similarity between them.

In studying more carefully the closeness of fit of these two curves some curious results develop. The death curve presents a certain skewness—that is, it does not fit exactly the normal chance curve, but a standard deviation from the mode exist. This is graphically illustrated in the frontispiece to the volume in which is drawn the bridge of life, on which travel the successive ages of man. Death, the marksman, takes aim with weapons of varying accuracy. In infancy a definite proportion of children perish, fewer perish in youth, fewer in manhood, and with weapons of less precision; while in old age the marksmanship again becomes more deadly.

In the second essay on the scientific aspect of Monte Carlo roulette we have the same method applied to an investigation of the conditions which actually prevail at the tables. The curves of incidence, as observe and calculated, are again constructed and compared. From this comparison an as yet unexplained result appears. Short runs are deficient, and the colour changes much more frequently than the laws of chance prescribe. Monte Carlo roulette, then, if judged by the returns made use of in this investigation, and if the laws of chance rule, is from the standpoint of exact science the most "prodigious miracle of the nineteenth century."

The remaining essays are "endeavours to defend modern science from recent attacks on the part of the pseudo-scientific, the political, and the theological critic, or deal with evolution from either the statistical or the historical standpoint." The author tells us in his preface that he believes that the sympathetic reader will find in one and all the essays the fundamental note of his thought, namely, to see all the phenomena, physical and social, as a connected growth and describe them as such in the briefest manner possible.

It is difficult at this early period to fully appreciate the great importance of the work thus begun so ably by Professor Pearson. Hitherto the theory of evolution, to which of course the author's methods are designed to apply, has been signally wanting in methods of investigation; it has never been in a position, as have most other theories, of being proved or disproved by experiment. We do not suggest that Professor Pearson is going to do either the one or the other, but he has certainly opened up the way by which the subject may be approached from an accurate standpoint. It is not too much to say that his method of mathematically examining statistics must take rank with the discovery of the spectroscope, the microscope, or any other of the machines for investigation upon which most of the structure of modern science rests.

Prevalence of Bubonic Plague in the Colony of Hong Kong during the Years 1895 and 1896. Report by J. M. Atkinson, M.B.Lond., D.P.H.Camb., etc., Acting Colonial Surgeon, etc. Hong Kong: Noronha and Co. 1897. (Pp. 18.)

The report by Dr. Atkinson, issued in the form of a Blue Book, and addressed to the Governor of Hong Kong, is a valuable contribution, inasmuch as it is the first statistical report published which deals with what may be termed the post-epidemic stages of plague. The primary, 1894, epidemic in Hong Kong was fully and ably treated by several writers, and the present volume forms an interesting appendix. After a subsidence of some six months, plague reappeared in the month of April, 1895, persisted throughout the year, and continued until November, 1896. Although reported under two headings, 1895 and 1896, the continuous appearance of fresh cases suffered no real break. It was during 1896, however, that the recurrence assumed anything like epidemic form, as the numbers of deaths recorded during the two years under observation—namely, 1895 and 1896, are 44 and 1,204 respectively. The mortality during the former year was 100 per cent, and during the latter 89.5, so that no abatement in the virulence of the disease took place as compared with 1894. Since the end of November, 1896, no case seems to have occurred in Hong Kong. Dr. Atkinson attaches primary importance to infection by the mouth over all other methods. This is at variance with the Russian report, from observations

made at Bombay, in which the primary channel of infection is assigned to the skin.

The existence of the plague in the vicinities of Canton, Amoy, Swatow, and the Islands of Formosa and Hainau is proved during 1896. It is plain that abdominal lesions prevailed to a marked extent during 1896 in contradistinction to the bubonic and cerebral lesions observed in 1894. "In 95 per cent. of the cases albumen was found in the urine varying in amount from $\frac{1}{10}$th to $\frac{1}{2}$."

During the stay of plague in Hong Kong drought prevailed, and "the months of maximum mean temperature were followed by a material reduction in the number of cases." Dr. Atkinson is of opinion "that the occurrence of plague is favoured by: (1) Long prevalence of drought or of abnormally low rainfall; (2) atmospheric temperature below 82° F.; (3) absence of sunshine; (4) general insanitary conditions."

With Drs. Lowson's, Wilm's, and Atkinson's governmental reports we have now a comprehensive knowledge of the plague in Hong Kong during the three years of its prevalence.

RECENT MATERIA MEDICA. By F. HARWOOD LESCHER, F.C.S. Fifth Edition. London: J. and A. Churchill. 1897. (Demy 8vo, pp. 231, with Supplement.)

THIS works gives notes on the origin and therapeutics of all the newer remedies, and of those unofficial drugs which are prescribed. Since the fourth edition (September, 1891) there have been so many additions to materia medica that the size of the volume has increased from 115 pages to 219. There is also a supplement of 12 pages, which brings the recent materia medica up to June 1897.

The additions include the many articles which owe their origin to modern chemical synthesis, and the products—serums, antitoxins, and organic animal extracts—which the extended area of the sciences of bacteriology and animal chemistry has given. The matter is well done; the author has apparently ransacked every possible source of information, and has produced a work which may be regarded as an encyclopædia of knowledge respecting new remedies. The book to medical practitioners will be found useful, as giving hints for the prescription of new remedies, and aid in their selection.

CYSTITIS UND URINENFEKTION: KLINISCHE, EXPERIMENTELLE, UND BAKTERIOLOGISCHE STUDIEN [Cystitis and Infection of the Urine: Clinical, Experimental, and Bacteriological Studies]. Von Dr. MAX MALCHIOR, *Privat-docent* an der Universität in Copenhagen. Berlin: S. Karger. Glasgow: F. Bauermeister. 1897. (Roy. 8vo, pp. 56. M. 2.)

THIS is a recently-published German edition of a work on urinary pathology, which first appeared in a Danish form in 1893, and has since been very favourably regarded in France, especially by Guyon and other specialists. It is, as its title implies, a study from clinical, experimental, and critical points of view, of the obscure and much-disputed questions which have long troubled surgical pathologists, with regard to the causes of cystitis and to the relation of this local inflammation to ammoniacal decomposition of the urine. This edition, though less bulky than those previously published in Copenhagen and Paris, contains a report of the author's most recent work on the bacteriology of the urinary organs. The preliminary difficulty of the work undertaken by Dr. MELCHIOR will be appreciated on perusal of his introductory chapter, which gives a review of previous bacteriological research in urinary pathology. Before beginning fresh investigation it was found necessary to explain so much that seemed doubtful and contradictory in the work of others. As many as thirty microbes, supposed to be distinct, have been regarded as active pathogenic agents in the development of cystitis. To this stumbling block, which has, to some extent, been overcome by showing that several names have been given to one and the same organism, may be added another, that many good investigators have each regarded as the special pathogenic agent of cystitis a quite separate and distinct microbe. Faith in the value of bacteriological research applied to localised inflammatory lesions is shaken when, as is pointed out here, that whilst some experienced observers have found chiefly bacilli in cases of cystitis, others have usually met with cocci. It would seem, the author remarks ironically, either that each country has its own distinct form of cystitis microbe differing from those of other countries, or that each observer has studied an epidemic of cystitis caused by one of many specific organisms.

It remains to be proved whether the author has succeeded in his efforts to throw much light on these obscure points. His researches made, it must be acknowledged, on somewhat scanty clinical material have led him to many interesting conclusions. Cystitis, it is held, is almost invariably caused by a microbe, which in most instances is a pyogenetic and infective micro-organism identical with the bacterium coli commune. It is necessary, however, for the development of cystitis, that the microbic action be preceded by or associated with some structural impairment of the bladder, such as may be caused by retention or direct irritation. Ammoniacal decomposition of the urine is regarded as being in most instances a subordinate phenomenon, which may be present or absent in the course of an attack of cystitis.

NOTES ON BOOKS.

A Manual of Static Electricity in X-Ray and Therapeutic Uses. By S. H. MONELL, M.D. (New York: William Beverly Harrison. 1897. Roy. 8vo, pp. 614.)—This volume gives in a very full and elaborate manner the facts relating to static electricity and its application to the treatment of disease. The book is divided into two parts. Part I is descriptive of the methods in present use, while Part II is historical. The author is evidently an enthusiast in the use of static electricity, not only for the routine treatment of disease, but also in place of the induction coil in *x*-ray work. He prefers the Holtz machine for both purposes, and elaborate instructions are given both as to its purchase and care. The therapeutic section of the book gives a large selection from the author's clinical experience. The book should prove a useful one, for static electricity is used to a large extent by some. The historical section contains matter of great interest. Beginning with Franklin in 1757, the author traces in detail the development of the practice to the present day, and quotes freely from a large portion of the existing literature on the subject. The book is written in a style which is needlessly full and detailed, but for those who have the patience to find it there is much good matter in it, and it will doubtless prove useful to electric specialists.

Beschreibung der Nordsee-Bäder Sylt, Westerland und Wenningstedt [Account of Westerland and Wenningstedt, the North Sea Spas in Sylt]. (Westerland: Fr. Rossberg. 1897. Pp. 65. Map and Illustration. Gratis.)—This small volume gives a variety of information about Sylt, the most northern of the Frisian islands at which the inhabitants speak German. The chief town of Sylt is Westerland, one of the most frequented of the German health resorts on the North Sea; it affords comfortable and not expensive accommodation—season May 15th to October 15th; the drinking water and general sanitary arrangements are stated to be good. The sea water near Sylt contains 3.15 to 4 per cent. salt, and it is remarkable that there is usually slightly more salt in the water during the months of July and August than during May and June. The average temperature of the sea water is 60.8° F., and of the atmosphere during summer 57.2° to 60.8°. At Sylt it is claimed that great smokers feel less craving for tobacco; it would be interesting to compare this with the observations of medical men at English seaside resorts; we believe that persons who have become habituated to strong tea at 5 o'clock often feel the want of it less when living a temporary open-air life during a holiday, whether in a seaside or an inland locality, and the same may be the case with the habit of tobacco smoking.

MR. CHARLES EDWARD MILNES HEY, M.A.Cantab., M.R.C.S., L.R.C.P., has received the diploma of honour of the Société Nationale de Sauvetage de France, and the Decoration de Sauvetage for his services in connection with first aid and life saving.

REPORTS AND ANALYSES

AND

DESCRIPTIONS OF NEW INVENTIONS

IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

AN APPARATUS FOR ADMINISTERING ANÆSTHETICS AND OTHER VOLATILE VAPOURS.

The diagrams represent several forms of apparatus, designed by Professor Hobday, of the Royal Veterinary College, for the safe and controllable administration of anæsthetics and other volatile vapours. They were shown before the members of the Society of Anæsthet sts at their meeting in March last.

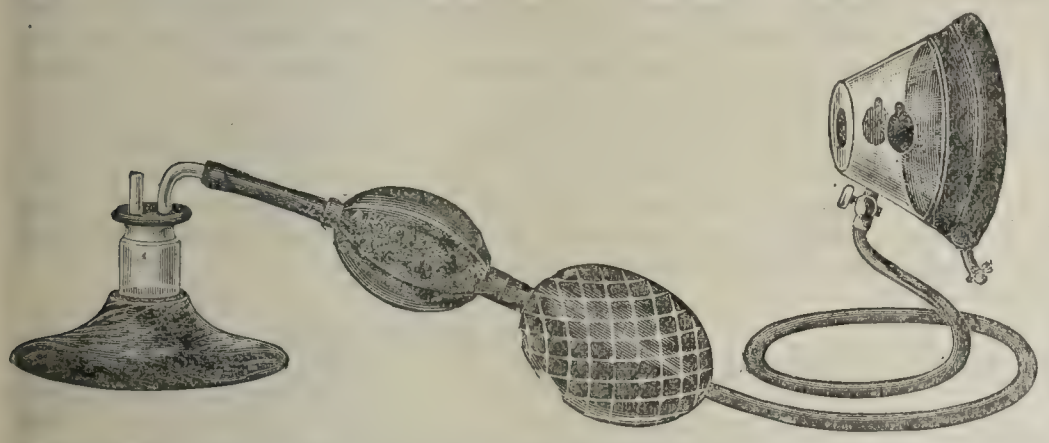


Fig. 1.—Shows the position of the bellows by which a current of air is sucked over the surface of the anæsthetic in the bottle, the mixed vapour being passed on into the mask.

Fig. 2.—Shows the arrangement of the bellows whereby a current of air is forced over the surface of the anæsthetic in the bottle, the mixed vapour being driven into the mask.

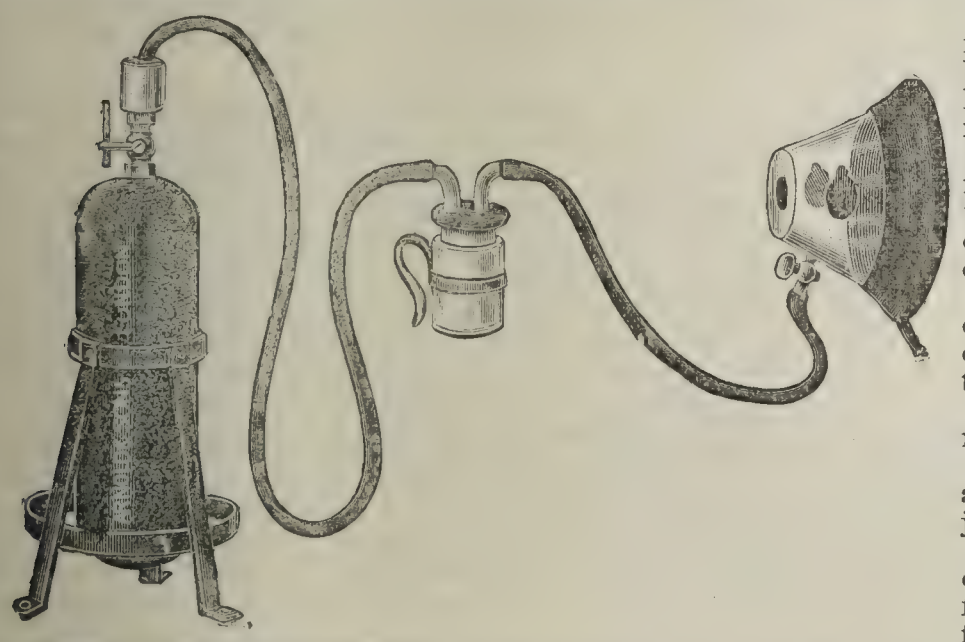


Fig. 3.—Shows the arrangement whereby air, oxygen, or other compressed gas contained in the cylinder is made to pass over the surface of the anæsthetic in the bottle without any of the trouble of pumping; the pressure being adjusted by a valve on the cylinder, the amount of mixed vapour admitted into the mask absolutely controlled by a tap on the latter.

Before being introduced into human practice they were thoroughly and successfully tested on a large number of veterinary patients, in most cases for severe and varied operations, during a period of about two years.

The principle of the apparatus in Fig. 1 is to suck a current of air over the surface of the anæsthetic, and to force a mixed vapour into the mask which is placed on the patient's face. This has been found to work very successfully in the case of children, parturition cases, and for prolonged operations where a light degree of anæsthesia is required to be maintained; anæsthesia taking place in most cases quickly and without struggling.

In Fig. 2 a current of air is forced over the surface of the anæsthetic by means of the bellows, the size of the bottle and amount of surface exposed, together with the pressure exerted on the bellows, influencing the strength of the vapour; and in Fig. 3, which is designed with the idea of saving the trouble of pumping, the same idea (that of forcing a current of air over the anæsthetic) is maintained. In this latter case the pressure exerted by the compressed gas is regulated by a valve on the end of the cylinder, and the amount of mixed vapour admitted can be adjusted as delicately as required by the aid of the tap on the lower part of the mask. One great advantage of this method is that the anæsthetist has both hands free to manipulate the mask. The cylinder method has been tested with both compressed air and oxygen, and the anæsthetics used in the bottle have been chloroform, ether, A.C.E., and A.E.C. mixtures. It has also been used with a Junker bottle, when a very concentrated vapour was required.

It is needless to say that the strength of the vapour given with Figs. 2 and 3 is greater than that given by Fig. 1. The chief advantages claimed are—

1. That the chances of overdose are minimised, the amount of anæsthetic used being exceedingly small (especially with the apparatus shown in Fig. 1), and only just sufficient to produce and maintain anæsthesia. This pattern is of especial value for midwifery cases where the doctor often has to trust the administration of the anæsthetic to an unskilled person under his instructions. In a temperature of 60°, with six drachms in the bottle, the vapour sucked into the mask contains one part of chloroform well mixed with 4,200 parts of air. In the dog, on many occasions unsuccessful attempts were made to destroy the animal by forcing the bellows as hard as possible for over half an hour, no dangerous symptoms even being manifested.

2. That the supply and strength of the vapour is much more regular and constant when taken from the surface than when proceeding from a current of air forced through an ever diminishing quantity of fluid such as chloroform.

3. That the anæsthetic is less likely to become oxidised, or otherwise changed by the air passing over the surface than if it was constantly passing through it.

4. That there is no fear whatever of irritant or rubefacient effects upon the face of the patient.

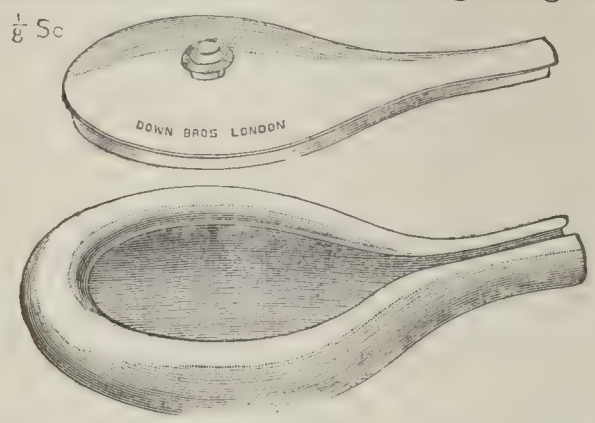
5. That by administering the anæsthetic so gradually there is no sensation of choking or other objectionable feeling on the part of the patient.

The apparatus is patented, and can be obtained only from Messrs. Arnold and Sons, West Smithfield. The cylinder can be supplied in any size, from one containing only a few cubic feet to those containing 100 cubic feet or more. The cost of compressed air is merely nominal.

A telegram from Cape Town to the *Times* announces that the Pondo Chiefs have adopted inoculation against rinderpest, and are furnishing oxen for the bile required. Magistrates have been supplied with inoculation instruments, and district surgeons are performing the inoculations where veterinary surgeons are not available.

A CLEANSABLE BED PAN.

THE accompanying illustration shows an improved form of bed pan made at the suggestion of Nurse Brierley. The difficulty attending the cleansing of the ordinary bed pan is well known by those in the habit of using them, but is overcome in the present model by an opening along the entire



length of the handle portion. The new pan is also a little deeper in the centre than those in common use, but being gradually sloped from the sides, is equally convenient for placing under the patient. The invention has been patented and is manufactured by Down Bros., 21, St. Thomas's Street, London, S.E.

A NEW STETHOSCOPE: THE PHONOPHONE.

THIS is the latest, and perhaps the simplest, of the many forms of stethoscope that have recently appeared, designed to augment the intensity of the sounds and to give them additional clearness. By an ingenious adaptation of the "ear trumpet" principle of accumulating sound to the chest piece, the designers have produced an instrument which increases auditory power to a useful degree. The instrument is compact in itself, there being no loose and detachable pieces. The instrument is made in both the straight and binaural form, and should prove a useful addition to the armamentarium of the physician.

Fig. 1.

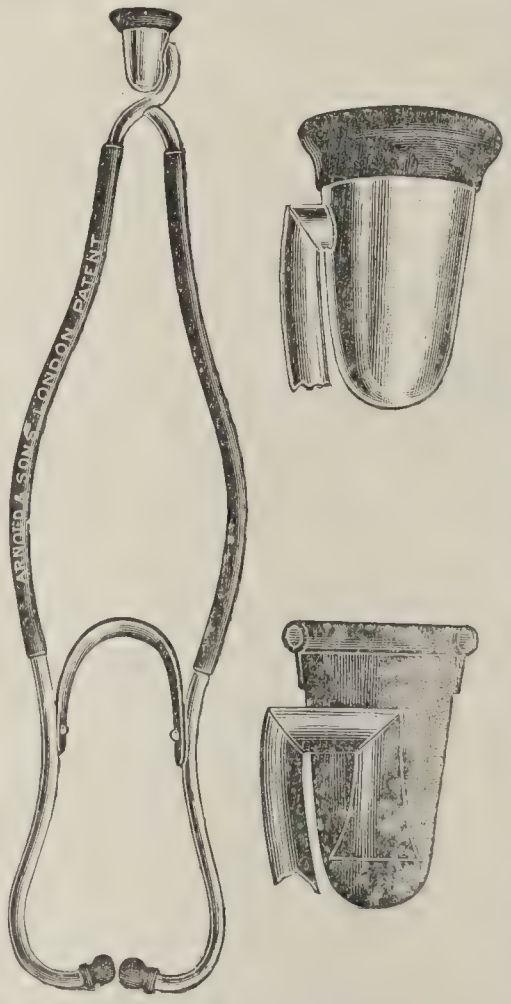


Fig. 2.

It can be obtained from the makers, Messrs. Arnold and ons, of West Smithfield.

HYPODERMIC TABLOIDS.

MESSRS. BURROUGHS, WELLCOME AND CO., Snow Hill Buildings, E.C., have sent specimens of their new tabloids of potassium permanganate, and of ergotinine citrate with strychnine sulphate. The potassium permanganate tabloids are intended for the preparation of hypodermic solutions, to be used in cases of morphine poisoning. The efficiency of permanganate of potassium in such cases was shown some three years ago by Dr. W. Moor, of New York. The results of his experiments have since been confirmed by others, and it has also been observed that when the poison has entered the circulation, hypodermic injection of the antidote is preferable to giving it by the mouth. The tabloids contain 2 grains of potassium permanganate each, this dose being founded upon the statement that 1 grain of the permanganate antagonises 1 grain of morphine sulphate. The strength of the injection is 1 in 100.

The tabloids of ergotinine citrate with strychnine sulphate are very convenient for making a hypodermic solution of a definite principle of ergot, which undoubtedly possesses advantages over the somewhat uncertain aqueous extract. The addition of strychnine to the ergotinine secures enhanced therapeutic effect.

INFANT INCUBATORS.

WHETHER, as is stated, the deaths from premature birth have risen during the last few years or not, we must welcome any improved methods of dealing with the condition when it does occur. The Altman system of incubation is one that presents some features of originality; and from the fact that arrangements are being made to let out the machines on hire, one that is likely to be better known in this country. At the Victorian Exhibition is a model institution where the incubators may be seen in action. They consist of a polished metal case with glass sides, heated by a hot water coil. The temperature is regulated by a well-arranged thermostat. Ventilation is provided for, and there is an ingenious system of filtering through cotton wool the entering air, which at the same time is warmed and moistened. A hygrometer within the apparatus indicates the amount of moisture present in the air.

The following advantages are claimed for this apparatus:—The accuracy of the automatic action of the regulator. The purity of the air which passes through the chamber of the apparatus. The great facility with which the apparatus can be disinfected, owing to its being composed entirely of glass and metal. Its portability, which enables it readily to be used in any private nursery or bedroom. Its simplicity, which enables it to be used without any special skilled knowledge.

AN AUTOMATIC DISINFECTANT JAR.

THE XL Automatic Disinfectant Jar consists of a porous earthenware jar containing the disinfectant to be used (permanganate of potash). The jar is placed in the cistern or other reservoir used for flushing purposes, and as the walls of the jar are porous a certain quantity of its contents continually passes into the water. There are some purposes for which such an arrangement might be used with advantage. In the bath a small percentage of permanganate is a very efficient cleanser and destroyer of organic matter. It will be remembered that Professor Hankin has used the same material with great success in India in purifying cholera-infected wells. This method of using the material, though not, we believe, quite novel, is simple. Where necessary the jars may be filled with other substances as occasion may demand. The apparatus may be obtained from the British Druggists, Limited, 219, Oxford Street, London, W., price 3s. 6d.

GENEVA MINERAL WATER.

THIS is an American mineral water, and it is suggested for use as a "regulator, tonic, and alterative" in doses varying in quantity from two to eight glasses a day. In a laboratory report, signed by a firm of manufacturing chemists, it is described as a lithia water, but this is evidently a misnomer when we find it is stated to contain the infinitesimal amount of 0.0096 grain of lithium per gallon. According to our examination the water is chiefly remarkable for its dubiously advantageous richness

in lime salts, sulphate, and carbonate, which comprise nearly three-fifths of the total solid contents of 208 grains per gallon, the rest consisting of about 34 grains per gallon of magnesic sulphate, with alkaline chlorides, and a little sodic sulphate. Geneva mineral water can be obtained from the London Depôt, 10A, Green Street, Leicester Square, W.C.

THE ROYAL COLLEGE OF PHYSICIANS.

The ordinary quarterly comitia of the Fellows was held on Thursday, July 29th, Sir S. Wilks, Bart., M.D., F.R.S., President, in the chair.

Dr. Church, the Senior Censor, in a few words, moved a hearty vote of congratulation to the President on the honour which Her Majesty had been pleased to confer upon him.

This was carried by acclamation, the Fellows all upstanding.

The President briefly returned thanks.

It was announced that Dr. J. Rose Bradford would deliver the next Goulstonian Lectures, and Sir R. Douglas Powell, Bart., the next Lumleian, and that Dr. Bradbury would give the Croonian Lectures in 1899. It was also announced that Dr. Markham Skerritt would deliver the Bradshawe Lecture on November 4th, and that Dr. Pavy would deliver a lecture on November 11th, supplementary to his Croonian Lectures of 1894. Dr. Pavy was nominated to represent the College at the Moscow Congress, in addition to Sir Dyce Duckworth and Dr. Brunton, already nominated.

The following gentlemen were admitted Members of the College: Donald John Armour, B.A., M.B.; Francis Henry Edwards, M.D.; Robert Hutchison, M.D.; Alexander MacGregor, M.D.; Arthur Francis Stabb, M.B.

The licence of the College was granted to 148 gentlemen, of whom 46 came under the five-years curriculum, and only one under the old system before the formation of the Conjoint Board.

Diplomas in Public Health were granted conjointly with the College of Surgeons to the following gentlemen: Harry Hanslow Brind, Henry James Edwards, Robert Herskine, William Edward Grandy, Henry Louis Preston Hardy, Edwin Stanley Hoare, George Home, Herbert Horrocks, Sidney Cameron Lawrence, Charles Vincent M'Cormack, Gilbert John King Martyn, Alfred Salter, William George Savage, Arthur Stanley, Daniel Lewis Thomas.

The College seal was affixed to the diploma granted to H.R.H. the Prince of Wales, on his admission to the honorary Fellowship of the College, of which a full account will be found in the British Medical Journal of July 31st, p. 283.

Communications were received from the Secretary of State announcing the gracious reception by Her Majesty of the Loyal Address of the College; from the Royal College of Surgeons touching matters of joint interest to the two Colleges; from the Educational Committee of the Medico-Psychological Association enclosing a syllabus of instruction in insanity, this was referred to the Committee of Management for communication to the examiners; from Dr. Rentoul, enclosing a copy of his draft Bill for the registration of midwives and other nurses; from Dr. Odhams on behalf of the Norwich Medical Union; and from the Foreign Office announcing that an international conference will be held on leprosy in Berlin from October 11th to October 16th.

The President stated that the University of London Bill which had just passed through the House of Lords had been under the consideration of the standing committee of the College on that subject, and the Committee recommended the College to support the Bill; there had not been time to circulate the Bill amongst the Fellows, and the matter was one of extreme urgency.

Dr. Pye-Smith said that in many respects this Bill was an improvement on its predecessor; it was a less complicated and more workable scheme, and on the whole it fulfilled the main ideas of those who had been working for the establishment of the new University. All the legitimate opposition had been waived, and he hoped the Bill would pass. He moved:

That the Royal College of Physicians accepts the Bill for appointing a London University Commission now before Parliament, inasmuch as it contains the provisions which the College has recorded as essential to its taking any part therein, and hopes that the Government will make every endeavour to promote the passing of the Bill, and thus remove the condition of uncertainty which has so long existed to the serious detriment of higher education in London.

Dr. Allchin, in seconding the motion, said that the Bill left intact all the provisions on which the College had hitherto insisted, but the College had always taken an interest in the way in which this question affected the interests of the medical schools, and as regards them there was some difference between this Bill and the former one, and the powers of the teachers were somewhat limited.

Dr. Payne said that in this Bill the medical schools were practically ignored, they had no kind of incorporation, and no direct representation; but he should not oppose the motion, as the College had not to represent the schools, but to consider the interests of the profession at large throughout the country.

Dr. Sansom regarded the Bill as a fair compromise, and thought it would work with great advantage. It was a great improvement on the plan of the Cowper Commission; it offered a scheme to the commissioners which they were to carry into effect within twelve months.

Sir W. Priestley was in favour of the motion, but not sanguine as to the prospects of the Bill passing through the House of Commons.

Dr. Isambard Owen, without expressing disapproval of the Bill, said he should oppose the motion, (1) because the Government had treated the College contemptuously, and (2) because there had been no notice of the motion.

Dr. Norman Moore said the College ought to vote for the motion, as this action would be consistent with innumerable resolutions of the College, the principles laid down by the College were all accepted by the Bill. The motion was then put and agreed to.

The following report of the Council was, after a brief discussion, adopted, namely: "The Council having considered with great care the memorial submitted to the College by the Hospital Reform Association, is of opinion that it is impossible for the College to make, in the words of the memorial, 'searching investigation into the present system of dispensing out-of-door medical relief at the hospitals, infirmaries, and dispensaries not only in the metropolis but in all the large provincial towns.'"

On the recommendation of the Council, the Moxon Medal was awarded to Sir S. Wilks, Bart, as having distinguished himself by observation and research in Clinical Medicine, and also on the recommendation of the Council the Baly Medal was awarded to Professor Schäfer as having especially distinguished himself in the science of physiology.

The following presents were received: From Lady Reynolds two copies of Essays and Addresses by the late President; from Sir Richard Quain, Bart., a reproduction in photogravure of his portrait by Millais; from Dr. O'Neill two Roman urns.

The following, on the nomination of the President and Council, were elected:—*Censors:* Samuel Jones Gee, M.D.; Henry Charlton Bastian, M.D.; Joseph Frank Payne, M.D.; William Miller Ord, M.D. *Treasurer:* Sir Dyce Duckworth, M.D. *Emeritus Registrar:* Sir Henry Pitman, M.D. *Registrar:* Edward Liveing, M.D. *Harveian Librarian:* William Munk, M.D. *Members of the Library Committee:* Samuel Jones Gee, M.D.; Philip Henry Pye-Smith, M.D.; George Vivian Poore, M.D.; William Henry Allchin, M.D. *Curators of the Museum:* William Howship Dickinson, M.D.; Henry Charlton Bastian, M.D.; William Cayley, M.D.; Norman Moore, M.D. *Finance Committee:* Alfred Baynard Duffin, M.D.; George Vivian Poore, M.D.; John Mitchell Bruce, M.D. *Examiners—Chemistry and Chemical Physics:* William Ramsay, F.R.S.; Richard Tayler Plimpton, Ph.D.; John Millar Thomson, F.C.S.; Percy Faraday Frankland, Ph.D., F.R.S.; Frederick Daniel Chattaway, Ph.D., D.Sc. *Materia Medica and Pharmacy:* Francis Warner, M.D.; William Carter, M.D.; Nestor Isidore Charles Tirard, M.D.; Sidney Philip Phillips, M.D.; James Calvert, M.D. *Elementary Physiology:* Henry Lewis Jones, M.D. *Physiology:* Vincent Dormer Harris, M.D.; William Dobinson Halliburton, M.D.; John Wychenford Washbourn, M.D. *Anatomy:* George Robertson Turner, F.R.C.S., L.R.C.P.; George Dancer Thane, M.R.C.S. *Medical Anatomy and Principles and Practice of Medicine:* William Cayley, M.D.

Thomas Henry Green, M.D.; Thomas Lauder Brunton, M.D.; Isaac Burney Yeo, M.D.: Arthur Ernest Sansom, M.D.; Horatio Bryan Donkin, M.D.; Thomas Barlow, M.D.; William Ewart, M.D.; David Bridge Lees, M.D.; Julius Dreschfeld, M.D. *Midwifery and Diseases Peculiar to Women:* John Baptiste Potter, M.D.; Charles James Cullingworth, M.D.; Peter Horrocks, M.D.; John Phillips, M.D.; Robert Boxall, M.D. *Surgical Anatomy and Principles and Practice of Surgery:* John Langton, F.R.C.S.; John Neville Colley Davies-Colley, F.R.C.S. *Public Health—Part I:* Thomas Stevenson, M.D. *Part II:* William Pasteur, M.D. *Examiners for the Murchison Scholarship:* Thomas Whipham, M.D.; William Henry Allchin, M.D.

Reports from the representative in the General Medical Council and from the Committee of Management were received and adopted.

Quarterly reports from the Laboratories Committee, the Finance Committee, and the Examiners for the Licence were received and adopted.

A special report was received from the Laboratories Committee recommending that the two Royal Colleges should undertake through their laboratories the official testing of antitoxin, and should authorise the director to issue official certificates in respect of such testing.

Dr. Pavy moved the adoption of the report commenting on the necessity for charging some fee.

Dr. Pye-Smith pointed out that this was contemplated in the report.

Dr. Kanthack was doubtful if the College ought to undertake this work and at the same time prepare antitoxin in the laboratories.

Dr. Sidney Martin overcame this objection by arguing that the only way to become competent to standardise was to have large experience in making the test toxins.

Dr. Poore said it was much better that the standardisation should be done by a scientific body than through a Government office.

The report was then adopted.

The annual reports of the Library Committee and of the Curators of the Museum were received and adopted, and the thanks of the College were voted to the donors of books during the past quarter.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary Council meeting was held on July 29th, Sir William Mac Cormac, Bart., President, in the chair.

The minutes of the preceding meeting were read and confirmed.

Mr. Victor Gustave Plarr, B.A.Oxon., was appointed Librarian of the College. A gratuity of £25 was presented to Mr. C. R. Hewitt, assistant in the library, in recognition of his services in the library since the death of Mr. James Bailey.

It was decided to close the museum and library from August 28th (instead of as usual from August 31st) to October 1st, in order to facilitate the arrangements for painting and redecorating the halls and staircase.

The Finance Committee reported that the balance on the income and expenditure account amounted to £2,018, and observed that the fact that so large a margin has been left, notwithstanding the heavy expenditure (£753) on reconstructing and redecorating the lecture theatre, must be regarded as an indication of the sound financial position of the College.

Mr. Davies-Colley was re-elected a member of the Court of Examiners, and Mr. Cuthbert Golding-Bird elected a member.

Sir William Mac Cormac, Bart., was elected a member of the Committee of Management in the vacancy occasioned by the resignation of Mr. Christopher Heath.

A letter was read from Mr. G. F. Oldham, communicating the following resolution adopted at a meeting of members of the medical profession in Norwich, held on July 17th, namely:

That this meeting, while acknowledging with thanks the reply of the Royal College of Surgeons to the Norwich memorial, desire to express the opinion that steps should be taken so to amend Section xvi. of the Bye-laws as to enable the Council to prevent its Fellows, Members or Licentiates accepting positions derogatory to the honour and best interests of the profession.

Mr. Tweedy moved:

That the printed Minutes of the Council be considered the property of the College, and that regulations be framed with a view to preventing unauthorised persons from obtaining them.

A letter was received from Lord Salisbury, stating that an international conference on leprosy would be held at Berlin, and inviting those interested in the matter to attend.

On the recommendation of the Committee of Management, the following resolutions were adopted, the Royal College of Physicians concurring:

1. That the following institutions be added to the list of recognised places of instruction in Chemistry, Physics, Practical Chemistry, and Biology—(*a*) Battersea Polytechnic Institute; (*b*) Cheltenham College (without Biology); (*c*) Middlesbrough High School (without Biology); (*d*) Northern Polytechnic Institute.

2. That the following hospitals be added to the list of Fever Hospitals recognised by the Board—(*a*) Bristol Corporation Fever Hospital; (*b*) Manchester Corporation Fever Hospital.

3. That the following asylums be added to the list of Lunatic Asylums recognised by the Board—(*a*) City and County Asylum, Fishponds, Bristol; (*b*) Manchester Royal Asylum, Cheadle.

4. That the Victoria Hospital for Children, Chelsea, be recognised as a place of study during the fifth year of the curriculum.

5. That the Royal Westminster Ophthalmic Hospital be added to the list of Ophthalmic Hospitals recognised by the Board.

SHIP'S WATER.

By William Collingridge, B.A.Cantab., M.D.,
Medical Officer of Health for the Port of London.

The influence of a pure water supply on the public health is nowhere so potent as on board ship. Not only is the whole ship's company for the time being entirely dependent upon one supply, but the fact that the vessel passes from port to port further increases the chance of transmission of any disease due to an impure drinking water. Three main points require consideration: (1) source of supply; (2) storage; (3) filtration.

1. In many ports of the world the supply is undoubtedly good, while in many others it is often indifferent, if not absolutely polluted with the poison of specific disease. Often, again, a good supply may be spoiled by the means of transference from shore to ship by dirty water barges or casks. Whenever possible, the supply should be taken direct from the mains by flexible pipes. The greater part of the shipping in the docks of London is supplied in this way, and thus the risk of pollution is reduced to a minimum. In former times the whole of the water required for use on board had to be taken in at the port of departure, but at the present day nearly every steamer engaged in long voyages and many sailing ships are fitted with condensers, so that a smaller storage is necessary. With good condensers and care in aëration water is rendered perfectly palatable; and even where the taste and appearance are not tempting, one can be certain as to the absence of specific contamination. It would be well, therefore, to encourage the perfecting of the condensing apparatus rather than that of appliances for filtration and storage. The practice, however, varies very much. The Peninsular and Oriental Company carry from 150 to 200 tons on their larger boats, and about 100 tons on their cargo vessels. The Shaw, Savill, and Albion Company, on their cargo boats, to New Zealand carry about 60 tons, this amount being sufficient to last for the voyage, condensing being scarcely ever resorted to. Their passenger vessels carry a much larger quantity. Those of the Gothic have tanks of the capacity of 300 tons.

2. The storage requires very careful attention. Fortunately the stability of the ship requires that the tanks should be carried low down, that is in the best position, inasmuch as they are less exposed to the influence of temperature and the risk of pollution. All tanks should be built of iron coated inside with cement wash, which should be renewed every two or three months. The manholes should be sufficiently large for a man to enter freely for the purpose of cleansing, etc., and should be placed in such a position that when uncovered daylight can find its way to the bottom of the tank. For thorough cleansing artificial light is not to be relied

upon. To minimise risk of accidents it is well to have two manholes to each tank. From the main tanks the water can be pumped up into small service tanks on deck whence it can flow by gravitation to those parts of the vessel where it may be required.

3. Filtration so far as purification of water is concerned is practically non-existent on board ship. Ship-owners are anxious to do all that they can, and spend in some cases considerable sums upon filters, which are afterwards neglected and ill-treated to such an extent that they soon become worse than useless. As a rule a filter is placed on board at the beginning of a voyage, and as long as water flows freely through it satisfaction is given. Only recently inquiry as to how a certain filter worked brought the answer, "It did not work at all well at first, but I took it on deck and shook out a lot of black stuff, and now the water runs through as quickly as it is poured in." The "black stuff" in question was the filtering medium. On some of the large liners using sand and charcoal filters it has been found that the filtering medium is rarely changed more than once a year. On another line block charcoal filters were sent to the makers for cleaning, etc., twice in three years. Altogether it may be said that the use of filters is most unsatisfactory, and that in the majority of cases a good water supply would be fouled by their employment. It has recently been shown that the only thoroughly reliable and efficient type of filter is that suggested by Pasteur, inasmuch as this is the only one which will prevent for a certain time the passage of the microbes of those diseases usually conveyed by water. These are associated in batteries so as to avoid the difficulty of the slow passage of water through the porcelain. With a fairly good supply these will last for an ordinary voyage, and arrangements can easily be made with the makers to provide new "candles" on the arrival of the vessel. Special patterns are constructed for use on board, and doubtless these would be soon still farther improved if the demand became general. Objection would probably be raised on the score of expense; but, as a matter of fact, filters of this type can be supplied at practically the same price as the best patterns of other makers. At any rate, efficient filtration is worth paying for, and inefficient filtration is worse than useless. As a practical matter the users of filters on board ship cannot be trusted to cleanse them, and the only reliable system is one of contract with the makers to keep them in order by periodical renewal.

Briefly, more care is required in taking in water abroad—from certain ports it should be always looked upon with suspicion—in case of doubt it should be if possible distilled. Wherever reliance is placed upon filtration, the apparatus employed should be one which can be shown to be theoretically efficient and practically workable.

DEATHS UNDER CHLOROFORM.

The Safe Administration of Anæsthetics.

Messrs. Krohne and Sesemann write: Your correspondent would serve a useful purpose towards "safe administration of anæsthetics" if he would kindly explain in your widely read Journal the details of the theory, and give the facts upon which the conclusion is founded, that "chloroform is dangerous between the ages of six months and sixty years," from which he appears to draw the lesson that "chloroform should rarely be employed as an anæsthetic."

Dr. O'Neill's report of 600 cases is reassuring, inasmuch as they undoubtedly prove that no ill-effect, much less danger to life, need be apprehended from the inhalation of chloroform or methylene, so long as their administration, and therefore their action and effects, are limited to a fraction of a minim to the quantity absolutely necessary to be absorbed by the blood to cause in any patient, of whatever age and condition, perfect insensibility to any ordinary surgical operation. Snow's estimate that 18 minims of chloroform gradually absorbed by the blood suffice to cause complete insensibility in an average adult may serve for estimating approximately the quantity of chloroform required for causing like effects in patients at different agents and body weight.

The general rule with usual remedies is, that the children of one year and under should have one-twelfth of the adult dose. The adult is taken at 25 years, half adult doses for 14 years, and two-thirds at 20 years. Dr. Barton further adds that the dose given for 1 year should be divided by twelve for each month. The usual remedies are, however, administered in one or more doses at varying intervals during the twenty-four hours, whereas anæsthetics are administered by continuous inhalation of from two to more minutes' duration, by which the whole dose required to cause insensibility is divided in as many separate doses are there are inspirations made by the patient.

Making due allowance for the different susceptibility to chloroform in different individuals, an approximately accurate estimate of the dosage required for causing like effects in patients at their several ages and body weight may be made.

According to Snow, the following quantities of chloroform are required to be uniformly diffused in the blood to cause his five degrees of narcotism in adults:

Adults weighing about	Quantity of Chloroform.	Length of time in which it should be administered.	Degrees of Narcotism.	Effects.
Lbs.	Minims.	Minutes.	—	—
150	12	3 to 4	2nd	Loss of sensibility without loss of motion and consciousness.
150	18	4 to 5	3rd	Loss of sensibility, motion, and consciousness.
150	24	5 to 6	4th	Deepest degree of narcotism ever required for thorough relaxation of muscles, indicated by stertor.
150	36	In any length of time.	—	Arrested respiration, and failure of the heart's action soon after.

And according to the estimate of the usual remedies above indicated:

Age.	Height.	Weight.	Chloroform.	Length of time for inducing Snow's third degree of narcotism in which operations are usually commenced.
Years.	Inches.	Lbs.	Minims.	Minutes.
30	66.3	145.6	18.2	From 4 to 5, and occasionally more.
25	66.3	145.6	18.2	,, ,,
22	66.2	138.3	17.3	,, ,,
20	65.8	130 9	16.3	,, ,,
18	65.2	118.5	15.5	,, ,,
16	63.0	99.8	12 4	,, ,,
14	58.6	81.6	10.2	,, ,,
12	54 5	63.8	8.0	From 3 to 4 ,,
10	50.4	55.4	6.9	,, ,,
8	45.7	47.5	5.9	,, ,,
5	38.8	34.9	3.4	,, ,,
3	34.2	27.5	3.4	,, ,,
2	31.0	24.2	3.0	From 2 to 3 ,,
1	27.5	19.8	2.5	,, ,,

The dosage above indicated may appear much too small for causing insensibility, but facts prove them to be maximum doses. Two interesting and instructive results obtained with chloroform by Dr. Beck, of Berne, Switzerland, in conjunction with a young colleague, administered by means of the regulating inhaler, recorded in the June number, 1896, of the *Aertzliche Polytechnik*, support this statement. Dr. Beck writes: "I myself, 63, my colleague 24 years of age, both of quite healthy constitution, no alcoholics. We both took, purposely, before the administration, our usual midday dinner. I (Dr. Beck) with my accustomed decilitre of wine; my colleague only took a glass of water. We narcotised each other to complete loss of corneal reflexes. The result was as follows: We both together took twenty minutes in using

Examples.	Sex.	Age.	Operation.	Time.	Whole Amount of Chloroform lost out of the Bottle.		Average per Minute.	Percentage of Chloroform Vapour in Air Breathed.
				Minutes.	Drachms.	Minims.	Minims.	
(1)	Male	4 months	Opening abscess at back of orbit	5	—	5	1.0	0.23
(2)	Child	5 years	Diseased bone in bodies of vertebræ ...	155	3	15	1.2	0.27
(3)	Male	8 ,,	Excision of cervical glands	50	1	10	1.4	0.32
(4)	Female	40 ,,	Tooth extraction	10	—	20	2.0	0.99
(5)	Male	49 ,,	Excision of tongue	69	3	15	2.8	0.64
(6)	Male	74 ,,	Amputation of both legs	90	2	—	1.3	0.29

3 c.cm.=50 minims of chloroform, which amount sufficed for producing in us both complete anæsthesia and loss of consciousness. In myself the anæsthesia lasted only five minutes, but in my colleague it lasted more than fifteen minutes. In myself loss of consciousness was produced without any symptom, but in my colleague it was preceded by incoherent talking. There was not the slightest sign of vomiting during administration or during anæsthesia. Only after awakening I felt a slight rapidly passing sense of nausea, but this feeling was somewhat stronger and more lasting in my colleague, but did not lead to vomiting." Dr. Beck further says: "Respecting the small amount of chloroform expended (on an average $2\frac{1}{2}$ minims per minute, or 0.57 per cent. of chloroform vapour in the air breathed) and symptoms of reaction, no one can object to describing the result as truly brilliant." As may be expected, like results are obtained with pure chloroform anywhere by one uniform method employed in its administration, as shown in cases reported from different parts of the world.

Like favourable results, the details of which can be supplied by the thousand, prove conclusively that the effects of inhaled chloroform depend entirely on the mode and manner in which a certain amount of it is administered and absorbed in a given time. They also confirm the truth of the conclusion arrived at by Snow, Richardson, Anstie, and Sansom that due mechanical means for ensuring the proper dilution of chloroform with atmospheric air are of imperative necessity for its safe administration, and "if not due precautions are taken for regulating the proper proportion of vapour and of air the patient is breathing, deaths from this agent will continue to occur." Being thoroughly convinced that by Snow's method alone can chloroform be administered free from risk, our endeavour has been to improve the means with which Snow and the earlier observers endeavoured to effect the precise dilution of chloroform in order to save administrators the horror and misfortune of losing a patient under chloroform.

We leave it to the judgment of the reader to estimate by results how far we have succeeded in making a regulating inhaler, which we hope may enable every junior house-surgeon to induce and sustain deep yet harmless anæsthesia, with thorough confidence in his patients' absolute safety, with a minimum amount of chloroform, which is much too small and quite incapable of causing any ill-effects or symptoms due to more or less overdosing, misleading guides in the so-called "open" or "usual way" of chloroform administration.

ETHER OR CHLOROFORM.

MR. GEORGE FOY, F.R.C.S.I. (Dublin), writes: On page 160 of the BRITISH MEDICAL JOURNAL of July 17th Mr. H. Bellamy Gardner in his article on the administration of safe anæsthetics, writes in rather a dogmatic manner on the relative value of ether and chloroform, and appears as if he were pained by the ignorance of "practitioners in Ireland and the English provinces (who) keep writing about chloroform as if they had never heard of ether at all"; and a little later adds "Those of our London anæsthetists who have a lifetime of experience rely almost exclusively upon ether and gas and ether for the whole of their routine work, only giving chloroform when ether becomes inadmissible."

I regret he assumes such a tone towards his Irish professional brethren; it can do no good. We are all familiar with ether, its good and bad properties, and we will continue to select such anæsthetics as we consider suitable for the occasion, forming our opinion, not from the London schools alone, but from the experience of our brethren in the different countries of the world.

Neither time nor space allow of my entering on the question of the advantages and disadvantages of chloroform; but I would draw the attention of your readers to the relative frequency with which chloroform and ether have been used in St. Bartholomew's during the last twelve years. Unfortunately none of the other hospitals furnish statistics, as far as I know. But such statistics as we can get do not appear to exactly correspond with Mr. Bellamy Gardner's statements that the routine practice is to administer ether:

St. Bartholomew's Reports: Statistics of Anæsthetics.

Year.	Chloroform.	Ether.
1884 ...	1,244	1,016
1885 ...	1,331	1,118
1886 ...	1,423	1,109
1887 ...	1,702	1,197
1888 ...	1,711	1,003
1889 ...	1,601	810
1890 ...	1,860	998
1891 ...	2,031	866
1892 ...	1,887	824
1893 ...	2,524	1,420
1894 ...	2,350	981
1895 ...	2,553	242

AMYL NITRITE IN APPARENT DEATH FROM CHLOROFORM.

MR. GEO. E. WALKER, F.R.C.S., Surgeon to St. Paul's Eye and Ear Hospital, Liverpool, writes: On March 24th a girl aged 7 years was chloroformed for a squint operation by Mr. Thomas Stevenson. Nothing unusual occurred during the tenotomy of the left eye, the patient having taken very little chloroform; but just as I was about to operate on the right eye, Mr. Stevenson noticed the child's abdomen heave slightly, as if she were about to be sick. He turned her over on her right side, but, as all movement ceased, he pulled her head and shoulders over the end of the bench and began artificial respiration. The child appeared to be quite dead. Then I poured a liberal quantity of amyl nitrite on a piece of lint and held it over the nose and mouth; but for some time there was no response, so more and more nitrite was poured on the lint, and after what seemed to be a very long time we thought we heard a sob during an interval between the artificial respiratory movements. Still keeping on these, in a while we were rewarded by sure signs of life, and the operation was concluded. She was put to bed, and in a short time had her bandage off one eye, and was sitting up laughing.

I think this the nearest approach to death I have ever seen, and as the recovery has given me increased confidence in amyl nitrite, I venture to recommend it to those who, like myself, have frequently to use anæsthetics. In this case we gave more amyl than we have ever used before, so much so that Mr. Stevenson was almost overcome by it as he stood leaning over the child.

Considerably less than the usual quantity of chloroform was used, and the child had had no food for four hours previous to the administration.

NOTES ON THE CLIMATE, HYGIENE, DISEASES, AND MEDICAL LIFE OF JOHANNESBURG.

By Alfred P. Hillier, B.A., M.D., C.M.,
Late President South African Medical Congress, and late Vice-President Transvaal Medical Society.

Topography.

The town of Johannesburg is placed at an altitude of 5,600 feet above sea level, and stands on the range of hills which forms the watershed of the Transvaal. The streams rising to the north of the range form the sources of the Crocodile, which, flowing through a luxuriant semitropical but malaria-infected country, empties itself into the Indian Ocean, while those rising to the south feed the Vaal, which after joining the Orange flows on through the wide-stretching arid plains of the west to the Atlantic. The streams feeding the Crocodile are, within forty miles of Johannesburg, infected with the bilharzia parasite; those to the south are almost, if not entirely, free from its presence.

The city, although just on the border of the tropics, has a summer climate which is unrivalled in South Africa. The nights are always cool, and even by day the heat is never excessive. The barometer ranges about 25 inches, so that there is only five-sixths of a normal atmosphere at sea level. This has an exhilarating and bracing effect which entirely prevents the feeling of languor so frequently experienced during the summer in the coast towns, and, combined with the clear brightness of the air, constitutes a climate which is as healthy as it is enjoyable. The two drawbacks are the thunder and hail storms in the summer and the dust storms in the winter.

Sanitation.

By Nature then Johannesburg has been well endowed; by art unfortunately she has not been so well treated. The water supply is inadequate, though fresh efforts are being made to increase it. The sanitary system—which is under the supervision of a Sanitary Board, a body with limited powers and resources at its command—is the same as that which obtains at Kimberley and other South African towns. The night soil is removed in buckets by the sanitary service t night, and this, if properly carried out, is at any rate a ound hygienic method of dealing with it. Unfortunately defects in minor details of w.c. construction and the administration of the work of removal frequently make it a great nuisance and at times a danger to health. Even when imperfectly worked it is, however, infinitely better and safer than the neglected latrines which only too frequently adjoin the native compounds or some of the mines along the line of reef. In addition to the night soil are the kitchen refuse tubs, which are also emptied by the sanitary service. For the rest waste water flows out pretty much where it will.

It must be admitted that this sanitary system used throughout South Africa is by no means an ideal one. But at the same time if only some care is exercised in carrying out details it is not so much a departure from the principles of sound hygiene as a description of it might lead one to suppose.

The substitution of underground water drains has often been considered, but with the scant water supply usually forthcoming in South African towns the difficulties would be very great, while the consequences of minor structural defects in a subtropical climate would be more dangerous than those produced by defects in the present system. The London householder has a very wholesome horror of the "dreadful drains," especially when they go wrong and have to be put right at his expense; what his feelings would be if to defects in his drains were added a water famine can only be conjectured.

Prevalent Diseases.

The diseases most prevalent and fatal are typhoid fever and pneumonia; diphtheria occurs but rarely, while malaria, though often met with, has almost invariably been contracted in the low country either to the north or towards the coast, Johannesburg itself being almost free from malarial infection. The typhoid fever is no doubt preventable disease, and is quite as largely contracted on the outlying mines as in Johannesburg. In several instances epidemics have been traced to polluted water drunk by the men in the mines themselves. Mine managers, however, are now fully alive to the necessity for a properly protected and pure water supply, and it is to be hoped that no such wholesale epidemics will occur in future. Throughout South Africa there is no question that the rule should be to boil all drinking water before it is used. Filters, unless supplemented by boiling, do more harm than good, they clarify but do not purify the water. While on the subject it is perhaps worth noting that in South Africa—as apparently has been the case in India—typhoid fever is by some men believed to be a windborne as well as a waterborne disease, and personally I have seen more than one instance of an epidemic in which the water supply was apparently pure and there was a history of a prevailing wind blowing continuously over an old neglected latrine.

The etiology and preventability of pneumonia are less clear. This disease occurs usually in the winter, and is generally associated with a history of chill at the outset. The changes of temperature in the winter are sometimes very sudden and extreme. One of the commonest causes of attack among the miners is exposure in a heated sweating condition to cold air at the mouth of the shaft on emerging from the mine. Alcoholic subjects are most susceptible to attack. Other assigned causes for this disease are irritation and possibly a septic influence from dust—"dust pneumonia" as some men call it. Personally, I believe direct exposure to a severe chill to be by far the most common cause. Pneumonia, always a serious disease, is unusually so here. This I believe to be due entirely to the high altitude. The *rationale* of its effect in pneumonia seems tolerably clear. Bearing in mind that in Johannesburg there is only five-sixths of an atmosphere—or that, in other words, a cubic foot of Johannesburg atmosphere only contains five-sixths of the quantity of air (nitrogen, oxygen, and other constituents) contained by a cubic foot of atmosphere at sea level—it is evident that any impairment of the respiratory organs, which under ordinary circumstances have to do 20 per cent. more work than they are called upon to perform at sea level, is a serious complication, and attended with more than normal risks. For to the increased respiratory efforts always demanded by a rarefied atmosphere must also be added the increased blood pressure consequent upon the effect of these very mechanical movements of respiration upon the heart. Pneumonia under these conditions must be, and in Johannesburg is, attended by a high mortality.

Hospitals.

In addition to one or two private hospitals is a general hospital, practically under the control of the Government. In this hospital are wards for private patients, which can be sent in and attended to by their own medical attendants.

The Transvaal Medical Association.

Johannesburg is the headquarters of a thriving medical association known as the Transvaal Medical Society. It numbers something over eighty members, and has a president, vice-president, and council. Its objects are to guard the interests of the profession, enforce a proper code of ethics among its members, and read and discuss papers on medical subjects. Its meetings are numerously attended, and it has on several occasions induced the Government to modify or cancel legislative measures considered detrimental to the interests of the profession. It has, moreover, been the means of keeping up a spirit of *camaraderie* among the members, promoting harmony in work and amiable relationships in private life not invariably prevalent among rival members of the profession in new communities. There was once a desire among a large number of the members, the large majority of whom have British qualifications, to form themselves into a Branch of the British Medical Association, and they approached the Association with that view. They were, however, advised that this step was impracticable and without precedent. Why the British Medical Association thought it impracticable I do not know; and, as for the want of precedent, the position of the large body of British practitioners there is also unprecedented. However, be the demerits of the decision what they may, the fact remains that the Transvaal Medical Society is now established, and the British Medical Association is minus what would have been a very flourishing Branch.

PRACTICE IN JOHANNESBURG.

With regard to the prospects for new medical men in Johannesburg, about which I am not infrequently consulted, I think they may fairly be taken to be very much what they are in any other town of the same size elsewhere. Neither gold nor practices are picked up in the streets, and men who neither have nor obtain an established connection will find, I fear, that they have to wait in Johannesburg as well as say in Manchester or Melbourne.

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Applications for duplicates from medical societies forming libraries may be addressed to the Sub-librarian, 429, Strand.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, AUGUST 7TH, 1897.

MEETING OF THE BRITISH MEDICAL ASSOCIATION IN EDINBURGH, 1898.

The announcement made in the British Medical Journal of July 31st that an invitation to hold the sixty-sixth annual meeting of the British Medical Association in 1898 in Edinburgh had been cordially accepted will have been read with much satisfaction. The Edinburgh school is regarded with so much esteem and respect by the medical profession throughout the world, and with such warm affection by its many alumni, that the success of the meeting would be, under any circumstances, assured. In Sir Thomas Grainger Stewart the Association will have a president whose reputation is worldwide, and who may be trusted to direct the business of the Association with skill, firmness, and courtesy.

When the Association assembles in Edinburgh next year it will be twenty-three years since the last Edinburgh meeting, presided over by the late Sir Robert Christison, Bart., Professor of Materia Medica in the University of Edinburgh; and these twenty-three years have brought many changes to the northern metropolis and its great medical school.

In 1875 the medical classes met in the "old" University. The anatomical department had a most unsuitable location at the head of the stairs in the north-west corner of the quadrangle, where the porter, in carrying up the bodies for dissection—for there were no lifts in those days—brushed many a time past the students of mental philosophy as they flocked outwards from more spiritual lucubrations. And so with other departments. The spacious apartments now dedicated to medicine existed only in plan. These magnificent buildings—surpassed by none in the United Kingdom—will form the arena for next summer's discussions. The grand McEwan Hall, gifted to the University by one of Edinburgh's generous citizens, will receive the Association in general meeting as it has never yet been received.

Immediately adjoining the medical department of the University is the Royal Infirmary, which also is new since last the Association was convened in Edinburgh. Both these institutions will have supreme interest to the many visitors whom the meeting will attract from all parts of the world and unique associations for the hundreds of old Edinburgh men who will crowd again round their Alma Mater. The *personnel* of the class-room and theatre has changed not a little, but we are happy to recall a number of the familiar teachers who are with us, and whose pupils must be reckoned by thousands. Of the immense influence which the Edinburgh Schools of Medicine, both University and Extramural, have wielded over the world it is not necessary to enlarge at the present moment. The facts are well known, and in every part of the British empire Edinburgh men look back with gratitude on their student days, and evidence by their success in practice to the admirable character of the training they received.

The Association is well represented in the Edinburgh district. The Edinburgh (Lothians and Fife) Branch, long presided over by Professor Annandale and now by Dr. George Balfour, has during the past few years made rapid progress. It affords a valuable lesson as to what may be done to strengthen Branch organisation, which, as we have frequently pointed out, is the life of the Association. Some five or six years ago the Edinburgh Branch numbered between fifty and sixty members—now it numbers over 220. The Branch meetings are numerously attended, and a healthy interest, both in matters scientific and professional, is manifested. The conjoint meetings inaugurated by the Edinburgh Branch, in association with neighbouring Branches, have been most successful, and have formed and strengthened ties of friendliness between members of distant parts of the country which otherwise would have been wanting.

The invitation to the Association came through the Edinburgh Branch, but the Branch was encouraged to offer the most hearty invitation which was presented at London last week by the warm expressions of sympathy and kind promises of co-operation from members of the profession outside the Branch—the University, the Medical Corporations, and the City authorities. The President-elect (Professor Sir T. Grainger Stewart) will well fill the chair which has been graced by many distinguished men, and will have effective support from able colleagues in Edinburgh in the various executive offices. The well-known Scottish hospitality ensures that the meeting will be a most agreeable social function, while the scientific position of Edinburgh warrants us in looking forward to a meeting second to none in the lengthening roll of the past.

THE PUBLIC HEALTH (SCOTLAND) BILL.

The Public Health (Scotland) Bill has now passed through both Houses of Parliament, and only awaits the sanction of the Crown. It will be interesting to recall some of the vicissitudes through which the measure has passed.

Introduced as a tender infant into the House of Lords in the early part of 1896, in its passage through that House it grew and developed, a considerable proportion of its nutriment being derived from the London Public Health Act. It was sent down to the Commons towards the end of the session. It had not attained maturity, and its further growth and development were arrested by the termination of the session.

Reintroduced in its adolescence into the House of Commons in March of the present year, the Bill has since had a chequered career. After the second reading it was referred to the Grand Committee on Law, to which a considerable number of Scottish members were for the time added. A very large number of amendments were set down on the paper, and many others which had not been put down were moved. In the course of the discussion in Committee it soon became apparent that the Committee were largely uninformed in

public health matters, and that in certain quarters there was a distinct reactionary tendency. Many excellent additions were made to the Bill, but on its emergence from Committee its whole drift was found to be towards the emasculation of public health administration in Scotland, through the elimination of the medical and scientific element. The general effect of certain alterations which were made in the Bill was that the medical officer was relegated to a secondary position, from which, even, it was evidently intended that, in course of time, he should be displaced by a glorified sanitary inspector, who should be, for all practical purposes, the one officer of the public health department, with power to call in a medical man when an opinion on a purely medical question was desired.

When things are at their worst, they tend to mend. It was understood that the Government were inflexible in their determination to adhere to the Bill as altered. But in the columns of the JOURNAL, and elsewhere, the attention of the medical profession was directed to the emergency which had arisen. The matter was taken up by the General Medical Council, the Parliamentary Bills Committee of the Association, the universities and licensing bodies, the Incorporated Society of Medical Officers of Health, by the general body of the profession in Scotland, and to some extent also by the profession in England.

The Bill came before the House on the report stage last week, when it became apparent that the Government were no longer able to maintain their position in the face of the determined attitude assumed by the medical profession. Amendments appeared on the paper in the name of the Lord Advocate, modifying the conclusions which had been arrived at in Committee.

When the Bill came up for discussion, a series of alterations were made, none of them, perhaps, very notable by themselves; taken together, however, they effected a complete reversal of the Committee's policy with respect to the medical element in public health administration. The Government had evinced a strong determination to retain the old designation "medical officer" in the Bill, the underlying idea being one which had been thrown into prominence by sanitary inspectors in Scotland—that the medical officer was "only a medical man," quite unequal to the supervision of the general sanitary work of a public health department. The Lord Advocate was driven to insert in Clause 15 a declaration that the statutory designation should be "medical officer of health." An effort had been made in Committee to abolish the statutory requirement of a public health diploma in the case of urban medical officers, and the stringency of the requirement had been somewhat relaxed. The clause was now restored to its original form. On Clause 15 an effort was made by Captain Sinclair to have it declared that it should be the duty of the medical officer "to superintend and enforce the sanitary provisions of the Act." The Lord Advocate pointed out, rather destructively, that this would put the medical officer above the local authority, and the proposal was rejected by a majority of 127 to 69. This afforded an opportunity, however, which was duly taken advantage of, of obtaining the repeal of the words above given within marks of quotation, which, extraordinary as it may appear, at present form the statutory description of the sphere of the sanitary inspector in urban districts in the Burgh Police (Scotland) Act. As the Bill stood, the medical officer was, when "required," to exercise any of the powers of a sanitary inspector. For "required" the word "authorised" was now substituted. On Clause 22, which, by placing the sanitary inspector on a statutory equality with the medical officer in certifying as to conditions injurious or dangerous to health, had aroused the indignation of the medical profession, the Lord Advocate offered an amendment removing the sanitary inspector from his pedestal of certification, but leaving him to "report." It was thought better to delete all reference to certification or reporting, and thus place the clause upon the same basis as the corresponding section in the English Public Health Act; and this was accordingly done. Later on, in Clause 36, where the sanitary inspector had been bracketted with the medical officer in the certification of nuisances arising from offensive trades, on the Lord Advocate's own proposal, the sanitary inspector was struck out. In Clause 44, as altered in Committee, power was actually given to the sanitary inspector to enter and inspect houses in which he suspected the existence of infectious disease. The Government was disposed to adhere to the clause as altered, but, on the Lord Advocate's leaving it an open question, the removal of the sanitary inspector from the clause was carried by a majority of 110 to 82. Finally, on Clause 84, dealing with overcrowding, the sanitary inspector, whose certificate was set down as the equivalent of the certificate of the medical officer or from "two legally-qualified medical practitioners," was reduced to a more modest position.

In the course of the debate the Lord Advocate gave expression to sentiments which, if they had been made public at an earlier stage, would have prevented much misapprehension. He was not at all insensible, he said, to the claims of the great profession in whose interest (?) these amendments were moved. He did not wish for an instant to minimise the good the medical profession could do, or the debt which was owing to them in the matter of public health. There was no intention of placing the sanitary inspector upon the same platform as the medical officer. Indeed, from what the right honourable gentleman said, it appeared that all that had been in the minds of those in charge of the Bill, in dealing with the certification of nuisances, was that they were making provision for cases in which "technical skill was not required."

The medical profession, and indeed the whole community, owe a deep debt of gratitude to Sir William Priestley, Sir Walter Foster, Dr. Farquharson, Mr. Bryce, and Captain Sinclair, who so gallantly championed the cause of progress and the advancement of public health in the House, and who succeeded in persuading the Government that sanitation is not in its essence a thing of drain-pipes and water-closets.

THE COLLEGE OF PHYSICIANS AND HOSPITAL REFORM.

WE published in the BRITISH MEDICAL JOURNAL of May 22nd a petition from the newly-formed Hospital Reform Association praying the College of Physicians to take the question of hospital abuse into their serious consideration, and, if they think fit, "to make a searching investigation into the present system of dispensing out-of-door medical relief at the hospitals, infirmaries, and

dispensaries, not only in the metropolis, but in all the large provincial towns." We commend the petition itself to the earnest consideration of our readers, and we are sure that the prayer of the petitioners received every attention from the Council of the College, to which, after some discussion, it was referred by the Comitia. In saying this, we by no means pledge ourselves to the adoption of all the allegations or views of the petitioners; but the petition, whether we adopt or dissent from this or that statement contained in it, does unquestionably present a very strong case for inquiry, and does prove that demands for such inquiry have been constantly made by men of too much eminence both in medicine and in public life to be treated with neglect; and made on every possible opportunity, for the last quarter of the century.

Under such circumstances it is impossible to argue that there is nothing to inquire about; and the debate in the Comitia shows that no one really thinks so, though many Fellows of much distinction think that the College is not the proper body to conduct such an inquiry. The Council adopted this view, and reported that the College could not, in their opinion, undertake so wide an inquiry as that which was asked for, and the College accepted their report. We cannot but admit that there is a good deal to be said in favour of the Council's view of the case; yet it seems a pity that an inquiry of such obvious public utility should not be undertaken by a body qualified by experience to understand the matter as no laymen, nor even any medical men inexperienced in hospital practice, can understand it. As the College of Physicians does not feel justified in undertaking the inquiry itself, could not Dr. Church's suggestion be adopted to request the co-operation of the College of Surgeons? A reference to the earlier debate will show that those Fellows of the College who are strongest in asserting the absence of abuse in the out-patient departments are speaking of the large hospitals only; and the significant admission of Dr. Vivian Poore will not be lost sight of. "He agreed with Dr. Moore that the best protection for the patient in the out-patient department was the student." How, then, are the patients protected at the institutions where there are no students? And these outnumber those with students perhaps a hundredfold. The fact really is that there is no protection for patients, or public, or medical practitioners in the out-patient departments, beyond the sense of duty of the officers of those departments—a protection which we freely acknowledge to be very real and very powerful, but which is not capable of averting all the evils incident to a vicious system.

That such an inquiry as the petition prays for ought to be instituted by an authoritative and impartial Commission seems to us too plain to need proof. If the united Colleges can see their way to undertake it they will be doing a great public service. The question has been raised with no hostile intention towards our hospital system, but, on the contrary, by men who are ardent admirers of that system, and whose lives were spent in its administration. And the issue of such an inquiry cannot but do good to hospitals. If the verdict should be that the abuse has been exaggerated, the hospitals will gain in public confidence. If it turns out that reform is needed, such reform must strengthen them still more. The only thing that could do them damage would be to appear to shrink from full publicity.

HEALTH PROGRESS IN LONDON.

The Chairman of the London County Council was fully justified in calling attention, in his recent address, to the marked decline of the London death-rate in recent years, and to the fact that judged by its rate of mortality, London, notwithstanding its huge population, is far healthier than any of the other large capitals of Europe. It is worthy of note that the London death-rate in the eight years, 1889-96, averaged only 20.0 per 1,000, while in the eight preceding years, 1881-88, ending with the year in which the London County Council came into existence, the mean annual rate was 20.6. If we go back another eight years to the period 1873-80, we find that the mean rate was 22.4. Thus while there was a decline of 1.8 per 1,000 between 1873-80 and 1881-88, the decline between 1881-88 and 1889-96 was only 0.6 per 1,000. It would not be reasonable under the circumstances to expect the same rate of decline in English urban mortality to be constantly maintained. It is obvious that the rate of decline between 30 to 20 per 1,000 under improving sanitary conditions would probably be greater than between 20 and 16 per 1,000. We doubt, however, whether the Chairman of the County Council should be satisfied with the slow rate of health progress in London indicated by the mean annual death-rate in the eight years, 1889-96, compared with that in the preceding eight years.

Infant mortality, measured by the proportion of deaths under one year to births, has recently shown no decline; it has indeed been slightly higher during the past eight years than it was in the preceding eight years, notwithstanding the constant and steady decline in the birth-rate from 33.4 in 1886 to 30.2 in 1896. Infant mortality is so much a matter of the housing of the working classes that it might fairly be expected that the County Council should have exercised a beneficial influence upon it.

On the other hand, with regard to the mortality from zymotic disease, we find an eminently satisfactory decline in the mortality from enteric fever, which was 32 per cent. lower in the eight years 1889-96 than in the preceding eight years. The death-rates from small-pox, typhus, scarlet fever, whooping-cough, and infantile diarrhœa have also been distinctly lower in the most recent eight years. On the other hand, the mortality from diphtheria has more than doubled, and that from measles has also shown an increase.

The recorded death-rate in London last year was 18.6 per 1,000, and with two exceptions was lower than in any year since civil registration became law in 1837. Corrected, however, for the sex and age distribution of its population, the London death-rate in 1896 was 19.8 per 1,000, and showed an excess of 15.8 per cent. upon the general English death-rate. Among the thirty-three largest English towns ranged in the order of their corrected death-rates, London took the sixteenth place last year. Croydon, Brighton, Norwich, and Portsmouth, indeed, showed corrected death-rates last year actually lower than the general death-rate in England and Wales. After due allowance for the vast aggregation of the London population, it is impossible to feel that the recent rate of health progress indicated by the figures referred to by the Chairman of the London County Council is entirely satisfactory. It is obvious that the rate of progress has varied very widely in different parts of the metropolitan area, and that in some of the sanitary districts nothing short

of a thorough reorganisation of the local authority will materially accelerate the decline of the death-rate and the corresponding increase of longevity.

His Excellency Earl Cadogan, K.G., Lord Lieutenant, on Monday last conferred the honour of knighthood upon Dr. George F. Duffey, President of the Royal College of Physicians of Ireland, and Mr. William Thomson, President of the Royal College of Surgeons of Ireland.

Dr. Henry Barnes calls our attention to the fact, which it may be interesting to the members of the Association who intend to be present at the meeting in Montreal to know, that though life assurance companies permit policy holders to travel in Canada and the United States without extra premium, an extra premium is charged by accident assurance companies.

Dr. Matthew Hinchliffe, of Dewsbury, Yorkshire, has bequeathed the sum of about £50,000, the whole of his personal estate after making provisions for his servants, for the purpose of promoting a higher education in Dewsbury. Dr. Hinchliffe had practised for many years in the borough, and was at one time Surgeon to the Dewsbury and District Infirmary.

A large and influential meeting of the Mohammedan community was held at Poona on August 2nd, when all present agreed that there was no cause whatever to complain of the proceedings of the Plague Committee, which had been carried out with the least possible inconvenience to religious feeling. Professor Gokhlee has admitted that he was misinformed, and has formally withdrawn the allegations which he made against the officials employed by the Plague Committee.

Dr. G. H. Broadbent writes, in respect to the Obstetric Nurses Bill, that the report of the annual general meeting of the Association might convey the impression to those who were not present that the meeting approved of the principle of the Bill and referred it to the Council for completion, whereas the Bill was not put before the meeting for discussion at all, but the President of Council gave the assurance that if the meeting referred it to the Council it did not commit them to it in any sense. Many of those present at the meeting were opposed to any legislation at all, and were prepared to have spoken to that effect if the discussion could have been opened.

BERI-BERI AT RICHMOND ASYLUM, DUBLIN.

At the last meeting of the governors of this asylum, Dr. Norman reported that 24 new cases of beri-beri had occurred since last meeting. A lengthened discussion arose regarding increased temporary accommodation. Dr. Norman strongly objected to any additional buildings being erected on the grounds. It was finally agreed to ask the Lord-Lieutenant to place Grangegowan prison at the disposal of the governors during the outbreak.

THE SALE OF FOOD AND DRUGS.

The Bill which Mr. Chaplin has introduced to amend the Sale of Food and Drugs Acts will seek to give legislative effect (next session) to some of the recommendations of the Select Committee which reported to the House of Commons last year. But while it gives certain additional powers to inspectors and local authorities, to enable a more effectual examination of suspected goods being made, it will be held by most of those who have been agitating for the strengthening of the law to be rather disappointing. The Bill proposes the increase of penalties, but not to the extent recommended by the Select Committee; and the proposals for the checking of the abuses of milk, butter, and cheese adulteration do not go much beyond the present law. It is expected that chambers of commerce, local authorities, and traders and others interested will examine the Bill during the recess, and will communicate their views to the Government. In this way valuable hints may be obtained, whereby the Bill may be improved before it is reintroduced.

THE INTERNATIONAL MEDICAL CONGRESS.

Telegraphing on July 30th from Moscow, the correspondent of the *Standard* states that according to the latest lists nearly 5,000 members are expected to assemble in Moscow in August for the twelfth International Medical Congress. Half of that number are Russians; Germany is sending 800, Austria 600, France about 500, and other countries average about 100 members. The Grand Imperial Theatre has been placed at the disposal of the Congress for the general assemblies. All communications should be addressed to Professor Roth, the Secretary-General of the Congress, Moscow.

THE UNIVERSITY OF LONDON BILL, 1897.

The hopes which centred round the University of London Bill, 1897, were short lived. The Bill passed through the House of Lords, but Sir Charles Dilke gave notice of formal opposition, and the intention of Mr. Charles Harrison, a member of the London County Council, one of the bodies interested in the Bill, to offer opposition was also made known. Under these circumstances, Mr. Balfour bowed to what at this season of the year is the inevitable, and withdrew the Bill. We are glad to notice that he expressed an earnest hope that the Government would be in a position next year to settle this long-standing and perplexed controversy. We apprehend that it must now be clear that there is no prospect of passing any Bill to carry out the recommendations of the Cowper Commission without encountering some opposition, and it is to be hoped that on a future occasion the Government will realise this, and introduce the measure at an early period of the session.

PAUPER CHILDREN DURING THE QUEEN'S REIGN.

Amid the general survey of the past sixty years it is not unbecoming that pauper children should be passed in review, and this was done at the Victorian Era (Women's Section) Exhibition, Earl's Court, on July 31st, when Mrs. S. A. Barnett (Toynbee Hall) read a paper on Pauper Children in Queen Victoria's Reign. She first brought home to her audience the large amount of pauperism existing in the midst of jubilant London by showing that 1 person out of every 5 in the metropolis died in the workhouses, hospitals, or lunatic asylums, and that out of every 100 persons who died over sixty years of age 60 were paupers. In the British Isles official figures show that there are 1,029,216 paupers, but other computations witness to something like three times that number. Of these there are 840,625 in England, of whom 238,489 were children. For the children much had been done during the last sixty years. After the Reform Laws of 1834 they were crowded into the workhouses, exposed both to the disease and moral contamination of the adults. To this the inspectors objected and philanthropists petitioned at first with no result, but later, mainly owing to the exertions of Dr. Kay, later Sir J. Kay Shuttleworth, the first separate or small barrack school was founded, and in 1842 the children moved there. Still earlier, however, the boarding-out system had been started, for in 1828 three Irish working men gave effect to the method by providing in this way for the children of a comrade. In 1847 Scotland followed suit, and the English Local Government Board issued its first order concerning this plan in 1870. Of children in England 5 per cent. are now boarded out, 84 per cent. in Scotland, while in France, Germany, Switzerland, Russia, and the colonies it almost super

sedes any other system of rearing State-supported children. In 1878 the first village community or child's pauper colony was founded by the Birmingham Guardians, and fourteen years later Sheffield produced the scattered home system. The pioneer party of young emigrants started for Canada in 1869, and there is still a need for more to fill those vast untrodden acres. The lecturer reviewed the merits and demerits of each plan, urging that that system was best which most nearly approximated to the divine institution of the family, and that the worst which robbed a child of the right of individuality, and made it a part of a huge machine. It is gratifying to trace the young pauper from the overcrowded workhouse to the colonist's hearth, or the Board School and natural life of the Sheffield isolated homes; but on our congratulations we must remember that there are still 5,000 children in the workhouses of the metropolis mixing for the most part unchecked with the adult paupers; still nearly ,000 suffering from ophthalmia; still something like 30,000 sleeping homelessly every night in our great cities; still some 0,000 reared in the unnatural life of barrack schools; still, as our recent articles have shown, many suffering from disorders which are preventable by a wholesome method of life. It is one of the dangers of a national stock-taking that we rest content with achievements won. The future should be as rich in reforming spirit as the past, and in the children is the hope of the nation's strength.

IMMUNITY TO ENTERIC FEVER.

We publish in another column a communication by Surgeon-Major Freyer upon the results of the serum test for enteric fever as applied to the natives of India. Surgeon-Major Freyer believes that the adult native is insusceptible to enteric fever, not on account of any natural immunity, but because he has passed through a mild and unrecognised attack of the disease in childhood. He bases this view upon the results he has obtained in testing the blood serum of healthy natives at different ages. Of some thirty cases examined, all the adults and the majority of the children over 2 years of age gave a positive reaction, while the infants did not give the slightest trace of reaction. It would perhaps be rash to generalise from only a few cases, and we suspect that to assume from an analogy, as does Surgeon-Major Freyer, that the increased liability of English soldiers in India to enteric fever is due to the improvement of the sanitary conditions in England is not altogether safe. Nevertheless, the idea is suggestive, and we hope it will lead to the carrying out of a more extended series of observations upon a subject of such interest and importance.

NATIONAL SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.

The report of the Committee which undertook to investigate certain charges made against the administration of the National Society for the Prevention of Cruelty to Children has just been issued. The Committee consisted of Lord Herschell, Mr. Victor A. Williamson, C.M.G., and Mr. Francis W. Buxton. The Committee held thirteen sittings, and made a very careful inquiry into the charges. The report of the Committee is on the whole highly favourable to the Society. They state that after giving the utmost effect to all just criticisms on the administration of the Society, they do not believe that these criticisms affect more than a very small proportion of the money expended, and express the opinion that the great bulk of the funds with which the Society has been entrusted has been properly applied in furtherance of its objects. Mistakes and errors of judgment have occurred, such as are inevitable in any human organisation, but the Committee do not hesitate to assert that the Society has accomplished great work, and that there is strong evidence to show that a salutary change has taken place in the public opinion of the community, in some parts of the country at all events, and possibly in the country at large. The Committee recommend certain modifications in the administration of the Society which will remove even the fear of any misapplication of its funds or waste of its resources, so that the charitable public may be convinced that the money which they supply will be judiciously employed in furthering the sacred cause of protecting the children of the community and rendering their lives brighter and happier. The finding of the Committee will confirm the impression entertained by, we believe, almost everyone who has come into relation with its work. It is a sorrowful admission that such a society is needed. but we entertain no doubt that it is necessary, and that it has accomplished a great work. We are glad to see that at a meeting of the Council of the Society held on August 4th it was resolved to refer the recommendations in the report to the Executive Committee to report upon them to the next meeting of the Council.

THE WOUNDED IN THE BENIN EXPEDITION.

Of the 18 surgical cases treated at the Sapele base hospital, 2 only terminated fatally. These were cases of burns caused by the gunpowder explosion which occurred the day after Benin city was taken, and which ultimately led to part of the city being burnt to the ground. Most of the wounded were shot in the head, neck, or chest; this was due to the close proximity of the natives, who crept up within easy range before they fired, as the column marched through the narrow forest paths. Ten of the cases were all shot above the nipples but none dangerously; 4 cases only were shot low down. The forces of the expedition consisted of naval men and the troops of the Niger Coast Protectorate. The latter consisted of about 250 black troops armed with Martini-Henry rifles, and officered by about 16 white men. In addition to this force there were about 250 carriers. The above casualties occurred among the men of the Niger Coast Protectorate, and considering that these were in the front the whole time of the expedition until Benin City was taken, this must be considered as very few. Only 1 white officer was wounded; he was shot in the left wrist and on the first day. During the expedition a few white men suffered from malaria, but on the whole there was little sickness among them. Most of the black troops and carriers suffered from diarrhœa, which Surgeon-Major Roth, who was in charge of the Flying Column, thinks was caused by the frightful stenches around Benin city. In the medical report of the expedition 113 cases of small-pox are returned; of these 11 were fatal.

THE MEDICAL SERVICES.

The facts as to the number of candidates for the Army Medical Service and the Indian Medical Service respectively which Mr. Brodrick stated in reply to questions from Colonel Denny ought to convince the War Office that they cannot longer delay, without serious injury to the interests of the army, the reforms which are so urgently needed. For the Indian Medical Service 38 candidates applied for 18 vacancies, 5 were rejected as physically unfit, leaving 33 aspirants to 18 commissions. On the other hand, for the Army Medical Service there were 36 vacancies advertised, but only 22 candidates were accepted to compete for the 36 commissions; 28 originally applied, 2 were rejected as medically unfit, 3 did not present themselves for the physical test, and 1 was "otherwise disqualified." In the debate on the Appropriation Bill in the House of Commons on Wednesday, Mr. Price called attention to this subject, and pointed out that there was a progressive deficiency in the number of applicants for vacancies in the Army Medical Service. He urged that the Government should make a serious effort to ascertain why the medical profession avoided the military service. The War Office must, however, be very well acquainted with the reasons. Mr. Powell Williams, in his reply, truly stated that the objections related rather to the terms of service than to the pay. Upon one point he was able to give an assur-

ance that the Secretary of State for War was seriously considering a modification. He said that proposals were under consideration with the view of materially reducing the length of foreign service. Until the strength of the department, however, is brought up to the normal level all such proposals must be illusory.

THE TOWN AND GOWN ASSOCIATION OF EDINBURGH.

THE first annual report of the above Association just issued to the shareholders is very satisfactory, inasmuch as it shows the need that existed for some such arrangement. The property is now all but fully let, and while there are still a few vacancies in the students' houses the number of residents with which the new financial year opened was greater than at any previous time since the foundation of University Hall. The general conduct of the residents in the students' houses is reported as having been without reproach, and the educational result, measured by the strict test of examinations passed and of degrees obtained, as very satisfactory. The principle of leaving discipline and internal control to the self-government of each house has been entirely successful. There has also been a steady increase of post-graduate activity. The directors have in view considerable extensions. Of these the proposal to establish a hall of residence for women is a scheme that should work well, as several such halls exist already in Edinburgh.

NUNS AS NURSES.

WE regret to read that a difficulty has arisen between the Local Government Board in Ireland and the guardians of Tralee Union with regard to this question. The general orders require that the individual nurse should be submitted by name to the central authority before her appointment is confirmed. Owing to its newly aroused activity the Local Government Board Office has become aware of the fact that in past times the nuns were acceped *en bloc*, if we may so say, as the nurses of a workhouse, for whose services a certain sum was paid, sufficient to provide as many nurses as were considered necessary for the nursing of the sick. The obligations of the Mother Superior were confined to keeping a sufficient staff on duty; but if necessity arose, such as sickness, or any other disability, she would exchange one nun for the other, or, as is not unusual, if the Mother Superior found that the staff paid for was insufficient for the proper nursing of the sick, she would supply more nuns in the wards, the expense being borne by the community. This plan has worked well in the past, though not in accord with the general orders, but now the central authority is requiring from this Board a strict compliance with the letter of the law, and the guardians not unnaturally are questioning the need for this official activity. Anything that tends to upset the present ministrations of the nuns in the workhouses is to be deprecated, they have been the one bright streak of light across a very dark picture; we trust that a way may be found out of the difficulty which will harmonised red tape with humanity.

THE GROWTH OF THE METROPOLITAN ASYLUMS BOARD.

IF the work of an institution is to be judged by its popularity, then indeed is the Metropolitan Asylums Board worthy of every praise. Not only has it vastly increased the number of beds at its disposal for the treatment of infectious diseases, but the public demand for this sort of accommodation has increased in an even greater proportion, so that, notwithstanding all that has been done, cases constantly have to be refused admission during the months in which fever is most prevalent. Ten years ago the Board treated 2,000 fever cases a year, all of which were classed as paupers. Last year the Board admitted 20,000 cases, and the numbers appear still to be increasing. Putting the case the other way, ten years ago not 1 in 10 of the cases of fever occurring in the metropolis was treated in hospital, while to-day between 70 and 80 per cent. of the cases notified apply for admission, and, except during the months of pressure, nearly all who apply are admitted. The difficulty is that the more the public are brought to understand the convenience of throwing themselves on the rates, the more willing they appear so to do, and thus of hospitals there seems no end. As an agency for educating the public in municipal socialism the Metropolitan Asylums Board is certainly *facile princeps*.

PETROLEUM HAIRWASHES.

THERE are two points in the evidence of Dr. Robinson, given at the inquest on the unfortunate lady who lost her life from the ignition of a petroleum hairwash, which are especially worthy of note. The first is that he found that the room was "intensely hot." What that intense heat was due to we are not told, but it is unlikely that it was due to the heat of the sun. The second point is that he noticed on his arrival, some fifteen or twenty minutes after the accident, that the deceased's hair and sleeves were distinctly smouldering, although the proprietors of the shop had stated that the fire was absolutely extinguished in less than a minute. Dr. E. Haigh Grant Morris stated that on the day preceding her death the deceased was prematurely delivered of a child, and that the immediate cause of death was collapse following the miscarriage. He added, moreover, that the cause of the miscarriage was blood poisoning following the burns, and that the burns alone were so severe that they might have caused death. The bookkeeper in the establishment testified that she had often found matches lying about in the shop, where they could be easily ignited. Mr. W. J. Dibdin, chemist and analyst to the London County Council, said that the hairwash was composed of light petroleum spirit. Mr. Alfred Spencer, of the Public Control Department of the London County Council, said that he had examined the contents of two bottles of the hairwash, and found that the liquid possessed characteristics similar to those of petroleum spirit. He found that it would "flash," that is, ignite when brought in contact with a light at any temperature. He was informed that half a pint of the liquid was used for one hairwash, and this quantity would give off a very large volume of intensely inflammable vapour. The vapour would accumulate near the floor of the room where the petroleum was being used, and then float along with any current of air. In the Regent's Park explosion in 1874 the vapour accumulated in the centre of a barge, and flowed towards one end where some gunpowder was stored, and towards the other end where a fire was alight in the cabin. Petroleum spirit was largely employed in the process of dry-cleaning woollen and other things, but it could only be carried on under licence from the County Council. A licence was required to dry clean a mat, but not a human being. Since the accident inquiries had been made of thirty-eight hairdressers, twenty-five of whom had never used petroleum spirit; thirteen had used it, and they were all French hairdressers; of these ten had since abandoned its use, three, who had not, stated that their business in hairdressing by petroleum had largely increased since the accident, and another had commenced its use on account of the great demand. The jury returned an open verdict that the deceased died from the effect of burns caused by the ignition of a petroleum hairwash, but how it was ignited there was no evidence to show. They added a rider that "the jury regret, in view of the apparent ignition, that experiments bearing more definitely on the case could not be tried." The coroner, Mr. Troutbeck, said that the position of any hairdresser who used this or any petroleum hairwash after the public warning caused by this death would be most serious in the case of another fatality, and that it would be no defence to urge that the lady asked for it. We trust that this unfortunate incident will act as a sufficient warning, and that we shall hear no more of these petroleum, or so-called "antiseptic," hair

washes. Women are mad enough to do anything to improve their physical attractions, but the hairdresser who accedes to their wishes in this particular respect will in future do so at his own risk. We trust, too, the store chemists will be induced to consult their own safety, and will cease to vend such dangerous substance, even if the wholesale price of "pétrole" is 6d. a bottle, and it can be retailed at 7s. 6d.

THE CHAIR OF MATERIA MEDICA AT GLASGOW UNIVERSITY.

Dr. Ralph Stockman has been appointed by the Queen, on the recommendation of the Secretary for Scotland, Professor of Materia Medica in the Glasgow University in the room of Professor Charteris, deceased. Dr. Ralph Stockman is Assistant Physician to the Royal Infirmary, Edinburgh. He studied medicine in the University of Edinburgh, and in 1882 took the degrees of M.B. and C.M., with First Class Honours. After spending a winter session at Vienna, he acted as Resident Physician in the Edinburgh Royal Infirmary, and in 1883 he was appointed Assistant to the Professor of Materia Medica and Therapeutics in the University of Edinburgh. To fit himself for this work he spent six months at the University of Strassburg with Professors Schmiedeberg and Hoppe-Seyler. Dr. Stockman, having devoted himself to the special study of pharmacology and therapeutics, early attained a high reputation for his researches in this difficult department of experimental medicine. Many of his most important researches have been from time to time published in the British Medical Journal, and have won for him a reputation which extends far beyond the bounds of his own school, and is indeed European. The University of Glasgow is therefore to be congratulated on the nomination to the chair of Materia Medica, which includes therapeutics and pharmacology, of a scientific worker of the highest eminence. He was appointed some years ago Physician to the New Town Dispensary, Physician to the Victoria Hospital and Dispensary for Consumption and Diseases of the Chest, Assistant Physician to the Royal Infirmary. He has been one of the research scholars of the British Medical Association, and is a member of the Therapeutic Committee of the British Medical Association. He was a vice-president of the Therapeutic Section at the International Congresses of Washington and Berlin. In 1896 he was asked to be one of a Committee of three, to which debatable questions in pharmacology arising during the publication of the new edition of the *British Pharmacopœia* should be referred. Dr. Stockman, who was at one time the assistant to Professor Fraser, who occupies the corresponding chair in the Edinburgh University, has since had considerable further experience in teaching as lecturer on Materia Medica and Therapeutics in the School of Medicine in Edinburgh. He may be trusted to maintain and extend the high reputation of the University to which he now becomes attached.

BARRACK SCHOOL MANAGERS.

It is not our usual habit to remark on matters outside the scope of medical interests, but the recent debate around the Board table of the managers of the Sutton Barrack Schools throws light on the other matters connected with the hygienic condition of the schools to which we have endeavoured to draw attention. It seems that for some years the Sutton pauper children have on Derby day been turned into a field which abuts on the road, and there, with bands playing and flags flying, they spend the day avowedly with the purpose of attracting the attention of and obtaining alms from the racegoers. To this practice, as we noticed at the time, Sir Samuel Montagu drew the attention of the "House," but Mr. Chaplin replied that he saw no reason for requesting the guardians to discontinue that the State Children's Aid Association had truly designated as an "object lesson in begging, and a practical lesson in racing, betting, and all the evils of a fast life." Some of the newspapers having commented with severity on the conduct of the managers, that body decided to discuss the subject, which they did in a way which was wholly unworthy, with the result that the majority of the Board decided that the practice was harmless and enjoyable, and by a majority decided that it should continue. We have shown that the apathy and ignorance of the Sutton managers results in hygienic results among the children which are deplorable, and on matters moral and intellectual they seem no less incapable. It was this same Board which Doctor Downs has again urged to regard his frequently given recommendation to employ a dentist for the 2,000 children under their care, but teeth, health, and morals are all disregarded by this honourable body who is, we see, among those most condemned in our vigorous contemporary *London* for their gormandising habits, and consequent indifference to work.

THE FLANNEL SHIRT CLUB.

The first annual meeting of that excellent institution, the Flannel Shirt Club, was held recently at the residence of the Countess of Stafford. From the first half-year's report which was presented, it appears that already much good work has been accomplished. The distribution of shirts to men discharged from hospitals has been effected through the co-operation of the matrons and ward sisters. This is, we feel sure, a very wise plan of dispensing the charity, for the intimate acquaintance with the individual needs of each patient possessed by the sisters and nurses ensures that only genuinely necessitous cases are relieved. The Honorary Secretary has received 149 shirts and has had made 76 more out of the flannel supplied by members or purchased out of the subscriptions of the club. All desirous of assisting a very substantial and practical form of charity should communicate with Miss Lamport, 52, St. John's Wood Road.

THE BRITISH ASSOCIATION AT TORONTO.

On August 18th the British Association will meet in Toronto, when Sir John Evans, K.C.B., the Treasurer of the Royal Society, well known for his researches in archæology, will deliver an address which it is understood will deal mainly with the question of the antiquity of man. Professor Michael Foster, who will preside over the Section of Physiology, will deliver a retrospective address dealing with some of the more important advances which have been made in physiological research during the thirteen years which have elapsed since the British Association last met in Canada, its place of meeting at that time being Montreal. The list of papers announced in this section contains many communications of high interest from Canadian physiologists, and also not a few from well-known physiologists in the United States.

REACTIONS AND REAGENTS.

The *Pharmaceutical Journal* has recently published in its columns a very useful list of reagents, reactions, methods, and formulæ known by the names of their authors. Some years ago A. Schneider published a similar list in the *Pharmaceutische Centralblatte*, and this has since been revised and enlarged by Dr. Julius Altschul. This latter list has since been translated by R. Fischer, and published in the *Pharmaceutical Review*. With the idea of increasing its utility the list has been still further amplified by the addition of particulars regarding a large number of microscopical and bacteriological methods and formulæ. This list has been found so useful that the editor of the *Pharmaceutical Journal* proposes still further to extend it and republish it in book form. With a view of making the list as complete as possible, the editor of the *Pharmaceutical Journal* will be glad to receive particulars from all those whose names are associated with any tests or processes, together with any suggestions.

DEFECTS IN THE NOTIFICATION SYSTEM.

THE case of Dr. Clay *v.* Devonport Corporation, upon which we briefly commented in the BRITISH MEDICAL JOURNAL of July 31st, has only served to bring up afresh the whole question of the Infectious Disease (Notification) Act of 1889 as an incomplete and defective piece of public health legislation. In the case referred to, it will be remembered that the local health authority disputed the claim laid by Dr. Clay to be paid his fees in respect of certain certificates which he had sent in to the medical officer of health in strict conformity with the requirements of the statute. As matter of fact, the patients who gave rise to the sending of the notifications were under the charge of another medical man, by whom notification had already been made, but who had deemed it needful to call in Dr. Clay as a consultant. In the circumstances, as the Court eventually decided, the Act left Dr. Clay, under Section III (1) (b), no option but to certify the cases which had already been made the subject of notification.

Now, we said, in commenting on the circumstances of the case, that the matter brought up one of the points in respect of which legislative amendment of the general Act was needed, and we see no reason for going back upon what was remarked. We can, of course, conceive of instances, though they will, we venture to think, be rare, in which a second or even third notification of one and the same infectious case may be of advantage. But we had, and still have, regard to the undoubted fact that dual notification has in the vast majority of cases reference to one and the same person under identical conditions in the same house and approximately at the same time, the certifier in the second place being cognisant of the fact that the patient, in respect of whom he has but confirmed the earlier diagnosis of his colleague, has already been made the subject of a statutory certificate of notification.

Compulsory notification having been instituted as a measure aimed at safeguarding the public health, and not for the purpose of unnecessarily adding burdens to local rates, we certainly think that the law should eliminate the requirement of notification in all such cases as we refer to; and, where the diagnosis of the consultant differs from that of the medical man in charge, the former, if it comes within the meaning of the Act, should alone suffice for the purposes of notification. Any certificate, however, given in good faith, even though it be proved to be erroneous, should carry with it a claim to payment of fee, and does so.

The matter of payment itself calls for a word of comment. We are frequently asked three questions: first, what constitutes a claim for payment; secondly, when payment is to be made; and, thirdly, whether postage of notification certificates should be defrayed by the local authority. We think these points should be definitely settled– say, by a word as to annual or half-yearly or other periodical settlement of accounts; that certificates shall prove a sufficient claim; and that the vexed subject of postage (as to which much diversity of opinion exists, albeit a court of law has decided in favour of the certifier) shall be once for all settled by the issue of stamped forms of certificate, as in the case of certain forms issued under the Vaccination Acts.

The form of certificate itself stands in need of careful revision, especially in the case of the provinces, where the age and sex of the patient are not at present required. And it is important to consider whether other pertinent data could not be demanded without undue strain on the certifier or appearance of inquisition. As matter of common practice, many local authorities obtain a large amount of valuable information of an "optional" character. Useful requirements in the case of London, which do not obtain in the provinces, are notification by medical officers of health to head teachers of schools of the names of scholars either themselves notified as ill or living in invaded houses; and in the case of hospital notified cases, notification to the health authority of the district whence they came. But we think it should be made clear that the health officer of the district in which the hospital is located should, as matter of course, also be furnished with a certificate of all such cases.

In the matter of measles and whooping cough, we think it would be well if the present arbitrary requirements where these diseases are made notifiable were very considerably relaxed. With measles, a disease infectious in its pre-eruptive stage, it is the inter-epidemic cases which it is most essential to learn of quickly; and hence, as we have already said in these columns, we would gladly see conceded to local authorities, under very general and easy conditions, the power to abolish for a time the notification of measles—that is, when notifications are crowding in with no hope on the part of the health officer of being able to cope with an "epidemic" manifestation of the malady, though it may be that notification has enabled him to stay the oncomings of the disease for a considerable time, with great resultant saving of young life, and still greater saving of impaired child life, especially in the direction of lung mischief. Let whooping-cough come into the same category, and let it also be considered whether some limitation cannot be placed on erysipelas, all forms of which are now notifiable.

Before leaving this part of the subject we should like to mention the evident difficulty under which medical practitioners labour in the matter of the notification of diphtheria. The presence of that disease in a district being known, should not a local authority have the option of requiring all forms of throat ailment to be notified? And, again, as regards "puerperal fever," there seems to be much misconception of the forms of disease so to be notified. Time and again the deaths exceed the cases notified, and on many occasions death registration is the only intimation received of the occurrence of this class of disease. Health officers are coming to see the seriousness of the matter, and we notice that Dr. Thresh, the health officer for Essex, treats of the subject in his report for last year, wherein he says:

"Possibly the best plan is to consider all the peculiar febrile conditions coming on two to nine days after delivery as being puerperal fever, and to divide the cases into the following classes:

"1. The aseptic or traumatic form.

"2. Form due to septic intoxication; this is accompanied by marked peritonitis, and is often designated puerperal peritonitis.

"3. Form due to septic infection; the patient may be self-infected or infected from without, as by hands of midwife or medical practitioner, instruments, etc.

"4. Puerperal pyæmia.

"5. The zymotic form—due to erysipelas, scarlet fever, measles, or typhoid fever.

"If medical men understood that all these forms were to be notified as puerperal fever, less confusion would result."

We would again plead that the Act be made compulsory; we would ask that it be so framed as to supplant all local Acts, taking from them the best of their deviations from its lines, thus giving a harmonious record the whole country over in a codified law; and we would also again advocate a system of general notification and internotification by the aid of health officers, county councils, and a central Government authority.

We feel that we have not here dealt by any means exhaustively with desirable amendments and alterations of the existing law, but at least we have touched upon some of the most important of them.

NOTES ON HEALTH RESORTS AND SANATORIA.

NORDRACH IN THE BLACK FOREST.

DR. C. REINHARDT sends us notes of a visit to this sanatorium for consumptives:

The little village of Nordrach is situated in a slight hollow on the slope of the mountains, being about three thousand feet above sea level, and twelve miles by road from the station of Gengenbach on the Black Forest Railway.

I was received by Dr. Walther, who was at one time a colleague of Professor Koch in Berlin. The principles of the treatment include systematic "over-feeding," life in the open air, and regulation of both physical and mental exercise. Each patient must eat the amount of food set before him, which is regulated so as to produce in nearly all cases an increase in weight of three pounds weekly.

No patient can exclude the fresh air from his room, no windows being provided, open shutters (if the apparent contradiction of terms may be excused) being supplied to exclude rain and light if occasion requires. Walking exercise at the rate of two miles per hour is permitted, and light literature is provided, but business communications, visits from friends, and work of any kind if not recreative in character are forbidden. Forty patients are received, and all nationalities seem to be represented, the whole company presenting a lively, well dressed, and happy appearance.

I spoke with many patients, and found the usual story to be after the following pattern: "I came here as a last recourse: hæmorrhages had been frequent; I was a martyr to cough and dyspepsia and a mere skeleton to boot. I have gradually gained weight, my cough has gone, I have no appetite, but on the other hand I have forgotten what indigestion is. The doctor says my sputa no longer contain bacilli, and I shall be cured when three months have elapsed after the inoculation of the guinea-pig with a culture prepared from the expectoration ceases to give any reaction."

Amongst the patients to whom I spoke I did not find one who had not gained in weight or who had suffered from dyspepsia or nasal catarrh after the first month. Every case had experienced improvement, and several were apparently cured.

The friend of mine, a medical man, whose cure had first directed my attention to the place, remains well and is in active pursuit of his profession, though before his visit to Nordrach he had been in an advanced phthisical condition, with a large cavity in the right apex, much general emaciation, whilst his sputa had teemed with bacilli.

LITERARY NOTES.

The June number of the *London Hospital Gazette*, a publication which is more varied in contents and more attractive in appearance than the common run of such periodicals, gives a spirited description with illustrations of the Interhospital boat race. There is also a readable account of the Royal National Mission to the Deep Sea Fishermen. Mention must also be made of two well-executed full page illustrations of the London Hospital Section of the Victorian Era Exhibition. The May number contained two full-page illustrations representing the operating theatre of the hospital in 1837 and 1897. We congratulate our academic contemporary on its enterprise. The July number, which we have just received, contains copies of three letters written at various times to the authorities of the hospital by persons anxious to dispose of their bodies for the benefit of science. One of these may be quoted as recording an instance of remarkable liability to fracture:

January 26th, 1816.

Sir,—I take the liberty of addressing these few lines to you, being of a curious subsistence, having had my limbs brook ten different times, and was a patient in the London Hospital three different times under Mr. Greenland, and once under Sir W. Blizard, and once under Mr. Thomas Blizard, and was once under Mr. Heddington, and once under Mr. Yellowby, and six different times under Mr. H. Cooper the Helder, once under Mr. H. Cooper in Guy's Hospital, and once under Mr. Lucas in Guy's Hospital, and Mr. Forster and Dr. Saunders.

Therefore, Sir, I hope you will excuse the liberty I have taken in this way, being in the greatest distress—it is my wish to dispose of my Body, after the departure of this life, to you; therefore, Sir, I request your final answer, as I remain your

Most obedient and humble servant,
(Signed) Jon Davis.

To Mr. Headington,
One of the Surgeons,
London Hospital, E.

At a later date it is recorded that "this man is again a patient in the London Hospital for the eleventh broken leg." No information is vouchsafed as to the ultimate fate of this man's mortal remains. A body with at least eleven broken legs would surely have been worth securing, even by such means as John Hunter adopted in the case of the Irish giant, whose skeleton is now a conspicuous ornament of the Museum in Lincoln's Inn Fields.

Dr. John E. Jones, J.P., of Bryn-y-ffynon, Dolgelly, has been appointed by Mr. W. R. M. Wynne, the Lord Lieutenant, and with the consent of the Queen, a Deputy-Lieutenant for the County of Merioneth.

MEMBERS PRESENT AT THE ANNUAL MEETING.

The following members registered their names at the extraordinary and annual general meetings held at Exeter Hall on Tuesday, July 27th, and Wednesday, July 28th, 1897:

Allan, Francis J., M.D., 5, Tavistock Street, Strand, W.C.
Atkinson, T. R., M.R.C.S., 1, West Cromwell Road, S.W.
Auld, A. G., M.D., 31, Manchester Street, W.
Alderson, Fred. H., M.D., Hammersmith
Alexander, Samuel, L.R.C.P.Ed., Morley House, Bruce Road, Bromley, E.
Anderson, Mrs. E. Garrett, M.D., 4, Upper Berkeley Street, W.
Anderson, R. Benjamin, F.R.C.S., 30, Montague Place, W.C.

Bateman, A. G., M.B., 49, Devonshire Street, W.
Barnes, Henry, M.D., 6, Portland Square, Carlisle
Barr, James, M.D., 72, Rodney Street, Liverpool
Banks, Henry, L.K.Q.C.P.I., 226, Mare Street, N.E.
Batten, R. W., M.D., Gloucester
Balding, Daniel B., F.R.C.S., Royston
Berridge, W. A., M.R.C.S., Red Hill
Beverley, Michael, M.D., Norwich
Bell, J. Vincent, M.D., Star Hill, Rochester
Bowles, Robert L., M.D., 16, Upper Brook Street, W.
Boxall, Robert, M.D., 29, Weymouth Street, W.
Braidwood, P. Murray, M.D., Aylesbury
Brown, T. E. Burton, M.D., C.I.E., Cambridge
Browne, H. Langley, F.R.C.S.E., West Bromwich
Brown, George, M.R.C.S., 16, Hart Street, Bloomsbury
Brierley, J. Brassey, M.D., Old Trafford
Bridgwater, Thomas, M.B., Harrow
Broadbent, George H., M.R.C.S., Manchester
Brown, T. Lloyd, M.R.C.S., Hyde Road, Shoreditch, N.
Butlin, Henry T., F.R.C.S., 82, Harley Street, W.
Buckell, Francis J., M.B., 32, Canonbury Square, N.
Burry, H. B. Pullen, M.R.C.S., Liphook

Callaghan, J. Leslie, L.R.C.S.I., Coventry
Campbell, Colin, M.R.C.S., Saddleworth
Carter, Alfred H., M.D., Birmingham
Cartwright, Ernest H., M.D. 1, Courtfield Garden, S.W.
Clark, Andrew, F.R.C.S., 71, Harley Street, W.
Clark, W. Adams, M.D., 44, Beckenham Road, Penge, S.E.
Cleveland, William F., M.D., 199, Maida Vale, W.
Clowes, Herbert A., M.D., 4, St. Stephens Road, W.
Collie, R. John, M.D., St. George's Lodge, Catford
Collier, William, M.D., St. Mary's Entry, Oxford
Cook, J. Belcher, M.R.C.S., Great Missenden
Cousins, J. Ward, M.D., Portsmouth
Cox, Alfred, M.B., Gateshead
Crawford, James, M.D. 80, Victoria Street, S.W.
Crichton, George, M.D., 96, Earl's Court Road, W.
Crocker, H. Radcliffe, M.D., 121, Harley Street, W.
Crockett, E., F.R.C.S.E., Hampton Wick

Dawson, Rankine, M.D., 8, Gerald Road, Eaton Square, S.W.
Day, W. Henry, M.R.C.S., 2, Leigh Road, Highbury Park, N.
* Dickinson, W. G., M.R.C.S., West Hill, Putney, S.W.
Dolan, T. M., M.D., Halifax
Dorrell, Edmund A., M.R.C.S., 1, Lyncroft Gardens, West Hampstead, N.W.
Drage, Lovell, M.D., Hatfield
Drake-Brockman, Brigade-Surgeon-Lieutenant-Colonel E. F., F.R.C.S., 15, Quex Road, Kilburn, N.W.
Douglas, William, M.D., 5, Finchley Road N.W.
Dow, William B., M.D., Dunfermline, N.B.
Dunn, Hugh P., F.R.C.S., 54, Wimpole Street, W.
Dyson, William, M.D., Sheffield

Eastes, George, M.B., 35, Gloucester Terrace, W.
Eddowes, Alfred, M.D., 25, Old Burlington Street, W.
Elliot-Blake, H., M.R.C.S., 120, Upper Woburn Place, W.C.
Elliston, W.A., M.D., Ipswich
Erskine, Robert, M.D., 62, Pembridge Villas, W.
Esler, Robert, M.D., 4, Queen's Road, Peckham, S.E.

Fegan, Richard, M.D., Blackheath S.E.
Felce, Stamford, M.R.C.S., London
Fenwick, B., M.D., 20, Upper Wimpole Street, W.
Ferris, J. Spencer, M.B., Uxbridge
Flynn, E. F., L.R.C.P., 96, Leathwaite Road, S.W.
Foster, Sir Walter, M.D., M.P., 30, Grosvenor Road, Westminster, S.W.
Fowler, O. H., M.R.C.S., Cirencester
Fowler, R. S., F.R.C.S., Bath
Fox, Francis, M.R.C.S., 68, Wimpole Street, W.
Fox, Richard J., M.D., 45, Sunnyside Road, Ilford
Frain, Joseph, M.D., Newcastle-on-Tyne
Freeland, E. Harding, M.R.C.S., 22, Beaumont Street, W.
Freyer, P. J., M.D., 46, Harley Street, W.
Furnivall, Percy, F.R.C.S., 34, Adelaide Road, N.W.

Gabe, J. R., M.D., 16, Mecklenburgh Square, W.C.
Galton, John H., M.D., Norwood, S.E.
Gardner, Brigade-Surgeon T. T., Worple Road, Wimbledon
Gardner, H. G., M.R.C.S.Edin., care of Messrs. Holt and Co., 17, Whitehall Place, S.W.
Gledhill, James, M.B., Hollinwood
Goff, Bruce, M.D., Bothwell, Lanarkshire
Goodall, Charles E., M.B., St. Kilda, Victoria
Gosse, Wm., L.R.C.P., Sittingbourne
Grant, Ogilvie, M.B., Inverness
Green, J. L., M.R.C.S., Salisbury
Greenwood, Major, M.D., 243, Hackney Road, N.E.
Griffith, Alex. H., M.D., Manchester
Gripper, W., M.B., Wallington
Groves, Joseph, M.B., Carisbrooke, Isle of Wight

Hall, Hamilton, Frant, Sussex
Hall, William W., M.D., 195, Belsize Road, N.W.
Handford, Henry, M.D., Nottingham
Handyside, A., L.R.C.P., Earlestown, Lancs.
Hardy, H. Nelson, F.R.C.S.Edin., 129, Dulwich Grove, S.E.
Harries, J. D., M.R.C.S., Shrewsbury

* Not a member of the British Medical Association.

Hart, F. Lorimer, M.B., Sydenham
Hartley, Reginald, M.D., 112, Westbourne Grove, W.
Haughton, Edward, M.D., Upper Norwood, S.E.
Hebb, R. G., M.D., 9, Suffolk Street, S.W.
Hendley, Brig.-Surg.-Lieut.-Col. T. H., E.I.U.S. Club, S.W.
Hill, J. Higham, M.D., 2, Bedford Square, W.C.
Hill, Wm., M.D., 28, Weymouth Street, W.
Hime, T. W., M.D., Bradford
Holman, C., M.D., 26, Gloucester Place, W.
Hopkins, H. C., M.R.C.S., Bath
Horder, T. Garrett, M.R.C.S.Edin., Cardiff
Horne, Walter J., M.B., 17, Bartlett's Buildings, Holborn Circus, E.C.
Horsley, Victor, F.R.S., F.R.C.S., 25, Cavendish Square, W.
Hubbard, A. J., M.D., Hemel Hempstead
Hubbard, H. W., L.R.C.P., 19, Elgin Crescent, W.
Humphreys, F. R., L.R.C.P., 27, Fellows Road, N.W.

I'Anson, T. F., M.D., Whitehaven
Ince, John, M.D., Swanley, Kent

Jackson, G., F.R.C.S., Plymouth
Jackson, T. Vincent, F.R.C.S.Edin., Wolverhampton
James, J. Brindley, M.R.C.S., 93, Bridge Road, W.
James, Charles A., L.R.C.P., 24, Cazenove Road, N.
Joll, B. Burnett, M.B., 27, Bedford Square, W.C.
Jones, Evan, M.R.C.S., Aberdare
Jones, Robert, M.D., Claybury Asylum, Woodford

Kerr, Norman, M.D., 1, Hamilton Terrace, N.W.

Laffan, Thomas, M.R.C.P.I., Cashel
Langran, Wm., L.R.C.P.Edin., Axminster
Lawton, John W., M.R.C.S., Eccles
Lidiard, Sydney R., M.D., Falmouth
Lucey, Cubitt, M.D., 53, Rosslyn Hill, Hampstead

McGeagh, W., M.D., 20, Spellow Lane, Liverpool
Macleod, William A., M.B., 9, Pembridge Villas, W.
Macnamara, N. C., F.R.C.S., 13, Grosvenor Street, W.
McVail, John C., M.D., 32, Balshagray Avenue, Glasgow
Maberly, F. Hyde, M.D., 3, Nevern Square, S.W.
Manning, H. J., M.R.C.S., Laverstock, Salisbury
Mason, J. Wallis, M.R.C.S., 1, Albany Road, Stroud Green
Masters, John, A., M.D., 57, Lexham Gardens, Kensington, W.
Matcham, Alfred, M.R.C.S., 116, St. George's Road, Southwark, S.E.
Maude, Arthur, M.R.C.S., Westerham
Miller, J. Duff, M.B., 152, Holland Park Avenue, W.
Miller, J. W., M.D., Dundee
Moore, Milner, M.D., Coventry
Morris, W. Jones, M.R.C.S., Portmadoc
Myrtle, James A., M.D., Harrogate

Nair, Tiravoth M., M.D.Edin., Egmore, Madras
Newington, H. Hayes, M.R.C.S., The Gables, Ticehurst

Oakes, Arthur, M.R.C.S., 45, Whittall Street, Birmingham
O'Bryen, J. Wheeler, M.D., Sydenham, S.E.
O'Dwyer, Surgeon-Major-General T. F., M.D., A.M.S., Aldershot
O'Hagan, Patrick F., L.R.C.P.E., Tower House, London Road, Croydon
O'Neill, Henry, M.D., 6, College Square East, Belfast
Oswald, J. W. J., M.D., 245, Kennington Road, S.E.
Owen, Isambard, M.D., 40, Curzon Street, W.

Parkinson, C. H. W., M.R.C.S., Wimborne Minster
Parsons, Charles, M.D., Dover
Pearse, F. Frederick, M.D., 1, Clarendon Road, Southsea
Penny, Deputy-Surgeon-General J. C., M.D., 6, Nevern Square, S.W.
Perks, Robert H., M.D., Adelaide, South Australia
Philip, R. W., M.D., 4, Melville Crescent, Edinburgh
Pidcock, G. D., M.D., 74, Fitzjohn's Avenue, N.W.
Poole, Surgeon-Major G. K., M.D., 21, Sylvan Road, Norwood, S.E.
Pope, Frank M., M.B., Leicester
Powell, Herbert E., M.R.C.S., Glenarm House, Upper Clapton, N.E.

Reid, T. Whitehead, M.D., Canterbury
Rentoul, R. R., M.D., 27, Cavendish Square, W.
Richards, J. Pecke, M.R.C.S., 6, Freeland Road, Ealing, W.
Rolston, John, M.D., Clarendon Villa, Devonport
Rorie, David, M.B., Cardenden, Fife
Ryan, P. C. H., M.D., Gordon House, High Barnet

Saundby, Robert, M.D., Birmingham
Sedgwick, Leonard W., M.D., 48, Gloucester Terrace, Hyde Park, W.
Shadwell, St. Clair B., M.D., Walthamstow
Shearer, Donald F., M.B., 39, Auerley Road, Norwood, S.E.
Sheen, Alfred, M.D., Cardiff
Shore, Thomas W., M.D., St. Bartholomew's Hospital, E.C.
Shuttleworth, G. E., M.D., Richmond Hill
Sibley, W. Knowsley, M.D., 7, Upper Brook Street, W.
Skerritt, E. Markham, M.D., Clifton, Bristol
Smith, Joseph, M.R.C.S., 15, Bath Road, Bedford Park, W.
Smith, Solomon C., M.D., London
Smith, Walter, M.D., 60, Regent's Park Road, N.W.
Smith, William R., M.D., 74, Great Russell Street, W.C.
Snape, Ernest A., M.D., 41, Welbeck Street, W.
Spiers, John L., M.B., Ratcliffe House, Gateshead
Sprent, W. Swanson, L.R.C.P.I., Slingsby, York
Stevens, George, L.S.A., Norton, Bury St. Edmunds
Stewart, Sir T. Grainger, M.D., LL.D. 19 Charlotte Square, Edinburgh
Straton, C. Robert, F.R.C.S.Edin., West Lodge, Wilton, Salisbury
Sturge, H. Havelock, M.R.C.S., 81, Elgin Avenue, W.
Sutcliffe, Joseph, L.R.C.P., 625, Wandsworth Road, S.W.

Tait, Lawson, F.R.C.S., Birmingham
Taylor, Shephard T., M.B., Mount Echo, Chingford
Tyson, W. Joseph, M.D., Folkestone

Urquhart, A. R., M.D., Perth

Verrall, T. Jenner, M.R.C.S., Brighton
Vinrace, Dennis, M.R.C.S., 24, Alexander Square, Kensington, W.

Walker, Alex. H., M.R.C.S., Cranleigh
Wallace, Frederick, L.R.C.P., Upper Clapton, N.E.
Wells, A. P., L.R.C.P., Beckenham
Welsford, Arthur G., M.D., Bookham
Wheelhouse, C. G., F.R.C.S., Filey, Yorks
White, Joseph, F.R.C.S., 6, Southall Gardens, S.W.
Wilkin, Griffith C., M.R.C.S., 40, Devonshire Street, W.
Williams, Dawson, M.D., 101, Harley Street, W.
Wilson, Samuel, M.R.C.S., 184, Mare Street, Hackney, N.E.
Wise, R. Stanton, M.D., Banbury
Woodcock, S., M.D., Old Trafford
Woodhead, G. Sims, M.D., 1, Nightingale Lane, S.W.
Woods, Hugh, M.D., Highgate, N.
Wynter, Andrew E., M.R.C.S., Beckenham

ASSOCIATION INTELLIGENCE.

PROCEEDINGS OF THE COUNCIL.

AT a meeting of the Council held in the Council Room of the Association, 429, Strand, London, W.C., on Tuesday, July 27th, 1897,

Present:

Dr. ROBERT SAUNDBY, President of Council, in the chair.
Dr. HENRY BARNES, President.
Dr. CHARLES PARSONS, Treasurer.

Dr. JAMES BARR, Liverpool.
Dr. RAYNER W. BATTEN, Gloucester.
Dr. M. BEVERLEY, Norwich.
Dr. T. BRIDGWATER, LL.D., Harrow-on-the-Hill.
Mr. H. LANGLEY BROWNE, West Bromwich.
Mr. HENRY T. BUTLIN, London.
Dr. ALFRED H. CARTER, Birmingham.
Mr. ANDREW CLARK, London.
Dr. W. F. CLEVELAND, London.
Dr. J. WARD COUSINS, Portsmouth.
Dr. H. RADCLIFFE CROCKER, London.
Dr. T. M. DOLAN, Halifax.
Brig.-Surg.-Lieut.-Col. E. F. DRAKE-BROCKMAN, London.
Dr. W. DYSON, Sheffield.
Mr. GEORGE EASTES, London.
Dr. WILLIAM A. ELLISTON, Ipswich.
Sir B. WALTER FOSTER, M.D., M.P., Birmingham.
Mr. R. S. FOWLER, Bath.
Dr. J. H. GALTON, Upper Norwood.
Dr. BRUCE GOFF, Bothwell.
Dr. C. E. GOODALL, London.
Dr. OGILVIE GRANT, Inverness.
Dr. H. HANDFORD, Nottingham.
Mr. JOHN D. HARRIES, Shrewsbury.
Dr. C. HOLMAN, London.
Dr. T. F. I'ANSON, Whitehaven.
Mr. EVAN JONES, Aberdare.
Mr. N. C. MACNAMARA, London.
Mr. H. J. MANNING, Salisbury.
Dr. J. W. MILLER, Dundee.
Mr. W. JONES MORRIS, Portmadoc.
Surg.-Maj.-Gen. O'DWYER, Aldershot.
Dr. J. W. J. OSWALD, London.
Mr. C. H. WATTS PARKINSON, Wimborne Minster.
Dr ROBERT W. PHILIP, Edinburgh.
Dr. FRANK M. POPE, Leicester.
Dr. JOHN ROLSTON, Devonport.
Dr. L. W. SEDGWICK, London.
Dr. ALFRED SHEEN, Cardiff.
Dr. G. E. SHUTTLEWORTH, Richmond Hill.
Dr. A. R. URQUHART, Perth.
Mr. T. JENNER VERRALL, Brighton.
Mr. C. GALEN WHEELHOUSE, Filey.
Mr. JOSEPH WHITE, London.
Dr. S. WOODCOCK, Old Trafford.

The President of Council reported that as there had not been time for the minutes of the last meeting to be entered in the minute book for his signature, consisting of 71 pages of printed matter, they had been printed and circulated.

Resolved: That the President of Council be authorised to sign the minutes of Council as printed.

Read letters of apology for non-attendance from Dr. W. Gordon, Mr. J. H. Hemming, Mr. Jordan Lloyd, Dr. J. Wm. Moore, Mr. Nicholson, Dr. G. H. Philipson, Dr. Wm. Russell, Dr. R. Somerville, and Mr. Stear.

Read letter from Dr. Claremont (Honorary Secretary South-East Hants District, Southern Branch) asking that the Council should not make any arrangement for the annual meeting of 1899 until the Portsmouth profession has had the opportunity of considering whether they will be able to invite the Association to meet in Portsmouth in that year.

Resolved: That Dr. Claremont be informed that no further steps can be taken at present in the matter.

Resolved: That the President of Council be requested to speak at the extraordinary general meeting in the name of the Council with regard to the first resolution.

Resolved: That no one but members be allowed to be present at the annual general meeting this day.

ATTENDANCES OF COUNCIL FOR 1896-7.

	Total Attendances.
Dr. Henry Barnes, Carlisle, President	6
Dr. T G. Roddick, Montreal, President-Elect ...	1
Dr. R. Saundby, Birmingham, President of Council	7
Dr. Charles Parsons, Dover, Treasurer	5
Sir H. W. Acland, K.C.B., M.D., F.R.S., Oxford, Vice-President	0
Sir J. T. Banks, M.D., Dublin, Vice-President ...	0
Dr. James Barr, Liverpool, R.	7
Mr. B. Barrow, F.R.C.S., Ryde, Vice-President ...	0
Dr. R. W. Batten, Gloucester, R.	3
Dr. M. Beverley, Norwich, R.	4
Dr. T. Bridgwater, LL.D., Harrow-on-the Hill, Vice-President	6
Mr. Langley Browne, F.R.C.S., West Bromwich, R.	6
Mr. H. T. Butlin, D.C.L., F.R.C.S., London, Vice-President, ...	5
Dr. John Campbell, Belfast, R.	3
Dr. James Cantlie, London, R.	2
Dr. Alfred H. Carter, Birmingham, R.	4
Mr. Andrew Clark, F.R.C.S., London, R.	7
Dr. W. F. Cleveland, London, R.	5
Dr. J. Ward Cousins, Portsmouth, Vice-President ...	7
Dr. H. Radcliffe Crocker, London, R.	7
Dr. G. W. Crowe, Worcester, R.	4
Dr. J. Cuming, Belfast, Vice-President	1
Dr. E. H. Dickinson, Liverpool, R....	4
Dr. T. M. Dolan, Halifax, R.	6
Mr. E. Donaldson, Londonderry, R.	0
Brigade-Surgeon-Lieutenant-Colonel E. F. Drake-Brockman, F.R.C.S., London, R.	7
Dr. D. Drummond, D.C.L., Newcastle-on-Tyne, R. ...	2
Dr. W, Dyson, Sheffield, R.	4
Mr. George Eastes, M.B., London, R.	6
Dr. W. T. Edwards, Cardiff, Vice-President	0
Dr. W. A. Elliston, Ipswich, R	7
Dr. David W. Finlay, Aberdeen, R.	4
Sir B. W. Foster, M.D., D.C.L., M.P., Birmingham, Vice-President	2
Mr. R. S. Fowler, Bath, R.	4
Dr. E. Long Fox, Clifton, Vice-President	0
Professor W. T. Gairdner, M.D., F.R.S., Glasgow, Vice-President	0
Dr. J. H. Galton, Upper Norwood, R...	4
Dr. C. E. Glascott, Manchester, R.	2
Dr. Bruce Goff, Bothwell, R.	7
Dr. C. E. Goodall, London, R.	5
Dr. Wm. Gordon, Exeter, R.	3
Dr. Ogilvie Grant, Inverness, R.	4
Dr. H. Handford, Nottingham, R.	5
Mr. John D. Harries, Shrewsbury, R.	4
Mr. J. H. Hemming, Kimbolton, R.	6
Dr. Holman, London, Vice-President	5
Dr. T. F. I'Anson, Whitehaven, R.	4
Mr. T. Vincent Jackson, Wolverhampton, R. ...	5
Mr. T. R. Jessop, F.R.C.S., Leeds, R....	1
Mr. Evan Jones, Aberdare, R.	7
Dr. J. A. Lindsay, Belfast, R.	1
Mr. Jordan Lloyd, F.R.C.S., Birmingham, R. ...	6
Mr. N. C. Macnamara, F.R.C.S., London, Vice-President...	6
Mr. H. J. Manning, Salisbury, R.	6
Dr. J. W. Miller, Dundee, R.	7
Dr. John William Moore, Dublin, R....	4
Mr. W. Jones Morris, Portmadoc, R....	5
Mr. R. H. B. Nicholson, Hull, R.	6
Dr. J. Norton, Bagnalstown, R.	0
Surgeon-Major-General T. F. O'Dwyer, M.D., Aldershot, R.	2
Dr. J. W. Oswald, London, R.	7
Dr. Isambard Owen, London, R.	4
Mr. C. H. W. Parkinson, Wimborne Minster, R. ...	7
Dr. R. W. Philip, Edinburgh, R.	5
Dr. G. H. Philipson, D.C.L., Newcastle-on-Tyne, Vice-President	1
Dr. F. M. Pope, Leicester, R.	7
Dr. Edwin Rayner, Stockport, R.	4
Dr. John Rolston, Devonport, R.	5
Dr. W. Russell, Edinburgh, R.	4
Dr. A. W. Sandford, Cork, R.	1
Dr. L. W. Sedgwick, London, R.	4
Dr. A. Sheen, Cardiff, R.	5
Dr. G. E. Shuttleworth, Richmond Hill, R.	4
Dr. E. Markham Skerritt, Clifton, R.	4
Dr. R. Somerville, Galashiels, R.	5
Mr. Henry Stear, Saffron Walden, R....	4
Dr. J. Strachan, Dollar, R.	1
Dr. J. Roberts Thomson, Bournemouth, Vice-President	4
Surgeon-Major W. B. Thomson, M.S., York, R. ...	0
Dr. T. W. Trend, Southampton, R.	3
Dr. A. R. Urquhart, Perth, R...	6
Mr. T. J. Verrall, Brighton, R.	7
Sir Willoughby Wade, Birmingham, Vice-President...	2
Mr. J. H. Walters, Reading, R.	2
Dr. A. T. H. Waters, Liverpool, Vice-President ...	0
Mr. C. G. Wheelhouse, F.R.C.S., Filey, Vice-President	4
Mr. Joseph White, D.C.L., F.R.C.S., London, Vice-President	7
Mr. G. E. Williamson, F.R.C.S., Newcastle-on-Tyne, R.	3
Mr. Alfred Winkfield, F.R.C.S., Oxford, R.	2
Dr. W. L. Winterbotham, Bridgwater, R.	2
Dr. S. Woodcock, Old Trafford, R.	5

* The letter R. signifies Representative of a Branch.

AT a meeting of the Council, held in the Council Room of the Association, 429, Strand, London, W.C., on Wednesday, July 28th, 1897.

Present:

Dr. ROBERT SAUNDBY, President of Council, in the Chair.
Dr. CHARLES PARSONS, Treasurer.

Dr. HENRY BARNES, Carlisle.
Dr. JAMES BARR, Liverpool.
Dr. THOMAS BRIDGWATER, Harrow-on-the-Hill.
Mr. LANGLEY BROWNE, West Bromwich.
Dr. ALFRED H. CARTER, Birmingham.
Mr. ANDREW CLARK, London.
Dr. W. F. CLEVELAND, London.
Dr. J. WARD COUSINS, Portsmouth.
Dr. H. RADCLIFFE CROCKER, London.
Brig.-Surg.-Lieut.-Col. E. F. DRAKE-BROCKMAN, London.
Dr. WILLIAM DYSON, Sheffield.
Mr. GEORGE EASTES, M.B., London.
Dr. J. H. GALTON, Upper Norwood.
Dr. BRUCE GOFF, Bothwell.
Dr. C. E. GOODALL, London.
Dr. OGILVIE GRANT, Inverness.
Dr. J. GROVES, Carisbrooke, Isle of Wight.
Dr. H. HANDFORD, Nottingham.
Mr. JOHN D. HARRIES, Shrewsbury.
Dr. C. HOLMAN, London.
Mr. T. VINCENT JACKSON, Wolverhampton.
Mr. EVAN JONES, Aberdare.
Mr. N. C. MACNAMARA, London.
Dr. J. C. MCVAIL, Partick.
Mr. H. J. MANNING, Salisbury.
Dr. J. W. MILLER, Dundee.
Mr. W. JONES MORRIS, Portmadoc.
Surg.-Maj.-Gen. T. F. O'DWYER, Aldershot.
Dr. J. W. OSWALD, London.
Mr. C. H. W. PARKINSON, Wimborne Minster.
Dr. R. W. PHILIP, Edinburgh.
Dr. F. M. POPE, Leicester.
Dr. EDWIN RAYNER, Stockport.
Dr. JOHN ROLSTON, Devonport.
Dr. WILLIAM RUSSELL, Edinburgh.
Dr. LEONARD W. SEDGWICK, London.
Dr. ALFRED SHEEN, Cardiff.
Dr. A. R. URQUHART, Perth.
Mr. C. G. WHEELHOUSE, Filey.
Dr. S. WOODCOCK, Old Trafford.

The minutes of the last meeting not having been printed and circulated, were ordered to be brought up at the next meeting.

The President of Council reported the returns of the election of representatives of Branches on the Council as follows:

Aberdeen, Banff, and Kincardine Branch.—D. W. Finlay, Aberdeen. *Adelaide and South Australia Branch.*—R. H. Perks. *Barbados Branch.*—Surgeon-Major W. B. Thomson, York. *Bath and Bristol Branch.*—R. S. Fowler, Bath; E. M. Skerritt, Bristol. *Bermuda Branch.*—(No return.) *Birmingham and Midland Counties Branch.*—L. Browne, West Bromwich; A. Carter, Birmingham; J. Lloyd,, Birmingham. *Bombay Branch.*—(No return.) *Border Counties Branch.*—J. A. Campbell, Carlisle; R. Somerville, Galashiels. *Brisbane and Queensland Branch.*—(No return.) *British Columbia Branch.*—(No return.) *British Guiana Branch.*—(No return). *Burmah Branch.*—(No return.) *Cambridge and Huntingdon Branch.*—H. Stear, Saffron Walden. *Cape of Good Hope Branch.*—(No return.) *Colombo, Ceylon Branch.*—(No return.) *Cork and South of Ireland Branch.*—A Sandford, Cork. *Deccan Branch.*—(No return.) *Dorset and West Hants Branch.*—C. H. W. Parkinson, Wimborne Minster. *Dublin Branch.*—J. W. Moore, Dublin. *Dundee and District Branch.*—J. W. Miller, Dundee. *East Anglian Branch.*—M. Beverley, Norwich; W. A. Elliston, Ipswich. *East York and North Lincoln Branch.*—R. H. B. Nicholson, Hull. *Edinburgh Branch.*—R. W. Philip, Edinburgh; W. Russell, Edinburgh. *Gibraltar Branch.*—W. Turner. *Glasgow and West of Scotland Branch.*—B. Goff, Bothwell. *Gloucestershire Branch.*—R. W. Batten, Gloucester. *Grahamstown and Eastern Province Branch.*—(No return.) *Griqualand West Branch.*—(No return.) *Halifax, Nova Scotia Branch.*—Surgeon-Major-General O'Dwyer, Aldershot. *Hong Kong and China Branch.*—J. Cantlie, London *Jamaica Branch.*—(No return.) *Lancashire and Cheshire Branch.*—J. Barr, Liverpool; E. H. Dickinson, Liverpool; C. E. Glascott, Manchester; A. Godson, Cheadle; E. Rayner, Stockport; S. Woodcock, Manchester. *Leeward Islands Branch.*—(No return.)—*Londonderry and North-West of Ireland Branch.*—E. Donaldson, Londonderry. *Malaya Branch.*—(No return.) *Malta and Mediterranean Branch.*—(No return.) *Manitoba and North-West of Canada Branch.*—(No return.) *Melbourne and Victoria Branch.*—C. E. Goodall, Brighton. *Metropolitan Counties Branch.*—Andrew Clark, W. F. Cleveland, H. Radcliffe Crocker, George Eastes, J. W. J. Oswald, Isambard Owen, L. W. Sedgwick, London. *Midland Branch.*—H. Handford, Nottingham; F. M. Pope, Leicester. *Montreal Branch.*—G. E. Armstrong, Montreal; Sir W. H. Hingston, Montreal. *Natal Branch*—(No return). *New Zealand Branch*—(No return.) *Northern Counties of Scotland Branch.*—Ogilvie Grant, Inverness. *North of England Branch.*—David Drummond, New-

castle-on-Tyne; G. E. Williamson, Newcastle-on-Tyne. *North of Ireland Branch.*—John Campbell, Belfast; J. A. Lindsay, Belfast. *North Wales Branch.*—W. Jones Morris, Portmadoc. *Oxford and District Branch.*—W. L. Morgan, Oxford. *Perthshire Branch.*—A. R. Urquhart, Perth. *Punjab Branch.*—(No return.) *Quebec Branch*—M. Ahern. *Reading and Upper Thames Branch.*—H. H. Phillips-Conn, Reading. *Shropshire and Mid-Wales Branch.*—John Davies Harries, Shrewsbury. *South-Eastern Branch.*—J. H. Galton, Upper Norwood, S.E.; W. J. Tyson, Folkestone; T. J. Verrall, Brighton. *South-Eastern of Ireland Branch.*—J. Norton, Bagnalstown. *Southern Branch.*—J. Groves, Carisbrooke; H. J. Manning, Salisbury; *South Indian and Madras Branch.*—Brigade-Surgeon-Lieutenant-Colonel E. F. Drake-Brockman, London. *South Midland Branch.*—J. H. Hemming, Kimbolton. *South Wales and Monmouthshire Branch.*—Evan Jones, Aberdare; A. Sheen, Cardiff. *South-Western Branch.*—Wm. Gordon, Exeter; John Rolston, Devonport. *Staffordshire Branch.*—T. Vincent Jackson, Wolverhampton. *Stirling, Kinross, and Clackmannan Branch.*—J. C. McVail, Glasgow. *Sydney and New South Wales Branch.*—(No return.) *Trinidad and Tobago Branch.*—(No return.) *Thames Valley Branch.*—G. E. Shuttleworth, Richmond Hill, Surrey. *West Somerset Branch.*—W. L. Winterbotham, Bridgwater. *Worcestershire and Herefordshire Branch.*—G. W. Crowe, Worcester. *Yorkshire Branch.*—T. M. Dolan, Halifax; W. Dyson, Sheffield; T. R. Jessop, Leeds.

The President of Council reported the following new representatives on the Council: Dr. R. H. Perks, of the Adelaide and South Australia Branch; Dr. John Campbell, Border Counties Branch; Dr. William Turner, Gibraltar Branch; Dr. A. Godson, Lancashire and Cheshire Branch; Sir William Hingston, Montreal Branch; Mr. Lewis Morgan, Oxford Branch; Dr. Michael Ahern, Quebec Branch; Dr. H. H. Phillips-Conn, Reading and Upper Thames Branch; Dr. W. J. Tyson, South-Eastern Branch; Dr. J. Groves, Southern Branch; and Dr. J. C. McVail, Stirling Branch.

Dr. William Russell introduced a deputation from Edinburgh, consisting of Sir Thomas Grainger Stewart, Dr. Dow, Dr. Philip, and himself, to invite the Association to hold its annual meeting at Edinburgh in 1898.

Resolved: That the Council recommend that Edinburgh be the place of meeting for 1898, and that Sir Thomas Grainger Stewart be appointed President-elect.

Resolved: That the date proposed for the annual meeting in Edinburgh be July 26th, 27th, 28th, and 29th, 1898.

The appointment of the Journal and Finance Committee was then considered. There were three vacancies, for which there were eight nominations. A ballot was taken, and Dr. Ogilvie Grant and Dr. Handford having been appointed scrutineers, the following were reported to have the greatest number of votes—namely: Mr. Andrew Clark, Dr. S. Woodcock, and Mr. T. J. Verrall.

Resolved: That the following be appointed the Journal and Finance Committee for the ensuing year:

The President; the President-elect; Dr. Robert Saundby, President of Council; Dr. C. Parsons, Treasurer, *ex-officio*:—Dr. T. Bridgwater, Mr. Andrew Clark, Dr. Ward Cousins, Mr. Geo. Eastes, Dr. W. A. Elliston, Sir Walter Foster, M.P., Dr. Handford, Dr. C. Holman, Mr. Vincent Jackson, Mr. Jordan Lloyd, Mr. Macnamara, Dr. Russell, Dr. Markham Skerritt, Mr. T. Jenner Verrall, and Dr. S. Woodcock.

Resolved: That the following be appointed the Parliamentary Bills Committee for the ensuing twelve months:

The President; the President-elect; Dr. Robert Saundby, President of Council; Dr. C. Parsons, Treasurer, *ex-officio*:—Mr. S. H. Agar, Mr. D. B. Balding, Mr. Gilbert Barling, Dr. A. G. Bateman, Dr. R. W. Batten, Dr. T. Bridgwater, Mr. George Brown, Dr. J. S. Cameron, Dr. J. Cantlie, Dr. W. A. Carline, Dr. W. F. Cleveland, Dr. J. Ward Cousins, Dr. Henry Corby, Dr. G. W. Crowe, Dr. T. M. Dolan, Dr. E. Donaldson, Dr. Douglas, Brigade-Surgeon-Lieutenant-Colonel E. F. Drake-Brockman, Mr. George Eastes, Dr. R. Esler, Dr. Farquharson, M.P.; Sir Walter Foster, M.D., M.P.; Mr. E. H. Galton, Mr. A. Godson, M.B.; Dr. Bruce Goff, Dr. C. E. Goodall, Dr. W. Gordon, Dr. Ogilvie Grant, Dr. J. B. Hackett, Mr. J. D. Harries, Dr. A. J. Harrison, Mr. Ernest Hart, Mr. J. H. Hemming, Dr. Holman, Professor V. Horsley, Dr. W. H. Hughes, Mr. Evan Jones, Dr. J. E. Ker, Dr. A. R. Manby, Dr. C. W. Marriott, Dr. J. C. McVail, Dr. W. J. Mickle, Dr. C. H. Milburn, Dr. J. W. Miller, Dr. J. Wm. Moore, Mr. W. Lewis Morgan, Mr. W. Jones Morris, Dr. James Murphy, Surgeon-Major-General T. F. O'Dwyer, Professor A. Ogston, Dr. I. Owen, Mr. C. H. W. Parkinson, Sir W. O. Priestley, Mr. A. B. Ritchie, Dr. James Ritchie, Dr. John Rolston, Dr. G. E. Shuttleworth, Dr. R. Somerville, Mr. W. D. Spanton, Mr. C. R. Straton, Dr. James Stuart, Surgeon-Major W. B. Thomson, Dr. J. C. Thresh, Dr. A. R. Urquhart, Mr. T. J. Verrall, Mr. F. Wallace, Dr. Martindale Ward, Dr. W. L. Winterbotham, and Dr. S. Woodcock.

Resolved: That the following be appointed the Scientific Grants Committee for the ensuing twelve months:

The President; the President-elect, Dr. R. Saundby, President of Council; Dr. C. Parsons, Treasurer, *ex-officio*:—Professor Clifford Allbutt, Dr. T. L. Brunton, Mr. Andrew Clark, Dr. J. Ward Cousins, Dr. H. R. Crocker, Professor W. D. Halliburton, Dr. H. Handford, Dr. C. Holman, Professor V. Horsley, Mr. N. C. Macnamara, Dr. W. Russell, Professor E. A. Schäfer, and Dr. G. Sims Woodhead.

Resolved: That the Inebriates Legislation Committee be reappointed as follows:

The President; the President-Elect; Dr. Robert Saundby, President of Council; Dr. C. Parsons, Treasurer, *ex-officio*:—Mr. D. B. Balding; Mr. R. W. Braithwaite, Dr. T. Bridgwater, Sir C. Cameron, Dr. G. B. Clark, M.P., Dr. C. R. Drysdale, Mr. George Eastes, Dr. J. W. Eastwood, Dr. R. Farquharson, Sir Walter Foster, M.P., Professor W. T. Gairdner, Dr. W. C. Garman, Dr. J. Hill Gibson, Dr. Alexander Grant, Mr F. J. Gray, Dr. C. J. Hare, Dr. A. A. Jamison, Mr. H. R. Ker, Dr. Norman Kerr, Dr. A. E. T. Longhurst, Surgeon-Major G. K. Poole, Brigade-Surgeon R. Pringle, Fleet-Surgeon G. Robertson, Dr. James Stewart, Dr. G. D. P. Thomas, Dr. Wynn Westcott, and Dr. H. W. Williams.

Resolved: That the Premises and Library Committee be reappointed as follows:

The President: the President-elect; Dr. Robert Saundby, President of Council; Dr. C. Parsons, Treasurer, *ex-officio*:—Dr. T. Bridgwater; Mr. Andrew Clark; Dr. J. Ward Cousins; Dr. C. Holman; Mr. C. N. Macnamara: Mr C. H. W. Parkinson; Dr. Pope; Dr. Rayner; and Mr. Ernest Hart, Hon. Librarian.

Resolved: That the Trust Funds Committee be reappointed as follows:

The President: the President-elect; Dr. Robert Saundby, President of Council; Dr. C. Parsons, Treasurer, *ex officio*:—Dr. T. Bridgwater; Dr. J. Ward Cousins; Mr. N. C. Macnamara; and Mr. T. J. Verrall.

Resolved: That the Therapeutic Committee be reappointed as follows:

Dr. R. Saundby, President of Council; Sir W. H. Broadbent; Dr. Mitchell Bruce; Dr. T. Lauder Brunton; Dr. T. H. Carter; Professor T. Cash; Mr. George Eastes; Professor A. R. Fraser; Professor W. T. Gairdner; Dr. W. Hunter; Dr. D. J. Leech; Dr. James Little; Professor D. MacAlister; Dr. E. Mackey; Dr. Sidney H. C. Martin; Dr. M. McHugh; Dr. W. Murrell; Dr. C. Y. Pearson; Dr. C. D. F. Phillips; Dr. Sydney Ringer; Sir William Roberts; Dr. R. Stockman; Dr. W. Hale White; Dr. W. Whitla; and Dr. N. I. C. Tirard, Honorary Secretary.

Resolved: That the Secretary to the Committee on the State of School Children be informed that the Council think this a good opportunity of withdrawing this Committee in order that the new Society may undertake its work.

Resolved: That the Medical Charities Committee be reappointed as follows:

The President; the President-elect; Dr. Robert Saundby, President of Council; Dr. C. Parsons, Treasurer, *ex-officio*:—Dr. F. H. Alderson; Mr. J. Wickham Barnes; Dr. T. Bridgwater; Dr. J. B. Brierley; Mr. George Brown; Dr. G. W. Crowe; Dr. Ogilvie Grant; Dr. Major Greenwood; Dr. F. de H. Hall; Mr. Ernest Hart; Dr. J. Brindley James; Dr. J. W. J. Oswald; Dr. Walter Smith; Dr. J. R. Thomson; Mr. F. Wallace; and Dr. Hugh Woods.

Resolved: That the Reference Committee consist of three members.

Resolved: That the following be appointed the Reference Committee for the ensuing twelve months, namely, Dr. R. Saundby (President of Council), Dr. T. Bridgwater, and Dr. C. Holman.

Resolved: That the Anæsthetics Committee be reappointed as follows, and be allowed a grant of £50:

Prof. T. Annandale, Dr. Joseph Bell, Mr. F. W. Braine, Prof. G. Buchanan, Mr. H. T. Butlin, Dr. Dudley W. Buxton, Prof. J. W. Byers, Prof. M. Cameron, Prof. John Chiene, Mr. John Croft, Prof. E. Duncan, Mr. George Eastes, Dr. A. L. Galabin, Dr. Frederic W. Hewitt, Mr. Jonathan Hutchinson, the Right Hon. Lord Lister, Prof. William Macewen, Mr. Joseph Mills, Prof. R. Ogston, Mr. G. Rowell, Dr. W. V. Snow, Mr. T. Pridgin Teale, Dr. David Wallace, and Dr. C. Childs.

Resolved: That the Railway Servants' and Mariners' Eyesight Committee be reappointed as follows, with the addition of Mr. Langley Browne, and be allowed a grant of £25:

Mr. W. M. Beaumont, Mr. T. H. Bickerton, Mr. Langley Browne, Mr. G. A. Critchett, Dr. C. E. Fitzgerald, Dr. J. B. Lawford, Dr. D. Little, Mr. N. C. Macnamara, Dr. Priestley Smith, and Dr. George Mackay.

Resolved: That the General Practitioners and Ethical Committee be reappointed as follows:

The President, President-elect, Dr. Robert Saundby, President of Council; Dr. C. Parsons, Treasurer, *ex officio*:—Dr. James Barr, Dr. T. Bridgwater, Dr. W. F. Cleveland, Dr. J. Ward Cousins, Dr. J. H. Galton, Dr. Bruce Goff, Mr. J. H. Hemming, Mr. W. Jones Morris, Mr. R. H. B. Nicholson, Dr. J. W. J. Oswald, Mr. C. H. W. Parkinson, and Dr. F. M. Pope.

Resolved: That the Medical Reform Committee be not reappointed.

Resolved: That the following be appointed a Committee for considering the arrangements of the annual meeting at Edinburgh in 1898:—The President of Council, the Treasurer, Dr. H. Barnes, Mr. Andrew Clark, Dr. Handford, Sir Walter Foster, Mr. Verrall, together with Professor J. Chiene, Dr. R. W. Philip, Dr. Argyll Robertson, Dr. William Russell, Sir Thomas Grainger Stewart, and Dr. Batty Tuke.

Resolved: That a small Committee be appointed to watch the progress of the London University Bill through Parliament, and, if it be passed, to subsequently submit to the Statutory Commissioners any point or points in which the Committee may consider the members of the Association are affected.

Resolved: That the Committee consist of Dr. Cleveland, Mr. George Eastes, Sir Walter Foster, Mr. Macnamara, and Dr. Isambard Owen.

SHROPSHIRE AND MID-WALES BRANCH.

The spring meeting of this Branch was held at Chirk on Thursday, June 10th, at 3 P.M., the President, Dr. Lloyd, in the chair. Seventeen members were present.

Minutes.—The minutes of the previous meeting were taken as read.

New Members.—The following new members were elected: A. E. Ash, M.B., Shrewsbury; Mr. E. C. Fincham, Shrewsbury; Mr. H. M. Guest, Dorrington; Mr. G. Hodges, Cledbury North; Mr. J. Matthews Jones, Ruabon; Mr. J. C. Padwick, The Salop Infirmary; Mr. N. B. Vickers-Wellington; Mr. F. T. Whittaker, M.B., B.Sc., Shrewsbury; Mr. R. Moorson Wood, Ellesmere.

Branch Representatives.—It was proposed by Dr. Packer, and seconded by Mr. Pigott, that Mr. J. D. Harries be re-elected Branch representative on the Council of the Association and on the Parliamentary Bills Committee. The motion was carried unanimously.

Ethical Committee.—The following gentlemen were nominated for election to form, with the President-elect, the Ethical Committee of the Branch, namely, *Shrewsbury* representatives, Mr. J. D. Harries and Dr. Cureton; *County* representatives, Dr. S. T. Gwynn, Dr. Keyworth, Dr. Lloyd, and Dr. McCarthy.

Rectal Disease.—Mr. Mitchell Banks read a very interesting and practical paper on rectal diseases. Beginning with the subject of piles, he classified them as of three kinds, and, in speaking of the treatment from an operative point of view, he advocated the clamp and the cautery as of the most lasting benefit, followed for twenty-four hours or so by the introduction of a glass tube both as a safeguard in case of hæmorrhage, and also as a relief for flatus, which was often distressing when oiled lint was used as a plug. He illustrated his method of working the thermo-cautery with the foot, and also advocated red rubber bougies of two sizes for a month to six weeks afterwards, if there were any narrowing of the opening after operation. He next spoke of fissure of the anus, and also of pruritus ani. He advocated careful diet and the avoidance of mineral waters, and advised instead the use of sulphur. He paid a passing tribute to the useful nature of the old Chelsea Pensioner mixture in cases of piles. He then described fully the latest method of treating cancer of the rectum by Kraske's method, and stated that by this means two-thirds of the rectum could be removed after taking away the coccyx and adjoining part of the sacrum. He advocated that for this operation the patient should be placed lying on his abdomen, with the legs hanging over the edge of the table; but for all other operations of the rectum he advised Clover's crutch and the lithotomy position. He cited six cases on which he had operated for rectal cancer by Kraske's method, some of which had done well, others were relieved only for a time. He also showed a specimen of cancer of the rectum lately removed by this method of operating. A very hearty vote of thanks was accorded to Mr. Mitchell Banks for his interesting, instructive, and practical address.

Luncheon.—The President entertained the members at luncheon before the meeting.

NORTH WALES BRANCH.

The forty-eighth annual meeting was held at the Westminster Hotel, Rhyl, on July 8th, Dr. Richard Williams, Liverpool, in the chair. Over forty members were present. Dr. H. J. Lloyd, Barmouth (the President-elect), was introduced, and took the chair.

New Members.—Dr. Thomas Irvine Bormer, M.D., Aberdovey; and Mr. Herbert Thomas Jenkins, M.R.C.S., L.R.C.P., Penmaenmawr, were elected members of the Association and Branch.

Report of District Council.—The Hon. Secretary read the report of the Branch Council, which recorded the increase of the number of Branch members to the highest on record, and that its financial condition was in a satisfactory state. The losses were one by death and two by erasure for non-payment of subscriptions. The meetings of the year were well attended, and the experiment of some three years ago of having an autumn intermediate meeting had been entirely successful. At the last annual meeting an interesting demonstration of the Roentgen *x* rays was given by Professor A. Gray, F.R.S., and Dr. Taylor Jones, D.Sc., of the University College of North Wales, which was highly appreciated by the largest attendance of members on record. The papers contributed during the year had been the source of much pleasure and profit to the members. Allusion was made to the scheme of medical defence, which, by the small majority of two, was accepted by the Branch. The Council having had under its consideration the notice of motion to increase the number of the Branch Council, determined to support it and urge its acceptance. On the motion of Dr. Eyton Lloyd, seconded by Dr. Langford Jones, the report was adopted.

Election of Officers.—The following officers for the year 1897-98 were then elected:—*President-Elect:* A. Venables Palin, M.B. (Wrexham). *Honorary Secretary:* W. Jones Morris (Portmadoc). *Honorary Treasurer:* Samuel Griffith, M.D. (Portmadoc). *Representative on Council of Association:* W. Jones Morris. *Representative on Parliamentary Bills Committee:* W. Jones Morris. *Members of Branch Council:* Wm. Jones, M.R.C.S. (Ruabon), H. Davies Jones, L.R.C.P. (Llangollen), Howel White, M.B. (Corwen), W. M. Williams, M.B. (Penmachno), J. Evan Jones, M.R.C.S. (Llanrwst), Rob. Parry, M.B. (Carnarvon), P. Fraser, M.D., D.Sc. (Carnarvon), R. Langford Jones, M.R.C.S. (Bangor), and J. Llewellyn Williams, M.B. (Wrexham).

Places of Meeting.—It was resolved to hold the autumn intermediate meeting, 1897, at Bettws-y-Coed, the spring intermediate, 1898, at Carnarvon, and the next annual at Llangollen.

Vote of Sympathy with Dr. Grey-Edwards.—On the motion of Dr. Emyr O. Price, seconded by Dr. Langford Jones, and supported by other members, it was unanimously resolved:

That this annual meeting of the North Wales Branch of the British Medical Association places on record its sympathy with Dr. Grey-Edwards (Bangor) in the painful and trying circumstances attending the vindication of his professional character at the recent Carnarvonshire assizes, congratulates him on the results of that trial, and opens a subscription list to assist in defraying the legal expenses.

Dr. Emyr Price was appointed secretary of the movement.

Special Committee.—In the absence of Dr. Richard Jones (Blaenau-Festiniog), who had a motion on the agenda, it was resolved on the motion of Dr. Arthur Prichard, seconded by Dr. Lloyd Williams, to refer the matter to a committee consisting of Drs. Prichard, Langford Jones, and John Roberts (Menai Bridge), and report to the next meeting.

Epsom College.—Dr. Rob. Parry gave notice that at the next meeting he would move that £10 10s. be voted as a jubilee grant to the Royal Medical Benevolent College, Epsom.

Delegates to Annual Meeting at Montreal.—Messrs. Wm. Jones (Ruabon), H. Jones Roberts (Pen-y-groes), and the Honorary Secretary, with Drs. Barr and Bickerton, of the Lancashire and Cheshire Branch, were elected delegates from this Branch.

Annual Address.—The President then delivered the annual address on the History of Medicine, for which a hearty vote of thanks was passed.

Communications.—The following papers were then read: A. Eyton Lloyd, M.D. (Rhyl): Remarks, with Skiagrams and Specimens, upon an interesting case of Surgical Pathology.—D. Livingstone Davies, M.R.C.S. (Criccieth): (1) A case of Fracture of the Spine. (2) A case of Fracture of Base of Skull; recovery. (3) Cerebral Meningitis following Influenza.—T. H. Bickerton, M.R.C.S. (Liverpool): On Styles in the Treatment of Chronic Nasal Duct Obstruction.—Hugh E. Jones, F.R.C.S. (Liverpool): (1) Three cases of Cataract Extraction without Iridectomy. (2) Two cases of Cataract Extraction with Iridectomy; a Contrast. (3) New Nasal Duct Irrigator.—J. Elliott, M.D. (Chester): A case of Tumour at Base of Brain (?).—John E. H. Davies, M.R.C.S. (Wrexham): A case of Cretinism.

Annual Dinner.—The annual dinner was subsequently held, with the Vicar, the Wesleyan Minister, and the Chairman of the District Council as guests, at which the loyal and usual toasts were drunk.

BRITISH MEDICAL ASSOCIATION.

SIXTY-FIFTH ANNUAL MEETING.

The adjourned annual meeting of the British Medical Association will be held at Montreal on Tuesday, Wednesday, Thursday, and Friday, August 31st, September 1st, 2nd, and 3rd, 1897.

President.—T. G. Roddick, M.D., Professor of Surgery in McGill University, Montreal.

President-Elect.—Sir T. Grainger Stewart, M.D.Edin., F.R.C.P.Edin., etc., Professor of the Practice of Physic and Clinical Medicine in the University of Edinburgh; Physician-in-Ordinary to the Queen for Scotland.

President of the Council; Robert Saundby, M.D., F.R.C.P., Physician to the General Hospital, Birmingham.

Treasurer: Charles Parsons, M.D., Dover.

An Address in Medicine will be delivered by W. Osler, M.D., F.R.C.P., Professor of Medicine in the Johns Hopkins University, Baltimore, U.S.A.

An Address in Surgery will be delivered by William Mitchell Banks, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

An Address in Public Medicine will be delivered by Herman M. Biggs, M.D., Director of the Bacteriological Laboratory of the Health Department, New York City.

The Scientific Business of the Meeting will be conducted in Eleven Sections, as follows, namely:

A. Medicine.

Macdonald Chemical Building.

President: Stephen Mackenzie, M.D., London. *Vice-Presidents:* J. E. Graham, M.D., Toronto; W. Bayard, M.D., St. John, N.B.; J. P. Rottot, M.D., Montreal: F. W. Campbell, M.D., Montreal; James Stewart, M.D., Montreal; H. P. Wright, M.D., Ottawa. *Hon. Secretaries:* H. A. Lafleur, M.D., Montreal; W. F. Hamilton, M.D., Montreal; William Pasteur, M.D., 4, Chandos Street, Cavendish Square, London, W.

The following discussions will take place:

1. The Dietetic Treatment of Diabetes, to be opened by Dr. Robert Saundby (Birmingham).

2. Arthritis Deformans (Rheumatoid Arthritis), more especially its Relation to Rheumatism, Nervous Disease, and Tuberculosis, to be opened by Dr. James Stewart (Montreal).

3. Cholelithiasis; its Causation, Symptomatology, Diagnosis, and Treatment, to be opened by Dr. William Hunter (London), and Dr. Graham (Toronto).

The following, among others, are expected to take part in the discussions in this Section: Dr. Reginald Fitz (Boston), Dr. Jacobi (New York), Dr. Musser (Philadelphia), Dr. Pepper (Philadelphia), Dr. F. C. Shattuck (Boston), Dr. E. L. Trudeau (Saranac Lake, N.Y.), Dr. Jas. Tyson (Philadelphia), Dr. Wyman (Marine Hospital Service, Washington), Dr. R. L. Bowles (London), Mr. Wm. Armstrong (Buxton), Dr. Sydney Coupland (London), Professor Osler (Baltimore), Dr. S. Monckton Copeman (London), Dr. H. Handford (Nottingham), Dr. J. A. Myrtle (Harrogate), Dr. Graham (Toronto), Dr. R. Shingleton Smith (Bristol), Dr. Ebenezer Duncan (Glasgow).

The following papers have been promised:

Acheson, Dr. Geo. (Galt., Ont.). Atony of the Rectum.

Armstrong, William, M.R.C.S. The Exciting Cause of Rheumatoid Arthritis.

Bowles, Dr. R L. (London). Further Experiences of dangers connected with Respiration and their avoidance, with special reference to Anæsthesia, Hæmoptysis, Drowning, Apoplexy, and all Paralysed and Unconscious Conditions

Fussell, Dr. M. H. (Philadelphia). Two Cases of Hæmophilia.

Graham, Dr. J. E. (Toronto). A Case of Crossed Hemiplegia the Result of Injury to the Pons Varolii.

Hamilton, Surgeon-Major-General(P.M.O. Plymouth). The Enteric Fever of Armies, contrasting the Disease in Tropical, Subtropical, and Temperate Climates.

Lyman, Dr. Henry M. (Chicago). Osteomalacia following Complete Occlusion of the Common Bile Duct, due to Angio-cholitis following Typhoid Fever.

Mackinnon, Dr. Angus (Guelph). The Empyema of Pneumonia, with Cases.

McConnell, Dr J. B. (Montreal). Pyopericardium following Pleuro-pneumonia: Pericardiotomy: Recovery.

McPhedran, Dr. A. (Toronto). Raynaud's Disease following Protracted General Erythema.

Myrtle, Dr. J. A. (Harrogate). Case of Blood Poisoning from Sewer Gas followed at intervals by Inflammation of the Throat, Cervical Glands, Liver, and Kidneys.

Pepper, Dr. Wm., and Stengel, Dr. Alfred (Philadelphia). A Contribution to the Clinical Study of Venesection.

Starr, Dr. M. Allen (New York). A Contribution to the Subject of Brain Tumours and their Surgical Treatment.

Stockton, Dr. Chas. G. (Buffalo). A Type of Diarrhœa associated with Gastric Anacidity.

Tyson, Dr. James (Philadelphia). Note on the Proper Use of Terms to denote Myocardial Changes.

Whittaker, Dr. James T. (Cincinnati). Generalisations from Six Years' Use of Tuberculin.

Williams, Dr. Francis H. (Boston). Some of the Medical Uses of the Roentgen Rays.

B. Surgery.

Large Lecture Room, McGill Medical College.

President: Christopher Heath, F.R.C.S., London. *Vice-Presidents:* Hon. Sir William Hingston, M.D., Montreal; Hon. M. Sullivan, M.D., Kingston, Ontario; Hon E. Farrell, M.D., Halifax, Nova Scotia; I. H. Cameron, M.D. Toronto; F. le M. Grasett, M.D., Toronto; James Bell, M.D., Montreal; George E. Armstrong, M.D., Montreal. *Hon. Secretaries:* Robert C. Kirkpatrick, M.D., Montreal; Thomas Walker, M.D., St. John, N.B.; Jordan Lloyd, F.R.C.S., Broad Street, Birmingham.

The President will give a short introductory address.

A discussion will take place upon the Surgical Treatment of Appendicitis, which will be opened by Dr. G. E. Armstrong (Montreal). Dr. J. Ward Cousins, Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham), will take part in the discussion.

A discussion will also take place upon the Treatment of Cancer of the Rectum by Kraske's Operation, to be opened by Dr. James Bell.

Among those who, it is anticipated, will take part in the discussions in this Section are: Dr. W. W. Keen (Philadelphia), Dr. Collins Warren (Boston), Dr. John Ashhurst (Philadelphia), Dr. Cheever (Boston), Dr. Dennis (New York), Dr. Murphy (Chicago), Dr. McGraw (Detroit), Dr. J. C. White (Boston), Dr. Chas. T. Bull (New York), Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham).

The following gentlemen have given notice of their intention to read papers in this Section:

Ball, Professor C. B. (Dublin). On Trans-sacral Resection of the Rectum.

Cousins, J. Ward, M.D., F.R.C.S. (Southsea). Operative Treatment of Organic Stricture of the Urethra.

Ferguson, Dr. W. W. (Kingston, N.B.). Varicosity of the Lingual and Buccal Veins.

Garrow, Dr. A. E. (Montreal). Ventral and Umbilical Hernia in the same Patient.

Lloyd, Jordan, F.R.C.S. Stone in the Ureter and its Treatment.

Marcy, H. O., M.D. (Boston). On the Suturing of Wounds.

McGraw, Theo., M.D. (Detroit). Invagination of the Cæcum and Vermiform Appendix.

Newman, David, M.D. (Glasgow). (1) Cases illustrating some Interesting Points in the Pathology and Surgical Treatment of Renal and Vesical Hæmaturia. (2) Transitory Hydronephrosis and Albuminuria in cases of Movable Kidney treated by Operation.

Ross, James F. W., M.D. (Toronto). Some Rare Conditions of the Kidney.

Roth, Bernard, F.R.C.S. (London). Analysis of One Thousand Consecutive Cases of Lateral Curvature of the Spine treated by Posture and Exercise exclusively (without mechanical supports).

Shepherd, F. J., M.D. (Montreal). A case of Abdominal Tumour, in which nearly eight feet of the small intestine were resected.

Smith, Dr. A. Lapthorn (Montreal). Seven cases of Appendicitis with Pus Tubes.

Smith, Noble, F.R.C.S.Edin. (London). Congenital Dislocation of the Hip.

Spanton, W. D. F.R.C.S. (Hanley). Two cases of Meningocele successfully operated on.

Thomson, Alexis, M.D., F.R.C.S. (Edinburgh). Stricture of Intestine as Sequel of Strangulated Hernia.

C. Public Medicine.

Large Lecture Room of the Redpath Museum.

President: E. P. Lachapelle, M.D., Montreal. *Vice-Presidents:* F. Montizambert, M.D., Quebec; Robert Craik, M.D., Montreal; P. H. Bryce, M.D., Toronto; Sir James Grant, Ottawa; R. H. Powell, M.D., Ottawa. *Honorary Secretaries:* Wyatt Johnston, M.D., Montreal; E. Pelletier, M.D., Montreal; Harvey Littlejohn, M.B., C.M., Surgeons Hall, Edinburgh.

The business of the Section will be carried out as follows:

Lachapelle, Dr. E. P. (President of the Board of Health of the Province of Quebec, Montreal). Sanitation in Canada: its Progress up to date.

Newsholme, Dr. A. (M.O.H. Brighton). A Plea for the International Study of Diphtheria, illustrated by facts and figures.

Kaye, J. R. (M.O.H. to the West Riding Council of Yorkshire. The Relationship of the Health Officer to the Registration and Certification of Deaths.

Dr. F. Montizambert (Superintendent of the Canadian Quarantine Service, Grosse Isle, Quebec), and Dr. W. Wyman (Superintendent of the Quarantine and Marine Hospital Service, Washington) will open a discussion on the Utility of Quarantines as now Conducted (Inspection, Disinfection, and Isolation Stations) in Certain Countries at Least.

Dr. P. H. Bryce (Secretary of the Provincial Board of Health, Ontario), Dr. C. O. Probst (Secretary State Board of Health, Ohio), Dr. H. Handford (M.O.H. to the County of Nottingham), will open a discussion on How Far should Mandatory Measures go in Dealing with (*a*) Measles, (*b*) Whooping Cough, (*c*) Tuberculosis, (*d*) Leprosy.

Johnston, Wyatt, M.D. (Bacteriologist, Board of Health, of the Province of Quebec). Experiments with Disinfectant Gases.
Janin, G. C. E., formerly of the Corps des Ponts et Chausees of France (Montreal). On the Different Processes recommended for the Treatment of Sewage ; Mechanical, Chemical and Epuration by the Arable Soil.
Mottor, Dr. D. Murray Galt (Washington). Underground Zoology and Legal Medicine: a Study of Fifty Disinterments, with Additional Experimental Observations.
Kinyoun, Dr. Jos. J. (United States Marine Hospital Service, Washington). Methods of Disinfection.
Neech, Dr. James T. (M.O.H. for Atherton). The Period of Infection in Scarlet Fever.
Copeman, Dr. Monckton (Medical Inspector to the Local Government Board of England). Some Alleged Dangers of Vaccination and their Prevention.

Dr. R. F. Ruttan, Chemist to the Board of Health of the Province of Quebec; Dr. G. W. Fuller, Louisville, Ky.; and Dr. J. J. Mackenzie, Bacteriological Provincial Board of Health of Ontario, will open a discussion on The Respective Value of Chemical and Bacteriological Methods of Water Analysis.

Macleod, Dr. James (Charlottetown). Observations on the Pollution of Ground Air.
Hough, Dr. G. de N. (New Bradford, Mass.). Cadaveric Fauna.
Chuttleworth, Dr. E. B. (Bacteriologist to the City Board of Health, Toronto). Observations on the Etiology and Dissemination of Diphtheria.
Mackenzie, Dr. J. J. (Bacteriologist Provincial Board of Health of Ontario). Results of Mechanical Filtration Plants in Ontario.
Mullins, Dr. G. Lane (Sydney, N.S.W.). Consumption in Australia.

D. Obstetrics and Gynæcology.

Large Lecture Room, McDonald Physics Building.

President: William Japp Sinclair, M.D., Manchester. *Vice-Presidents:* William Gardner, M.D., Montreal; James Perrigo, M.D., Montreal; J. A. Temple, M.D., Toronto; J. C. Cameron, M.D., Montreal; T. Johnston Alloway, M.D., Montreal; James Ross, M.D., Toronto. *Honorary Secretaries:* D. J. Evans, M.D., Montreal; W. Burnett, M.D., Montreal; Arthur E. Giles, M.D., 58, Harley Street, Cavendish Square, London, W.

The following discussions will, it is proposed, be held in this Section on the days indicated:

September 1st.—The Causation and Treatment of Hyperemesis Gravidarum.

September 2nd.—The Vaginal *versus* the Abdominal Route in dealing with Inflammatory Conditions and Tumours in the Pelvis. To be opened by Mr. Lawson Tait.

September 3rd.—The Palliative and Radical Treatment of Uterine Flexions and Displacements. To be opened by Dr. Barton Cooke Hirst (Philadelphia).

The following papers are promised:

Alloway, T. Johnson, M.D. (Montreal). Gauze Packing in Pelvic Surgery.
Anderson, Professor Winslow, M.D. (San Francisco). Uterine Fibroids, their etiology, pathology, symptoms, diagnosis, and treatment.
Barnes, Robert, M.D. (London). Notes and a drawing to illustrate "Barnes's Boundary Line" in Placenta Prævia.
Campbell, John, M.D., F.R.C.S.Eng. (Belfast). Labour Complicated by Abnormalities of the Cervix Uteri and Vagina.
Cullen, Thos., M.D. (Baltimore). The Value of the Microscope in the Early Diagnosis of Cancer of the Uterus.
Eden, T. W., M.D. (London). On Spurious Abortion with three Cases.
Garrigues, H. J., M.D. (New York). The Treatment of Abortion.
Hart, D. Berry. M.D. (Edinburgh). The Morphology of the Vagina.
Henrotin, F., M.D. (Chicago). The Operation of Choice in the Surgical Treatment of Septic Pelvic Diseases, with Special Reference to the Early Vaginal Incision.
Kelly, Howard, M.D. (Baltimore). (1) On the Conservative Treatment of the Ovary. (2) Demonstration on the Examination of the Bladder and Ureters.
Lawrie, J. M., M.D. (Weymouth). Notes on Thirty-Three Cases of Abdominal Section.
Lucas, T. P., M.R.C.S. (Brisbane, Australia). Menstruation, its Purpose and Design.
Lusk, W. C., M.D. (New York). A contribution to the study of the Firs Stage of Labour (from a frozen section).
Macdonald, A. A., M.D. (Toronto). Title not announced.
Maclean, Ewen J., M.D. (London). The After-history of some Gynæcological Operations.
Madden, T. More, M.D., F.R.C.S.I. (Dublin). 1. On some Points in Modern Treatment of Tedious Labour with description of a new Traction Forces; (2) On the Conservative Treatment of Fallopian Tube Disease.
Mundé, Paul F., M.D. (New York). Pelvic Abscess.
Parsons, J. Inglis, M.D. (London). A New Method of Treatment for Prolapse of the Uterus.
Robson, A. W. Mayo, F.R.C.S. (Leeds), to be read by Dr. Collier (Ripon). Porro's Operation for Tumour of the Pelvis complicating Pregnancy.
Ross, James F. W., M.D. (Toronto). The Diagnosis and Treatment of Intrapelvic Tuberculous Disease.
Smith, Dr. (Montreal). Diagnosis and Treatment of Retroversion of the Uterus, with Fixation.

E. Pharmacology and Therapeutics.

Lecture Hall of the Wesleyan College.

President: D. J. Leech, M.D., Manchester. *Vice-Presidents:* A. D. Blackader, M.D., Montreal; James Thorburn, M.D., Toronto; C. R. Church, M.D., Ottawa; J. B. McConnell, M.D., Montreal; F. J. Austin, M.D., Sherbrooke; Walter George Smith, M.D., Dublin. *Honorary Secretaries:* F. X. L. de Martigny, M.D., Montreal; J. R. Spier, M.D., Montreal; C. R. Marshall, M.B., Pharmacological Laboratory, Downing College, Cambridge.

The President will deliver a short Introductory Address.

Discussions on the Treatment of Insomnia, the Treatment of Syphilis, and Diuretics will be held on September 1st, 2nd, and 3rd respectively.

1. The Treatment of Insomnia will be opened by Dr. C. K. Clarke, Physician to the Rockwood Hospital, Kingston, on General Treatment; by Dr. R. W. Wilcox, Professor of Medicine and Therapeutics in the New York Post-Graduate School on the Value of Individual Drugs, with special reference to the newer Hypnotics; by Dr. A. McPhedran on the Ill Effects and Contraindications to the Use of Drugs; and by Dr. R. Ferguson, Lecturer on Therapeutics in the Western University, on the Mode of Action of Hypnotics.

2. The Treatment of Syphilis will be opened by Dr. Whitla (Belfast). The introducer will deal with questions under the following heads: (*a*) How mercury and iodides are supposed to act in syphilis; (*b*) when should mercurial treatment be started, especially should it be given in the primary stage; (*c*) the various methods for its routine administration, dosage, etc., and the length of time necessary for mercurial treatment; (*d*) the treatment of tertiary and congenital syphilis. Dr. Shoemaker (Philadelphia) will also give a paper on this subject.

(Hypodermic and intravenous medication will be dealt with by a dermatologist.)

The question of Diuretics will be opened from the clinical side by Dr. Barr (Liverpool), and from the experimental by Mr. Marshall (Cambridge).

Among those who have promised to take part in the discussions are: Professor Richet (Paris), Dr. A. R. Cushny (University of Michigan, Ann Arbor), Dr. H. A. Hare (Philadelphia), Dr. A. D. Blackader (Montreal), Dr. H. Barnes (Carlisle), Dr. Saundby (Birmingham), Dr. Donald MacAlister (Cambridge), Dr. Whitla (Belfast), Dr. J. A. Campbell (Carlisle), Dr. Brookhouse (Nottingham), Mr. Jordan Lloyd (Birmingham), Dr. J. Ward Cousins (Southsea), Dr. D. Berry Hart (Edinburgh), Dr. R. C. Stewart (Leicester), Dr. H. A. Mc'Callum (Western University), Dr. J. J. Cassidy (Toronto), Dr. James Watson (Southsea), Dr. R. Shingleton Smith (Bristol), Dr. G. Armstrong Atkinson (Newcastle), Dr. W. S. Muir (Truro, N.S.). Dr. Shoemaker (Philadelphia), Dr. James Bell (Montreal), Dr. J. E. Atkinson (Baltimore), Dr. J. T. Fotheringham (Toronto), and others.

Those who have promised papers are:

Hare, W, A. The Importance of Studying the Absorption and Elimination of Drugs.
Blackader, A. D. On Apocynum Cannabinum.
Cushing, A. R. A Contribution to the Pharmacology of the Mammalian Heart.
Edis, R. T. On the Treatment of Insomnia.
Leech, D. J. On Quillaia Bark.
Phillips, C. D F., and Pembrey, M. S. On the Physiological and Therapeutical Actions of Hydrastis Canadensis.

Halliday, A. (Nova Scotia). The Effect of Certain Drugs on Gastric Secretion.
Fotheringham, J. T. (Toronto). On the Prescribing of Proprietary instead of Pharmacopœial Preparations.
Hutchison, R. On the Pharmacology of the Thyroid Gland.
Marshall, C. R. On the Treatment of the Heart Failure of Arteriosclerosis.
Marshall, C. R., and Taylor, J. J. On the Absorption of Mercury.
Chisholm, M. (Halifax). The Opposite Effects of Drugs in Large and Small Doses.
Bazin, M. On Diphtheria Antitoxin.

F. Pathology and Bacteriology.

Lecture Room II, McGill Medical College.

President: Watson Cheyne, F.R.C.S., F.R.S., London. *Vice-Presidents:* J. G. Adami, M.D., Montreal; J. Caven, M.D., Toronto; J. Stewart, M.D., Halifax; J. C. Davie, M.D., Victoria, B.C.; L. C. Prevost, M.D., Ottawa; M. T. Brennan, M.D., Montreal. *Honorary Secretaries:* W. T. Connell, M.D., Kingston, Ontario; C. F. Martin, M.D., Montreal; Rubert W. Boyce, M.B., University College, Liverpool; William Hunter, M.D., 54, Harley Street, Cavendish Square, W.

The following will be the subjects for discussion:

1. Serum Diagnosis and the Agglutinating Action of Serums, to be introduced by Professor Wyatt Johnston (Montreal).
2. Immunisation.
3. The Bubonic Plague.

Among those who will take part in the discussions will be Professor Welch (Johns Hopkins), Professor Crookshank (London), Dr. W. Hunter (London), Dr. A. S. Grünbaum (Liverpool), Dr. A. C. Abbott (Philadelphia), Dr. T. M. Cheesman (New York), Dr. R. Fitz (Boston), Dr. E. Hodenpyl (New York), Dr. Trudeau (Saranac), and Dr. F. F. Wesbrook (Minneapolis).

It is urged that British pathologists unable to be present should send to Dr. Rubert Boyce lantern slides and other material for demonstration bearing upon the subjects selected for discussion.

The following papers are promised:

Adami, J. G., M.D., and Staples, E., M.D. (Montreal). On the Appendices Epiploicæ.
Barker, Lewellys F., M.D. (Baltimore). On the Changes in the Nerve Cells in Epidemic Cerebro-spinal Meningitis, with specia reference to lesions in the lower motor neurons.
Boyce, R. The occurrence of the B. Tuberculosus in Milk.
Caren, Professor J., M.D. (Toronto). Title of Paper not received.
Connell, W. (Kingston, Ont.) Title of Paper not received.
Copeman, S. Monckton, M.D. (London). On Vaccinia.
Crookshank, Edgar, M B. On Actinomyces.
Flexner, Simon, M.D. (Johns Hopkins University). Pseudo-tuberculosis Hominis Streptothricia.
Goldman, Professor (Freiburg). On Early Infection of Blood Vessels in Carcinoma and Sarcoma (lantern slides).
Grünbaum, A. S., M.D. (1) The Smegma Bacillus. (2) Specimens of Pseudo-hypertrophic Paralysis.
Herter, C. A., M.D. (New York). Experimental Observations on the Relation between Bacterial Activity in the Intestine and the Indican in the Urine.
Hodenpyl, Eugene, M.D. (New York) On the Occurrence of Typhoid Fever without Lesions of the Small Intestine.
Kanthack, A. A., M.D. Cancer of the Testicle.
Manson, Patrick, M.D. On Filaria Sanguinis Hominis, with the demonstration of a new Species from Central and South America.
Stiles, H. J. On the Evolution of Cancer Bodies (lantern slides).
Thomson, Alexis H. Epithelioma of Penis.
Van Gieson, Ira, M.D. (New York). On Hæmato-myelopore and its Relations to Syringomyelia.
Washbourn, J. W., M.D. On Antipneumococcic Serum.
Washbourn, J. W., M.D., and Smith, Dr. G. Bellingham. Demonstration of Specimens of an Infective Neoplasm from the Dog.
Welch, Professor (Baltimore). The Distribution and Pathogenic Effects of the B. Aerogenes Capsulatus.
Wright, Hamilton K., M.D. (Montreal). On the Topography of the Posterior Columns.

G. Psychology.

Morris Hall, Presbyterian College.

President: R. M. Bucke, M.D., London, Ontario. *Vice-Presidents:* D. Clarke, M.D., Toronto; T. J. Burgess, M.D., Verdun, Quebec; A. Vallee, M.D., Quebec; G. Wilkins, M.D., Montreal. *Honorary Secretaries:* J. V. Anglin, M.D., Montreal; George Villeneuve, M.D., Montreal; J. G. Blandford, M.R.C.S., D.P.H., London County Asylum, Banstead, Sutton, Surrey.

The officers of this Section, believing that many of the papers already offered will be provocative of considerable debate, have determined to announce no special subjects for discussion. Among those who have offered to contribute papers are:

Bruce-Smith, Dr. R. W. (Physician to Asylum for Insane, Hamilton, Ontario. Title of paper not received.
Brush, Dr. E. N. Title of paper not received.
Bucke, R. M., M.D. (London, Ontario, Asylum). On Mental Evolution.
Clark, W., M.D. (Toronto Asylum). The Reflexes in Psychiatry.
Crothers, Dr. J. D. (Hartford, Conn.) Some New Phases of Inebriety in Clinical Studies.
Gooding, Dr. W. W. (Washington). Title of paper not received.
Hobbs, —, M.D. (London, Ontario, Asylum). Surgical Gynæcology in Insanity.
Rogers, Dr. (Asylum for Feeble Minded, Taribault, Minn.). Cases of Mongolian Idiocy
Rohe, G. H., M.D. (Maryland Hospital for Insane, Catonsville). The Etiological Relation of Pelvic Disease to Insanity in Women.
Russell, J., M.D. (Hamilton, Ontario, Asylum). Insanity in its Relation to the State.
Stearns, Dr. H. P. (Retreat for Insane, Hartford, Conn.). Heredity as a Factor in Etiology of Insanity.
Villeneuve, George, M.D. (Longue Pointe). The Proof of Insanity in Criminal Cases.
Wise, Dr. P. M. (Albany). Title of paper not received.

Among those who intend to take part in the business of the Section are Dr. N. H. Beemer (Mimico Asylum, Ontario), Dr. G. Alder Blumer (Utica, New York), Dr. C. K. Clark (Rockwood Hospital, Kingston, Ontario), Dr. Edward Cowles (Waverley, Mass.), Dr. T. D. Crothers (Hartford, Conn.), Dr. G. Stanley Hall (Worcester, Mass.), Dr. Hazlitt (Sunbury), Dr. Henry Hurd (Baltimore), Dr. Rogers (Asylum for the Feeble-Minded, Faribault, Minn.), Dr. George H. Rohe (Maryland Hospital for the Insane, Catonsville). Dr. Rothesay Stewart (Leicester) and Dr. A. R. Urquhart (Perth).

H. Ophthalmology.

Lecture Room I, McDonald Engineering Building.

President: Edward Nettleship, F.R.C.S., London. *Vice-Presidents:* F. Buller, M.D., Montreal; R. A. Reeve, M.D., Toronto; Ed. Desjardins, M.D., Montreal; A. A. Foucher, M.D., Montreal. *Honorary Secretaries:* W. H. Smith, M.D., Winnipeg; J. Jehin-Prume, M.D., Montreal; Thomas Herbert Bickerton, M.R.C.S., 88, Rodney Street, Liverpool.

The following subjects have been chosen for discussion:—

1. Heterophoria; the Indications for and Limitations of its Operative and Non-Operative Treatment. In connection with this subject Dr. F. Buller (Montreal) will read a paper on Abnormalities in the Functions of the Extrinsic Ocular Muscles.
2. How far can accurate Colour Vision be relied upon to Prevent Accidents on Railways and at Sea. In connection with this subject Mr. T. H. Bickerton (Liverpool) will read a paper on the Question of Colour Vision in the Mercantile Marine.
3. Antiseptics in Eye Surgery.
4. (If opportunity occurs) On the Prevention of Accidents to the Eyes of Persons engaged in Industrial Employments.

The following communications on other subjects are promised:

Alt, Dr. A. (St. Louis, Mo., U.S.A.). Histology of an unusual case of Total Blindness after Injury to the Skull.
Beaupré, Dr. W. J. (Quebec). Abscission of the Cornea *versus* Enucleation.
Burnham, Dr. G. H. (Toronto). The Hypodermic Use of Pilocarpin in Eye Disease.
Collins, Mr. Treacher, and Marshall, Mr. Devereux (London), will send Pathological Specimens in Jelly.
Foucher, Dr. A. A. (Montreal). (1) The Etiology of Dacryocystitis. (2) Auto-Infection in Pustulous Keratitis.
Fulton, Dr. John F. (St. Paul, Minn., U.S.A.). Amblyopia of Strabismus.
Gould, Dr. Geo. M. (Philadelphia, U.S.A.). Retinitis Pigmentosa without Typical Pigmentation.
Jehin-Prume, Dr. Jules (Montreal). A Contribution to the Treatment of Syphilitic Eye Diseases.
Lee, Charles G. (Liverpool). An Unusual Case of Orbital Tumour.
Mathewson, G. H. (Montreal). Case of Metastatic Carcinoma of the Choroid.
Proudfoot, Dr. A. (Montreal). The Value of Weak Lenses in Certain Cases.
Reeve, Dr. R. A. (Toronto . Experiences with Cataract.
Smith, Mr. Priestley (Birmingham), will send: (*a*) Pathological Specimens in Formol; (*b*) A Model illustrating Tscherning's Theory of the Accommodation.
Stirling, Dr. J. W. (Montreal). Title of paper not received.
Usher, Mr. C. H. (Aberdeen) will send Microscopical Sections of Opaque Optic Nerve Fibres (Human).
Würdemann, Dr. H. V. (Milwaukee, Wis., U.S.A.) Skiascopy in Relation to other Methods of Estimating Ocular Refraction.

I. Laryngology and Otology.

Lecture Room II, McDonald Engineering Building.

President: Greville Macdonald, M.D., London. *Vice-Presidents:* W. Tobin, M.D., Halifax; G. A. S. Ryerson,

M.D., Toronto; H. S. Birkett, M.D., Montreal; G. R. McDonagh, M.D., Toronto. *Honorary Secretaries:* A. Chretien, M.D., Montreal; H. D. Hamilton, M.D., Montreal; W. Permewan, M.D., 7, Rodney Street, Liverpool.

The following discussions will take place: (1) On Turbinotomy, to be opened by the President. (2) On the Ultimate Results of Operations on the Mastoid in Suppurative Ear Disease. (3) On the Significance of Laryngeal Paralysis.

Blake, Dr. Clarence J. (Boston, Mass.). The Operative Treatment of Mastoid Disease.

Farlow, Dr. J. W. (Boston, Mass.). Presentation of Instruments with remarks.

The following papers are announced in this Section:

Bryan, J. H. (Washington). A Contribution to the Anatomy of the Fronto-Ethmoidal and Frontal Maxillary Regions.

Delavan, Dr. D. B. (New York). Surgical Treatment of Malignant Disease of the Larynx.

Farlow, Dr. Jno. W. (Boston, Mass., U.S.). Presentation of Instruments, with remarks.

Hobbs, Arthur G., M.D. (Atlanta, Ga.). When not to Inflate the Middle Ear.

Horne, Jobson, M.D., and Yearsley, Macleod, F.R.C.S. (1) On Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose, and Ear. (2) On Turbinectomy.

Ingals, E. Fletcher, M.D. (Chicago). On the Relation of Nasal Diseases to Pulmonary Tuberculosis.

Jones, T. W. Carmallt, F.R.C.S.Ed. Some After Effects of Turbinotomy.

Knight, Chas. H., M.D. (New York). Upon a Foreign Body (Metallic Button Hook) removed from the Larynx by Laryngo-Fissure.

Mackenzie, Dr. John N. (Baltimore, Ind., U.S.). The Physiological and Pathological Relations between the Nose and the Sexual Apparatus.

O'Dwyer, J., M.D. (New York). Acute Syphilitic Stenosis of the Larynx in the Adult treated by Intubation.

Roe, John O., M.D. (Rochester, New York). The Correction of Nasal Deformities by Subcutaneous Operations.

Ross, G. T., M.D. (Montreal). Bilateral Abductor Paralysis from Recurrent Laryngeal Nerve Paralysis.

Spicer, Scanes, M.D. (London). (1) On Reduction of the Inferior Turbinate Bone in Certain Cases of Nasal Obstruction. (2) On the Significance and Treatment of Recurrent Retention of Secretion in the Lacunæ of the Tonsils. (3) A Case of Multiple Papillomata of Larynx in a Man aged 73.

Würdemann, Dr. H. V. (Milwaukee, Wis., U.S.A.). Phosphoric Necrosis of Temporal Bone.

Among those who intend to take part in the business of the Section are also Dr. J. Solis-Cohen (Philadelphia), Dr. Birkett (Montreal), Dr. Chretien (Montreal), Dr. G. R. McDonagh (Toronto), Dr. D. B. Delavan (New York), Dr. Charles Warden (Birmingham), Dr. J. W. Mackenzie (Baltimore), and Mr. Lennox Browne (London).

J. Anatomy and Physiology.

Lecture Room I, McGill Medical College.

President: Augustus D. Waller, M.D., F.R.S., London. *Vice-Presidents:* F. Shepherd, M.D., Montreal; A. B. Macallum, M.D., Toronto; T. Wesley Mills, M.D., Montreal; A. Primrose, M.D., Toronto; J. B. A. Lamarche, M.D., Montreal; D. B. Fraser, M.D., Stratford, Ontario. *Hon. Secretaries:* J. M. Elder, M.D., Montreal; W. S. Morrow, M.D., Montreal; Robert Hutchison, M.D., Physiological Laboratory, London Hospital Medical College, Turner Street, Mile End, E.

The following have been selected as subjects for the discussions:

September 1st. Anæsthetics, to be introduced by the President of the Section (Dr. A. Waller). Among those who are expected to take part in this discussion are Dr. Shore (Cambridge), Dr. Kemp, F.R.S. (Baltimore). Professor W. D. Halliburton, F.R.S. (London), Dr. A. B. Macallum (Toronto), Dr. H. A. Hare (Philadelphia), Dr. G. T. Kemp (Baltimore), Dr. G. Gordon Campbell (Montreal), Dr. Kenneth Cameron (Montreal), Dr. Richet (Paris), and Warren P. Lombard, M.D. (Michigan).

September 2nd. The best methods of Teaching Anatomy, to be introduced by Professor Alex. Macalister (Cambridge) and Dr. F. J. Shepherd (Montreal).

September 3rd. The Causation of the Heart Beat and its Modifications, introduced by Dr. Gaskell, F.R.S. (Cambridge) and Professor T. Wesley Mills (Montreal). Dr. Porter (Boston), Dr. Howell (Baltimore), and Dr. Bowditch (Boston) Dr. W. Townsend Porter (Boston), Dr. A. B. Macallum (Toronto), Dr. T. Wesley Mills (Montreal), Dr. G. Car Huber, (Ann Arbor, Mich.), Dr. A. P. Knight (Kingston), are expected to take part in the discussion.

The following papers have been promised:

Beard, Professor R. O. (University of Minnesota, U.S.A.). Studies upon the Metabolism of the Blood.

Huber, G. Carl, M.D., Assistant Professor of Histology and Embryology, University of Michigan, Ann Arbor. A brief account of some observations on the Sympathetic Ganglia of Vertebrates.

Kemp, G. T., M.D., Ph.D. (Baltimore). Nitrous Oxide Anæsthesia.

Knight, A. P., M.A., M.D., Professor of Physiology, Queen's University, Kingston, Ontario. Action of certain Chemical Salts on the Heart Beat of Fish Embryos.

Lombard, Warren, P., M.D., Professor of Physiology, University of Michigan, Ann Arbor. Anatomy of the Knee-joint of the Frog, with special reference to the action of Flexor and Extensor Muscles.

Macalister, Professor Alex. (Cambridge). The Influence of Head Shape on Cranio-cerebral Topography.

Macallum, A. B., M.B., P.H.D., Professor of Physiology, Toronto University. Some observations on the Micro-Chemistry of Cells and Tissues.

Meltzer, S. J., M.D. (New York City). On the effect of Anæsthesia upon the Reflexes of Deglutition and of the Closure of the Glottis.

Mills, T. Wesley, M.D., L.R.C.P., Professor of Physiology McGill University. Title of paper not yet received.

Paton, Dr. Noel (Edinburgh). Metabolism of the Salmon in Fresh Water.

Pembrey, Dr. M. S. Title not received.

Stewart, Dr. G. N. The relation of Electrolytes to the other Constituents of Animal Cells and Liquids, with especial reference to the Blood Corpuscles and Blood Plasma.

Thompson, Professor W. H. (Belfast). Degenerations resulting from Lesions of the Sensory Area of the Cortex Cerebri.

On September 2nd Dr. Waller will give an experimental demonstration of the Relative Efficacy of Chloroform and of Ether as Nerve Anæsthetics.

Dr. Gustav Mann will send for exhibition specimens illustrating the Minute Histology of the Liver in Active and Resting Conditions. Dr. D. A. Welsh (Edinburgh) will exhibit specimens illustrating the Histology of the Parathyroid Glands. Dr. Geo. Oliver will exhibit his new Hæmoglobinometer and Hæmocytometer. Drs. Leonard Hill and Barnard will exhibit a new and accurate form of Sphygmometer.

Dr. Shore and Professor Sherrington will take part in the proceedings.

K. Dermatology.

Lecture Room III, McDonald Engineering Building.

President: Malcolm Morris, F.R.C.S.Ed., London. *Vice-Presidents:* J. E. Graham, M.D., Toronto; F. J. Shepherd, M.D., Montreal; J. A. S. Brunelle, Montreal; G. L. Milne, M.D., Victoria, B.C. *Hon. Secretaries:* Gordon Campbell, M.D., Montreal; J. M. Jack, M.D., Montreal; James Galloway, M.D., 54, Harley Street, Cavendish Square, W.

A subject selected for discussion in this Section is the Clinical and Pathological Characteristics of Vesicular Skin Diseases, especially the Dermatitis Herpetiformis Group.

It is intended that a joint meeting should be held with the Section of Pharmacology and Therapeutics for the discussion of the subject of the Treatment of Syphilis (see p. 369).

The following papers are announced:

Fox, T. Colcott. Demonstration of the Biology of the Trichophyte

Galloway, James (London) On Melanotic Conditions of the Skin preceding Malignant Disease of the Skin.

Among those who are expected to take part in the discussions of this Section are Dr. E. B. Bronson (New York), Dr. L. D. Bulkley (New York), Dr. J. A. Fordyce (New York), Dr. J. N. Hyde (Chicago), Dr. G. T. Jackson (New York), Dr. Stephen Mackenzie (London), Dr. A. Eddowes (London), and Dr. White (Boston).

Programme of Proceedings.

Tuesday, August 31st, 1897.

11 A.M.—Cathedral Service.
2.30 P.M.—Opening Ceremonies. Welcome by His Excellency the Governor-General, Lord Aberdeen, the Mayor of Montreal, and others. Address by the President-elect, Dr. T. G. Roddick.
4 P.M.—Garden Party at the Royal Victoria Hospital (Mr. W. B. Angus, President of Royal Victoria Hospital), etc.
9 P.M.—*Conversazione* at Laval University. Address by Professor Richet, Delegate from the French Government, etc.

Wednesday, September 1st, 1897.

10 A.M.—McGill University: Opening of Sections.
2.30 P.M.—Windsor Hall: Address in Medicine by Dr. W. Osler.
4 P.M.—Excursion down the St. Lawrence: Garden Parties, etc.
9 P.M.—Reception by the Hon. Sir Donald A. Smith, High Commissioner of Canada.

Thursday, September 2nd, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
2.30 P.M.—Windsor Hall: Address in Surgery by Mr. W. Mitchell Banks.
4 P.M.—Excursion across the Island, International Golf Match, etc.
7.45 P.M.—Annual Dinner of the Association.

Friday, September 3rd, 1897.

9.30 A.M.—McGill University: Sectional Meetings.
1 P.M.—Lunch on the Mountain, given by the Mayor.

2.30 P.M.—Windsor Hall: Address in Public Medicine by Dr. Herman Biggs; Concluding Speeches, etc.
4 P.M.—Excursion down the Lachine Rapids; Garden Parties, etc.
9 P.M.—*Conversazione* at McGill University.

SATURDAY, SEPTEMBER 4TH, 1897.
Excursions to Lake Memphremagog, Saranac, Ottawa, Quebec, etc.

ANNUAL MUSEUM.

THE PATHOLOGICAL MUSEUM.

The Pathological Museum will be established in the Dissecting Room of McGill Medical College, a large, lofty, and well-lighted room. The Secretary of the Pathological Subcommittee of the Museum Committee is Dr. C. F. Martin, McGill Medical College, Montreal, who will be glad to receive the loan of specimens, drawings, and photographs illustrative of both normal and morbid anatomy, as also any new apparatus for research in physiology, pathology, or bacteriology.

Specimens illustrating diseases peculiar to the remoter portions of the Empire are especially desired. It is proposed to make a special collection of photographs and microphotographs of morbid conditions. These will be suitably mounted and carefully returned to the owners.

Suitable vessels and jars, and spirit and other media will be provided for moist specimens.

FOODS, DRUGS, AND APPLIANCES.

Regulations Regarding Exhibits.

1. Communications on general matters connected with the Museum and applications from intending exhibitors should be addressed to the Honorary Secretaries, Drs. J. W. Stirling or J. M. Jack, 2204, St. Catherine Street (British Medical Association Rooms).

2. Information of the allotment of space will be furnished as promptly as possible, and on receipt of cheque for the cost of such space, a card for the admission of the exhibit will be forwarded.

3. All cheques to be made payable to J. W. Stirling, M.B.

4. All exhibits should be directed to the British Medical Museum, Victoria Skating Rink, Drummond Street, Montreal, Canada, with the name of the Section for which they are intended. Packages must also be addressed to a firm's representative at the Museum.

5. Exhibits must be delivered between August 27th and 28th; they must each bear a card indicating the name and address of the exhibitor; they must be arranged in their allotted space before 2 P.M. on August 28th, and it is desirable that they be not removed till September 6th.

6. Signs or placards must be so arranged as not to interfere with adjacent exhibits: on the central tables no sign or placard must reach higher than 2 feet 6 inches from the table.

7. The Committee will not be responsible for any risks or expenses incurred; they reserve discretionary power to exclude any exhibit they may consider unsuitable; they will only receive exhibits conditionally upon strict compliance with the foregoing regulations, and in all matters of doubt and difficulty their decision shall be final.

8. The Museum Committee or its representatives must be recognised as being in full control of the exhibition building and its management.

Tables occupying the centre of the Hall, and other prominent positions, are to be let by private tender; other tables varying in charges from 4s. to 2s. per square foot. Certain floor space will be let at 1s. per square foot.

DR. E. GWYNN, the Medical Officer of Health for Hampstead, has been elected President of the Metropolitan Branch of the Incorporated Society of Medical Officers of Health.

DONATIONS TO HOSPITALS.—The Goldsmiths' Company has sent £100 to the treasurer of the hospital; Mr. Hope Morley has sent 50 guineas to the Royal Chest Hospital, City Road, E.C. The Goldsmiths' Company has also forwarded £200 to the East London Hospital for Children; and the Grocers' Company has made a grant of £100 to the same hospital.

A MONUMENT has been erected at Brèches, in the Department of Indre et Loire, to the famous surgeon Velpean, who was born there on May 18th, 1795. He was the son of a village blacksmith.

SPECIAL CORRESPONDENCE.

PARIS.

The Treatment of Exophthalmic Goître.—Antitetanus Serum.—Tuberculosis Congress.—Magnets and Surgery.—General News.

Two papers recently read at the Paris Medical Academy on exophthalmic goître have excited considerable interest in the medical profession. Concerning the surgical treatment of the disease, M. Doyen in his paper confidently affirmed that removal of the thyroid body is the only treatment to be adopted. This he characterises as a simple, easy, and not dangerous operation, one which ought to be effected in ten minutes without any preliminary precautions to arrest hæmorrhage. The patient must be kept two or three days in bed, "*et tout sera dit*" (that would be the end of it). M. Doyen considers section of the cervical sympathetic a dangerous and useless operation. M. Poncet and M. Jaboulay hold quite a different theory, and consider all surgical treatment of the thyroid body dangerous, and that it does not always give good results. Moreover, they affirm that most surgeons hold the same views.

M. Nocard has tested in veterinary surgery the value of injecting antitetanic serum with most satisfactory results. Epidemics of tetanus were arrested by preventive serum injections. All operations which in veterinary surgery exposed the animals to the danger of tetanus are, he stated, perfectly harmless when preliminary serum injections are made; 3,100 animals were inoculated after injuries which rendered the setting in of tetanus very probable, and only one had an attack of tetanus of a very mild character.

The fourth Congress for studying tuberculosis will take place at Paris during the last week of July, 1898. M. Nocard, of the Alfort Veterinary School, will be in the chair. The following questions will be discussed: The Value of Sanatoria as Prophylactics and as a Means of Treating Tuberculosis; Serum and Toxins in Treating Tuberculosis; the Use of *x* Rays in Diagnosing Tuberculosis; the *x* Rays in Treating Tuberculosis; the Success of Prophylactic Measure in Combating Animal Tuberculosis.

Cosmos gives an account of the use of a magnet in surgery. A broken needle entered the left wrist of a girl whilst washing some linen. The medical man consulted refused to extricate it, fearing several incisions in the region of the ligaments might be necessary. During two months the sufferer was unable to use her hand, the least movement of the fingers caused her intense pain. Dr. Gorinewski and Dr. Crestin, who were called in, determined to extract the needle by a magnet. After nine attempts, covering twenty hours, the needle was present under the skin; it came out without any pain or loss of blood.

Dr. Menut, of Brassac-les-Mines, has addressed a letter to the President of the Medical Syndicate of Puy de Dôme concerning a curious incident closely touching the interests and medical dignity of his neighbouring colleagues. A messenger of St. Florine, a village near, appeared at Dr. Menut's one night to summon him to a patient's bedside. Dr. Menut was absent and the man's knocks were not heard. He went to a neighbouring doctor, who was also absent. The messenger was returning to his village when he met the Mayor of Brassac, who, on learning that the said Sétier was returning without a medical man, having found them both absent, declared he would quickly make those sluggards get up (it was late at night). In carrying out his intentions he roused up two gendarmes, and sent them with Sétier to Dr. Menut's house, who was still absent. They left after assuring themselves that the horse was not in the stable. After this illegal irruption into Dr. Menut's house, the same scene was repeated at Dr. Chouvel's with the same result.

At a recent meeting of the Paris Municipal Council, M. Ostier questioned the Seine Prefect on the tendency of the Paris Medical Faculty to prevent foreign students from coming to it, and asked to have a commission appointed to study the means of offering facilities to students for studying at the Faculty when intending to return to their native country. The Fourth Commission will reopen this question.

The *internes* of the Salpêtrière Hospital, rightly discontented with their sleeping accommodation, have forwarded

to the Director of Public Assistance a glass bottle containing a collection of domestic insects more agreeable by their absence than their presence which can never be overlooked. This historic bottle bears the following inscription—"A crop gathered in our dormitory, 6-7 July, 1897."

The honorary medal for researches on epidemiology has been awarded by decree of the Minister of the Interior to Dr. Martin, chef of Dr. Roux's laboratory, at the Pasteur Institute.

BERLIN.

Women as Apothecaries.—Prussian State Medical Officers' Meeting.—Hospital Organisation in Berlin.

At the forthcoming annual meeting of German apothecaries, which is to be held in Strassburg towards the end of August, the question of throwing open the trade to women is to be debated. The proposal will be as follows: Women are to be allowed to become apothecaries provided they are properly qualified, and provided that in each case the applicant seems of sufficient bodily strength.

The Prussian State medical officers will hold their annual meeting in Berlin in September. Naturally enough the proposed new legislation on matters of public health will form the chief matter of discussion, but papers will be read on subjects connected with forensic medicine, with the hygiene of the working classes, with epidemics, etc., and the results of an inquiry concerning the spread of quackery will be published.

An eminently practical proposal has been made for the establishment of a central office in connection with all the Berlin hospitals, where every day the number of free beds in each hospital would be known. Such an institution would be of the greatest service, especially in times of epidemics. Even now some of the Berlin hospitals are nearly always crowded, and frequently patients are refused admittance and have to be transported from hospital to hospital.

LIVERPOOL.

The Stanley Hospital.—Increased Accommodation for Infectious Diseases.—Sunday and Saturday Fund.—New Professorship of Public Health.—Resignation of Dr. H. C. Chapman.

The Stanley Hospital has for many years had to struggle against want of support, and its very existence has often seemed to depend on the energy and enthusiasm of the Committee and staff. For more than twelve years forty of the beds have been lying empty, which, if occupied, would have led to an augmentation of the grant from the Sunday and and Saturday Fund. Early in the year a special appeal was was made to enable the Committee to clear off the existing debt and to open the beds. This appeal has been partially successful, and it has been decided to open 16 of the beds forthwith.

A considerable extension of the Corporation Fever Hospital in Netherfield Road has just been completed. The accomodation in the building up to the present amounted to 96 beds, but this addition brings it up to 146. Besides two new pavilions and an isolation block, considerable improvements have been made in the quarters of the administrative staff. Each bed has 144 feet of floor space, and is 12 feet from that adjoining. The addition must be regarded as a precautionary measure in view of the possibility of some epidemic breaking out; but the improved sanitation of the city and the gradually diminishing death-rate in the community give good grounds for hope that such an eventuality may never arise. At present there are only 64 patients in the hospital.

The amount distributed this year by the Hospital Sunday and Saturday Funds is £400 in excess of last year's distribution, amounting to £11,400. The increase is solely in the Saturday collections, the Sunday collections showing a slight falling off. This is due probably to the unusual severity of the weather on the day when the collections were made. The augmentation in the Saturday collection indicates an increased interest in the hospitals on the part of the working men of the city.

The formation of the school of sanitary science in connection with University College, already alluded to in the British Medical Journal, has led to the conversion of the Lectureship on Hygiene into a Professorship of Public Health. The office is held by Dr. Hope, the Medical Officer of Health, who will now be a member of the Senate of the College, and will doubtless bring much practical experience and judgment to bear on the deliberations of that body.

It is with great regret that his brother practitioners in Liverpool learn that Dr. H. C. Chapman, the Medical Superintendent of the Mill Road Infirmary, has resigned his appointment in consequence of ill-health. Dr. Chapman came to Liverpool nearly twelve years ago as House-Surgeon to the Stanley Hospital, where so many other successful practitioners have commenced their career. Not long afterwards he was appointed to the position he is now relinquishing. The West Derby Guardians have formed so high an opinion of his services that they have granted him the highest superannuation possible.

CORRESPONDENCE.

CULLINGWORTH FUND.

Sir,—Will you allow us to make a brief statement in the columns of the British Medical Journal as to the Cullingworth Fund which is now finally closed. It was hoped that we should be able to defer sending out the balance sheet until the litigation had been brought to a conclusion, but Miss Beatty has applied for permission to appeal to the House of Lords *in formâ pauperis*, and though this application has been refused it is still open to her to proceed with the suit in the ordinary way. Under the circumstances we have thought it better to issue the balance sheet without further delay.

The amount subscribed is £972, a sum which will, it is hoped, fully cover Dr. Cullingworth's legal expenses. The incidental expenses would have been much greater had it not been for the generous co-operation of yourself and the editors of the *Lancet*, which we desire cordially to acknowledge.—We are, etc.,

T. D. Acland, } Hon.
B. Pitts, } Secs.

July 30th.

Treasurer's Statement.

	£ s. d.		£ s. d.
Receipts as per published lists	972 0 0	Paid to Dr. Cullingworth	959 14 6
		Printing, etc.	6 0 6
		Clerical assistance ...	2 10 0
		Postage, etc.	3 10 0
		Messengers and telegrams	0 5 0
	£972 0 0		£972 0 0

July 30th. W. Roberts, Hon. Treas.

THE DISINFECTION OF HANDS AND INSTRUMENTS.

Sir,—In the passage which Mr. Lockwood quotes from my book in the British Medical Journal of July 31st I refer only to his first paper. If I remember aright, the proofs were returned before the publication of his second paper; at any rate I had not seen it till after they had passed out of my hands. No doubt in the second edition the adjective "recent" used in the first edition is misleading, but the latter edition had been stereotyped. I was asked only to make essential corrections and alterations, and it never occurred to me to alter the word. Mr. Lockwood has done such excellent work on this subject, and his researches have helped so greatly in placing the antiseptic question on a sound basis, that I regret extremely if any criticisms of mine seem unjust.

The impression which I gathered from reading Mr. Lockwood's first paper was that by none of our plans was the skin properly disinfected, and his methods of investigation seemed to me so sound and thorough that I never thought of questioning the results. At the same time, I could not at first see how to reconcile them with the constancy of asepsis and the absence of organisms in our wounds. On thinking the matter over it occurred to me that the explanation possibly was that although the skin might not at first be thoroughly disinfected, yet as the result of the continued action of the

1 in 2,000 sublimate solution which I use for douching the wound during the operation, disinfection was completed by the time one had finished. To test this view I inoculated pieces of skin at the commencement of the operation and pieces at the end, and I hoped to find growth in the first series of flakes and not in the last. To my surprise, with hardly an exception growth did not occur in either series. Was this result due to some error on my part? Negative results in bacteriology are more likely to be correct than positive ones, but it was possible that in my experiments sufficient antiseptic adhered to the pieces of skin to prevent growth. I therefore washed the skin after disinfection with sterilised water, but with the same negative result.

I cannot agree with Mr. Lockwood that these experiments "are the simplest in bacteriology." On the contrary, I believe that it requires much care to avoid accidental contamination, and I should think that in a long series of experiments it would be hardly possible to avoid it in all cases, especially in the atmosphere of a hospital. It therefore seemed to me most probable that his less constant results arose from some such accidental contamination, for I cannot accept the diagnosis of the "ordinary bacteria of the skin" as satisfactory. The other possible explanation, namely, that there was sufficient difference in our methods of disinfection of the skin to explain the divergence in results, did not seem to me so probable; but that is apparently the correct explanation, for Mr. Lockwood says that "by additional care in disinfection our results grew better." The method in which the disinfection of the skin was carried out in the majority of my cases was as follows: On the morning of the day of the operation the skin was washed with soap and strong mixture (1 in 20 carbolic lotion containing $\frac{1}{500}$th part of corrosive sublimate in solution) and shaved. It was then scrubbed with turpentine, and subsequently with soap and strong mixture and a nail brush. A piece of gauze saturated with strong mixture was then fixed over the part. When I came four to six hours later I repeated the whole process again very thoroughly. Even with 1 in 20 carbolic lotion alone without turpentine or sublimate I found that in parts where the skin was thin, and in children, disinfection was satisfactory, but in other parts, such as the axilla in adults, growth took place. This plan was, however, only used for the sake of experiment, and is not that which I employ. As to not publishing my experiments, I dropped the research after a time, and they did not seem to me to be worth publishing.—I am, etc.,

July 31st. W. WATSON CHEYNE.

MIDDLE EAR DISEASE AND MENINGITIS.

SIR,—In my paper in the BRITISH MEDICAL JOURNAL of July 24th, I did not say I read Mr. Field's paper with great satisfaction. I said "I read with great satisfaction statements by Drs. Cheadle, Barlow, and Lees" (in that paper). Mr. Field's statement was not "that hydrocephalus and idiocy might result from middle ear disease." It was "I feel confident that every year, owing simply to the non-discovery of pent-up pus in the tympanic cavity, scores of children die or fall victims to chronic hydrocephalus or complete idiocy."—I am, etc.,

Savile Row, W., July 31st. W. B. DALBY.

HOSPITAL REFORM ASSOCIATION.

SIR,—I have received the following from the Royal College of Physicians:

The Council of the Royal College of Physicians, having considered with great care the memorial submitted to the College by the Hospital Reform Association, is of opinion that it is impossible for the College to make, in the words of the memorial, searching investigation into the present system of dispensing out-of-door medical relief at the hospitals, infirmaries, and dispensaries, not only in the metropolis but in all the large provincial towns.

June 18th, 1897. SAMUEL WILKS, President.

It is evident, Sir, that we must work out our own salvation. The question arises how we can best bring about a reform of the present unsatisfactory system. As I have remarked before, we must endeavour by every means in our power to acquaint the supporters of hospitals with the facts of the case. We must also bring all the pressure possible on the medical staffs, and we must point out to medical students the hopelessness of their being able to earn a decent livelihood while the present abuses continue to exist.

From time to time my Association has received letters from many of the leaders of the profession expressing their sympathy with the movement, and deploring the amount of abuse that exists. But, Sir, we require something more than sympathy; we want these successful consultants to give us material aid. As has been so often pointed out, the medical staffs could, if they are really in earnest, speedily bring about a reformation of the present system. I often wonder whether our leading consultants have any knowledge whatever of the struggles of the general practitioner. Do they know that in order to compete with the out-patient and casualty departments of our general hospitals men have to prescribe and furnish medicine for the munificent sum of 4d.? Is it known to them also that it is a common practice nowadays for medical men to employ canvassers or "touts" for their family clubs?

We are prepared, Sir, to continue the work we have undertaken—if the profession will give us an adequate amount of support. The cause we have in hand is a righteous one, and must in the end prevail.—I am, etc.,

July 31st. T. GARRETT HORDER, Hon. Sec.

AN EXAMINATION PAPER ON PHYSIOLOGY.

SIR,—I am much interested and also comforted to find correspondence in the BRITISH MEDICAL JOURNAL regarding the ridiculous papers set at St. Andrews for the L.L.A. I had the misfortune to teach a class of ladies last winter in preparation for this Honours Examination. I say misfortune, for although they were able students, I can hardly suppose it possible they will pass on such a paper. When one remembers that these are local examinations held at different towns in Scotland, and therefore presumably not based upon the teaching of any individual, the unfairness is even more manifest. Yet this paper is not unique: a reference to old papers shows that many of them are almost, if not quite, as full of rubbish.

Your referee in England has not taken notice of what is, perhaps, the most flagrant point, namely, Question 11 in this paper. I am afraid it would take a female Solomon to explain how after-damp in pits explodes when a naked light is brought into it, seeing that it is chiefly composed of carbonic acid. If a man does not know the difference between "fire damp" and "after-damp" he surely must have but little sense in setting a question on either of them.—I am, etc.,

July 25th. A LECTURER.

THE ARMY MEDICAL EXAMINATION.

SIR,—It does not appear to me that medical officers are, in the matter of home service, any worse off now than they were during my nine-and-twenty years' service, which was put an end to thirteen years ago. I never volunteered to go abroad or when there to remain longer than required; I never avoided foreign service by exchange, and yet never served in a home appointment for the space of three years. The usual time at home was as stated by "B. R." I should not omit to mention that for hard work, including six cholera epidemics, etc., I have been rewarded by half pay when sick. This was the method in those days.

This simple statement may give candidates pause before they commit themselves to conditions which no educated gentleman should submit to. The latest Honorary Fellow of the College of Physicians has set an example to officials at the Horse Guards and War Office which might be imitated with advantage and out of respect to our gracious Sovereign in this year of rejoicing.—I am, etc.,

July 24th. NEMO.

THE DEFENCE OF CIVIL RIGHTS.

SIR,—In your notice on July 17th of the half-yearly meeting of Fellows of the College a remark of Sir William Mac Cormac is reported—that I had tailed "to prove my case at law." My reply is not given, and such a statement from such a quarter, unrefuted, is calculated to do me serious injury, and to mislead those who might have the public spirit to unite in defence of common rights.

Nothing can be further from the facts than the statement that I "failed to prove my case at law," and the only explana-

tion of its being made is that Sir William Mac Cormac is not well versed in the circumstances of the case.

Only allegations can be "proved." All mine I "proved" to the satisfaction of the jury, the only authority upon them. If Sir William Mac Cormac meant that I had not "gained my case at law" it was needless to say it, as that is my ground of complaint, which you in an eloquent leading article (May 12th, 1894) well called, and which the College Council has by two years' participation in my efforts to reverse it, formally declared to be, in its opinion, "a great wrong," by taking part in quoting and reproducing passages from your leading article in its pamphlets on the case, and in inviting subscriptions from all the world to appeal to the House of Lords against that decision. But when the tables were turned, and the College, in turn, was invited to subscribe, invited under By-law 15 to contribute to this appeal, which it had commended to all and sundry, and to defend the professional rights of its Member according to its engagement under the by-law, it was absolutely necessary, even at the sacrifice of one with whom the Council "sincerely sympathises," to avoid setting a precedent so dangerous and possibly far-reaching. Now having wrenched itself free from its connections and obligations, and being unable to explain why the by-law does not apply to my case, it becomes necessary to modify its pronouncements, to deprecate what it formerly advocated, and to do this in the least noticeable and least ostentatious manner.

Now, I have "failed to prove my case at law"; now, that being admitted, the Council "cannot be expected to set itself above the law." Now the appeal, which when others were to bear the cost of it was commendable, becomes not only presumptuous, but a resistance to constituted authority; and in every appeal to the House of Lords the appellant "sets himself above the law."

Were I cynically disposed, I might enjoy the position of men who have acted as I have described. As it is, to quote Sir William Mac Cormac, I regard it as "deplorable," and my only consolation is, that the end is not yet.—I am, etc.,

Montague Place, W.C., Aug. 4th. R. B. ANDERSON.

OBITUARY.

FRANK CHANCE, M.B., F.R.C.P.

THE death of Dr. FRANK CHANCE, the eminent Hebrew scholar, is announced. Dr. Chance, who was born in 1826, was Tyrwhitt Hebrew Scholar in 1854. He took the degree of M.B. in 1855. He became a Member of the Royal College of Physicians of London in 1859, and a Fellow in 1863. In 1860 he published an English translation of Virchow's *Cellular Pathology*, but he had already devoted himself to linguistic studies, and in 1864 published at his own expense a *Commentary and New Translation of the Book of Job*, a task commenced in association with Dr. H. H. Bernard, who died before it was completed or printed. Dr. Chance retired from practice in 1865, and gave himself up to his favourite studies. In 1875 he was appointed one of the company of revisers of the Authorised Version of the Old Testament, and worked most regularly at this work until its completion in 1884.

FRANCIS HENRY BLISS, M.A., M.B., B.C.CANTAB.

MANY Cambridge and St. Mary's men will be grieved to hear of the untimely death, from hæmoptysis, at the early age of 29, of FRANCIS BLISS. He was educated at Marlborough College, and then proceeded to Sidney Sussex College, Cambridge, where he took the degree of M.A., and commenced his medical studies, subsequently coming to London, to St. Mary's Hospital, to complete them. He was characterised throughout his student days by great personal charm and refinement of character, which made him a host of friends, by whom his loss is deeply felt. After qualifying in 1893, he was appointed House-Surgeon to the Royal Portsmouth Hospital. He then settled at Edenbridge, in Kent, and was rapidly building up a large practice, and, as usual, making many friends, when, last autumn, signs of tuberculous disease of the lungs showed themselves. Acting on medical advice he relinquished practice, and spent the winter in Switzerland and Italy. His health had greatly improved, and he was on a visit to friends in England, when he was attacked with severe hæmoptysis, which recurred and proved fatal on July 28th.

Dr. Bliss was the son of Sir Henry Bliss, of the Indian Civil Service, who had only a short time before lost another son, who was in the army, from typhoid fever, while serving in the Chitral campaign. Dr. Bliss was buried in Oxted churchyard on July 31st, a large number of his old fellow-students and teachers travelling down to show their respect for his memory. Much sympathy is felt with his widow and little daughter, and with his father, in this abrupt close of a promising career, and in the loss of a man who succeeded so well in inspiring all whom he met with both esteem and affection.

PROFESSOR PREYER.

THE death of Hofrath Dr. PREYER, Professor of Physiology in the University of Jena, was recently reported from Wiesbaden. Thierry Wm. P. Preyer was born at Manchester in 1841, but pursued his studies at German universities, working from 1865 as a "Docent" at Bonn, and being appointed in 1869 to the Chair of Physiology at Jena. He was an industrious and original investigator in physical, physiological, and psychological subjects; and amongst the objects of his research were quantitative spectral analysis, the colouring matter of the blood, the colour and temperature senses, and the limits of the perception of sound. In 1882 he published the book which perhaps is best associated with his name, *Die Seele des Kindes*. This work contained his observations upon the mental development of his own infant son. He carefully traces out the gradual evolution of the senses and of the faculties from the earliest period, for example, that the child begins to explore the field of vision in search of objects before the end of the third month, and placing the first appearance of volition, properly so-called a month or two later, reflex being thereby transformed into voluntary attention. In sense discrimination he found that his little boy learnt to distinguish colours at the age of 2 in the order of yellow, red, lilac, green, and blue. Imitative movements he traced at a very early age, noting that a child when less than 4 months of age pouted in response to his father's pout. With these and similar observations, the book (following parallel lines of observation to those taken by Darwin and Perez) is a valuable manual to students of child psychology.

Preyer published in 1883 a textbook of general physiology. He took considerable interest in hypnotism and kindred subjects, translating into German Braid's work, and publishing an essay on the causes of sleep.

THE death is recorded of Dr. HENRY WINCHESTER, of Fort Augustus, Inverness-shire. While attending a patient who had been suffering from erysipelas one of his arms became poisoned, and he deemed it necessary to go to Inverness for treatment. Everything possible was done for him, but he rapidly declined, and death took place on July 16th. Dr. Winchester was a native of Elgin, and graduated M.B. and C.M.Aberd. in 1877. He held the appointment of Medical Officer for the parish of Boleskine and Abertaff. The deceased leaves a widow and two daughters.

WE regret to announce the death of Dr. HUGH MOSS, of Congleton, Cheshire. His health had been failing for some time, but he was able to continue active work up to the end. Whilst visiting a patient on the morning of May 28th, he was seized with apoplexy, and died in a few hours. He qualified as M.R.C.S., L.S.A., in 1862, and in the same year obtained the degree of M.D. of St. Andrews. For over thirty years he was medical officer to the union, and enjoyed an extensive country practice. Dr. Moss took much interest in municipal affairs, and was for three consecutive years mayor of the borough, carrying out his duties with the greatest assiduity. He devoted much of his spare time to music, and was especially gifted as a player of the flute. He was held in the highest esteem, on account both of his personal charm and his great professional ability. His loss is deeply felt by a large circle of friends and patients, more especially, perhaps, by the sick poor, to whom he was always unremitting in his care and attention. The funeral was a public one, the Mayor and Corporation being present officially; it was attended, also, by a

large number of townspeople. Dr. Moss leaves a widow and four daughters.

THE death is recorded of Dr. WILLIAM MURRAY, of Armidale, New South Wales, at the age of 49. Dr. Murray was the son of Mr. Archibald Murray, of Limerick. He was educated in Scotland, and at the University of Dublin, where he took the degree of M.B. He was also a member of the Royal College of Surgeons of England. After practising for some little time at Pembroke he went to Armidale, New South Wales.

WE regret to have to announce the death of Surgeon REGINALD J. FYFFE, R.N. The deceased officer, who was only thirty years of age, was just home from China, where for three years he had been serving on H.M.S. *Rattler*. For the manœuvres he was appointed to H.M.S. *Gleaner*, which was paid off on July 9th. Mr. Fyffe went to Bratton, on a visit to his sister. On the evening of July 12th he was out cycling, and when riding down a hill he lost control of his machine and was thrown, sustaining a fracture of the skull and other injuries, to which he succumbed in a short time. The deceased qualified as M.R.C.S.Eng., and L.R.C.P.Lond. in 1892.

WE regret to have to record the death of Dr. WILLIAM H. ROBERTSON, of Buxton, which took place on June 15th, at the age of 86. He took the degree of M.D.Edin. in 1830, and in 1872 he became a F.R.C.P.Lond. Dr. Robertson was Consulting Physician and Chairman of the Board of Trustees of the Devonshire Hospital and Buxton Bath Charity, and was also a Justice of the Peace for the County of Derby.

NAVAL AND MILITARY MEDICAL SERVICES.

ARMY MEDICAL SCHOOL, NETLEY.

THE distribution of prizes in connection with the Army Medical Staff and Indian Medical Service on the conclusion of the seventy-fourth session of the Army Medical School took place at Netley on July 30th when the presentations were made by Major General Sir W. F. Butler, K.C.B., commanding the South Eastern District. Among those present were Surgeon-Major-General J. Jameson, C.B., Director-General of the Army Medical Department, Surgeon-General Sir J. Fayrer, Bart., K.C.S.I., F.R.S., Surgeon-Major-General C. H. Giraud, Surgeon-Major-General Cuffe, C.B., Surgeon-Major-General O'Dwyer, Surgeon-Colonel K. McLeod, Surgeon-Colonel Tandy, Colonel Liddell, A.A.G. Southern District, Sir W. Mac Cormac, Bart., Surgeon-General W. M. Webb, and Surgeon-General Maclean, C.B.

Surgeon-Colonel J. L. Notter in reading a report upon the general work of the school stated that all the surgeons on probation attending the classes had been favourably recommended for commissions, and that the general tone of the school had been excellent. The following are lists of the successful candidates for commissions in the Army Medical Staff and Indian Medical Service. The final positions of these gentlemen are determined by the marks gained in London added to those obtained at Netley. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School.

ARMY MEDICAL STAFF.

	Combined Marks.		Combined Marks.
*S. L. Cummins	4,871	J. Poe	3,942
J. McArdle	4,455	H. L. W. Norrington	3,928
†C. H. Hopkins	4,247	H. G. F. Stallard	3,806
L. J. C. Hearn	4,227	R. D. Jephson	3,654
P. Mackessack	4,172	J. Crean	3,577
J. McD. McCarthy	4,147	A. W. N. Bowen	3,413
E. Brodibb	4,085		

INDIAN MEDICAL SERVICE.

	Combined Marks.		Combined Marks.
‡J. G. P. Murray	5,644	A. Fenton	5,093
§S. Anderson	5,428	J. A. Dredge	5,006
‖F. H. G. Hutchinson	5,390	R. W. Knox	4,885
¶J. L. Marjoribanks	5,208		

* Gained the de Chaumont Prize in Hygiene.
† Gained the second Montefiore Prize.
‡ Gained the Herbert Prize of £20, the Martin Memorial Medal, Pathology Prize presented by Sir Joseph Fayrer, Bart., K.C.S.I.
§ Gained the Maclean Prize for Clinical and Ward Work.
‖ Gained the Parkes Memorial Medal.
¶ Gained the first Montefiore Prize of 20 guineas and Bronze Medal.

Major-General Sir W. F. Butler, having presented the prizes, addressed the recipients. With respect to the profession they had chosen, he said he had always thought that in one sense it was the highest of all the professions. It represented the humanising element in war, without which war would be worse than the savagery of wild animals. There seemed to him, however, to be another quality connected with this profession almost as valuable as the humanitarian, and that was the quality of open-mindedness, with impartial judgment and freedom of opinion. In his concluding remarks he said he at one period of his history was a candidate at Netley: but he was a candidate for life. He was brought there twenty-five years ago a mere wreck of flesh and bones, and that he was now addressing them he owed under Providence to the skill and sympathy and the care which he received in this building at the hands of many eminent men, some of whom were still living, but the greater number of whom, he regretted to say, had joined the majority.

The Director-General, in highly complimentary terms, expressed his own indebtedness and that of the officers of the two services to Sir W. F. Butler for not only presenting the prizes but for his kindly and sympathetic address.

Sir Joseph Fayrer having offered his congratulations to the young officers about to commence their careers in life, the proceedings were brought to a close.

Subsequently the guests were entertained at luncheon by Surgeon-Major-General Nash and officers of the Army Medical Staff in their mess.

THE NAVY.

THE following appointments have been made at the Admiralty: SYDNEY CRONEEN, Surgeon, to the *Triton*, July 28th; CORNELIUS BRADLEY, M.D., Surgeon, to the *Wildfire*, undated; JAMES T. W. S. KELLARD, Fleet-Surgeon, to the *Trafalgar*, undated; ALFRED PATTERSON, Fleet-Surgeon, and THOMAS C. MEIKLE, M.B., Surgeon, to the *Rodney*, undated.

ARMY MEDICAL STAFF.

SURGEON-MAJOR MICHAEL F. MACNAMARA, F.R.C.S.I., retires from the service, receiving a gratuity, August 4th. He was appointed Surgeon, July 31st, 1880, and Surgeon-Major twelve years therefrom.

Surgeon-Lieutenants PERCY EVANS, M.B., ARTHUR E. MILNER, CLAUDE K. MORGAN, M.B., JOHN P. SILVER, M.B., HERBERT W. VAUGHAN WILLIAMS, M.B., JOHN M. BUIST, M.B., JAMES WALKER, M.B., FRANK DOVE, GEORGE ST. CLAIR THOM, M.B., and STEPHEN W. SWEETMAN, having completed three years' full pay service, are promoted to be Surgeon-Captains, July 28th.

Surgeon-Captain JOHN H. E. AUSTIN has been selected for appointment to the Grenadier Guards as an attached medical officer.

Surgeon-Lieutenant LIONEL PHILIP TOMLINSON died at Belgaum, India, from typhoid fever, on July 31st, aged 26. He was the youngest son of Brigade-Surgeon E. D. Tomlinson, and joined the department January 29th, 1895.

ARMY MEDICAL RESERVE.

SURGEON-CAPTAIN WILLIAM A. DINGLE, M.D., 2nd Tower Hamlets Royal Engineers (Volunteers), to be Surgeon-Captain, August 4th.

THE VOLUNTEERS.

SURGEON-LIEUTENANT W. E. JAMES, 1st Monmouthshire Artillery, is promoted to be Surgeon-Captain, August 4th.

Surgeon-Major W. STEPHENSON, 2nd Volunteer Battalion the East Yorkshire Regiment, is promoted to be Surgeon-Lieutenant-Colonel, August 4th.

Surgeon-Lieutenant G. R. SWINHOE, 2nd Volunteer Battalion the Duke of Edinburgh's Wiltshire Regiment, is promoted to be Surgeon-Captain, August 4th.

THE TOCHI FIELD FORCE.

THE following is an epitome of the latest intelligence regarding the health of the troops serving in the force. It was reported at Edwardesabad on July 9th that the Argyll and Sutherland Highlanders who left the station that morning had 23 cases of sunstroke *en route*, of which 2 cases were fatal. On July 10th ambulance tongas and dandies had left Edwardesabad to bring in the sun-stricken Highlanders. When the Argyll and Sutherland Highlanders marched out of Edwardesabad they left 135 sick behind. The Rifle Brigade, it was reported, would probably leave 70 men. On July 11th the Rifle Brigade and half of the members of the two British field hospitals and details arrived at Saidgi from Bannu. There were no cases of sunstroke. The march was trying and hot, but the men marched cheerily and well. Of the 1 officer and 76 men left by the Rifle Brigade at Bannu, only 6 cases were of sore feet. The Argyll and Sutherland had sent back to Bannu 39 men, and had then (July 11th) already lost about a quarter of their strength. News from Miran Shah, on July 13th, says that the Rifle Brigade and details had marched from Saidgi to Idak, fifteen miles, a trying march up and down hill. There were 4 cases of sunstroke. The Highlanders marched on July 12th from Idak to Miran Shai, and were much knocked up. The regiment pushes on to Datta Khel, and left 17 sick at Miran Shai. Every march up the valley diminishes the heat troubles for the British troops.

An outbreak of glanders and anthrax had occurred among the horses and mules at Miran Shai.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.

INFANT LIFE PROTECTION BILL.

THE Commons amendments to this Bill were considered (according to order) and agreed to.

WEIGHTS AND MEASURES (METRIC SYSTEM) BILL.

This Bill has been read a third time with amendments, and passed and returned to the Commons.

DISTRICT COUNCILS (WATER SUPPLY FACILITIES) BILL.

Viscount CROSS moved the second reading of this Bill, explaining that its object was to enable landowners under the Improvement of Land Act, 1864, to contribute towards the expenses of the district council in bringing water to their estates, and to make it a charge on the estate with the consent of the Board of Agriculture. The Bill was read a second time.—The Bill subsequently passed through Committee, was reported to the House without amendments, and was then read a third time and passed.

LOCAL GOVERNMENT BOARD MEDICAL OFFICERS' REPORT.

Copies have been presented to both Houses of the supplement of the Twenty-sixth Annual Report of the Local Government Board, 1896-7 containing the report of the medical officers for 1896-7.

PAUPER LUNATIC ASYLUM ACCOUNTS.

Copies have been presented to both Houses of the Local Taxation Returns (England) relating to Accounts of County Councils and Pauper Lunatic Asylums.

THE METROPOLITAN WATER COMPANIES BILL.

Lord JAMES OF HEREFORD moved the second reading of this Bill, and went at some length into an explanation of its provisions.—After some remarks from Lord TWEEDMOUTH, the Earl of WEMYSS, Lord BALFOUR, and Viscount CROSS the Bill was read a second time.—In Committee Lord JAMES OF HEREFORD moved to amend Subsection 2 of Clause 1 by giving power to the Railway and Canal Commission to award damages to the complainant in case of any complaint by a water consumer or local authority as to the quantity or quality of the water supplied for domestic purposes.—The amendment was agreed to.

PUBLIC HEALTH (SCOTLAND) BILL.

In Committee on this Bill, the Earl of CAMPERDOWN moved an amendment to Clause 189 to except from the power of appropriation to be conferred on a local authority in respect of all streams of water in its district any supply of water used for domestic or agricultural purposes.—Lord BALFOUR objected to the amendment as too wide, but offered to exempt all water artificially brought to a farm or dwelling-house.—After some discussion the amendment was withdrawn.—At a subsequent sitting the Bill was reported, and read a third time and passed.

BURIALS JOINT COMMITTEE BILL.

On the motion of Lord BALFOUR, this Bill was read a second time.—The Committee stage having been negatived, the Bill was read the third time and passed.

YORKSHIRE CORONERS' BILL.

On the motion of Lord BELPER, this Bill was read a second time, and the Committee stage having been negatived, it was read the third time and passed.

DANGEROUS PERFORMANCES BILL.

Lord BELPER, in moving the second reading of this Bill, explained that its object was to amend the Dangerous Performances Act of 1879 by raising the age at which children could take part in those performances from 14 years to 18 years in the case of females, and 16 years in the case of males, and instead of allowing proceedings to be instituted on the information of any informer it was provided that the consent of the chief officer of police of the area in which the alleged offence was committed should be first obtained.—The Earl of KIMBERLEY thought there could be no objection to the Bill because, while it made restrictions on a legitimate employment, it prevented malicious and annoying prosecutions on the part of faddists, of whom there was a large number in this country.—The motion was agreed to.—The Bill then passed through Committee without amendment, was read the third time, and passed.

VACCINATION (ROYAL COMMISSION).

There have just been issued Appendices iii to ix to the Final Report of the Commissioners, consisting of reports to the Commission relative to outbreaks of small-pox or the prevalence of the disease in certain districts; and papers relating to cases in which death or injury was said to be traceable to vaccination.

SCHOOLS FOR THE BLIND AND DEAF.

The report has been issued of the Committee of Council on Education on schools for the blind and deaf; with appendices, 1896-97.

HOUSE OF COMMONS.

CLEANSING OF PERSONS BILL.

THIS Bill (formerly the Verminous Persons Bill) has been finally disposed of in the House of Commons, the Lords' amendments having been considered and agreed to.

POOR-LAW ACT (1889) AMENDMENT BILL.

A Bill to extend and amend the provisions of the Poor-law Act, 1889, has been brought in by Mr. Flower and read a first time. It is backed by Sir H. Bemrose, Mr. Davitt, Mr. Hazell, Mr. William Jones, and Mr. Harry Samuel.

SALE OF FOOD AND DRUGS BILL.

Mr. CHAPLIN has brought in a Bill to amend the Acts relating to the Sale of Food and Drugs. The Bill is backed by Mr. T. W. Russell.—The PRESIDENT OF THE LOCAL GOVERNMENT BOARD, in introducing the measure, said it was unusual to introduce a measure at this late period of the session. There was, however, no intention whatever of proceeding with it. It was merely brought forward in fulfilment of a pledge given earlier in the session. The object of the Bill was to give effect to recommendations which were made by the Committee which sat on the question of food and drugs; and his object in introducing the Bill now was in order that during the recess they might be able to ascertain the general drift of opinion with regard to the question. The right hon. gentleman brought up the Bill amid ironical Opposition cheers, and it was read a first time.

DANGEROUS PERFORMANCES BILL.

This Bill as amended has been considered, read the third time, and passed.

YORKSHIRE CORONERS BILL.

This measure has also passed through all its stages in the Commons.

THE LONDON UNIVERSITY COMMISSION BILL.

Mr. HARRISON asked the First Lord of the Treasury whether the Government intended to proceed this session with the University of London Commission Bill, having regard to the fact that it proposed fundamental changes in the constitution of the University, and had been introduced without consulting the members of Convocation, who at present enjoyed the chartered right of approving or disapproving any new or supplemental charter, and was strongly opposed on the part of the graduates of the University, besides materially differing from the recommendations of the Cowper Commission.—Mr. BALFOUR: I am informed that the leading members of Convocation have been consulted and support the Bill. As to the opposition of the graduates, my information is that the majority of this body are in favour of the scheme. The modifications in the recommendations of the Cowper Commission do not vary from the principle of the report, and is supported by the Chairman of Convocation and every responsible body connected with the University. That constitutes a very large body of support behind the Bill, and I confess I should very greatly regret if opposition in this House should prevent its being passed into law in the course of the present session.—Sir C DILKE gave notice that on the second reading of the London University Bill he would move that this House declines to proceed with the Bill in the present session, inasmuch as Convocation of London University has not yet assented to its provisions in their present form.—Subsequently, Mr. BALFOUR, in the course of a statement on public business, said that to his very great regret he believed it to be impossible to take the London University Commission Bill in the course of the present session. He felt to the full the objections as to leaving over for another year the settlement of a question in which a large number of independent educational bodies were concerned, and on which, speaking broadly, they had come to an agreement. But he recognised at the same time that there was a serious opposition taken to it in its present shape, and the Government could not face the expenditure of time necessary to deal with the measure in the present session. The Government must therefore postpone the Bill. He earnestly hoped that next year, at all events, the Government would be in a position to settle this long-standing and perplexing controversy.—Subsequently the order for the second reading of the Bill was read and discharged, and the Bill withdrawn.

THE ORGANISATION OF THE LOCAL GOVERNMENT BOARD.

Sir WALTER FOSTER: I beg to ask the President of the Local Government Board whether the Departmental Committee had completed its report on the organisation of the Local Government Board, and, if so, when the report will be circulated?—Mr. CHAPLIN: I understand that the Committee have agreed to their report. It has not been received by the Board, but as soon as it is received I will consider the question of its circulation.

THE LOCAL GOVERNMENT BOARD AND VACCINATION.

In Committee of Supply, on the vote of £121,659 to complete the sum necessary for salaries and expenses of the Local Government Board, Mr. CHANNING asked the President of the Local Government Board, in consideration of the emphatic declaration of the Royal Commission on Vaccination, to issue a circular to Boards of Guardians giving more definite advice and instruction than were contained in the Evesham letter. Many Boards of Guardians were showing a relentless spirit in the matter of prosecuting conscientious objectors to vaccination that was quite in conflict with the recommendations of the Commission.—Mr. CHAPLIN, in regard to the request that greater leniency should be shown to people who disregarded the vaccination law, reminded hon. members that the Committee on Vaccination reported last year. Immediately afterwards he found it necessary to make further inquiries from the officers of the Local Government Board with regard to the necessary production of lymph. The report of the inspectors, who had made an exhaustive inquiry into the subject, had only just been completed. From the draft which he had seen he believed that sooner or later there would be a complete reform of all the laws relating to vaccination. The inquiry appeared to show that in future vaccination would be performed in one of two ways, either directly from the calf, or by means of calf lymph preserved in glycerine. The effects of this new method of preserving calf lymph were, he was told, very remarkable. He could not yet express a final opinion, but probably the result of the latest researches would be to bring about a very considerable reform in the whole subject of vaccination. The amendments of the law which it might ultimately be desirable to propose were now under consideration. The question now was what ought to be done in the meantime. Speaking generally he sympathised with the views of the hon. member for East Northamptonshire, but the existing law must be observed, and he could not step beyond the limits of his duties and recommend Boards of Guardians to disregard the law. His action, however, would be in consonance with the spirit of what was called the Evesham letter, in which it was pointed out that where repeated prosecution had been initiated for non-compliance with the law, Boards of Guardians had a discretion not to proceed further. On a subsequent day Colonel DALBIAC asked the President of the Local Government Board whether the delay in the issue of the various appendices to the report of the Royal Commission on Vaccination was due to the fact that some, if not all, of these appendices had not yet been pre-

sented to Parliament; and whether the several reports constituting these appendices had been long in type, and what was the reason they had not been yet presented.—General Laurie also asked the Secretary of State for the Home Department whether he had ascertained when the remainder of the evidence and special reports on which the final report of the Royal Commission on Vaccination was based would be published, and what was the cause of the delay.—The Home Secretary: The appendices can be presented at once, and will probably be circulated in two or three weeks. The delay is attributable to the fact that the necessity for a separate presentation of these appendices was, through some misunderstanding, overlooked.

Army Medical Messes.

Colonel Denny: I beg to ask the Under-Secretary of State for War, if he will state how many Army Medical Staff messes there are in this Country, in India, and in the Colonies respectively, and how many of these have come into existence since the introduction of Army Estimates in February: Do the War Office contribute anything towards the expenses of these messes: And, what contributions do the authorities make to the messes of British regiments and native regiments in India?—Mr. Brodrick: The organisation of a mess depends largely upon the officers themselves, and need not be reported to the War Office. So far as the Director-General is aware there are four medical messes in this country, none of which have come into existence since February. The Director-General is making inquiries as to whether further messes are desired, and in any such case the War Department will be prepared to give facilities by the provision of a building. In India the mess allowance to a British regiment is from 150 to 200 rupees a month, and to a native regiment 100 rupees a month.

Hardships of the Army Medical Service.

Captain Norton: I desire to ask the Under-Secretary for War whether it has been brought to his notice that officers of the Army Medical Department suffer severely from frequent moves at short notice, coupled with difficulty of obtaining leave, to such an extent that an officer of 11 years' service serving at home had recently to pay about £30 to enable him to obtain a part of the ordinary leave to which he was entitled by regulation, although the leave in question was for urgent private affairs—namely, to visit a sick wife at his proper station, he being on detachment? And whether he will take steps to deal with these hardships?—Mr. Brodrick: Officers of the Army Medical Staff are moved from station to station as seldom as possible, and only when the necessities of the public service demand. Ordinarily a departmental officer can only have leave of absence when it does not cause additional expenses to the public; but as the home establishment of officers is under strength, and inconvenience resulted, arrangements have been made whereby a substitute for an officer on leave is provided without expense to that officer when the establishment of the district is not full.

Vacancies in the Army Medical Service.

Colonel Denny: I wish to ask the Under-Secretary of State for War how many vacancies were advertised for the Army Medical Service examinations now in progress, how many candidates applied, and how many of these were rejected as physically unfit.—Mr. Brodrick: Thirty-six vacancies were advertised, and 28 candidates applied; 2 were rejected as medically unfit, 3 did not present themselves for the physical test, and 1 was otherwise disqualified.—Colonel Denny: I also wish to ask the Secretary of State for India how many vacancies were advertised for the Indian Medical Service examinations now taking place, how many candidates applied, and how many of these have been rejected as physically unfit.—Lord G. Hamilton: Eighteen vacancies were advertised for the Indian Medical Service, 38 candidates applied; 5 of these were rejected as physically unfit.

Dog Muzzling.

Mr. Lambert asked the President of the Board of Agriculture whether, by the Devonshire (Muzzling of Dogs) Order, all dogs with the exception of sporting dogs in charge of competent persons were required to be muzzled; whether he was aware that a large number of dogs were used by farmers and cattlemen in Devonshire for the purposes of their business; and whether he would extend the same exemptions to dogs under the charge of competent persons used for business purposes as the Board of Agriculture extends to dogs used for sport.—Mr. W. Long: The answer to the first two questions is in the affirmative. With regard to the third, the matter has already been carefully considered, and for reasons I have already given I regret I am unable to adopt the suggestion.

Rabies.

Mr. Seale-Hayne: I beg to ask the President of the Board of Agriculture how many cases of rabies have been reported in Devonshire during the past twelve months; and whether farmers' dogs employed in driving sheep and cattle, and fishermens' dogs employed in carrying ropes to and from their master's boats, may be accorded the same exemption from the muzzle as dogs employed in sport.—Mr. W. Long: Two cases of undoubted rabies have occurred in Devonshire during the current year. One case occurred on June 29th and another on July 7th, whilst a third dog was destroyed in June under very suspicious circumstances. In connection with the latter case another dog from the same premises, after displaying similar symptoms, disappeared. In reply to the hon. member for South Molton, I have stated that I am unable to adopt the suggestion contained in the second paragraph of the question.

Glanders.

Mr. Kearley asked the President of the Board of Agriculture whether his attention had been directed to the death of a man in London on July 19th from glanders; whether he was aware that a horse suffering from this dangerous disease had been kept alive for nearly a year by the Middlesex County Council to the risk of other horses and men; and whether, in the event of that authority continuing to refuse compliance with their obligations, he would, under the powers possessed by the Board, compel the slaughter of this animal, and charge the costs upon the local authority.—Mr. Long: I have not received any information as to the unfortunate occurrence mentioned in the first paragraph of the question, and I do not understand that it has any connection with the case of the glandered horse to which the hon. member subsequently refers. With regard to the horse, the Middlesex County Council decline to order the slaughter, although they are willing to make and carry out all arrangements for the purpose if the owner consents. I do not think I should be justified in adopting the course suggested in the last paragraph of the question.

The Condition of the Richmond Lunatic Asylum.

Mr. Kilbride (for Mr. Sheehy) asked the Irish Secretary whether he was aware that the medical superintendent of the Richmond Asylum had been complaining about the overcrowded condition of his institution in his annual reports since 1886 to the governors; and that a contract, involving nearly a quarter of a million sterling on the new asylum at Portrane, was given away by the Board of Control, which was an unrepresentative body, without consultation with the Board of Governors; whether he would state to the House the amount of money expended on temporary buildings which had been condemned by Dr. Patrick Manson, of London, and by Sir Thornley Stoker, of Dublin; and whether his attention had been called to the statement in the inspectors' report for 1891 that the Richmond Asylum was originally constructed for 600 patients, that there were now considerably over 1,800 patients in the asylum, and that that the additional temporary accommodation did not even provide for the increase in the numbers since the inspectors reported in 1890 that the congestion paralyses every effort to treat the insane.—Mr. Gerald Balfour: The fact is as stated in the first part of the paragraph. It is not true that the contract for the Portrane Asylum was given away by the Board of Control without consultation with the Board of Governors. The expenditure on the temporary buildings which were erected with the concurrence of the governors amounts to about £12,000. The medical gentlemen referred to considered wooden buildings unsuitable for the treatment of beri-beri patients, but the buildings erected at Richmond have been designed with every possible attention to sanitary requirements, and are, in the opinion of the inspectors of lunatics, suitable for the accommodation of the insane. Similar temporary buildings have been erected in London with the concurrence of the English Lunacy Commissioners. The remarks of the inspectors in their report of 1891 referred not to the want of day room and dormitory accommodation, but to the deficiency of the administrative departments, which, originally designed to accommodate 600, were found insufficient for the enlarged institution. But so far back as 1854 an additional building had been erected for male patients, which, with further additions subsequently made, brought the accommodation long previously to 1891 up to 1,100. The number at present at Richmond and Portrane is 1,821, while there is accommodation at both places, including the temporary structures, for 1,648, made up as follows: Accommodation for 1,100 in the present buildings at Richmond, and temporary accommodation for 364 at Richmond and for 184 at Portrane. The number in excess of the accommodation is, therefore, 173, and to provide for these accommodation is being prepared, and will be completed in about a month, for 130 at Portrane and for 35 at Richmond. This will still leave a small balance of 8, and at the meeting of the governors on Tuesday last a proposal was made by the inspectors and approved by the governors that further provision should be made for the temporary accommation of 150 patients, which will leave a safe margin of accommodation under any possible circumstances.—Mr. Lough: Has there been a great increase in the number of cases of beri-beri this week?—Mr. G. Balfour: I rather think not, but I believe there has been an increase in the number of patients suffering from the disease within the past month or so.

Opium Smoking in Ceylon.

Mr. Sharpe asked the Secretary for the Colonies whether his attention had been called to a memorial and statement presented to the Governor of Ceylon, the former in January, 1894, and the latter in February of this year, showing the injurious effects of the licensed sale of opium in the Colony; also to the question of the Hon. W. W. Mitchell, mercantile member of the Ceylon Legislative Council, on February 6th, on the same subject; and whether any steps had been taken by the Ceylon Government to prevent the spread of opium smoking in the colony similar to the steps taken in India, Burmah, and the Straits Settlements.—Mr. Chamberlain: The question of the sale of opium in Ceylon has for some time past engaged the attention of the Colonial Government, and, as I stated in the House on February 5th last, the Ceylon Government has decided, with my approval, to raise the import duty on opium from 1 rupee to 2 rupees per pound. Further proposals to prevent the spread of opium smoking are still under consideration.

Ventilation on the Underground Railways.

Mr. Weir asked the President of the Board of Trade whether he was in a position to state when the report of the Departmental Committee of the Board of Trade on the ventilation of the Metropolitan and Metropolitan District Railways would be issued?—Mr. Ritchie: The Committee is engaged upon the consideration of its report, but I cannot say when its deliberations will be concluded.

The Water Famine in the East End.

Mr. Bigwood asked the Secretary to the Local Government Board whether his attention had been called to a letter in the *Times* from the vicar of St. Jude's, Whitechapel, giving details of the water famine in the East End of London, and whether an assurance of the Department would be given that the best endeavour would be made to minimise as far as possible the sufferings of these unfortunate people.—Mr. T. W. Russell said that up to the hour when the House met no complaints had reached the Department as to the insufficiency of the water supply, but on reading the letter in the *Times* he despatched General Scott to the locality. It was found that, being Bank Holiday, none of the responsible officials were at the company's offices. There had, however, been a serious burst in one of the mains. He despatched General Scott later to the various blocks of buildings referred to in the vicar of St. Jude's letter, but he was now waiting his return and report.—Lord H. Cecil asked whether the Government would consider the propriety of moving an amendment in the Water Companies Bill in another place with the view of altering the date for the Bill to come into force? At present the date was November 1st, but he thought its provisions

might be made to apply to any water famine during the present summer.—Mr. Chaplin said that he had considered this point since he had received information with reference to the water supply, and if it was possible to do so he would take steps in the direction indicated. Later on the house having gone into Committee of supply Mr. Chaplin said that since question time he had received the report of General Scott, who had been sent to make inquiries into the alleged diminution of the water supply in parts of the East End. General Scott said that a number of the buildings referred to in Mr. Hand's letter of the 30th ult. had been examined, and "in every instance except one water was available at the taps on the top storeys. The exception was Shepherd's Buildings, where the water reached the fourth floor only. The cistern contained water at 11 A.M, to-day, but at 2 P.M. was empty. Generally speaking, there seems to have been a scarcity or total absence of water during the greater part of last week, and a general recovery in the supply on Saturday. The total absence of water was in almost every case restricted to the upper floors of the buildings. The people seem to be comfortable as a rule, and pursuing their usual occupations. The local authority state that the health of the district is normal." He would also read certain letters that had passed between the Secretary of the East London Water Works Company and the Whitechapel district authorities. On June 31st the secretary of the company wrote to the chief sanitary inspector of the Whitechapel district as follows:—"In reply to your letter of July 30th, enclosing copy of a complaint from a Mr. D. G. White, I beg to state that the mysterious interruption between our Hornsey Wood reservoir and the mains supplying the district from it has now been discovered. It is reported to me from the works that the pressure is much better, and I trust the inconvenience is at an end." Then there was another letter dated July 30th from the secretary of the company to the medical officer of health in which he said:—"In reply to your letter of July 29th, enclosing copy of a complaint from Mr. B. Morna, of 63, Davis Mansions, New Goulston, S.E., I regret to inform you that we have some mysterious interruption between our Hornsey Wood reservoir (which is quite full of water) and the main supplying the district from it. Every possible investigation is being made to discover the cause and the engineer hopes soon to unravel the mystery. The accident, whatever it may be, is most deplorable, as we have upwards of 1,000,000,000 gallons of water in stock and some of the finest machinery in the world to get it to the consumers' houses. I trust the inconvenience will be of short duration." On July 31st, the general superintendent of the company wrote to the sanitary inspector: "I had already received communications from 28, Spital Square, and Josephine House, Tenant Street. In both cases, of course, the deficiency was due the cause pointed out in the surveyor's letter to Dr. Loane, but I hear this morning from the district foreman that in every case the cisterns were filled up during the night, and I am glad to say we have discovered the cause of the trouble, and the pressure is now excellent." He hoped now that this trouble, which, of course, was a very grave one at this time of the year, would be at an end. No efforts on his part to bring that about would be spared, and every step would be taken by the Board to prevent a water famine, which in the part of London affected would be nothing short of a calamity.

The River Brent.

Mr. Bigwood asked whether any steps were being taken by the Local Government Board to assist the Middlesex County Council in their endeavour to remedy the state of things existing in the river Brent.—Mr. Chaplin said he had received the report of an inspector upon the state of the Brent. He had an interview with the chairman of the Middlesex County Council, and the same afternoon he despatched to him what, according to the views put before him, were the instructions necessary to enable him to take immediate steps for the purification of the river Brent.

The River Blackwater.

Sir Frederick Dixon-Hartland asked the Secretary for War whether he was aware of the foul condition of the river Blackwater, a tributary of the river Thames; whether his attention had been called to the serious complaints made for some time past to the War Department by the Conservators of the river Thames and other public bodies through whose district the river flowed, with regard to the continued pollution of that river caused by the bad effluents from the sewage farm at Aldershot, which received the drainage of the North and South Camps; and whether he would cause immediate steps to be taken to stop the pollution of the river from that source.—Mr. Brodrick: Every effort is being made to improve the effluent from the Aldershot Sewage Farm. The Thames Conservancy are aware of this, and no complaint has been received from that body since January.

Cottage Homes for Pauper Children.

Mr. Ashton asked the President of the Local Government Board whether, in view of the large number of Boards of Guardians which would have to make fresh provision for the children under their care, the Local Government Board was about to appoint a Committee to visit and report upon the best cottage homes in the country, and, if so, whether the Committee would be appointed at once; and whether the Local Government Board would have a report made on the epileptic colonies in Germany established under the German Act of 1890; if so, whether the Board would cause photographs and plans of the buildings to be made and issued for the better understanding of the report.—Mr. T. W. Russell: I do not quite understand the first part of the question, or what contemplated committee the hon. member refers to. In company with experts of this department I visited many cottage homes myself, and I do not know that there is any necessity for a Committee. As to the second part of the question, I will consider the matter.

PETITIONS.

Petitions have been presented from London and Clapham against alteration of the law in regard to contagious diseases; and from Birmingham and the Midland Counties Grocers' Protection and Benevolent Association in favour of the Sale of Food and Drugs Bill.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF EDINBURGH.

The graduation ceremonial in Science and Medicine took place on Saturday, July 31st, the Vice-Chancellor presiding.

The following had the degree of Doctor of Medicine conferred upon them:

S. J. Aarons, M.B., C.M.; C. M. Allan, M.B., C.M.; J. B. Bird, M.B., C.M.; J. M. Brown, M.B., C.M. (with first class honours); W. H. Bunting, M.B., C.M.; J. F. Carruthers, M.B., C.M.; T. A. Clinch, M.B., C.M.; A. Dall (M.A.), M.B., C.M.; S. Davidson, M.B., C.M.; R. Davies, M.B., C.M.; T. H. Davidson, M.B., C.M.; J. J. Douglas, M.B., C.M.; J. B. Duff, M.B., C.M. (with first class honours); J. C. Dunn, M.B., C.M.; S. Edgerley (M.A.), M.B., C.M.; F. W. Eurich, M.B., C.M. (with second class honours); R. E. Evans, M.B., C.M.; J. H. Ewart, M.B., C.M.; F. H. Fairweather, M.B., C.M.; A. G. F. Forster, M.B., C.M.; A. Foster, M.B., C.M.; W. E. Fothergill (M.A., B.Sc.), M.B., C.M. (with first class honours); H. E. Fraser (M.A.), M.B., C.M.; T. A. W. Fulton, M.B., C.M. (with first class honours); J. A. Gibson, M.B., C.M.; T. A. Glover, M.B., C.M.; E. M. Goldie, M.B., C.M.; E. H. Gonin, M.B., C.M.; G. D. Gray, M.B., C.M.; T. A. Green, M.B., C.M.; W. H. Gregory, M.B., C.M.; R. Grieve, M.B., C.M.; J. H. K. Griffiths, M.B., C.M.; A. E. H. C. Hallen, M.B., C.M.; F. P. Hearder, M.B., C.M.; I. D. C. Howden, M.B., C.M.; A. Jameson, M.B., C.M.; T. Johnstone (M.A.), M.B., C.M.; T. B. Kenny, M.B. C.M.; J. Kirk, M.B., C.M.; R. Knox, M.B., C.M.; F. Kraemer (M.A.) M.B., C.M.; J. A. Laing, M.B., C.M.; C. Lewis, M.B., C.M.; F. J. M'Cann, M.B., C.M. (with second class honours); J. W. Macdonald, M.B., C.M.; A. V. Macgregor, M.B., C.M.; G. S. Macgregor, M.B., C.M.; H. D. N. Mackenzie, M.B., CM.; J. C. Mackenzie, M.B., C.M.; G. H. Masson, M.B., C.M.; R. M. Mathesen, M.B., C.M.; G. S. Mill, M.B., C.M.; W. Morrison (B.Sc.), M.B., C.M.; J. H. Murray, M.B., C.M.; A. J. M. Paget, M.B., C.M.; J. Pearse, M.B., C.M.; T. Pettey, M.B., C.M.; A. Philip, M.B., C.M.; G. W. Pollard, M.B., C.M.; G. L. K. Pringle, M.B., C.M.; J. C. Rattray, M.B., C.M.; J. K. Richards, M.B., C.M.; E. Robinson, M.B., C.M.; J. G. Smith, M.B., C.M.; J. W. Somerville, M.B., C.M.; A. P. Steavenson, M.B., C.M.; J. Steed, M.B., C.M. (with second class honours), J. P. Stewart (M.A.), M.B., C.M. (with first class honours); G. Stiell, M.B., C.M.; D. G. P. Thomson, M.B., C.M.; W. Thyne (M.A.), M.B., C.M.; F. Ward, M.B., C.M.; D. A. Welsh (M.A.), B.Sc., M.B., C.M. (with first class honours); H. Whittome, M.B., C.M.; J. M. Whyte (M.A.), M.B., C.M.; A. Whytt, M.B., C.M.; E. S. Yonge, M.B., C.M.; J. Younan, M.B., C.M.; and M. Young, M.B., C.M.

Of these, 4 obtained gold medals for their theses, namely: F. W. Eurich, W. E. Fothergill, T. A. W. Fulton, D. A. Welsh.

Six other gentlemen were deemed worthy of competing for the theses gold medals, namely: W. H. Bunting, T. B. Kenny, F. J. McCann, W. Morrison, J. P. Stewart, J. M. Whyte.

Twenty-seven gentlemen were commended for their theses.

The degrees of Bachelor of Medicine and Master in Surgery were conferred on the following:

F. Anderson, R. W. Anthony, H. L. Apthorp, J. R. Atkinson, H. S. Ballantyne (B.Sc.), B. M. Bone, S. C. Bose, F. W. Broadbent, S. O. Browne, C. J. Caddick, L. M. Cairns, S. G. Champion, M. N. Chaudhuri, G. L. Chiene, B. R. C. Christie, W. Cobden-Rowlands, Agnes Irene Sinclair Coghill, L. A. Crooks, T. W. A. Daman, W. G. Donald, S. Ducat, R. W. T. Ewart, S. Faed, W. Finlay (Bach.-es-Lett.), J. G. Forbes, H. Fowler, R. Gellatly, J. F. Gibbon, W. H. Goldie, J. Graham, T. P. Greenwood (B.Sc.), J. Grieve, W. F. Harvey (M.A.), J. C. Hastings, J. Henderson, E. H. Irwin, A. L. de Jaeger, J. B. Jamieson, T. N. Johnston, C. B. Johnstone, D. T. R. Jones, E. H. Jones, L. Kingsford, G. Liddell (B.A.). L. S. L. Liddell, A. W. Limont, G. C. Low (M.A.), J. S. Lyle, D. M'Askie, Mary Ross M'Dougall, J. J. L. Macfarlane, C. C. Macmillan, A. D. Macpherson (M.A.), H. Malcolmson, M. W. Manuk, E. Matthew (M.A.), A. G. Naylor, T. M. Ness (M.A.), J. Newington, J. Nicoll, H. Nuttall (M.A.), J. H. Patterson, E. L. Phillips, Winifred Jane Pierce, P. Rattray, R. R. Richardson, J. R. Roberts (B.Sc.), E. C. Robertson-Fullarton, I. E. Rosenstein, T. A. Ross, R. Selby, D. C. Sethna, J. A. Shoolbread, Ethel Louie Starmer, T. H. Stevenson, J. P. Sturrock (M.A.), G. C. Thomas, Isabella Beattie Venters, F. J. Walden, J. R. H. Walker, A. H. Watt, A. R. Wight, W. G. Wight, and M. B. Wright.

Four of these passed the examinations with first-class honours: H. S. Ballantyne, W. F. Harvey, G. C. Low, and E. Matthew.

Five candidates passed the examinations with second-class honours, namely: W. Finlay, J. Graham, E. H. Jones, L. Kingsford, A. H. Watt.

The following had the degrees of Bachelor of Medicine and Bachelor of Surgery conferred on them:

B. C. R. Aldren, V. G. Alexander, T. R. W. Armour, T. Biggam, R. B. Black, H. F. W. Boland, L. Boyer, W. Burns, (M.A.), D. Clow, C. M. Cooper, L. W. Davies, J. E. Dods. G. L. Findlay, J. Forrest, G. Fourie, W. H. Fowler, J. S. Fraser, A. Gibson, W. Gorrie, W. Hamilton, W. G. Heath, R. Hill, G. B. Hollings, P. Kinmont, F. O. Lashrey, A. B. MacCarthy, T. J. T. M'Hattie, I. L. MacInnes, J. W. M'Intosh, W. E. M'Kechnie, J. Malcolm, W. Martin, F. W. More, E. F. M. Neave, J. H. P. Paton, A. H. Pirie (B.Sc.), R. G. Riddell, J. D. Slight (M.A.), W. M. A. Smith, W. R. Somerset, J. W. Struthers, G. A. Vincent, C. P. B. Wall, and W. M. Wilson.

Of these four passed the examinations with first-class honours: C. M. Cooper, J. S. Fraser, W. Hamilton, and J. D. Slight; and four with second-class honours: B. C. R. Aldren, T. R. W. Armour, J. Malcolm, and J. W. Struthers.

Scholarships, Prizes, etc.—The Ettles Scholarship has been awarded to E. Matthew, M.A., M.B., C.M.; the Beaney Prize in Anatomy and Surgery to C. M. Cooper, M.B., Ch.B.; the Murchison Memorial Scholarship in Clinical Medicine to P. T. Herring, M.B., C.M.; the Buchanan Scholarship in Gynæcology to W. H. Goldie M.B., C.M.; the James Scott Scholarship in Midwifery to C. M. Cooper, M.B., Ch.B.; the Gunning Victoria Jubilee

Prize in Practice of Physic to J. Forbes, M.A., B.Sc., M.B., C.M.; the Milner Fothergill Gold Medal to W. E. Fothergill, M.A., B.Sc., M.B., C.M.; the Wightman Prize in Clinical Medicine to E. F. Bashford; the Pattison Prize in Clinical Surgery to R. W. Mackenna, M.A.; and the Vans Dunlop Scholarship in Chemistry to J. P. Longstaff and A. W. C. Menzies (equal).

The degree of D.Sc. was conferred on F. Beddow, B.Sc.; A. Morgan, M.A., B.Sc.; and G. Wilson, M.A., B.Sc.

The degree of B.Sc. in the Department of Public Health was conferred on F. M. Gibson, M.B., C.M., B.Sc. (pure science); R. C. McWatt, M.B., C.M.; B. K. Nariman, M.B., C.M.; and A. O. C. Watson, M.B., C.M.

The promoter's address to the graduates was given by Professor Cossar Ewart, who chiefly discoursed on the past history of the medical profession, especially on some of the advances that had been made in medical science during the past sixty years.

At the close of the address the graduates and their friends were, on the invitation of Professor Sir William Turner, invited to visit the McEwan Hall, which is now practically finished, and in which it had been hoped the ceremony would have taken place.

SECOND PROFESSIONAL EXAMINATION FOR THE DEGREES OF M.B., CH.B.—The following candidates have passed this examination:

W. J. Baird, C. A. J. A. Black, F. M. Black, P. J. Bodington, Mary Booth, G. A. Brogden, W. J. D. Bromley, A. P. L. Brown, G. H. J. Brown, J. M. Buist, D. A. Callender, J. C. Carr, M. Carthew, J. B. Cassels, C. Chilton, J. D. Comrie, M.A. (with distinction); B. J. Courtney, H. B. Dodds (with distinction), D. R. Evans, D. Ewart (with distinction), W. Ewart, H. Faulkner, D. Fenton, E. G. Ford, J. J. Galbraith, P. P. Ganteaume, B. K. Goldsmith, C. H. G. Gostwyck, G. Haddow, P. W. Hampton, G. G. Hay, A. C. Heath, P. H. Henderson, A. M. Holmes, D. J. Hughes, A. M. Hutchison, W. T. James, P. F. Jardine, T. Jenkins, F. J. Jude, F. F. Kerr, J. W. Kerr, D. B. King (M.A.), G. R. Laing, C. G. S. Leeds, L. S. Lessing, E. M. Lithgow, J. D. Lithgow, P. N. M. Macdonald, W. R. Macdonald, P. A. Maclagan, R. A. Macneil, L. W. Macpherson, E. W. Martin, F. N. Menzies, M. J. Menzies, D. B. Merry, R. M Mitchell, H. A. D. Moore, A. Mouat, W. A. Murray, A. W. Nankevis, A. C. Neethling, T. P. Oates, T. S. A. Orr, W. Park, J. H. Paterson, L. J. L. de Pavillet, R. N. Pringle, S. C. Pritchard, F. G. Ralston, W. Reid (M.A.), T. R. Robertson, G. B. Robinson, J. G. Ross, J. M. Ross, A. J. Ryle, Aneesa Sayba, J. T. Scott, S. Simpson, B.Sc. (with distinction); A. B. Slater, C. E. Smith, S. Southall, W. C. Spooner, K. L. Teng, G. N. W. Thomas, J. A. Thompson, W. G. Thompson, G. Thomson, J. Thornhill, A. S. Trapaga, C. H. Watson, J. B. Wilson, E. M. Young.

THIRD PROFESSIONAL EXAMINATION FOR THE DEGREES OF M.B. AND CH.B.—The following candidates have passed this examination:

T. M. Alexander, A. E. Brookes, A. C. Brown, J. D. Cameron, R. Crawford, R. M. Dalziel, F. H. Dommisse, C. L. Dunn, D. D. Farquharson, A. Fordyce, A. E. Goldie, J. M. Gray, E. R. Grey, G. Hamilton, T. Henderson, A. M Hutchison, B. S. Hyslop, R. King, J. Leggate, P. A. Leighton, E. M Lithgow, W. Lockerbie, J. S. Low (B.Sc.), P. L. M'All, J. M'Gregor, Robina M'Gregor, D. A. Macvean, J. F. Martin, Ruth Massey, J. W. Mathewson (B.Sc.), C. W. F. Melville, L. H. B. Mills, W. J. Nutter, T. A. Price, R. Pugh, J. M. Reid, J. H. Rhodes (with distinction), I. Shalaby, G. F. B. Simpson, J. A. C. Smith, F. H. Stirling, W. Tarr, A. K. Traill, K. C. Verley.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,662 births and 4,827 deaths were registered during the week ending Saturday last, July 31st. The annual rate of mortality in these towns, which had increased from 14.7 to 19.3 per 1,000 in the four preceding weeks, further rose to 22.9 last week. The rates in the several towns ranged from 9.9 in Croydon, 10.3 in Huddersfield and in Halifax, 12.2 in Oldham, and 13.5 in Cardiff to 28.7 in Wolverhampton, 31.7 in Preston, 32.0 in Sheffield, and 32.6 in Liverpool. In the thirty-two provincial towns the mean death-rate was 22.4 per 1,000, and was 1.2 below the rate recorded in London, which was 23.6 per 1,000. The zymotic death-rate in the thirty-three towns averaged 6.5 per 1,000; in London the death-rate was equal to 6.9 per 1,000, while it averaged 6.0 in the thirty-two provincial towns, among which the highest zymotic rates were 9.5 in Sheffield, 11.6 in Liverpool, 11.8 in Preston, and 13.4 in Portsmouth. Measles caused a death-rate of 1.5 in Burnley, 2.9 in Salford, 3.3 in Manchester, and 10.4 in Preston; whooping-cough of 1.1 in West Ham and in Plymouth, 1.5 in Gateshead, and 1.8 in Wolverhampton; and diarrhœa of 6.5 in Nottingham, 6.6 in Wolverhampton, 7.6 in Sheffield, 9.6 in Liverpool, and 13.1 in Portsmouth. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 54 deaths from diphtheria in the thirty-three towns included 41 in London 2 in West Ham, and 2 in Liverpool. One fatal case of small-pox was registered in London, but not one in any other of the thirty-three large towns; and one small-pox case was under treatment in the Metropolitan Asylums Hospitals. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 2,976 at the end of the thirteen preceding weeks, had further risen to 3,106 on Saturday last, July 31st; 363 new cases were admitted during the week, against 349, 381, and 396 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, July 31st, 918 births and 542 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had risen from 17.7 to 19.5 per 1,000 in the three preceding weeks, declined again to 18.2 last week, and was 4.7 per 1,000 below the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the lowest death-rates were 13.5 in Aberdeen and 14.7 in Paisley, and the highest rates 20.7 in Dundee and 21.4 in Leith. The zymotic death-rate in these towns averaged 3.0 per 1,000, the highest rates being recorded in Leith and Greenock. The 256 deaths registered in Glasgow included 29 from diarrhœa, 14 from whooping-cough, and 2 from diphtheria. Four fatal cases of scarlet fever were recorded in Edinburgh, and 4 of measles in Leith.

PETROLEUM HAIRWASHES.

The London County Council has issued the following circular: "A fatal accident having occurred through the use of a liquid known as petroleum hair-wash, the London County Council considers it desirable to give notice that such liquid is petroleum within the meaning of the Petroleum Acts, and can only be lawfully kept in accordance with the provisions thereof. The liquid, which is also called 'Antiseptique Liquide,' 'Dry Shampoo,' 'Pétrole,' 'Le fin de Siècle,' and by other names, consists chiefly of petroleum spirit, which freely gives off inflammable vapour at ordinary temperatures. This vapour flashes or fires on contact with light, fire, or electricity, not only in the immediate vicinity of the liquid but at a considerable distance therefrom. Being heavier than atmospheric air, the vapour will, under favourable conditions, travel or flow considerable distances, and it has been known to ignite at over 40 feet from the point from which it proceeded. Several accidents have occurred from the petroleum spirit having been fired by electricity generated in cleaning clothes, and some of the accidents in using petroleum hair-wash may have arisen from electricity generated in applying the wash to the hair. The application of petroleum spirit to the hair is so exceptionally dangerous that it is hoped perfumers and hairdressers will do their best to discourage the practice."

MEDICAL NEWS.

W. ERNEST THOMSON, M.A., M.D., has been appointed Professor of Physiology in Anderson's College Medical School, Glasgow.

BY the generosity of an anonymous donor, the Committee of the Liverpool Stanley Hospital has been placed in a position to open sixteen beds which have been closed for want of funds.

AT the annual meeting of the St. Andrews Graduates' Association, Dr. Cleveland, who had filled the office of chairman *pro tempore*, since the death of Sir Benjamin Ward Richardson, was elected President of Council for the ensuing year. At the same time Sir Charles Gordon, K.C.B., and Sir Charles Gage-Brown were elected Vice-Presidents of the Association.

THE medical officer of health for Aberdeen, in his report for June, shows that the death-rate for the month reached the exceptionally low figure of 13.74 per 1,000. He expressed his regret that it was determined at the last meeting of the parish council not to insist on vaccination, and drew attention to the anomaly of such a resolution being possible.

DR. KÜMMELL, Senior Surgeon to the new Hamburg Allgemeines Krankenhaus at Eppendorf, writes on behalf of a local committee to say that he will have pleasure in showing any English medical men, who may be passing through Hamburg on their way to Moscow, over that and other hospitals in Hamburg.

MR. ALBERT DRUCE, the Chairman, on July 19th, distributed the prizes to the successful students at the London Hospital Medical School. The Price Scholarship in Science of £120 went to Mr. H. E. Ridewood, the Price Scholarship in Anatomy of £60 to Mr. E. W. A. Walker, and the Entrance Science Scholarships of £60 and £35 to Mr. A. B. Lindesey and Mr. C. E. Ham respectively.

THE usual quarterly dinner of the Edinburgh University Graduates' Club was held at the Holborn Restaurant on August 3rd. Dr. Dundas Grant, who was in the chair, referred to the great progress which had taken place in the University of Edinburgh during the Queen's reign, and to the advantages which had flowed from the reformed constitution of the University which had liberated it from the too direct control of the town council.

New German Law on Inebriety.—In the new Code, the 6th paragraph, which will come into operation in Germany in 1900, enacts compulsory treatment of habitual drunkards. Among the persons liable to be interdicted, interdiction involving being placed under a curator, who will be empowered to place the individual anywhere for treatment until discharged from curatorship by the Court, inebriates are specifically mentioned. The exact description is "he who, in consequency of inebriety, cannot provide for his affairs, or brings himself or his family into the danger of need, or endangers the safety of others." This measure was first advocated in 1863, at a meeting at Hanover, presided over by Judge Naumann, of Hameln.

At the usual Quarterly Court of the Directors of the Society for the Relief of the Widows and Orphans of Medical Men the chair was taken by Dr. Pollock, Vice-President. Three new members were elected, and the death of one was reported. Fresh applications by the guardians of two orphans for extra assistance to complete their education and for the treatment of spinal curvature were received. A sum of £1,206 10s. was voted to be distributed among fifty widows, eleven orphans, and six orphans on the Copeland Fund. The death of one widow was announced. The expenses of the quarter amounted to £45 3s. The Secretary of the Society is Mr. J. B. Blackett, and its offices are at 11, Chandos Street, Cavendish Square.

The Royal Society of Public Medicine and Medical Topography of Belgium have arranged for a congress on hygiene and on the medical climatology of Belgium and the Congo State to be held at Brussels from August 9th to 14th, under the presidency of M. L. de Bruyn, Minister of Agriculture and Public Works; M. de Favereau, Minister for Foreign Affairs; and M. van Eetvelde, Secretary of State for the Congo. The subjects for discussion in the section devoted to the Congo State include (1) its metereological climate, (2) the constitution of its soil, (3) conditions of human life (description of the sanitary conditions of the stations and places occupied by Europeans), (4) the principal diseases and the mortality, and (5) hygiene and prophylaxis.

Training of Medical Missionaries.—The Guild of St Luke has under consideration a proposal to establish a college of St. Luke for men training as medical missionaries in connection with the Church of England. It is proposed that the institution should be purely residential. Its principal would be a medical man, and it would have a chaplain, while the students would receive their medical education at the London medical schools. Those who intended to become medical missionaries after qualification would be supported by the guild or other society, entirely or in part, but other students would also be received. At a recent meeting a discussion took place on the subject, among the speakers being Dr. Symes Thompson, Dr. Russell Wills, Mr. Devereux Marshall, the Bishop of Bloemfontein, the Bishop of Lebombo (both medical men), and the Rev. C. H. Rouse. The hope was expressed that such a residential college would be the means of providing suitable men for many medical posts in connection with mission stations which it had hitherto been difficult to fill.

The Care of the Metropolitan Insane.—Those who have not worked on the Asylums Committee of the London County Council, says the *City Press*, can scarcely realise the magnitude of the duties it carries on through the medium of its eleven subcommittees. The number of persons of unsound mind for whom the county of London was responsible in 1896 was 13,526, as compared with 10,104 in 1890. The constant demand for further accommodation, pending the completion of the Heath Asylum at Bexley, has been partly met by the provision of 600 beds in temporary buildings at Banstead and Colney Hatch, and a similar expedient for the housing of 400 female patients is in progress at Hanwell. Last June the Council approved the purchase of the Horton Manor Estate of 1,060 acres for £40,000. Here a seventh county asylum is to be erected for 2,000 beds, under Mr. Hine, the architect for Claybury and the Heath asylums. The weekly rate for maintenance remains at 10s. 2½d. per week per patient chargeable to parishes and unions in the county. The Committee recite the additional advantages by way of increased emolument and leave which have been accorded to the attendants and staff of the asylums since the accession of the Council, and they calculate the net direct benefit to be approximately equivalent to £11,000 per annum. Demonstrations are given by the medical officers to the attendants, and arrangements have been made whereby clinical instruction is given to students from four of the London medical schools. The pathological laboratory at Claybury is now fully equipped, and Dr. Mott's report will be read with interest by those who look to scientific research for guidance as to the treatment and perhaps the prevention of some of the more amenable forms of mental disease.

MEDICAL VACANCIES.

The following vacancies are announced:

BRITISH INSTITUTE OF PREVENTIVE MEDICINE.—Bacteriologist to the Antitoxin Department at Sudbury.—Salary, £200 per annum, with dwelling accommodation on the premises. Applications to Allan Macfadyen, Honorary Secretary and Director, 101, Great Russell Street, London, W.C., by September 15th.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Resident House-Physician. Salary, £65 per annum, with board, lodging, and washing. Applications to the Secretary by August 24th.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—House-Surgeon. Rooms, coal, and light provided. Applications, with testimonials, to Secretary by August 9th.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer; doubly qualified and unmarried. Salary, £100 per annum, increasing by £10 yearly to £120 per annum. Applications to the Medical Superintendent by August 14th.

CUMBERLAND INFIRMARY, Carlisle.—House-Surgeon. Salary, £70 per annum, with board, lodging, and washing. Appointment for one year. Applications to the Secretary by August 10th.

DEVONPORT ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon for six months. Board, lodging, and washing provided. No salary. Applications to the Honorary Secretary of Medical Committee by August 14th.

DUDLEY: GUEST HOSPITAL.—Resident Medical Officer; doubly qualified. Salary, £100 per annum, rising £10 annually to £120. Board, with residence, attendance, and washing. Applications to the Secretary by August 12th.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge Road, S.E.—Senior Resident Medical Officer. Salary, £70 per annum, with board and washing. Applications to the Committee of Management by August 18th.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway Road, N.—House-Physician. Appointment for six months, with salary £60 per annum, and board, lodging, and washing. Applications, on forms provided, to be sent to Lewis H. Glenton Kerr, Secretary, by August 16th.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Board, residence, and laundry found. Applications to the Honorary Secretary.

JOHN LUCAS WALKER STUDENTSHIPS.—Studentship value £250, and tenable for three years; must devote himself or herself to original research in pathology. Applications to Dr. A. A. Kanthack, Pathological Laboratory, Cambridge, by October 15th.

LANCASHIRE ASYLUMS BOARD.—Medical Attendant for the Idiot Boys Asylum at Winwick, near Warrington. Inclusive salary, 100 guineas per annum. Must reside within three miles of Winwick Hall. Applications to Fred. C. Hulton, Clerk to the Lancashire Asylums Board, County Offices, Preston, by August 13th.

MACCLESFIELD GENERAL INFIRMARY.—Junior House-Surgeon, doubly qualified. Salary, £70 per annum, with board and residence in the Institution. Applications to the Chairman of the House Committee by August 16th.

MANCHESTER ROYAL INFIRMARY, DISPENSARY, AND LUNATIC HOSPITAL OR ASYLUM.—Honorary Dental Surgeon. Applications to the Chairman of the Board by Augugt 31st.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the North-Eastern Fever Hospital, St. Ann's Road, Tottenham, N.—Salary, £160 during the first year, £180 during the second year, and £200 during the third and subsequent years of service, with board, lodging, attendance, and washing. Must be doubly qualified, unmarried, and not exceed 35 years of age. Applications on forms to be obtained at the Chief Office of the Board, Norfolk House, Norfolk Street, Strand, W.C., where they must be delivered by 10 A.M. on August 26th.

NOTTINGHAM CHILDREN'S HOSPITAL.—House-Surgeon (non-resident). Appointment for six months, but eligible for re-election. Salary at the rate of £100 per annum. Applications to the Secretary, Mr. A. F. Kirby, St Peter's Church Walk, Nottingham, by August 11th.

POPLAR HOSPITAL FOR ACCIDENTS.—Two Assistant House-Surgeons. Appointments for six months. Salary, £65 per annum, with board and residence. Applications to the House-Governor by August 9th.

ROTHERHAM HOSPITAL AND DISPENSARY.—House-Surgeon; doubly qualified. Salary £105, with board, lodging, and washing. Appointment for three years. Applications to the Hon. Secretary by August 31st.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demonstrator of Anatomy. Applications to G. P. Field, Dean, by September 22nd.

MEDICAL APPOINTMENTS.

Atkinson, J. M., M.B.Lond., D.P.H.Camb., appointed Principal Civil Medical Officer, Hong Kong, *vice* Dr. P. B. C. Ayres, C.M.G.

Auld, Archibald, M.B., C.M.Glasg., appointed Medical Officer for the Snaith District of the Goole Union.

Blackmore, G. J., M.B., C.M.Edin., appointed Assistant Medical Officer to the Nottingham Union Workhouse, *vice* W. F. Byford, M.R.C.S.Eng., L.R.C.P., resigned.

Carruthers, E. J. W., M.D.Edin., appointed Medical Officer for the Congleton District of the Congleton Union, *vice* Hugh Moss, deceased.

Coleman, J. G. B., M.R.C.S.Eng., L.R.C.P Lond., appointed Medical Officer of Health for the Sutton Bridge Urban District.

Cowie, W., M.B.Aberd., appointed Assistant Medical Officer to the Woolwich Union Infirmary, *vice* A. B. Creak, M.R.C.S.Eng., L.R.C.P.Lond., resigned.

Davies, J. L., L.R.C.P.Lond., M.R.C.S.Eng., appointed Medical Officer for the Munslow District of the Ludlow Union, *vice* Dr. E. T. Larkham, resigned.

Dobbin, Mr. Edward George, appointed Assistant Medical Officer to the St. John's Road Workhouse and Infirmary of the Islington Union.

Dufton, H. T., B.A.Cantab., L.S.A., appointed Medical Officer for the Mendlesham District of the Hartismere Union, *vice* D. M. Firench, L.R.C.P., L.R.C.S.I., resigned.

Fox, G. M., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer of Health for the Walsall Rural District.

Francis, H., M.B., M.R.C.S.Eng., appointed Medical Officer of Health for the Arnold Urban District.

Harris, G. J., L.R.C.P., M.R.C.S., appointed Medical Officer for the Glenfield District of the Blaby Union, *vice* E. J. E. O'Connor, M.B., resigned.

Harvey, William, F.R.C.S Eng., L.S.A., reappointed Medical Officer of Health to the Newton Urban District Council.

James, M. B., M.B., appointed Assistant Medical Officer to the Holborn Union Infirmary, *vice* Isaac C. McLearn, M.D.R.U.I., resigned.

Layton, Henry A., M.R.C.S.Eng., L.R.C.P.Edin., appointed Medical Superintendent to the Cornwall County Asylum, Bodmin, *vice* Richard Adams, M.R.C.S.Eng., L.R.C.P.Edin., resigned.

Liesching, Charles Edward, L.R.C.P.Lond., M.R.C.S.Eng., reappointed Medical Officer for the Halberton District of the Tiverton Union.

Long, T. F., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer for the No. 8 District of the Aylesbury Union.

McDougall, Mary Ross, M.B., C.M., appointed Resident Medical Officer, Edinburgh Hospital for Women and Children.

Moreton, C. P., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer for the Berriew District of the Forden Union, *vice* F. W. Waters, M.R.C.S., L.R.C.P., resigned.

Spreat, F. A., M.R.C.S.Eng., D.P.H., appointed Medical Officer of Health to the Friern Barnet Urban District Council, *vice* H. Stott, M.R.C.S. Eng., L.R.C.P.Lond.

Stockman, Ralph, M.D., F.R.C.P.Edin., F.R.S.E., appointed Professor of Materia Medica at the Glasgow University.

Thomson, W. Ernest, M.A., M.D., appointed Professor of Physiology in Anderson's College Medical School, Glasgow.

Thorp, Mr. M.A., appointed Medical Officer for the Wooldale District of the Huddersfield Union.

Townend, R. H., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer for the Camberworth District of the Huddersfield Union.

Venters, Isabel, M.B., C.M., L.R.C.P.and S.Edin., appointed Assistant Medical Officer, Edinburgh Hospital for Women and Children.

Warrington, W. B., M.D.Lond., M.R.C.P., appointed Demonstrator in Pathology in University College, Liverpool.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

Parker.—At Kilmalcolm, Renfrewshire, on July 26th, the wife of James Parker, M.B., C.M., a daughter.

Price.—On July 31st, at Firside, Walton-on-Thames, the wife of Arthur E. Price, M.B.Lond., of a son.

Wreford.—On July 29th, 1897, at 59, Osborne Road, Newcastle-upon-Tyne, the wife of John Wreford, M.B., M.R.C.S., of a son.

MARRIAGES.

Allan—Clark.—On July 31st, at the Church of St. Mary Magdalene, Latimer, Bucks, by the Rev. F. C. J. Long, Arthur Percy Allan, M.B., B.S.Lond., of South Croydon, youngest son of the late John Allan, of Calcutta and Ladbroke Grove, W., to Margaret Hannah, daughter of the late Richard Clark, of Amersham.

Thornton—Sheerman.—On July 28th, at Holy Trinity, Beckenham, by the Rev. W. J. Latham, Frank Butler Thornton, M.B., B.S.Lond., of Derby, to Florence A. Sheerman, eldest daughter of Henry Sheerman, Esq., of Newlands Park, Sydenham.

DEATHS.

Palmer.—On July 28th, at 87, Harcourt Terrace, S.W., Edward Palmer, M.D., in his 81st year.

Tomlinson.—At Belgaum, India, on July 31st, from typhoid fever, Surgeon-Lieutenant Lionel Philip Tomlinson, Army Medical Staff, younger son of Brigade-Surgeon E. D. Tomlinson, 8, Earl's Avenue, Folkestone. (By telegram.)

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

Cancer, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

Central London Ophthalmic. *Attendances.*—Daily, 1. *Operations.*—Daily.

Central London Throat, Nose, and Ear.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

Charing Cross. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

Chelsea Hospital for Women. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

City Orthopædic. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

East London Hospital for Children. *Operations.*—F., 2.

Great Northern Central. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

Guy's. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

Hospital for Women, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

King's College. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 2.

London. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

London Temperance. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

Metropolitan. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

Middlesex. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

National Orthopædic. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

New Hospital for Women. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

North-West London. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

Royal Eye, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

Royal Free. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

Royal London Ophthalmic. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

Royal Orthopædic. *Attendances.*—Daily, 1. *Operations*—M., 2.

Royal Westminster Ophthalmic. *Attendances.*—Daily, 1. *Operations.*—Daily.

St. Bartholomew's. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

St. George's. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

St. Mark's. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

St. Mary's. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Tu., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

St. Peter's. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

St. Thomas's. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

Samaritan Free for Women and Children. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

Throat, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

University College. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

West London. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

Westminster. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

Communications for the Current Week's Journal should reach the Office not later than Midday Post on Wednesday. Telegrams can be Received on Thursday Morning.

Communications respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the Journal, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate beforehand with the Manager, 429, Strand, W.C.

Correspondents who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

Correspondents not answered are requested to look to the Notices to Correspondents of the following week.

Manuscripts forwarded to the Office of this Journal cannot under any Circumstances be Returned.

In order to avoid delay, it is particularly requested that all letters on the editorial business of the Journal be addressed to the Editor at the Office of the Journal, and not to his private house.

Public Health Department.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies.*

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

G. L. H. asks for references to any notices that have recently appeared of cystitis, urethritis, perineal abscess, etc., as a result of cycling.

M. would be glad to know of any institution that would receive a case of cerebral tumour (male) for 10s. a week. Private houses objected to.

A member of the B.M.A. writes: I would feel obliged if any member who has recently taken the Practitioner's Degree (15 years) of M.D. of St. Andrews University would kindly mention what are the best books to read for that examination.

Seabirds and Reservoirs.

Drinking Water asks: 1. Are seabirds frequenting a reservoir likely to contaminate the water for drinking purposes? 2. Do parasites infecting seabirds obtain a habitat in man; if so, the names of the parasites, and in what forms are they to be found in the human body?

Treatment of Facial Paralysis.

X. Y. Z. asks for suggestions in the treatment of a case of facial paralysis of eight months' duration. The following treatment has been tried: Stimulating liniments, arsenic, strychnine internally, and the interrupted galvanic current. The paralysis has improved slightly, but does not show any marked improvement the last three months.

Cycling and Hæmoptysis.

Country Doctor asks as to the fitness for cycling of a person who, six years ago, had an attack of hæmoptysis. The patient is now, comparatively speaking, in robust health, has been in constant work in a country practice for the past five years, and is daily doing work on horseback. The cycle, if allowable, would be used moderately and not at high pressure.

*** Mr. E. B. Turner, F.R.C.S., to whom we have referred the question, writes: I have seen several such cases in which moderate cycling has been beneficial, and, provided no active disease be present, I should say that the bicycle might certainly be used in moderation.

Bartering Appointments.

A correspondent complains of having received from a well-known firm of medical agents an offer of a consideration to withdraw from the candidature for a certain professional appointment. The offer would appear to have been made on behalf of an "F.R.C.S.Eng.," and our correspondent asks if offers of this kind can be taken, "as representing the standard of the morality of the London College."

*** Bartering in this way for public appointments cannot be commended. It is opposed to the public interest, and certainly does not tend to uphold the dignity of the profession.

Is Diphtheria a Specific Disease?

Ingenuus writes: I ask the question, not ignoring the existence of the bacillus. I would remind those who intend responding of the manifold cases where experts have spoken the word, and where the disease has subsided without giving any particular trouble, and followed by no paralysis, and of other cases where experts have failed to produce the bacillus, but where the patient has gone from bad to worse, and where other (non-specific) bacilli have done him to death. I would remind them, too, that wounds occassionally take on "diphtheritic action;" and, when these things have been considered, I would ask whether diphtheria is other than a form of inflammation attacking mucous or—remembering wounds—mucoid surfaces in presence of certain unhealthy surroundings, and acting constitutionally with such virulence as to induce paralysis, etc. If I am to be told that it certainly is a specific disease, which one person may contract from another—well, I admit the minor and ask what then? I seek information.

Bacteriology and Antitoxic Serum.

Galopian desires to hear of a useful work on bacteriology and the treatment of diseases by the injection of serums.

*** It would be difficult to procure one book dealing with the whole subject; the literature is very scattered. For a general introduction to bacteriology he cannot do better than read Dr. Sims Woodhead's volume, in the Contemporary Science Series, *Bacteria and their Products* (London: Walter Scott. 3s. 6d.), supplemented by reference to some larger volume, such as Dr. Sternberg's textbook. There is a very useful little volume by Dr. M. Funk of the Institute Serotherapique at Brussels. This is of course written in French: it is published by H. Lamertin of Brussels. This contains a very full account of all the methods employed in serum treatment in use up to the end of 1895. The title is *Manuel de Sérothérapie Antidiphtherique*, price 2.50 fr.

ANSWERS.

Cotius.—Our correspondent will probably find in Dr. Cheadle's work on *Artificial Feeding of Infants* (London: Smith, Elder, and Co., 5s.) the information which he desires.

Xerxes.—There is no reason why the medical officer to a hydropathic establishment should not practise in his neighbourhood if the rules of the institution do not prevent him from doing so.

L.P.—The "National Deposit Friendly Society" is, we are informed, an Association with which any medical practitioner may honourably become connected.

The Treatment of Skin Disease.

Dr. J. Swain Scriven (Abberley, Stourport) writes: In reply to "Junior Member, B.M.A.," I would advise him to use a liquid soap, manilla, with perchloride of mercury. I have found it very useful, and it is easy and cleanly to apply.

D.F.W. advises the use of the following ointment, which he has used with success in intolerable itching in rheumatic subjects: ℞ Acidi salicylici, 3j; zinci oxidi, gr. lx; glycerini, 3ij; vaselini ad. 3j. Fiat unguentum;—Signe; to be rubbed well in during the exacerbations.

Dr. Henry Waldo (Clifton, Bristol) writes: I am doubtful whether "Junior Member" means tinea versicolor, or seborrhœa corporis. The use of plenty of soap and water and hyposulphite of soda, a drachm or 2 drachms to on ounce of water, well rubbed in for some weeks, always cures the former, and may be tried for the latter.

The Treatment of Chronic Neurasthenia.

Dr. Franklin Williams (Liverpool) writes: I fully sympathise with M.R.C.S. in his sad experiences. No doubt his long illness left him in a thoroughly exhausted state, with symptoms of dilatation of the stomach and neurasthenia, which has now become chronic. Treatment should be restricted to one or two remedies indicated by his complaint. In the first place I should advise him to cultivate a happy contented frame of mind, and dispel all anxieties about the future, all disappointing thoughts about the past. He should enjoy a little society, but should never carry enjoyment too far and such as to exhaust himself. Now that the weather is congenial to health I should advise him to gather up his residual strength and betake himself to the country and seaside, spending the better part of the day in the open air. Dieting is important, but slop diet is not what he requires. Ordinary diet that is nourishing and digestible, with one solid meal a day of mutton or beef to stimulate him. Stimulants should not be indulged in. A little light wine may be taken once or twice a day, but only in medicinal doses. Attention to the bowels is important. My own view is that no one feels well unless he has a motion once a day, and the aqueous extract of cascara sagrada (P. D. and Co.) three or four drops twice or thrice a day before meals is the best. As a general stomachic bitter and tonic alterative let him try the following mixture: ℞ Quininæ sulph. ʒj; acidi hydrobrom. del. ʒjss; tinct. ferri perchlor. ʒij; decoct. sarsæ. co. ad ʒvj Fiat mistura. Signe cujus capeat semiunciam fluidam bis die post cibos ex aqua He can resort to massage and electricity if he pleases, but here too much must not be expected. When strength has returned sufficiently engagement in some outdoor occupation, such as gardening, is beneficial, when there is every facility for such.

NOTES, LETTERS, Etc.

Abdominal Operations in Early Childhood.

Dr. John Campbell (Belfast) writes: In the British Medical Journal of July 14th Mr. Eve has recorded an interesting case of ovariotomy in a child aged 21 months, and has pointed out that abdominal operations may be undertaken even in very young children with good prospect of success. In this connection permit me to remark that in the British Medical Journal of May 15th, 1897, I gave an account of the removal of a large cystic tumour from a child aged 7 months. The tumour was a dermoid apparently originating in the tissues of the left broad ligament. The child was 13 months younger than the Berlin patient, and she appears to be the youngest child from which a cystic abdominal tumour has ever been successfully removed.

Sale of Practices and Public Appointments.

Two Correspondents take exception to some remarks on this subject in the British Medical Journal of July 17th.

1. Mr. G. B. Stocker (Lancaster Place, W.C.) writes that we "hold apparently that a man having negotiated for a practice, and having failed to come to terms is justified in immediately starting in opposition;" he then instances the case of an unopposed practice, where there was an appointment advertised. Mr. Stocker has failed to grasp our meaning. What was said amounted to no more than the expression of an opinion that public appointments cannot be sold by one medical man to another in the same way as the goodwill of his private practice, and that it was with regard to the latter chiefly that an obligation existed that a would-be purchaser should not avail himself of information gained through unsuccessful negotiation with the vendor of the practice or his agent. In such a case as that instanced by Mr. Stocker, and doubtless in others, it might be impossible for an honourable man to become a candidate for an appointment, because he could not hold it without the breach of other conditions he was morally bound to observe. But there may be many cases where it is not so, and where the loss to the vendor would be no more, whether the appointment were gained by one who had been in negotiation with him for the sale of his practice or by an outsider, and where this is the case there seems no sufficient reason why the former should be excluded from competition, where the appointment had been publicly advertised, and in the absence of express stipulation, for the vendor could always stipulate to this effect, if he chose, before discussing the details of his practice with the would be purchaser. The other side of the question, too, ought not to be lost sight of: for example, if A., who has a large local influence, and knows he will almost certainly be elected to a public appointment then held by B., on its being vacated by the latter, hears through an agent that B. is trying to sell, and approaches B with the honest idea that under the circumstances he would be the best purchaser of the practice, and fails to come to terms, it would scarcely be equitable that A. should be debarred from competing for the appointment, although he might have first heard of the probability of a vacancy through B's. agent. If B. were an unscrupulous man, he might even decoy A. into negotiation with him with no idea of selling, but in order to prevent him from competing against his successor.

2. An "Anxious Vendor" also writes to the same effect as Mr. Stocker,

and states that "Some agents before furnishing any particulars of a practice agree with a would-be purchaser that he shall not make use of any information supplied, if he should fail to become the purchaser." This is intelligible enough, and a condition of this kind should always be made, if a vendor wishes to exclude those who negotiate with him from competition, for what he knows will be thrown upon the world, unless they agree to buy his practice. In the absence of such a condition it would be too sweeping a rule to lay down that under no circumstances would it be justifiable for a man to compete for a public appointment openly advertised, if he chanced to obtain the earliest information of its possible vacancy through an agent for the sale of the practice of which it at that time formed part.

A RECORD IN MEDICINE TAKING.

DR. W. SYKES (Gosport) writes: As you noted in the BRITISH MEDICAL JOURNAL of July 3rd, p. 64, the quantity of medicine in gallons a lady patient consumed, perhaps the following case extracted from Vol. I. of *Blackwood's Edinburgh Magazine*, p. 216, May, 1817, may interest and amuse your readers, as showing the comparative degeneracy of present-day medicine swallowers, as compared with their grandfathers.

"At the Lincoln Assizes, in an action, Wright *v.* Jessop, the plaintiff, an apothecary of Bottesford, sought to recover from the defendant, a bachelor of opulence, residing near Lincoln, £787 18s. for medicine and attendance during twenty-five years. By the statement of the plaintiff's counsel it appeared that the defendant was of a hypochondriacal turn, and had taken pills for a great number of years. He used to have from 600 to 1,000 pills sent to him at a time, and in one year he took 51,000, being at the rate of 150 a day. There were also thousands of bottles of mixture. From the ravenous propensity of the patient for physic it was deemed necessary to call in two physicians, who, inquiring of the defendant what was the course of medicine and nourishment he pursued through the day, answered as follows: 'At half-past two o'clock I take two spoonfuls and a half of jalap, and then a quantity of electuary; then I sleep till seven, and repeat the dose of jalap and electuary; at nine o'clock I take fourteen pills of No. 9 and eleven pills of No. 10 to whet my appetite for breakfast; at breakfast I eat a basin of milk; at eleven I have an acid and alkali mixture; afterwards I have a bolus; and at nine at night I have an anodyne mixture, and go to sleep.' After some progress had been made in the evidence a compromise took place, the plaintiff accepting a verdict for £450."

A BACTERIOLOGICAL RESEARCH LABORATORY FOR INDIA.

IT is to be hoped, says the *Eastern Daily Press*, that the proposed bacteriological research laboratory for India will now become an accomplished fact. The proposal was first made by Mr. Ernest Hart at the Indian Medical Congress in Calcutta; but no one anticipated that it would be taken up with so much eagerness by the great native princes. The princes of India propose to endow the scheme in commemoration of the Queen's long reign. No more fitting token of loyalty to their suzerain could have been offered. It comes at a peculiarly appropriate time. When the Indian Government is filled with vague feelings of unrest by the crimes in Poona and the insubordination of natives elsewhere, it is a distinct relief to find that the native princes, at all events, appreciate the character of British rule, and are ready to spend their gold freely in commemorating it. A laboratory for bacteriological research is sorely needed in India. Every year there is an appalling mortality from malarial fever, cholera, typhoid, snake bite; while there is always a visitation of bubonic plague to fear and prepare against. The present plague found the scientists on the spot almost wholly unprepared. The new serum, which has done so much good, had to be manufactured in Paris and sent from thence to India. On several occasions the supply ran short at Bombay, and numberless lives were lost during the period of waiting. Had there been a central bacteriological laboratory in India this waiting would have been unnecessary.

PHTHISIS AND OVERCROWDING.

OBSERVER writes: Respecting your editorial in the BRITISH MEDICAL JOURNAL of June 26th on Phthisis and Overcrowding and Dr. Chalmers's observations on the Relation of Phthisis to Room Density, will you permit me to write a few words? That relationship, it is said, "is not a simple one." Some investigations have been made on the east side of the Atlantic, the results of which tend to show a relationship between the breathing function or capacity and phthisis. Is it not possible that the relationship between room density and this disease is complicated (and "not a simple one") solely, practically by the manner of, or capacity for, breathing amongst the different classes, from occupation, habit, etc., the breathing being shallow and imperfect in many persons and classes of persons? The effects upon the tissues and fluids of the human body of an "atmosphere contaminated by the products of respiration" being much the same when such an atmosphere originates and is retained in the lungs by reason of imperfect breathing, the tidal air being probably only one-tenth, possibly one-fourteenth, of the air contents of the lungs, as they are when the contaminated atmosphere is breathed in ill-ventilated, enwalled places. Not enough oxygen for the needs of the body is obtained in either case. In many cases in the overcrowded, ill-ventilated rooms the respiratory function is rendered still more imperfect by shallow breathing.

LETTERS, COMMUNICATIONS, ETC., have been received from:

(A) Analyst; Dr. T. D. Acland, London; Mr. T. M. Adison, Newcastle-on-Tyne; J. M. Atkinson, M.B., Hong Kong. **(B)** T. M. Burn-Murdoch, M.B., Edinburgh; Dr. R. Bowles, London; Dr. J. Barr, Liverpool; Dr. J. Banks, Aberdare; Mr. G. H. Broadbent, Manchester; Dr. J. M. Barnett, Belfast. **(C)** Mr. H. Critchley, Banbury; Mr. J. H. Croudace, Stafford; Mr. G. Culver, London; Dr. E. J. W. Carruthers, Congleton; Dr. H. Crutchley, Alsager; Dr. W. S. Colman, London; N. Caine, M.B., Oldham. **(D)** H. Distin, M.B., Enfield; Messrs. Down Brothers, London; Delta; Sir W. Dalby, London; Dr. E. Diver, London; Dr. A. Duke, Cheltenham; Drinking Water. **(E)** Mr. E. Edwards, Oldham. **(G)** Dr. A. Griffith, Ilford; G. P.; T. Gibson, M.B., Tranmere; Mr. J. Griffiths, Coventry; Mr. A. S. Grünbaum, Liverpool; M. Gilchrist, M.B., Glasgow. **(H)** W. Hardman, M.B., Blackpool; H. C.; Mr. A. B. Hicks, London; Mr. R. M. Hugo, Purley; Dr. J. Hogan, London; Dr. J. Highet, Workington; Mr. R. M. Hall, Buxton; Mr. E. C. Hearne, London. **(I)** Ingenuus. **(J)** Mr. R. Jones, Liverpool; Dr. C. M. Jessop, Redhill; Mr. T. C. Jones, London; J. C. C. **(L)** Mr. E. T. Larkom, Manchester; Dr. E. Liveing, London; Dr. D. J. Leech, Manchester; Mr. H. A. Layton, Bodmin; Mr. W. A. Loxton, Birmingham; Rev. F. Lawrence, Westow, Yorks; Mr. A. H. Lucas, London. **(M)** Mr. J. L. D. MacCormac, Leicester; J. Mahony, M.B., Liverpool; Medical Witness; Dr. R. Muir, Edinburgh; Mr. H. H. B. MacLeod, Shrewsbury; Dr. G. Mackay, Edinburgh; Mr. D. Misell, London; Mr. P. Miall, Bradford; Mr. W. J. Morris, Portmadoc; Mr. H. D. Mason, Cutch Mandine; Dr. J. A. Myrtle, Harrogate; Member; Dr. T. H. Morton, Sheffield; Dr. R. B. McCausland, Dublin. **(N)** Mr. A. Nakagawa, Tokio. **(O)** Messrs. Oppenheimer, Son, and Co., London. **(P)** Mr. R. C. Pooley, Plymouth; Mr. J. P. Philpots, Parkstone; Purchaser; Mr. J. E. Prendergast, Belmullet; Post Graduate. **(R)** Dr. B. Roth, London; Dr. J. C. Renton, Glasgow; Mr. A. W. M. Robson, Leeds; Mr. G. Q. Roberts, London; Royal Surgeon; Mr. H. B. Robinson, London. **(S)** Professor M. A. Starr, New York, *Star*, Editor of the, London; Mr. W. D. Spanton, Hanley; Mr. G. A. Skinner, Eastbourne; Mr. G. Shield, London; J. B. Shaw, M.B., Selkirk; Mr. L. Symes, Dublin; Dr. R. Saundby, Birmingham. **(T)** Dr. W. E. Thomson, Glasgow; W. E. Tresidder, M.B., Nottingham. **(V)** Victoria University, Secretary of, Manchester; G. H. Vos, M.B., London. **(W)** Mr. C. Wallis, London; Miss Wade, Edinburgh; Dr. W. B. Warrington, Liverpool; E. W. Waters, M.B., Huddersfield. **(X)** X. Y. Z., etc.

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REMARKS
ON
A COCCUS PATHOGENIC TO MAN AND ANIMALS: STAPHYLOCOCCUS HÆMORRHAGICUS.

By E. KLEIN, M.D., F.R.S.,
Lecturer on General Anatomy and Physiology at St. Bartholomew's Hospital, London.

Dr. James G. E. Colby, of Malton, in Yorkshire, informed me some time ago that within a short time he had seen three cases of a vesicular eruption on the hand of patients who some days previously had been skinning sheep spontaneously dead from "gargle" a few days after lambing. Dr. Colby further informed me that "other medical men of his district had seen similar cases of the vesicular eruption in this and other years." At my request Dr. Colby sent me in glass capillary tubes a little of the lymph withdrawn under proper precautions from the vesicle of the last patient, and this lymph was subjected to bacterioscopic investigation, the result of which I here propose to describe. Before doing so I will give Dr. Colby's account of three cases of vesicular eruption in man in his own words.

The patients all came in from farms on the wolds not less than seven miles away, and opportunity for observation was limited.

Case I.—May 18th. M. R., farmer, complains of a swelling on his left hand, which first came on as a pimple about two weeks ago, and has gradually enlarged. Thinks he got it from a sheep that died a few days after having lambs and that was attended to and subsequently skinned by him. Feels well in himself. On the left hand, over the head of the fourth and fifth metacarpal bones and base of the proximal phalanges, is a large flat bulla which has already ruptured, and is exuding a thin fluid which is becoming turbid. The skin of the bulla is opaque and thick, and is separated from the tissues beneath by a network of thickened trabeculæ containing the fluid. The surrounding skin is red, and the cubital gland is enlarged and tender. There is no rise of temperature. The whole soon healed after treatment.

Case II.—May 23rd. W. T., 56, shepherd, presents a swelling on the left wrist, and gives the history that it first came as a pimple on May 10th, that on May 16th he pricked it and let out clear blood. Since May 20th blebs have come out round it. Feels quite well. Now, situate over the left wrist is a flattened vesicle 23 mm. to 26 mm. in breadth, with a slightly depressed cicatricial centre and lobulated circumference. The elevated skin is firm and thick, and surrounding tissues are red and puffy. The axillary glands are enlarged, and the temperature is 99° F. He says that on April 19th he skinned a sheep that died of "gargle." Healing was slow but complete.

Case III.—B. P., farmer, aged 26. Has a swelling on the right hand which was very small when first noticed, but has since enlarged, till now it is 10 mm. by 9 mm. Does not know how he got it, but on questioning says that thirteen or twenty-one days ago he skinned a sheep that died after having three lambs, two of which were born dead. The sheep refused food, wasted, and died in three days. He skinned it two days after death. During the season he lost eight or nine in the same way. He now presents on the back of the second metacarpal bone a well-defined flat vesicle, bluish-grey in colour, and with a slightly depressed centre. He has no pain, and there is little surrounding redness, but the axillary glands are enlarged. The temperature is normal. Fluid was collected in capillary tubes, and forwarded to Dr. Klein; after which it was removed by scraping, and a solution of corrosive sublimate applied.

June 16th. Some erythematous rash on the hands and feet; wound looks well, and there is no apparent constitutional disturbance.

June 17th. Erythema still to be made out.

June 28th. Wound heals slowly.

Remarks.

Single cases of this affection in man have occurred in previous years, and been attributed to various causes, but the connection of these three with diseased sheep is quite clear. The appearance of the lesion in Case II suggested to others that it was anthrax, and the resemblance was close, but differed chiefly in the absence of necrosis. In sheep the disease locally known as "gargle" appears to be confined to the lambing season, and to ewes which have recently had lambs, though it is said to occur after shearing. It is very easily conveyed from one to another, runs a course like puerperal fever, and is very fatal, the majority dying in three to six days. In some the vulva and vagina are said to become black and occasionally the udder to be swollen, but there is reason to believe that more than one disease is included under the term.

The fluid sent in the capillary tubes by Dr. Colby was of a sanguineous-serous character. Examined under the microscope it contained numerous red blood corpuscles and leucocytes and cocci, the latter as dumb bells, but chiefly as small masses. The cocci measured 0.4 to 0.6 μ in diameter, some showing the division into two crescentic granules, common amongst staphylococci.

Plate cultures on the surface of nutrient agar and nutrient gelatine were made by rubbing a droplet of the fluid over the surface of the set agar and set gelatine, incubating the former at 37° C., the latter at 20 to 21° C. In these plates an abundance of colonies came up. In one agar plate I counted over a hundred colonies; in the other agar plate their number in one part of the plate was so great that they were closely placed and uncountable. In the four plates that were made (two agar and two gelatine) I could discover only three colonies which were those of the common staphylococcus pyogenes albus; all the others were of a different kind, but possessed of the same characters.

The characters of these colonies in the plates and in the subcultures made from them in the different media are briefly as follows: On agar the colonies after twenty-four hours are round, moist, flat, white in reflected brown in transmitted light, only slightly raised above the surface; under a magnifying glass they look granular, thickest in the central part, and possessed of a narrow filmy margin. They grow rapidly in size, and reach in several days a diameter of from 0.2 to 0.5 centimetres, at the same time the marginal filmy zone becoming more pronounced; after about a week each colony possesses over the greater part of its circumference a filmy, more translucent, marginal zone, somewhat irregular in outline and radially striated, the middle part being granular and of a somewhat concentric arrangement. In reflected light the colony already after a few days assumes a light yellowish colour, which, however, never becomes deep, and this colour is observed only on the larger colonies.

On gelatine plates the colonies are noticed already after twenty-four hours under a magnifying glass as minute grey round dots, which show a dark centre and a more translucent margin. After two to three days the colony, while enlarging, commences to sink into a pit in the gelatine, owing to liquefaction; this liquefaction proceeds slowly and gradually, leads to the formation of a circular area of slightly turbid liquefied gelatine, in the centre of which is the whitish mass of the main colony.

In agar streak culture the growth forms a gradually broadening flat band, thicker in the middle, thinner in the peripheral part, the margin of this latter irregularly outlined. The streak is white in reflected light, after some days it assumes a yellowish tinge.

In gelatine streak culture the band of the growth liquefies the gelatine and sinks under the surface; as the liquefaction proceeds it forms at the bottom of the liquefied gelatine a whitish powdery mass, which after ten to fourteen days assumes a yellowish tint. The liquefied gelatine is slightly turbid.

In gelatine stab culture the line of inoculation is indicated after twenty-four to forty-eight hours by a linear mass composed of spherical droplets, white in reflected, brown in transmitted light; on the upper free end of the stab there is a whitish plate-like expansion of the growth. Liquefaction commences at the upper free end of the stab after two to three days, the top plate of the growth sinking in; the liquefaction proceeds slowly, so that even after ten to fourteen days it has not reached more than a third or a fourth of the growth, forming in the upper part of the culture a funnel-shaped turbid liquefied mass.

In alkaline broth at 37° C. the microbe grows rapidly, causing already in twenty-four hours turbidity; in alkaline litmus broth the growth is also good; after a day or two the litmus commences to change into neutral, and after two to four days into acid (red).

In milk at 37° C. the microbe grows well; during the first five to seven days the milk remains fluid, but after seven or eight days it thickens and a separation into turbid whey and casein coagula sets in; this separation is complete after nine or ten days.

On steamed potato at 37° C. the microbe forms a transparent film which gradually thickens in the marginal part; at first it is greyish, and later on assumes a yellowish tinge in the thicker marginal part.

On solidified blood serum at 37° C. a greyish filmy growth appears already after twenty-four hours, this thickens, and after three to four days assumes a yellowish tinge in the thicker marginal part. No liquefaction of the serum is noticed at any time. The microbe dies when exposed to a temperature of 62° C. for five minutes.

From these characters it appears that we have to deal with a coccus which belongs to the tribe of staphylococcus, more particularly to that group which comprises the staphylococcus pyogenes aureus.

Nocard described[1] a coccus, isolated by him from the milk gland in gangrenous mastitis of sheep (*mal de pis*, *araigné*), with the culture of which he produced by injection into the milk gland of healthy sheep the same disease and death. The coccus which we isolated from the fluid of the vesicle on the hand of man is closely related to the micrococcus of Nocard, but differs from it in the following respects: (*a*) Nocard's coccus liquefies gelatine in stab conspicuously faster than does our coccus; (*b*) Nocard's coccus coagulates milk into a solid mass already within twenty-four hours, our coccus does not coagulate milk before five to seven days, and does not do it in the same way, for the curdling consists in a separation of turbid whey and coagula of casein; (*c*) Nocard's coccus liquefies solidified blood serum, our coccus does not liquefy blood serum at any time.

Of greater importance, however, and indicating a more profound distinction between Nocard's and our coccus are the following facts:

1. The coccus of Nocard is found associated with, and causing, gangrenous mastitis in milch sheep; our coccus was isolated from a vesicle on the hand of a man who had skinned a sheep that had died, not from gangrenous or any other mastitis, but soon after lambing.

2. The gangrenous mastitis (*mal de pis*, *araigné*) in milch sheep has, according to Nocard and his informants,[2] a considerable distribution in some disticts in France, where the milk of sheep is used for making Roquefort; yet there is nowhere any mention made of a cutaneous infection of human beings. If the two diseases in the sheep—namely, gangrenous mastitis (or *araigné*) and the puerperal disease from which the Malton sheep died—were the same, and the two microbes identical, such a cutaneous infection of human beings as occurred in Malton could not have been wanting in France, considering the number of sheep affected with *araigné*, and the number of men attending to their milking.

3. A striking difference between the two microbes is, however, shown by the behaviour of their cultures on guinea-pigs. Nocard's coccus injected subcutaneously into guinea-pigs, even in large doses of otherwise virulent culture, produced at the utmost a rapidly passing local swelling; in the rabbit large doses produced swelling and local abscess[3]; cultures of our coccus on the other hand, prove very virulent for the guinea-pig. A small dose of a serum culture, a moderate dose of a gelatine, or recent agar culture; for example, a few drops of the turbid condensation water in a serum culture, 1 to 2 platinum loops of a gelatine culture several days to several weeks old, 1 to 2 loops of an agar surface culture twenty-four hours to four days old, when subcutaneously injected into the groin of a guinea-pig of 200 to 300 grammes body weight, causes already after twelve hours hæmorrhagic œdema in the subcutaneous and muscular tissues, extending rapidly over the inside of the thigh, groin, abdominal, and thoracic walls, and even into the neck; death according to the virulence of the culture takes place in from twenty to sixty hours. Serum cultures act most virulently, causing death in twenty hours. Gelatine cultures stand next in virulence. Agar cultures prove virulent up to the fourth or fifth day, later than this the virulence diminishes considerably, causing a circumscribed hæmorrhagic œdema, but the animal recovers. After a week, agar culture does not produce even local hæmorrhagic œdema. Broth cultures behave in a similar way. When quite recent they prove virulent; after six or seven days their virulence is greatly diminished. The virulence can be re-established by transference to serum cultures, or gelatine or agar cultures.

When the animals die, the following condition is found on *post-mortem* examination: the subcutaneous and subjacent muscular tissues of the thigh, groin, abdomen, chest, and even neck are much swollen, containing a considerable amount of sanguineous serous fluid; there is no gas and no odour. The liver is pale and small, the spleen and lungs are not abnormal; the peritoneum and serous covering of the intestine are in a percentage of cases greatly injected, and the peritoneal cavity in these cases contains sanguineous fluid. The subcutaneous exudation shows under the microscope numerous red blood corpuscles and leucocytes, an abundance of cocci as single cocci, as diplococci, and as small masses. The protoplasm of the leucocytes is densely filled with the cocci. The peritoneal exudation, when present, possesses the same characters. Cultures made of the subcutaneous fluid yield pure cultures of our coccus, so does the peritoneal fluid; the heart's blood yields on culture only a limited number of colonies, a loop of blood yields between 10 and 15 colonies only. Intraperitoneal injection of a small dose (1 to 2 loops) causes death from intensive peritonitis already in six to ten hours. The peritoneal cavity contains copious sanguineous fluid, in which are seen red blood corpuscles and numerous leucocytes; the protoplasm of the latter is densely filled with the cocci; the fluid part contains the cocci also in great abundance.

Very small doses of virulent, or larger doses of attenuated, culture cause on subcutaneous injection general illness, passing off after two or three days, with local œdema, which after several days disappears. Such animals acquire hereby a certain, though not a very high resistance against large doses of virulent culture.

In the rabbit the result after subcutaneous injection is this: general illness and extensive hæmorrhagic œdema, which leads to necrosis of the skin over the abdomen. Death takes place from general marasmus in about three weeks.

Owing to the lambing being over at the time when the above investigation was commenced, no further cases of sheep dying after lambing were available, and therefore the investigation of such sheep has to be postponed till the spring of next year; but I have inoculated healthy sheep with virulent gelatine culture of our coccus, a sixth subculture being used for the purpose.

Two healthy sheep were injected subcutaneously into the thigh with a bouillon suspension of a gelatine culture, about one-fourth of a culture being used for each animal. Next day both animals were found ill; the temperature was raised (104° F.), and the animals did not feed; the leg of the injected side was swollen and retracted, the swelling extending over the whole leg and the groin, and the skin being dark red and hot to the touch; the muscle and subcutaneous tissue puffy. The animals could not stand or walk.

On the third day the condition was much worse, both as regards the general state as also that of the injected leg. Temperature 105.8° in the morning, 106.2° in the evening, breathing very rapid. At the end of three days one animal was found moribund; it was killed, and on *post-mortem* examination the following condition was found: The skin of the groin and thigh of the injected side dark red; on cutting into it and exposing the subcutaneous and muscular tissues extensive œdematous hæmorrhagic swelling of both tissues is found, with copious sanguineous serous fluid. Under the microscope this fluid contains numerous red and white blood corpuscles and cocci in clusters and as dumb-bells.

No growth of cocci or any other microbes was obtained by culture from the heart's blood, but cultivation in the plate and in tubes with a trace of the subcutaneous fluid yielded innumerable colonies of the cocci, which on subculture proved exactly the same as were used for the injection. No disease of the viscera could be found.

With a loopful of the growth of the sheep's exudation on the surface of agar after twenty-four hours' incubation at 37° C. a guinea-pig was injected subcutaneously. The animal died in twenty hours with exactly the same appearances of extensive hæmorrhagic œdema as were described above.

On account of the effects produced in the guinea-pig and sheep after subcutaneous injection, I propose calling the microbe staphylococcus hæmorrhagicus.

With the same agar culture, namely, that obtained from the sanguineous exudation of the above sheep, and which proved virulent for the guinea-pig, I inoculated in five simple punctures the skin on the dorsum of my own left hand. Next day all the punctures were raised and surrounded by an

areola; there was rather an unpleasant itching, but I felt in no way ill, and the temperature was normal. After forty-eight hours the punctures had somewhat further advanced, each puncture being a fairly distinct papule surrounded by a spreading areola; the itching was now rather troublesome; the general condition and body temperature were normal. After seventy-two hours in two of the punctures the papules were well raised, and in their centre was distinct accumulation of congealed serum; the other three punctures, though pronounced papules, were not so well raised, but in all five punctures the areola was well marked. General condition and temperature normal. Local itching rather troublesome. After four days in two of the papules distinct accumulation of pus in the depth could be made out; in all punctures the superficial part commences to scab; the areola is still pronounced, but a little less broad than on the previous day; the elbow pit a little painful, and its glands just to be felt. General condition normal. After five days same condition. Areola receding; no pain or swelling in the elbow pit. After six days scabs on all punctures distinct, areola only indicated.

By the tenth day the scab and superficial epidermis over the original areola desquamating. By the sixteenth day only two of the punctures still show traces of desquamation, the other three are just indicated as dark spots.

On the sixth day I got out from one of the pustules a little purulent matter; on examining it under the microscope and in culture our staphylococcus was found in abundance.

The inoculation with agar culture in our case was, therefore, by no means so pronounced as in the case of the natural infection of Dr. Colby's patients, but it was sufficiently well marked to indicate a positive result.

In conclusion, I wish to mention the fate of the second inoculated sheep. This animal remained very ill for ten days; it could not stand or walk, its temperature remaining high, being 105° morning and 105.6° in the evening; the animal drank a lot of water, but, although fed by the attendant, consumed very little food. With the third week it began to mend in a decided way, the temperature falling to 104° or 104 6° respectively; and the skin of the thigh becoming necrotic, the animal could and did walk, though it did not use the leg of the injected side. By the end of four weeks its temperature was still 104°, the injected leg not being used for walking; the animal fed fairly well, but was extremely emaciated.

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[1] *Ann. de l'Inst. Pasteur*, vol. i, 1887, pp. 417-428. [2] *Loc. cit*, p. 418. [3] *Loc. cit.*, p. 426.

FINAL REPORT OF A CASE OF A VERY LARGE INNOMINATE ANEURYSM

COMPLETELY CURED BY THE EMPLOYMENT OF ELECTROLYSIS THROUGH TEN FEET OF SNARLED, COILED, FINE GOLD WIRE, INTRODUCED INTO THE SAC; DEATH AT THE EXPIRATION OF THREE AND A HALF YEARS FROM CEREBRAL THROMBOSIS.*

By D. D. STEWART, M.D.,

Physician to the Episcopal Hospital of Philadelphia, etc.

It has recently been the writer's extreme good fortune to obtain a necropsy on the case of a very large innominate aneurysm on which he, over forty-one months before, employed galvanism through ten feet of coiled gold wire, which he had introduced, resulting in complete solidification of the sac. The history of this case was published in detail in the *American Journal of the Medical Sciences* very recently (August, 1896), so need not be repeated here. Suffice to state that the case was one most unpropitious for any treatment. The patient was what in street parlance is styled a "bum" or "rounder," who had been a habitual spirit drinker. He was also a syphilitic, had pronounced aortic and mitral disease, with extensive cardiac enlargement, generalised endarteritis, and had also chronic nephritis. The aneurysm formed a large and prominent swelling at the roof of the neck. It was regarded as springing from and being limited to the innominate artery. The sac wall was of extreme thinness, and, at least externally, was unprotected by clot. This, which was apparent to the eye and touch, was further demonstrated by puncture with needles. At the time of operation the sac wall seemed on the point of bursting externally in several situations over which the skin was extremely thin and bluish.

The result of electrolysis through the introduced wire was very decided. Clot formation, leading apparently to solidification of the sac, was early manifest. The patient lived for nearly three years and a half after operation, and finally died as the result of the formation of a large thrombus in the middle cerebral artery, the result of the advanced endarteritis present. Despite the most unfavourable condition of the patient, his bad cardiac and renal disease and generalised arterial sclerosis, his having had syphilis, and being a steady spirit drinker, the result obtained, which I show you to-night, speaks strikingly in favour of this procedure as a method of treating sacculated aneurysm. The sac has been found to be of extreme hardness, with complete consolidation and obliteration of its cavity.

Report of the Necropsy.—G. D., aged 43, white, male, died December, 1896. Necropsy made by Dr. A. A. Chriskey and the writer four hours after death. Body fairly well nourished. Aneurysm tumour noted in the situation described. Thorax: The solidified tumour with clavicle and three ribs on the right were removed, and the thoracic cavity exposed. The clavicle with the three ribs, the ascending and descending aorta, heart, and pericardium removed *en masse*. Lungs: Slightly adherent at both apices. The bases showed hypostatic congestion. Abdominal cavity: The spleen was somewhat enlarged; its section showed it to be intensely congested, with the trabeculæ visible. Stomach normal in size and situation. Small and large intestines normal. But one kidney could be found; this was considerably enlarged. It was thought to have been placed aside with the other specimens for subsequent examination, but unfortunately must have been returned to the body, as it afterwards could not be found with the specimens. The liver was somewhat enlarged, and deeply congested. The gall bladder contained fluid bile; the common bile ducts were patulous. Heart: Pericardium non-adherent. The sac contained a normal quantity of fluid. The heart was very much enlarged, 26.5 cm. in circumference. Length of the interior left ventricle 11 cm. Thickness of left ventricular wall, 2.5 cm.; thickness of right ventricular wall, 1.2 cm. The cardiac muscle was of dark red colour. No areas of opacity apparent. Aortic leaflets thickened. Above their inferior attachment for a distance of 1 cm. the leaflets were densely sclerosed. The aortic valve was found to be very insufficient. Superior borders of two of the leaflets were densely sclerosed. A few atheromatous patches were present on the intraventricular surface of the aortic valves. The mitral valve was very patulous, thickened, and slightly opaque, and markedly insufficient. Left auricle was dilated with thickened walls. Right auricle was normal in size; tricuspid and pulmonary valves were normal. The coronary arteries were patulous. The aorta from its origin is the seat of very diffuse atheromatous degeneration with small areas of calcification. Internal circumference of the aorta above aortic valves 10 cm. The aorta was dilated from its cardiac origin, but a separate and very distinctly outlined extensive fusiform dilatation existed from 1½ cm. to the left from the origin of the left subclavian artery, at the junction of the transverse with the descending portion of the aorta, downward to a distance of 10 cm. This fusiform sac at its greatest internal circumference is 15 cm. This dilatation—a typical fusiform aneurysm—is sharply defined above and below by concentric elevated rings or constrictions of the whole circumference of the aorta. The entire aorta, including the dilated portion, is uniformly thickened. The inner surface of the fusiform sac shows widespread atheromatous patches. The sacculated aneurysm springs directly from the root of the innominate artery. The aneurysmal sac is approximately the size of a fœtal head at term; length, 13 cm.; transverse diameter, 9 cm. The sac is completely consolidated with organised coagula in which lie the coils of wire. The consolidated sac has at its base a small *cul-de-sac*, the remains of the innominate artery. This, from the aorta, admits the little finger to a distance of 4 cm. through an annular ring, sharply defined, 2 cm. in diameter. The *cul-de-sac* was noted to contain in its interior a small coagulum, presumably of *post-mortem* formation. The sac itself was very firm and wholly solidified, and when cut into was found to be completely occupied by organised material, in the interstices of which lay the coils of fine gold wire. Brain: A large thrombus is evident in the left middle cerebral artery. Softening has occurred in the region of the corpus callosum, caudate, and lenticular nucleus, and in the internal capsule of the left side.

The writer has now treated two cases of sacculated aneurysm by the employment of electrolysis through introduced wire, and has directed the technique in a third successful case. This has naturally led him to give a good deal of attention to the subject. The result in his second successful case, the necropsy of which is here reported, and that obtained in the case treated by Dr. Hershey, of Colorado, in which the solidification of the aneurysm resulted by this method,[1] is sufficiently suggestive to engage the attention of the therapeutist.

The history of the treatment of aneurysm by this method need not here be entered into, it having been thoroughly reviewed by the writer in his initial paper on the subject,[2] and

* Read before the College of Physicians of Philadelphia.

again resurveyed in a recent second paper, in which a successful case was reported.[3] In the earlier contribution I passed in review the various recorded cases in which wire alone was employed, the method first suggested and carried out, though faultily, by Moore, of the Middlesex Hospital[4] in 1864. I remarked on the slightly appreciated though decided advantages possessed by this plan of treatment, and to the truly remarkable results obtained in certain of the cases, such as Loretta's, of Bologne, and Morse's, of San Francisco. I likewise pointed out that the exceedingly faulty technique in a number had probably been the only source of failure in others, the condition of which was at all susceptible to alleviation or cure, and especially in that of Moore, the originator of the method. This must be regarded as highly unfortunate, as it served to diminish the chances of recognition and a deserved place in the therapeutics of aneurysm, for a second and far more promising plan of treatment, of which the use of wire is an essential feature. This method the writer, as a consequence of thoughtful consideration of the details and now some practical experience, views with the utmost favour as one, in experienced hands, devoid of danger and most promising of benefit if not of absolute cure; more promising, indeed, than the usual methods in vogue, save perhaps that by deligation. These errors, as the result of which failure occurred, and because of which the method of treatment of aneurysm by the introduction of wire became the subject of unfavourable criticism, as remarked, lay in the employment of faulty technique, from which failures cannot but be expected. In Moore's case, in which a great excess of wire had been introduced, death occurred from sepsis. In many other of the cases, although the operation was a successful one, so excessive an amount of wire was employed that it could not but surely interfere with the ultimate result desired, through which permanent cure can only be expected, that of obliteration of the sac cavity.[5]

Obliterated innominate aneurysm engaging the extremities of the clavicle removed with it. The much enlarged heart and the fusiform dilatation of the aorta, described in the text, are beautifully shown.

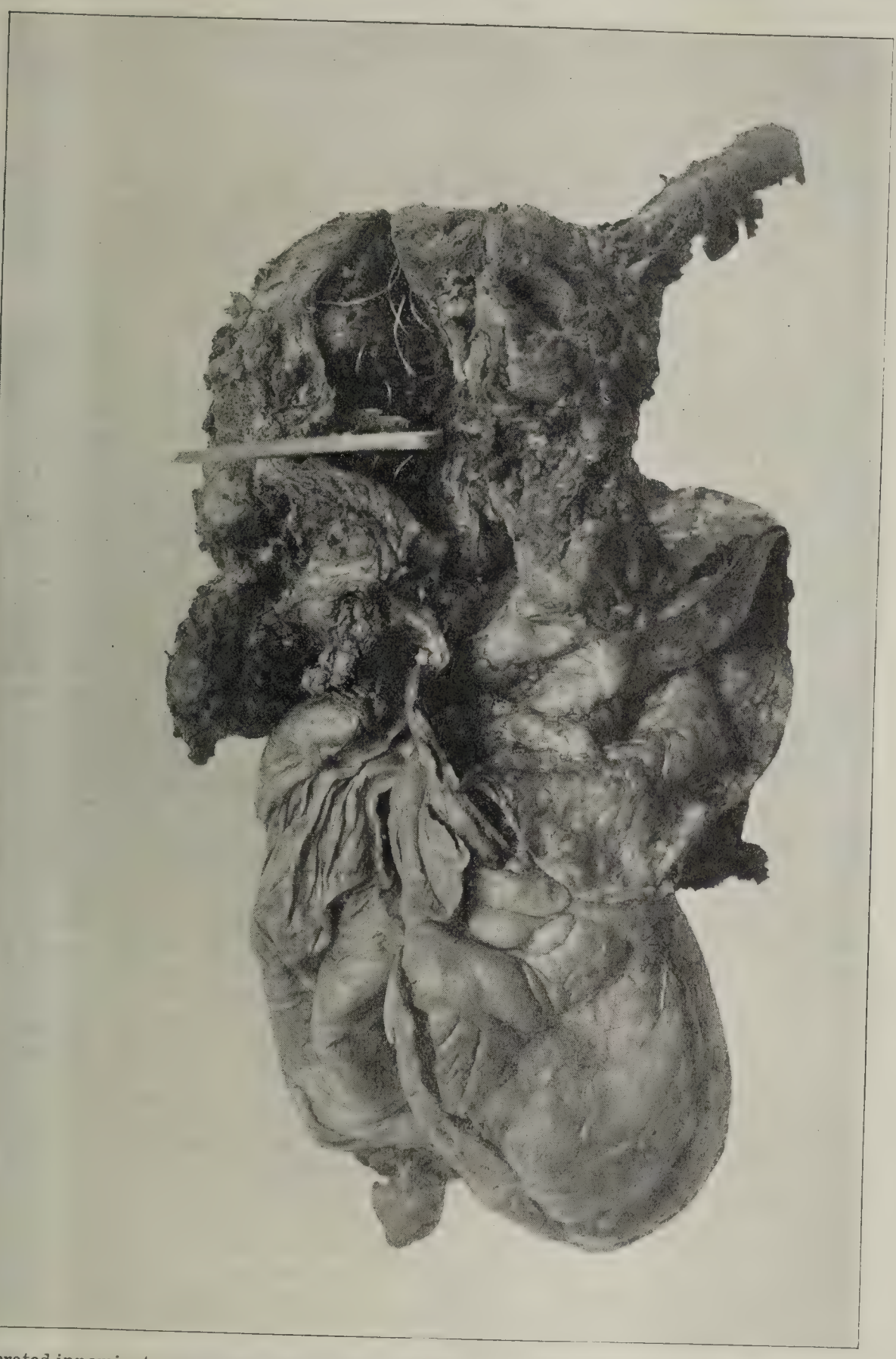
Briefly, the newer method, which can be regarded as a most decided advance on the older plan of treatment of aneurysm by the mere introduction of filiform material, as practised by myself, consists in introducing into the sac,[6] under the strictest antiseptic precautions, a fine silver or gold-coiled wire, previously so drawn that it may be readily passed through a thoroughly insulated needle of somewhat larger calibre than the wire, and, after introduction, assume snarled spiral coils, that, with a moderate amount of wire, the entire calibre of the sac will be reached, unless the cavity be already filled with coagula or the sac be of unusual size (as was the case with the first aneurysm I so treated).

The wire, as remarked, must be neither in amount nor calibre too great nor too bulky or highly drawn that the results to be desired be interfered with. Nor should the wire be of a material so brittle as steel nor of hard-drawn iron, lest fracture occur in process of contraction of sac, with danger of rupture. For should it be of soft iron, as was recommended on theoretical grounds by

Stevenson; for with the last, as I have shown by experiment, so great a quantity of detritus will result, due to the decomposition of the iron and the formation of insoluble salts under the current influence, even with low ampèrage, that danger of emboli result.[6]

Silver or gold wire is undoubtedly preferable material. Silver-coppered wire, employed by Loretta in his case, in which wire alone — without galvanism — was used, possesses no advantage over that of silver alone, and if it were used might be provocative of toxic symptoms through the amount of copper dissolved under the current influence.

The amount of wire required depends necessarily upon the calibre of the aneurysmal sac, and must be decided upon with the greatest nicety of judgment, since with too small an amount little or no result will be obtained, and with too great a quantity permanent cure through obliteration of sac by contraction of clot cannot be expected. For a globular sac of approximately three inches in diameter I regard three to five feet sufficient; for a sac of four to five inches, eight to ten feet. How readily these amounts comply with the conditions is shown by the introduction through a needle of measured amount of spirally-wound snarled wire into globular corked bottles of approximately the size stated.[7]



Obliterated innominate aneurysm wedged open. The coils of wire are to be seen engaging the sac wall and the organised coagula. The coagula had been as one solid mass when freshly sectioned and until frequent handling of the specimen during its exhibition, with soaking in the preservative used, had led to their partial breaking up and detachment from the sac wall. The photograph was unfortunately not taken before the specimen had been on exhibition.

The anode or positive pole should invariably be the active electrode. This is connected with the wire, and the negative rheophore, a large clay plate, or an absorbent cotton pad of equal dimensions, made after the method of Massey, is placed upon the abdomen or the back. The current is slowly brought into circuit and its strength noted by an accurate milliampèremeter. The increase is gradual for a few moments until the maximum strength supposed to be required is reached. It is maintained at this until the approach of the end of the session and then gradually diminished to zero, after which the wire is separated from the battery, the needle carefully withdrawn by rotation and counterpressure, and the released external portion of the wire gently pulled upon and cut close to the skin, the cut end being then pushed beneath the surface. This latter procedure is facilitated by using care in the introduction of the needle to first draw the skin at the site of puncture a trifle to one side, in order to procure a somewhat valve-like opening.

Experience has shown that the current's strength must be rather high — from 40 to 80 milliampères, and the sitting long — from three-quarters of an hour to one hour and a half. Thus used the following effects may be expected: As before remarked, the mere introduction of coiled, snarled wire without the conjoint use of galvanism, if practised judiciously is in itself a method of value, since the presence of wire, if engaging all parts of the sac, acts both as an impediment to the blood stream and at the same time offers to the eddies set up multiple surfaces for clot formation. Hence this method has more to commend it than that by mere galvano-puncture with needles. By galvano-puncture, although firm coagula are produced, they are of such trifling dimensions and engage such

small areas of sac wall that, without impeding in the least the blood current, their dissolution rather than their accretion quickly follows. By the application of a strong galvanic current through coils of wire so disposed that all areas of the sac are reached it follows without exception, as has been noted in all recorded cases, that consolidation by virtue of clot formation is promptly and invariably produced. The solidification is rapid, and is generally manifest before the end of the electrical session, through changes apparent to the eye and hand, in the pulsation and in the degree of consistence of the sac wall. These changes become more decided in the course of a few days, until after a time in the most favourable cases a hard nodule, with a communicated pulsation only, replaces the previous expansible tumour. This was the history of four of the ten cases now recorded—that of Kerr, that of Rosensten, the second case of my own, and the case of Hershey, and partially so in the case of Barwell, of Roosevelt, and in the first of my own, all of which latter cases were totally beyond the slightest hope of cure at the time of treatment, as was also the case of Abbe.[8]

A striking demonstration of the power of this method to promote clot formation is shown in my second case, the specimen of which I now show you. In this, as stated, 10 feet of fine gold wire had been passed, and a current of 85 milliampères employed for one and a quarter hour. Four weeks after this procedure a needle of quite large calibre was thrust into the sac to a depth of 2 inches in several situations, in which at the time of operation blood spurted at its introduction when apparently only beneath the skin. The needle in the second attempt was found to firmly engage the clot, though thrust perpendicularly up to its hilt in the sac. It could not be circumducted save with effort, and escape of even a drop of blood at any depth did not occur; nor was the needle or wire (which last had been attempted to be reinserted through the needle), when withdrawn, blood tinged. This beautifully demonstrated the apparent complete solidification of the aneurysm.[9]

One other effect possessed by the method in producing clot formation should not be lost sight of. It is that through portions of the coils of wire which must in small sections lie in direct contact with the sac wall, under the current's influence an electrolytic effect is produced on the endothelial lining of the sac, such as Macewen has demonstrated is highly favourable to the subsequent deposition of leucocytes derived from the vessel wall and by segregation from the blood stream, resulting in the formation of organisable white thrombi, from which vascularised fibrous tissue readily springs. From these wall thrombi, which in a fair number, if not in all cases treated by this method, are likely to result, organisation may rapidly extend to the red thrombi formed directly about the centrally disposed wire, and this solidification and organisation of the sac promptly occurs.

REFERENCES.

[1] *Therapeutic Gazette*, September, 1896. [2] *American Journal of the Medical Sciences*, October, 1892. [3] *American Journal of the Medical Sciences*, August, 1896. [4] *Med.-Chir. Trans.*, xlvii. [5] It is within the meshes of the solidified contracting coagulum that the wire must lie. Should the wire be excessive in amount or of undue firmness, or so highly drawn that its fracture is likely, not only contractions of the organised thrombus be interfered with, but the rupture of the sac may be induced in process of the former. These imperfections in method I pointed out in detail in my first paper on the subject. [6] As to this point, see the last part of my first paper, in which some experiments with soft iron wire are detailed. [7] The quantity of wire that was originally used, both when wire alone was employed and wire reinforced by galvanism, was far in excess of that necessary to reach all portions of the sac cavity, and could not but be inimical to cure. The cases in which a moderate amount of wire was used, as in Loreta's (6 feet) and Morse's (4 to 5 feet), resulted in cure. Loreta's case, an abdominal aneurysm the size of a fœtal head at term, contracted to the dimensions of a walnut with obliteration of sac cavity. Death resulted from rupture of the aorta below the sac. In Morse's case ("abdominal aneurysm the size of two fists") all indications of aneurysm had disappeared within two months, a hard nodule replacing the pulsating tumour. In the cases in which the combined treatment was employed, the amount and character of wire, duration of application of electric current, and polarity employed are as follows:—Corradi (large aneurysm, ascending part of the aortic arch): 1½ ft. No. 30 annealed wire, material not mentioned; anode active; sixteen elements; twenty-five minutes. Barwell (large aneurysm, ascending and transverse part of the aortic arch): 10 ft. finest steel wire; anode active; 10 milliampères seventy minutes. Roosevelt ("aggravated, thoracic, aortic aneurysm threatening death"): 225 ft. fine steel piano wire; polarity not stated; 25 milliampères thirty minutes. Abbe ("a rapidly-advancing thoracic aneurysm at the root of the neck"): Cavity 4 by 5 inches; 100 ft. of catgut first introduced; nine days subsequently 150 ft. fine wire, material not stated; anode first active pole, 50 milliampères thirty minutes; cathode active pole second thirty minutes. Kerr (fusiform thoracic aneurysm): 6 ft. drawn silver wire; anode active, fifty minutes. Kerr (aortic intrapericardial sacculated aneurysm): 10 ft. drawn silver wire; anode active, thirty minutes. Rosenstern (aneurysm, ascending part of the aortic arch): 2½ ft. moderately thick softened silver wire; anode active, thirty minutes. D. D. Stewart (enormous thoracico-abdominal aortic aneurysm): 2½ ft. No. 23 silver wire; anode active, 70 milliampères sixty minutes. D. D. Stewart (innominate aneurysm): 10 ft. fine gold wire, No. 30; anode active, 80 milliampères seventy-five minutes. Hershey (innominate aneurysm): Gold wire, No. 28; attempt to pass 10 ft., but, through kinking of wire, 2½ ft. only introduced; 40 to 70 milliampères for sixty-five minutes; anode active. [8] Details of these cases will be found in my first and second papers. [9] An account of the exploration of the solidified sac with the needle is given in the second paper (*American Journal of the Medical Sciences*, August, 1896).

CAN BERI-BERI BE CAUSED BY FOOD SUPPLIES FROM COUNTRIES WHERE BERI-BERI IS ENDEMIC?

BY NEIL MACLEOD, M.D.EDIN.,
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THIS is a question of no small importance in the prevention and spread of outbreaks of the disease like those occurring recently in the Richmond Lunatic Asylum, near Dublin, on board ships, in various parts of Australia, and elsewhere. One cannot help being struck by the unanimity with which every writer on beri-beri considers that overcrowding and its accompaniments play an important part in the causation of the disease. My own experience has tended mostly in the same direction; nearly every year our Shanghai municipal gaol, which is apt to be overcrowded at times, furnishes its victims to beri-beri. Ships' crews, more especially in former times the Japanese navy, barracks, gaols, schools, asylums are noteworthy seats of the disease. The following outbreak on board ship excludes overcrowding as a factor, and from the peculiar limitation and unusual selection of its victims points suspicion so strongly to a particular part of the food supply which is known to come from beri-beri infested countries as almost to amount to a natural experimental demonstration.

The sailing ship *Ancona*, 2,800 tons, sailed from New York on August 19th, 1896. In the end of December the captain, aged about 50, noticed that both his feet and legs were numb, and on January 21st, 1897, that they were swollen. He did not feel particularly ill, but was depressed and felt his legs weak. The first and second officers, aged 26 and 27, noticed a week later that their legs, which had been numb for some time, were swollen. A few days later the third mate, aged 21, son of the captain, made a similar observation. They were then amongst the Solomon Islands, where they had been driven out of their course by a hurricane. The first and second officers became rapidly weaker in the legs, and a fortnight later gave up work. The captain and his son had considerable difficulty in keeping on their feet, but stuck to work, as none of the crew could be depended on for navigating the ship amongst cannibal islands where light and adverse winds detained them for 45 days. The first mate's thighs beame swollen, and 35 days after the disease was first noticed he, and 10 days later the second mate, died suddenly and unexpectedly, the former shortly after having his hair cut, the latter while eating, both displaying for several days before death great restlessness, palpitation, throbbing of vessels about head and neck, difficulty of breathing, and both being clearheaded to the end. The swelling of the captain and his son's legs lasted about three weeks, and on their arrival in Shanghai on April 17th, 1897, there was still some degree of numbness of the legs and the captain's knee-jerks were absent. The son had had numbness of the tips of some of his fingers in both hands, and also of the ball of the right thumb.

The ship was built of steel in 1893, and previous to the outbreak had been only in the Clyde, Australia, Portland, Oregon, and New York, between which place and Shanghai she had touched at no other port, and received no supplies except yams, bananas, and cocoanuts at the Solomon Islands on one occasion, from natives who came alongside after the disease had broken out. The third mate made almost daily inquiries amongst the crew of 23 others for numbness or swelling of the legs or any other complaint, expecting the

disease to manifest itself in the forward part of the ship, but could discover no sign of sickness. The ship's cargo was kerosene. The four men attacked had been in the ship at the places mentioned, and were apparently healthy and strong on leaving New York. They messed alone in the saloon, but it is possible that the steward and cook, both Chinamen, ate to some extent of the cabin food. The rest of the crew messed forward, and consumed the same food as those aft, with the following exceptions: haddies, clams, oysters, lobsters, and salmon all in tins; ham (not eaten by the captain), bacon, sago, tapioca, arrowroot, and fruit preserved in bottles. The four officers took alcohol in no form, and the captain alone did not smoke. The saloon was a roomy apartment, and each officer had a large cabin to himself. The ship had a flush deck, and all accommodation was on the same deck. The first and second officers after they were unable for duty lived in the pilot house on deck till they died, the captain and his son not changing their quarters during the voyage. The water supply was the same for all on board, but that of the cabin was passed through a filter with a brass tap. When the captain first became sick, thinking he had indigestion and before the swelling appeared, he restricted himself entirely to maize meal, stale bread, molasses, condensed milk, and hot water. He also put his son on this diet when his legs were noticed to swell, and both took no other food until they reached Shanghai, while the first and second officers continued to eat of the usual cabin supply till they died. The absence of anything like wrist drop and colic (both which I specially inquired for), the characteristic onset, the mode of termination, and the absence of any sign of the blue gum line in the survivors, put lead poisoning out of court. No signs of irritant poisoning were manifested at any time. I am not aware of any ailment or poison that could produce a history like that presented except beri-beri. Dr. Milles, of Shanghai, heard the history independently and without any communication from me, and arrived at the same diagnosis after having seen the survivors. I may add that I have known the disease for twenty years.

Overcrowding could not be said to exist in these cases. Only officers were attacked—well housed and well fed, with greater variety of food than the crew forward. The disease was confined to and attacked the whole cabin mess. Supplies were taken on board at New York. Suspicion is at once directed to the cabin food supply. Either it was contaminated before shipment or on board. In either case it must have been that part of the cabin supply confined to cabin consumption. Contamination after shipment is almost inconceivable. The cook was not ill and cooked for all on board. The steward was associated specially with the cabin food but not so intimately as the cook, and he was not ill. Neither ship nor cargo had been in a country where beri-beri is prevalent. Thus contamination before shipment is to be looked for, and of the supplies alone consumed in the cabin sago, tapioca, and arrowroot come from a beri-beri infested country. Rice was consumed forward as well as aft. It is noteworthy that the captain and his son, who both recovered, ceased early in the outbreak to partake of the general cabin supply, and confined themselves entirely to articles which were also consumed by the crew (a limitation coincidental, not intentional, as the captain assured me), while the first and second officers, who continued to eat from the usual cabin supply, both died. They had never heard of beri-beri before reaching Shanghai.

Outbreaks of beri-beri are not uncommon on board ships that have visited countries where it is endemic, where one is apt to regard each case that occurs as having contracted the disease before sailing. These outbreaks have been almost, if not entirely, confined to Chinese, Japanese, and other Orientals, whose food stores are invariably drawn from beri-beri countries, and therefore always of suspicious origin. It is not simply a question of limitation to the forecastle or overcrowded part of the ship, but the Oriental part of a ship's crew or passengers. In the Richmond Asylum in both epidemics the disease attacked nurses as well as overcrowded patients, both being no doubt fed from some supply in common. This Ancona outbreak is allied to the Richmond ones, inasmuch as none of the sufferers had been to beri-beri countries. Whether overcrowding exists or not in such cases, there is another condition present which is liable to be overlooked. Food supplies are apt to be stored in large rather than in small quantities, from financial and other considerations, so that if the supply is from a contaminated source the poison may, so to speak, be given in continuous doses until the stored material is exhausted. This may very easily happen on board ship, where stores have to be provided against a long voyage. On the other hand, a contaminated supply scattered amongst retail dealers, and distributed by them amongst their customers in small quantities, is thus so quickly and widely disseminated that probably few customers can be supplied continuously with the poison—a condition very different from its concentration among the inmates of an asylum or a ship's crew. Disease caused in this way, especially one commencing so insidiously as beri-beri does, may easily escape notice, few doses of the poison being taken by the same individuals. Dr. Milles, of Shanghai, informs me that on the occasion of an epidemic of beri-beri in the Shanghai municipal gaol he examined at the same time a larger number of Chinese hospital out-patients, and was much surprised to find a striking proportion of them with numbness of the legs, with or without swelling or patellar reflex, some of them merely complaining of not being well.

In an editorial article in the British Medical Journal, vol. ii, 1895, the writer regards beri-beri as endemic in Australia on the following grounds:

1. Dr. Molloy (*a*), of the Melbourne Hospital, in a paper entitled Is Beri-beri Endemic in Australia? mentions that "in March, 1888, 9 *Chinese* were brought *from a particular shop* to the Alfred Hospital, all of them suffering from symptoms of peripheral neuritis and œdema;" and he further states that "subsequently a *series of similar cases* cropped up in Melbourne."

2. Dr. Graham (*b*) describes a form of peripheral neuritis epidemic amongst the *Chinese* in Sydney; and Dr. R. T. Paton (*c*), who has seen beri-beri in its recognised haunts in the East, has concluded that these cases of peripheral neuritis are really of this nature.

3. An outbreak of beri-beri among some aboriginal Australians (*d*) at Wyndham, E. Kimberley. (This, I may add, was amongst *60 aborigines in gaol*, who, it is stated in the original paper, were allowed *half a pound of rice* each daily.)

The article continues: "It is evident, therefore, that an endemic form of peripheral neuritis is extensively distributed in Australia, seeing that we have accounts of it from three widely-separated points; and now Dr. Corlette's account, based on an experience of 60 cases, does away with any doubt that may have existed as to its true nature and significance. .....Hitherto only *Chinese and other Orientals* have been attacked, and from this circumstance it might have been conjectured that the disease was imported; but on inquiry it is found that many of those attacked had been resident in the colonies for years. Moreover, it was ascertained that the disease tended to occur *in little epidemics*, several cases coming *from one house*—a fact distinctly pointing to the existence of local endemic foci.....Although hitherto, so far as is known, *confined to Chinese*, there can be little doubt....," etc.

Here the italicised (by me) extracts seem to me to direct suspicion to the food supply certainly obtained from beri-beri infested countries, and thus possibly infected with the poison, rather than to an endemic source. Here again the question of storing a food supply presents itself, for Chinese families prefer Chinese rice and lay in a store of it. The gaol mentioned consumed 30 lbs. daily amongst 60 prisoners, doubtless also from a stored quantity.

This disease is almost certainly toxic, and in the first instance probably microbic, but whether the toxin or the microbe is administered to its victims we are not yet in a position to decide. Diphtheria toxin produces a degeneration of nerves, whether its organism or its toxin be introduced into an animal. Alcohol by continuous administration in some cases is known to produce a peripheral neuritis which to me is almost impossible to distinguish from certain cases of beri-beri. Alcohol is also microbic in its source.

How would a beri-beri microbe or toxin in food such as rice, sago, etc., be affected by the cooking process? Dishes made of tapioca, sago, etc., are not necessarily boiled, though rice usually is, so that even a microbe might pass through the

cooking process unharmed, and certainly a toxin could do so even if boiled.

In the light of these and other similar occurrences of the disease, the effect of a change of the Japanese navy dietary in practically banishing it from that service, and similar experiences in Shanghai gaol outbreaks, the cases of the *Ancona* here recorded seem to me to have almost the force of a demonstration that food supply is the vehicle carrying the disease poison into countries where it is not endemic. When it occurs in epidemic form, at least in such countries, and in a gaol, asylum, or like institution, or at sea, the first step towards stopping it is to cut off those articles of food which have come from countries where the disease is known to occur—a simple matter surely.

Beri-beri is so frequently insidious in its onset that it has probably escaped detection in European countries hitherto, except when epidemic, or it has been mistaken for other forms of peripheral neuritis, for without doubt peripheral neuritis is a marked feature, and often confined to the lower extremities in beri-beri.

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(*a*) *Transactions of the Third Session of the Intercolonial Medical Congress of Australia*, 1892. (*b*) *Australian Medical Gazette*, No. 146, November 15th, 1893. (*c*) *Ibid.*, No. 158, November, 1894. (*d*) BRITISH MEDICAL JOURNAL, October 27th, 1894.

CASES OF ANEURYSM OF THE AORTA COMMUNICATING WITH THE PULMONARY ARTERY.

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ALTHOUGH rupture into the pulmonary artery is not a very uncommon sequel to aneurysm of the aorta—6 per cent. Fagge,[1] 8 per cent. Sibson[2]—owing to the rapid onset of serious symptoms quickly terminating in death, which seems to be the usual occurrence in this lesion, the number of cases in which the physical signs diagnostic of the condition have been noted is very small. A typical case of this description having occurred in a woman under the care of Dr. Eustace Smith at the City of London Hospital for Diseases of the Chest, and the patient having survived long enough for the characteristic signs and symptoms of this peculiar complication of aortic aneurysm to be noted, I thought the case well worthy of record.

I am indebted to Dr. Eustace Smith for permission to publish this case, to Dr. Colbeck for giving me the opportunity of seeing the patient before her admission, and to Dr. Perkins for the *post mortem* notes.

On February 19th, 1897, M. A., a married woman aged 26, came to the out-patient department complaining of pain across the chest and between the shoulders, with a slight cough and scanty aërated expectoration. She had at this time little or no dyspnœa or other urgent symptoms of chest trouble. A loud continuous murmur was heard in the second left intercostal space close to the sternum, with no audible pulmonary second sound. Her lungs were clear. A week later she was in much the same condition except that she was rather more short of breath, and a few rhonchi were heard over both lungs.

She was admitted as an in-patient on March 5th, when she gave the following history: Her family history was good. She had had a cough as long as she could remember, both winter and summer, which had gradually become worse during the past three months; she had not, however, actually taken to her bed until two days after her second visit to the hospital as an out-patient, five days before her admission; since then the dyspnœa had rapidly become more urgent. There was no history of scarlet fever or chorea. She had had "rheumatic gout" in the right ankle and left shoulder and fingers about eight months earlier, with pains in the joints frequently since; she complained of pain in the right shoulder at the time of her admission. She had been married four years, and had had one child three years ago, who died of bronchitis at 3 months of age. She had had no miscarriages. She had "ulcers of the legs" after her confinement; these ulcers did not heal until nearly a year afterwards. There was no further history pointing to syphilis. About three months ago, when going upstairs, she was suddenly taken with severe pain of a stabbing character across the chest and back between the scapulæ. It was from this time that she dated her illness. A week before admission she suffered from a persistent cough, day and night, with profuse, frothy expectoration, night sweats, and dyspnœa.

The patient was a thin, pale woman, with a slight hectic flush, but no cyanosis, jaundice, or clubbing of the fingers. She had orthopnœa and a short hacking cough with profuse blood-stained aërated expectoration. The respirations were 44, the pulse small, quick, and irregular, could not be counted; the heart-rate was 132. The heart's impulse was felt in the fifth interspace 3 inches from the middle of the sternum, and $\frac{1}{4}$ inch outside the left nipple line.

A brief examination showed that the right chest contained a considerable amount of fluid, and 33 ounces of clear serous fluid were withdrawn by aspiration.

The following morning (March 6th) the patient was much less distressed, so that a more complete examination was possible. The chest was slightly rounded and expanded badly, respirations being mainly abdominal. There was marked dulness on the left side below the ninth rib, and below the angle of the scapula on the right side. The vocal fremitus and resonance and breath sounds were diminished, though not lost, at both bases, the latter being distinctly of bronchial type. A coarse friction sound was audible over the upper line of dulness on the right side. The heart's impulse was in the fifth space just inside the left nipple line. A prolonged systolic thrill was felt over the second, third, and fourth left costal cartilages, but not over the apex of the heart. The cardiac dulness was limited above by the upper border of the third rib, on the right side by the right edge of the sternum, and on the left by the nipple line.

On auscultation in the second left interspace, close to the sternum, over an area not larger than the chest-piece of a stethoscope a loud continuous murmur, resembling in quality the hæmic *bruit* heard at the same spot in anæmia, was audible. This murmur was accentuated at the systole, and continued throughout the cardiac cycle, gradually becoming less marked until the next systole. No second sound could be heard.

In the interspace below, and also over the sternum and in the second right interspace two murmurs, systolic and diastolic in time, were audible, the latter being well conducted down towards the ensiform cartilage, whilst the former was conducted into the neck, where the second sound was faintly heard. The second sound was also distinctly audible, both at the apex and outside the nipple, and was apparently quite free from murmur, though it was sometimes reduplicated. The pulse (108) was fairly regular, the upstroke sharp, with rapid fall, entirely collapsing between the beats. The radial pulse was visible at the wrist, and there was capillary pulsation. No enlargement of liver or spleen was detected. The urine, moderate in quantity, contained a trace of albumen; specific gravity 1022. In front of both tibiæ and in front of the left thigh old scars, with serpiginous outline, but not pigmented, were seen, those on the thigh especially pointed to syphilis as their cause.

The following evening, the dyspnœa again becoming urgent, venesection was performed, and the right pleural cavity was again aspirated, 32 ounces of blood-stained serum being withdrawn. During the subsequent week the patient seemed to improve a little, except that, in spite of treatment, she was much troubled with excessive flatulence day and night, irrespective of food. The sputum was still large in quantity, muco-serous, aërated, and blood-stained, sometimes bright in colour, at other times typically "rusty."

She again began to suffer from dyspnœa, and complained of a heavy, dull pain over the upper part of the sternum. Though the breath sounds were fairly well heard at both lung bases, they were of bronchial character, so it was again decided to explore for fluid at the right base, where the dulness was more marked, but though the needle was inserted twice nothing beyond a little blood was withdrawn.

The flatulence now became even more distressing; every few breaths she had large eructations of gas from the stomach, which nothing seemed to relieve. She died at 3 30 A.M. on

March 18th, twenty-seven days after the first examination, and about four months after the onset of the dyspnœa. The temperature remained normal until the day before death, when it ran up to 103.2° F., but returned to normal again before the end.

Necropsy.—Twelve hours after death, rigor mortis present; no œdema. There were 6 ounces of clear fluid in the pericardium, but no pericarditis. Between the pulmonary artery and the aorta anteriorly the vessel was obviously too prominent and thickened. The heart, with four inches of the aorta, weighed 15 ozs. The left ventricle was dilated, but not hypertrophied, whilst the right was much thickened. The mitral and aortic valves were healthy. Immediately above the central cusp of the pulmonary valve was a small ulcer the size of a pea, to which the edge of the cusp was firmly bound down for about one-third of its extent. Starting about half an inch above the valve, and reaching to about half an inch below the bifurcation of the pulmonary artery, the wall of that vessel was bulged inwards over a space about the size of a pullet's egg; two small openings, with smooth thinned rounded edges, were present in the lower part of the bulging, while in the upper part were a large superficial ulcer, about half an inch in diameter, and several small atheromatous spots. The opening led into an aneurysmal sac containing a good deal of blood clot, and placed apparently between the aorta and pulmonary artery. In the wall of the aorta, about three quarters of an inch above the aortic valve, was a circular, smooth-edged opening, one-third of an inch in diameter, at the base of a small depression leading into the above-mentioned sac. Scattered through the thoracic aorta were a number of small patches of early atheroma, and just below the site of the obliterated ductus arteriosus was a circular patch, the size of a florin, where the wall was bulged, weakened, and wrinkled, but without atheroma or breach of surface. The right pleura contained 25 ounces, and the left 15 ounces of clear fluid. Both lungs were œdematous, and the right especially showed a red induration. The stomach was greatly dilated, its lower edge reaching to the level of a line joining the two anterior superior iliac spines, and the organ occupying the whole of the left and middle regions of the abdomen above. The liver, which weighed 46 ounces, was "nutmeg." The other organs were fairly healthy.

An excellent paper was read before the Medico-Chirurgical Society by Mr. John Thurnam, nearly sixty years ago, when the symptoms and physical signs produced by aneurysms of the aorta communicating with the surrounding venous trunks were fully and minutely described. Very few cases which have been even suspected during life, and in which the pulmonary artery was the communicating vessel, have been published since. I have been able to find only 15 cases in which a careful examination was possible before the death of the patient. The following are brief abstracts of the published descriptions of these cases:

Case I.—Mr. J. Thurman (*Med.-Chir. Trans.*, 1840, xxiii, 323).
Previous History.—Male, aged 33, baker. Had severe rheumatism thirteen years ago.
Symptoms following Rupture.—Sudden sense of "cracking" in chest during violent exertion, with faintness and dyspnœa, followed by anasarca and sanguinolent and viscid sputa. Pulse extremely jerking. A very superficial and continuous sawing sound, with purring tremor supplanting normal sounds of heart, very intense in second left interspace 2 inches from sternum.
Probable Length of Life after Rupture.—Eleven weeks.
Necropsy.—True aneurysm of right aortic sinus, projecting into and communicating by two small rounded apertures with the right ventricle; more or less insufficiency of pulmonic and aortic valves; hypertrophy and dilatation of heart; hydropericardium; hydrothorax of right side; pulmonary, bronchial, and hepatic venous congestion.
Case II.—Dr. Munro (*Edin. Med. and Surg. Journ.*, 1836, xlv, 322).
Previous History.—Male, aged 24, porter, accustomed to lift heavy weights. Had acute rheumatism ten years previously.
Symptoms following Rupture.—Dyspnœa, palpitation, and œdema. Countenance tumid and livid. Pulse 112, large, hard, and "thrilling." Cardiac dullness enlarged. A loud, blowing, continuous (Dr. Hope) murmur, best heard over midsternum, also heard all over front of chest and in the back.
Probable Length of Life after Rupture.—Ten months, with final rupture just before death.
Necropsy.—Several pounds of serum in each pleura. Heart dilated and hypertrophied. Aortic valves thickened, but no actual disease of cardiac valves. Aorta atheromatous. Ascending aorta was dilated into a large irregular sac, which adhered to pulmonary artery and communicated with it by two openings; the larger would admit the point of the little finger, the smaller a crow-quill; edges were rounded, regular, and cartilaginous. Nearer the arch was a third opening with ragged edges.

Case III.—Dr. Smith (*Dublin Med. Journ.* 1841, xviii, 164).
Previous History.—Male, aged 22, subject to epileptiform attacks.
Symptoms following Rupture.—Dyspnœa, faintness, and palpitation, with precordial pain. The face was pale and bloated, and the lips blue. Pulse intermittent. Intense *fremissement* over precordia and systolic murmur. He died in an epileptiform attack.
Probable Length of Life after Rupture.—Four months.
Necropsy.—Left ventricle dilated but not hypertrophied. Right ventricle somewhat thick. Aneurysm of commencement of aorta communicating with the pulmonary artery near its origin by a small opening with thickened and rounded edges.
Case IV.—Dr. Turnbull (*Lancet*, 1845, ii, 91).
Previous History.—Male, aged 41. A seaman. He fell down a hatchway three months before death.
Symptoms following Rupture.—Dyspnœa and a cough rapidly increasing for three weeks before death. Pulse 92, strong, full, and jerking. Thrill or purring tremor felt over base of heart to left of sternum. A loud harsh, continuous murmur with intensity during the ventricular systole. Over aortic area there was a dry double murmur. Both sounds audible at apex, but obscured by aneurysmal *bruit*. No lividity or œdema.
Probable Length of Life after Rupture.—About three weeks.
Necropsy.—Left ventricle hypertrophied. Cardiac valves normal. A multilocular sacculated aneurysm of the ascending aorta communicating by one of its pouches with the pulmonary artery, and another with the right ventricle, one opening being just above, the other just below the pulmonic valves.
Case V.—Dr. J. W. Ogle (*Trans. Path Soc.*, 1852-53, iv, 114).
Previous History.—Female, aged 27. Had occasionally suffered from palpitation and dyspnœa for some years.
Symptoms following Rupture.—Hæmoptysis and dyspnœa, with œdema of the lower extremities. Face pale and lips blue, but no marked cyanosis. Heart irregular, pulse 120 and very jerky. "Rusty" sputum mixed with bright blood. Systolic tremor felt in third left intercostal space, and a loud systolic murmur plainly audible over this situation also heard all over precordia. Further to the left of sternum the second sound was absent, but it was clear and distinct over the aortic area.
Probable Length of Life after Rupture.—About six weeks.
Necropsy.—Cavities of heart were dilated. Valves, except pulmonic, were healthy. An aneurysm of the aorta just above valve flaps communicating by an oval opening with the pulmonary artery. Portions of the semilunar flaps of the pulmonary valve were adherent to the aneurysmal sac.
Case VI.—Dr. Hughes Bennett (*Prin. and Pract. of Med.*, 3rd Ed., 1859, p. 595).
Previous History.—Male, aged 33, a teacher. Had long suffered from hæmorrhoids. Four months before death felt as if something in his chest had ruptured.
Symptoms following Rupture.—Dyspnœa and cough with blood-stained sputum. Feet œdematous. Heart's impulse strong and irregular. No thrill felt. Over manubrium there was a continuous blowing murmur occupying period of both sounds; also audible below the clavicles, softer and more distant to right of sternum. Over third left costal cartilage the first sound was long and blowing, the second abrupt and rasping. Pulse 90, irregular, of natural strength; became rapid and weak before death, and the skin was jaundiced.
Probable Length of Life after Rupture.—About four months.
Necropsy.—Skin and conjunctivæ tinged yellow. Cardiac valves were competent. Left ventricle slightly dilated and hypertrophied. An aneurysm of the ascending aorta about the size of a walnut and communicating with the pulmonary artery by an oval, smooth-edged opening, four lines in length, which was situated one inch above the sigmoid valves.
Case VII.—M. Pierreson (*Bull. de la Soc. Anat.*, 2me Serie, 1860, p. 98).
Previous History.—Male, aged 61, a labourer, formerly a soldier.
Symptoms following Rupture.—Increasing dyspnœa and œdema of lower extremities. When seen had orthopnœa, lividity of lips and face; pulsating tremor in second left intercostal space near the sternum; *souffle* with the first sound and purring tremor; and later had distension of external jugulars.
Probable Length of Life after Rupture.—About one year.
Necropsy.—Recent pericarditis, slight hypertrophy of left ventricle; valves healthy. A biloculate aneurysm of ascending aorta one inch above valves, communicating by a small opening with the pulmonary artery.
Case VIII.—Sir Willoughby F. Wade (*Med.-Chir. Trans.*, 1861, xliv, 211).
Previous History.—Male, aged 35, a railway porter. Had sudden attack of dyspnœa and precordial pain whilst making a violent effort to avoid an engine.
Symptoms following Rupture.—Cough, dyspnœa and emaciation, with pain across the chest. Two loud murmurs, audible over fourth left costal cartilage, that with the second sound being of a hissing character, and so prolonged as to continue till commencement of the next ventricular systole. At this spot there was a considerable purring tremor accompanying the second murmur. At the apex there was a systolic murmur, with a distinct second sound unaccompanied by any *bruit*. There was marked pulsation in the carotids, and no cyanosis.
Probable Length of Life after Rupture.—The opening into the pulmonary artery had probably existed about six months, whilst that into the right ventricle possibly occurred a fortnight before death, when the patient was suddenly seized with severe pain over the precordia, followed by severe dyspnœa.
Necropsy.—An aneurysm, the size of a hen's egg, springing from the origin of the aorta, compressing the right ventricle and communicating with it by an opening with thin and ragged margins. It also communicated with the pulmonary artery by a vertical slit with regular and smooth edges.
Case IX.—Dr. Peacock (*Trans. Path. Soc.*, 1868, xix, 111).
Previous History.—Male, aged 26, who had had rheumatic fever four years before death.
Symptoms following Rupture.—Pain in abdomen with dyspnœa and cough, followed by œdema. Cheeks flushed, lips livid, pulse sharp and of somewhat regurgitant character. A systolic murmur, best heard at

fourth costal cartilage, and followed by a ringing second sound, which was followed by a faint murmur. The second sound was audible at the apex, and unaccompanied by a murmur.

Probable Length of Life after Rupture.—About three months.

Necropsy.—Heart hypertrophied, and weighed 28 ozs. Aortic valves were thickened and incompetent. Immediately above the aortic valve was an aneurysmal sac, the size of a hen's egg, which protruded into and obstructed the lumen of the pulmonary artery, and communicated with that vessel by an oval opening with thin and smooth edges. One pulmonary valve flap was completely destroyed, and another partially so.

CASE X.—Sir William Roberts (BRITISH MEDICAL JOURNAL, 1868, i, 421).

Previous History.—Male, aged 28, an organist, somewhat intemperate.

Symptoms following Rupture.—Cough and dyspnœa followed by œdema and ascites. Face pale and thin; lips somewhat livid; sputum, profuse liquid albuminous matter mixed with froth and specks of blood. Pulse 112, markedly jerking, and visible in all the superficial arteries; loud, harsh, and rasping double murmur, or rather a single murmur consisting of two parts, covering both sounds completely, best heard over a point midway between manubrium and left nipple, diminishing in intensity in all directions from this point, audible but faint at the apex but not heard beyond, well conducted into the neck; murmur accompanied by an intense vibratile thrill.

Probable Length of Life after Rupture.—About two months.

Necropsy.—Cardiac cavities enormously dilated and the ventricles hypertrophied; mitral and tricuspid valves were fairly patulous; aortic and pulmonary valves were competent; a wide-mouthed aneurysm just above aortic valves bulging into and communicating with the pulmonary artery just above its valves by three openings, one the size of a pea the others much smaller; the edges of these openings were thin and diaphanous, perfectly smooth, and free from atheromatous patches.

CASE XI.—Dr. Murchison (*Trans. Path. Soc.*, 1868, xix, 190).

Present History.—Male, aged 48, a brushmaker. No previous illness.

Symptoms following Rupture.—Fell off a plank in a sawpit, and afterwards suffered from palpitation and dyspnœa, followed by œdema with ascites. Six months afterwards face was pale. Pulse 112, feeble but regular. A prolonged bellows murmur well heard at apex and also at mid-sternum and over the back of the chest, but not audible in the vessels of the neck. The urine contained one-tenth volume of albumen, but no tube casts.

Probable Length of Life after Rupture.—About eight months.

Necropsy.—Dilatation of all the cardiac cavities, with hypertrophy of right heart. Mitral and pulmonary orifices were moderately patulous. The aortic and tricuspid valves were competent. A fusiform aneurysm of the ascending aorta communicated with the pulmonary artery 1½ inch above its valves by a circular hole about four lines in diameter, with rounded and regular margin, and with a fringe of minute vegetation on its aortic surface. Kidneys slightly granular.

CASE XII.—Dr. Cayley (*Trans. Path. Soc.*, 1870, xxi, 122).

Previous History.—Male, aged 37, a gilder; had lead colic five years previously.

Symptoms following Rupture.—Sudden dyspnœa followed by œdema. When seen shortly before death patient was anæmic but livid. Pulse had a collapsing character. A double bellows murmur audible over second left interspace and down left of sternum, with a loud pericardial friction sound. Urine albuminous, and contained blood and granular casts.

Probable Length of Life after Rupture.—About three months.

Necropsy.—An aneurysm of the ascending aorta, the size of a walnut, communicating with the pulmonary artery just above the semilunar valves, by a circular orifice a quarter of an inch in diameter, with thin and smooth margins. The aortic valves were thickened but competent, and the other valves were normal. Left ventricle much hypertrophied and the right cavities dilated. Aorta atheromatous. Recent pericarditis and peritonitis. Kidneys in an advanced stage of degeneration.

CASE XIII.—Dr. Frederick Taylor (*Trans. Path. Soc.*, 1874, xxv, 56).

Previous History.—Male, aged 39. Had been a soldier. No history of rheumatism, gout, or venereal disease.

Symptoms following Rupture.—Gradually increasing dyspnœa with œdema of the legs, and pain in the chest. Seen forty-eight hours before death, the face was thin and the skin yellowish, with œdema of lower trunk and legs. Marked thrill over precordia. At base a loud systolic and rather less loud diastolic murmur, the latter heard also half way down the sternum, the former towards the apex and in axilla, but not in the back. Pulse 108, not splashing in character.

Probable Length of Life after Rupture.—Probably about three weeks.

Necropsy.—Heart weighed 20 ounces. Both ventricles hypertrophied and the right was dilated. An aneurysm of the ascending aorta, the size of a walnut, communicating with the pulmonary artery by an opening about half an inch long, with smooth margins, except at the upper end, where there were a few fine vegetations. Aortic valves were healthy. The left half of the right posterior cusp of the pulmonary valve was bound down to the arterial wall.

CASE XIV.—Dr. Samuel West (*Trans. Path. Soc.*, 1882-83, xxxiv, 64).

Previous History.—Male, aged 38, a groom.

Symptoms following Rupture.—Sudden pain in front of chest, with cough and dyspnœa since. A coarse thrill could be felt in the fourth left intercostal space. A loud double murmur could be heard over the same area and also at the apex and in the back. The murmur seemed to commence during the latter part of diastole and to extend through the whole of the systole.

Probable Length of Life after Rupture.—About 10 weeks.

Necropsy.—Both ventricles dilated, with fatty walls. A somewhat sacculated aneurysm of the aorta the size of an egg, communicated by a circular hole half an inch in diameter, with the pulmonary artery just above the septal cusp of the sigmoid valve; about a quarter of an inch of this cusp was adherent to the margin of the opening; aorta slightly atheromatous.

CASE XV.—Dr. Handford (*Edin. Med. Journ.*, 1888, xxxiii, 695).

Previous History.—Male, aged 35. No history of rheumatism or syphilis.

Symptoms following Rupture.—Complained of precordial pain and orthopnœa. Pulse 120, irregular, small, feeble, and fluttering. Slight œdema of legs and abundant frothy sputum. Marked systolic thrill and harsh systolic murmur in third left intercostal space. Over the aortic area the first sound was prolonged, and the second, accentuated, but no murmur, was audible. Later a tricuspid murmur developed.

Probable Length of Life after Rupture.—Not stated.

Necropsy.—Right heart much dilated. Tricuspid and mitral valves moderately patulous. Pulmonary and aortic valves were healthy. An aneurysm of the ascending aorta, arising from the left anterior wall by a large opening, and communicating with the pulmonary artery by an opening about the size of a threepenny piece, which was crossed by a narrow bridle. The sac contained only *post-mortem* clot. There were no signs of visceral syphilis and no general atheroma. (This specimen is now in the museum of the Royal College of Surgeons, No. 3,165A.)

CASE XVI.—(See antea).

In addition to this series I have been able to find records of sixteen[3] additional cases, but in these the symptoms were not described, owing usually to the patients dying shortly after the rupture had occurred; these will only be referred to, therefore, when the results of the necropsies have a clinical interest.

By studying the salient features described in this series of sixteen cases, the following appear to be the most important points upon which to form a correct diagnosis of this lesion:

1. *The Sex.*—As aortic aneurysm is much more common in men, its rupture into the pulmonary artery is proportionately more frequent in the male sex. In only two cases (V, XVI) were the patients women. In one case (Dr. Hebb's) of the sixteen above mentioned the patient was a woman.

2. *Age.*—The youngest patient was aged 22, the oldest 61.

3. *The History of the Illness.*—The onset was sudden in nearly every case, and accompanied by pain across the chest and dyspnœa; cough and œdema usually followed, with profuse blood-stained expectoration. The sudden onset would assist in the diagnosis from valvular disease of the heart.

4. *The Appearance of the Patient.*—In seven cases (II, III, V, X, XI, XII, XVI) the countenance was pale and the lips livid, cyanosis was absent, and there was but little œdema, thus differing markedly from cases of aneurysm of the aorta communicating with the superior vena cava, in which there is much cyanosis of the face and œdema over the upper half of the trunk and the head and neck,[4] and also from cases in which the communication is with the right auricle or right ventricle, when there is usually general œdema and cyanosis. Communication with the left auricle may be practically excluded from its extreme rarity, but in such a case the signs would be those of mitral disease.

5. *Physical Signs on Examination of the Heart.*—A systolic thrill, most marked to the left of the sternum, near the base of the heart, was felt in 10 cases (I, III, IV, V, VII, VIII, X, XIII, XIV, XVI), whilst in only 1 (VI) of the remaining 6 was it definitely stated that no thrill was present. A thrill caused by a valvular lesion at the base of the heart would frequently be difficult to separate from that caused by an aneurysm of the ascending aorta; but the former is rarely accompanied by a thrill, whilst when the latter communicates with the pulmonary artery it apparently gives rise to a "purring tremor" in over 60 per cent. of all cases. It is a striking fact that neither an expansile pulsation nor an area of dulness separable from that due to the heart was noted in any of these cases, for in no case was the aneurysm very large; in 3 it was compared to a hen's egg, and in 5 other cases it was described as being as large as a walnut, whilst in the remaining cases the size of the sac was not mentioned. The presence of a continuous murmur over the base of the heart is apparently almost pathognomonic of an aneurysm of the aorta communicating with one of the surrounding large venous trunks or with one of the cardiac cavities, any one of which lesions is called a "varicose aneurysm" by Dr. Thurnam. As no other condition could well produce a rhythmic continuous *bruit;* and as this peculiar characteristic was noted in no fewer than 8 (50 per cent.) of the cases recorded (I, II, IV, VI, VIII, X, XIII, XVI) it is at least a most important sign. The murmur is best heard to the left of the sternum, when the communication is with the pulmonary artery, and to the right of that bone when the opening is into the superior vena cava. A simple opening between the aorta and a venous trunk without the interposition of an aneurysm would probably not produce a continuous murmur. Indeed, a case of this kind occurred at this hospital a year ago. At a necropsy on a patient who had died with the usual signs of aortic disease, in addition to the aortic valvular disease, the pulmonary artery and aorta were found to be firmly adherent to one another, and a

round hole about one-third of an inch in diameter, having a smooth, slightly thickened margin, situated about an inch above the aortic valves, was found in the attached walls of the two vessels. There was in this case no sign of the communication, but the double murmur of aortic disease was plainly audible. This peculiar murmur is probably caused by the forcible systole of the left ventricle ejecting blood through the aneurysmal sac into the pulmonary artery, and so producing the systolic portion of the murmur, whilst the elastic recoil of the aorta exerts sufficient pressure to produce a continuous flow from that vessel through the aneurysmal sac (which apparently acts as a reservoir) into the pulmonary artery, and so gives rise to the second portion of the murmur. The *bruit* has, therefore, its maximum intensity during the ventricular systole, and gradually diminishes during the remainder of the cardiac cycle until the next systole. The absence of this murmur in half the cases might be explained by (*a*) disease of the walls of the aorta interfering with their elasticity; or (*b*) the presence of a large amount of blood clot in the aneurysmal sac; or (*c*) excessive regurgitation through the aortic orifice, in disease of its valves, rapidly lowering the blood pressure in the vessel beyond. The presence of the second sound without any accompanying murmur outside the apex beat is an important point in the exclusion of aortic regurgitation; at the same time its absence, either at the apex or in the carotids, would not confirm a diagnosis of aortic incompetence, for the valves at the aortic orifice might be quite normal and yet, owing to the regurgitation from the aorta into the pulmonary artery, the reaction of the blood upon the aortic valves would be insufficient to produce an audible second sound.

6. *The pulse* in no fewer than 9 cases (I, II, IV, V, VIII, IX, XII, XVI) was described as jerking or regurgitant, though in only 2 of these cases was there disease of the aortic valves sufficient to allow regurgitation. In Case XVI the pulse was typically collapsing and there was marked visible arterial and capillary pulsation, though *post mortem* the aortic valves were found to be quite competent. Although there was no incompetence of the aortic orifice, there was nevertheless regurgitation from the aorta into the pulmonary artery, which would account for the quick fall in the pulse. Unfortunately no pulse tracing was taken in this case, though this characteristic is well shown in a sphygmogram figured with the description of Sir William Roberts's case (X) in the British Medical Journal of 1868. In the *XX Century Practice of Modern Medical Science*, vol. iv, Whittaker says that in this lesion "the peculiar pulse of aortic insufficiency is, however, never seen." The above cases appear to show, however, that this is characteristic is by no means infrequent without coexisting aortic regurgitation.

I can find no reference in any existing textbook to a symptom of thoracic aneurysm which was very marked in one case (XVI) which was primarily the subject of this paper I refer to the excessive flatulence present for a week before death; and, though this was more probably due to the acute dilatation of the stomach which is sometimes seen in patients dying from cardiac failure, I find that this symptom was noticed by Dr. W. F. Atlee nearly thirty years ago, and described by him in an excellent paper on A Case of Thoracic Aneurysm, with some remarks upon Continued and Obstinate Eructations as a Symptom of the Disease,[5] due, he states, to pressure on the vagus. In the present case, however, the trunk of the vagus was not found to be involved.

This lesion then usually occurs in an adult male; the onset is sudden and often accompanied by pain across the sternum, and is followed by dyspnœa and cough, with profuse expectoration. The patient is usually pale and rarely cyanosed. The pulse is jerky or regurgitant in character, often when no signs of aortic insufficiency are present. In over 50 per cent. of all cases a purring tremor or vibratile thrill, systolic in time, is felt over the pulmonary area, and a continuous murmur is audible over the same situation.

Prognosis.—Death usually occurs in a few weeks or months, but only one case was the patient found to have survived the rupture for a year.

References.

Textbook of the Principles and Practice of Medicine. [2] *Diseases of the Aorta.* [3] (1) *Med. Chir. Trans.*, 1840, xxiii, 349; (2) *Edin. Med. and Surg. Journ.*, 1840, liii, 99; (3) *Ibid.*, 101; (4) *Ibid.*, liv, 114; (5) *Krank. der Arter. Wien.*, 1852-7. Beob. Taf., x, 51; (6) British Medical Journal, 1853, 683; (7) *Trans. Path. Soc.*, 1883-84, xxxv, 134; (8) British Medical Journal, 1880, 521; (9) to (13) Five specimens in St. Bartholomew's Museum, Nos. 1473, 1475, 1476, 1476A, 1477; (14) and (15) Two specimens in the Museum of the Royal College of Surgeons, Nos. 3164 and 3165; (16) One specimen in the Museum of the Faculty of Medicine of Paris. [4] Pepper and Griffith, *International Journal of Med. Sciences*, October, 1890. [5] *Amer. Journ. of Med. Science*, 1869, xviii.

THE TREATMENT OF TUBERCULOUS DISEASE OF THE HIP-JOINT IN ITS EARLY STAGES.

By HOWARD MARSH, F.R.C.S.,
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I have no wish to intrude upon the attention of the readers of the British Medical Journal, or, for a moment, to challenge any views by which Mr. Tobin regulates his own practice in the treatment of hip disease in its early stages. But when a teacher of surgery occupying Mr. Tobin's position gives an account[1] of a novel proceeding, in reference to an important subject, some discussion of points that seem doubtful may, I hope, be allowed.

1. As to the "position of greatest ease." In what light are we to regard this posture, whether in the hip or in the other joints, when they are in the early stage of tuberculous disease? How is it to be explained, and in what manner, and in what degree, if at all, does it contribute to the advantage of the joint in which it is observed? Mr. Tobin, speaking only of the hip, says it is desirable to retain this position, and he adds further on in his paper, "If it is an expression of a desire for a rest in any particular position it is no small indication. Should we not believe in such an indication until it is proved to be false? Are not Nature's ways as a rule conservative?" In reply I will venture to say that in no joint except the shoulder,[2] and least of all in the hip, should the position of greatest ease be retained. On the contrary, it is the duty of the surgeon either at once, or as soon as may be, to exchange this for some other position which, however, will vary with the joint concerned.

To make good this contention it is necessary in the first place to study this position as it is observed in healthy joints. Take, first, the simplest examples—the wrist and the ankle. The wrist, during muscular activity of the forearm and hand, assumes many positions—flexion, extension, abduction, etc.; but when voluntary muscular action ceases the hand, unless it is supported by some external agency, drops by its own weight till it forms an angle of about 120 degrees with the forearm, so that all its component structures are in a position of easy relaxation. In the same way, under similar conditions and with a like result, the foot drops to an angle of about 120 degrees with the leg. In both the wrist and the ankle the agency which at a certain point counteracts the weight of the hand and foot respectively seems to be the tonic contraction of the extensors; for when these muscles are paralysed by damage to the musculospiral nerve in the upper, or as the result of anterior poliomyelitis in the lower limb, the drop of the hand and the foot is much more marked. As to the elbow. When voluntary muscular action ceases, and when the limb is left without external support, the forearm drops so as to form an obtuse angle with the upper arm. In the case of the knee under like conditions (that is, when we are sitting on a high seat so that the foot clears the ground, when voluntary muscular action ceases, and when the leg is unsupported), this segment of the limb drops by its own weight till it is suspended by the tonic contraction of the quadriceps extensor and by the ligaments of the joint. In the hip the position of greatest ease is assumed when we sit, and voluntary action of the muscles of the lower limb ceases. By sitting down we flex the joint, while abduction and eversion are due to the weight of the limb, opposed, however, at a certain point, by tonic muscular contraction.

Thus far it is seen that when voluntary muscular action ceases, the joints are left in a relaxed condition, and that the position which they assume is mainly determined by two factors (*a*) the weight of the distal segment of the limb, opposed when a certain point is reached by (*b*) the tonic con-

traction of the surrounding muscles. Under these conditions the joints are, as the phrase goes, in the position of "greatest ease," or, as it would be better to say, in the position of physiological rest. But it must be pointed out that as long as muscular action is in abeyance the joints will still remain in a position of perfect ease, even though their posture is considerably altered. In other words, the position of physiological rest is not limited to a particular angle, but it extends through a considerable range: and every day we avail ourselves of this fact. For if a joint, for example the wrist or the ankle, is kept in any one position—even if this is the position which we are in the habit of regarding as that of "greatest ease"—a sense of fatigue is soon experienced, and we are glad to change this for some new posture. The fact that any one position after a time becomes irksome is the explanation of the circumstance that, while at rest, we often change from one position to another. It is thus clear that even in health the ease and comfort of a joint when it is at rest do not depend on the maintenance of any particular position; but that they are promoted by a change, from time to time, from one position to another, within a certain range.

But besides mere position, there is another factor which plays a much more important part in the production of physiological rest for the joints, namely, external support; and when, muscular action being in abeyance, a joint is furnished with adequate support, its position in any part of its middle range of movement is of very little consequence. Thus the wrist is at perfect rest not only when it lies in a passive state, in a position of slight flexion, but also when the hand is raised into, and supported in, a straight line with the forearm. The elbow, again, is as fully at rest when it is supported at an angle of 110° as it is at an angle of 160°.

We may now turn to the joints when they are in the early stage of tuberculous disease, and when their soft structures are swollen and abnormally sensitive. The first thing which occurs under these circumstances is that each joint assumes its position of greatest ease. After this what follows will vary with the joint concerned; and the difference will depend on the degree to which reflex muscular spasm is present. In some joints, notably the wrist, reflex spasm of the surrounding muscles is very slight; it scarcely exists. And it is much the same in the ankle. In both these joints in early tuberculous disease, movement is often but very little impaired. In the case of the elbow reflex spasm is more marked and movement is consequently more limited. In the knee and hip, especially in the latter, reflex spasm is so marked that these joints soon become almost or completely fixed. Now in regard to the wrist and the ankle—both of which, looking to the future, are in an unsatisfactory position; the wrist somewhat dropped, the ankle extended towards equinus—it will be found that they very readily allow their position to be altered; the hand can be raised into a straight line with the forearm, and the foot can be brought up towards a right angle with the leg without the least force and without the least pain. Indeed this change of position is often attended, just as it would be in a healthy joint, by a sense of relief for, as I have already mentioned, the original position of greatest ease after a time induces fatigue and discomfort. This is still more plainly seen in the later stages of disease, for example, of the wrist even when swelling (tuberculous or rheumatic) is very considerable. In such cases we often see a patient—using his other hand—first straighten the diseased wrist and then carefully support it in this position.

Under all these circumstances is it not clear that when the joints already mentioned are to be kept in a fixed position for some months, and when they may afterwards be somewhat stiff the position of greatest ease should be exchanged for that which will be the most favourable should stiffness remain? Otherwise if the ankle, for example, when the foot is pointed is kept for the necessary time in a splint, the patient after recovery may not be able to bring his heel to the ground.

As to the knee and hip. These joints in early disease after assuming the position of greatest ease become fixed by very marked reflex spasm of the surrounding muscles. Now if, while reflex spasm is present, the surgeon tries to change the position of the limb he will produce pain and do harm; for when, by manipulation or the use of instruments, he straightens the leg on the thigh or the thigh on the trunk as the case may be, he will use leverage, and this will create (*a*) interosseous pressure, and (*b*) tension of the soft structures. He must, therefore, take a different course. The knee must, without any alteration of its position, be enclosed in splints, by which it will be kept at absolute rest. The result will be that in a short time spasm will subside, and then, without the slightest force or the slightest pain, the joint can be placed in a satisfactory position—that is in a position of extension. In the case of the hip the limb must be supported in its present position on pillows or otherwise, and weight extension must be made in the long axis of the thigh. By this treatment muscular spasm will soon subside and the limb without the smallest discomfort can be gradually brought down into a position of full extension.

If the above statements are correct, I think it is clear, as I have already said, that to allow any of the joints, except the shoulder, to remain in the position of "greatest ease" is a mistake, and that those who avoid this mistake readily also escape from the "important difficulty," in face of which Mr. Tobin has adopted what appears to me to be an unnecessary operation.

2. Mr. Tobin in his first paper based his criticism of the weight-and-pulley method on the view that in early tuberculous hip disease the joint capsule is distended with fluid, and that to straighten the limb when this condition is present is to increase tension within the joint. It seems to rest with Mr. Tobin to furnish evidence that this distension exists, for until this has been done his reference to Mr. Swan's experiment, in which the capsule is artificially distended, appears to be irrelevant. But, if this evidence is not forthcoming, will he show why, seeing that it usually at once relieves any pain which is present, even if this is very severe, extension in the line of the limb as described in the handbooks of general surgery ought to be given up and osteotomy adopted in its place?

3. Mr. Tobin's naïve though somewhat fundamental question, "Are not Nature's ways as a rule conservative?" is one which in a certain sense we can all regard with approval. I is entirely free from that spirit of presumption and that overready desire to subvert the established order of things, of which so many examples could easily be cited. But when we meet with it in a scientific discussion it seems likely to throw us a little off the scent. In many cases, in the spontaneous arrest of hæmorrhage, in the repair of simple fractures, and in compensatory hypertrophy, etc., the conservative powers of Nature fill the mind with admiration. On the other hand, what shall we say of malignant disease, lupus exedens, gonorrhœal ophthalmia, or internal strangulation? Does anyone think of leaving these conditions to run their course because Nature's ways are as a rule conservative?

4. Mr. Tobin says: "Moreover, a large number of cases treated by means which disturb this position (that of greatest ease) go on to suppuration," and he adds that "a treatment that in good hands yields such results does not silence speculation." I am quite sure that Mr. Tobin writes with perfect good faith; and, not leaving his readers to form their own conclusion, he is careful to state that he does not write in ignorance. But he seems to believe that at the present day suppuration takes place in 69 per cent. of cases of early hip disease treated by weight extension. To establish this view he quotes from Erichsen the statistics of the Alexandra Hospital for Hip Disease. These cases, however, were treated between 20 and 30 years ago. Moreover (the duration of admission of almost every case is given in a separate column in the original report), the average duration of the disease before treatment was commenced in these cases was about 18 months; and many had been going on for two, four, or more years. But how can such cases be regarded as examples of early disease? But, further. In a large proportion of the instances (as another column in the report shows) the patients had abscesses at the time they were admitted; that is, before ever the treatment was begun. Under these circumstances I can only believe that Mr. Tobin has never read the report[3] from which he quotes. When writing on this subject two years ago,[4] I stated my belief that "when hip disease is seen early (in the first three or four months), and is adequately treated, suppuration does not occur in more than, at the

most, 15 per cent. of the total number of the cases." But I can readily understand that when Mr. Tobin was reading up the subject this estimate escaped his notice.

5. Mr. Tobin states that there is reason to believe that section has a beneficial effect on tuberculous bone. "How often," he remarks, "in resections of the knee, do we put together bones much rarefied and otherwise affected by tuberculous disease, and find that they unite firmly and remain sound." But is it a fact that in early tuberculosis of the hip-joint the shaft of the femur below the trochanters is involved in the disease? Is not the bone at this level almost invariably healthy? Mr. Tobin's view that section has a beneficial effect on tuberculous bone is so novel, and the evidence he adduces in proof of it is at first sight so remarkable, that I am sure surgeons who have a turn for pathology would be interested to hear something more on the subject.

6. In conclusion, it seems desirable that Mr. Tobin should mention specifically the works on general surgery in which the plates show the "weight as applied to the limb in its normal instead of its abnormal position," so that in future editions this error may be corrected. As the case stands there appear to be authors whose plates are inconsistent with their letterpress. But who are they?

References.

1 British Medical Journal, April 24th, May 29th. 2 It is notable that while the other joints when diseased assume undesirable positions, the shoulder undergoes no deformity even in far advanced disease. 3 *Clin. Soc. Trans.*, vol. xiv, 1881. 4 *Disease of Joints*, 1897, p. 402.

TWO CASES OF TUBERCULOUS DISEASE OF THE KNEE-JOINT TREATED BY IODOFORM INJECTIONS: RECOVERY.

By EDWARD B. HOLWELL, L.R.C.P.Ed., M.R.C.S.Eng.,
Honorary Surgeon to the Leeds Public Dispensary.

Case I. *Tuberculosis of Knee in a Man aged 25 Years.* H. L., aged 13 years, a tall, overgrown youth, with dry pink and white complexion and red hair, came to me on May 1st, 1885, with an oblong swelling at the inner side of the right knee; it extended upwards and outwards for $3\frac{1}{2}$ above and $1\frac{1}{2}$ inch below the patella: pain complained of over inner condyle. He first noticed the enlargement in February of the same year; there was no history of an injury. He was ordered rest.

On June 10th the tumour was much the same but now presented distinct fluctuation. Under ether, and using the carbolic steam spray, I made a free incision, got 4 ounces of pus and a quantity of partially organised lymph from the abscess, and having thoroughly cleaned out the cavity dressed with McGill's salicylate silk waste and iodoform and put on back splint, I could find no communication with the joint. The wound soon healed, but the joint never quite recovered its natural size.

On April 12th, 1896, the patient, now aged 24 years, came to consult me for a discharging sinus at the inner side of the right knee, and complained of pain on movement of joint, and as his work necessitated an amount of kneeling it caused him great inconvenience, and he was unable to walk with any degree of comfort. On passing a probe for $\frac{1}{2}$ inch I found the sinus divided into two passages, one upwards and outwards above the patella, and the other upwards and inwards towards the flexor tendons. I was unable to find any communication either with the former suppurating cavity or with the joint. The knee was enlarged and had lost its natural contour, and was also œdematous.

On April 14th, ether having been administered, I opened up the sinuses as far as they were superficial, and having scraped away all diseased tissue, packed them with iodoform and gauze. They were four months in healing up. Shortly afterwards two small points broke out, discharging a thin-looking pus; they continually healed up only to open and again discharge.

On January 26th, 1897, the knee presented a very enlarged, rounded appearance, all the natural points of the joint having disappeared and bulged towards the outer side, the patella being displaced outwards. There was distinct fluctuation of a pulpy character. The patient complained of severe pain on any joint movement, and could neither fully flex nor extend the leg; altogether it was now a typical tuberculous joint. In consultation with Mr. W. H. Brown, we agreed that before I proceeded to excise the joint (which we warned the patient might even be necessary) to give a trial to injection of iodoform and glycerine.

On January 28th, having drawn off five ounces ($\frac{3}{}$v) of slightly clouded synovial fluid by aspiration, I injected through the same cannula 2 drachms of glycerine and iodoform; this was followed by great pain and swelling the same evening.

On January 29th the knee was much distended and very hot but there was no increase of temperature.

Ten days afterwards (February 6th), the knee having recovered its former size, I again operated, but only obtained 1 ounce of synovial fluid, coloured and smelling strongly of iodoform. I injected 2 drachms as before. The same night there was great pain and swelling but no increase of temperature.

The third aspiration was performed on February 14th, removing 2 drachms of stained fluid. I injected 2 drachms of glycerine and iodoform. The joint looked much healthier and felt much firmer. This time there was hardly any swelling afterwards nor pain.

On February 23rd 2 drachms of stained synovial fluid were removed, and I injected 2 drachms. This was not followed by pain nor swelling until next day, when there was very little swelling.

The fifth injection was made on March 3rd. I had great difficulty in getting into the joint, the knee being so much firmer and knit together. This injection was followed by no pain or swelling.

On March 21st, the sixth injection, for the first time there was no fluid in the joint. The knee was very much smaller.

On March 29th, the seventh injection, I had difficulty in injecting only 1 drachm of fluid.

On April 15th, the eighth injection, I injected again 1 drachm.

On April 30th, the ninth injection, I was only able to get $\frac{1}{2}$ drachm into the knee, and I believe it was only into the track of the trocar. He could walk a short distance without difficulty or pain. The joint was nearly its natural size, but there was slight stiffness.

On May 26th, eighty-eight days after the first injection, the patient walked nearly two miles and felt no worse afterwards. There was very little difference in the size of the two knees. He only complained of slight stiffness, and informed me that his knee felt stronger and more to be relied upon than for several years. In this case, although I injected nine times, I believe the last three were unnecessary, though the great difficulty is to know when our object is attained. There is no doubt that a few years ago, before the present treatment was known, this knee-joint would undoubtedly have been excised, if not amputated.

June 26th. He has now returned to his work, at least has my sanction to do so.

Case II. *Tuberculosis of Knee in Child aged 8 Months.*—M. K., a Jewish child, aged 8 months, a sickly, puny infant, came to the out-patient department of the Leeds Public Dispensary March 5th, 1896. The right knee was greatly enlarged, pulpy, and with nearly all shape of the joint lost, presenting a barrel-like appearance, and flexed almost at a right angle, and a white cheesy colour. There were two discharging sinuses, one at the outer side passing upwards and inwards, the other extending completely across the joint, probably, however, extra-articular. Under chloroform I dilated the sinuses, thoroughly scraped them out, and having inserted two drainage tubes, put on a back splint and dressed with gauze, iodoform, and wool.

On April 2nd the knee was larger and the joint full of pus, and felt on movement to be entirely disintegrated. Under chloroform I made a free incision into the joint from the outer side, and a counter incision at the inner side. The joint was washed out with corrosive sublimate solution 1 in 2,000 and a drainage tube carried across the joint from one incision to the other. It was dressed with gauze, iodoform, and wool, and put on back splint.

On April 14th the knee was much smaller and firmer, and the child generally improved in health. The drainage tube was taken out, and the knee dressed as b fore.

On May 7th the discharge had ceased and the incisions healed, but there was severe superficial dermatitis. The knee could not be flexed beyond a right angle, and that caused pain, which made me still suspect mischief in the joint.

On November 26th, 1896, the child was again brought to me. The knee was very hot and inflamed, and there was doubtful fluctuation. In a month's time, having got things quiet, I applied a pot leg, and lost sight of the case till March 1st, 1897, when, on removing the plaster, the knee, with the exception of the discharging sinuses, appeared as bad as ever. There was considerable swelling, redness, and œdema. The exploring needle found no pus, however. There was also severe dermatitis, and the skin was in a filthy discharging state. The limb was put on a back splint, and I ordered hot fomentations every four hours.

On March 18th, the skin having now become quite clean and healthy, and all other treatment failing, I injected glycerine ℥j, holding gr. 7½ of iodoform in suspension.

On March 25th the knee was much improved, smaller, firmer, and could be moved. I injected again ℥j of glycerine and iodoform.

On April 1st the knee was much smaller and firmer. The child now voluntarily moved the joint, which was injected for the third time. I had great difficulty in entering the joint, and could only inject ℥ss, and most of this I believe was left in the track of the needle.

On April 8th I endeavoured to inject for the fourth time, but was unable. The child crawled about, which it had not done for thirteen months.

On June 22nd no signs of disease could be seen or felt. The shape of the knee was quite normal, and the child moved about as well as any child of 2 years old can do. In this case, it was a very long time before the parents would allow active measures. As the notes show, prolonged and systematic treatment had been unsuccessfully tried. The rapid improvement, and if one might say cure, under the iodoform injection is therefore very significant, and in future I shall never condemn any joint, no matter how much it may be destroyed, till I have tried what iodoform injections will do; for in both of these cases here reported I had little hope of saving the joint, and movement I never thought to obtain.

REMARKS ON FOUR CASES OF HYDATIDS OF THE LIVER.

By SINCLAIR WHITE, M.Ch., F.R.C.S.Eng.,
Honorary Surgeon to the Sheffield Royal Hospital.

A man, aged 36, came under my care in November, 1895. He stated that he had observed a swelling over his stomach five years previously. This had been repeatedly aspirated at a neighbouring hospital, but always rapidly refilled. He had been able to follow his trade until three weeks previously when he began to be feverish and to lose strength. Examination revealed a fluctuating tumour with the "hydatid thrill" over the left side of the epigastrium. It was intimately adherent to the abdominal wall; and on incising it half a pint of pus with numerous hydatid cysts escaped. He continued ill after the operation, and a few days later a larger swelling could be made out over the liver to the right of the middle line. This in turn was incised, and gave exit to a quart of pus containing several hundred small cysts. He now for a time improved, and then began to have evening pyrexia with rigors, followed by profuse sweating. As the two cysts already evacuated were well drained it was evident that the mischief must be elsewhere. By introducing a finger into the second cyst cavity and tapping over the right side of the liver deep fluctuation could be elicited. The suppurating cyst, which we judged it to be, was, however, too deeply placed to be readily reached from the surface, and besides to have attempted its evacuation in this way would almost necessarily have involved opening the peritoneal cavity. For these reasons I determined to open it through the second cyst cavity, and was successful in doing so. The third tumour proved to be the largest of the three, and, like the others, contained pus and an enormous number of cysts. For several days the patient remained in a highly critical condition, but eventually made a good recovery. The discharge from the third cyst cavity for a time was mixed with much bile.

Judging from the progress of the case, it is probable that the operation on the first cyst induced suppuration in the second, and that in turn in the third cyst. The complete return to good health, notwithstanding the enormous amount of disturbance to the liver is the most noteworthy point in the case.

The second case was that of a boy, aged 17 years, who came to me in June last with an oblong tumour of the size of a cocoanut, situated in the mesial line behind the anterior abdominal wall. It had been observed for some time by my colleague, Dr. Burgess, and, as it was growing rapidly, it was decided to explore it and if possible to take it away. On opening the abdomen the tumour was found to be of a dark red colour, and adherent in many places to the intestines and omentum. On separating the adhesions, it could be traced upwards to the back part of the under surface of the left lobe of the liver, from which it sprung by a pedicle 2 inches in diameter. As yet the true nature of the tumour had not been made out, but those of us present at the operation feared we had to deal with a malignant tumour. Acting on this fear, I excised the portion of the liver from which it originated. In order to control hæmorrhage the liver around the tumour was divided in sections, about three-quarters of an inch at a time. Each section was at once secured by a thick silk ligature passed through the entire depth of the liver, from the upper to the under surface and again back to the upper surface, parallel with and a quarter of an inch distant from the cut surface. Six of these sutures were inserted, and they served admirably the purpose for which they were intended. During section of the liver and the insertion of the sutures hæmorrhage was stayed by firm pressure between the thumb and fingers. The lad made a very rapid and complete recovery, and seems to be none the worse for the loss of a considerable portion of his liver. The tumour proved to be a tense, suppurating hydatid, and from it beautiful specimens of living scolices were procured.

In discussing the differential diagnosis previous to operation, the question of "hydatids" had been carefully considered; but the absence of a definite history of the growth having started from above, and the fact that it did not rise and fall during respiration, seemed to militate against it being a hepatic hydatid. Another noteworthy point in the case was the entire absence of evening pyrexia, which is so commonly associated with suppurating cysts.

The third case was that of a woman, aged 38 years, who when I first saw her was in a most wretched condition. For several weeks she had been coughing up large quantities of offensive bile-stained pus containing hydatids. She was very feeble, pulse 130, evening temperature 103° F.; had profuse night sweats, and was slightly jaundiced. She was quite unable to sleep, or even to lie down, on account of a hacking cough. The back of the right lung was consolidated as high as the spine of the scapula. The diagnosis of a suppurating hydatid cyst discharging through the right lung was of course self-evident. After carefully considering how best to drain the cyst, I decided to make the attempt through the lower part of the pleura, which it was judged would be obliterated by the preceding inflammatory exudation. In order to allow the left lung full play during the operation, the woman was placed on the edge of the table in the right semi-prone position. This position allowed of free access to the back of the right lung. A 3-inch flap of skin and muscle was raised over the ninth and tenth ribs, just outside their angles, and two inches of each of these ribs were removed. The costal pleura was carefully divided immediately below the inferior margin of the hepatised lung, and, as we anticipated, was adherent to the diaphragmatic pleura. A long, sharp-pointed bistoury was now thrust through the diaphragm into the liver, and after passing through a thin layer of that viscus entered the abscess. The wound was cautiously enlarged, and the contents of the cyst, consisting of about a quart of pus with numerous hydatids, removed with a blunt flushing scoop. With the finger in the empty cyst one could feel the opening through the diaphragm into the lung. After introducing some iodoform a large drain tube was inserted, and the skin flap partly adjusted. She bore the operation well

and for three days made considerable progress, being able to sleep and to take food. At the end of this time she became very much blanched, and an examination showed that the huge cyst was full of blood. She rapidly sank, and on the fourth day died from hæmorrhage. When she was moribund four pints of saline solution were injected into her arm; but this had only the effect of rallying her for a few hours.

The patient's wretched condition previous to operation rendered surgical intervention extremely hazardous; but when she had apparently started on the road to recovery it was a great disappointment that she died. Had she been in a condition to undergo the necessary manipulation after the hæmorrhage took place her interest would, I think, have been best served by turning out the blood clots and packing the cavity with gauze.

Having regard to the fact that the hæmorrhage, which at the *post-mortem* examination was ascertained to have come from a large vein in the wall of the cavity, did not occur until three days after the operation, it is improbable that the blunt scoop had any share in its causation; nevertheless, in future I should, in a similar case, make no attempt at a thorough evacuation of the cyst contents, but would merely provide efficient drainage.

The last case is that of a boy, aged 12, who came under my care in September, 1896. He had a small tumour in his epigastric region which had been observed for the first time three months previously. It was globular, hard, painless, and followed the liver in its respiratory movements. Before operating, the presumption was strongly in favour of a hydatid of the liver, but the extraordinary mobility of the tumour, which permitted of it being displaced to the left and downwards for quite 3 inches was somewhat perplexing. On opening the abdomen the tumour came easily into the wound, and on incising it the cyst, an acephalous one, was readily removed. The opening in the liver was stitched to the parietes, and the boy made a rapid recovery. The remarkable mobility of the tumour was due to the excessive length of the ligaments of the left lobe of the liver.

Owing largely to the excellent work done by Mr. Lawson Tait, and by our medical brethren in Australia, the treatment of hydatids of the liver has within recent years undergone great changes, and, I think, great improvement. Formerly, unless a hydatid was suppurating or was so near the surface as to make it practically certain that it was adherent to the abdominal walls, it was either aspirated, injected with some irritant such as iodine, or subjected to electrolysis by means of two steel needles thrust into the sac. These measures, especially the last, while they often yielded excellent results, were fraught with two dangers. The punctures sometimes leaked, and, owing to the irritating nature of the hydatid fluid, caused peritonitis, or they set up suppuration in the cyst.

It has been observed that a hydatid cyst, especially if inflamed, occasionally pointed, and finally burst through the abdominal parietes, and so effaced itself. The essential feature in this natural way of cure is the gluing of the peritoneal covering of the tumour to that of the abdominal wall, whereby the peritoneal cavity is shut off. A study of this phenomenon led surgeons to imitate it by dividing the abdominal wall, including the parietal peritoneum, over the tumour, and either by a ring of sutures or by simply packing the wound with gauze to induce plastic exudation between the opposed peritoneal surfaces. After the lapse of a few days the cyst was opened and drained. But increased experience showed that this plan was not to be universally relied on, and latterly the tendency has been more and more to expose the tumour, and, after carefully surrounding it with sponges, to open it, and stitch the edges of the cut liver to the skin. Like almost every recent advance in abdominal surgery, the success of this plan is dependent upon the ability of the surgeon to operate under aseptic conditions.

The ninth International Congress of Hygiene and Demography will be held in Madrid from April 10th to 17th, 1898.

Dr. Rodet, the well-known bacteriologist of Lyons, has been appointed Professor of Bacteriology in the University of Lyons.

A CASE OF OVARIAN CYSTOMA ASSOCIATED WITH PROLAPSUS UTERI, TREATED BY OVARIOTOMY AND HYSTEROPEXY.

By JAMES SWAIN, M.S., M.D.Lond., F.R.C.S.Eng.,
Professor of Surgery at University College, Bristol; Assistant Surgeon to the Bristol Royal Infirmary.

It is most unusual to find the intra-abdominal pressure incidental to the growth of an ovarian tumour sufficient to cause extrusion of the uterus, although in this case there was doubtless a predisposition to downward displacement, owing to many hours of standing in a shop, and the occurrence of tedious labour necessitating the use of instruments at her confinement some years before.

S. C., aged 47 years, was admitted under my care at the Bristol Royal Infirmary in August, 1896, complaining of the "womb coming down" and the existence of piles. She had noticed a gradual enlargement of the abdomen since the previous Christmas, and the distension had become so great that she was practically incapacitated from all work. She was married at 28 years of age, and had had three children, the youngest now being 8 years old. She had an anxious expression, and there was much general emaciation with considerable dyspnœa. The abdomen, which measured 42 inches in circumference at the umbilicus, was very tense and prominent, especially on the right side; and its cavity apparently contained a large, globular, smooth-walled cyst, through the greater part of which fluctuation was perceptible, although here and there some more solid portions of tumour could be felt. There was an unvarying dulness, with its convexity upwards reaching from the pubes nearly to the ensiform cartilage, with resonance in the flank on either side—in short, the swelling presented the usual characteristics of an ovarian cystoma. There was complete procidentia uteri, the uterus being entirely outside the vagina, much hypertrophied and about 5 inches in length. The rectal wall was also considerably prolapsed.

On August 18th I performed ovariotomy through an incision three inches long about midway between the umbilicus and pubes. About thirty-seven pints of thick yellowish-white fluid escaped; the empty cyst was turned out, and the pedicle ligatured in the ordinary way. The procidentia uteri was now reduced *per vaginam* by one of my colleagues, and two silkworm gut stitches were passed transversely into the fundus of the uterus about three-quarters of an inch apart, and each suture being buried in about one inch of uterine tissue. The ends of each of these sutures were brought through the whole thickness of the parietes bounding the lower part of the incision on either side, particular care being taken to include the peritoneum, and the ends when tied were left long to distinguish them from the other sutures which closed the rest of the wound. A large rubber ring pessary was then introduced into the vagina to aid in supporting the heavy uterus.

The patient had an uninterrupted recovery. On September 24th the stitches holding the uterus in position were removed, the uterus now being much diminished in size; and the patient went to her home in Wales on October 5th. On December 7th the uterus, which although fixed to the abdominal wall was somewhat mobile at its point of attachment, was found to be of about normal size, and the ring pessary was removed. The patient had considerably increased in weight, and was apparently perfectly well.

The performance of hysteropexy in this case added little to the risk, and was largely instrumental in adding to the after-comfort of the patient. The operation has many advocates and many opponents. The latter point to possible difficulties—which undoubtedly occur in some instances—such as abortion or intestinal obstruction. Abortion may occur in retroflexion and other displacements of the uterus, and therefore unless it can be shown that it is more common in a uterus which has been fixed to the anterior abdominal parietes, its occasional occurrence cannot be used as a forcible argument against the remedy under consideration. The most important step of the operation is to be careful that the peritoneal surfaces of the uterus and of the abdominal wall are brought together. The adhesions so formed subsequently stretch so that the uterus becomes, as it were, suspended from

a new ligament, and the mobility thus allowed—which is easily observable in cases that have been operated upon a few months previously—is all-important in permitting the necessary expansion of the uterus during pregnancy, and so obviating to a large extent the tendency to abortion which is said to exist.

It would be outside the province of this short paper to discuss the relative value of hysteropexy and the so-called "Alexander's operation," but in a recent case of hysteropexy under my care, the superiority of this operation in cases possibly associated with adhesions was made abundantly evident by the existence of adhesions which were by no means apparent before the abdomen was opened, and which would have rendered futile any attempt at shortening of the round ligaments.

Hysteropexy in selected cases is quite justifiable, and has already done much to relieve the intolerable pain sometimes associated with a displaced and adherent uterus in which milder means have failed.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

TETANUS COMPLICATED BY TYPHOID SYMPTOMS AND MANIA: RECOVERY.

On March 25th, J. L. P., a young Dutchman 24 years old, came to me complaining of a sore on the back of his right hand, with pains shooting up the arm. I found in the middle of the dorsum of the right hand a small solid purplish tumour about as large as a pea, and it formed the centre of a bleb, about the size of a penny, which contained a thin serum. There was some redness and swelling of the hand, and pain in Crookshank's gland. I dissected away the skin forming the bleb, and dried the wound. It then appeared raw, and of a raspberry formation. I applied lunar caustic, and dressed the wound with a compound tincture of benzoin on lint. The next day he said he felt better, and had slept well; I then gave him some ichthyol and boric ointment to keep applied to the wound, and cauterised it on March 27th, 28th, and 30th. On March 30th it appeared quite healed. On April 3rd I found the tumour, which had previously almost entirely disappeared, forming "proud flesh." I cauterised it on that and the next day, but on April 5th he complained of having been very restless all the previous night and that the arm was very painful, and I then cut out the growth with a sharp scalpel, and touched a few points which were left with caustic, and applied a soothing dressing. In the evening I was summoned in great haste. I found that he had just recovered from a spasmodic attack. While I was present another came on—he was lying quiet and conscious, and said he felt all right, except for the pain in the arm, when suddenly he stiffened himself out lying on his back, twisted from side to side slowly, his teeth became fast locked, and he became unconscious; but in a few minutes the spasm passed and consciousness returned.

I judged the case to be tetanus, and at once administered full doses of chloral and potassium bromide. I advised a consultation, and the medical man called in agreed with me as to diagnosis and treatment. The painful arm and hand were well bathed in a hot infusion of poppy and camomile heads, and a hot linseed poultice applied constantly over the wound. This greatly relieved the pain, but the attacks came on with increased severity, being very frequent, especially about 10 a.m. each day. The teeth during an attack were always firmly locked, and a stick had to be held in his mouth to prevent the tongue being bitten. The attack usually began by pain shooting along the arm and over the cardiac region. Then cramps ensued, commencing in the legs. For the first few days and nights he could not sleep for more than a few minutes at a time. A hypodermic injection of morphine, gr. $\frac{1}{4}$, had no effect, and the next night chloral, gr. xxx, and tinct. opii, xv ♏, had very little.

On April 7th (the third day of the spasms) I gave him the following mixture: ℞ pot. brom. ℥iv, chloral hyd. grs. xl, tinct. opii, ♏ xl, aquam ad ℥ij. M. dose ℥iij, well diluted with water, every two hours until sleep ensued, and during each attack chloroform was administered by inhalations. Between April 7th and 10th he took ten ounces of this mixture. After the first day or so only ℥ij and sometimes ℥j was given, according as necessity was shown, either by increase in the number or violence of the spasms, or by restlessness. He was able to sleep fairly well, was hungry when awake; the spasms gradually diminished, and finally ceased about April 12th. Just before the attacks entirely ceased they were characterised by the patient's throwing himself back and lying on his back with half-closed eyes for a few minutes, during which time he appeared to be quite unconscious. The bowels, which tended to constipation, were kept acting two or three times a day by enemata and a mixture containing magnesium sulphate. The wound on the hand healed in a few days, but the spasms continued for several days longer. The pulse up to April 12th was always very full and regular—about 90 to the minute. About April 10th he complained of a good deal of pain in the bladder, which diminished on using copious draughts of barley water and some tincture of hyoscyamus.

On April 12th and 13th his temperature began to rise and pulse rate quickened, and a new set of symptoms showed themselves, approaching those of typhoid fever. On April 15th he complained very much of sore throat and mouth. In a few days he became quite insane, inclined to be violent, contradictory, and cross with everyone. About April 20th the fever left him. The insanity lasted until about April 30th, when he began to go about again. He is now quite recovered, and got married a month after leaving his bed. I am inclined to think that the patient had his first spasm or premonitory symptoms on the night before I operated the second time. The character of the spasms, generally beginning with cramps in the legs and ending in locking of the jaws, render it almost impossible to doubt that he suffered from tetanus. The low feverish symptoms were in great part due to the irritable state into which the digestive, urinary, nervous systems and mucous membranes were thrown, by the large and constant doses of chloral, bromides, and opium.

I do not think that many cases of tetanus have recovered which have been as near death as this. I attribute the patient's recovery to the almost heroic use of sedatives before the poison had made much way in the system, and to the patient's naturally good and sober constitution.

W. Archer Isaac, M.D., B.A. (Univ. Dub.),
Molteno, South Africa. District Surgeon.

SELF-INFLICTED WOUND OF ABDOMEN; PROTRUSION OF VISCERA; RECOVERY.

The patient, a man aged 32, was admitted into the Oldham Infirmary on the evening of May 10th. The man had wounded his abdomen with a razor after a quarrel with his wife, and he was brought to the infirmary on a hand ambulance by the police, the wound being covered with some wet lint.

On admission the patient was collapsed, his pulse being 60 a minute and very weak. On removing the blankets in which he was wrapped and the lint covering the abdomen, it was seen that the stomach, the transverse colon, the omentum, and the small intestines had escaped through the wound and completely covered the surface of the abdomen. The man was put under chloroform and the protruded viscera examined for any wound. During all the manipulations that followed a stream of hot sterilised saline solution was allowed to run over the bowels. No wound of viscera was found, and there was no hæmorrhage. The protruded viscera were then returned and the peritoneal cavity washed out. The wound was now seen in its full extent. It was 9 inches long, and passed from immediately over the symphysis pubis obliquely upwards towards the right side of the umbilicus, ending 2 inches above that point. The wound was closed in the usual manner, and a Keith's drainage tube was introduced at the lower end. A small quantity of blood-stained fluid was sucked up through this during the night.

The man rallied excellently, and next morning expressed himself as quite well. The Keith's tube was removed. His temperature was 99°, the pulse 78. His after-progress was uneventful. The stitches were removed on the tenth day, the wound being soundly healed. The patient was kept on

his back for six weeks, the only trouble being that his bowels would only act after an enema. This trouble passed away when he was allowed to get up, the bowels acting daily without any aperient. He was discharged, wearing a bandage, at the end of eight weeks quite well.

I am indebted to Dr. Martland for permission to publish this case.

N. Caine, M.B.,
Senior House-Surgeon, Oldham Infirmary.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

UNIVERSITY COLLEGE HOSPITAL.

A CASE OF HEAD INJURY FOLLOWED BY COMPLICATIONS AFFECTING THE CRANIAL NERVES.

(Under the care of Mr. Arthur Barker, Surgeon to the Hospital.)

[Reported with remarks by Mr. J. Howard Cook, M.B., B.S.Lond., F.R.C.S.Eng., formerly House-Surgeon to the Hospital.]

During my term of office as house-surgeon the following case was admitted under Mr. Barker's care. The notes are an abstract of those taken at the time of admission, and during the after-treatment of the case. The patient was a porter aged 26, of sober habits, and good past personal history.

On June 19th, 1896, he fell from the top of a pantechnicon van, striking the pavement with his head. He was at once picked up and brought to the hospital, and admitted at 3.10 P.M., fifteen minutes after the accident. It was stated that after the fall he appeared dazed, but was able to complain of pain in his head.

On admission he was semi-conscious, answering questions slowly. The pulse was 96, weak, and irregular in force and rhythm. The skin was moist and cold. Both eyes were open, the left pupil being somewhat larger than the right. The left pupil reacted readily to both light and accommodation, but the right was sluggish, though it reacted slightly to both kinds of stimulus. Blood was streaming from the patient's nose, and there was a small superficial wound over the right eyebrow. There was no fracture to be detected in this situation. There was some effusion of blood into the right upper eyelid, and slight subconjunctival hæmorrhage in the eyeball of the same side. He complained of great pain in the head, but none elsewhere.

At 3.15 P.M. (twenty minutes after accident) the patient vomited the contents of his stomach, mixed with several ounces of dark blood. At 3.20 P.M. (twenty-five minutes after accident) the right pupil did not appreciably react to light or accommodation. He again vomited similar material to that just described. He was now speechless, and drowsiness had deepened into apparent unconsciousness. There were no signs of paralysis of any of the voluntary muscles. At 3.30 P.M. (thirty-five minutes after accident) patient was transferred to an isolation ward. The pulse had fallen to 68, but was still irregular and somewhat dicrotic. At 4 P.M. (one hour and five minutes after accident) the patient had a well-marked general convulsion lasting about a minute. All four limbs were moved, and there were twitchings of the facial muscles. The limb movements consisted in a rapid succession of clonic spasms in the direction of flexion and extension; finally the patient became rigid in a position of general flexion. During the fit he was markedly cyanosed. Immediately succeeding the fit a third attack of vomiting occurred. At 4.25 P.M. (one and a-half hour after accident), a second fit occurred. The first observed movement was a conjugate deviation of the head and eyes to the left side, then succeeded slight twitching of both sides of the face, then both arms simultaneously, and lastly both legs underwent similar clonic spasms to those observed in the first fit; finally the convulsion became general. Movements of twitching in the limbs rapidly increased to marked flexion. The fit lasted two minutes. There was no cry, no passage of urine or fæces.

Immediately after the second fit breathing became stertorous. The pulse dropped to 48, was regular in rhythm and force, though somewhat full in volume.

The head was now shaved and the patient prepared for operation, but in the absence of more definite localising signs it was decided not to operate. An ice bag was applied to the head, and hot bottles to the feet. In the course of half an hour the stertorous breathing ceased, the patient remaining, however, unconscious, with both knee-jerks exaggerated. He gradually became more restless, tossing about in bed. At 5.20 there was another attack of vomiting, about 6 ounces of altered blood being brought up. After this the patient became quieter, lying curled up in bed with the head thrown back. Consciousness returned at 7 P.M. The pulse was now small and irregular, 80 to the minute. The patient showed great irritability on being disturbed, and lay in a position of general flexion, avoiding the light by covering himself with the bed clothes. He complained greatly of the ice bag, which was accordingly removed for the time being. There was no retention of urine.

June 20th. The patient had another attack of vomiting this afternoon. He remained quite conscious, complaining of great thirst, and of pain and stiffness in the neck. The temperature had risen to 102°. The pulse (108) was of low tension, and irregular. Under the influence of an evaporating lotion the swelling of the right eyelid subsided; and now there was observed marked ptosis of this lid, with impaired movement of the eyeball, especially inwards; but a careful examination of the ocular movements could not be made on account of the general irritability of the patient, which increased to such an extent that a "strong sheet" was required to keep him from jumping out of bed. Eighty grains of potassium bromide and 30 grains of sulphonal were administered, and later croton oil (2 minims) was given on butter.

On June 22nd the temperature had fallen to normal, and the pulse was regular and of fair tension (60 to the minute). The right pupil was widely dilated, and did not react either to light or accommodation. There was an external squint, the right pupil not moving inwards beyond the median line. The right eye was now quite blind (no light appreciation). No change in the fundus was observable. The left eye was normal. Retention of urine required the use of a catheter this evening. The urine was quite normal.

June 23rd. A crop of herpes appeared this morning in the distribution of the fifth cranial nerve. Thus there was a patch of vesicles along the course of the supratrochlear and infratrochlear nerves, another larger patch over the supraorbital, and another over the infraorbital and buccal branches. No loss of sensation could be detected in the face. On June 26th the herpes was well marked, having extended along the course of the nerves previously mentioned, and being also observable along the distribution of the auricular branch of the auriculo-temporal. The headache was less severe, the temperature remained normal, and the patient could now bear the blinds being drawn up for the first time. There was slight conjunctivitis. The temperature was 98°, the pulse 60, of fair tension.

June 30th. The patient still complained of severe headache on the right side. He had no memory of the accident, though he remembered previous events. The herpetic vesicles had mostly scabbed, and were drying up.

July 3rd. There was complete paralysis of the right third nerve. The pupil was widely dilated, and did not contract on any stimulus. The left pupil acted well to light directly, but there was no consensual reflex. There was considerable ecchymosis of the right upper lid near its inner end; on the left side there was ecchymosis of both lids. Marks from recent herpes ophthalmicus were to be seen. The fourth nerve had probably escaped, inasmuch as downward movements of the eye were associated with an outward deviation. No anæsthesia was found.

Ophthalmic Examination.—Right media clear. Optic disc rather pale, even on the inner side. The outer part of the disc was decidedly pale, and there was a large physiological pit. Left optic disc and fundus normal.

July 6th. The herpes had now cleared off, leaving no scars. The mental condition was improving. The patient remembered riding the van before the accident, but no ex-

planation of the latter can be given. He was now taking a fish diet.

July 10th. The patient could now partly open his right eye, but the pupil did not react to light, and the eye was totally blind. On July 16th there was marked improvement in the action of the levator palpebræ superioris of the right side. The conjunctivitis had subsided. On July 22nd the patient was allowed to get up. On July 30th the eyes were again examined with the ophthalmoscope. The pupil of the right eye was still fixed and dilated, and did not react to light, but there was slight inward movement of the eyeball. The optic disc was distinctly paler than when last seen. On August 9th the disc was again paler, the vessels being also smaller. The difference between the discs of the two sides was obvious.

The patient left the hospital on August 17th. His general condition was excellent, but the condition of the eyes was as follows:

EXAMINATION OF THE EYES BY MR. MARCUS GUNN.—The right optic disc is uniformly pale. There is a deep physiological pit, at the bottom of which the lamina cribrosa is evident. On the outer side of the disc a crescent is seen. The veins are normal but the arteries are small. The edge of the disc is sharply defined. There is slight myopia in the right eye (D by the ophthalmoscope). The left optic disc is of a good colour, the physiological pit rather large, the vessels perfectly normal. There is slight divergence of the right eye. Movements of the muscles supplied by the third nerve are now normal except the internal rectus, which is somewhat weak. Under ordinary conditions, with the eyes looking straight in front, the right pupil is decidedly larger than the left, and reacts very feebly consensually and not at all directly to light. There is no convergence on regarding near objects, but the accommodation of the left eye then necessary is associated with a well-marked contraction of both pupils, especially of the right, and this occurs in all positions of the eye. Measurement of pupils: Right, 5 mm.; left, 4 mm. Under cocaine, fifteen minutes after a drop of 2 per cent. solution had been simultaneously dropped into each eye, right, 5.5 mm.; left, still 4 mm. Five minutes later, left, 5 mm.; right, still 5.5 mm.—so that there seemed to be no further dilatation of the right pupil under its action. The patient was seen at frequent intervals up to the end of 1896. In December the condition remained practically unaltered, except for the optic atrophy, which gets more marked, and the power over the internal rectus, which slightly improves.

REMARKS BY MR. HOWARD COOK.—The case is of interest both from the nature and course of the complications and from a diagnostic point of view. The patient was admitted with obvious signs of moderate concussion of the brain, not sufficient to suspend consciousness entirely. Whilst under direct observation the symptoms of cerebral compression slowly developed. The pulse was felt to drop from 96 to 48, and to change totally in character, acquiring the characteristic slow, full, regular qualities. Then a couple of fits separated by a short interval supervened; and whilst no definite localising symptoms were observed in the first, in the second the most that could be said was that the first movement was a turning of the head and eyes away from the injured side. The shaving and preparation of the head appeared to check further development of compression symptoms, and consciousness slowly returned. The same evening typical symptoms of laceration of the brain were noted. So far the symptoms were fairly definite, but when we come to analyse the cause, or make a definite diagnosis, we are met by some difficulties not very easy of solution. The copious bleeding from the nose on admission, and the subsequent vomiting of large quantities of altered blood taken in onjunction with the gradual development of compression ymptoms seem to point to the injury of some vessel possibly coincident with fractured bone. In the subsequent history of the case it has been seen that certain cranial nerves—II., III, and ophthalmic of V, also part of the other divisions of V—were involved. Of these II was permanently and irrecoverably damaged as shown by permanent loss of sight in the right eye, and the steady irresistible progress of the optic atrophy. III was for some considerable time paralysed as shown by ptosis, dilated and fixed pupil, external strabismus, and characteristic defect in the ocular movements. But the later history of the case shows that the paralysis appears to be clearing up, at least in so far as ocular movements are concerned. IV escaped injury. V (ophthalmic) showed no signs of a paralytic lesion, but on the fourth day exhibited well-marked signs of an irritative lesion, namely, a crop of herpes along each of its branches of distribution, unaccompanied, it will be observed, by anæsthesia. At the time of injury the sense of smell was not tested, but later it was found that pungent vapours, such as ammonia, were recognised, whilst apparently different scents were not fully appreciated. This possibly indicates that there was damage to the olfactory filaments (I), whilst the nasal distribution of the V nerve was unaffected, except in so far as herpes along the infratrochlear branch of the nasal indicates an irritative lesion. Direct observation showed no affection of the sensory distribution on the face. The VI and other cranial nerves were totally unaffected. We may, I think, assume that probably the base of the skull was fractured anteriorly, but to localise the lesion is more difficult. The somewhat copious bleeding from the anterior and posterior nares, the marked subconjunctival hæmorrhage, the involvement of the third cranial nerves, and the symptoms of concussion, compression, and laceration of the brain form a clinical picture highly suggestive of a fracture through the anterior fossa of the base of the skull. There were, it will be noted, no signs of fracture of the vault, the only wound being quite a superficial bruise over the right frontal eminence. It is a suggestive feature that, whilst cranial nerves I and II were permanently paralysed, III was temporarily paralysed, IV and VI escaped, and V (ophthalmic, part of superior maxillary, and auriculo-temporal of inferior maxillary) showed an irritative lesion. (The irritative herpes of the auriculo-temporal appeared a day later than that of the ophthalmic, as though possibly it might have been the effect of an irritation spreading backwards from the ophthalmic division to the inferior maxillary nerve.) A possible hypothesis may be that the fracture passed through the optic foramen and cribriform plate of the ethmoid thus crushing or lacerating the optic nerve and some of the olfactory filaments. Such an injury would naturally give rise to free hæmorrhage, and this might cause compression of the anterior part of the brain, and a general rise of intracranial tension. If the cranial nerves were compressed as they entered the sphenoidal fissure it is hard to see how IV and VI could have escaped, for although the former is the highest and the latter the lowest of the nerves as they lie in this situation, yet they are here all so close together that it is hard to imagine a hæmorrhage so localised as to pick out III for its maximum pressure (paralysis followed by partial recovery), and merely to give an irritative lesion to the ophthalmic branch of V. From the mode of spread of the herpes alluded to above it seems probable that the lesion and the hæmorrhage were anterior to the Gasserian ganglion. The symptoms of laceration are easily explained by the fact that the lower surface of the frontal lobes rests on the anterior fossa of the skull with a minimum of cerebro-spinal "water cushion" interposed. The irregular character of the fits is explicable on the view that extravasated blood may have crept up both sides of the median line over the upper surfaces of the frontal lobes. The nerves could hardly have been damaged in that part of their course which lies along the wall of the cavernous sinus, for here the IV nerve lies between the III and the ophthalmic, and a fracture of this region must have given, one would have thought, more copious hæmorrhage. Thus I think we may conclude that the patient sustained a fractured skull, that this fracture probably involved the anterior fossa—possibly at the situation of the optic foramen and the hinder part of the cribriform plate of the ethmoid; and that some of the complications may have arisen from the pressure of extravasated blood, or possibly from direct contusion or laceration of the nerves themselves, with hæmorrhage into their sheaths. Lastly, I have to thank Mr. Barker for his kind permission to publish the details of this case, and Mr. Gunn for having on two or three occasions examined the eyes, and for the ophthalmic notes which he was good enough to dictate.

THE Queen has contributed £100 towards the fund for the new buildings of the Royal London Ophthalmic Hospital now in course of erection in the City Road.

REPORTS OF SOCIETIES.

MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

Business Meeting.

The annual meeting was held at the College of Medicine, Newcastle-on-Tyne, on July 29th and 30th. Dr. Julius Mickle, the retiring President, was succeeded by Dr. T. W. McDowall, Superintendent of the Northumberland County Asylum, Morpeth. Dr. Urquhart of James Murray's Asylum, Perth, was selected as President-elect, and Dr. Robert Jones of Claybury was appointed Honorary General Secretary in succession to Dr. Percy Smith.

An illuminated address was presented to Dr. Fletcher Beach, who had filled the office of General Secretary for seven years. The Gaskell Medal and Prize was awarded to Dr. C. H. Bond of Banstead Asylum.

The Insane in India.

After the business meeting Dr. McDowall took up the office of President for the ensuing year, and delivered the presidential address on The Insane in India and their Treatment. He called attention to the defective provision for the care and treatment of the insane in India, and said that it was entirely inadequate to the population. The officially known lunatics in India were 4,311, or 1 in 70,000 of the population, whereas the last report of the Lunacy Commissioners gave a ratio of 3 lunatics to every 1,000 of the population in England and Wales. There could be no doubt there were in India many others uncared for. In the Native States there was only one asylum, at Mysore, and in the portion of India under British rule there were only twenty-four asylums with a total of 4,311 patients, of whom 1,154 were criminals. The tyranny of caste requirements weighed heavily, and the requirements of "purdah" led to the almost total neglect of insane women in India. In the asylums officialism reigned supreme. The medical superintendents were army medical officers who had had little experience in asylum administration and the treatment of the insane. He suggested that asylums for insane women in India must be entirely officered by women, that the criminal element should be entirely removed to separate institutions, and that army medical officers should no longer be superintendents of asylums. He considered that medical women had no career in asylum practice in this country, but that having gained some experience over here they would be in a position to carry out much needed reforms as far as concerned the treatment of insane women in India.

Medical Reticence.

The following resolutions were moved by Dr. Mercier on adjournment from the general meeting of November 19th, 1896, at which he read a paper on The Rule of Secrecy:

1. That in the opinion of this Association information afforded by a sane patient for the better understanding or treatment of his malady, to a medical man, is sacred, and ought not to be revealed without the consent of the patient.

2. That information obtained by a medical man from an insane patient may be revealed when, and only when, it is expedient for the welfare of the patient or for the public safety.

After a short discussion the matter dropped, Dr. Mercier's resolutions not being seconded.

Tuberculosis in the Insane.

Dr. Eric France read a paper on Tuberculosis in the insane: its Prophylaxis. He considered that treatment of tuberculosis being at present very uncertain in its results, we must turn to prophylaxis as affording practically the only chance of reducing the death-rate from phthisis in asylums. Inhalation of tuberculous dust was the most frequent mode of infection in asylums. The most careful systems of ventilation in asylums are not attended by a corresponding diminution of death-rate from phthisis in such institutions. Efficient ventilation does not prevent the dissemination of tuberculous dust in the wards. He considered that isolation was the only efficient method of preventing the spread of the disease, and to effect this early and absolutely accurate diagnosis must be arrived at. The physical signs being often masked in the insane, he considered the only method of accurate diagnosis to be the subcutaneous injection of minute doses of Koch's original tuberculin. He gave particulars of cases in which he had adopted this method of diagnosis.

Some Mental Aspects of Music.

Dr. Hayes Newington said that the term "music" was dangerously diffusive; many misunderstandings being made possible unless it was appropriately qualified for the purpose of scientific discussion. In spite of the present tendency to localisation, there could be no part nor function of the brain apparatus specially put on one side for the purpose of music. The reception, cognition, and execution of music was carried on by just those departments of the brain which were responsible in other matters, the variation in effect being caused by the variation in stimulus and purpose. In one respect music stood alone—in the number and complexity of impressions thrown on the brain simultaneously. In the case of the organist, the ear and eye received, and the hands, fingers, and feet acted upon such an enormous mass of impressions that a large amount of reflex action must be aroused, the higher brain not being called upon to interfere in every detail. Cases were quoted in which successful reading and execution of music took place in the evident absence of power of thought. The psychological processes of singing and playing were described at some length. On the passive side, music had but little power to provoke directly specialised emotion, though it freely produced broad emotional states—for example, contentment or unrest. On the other hand, emotion might entirely arouse the influence of music, association, memorial, and other, had to be carefully guarded against in estimating the power of music, which was far more efficient as a carrier than as a manufacturer of emotion. Sense gratification was undoubtedly the foundation of the influence of music, and it could be marked off as apart from intellectual satisfaction; though æsthetic cultivation, by increasing the demands of the ear, might obscure the dividing line. The independent existence of sense gratification explained the interest often taken in music by idiots and persons of low mental development. The average man required something more in the shape of form, order, and intention. These were supplied by time-rate, volume, timbre, rhythm, etc. Of these rhythm was far the more important. Man lived by it, his brain was preserved by it from the wear and tear which would be necessitated by a constant reference to the higher centres for fresh directions. Rhythm was equally necessary to the reception of sensations as to the carring out of action, as the stress in everything active or passive came back to one point—the brain itself. Man naturally walked in rhythm for ordinary purposes, but when he desired relaxation he broke rhythm to suit his fancy, and thus were developed marches, dances, etc. He then constructed music to follow these developments. The music, when performed, suggested in its turn motion to the listener. Motion was the very essence of music, since it, unlike painting, which caused its effect by contrast of present stationary contrasts, depended on contrasts between the present and the past. In the creation of incitation to motion and in the aid it gave to the orderly carrying out of action lay the chief power of music.

Histology and Pathology of the Neuroglia.

Dr. Ford Robertson read a paper on the normal histology and pathology of the neuroglia in relation specially to mental disease, accompanied by a microscopical demonstration. He combated the views of Bevan Lewis, Andriezen, and Weigert as to the structure and functions of the neuroglia, considering it to be merely a supporting network for the nervous tissues, consisting of cells with fibres radiating from them, and that the cells were not independent of the fibres, as had been taught.

Histological Notes.

Dr. W. A. Campbell read a paper on the uses of formol in the neurological laboratory, and illustrated his paper by a series of microscopical specimens. He subsequently read a paper on the course of the pyramidal tract, illustrated by lantern demonstration.

REVIEWS.

Atlas of Clinical Medicine. By Byrom Bramwell, M.D. Vol. iii, Part III. Folio. (Edinburgh: Constable. 1897.)

This, the concluding part of Dr. Byrom Bramwell's great enterprise, contains fifteen plates, with title and index to the third volume. The subject most fully treated in this part is Pseudo-hypertrophic Paralysis and other Forms of Progressive Muscular Dystrophy, illustrated by reports of seventeen cases and five plates. The value of the reports is enhanced by histological examinations of the muscles and nervous system by Dr. Muir, Professor Sherrington, and others, so that they form a very valuable contribution to our knowledge of these rare diseases. In the plates are excellent photographs and drawings of the external configuration of the patients, and minute figures of the histological appearances.

Other subjects treated are chlorosis and pernicious anæmia, in which diseases clinical investigation and therapeutics receive due attention, as well as pathology. There is a chapter on cyanosis and congenital heart disease, and, finally, one on alopecia areata, of which some excellent pictures are given.

Among the plates are three most characteristic portraits of forms of insanity, and one of a case of mitral disease. There is also a good plate of lupus.

Dr. Bramwell has well maintained the character of his work as being not merely an *Atlas*, but a splendidly illustrated treatise on clinical medicine. As such it is an achievement of which the British school of medicine may well be proud. We heartily congratulate the author upon the energy and perseverance which have brought this fine book to a successful termination.

In conclusion, we would only express the hope that Dr. Bramwell's venture may receive due support from the profession. There is no similar work in any language which so well deserves to find a place in the library of the practitioner, not only for its scientific interest but for its practical value. When we want to refer to what is known about any important disease, it is refreshing to find, instead of the generalised statements of textbooks, always more or less one-sided, the salient features of the subject brought before the mind and the eye in this graphic and instructive manner. To those especially who live far from hospitals and museums such a collection as this will supply the place of oral and practical demonstration. This is in fact teaching by direct representation—far more really efficient than teaching by description.

Lectures on the Action of Medicines. By T. Lauder Brunton, M.D., F.R.S., D.Sc., LL.D. London: Macmillan and Co. 1897. (Roy. 8vo, pp. 690. 10s. 6d. net.)

There are many reasons for the cordial welcome which we are sure that this interesting book will receive. At a time when physicians are asking themselves whether there be any good in pharmacology or not—a question scarcely answered in any popular sense by the author's earlier book—this readable volume comes to show us that if therapeutics are to keep pace with pathology it must be by something better than the rule-of-thumb practice current among us at present. Of the preciousness of the aphorisms by which practice is and must always be largely regulated we are well aware, but we have to learn that these rules can only preserve their vitality by continual verification in the light of scientific experiment.

Dr. Brunton's larger book is highly technical, and the arrangement of it—an arrangement useful no doubt for the immediate end of the author—makes it distinctly difficult to read. Of the present volume, on the contrary, we can say that, interpenetrated as it is by the scientific spirit, it is at the same time packed with practical wisdom and the fruits of experience. No one after reading this book will be able to say that the submission of our remedial means to exact methods leads to a high-and-dry unpractical attitude. A physician may be well convinced of the importance of holding by the traditional methods in the lack of knowledge of a more scientific kind, and yet perceive that the resources bequeathed to us by our forefathers are shorn of none of their potency by exposure to analytic investigation. To allege the contrary is to be a sceptic unavowed. Some doctrines will gain a larger acceptation; others, no doubt, will be set aside as invalid. Above all, the student will be taught in the spirit of research, and will not sit to swallow parcels of ready-made learning. To take in knowledge ready made—not, that is, to find it out for oneself under the guidance of the teacher—is to be crammed. To work out the problems of therapeutics after the fashion of this book is education proper.

We heartily commend this volume to the most practical as well as to the most thoughtful members of the profession as the most intelligent book on treatment we have read for a long time—one which, in method, perhaps, stands alone in the English language. One fault it has for a business book: the pages are uncut and the contents have to be worried out at the expense of time and temper.

De l'Appendicite. [On Appendicitis.] Par Dr. F. Legueu, Monographies Cliniques. Paris: Masson et Cie. 1897. (Roy. 8vo, pp. 40. Fr. 1.25.)

As the author of this pamphlet says, we have reached "a period of condensation" in the study of the appendix and its morbid conditions. He presents us here with a summary of current views and recently published work, mostly of French origin, which is of value. He gives no new facts or observations, and simply states clearly the theory of appendicitis, which should already be familiar to anyone who is liable to be called upon to treat the disease and its results. We have Talamon's theory of the appendicular concretion which is formed in the cæcum, and is thence mysteriously passed into the appendix. The author is inclined to favour the far sounder theory of Dieulafoy, which lays stress on the conversion of the appendicular canal into a closed cavity, either by a calculus, a plug of mucus, or a stricture. But he looks at the matter himself from a wider point of view, and, while allowing the importance of the closure of the canal as a factor in the production of disease, he brings many other causes into review, such as entero-colitis and some specific fevers.

The actual morbid changes in the appendix and surrounding parts are dealt with so briefly, that the description is of little value. The clinical account is a brief summary on the usual lines. The pamphlet concludes with an account of the treatment which the author is in the habit of pursuing, and a brief discussion of some of the points on which opinions are divergent. His line of treatment is in substantive agreement with the practice of most British surgeons, though he is not in favour of resection of the appendix after a first attack, but would operate only in the quiescent intervals of relapsing cases.

The Spas of Wales, their Medicinal and Curative Properties. By T. R. Roberts. London: John Hogg. (Cr. 8vo, pp. 120. Four illustrations. 1s.)

The present handbook supplies a want, for, considering the growing reputation of the chief Welsh spas, some kind of a popular guidebook was needed. Foremost amongst these localities comes Llandrindod, and with this may be mentioned Llanwrtyd, Builth, and Llangammarch. These four spas, which all possess advantages of their own, lie not far from each other in the counties of Radnor and Brecknock, within easy reach of London and of the great commercial centres of Birmingham, Liverpool, and Manchester. The situation and climate of Trefriw in the beautiful vale of Conway, likewise justly entitle it to a place in the volume.

Amongst the first group of spas the upper part of Llandrindod, that near the Pump House Hotel, has probably the most bracing position. Following in order we would place Llangammarch (situation of the Lake Hotel), Llanwrtyd, and Builth. The lower part of Llandrindod, where the Rock House Hotel lies, is much more sheltered and less bracing, but doubtless will be preferred by some, especially during the colder weather of the beginning and end of the season.

The strongest common salt waters of the group are those of Builth; the Park Waters of Builth contain about 12½ parts in 1,000. The accommodation at the Wells is very limited, but visitors can stay at the town of Builth, which is about one and a-half mile distant. Llanwrtyd possesses

pure sulphur waters said to contain as much as 36 volumes of sulphuretted hydrogen in 1,000 volumes of water, and is likewise supplied with salt water from Builth. About July Llanwrtyd is much frequented by colliers from the Rhondda Valley, but visitors can always find comfortable accommodation in the hotel which has been recently enlarged.

Llangammarch is a suitable spring, summer, and autumn health resort in many cases, and its "barium water" constitutes an excellent table water, though it is not yet proved that it possesses any specific action in heart affections.

Llandrindod possesses a choice of waters—common salt waters with about 3.4 to 4.3 parts in the 1,000 as well as about 1 part of calcium chloride in the 1,000; muriated sulphur waters of various strengths; the recently analysed "Park Spa," apparently the most sulphurous of the Llandrindod springs; and, lastly, a weak chalybeate water, poor in free carbonic acid gas. There is a similar chalybeate spring at Llanwrtyd, but the strongest Welsh chalybeate is probably at Trefriw Wells, though the iron at this latter spa is contained in the less digestible form of a sulphate. From Dr. S. Floyd, medical officer of health, we hear that the annual death-rate of Llandrindod during the years 1891 to 1896 has only averaged 11.47 per mille.

Death and Sudden Death. By Dr. P. Brouardel, Paris. Translated by F. Lucas Benham, M.D., B.S.Lond. London: Baillière, Tindall, and Cox. 1897. (Demy 8vo, pp. 270. 10s.)

We have nothing but a hearty welcome to accord to this work, the translation of which has been excellently done by Mr. Lucas Benham. The English edition of the book will be especially welcome to medical jurists in England, because in this country there is, unfortunately, no office comparable with that which Dr. Brouardel holds as Director of the Morgue in Paris, in connection with the duties of which so much valuable medico-legal information has been gathered and recorded by him.

The first part of the book deals in a thorough and masterly manner with the phenomena of death. In the section devoted to the consideration of apparent death Dr. Brouardel well compares certain cases of lethargy and catalepsy, which somewhat resemble death, to the condition of hibernating animals, in which nutrition and excretion are reduced to the minimum.

With regard to the subject of premature burial, in connection with which so much nonsense has been written of late publicly in lay journals, Professor Brouardel remarks that one fact is found to be an almost constant accompaniment of the cases that have been described: that the persons died without having been seen during their illness by a medical man, and were buried without a medical man having had the opportunity of verifying the existence of death. He therefore rightly asserts that if a mistake has been made it is a popular blunder, not a medical one. The cases of alleged premature burial that have been personally investigated by Dr. Brouardel have all proved to be myths, and it is interesting to remember that a similar experience followed the investigation in this country of two cases of alleged premature burial, which, although circumstantially reported in letters to the daily press two years ago, proved to be entire inventions.

Dr. Brouardel gives due praise to the valuable work of M. Megnin on the fauna of the dead body, a knowledge of which has on several occasions been useful in determining the period which has elapsed since the occurrence of death. The author takes the same view that has repeatedly been put forward in the British Medical Journal, namely, that the certainty of death can be determined without awaiting the moment of putrefaction, provided that the verification of death is always performed by a medical man.

The second part of the book, which consists of an admirable exposition of the various causes of sudden death, will prove especially useful to the medical practitioner, since such cases frequently give rise to medico-legal inquiries, and naturally tend to generate the suspicion of crime or of suicide.

The book is well worthy of perusal by medical men, and will be most valuable to the medical jurist.

Fruits and Farinacea the proper Food of Man. By John Smith. Vegetarian Jubilee Library. Edited by C. W. Forward. Vol. iv. London: Ideal Publishing Union. 1897. (Cr. 8vo, pp. 172.)

We learn from the preface that Mr. John Smith, in writing this book, did pioneer work for the vegetarian movement; that he, like so many vegetarians, was a profound believer in spiritualism, and that he died in 1870. The book itself is an attempt to prove from religion, history, anatomy, physiology, and chemistry that the natural diet of man is derived from the vegetable kingdom.

The vegetarians are evidently not a progressive race. The same old arguments are hashed up again and again. The anatomy, chemistry, and physiology on which Mr. Smith takes his stand must have been ancient history at the time of Mr. Smith's death; they are quite antediluvian now. There has been no attempt at revision; no note is taken of scientific advances; but the innocent public is still treated to excerpts from the writings of Liebig and of others of about the same date, or even earlier, which when strung together with a pretence of logical reasoning, may deceive a superficial reader.

The arguments from religion and from history are fanciful; the argument from the structure of the teeth tells as much in favour of vegetarianism as against it. The fact that certain long-lived persons have been vegetarians is also true for some drunkards; and yet the vegetables in the one case or the strong drink in the other can hardly be regarded as the cause of the length of life.

A few extracts will illustrate what, after all, is of most interest to medical readers, namely, the physiological side of the argument. The first of these is from pp. 69-70, and forms part of the account given of the respiratory process: "The carbonic acid which is the cause of the dark colour of the blood is set at liberty; and the protoxide of iron contained in the globules of the blood becomes a peroxide by uniting with part of the oxygen inhaled. In this state the blood is conveyed to all parts of the body, and in the capillaries the peroxide loses half its oxygen, and is again reduced to a protoxide."

The second example is an illustration of the kind of reasoning employed; the question is being discussed whether man may not after all be able to get his nitrogen from the air: "Has Nature, then, produced a gas nearly equal to four times the amount of the oxygen for the simple purpose of moderating its effect on respiration, and of checking the progress of vitality? The supposition is unworthy of the wisdom exhibited to our view in every department of Nature;" and then, overcome by the force of the argument, Mr. Smith, like Silas Wegg, drops into poetry.

Mr. Smith was quite unaware of the use of the pancreas, and the present editor, in spite of his name, is still vegetating apparently in similar ignorance, for the amusing suggestion is made that the pancreas secretes the nitrogen to supply it if it should be lacking in the food given. This is robbing Peter to pay Paul with a vengeance.

We had hitherto supposed that comic physiology was only to be found in the examination papers of the rejected. These must now look to their laurels; they have a formidable rival in the publications of the vegetarians.

Report of the Commission sent by the Egyptian Government to Bombay to Study Plague. Published by the Sanitary Department. Cairo: National Printing Office. 1897. (Pp. 108.)

The Egyptian Commission consisted of Dr. J. G. Rogers, Director-General of the Sanitary Department; Dr. Bitter, bacteriologist; and Dr. Ibrahim Pasha Hassan. Their duty was to inquire into the nature of plague, to consider the question of the danger of infection to Egypt, and to advise how to combat the disease did it find admission.

Dr. Bitter gives an able exposition of the disease in all its phases and bearings. He divides plague into three varieties: (1) *bubonique simple*, (2) *septicémique*, (3) *pneumonique;* and gives a succinct account of his pathological and bacteriological work. He states that the intestinal form of the disease met with in Hong Kong was not observable in Bom-

bay. It might be noted, however, that the abdominal type of plague was prevalent for the most part during the 1895 and 1896 recurrences in Hong Kong; and it is the primary epidemic which the Egyptian Commission has dealt with. The conclusions arrived at are important: "It is the individual and not the locality that is in the first instance infected, and it is the individual who propagates the disease along the channels of human intercourse." This is an all-important statement, and "once established the measures to be adopted are at once evident, namely, immediate isolation of the sick." The infection by the soil, by rats, ants, and flies are set aside.

In regard to treatment, the Commission agree that improved sanitation is the only method of staying the inroads of the disease. The members declare that prophylactic inoculation is a method the efficacy of which is not yet established, and contend that to render a whole nation immune on the outbreak of an epidemic by inoculation is a practical impossibility.

At pages 22-26 a reprint of the measures adopted at Poona are given. It will be seen that a perfect and complete system of rules is drawn up for searchers, limewashers, and fumigators—an excellent scheme.

DIE SCHWERHÖRIGKEIT DURCH STARRHEIT DER PAUKENFENSTER [Deafness due to Blocking of the Tympanic Fenestræ.] Von Dr. RUDOLF PANSE, Dresden. Jena: Gustav Fischer. 1897. (Roy. 8vo, pp. 267, 2 lithographic plates, 15 original drawings. M.8.)

DR. PANSE in the work before us looks straight in the face of that *opprobrium medicinæ*, the treatment of sclerosis of the middle ear or ankylosis of the stapes. He commences with the anatomy of this bone and its relation to the frame of the tympanic membrane. In nearly one-third of the cases it is quite visible (p. 10), in nearly one-third quite hidden, and in something under one-half partially hidden. The distance of the head of the stapes from the membrana tympani is $2\frac{1}{2}$ to 3 mm., and of the foot plate from the endolymphatic labyrinth 1.5 mm. (pp. 10 and 11).

The physiology of the fenestræ is a complicated subject, and receives full attention. Complete deafness is never present if only one of them is obstructed. The stapes appears not to react to vibrations of greater frequency than 450 per second, hence is only of functional importance in relation to tones of medium and low pitch.

The pathology is treated in a long chapter founded on a personal examination of Toynbee's and other collections, and a critical study of the various published cases. This laborious piece of work is perhaps the most valuable contribution we have on the subject. The various forms of fixation of the stapes are grouped, and it is found that true bony ankylosis is an occurrence of considerable rarity. Narrowing of the meatus, absence of cerumen, and changes in the membrana tympani are found so seldom as to afford no help in diagnosis. Changes in the labyrinth are also rare. As regards etiology, exposure to cold, suppuration, and injuries are the causes most frequently adduced, and, in the cases brought forward show a preponderance of the male sex contrary to what general clinical experience would suggest and Bezold's statistics appear to demonstrate. The diagnosis is founded generally on the classical signs of obstructive deafness, especially impairment of hearing for deep tones, with negative results from the examination of the tympanum and tubes. The various other proposed tests are passed in critical review.

As regards treatment the non-operative methods are first enumerated and described. When they fail, operation in the form of mobilisation or extraction of the stapes is advised, and the indications are laid down. Mobilisation is stated to be absolutely experimental. Access to the stapes is often only attainable after opening the "attic" by Stacke's method, and this procedure is the one chiefly practised by the author, who adds some details of considerable value. He further describes (p. 262) a method of resecting the antero-inferior portion of the margin of the fenestra ovalis by means of a "burr" in cases of complete synostosis where simple extraction is impracticable.

Dr. Panse certainly advances our knowledge of this difficult subject in a work abounding with varied otological information, and his conclusions are as definite as the data afforded will allow.

REPORTS AND ANALYSES

AND

DESCRIPTIONS OF NEW INVENTIONS

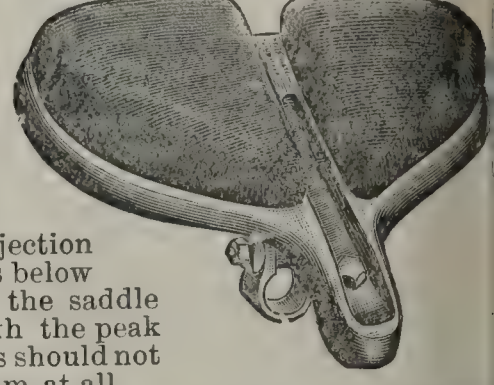
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

MALT EXTRACT.

THE Distillers Company, Limited, of Edinburgh, have sent us samples of their pure extract of malted barley bearing the mark D.C.L., which is said to be made by them from malt prepared by themselves in their own malting process, and they are thus enabled to produce a malt extract of a fine and uniform character. The samples submitted to us were of a pale colour, thick consistency, and perfectly free from candied sugar. When tested as regards its digestive action on gelatinised starch, we found it to be capable of digesting nearly twice its own weight at a temperature of 70° C. in about ten minutes. It proved, therefore, to be a malt extract having a high diastasic action.

THE CHRISTY ANATOMICAL SADDLE.

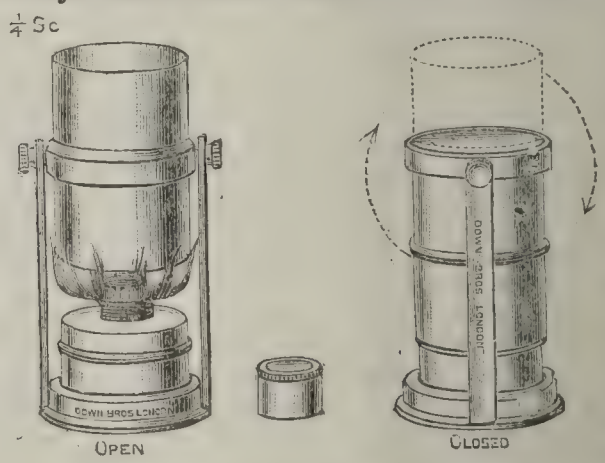
WE have given a fair trial to this saddle, which is intended to do away with the ill-effects of pressure on the perineum and soft parts under the pubic arch. It consists of a light steel plate mounted on springs, which carries on its upper surface two soft pads adapted to the ischial tuberosities, having a division about 1 inch broad between them. The peak of the saddle consists of a deeply-grooved steel projection which lies some 2 inches below the seat pads, and when the saddle is properly adjusted with the peak slightly tilted downwards should not touch the rider's perineum at all.



The saddle is comfortable and easy, and under ordinary circumstances quite fulfils the intention of its inventor. As an improvement we should suggest that the peak should be padded with some soft material, so that in case of an inexperienced rider being jolted on to it by accident it may not hurt at all. The saddle has an excellent double adjustment: one screw regulates the tilt, another fixes it to the seat pillar. The saddle can be obtained from Messrs. A. G. Spalding and Brothers, 54, Holborn Viaduct, E.C.

NEW PORTABLE EYE INSTRUMENT STERILISER.

THE illustration represents a new portable form of steriliser for eye instruments designed at the suggestion of Mr. Simeon Snell, of Sheffield. With the ordinary forms of steriliser the instruments are frequently immersed too long in the boiling water which results in injury to the edges of the cutting instrument. In the present case it is merely intended that the blades of the instruments should be dipped in the vessel, but it is large enough to allow of the



immersion of speculum and other instruments if desired. The whole apparatus is so portable that it can be easily carried to the patient's house in an ordinary surgeon's bag. The apparatus is made by Down Brothers, 21, St. Thomas's Street, London, S.E.

RED BONE MARROW JELLOIDS.

Messrs. Warwick Brothers, 7, Portpool Lane, E.C., have sent a specimen of jelloids containing fresh ox bone marrow. These jelloids are round flat capsules, very soft, and extremely flexible. They are well made, the contents perfectly protected and in good condition. Their appearance and flexibility certainly render them easy of administration.

BYNIN AMARA.

Messrs. Allen and Hanburys, Limited, Plough Court, Lombard Street, E.C., prepare a combination of the phosphates of iron, quinine, and strychnine with their fluid extract of malt, bynin. The preparation is very palatable, and there is no doubt it will be appreciated as a pleasant means of obtaining the tonic effects of Easton's syrup combined with the diastasic and nutritive value of extract of malt.

NOTES ON HEALTH RESORTS AND SANATORIA.

Caledon,[1] *Cape Colony*.—The picturesque village of Caledon is beautifully situated on the southern slopes of a range of mountains, about 830 feet above sea level, about two hours by rail and five hours by cart from Cape Town. The cart road is very good, and Dr. Daniell has not heard of any patients being the worse for the drive. There are good opportunities for tennis, cricket, croquet, and shooting, and a golf club will probably soon be constituted. The Caledon thermal springs have a constant temperature of 120° F., and yield about 80,000 gallons a day; as they are situated near the junction ine of shale (Silurian epoch) and sandstone (Devonian epoch) they possibly mark the site of some great volcanic convulsion and fracture of the earth's crust. François Valentijn, who wrote a history of the possessions of the Dutch East India Company printed in 1724 at Amsterdam nd Dordrecht, said that the hot mineral springs at Caledon then called Swartberg) were used by the natives in the form f mud baths for cutaneous, rheumatic, and some other dis- ases, as well as for pulmonary complaints, such as consump- ion. The springs were likewise mentioned by M. C. Vaillant 1750-1775), and the Dutch East India Company frequently ent their invalided officers from the East to take the waters, hich (subsequently to 1806) were also patronised by English ast India officers. According to the analysis of Professor ahn, of the South African College, the Caledon waters con- in 0.03 per mille ferrous carbonate ($FeCO_3$), which is of ourse present in the water as a bicarbonate before the rbonic acid gas, with which Dr. Daniell says the water is ell charged, has escaped. Professor Hahn believes the aledon mineral water to be unique because of its high tem- erature and its ferruginous composition. Other thermal alybeate springs exist in Europe, notably at Lamalou and ennes-les-Bains in France, and at a few Hungarian and ussian spas, but Professor Hahn is probably right, for l of them are, we believe, less hot than their South frican rival. The Source "Bain Fort" at Rennes-les- ains, though it is nearly as hot (115° F.), has, accord- g to Professor Willm's analysis (1890), only 0.002 per ille bicarbonate of iron. Certain Lamalou springs, which e richer in iron, are not so hot as the Caledon source. here can be no doubt that the Caledon waters may be eful in very many cases of chlorosis and various anæmic d cachectic conditions. In the form of hot baths and uches, with or without massage, the waters must exercise beneficial influence in many painful affections, such as iatica, lumbago, and muscular rheumatism; baths at rious temperatures are likely to suit other cases of a ronic rheumatic, gouty, or nervous nature. The Caledon neral Waters Sanatorium is situated on the southern slope of the Swartberg Mountains about 80 feet above the village, from which it takes only a quarter of an hour to walk. Sanitary arrangements have been especially looked to, and the view from the verandah and balcony is fine. The thermal water taken from the taps of the Sanatorium is clear, sparkling, and colourless, as it is when drawn fresh from the springs. The air is stated to be pure and free from dust or excessive moisture, and the temperature without extremes of heat or cold. The mean annual temperature is 62.3° F., and the mean annual rainfall is twenty inches. There is said to be abundance of sunshine and absence of violent, very cold, or very hot winds, at least of long duration. Caledon can be used as a health resort all the year round.

Baden in Switzerland lies at an altitude of about 1,230 feet on the banks of the Limmat. The situation is fairly sheltered and the climate mild, influenced somewhat by the extensive forests of the neighbourhood. Its thermal waters, known to the Romans, have recently been reanalysed by Professor Treadwell, of Zürich.[2] The average temperature of the waters is about 118.4° F.; they smell of sulphuretted hydrogen, and were found by Müller to contain a total solids of 4 parts in the 1,000, chiefly sulphates and chlorides of calcium and sodium. Wagner detected a minute amount of arsenic, and Treadwell now directs special attention to the presence of boric acid. The different hotels arranged along the banks of the river have thermal baths of their own, so that patients need not leave their dwellings for the treatment, a great convenience during bad weather. The thermal treatment at Baden is suitable for many persons with joint affections of a chronic rheumatic or gouty nature, stiff joints resulting from injury, sciatica, lumbago, muscular rheumatism, and various affections on a gouty basis. Massage is frequently employed in addition to the thermal treatment. Owing to the earthy constituents, the thermal water is not very largely employed internally; a little bicarbonate of sodium is sometimes mixed with it, or, when a laxative effect is desired, some of the neighbouring Birmenstorfer bitter water is added. Though the life at Baden is not so gay as it was in the days of the Papal Secretary, Poggio Bracciolini, the spa is still a very pleasant place to stay at. The town above the spa is old-fashioned and interesting. The surrounding country is most beautiful, and affords opportunity for a course of graduated climbing exercise.

Steben.[3]—This spa, one of the oldest in Bavaria, is situated in a valley on the declivity of a well-wooded plateau of Upper Franconia, at an altitude of about 1,950 feet, half-an-hour's drive from the railway station of Marxgrün-Steben. According to the analysis made in 1889 by Professor Hilger, of Erlangen, the two very gaseous chalybeate springs contain respectively 0.05 and 0.06 parts bicarbonate of iron in 1,000 volumes of the water. Both of the springs contain also a minute quantity of manganese bicarbonate. For the ferruginous moor-baths a peaty material is used, which in the dried state, according to Reichardt's analysis, contains 7 per cent. oxide of iron. It is interesting to compare this amount with the percentage of oxide of iron claimed for other peats in a similar dried condition. They are the following: Marienbad, 9 to 15; Franzensbad, 9; Cudowa, 4.4; Elster, 3.3; Pyrmont, 2.4. The Steben bathing arrangements and accommodation are good, and the prices moderate.

Gérardmer, in the Vosges Mountains.—This favourite French summer health resort (2,184—2,200 feet) is pleasantly situated at the eastern end of the Lake of Gérardmer, in a broad valley amongst meadows and fine forests. The beauty of the country and comfortable accommodation help to attract visitors, and in some cases treatment at the small well-conducted hydrotherapeutic establishment may be useful. Within an easy drive, close to the frontier on the Alsatian side of the Schlucht, is the new Hotel Altenberg (about 3,600 feet), opened in 1896, which might be useful during hotter weather. It is situated amongst pine trees on a plateau overlooking the beautiful Münsterthal.

Zell-am-See, in Austria (Salzburg).—This small summer resort (2,470 feet) lies on the western border of the small Zeller See, so well known for the beauty of the view on to the mountains which enclose it. The lake is admirably suited

[1] *he Mineral Waters of Caledon*. By G. W. B. Daniell, M.R.C.S., L.R.C.P.Lond. Cape Town, 1897.

[2] *Chemical Analysis of the Thermal Sulphur Springs of Baden in Canton Aargau*. By Dr. F. P. Treadwell. Translated by W. Sutherst, 1896

[3] *Bad Steben*, von Dr. Max Stifler, 1892.

for bathing, the temperature of the water in summer being often 72½° F.; it has been ascertained that thermal springs arise in the lake. The hotels are comfortable, and the place has a station on the railway between Wörgl and Bischofshofen, not far from Lend, the station for Gastein. The excursions in the neighbourhood are very numerous.

The Swiss are very active in their arrangements for treating consumptive patients. A new sanatorium is to be built near *Montana*, near the present Hotel du Parc (5,012 feet), about half an hour from the village of Montana, on the heights above the Rhone valley. At present the site can be reached in about two hours by a mule path from the railway station of Sierre, but a road is in progress. At *Heiligenschwendi* (3,800 feet), on the heights to the north of the Lake of Thun, and to the east of the town of Thun (from which it is a walk of about two hours), there is a recently erected sanatorium for poor consumptives.

ARCHÆOLOGICA MEDICA.

XXXIV.—ROBERT FLUDD, THE MYSTICAL PHYSICIAN.

More rubbish has been written about Robert Fludd than about any other physician, except perhaps Paracelsus, whom he somewhat resembled, though his genius was certainly less original. The facts of his life are easily accessible, and have been set forth anew by Mr. Waite within the last ten years. Fludd was born at Milgate House, in the parish of Brasted, in Kent, at some time in the year 1574. His mother Elizabeth was a daughter of Philip Andrews. His father was Thomas Fludd, sometime victualler of Newhaven, who was afterwards receiver of Kent, Sussex, and Surrey. He was appointed treasurer of the army sent under Lord Willoughby to France, "where he behaved so honourably that he was knighted, and on his return to England was made treasurer of all Her Majesty's forces in the Low Countries."

Robert Fludd, the youngest of five sons, was thus a Kentishman by birth, and no very distant neighbour of William Harvey. Like Harvey, he received a University education, and was then sent to travel abroad; indeed, throughout his life he must have dogged the footsteps of his great contemporary. Fludd was matriculated a member of St. John's College, Oxford, November 10th, 1592, at the age of 18. On February 3rd, 1595 96, he was admitted B.A., and on July 8th, 1598, he became M.A. His supplication for this degree states that he is going "over the sea," and for the space of six years he seems to have travelled through France, Germany, and Italy. The name of Fludd is merely one of the many forms of Lloyd, and as there were several graduates of Oxford bearing the name of Robert Fludd at the beginning of the seventeenth century, it is no longer possible to trace the wanderings of any individual, though Andrich, in his register of the Jurists' University at Padua, mentions at least one Robert Fludd as a member of "the English nation." On his return to England Fludd seems to have transferred his allegiance to Christ Church, as he supplicated for a licence to practise medicine from this College May 14th, 1605, and two days later he was admitted M.D. of the university, the inferior degree of M.B. having been conferred upon him in the interval. In the early part of 1606 he came before the College of Physicians, where he partially failed to satisfy the Censors' Board, but as he did not seem to be wholly ignorant, the minute says, he was allowed to practise physic. His methods soon rendered him an object of suspicion to the seniors in his profession, for he spoke scornfully of the Galenical doctors. He was therefore summoned before the Censors' Board, and on May 2nd, 1606, he was solemnly warned. In 1607, after three examinations, he was admitted a candidate, but on March 21st, 1607-8, his manner in the College was so overbearing, that he was then and there taken to task by the President. On September 20th, 1608, he was admitted a Fellow of the College of Physicians, and he filled the office of Censor in 1618, 1627, 1633, and 1634, Harvey occupying a similar position in 1613. 1625, and 1629.

Fludd had a house in Fenchurch Street and another in Coleman Street. Here he died September 8th, 1637. He was buried in the chancel of Bersted church with considerable ceremony, for his body was attended from London into Kent by an officer or herald of arms.

Fuller says of him: "His books, written in Latine, are great, many, and mystical; the last some impute to his Charity, clouding his high matter with dark language, lest otherwise the lustre thereof should dazzle the understanding of the Reader. The same phrases he used to his patients, and seeing conceit is very contributive to the well working of Physick, their fancy or faith natural was much advanced by his elevated expression."

This is probably the true estimate of Fludd, yet he was not wholly a quack. The College of Physicians at this time contained three groups of men, all of about the same age yet widely different in every respect. Alexander Reid,[1] of whom we have already spoken, a type of the old school; Robert Fludd, in favour of advance but fettered by philosophical considerations and a desire to make money; William Harvey, the true experimentalist, who rarely clouded his work with speculation, and was for many years single in his desire to advance medicine upon modern lines.

Fludd was essentially a mystic, yet he was not without some knowledge of the experimental methods, but we are not here concerned with his philosophical writings except to say that there is some evidence to show that a society of Rose Croix existed in England during the middle of the sixteenth century. His mystical writings have received a disproportionate amount of attention, his medical works have almost escaped notice. They consist of two parts of a single *magnum opus*. The first portion is the *Anatomiæ Amphitheatrum* issued in 1623, the second is the *Integrum Morborum Mysterium* published at Frankfort in 1631. Both are copiously illustrated. The latter volume is from the press of William Fitzer, who in 1628 published Harvey's *Exercitatio Anatomica de Motu Cordis*.

The treatise on the whole mystery of disease shows that Fludd was essentially a natural philosopher. The book is an attempt to explain the various phenomena of disease upon strictly physical grounds. It is therefore in many parts more a dissertation on physics than on medicine. His theories as to the cause of disease are often very crude, and they are supported by fancied resemblances to physical processes. Thus he argues that because fire applied to an iron pot makes the water within it boil, and because the steam condenses and falls down in drops if the lid be raised, a catarrh must be due to the heat of the liver causing a rise of vapours to the head which are then precipitated through the nose. All his speculations, however, are vitiated by his gross ignorance. He denies the diurnal revolution of the earth, he maintains that thunder is the noise made in the cloudy pavilion of Jehovah, whilst he affirms that lightning is a certain fiery air or spirit animated by the brightness and burning from the face or presence of God. It is clear too that he held the most anthropomorphic views about his Maker, and that he interpreted the scriptures with the most literal accuracy. From time to time, however, he ventures on very delicate ground, and becomes little more than a common cheat, for he believes in palmistry, and gives directions about foretelling the length of life.

His anatomy is no better than his medicine. It is less correct and much more confused than that of his brother Fellow Alexander Reid, and his work is divided into the three parts, The Anatomy of Bread, Vulgar or Visible Anatomy, and Mystic or Invisible Anatomy. The Anatomy of Bread is a sort of crude physiology of digestion. The Vulgar Anatomy is a feeble reflection from Vesalius. In it he gives a picture which might be looked upon as prophetic of the modern diagrams of cerebral localisation, so exactly are the centres placed, but the Rolandic area is accurately mapped out for Intellect, Reason, and Thought. The Mystic Anatomy is of the type followed by Maister Peter Lowe and John Smith,[2] but it is less wholesome.

[1] British Medical Journal, vol. ii, 1895, p. 678.
[2] British Medical Journal, 1895, vol. i, p. 106.

Mr. Howard Distin, M.B.Lond., of Enfield, has been presented with an ivory-handled walking-stick by the member of the Middlesex County Council Female Ambulance Class as a token of their appreciation of his services as a lecturer.

THE NEW ROYAL PORTSMOUTH HOSPITAL.

The foundation of the Royal Portsmouth Hospital dates back to the year 1846, and the site was then granted to the town by the Board of Ordnance on a piece of land situated close to the turnpike road leading from Portsmouth to London. The original building cost £2,310, and the development of the institution was mainly due to Drs. E. J. Scott and Engledue, who were the leaders of the medical profession at Portsmouth in those days. The foundation stone was laid on September 27th, 1847, by H.R.H. the late Prince Consort, and the building was completed and ready for the reception of twenty patients on January 2nd, 1849. The wards contained four or six beds each, and their arrangement exhibits at the present time the crude notions which then prevailed on hospital construction. During the last thirty years the institution has undergone many alterations and additions, and the number of beds has been gradually increased to 136. The original building has been utilised during the last ten years for administrative purposes only.

The engraving exhibits the ground plan of the new hospital. It consists of four ward pavilions, with departments for out-patients, administration, and laundry. The foundation stone was laid on Saturday, August 7th, by H.R.H. the Duke of Connaught, K.G., and the proceedings were of the most enthusiastic character.

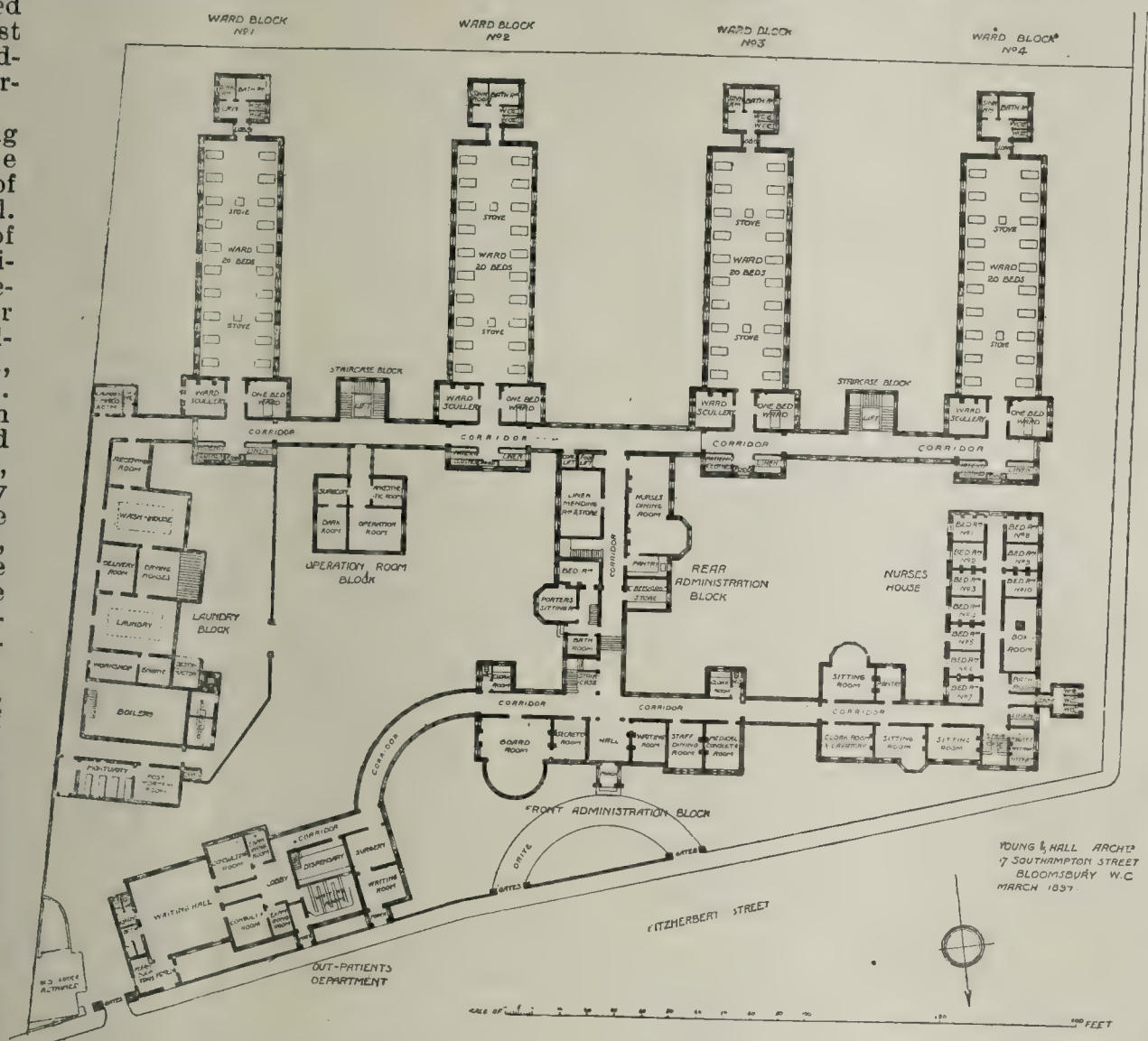
In reply to a cordial vote of thanks, proposed by the Mayor of Portsmouth, seconded by Sir John Baker, M.P., and supported by Lord Northbrook and C. Ward Cousins,

The Duke of Connaught expressed his own and the Duchess's thanks. The occasion was one of particular interest to him, because in the first place, it combined an important work of charity and of mercy with the name of the Queen, and in the second place because he was performing a duty discharged many years earlier by his lamented father. The duty of laying the foundation stne had been a most pleasant one, and he was glad also to have had the opportunity of renewing acquaintances which reminded him of the years he had spent as General Commanding the District and as Governor of Portsmouth. He wished every success to the great undertaking which had been commenced. "We know," he continued, "that Dr. Ward Cousins—I have the pleasure of knowing him myself—is rather exorbitant. He is not satisfied with the old hospital. But he must remember what the old hospital has already done, and though we, to all intents and purposes, are inaugurating a new hospital, we have every reason to be grateful for the work done in the old hospital—work which reflects the greatest credit to the hospital staff and the nurses who have worked so assiduously in the old hospital." The Duke concluded by thanking those present for their cordial reception, and by wishing every success to the undertaking.

Sir William King (Chairman of the Committee of Management) announced to the large and brilliant gathering which had assembled on the ground to welcome His Royal Highness, that it had been decided to proceed at once with the building of the new hospital by the erection of blocks Nos. 1 and 3, as the work on these would not interfere with any of the departments of the old building.

We shall now briefly refer to some special points in the planning and construction of the ward pavilions. The blocks consist of two storeys. The ground floor is raised above the ground to a height of about five feet, and a clear air space is formed underneath, freely ventilated on both sides, to prevent stagnation of air around the building. The pavilions are connected with each other by corridors provided with windows on each side, and the staircases and lifts are placed centrally between the pavilions, so that they cannot become shafts for the conveyance of air from one ward to another. Each ward is provided with its own bathroom, waterclosets for patients, sink-room and lavatory arranged in a projecting wing separated from the ward by a cross ventilated lobby which is roofed over at a height of 7 ft. 6 in., and the intervening space left entirely open. For the purpose of rendering the passage of air from the w.c.s to the ward quite impossible, hot water coils are provided in the vestibule by means of which the temperature of the air can be raised two or three degrees higher than that of the ward. Each ward is also provided with a separate linen room, a storeroom for the patients' clothes, a food store, and a w.c. for the use of the nurses. The ward floors will be constructed of concrete and iron covered with "terrazzo," a mixture of marble and cement, which forms a smooth, impervious surface easily kept clean, and much more comfortable to walk on than one of polished wood. Another advantage of the new terrazzo floor is that it has no joints or crevices in which dirt can accumulate. The ventilation of the ward pavilions will be mainly by means of windows. The upcast draught of the chimneys from the open and central fireplaces will, of course, much assist the movement of air in the winter. Ample cubic space is provided for each patient (1,500 feet) which in our moist climate is, in the opinion of many experts, far more effectual than the most elaborate and costly method of mechanical ventilation.

With regard to the complete ground plan of the new hos-



pital, there are two points especially worthy of reference: (1) the entire isolation of the out-patient and casualty department; and (2) the provision of a separate home for the nurses. The importance of both these can hardly be exaggerated; the first in the interest of the in-patients, who are thus protected against infection from without; and the second in the interest of the nurses, who are, when off duty, removed entirely from the ward atmosphere, and enjoy complete rest.

The architects are Messrs. Young and Hall, of Bloomsbury, London.

DEATHS UNDER ANÆSTHETICS.

CHLOROFORM.

WE have been favoured by Dr. WHITTINGDALE with the following report of a case of death under chloroform which occurred at the Yeatman Hospital, Sherborne. The patient, a boy aged 11, was admitted into the hospital suffering from a dislocation of the proximal phalanx of the thumb of five weeks' standing, for which reduction had been unsuccessfully attempted without an anæsthetic. It was decided to give chloroform, for which the boy was carefully prepared; the heart was examined and found to be normal, and there was nothing to call attention to the condition of the other organs. The administration was begun at 11 A.M. on July 21st, the chloroform being dropped into a Skinner's inhaler held at a little distance from the face. The patient took the anæsthetic very well for several minutes, when he retched once or twice, for which he was turned on the side, but, as nothing was vomited, the anæsthetic was proceeded with. Whilst semiconscious the thumb was being examined by the surgeon, when the boy had a convulsive seizure, and the breath was held for a few seconds, so that he became cyanosed; this condition rapidly passed off, the breathing was resumed, and more chloroform administered for a short space, until he was suddenly noticed to become very pale, with shallow breathing, the administration was stopped at once, and the patient inverted, causing an immediate return of colour and improvement in the breathing. This, however, was only temporary, so artificial respiration was resorted to, hypodermic injections of brandy, strychnine, and nitroglycerine being given and sinapisms applied. In spite of all efforts the pulse became weaker and weaker, and ceased altogether about an hour after stopping the anæsthetic. Artificial respiration was persisted in for about two hours. The chloroform, of which about half an ounce was used, was made by Duncan and Flockhart. The bottle had been opened some little time, but an analysis of the remainder showed no impurity to be present. No *post-mortem* examination was ordered.

MR. THOMAS GIBSON, M.B., sends us the following account of a death under chloroform which occurred at the Birkenhead Union Infirmary on July 23rd: The patient, a seaman, was admitted to the infirmary on July 1st, suffering from an ulcer on the anterior aspect of the left leg, and severe varicosity of the internal saphena vein of the same side. He was a stalwart muscular man, had been a victim to syphilis, and was intemperate. He had been drinking heavily previous to his admission, and his health was somewhat run down in consequence. With rest in hospital, good nourishment and attention, he rapidly recuperated, and an operation was suggested. The patient particularly asked that chloroform should be given him for the operation, and not ether, as he had previously been put under the influence of the latter anæsthetic in Sydney, and he understood that he had borne it badly. His chest and urine were examined and were apparently healthy. There was a slight diminution in the loudness of the cardiac sounds, but this might be well accounted for by the considerable thickness of the chest wall. Chloroform was administered by being dropped on a simple mask composed of a piece of lint stretched over a wire frame. He appeared to take the anæsthetic well, breathing regularly and quietly. There was some struggling in the intoxicant stage, but less than is usual with alcoholic subjects. No forcible restraint was imposed. At the expiry of about twelve minutes he was "under." The pupils were contracted, the conjunctival reflex was lost, and there was muscular relaxation. Breathing was good, and colour of face normal. The inhalation of the chloroform was then stopped, and Dr. Stanfield proceeded to make his incision. About half a minute after the chloroform administration was suspended the patient's eyes were observed to deviate suddenly to the left, the pupils became widely dilated, and almost simultaneously the breathing, which up to this moment had continued good, abruptly ceased. The face at once became cyanosed. There was no stridor nor sign of obstruction of the air passages, the tongue had not fallen back. The alarming symptoms had developed in a moment and without the least warning. Two drachms of chloroform had been used. The operation was at once stopped, the body of the patient inverted, the tongue well pulled forward, and artificial respiration commenced. Ether was injected subcutaneously, and an interrupted electric current applied to the præcordia, while the legs were vigorously rubbed. No signs of returning animation appearing, it was thought well to open the trachea, which was promptly done and a tube inserted. Venesection of the median basilic was likewise done, and a tube from a cylinder of oxygen was passed through the nares. Artificial respiration and the application of electricity were kept up for three-quarters of an hour. The *post-mortem* examination revealed congestion of the cerebral meninges, lungs, kidneys, and other organs. The blood was fluid and dark, hypostasis early and markedly developed, pericardium normal. The heart possessed healthy valves, but its muscular substance was flabby and yellowish. Microscopic examination revealed fatty degeneration of the muscular fibres. The left ventricle was empty; the right contained some fluid blood.

THE INTERNATIONAL CONGRESS IN MOSCOW.

[FROM OUR SPECIAL CORRESPONDENT IN ST. PETERSBURG.]

EXCURSIONS TO THE CAUCASUS, THE CRIMEA, AND THE VOLGA. THE PRICES OF THE TICKETS. A LOCAL COMMITTEE IN SEVASTOPOL.

THE following details of the excursions arranged in connection with the International Congress in Moscow have just been published. The excursion to the Caucasus will follow four different routes, each route being the same in general outline, but differing slightly in detail. In all the first part of the journey will be the same, namely, from Moscow, *viâ* Riazan, Kozlof, and Rostof-on-Don, to Kislovodsk, where two days will be allotted to an inspection of the Caucasian group of mineral spas, of which Kislovodsk is an important centre. Here the routes will divide. One party will go by train to Vladikavkaz, the capital of the Caucasus proper, and thence by diligence through the Great Georgian Military Road to Tiflis. This road is said to pass through scenery of great beauty and magnificence. The alternative route from Kislovodsk will be by road to Petrofsk on the Caspian Sea, thence by steamer to Baku, where are the famous oil wells; and from Baku by railway to Tiflis. From Tiflis the two routes again become one; passing by railway to Batoum on the Black Sea, and allowing a short stop at Borjohn, another mineral spa (sometimes known as the Russian Vichy). From Batoum there will again be a choice of routes; either by steamer to Novorossiisk and Rostof, and back by train to Moscow, or by steamer to Sevastopol, and thence by train also to Moscow. The cost of these four circular tours varies slightly with the route chosen, the limits of variation being from 50 to 75 roubles (from 5 to 7½ guineas) first class, and from 30 to 48 roubles (from 3 to under 5 guineas) second class. These prices, however, do not include the cost of steamers on the Black Sea, nor of diligences on the Georgian Road.

Another interesting and inexpensive tour will be the following: From Moscow by rail to Theodosia in the Crimea, thence by steamer to Odessa, and by rail to Kief (the ancient capital of Russia), Kursk, and back to Moscow. The charge for this tour will be 41½ roubles (4 guineas) first class, and 25 roubles (2½ guineas) second class.

Two excursions down the Volga have been arranged. In the first the travellers will go by train from Moscow to Nijni Novgorod, where the fair, which has just been opened, will then be at its busiest; thence by steamer down the Volga to Tsaritsyn; and returning by train to Moscow. The cost will be about £5 first class, and about 3 guineas second class. The

other excursion on the Volga will also include Nijni Novgorod; but from here the steamer will traverse the Volga to its mouth, and will then cross a corner of the Caspian Sea, and will land its passengers at Petrofsk. Thence they will proceed to Kislovodsk in the Caucasus, and back by rail, *viâ* Rostof-on-Don, to Moscow. The tickets by this route will cost about 7½ guineas first class, and about £5 second class.

The tickets for all the above excursions will be available for thirty days, and holders of them will be entitled to travel by any train during that period, and to break their journey at any point of the route they choose.

A local committee has been formed in Sevastopol to show visitors the objects of interest in the town and neighbourhood. These will include the famous Malakof Tower, Balaclava, Inkerman, the curious monastic dwellings in natural caves, the recent archæological excavations, the oyster beds, and many other interesting places and objects.

The Medical Societies of Russia.

The Executive Committee of the International Congress has followed the example of its predecessors at earlier gatherings in publishing descriptions of the medical institutions of the country. Already two pamphlets, containing information of considerable interest, have been issued, and copies of these will, it is said, be presented to every member of the Congress. The first is a pamphlet of 91 pages, containing a full description of the medical societies of Russia. The bulk of the pamphlet is devoted to a detailed account of each society separately, but the general reader will probably find matter of greater interest in the introductory chapter, which contains a condensed history of the rise and growth of the Russian medical societies, and, incidentally, of the expansion of the medical sciences in general in Russia during the present century.

The oldest Russian medical society was founded in Moscow in the year 1804, and is still in existence. It is attached to the University of Moscow, and is known as the Physico-Medical Society. A year later the Vilna Medical Society was instituted; it also still exists, but owing to the chequered career of the University of Vilna (which was removed to Kief after the Polish rising of 1833) this society has lost something of its former prestige. The institution of these two societies was almost coincident with the opening of the three universities of Kharkof, Kazan, and Vilna by the Emperor Alexander I. Before his reign there had been but one university in the empire, that of Moscow. Towards the close of his reign in 1819, still another university, that of St. Petersburg, was opened; and in the same year the Society of German Practitioners in St. Petersburg was formed. This was followed a year later by the formation of a similar society in Warsaw. A gap of over thirty years, corresponding to the reign of the Emperor Nicholas I., succeeded, during which only one medical society was instituted in Russia. This was the Society of Russian Practitioners in St. Petersburg.

From the date of the accession of Alexander II the number of these societies has rapidly increased. There are now no fewer than 120 in the whole of the empire, and of these about three-fourths are described in detail in the pamphlet under notice. We have not space here to mention more than a few of them. One of the most important is the Society of Russian Practitioners in Memory of Pirogof. This society was instituted in 1883, but the idea of it arose in 1881 on the occasion of the completion of fifty years' public service by the great surgeon after whom it is named. The society holds large general meetings, lasting over eight days, every two or three years, and always in one of the larger towns in European Russia. The meetings are attended by medical men from all parts of the country, and are very closely analogous to the annual gatherings of the British Medical Association. The next meeting will be held next year in Kazan. There are five medical charitable or beneficent associations, which have for their object the assistance of members of the profession who are in need, or of the widows and children of medical men. The total capital of these associations amounts to over £125,000. The majority of Russian medical societies have libraries attached to them; some have museums, laboratories, and even free dispensaries for the poor, small hospitals or lying-in institutions under their management.

The University Clinics in Moscow.

The second publication issued by the Moscow Executive Committee is a description of the new university clinics in Moscow. We can unreservedly congratulate the Moscow professors who have published this volume, not only on the way it is produced, but also on their possession of such an extensive and well-equipped series of clinics as is here described. From these 233 pages of letter-press and 33 plans and drawings bound in at the end of the volume, a very fair idea can be gathered of this "clinical townlet," as it is familiarly called in Moscow, though the original, of course, should be seen to be properly appreciated. From the introduction we gather that the University of Moscow is largely indebted to private generosity for its new clinical accommodation, and that this has been liberally supplemented by State grants. The total cost of the clinics is not stated, but sums amounting to an equivalent of over £350,000 are definitely mentioned, and these do not include the cost of lighting, water supply, drainage, and several other considerable items of expense. The annual grant from the Government for the maintenance of the clinics is about £42,000.

The buildings of the clinic, in which many of the meetings of the approaching congress will probably take place, occupy a large open space known as the Plain of the Virgin (*Diévitchié Polé*), some little distance from the centre of the city. They occupy an area of about 50 acres. In addition to the various clinical buildings, there are the so-called "Institutes," containing museums, laboratories, and lecture theatres, for the various specialties of hygiene, surgery, pathology, pharmacology, etc. The hospital buildings are constructed on the system of separate blocks, each block containing as a rule a series of small wards leading off lateral corridors. The wards rarely contain more than ten or a dozen beds each. The corridors are broad and lofty, are well warmed and lighted, and serve as promenades and also as dining halls for the patients. The total number of beds made up is 675. The whole of the buildings are described in great detail in the book under notice; but we have not space here to refer to it at greater length, and can only add that members of the Congress will find it of real use during their visit to Moscow, and that it will serve as a permanent and interesting memento of the event subsequently.

THE HOSPITAL SUNDAY FUND.

In the absence of the Lord Mayor, Sir Sydney H. Waterlow presided on August 5th at the Mansion House over a meeting of the Council of the Metropolitan Hospital Sunday Fund, held to receive the report of the Committee of Distribution.

Sir Sydney Waterlow said that this was the "silver jubilee" of the fund, inasmuch as it was established twenty-five years ago. During that period they had collected £913,482, and distributed in awards to the different hospitals £853,013. In 1880 they commenced the provision of surgical appliances, and since then had supplied 30,138. The Committee had now to report awards to 188 institutions, being an increase of 83 since the first awards were made in 1873, and 8 more than last year. The total amount available for distribution, after allowing for liabilities and the usual current expenses, was about £40,000. Of this total £39,705 15s. 6d. was now recommended to be paid to 132 hospitals and 56 dispensaries. Five per cent. of the total sum collected—namely, about £2,000—was set apart to purchase surgical appliances. The total amount was not so large as last year by £2,124, but that was not surprising considering the many appeals made to the public in the Jubilee time. The Distribution Committee had adhered to the policy of giving away practically the whole of the money collected, as they felt that what the public subscribed should be used at once to alleviate sickness and disease. The work had been heavier than usual, because where they had the least doubt about the management of a hospital they had invited the supporters to send delegates to meet them. They invited deputations from 38 hospitals and had received 30 deputations. These conferences were both useful and mutually instructive. In some cases the objections were removed

or modified by the explanations given; in other cases the explanations only confirmed the impressions the Committee had formed.

The report, which was then submitted, specified grants to 27 general hospitals, including the following:

Charing Cross, £1,006; French Hospital, £323; German, £393; Great Northern Central, £471; Guy's, £1,312; Hampstead Hospital, £131; the Italian, £61; King's College, £1,400; London Hospital, £3,937; London Homœopathic, £245; London Temperance, £645; Metropolitan, £481; Mildmay Mission, £252; Miller Hospital and Royal Kent Dispensary, £236; North-West London, £350; Poplar Hospital, £402; Royal Free, £831; St. George's Hospital, £1,356; St. Mary's, £1,706; Seamen's Hospital Society, £918; Middlesex Hospital, £1,925; University College Hospital, £1,181; West Ham, £276; West London, £525; and Westminster, £1,093.

The grants to special hospitals included the following:

City of London Hospital for Diseases of the Chest, £924; Hospital for Consumption, Brompton, £1,385; North London Consumption Hospital, £262 10s.; Royal Hospital for Diseases of the Chest, £350; Royal National Hospital for Consumption (Ventnor), £262 10s.; Alexandra Hospital for Hip Disease, £148 18s.; Barnet Home Hospital, £35; Belgrave Hospital for Children, £122 10s.; Cheyne Hospital for Incurable Children, £122 10s.; East London Hospital for Children, £380; Evelina Hospital for Sick Children, £393; Home for Incurable Children, £61 5s.; Home for Sick Children, £115; Hospital for Sick Children, Great Ormond Street, £700; North-Eastern Hospital for Children, £262 10s.; Paddington Green Hospital for Children, £148 15s.; Victoria Hospital for Children, £476; Queen Charlotte's Lying-in Hospital, £201; Chelsea Hospital for Women, £306; Hospital for Women, Soho, £306; New Hospital for Women (Euston Road), £192; Royal Hospital for Children and Women, £218; Samaritan Free, £490; Cancer Hospital, Brompton, £568; London Fever Hospital, £875; National Hospital for the Paralysed and Epileptic, £752; Female Lock Hospital, £122; Royal Eye Hospital, £166; London Ophthalmic, £490; and Royal Sea Bathing Infirmary, Margate, £297.

There were twenty-seven grants to convalescent hospitals, including:

The Metropolitan Institution, £568; Bexhill, £262; All Saints', Eastbourne, £481; St. Andrew's, Clewer, £157; St. Andrew's, Folkestone, £245; and the Seaside Home, Seaford, £122.

Awards were also made to thirteen cottage hospitals and seven "institutions," together with the dispensaries.

The report was adopted on the motion of the CHAIRMAN, seconded by Sir E. CURRIE.

In reply to questions, the CHAIRMAN said the Committee were preparing a report on the out-patient question. St. Thomas's did not receive an award because the regulations of the Committee were not complied with.

The proceedings closed with votes of thanks.

PROGRESS OF TEMPERANCE.

THAT "there is nothing new under the sun" is well exemplified in the great cause of sobriety in its present application to the restricted use and nonuse of intoxicating liquors as beverages. The principles of our modern temperance societies were propounded by the philosophic and far-seeing thoughtful few, alike in the pages of Holy Writ and in the early writings and systems of human intelligence. Even 4,000 years ago an Egyptian priestly tutor reproached his pupil Penta-our for breaking his pledge against wine and strong drink. Happily in this instance the remonstrance was effectual, as the pledge-breaker is stated to have returned to his temperate habits and to have become Court Poet to one of the Pharaohs. Notwithstanding many injunctions to abstinence in ancient religions, such as Brahminism, Hinduism, and Mohammedanism, the abstinent training of the old-world doers of great deeds, and the Divine commendation of associated bodies of abstainers like the Nazirites and the Rechabites, it was only in more modern times, largely owing to the researches and labours of a member of the medical profession, the illustrious Benjamin Rush, that an organised effort on a large scale was launched in the United States of America at the close of the first quarter of the present century. Among the founders of this American Society for the Promotion of Temperance were two medical practitioners, Drs. Chaplin and Hale.

This movement, as was a similar British movement in 1829 (in the initiation of which another medical man, Kirk, of Greenock, took an active part) was directed solely against ardent spirits, the use of wine and beer having been allowed. Beaumont, of Bradford, Sir M. J. Tierney, Sir John Webb, and Sir J. Macgregor, with other medical *confrères*, showed the deep interest taken in this movement, which spread rapidly, at first in Ireland and Scotland, over the United Kingdom. A few years of experience demonstrating that mere abstention from spirits was inefficient to stay the "plague of drunkenness," societies based on personal abstinence from fermented wines, beers, and all intoxicating liquors superseded the purely anti-spirit associations, yet another medical colleague, Daniel Richmond, of Paisley, having assisted at the foundation of the first teetotal society, of which he was elected President, on January 14th, 1832. This further development of abstaining temperance did not so rapidly extend as the anti-spirit crusade had done; but by the year 1837, when the Princess Victoria succeeded to the throne of her ancestors, had assumed so organised a form as to warrant the description of the great Temperance Movement as a distinguishing feature of the Victorian era.

The increase of the abstaining wing of temperance alone has been remarkable. With little more than 100 abstinent ministers of religion and no ecclesiastical dignitary in 1837, we have now in Britain some thousands of the clergy of all denominations, including 2 archbishops, 16 Home and more Colonial bishops, and lesser dignitaries by the score. From less than a dozen abstaining members of the medical profession sixty years ago, we have now over 1 000, including 6 university professors (453 of whom have associated themselves in the British Medical Temperance Association, for the promotion of abstinence), among whom have been the late Professor Rolleston of Oxford, Professor Miller of Edinburgh, Higginbotham of Nottingham, Clay of Manchester, and Sir B. W. Richardson. With no university abstinence society in 1837, there are now several, the first having been founded by a medical student at Glasgow in 1857, with 100 members, of whom one-third were medical. In the Legislature, as elsewhere, abstainers are now seen by the dozen where none were known sixty years ago. Even in the navy and the army, in which services only a very few men, *rari nantes in gurgite vasto*, abstained when the Queen ascended the throne, abstainers are to-day numbered by the thousand, no fewer than one-third of our military forces in India being nephalists.

While the advance of abstinence has been very striking among women, there now being central women's temperance associations, with hundreds of local societies where in the pre-Victorian era there were practically none, it ought not to be forgotten that, though drunkenness has decreased among males, female intemperance has largely increased. Still more remarkable has been the enormous development of the most hopeful form of the temperance propaganda—the associated work of juvenile societies, now commonly known as Bands of Hope, which these are in every sense of the term. Practically initiated in Edinburgh in 1846 by the farseeing philanthropic John Hope, who founded the British League of Juvenile Abstainers, combining amusement, recreation, and military exercises with temperance teaching and instruction on the properties and effects of alcohol, these useful and pleasurable societies of young people now number over 22,000, with a membership of probably about 3,000,000 children.

The direct and indirect effects of all these, with other similar organised efforts to promote sobriety, were seen a few weeks ago in Britain's greatest demonstration on the commemoration in London of Her Majesty's sixtieth year of rule, in the wondrous absence of those displays of noisy, often fatal, intoxication which, prior to the reign of Victoria, had characterised almost every "coming of age" of a county magnate's heir. The moral tone of the people has been raised, so that to-day men are as ashamed of their excess as they formerly gloried in their shame. To increased temperance falls to be credited no inconsiderable share in the diminution of crime, and that prolongation of the average duration of human life with heightened muscular and mental capacity, which have so rewarded the noble preventive work of the sanitarian, the scientist, the philanthropist, and the social reformer.

The extraordinary reduction, reaching to 60 per cent., which has taken place in the amount of intoxicating alcoholic liquors medically prescribed in Poor-law practice, is typical of a somewhat similar decrease in private and hospital practice during the latter half of the Victorian *régime*. Professor Laycock, of Edinburgh, demonstrated the risks of alcohol in delirium tremens, and Professor Gairdner its slight value in fevers, both showing a diminished rate of mortality; while alcohol is only very exceptionally, if at all, prescribed therapeutically by at least a hundred private physicians, at the London Temperance Hospital and other institutions, a very

different state of matters from the routine, profuse administration in the earlier years of the Queen's beneficent sovereignship. Generally, care is now taken to order alcohol with more deliberation, definition, and safeguarding.

One issue of the temperance movement has been of special interest to physicians, the rise and progress of the United Kingdom Temperance Provident Institution, whose practice has been followed with as successful results by other insurance corporations. The founder of the company named could not get his life accepted in 1840, unless at an extra premium of 10 per cent. to cover the additional risk from his not taking alcohol. The new company grouped its lives in two sections—the abstaining and the general. In a quarter of a century's experience the actual mortality has been 96 per cent. of the expectancy in the latter, against only 70 per cent. in the former section.

The very general recognition of the presence of a pathological brain condition in many drunkards, a scientific study begun and being continued by medical inquirers, is gradually modifying for the better our judicial procedure with criminal and non-criminal inebriates, there being a reasonable prospect of early amended legislation, whereby such offenders may be treated therapeutically with a view to reformation and cure, an improvement endorsed by five governmental Commissions. With two medical societies—the Society for the Study of Inebriety in addition to the one already referred to—at work on the influence of alcohol and the genesis of inebriety, with the unremitting efforts of the British Medical Association's Inebriates Legislation Committee, and the Dalrymple Home for Inebriates, all the direct work of medical men during the reign of Victoria, the profession of medicine has consistently embodied and developed the teaching of the well-known three medical declarations, the last of which was due to the suggestion of Mr. Ernest Hart and carried out by Mr. Rae with the assistance of the late Dr. Parkes.

A tribute of praise is due to the judiciously conducted temperance breakfasts at the annual meetings of the Association, started in 1869 by Mr. Robert Rae, which have been highly appreciated by the members.

The evidence of a steadily growing recognition of the power and value of the temperance movement by the profession and the public is evidenced not only by the progress of personal abstinence, but also by the deep interest shown by non-abstainers in the excellent work of the Church of England Temperance Society's Police Court Mission, in the rapid expansion of coffee taverns, in the rescue of the intemperate, and in the legislative aspirations of the United Kingdom Alliance, the United Kingdom Band of Hope Union, and kindred organisations. In the arduous struggle for sobriety, the abstainer and the limited drinker heartily co-operate in this noble crusade, the progress of temperance, with all its galaxy of blessings, will be even more rapid in the coming than it has been in the past years of the Sovereign, whose beneficent and prolonged sway has just been so joyfully celebrated by the members of our profession in common with the other subjects of Victoria, Queen and Empress.

The Queen has been pleased to accept the original copy Surgeon-Colonel John MacGregor's Jubilee poems, entitled *Victoria Maxima et Victoria Regina*, the cover of which was specially designed and embroidered by Mrs. MacGregor. One of the poems were written for the present celebration, and some ten years ago in honour of the previous Jubilee of 87, when the author was on active service in Upper Burmah during the late Burmese War. We are informed that the poems will probably shortly be published in combination with others by the same author.

It is one of the patrons of the institution, Princess Louise, Marchioness of Lorne, recently opened new and commodious buildings which have been erected in Vincent Square for the Grosvenor Hospital for Women and Children. The hospital was established thirty-one years ago in a single house, to which two other small houses were afterwards added; but, thanks to the liberality of those who have been interested in the hospital, it has latterly become possible to provide a building fitted in all respects for the objects of the institution. Accommodation is provided for 31 in-patients, and there is also adequate accommodation for out-patients, who have of late numbered something like 10,000 a year.

BRITISH MEDICAL JOURNAL REPORTS

REPORTS ON THE HYGIENIC CONDITION AND ADMINISTRATION OF METROPOLITAN DISTRICT AND SEPARATE SCHOOLS.

BASED ON THE EVIDENCE LAID BEFORE THE DEPARTMENTAL COMMITTEE.[1]

(By Our Own Commissioner.)

XI.—THE VILLAGE COMMUNITIES.

The articles which we have hitherto published on the hygienic and other conditions affecting the health of London pauper children have dealt with barrack schools. Out of the 18 in and around London we have chosen 6, namely, 3 district schools, as those are called which belong to various unions in combinations; and 3 separate schools, which is the distinctive title accorded to those belonging to one union only. We have dealt with Sutton, Hanwell, and Forest Gate, three of the largest of the district schools; and with Leavesden, Mitcham, and Brentwood among the separate schools. We do not now propose to continue our articles on barrack schools, but to devote a little more time and space to considering the two other methods by which the children of the metropolis are reared at the ratepayers' expense.

Banstead and Hornchurch.

Both of these institutions are built on the same principle—namely, the cottages (or, rather, small villas) are detached, and enclosed within a ring fence. At Banstead each boys' cottage contains 40 lads, each girls' cottage has accommodation for 26 inmates. At Hornchurch the boys' institutions are of smaller dimensions. The children go to a school placed in the middle of this little pauper colony, and at Banstead there is also a band-room and swimming bath, some excellent workshops, two small infirmaries, and quarters for the superintendent and teachers. The whole capital expenditure was £90.865, the yearly cost per child working out at £28 4s., while at Hornchurch the respective figures are £73,058 and £38 6s. 7d.

At Banstead the health results are admirable. Out of 764 children, only 139 were in the infirmary during the year 1894, some of whom were readmissions (Appendix 16, col. 2). During the same year 3 had ophthalmia, 4 suffered from ringworm, and only 1 had glandular swellings. On the same day, November 24th, when Sutton Barrack Schools, with 1,500 children, had 257 children in its infirmary, and well-managed Anerley, out of 894 children, had yet to confess to 75 ill and isolated, Banstead had to chronicle only 9 boys as sick, or to put it other-wise, whereas

Sutton showed	...	16 per cent. ill
Anerley ,,	...	,,
Banstead ,,	a little over 1	,,

Home for "Ins and Outs."

There can be but little doubt that this high standard of health is obtained at the Banstead village community because the Chelsea and Kensington guardians have established a reception home. Into this establishment at Marlsford Lodge, Hammersmith, all children are immediately sent on their application at the workhouse, and there they are retained for a full probationary period. This school also serves as a special place for the reception of the "ins and outs," who, because they may be withdrawn at any time when their parents wish to discharge themselves, are not sent to Banstead.

It is well known that children of this class give great trouble to the guardians everywhere. They are sometimes discharged and readmitted several times in the year; they often introduce dirt, disease, and bad habits, and being frequently half starved they require special attention as regards diet. This watchfulness cannot, however, be given them in the barrack schools, but to the small numbers, 100 (7739), housed at Marlsford Lodge, it is not only possible to give it to indi-

[1] The previous articles appeared in the British Medical Journal of January 2nd, p. 39, 9th, p. 90, 16th, p. 163; 23rd, p. 214; February 6th, p. 340; March 13th, p. 667; March 27th, p. 812; April 10th, p. 935; May 1st, p. 1102; and July 31st, p. 285.

viduals, but the whole school is organised to meet the needs of those who come in half starved, beaten by neglect, or cowed by desertion.

The evidence of Mr. Aslett (7639), the superintendent of this probationary school, is both instructive and suggestive, he having had 5,328 children (7639) through his hands in ten years. He counts that 10 per cent. may be considered as the fluctuating class, the large majority of the children under his care being children who, owing to the stringency of the medical certificate required at Banstead would be rejected there (7654), but who are quite capable of receiving an educational training. Mr. Aslett, however, in common with all other conscientious officers, expresses a decided opinion as to the desirability of the keeping the probationary schools small.

PROBATIONARY SCHOOLS TO BE KEPT SMALL.

"To expose," he says, "more children than we now have to a constant influx of infection is not fair. And while there is a small number we can watch them very closely, but if you let such a school as the Branch school get large, then it gets beyond one's power" (7741). He also speaks with vigour and sense on the advantage of a house not built for an institution. The new wings, he says, are "too institutional (7746) to please me." When the dormitories are small and the places more homelike, "it doubles the work of cleaning and supervision, but for the children it is infinitely more comfortable" (7747).

HORNCHURCH LESS HEALTHY.

Hornchurch has structural advantages over Banstead. The cottages, or rather villas, are built to contain respectively 30 girls or 30 boys (7189). The total number housed in twelve of these so-called cottages is but 357 (7231), and yet, although less than half the size of Banstead, it has more than twice the amount of illness; besides over 50 children in the workhouse and 60 in the adult infirmary (7223-4). Thus in 1894 225 cases had been treated in the infirmary, 68 children, or 19 per cent. of the whole, had suffered from ophthalmia, 52 had had ringworm, and 22 had been afflicted with scalp diseases. The figures of the two village communities when placed side by side are very striking, and tell badly for the management of the one, as the system is practically the same.

Tables taken from Appendix 16, Columns 4 and 2.

BANSTEAD. 764 Children.		1894.	HORNCHURCH. 357 Children.
3	...	Ophthalmia	68
32	...	Itch	2
14	...	Eczema	9
9	...	Other skin diseases	2
4	...	Ringworm	52
—	...	Scalp diseases	22
62			155

These tables show that Hornchurch had two and a half times more cases of sickness of this class among less than half the number of children who are housed at Banstead. The question naturally arises, Is it the probationary sieve provided at Marlsford Lodge which makes the difference? If so, we have a strong argument in favour of the Committee's recommendations that "all children above the age of 3 years be handed over to the Central Metropolitan authority, and in no circumstance be allowed to enter the workhouse," and that "special schools be provided of an intermediate character for the reception of casual and fluctuating children."

FOOD TABLES VARY GREATLY.

BANSTEAD (764 Children). Each Child.			HORNCHURCH (357 Children). Boys.	Girls.
8 lbs.	...	Bread ...	... 7 lbs.	... 6 lbs.
6 ozs.	...	Butter ...	... 5 ozs.	... 4½ ozs.
2 ozs.	...	Treacle or jam	... 3½ ozs.	... 3 ozs.
20 ozs.	...	Meat ...	... 1¼ lbs.	... 1 lb.
6 ozs.	...	Sugar ...	... 3½ ozs.	... 3½ ozs.
12 ozs.	...	Flour ...	... ¾ lb.	... ½ lb.
2 ozs.	...	Suet ...	... 2½ ozs.	... 2 ozs.
2 ozs.	...	Currants ...	... 1 oz.	... 1 oz.
3 ozs.	...	Rice, etc. ...	... 2 ozs.	... 2 ozs.
3 ozs.	...	Oatmeal ...	... 3 ozs.	... 3 ozs.
—	...	Tea... ...	... ½ oz.	... ½ oz.
3 ozs.	...	Cocoa ...	... 2½ ozs.	... 2½ ozs.
4 lbs.	...	Potatoes ...	... 2¼ lbs.	... 2¼ lbs.
—	...	Lard ...	... ½ oz.	... —
2 ozs.	...	Peas or lentils	... —	... —
7 pints	...	Milk ...	... 5 pints	... 6 pints

Certainly these dietary tables are liberal—far above what the average working man could obtain for each of, say, his six or seven children; but why it should be so different in the two institutions sanctioned by the Local Government Board for the same class of children is one of those mysteries of the Board which we are at a loss to understand. As a rule, we consider that pauper children are too well fed, and in this opinion Miss Whitworth (6817-8) supports us. After long experience of pauper-bred girls, she says "the girls are fattened up and the animal nature predominates, so that until you thin them down it is hopeless to endeavour to do anything with them."

PAUPER CHILDREN'S COLONIES UNDESIRABLE.

If the various systems of rearing of children properly were to be considered from the point of view only of their physical condition, we should give a high place to the Banstead plan, with its long period of probation; but health alone cannot be considered; and after reviewing all the evidence given on the subject before the Departmental Committee, we unhesitatingly agree with that body's statement that the

VILLAGE COMMUNITY SYSTEM IS ARTIFICIAL.

It does not provide a real home, with its difficulties, trials, temptations, and joys. The children cannot make friends with the normal world, or retain the influence of the foster parents in after-life. They live in small institutions only with the sex to which they belong, and are necessarily kept as a class apart, inhabiting a pauper colony, mixing only with children of the same class, age, and circumstances as themselves. They cannot see life under ordinary circumstances, and miss the opportunity of learning lessons of every day duties by actual experience, and of becoming unconsciously absorbed by the interests into the industrial life of the neighbourhood.

THE INTERNATIONAL CONFERENCE ON RAILWAY AND MARINE HYGIENE.

THE second International Conference on Railway and Marine Hygiene will meet at Brussels in the Hall of the Palais des Académies on September 6th, 7th, and 8th, under the honorary presidency of the Belgian Minister of Agriculture and Public Works. Several Governments and important societies have appointed official delegates, and numerous papers have been promised. Communications may be made in English, French, or German, and the business is to be conducted in three sections.

Section I. Organisation of the Medical Services.
Section II. Guarantees of Personal Fitness.
Section III. Hygienic Rules and Regulations.

The conference is not confined to members of the medical profession. The cordial co-operation of railway and shipping authorities is invited. The membership subscription is 5 francs, and every subscriber of this sum, whether attending the Conference or not, will subsequently receive a copy of the *Transactions*. By the courtesy of the Belgian Government it is announced that railway officials, including the medical officers of railway companies, can obtain free passes over the Belgian State railways in order to attend the conference provided that this privilege is requested by the company whom they serve. The Committee of the International Exhibition now being held at Brussels is also taking a lively interest in the success of the Conference, and will provide free tickets of admission to the members for their official visits to the exhibition. All communications should be addressed to Dr. Lantscheere, Rue de l'Association 56, Brussels.

MR. E. T. HOOLEY has addressed a letter to the Chairman of the Nottingham Victoria Hospital with reference to a communication in which the committee declined to submit to arbitration the dispute that has risen in reference to Mr. Hooley's offer to give a sum of £10,000 to the Nottingham General Hospital Extension Fund. He says: "If the hospital suffers by subscriptions being returned, the responsibility will rest with your committee, together with those externally influencing and directing it, but not with myself

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY AUGUST 14TH, 1897.

STATE-AIDED HOSPITALS.

Our attention has been called to a recent article in the *Freeman's Journal*, Dublin, on Our State-aided Hospitals, in which a complaint is made against the administration of the Dublin ospitals which is worth the consideration of those who advocate the conversion of our voluntary hospitals into State-aided or rate-aided institutions, and even of those (more numerous persons, as we believe) who look with indifference on such a contingency. The complaint is that though over £18,000 of public money is used in contributing to the maintenance of the hospitals of Dublin, and though the Catholics are a great majority of the people of Dublin, these sums are disbursed by Boards on some of which there is scarcely a single Catholic, and "hospitals under Catholic management are rigidly excluded from all share in these State grants." We do not concern ourselves with the truth of these allegations, but merely call our readers' attention to them as an instance of the discontent which is sure to arise whenever medical charity is administered by political bodies; and under present circumstances all municipal bodies in this country are more or less political. Under such management jobbery is sure to be suspected; and the recent scandalous proceedings at the Adelaide Hospital in Australia shows how strong the probability is that such suspicions will not be always without foundation.

Our contemporary advocates the distribution of the fund amongst all the hospitals of the Dublin district in proportion to the work done (1) in medical relief, and (2) in medical education. But the difficulty is to find a tribunal capable of judging of these most complex problems, and still more difficult would it be to frame rules for their guidance. The rough statistics of "cost per bed," or percentage o cures and deaths, referred to in this article are a very poor index of the value of the medical relief; and the number of students at a school, which is also glanced at, is an equally fallacious test of the value of its medical education.

The subject is the more interesting just now, however, because of the growth of a still larger fund in London, which, though it is not provided by the State, has to be distributed, as State funds are, by some central body, which ought to act on definite rules, and be amenable to public opinion. Agreeing in this matter with the principle laid down in the Report of the Lords' Committee, and recently advocated by the Charity Organisation Society and its allies, we have always contended that this central body should be formed of delegates from the institutions interested. This contention, however, has been warmly repudiated by the great hospitals themselves. We look, therefore, to the governing bodies of these great institutions, as being primarily interested, for some suggestions towards the solution of the problem. Such a solution is most important for the maintenance of the voluntary principle; while all the experience we have had abroad or at home of State-aided or rate-aided administration, convinces us of the danger and the inefficiency of such administration.

BERI-BERI AND FOOD.

The hypothesis advocated in Dr. Neil Macleod's very interesting article on the etiology of beri-beri is by no means new, though it has seldom been argued so forcibly and clearly. Dr. Wallace Taylor, of Osaka, Japan, promulgated a similar doctrine, now many years ago, and even went the length of describing, as the probable germ of the disease, a micrococcus he found in rice. There are some important facts, however, bearing on the question, facts which Dr. Macleod does not discuss, which seem to point to beri-beri being a place disease—to use Manson's expression—rather than a food disease. One of these facts is that beri-beri can be carried from an infected spot to one which had before been exempt; as was the case in Penang Gaol, to which the disease was brought by infected prisoners from Singapore. Similarly it was carried to New Caledonia by immigrants from Tonquin. It is also known that certain ships are beri-beri ships; that voyage after voyage some of their crews are attacked, whilst the crews of other ships of the same line of vessels, and presumably eating similar food, continue to enjoy an exemption. If food were the medium of infection, how comes it that it is always the food in particular vessels and never that in other and similar vessels that is toxic? Then there are the facts of the well-known epidemic in the gaol at Singapore. This gaol was divided into a male and female side, the buildings being continuous, and presumably, the inmates of both sides being fed alike and from the same stores; nevertheless, it was only the inmates of the male side who were attacked. Had the food been the medium of infection, or poisoning, both males and females would have been victimised alike. Again, it is notorious that particular houses are beri-beri houses. Year after year cases of beri-beri occur in these houses, though doubtless the food supply is frequently changed.

The current epidemic in Richmond Asylum is an instance in point. Surely the food consumed there now is not from the same stock that was in use there years ago, as, according to Dr. Macleod's hypothesis, it ought to be. Perhaps Dr. Conolly Norman could instruct us on this point.

Dr. Macleod is not quite correct in supposing that the advocates of the view that overcrowding tends to beri-beri believe that the disease is produced by overcrowding; they only hold that it is prone to occur in overcrowding, the overcrowding through the high temperature, the moisture, and the saturation of the surroundings with organic material sure to occur in such circumstances favouring the proliferation of the germ.

There are one or two weak points in Dr. Macleod's case.

In a previous voyage the *Ancona* had visited Australia; Australia must now be regarded as being a beri-beri country. Two of her crew, the steward and cook, were Chinese, and, therefore, must at one time or another have lived in a beri-beri country. Might not these Chinese have carried the germs of beri-beri in their clothes; and might not the *Ancona* when in Australia during a previous voyage have received the germs of the disease? It may have been a case of ship infection, the germ, as is the well-known habit of beri-beri, remaining dormant until the ship came under suitable conditions for its becoming active, namely, the high temperature and moist atmosphere in the neighbourhood of the Solomon Islands.

Notwithstanding these objections to Dr. Macleod's views, we think he has made out a strong case. It is only by unintentional experiments, such as he so well describes, that this important question can be definitively settled.

THE STRUCTURE OF BACTERIA.

THE actual intimate structure of micro-organisms is a subject which has as yet received but little attention from English bacteriologists. It is not revealed by the methods of staining, or indeed the amount of magnification which suffice for diagnostic purposes, and its study has the double disadvantage of requiring special skill and leading to no obvious and immediate results of practical clinical importance. Nevertheless much time has been devoted to it by Continental observers, and M. Duclaux in an excellent summary of our present state of knowledge in a recent number of the *Annales de l'Institut Pasteur* refers to a formidable list of forty memoirs bearing upon it.

The opinions expressed show a good many discrepancies, mainly arising from a common cause. Differences of structure in normal bacilli are very hard to detect, for the whole protoplasm appears homogeneous; it is therefore necessary to study them either when they have become old and are commencing to disintegrate or with the aid of colouring reagents. The question then arises as to how far the appearances then presented may be taken as indications of the normal structure. The plasma of the bacteria is a gelatinous substance readily coagulating with the aid of heat or reagents. This has been shown by Butschli, who has actually succeeded in squeezing out this gelatinous material from its envelope. The ease with which the jelly coagulates under different circumstances is one of the main sources of difficulty in its differentiation. One set of observers, among whom A. Fischer and Migula are conspicuous, regards a bacillus as consisting of a capsular membrane containing a mass of protoplasm with a central vacuole but no nucleus. The vacuole however depends too much upon the viscosity of the protoplasm and therefore upon external conditions to have, in Duclaux's opinion, the importance assigned to it by them. Migula in fact considers that the division of a bacterium is preceded by binary fission of the vacuole. Butschli on the other hand has studied bacteria and larger, but almost as lowly, fungi, the cyanophyces, by faintly colouring them with acid hæmatoxylin. He distinguishes a bacterium into three parts, a membrane which does not take the stain at all, a faintly staining peripheral zone, and the much discussed deeply staining central body.

Butschli considers this central body to be, if not a nucleus, at least allied to one in its nature: he has twice, in the case of Beggiatoa, been enabled to detect karyokinesis in it. No difficulty is found in accepting this view as regards the cyanophyces, in which, although large, the central body does not entirely preponderate; but in the smaller bacteria it is found to occupy the whole membrane, the protoplasm being reduced to a mere semilunar thread at each end. This assumption that a bacterium consists practically entirely of a nucleus, with the nutritive protoplasm reduced to a minimum, has not been generally accepted by bacteriologists. Metchnikoff has well compared it to the condition in embryonic cells and in myeloplaxes—that is, where nutritive activity is greatest. Duclaux suggests that protoplasm is, so to speak, the kitchen for the nucleus, which, when in a very active state, can take in its food raw. It will possibly be found that when storage of starch, etc., takes place in a bacterium, protoplasm may be developed around the nucleus as a "tissue of reserve."

Another most interesting question is as to the histology of spore formation. Babes was the first to demonstrate in a number of bacteria, and particularly in that of diphtheria, minute particles taking a violet or reddish stain with methylene blue, and so standing out in sharp contrast to the blue ground. They were most numerous at the centre and extremities of the rod, as if associated with division and growth; he gave them the non-committal name of "metachromatic granules." Butschli has described them as mainly occurring in the thin protoplasmic layer already mentioned. Certain of them appear to take part in the formation of spores, and here, again, a difference of opinion has arisen. Ernst described "sporogenic granules" staining with hot, but not boiling, methylene blue, as appearing in certain bacilli under conditions favourable to spore formation, and running together in places to give rise to spores. But Bunge pointed out that these granules were present in some bacilli which did not form spores, and absent in typical spore-bearing forms such as the anthrax bacillus; and, further, that unlike spores they did not resist boiling water. He himself describes granules staining less easily than those of Ernst, which appears to fulfil these conditions; they require treatment with an oxidising agent before they are capable of taking the ordinary stains. In the anthrax bacillus three or four rounded granules can be seen, which eventually fuse into an oval spore. These granules withstand the action of boiling water, and in this respect, and the difficulty with which they are stained agree throughout with the spores themselves. This would seem to show that the difficulty of staining the latter is due to a quality of the material of which they are composed, and not to their being enveloped in an impermeable membrane.

One final points remains for solution: to bring the conclusions of Butschli and of Bunge into harmony it must be shown, as Duclaux points out, that the granules of the latter are formed by the "central body" of the former. This is an important thesis for future observation.

EXPERIMENTAL MEDICINE AT THE COLLÉGE DE FRANCE.—By a recent decree of the French Minister of Public Instruction, a laboratory of experimental medicine has been established in the Collége de France. Dr. Charrin, assistant to Professor d'Arsonval, Agrégé Professor in the Medical Faculty and Physician to the Paris Hospitals, has been appointed director of the laboratory.

SERUM TREATMENT OF LEPROSY.

Dr. Juan de Dios Carrasquilla L. has reprinted[1] communications made to the National Academy of Medicine of Bogota, Colombia, on the serum treatment of leprosy, and a report by Dr. Pablo Garcia Medina, the Secretary of the National Academy of Medicine at Colombia, on Dr. Carrasquilla's experiments. It is evident from the account which Dr. Carrasquilla gives of his experiments that he is familiar with the technique necessary to carry through treatment of this kind, and considering the important results which he has obtained, it is satisfactory to find that they are vouched for by the Secretary of the National Academy of Medicine.

When a leper is bled the serum which is obtained from the blood is stated to vary according to the lesions in the patients. In those who are severely affected, and who are in a bad condition, the serum is milky, sometimes of a greenish colour, and has a repulsive odour. If this serum is injected into a horse the animal, immediately after the injection, shows signs of suffering. If a leper is chosen who is not depressed in health, the serum is yellow, limpid, and odourless. This serum, injected into a horse, produces no morbid phenomena. A young, healthy, vigorous horse is chosen, and the method practised at the Pasteur Institute is followed. A minimum dose of 15 c.cm. produces no reaction, a maximum dose of 150 c.cm. produces a violent reaction. Dr. Carrasquilla usually injects 15 c.cm. in small animals, 30 in animals of middle size, and 60 in large animals. He repeats the injection every ten days, and ten days after the third injection the serum is taken, rigorous antiseptic conditions being practised.

It is first ascertained that no toxic reaction is produced by the injection into a rabbit or guinea pig in a dose of 1 c.cm. per kilogramme of the weight of the animal. A first injection of 1 c.cm. of the horse's serum is then given to a leper, and the dose is gradually increased in the following injections. Usually there is no reaction until after the third or fourth injection. The normal reaction is characterised by a feeling of cold and rigors, which take place from two to six hours after the injection, and which usually last for two hours. There is, at the same time, thirst, *malaise*, anxiety, headache, and coldness of the extremities. There is often a second or hot stage whilst the feeling of cold and shivering continues. The pulse reaches 110 to 120 per minute, the temperature generally 38° C. to 39° C., and rarely as high as 40° C. or 41° C. Then perspiration follows, and the reaction ends. The serum given by the stomach in doses carried as high as 5 c.cm. produced analogous symptoms, but only one experiment had been made at the date of the report.

With the establishment of the reaction from the serum the leprous lesions, it is stated, undergo remarkable changes. In a case of nerve leprosy, which is described in some detail, the result was decolorisation of the pigmented spots, return of sensation to anæsthetic patches, and general improvement in the health. In a case of marked tubercular leprosy, during the first week of treatment there was abundant desquamation on the surfaces of the tubercles and absorption of the swelling. The leprous ulcerations began to suppurate freely, and to cicatrise with extraordinary rapidity; and ulcers, which previously were deprived of sensation, became sensitive. Tubercular ulcers and tubercles in the ears and nose disappeared, and the nose resumed its natural shape. A similar healing process was established in the mucous membranes.

Similar results are described in other patients, and the Secretary of the Academy states that the same process of healing took place in all the patients treated, which up to the time he wrote numbered about one hundred.

It is evident that we have here statements of great importance and gravity, and they are vouched for in a manner which makes it impossible for them to be neglected. It is clear that it is the duty of those who have large numbers of lepers under their charge to undertake the control of Dr. Carrasquilla's investigations.

[1] *Sérothérapie de la Lèpre*, 1897. Bogota, Colombia.

Professor McWeeney, M.D., has been appointed representative of the Royal University of Ireland at the International Medical Congress at Moscow.

Sir John Banks, K.C.B., has resigned his seat on the General Medical Council as representative of the Royal University of Ireland, and Sir Christopher Nixon has been elected his successor for a period of five years.

The States of Jersey at a special sitting adopted a Bill locally applying the principal provisions of the English Pharmacy Act. Chemists already established in Jersey are exempt from its stipulations as to examinations and diplomas, but an amendment, also excluding assistants and apprentices therefrom was rejected by the House.

The Duke of Devonshire on Friday, August 6th, proceeded to Black Robin, near Beachy Head, to inaugurate the new water supply obtained for Eastbourne from Friston. An address was presented by the Mayor and Corporation. The contractors have brought the water four miles in two months. The yield is about 800,000 gallons a day, and, together with that previously obtained from Wannock and Holywell, it gives Eastbourne an abundant supply. The Duke of Devonshire was subsequently entertained to a banquet at the Queen's Hotel by the Mayor and Corporation.

BRITISH DENTAL ASSOCIATION.

The annual meeting of the British Dental Association will be held in Dublin during the ensuing week. On Monday evening there will be a reception at the College of Physicians, and on Tuesday Mr. Canton, the President, will give a valedictory address. Dr. Theodore Stack, of Dublin, will then take the chair as President for the ensuing year, and will address the Association. Tuesday, Wednesday, and Thursday will be devoted to demonstrations and the reading of papers. On Tuesday a dinner will be given by the Irish members at the College of Surgeons, and this will be followed by a smoking concert. On Wednesday evening there will be a *conversazione* at the Science and Art Museum; on Thursday the Association will hold its annual dinner in Trinity College; and on Friday a special excursion to Glendalough will start at an early hour. Everything points to a successful meeting, to achieve which the Dublin members of the profession have spared no effort.

AN ECONOMICAL MANURE.

Experiments made by the Farm Committee of the Town Council of Crewe in the direction of mixing crude night soil with fine ashes and sulphuric acid proved so successful in 1895, that last year covered mixing sheds and screens were erected for the purpose. Dr. Vacher, the county health officer for Cheshire, in commenting on the doings of 1896, says that the dry ashes are brought from town to the sewage farm in a covered cart, and deposited under cover near the screen, on which they are thrown by hand. The screen is a

"two-decker," and as it moves the broken crockery, glass, tins, etc., are thrown off the top screen to a heap, whence they are removed, and used as bottom ballast for the farm roads. The lower screen catches the combustible matter (chiefly cinders), which is put in the stokehole and used to raise the steam. There is left only the fine ash under the screen, which is wheeled to another part of the shed and spread on iron plates covering the flue leading from a small furnace to the boiler chimney. This small furnace is used for the combustion of paper and large articles which could not be conveniently be put in the stokehole, and supplies heat to the flue over which the fine ashes are spread. When the ashes are fairly dry, they are sprinkled (from a leaden watering can) with commercial sulphuric acid to the extent of about 4 per cent. by weight. After a few days the acidulated ashes are wheeled into the mixing shed, and thrown on the top of the crude nightsoil, which has been tipped there during the previous night. But little mixing is required, and the whole mass soon becomes in appearance very like ordinary soil. From an analysis which has been made, the manure is found to contain 26 per cent. of organic matter (nitrogen 0.9 per cent.) and phosphate of lime 1.6 per cent. The reports from the farmers who, in 1895, used the manure made in the open air were sufficiently satisfactory, and there is reason to believe the manure made in 1896 will be still more effective.

INTERNATIONAL CONFERENCE OF RAILWAY AND SHIP HYGIENE.

An International Conference to discuss matters connected with the sanitary services and hygiene of railways and ships will be held in Brussels on September 6th, 7th, and 8th. Among the questions to be discussed will be that of the organisation of the medical service, whether the medical officers should be appointed by the companies, or whether they should be nominated by the employed and merely recognised by the companies. Other questions for consideration will be the physical examination and re-examination of persons employed, the quantitative determination of the colour sense and of hearing, and the detection of malingering; the prevention of the dissemination of communicable diseases among travellers and among the employed, the use of intoxicating beverages by persons employed on railways or ships, the effect of measures taken to prevent overpressure on the employed during the last ten years, and the organisation of the ambulance service. These are the principal subjects selected, but numerous papers on other subjects have been arranged. On October 9th the members of the Congress will make an excursion to Antwerp. The officials and medical officers of foreign railway companies nominated by the companies to represent them at the Conference can obtain free passes upon the Belgian State Railway System. Further particulars can be obtained from Dr. J. De Lantsheere, 56, Rue de l'Association, Brussels.

WASTE OF PUBLIC BREAD.

It is no secret among guardians and workhouse officials that there is a great deal of waste going on at the ratepayers' expense within the walls of the pauper establishments, but perhaps few people have realised that some sixteen tons of bread has been annually given to the pigs from one workhouse alone, and that in those two or three workhouses whose guardians have braved the anger of the Local Government Board and disregarded its consolidated orders, it is estimated that something like 40 per cent. has already been saved. Why is this waste allowed if its existence is recognised? This may be a pertinent question, but the solution of the difficulty is not so easy as it may appear. Both on hygienic and humanitarian grounds, all will agree that to starve the enfeebled old, the luckless able-bodied, or the growing child, is indefensible. In order to guard against this, the Local Government Board lay down dietary tables and issue orders for their observance. These dietary tables provide, for instance, 4 ounces of bread for each adult at dinner. The amount is probably double that which the average working man or woman would consume, but by workhouse regulations it is cut and weighed by machinery, and put before each pauper to eat or leave. The waste is sent to fatten the pigs, and probably goes to help the guardians' feasts, about which we have recently had so many revelations. The alternative is to cut smaller portions and allow the inmates to ask for more. But obvious as this remedy seems, it must not be forgotten that it practically puts unlimited power into the hands of superintendents and masters who, unchecked, could enter one amount as consumed, whereas a considerably lower figure might represent the facts. Hitherto the Local Government Board has turned a deaf ear to all requests from Boards to be allowed to reform the system in vogue, but now that three Boards—Hampstead, Poplar, and Chorlton—have disregarded the consolidated orders, and effected so important a saving, some action will probably be taken. It is proposed to hold a conference to meet in disputation. In the meantime the waste goes on, a waste excused, if not defended, by an inspector of the Local Government Board, on the grounds that it was not advisable to put so much confidence as greater freedom would necessitate into the hands of officials "who were not altogether to be relied on," and therefore require "a strict rule." Truly this is another argument for a reform which we, among other Poor-law experts, have constantly advocated, namely, to place medical men or women who, by education and social standing would be above the temptation to peculate bread, at the head of these establishments.

DANGEROUS OIL LAMPS.

If a person pours paraffin oil into the reservoir of a lamp by unscrewing the top while the lamp is alight, accident sometime or other is inevitable. The death of a married woman, aged 33, was shown at a recent inquest to be due to the above highly dangerous process of replenishing a lamp. Her blouse caught fire, and she was extensively burnt. During this hot weather oils of fairly high flashing point become somewhat volatile and the danger is increased. No evidence, however, appears to have been called as to the flashing point of the particular oil or class of oil which caused the poor woman's death; this seems to be an unfortunate omission. There is little doubt that much oil is sold which does not conform to the Petroleum Act. The inspectors are too few, and it is a question whether every public analyst should not be appointed as an official tester of petroleum, and samples submitted to him by the same inspectors who carry out the Sale of Food and Drugs Act.

THE MICROCOCCUS GHADIALLII.

The micrococcus Ghadiallii is a microbe that possesses the power of destroying the microbe of enteric fever. It was discovered by Dr. Ghadially, the assistant to Professor Hankin in the Agra laboratory. A description of its properties has been published in the report of the Chemical Examiner and Bacteriologist to the North-West Provinces and Oudh (Government Press, Allahabad) for the year 1896. This microbe has been found to have the power of slowly destroying the enteric microbe in water and milk, and to a less extent in bouillon. It seems also to have some power of destroying the bacillus coli in water. In one experiment the four-thousandth part of an agar-agar culture of this microbe was added to half a litre of unsterilised lake water that contained the bacillus coli. In eight days the latter microbe had died out. In a similar experiment one-hundredth part of a culture was used, and the bacillus coli could no longer be found after twenty-four hours. But in another experiment in which only the fifty-thousandth part of a culture was added to the same culture of water the bacillus coli could still be found after fourteen days. It was observed that the enteric microbe in water and milk died out within

wenty-four hours if the latter were inoculated with the ıicrococcus Ghadiallii. Pains were taken in these experi- ıents to acclimatise the enteric microbes to growing in ıese media before adding the micrococcus Ghadiallii, and ı each case sufficient control observations appear to have een made. The suggestion is put forward that this ıicrobe might be used for freeing infected water supplies om the enteric bacillus. The discoverer swallowed large uantities without ill-effects, but no proof exists that they ave any therapeutic value. We hope that the Government India will give Professor Hankin and Dr. Ghadially oppor- ınities for putting the matter to a test on a large scale, pecially as Dr. Ghadially appears to have discovered a od medium for the microbe not containing any fleshy nstituents, whose use therefore is not likely to be opposed caste prejudices.

AN ARMY MEDICAL BOYCOTT.

WRITER in the *Saturday Review* reiterates the old and per- tly baseless assertion that army medical difficulties are sed on a boycott of the army, in the spirit of trades ionism, by the civil medical profession. Nothing can be ther from the truth. The civil medical profession would only too glad if the army offered to its members a career once of comfort and dignity. The boycott and trades ionism are all on the other side, as shown in the ostra- m of the medical by combatant officers, club black balling, d such like. But his charge of medical exclusivism is n less absurd than the remedy he proposes. He would m an army medical college wherein "boys" could be ined for the Army Medical Service, and thus render the ıy independent of the universities and colleges, and the il profession at large. Is he simple enough to believe t "boys" so trained would be one whit more docile and missive to "combatant trades unionism" than those d in civil colleges? We would once again assure him t the paucity of army medical officers arises from faults the army itself, not from civil "boycotting." Until stic reforms are made in the status and treatment of y medical officers, we venture to affirm not the "boy- ," but the avoidance of the army by medical men will inue.

PLAGUE REGULATIONS IN POONA.

recent issue of the *Times* there appears a report of an rview with Surgeon-Captain Beveridge, an officer of the y Medical Staff, who was the medical member of the ıa Plague Committee. The concluding passage of the view may with advantage be compared with the state- ts made by Professor Gokhlee, and introduced to Parlia- tary notice, without the slightest investigation, by Sir Vedderburn: "Dr. Beveridge also made some observa- with regard to the work of the Plague Committee and ealings with the natives. Dr. Beveridge said that the us charges made against British soldiers were absolute and stated that the plague could not have been dealt successfully had it not been for the combined heroism gentleness of the British soldiers, who were much fitter ıe work than natives alone would have been."

PLAGUE IN CUTCH MANDVIE.

RDING to Surgeon-Captain H. D. Mason, who forwards communication on the subject, plague was introduced a from Karachi, the epidemic being traced to a case ı found its way to a town in Cutch in February, 1897. on-Captain Mason is of opinion that when contagion place by the air primary plague pneumonia is the ; when by food or drink acute plague dysentery super- ; and when the skin is the medium buboes are likely ult. Of the symptoms and sequelæ recorded by this er, conjunctivitis and arthritis are two which were commonly met with in Cutch than elsewhere. Tables cases inoculated with Yersin's serum and 100 cases treated on general principles give a mortality of 60 per cent. and 83 per cent. respectively, showing a considerable balance in favour of the serum inoculation treatment. Surgeon-Captain Mason makes the important statement "that out of 721 persons who have been inoculated with Yersin's serum once only, up to the present not a single case of plague has developed." This is an argument in favour of prophylactic treatment by serum, as these people were not selected, but were living under similar conditions to the non-inoculated, who contracted plague freely, and this, too, in face of the statement that a 10 c.cm. injection gives a supposed immunity for ten days only. We regret we cannot publish Surgeon-Captain Mason's paper *in extenso*.

THE CESSATION OF PLAGUE AT JEDDAH.

Dr. E. D. Dickson (Physician to the British Embassy in Constantinople) informs us that the outbreak of plague at Jeddah has ceased, and the quarantine applied in Ottoman ports to arrivals from Jeddah, as well as from the region between Rabuk and Lith, was suppressed on July 28th. The last declared case of plague occurred on July 5th, and the last registered death on July 8th. Passengers quitting Jeddah, however, will have to undergo a medical inspection, and their clothing will have to be disinfected before leaving that port, and no sick person will be allowed to quit Jeddah.

IRISH WORKHOUSE REFORM.

Two articles which have appeared in the *Pall Mall Gazette* under the above title are evidently written without full knowledge of the question. The text of the articles is the failure of the Irish Workhouse Reform Association to carry out its programme of reform; that Association is strong enough to fight its own battles, and it has already justified its existence to an extent which can only be fully appreciated by those behind the scenes. The ignorance of the writers in the *Pall Mall Gazette* is shown by their blaming the Workhouse Reform Association for not having transformed the workhouses from prisons into palaces, for not having replaced squalor and wretchedness by sweetness and light. The same crusade was commenced in England in the year 1850, but the enemy is still alive, the pauper nurse still flourishes, the blackmailing, the oppression, the tyranny of a vicious system may still be found by those who know where to look for them, and will be found so long as the destinies of the paupers are controlled by those who are only one remove from the same class. We knew where to look for these abuses, and our Commissioner was the means of first bringing them to light in Ireland, and but for the articles that appeared in this Journal it is probable that nothing would have been done. That, however, is of no moment: the point we would insist on is that reform is a work of time, and it will best be furthered by earnest and persistent effort on the part of everyone who knows of the evils, and not by expressions of surprise that so little has been accomplished. We advise the writers of these articles to send a large cheque to the Secretary of the Irish Workhouse Reform Association.

THE RICHMOND ASYLUM AND THE OUTBREAK OF BERI-BERI.

At the weekly meeting of the Governors of the Richmond Asylum, Dublin, on Tuesday last, Dr. Conolly Norman stated that the institution was overcrowded to the extent of 250. The inmates numbered 1,652. He asked the governors to visit the day rooms and dormitories by day and by night, and see for themselves the reality of the condition which he had so often brought under their notice. He reminded the Board that he had drawn attention to this subject since early in 1887. With regard to the beri-beri epidemic Dr. Norman reported: "Since the recrudescence of the disease in the beginning of June there have been under treatment in the asylum suffering from beri-beri 134 of the female and 42 of the male

patients, 3 nurses, and 2 attendants; total 181. Of these 1 female patient is deemed to have recovered, and 1 nurse is well enough to be sent away on sick leave. On the other hand, several cases which appeared to be approaching convalescence have relapsed, in one or two cases with alarming symptoms. Four female patients, all persons of advanced years, have died. It is to be observed that 1 male patient died in April and 1 in May of beri-beri, who had contracted the disease in the last preceding epidemic. On the whole the disease has been of a mild type, following usually the course of that form known in the classificatory scheme which I follow as rudimentary." It was agreed to have a monthly inspection of the wards by five governors. Replying to a deputation on Wednesday, His Excellency the Lord Lieutenant expressed an opinion that there had not been sufficient determination or energy shown in stemming the disease, or in amending the state of things which originated the present condition. The grave fault seemed to be overcrowding. He was prepared to accede to the request of the deputation, and to hand over Grangegorman Prison to the Governors of Richmond Lunatic Asylum in order that they might remove the healthy inmates of the asylum to that building. The Lord Mayor thanked His Excellency on behalf of the citizens for his courteous and generous response to the deputation.

THE TOCHI FIELD FORCE.

As a special precaution against the effects of the heat, the British soldiers in the Tochi Field Force have been provided with sola (pith) topees in lieu of their helmets, and glasses. It is probable that this thoughtful measure will save many casualties that would otherwise have occurred from sunstroke and fever, and that thus as a mere question of rupees it will be found to pay. Since the last report on the health of the troops, there is not much to note. The Argyll and Sutherland Highlanders had only three men sick on arrival at Miran Shah on July 12th. No. 28 Native Field Hospital reached Idak on July 15th. News from Datta Khel says that the Highlanders had only eleven sick on July 13th, and the Rifle Brigade were marching well and fit. Heavy rain and storm had cooled the air. One private in the Rifle Brigade had got sunstroke on the march to Miran Shah. They marched in 716 strong on July 18th to Datta Khel. The Highlanders with three native regiments and cavalry marched on to Sheranna on July 20th, the latest date to which news had reached Simla on the departure of last mail.

THE WATER DIVINER'S FEES AT AMPTHILL.

IN view of a possible appeal to the Local Government Board or the High Court against the surcharge of the district auditor upon certain members of the Ampthill Urban District Council, in respect of fees paid to the water-diviner for the exercise of his art at Ampthill, the district auditor (Mr. W. A. Casson) has drawn up the reasons for his decision, and has forwarded them to the Urban District Council, in order to give the surcharged councillors full and fair opportunity of stating their case, should they elect to appeal. The following are extracts from the auditor's reasons: "2. Because I was satisfied from the information before me that Mr. Gataker had represented that he could discover subterranean sources of water by means of a power of 'divination' or 'dowsing,' and that he had been employed to exercise such powers. From a report dated September, 1895, which had been obtained by the Council from Mr. Marshall, C.E., and which was produced to me by the Clerk to the Council, it appeared that Mr. A. C. G. Cameron, a geological surveyor attached to Her Majesty's Geological Survey Department, had explained in writing and by means of a diagram section the geological features of the Ampthill district, as being a layer of lower greensand, superimposed upon a very thick bed of Oxford clay, in which no water was likely to be found. The Council had disregarded this information and acted on the advice of Mr. Gataker, and I was of opinion that their proceedings in this respect were reckless, and calculated to lead to a waste of the public funds under their control, and to lead to a waste of the public funds under their control, and the employment of Mr. Gataker as a guide as to whereabouts to bore for water was, in consequence of the methods of seeking water which he adopted, of a speculative and hazardous nature in which the Council were not justified in embarking, and the money paid for such employment was an improper payment, for which there was no lawful authority. 3. Because I was satisfied from the information before me that Mr. Gataker had represented that he could discover water by means of a power of 'divination' or 'dowsing,' and that he had been employed to exercise such power. I regarded this claim to a power of finding water either with or without a 'divining rod' as being an imposition on the minds of the credulous, seeing that however it may be now defended by reference to 'highly sensitive nervous organisation' and the like, it is a survival from times when magic and witchcraft were generally believed in, and when the 'divining rod' was used to discover not only sources of water, but lodes of metal ore, hidden treasure, the bodies of murdered persons, and lost boundaries of land. That Mr. Gataker could find water by the exercise of the power of 'divination' or 'dowsing' was, in my opinion, as impossible of belief as a claim to exercise powers of witchcraft, and I therefore treated Mr. Gataker as being a person whom it was not competent for the Council to employ for the purpose for which he had been employed, and the payment for whose employment as one for which there was no authority in law." Mr. Casson is greatly to be commended for the sound common sense which governs his able and useful decision, which we hope may prove a precedent to be followed in all such cases in the future if any such should again occur.

LONDON'S WATER SUPPLY.

THE annual report of the chief officer of the Public Control Department of the London County Council, Mr. Alfred Spencer, issued recently, embraces a great variety of subjects. Steady progress is reported in the extension of the constant supply of water. Three companies—the East London, the Grand Junction, and the Southwark and Vauxhall—are stated to give the benefit of the constant service to the whole of their London areas. Such are the arrangements, but this statement in the report is, of course, to be taken in connection with the fact that occasional interruptions to the supply have happened in some localities. The report further intimates that the Kent Company hope to give a constant supply throughout their London area in the course of the ensuing month, and the Chelsea and West Middlesex Companies by April next, by which date also the New River Company will probably complete a similar service. But the Lambeth Company feel unable to give a definite assurance that their area will be fully dealt with before the end of 1898. Treating of a very different subject, it is mentioned that during the year upwards of 1,600 tons of explosives in the course of conveyance into or through London came under the notice of the Council's inspectors.

SIR JOSEPH THOLOZAN, K.C.M.G.

THE *Times* publishes the following obituary of Sir Joseph Tholozan, K.C.M.G., Chief Physician to the Shah of Persia: "His loss will be deeply felt by all who know Teheran. A cultured Frenchman of charming manners and a *savant* of European fame, he was also, owing to his long residence in Persia, one of the greatest authorities on Persian life and manners. He was born in 1820 at Diego Garcia, a dependency of the island of Mauritius, and, after studying at Port Louis and Marseilles, he qualified as a Military Surgeon and Doctor in Medicine. In 1849 he was attached as Professor to the military hospital in Paris. The cholera shortly afterwards breaking out in Paris, Tholozan investigated the causes of the malady. His researches resulted in several valuable discoveries, which are embodied in his writings. In 1854 and 1855 he

accompanied the French army to the Crimea. Then came the turning point of his career. The Shah of Persia having asked the French Government to recommend him a good doctor as personal physician, Tholozan was at once selected. In 1858 he arrived at Teheran, where, except for occasional visits to Europe, he remained until his death. He soon won the confidence of the Shah, who employed him in several delicate missions, which he conducted with the skill of a trained diplomatist. Dr. Tholozan was a good friend to the English, and among his many orders he prized none more than the K.C.M.G. bestowed upon him in 1889, when he came to England with the Shah. The Shah rewarded his faithful servant by giving him the highest class of the Lion and the Sun, and also his portrait set in brilliants. In spite of his many duties Dr. Tholozan found time for scientific work, his special subjects being cholera and bubonic plague. Dr. Tholozan accompanied Nasr-ed-din on his three visits to Europe, his attractive personality making him one of the most popular and striking personages in the Shah's suite. He felt the death of his Royal master deeply, and no doubt his own end was hastened by the shock. His simplicity, integrity, and courtesy won him the regard of Persians and and Europeans alike, and in Persia, that country of jealousies and feuds, he did not make a single enemy.

HOSPITAL ENDOWMENTS.

The Executive Committee of the American Victoria Jubilee Fund, writing from 15, Grosvenor Square, state that the lists for endowing beds in hospitals are now closed, and the total obtained amounts to more than £4,300. The surplus to be given to the Prince of Wales's Fund will remain open for the present, and donations to this will be acknowledged by the Honorary Treasurer, Mr. Walter H. Burns, 22, Old Broad Street. Mrs. Ralph Vivian, having written to Sir Fleetwood Edwards, asking him to bring to the notice of the Queen the fund which has been collected in honour, and to participate in commemorating the sixtieth anniversary of Her Majesty's reign, has received the following reply: "Osborne, 28th July, 1897. Dear Mrs. Vivian,—I have laid your letter of the 25th inst. before the Queen, who desires me to say how touched she is, and also how grateful to yourself and all those who have contributed to and collected the American Victoria Jubilee Fund. Her Majesty is deeply sensible of the kindness thus evinced, and greatly pleased that the handsome sum thus realised is to be devoted to so good and useful a purpose as the endowment of the beds in the hospitals you name, while the surplus is to be devoted to the Prince of Wales's Fund. The Queen trusts you will be kind enough to express her sincere thanks to all concerned for their very kind action.—Believe me, yours very faithfully, Fleetwood Edwards."

MR. JUSTICE WILLIAMS AND MEDICAL ASSESSORS.

The introduction into our legal system of a body of medical assessors selected for their adequate acquirements, and employed as impartial experts without bias as advocates for defendant or plaintiff, has long been advocated by ourselves and by all medical authorities who have looked into the subject. But great indifference, if not hostility, has been shown to that view by the members of the legal profession. It is now, however, that a leading member of the judicial bench has taken occasion emphatically to advocate it, there may be some hope of the introduction of this improved reform into our judicial system. At the close of the evidence in an action to recover damages for personal injuries, brought before Mr. Justice Vaughan Williams on August 7th at the Birmingham Assizes, his lordship, in his address to the jury, stated that it also pained him that a trial of that nature was so expensive. A gentleman got injured, and on both sides medical examinations were made, not for the purpose of improving his condition, but to ascertain what his condition was for the purpose of litigation. He was afraid to think what the action would cost before it was finished. He wanted people to try their actions in that court because he thought it was the fairest and best way of disposing of them, but the expense was perfectly frightful. He therefore could not help thinking that they might some day adopt a plan such as was adopted in Austria, when if parties wished for the opinion of an expert on any matter concerning which scientific evidence was important, there was a roll of experts from which one might be appointed to make an examination, and then he was the one expert who gave evidence to the jury. There might be practical difficulties in the way of doing that, but he never tried an action in which scientific evidence was given without feeling that the consequent expense made it very difficult indeed to deal with the case, because really the amount of damages became quite an insignificant item in the case, as the unfortunate man who had to pay the costs had such a frightful amount to pay.

LONG-STANDING OPHTHALMIA.

The Lambeth guardians seem not a little annoyed with the managers of the Hanwell Ophthalmic Hospital, who, they are inclined to think, are more willing to keep cases entrusted to their care than to discharge them cured. The facts seem to be that some four or five years ago the Lambeth guardians sent four children who had contracted ophthalmia to the Hanwell schools, and on inquiry being recently made received in reply the statement that the children were not yet cured or fit to leave. According to the published accounts these children have already cost the ratepayers between £500 and £600, a sum which the guardians consider should have more than effected their cure; and they argue that as the expert physicians and nurses engaged at the hospital have not succeeded, it might be as well to have the children back into the Lambeth infirmary, and try the skill of their own medical officer. We rejoice to see the anxiety displayed by the Board, who will perhaps learn by the heavy bill that ophthalmia is not the slight ill which it is the fashion sometimes to regard it, but a disorder which is both persistent and recurrent, and from which, according to the official returns of the Local Government Board, 972 children in the London barrack schools are now suffering.

THE STUDY OF NATURAL SCIENCE IN OLD JAPAN.

We are accustomed to think of the awakening of the Japanese to an interest in the study of natural science as dating only from the new political era, which began in 1868. Professor K. Mitsukuri, of the Imperial University, however, has recently stated in the *Annotationes Zoologicæ Japonenses*, a new periodical published under the auspices of the Tokyo Zoological Society, that early in the eighth century of the Christian era there was already established in Japan an Imperial University with four departments—Ethics, History, Jurisprudence, and Mathematics—and with the prescribed number of 400 students. There existed at the same time a bureau devoted to astronomy, astrology, calendar compilation and meteorology, and a medical college with professors of medicine, surgery, acupuncture, necromancy (the art of healing by charms), and pharmacology. The last-named branch of study included the collection, cultivation, and investigation of medicinal plants; thus a considerable amount of botanical knowledge must already have been acquired by that time. Towards the end of the ninth century, when a catalogue of books existing in Japan was compiled by the order of the then reigning Emperor, the Imperial library was found to contain 16,790 volumes, divided into 40 departments, and this in spite of a disastrous fire some years before. Among the medical works were some with very modern-sounding titles, such as *The Curing of Diseases of Women* and *On the Methods of Healing Diseases of the Horse*. Japan in those early days derived its culture from India, China, and Corea, but the details above enumerated clearly show that educated society must already

have attained a high degree of civilisation. Coming to more modern times, it is known that, during the long peace of two hundred and fifty years which the rule of the Tokugawa *shoguns* secured for Japan, literature, the arts, and all peaceful industries were developed with remarkable vigour and rapidity, and the study of natural history shared in this progress. Apart from that innate love of Nature which was ever showing itself in poetry and other arts, the study of natural products was always pursued, ostensibly with the purpose of collecting materia medica, or of discovering things that might be used as food in case of a famine, or of identifying objects mentioned in the Confucian classic, *Shi-King*. Frequent were the excursions and expeditions undertaken with the view of collecting natural objects, among which plants were especial favourites, and all parts of the country seem to have been tolerably well explored in this way. Numerous were the treatises on natural history, published or unpublished. Many of these were encyclopædic in their comprehensiveness and size, such as *Shobutsu Ruisan*, by Inao Jakusui (1,000 parts, early in the eighteenth century), and *Honzo Komoku Keimo*, by Ono Ranzan (48 parts, 1803.) The last-named naturalist was so famous for his extensive knowledge that we are told his pupils were nearly 1,000 in number. Professor Matsumura, in his enumeration of Japanese plant names, gives 306 titles of Japanese works on botany compiled previously to 1868. Many of the natural history volumes had beautiful coloured illustrations, which serve their purpose even to the present day. Natural history displays were of common occurrence, when naturalists came together with their treasures and showed them to one another and to the public. Of these, the exhibitions given by Hiraga Gennai in the middle of the eighteenth century were perhaps the most celebrated. The present botanic garden of the Imperial University was established early in the Tokugawa period—namely, in 1681—and was long renowned as the *O Yaku en* (Garden of Medicinal Plants). The mastery of the Dutch language by a few earnest physicians in the middle of the eighteenth century made the rich treasury of Western civilisation accessible. Japan would not, in Professor Mitsukuri's opinion, be what it is to-day but for this leaven which had been working through and through the whole mass of society for over a hundred years before the restoration of 1868 enabled it to bear its legitimate fruit. This innovation, together with the visits of Thunberg (1775) and Siebold (1821) had an effect upon the natural history studies also. The system of Linnæus, especially in regard to plants, seems to have been well grasped with very little delay. The most famous productions of the new school on natural history subjects are probably *Shokugaku Keigen* (Elements of Botanical Science), by Udagawa Yoan, published in 1835; and *Somoku zusetsu* (Icones Plantarum), by Jinuma Yokusai, in 1832—the latter being a standard work at the present day. A work on the use of the microscope was published in 1801. The modern school of zoology dates from the appointment of Professor E. S. Morse, of Salem, Mass., U.S.A., to the chair of Zoology in the University of Tokyo in 1877. He, with a few students under him, also soon had in working order a tolerably good museum, the nucleus of the present zoological and anthropological collections of the Science College. It was also during his stay and through his care that the Tokyo Biological Society, from which the Tokyo Zoological Society is directly descended, was first organised. On the return of Professor Morse to America, he was succeeded by Professor C. O. Whitman, now of the University of Chicago. It was the latter who first introduced modern technical methods. Since 1881 the development of zoology in this country has been entirely in the hands of Japanese.

SANITARY MALADMINISTRATION.

THAT a law may be wise, useful, and unquestionably needful, and yet be a dead letter in so far as its rational administration is concerned, has been time and again amply demonstrated in our own country. Take, as an example of this type, our Vaccination laws; take, also, our Public Health Acts: who will tell us that these are administered in a manner befitting our land or its present sanitary condition? Rather we should say that its insanitary state is the measure of maladministration that is to deplored as regards our public-health legislation; whilst our periodic epidemics of small-pox and its general lingerings in our midst bespeak the laxity of our Boards of Guardians in the past. Yet it cannot be said that our local authorities are few in number or class. Indeed, it may be that in the multiplicity of councils and central powers there is the element of danger of inaction. We seem to have heard of harm accruing to a familiar evening fluid form of food by reason of multiple cooks. Some of our legislation may be suffering from the same cause. Nor are we alone in this case. In our columns in May last, in connection with a series of articles on milkborne disease, reference was made to some of the excellent points embodied in the New South Wales Dairies Supervision Act, points which might well be incorporated in our own laws; yet it seems that a statute which reads so fairly on paper is, after all, in advance of the local feelings in the Colony. The *Sydney Daily Telegraph* of July 2nd, in an article on the subject of the series of papers just referred to, deplores the fact of the small efforts made to enforce the Act. It seems to us—we may be wrong, but we feel strongly—that no Parliament ought to pass any measure without first providing a Department of State that shall compass its due administration. It may, however, be said that for all law there is due Governmental power of enforcement. Well, if so, why not the enforcement thus provided for?

MIXED BOARDS CONTRARY TO ARMY ORDERS.

WE have received a copy of an order assembling a mixed Board in the Poona District, in which a combatant Lieutenant-Colonel is nominated as President, who is junior to a Surgeon-Lieutenant-Colonel detailed a member. The Board sat at a hospital over certain men of the Governor's bodyguard. This Board, it is needless to state, is constituted directly contrary to the recent army order, and in defiance of the Queen's regulations. How long will general officers be allowed to be lawbreakers?

INTERNATIONAL CONGRESS OF LEGAL MEDICINE.

THE MEETING of the International Congress of Legal Medicine, held at Brussels from August 2nd to 7th, was a great success. The French Government was represented by Professor Brouardel, Dean of the Paris Medical Faculty, and by Drs. G. Pouchet, Motet, Mosny, Thoinot, Descoust, Vibert, Ogier, and Socquet; that of Sweden by Dr. Johan-Mauritz Aspelin of Stockholm; the Swiss State Council by Professor Gosse of Geneva; the Spanish Government by Dr. Enrique Simancas, and the Russian Government by Professor Demetrius von Kossorotoff, of St. Petersburg. The New York Society of Legal Medicine sent Dr. Valentine as a delegate. The meetings of the Congress were attended by a large number of prominent members of the legal and medical professions and of the magistracy. Important discussions took place on criminal lunatics and public asylums, poisoning by carbonic oxide, professional secrecy in relation to the law, the medico-legal value of subserous ecchymoses, the glycogenic function of the liver in relation to medical evidence, cadaveric spasm, the internal factors of cadaveric decomposition, the lung test of life after birth, poisoning by sulphuretted hydrogen, the place and duty of the medical expert in relation to poisoning by meat, hypnotism in its relation to crime, and responsibility—particularly partial responsibility. The next meeting of the Congress will be held in Paris in 1900.

BERI-BERI IN THE RICHMOND ASYLUM, DUBLIN.

From the beginning of June up to the date of going to press there have been under treatment in the Richmond Asylum 183 fresh cases of beri-beri. Of these 136 have been female patients, 42 male patients, 3 nurses, and 2 male attendants. One female patient is looked upon as recovered, and one nurse is sufficiently improved to be sent away to the country. Four female patients have died. There has been the usual tendency to relapse during apparent convalescence. The majority of the cases have been of the type which Scheube describes as rudimentary. In several in which the sensory and motor symptoms were slight there were well-marked heart troubles, extreme irritability of action, unconformability of pulse, reduplication of the first sound, and, in fatal cases, enlargement of the right side of the heart. The sensory phenomena have been varied and interesting. Cramps are very constantly complained of. Painful formication (the *piri-piri* of the Japanese) has been noted in many cases. Extremely severe stinging and shooting pains in various parts of the body, legs, arms, loins, shoulders, etc., have occurred in some cases, and are referred sometimes to the muscles, sometimes to the integuments. In a few cases pain in the neighbourhood of the joints has also given trouble. Anæsthesia to touch, or hyperæsthesia or anæsthesia, combined in various degrees with hyperæsthesia or paræsthesia, exist in all cases in which there is sufficient intelligence to render examination trustworthy. As an example may be mentioned a woman whose legs were numb so that she could not feel the bedclothes, yet her legs smarted and pricked her if they lay with the calves pressing against each other. Anæsthesia has been observed on almost every part of the body except the scalp. In one case a limited patch occurred on the lower lip; in another on the forehead; in several on the back. The attendant exhibits an interesting condition of retarded sensibility with hyperæsthesia in the legs. None of the cases in the present epidemic have distinctly belonged to the "wet" type. Œdema has usually been slight and mainly confined to the shins, the ulnar border of the forearm, and the tissues covering the upper part of the sternum and the sacrum. A great number of cases, however, have exhibited a peculiar thickening of the tissues in the lower third of the leg, resembling "solid œdema;" not pitting, or pitting very slightly, though the thickening is considerable, as one discovers when one attempts to pinch up the skin. Dr. Conolly Norman states that he has found a similar condition in ordinary alcoholic neuritis. In some old cases with wasted legs, the tissues have assumed this condition of "solid œdema" with the advent of the present epidemic. The motor symptoms have not been very well marked in most cases. In a few the power of walking is almost gone, and the gait and movements are exquisitely characteristic. In the majority slight clumsiness and wobbling are alone apparent. In all there is a tendency (in most cases easily overcome voluntarily) to dropping and inversion of the foot. The feet are flat when the patients walk. Special attention has been given in this and in the last preceding epidemic to the condition of the joints. The relaxation of the ankle and knee joints is extreme in some cases, and is present probably in all. In many this condition permits the legs and feet to be placed in postures resembling those occurring in subluxations of the knee or ankle. This condition gives rise to a characteristic wobbling at the knee in walking, which the Japanese designate, according to Professor Anderson, by the term *kaku-gaku*.

The *London Gazette* of Tuesday announces that Mr. Charles Knott, M.R.C.S., and Mr. Charles Joseph Trimble, L.R.C.P., have been appointed (from Honorary Associates) to be Knights of Grace of the Order of the Hospital of St. John of Jerusalem in England. From the same *Gazette* we learn that the Queen has been pleased to direct a commission to pass the Privy Seal in Scotland appointing Dr. Ralph Stockman, M.R.C.P.E., F.R.S., to the Regius Professorship of Materia Medica in the University of Glasgow, vacant by the death of Professor Matthew Charteris.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING OF COUNCIL FOR 1897.

A meeting of the Council will be held on October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the meeting—namely, September 30th.

Francis Fowke, *General Secretary*.

THE ANNUAL GENERAL MEETING, LONDON, JULY 27TH, 1897.

Medical Defence.

[By an accidental circumstance for which the editorial department was not responsible, the following report of a resolution moved by Dr. James Myrtle and the discussion thereon were omitted from the report furnished for publication in the British Medical Journal of July 31st. The President of Council desires us to express his sincere regret that this unintentional omission should have occurred.]

Dr. James Myrtle said he wanted to say something upon the last paragraph in the report, which read, "In the face of this result your Council cannot advise any further action in the matter of the alteration of the Memorandum and Articles of Association at present." He would move the following resolution:

> That this meeting requests the Council to take definite steps to ascertain the opinion of the members of the British Medical Association resident in the United Kingdom on the question of medical defence by means of an individual canvass by reply-paid letter or card.

They had heard a little talk about medical defence that day sandwiched in with talks on other subjects. The result of the canvass on the Branches on medical defence looked very bad, showing, he believed, 454 in favour and 445 against it, the rest of the members taking no trouble to reply. To get a proper idea of the opinions of the members they should be approached directly. If that were done he felt sure the result would be in favour of the Association taking it in hand.

Dr. Garrett Horder supported Dr. Myrtle's amendment because he felt it was very important to get the opinions of the unattached members, who had been put somewhat in the shade by the Council. The meetings at London and Carlisle were large ones, and at Carlisle the Council was requested to appoint this Subcommittee to draw up a scheme to be sent to the Branches; but in his opinion the Council went outside the wishes of the members at the annual meeting in sending round to the Branches questions which they had already answered. The Branches ought to have been asked, "Which scheme are you in favour of?" [No, no.] It was a great pity so many schemes were sent round. There were 5,497 unattached members, and he imagined they had never had a copy of the schemes placed before them.

The President of Council pointed out that they were published in the Journal. Dr. Horder had accused the Council of doing something wrong in sending the letters round to the Branches; but that was done by a Committee, not by the Council.

Dr. Horder presumed it had to be approved by the Council first. He did not accuse the Council of want of faith. It was a pity the Branch Secretaries did not take the trouble to send round to their members.

Mr. Victor Horsley, in supporting Dr. Myrtle's motion, said he did so because he thought Dr. Horder spoke under a misapprehension. The resolution had been passed by a majority of 1, and of course it was a matter for further consideration whether they should act upon it or not.

The resolution was put to the meeting and carried.

Mr. Victor Horsley moved that the reply-paid letters and post cards should be also sent to members of the Colonial Branches.

The resolution was seconded and agreed to.

The remainder of the report was agreed to without comment.

BRITISH MEDICAL ASSOCIATION.

SIXTY-FIFTH ANNUAL MEETING.

THE adjourned annual meeting of the British Medical Association will be held at Montreal on Tuesday, Wednesday, Thursday, and Friday, August 31st, September 1st, 2nd, and 3rd, 1897.

President.—T. G. RODDICK, M.D., Professor of Surgery in McGill University, Montreal.

President-Elect.—Sir T. GRAINGER STEWART, M.D.Edin., F.R.C.P.Edin., etc., Professor of the Practice of Physic and Clinical Medicine in the University of Edinburgh; Physician-in-Ordinary to the Queen for Scotland.

President of the Council; ROBERT SAUNDBY, M.D., F.R.C.P., Physician to the General Hospital, Birmingham.

Treasurer: CHARLES PARSONS, M.D., Dover.

An Address in Medicine will be delivered by W. OSLER, M.D., F.R.C.P., Professor of Medicine in the Johns Hopkins University, Baltimore, U.S.A.

An Address in Surgery will be delivered by WILLIAM MITCHELL BANKS, F.R.C.S., Surgeon to the Liverpool Royal Infirmary.

An Address in Public Medicine will be delivered by HERMAN M. BIGGS, M.D., Director of the Bacteriological Laboratory of the Health Department, New York City.

The Scientific Business of the Meeting will be conducted in Eleven Sections, as follows, namely:

A. MEDICINE.

Macdonald Chemical Building.

President: STEPHEN MACKENZIE, M.D., London. *Vice-Presidents:* J. E. GRAHAM, M.D., Toronto; W. BAYARD, M.D., St. John, N.B.; J. P. ROTTOT, M.D., Montreal: F. W. CAMPBELL, M.D., Montreal; JAMES STEWART, M.D., Montreal; H. P. WRIGHT, M.D., Ottawa. *Hon. Secretaries:* H. A. LAFLEUR, M.D., Montreal; W. F. HAMILTON, M.D., Montreal; WILLIAM PASTEUR, M.D., 4, Chandos Street, Cavendish Square, London, W.

The following discussions will take place:

1. The Dietetic Treatment of Diabetes, to be opened by Dr. Robert Saundby (Birmingham).

2. Arthritis Deformans (Rheumatoid Arthritis), more especially its Relation to Rheumatism, Nervous Disease, and Tuberculosis, to be opened by Dr. James Stewart (Montreal).

3. Cholelithiasis; its Causation, Symptomatology, Diagnosis, and Treatment, to be opened by Dr. William Hunter (London), and Dr. Graham (Toronto).

A discussion on Serum Diagnosis will be held jointly with the Section of Pathology and Bacteriology (see p. 426).

The following, among others, are expected to take part in the discussions in this Section: Dr. Reginald Fitz (Boston), Dr. Jacobi (New York), Dr. Musser (Philadelphia), Dr. Pepper (Philadelphia), Dr. F. C. Shattuck (Boston), Dr. E. L. Trudeau (Saranac Lake, N.Y.), Dr. Jas. Tyson (Philadelphia), Dr. Wyman (Marine Hospital Service, Washington), Dr. R. L. Bowles (London), Mr. Wm. Armstrong (Buxton), Dr. Sydney Coupland (London), Professor Osler (Baltimore), Dr. S. Monckton Copeman (London), Dr. H. Handford (Nottingham), Dr. J. A. Myrtle (Harrogate), Dr. Graham (Toronto), Dr. R. Shingleton Smith (Bristol), Dr. Ebenezer Duncan (Glasgow).

The following papers have been promised:

ACHESON, Dr. Geo. (Galt., Ont.). Atony of the Rectum.
ARMSTRONG, William, M.R.C.S. The Exciting Cause of Rheumatoid Arthritis.
BOWLES, Dr. R L. (London). Further Experiences of dangers connected with Respiration and their avoidance, with special reference to Anæsthesia, Hæmoptysis, Drowning, Apoplexy, and all Paralysed and Unconscious Conditions.
DUNCAN, Eben., M.D. (Glasgow). On the Treatment of Diabetes by Uranium Nitrate.
FUSSELL, Dr. M. H. (Philadelphia). Two Cases of Hæmophilia.
GRAHAM, Dr. J. E. (Toronto). A Case of Crossed Hemiplegia the Result of Injury to the Pons Varolii.
HAMILTON, Surgeon-Major-General (P.M.O. Plymouth). The Enteric Fever of Armies, contrasting the Disease in Tropical, Subtropical, and Temperate Climates.
LYMAN, Dr. Henry M. (Chicago). Osteomalacia following Complete Occlusion of the Common Bile Duct, due to Angio-cholitis following Typhoid Fever.
MACKINNON, Dr. Angus (Guelph). The Empyema of Pneumonia, with Cases.
MCCONNELL, Dr. J. B. (Montreal). Pyopericardium following Pleuro-pneumonia: Pericardiotomy: Recovery.
MCPHEDRAN, Dr. A. (Toronto). Raynaud's Disease following Protracted General Erythema.
MYRTLE, Dr. J. A. (Harrogate). Case of Blood Poisoning from Sewer Gas followed at intervals by Inflammation of the Throat, Cervical Glands, Liver, and Kidneys.
PEPPER, Dr. Wm., and STENGEL, Dr. Alfred (Philadelphia). A Contribution to the Clinical Study of Venesection.
STARR, Dr. M. Allen (New York). A Contribution to the Subject of Brain Tumours and their Surgical Treatment.
STOCKTON, Dr. Chas. G. (Buffalo). A Type of Diarrhœa associated with Gastric Anacidity.
TYSON, Dr. James (Philadelphia). Note on the Proper Use of Terms to denote Myocardial Changes.
WHITTAKER, Dr. James T. (Cincinnati). Generalisations from Six Years' Use of Tuberculin.
WILLIAMS, Dr. Francis H. (Boston). Some of the Medical Uses of the Roentgen Rays.

B. SURGERY.

Large Lecture Room, McGill Medical College.

President: CHRISTOPHER HEATH, F.R.C.S., London. *Vice-Presidents:* Hon. Sir WILLIAM HINGSTON, M.D., Montreal; Hon. M. SULLIVAN, M.D., Kingston, Ontario; Hon E. FARRELL, M.D., Halifax, Nova Scotia; I. H. CAMERON, M.D. Toronto; F. LE M. GRASETT, M.D., Toronto; JAMES BELL, M.D., Montreal; GEORGE E. ARMSTRONG, M.D., Montreal. *Hon. Secretaries:* ROBERT C. KIRKPATRICK, M.D., Montreal; THOMAS WALKER, M.D., St. John, N.B.; JORDAN LLOYD, F.R.C.S., Broad Street, Birmingham.

The President will give a short introductory address.

A discussion will take place upon the Surgical Treatment of Appendicitis, which will be opened by Dr. G. E. Armstrong (Montreal). Dr. J. Ward Cousins, Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham), will take part in the discussion.

A discussion on Anæsthetics will be held jointly with the Section of Anatomy and Physiology (see p. 427).

A discussion will also take place upon the Treatment of Cancer of the Rectum by Kraske's Operation, to be opened by Dr. James Bell.

Among those who, it is anticipated, will take part in the discussions in this Section are: Dr. W. W. Keen (Philadelphia), Dr. Collins Warren (Boston), Dr. John Ashhurst (Philadelphia), Dr. Cheever (Boston), Dr. Dennis (New York), Dr. Murphy (Chicago), Dr. McGraw (Detroit), Dr. J. C. White (Boston), Dr. Chas. T. Bull (New York), Professor C. B. Ball (Dublin), Mr. Jordan Lloyd (Birmingham).

The following gentlemen have given notice of their intention to read papers in this Section:

BALL, Professor C. B. (Dublin). On Trans-sacral Resection of the Rectum.
COUSINS, J. Ward, M.D., F.R.C.S. (Southsea). Operative Treatment of Organic Stricture of the Urethra.
FERGUSON, Dr. W. W. (Kingston, N.B.). Varicosity of the Lingual and Buccal Veins.
GARROW, Dr. A. E. (Montreal). Ventral and Umbilical Hernia in the same Patient.
LLOYD, Jordan, F.R.C.S. Stone in the Ureter and its Treatment.
MARCY, H. O., M.D. (Boston). On the Suturing of Wounds.
MCGRAW, Theo., M.D. (Detroit). Invagination of the Cæcum and Vermiform Appendix.
NEWMAN, David, M.D. (Glasgow). (1) Cases illustrating some Interesting Points in the Pathology and Surgical Treatment of Renal and Vesical Hæmaturia. (2) Transitory Hydronephrosis and Albuminuria in cases of Movable Kidney treated by Operation.
ROSS, James F. W., M.D. (Toronto). Some Rare Conditions of the Kidney.
ROTH, Bernard, F.R.C.S. (London). Analysis of One Thousand Consecutive Cases of Lateral Curvature of the Spine treated by Posture and Exercise exclusively (without mechanical supports).
SHEPHERD, F. J., M.D. (Montreal). A case of Abdominal Tumour, in which nearly eight feet of the small intestine were resected.
SMITH, Dr. A. Lapthorn (Montreal). Seven cases of Appendicitis with Pus Tubes.
SMITH, Noble, F.R.C.S.Edin. (London). Congenital Dislocation of the Hip.
SPANTON, W. D. F.R.C.S. (Hanley). Two cases of Meningocele successfully operated on.
THOMSON, Alexis, M.D., F.R.C.S. (Edinburgh). Stricture of Intestine as Sequel of Strangulated Hernia.

C. PUBLIC MEDICINE.

Large Lecture Room of the Redpath Museum.

President: E. P. LACHAPELLE, M.D., Montreal. *Vice-Presidents:* F. MONTIZAMBERT, M.D., Quebec; ROBERT CRAIK, M.D., Montreal; P. H. BRYCE, M.D., Toronto; Sir JAMES GRANT, Ottawa; R. H. POWELL, M.D., Ottawa.

Honorary Secretaries: Wyatt Johnston, M.D., Montreal; E. Pelletier, M.D., Montreal; Harvey Littlejohn, M.B., C.M., Surgeons Hall, Edinburgh.

The business of the Section will be carried out as follows:

Lachapelle, Dr. E. P. (President of the Board of Health of the Province of Quebec, Montreal). Sanitation in Canada: its Progress up to date.
Newsholme, Dr. A. (M.O.H. Brighton). A Plea for the International Study of Diphtheria, illustrated by facts and figures.
Kaye, J. R. (M.O.H. to the West Riding Council of Yorkshire. The Relationship of the Health Officer to the Registration and Certification of Deaths.

Dr. F. Montizambert (Superintendent of the Canadian Quarantine Service, Grosse Isle, Quebec), and Dr. W. Wyman (Superintendent of the Quarantine and Marine Hospital Service, Washington) will open a discussion on the Utility of Quarantines as now Conducted (Inspection, Disinfection, and Isolation Stations) in Certain Countries at Least.

Dr. P. H. Bryce (Secretary of the Provincial Board of Health, Ontario), Dr. C. O. Probst (Secretary State Board of Health, Ohio), Dr. H. Handford (M.O.H. to the County of Nottingham), will open a discussion on How Far should Mandatory Measures go in Dealing with (*a*) Measles, (*b*) Whooping Cough, (*c*) Tuberculosis, (*d*) Leprosy.

Johnston, Wyatt, M.D. (Bacteriologist, Board of Health, of the Province of Quebec). Experiments with Disinfectant Gases.
Janin, G. C. E., formerly of the Corps des Ponts et Chausees of France (Montreal). On the Different Processes recommended for the Treatment of Sewage; Mechanical, Chemical and Epuration by the Arable Soil.
Mottor, Dr. D. Murray Galt (Washington). Underground Zoology and Legal Medicine: a Study of Fifty Disinterments, with Additional Experimental Observations.
Kinyoun, Dr. Jos. J. (United States Marine Hospital Service, Washington). Methods of Disinfection.
Neech, Dr. James T. (M.O.H. for Atherton). The Period of Infection in Scarlet Fever.
Copeman, Dr. Monckton (Medical Inspector to the Local Government Board of England). Some Alleged Dangers of Vaccination and their Prevention.

Dr. R. F. Ruttan, Chemist to the Board of Health of the Province of Quebec; Dr. G. W. Fuller, Louisville, Ky.; and Dr. J. J. Mackenzie, Bacteriological Provincial Board of Health of Ontario, will open a discussion on The Respective Value of Chemical and Bacteriological Methods of Water Analysis.

Macleod, Dr. James (Charlottetown). Observations on the Pollution of Ground Air.
Hough, Dr. G. de N. (New Bradford, Mass.). Cadaveric Fauna.
Chutleworth, Dr. E. B. (Bacteriologist to the City Board of Health, Toronto). Observations on the Etiology and Dissemination of Diphtheria.
Mackenzie, Dr. J. J. (Bacteriologist Provincial Board of Health of Ontario). Results of Mechanical Filtration Plants in Ontario.
Hewitt, Dr. C. N. (Red Wing, Minnesota, U.S.A.). (1) The Future of Public Health judged by a Quarter Century's Experience of its Past. (2) The Experience of Fifty Years with Leprosy in Minnesota.
Kendall, Dr. Maller, Medical Adviser, and Small, J. M., C.E. (Engineer to Metropolitan Board of Water Supply and Sewerage of Sydney, Australia). The Benefits to Health derived from the Establishment of a Pure Water Supply and Proper System of Sewerage, with Special Reference to the City and Suburbs of Sydney, Australia.

D. Obstetrics and Gynæcology.

Large Lecture Room, McDonald Physics Building.

President: William Japp Sinclair, M.D., Manchester.
ice-Presidents: William Gardner, M.D., Montreal; James Errigo, M.D., Montreal; J. A. Temple, M.D., Toronto; C. Cameron, M.D., Montreal; T. Johnston Alloway, .D., Montreal; James Ross, M.D., Toronto. *Honorary ecretaries:* D. J. Evans, M.D., Montreal; W. Burnett, .D., Montreal; Arthur E. Giles, M.D., 58, Harley Street, avendish Square, London, W.

The following discussions will, it is proposed, be held in is Section on the days indicated:

September 1st.—The Causation and Treatment of Hyperesis Gravidarum to be introduced by Dr. J. Alderson Teme, of Toronto.

September 2nd.—The Vaginal *versus* the Abdominal Route dealing with Inflammatory Conditions and Tumours in the lvis. To be opened by Mr. Lawson Tait.

September 3rd.—The Palliative and Radical Treatment of erine Flexions and Displacements. To be opened by Dr. rton Cooke Hirst (Philadelphia).

The following papers are promised:

oway, T. Johnson, M.D. (Montreal). Gauze Packing in Pelvic Surgery.
Anderson, Professor Winslow, M.D. (San Francisco). Uterine Fibroids, their etiology, pathology, symptoms, diagnosis, and treatment.
Barnes, Robert, M.D. (London). Notes and a drawing to illustrate "Barnes's Boundary Line" in Placenta Prævia.
Campbell, John, M.D., F.R.C.S.Eng. (Belfast). Labour Complicated by Abnormalities of the Cervix Uteri and Vagina.
Coe, Dr. Henry C. Ultraconservatism in the Surgery of Tubes and Ovaries.
Cullen, Thos., M.D. (Baltimore). The Value of the Microscope in the Early Diagnosis of Cancer of the Uterus.
Eden, T. W., M.D. (London). On Spurious Abortion with three Cases.
Garrigues, H. J., M.D. (New York). The Treatment of Abortion.
Hart, D. Berry. M.D. (Edinburgh). The Morphology of the Vagina.
Henrotin, F., M.D. (Chicago). The Operation of Choice in the Surgical Treatment of Septic Pelvic Diseases, with Special Reference to the Early Vaginal Incision.
Kelly, Howard, M.D. (Baltimore). (1) On the Conservative Treatment of the Ovary. (2) Demonstration on the Examination of the Bladder and Ureters.
Lawrie, J. M., M.D. (Weymouth). Notes on Thirty-Three Cases of Abdominal Section.
Lucas, T. P., M.R.C.S. (Brisbane, Australia). Menstruation, its Purpose and Design.
Lusk, W. C., M.D. (New York). A contribution to the study of the Firs Stage of Labour (from a frozen section).
Macdonald, A. A., M.D. (Toronto). Title not announced.
Maclean, Ewen J., M.D. (London). The After-history of some Gynæcological Operations.
Madden, T. More, M.D., F.R.C.S.I. (Dublin). 1. On some Points in Modern Treatment of Tedious Labour with description of a new Traction Forces; (2) On the Conservative Treatment of Fallopian Tube Disease.
Mundé, Paul F., M.D. (New York). Pelvic Abscess.
Parsons, J. Inglis, M.D. (London). A New Method of Treatment for Prolapse of the Uterus.
Robson, A. W. Mayo, F.R.C.S. (Leeds), to be read by Dr. Collier (Ripon). Porro's Operation for Tumour of the Pelvis complicating Pregnancy.
Ross, James F. W., M.D. (Toronto). The Diagnosis and Treatment of Intrapelvic Tuberculous Disease.
Smith, Dr. (Montreal). Diagnosis and Treatment of Retroversion of the Uterus, with Fixation.

E. Pharmacology and Therapeutics.

Lecture Hall of the Wesleyan College.

President: D. J. Leech, M.D., Manchester. *Vice-Presidents:* A. D. Blackader, M.D., Montreal; James Thorburn, M.D., Toronto; C. R. Church, M.D., Ottawa; J. B. McConnell, M.D., Montreal; F. J. Austin, M.D., Sherbrooke; Walter George Smith, M.D., Dublin. *Honorary Secretaries:* F. X. L. de Martigny, M.D., Montreal; J. R. Spier, M.D., Montreal; C. R. Marshall, M.B., Pharmacological Laboratory, Downing College, Cambridge.

The President will deliver a short Introductory Address.

Discussions on the Treatment of Insomnia, the Treatment of Syphilis, and Diuretics will be held on September 1st, 2nd, and 3rd respectively.

1. The Treatment of Insomnia will be opened by Dr. C. K. Clarke, Physician to the Rockwood Hospital, Kingston, on General Treatment; by Dr. R. W. Wilcox, Professor of Medicine and Therapeutics in the New York Post-Graduate School on the Value of Individual Drugs, with special reference to the newer Hypnotics; by Dr. A. McPhedran on the Ill Effects and Contraindications to the Use of Drugs; and by Dr. R. Ferguson, Lecturer on Therapeutics in the Western University, on the Mode of Action of Hypnotics.

2. A combined discussion with the Section of Dermatology on the Treatment of Syphilis (see p. 428). The Treatment of Syphilis will be opened by Dr. Whitla (Belfast). The introducer will deal with questions under the following heads: (*a*) How mercury and iodides are supposed to act in syphilis; (*b*) when should mercurial treatment be started, especially should it be given in the primary stage; (*c*) the various methods for its routine administration, dosage, etc., and the length of time necessary for mercurial treatment; (*d*) the treatment of tertiary and congenital syphilis. Dr. Shoemaker (Philadelphia) will also give a paper on this subject.

(Hypodermic and intravenous medication will be dealt with by a dermatologist.)

The question of Diuretics will be opened from the clinical side by Dr. Barr (Liverpool), and from the experimental by Mr. Marshall (Cambridge).

Among those who have promised to take part in the discussions are: Professor Richet (Paris), Dr. A. R. Cushny (University of Michigan, Ann Arbor), Dr. H. A. Hare (Philadelphia), Dr. A. D. Blackader (Montreal), Dr. H. Barnes

(Carlisle), Dr. Saundby (Birmingham), Dr. Donald MacAlister (Cambridge), Dr. Whitla (Belfast), Dr. J. A. Campbell (Carlisle), Dr. Brookhouse (Nottingham), Mr. Jordan Lloyd (Birmingham), Dr. J. Ward Cousins (Southsea), Dr. D. Berry Hart (Edinburgh), Dr. R. C. Stewart (Leicester), Dr. H. A. Mc'Callum (Western University), Dr. J. J. Cassidy (Toronto), Dr. James Watson (Southsea), Dr. R. Shingleton Smith (Bristol), Dr. G. Armstrong Atkinson (Newcastle), Dr. W. S. Muir (Truro, N.S.). Dr. Shoemaker (Philadelphia), Dr. James Bell (Montreal), Dr. J. E. Atkinson (Baltimore), Dr. J. T. Fotheringham (Toronto), and others.

Those who have promised papers are:

Hare, W, A. The Importance of Studying the Absorption and Elimination of Drugs.
Blackader, A. D. On Apocynum Cannabinum.
Cushing, A. R. A Contribution to the Pharmacology of the Mammalian Heart.
Edis, R. T. On the Treatment of Insomnia.
Leech, D. J. On Quillaia Bark.
Phillips, C. D. F., and Pembrey, M. S. On the Physiological and Therapeutical Actions of Hydrastis Canadensis.
Halliday, A. (Nova Scotia). The Effect of Certain Drugs on Gastric Secretion.
Fotheringham, J. T. (Toronto). On the Prescribing of Proprietary instead of Pharmacopœial Preparations.
Hutchison, R. On the Pharmacology of the Thyroid Gland.
Marshall, C. R. On the Treatment of the Heart Failure of Arteriosclerosis.
Marshall, C. R., and Taylor, J. J. On the Absorption of Mercury.
Chisholm, M. (Halifax). The Opposite Effects of Drugs in Large and Small Doses.
Bazin, M. On Diphtheria Antitoxin.

F. Pathology and Bacteriology.

Lecture Room II, McGill Medical College.

President: Watson Cheyne, F.R.C.S., F.R.S., London. *Vice-Presidents:* J. G. Adami, M.D., Montreal; J. Caven, M.D., Toronto; J. Stewart, M.D., Halifax; J. C. Davie, M.D., Victoria, B.C.; L. C. Prevost, M.D., Ottawa; M. T. Brennan, M.D., Montreal. *Honorary Secretaries:* W. T. Connell, M.D., Kingston, Ontario; C. F. Martin, M.D., Montreal; Rubert W. Boyce, M.B., University College, Liverpool; William Hunter, M.D., 54, Harley Street, Cavendish Square, W.

The following will be the subjects for discussion:

1. Serum Diagnosis and the Agglutinating Action of Serums, to be introduced by Professor Wyatt Johnston (Montreal).
2. Immunisation.
3. The Bubonic Plague.

Among those who will take part in the discussions will be Professor Welch (Johns Hopkins), Professor Crookshank (London), Dr. W. Hunter (London), Dr. A. S. Grünbaum (Liverpool), Dr. A. C. Abbott (Philadelphia), Dr. T. M. Cheesman (New York), Dr. R. Fitz (Boston), Dr. E. Hodenpyl (New York), Dr. Trudeau (Saranac), and Dr. F. F. Wesbrook (Minneapolis).

It is urged that British pathologists unable to be present should send to Dr. Rubert Boyce lantern slides and other material for demonstration bearing upon the subjects selected for discussion.

The following papers are promised:

Adami, J. G., M.D. (1) On Pictou Cattle Diseases (Infective Cirrhosis of the Liver). and (2) with Staples, E., M.D. (Montreal), On the Appendices Epiploicæ.
Barker. Lewellys F., M.D. (Baltimore). On the Changes in the Nerve Cells in Epidemic Cerebro-spinal Meningitis, with specia reference to lesions in the lower motor neurons.
Boyce, R. The occurrence of the B. Tuberculosus in Milk.
Caren, Professor J., M.D. (Toronto). Title of Paper not received.
Copeman, S. Monckton. M.D. (London). On Vaccinia.
Crookshank, Edgar, M B. On Actinomyces.
Flexner, Simon, M.D. (Johns Hopkins University). Pseudo-tuberculosis Hominis Streptothricia.
Goldman, Professor (Freiburg). On Early Infection of Blood Vessels in Carcinoma and Sarcoma (lantern slides).
Grünbaum, A. S., M.D. (1) The Smegma Bacillus. (2) Specimens of Pseudo-hypertrophic Paralysis.
Hammond, E. W. (Montreal). On Serum Diagnosis in Pictou Cattle Disease.
Herter, C. A., M.D. (New York). Experimental Observations on the Relation between Bacterial Activity in the Intestine and the Indican in the Urine.
Hodenpyl, Eugene, M.D. (New York) On the Occurrence of Typhoid Fever without Lesions of the Small Intestine.
Hough, Garry de N., M.D. (New Redford, Mass.) Demonstration on Diptera Parasitic in Man.
Kanthack, A. A., M.D. Cancer of the Testicle.
Manson, Patrick, M.D. On Filaria Sanguinis Hominis, with he demonstration of a new Species from Central and South America.
Moore, V. A., M.D. (Cornell University). The Bacteriology of Swine Plague and Hog Cholera, and the Relationship between the American and European Forms of Infectious Disease of Swine.
Stiles, H. J. On the Evolution of Cancer Bodies (lantern slides).
Thomson, Alexis H. Epithelioma of Penis.
Van Gieson, Ira, M.D. (New York). On Hæmato-myelopore and its Relations to Syringomyelia.
Washbourn, J. W., M.D. On Antipneumococcic Serum.
Washbourn, J. W., M.D., and Smith, Dr. G. Bellingham. Demonstration of Specimens of an Infective Neoplasm from the Dog.
Welch, Professor (Baltimore). The Distribution and Pathogenic Effects of the B. Aerogenes Capsulatus.
Wright, Hamilton K., M.D. (Montreal). On the Topography of the Posterior Columns.

G. Psychology.

Morris Hall, Presbyterian College.

President: R. M. Bucke, M.D., London, Ontario. *Vice-Presidents:* D. Clarke, M.D., Toronto; T. J. Burgess, M.D., Verdun, Quebec; A. Vallee, M.D., Quebec; G. Wilkins, M.D., Montreal. *Honorary Secretaries:* J. V. Anglin, M.D., Montreal; George Villeneuve, M.D., Montreal; J. G. Blandford, M.R.C.S., D.P.H., London County Asylum, Banstead, Sutton, Surrey.

The officers of this Section, believing that many of the papers already offered will be provocative of considerable debate, have determined to announce no special subjects for discussion. Among those who have offered to contribute papers are:

Bruce-Smith, Dr. R. W. (Physician to Asylum for Insane, Hamilton, Ontario. Title of paper not received.
Brush, Dr. E. N. Title of paper not received.
Bucke, R. M., M.D. (London, Ontario, Asylum). On Mental Evolution.
Clark, W., M.D. (Toronto Asylum). The Reflexes in Psychiatry.
Crothers, Dr. J. D. (Hartford, Conn.) Some New Phases of Inebriety in Clinical Studies.
Gooding, Dr. W. W. (Washington). Title of paper not received.
Hobbs, —, M.D. (London, Ontario, Asylum). Surgical Gynæcology in Insanity.
Rogers, Dr. (Asylum for Feeble Minded, Taribault, Minn.). Cases of Mongolian Idiocy
Rohe, G. H., M.D. (Maryland Hospital for Insane, Catonsville). The Etiological Relation of Pelvic Disease to Insanity in Women.
Russell, J., M.D. (Hamilton, Ontario, Asylum). Insanity in its Relation to the State.
Stearns, Dr. H. P. (Retreat for Insane, Hartford, Conn.). Heredity as a Factor in Etiology of Insanity.
Villeneuve, George, M.D. (Longue Pointe). The Proof of Insanity in Criminal Cases.
Wise, Dr. P. M. (Albany). Title of paper not received.

Among those who intend to take part in the business of the Section are Dr. N. H. Beemer (Mimico Asylum, Ontario), Dr. G. Alder Blumer (Utica, New York), Dr. C. K. Clark (Rockwood Hospital, Kingston, Ontario), Dr. Edward Cowles (Waverley, Mass.), Dr. T. D. Crothers (Hartford, Conn.), Dr. G. Stanley Hall (Worcester, Mass.), Dr. Hazlitt (Sunbury), Dr. Henry Hurd (Baltimore), Dr. Rogers (Asylum for the Feeble-Minded, Faribault, Minn.), Dr. George H. Rohe (Maryland Hospital for the Insane, Catonsville). Dr. Rothesay Stewart (Leicester) and Dr. A. R. Urquhart (Perth).

H. Ophthalmology.

Leeture Room I, McDonald Engineering Building.

President: Edward Nettleship, F.R.C.S., London. *Vice-Presidents:* F. Buller, M.D., Montreal; R. A. Reeve, M.D., Toronto; Ed. Desjardins, M.D., Montreal; A. A. Foucher, M.D., Montreal. *Honorary Secretaries:* W. H. Smith, M.D., Winnipeg; J. Jehin-Prume, M.D., Montreal; Thomas Herbert Bickerton, M.R.C.S., 88, Rodney Street, Liverpool.

The following subjects have been chosen for discussion:—

1. Heterophoria; the Indications for and Limitations of its Operative and Non-Operative Treatment. In connection with this subject Dr. F. Buller (Montreal) will read a paper on Abnormalities in the Functions of the Extrinsic Ocular Muscles.
2. How far can accurate Colour Vision be relied upon to Prevent Accidents on Railways and at Sea. In connection with this subject Mr. T. H. Bickerton (Liverpool) will read a paper on the Question of Colour Vision in the Mercantile Marine.
3. Antiseptics in Eye Surgery.
4. (If opportunity occurs) On the Prevention of Accident to the Eyes of Persons engaged in Industrial Employments.

The following communications on other subjects are promised:

Alt, Dr. A. (St. Louis, Mo., U.S.A.). Histology of an unusual case of Total Blindness after Injury to the Skull.
Beaupré, Dr. W. J. (Quebec). Abscission of the Cornea *versus* Enucleation.
Burnham, Dr. G. H. (Toronto). The Hypodermic Use of Pilocarpin in Eye Disease.
Collins, Mr. Treacher, and Marshall, Mr. Devereux (London), will send Pathological Specimens in Jelly.
Foucher. Dr. A. A. (Montreal). (1) The Etiology of Dacryocystitis. (2) Auto-Infection in Pustulous Keratitis.
Fulton, Dr. John F. (St. Paul, Minn., U.S.A.). Amblyopia of Strabismus.
Gould, Dr. Geo. M. (Philadelphia, U.S.A.). Retinitis Pigmentosa without Typical Pigmentation.
Jehin-Prume, Dr. Jules (Montreal). A Contribution to the Treatment of Syphilitic Eye Diseases.
Lee, Charles G. (Liverpool). An Unusual Case of Orbital Tumour.
Mathewson, G. H. (Montreal). Case of Metastatic Carcinoma of the Choroid.
Proudfoot, Dr. A. (Montreal). The Value of Weak Lenses in Certain Cases.
Reeve, Dr. R. A. (Toronto . Experiences with Cataract.
Smith, Mr. Priestley (Birmingham), will send : (*a*) Pathological Specimens in Formol ; (*b*) A Model illustrating Tscherning's Theory of the Accommodation.
Stirling, Dr. J. W. (Montreal). Title of paper not received.
Usher, Mr. C. H. (Aberdeen) will send Microscopical Sections of Opaque Optic Nerve Fibres (Human).
Würdemann, Dr. H. V. (Milwaukee, Wis., U.S.A.) Skiascopy in Relation to other Methods of Estimating Ocular Refraction.

I. Laryngology and Otology.

Lecture Room II, McDonald Engineering Building.

President: Greville Macdonald, M.D., London. *Vice-Presidents:* W. Tobin, M.D., Halifax; G. A. S. Ryerson, M.D., Toronto; H. S. Birkett, M.D., Montreal; G. R. McDonagh, M.D., Toronto. *Honorary Secretaries:* A. Chretien, M.D., Montreal; H. D. Hamilton, M.D., Montreal; W. Permewan, M.D., 7, Rodney Street, Liverpool.

The following discussions will take place: (1) On Turbinotomy, to be opened by the President. (2) On the Ultimate Results of Operations on the Mastoid in Suppurative Ear Disease. (3) On the Significance of Laryngeal Paralysis.

The following papers are announced in this Section:

Lake, Dr. Clarence J. (Boston, Mass.). The Operative Treatment of Mastoid Disease.
Brown, Dr. Price (Toronto). Chronic Interarytenoid Laryngitis.
Bryan, J. H. (Washington). A Contribution to the Anatomy of the Fronto-Ethmoidal and Frontal Maxillary Regions.
Jack, Dr. Albert H. (New York). Therapeutics of Chronic Vault and Antrum Diseases.
Delavan, Dr. D. B. (New York). Surgical Treatment of Malignant Disease of the Larynx.
Harlow, Dr. Jno. W. (Boston, Mass., U.S.). Presentation of Instruments, with remarks.
Hobbs, Arthur G., M.D. (Atlanta, Ga.). When not to Inflate the Middle Ear.
Horne, Jobson, M.D., and Yearsley, Macleod. F.R.C.S. (1) On Eucaine as a Local Anæsthetic in the Surgery of the Throat, Nose, and Ear. (2) On Turbinectomy.
Hovals, E. Fletcher, M.D. (Chicago). On the Relation of Nasal Diseases to Pulmonary Tuberculosis.
Jones, T. W. Carmallt, F.R.C.S.Ed. Some After-Effects of Turbinotomy.
Knight, Chas. H., M.D. (New York). Upon a Foreign Body (Metallic Button Hook) removed from the Larynx by Laryngo-Fissure.
McDonagh, Dr. G. K. (Toronto). Title not given.
Mackenzie, Dr. John N. (Baltimore, Ind., U.S.). The Physiological and Pathological Relations between the Nose and the Sexual Apparatus.
Morse, Dr. H. Lee (Boston). Some Points in the Anatomy of the Mastoid Process, which have a Practical Bearing on the Operation for Opening the Mastoid.
Myles, Dr. R. C. (New York). Diseases of the Frontal Sinuses, with a Report of 11 Cases Opened Externally.
Newyer, J., M.D. (New York). Acute Syphilitic Stenosis of the Larynx in the Adult treated by Intubation.
Roe, John O., M.D. (Rochester, New York). The Correction of Nasal Deformities by Subcutaneous Operations.
Scott, G. T., M.D. (Montreal). Bilateral Abductor Paralysis from Recurrent Laryngeal Nerve Paralysis.
Scheer, Scanes, M.D. (London). (1) On Reduction of the Inferior Turbinate Bone in Certain Cases of Nasal Obstruction. (2) On the Significance and Treatment of Recurrent Retention of Secretion in the Recessus of the Tonsils. (3) A Case of Multiple Papillomata of Larynx in a Man aged 73.
Würdemann, Dr. H. V. (Milwaukee, Wis., U.S.A.). Phosphoric Necrosis of Temporal Bone.

Among those who intend to take part in the business of this Section are also Dr. J. Solis-Cohen (Philadelphia), Dr. Jarrett (Montreal), Dr. Chretien (Montreal), Dr. G. R. McDonagh (Toronto), Dr. D. B. Delavan (New York), Dr. Charles Warden (Birmingham), Dr. J. W. Mackenzie (Baltimore), and Mr. Lennox Browne (London).

J. Anatomy and Physiology.

Lecture Room I, McGill Medical College.

President: Augustus D. Waller, M.D., F.R.S., London. *Vice-Presidents:* F. Shepherd, M.D., Montreal; A. B. Macallum, M.D., Toronto; T. Wesley Mills, M.D., Montreal; A. Primrose, M.D., Toronto; J. B. A. Lamarche, M.D., Montreal; D. B. Fraser, M.D., Stratford, Ontario. *Hon. Secretaries:* J. M. Elder, M.D., Montreal; W. S. Morrow, M.D., Montreal; Robert Hutchison, M.D., Physiological Laboratory, London Hospital Medical College, Turner Street, Mile End, E.

The following have been selected as subjects for the discussions:

September 1st. Anæsthetics, to be introduced by the President of the Section (Dr. A. Waller). Among those who are expected to take part in this discussion are Dr. Shore (Cambridge), Dr. Kemp, F.R.S. (Baltimore), Professor W. D. Halliburton, F.R.S. (London), Dr. A. B. Macallum (Toronto), Dr. H. A. Hare (Philadelphia), Dr. G. T. Kemp (Baltimore), Dr. G. Gordon Campbell (Montreal), Dr. Kenneth Cameron (Montreal), Dr. Richet (Paris), Warren P. Lombard, M.D. (Michigan), Professor Beard (University of Minnesota), and Professor E. N. Stewart.

September 2nd. The best methods of Teaching Anatomy, to be introduced by Professor Alex. Macalister (Cambridge) and Dr. F. J. Shepherd (Montreal).

September 3rd. The Causation of the Heart Beat and its Modifications, introduced by Dr. Gaskell, F.R.S. (Cambridge) and Professor T. Wesley Mills (Montreal). Dr. Porter (Boston), Professor E. N. Stewart, Dr. W. Townsend Porter (Boston), Dr. A. B. Macallum (Toronto), Dr. G. Carr Huber, (Ann Arbor, Mich.), Dr. A. Knight (Kingston), Dr. T. Wesley Mills (Montreal), are expected to take part in the discussion.

The following papers have been promised:

Beard, Professor R. O. (University of Minnesota, U.S.A.). Studies upon the Metabolism of the Blood.
Huber, G. Carl, M.D., Assistant Professor of Histology and Embryology University of Michigan, Ann Arbor. A brief account of some observations on the Sympathetic Ganglia of Vertebrates.
Kemp, G. T., M.D., Ph.D. (Baltimore). Nitrous Oxide Anæsthesia.
Knight, A. P., M.A., M.D., Professor of Physiology. Queen's University, Kingston, Ontario. Action of certain Chemical Salts on the Heart Beat of Fish Embryos.
Lombard, Warren, P., M.D., Professor of Physiology, University of Michigan, Ann Arbor. Anatomy of the Knee-joint of the Frog, with special reference to the action of Flexor and Extensor Muscles.
Macalister, Professor Alex. (Cambridge). The Influence of Head Shape on Cranio-cerebral Topography.
Macallum, A. B., M.B., P.H.D., Professor of Physiology, Toronto University. Some observations on the Micro-Chemistry of Cells and Tissues.
Meltzer, S. J., M.D. (New York City). On the effect of Anæsthesia upon the Reflexes of Deglutition and of the Closure of the Glottis.
Mills, T. Wesley, M.D., L.R.C.P., Professor of Physiology McGill University. The Cerebral Cortex.
Paton, Dr. Noel (Edinburgh). Metabolism of the Salmon in Fresh Water.
Porter. Dr. W. T., Assistant Professor of Physiology, Harvard University. Observations on the Mammalian Heart Beat.
Pembrey, Dr. M. S. The Temperature of Man and Animals after Section of the Spinal Cord.
Stewart, Dr. G. N. The relation of Electrolytes to the other Constituents of Animal Cells and Liquids, with especial reference to the Blood Corpuscles and Blood Plasma.
Thompson, Professor W. H. (Belfast). Degenerations resulting from Lesions of the Sensory Area of the Cortex Cerebri.

On September 2nd Dr. Waller will give an experimental demonstration of the Relative Efficacy of Chloroform and of Ether as Nerve Anæsthetics.

Dr. Gustav Mann will send for exhibition specimens illustrating the Minute Histology of the Liver in Active and Resting Conditions. Dr. D. A. Welsh (Edinburgh) will exhibit specimens illustrating the Histology of the Parathyroid Glands. Dr. Geo. Oliver will exhibit his new Hæmoglobinometer and Hæmocytometer. Drs. Leonard Hill and Barnard will exhibit a new and accurate form of Sphygmometer.

Dr. Shore and Professor Sherrington will take part in the proceedings.

K. Dermatology.

Lecture Room III, McDonald Engineering Building.

President: Malcolm Morris, F.R.C.S.Ed., London. *Vice-Presidents:* J. E. Graham, M.D., Toronto; F. J. Shepherd, M.D., Montreal; J. A. S. Brunelle, Montreal; G. L. Milne, M.D., Victoria, B.C. *Hon. Secretaries:* Gordon Campbell, M.D., Montreal; J. M. Jack, M.D., Montreal; James Galloway, M.D., 54, Harley Street, Cavendish Square, W.

A subject selected for discussion in this Section is the Clinical and Pathological Characteristics of Vesicular Skin Diseases, especially the Dermatitis Herpetiformis Group.

It is intended that a joint meeting should be held with the Section of Pharmacology and Therapeutics for the discussion of the subject of the Treatment of Syphilis (see p. 425).

The following papers are announced:

FOX, T. Colcott. Demonstration of the Biology of the Trichophyte.
GALLOWAY, James (London) On Melanotic Conditions of the Skin preceding Malignant Disease of the Skin.

Among those who are expected to take part in the discussions of this Section are Dr. E. B. Bronson (New York), Dr. L. D. Bulkley (New York), Dr. J. A. Fordyce (New York), Dr. J. N. Hyde (Chicago), Dr. G. T. Jackson (New York), Dr. Stephen Mackenzie (London), Dr. A. Eddowes (London), and Dr. White (Boston).

ANNUAL MUSEUM.

THE PATHOLOGICAL MUSEUM.

The Pathological Museum will be established in the Dissecting Room of McGill Medical College, a large, lofty, and well-lighted room. The Secretary of the Pathological Subcommittee of the Museum Committee is Dr. C. F. Martin, McGill Medical College, Montreal, who will be glad to receive the loan of specimens, drawings, and photographs illustrative of both normal and morbid anatomy, as also any new apparatus for research in physiology, pathology, or bacteriology.

Specimens illustrating diseases peculiar to the remoter portions of the Empire are especially desired. It is proposed to make a special collection of photographs and microphotographs of morbid conditions. These will be suitably mounted and carefully returned to the owners.

Suitable vessels and jars, and spirit and other media will be provided for moist specimens.

FOODS, DRUGS, AND APPLIANCES.

Regulations Regarding Exhibits.

1. Communications on general matters connected with the Museum and applications from intending exhibitors should be addressed to the Honorary Secretaries, Drs. J. W. Stirling or J. M. Jack, 2204, St. Catherine Street (British Medical Association Rooms).

2. Information of the allotment of space will be furnished as promptly as possible, and on receipt of cheque for the cost of such space, a card for the admission of the exhibit will be forwarded.

3. All cheques to be made payable to J. W. Stirling, M.B.

4. All exhibits should be directed to the British Medical Museum, Victoria Skating Rink, Drummond Street, Montreal, Canada, with the name of the Section for which they are intended. Packages must also be addressed to a firm's representative at the Museum.

5. Exhibits must be delivered between August 27th and 28th; they must each bear a card indicating the name and address of the exhibitor; they must be arranged in their allotted space before 2 P.M. on August 28th, and it is desirable that they be not removed till September 6th.

6. Signs or placards must be so arranged as not to interfere with adjacent exhibits: on the central tables no sign or placard must reach higher than 2 feet 6 inches from the table.

7. The Committee will not be responsible for any risks or expenses incurred; they reserve discretionary power to exclude any exhibit they may consider unsuitable; they will only receive exhibits conditionally upon strict compliance with the foregoing regulations, and in all matters of doubt and difficulty their decision shall be final.

8. The Museum Committee or its representatives must be recognised as being in full control of the exhibition building and its management.

Tables occupying the centre of the Hall, and other prominent positions, are to be let by private tender; other tables varying in charges from 4s. to 2s. per square foot. Certain floor space will be let at 1s. per square foot.

BRANCH MEETING.

GRIQUALAND WEST BRANCH.

A QUARTERLY meeting was held on June 7th, Dr. SYMONDS (President) in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Communications.—Dr. WATKINS showed: 1. A fine specimen of Cystic Kidney which he had successfully removed from a woman about 18 years of age; upwards of six pints of fluid were evacuated from the enormously dilated pelvis at the operation before the organ was excised. 2. A Ruptured Spleen which he had removed from a patient who had sustained this as well as other severe injuries in a mining accident; the patient died about twelve hours after the operation. Dr. Watkins read full notes of both cases, and also described at some length a case in which he had very successfully employed Murphy's button in a case of strangulated hernia, after resecting 8 or 10 inches of gangrenous bowel; the button passed *per anum* on the tenth day.—Dr. GRIFFITH showed the Cervical and Upper Dorsal Vertebræ from a case in which the patient showed the signs of fractured spine, dying ten months after receipt of the injury from pyelitis and septicæmia.—The SECRETARY read Dr. CRAIGER'S paper on the Disposal of Organic Refuse, in which the writer pointed out the advantages of Dr. Poore's system of disposing of human excreta, by using a modified form of earth-closet, and burying the excreta in shallow trenches made in the soil of a so-called "sanitary garden." A short discussion followed in which all the members present joined.

SPECIAL CORRESPONDENCE.

MONTREAL.

The Annual General Meeting of the British Medical Association: Conjoint Meeting of Sections: Excursions and Entertainments during the Meeting: Notice to Members Disembarking at Quebec: Excursions after the Meeting: The Opening Ceremonies: The Medical Week in Montreal, August 30th to September 4th.

As we have had to report several times during the last few months, so great interest is taken in Montreal in the forthcoming meeting that everything else medical is thrown into the background. Notwithstanding there is little that can well be reported with regard to the large amount of work which is now being performed by the various subcommittees. This much, however, may be said with regard to the work of the meeting, that as a feature of this gathering it is proposed to hold several what may be termed "combined discussions," or, more correctly, to hold discussions in which two or more Sections will take part. Thus, for example, it is proposed that the discussion on Anæsthetics shall be under the combined auspices of the Sections of Anatomy and Physiology and Surgery. That upon Serum Diagnosis of those of the Sections of Medicine and of Pathology and Bacteriology; and that upon the Treatment of Syphilis under those of the Sections of Pharmacology and Therapeutics, and of Dermatology. The results to be obtained from a coming together of those who approach these subjects from different standpoints will doubtless be most valuable, and the advantages it is thought will overbalance the disadvantages.

In the matter of excursions and entertainments, several more garden parties and private entertainments and receptions have been offered to the Executive. Miss Roddick will give a reception at the Art Gallery in the afternoon on Tuesday, August 31st; the Local Executive will give a dinner to the various delegates appointed to be present at the meeting; a smoking concert will be given in the Masonic Hall on the evening preceding the opening, and on the Saturday of the meeting the city of Ottawa offers to entertain a large party who will be given a free journey thither. These are the more important of the more recent offers of entertainment, and are far from being all. We can only conclude that visiting members and their wives need have very little free time to themselves from Monday the 30th, to Monday, September 6th.

Some little anxiety has been expressed in Montreal that all those who travel by the St. Lawrence route and propose to break their journey at Quebec shall have obtained from the General Secretary of the Association a provisional certificate of membership. It is true that a member or representative

of the local Executive Committee will meet each boat on arriving at Quebec, and will see that every member leaving the boat there receives a certificate which will give him the privilege of travelling at half rates in various directions, but it will be a safe measure of precaution for members to be provided with a provisional certificate which can be obtained on application to the General Secretary of the British Medical Association, 429, Strand, W.C. Members who have not already secured or received definite notice concerning their accommodation in Montreal are begged immediately on their arrival to call at 2204, St. Catherine Street (office open between the hours of 9 and 6) if their arrival is before August 30th, or, if they arrive after the 30th, at the reception room, McGill College, which will be open from 8 in the morning until 6 at night. Those coming by the St. Lawrence route direct to Montreal will be met on their arrival at the wharf by a member or members of the Committee, who will give them all the necessary information.

If any are still in doubt as to what excursions they should make in Canada, upon application to the General Secretary at 429, Strand, London, W.C., they will receive a small leaflet describing briefly the leading excursions and the approximate cost of the same.

The Museum Subcommittee have now rented all the available space in the Exhibition Hall, and the museum promises to be most attractive, for American firms, as is well known in the old country, are willing to make every effort to render their exhibits attractive and instructive.

We are glad to say that the Governor-General (Lord Aberdeen), Sir Adolphe Chapleau, Lieutenant-Governor of the Province of Quebec, and other leading members of the Government will be present at the opening of the meeting and again at the annual dinner.

PROGRAMME FOR THE WEEK IN MONTREAL, BEGINNING ON MONDAY, AUGUST 30TH.

CANADIAN MEDICAL ASSOCIATION.

MONDAY, AUGUST 30TH.

AFTERNOON.—Meeting of the Canadian Medical Association. Address by the President (Dr. V. H. Moore, of Brockville, Ont.).

9 P.M.—Smoking Concert at the Masonic Hall.

TUESDAY, AUGUST 31ST, 1897.

9 30 A M.—Meeting of the Canadian Medical Association at the Synod Hall to discuss the subject of Interprovincial Registration of the Medical Profession in Canada.

BRITISH MEDICAL ASSOCIATION.

TUESDAY, AUGUST 31ST.

11 A.M.—Opening Service of the British Medical Association at the English Cathedral, Sermon before the Association by the Right Rev. the Bishop of Niagara (Dr. Dumoulin).

2.30 P.M.—Opening Ceremonies at the Windsor Hall and Address by the President.

4.30 P.M.—Excursion (Electric Cars) round the Mountain.

5 P.M.—Afternoon Tea and Reception at the Art Gallery by Miss Roddick.

WEDNESDAY, SEPTEMBER 1ST, 1897.

:0 A M. to 1 P.M.—Sectional Meetings in the various lecture theatres at McGill College, Presbyterian, Diocesan Colleges, etc.

3 P.M.—Address in Medicine at the Windsor Hall by Dr. Wm. Osler, of Baltimore.

4.15 P.M.—Excursion down the St. Lawrence and Garden Party in the grounds of the Royal Victoria Hospital.

9 P.M.—Reception at, 1157, Dorchester Street by the Hon. Sir Donald A. Smith, K.C.M.G.

THURSDAY, SEPTEMBER 2ND, 1897.

9 A.M. to 1 P.M.—Sectional Meetings.

1.30 P.M.—Lunch upon the Mountain, given to the Association and its guests by the Mayor and Corporation of Montreal.

3 P.M.—Address in Surgery by Mr. W. Mitchell Banks, of Liverpool

4 P.M.—International Golf Match and Reception at the Montreal Golf Club at Dixie. Garden Party given by Mrs. Redpath—Afternoon Teas, etc.

7.45 P.M.—Annual Dinner of the Association at the Windsor Hotel, at which it is hoped that His Excellency the Governor-General will be present.

8 30 P.M.—Concert at the Armoury, etc.

FRIDAY, SEPTEMBER 3RD, 1897.

A.M. to 1 P.M.—Sectional Meetings: McGill College.

3 P.M.—Address in Public Medicine at the Windsor Hall by Dr. Herman Biggs, of New York. Concluding Ceremonies of the Meeting.

4.15 P.M.—Excursion to Lachine, Lake St. Louis, and down the Lachine Rapids.

6.45 P.M.—Dinner given to Lord Lister and Presentation of Address by the Montreal Medico-Chirurgical Society.

9 P.M.—Presentation of Honorary Degrees at McGill University, followed by a *Conversazione* in the University Buildings and Grounds.

SATURDAY, SEPTEMBER 4TH, 1897.

Excursions to Ottawa, Lake Memphremagog, etc.

CHICAGO.

Medical Graduation and Practice in the United States.—A Red Cross Cycle Corps.—Chicago Medical Society.—The North-Western University Women's Medical School.—Another Diploma Mill.—General News.

THE graduation exercises at all the medical colleges are over, and a large number of new doctors have hung up their shingles all over the west and north-west, the principal territory supplied by Chicago's institutions. Rush Medical College graduated 280 students this year, one of the largest classes it has ever sent out. And this in the face of so-called "hard times" and the cry that the profession is greatly overcrowded. It must be remembered, however, that but a very small percentage of the total number graduating each year from the large metropolitan schools, probably not more than 2 or 3 per cent., begin practice in the city. They spread out over a vast area of country that is steadily increasing in population; and while as a usual thing competition is brisk and a young man has to go in and struggle for two or three years under an income barely enough to cover the sterner necessities of existence, yet occasionally an "opening," as it is called, will be discovered which offers a very comfortable living from the very start. Generally it is only after a number of years' practice in the country districts that the ambitious and qualified man leaves his rural victories and defeats and enlarges his sphere by removing to some considerable city. The experiment sometimes succeeds, sometimes fails. At any rate, we frequently observe in a professional life two cycles of experience embracing rural and city life. First the young man comes from the country or village life of his youth to the large city school for his education, and then returns to the simpler, quieter, but none the less valuable, country practice. And probably nine out of ten stop at this point and never enter the second cycle except in thought and reverie. With a few, however, the second city experience mentioned comes in time, and, if success follows, many years may be spent in city life, but towards the end, when the time of retirement is reached, there is almost always a longing for a return to the peacefulness of the rustic life, and the second cycle is finished with the return to a country resting place.

The frequent accidents happening to wheelmen in racing, and especially in riding on a crowded boulevard, has brought about the organisation of a Red Cross corps of wheelmen. These volunteers, taken mainly from the cycle clubs of the city, are given special instruction in first aid to the injured, and are expected, in consequence, to render intelligent aid in case of an accident until the arrival of a physician or an ambulance. The present Mayor of Chicago, himself an enthusiastic wheelman, has given personal interest to the movement, and already a considerable number have taken the drilling. The Red Cross arm band is the official badge.

The Chicago Medical Society has leased extensive quarters in a large, new down-town office buildings. These rooms are to be arranged for meeting purposes, and a sort of home for the organisation. The tendency, however, is towards specialised bodies and small gatherings, and this fact, if there were no others, would tend to divert interest from the large, unwieldy city societies.

Some very radical faculty changes have recently occurred at the North-Western University Woman's Medical School, the only woman's medical school in Chicago. This has occasioned no little criticism and dissatisfaction, and there is a good deal of open talk of the establishment of a rival college for women. It is quite certain, however, that the College of Physicians and Surgeons, which is now the Medical Department of the University of Illinois, and which by this affiliation becomes of necessity a coeducational college, will open its doors for the admission of women at no distant date. It

has been announced by a good authority that the change will not take place in the fall of 1897, but that a year later the arrangements will probably be effected.

Out of the ruins of the old "diploma mill"—the Illinois Health University—there arose another humbug, quite as audacious and bold. It has been doing a diploma-selling business, and flourishing in spite of State laws and popular opinion, as well as profession opposition. Retribution has at last overtaken the offenders, however, and they are being prosecuted by the State Board of Health. A very much more rigid law seems to be necessary to reach this class of charlatans for no sooner are they dispersed at one point when they gather at another.

The dedication of the biological laboratory at the University of Chicago recently took place, Dr. W. H. Welch of Johns Hopkins Hospital of Baltimore being present and taking part in the ceremonies.

HONG KONG.

Bubonic Plague in the Colony.—Dr. Yersin and the Hong Kong Officials.—The Victoria Hospital for Women and Children.—New Principal Civil Medical Officer.—Hong Kong this Year Free from Plague.

A MEDICAL report of the prevalence of bubonic plague in the Colony of Hong Kong during the years 1895 and 1896, prepared for the Government by Dr. J. M. Atkinson, Acting Colonial Surgeon, has been published. It is of special interest and value as a concise statement of the general conclusions arrived at as the result of experience of plague epidemics in this colony, though it does not enter into the statistics of 1894, the epidemic of that year having been exhaustively discussed in a previous report by Dr. Lowson, now engaged in special plague service in India. The total number of cases reported in 1895 was 44, and in 1896 1,204, the maximum in the latter year being reached in the months of May and June. Meteorological data, the general sanitary condition of the colony, the existence of plague in the vicinity of the colony, and the proceedings adopted with a view to preventing the spread of the disease are described in connection with each of the years under review. During 1896, while the total mortality was 89.5 per cent., the mortality among cases that came under treatment in the hospital was only 74 per cent. It is noted that as many as 20 per cent., and towards the end 27 per cent., of the cases during the 1896 epidemic did not develop any buboes. In all cases the disease was diagnosed as plague, by demonstrating the presence of the bacillus in the blood, or by culture experiments of the blood, fæces, or urine. Dr. Atkinson draws the following general conclusions from the experience of the past two years:—1. That the occurrence of plague is favoured by: (1) Long prevalence of draught or of abnormally low rainfall; (2) atmospheric temperature below 82° F.; (3) absence of sunshine; (4) general insanitary conditions, such as obstruction to the free access of light and air to domestic dwellings. 2. That the steps to be taken to retard the progress of the disease are: (1) General cleanliness and the free admission of light and air to domestic dwellings; (2) the immediate isolation of the sick, and those who have been in close contact with the disease; (3) the careful and systematic disinfection of all premises in which cases occur, and of latrines.

It having been pretty openly stated by French journalists that Dr. Yersin received but scant courtesy from the Hong Kong officials in the matter of his plague serum, Dr. Atkinson's statement of what took place is noteworthy. Towards the end of June, 1896, Dr. Yersin arrived from Saigon with plague serum, which he had obtained from Professor Roux, of Paris, and some which he had himself prepared at Saigon. There being unfortunately at the moment no acute cases in the hospital, he was recommended to proceed to Amoy, where the disease was raging. At the same time, he was requested to leave some of his serum for trial in Hong Kong when opopportunity might offer, but he did not do so. Later in the year another attempt was made to obtain some of the serum, the Hong Kong Government directly moving in the matter, but a reply was received from the Governor-General of Indo-China, to the effect that the experiments in Canton and Amoy had not sufficiently tested the remedy to permit of its being administered by others than Dr. Yersin himself, or medical men specially instructed by him, without compromising the success of his discovery; but that on his return from Paris, Dr. Yersin would, if required, be authorised to proceed to Hong Kong, and continue his experiments there. Events in in India have in the meantime afforded ample opportunity for the testing of the remedy on a large scale in Bombay, and the results are being watched with much interest here.

The erection of a hospital for women and children is part of the permanent memorial in Hong Kong of Her Majesty's Record Reign, and the foundation stone of the Victoria Hospital was duly laid on Tuesday, June 22nd, by the Governor, Sir William Robinson, G.C.M.G. The site of the new hospital is close by the Government Civil Hospital, in connection with which institution it will be carried on.

Dr. P. B. C. Ayres, C.M.G., having retired from the office of Colonial Surgeon, has been succeeded by Dr. Mitford Atkinson, M.B.Lond., M.R.C.S., D.P.H., etc., Superintendent of the Government Civil Hospital. At the same time, in accordance with instructions from the Secretary of State for the Colonies, the title of the office has been changed from Colonial Surgeon to Principal Civil Medical Officer.

Though bubonic plague has been prevalent in several parts of South China, and within a very short distance from the Colony, Hong Kong has thus far escaped during the present year, only four cases, three of which were in one house, having been reported up to the end of June.

SYDNEY.

The Queen Victoria Consumption Hospital.—Medical Dinner.—The "Mountain Murders."

IT has long been felt that adequate and suitable provision for the treatment of phthisical patients is a serious want in New South Wales. For many years past a small home for consumptives has been maintained at Thirlmere, about sixty miles south-west of Sydney, by the benevolence of Colonel Goodlet. This institution, however, has mainly been used as a hospice for hopeless cases, and its resources have always been largely overtaxed. A movement has been started to commemorate the Queen's record reign by the establishment of some hospital for the treatment of pulmonary phthisis, to be called the Queen Victoria Hospital for Consumption. A preliminary meeting of those interested in the movement was held at Government House, and subsequently a large public meeting was held at the Town Hall, under the presidency of the mayor. The Governor (Lord Hampden) and other prominent public men pleaded eloquently for the establishment of these hospitals. A large and influential committee was appointed, and subscriptions amounting to between three and four thousand pounds were announced. The scheme proposed includes the establishment of (1) a hospital in or near Sydney with an out-patient department for the observation and examination of cases, and the treatment of the complications of phthisis; (2) country sanatoria in suitable parts of the colony where the climatic conditions are favourable; (3) a hospice for hopeless cases. It is recognised that for the equipment and maintenance of these hospitals a considerable sum will be required. At a meeting of the profession held recently in Sydney, it was unanimously agreed to recommend to the Executive Committee that until sufficient funds were available to complete the whole scheme, the establishment of country sanatoria should take precedence. These sanatoria are to be of the nature of farm colonies, where the patients can do light work and assist in the maintenance of the farm. They will be reserved for patients in the early stages of the disease who are likely to be benefited if not cured by climatic treatment. The Government has assisted the movement by issuing two kinds of special stamps whose face value is 1d. and 2½d., which are sold to the public at 1s. and 2s. 6d. respectively, the balance going to the funds of the hospital.

The annual dinner of the Medical Associations of Sydney and Suburbs was held at the Australia Hotel on June 23rd. The chair was taken by Dr. J. A. Dick, of Randwick, the President of the Eastern Suburbs Medical Association. In proposing the toast of "The Queen," he took the opportunity of briefly referring to the progress of the profession in this colony during the last sixty years. Some songs were con-

tributed by Drs. Maguire, Read, Hughes, McDonagh, and others, and an enjoyable evening was brought to a close by singing "Auld Lang Syne" and the National Anthem.

At the last sitting of the Central Criminal Court Frank Butler was convicted of the murder of Captain Lee Weller at Glenbrook in November of last year, and sentenced to death. The prisoner planned and successfully carried out a series of murders, commonly known now as the "Mountain murders." His *modus operandi* was to advertise for a partner, with £10 to £20, to go on a gold prospecting tour. Having got his victim away in a lonely part of the country, he appears to have set him to work digging for gold, and then shot him through the head with a rifle bullet. At the *post-mortem* examination of the body of Weller, the bullet was found to have entered the skull in the occipital region on the left side, to have become embedded in the body of the sphenoid. Counsel for the defence set up the theory that this wound could have been self-inflicted. The medical witnesses for the prosecution on cross-examination were obliged to admit that theoretically it would have been possible, if the deceased's left hand had been drawn behind his back, for him to have inflicted the wound himself with a revolver. But this could only have been possible if the deceased's hand had been placed in such a strained and awkward position that it would have been practically impossible for him to have fired the revolver.

MELBOURNE.

Sir Thomas Naghten Fitzgerald, Kt., F.R.C.S.I.: Feeling of the Profession: Proposed Public Dinner.

Among those whom Her Majesty the Queen delighted to honour on the recent occasion of the celebration of the Diamond Jubilee was Mr. T. N. Fitzgerald, of Melbourne, on whom the title of knighthood was conferred. Sir Thomas came out to Victoria in 1852, and ever since then he has been in active practice. Shortly after his arrival in the colony he received the appointment of House-Surgeon to the Melbourne Hospital. He very quickly became popular, and after four years he started private practice on his own account. At the next election of the honorary medical staff of the hospital he was elected to the position of honorary surgeon. At once he obtained a leading practice, and was very generally consulted in surgical cases. Some few years afterwards he was elected President of the Medical Society of Victoria. About this time he erected his present house and private hospital. About ten years ago he paid a visit to England. He was President of the second Intercolonial Medical Congress held in Melbourne in 1889. As clinical lecturer in surgery in the Melbourne Hospital he has taken a leading position, and his cases have been published in various medical journals. In plastic and orthopædic operations he has been singularly successful. There has been hardly a major operation of any kind in the colony for which he has not been consulted. The large increase in numbers of the medical students to the Melbourne Medical School is a testimony of his popularity. The honour now conferred upon him has given general satisfaction both to the profession and to the public. For he is an eminent surgeon in the best sense, and in a high sense of personal professional honour he stands without reproach. The feeling entertained with respect to his knighthood is one of deep satisfaction also, in that it is regarded as a compliment to the whole brotherhood of medicine in these Colonies. For although he is not the first medical man who has been knighted, it is only the truth to say that his is the first instance in these Colonies in which the distinction has been bestowed for purely scientific and personal worth. Sir Thomas is to be shortly entertained by the profession at a dinner at which the Governor of the Colony, Lord Brassey, will be present.

French Association for the Advancement of Science.—The twenty-sixth Congress of the French Association for the Advancement of Science opened on August 5th at St. Etienne. Professor Marey, of the French Institute, delivered an address on the Graphic Method and the Experimental Sciences. After the reading of the report for the past year, M. Marey declared the Congress open. The work of the Congress is divided among seventeen sections.

CORRESPONDENCE.

THE SERUM DIAGNOSIS OF ENTERIC FEVER.

Sir,—I have read with much interest in the British Medical Journal of August 7th the remarkable results obtained by Surgeon-Major Freyer in applying Widal's serum test for enteric fever to the blood of healthy natives of India and the still more remarkable conclusion that the majority of these natives have suffered from an unrecognised attack of enteric fever in childhood, which he draws from the occurrence of a positive reaction with their blood. It seems that he used a vigorous culture of Eberth's bacilli on gelatine for the test, emulsions from this being made in water, but that special subcultures were not made from this for each application of the test. Now it has been found by different observers that in cultures on any medium which are older than forty-eight hours Eberth's bacilli are liable to be collected into clumps and to be less motile than in fresh cultures. It has also been found that old cultures are prone to give a reaction, just like Widal's reaction, with normal blood.[1] It is necessary, therefore, to have pure, young, and active cultures of Eberth's bacilli, and the neglect of this precaution is quite sufficient to account for Dr. Freyer's results.

The test supplies us, I consider, with a symptom of enteric fever, which is more characteristic than any other individual symptom that we are at present acquainted with. The symptom is not, however, absolutely pathognomonic. For instance, even when using the ordinary dilution of 1 in 10 and taking every essential precaution, the reaction is sometimes obtained with the blood of persons who are not suffering and have never suffered from enteric fever. Dr. Fison[2] quotes an interesting case of this sort from Dr. Kanthack, where the patient's disease was proved *post mortem* not to be enteric fever, although a positive reaction had been obtained; the exact dilution of the serum used by Dr. Kanthack is unfortunately not mentioned. Some cases, again, of clinical enteric fever never give a reaction with a 1 in 10 dilution throughout the course of their illness. Examples of this have been recorded by several observers, and I myself have met with two. Cases where no reaction has been obtained during the primary attack, but a decided reaction has been obtained during a subsequent relapse, afford very positive proof that it is possible for a patient to pass through an attack of enteric fever without giving the reaction. Thoniot and Cavesse[3] record one such case, and I reported another in a paper read before the West London Medico-Chirurgical Society last April. I may have misread Surgeon-Major Freyer's paper, and his method of applying the test may in reality not be open to objection, but it is evident, from the known imperfections of the test, that we cannot venture to conclude that the majority of a nation have suffered in their childhood from enteric fever simply from evidence drawn from this test, more especially as, in Europe at any rate, only some of those who have suffered from an attack of enteric fever give a positive reaction some years later. It will, however, be interesting to see whether Surgeon-Major Freyer's results are at all confirmed by other observers employing methods free from all objection.—I am, etc.,

Upper Berkeley Street, W., Aug. 6th. Alfred M. Gossage.

CERTAIN POINTS IN THE CAUSATION AND TREATMENT OF SPINAL CURVATURE.

Sir,—In a paper published in the British Medical Journal of July 17th on the above subject, Mr. Barwell again draws attention to the "amesial pelvis," and he alludes to a figure of this condition in the last edition of his work on spinal curvature. In a book on the same subject now in the press, I have discussed this condition and have shown that the amesial pelvis is not the whole story. Briefly the facts are these: Mr. Barwell has only taken his plumbline from the "vertebral prominence," and noticed that the rima natium is to one or other side of it. If Mr. Barwell had taken the plumbline from above the patient's head to the ground between her feet, he would have found not only the pelvis but the whole body amesial. The figure he alludes to

[1] *Cf.* Dr. Fison's paper in British Medical Journal, July 31st, 1897.
[2] *Loc. cit.*
[3] *Bull. et Mém. de la Soc. Méd. des Hôpitaux de Paris*, Dec., 1896, p. 863.

in his book has the plumbline passing through the middle line of the head to midway between the heels. This is not a position which a curvature patient would naturally assume. Mr. Barwell's account of how he arrived at this diagram explains the error. She was examined "piecemeal," and "the result embodied in an outline sketch." If in his second figure a vertical be drawn up from between the knees, it will not go through the middle line of the head, but very much to one side of it. It would go still more to one side if drawn up from between the heels. In very many cases of curvature this line passes through one or other ear or even not through the head at all. That is to say, the head as well as the pelvis, and all the intermediate portions, are amesial.

This condition of general as distinguished from merely pelvic amesiality I have found to be nearly if not quite universal in cases of lateral curvature. As to the reason of this amesiality, I believe it has its first cause in general muscular weakness. The body bends to one or other side because the muscles are not strong enough to hold it straight, much as a willow stick bends to one or other side when stood on end, whilst a brass rod of the same diameter would remain straight. The side to which the amesiality occurs depends on any cause such as an habitually bad position which stretches the ligaments on one side of the spine by frequently saving the muscles at their expense. Once amesiality has commenced, curvature has begun. General amesiality causes an inequality in the amount of weight borne by each foot. Therefore if the boots of a curvature case be examined it will generally be found that the outer side of the sole of one and the inner side of the other are the parts most worn. The worn side is always on that to which the amesiality takes place. I can quite corroborate Mr. Barwell's statement that the amesial pelvis is "generally also oblique." It must be so unless the outer leg is longer than the inner.

Mr. Barwell has undoubtedly proved the uselessness of most spinal supports. The revulsion of opinion has, however, gone too far, and I should like to say a good word for Fig. 3 in his paper. This is one of the late Mr. Chance's instruments, and it is notoriously very largely used by another eminent spine specialist. I am treating several patients with it, and though I am even more alive than Mr. Barwell to the condition of amesial pelvis, I do not find it a bar to getting a great deal of good from the instrument. The plates are not meant to act "with sufficient power and constancy" to push in the prominent part of the curve, nor when properly applied can one "with the greatest ease sway the whole thing from side to side." What is claimed for these instruments I can testify that they do—namely (1) They keep the spine in as upright a position as possible, for flexion increases the deformity, and especially increases the rotation. This is done by shoulder straps which only prevent the shoulders from falling forwards, and do not otherwise limit their movements. (2) This constant keeping back of the shoulders tends to develop the flattened chest, removes stoop, and therefore cures part, while at the same time it removes an active cause, of the deformity. (3) They limit movement into a worse position where the patient is erect, and when she is at rest they form portable spinal chairs on a principle I have described elsewhere. They do not limit, but rather tend to produce, movement with a better position, and are therefore actively curative.

It is not my object to advocate their use for all cases of curvature, such as I believe has been done. In a certain minority of cases I have found them useful adjuncts to other treatments.—I am, etc.,

Folkestone, July 10th. PERCY G. LEWIS, M.D.

SIR,—I have no claim to any special knowledge of spinal diseases, but I have read with interest Mr. Richard Barwell's two papers on the causation of spinal curvature, published in the BRITISH MEDICAL JOURNAL of July 17th and August 7th. Mr. Barwell certainly shows that "amesiality of the pelvis" coexists with spinal curvature; but in what way does he prove that it is a cause of that curvature rather than a result? If I stand upright with my heels together in front of a perpendicular object, such as the edge of a half-opened door, and if I then bend my head and shoulders to the left, I find that my pelvis moves to the right—that is, becomes "amesial"—obviously for purposes of balance. What is there to show that in Mr. Barwell's cases of spinal curvature the amesiality of the pelvis is not a secondary condition—like the secondary curve in S-shaped curvature—and due to the patient's effort to maintain her balance? The mere history of the patient or her friends as to which condition first attracted their attention cannot be considered as satisfactory evidence as to whether the curvature or the "amesiality" of the pelvis were the primary condition.—I am, etc.,

Hampstead, N.W., Aug. 6th. HENRY SHARMAN, M.D.

THE REMUNERATION OF THE GENERAL PRACTITIONER.

SIR,—The organisation of the general practitioners of the country for self-defence, so much in the air at the present moment, is a subject that cannot be too much agitated, and to which agitation it is the duty of everyone to contribute his mite. The profession must be "educated up to it." And it is the junior members and the students who should be attacked, whose sense of dignity should be appealed to, whose fraternal feelings should be aroused, and to whom the doctrine of co-operation should be preached, to replace the loathsome competition which they and their predecessors have to face.

It is not so much that the profession is overcrowded, but rather that there are too many of us for all to gain a decent livelihood while working under the present unorganised conditions, while nearly everyone is striving to rise above his neighbour. There are some among us who will not deign to compete, who will not descend to score off their fellows; and there are thousands who would do the same were they not driven by pecuniary stress to deeds that in their hearts they despise.

The attempts hitherto made to improve our status and our finance are but the skirmishing of scouts, hovering about a huge mass of inertia that must be quickened into life ere there is a chance of permanent substantial improvement. For a radical change in the whole of our professional methods is the only real remedy. A change so great as to doubtless alarm our more conservative brethren, and especially those whom circumstances and "luck" have placed in positions of opulence and political influence. We know that those two forces have as much power as professional skill and knowledge, if not more, in placing our fortunate brethren in leading positions. Such should not be the case where skill and knowledge are the primary, almost, I had said, the whole of our armament against the common enemy; they are, further, the demand made upon us first of all by the public, and for which they seek among the members of our ranks, guided by their only possible guide, namely, a reputation which is often the outcome of luck, or sometimes of worse: the skill with which this man or that advertises himself in the many forms of advertisement that come not under the ban of the General Medical Council.

Self-advertisement, competition, and rivalry are the fiends that must be really, not theoretically, banished. They are the demons that must be slain and replaced by a system in which the divine forces of co-operation, modesty, and brotherly love may have a chance of asserting their benign influence. Such a scheme is possible, but possible only when the whole of the profession has been agitated and educated to realise that possibility; when the inert mass has become leavened with these doctrines, and has been made to perceive that its interests are far better served by acting on altruistic principles than by a mean and sordid egoism.—I am, etc.,

Liphook, July 25th. H. B. PULLEN-BURRY.

EXTIRPATION OF THE OVARIES AS A CURE FOR CANCER.

SIR,—May I point out that Mr. C. Hamilton Whiteford's assertion that "primary, as distinguished from secondary carcinoma of the ovary, is most rare," cannot be deduced logically from the passage he quotes from the writings of Mr. Bland Sutton. In that passage and in his book on tumours (p. 257), Mr. Sutton distinctly states that the subject of primary carcinoma of the ovary requires further investigation.

Dr. W. S. A. Griffith, in Allbutt and Playfair's *System of*

Gynæcology, says of ovarian neoplasms that, "in the present state of our knowledge, it is often not practicable to classify a particular tumour with certainty. Innocent kinds pass by almost insensible gradations into malignant," and, again, he says that "carcinomatous growths are not infrequently met with in cystic tumours" of the ovary.

In view of these opinions, I cannot accept Mr. Roger Williams's and Mr. Whiteford's statements as indisputable, and as I distinctly stated in my last letter that I did not separate carcinomatous from other forms of malignant disease, the important clinical fact to which I drew attention remains unaffected, namely, that malignant secondary disease not infrequently follows the removal of ovarian tumours which may appear to be quite simple in character. I note that Griffith in the work cited above, and Greig Smith, in his book on abdominal surgery, support this view. The latter author quotes statistics showing that from 13.3 to 22.4 per cent. of all ovarian tumours are malignant.

As regards secondary neoplasms in the ovary, there are numerous cases in which a neoplasm develops in the second ovary after removal of an ovarian tumour, and in not a few cases the ovaries are implicated by extension of malignant disease from the uterus. Such cases are not properly described as secondary growths. The number of cases in which secondary deposits in the ovaries are found as part of a general dissemination of malignant disease may be larger than I am aware of, but Sibley's statistics in the 42nd volume of the *Medico-Chirurgical Transactions* do not support that view. In 61 *post-mortem* examinations of cases of cancer of the breast, secondary cancer of the ovaries was not mentioned, but in one case a cystic ovarian tumour was found; in 44 *post-mortem* examinations of cases of cancer of the uterus there was one case of cancer of the ovary.—I am, etc.,

Portman Street, W., July 27th. JOHN D. MALCOLM.

IMMEDIATE REDUCTION OF THE ANGULAR DEFORMITY OF SPINAL CARIES.

SIR,—The interesting communication of Messrs. Jones and Tubby on the above subject in the BRITISH MEDICAL JOURNAL of August 7th confirms the experience of several Continental surgeons besides that of Calot. I would beg a little of your space for a few brief observations. The authors of the article referred to observe that angular deformity arises in spite of recumbency in the early and artificial supports in the later stages of the disease. I believe that with the use of a suitable support, such as a Chance's splint as employed at the City Orthopædic Hospital, combined from the first with recumbency on a prone couch, the occurrence of any marked deformity can be prevented in a considerable proportion of cases. With regard to Calot's suggestion that after forcible correction a laminectomy should be performed to remove any projecting spines, I cannot regard this as a sound surgical procedure. The spines and laminæ constitute the chief supporting structures after a certain number of vertebral bodies have been removed by disease, and to remove the laminæ in order to obtain a mere cosmetic improvement cannot be good for the patient, and, it appears to me, must tend to cause recurrence of deformity when the cumbrous plaster apparatus is left off.—I am, etc.,

Old Cavendish Street, W., Aug. 9th. J. JACKSON CLARKE.

THE SCHOTT TREATMENT.

SIR,—In a recent number of the BRITISH MEDICAL JOURNAL Dr. Mitchell calls attention to a sense of weakness produced in most cases while going through the above treatment; and as a stimulus to perseverance he advises that patients should be shown the charts which record progress. That a "sense of weakness" does come on is undoubtedly true, that strength does not invariably return is also true. All unbiassed observers vigorously protest against the indiscriminate use of this treatment, and aver that it is suitable only to a small class of cases.

From all I have seen and heard patients are fully informed of the benefits they are, or ought to be, receiving from the treatment. They tell their friends their hearts have gone back another half inch or inch; they are well up in their charts and pulse tracings, and talk about them at afternoon tea and at dinner as though their hearers were equally interested in the exact size of their hearts as they are themselves.

Little do these people know of the potency of the personal factor in taking these tracings. The sphygmograph, though undoubtedly useful, cannot be called an instrument of precision even in skilled hands. I was very much amused at a recent meeting of one of the London societies, when a patient was shown who had undergone two "courses" of the treatment. A regular tome of pulse tracings was handed round as evidence of progressive improvement under treatment. After looking over the volume I asked the exhibitor of the case who had taken the tracings—himself or a nurse? He replied, "the nurse, and that she could take them better than he could." I will leave your readers to form their own opinion of evidence thus obtained.

It never used to be the custom to keep patients informed of the clinical details of their cases; the opinion of the doctor was sufficient. This pernicious innovation began with the use of temperature charts when they were accessible to the patient. We must all have seen the baneful effects on the mind of a sensitive and curious patient on seeing a rise of temperature registered on the chart, which was by itself of no real import. On the other hand, I can easily understand when a patient has been led to expect certain results from a course of treatment involving a large pecuniary outlay resort to what may be called the graphic method of encouragement is well nigh unavoidable. But I question whether such a proceeding is in accord with the best traditions of the profession.

I must not be understood to deny the value of the so-called Schott treatment, for I believe it to be—as Sir Douglas Powell said—useful in a small number of selected cases.—I am, etc.,

Weymouth Street, W., Aug. 9th. CHARLES W. CHAPMAN.

DISINFECTION OF HANDS AND INSTRUMENTS.

SIR,—Mr. Watson Cheyne's very courteous letter, printed in the BRITISH MEDICAL JOURNAL of August 7th, hardly calls for any reply from me. I have no doubt but that he will see that the requisite corrections are made in the future editions of his book.—I am, etc.,

Upper Berkeley Street, W., Aug. 9th. C. B. LOCKWOOD.

OBITUARY.

WE regret to have to record the death of Mr. THOMAS WARREN BULLOCK, of Isleworth and Hounslow. He was born at Spring Grove, and at the time of his death had attained the 37th year of his age. He commenced his education at St. Paul's School, London, and subsequently commenced his training for the medical profession at St. Thomas's Hospital in 1879. He became a Licentiate of the Society of Apothecaries in 1883, and a Member of the Royal College of Surgeons, England, in 1887. He successively held the appointments of Assistant Medical Superintendent of the Royal India Asylum, Ealing; Assistant House-Surgeon to the Royal Berkshire Infirmary; and in 1892 was unanimously chosen Medical Officer of Health for the Heston and Isleworth Urban District in succession to his father, who held the same position for many years. At the time of his death he was also Divisional Surgeon to the Isleworth Section of the Metropolitan Police; and Medical Officer to the Borough Road Training College, the local post office, and Honor's Home, Spring Grove.

THE death is recorded of Mr. WATKIN WILLIAM ROBERTS, F.R.C.S., of Carnarvon. He was born at Garnedd, West Anglesey, a little over 80 years ago. He qualified as M.R.C.S. and L.S.A. in 1841, and became F.R.C.S.Eng. in 1856. The deceased was on the Commission of the Peace for the county and borough of Carnarvon, and had for many years sat in the Town Council. The funeral service was held on Wednesday, July 28th, and was attended by a great concourse of people.

DR. JAMES GEMMEL, of Dunoon, died at his residence, Milton House, on July 30th. In spite of his advanced years—he was over 70 years of age—he was able up till a few weeks

ago, when a serious illness set in, to conduct a large practice. The deceased went to Dunoon to take up the practice of Dr. Sutton. Several years ago he was the recipient of a public testimonial, presented to him in recognition of the interest which he took in the social welfare of the people of Dunoon. He was recently appointed an Honorary Sheriff Substitute of Dunoon.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently are Dr. R. de B. Martins Pereira, Professor of Morbid Anatomy in the Lisbon School of Medicine; Dr. Victor Mayer, Professor of Chemistry in the University of Heidelberg, author of a *Manual of Organic Chemistry* and of many important contributions to organic chemistry, aged 48; and Dr. Dewindt, President of the Belgian Medical Federation.

MEDICO-PARLIAMENTARY.

HOUSE OF LORDS.

PUBLIC HEALTH (SCOTLAND) BILL.

ON the report of amendments to this Bill, LORD BALFOUR, in order to meet a point raised on the previous day by the Earl of Camperdown to exempt from the power of appropriation to be conferred on a local authority in respect of all streams of water in its district any supply of water used for domestic or agricultural purposes, moved to add to Clause 1, Section IX, the following new subsection: "(2) Any supply of water which has been conducted to and is being used for any house or building used in connection with such house or occupied for agricultural purposes."—The amendment was agreed to.—The Bill was then read the third time and passed.

THE ROYAL ASSENT.

On the day of the Prorogation the Royal Assent was notified to 170 Bills, amongst the number being the Poor-Law Officers' Superannuation Act (1896) Amendment, Poor-Law, Cleansing of Persons, Infant Life Protection, Weights and Measures (Metric System), Burials Joint Committee, Dangerous Performances, Yorkshire Coroners, District Councils (Water Supply Facilities), Metropolitan Water Companies, Public Health (Scotland), Water Orders Conformation, Borrowstounness Water Provisional Order, Duntocher and Dalmuir Water (Provisional Order), Deal and Walmer Water, Cirencester Water, Newark Corporation Water, St. Neots Water, Belfast Water, East London Water, Nottingham Corporation Water, Weymouth Water, Tynemouth Corporation (Water), Gravesend and Milton Water, East Warwickshire Water, New River Company, Rhymney Valley Gas and Water, Fylde Water (Transfer), Harrogate Water, Harrogate Corporation (Water Transfer), and Southwark and Vauxhall Water.

OPHTHALMIA AMONG POOR-LAW CHILDREN IN THE METROPOLIS.

There has been presented to both Houses copies of a report by Sydney Stephenson, Esquire, M.B., on an inquiry undertaken by him, at the request of the Local Government Board, upon the Ophthalmic State of Poor-law Children in the Metropolis.

GLYCERINATED CALF VACCINE LYMPH.

There has been presented to both Houses copies of a report to the Local Government Board on the Preparation and Storage of Glycerinated Calf Vaccine Lymph; with an introduction by the medical officer.

HOUSE OF COMMONS.

THE ARMY MEDICAL SERVICE.

On the Appropriation Bill Mr. PRICE called attention to the condition of the Army Medical Service, which he said was now in a very bad condition. It was impossible to get sufficient candidates to compete for the vacancies, and there was a progressive deficiency in the numbers. He hoped the Government would make a great effort to ascertain why it was that the medical profession avoided the military service. The concessions that were made some years ago had not had the effect of attracting more men to the service. It was no use for the Government or the House to think that the terms offered were good enough, if medical men said they were not; therefore the Department and the Government must try to find out in what respect the medical profession generally were discontented with the service, and as far as possible to meet their views. He also called attention to the treatment of disease in the army, and complained that the number of cases was higher than in civil life.—Mr. POWELL WILLIAMS, on behalf of the Government, said he thought that the grievance as to the Army Medical Service related more to the terms of the service than to the pay. One strong objection was that service abroad was too long. He could not hold out any promise on that point, as the matter had not been definitely determined, but the Secretary of State had proposals before him with the view to materially reducing the length of foreign service.

VIVISECTION.

On the Appropriation Bill Mr. MAC NEILL raised the subject of vivisection, and urged that the Act of 1876 had been entirely nugatory. The inspections of the vivisection laboratories were absolutely worthless. The Home Secretary had refused to give a return showing the number of times the inspectors visited the laboratories and describing what they say, and the right hon. gentleman had admitted that even if the inspectors saw the most cruel tortures they could not raise a hand in protest; in fact, the Act of 1876 was not worth the paper it was printed on.—Colonel LOCKWOOD said that though he was a determined opponent of vivisection, he must acknowledge that the system initiated by the Home Office had alleviated the sufferings of the animals experimented upon. He firmly believed his right hon. friend the Home Secretary was keeping a strict eye on vivisection experiments, but that until they could induce the public to hold the same views the hon. member for Donegal and he held it was useless to raise the question on an occasion like this.—The HOME SECRETARY said it was not his business to express an opinion upon vivisection; his business was to carry out the Act of 1876 to the best of his ability, and he asserted most positively that, not only during the time he had been at the Home Office, but also during the reign of his predecessors, the greatest possible care had been taken that licences should only be given to proper persons, and that the Act should be carried out in the spirit as well as in the letter. He believed it was not possible to secure better inspection than was secured at present. Nearly all the visits paid to the laboratories were surprise visits. Many places were visited six and eight times a year, and every one of them more than once. As to the mitigation of the suffering of the animals experimented upon, it must be admitted that what happened formerly was not possible now. The hon. member for Donegal was opposed to the use of animals under any circumstances, even for the benefit of humanity. The hon. gentleman was not supported by the majority of the people of the country, who were honestly persuaded that animals might, under proper conditions, be used as a means of discovering the most beneficial modes of alleviating human suffering.

HEALTH OF THE BRITISH TROOPS AT AGRA.

Sir JAMES FERGUSSON, on behalf of Colonel KENYON-SLANEY, asked the Under-Secretary for War whether in the 2nd Battalion York and Lancaster Regiment, stationed at Agra, there were between February 23rd and June 27th, 1897, 77 admissions into hospital from enteric fever, resulting in the deaths of 1 officer and 18 non-commissioned officers and men; whether he could state how many cases of enteric fever were developed in the military hospital by men under treatment for venereal and other diseases; and whether he would institute an inquiry into the causes of this outbreak, and into the water supply?—Mr. BRODRICK: The returns received from Agra do not extend beyond April 30th. During the months of February, March, and April there appear to have been 63 admissions for enteric fever and 12 deaths, the great outbreak having occurred in April. There are no returns to show how many cases were developed in hospital in men suffering from other diseases. A special investigation was immediately instituted, with the result that the water supplied by the municipal authorities has been found to be infected with enteric microbe. Every possible precaution has been taken, and it was stated in the report for April that the epidemic seemed to be abating.

THE TULLA GUARDIANS AND PAUPER PATIENTS.

Mr. P. O'BRIEN for Mr. WILLIAM REDMOND asked the Irish Secretary whether the Tulla Board of Guardians were surcharged for sending patients who were inmates to Dublin for medical treatment; and whether it was necessary that an inmate should be a certain time, and, if so, what length of time, in a union workhouse before being sent to Dublin for medical treatment.—Mr. G. BALFOUR: The auditor held that the patients, whose expenses in Dublin hospitals he surcharged, were not *bonâ fide* inmates of the workhouse, their names having been merely entered on the workhouse books as a preliminary to sending them for special treatment to Dublin. The Act dealing with this matter is the Poor Law Amendment Act of 1862. No particular length of time in a workhouse is specified in the Act as necessary to qualify an inmate for transmission to a special hospital. All that is necessary is that such persons should be *bonâ fide* inmates at the time they are sent.

THE BROOK HOSPITAL.

Mr. PICKERSGILL asked the President of the Local Government Board whether the cost of the Brook Hospital, recently erected by the Metropolitan Asylums Board had been £64,000 in excess of the estimates presented to the Board, and £50,000 in excess of the actual amounts of contracts entered into; and whether, before he issued a further order for expenditure in respect of the erection of this hospital, he would have inquiry made into the causes of this extraordinary success.—Mr. CHAPLIN: The facts as regards the amount by which the cost of the hospital exceeds the amount of the estimates and of the various contracts entered into, are I believe as stated in the question. The managers have received a report from the Committee of the hospital as to these expenses and the consideration by them of the report has been adjourned. Before sanctioning a further loan the Board will very carefully consider all the circumstances connected with the actual expenditure and the increase of the cost over the estimates.

JUVENILE PRISONERS UNDER REMAND.

Mr. PICKERSGILL also asked the President of the Local Government Board what steps had been taken by the Metropolitan Asylums Board, under the new Order, to provide accommodation for juvenile prisoners under remand, and when such accommodation will be available?—Mr. CHAPLIN: The managers of the Metropolitan Asylums District are proceeding without delay with the consideration of the arrangements which can best be made for provision for the several classes of children (including the remand children) of whom they are to undertake the care, and the Local Government Board, who have had interviews with the managers on the subject, are rendering such assistance as they can in the matter. But it is impossible at present to state when the accommodation for the children referred to by the hon. member will be available.—Mr. PICKERSGILL asked if the construction of new buildings had begun?—Mr. CHAPLIN: I do not know whether the managers consider it necessary to have new buildings. I understand they are negotiating for the purchase of the existing buildings.

QUARANTINE AT COLOMBO.

Sir CHARLES CAYZER asked the Secretary of State for the Colonies if he was aware that steamers proceeding from Bombay to Colombo were subject to ten days' quarantine at the latter port, although there is no evidence of sickness on board; and whether he would make inquiries with a view to stopping this excessive delay in the case of vessels having clean

bills of health?—Mr. CHAMBERLAIN: My attention has been drawn to the stringent quarantine regulations imposed at Colombo, and I have addressed a despatch to the Governor suggesting modification.

SUBJECTS DEFERRED.

The following notices of motion, for wh ch opportunities for discussion were not found during the session, remained on the notice paper at the end of the session:—Mr. PICKERSGILL: To call attention to the report of the recent Committee on Metropolitan Poor-law Schools, and to the draft order of the President of the Local Government Board relating to such schools; and to move that this House deprecates the formation of the proposed Metropolitan Children's Asylum Board, on the ground that it will add to the confusion of authorities and to the cost of administration; and that the provisional purposes which alone it is intended to serve might, if necessary, be attained by the utilisation of existing agencies; and, further, this House is of opinion that the real needs of the case can be permanently satisfied only by the constitution of one central metropolitan authority for the maintenance of the children of the State, which should be completely separated from the administration of Poor-law relief.—Mr. WILLIAM CORBET: To call attention to the annually increasing numbers of the insane, not only in the United Kingdom, but in every civilised country in the world; and to move that it is desirable in the interests of humanity steps shall be taken to convene an international conference to inquire into the cause of such increase, and to report whether any and what measures can be adopted to arrest the spread of the disease.—Mr. FORTESCUE FLANNERY: To move that, in the opinion of this House, it is desirable that a department of public health be constituted, and that the same be under the charge of a responsible Minister having a seat in Parliament.—Mr. HENRY J. WILSON: To call attention to the state of the army, especially in India, as regards venereal disease, and to move a resolution; and Major RASCH: To call attention to the health of the British army in India, and to move a resolution.—Mr. KNOWLES: Habitual Drunkards: To call attention to the treatment of habitual drunkards, and to move a resolution.—Sir JOHN LUBBOCK: Shops (Hours of Labour): To call attention to the excessively long hours of labour in shops, and to move a resolution.

REPORTS, ETC.

Copies have been presented of the orders made by the county councils under the Local Government Act, 1888; of the report of the Secretary of the Board of Trade upon the working of the Boiler Explosion Act; of returns of accidents and casualties as reported to the Board of Trade by the railway companies and the Board's inspectors; of the report of proceedings of the Board of Trade in regard to the hours of labour of railway servants; and of the report of the proceedings of the Board of Trade in regard to the Weights and Measures Acts; of returns relative to contagious diseases in East India (Contagious Diseases, No. 7, 1897). A return has been ordered "showing the number of halftimers in the inspected schools of each county of England and Wales, and in the county boroughs of England and Wales, in the year ending August 31st, 1896 (in continuation of Appendix E of the report of the Departmental Committee on School Attendance and Child Labour, 1893)."

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

FLEET-SURGEON CHARLES F. NEWLAND has been placed on the retired list, at his own request, August 1st. He was appointed Surgeon, September 30th, 1876; Staff-Surgeon, September 30th, 1888; and Fleet-Surgeon, May 30th, 1897.

The following appointments have been made at the Admiralty: JAMES WILLIS, Surgeon, to Jamaica Hospital, undated; GEORGE T. COLLINGWOOD, Surgeon, to Bermuda Hospital, August 3rd; EDWYN R. GRAZEBROOK, Surgeon, to the *Thunderer*, August 6th; WILLIAM J. MAILLARD, M.D., Surgeon, to the *Hazard*, August 19th; REGINALD T. A. LEVINGE, Surgeon, to the *Excellent*, August 19th.

ARMY MEDICAL STAFF.

SURGEON-MAJOR HENRY MITCHELL, Royal Horse Guards, retires from the service, receiving a gratuity, August 11th. He was appointed Surgeon-Captain, August 2nd, 1884, and Surgeon-Major so recently as July 6th. He was in the Soudan campaign in 1885, receiving a medal with clasp and the Khedive's bronze star. He was appointed to the Grenadier Guards, May 30th, 1888; was transferred to the 2nd Life Guards, June 3rd, 1891; and from thence to the Royal Horse Guards on July 6th last.

Surgeon-Captains J. H. CURTIS, S. G. ALLEN, J. S. GREEN, M.B., C. A. MINE, M.B., P. C. H. GORDON, L. T. M. NASH, J. H. BRANNIGAN, M. O'HALLORAN, M.D., C. S. SPARKES, W. H. PINCHES, J. H. DALY, G. J. A. TUKE, J. GREIG, H. D. ROWAN, M.B., H. CARR, M.D., H. G. HATHAWAY, B. A. TURIN, T. DALY, M. J. SEXTON, M.D., H. E. CREE, W. H. STARR, A. A. EXTON, A. P. H. GRIFFITHS, F. J. W. STONEY, F.R.C.S.I., and J. T. BURKE, having completed twelve years' full pay service, are promoted to be Surgeon-Majors—J. H. Curtis from July 31st, all the others from August 1st.

Surgeon-Major-General JOHN G. FAUGHT, retired pay, late Army Medical Staff, is appointed Honorary Surgeon to the Queen, *vice* Surgeon-General T. Reade, V.C., C.B., deceased, August 11th.

Brigade-Surgeon-Lieutenant-Colonel M. D. O'CONNELL, M.D., has been appointed to officiate as Principal Medical Officer Rawal Pindi District, with the temporary rank of Surgeon-Colonel, dated June 23rd.

Surgeon-Lieutenant-Colonel GEORGE BALLINGALL STUART, M.B., late Royal Scots Greys and Grenadier Guards, died at Orotava, Teneriffe, on August 2nd, aged 49 years. He entered the service as Assistant-Surgeon, April 1st, 1871; became Surgeon, March 1st, 1873; Surgeon-Major, March 1, 1886; and Surgeon-Lieutenant-Colonel, April 1st, 1891. He accepted retired pay, May 6th, 1891. He was appointed to the Royal Scots Greys in 1873, serving with that regiment till 1877, when he was transferred to the Grenadier Guards, with which he served till his retirement in 1891. He was in the Ashanti war in 1874, receiving a medal for that campaign.

The following is a list of successful candidates for commissions in the Army Medical Staff at the recent examination in London:

Names.	Marks.	Names.	Marks.
H. O. B. Browne-Mason	2,933	J. D G. Macpherson	2,139
B. Watts	2,713	W. P. Gwynn	2,129
H. G. Martin	2,700	C. J. O'Gorman	2,129
F. S. Penny	2,671	M. M. Lowsley	2,109
S. de C. O'Grady	2,441	N. H. Ross	1,986
T. H. Gloster	2,377	E. A. Bourke	1,965
J. G. Berne	2,327	A. C. Lupton	1,868
A. H. O. Young	2,298	P. H. Collingwood	1,840
J. E. S. Old	2,206	G. B. Carter	1,800
F. F. Carroll	2,176		

There were 36 vacancies.

INDIAN MEDICAL SERVICE.

BRIGADE-SURGEON-LIEUTENANT-COLONEL K. M'LEOD, M.D., Indian Medical Service, retired, is appointed Professor of Clinical and Military Medicine at the Army Medical School, *vice* Deputy-Surgeon-General H. Cayley, Indian Medical Service, retired, whose period of service in that appointment has expired August 1st. Brigade-Surgeon-Lieutenant-Colonel M'Leod joined the Bengal Establishment, March 31st, 1865, and retired therefrom, April 16th, 1892. He was at the time Professor of Surgery at Calcutta Medical College, and *ex-officio* First Surgeon to College Hospital.

The following candidates for Her Majesty's Indian Medical Service were successful at the competitive examination held in London on July 30th and following days. Thirty-three candidates competed for eighteen appointments. Thirty-two were reported qualified:

	Marks.		Marks.
T. H. Delany	3,124	G. Tait	2,777
J. W. F. Rait	3,020	P. K. Chitale	2,776
S. R. Douglas	3,012	G. M'Pherson	2,704
S. Hunt	2,966	F. D. S Fayrer	2,697
E. J. O'Meara	2,937	W. H. Cox	2,678
R. F. Baird	2,889	De Ve Condon	2,697
A. T. Gage	2,877	H. A. J. Gidney	2,648
G. C. Laing	2,854	A. G. Sargent	2,606
H. Kirkpatrick	2,807	W. Lethbridge	2,500

Surgeon-Captain R. H. ELLIOT, M.B., Madras Establishment, is appointed Secretary to the Surgeon-General with the Government of Madras, from June 1st.

The *Army and Navy Gazette* says that an immense strain is put on the medical service in India owing to the Tochi and Swat Valley Field Force arrangements. Some 70 to 80 medical officers of the Army Medical Staff and Indian Medical Service have been detailed for the base and field hospitals and to accompany the force on service, so that any leave for officers is now quite out of the question.

THE VOLUNTEERS.

The undermentioned officers have resigned their commissions from August 11th: Surgeon-Lieutenant R. BUSWELL, 1st London Engineers (retaining his rank and uniform); Honorary Assistant Surgeon J. A. LORIMER, 2nd Volunteer Battalion the Queen's Royal West Surrey Regiment; Surgeon-Lieutenant-Colonel D. B. BALDING, 1st (Hertfordshire) Volunteer Battalion the Bedfordshire Regiment (retaining his rank and uniform): Surgeon-Lieutenant J. A. EYTON-JONES, 1st Volunteer Battalion the Royal Welsh Fusiliers; Surgeon-Captain T. E. JONES, 3rd Volunteer Battalion the Royal Welsh Fusiliers.

Mr. HERBERT HARRISON MARSDEN is appointed Surgeon-Lieutenant in the 3rd Volunteer Battalion the King's Liverpool Regiment, August 11th.

The services of Surgeon-Captain W. E. ST. M. RAW, the London Companies, are dispensed with, August 11th.

Surgeon-Lieutenant J HARPER, M.D, the London Companies, is promoted to be Surgeon-Captain, August 11th.

JUBILEE HONOURS.

A DISTINGUISHED medical officer, writing from India, says there are about 1,100 medical officers in active military employ at home, in India, and the Colonies, yet not a single Jubilee honour was conferred upon them! Who is responsible? "My military advisers?" At all events, candidates for the Army Medical Service should ponder these things.

THE HEALTH OF THE ARMY.

THE Commander-in-Chief has issued a General Order urging on all ranks the necessity of special efforts to combat the prevalence of the diseases that are the bane of the British troops in India.

UNDERMANNING.

MENS SANA writes: It is said that when Surgeon-Captain Cassidy (since dead) was dangerously wounded at the attack at Tochi, another officer, then also wounded, died of hæmorrhage, which might have been stopped had Cassidy been able to attend to him. The sole medical aid of the column rested with one medical officer, who, when shot down (a non-combatant!) left it without medical help. Another result of the paucity of medical officers.

MIXED BOARDS.

H. B. C. points out that if there is a class of boards upon which medical officers should sit or preside it is those connected with injuries to soldiers. When a soldier is injured either off or on duty a Board is assembled to inquire into and record the cause, nature, and circumstances of the accident. Yet medical officers seem invariably excluded from such Boards, which usually consist of a captain and two sub-

alterns. It is curious to find such a Board certifying "The injury is likely, or not likely (as the case may be) to interfere with his efficiency as a soldier." Of course the Board can only arrive at such a finding probably upon the evidence of some grey-haired and ancient medical witness summoned before it. Imagine a grey-haired major of Royal Engineers giving evidence on barrack construction before a youthful infantry Board sitting on a married quarter! The only cure for such anomalies in the medical branch is the formation of a corps, Royal or otherwise.

MEDICO-LEGAL.

"THE USUAL BOND."

IN the Chancery Division of the High Court of Justice on July 30th, before Mr. Justice Romer, Mr. Fawcett, Q.C., moved on behalf of Dr. G. H. Browne, of The Hermitage, Brynmawr, for an injunction to restrain P. J. Calnan from acting as assistant to Dr. Lawe, of Brynmawr, in the county of Brecon, in his profession or practice, and from, either by himself or in partnership, or as assistant, directly or indirectly practising as a surgeon or physician in Brynmawr, or within a radius of five miles therefrom. According to the report in the *South Wales Daily News*, after hearing evidence, Mr. Justice Romer thought he was entitled to the injunction. He said the defendant entered into the service of the plaintiff on an undertaking to execute the usual bond. There was no doubt as to what was intended by that. It appeared that in country surgeries the usual practice was for the assistant to agree and enter into a bond not to carry on business on his own account, or practise as an assistant, within five miles for a period of five years of the place where the principal carried on business. The defendant obtained his assistantship by his promise to execute a bond which, in his opinion, he could at any time have been called upon to perform. The mere fact that the document had not been executed did not, in his opinion, prevent the plaintiff insisting that the defendant should carry out its terms. He granted an injunction restraining the defendant within the limits of the time and space he had mentioned from carrying on business as a principal or assistant within five miles of Brynmawr. The costs would be costs in the action.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

THE JOHN LUCAS WALKER STUDENTSHIP.—Applications for this studentship, the holder of which shall devote himself (or herself) to original research in pathology, are invited and should be sent not later than October 15th, 1897, to Dr. A. A. Kanthack, Pathological Laboratory, Cambridge, to whom also applications for further information regarding the studentship may be addressed. The studentship, which is of the annual value of £250, may be held by a person of either sex, and is tenable under certain conditions for three years.

UNIVERSITY OF EDINBURGH.

FIRST PROFESSIONAL EXAMINATION.—The following candidates have satisfied the examiners:

R. V. C. Ash, R. T. Baillie, R. A. Belilios, A. N. Bond, R. J. Bradley, A. J. Brock, A. Brown, E. E. Brown, G. M. Brown, J. Brownlee, H. Buist, E. P. Calder, S. M. D. Campbell, T. F. Cavanagh, C. C. Choyce, B.Sc.; R. E. Collins, B.A., P. T. Copeland, J. Dagliesh, W. H. Dickinson, J. L. Duncan, W. Eggeling, A. Emslie, O. J. Evans, J. Ferrier, A. H. Firth, M.A., G. Forrest, Catherine Fraser, A. Frew, H. J. George, G. Grey, M.A., M. D. Gulland, A. F. Haegert, A. R. Hallam, A. M. Hamilton, W. Hamilton, N. C. R. Hansen, R. A. J. Harper, D. C. Henry, L. A. Holcroft, L. J. Hood, C. W. Howe, A. E. Hunter, L. G. Hunter, R. Imrie, A. R. Johnston, M.A., G. A. Jolly, E. Jones, A. C. Keay, W. Lee, E. W. Lewis, R. M. Liddell, C. H. Lindsay, Isabella Logie, S. Lyle, J. G. M'Bride, S. W. M'Clean, L. T. M'Clintock, Harriet M'Cloghry, J. B. M'Cutcheon, H. K. Macdonald, W. Macdougall, M.A., A. M'Ewan, P. F. M'Farlan, A. P. M'Gregor, N. F. MacHardy, J. M'Kenzie, V. C. M'Laren, E. Macmillan, K. D. C. Macrae, A. M. Malcolmson, H. C. Martin, R. H. Martin, A. F. G. Masson, E. C. C. Maunsell, J. H. Meikle, M.A., B.Sc., W. H. Meyer, G. R. Mill, J. Miskelly, J. Morrison, G. S. Murray, D. A. Ogilvie, G. Pereira, A. C. Peterson, L. W. Pole, D. E. Pratt, W. H. Prentice, M.A., A. H. Reid, O. L. Rhys, R. Rorie, L. Rundall, H. W. Rusack, C. W. V. Rutherford, C. W. Saleeby (with distinction), R. A. Savage, E. T. Selkirk, J. F. Selkirk, T. B. Shaw, D. Smellie, J. A. Smith, M. M. Smith, T. A. Smyth, G. B. A. Speirs, M. M. Stevenson, S. S. Steyn, G. C. Straithairn, J. Sullivan, D. Sutherland, P. Telles, H. P. Thompson, T. L. Thomson, P. S. Tillard, E. J. Tyrell, E. A. Walker, A. R. Wallis, C. E. Watts, A. G. Waugh, T. S. B. Williams (with distinction), C. C. Wilson, F. E. Wilson, J. Woods, R. T. Young, M.A.

UNIVERSITY OF LONDON.

INTERMEDIATE EXAMINATION IN MEDICINE (HONOURS).—The following candidates have passed this examination:

Anatomy.—First Class: W. H. Willcox, B.Sc. (Gold Medal), St. Mary's Hospital. Second Class: W. Gough, B.Sc., Yorkshire College.

Physiology and Histology.—First Class: W. Gough (Exhibition and a Gold Medal), Yorkshire College; J. F. Northcott (Gold Medal), Cambridge and Guy's Hospital; F. A. St. John, St. Mary's Hospital. Second Class: E. A. Miller, Guy's Hospital; W. H. Willcox, St. Mary's Hospital.

Organic Chemistry.—First Class: W. Gough, Yorkshire College; W. H. Willcox (Exhibition and Gold Medal), St. Mary's Hospital.

Materia Medica and Pharmaceutical Chemistry.—First Class: J. Atkins, Guy's Hospital; J. Moreton, Owens College; W. H. Willcox (Exhibition and Gold Medal), St. Mary's Hospital. Second Class: Isobel Sarah Bryson, London School of Medicine for Women and Birkbeck Institute; E. A. Miller, Guy's Hospital; A. R. Spencer, University College.

INTERMEDIATE EXAMINATION IN MEDICINE. PASS LIST.—The following candidates have passed this examination:

Entire Examination.—First Division: Louisa Hamilton, London School of Medicine for Women; Mary Hannah F. Ivens, London School of Medicine for Women; D. J. McGavin, Mason College. Second Division: W. F. Addey, University College; V. C. Bensley, St. Mary's Hospital; G. Black, St. Thomas's Hospital; F. D. Blandy, Middlesex Hospital; Susila Anita Bonnerjee, London School of Medicine for Women; P. F. Braithwaite, Owens College; C. H. Bullen, Mason College; J. A. Butler, Guy's Hospital; P. W. L. Camps, Guy's Hospital; T. Chetwood, London Hospital; H. Collinson, Yorkshire College; T. Evans, University College; Harriet Rosa Delo Ford, London School of Medicine for Women; H. G. Franklin, London Hospital; A. Freear, St. Mary's Hospital; W. B. Fry, St. Thomas's Hospital; E. L. Gowlland, St. Mary's Hospital; D. G. Greenfield, Guy's Hospital; W. C. Hirst, Yorkshire College; T. Hoban, St. Thomas's Hospital; E. W. Holyoak, St. Mary's Hospital; J. W. Hunt, St. Mary's Hospital; B. F. Hussey, St. Mary's Hospital; F. A. Johns, London Hospital; R. G. Johnson, Medical School and University College, Bristol; J. E. Judson, Owens College and Manchester Royal Infirmary; R. B. Kinloch, University College, Cardiff; T. N. Leah, St. Mary's Hospital; G. Lewin, Guy's Hospital; A. E. J. Lister, St. Bartholomew's Hospital; Olive McDougall, London School of Medicine for Women; M. T. Male, University College; E. Morgan, University College, Cardiff; F. M. Morris, London Hospital; Christine Mary Murrell, London School of Medicine for Women; C. A. R. Nitch, St. Thomas's Hospital; W. P. Noall, Owens College and Manchester Royal Infirmary; H. R. Nutt, St. Mary's Hospital; T. C. Orford, Owens College; H. McD. Parrott, Guy's Hospital; W. E. Peck, University College; A. R. G. Pocock, University College; H. D. Pollard, London Hospital; B. E. Reynolds, University College; J. E. Richards, Charing Cross Hospital; C. A. S. Ridout, St. Bartholomew's Hospital; B. H. St. C. Roberts, Mason College; Florence Robinson, London School of Medicine for Women; W. G. Rogers, University College, Cardiff; E. M. Saunders, King's College; C. F. Selous, St. Thomas's Hospital; Margaret Sophia Sharp, London School of Medicine for Women; H. F. Sheldon, Owens College; F. B. Skerrett, B.Sc., St. Thomas's Hospital; E. Stott, Owens College and Guy's Hospital; E. W. D. Swift, University College; C. Thackray, University College, Sheffield; R. L. Thornley, St. Bartholomew's Hospital; H. J. Van Praagh, St. Mary's Hospital; J. S. Williamson, St. Bartholomew's Hospital; Louisa Woodcock, London School of Medicine for Women; G. T. Wrench, Guy's Hospital; P. R. Wrigley, Owens College.

Excluding Physiology.—First Division: W. P. Panckridge, Middlesex Hospital; A. W. Penrose, Guy's Hospital; A. T. Pridham, St. Bartholomew's Hospital. Second Division: N. C. Beaumont, St. Bartholomew's Hospital; A. J. V. Betts, Westminster Hospital; Josephine Brown, London School of Medicine for Women; J. E. Chapman, Sheffield; L. Cook, Westminster Hospital; F. G. H. Cooke, London School of Anatomy and Birkbeck Institute; Margaret Bernard Dobson, London School of Medicine for Women; A. G. Ede, St. Bartholomew's Hospital; C. E. Etheridge, Middlesex Hospital; W. Ferris, St. Mary's Hospital; J. E. Francis, University College; A. Jones, London Hospital; B. R. Lloyd, University College, Cardiff; S. A. Mahmood, University College; P. T. Manson, Guy's Hospital; O. Marriott, Guy's Hospital: J. C. Marshall, St. Bartholomew's Hospital; M. F. Reaney, London Hospital; E. Russell-Risien, St. Bartholomew's Hospital; W. E. Ruttledge, University College; Mary Ethel S. Scharlieb, B.A., London School of Medicine for Women and Birkbeck Institute; F. W. Sheppard, St. Bartholomew's Hospital; N. F. Stallard, University College; P. T. H. Stedman, University College; C. W. Wirgman, University College.

Physiology only.—Second Division: C. R. Brown, St. Bartholomew's Hospital; H. Burrows, St. Bartholomew's Hospital; W. H. Cazaly, B.A., St. Bartholomew's Hospital; J. M. Collyns, St. Bartholomew's Hospital; G. H. Coltart, Westminster Hospital; W. H. Coltart, Birmingham Medical School: Mabel Eliza Cousins, London School of Medicine for Women; J. B. Davey, Middlesex Hospital; A. Densham, Guy's Hospital; Susan Jane H. Eastwick-Field, Royal Free Hospital and London School of Medicine for Women; F. F. Elwes, Middlesex Hospital; Erie Evans, London School of Medicine for Women; T. H. Fox, Yorkshire College; H. B. Gibbins, St. Bartholomew's Hospital; E. C. Hadley, Mason College; P. M. Heath; University College; E. C. B. Ibotson, Guy's Hospital; S. A. Millen, St. Bartholomew's Hospital; H. H. Mills, Westminster Hospital and King's College; J. K. Morton, London Hospital; B. W. Moss, Guy's Hospital; E. E. Parrett, B.A., Guy's Hospital; C. G. Seligmann, St. Thomas's Hospital; W. G. Stewart, Guy's Hospital; P. G. Stock, Bristol Medical School; Margaret Helen Style, London School of Medicine for Women; J. F. Walker, London Hospital; A. J. W. Wells, St. Bartholomew's Hospital; R. E. B. Wilmot, St. Mary's Hospital.

PRELIMINARY SCIENTIFIC EXAMINATION.—The following candidates have satisfied the Examiners:

Entire Examination.—First Division: F. Barker, Mason College; A. C. Begg, University of Edinburgh; J. H. D. Bolton, University College; J. T. Hicks, The Leys School; H. B. Jackson, Epsom College; T. L. Llewellyn, University College, Cardiff; M. R. C. MacWatters, King's College; W. O. Meek, Owens College; R. Phillips, University College, Aberystwith; M. T. Williams, University College, Aberystwith; C. J. Wilson, St. Paul's School. Second Division: J. B. Albury, St. Mary's Hospital; F. H. S. Ashworth, Owens College; E. Bayley, University College; E. A. Bell, University Tutorial College; Emily Maria Beverley, Somerville College, Oxford; J. B. Burt, Epsom College; A. Cameron, Epsom College; J. A. Coupland,

Royal Masonic School, Wood Green; J. A. Drake, King's College; W. J. Edgar, University Extension College, Reading; D. E. Finlay, Cheltenham Science School; F. W. Gatenby, Owens College; H. M. Goldstein, University Tutorial College and Guy's Hospital; C. O. Gray, University College and private study; F. P. Hughes, University Tutorial College and private study; G. S. Hughes, Universrsity College and Middlesex Hospital; E. E. Isaac, University College, Cardiff; S. J. C. Johnson, Manor House, Hastings, and Owens College; H. S. Jones, University College, Aberystwith, and University Tutorial College; J. Jones, University College, Aberystwith; M. A. M. Kelly, St. Mary's Hospital; H. Leach, Owens College; H. A. Lyth, University College; J. E. Martin, University College and Birkbeck Institute; V. Moxey, private study; W. F. Pierce, Owens College; C. H. Robertson, Guy's Hospital; F. H. Rotherham, Mason College; C. W. Rowntree, University College; A. R. Schofield, London Hospital; H. F. Seymour, Plymouth Science and Technical School; H. B. W. Smith, Yorkshire College; H. G. Tansley, Owens College; L. C. Thompson, Epsom and University Tutorial Colleges; P. C. Tresilian-Davy, University College; Laura Sobey Veale, Yorkshire College and private study; A. H. E. Wall, Guy's Hospital; N. E. Waterfield, Plymouth Technical Schools; J. H. Wells, Wyggeston School, Leicester; A. Wharton, Owens College; Agnes Williamson, private study; E. A. Wilson, Yorkshire College; E. J. Wyler, University College.

Chemistry and Experimental Physics.—J. Acomb, Yorkshire College; *F. H. Alexander, University and University Tutorial Colleges; H. R. Allingham, King's College; K. Anderson, Guy's Hospital; O. F. H. Atkey, King's College; C. H. F. Bailey, Westminster Hospital; *H. Barber, Owens College; *H. E. Barnes, St. Mary's Hospital and Alwyne Institute; A. Beely, Yorkshire College; G. E. Bellamy, University Tutorial College; C. H. Berry, University College; H. M. Berry, University College, Liverpool; W. B. Blackburn, Yorkshire College; T. E. Blunt, London Hospital; G. A. Bosson, Epsom College; E. W. C. Bradfield, King Edward's School, Birmingham, and Mason College; J. Braithwaite, Guy's Hospital; H. J. Brewer, Epsom College; H. W. Burman, Mason College and private tuition; P. C. Bushnell, University Tutorial College; W. B. Clark, King's College; *L. F. Cope, St. George's Hospital and Carlyon College; *J. C. Curtis, private study; H. G. Daft, Firth College; T. B. Davies, University College, Aberystwith; Rose Lilian H. Davy, University Tutorial College and People's Palace; D. H. de Souza, University College; H. de Vine, Merchant Venturers' Technical College, Bristol; J. H. Donnell, Cambridge University; R. A. Eastmond, London Hospital; Mary Gertrude Edis, University and University Tutorial Colleges; *J. W. Evans, University Colleges, Aberystwith and Cardiff; H. Falk, St. Bartholomew's Hospital; M. Feldman, London Hospital and private study; J. Ferguson, University Tutorial College; J. W. Fox, Firth College; C. J. Galbraith, King's College; W. Garton, St. George's Hospital and private tuition; L. S. H. Glanville, Craigmore College and Clifton Laboratory; D. Gray, Charing Cross Hospital; R. A. Greeves, Queen's College, Belfast; P. W. Hamond, Guy's Hospital and private study; R. Holtby, St. Bartholomew's Hospital; A. W. Iredell, Guy's Hospital; *J. Jenkins, University College, Cardiff; E. J. C. Jermain, Epsom College; S. Johnson, Wyggeston School, Leicester; C. R. Keed, St. Bartholomew's Hospital and Carlyon College; H. D. Ledward, Bowdon College and Trinity College, Cambridge; *R. H. Lee, King's College; W. K. Lagassick, University and University Tutorial Colleges; *A. C. Le Rossignol, Victoria College and Oxford University Museum; F. E. Mair, St. Paul's School; A. Manuel, University Tutorial College and private study; *A. F. Martin, Owens College; C. J. A. N. Mercier, Charing Cross Hospital; R. H. Miller, University Tutorial College; *S. W. Milner, St. Bartholomew's Hospital; L. G Nash, Guy's Hospital; *W. S. Page, private study and Birkbeck Institute; G. G. Parkin, Owens College; Agnes Agatha Parson, Ladies' College, Cheltenham; *H. W. Plant, B.A., Mason College; Kate Anne Platt, University Tutorial College; J. M. Plews, St. Bartholomew's Hospital; *Marion Theresa Pool, University Tutorial College; *I. G. Pritchard, King's and University Tutorial Colleges; *E. W. Robinson, University Tutorial College; G. H. Rodolph, Mercers' School; D. L. Sewell, King William's College, Isle of Man; *H. G. Sievwright, University College, Cardiff; Enid Marian Smith, Ladies' College, Cheltenham; S. W. Smith, Royal College of Science and South-West London Polytechnic; *J. A. Smyth, University Tutorial College; *C. J. Taylor, private study; *W. B. Vaile, London Hospital; G. Wale, University Tutorial College; W. T. Webb, Epsom College; *Lucy Wellburn, University Tutorial College; F. H. Whitehead, St. Thomas's Hospital; Henrietta Leila D. Williams, King's College and Alwyne Institute; V. J. Woolley, Cambridge University.

Biology.—Mary Cecilia Bell, Ladies' College, Cheltenham; Ruth Levy Bensusan, University Tutorial College; Helen Chambers, Newnham College, Cambridge; *G. A. Charter, private study; *W. H. Cole, Guy's Hospital and University Tutorial College; *C. F. Coombs, University College, Bristol; *E. N. Cunliffe, Owens College; S. Dodd, Gonville and Caius College, Cambridge; *R. V. Dolbey, Dulwich College and London Hospital; *T. L. Drapes, Epsom College; *Lœtitia Nora Ede, Durham College of Science; *A. D. Edwards, University College, Cardiff; *H. H. Emmerson, Firth College; H. Farncombe, University Tutorial and Carlyon Colleges; *H. S. Flook, private study; *S. Forsdike, University Tutorial College; Mabel Emily Gates, University Tutorial College; K. M. Gibbins, St. Mary's Hospital; *R. M. Grogono, London Hospital; Ida Margaret Guillaume, University Tutorial College; *G. F. I. Harkness, University and University Tutorial Colleges; *C. M. Heanley, St. George's Hospital and University Tutorial College; G. S. Hett, St. Paul's School; Elizabeth Hill, University College; *A. E. Hills, St. Thomas's Hospital; *N. N. A. Houghton, University Tutorial College; C. H. M. Hughes, Westminster Hospital; *D. M. Hughes, University College, Cardiff, and private study; *L. J. Hughes, Guy's Hospital and University Tutorial College; *H. A. Kellond-Knight, St. Bartholomew's Hospital; F. S. Longmead, St. Mary's Hospital; W. C. Lewis, University Colleges, Aberystwith, and Guy's Hospital; *C. E. W. Lyth, Firth College, and private study; *G. E. Malcomson, Owens College; *E. L. Martin, St. Bartholomew's Hospital; L. H. Moiser, Yorkshire College; E. S. Montagu, University College, and private study; A. E. Pinniger, University College and Middlesex Hospital; *E. Prall, St. Thomas's Hospital, and private study; W. P. Price, St. Bartholomew's Hospital; E. G. Pringle, St. Bartholomew's Hospital; *W. A. Rees, University College and Middlesex Hospital; *G. S. Robertson, Guy's Hospital and Dulwich College; *F. C. Robinson, Guy's Hospital; E S Routly, St Mary's Hospital; *C. C. Rushton, Owens College; W. H. Scott, University Tutorial College; P. H. Seal, University College; H. B. Simpson, University College; D. Smith, University College; E. B. Smith, St. Bartholomew's Hospital; *J. E. S. Smith, Owens College; R. W. Sprague, St. Paul's School; *Alice Taylor, University College; *Louisa Graham Thacker, Bedford College, London; *E. C. Whitehead, Wyggeston School, Leicester; Hilda Kate Whittingham, University Tutorial College; E. Wilkinson, Mason College; Lilian May Barker Wright, University College, Nottingham; *G. P. Young, King's and University Tutorial Colleges.

Intermediate Examination in Science and Preliminary Scientific Examination Conjointly.—The following candidates have satisfied the Examiners:

Inorganic Chemistry (Honours).—First Class: †G. E. Shaw, Birkbeck Institution; J. Talbot (Exhibition), Trinity College, Cambridge. Second Class: E. G. Highfield, University College, Liverpool, and private study; F. Horton, King Edward's High School, Birmingham, and Mason College; B. M. Joseph, University College; F. Shedden, Mason College; A. Slator, Mason College. Third Class: R. H Aders, University and University Tutorial Colleges; W. Burton, University College, Aberystwith; A E. Dunstan, Firth College; A. T. Etheridge, Mason College; W. Eyre, Firth College; W. H. Harwood-Yarred, University Tutorial College and private tuition; W. W. Jones, Mason and Cleobury Mortimer Colleges and private study; E. Likiernik, private study; E. C. Williams, St. Bartholomew's Hospital and Birkbeck Institute.

Experimental Physics (Honours).—First Class: W. H. Eccles, Royal College of Science; V. H. Jackson (Neil Arnott Medal), Balliol College, Oxford; J. Talbot (Neil Arnott Exhibition and Medal), Trinity College, Cambridge. Second Class: A. E. Dunstan, Firth College; F. Horton, King Edward's High School, Birmingham, and Mason College. Third Class: A. B. Chatwood, University College and private tuition; M. Coales, Mercers' School; R. C. Roberts, University College, Bangor.

Zoology (Honours).—Second Class: W. H. Harwood-Yarred, University Tutorial College and private tuition; J. E. Stratton, University College. Third Class: Edith Dunnington, University College; Edith Waine Turner Watts, University Tutorial College and private study.

Pass List.—First Division: R. J. Carter, Christ Church, Oxford; J. T. D'Ewart, private study; F. Fritsch, University Tutorial College; A. R. Short, Merchant Venturers' Technical College, Bristol; W. E. J. Tuohy, Guy's Hospital. Second Division: Dora Eliza Bailey, Royal Holloway College; H. J. Bailey, University College, Sheffield; C. J. Loosely, University and University Tutorial Colleges and private study.

Honours Candidates recommended for a Pass.—E. R. Carling, Westminster Hospital and Carlyon College; A. E. H. Pakes, Guy's Hospital.

* These candidates have now completed the examination.

† Obtained the number of marks qualifying for the exhibition.

CONJOINT BOARD IN ENGLAND.

The following gentlemen passed the First Examinations of the Board in the subjects indicated, under the Five Years' Regulations:

Part I. Chemistry and Physics.—C. M. Anthony, Guy's Hospital; C. R. H. Ball, Cambridge University; W. B. Barnes, University College, Bristol; J. A. Bartlett, University College, Bristol; R. L. Beane, St. Thomas's Hospital; T. E. Blunt, London Hospital; F. E. Bolton, University College Hospital; M. O. Boyd, Oxford University; C. Bramhall, London Hospital; R. E. Brayne, Guy's Hospital; C. J. Brierley, Yorkshire College, Leeds; H. L. Burgess, London Hospital; R. Butterworth, St. Mary's Hospital; F. W. Cheese, St. Bartholomew's Hospital; J. W. H. Clark, London Hospital; F. Cock, Charing Cross Hospital; R. T. Collins, Guy's Hospital; N. A. W. Conolly, St. Bartholomew's Hospital; C. H. Cox, Mason College, Birmingham; B. A. Cox, King's College Hospital; W. Crampton, University College, Liverpool; F. W. Cresswell, St. Mary's Hospital; H. P. Croly, London Hospital; G. W. Curtis, University College Hospital; L. Daft, Firth College, Sheffield; C. F. Day, private study; E. J. Dermott, University College, Bristol; C. M. Dickinson, London Hospital; H. T. Doble, St. Mary's Hospital; T. W. H. Downes, St. Thomas's Hospital; W. R. L. Drawbridge, St. Bartholomew's Hospital; H. R. Dutton, Middlesex Hospital; T. R. Eames, Owens College, Manchester; L. S. Edginton, London Hospital; G. T. Elder, St. Mary's Hospital; F. H. Ellis, St. Bartholomew's Hospital; G. J. Evans, St. Mary's Hospital; H. F. Everett, London Hospital; G. S. Ewen, St. Bartholomew's Hospital; M. Forster, Cambridge University; W. S. Fullagar, St. Thomas's Hospital; H W. Furnivall, University College Hospital; H. Gardner, Firth College, Sheffield; A. C Gould, St. Mary's Hospital; A. Gregory, Yorkshire College, Leeds; W. H. Griffith, University College, Liverpool; E. W. Grogono, London Hospital; J. W. Gromitt, Guy's Hospital; G. S. C. Hayes, Guy's Hospital; B. Hood, Charing Cross Hospital; A. R. F. Hubbard, Charing Cross Hospital; G. W. G. Hughes, King's College Hospital; T. Hutchinson, Mason College, Birmingham; F. W. Jackson, St. Bartholomew's Hospital; R. L. Jiménez, Guy's Hospital; F. C Jobson, Westminster Hospital; R. L. Jones, Middlesex Hospital; W. W. C. Jones, Guy's Hospital; C. J. M. Lawrence, Owens College, Manchester; R. E. H. Leach, St. Thomas's Hospital; A. Leeming, Owens College, Manchester; J. W. Lewellyn, University College, Cardiff; I. C. Lewis, St. Bartholo-

mew's Hospital; J. L. Lewis, London Hospital: G. C. Lowe, Guy's Hospital; O. L. Lowsley, St. Mary's Hospital; J. K. Lund, Mason College, Birmingham; J. F. McQueen, Clifton Laboratory, Bristol; W. McD. MacDowall, London Hospital; H. V. McGuire, University College, Liverpool; H. M. Major, St. Mary's Hospital; R. P. Marshall, Guy's Hospital; F. D. Martyn, Westminster Hospital; C. M. N. May, St. George's Hospital; G. C. B. Miéville, University College Hospital; T. G. Miles, Guy's Hospital; E. H. Milner-Moore, St. Mary's Hospital; A. F. Miskin, St. Thomas's Hospital; G. Moir, Guy's Hospital; F. Morgan, Westminster Hospital; H. W. Morris, Guy's Hospital; L. M. Morris, St. Bartholomew's Hospital; H. Morrison, Yorkshire College, Leeds; R. Moyle, Guy's Hospital; T. C. Neville, St. Bartholomew's Hospital; A. C. Osburn, Guy's Hospital; C. L. C. Owen, St. Bartholomew's Hospital; F. D. Parbury, St. Bartholomew's Hospital; W. Parsons, University College Hospital; A. S. Petrie, St. Bartholomew's Hospital; N. R. Phillips, University College, Cardiff; C. A. G. Phipps, Owens College, Manchester; A. P. Piggott, Pharmaceutical Society's School; J. F. Powell, St. George's Hospital; S. L. Prall, Guy's Hospital; C. D. Pye-Smith, Firth College, Sheffield; K. H. Reed, St. George's Hospital; T. Richards, University College, Cardiff; P. M. Rivaz, Nonconformists' Grammar School, Bishop Stortford; B. B. Riviere, St. Paul's School, West Kensington; W. O. Roberts, Guy's Hospital; H. Raund, Mason College, Birmingham; M. J. Rowlands, University College, Cardiff, G. F. Rugg, University College Hospital; C. Ryley, St. Mary's Hospital; B. M. Sampson, St. Thomas's Hospital; B. E. Sansom, St. Thomas's Hospital; M. B. Scott, St. Bartholomew's Hospital; H. H. Serpell, St. Bartholomew's Hospital; H. G. Sewell, London Hospital; L. W. Shadwell, St. George's Hospital; S. S. H. Shannon, Guy's Hospital; C. W. Sharpley, Yorkshire College, Leeds; J. P. B. Snell, Middlesex Hospital; F. A. H. Stuart, St. Mary's Hospital; I. Stusser, London Hospital; F. Talbot, Birkbeck Institute; C. L. Traylen, London Hospital; F. J. Trimmer, London Hospital; H. Upcott, St. Thomas's Hospital; W. F. H. Vaughan, St. Mary's Hospital; J. Walker, St Thomas's Hospital; J. Walters, University College of South Wales, Cardiff; M. C. Wetherell, Guy's Hospital; G. P. Wilson, London Hospital; W. J. Wood, University College Hospital; W. V. Wood, Cambridge University and St. Bartholomew's Hospital; C. S. Woodwark, St. Bartholomew's Hospital; J. H. Wroughton, St. Bartholomew's Hospital.

art II. Practical Pharmacy.—H. S. A Agate, St. Mary's Hospital; J. J. Armitare, St. Thomas's Hospital; W. Bastian, University College, College Hospital; F. S. Batchelor, Guy's Hospital; S. Bazalgette, St. Thomas's Hospital; D. W Bishop, Oxford University and St. Mary's Hospital; P. W. C. Blick, Oxford University; F. F. Bond, Westminster Hospital; W. Braddock, Owens College, Manchester; C. H. Brangwin, Guy's Hospital; J. C. Bridge, Middlesex Hospital; C. J. Brierley, Yorkshire College, Leeds; E. P. Court, St. Bartholomew's Hospital; W. Crampton, University College, Liverpool; H. J. De Brent, St Thomas's Hospital; J. S. Dudding, London Hospital; V. J. Duigan, St. Bartholomew's Hospital; R. Dunstan, London Hospital; H. R Dutton, Middlesex Hospital; D. R. Edwards, University College, Liverpool; E. L. Forward, St. Thomas's Hospital; E. V. Foss, University College, Bristol; H. W. Fox, Guy's Hospital; G. E. Froggatt, New Zealand and Middlesex Hospital; T. Gibson, St. Thomas's Hospital; W. L. M. Goldie, St. Mary's Hospital; W. H. Gray, London Hospital; R. Griffith, Cambridge University and London Hospital; G. H. Hackney, University College Hospital; T. Howell, University College, South Wales, Cardiff; C. H. Howkins, Mason College, Birmingham; J. E. Howroyd, Yorkshire College, Leeds; L. W. Huelin, St. Mary's Hospital; N. A. A. Hughes, Yorkshire College, Leeds; G. J. Humphreys, St. Bartholomew's Hospital; H. R. Jeremy, London Hospital; W. J. G. Johnson St. Bartholomew's Hospital; H. N. Keeling, Yorkshire College, Leeds; C. E. Lakin, Middlesex Hospital: G. J. Lewis, Guy's Hospital; E. C. Lindsey, St. Mary's Hospital; E. S. Littlejohn, University College Hospital; J. K. Lund, Mason College, Birmingham; B. S. O. Maunsell, St. Bartholomew's Hospital; A. Mason, Middlesex Hospital; A. A. Meadon, St. Bartholomew's Hospital; W. P. Miles, St. Bartholomew's Hospital; A. F. Miskin, St. Thomas's Hospital; W. J. Morrish, St. Mary's Hospital; D. A. H. Moses, St. Bartholomew's Hospital; A. C. Nash, Guy's Hospital; V. B. Nesfield, St. Mary's Hospital; R. W. Pearson, Owens College, Manchester; F. B. Penfold, Middlesex Hospital; E. W. Price, St. Bartholomew's Hospital; H. M. Raven, St. Mary's Hospital; H. H. Raw, St. Bartholomew's Hospital; F. M. P. Rice, St. Bartholomew's Hospital; T. Richards, University College, South Wales, Cardiff; R. H. N. Rutherford, University College, Bristol; E. Roberts, Guy's Hospital; R. S. Roper, Guy's Hospital; J. C. Sale, St. Bartholomew's Hospital; E. S. Scott, London Hospital; H. G. Sewell, London Hospital; A. D. Spalding, London Hospital; F. J. Stansfield, Yorkshire College, Leeds; P. S. Stokers, Firth College, Sheffield; F. E. Tayler, St Bartholomew's Hospital; H. C. Tayler, St. Mary's Hospital; W. A. Thompson, Owens College, Manchester; C. L. Traylen, London Hospital; A. R. Tweedie, St. Bartholomew's Hospital; B. J. Ward, Mason College, Birmingham; O E. Ward, Mason College, Birmingham; C. V. White, St. Thomas's Hospital; H. Whitwell, St. Bartholomew's Hospital; F. Willey, Yorkshire College, Leeds; M. G. Winder, St. Bartholomew's Hospital.

Part III. Elementary Biology.—S. A. Agar, London Hospital; E. A. W. Alleyne, St. Mary's Hospital; R. J. Archibald, St. Thomas's Hospital; E. L. Bartlett, St. Mary's Hospital; R. L. Beane, St. Thomas's Hospital; W. A. Beet, London Hospital; A. C. Benson, St. Paul's School, West Kensington; K. H. Beverley, University College, Bristol; A. E. Bird, Owens College, Manchester; F. E. Bolton, University College Hospital; F. Bourns, Westminster Hospital; C. Bramhall, London Hospital; R. D. Brown, St. Thomas's Hospital; G. R. H. Chell, Mason College, Birmingnam; R. T. Collins, Guy's Hospital; H. B. Connell, Mason College, Birmingham; S. N. Crowther, Westminster Hospital; L. Daft, Firth College, Sheffield; H. S. C. Darbyshire, Firth College, Sheffield: T. S. Davies, University College, Bristol; H. T. Doble, St. Mary's Hospital; M. Eager, King's College Hospital; L. S. Edginton, London Hospital; H. Fletcher, London Hospital; A. W. Gater, Guy's Hospital; G. F. Gill, St. Bartholomew's Hospital; A. S. G. Goldsmith, St. George's Hospital; B. W. Gouin, St. Mary's Hospital; A. Godall, St. Bartholomew's Hospital; H. A. S. Gover, St. Mary's Hospital; E. W. Grogono, London Hospital; L. Hirsch, Grant Medical College, Bombay; C. T. Holford, St. Thomas's Hospital; C. E A. Huddurt, London Hospital; W. S. Hughes, Charing Cross Hospital; H. Ide, Charing Cross Hospital; F. C. Lambert, St. Mary's Hospital; C. J. M. Lawrence, Owens College, Manchester; R. E. H. Leach, St. Thomas's Hospital; J. W. Lewellyn, University College, South Wales, Cardiff; R. R. Lewis, Middlesex Hospital; J. D. S. Lloyd, Mason College, Birmingham; H. V. McGuire, University College, Liverpool; W. Martin, St. George's Hospital; N. S. Meiklejohn, St. Paul's School, West Kensington; F. W. Miller, King's College Hospital; G. W. Miller, St. Bartholomew's Hospital; E. H. Milner-Moore, St. Mary's Hospital; F. W. Morgan, University College, Bristol; L. W. Morgan, University College, South Wales, Cardiff; H. W. Morris, Guy's Hospital: F. M. M. Ommanney, Guy's Hospital; F. D. Parbury, St. Bartholomew's Hospital; F. B. Penfold, Middlesex Hospital: R. C. Pitt, London Hospital; C. D. Pye-Smith, Firth College, Sheffield; G. Raymond, St. Thomas's Hospital; C. A. E. Ring, Guy's Hospital; R. A. de B. Rose, University College Hospital; C. W. Sharpley, Yorkshire College, Leeds: A. W. Soper, Guy's Hospital; F. M. G. Tulloch, St. Mary's Hospital; G. de B. Turtle, King's College Hospital; J. A. W. Webster, St. Mary's Hospital; J. H. Wickert, London Hospital; H. A. Woodriff, St. Bartholomew's Hospital; A. C. C. Wright, St. Mary's Hospital.

The following gentlemen passed the First Examinations of the Board in the subjects indicated under the Four Years' Regulations:

Part I. Chemistry, including Chemical Physics.—E. J. H. Bowen, London Hospital and University College of South Wales, Cardiff.

Part II. Materia Medica.—W. Amsden, St. Bartholomew's Hospital; P. Cator, St. Bartholomew's Hospital; R. Cope, St. Bartholomew's Hospital; E. H. Cragg, Guy's Hospital; E. S. Crispin, King's College, London; A. Cubley, Firth College, Sheffield, and University College, London; E. L. D. Dewdney, King's College, London; F. R. Eddison, St. Bartholomew's Hospital; E. Gray, Queen's College, Cork, and London Hospital; W. K. Hay-Coghlan, St. Mary's Hospital; T. B. Jones, St. Bartholomew's Hospital; E. T. M'Connell, Catholic University, Dublin, and Queen's College, Belfast; W. G. D. Miller, Cambridge University, and University College, London; A. H. M. N. Mitchell, St. Mary's Hospital; W. H. Park, Charing Cross Hospital; R. S. Rowland, Cambridge University, and Guy's Hospital; W. E. Turner, St. Mary's Hospital.

Part III. Elementary Physiology. — F. Parlett, University College, Bristol.

VICTORIA UNIVERSITY.

Final Examination in the Faculty of Medicine.—The following candidates have satisfied the Examiners:

Part I.—D. A. Alexander, Univ; J. W. Anderson, Univ.: D. A. Ashton, Owens; J. T. Auld, Owens, J. W. Barker, Yorks.; T. T. Bark, Univ.; H. P. Clarke, Owens, J. Craig, Owens, H. R. Cross, Yorks.; W. Crozier, Univ.; S. S. Depree, Univ.; E. C. Dutton, Owens; E. W. Floyd, Owens; J. Goodall, Yorks.; J. P. H. Greenhalgh, Owens; R. Hamer, Owens; H. F. Hart, Univ.; T. W. Hart Owens; E. M. Hime, Yorks; F. Hoyle, Owens, F. W. Inman, Univ.; H. H. McNabb, Owens, E. J. Martin, Owens: J. Mooney, Owens; S. C. Moore, Univ.; H. Osborne, Owens; W. H. Richardson, Owens; W. Rigby, Owens; A. Spong, Yorks; E. Trotter, Yorks.; E. Turton, Yorks.; G. C. Walker, Univ.; L. S. Whitwam, Univ.; T. H. Wignall, Owens; O. H. Woodcock, Owens.

Part II.—M. Aungier, Univ.; T. F. Bamford, Owens; W. H. Bateman, Owens; R. W. Bollans, Yorks.; J. J. Butterworth, Owens; J. B. Clarke, Owens; F. Darlow, Yorks.; J. E. Dutton, Univ.; P. H. Fearnsides, Yorks.; W. Graham, Univ.; A. S. Griffith, Univ.; H. Hartley, Owens; H. M. Henderson, Univ.; D. G. Hurter, Univ.; A. T. Lakin, Owens; J. R. Lambert, Yorks.; A Lawson, Owens; J. H. Mason, Yorks.; J. Mooney, Owens; C. H Moorhouse, Yorks.; A. M. Pilcher, Owens; F. S. Pitt-Taylor, Univ.; J. Prestwich, Owens; F. Pritchard, Owens; A. L. Rhind, Owens; J. H. Sheldon, Owens; R. Sutherland, Univ.; A. Wightwick, Owens; J. H. Willett, Univ.

Honours, Class II.—W. H. Bateman, Owens; J. E. Dutton, Univ.; W. Graham, Univ.; A. S. Griffith, Univ.; H. Hartley, Owens; D. G. Hurter, Univ.; C. H. Moorhouse, Yorks.; J. H. Sheldon, Owens; R. Sutherland, Univ.

Second Examination.—The following candidates have satisfied the examiners:

Anatomy and Physiology.—S. W. Battle, Yorks.; G. Binns, Owens; J. P. Brown, Owens; W. J. Butcher, Owens; J. S. Byrne, Univ.; H. H. Bywater, Owens; E. W. Falconer, Owens; P. A. L. Foulds, Owens; H. Holt, Owens; H. S. McLellan, Owens; F. A Morrison, Owens; R. S. Nichol, Owens; T. E. Regan, Owens; H. Scholefield, Owens; G. M. Sharpe, Yorks.; H. Snape, Owens; W. A. Stott, Yorks.; E. Swales, Univ.; R. N. West, Owens; R. D. Willcocks, Univ.; P. G. Williamson, Owens.

Materia Medica and Pharmacy.—G. Ainsworth, Owens; A. Anderson, Owens; E. W. Anderton, Yorks; M. B. Arnold, Owens; E. M. Ashcroft, Owens; J. T. Bailey, Owens; H. Bates, Univ.; A. D. Beckett, Owens; P. Benington, Univ.; A. T. Blease, Owens; H. Brown, Yorks; P. A. Browne, Univ.; C. W. Budden, Univ.; F. Bullough, Owens; E. R. Cooper, Owens; J. M. Cort, Owens; D. Cowin, Owens; C. W. Crawshaw, Owens; J. L. Dimond, Univ.; T. H. B. Dobson, Owens; W. F. Ellis, Yorks; R. J. Ewart, Univ.; A. H. B. Fletcher, Yorks; H. E Fox, Owens; M. Gamble, Owens; W. Garstang, Owens; D. G. Gellatly, Owens; R. Gordon, Owens; F. Griffith, Univ.; F. G. Hack, Owens; C. R. Hall, Owens; W. D. Hamer, Owens; F. W. Harrowell, Yorks.; L C. Johnson, Owens; R. E. Kelly, Univ.; R. Lawrence, Owens; C. H. Lee, Owens; H. S. Lister, Owens; J. McIlraith, Owens; J. C. Mann, Univ.; H. J. Moon,

Owens; T. F. Pugh, Univ.; P. A. H. Radcliffe, Yorks.; A. Ramsbottom, Owens; S. Renshaw, Owens; E. E. Roberts, Univ.; J. H. Sutcliffe, Yorks.; R. W. Taylor, Yorks.; T. Tierney, Owens; C. R. Willans, Yorks.; T. B. Williams, Owens; F. P. Wilson, Univ.; J. D. Windle, Owens; W. A. B. Young, Owens.

First Examination.—The following candidates have satisfied the examiners:

Part II. Biology.—R. Appleton, Yorks.; P. W. Ashmore, Yorks.; F. H. S. Ashworth, Owens; J. B. Barnes, Owens; J. H. Battersby, Owens; H. M. Berry, Univ.; C. H. Booth, Yorks.; N. Bradley, Univ.; S. B. Brentnall, Owens: R. N. Butterworth, Yorks.; W. H. Canter, Yorks.; J. B. Cook, Owens; A. Cran, Owens; E. N. Cunliffe, Owens; S. W. Davies. Univ.; A. M. Deane, Yorks; T. Eastham, Owens; J. E. Floyd, Owens; F. W. Gatenby, Owens; G. W. Gelderd, Univ.; P. H, Green, Owens; J. W. Greenwood, Owens; P. T. Harding, Owens; F. W. Hayes, Yorks.; G. Heathcote, Owens; R. Heathcote, Owens; J. P. Henderson. Univ.; A. G. Jackson, Univ.; S. J. C. Johnson, Owens; C. J. Lapage, Owens; C. Mackay, Owens; H. C. McManus, Univ.; C. T. Matthews, Yorks.; H. Maxfield, Owens; J. S. W. Nuttall, Univ.; G. G. Parkin, Owens; R. T. A. Patchett, Owens; H. D. Pearson, Yorks.; S. Platts, Yorks.; M. B. Potts, Yorks; H. H. Rayner, Owens; A. Richmond, Owens; W. Rotherham, Univ.; E. Savill, Yorks.; F. R. Sawdon, Owens; G. H. Shaw, Owens; W. F. Shaw, Owens; S. W. Swindells, Owens; H. G. Tansley, Owens, J. C. Teasdale, Yorks; M. G. L. Walker, Yorks.; H. C. Waterhouse, Owens; A. Wharton, Owens; R. G. Wills, Univ.; B. M. Wilson, Owens; J. G. Woolham, Owens; F. W. B. Young, Univ.

Diploma in Public Health.—The following candidates have satisfied the examiners:

J. H. Ashworth, H. P. Butterworth, W. E. Davies, T. W. H. Garstang.

The following degrees have been conferred:

Bachelor of Medicine and of Surgery.—*W. H. Bateman, Owens; *J. E. Dutton, Univ.; *W. Graham, Univ.; *A. S. Griffith, Univ.; *H. Hartley, Owens; *D. G. Hurter, Univ; *C. H. Moorhouse, Yorks; *J. H. Sheldon, Owens; *R. Sutherland, Univ.; M. Aungier, Univ.; T. F. Bamford, Owens; R. W. Bollans, Yorks; J. J. Butterworth, Owens; J. B. Clarke, Owens; F. Darlow, Yorks; P. H. Fearnsides, Yorks; H. M. Henderson, Univ.; A. T. Lakin, Owens; J. R. Lambert, Yorks; A. Lawson, Owens; J. H. Mason, Yorks; J. Mooney, Owens; A. McL Pilcher, Owens; F. S. Pitt-Taylor, Univ.; J. Prestwich, Owens; F. Pritchard, Owens; A. L. Rhind, Owens; A. Wightwick, Owens; J. H. Willett, Univ.

* Second Class Honours.

CONJOINT BOARD IN SCOTLAND.

The following candidates have passed the respective examinations as under:

First Examination · Five Years' Course.—J. M. Morton (with distinction), J. L. Stephenson, J. M'Intyre, R. D. Duff, Rona Lockhart, R. Wardlaw, A. M'Millan (with distinction), W. H. Duncan, P. M. Dewar, Charlotte M'Crea, M. F. Cusack, E. J. Evatt, K. P. Chatterjee, J. O'Connor, J. J. Lynch, J. C. Galloway, J. E. Cooper, C. H. Nash, S. V. T. Barr.

First Examination: Four Years' Course.—C. A. R. Hall, D. C. Blair, R. Roberts, A. C. Turner, J. Graham, G. A. Thomson.

Second Examination: Five Years' Course.—O. F. M'Carthy, W. J. Buckmaster, E. M. M'Swiney, D. Fyfe, C. M'Donnell, J. N. Meade, J. T. Bradley, W. Ogilvy. W. A. Benson.

Second Examination: Four Years' Course.—H. R. Battiscombe, R. C. Reid T. E. Saxby, J. Robertson, G. A. Thompson, J. T. Farren, T. W. Colthurst.

Third Examination.—J. M. Inverarity, R. Stewart, A. J. Wilson, W. M'Farlane, J. Ross, J. Dunlop.

Final Examination, and admitted L.R.C.P. and S.E. and L.F.P.S.G.—J. R. Riddell, R. H. Fleming, A. Ross, R. S. Elvins, R. H. Munro (with honours), G. H. A. Taylor, A. C. Adderley, J. Dunlop (with honours), G. L. Jones, T. E. Saxby, J. Elliott, A. Emlyn, J. Sanderson, J. A. Campbell, W. G. Silvester, D. M'Gregor, D. A. Chalmers, E. F. L. de Jersey, T. S. Ross, E. H. Sheldon, D. C. Rowlands, T. D. Waddell, G. B. Simpson.

Erratum.—In the British Medical Journal of August 7th, page 349, the list of those who were granted the diploma in Public Health of Royal College of Physicians conjointly with the Royal College of Surgeons, the third name was misspelt; it should have been Robert Kine.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

The Registrar-General has just issued his return relating to the births and deaths registered in England and Wales during the second or spring quarter of this year, and to the marriages during the three months ending with last. The marriage-rate was equal to 11.7 per 1,000 of the population, and corresponded with the average rate in the same quarters of the ten preceding years.

The births registered in England and Wales during the three months ending June last numbered 226,345. and were equal to an annual rate of 32 per 1,000 of the population, estimated by the Registrar-General to be rather more than thirty-one millions in the middle of this year. This rate was less than that recorded in the corresponding quarters of any of the ten preceding years, during which the birth-rate averaged 31.4 per 1,000. The birth-rates in the several counties ranged from 21.4 in Rutlandshire, 22.0 in Sussex and in Westmorland, and 23.4 in Surrey to 33.4 in South Wales, 34.0 in Monmouthshire, 34.2 in Staffordshire, and 35.0 in Durham. In thirty-three of the largest English towns, including London, the birth-rate last quarter averaged 30.0 per 1,000, and exceeded by 0.8 per 1,000 the general English rate. In London the birth-rate was 29.1 per 1,000, while it averaged 30.6 in the thirty-two large provincial towns, among which it ranged from 22.2 in Halifax, 23.0 in Brighton, and 23.3 in Croydon to 33.9 in Salford, 34.0 in Preston, 34.2 in Liverpool, and 35.9 in Gateshead.

The births registered in England and Wales during the quarter ending June last exceeded the deaths by 100,267; this represents the natural increase of the population during that period. It appears from returns issued by the Board of Trade that 57,128 emigrants embarked during last quarter, for places outside Europe, from the various ports of the United Kingdom at which emigration officers are stationed. Of these. 21,063 were English, 3,731 Scotch, and 16,363 Irish, while 15,971 were of foreign origin. Compared with the averages in the corresponding periods of recent years, the proportion of emigrants from each of the three divisions of the United Kingdom showed a considerable decline.

During the second quarter of the current year the deaths of 126,078 persons were registered in England and Wales, equal to an annual rate of 16.3 per 1,000 of the estimated population; this rate was 1.8 per 1,000 below the mean rate in the corresponding periods of the ten preceding years. The lowest county death-rates last quarter were 11.1 in Middlesex, 12.5 in Surrey, 12.6 in Sussex, and 12.9 in Rutlandshire; while the highest rates were 18.0 in Warwickshire, in Cheshire, and in South Wales, 19.6 in Lancashire. and 21.4 in North Wales. In the urban population of England and Wales. estimated at rather more than twenty-one millions, the rate of mortality during the quarter under notice was equal to 16.6 per 1,000; while in the remaining and chiefly rural population of nearly ten millions the rate was 15.6 per 1,000. These rates were respectively 2.1 and 1.3 per 1,000 below the average rates in the corresponding quarters of the ten preceding years. Among thirty-three of the largest English towns the mean death-rate was 16.9 per 1.000, or 0.6 per 1,000 in excess of the death-rate in the whole country. In London the rate was 15.5 per 1,000, while it averaged 17.9 in the thirty-two large provincial towns, among which the rates ranged from 11.7 in Croydon, 13.0 in Brighton, 13.3 in West Ham, and 13.4 in Swansea to 21.8 in Liverpool, 22.7 in Manchester, 23.4 in Bolton, and 25.5 in Salford. In sixty-seven other large towns, with an estimated aggregate population of about three and a half millions, the mean death-rate was 15 8 per 1,000, or 1.1 per 1,000 below the rate in the thirty-three great towns.

The 126,078 deaths from all causes registered in England and Wales during the three months ending June last included 3.065 which resulted from whooping-cough, 2,905 from measles, 1,437 from diphtheria, 1,418 from diarrhœa, 913 from scarlet fever, 673 from "fever" (including typhus, enteric, and ill-defined forms of continued fever), and 3 from small-pox; in all, 10,414 deaths were referred to these principal zymotic diseases, equal to an annual rate of 1.36 per 1,000, against an average rate of 1.74 in the corresponding quarters of the ten preceding years. The mortality from diphtheria showed a very slight excess last quarter, but that from each of the other principal zymotic diseases was below the average. Only 3 fatal cases of small-pox were recorded in England and Wales during the quarter under notice, of which 2 occurred in London and 1 in Rotherham,

The rate of infant mortality in England and Wales last quarter, or the proportion of deaths under 1 year of age to registered births. was equal to 124 per 1,000, and was slightly below the mean proportion in the corresponding periods of the ten preceding years. In London the rate of infant mortality was 112 per 1,000, while it averaged 139 in the thirty-two provincial towns. among which it ranged from 88 in Croydon, 100 in Portsmouth, 105 in Swansea, and 108 in Huddersfield to 167 in Preston, 168 in Burnley, 174 in Bolton, and 194 in Salford.

The mean temperature of the air during last quarter at the Royal Observatory, Greenwich, was 53.1°, and was 0.7° above the average in the corresponding quarters of 126 years; it was 0.2° below the average in April and 0.3° in May, but showed an excess of 2.7° in June. The rainfall during the quarter amounted to 4.80 inches, and was 0 82 of an inch below the average.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 5,769 births and 5,666 deaths were registered during the week ending Saturday last, August 7th. The annual rate of mortality in these towns, which had risen from 14 7 to 22.9 per 1,000 in the five preceding weeks, further increased to 26.9 last week. The rates in the several towns ranged from 12.0 in Halifax, 12.3 in Huddersfield, 13.9 in Gateshead, and 16.1 in Sunderland to 34.2 in Nottingham, 35.1 in Sheffield, 41.3 in Liverpool, and 46.2 in Preston. In the thirty-two provincial towns the mean death-rate was 27.7 per 1,000, and exceeded by 2.0 the rate recorded in London, which was 25.7 per 1,000. The zymotic death-rate in the thirty-three towns averaged 9.5 per 1,000; in London the death-rate was equal to 8.1, while it averaged 10 5 per 1,000 in the thirty-two provincial towns. among which the highest zymotic rates were recorded in Sheffield, Nottingham, Liverpool, and Preston. Measles caused a death-rate of 1.8 in Birmingham. 2.2 in Manchester, 2.4 in Wolverhampton and in Blackburn, 4.2 in Salford, and 19.9 in Preston; whooping-cough of 1.1 in Oldham; and diarrhœa of 10.5 in Leicester, 11.9 in Birmingham, 12.3 in Portsmouth, 13.3 in Sheffield, 14.5 in Liverpool, and 16.3 in Nottingham. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 62 deaths from diphtheria in the thirty-three towns included 42 in London and 4 in Leicester. One fatal case of small-pox was registered in London, but not one in any of the thirty-two large provincial towns; and one small-pox case was under treatment in the Metropolitan Asylums Hospitals on Saturday last, August 7th. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 3,106 at the end of the fourteen preceding weeks, had further risen to 3,239 on Saturday last; 376 new cases were admitted during the week, against 381, 396, and 360 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, August 7th, 926 births and 612 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 19.5 and 18.2 per 1,000 in the two preceding weeks, rose again to 20.5 last week, but was 6.4 per 1,000 below the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 12.8 in Aberdeen and 18.2 in Paisley to 24 2 in Dundee and 26.3 in Leith. The zymotic death-rate in these towns averaged 4.6 per 1,000, the highest rates being 6.0 in Glasgow and 14.5 in Leith. The 290 deaths registered in Glasgow included 65 from diarrhœa, 13 from whooping-cough, 3 from measles, and 2 from scarlet fever. Four fatal cases of measles were recorded in Edinburgh, and 12 in Leith.

MIDDEN PRIVIES AND ENTERIC FEVER.

FROM time to time, and in certain cases with praiseworthy persistency, we find health officers taking up the cudgels in favour of water carriage systems of excrement disposal and removal, as against that monstrosity the midden privy. The strange tenacity with which man hoards up his excreted filth near his back door has again and again been shown to have results seriously detrimental to health, and is indeed not seldom provocative of fatal disease. The ease with which infectious diarrhœal maladies can be spread by means of the privy has been demonstrated in only too many instances, and where, as is not infrequently the case, many privies have one midden in common, the danger is the greater by reason of infection of many household privies by untreated excreta voided by fever patients being cast into the general receptacle. A simple and yet very conclusive demonstration of the causal relationship of privies and enteric fever has been placed on record by Dr. Boobbyer in his report to the Corporation of Nottingham for 1896, wherein he tabulates the data for enteric fever attacks during the ten years 1887-96, according as the attacks occurred in houses having watercloset, pailclosets, or privies. The results are most striking. Taking the year least favourable to watercloset houses, we find that in 1893 the ratio was one case of enteric fever in each 280 of such houses, and one in each 31 houses with privies, whilst houses having pail closets had one case in each 92, In the next year there was one case in each 25 privy houses, one in each 133 pailcloset houses, and one in each 700 watercloset houses. Taking the aggregate of the ten years, we find that pailcloset houses had one case in each 120 houses, privy houses one in each 37, and watercloset houses one in each 558. Thus the proportional incidence of enteric fever attacks was more than three times as great upon privy houses as that upon pailcloset houses; the incidence upon the latter was over four times greater than that upon watercloset houses; whilst privy houses suffered an incidence fourteen times greater than did houses having a water carriage system. That privies have had an undue influence in the spread of enteric fever cannot be doubted; but how far privies may have been the determining factor in Nottingham Dr. Boobbyer leaves for discussion in an elaborate report now in preparation on the subject of enteric fever in the borough during the past ten years.

TRAINED NURSES IN IRISH WORKHOUSES.

THE relations existing between Dr. Cochrane, the medical officer of Longford Union, and his Board of Guardians have for a long time been anything but amicable. They disagreed first over the nursing question when Dr. Cochrane insisted upon their providing a sufficient staff to enable him to dispense with pauper nurses. In this respect the doctor carried his point, and he then directed his attention to the so-called "ambulance," which he described as "a bacon box on two wheels, a vehicle in which the patient could neither sit up nor lie down." The guardians utterly refused to provide a new ambulance, and the doctor had inquests held upon the patients whose deaths were hastened by their removal in it. The guardians denounced their medical officer in unmeasured terms, and the doctor returned blow for blow, until at length the Local Government Board had to interfere. Now comes the absurdity. The Local Government Board could not denounce the medical officer for trying to obtain for the poor people under his care those requisites which their own inspectors again and again recommended, and they were not prepared to coerce the guardians, and so they contented themselves with patching up an undignified truce, in which the guardians and the doctor mutually withdrew any aspersions they had made upon each other. Probably there was too much temper on both sides, but it is characteristic of Poor-law administration that the medical officers of workhouses have to engage in such contests at all and employ such extraordinary means to wring from the guardians bare justice for the poor.

ATHLONE UNION AGAIN.

IT will be remembered that two years ago the Board of Guardians of the Athlone Union were dissolved by the Local Government Board, owing to their refusal to appoint a trained night nurse for the infirmary. After the Union, much to its advantage financially and otherwise, had been administered by paid guardians for a year, the local guardians were reinstated. It would not appear that their views upon the nursing question have very greatly altered, for we observe that the Superintendent of the nursing institution in Dublin from which they have obtained a temporary night nurse threatens to withdraw the nurse owing to "the inadequacy of the attendance provided for her, and pointing out that one nurse was not able to attend seventeen fever patients, thirteen of whom were delirious." The medical officer states that the pauper inmates refused to coffin those who had died of fever, but this is nothing new. We have often known cases in which this last office had to be done by the medical officer and the nurse, owing to the natural disinclination of paupers to risk their lives without pay. In this case we are of opinion that it was the duty of the medical officer to requisition the master to procure for him as many nurses as he required, the Local Government Board having recently imposed upon medical officers the duty and responsibility of procuring in this manner adequate nursing for their patients. The fairness to patients and doctors of throwing this responsibility, which in most cases they must exercise in opposition to the wishes of the guardians, upon the shoulders of medical officers is open to question. Some men will have the courage to use these powers to the full for the benefit of their patients, but we fear many will shrink from incurring the hostility of their employers, and in such cases it is the poor who will suffer. The wonder is that so many workhouse medical officers in Ireland are ready and willing to brave the bitter enmity of those on whom they are dependent for their means of livelihood for the sake of their hospital patients.

THE GUARDIANS AND MEDICAL OFFICERS.

THE guardians of the Hartley Wintney Union, Hants, seem to be very desirous of acquiring additional power over their medical officers, and they appear to hold the opinion that all these officials should be subject to annual re-election, and they are determined, if possible, to have their own way on this point, and to defy the Local Government Board. Under regulations now in force an appointment now vacant in this union will, when filled up, be for life, but this the majority of them will not consent to, and one guardian does not hesitate to express his opinion that "they can always get what they want from the Local Government Board if they stick to it." It is to be hoped that on this point the Local Government Board will insist on its own regulations being strictly observed, and that the appointment now vacant, when filled, shall be for life, should the successful candidate be eligible to hold it on such a condition. We apprehend that it will be useless for these Hampshire guardians to offer any opposition to this. It must be evident that if they wish to secure an efficient medical officer they must elect him without any such exceptional conditions.

SIMPLIFIED STATUTORY NOTICES AS TO NUISANCE REMOVAL, ETC.

THE matter of statutory notices under the nuisance and other clauses of the Public Health Acts in cases coming into the police-courts has received much attention, it would seem, at the hands of Mr. Foot, the chief Sanitary Inspector of the parish of St. Matthew, Bethnal Green. Not only so, but Dr. Paddock Bate, the health officer of the parish, is enabled to state, in his annual report for 1896, that the attention thus bestowed has resulted in the saving of much time by a simple method of procedure whereby tedious clerical labour is avoided. Mr. Foot has contrived a notice form, which has been in use now for many months, and which has satisfied magistrates and property owners alike. The form, in place of necessitating the usual writing out of the particular requirements *in extenso*, is so framed that the notice served bears on its face merely a reference to numbered paragraphs printed at the back; and so successful have been the proceedings taken that in 147 instituted last year not a single summons was dismissed, and all costs, with the exception of 6s. were recovered. The scheme, the method, the care, and the result alike call for congratulation. Notices are issued only as a last resort in Bethnal Green, after repeated preliminary proceedings have failed to secure abatement of nuisances, or conformity to by-laws, regulations, and the like.

NOTIFICATION OF MEASLES.

AN UNSEASONABLE PROCEDURE.

THE difficulties in the way of compulsory notification of measles seem to be increasingly in evidence. Just now the matter is exercising the mind of the Town Council of Pontefract, on the primary score of expense apparently. Attempts have failed to obtain from medical practitioners in the town a concession in the sense of full certification fee in respect of first cases only in a house, or along similar lines. The Council have determined to seek the consent of the Local Government Board to the exclusion of measles from the operation of the Infectious Disease (Notification) Act in Pontefract. Not only is there absolute compulsion on the part of a local authority to pay the statutory fees, but there is, we assume, no means by which practitioners can legally contract out of an Act which lays upon them a specific duty. It has been suggested that it would be well to give to local health authorities power to require the notification of measles in interepidemic periods, and to arrange for cessation of certificates during times of special prevalence, when the disease has attained such dimensions as to point to the inability of the authority's officers to cope with it. But in the case of Pontefract, the Council have arrived at their decision for the exclusion of measles at a time when the disease is almost absent from the town, and at a time, therefore, when early knowledge of individual attacks may lead to limitation of the malady to the initial patients. It will always be easier to control a few cases, and limit their spread, than to remain ignorant and inactive until diminished school attendance or other fact acquaint the authority of the presence of epidemic.

THE DIAGNOSIS OF DIPHTHERIA.

THE excellent system of supplying culture outfits for the diagnosis of diphtheria has been adopted by the health department of St Pancras. Every medical practitioner is supplied with a diagnosis box containing two sterilised tubes. When charged in accordance with the direction enclosed in the box, it is forwarded to the medical officer of health, and an uncharged box is returned in exchange. A report of the bacteriological examination is sent within twenty-four hours, Sundays and holidays excepted.

BIRTHPLACE IN RELATION TO PUBLIC VACCINATION.

PUBLIC VACCINATOR.—The fact that "Public Vaccinator" has vaccinated a child born in another district does not of itself render the act one in contravention of any statute or regulation. Place of birth, *per se*, does not affect the question of a public vaccinator's right to vaccinate a child, but place of present residence alone governs the matter. The law on the subject finds expression in Section XI of the Vaccination Act, 1867. If locality of birth determined a child's right to gratuitous vaccination, the public vaccinator of the place of nativity would also be in question, and the present Acts rendered nugatory. Only in the exceptional circumstances referred to in the clause just named, however, can a public vaccinator lay claim to fees in respect of the vaccination of children "resident" outside the area of his district.

MEDICAL NEWS.

The Sanitary Condition of Railway Carriages.—Many the Boards of Health in the United States are now giving tention to the sanitary condition of railway carriages. It is ated that, in consequence of pressure put upon them, some mpanies are issuing stringent regulations relative to the ring, cleaning, and disinfection of the carriages at stated nes.

Ventilation in Houses and Hospitals.—The Society of nemical Industry held its annual meeting in Owens Col-ge, Manchester, on July 14th, when Dr. Schunck, the Presi-nt, mentioned the nuisance caused by dense smoke in large wns. He said that the great distress caused to those suf-ing from pulmonary disorder by the fogs so often prevail-g in large centres of population had no doubt more than ce suggested to inquirers the possibility of filtering the air fore allowing it to enter our dwellings. The difficulties of ch a device did not seem great in themselves, the real ficulty arising from the habits and prejudices of the people, o could not understand the possibility of ventilation ex-pt it be through windows and doors. Professor Oliver, in aper on The Effects of Urban Fog upon Cultivated Plants, ntioned with favour a plan devised by Mr. Thorp, a horti-turist of Stepney, who caused the air entering his hothouses pass through boxes containing trays with sticks of charcoal ore impinging on the hot-water pipes, an out-draught of being secured by means of "exhaust caps" placed on or r the ridge of a house. The plan, in Professor Oliver's nion, was an efficient one. That any such plan would ceed in private houses as at present constructed was very ibtful, but in institutions such as hospitals, especially sumption hospitals, some such scheme might be tried, essential condition of success being that all entrance of except through the ventilating boxes be entirely pre-ted.

MEDICAL VACANCIES.

ne following vacancies are announced:

MINGHAM GENERAL HOSPITAL.—House-Physician. Salary, £70 er annum, with residence, board, and washing. Appointment for ne year, but eligible for re-election. Applications to Howard J. ollins, House-Governor, by September 3rd.

CKBURN AND EAST LANCASHIRE INFIRMARY. Senior House-rgeon. Salary, £100 per annum, with board, washing, lodging, etc. pplications to Nathan W. Smith, Secretary, Infirmary Office, 15, Rich-ond Terrace, Blackburn, by August 23rd.

TOL ROYAL INFIRMARY.—Resident Casualty Officer. Appoint-ent for six months. Board, lodging, and washing provided. Con-itional honorarium of £10. Applications to the Secretary by ugust 21st.

ISH INSTITUTE OF PREVENTIVE MEDICINE.—Bacteriologist to e Antitoxin Department at Sudbury. Salary, £200 per annum, with velling accommodation on the premises. Applications to Allan acfadyen, Honorary Secretary and Director, 101, Great Russell reet, London, W.C., by September 15th.

BRIDGE: ADDENBROOKE'S HOSPITAL.—Resident House-Physi-an. Salary, £65 per annum, with board, lodging, and washing. pplications to the Secretary by August 24th.

RAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn Road, W.C.—ouse-Surgeon. Rooms, coals, and lights provided. Applications to e Secretary by August 17th.

IGHSHIRE INFIRMARY, Denbigh.—House-Surgeon. Must be ubly qualified and conversant with Welsh language. Salary, £80 r annum, with board, residence, and washing. Applications to W. ughan Jones, Secretary, by August 31st.

BURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN. two Resident Physicians. Applications to Messrs. Henry and ott, 20, St. Andrew's Square, Edinburgh, by September 15th.

BURGH: VICTORIA HOSPITAL FOR CONSUMPTION AND SEASES OF THE CHEST.—Non-resident Medical Officer for six nths. Salary at the rate of £60 per annum. Applications to the norary Secretaries. Messrs. Wallace and Guthrie, 1, North Char-te Street, Edinburgh, by August 20th.

NA HOSPITAL FOR SICK CHILDREN, Southwark Bridge Road, .—Senior Resident Medical Officer. Salary, £70 per annum, with rd and washing. Applications to the Committee of Management August 18th.

OCH ASYLUM, near Glasgow.—Assistant Medical Officer. Salary, o per annum, with board, lodging, etc. Applications to Medical erintendent before August 21st.

NORTHERN CENTRAL HOSPITAL, Holloway Road N.—House-sician. Appointment for six months, with salary £60 per annum, and board, lodging, and washing. Applications, on forms provided, to be sent to Lewis H. Glenton Kerr, Secretary, by August 16th.

GUILDFORD: ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Board, residence, and laundry found. Applications to the Honorary Secretary.

JOHN LUCAS WALKER STUDENTSHIPS.—Studentship value £250, and tenable for three years; must devote himself or herself to original research in pathology. Applications to Dr. A. A. Kanthack, Patho-logical Laboratory, Cambridge, by October 15th.

LANARK, COUNTY OF.—Resident Physician for the Middle Ward Isola-tion Hospital. Salary, £140 per annum, with board, etc. Applica-tions to J. F. Mackenzie, District Clerk, County Buildings, Hamilton, by August 25th.

LANCASTER: ROYAL ALBERT ASYLUM.—Assistant Medical Officer, un-married; age not under 25. Salary commencing £120 per annum, and increasing by £15 annually to £150, with board, apartments, and washing. Applications to James Diggens, Principal and Secretary, by August 26th.

MACCLESFIELD GENERAL INFIRMARY.—Junior House-Surgeon, doubly qualified. Salary, £70 per annum, with board and residence in the Institution. Applications to the Chairman of the House Com-mittee by August 16th.

MANCHESTER CLINICAL HOSPITAL FOR WOMEN AND CHILDREN, Park Place, Cheetham Hill Road.—House-Surgeon. Salary, £80 per annum, with apartments and board. Applications to Mr. Hubert Teague, Secretary, 30, Burton Arcade, Manchester by August 28th.

MANCHESTER ROYAL INFIRMARY, DISPENSARY, AND LUNATIC HOSPITAL OR ASYLUM.—Honorary Dental Surgeon. Applications to the Chairman of the Board by Augugt 31st.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the North-Eastern Fever Hospital, St. Ann's Road, Tottenham, N.—Salary, £160 during the first year, £180 during the second year, and £200 during the third and subsequent years of service, with board, lodging, attendance, and washing. Must be doubly qualified, un-married, and not exceed 35 years of age. Applications on forms to be obtained at the Chief Office of the Board, Norfolk House, Norfolk Street, Strand, W.C., where they must be delivered by 10 A.M. on August 26th.

NORTHAMPTONSHIRE.—Medical Officer for the County. Salary at the rate of £700, and allowance for travelling and other out-of-pocket expenses. Must reside at a place approved by the Sanitary Committee. Applications to H. P. Markham, Clerk to the Council, County Hall, Northampton, by September 8th.

PRESTWICH, MANCHESTER: COUNTY ASYLUM.—Pathologist and Assistant Medical Officer. Salary, £200 per annum, with board, residence, and washing. Applications to the Superintendent.

ROTHERHAM HOSPITAL AND DISPENSARY.—House-Surgeon; doubly qualified. Salary £105, with board, lodging, and washing. Appoint-ment for three years. Applications to the Hon. Secretary by August 31st.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House-Surgeon for six months. Board, lodging, and washing provided. No salary. Applications to "Honorary Secretary of Medical Committee" by August 14th.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demon-strator of Anatomy. Applications to G. P. Field, Dean, by Sep-tember 22nd.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Sur-geon, doubly qualified. Appointment for six months, which is renew-able. Honorarium at the rate of £30 per annum. Board and washing provided. Applications to Joseph Worrall, Infirmary Office, Arcade, Southport, by August 24th.

SUSSEX COUNTY HOSPITAL, Brighton.—Fourth Resident Medical Officer, doubly qualified. Unmarried, and when elected under 30 years of age. Board, washing, and residence in the hospital, and salary not exceeding £30 per annum. Applications to the Sec-retary, by September 1st.

TEIGNMOUTH HOSPITAL, South Devon.—House-Surgeon. Salary, £60 per annum, with board, lodging, and washing. Applications to A. V. Chapman, Secretary, by August 23rd.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Resident Obstetric Assistant. Appointment for six months. Applications to L. M. Quennell, Secretary, by August 18th.

MEDICAL APPOINTMENTS.

Bickford, N. S., M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Surgeon to the Hospital for Sick Children, Great Ormond Street.

Bond, F. T., M.D., reappointed Medical Officer of Health to the Ciren-cester Urban District Council.

Bulloch, W., M.D., appointed Bacteriologist to the London Hospital and Lecturer on Bacteriology in the London Hospital Medical School.

Dingwall, A., M.B., appointed Medical Officer of Health for the Kington Urban District, *vice* G. O. Jacobsen, L.R.C.P.Lond., M.R.C.S., deceased; and Medical Officer for the Pembridge District of the Kington Union.

Dobbin, Dr. Edward George, appointed Assistant Medical Officer at the St. John's Road Workhouse and Infirmary of the Islington Union.

Draffin, D. K., L.R.C.P., L.R.C.S.I., appointed Medical Officer for the Troedyrhiw District of the Merthyr Union.

Foot, Ernest Geo., M.R.C.S.Eng., L.S.A., reappointed Medical Officer for the Fittleworth District of the Petworth Union.

Gross, C. F., M.R.C.S., L.R.C.P.Lond., appointed Medical Officer for the Seventh District of the East Ashford Union, *vice* H. Wriggleworth, deceased.

HEGGS, R. M., L.S.A.Lond., appointed Assistant House-Surgeon to the Wolverhampton and Staffordshire General Hospital, Wolverhampton.

HONNYWILL, Alfred Oram, L.R.C.S., L.R.C.P.Edin., appointed Medical Officer to the Epsom (Rural), Sutton, Carshalton, and Leatherhead Joint Isolation Hospital.

JAGO, C. S., M.R.C.S.Eng., L.S.A., appointed Medical Officer of Health for the St. Just Urban District.

JONES, S. Cromwell, M.D.Lond., M.R.C.S.Eng., appointed Medical Officer for the Lower Town District of the Merthyr Union.

LAYTON, Hy. Albert, L.R.C.P.Edin., M.R.C.S.Eng., appointed Medical Superintendent to the Bodmin Asylum, *vice* Richard Adams, L.R.C.P.Edin., M.R.C.S.Eng.

LONG, Dr., appointed Medical Officer for the Second Chesham District of the Amersham Union, *vice* A. E. Larking, M.D.Durh., resigned.

MACDERMOTT, R. J., B.A.Dub., M.B., reappointed Medical Officer for the Northchapel District of the Petworth Union.

MORCOM, A., L.R.C.S.Edin., L.S.A., reappointed Medical Officer of Health to the Luton Rural District Council.

NEIL, James, M.D.Aberd., appointed Medical Superintendent and Secretary to the Warneford Asylum, Oxford, *vice* Dr. J. Bywater Ward, who retires at Michaelmas.

PALMER, John, L.R.C.P.Lond., M.R.C.S., appointed Medical Officer for the Snodland No. 5 District of the Malling Union.

RAW, Nathan, M.D.Durh., B.S., appointed Medical Superintendent of the West Derby Union Infirmary, Mill Road, Liverpool, *vice* H. C. Chapman, M.B.Lond., resigned.

SCOTT, Alexander, M.D.Glasg., appointed Certifying Factory Surgeon for the Glasgow District, *vice* M. Charteris, M.D., deceased.

STENHOUSE, Daniel, L.R.C.P., L.R.C.S.Edin., appointed Medical Officer for the Arnold District of the Basford Union, *vice* W. Lamb, M.D., resigned.

STEPHENS, Dr., appointed Medical Officer and Public Vaccinator of the West Auckland District of the Auckland Union, *vice* Robert Jas. Nevin, M.B., C.M.Glasg.

STOKES, R. McClean, L.R.C.P., L.R.C.S.Edin., appointed Medical Officer for the Monmouth District of the Monmouth Union.

SUTTON, Jas. Bryan, L.R.C.P.Lond., L.S.A., reappointed Medical Officer for the Hedgerley District of the Eton Union.

WALKER, S. R., M.R.C.S., L.R.C.P., appointed House-Surgeon to the Westminster Hospital.

WILSON, Francis Kenneth, M.B., B.S.Lond., M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Surgeon to the Westminster Hospital.

WORTS, Edwin, L.R.C.P.Lond., M.R.C.S.Eng., reappointed Surgeon to the Essex and Colchester Hospital.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

CALEY.—On the 5th instant, at Ealing, the wife of Guthrie Neville Caley, M.D., M.S., of a daughter.

HUBBARD.—On 31st July, 1897, at Hemel Hempstead, the wife of Arthur John Hubbard, M.D., of a son.

SHAPLAND.—July 31st, at Southbrook, Budleigh Salterton, the wife of John Dee Shapland, M.A., M.B., B.S., of St. Andrews Road, Exmouth, of a son.

MARRIAGES.

BURTON—SILVER.—August 4th, at All Saints, Kingsley, by the Rev. E. Silver, Highfield, Southampton, uncle of the bride, assisted by the Rev. A. P. Reynolds, Vicar of the Parish, William Edward Burton, M.R.C.S., etc., of Frodsham, to Mary Elizabeth Harriet Silver, of Crofton Lodge, Kingsley.

FULLER—GOSS.—On August 5th, at St. Andrew's Church, Bath, by the Rev. J. Lunt, Alfred Leonard Fuller, M.R.C.S., L.R.C.P., to Ethel Margaret, eldest daughter of T. Biddulph Goss, Esq., M.R.C.S., L.S.A., 1, Circus, Bath.

HARVEY—TURNBULL.—On August 4th, at Congregational Church, St. Leonard's-on-Sea, by Rev. A. T. Saville, of Rye, Thomas Prickard Harvey, M.D., L.R.C.P Lond., M.R.C.S.Eng., etc. (late of Nottingham and Burma), to Louise Marion Turnbull, eldest daughter of the late Patrick Turnbull, Esq., of Sevenoaks and Edinburgh. N.B.—By licence.

KNAGGS—PLAYNE.—On August 10th, at the Parish Church, Minchinhampton, by the Rev. Christian Hartley, Francis Henry, son of Samuel Knaggs, of Huddersfield, to Martha Isabel, daughter of Charles Playne, J.P., Nailsworth, Glos.

PHILLIPS—WAY.—On July 21st, at St. Jude's Church, Southsea, by the Rev. J. S. Blake, Vicar, and the Rev. J. W. Banks, uncle of the bride, and Vicar of Hatherleigh, North Devon, Surgeon John Elphinstone Hood Phillips, R.N., H.M.S. *Prince George*, son of Captain John Phillips, R.N., to Kathleen Marian Esther, daughter of Frederick Walter Way, Surgeon, Elm Grove, Southsea.

DEATHS.

BARRS.—On August 4th, 1897, at Scarborough, Alice Bywater, aged 34 years, wife of Alfred G. Barrs, M.D., of Leeds, and youngest daughter of Henry Nelson, Esq.

HARMAN.—In the Red Sea, on July 28th, from feb. rem., Rodolphe Harman, M.B., M.Ch. Trin. Coll. Dub., Army Medical Staff (by telegram). A martyr to his unselfish devotion to duty, and loving anxious care for all, save his own dear self.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

POST-GRADUATE asks for information concerning the appointment of medical attendants to the British Ambassadors.

T., who has been told that certain plants placed in the rooms of a house keep away flies, desires further information.

N. asks how the appointments of divisional surgeon to the police in London are made?

A MEMBER asks for information as to the Practitioners' Examination (Five Years) of the R.C.P.I., with books to be read?

M.R.C.S. desires to obtain a health chart of the southern counties, or particulars anywhere about the health of Fareham, Hants.

M.D. asks to be recommended books on the physiological and therapeutical properties of alkaloids.

M. J. G. asks what is the best book he can get on medical etiquette, or from what source can he obtain the most and best information on that subject?

M.D. asks regarding the suitableness of St. Leonards and Hastings and Bournemouth as winter and spring quarters for cases of incipient phthisis in young and fairly vigorous subjects of either sex.

A. B. writes: I do most of my visiting on a bicycle. Would any member of the London Medical Cycling Club kindly suggest a costume which, whilst suitable for cycling, yet would look quite professional?

M.B. would be very grateful for information *re* clinical opportunities, fees, and cost of living in Lausanne, Switzerland, for a small family as compared with Great Britain.

DUNELM asks what is the best form of mechanical exercise for a child aged 6 with weakness of the scapular muscles attached to the posterior border causing the scapulæ alatæ and tendency to contracted chest. Would O'Dowd's or the Ranelagh be suitable?

A MEDICAL MAN asks to be informed if he is correct in having at some time read, in a medical journal, that in one or more counties of Great Britain medical men are exclusively appointed to the post of coroner. If this is so, he wishes to know in what paper and the date such statement occurred.

F.R.C.S. asks to be recommended a home where a young man of gentle manly manners could be put. He suffers from recurrent mania, which takes the religious form. He is quite harmless and amenable when in the attack, and at other times is most agreeable and entertaining. He can pay £1 a week, which must include everything. He is very musical.

OLD BOOKS.

DELTA asks for information as to the value and the best mode of disposing of the three following books:

1. *P. Alpini de Medicina Ægyptiorum et Jacobi Boutii de Medicina Indorum* (164⁶).
2. *Tabulæ Anatomicæ Bartholomæi Eustachii*, Jo. Maria Lancisius (1714).
3. *The Medical Works of Richard Mead, M.D.* With portrait. (1762).

*** Mr. Bernard Quaritch, to whom we have referred the matter, informs us that "as far as I know the books mentioned in enclosed letter are of no value, and I am sorry to say I know of no one who would care to purchase them. The best thing to do is to put them into an auction sale."

DENTISTS' FEES.

X. Y. Z. asks whether it is customary for brother practitioners practising as dentists to charge their professional brethren more than out-of-pocket expenses for their services.

*** We do not know whether where there is any absolute rule regulating this, but as a matter of fact many dentists charge medical men only out-of-pocket expenses.

ETHICS OF PURCHASE.

PURCHASER wishes for information as to the following ethical point: If a would-be purchaser have negotiations with a practitioner concerning the sale of his practice, but fails to come to terms, is he debarred from buying the practice or becoming the partner of a professional neighbour of the latter?

*** A would-be purchaser failing to come to terms with the vendor of a practice is not thereby debarred from buying the practice, or becoming the partner of a neighbouring practitioner in the same place. As a matter of honour, however, he is bound to keep inviolate, and to take no advantage of, any confidence reposed in him during the negotiations which proved unsuccessful.

ATTENDANCE ON PROFESSIONAL BRETHREN.

ETIQUETTE.—A correspondent who has been called in to attend professionally a young medical man, not in practice, who has come to reside in his district, wishes to know whether he ought to charge for the attendance or not.

*** It is forbidden by all rules of professional etiquette for one medical man to charge for attendance on another, unless at his particular desire. But it is generally held that if a wealthy member of the faculty seeks professional advice and courteously urges the acceptance of a fee it need not be declined, for no pecuniary obligation ought to be imposed on the debtor which the debtor himself would not wish to incur.

Home for Imbecile.

H. P. asks for the names of any homes that would take a helpless, harmless, male idiot of 11 years, whose parents would pay something (how much is unknown) to his support.

*** The parents might apply to the Secretary of the Earlswood Asylum, Redhill, Surrey, for information. Children idiots are admitted there by votes, and those who have the most votes are admitted first, as there are always more applicants than there are vacancies. If the parents can pay £50 per annum no votes will be required; if they cannot pay £50, but a smaller amount, some votes will be required, varying in number according to the amount that can be paid. Full particulars will be supplied from the Secretary.

Insurance Touts.

W. writes complaining of a "touting" insurance agent who has recently called upon him and has tried to induce him to insure his life in the office which he represents by promising to get him appointed medical examiner to that office, and in this way to introduce business to the tune of £500 or £600 per annum. The taking out a policy and the payment of the first year's premium (about £30) was, however, an absolute condition precedent to this lucrative appointment. On writing to the office in question no notice was taken of his letter, but the agent was able to show him a letter signed by one of the directors directing the agent to refer all cases in that town to him.

*** Such promises as these may be made by insurance agents with an eye to business, but our correspondent was wise to turn a deaf ear.

ANSWERS.

CYCLIST AND MEMBER B.M.A. should address his query to a cycling journal.

ANALYST will probably find the information he requires in von Jaksch's *Clinical Diagnosis* (English translation, by Dr. Cagney, published by Griffin), or if he reads German the subject is more fully treated in the similar work by Professor Eichhorst.

MEDICUS (Northumberland) —An unqualified man should under no circumstances be left in charge of a practice. With regard to a medical neighbour consenting to assist the unqualified assistant of another in difficult cases, such conduct is contrary to the spirit if not also to the letter of the regulations of the General Medical Council.

C. E. Stanley Wood, L.R.C.P.I. and M.R.C.S.Eng. (Cambridge), writes: In reply to "W. P.'s" inquiry for a book on the bringing up of children in health, I think there is no book sounder in principle than Dr. Murray Braidwood's *The Mother's Help and Guide to the Domestic Management of her Children*, 2nd edition (London: Scientific Press, Limited, 428, Strand, W.C.).

Army Nurses.

E. J.—Candidates for Her Majesty's Army Nursing Service should apply to the Director-General, Army Medical Department, 18, Victoria Street, London, S.W., for the conditions of service, pay, pension, etc., and also for the necessary forms to be filled up by applicants. We believe that there are considerably more candidates than vacancies, and that it is by no means easy to get in. It is a good service, and eminently suited for ladies and refined women who have adopted nursing as a profession.

Army Dispensers and their Legal Rights.

We have received a long letter from "R. A. F.", an army dispenser for the last nineteen years, who complains that after this length of public service, and being, as he thinks, fully qualified, though not in possession of any pharmaceutical diploma, he cannot carry on a business as a chemist and druggist if he leaves the service. We have no space to enter on this question, which is one more suitable for the pages of a pharmaceutical journal.

Fees to Medical Witnesses.

It has been repeatedly stated in these columns that the scale of fees payable to medical witnesses in England for attending criminal trials is inadequate. In Scotland it is somewhat higher. It is extremely difficult to get Government officials to alter existing routine. Nothing but repeated complaints and friction is likely to produce an improvement. If local Branches pass resolutions condemning the present practice and forward them to the Home Secretary, good might result, and no harm can be caused. The Parliamentary Bills Committee has already made representations, and questions have been put in Parliament, but as yet with no effect.

Books on Health Resorts.

C.P.—Our correspondent might consult *Spas and Mineral Waters of Europe* by Herman Weber, M.D., and F. Parkes Weber, M.D. (London: Smith Elder and Co.; 1896.) *The Climates and Baths of Great Britain, being a Report of a Committee of the Royal Medical and Chirurgical Society*, vol. i (London: Macmillan and Co.; 1895), deals only with the South of England and the chief medical springs of Great Britain.

The Treatment of Pruritus.

The following suggestions, among others, have been received in reply to "Inquirer's" query in the British Medical Journal of July 31st:

C. L. recommends that diabetes, vaginal discharges, and spinal cord disease having been excluded, a succession of light blisters should be applied for a few weeks over the lumbar enlargement of the cord, together with some antiseptic, such as ung. hydrarg. ammon. dil., coal lotion, or pure oil of cade locally. Failing this, the affected area should be rubbed thoroughly with the Paquelin cautery.

Philip Miall (Bradford) suggests that, in the absence of gout, diabetes, or pediculi, the best lotion would be a saturated solution of sulphur. In chronic cases he finds ung. hydrarg. or 20 per cent. oleate of mercury useful. In more acute cases this should be diluted with three times its weight of zinc ointment, or with an equal quantity of chloroform and twice the weight of zinc ointment.

Dr. E. W. Waters (Huddersfield) also counsels examination of the urine. He recommends that argent. nit., gr.xx-xxx to the ounce, should be applied freely at intervals of a few days with a camel's hair brush, and and that gr.xv each of potassium bromide and chloral hydrate should be administered nightly.

Dr. James B. Shaw (Selkirk, M.B.) advises the use of argent. nit., 80 gr. to the ounce, or even stronger as a paint.

Dr. Alexander Duke (Cheltenham) has successfully treated a similar case in which ordinary remedies had failed by cauterisation with saturated solution of carbolic acid, followed by poulticing and a boric acid dressing.

Dr. C. M. Jessop suggests that "Inquirer" should give his patient 3 gr. of Plummer's pill with ¼ gr. of opium and ipecacuanha night and morning for a week or two, together with ½-drachm doses of nitro-hydrochloric acid twice a day before meals, with or without bitter infusion, but followed by plenty of water. Locally he recommends dry sulphur, either alone or mixed with calomel or white precipitate ointment, half-and-half.

NOTES, LETTERS, Etc.

Locomotion after Rupture of the Liver: A Medico-legal Question.

Dr. J. F. Butler-Hogan (Walthamstow) writes: The case, particulars of which I subjoin, affords further proof, if further proof were needed, that considerable locomotory power may be exhibited by the unfortunate victims of accidents resulting in rupture of the liver; it also goes to show that severe pain is not a necessary symptom of the condition.

On May 16th, 1897, at 8 P.M., S. R. was knocked down by a passing cart, "the right wheel of the vehicle passing over his body." He was picked up by the men who accompanied him, walked a distance of two miles, and stood talking to one of his companions (W.) as late as 10.30 P.M., when he told W. to go home, and said, "I'm all right, I'll have a lie down here." He did accordingly lie down by the side of a fence (it came out in the evidence that he had no other home than a hayloft), and his companion left him, evidently believing his injuries to be trifling. I was called to see him by the police at 6 next morning, and found him lying in the spot where (as it proved) W. had left him. *Post-mortem* rigidity had not yet set in, and I believe he had not been dead more than an hour, or at most two. On *post-mortem* examination I found two separate ruptures of the anterior portion of the left lobe of the liver, each about an inch long, and neither extending through the whole substance of the organ; the abdomen was, of course, distended with blood.

I should like to know if operative interference has ever been tried in a case like the above, and, if so, with what result. In the case recorded in the *Medical Times and Gazette*, 1864, vol. ii, p. 527, the surgeon at Guy's evidently failed to diagnose the accidental rupture, but doubtless others have been more successful in that respect, and, indeed, Taylor's account of Wilks's case would lead us to believe that the injury to the patient had been properly diagnosed. Assuming proper diagnosis, is surgical interference unwarrantable? I see no reason why it should be so, particularly as the alternative is certain death, no case of recovery from the injury being on record. I should be glad to learn the views of any surgeons who may have had experience of the subject.

Small-Pox and Vaccination in Germany.

Davus writes: As the antivaccinists so frequently attempt to minimise the beneficial results which have followed the general enforcement of vaccination in Germany, it is, perhaps, worth while to note that Dr. Adolf Baginsky, Extraordinary Professor of the Diseases of Children in Berlin University, and Director of the Children's Hospital in Berlin, in his handbook of children's diseases has no chapter on small-pox. There is a chapter on Modified Small-Pox or Varioloid, which begins as follows.[1] "With the establishment of general vaccination, small-pox has lost its importance in childhood. Since the year 1871 I have not seen a case of genuine variola in a child, and even the mild form of variola (varioloid) very seldom come under observation." The omission and its explanation are very significant.

The Colonial Branches and the Council of the Association.

Dr. C. Daniels (Georgetown, British Guiana) writes: In the British Medical Journal of June 26th, to hand by the last mail, notice of a series of motions, proposed by Dr. Rentoul, to be brought forward on July 27th, is given. As these motions affect seriously the position of the Colonial Branches, I wish to protest against the short notice we have received. By them British America (North and South), the West Indies, and British Africa, would be deprived of any representation on the Council of the Association, without any opportunity being given of an expression of the views of those mainly affected. A scheme which gives to those responsible for the medical welfare of the whole British Colonial Empire only three representatives should not be thus hurriedly brought forward. In a previous paper Dr. Rentoul had pointed out that in practice there was little or no abuse of the power the Colonial Branches have of electing members of the Council. At a time when the tendency to Imperialisation is so marked, it is to be regretted that so retrograde step should have ever been proposed. In the event of Dr. Rentoul's motions being carried, the Association would practically be the Medical Association of Great Britain and Ireland.

The Cause of the Death of Napoleon I.

We have received from Surgeon-Lieutenant-Colonel B. W. Fowler, A.M.S., Senior Medical Officer St. Helena, a copy of the *St. Helena Guardian* in which the full text of the report of dissection of the body of Napoleon Bonaparte signed by the medical officers who conducted

[1] *Lehrbuch der Kinderkrankheiten*, Vte Auflage, Berlin, 1896, s. 167

the dissection is reprinted. As we have already pointed out (JOURNAL of January 20th, 1894, page 152) there can be no doubt that the cause of death was malignant disease of the stomach. The words of the official document were as follows:—

"Upon opening the abdomen the omentum was found remarkably fat; and on exposing the stomach, that viscus was found the seat of extensive disease. Strong adhesions connected the superior surface, particularly about the pyloric extremity to the concave surface of the left lobe of the liver; and on separating these, an ulcer, which penetrated the coats of the stomach, was discovered one inch from the pylorus sufficient to allow the passage of the little finger. The internal surface of the stomach, to nearly its whole extent, was a mass of cancerous disease or scirrhous portions advancing to cancer: this was particularly noticed near the pylorus. The cardiac extremity, for a small place near the termination of the œsophagus, was the only part appearing in a healthy state. The stomach was found nearly filled with a large quantity of fluid, resembling coffee grounds."

THE BEST OF GIFTS WHOSE NAME IS HEALTH.

THE *St. James's Gazette* publishes the following on Brighton as a health resort:

BRIGHTON.

The gift gold cannot buy nor kings
Command, above all worldly wealth,
Once more to me old Brighton brings,
That best of gifts, whose name is Health.

Whence comes it—in the morning breeze,
Or murmurs of the misty deep;
Or washed ashore by moonlit seas,
That seem to roll to make me sleep?

Or is it rest and naught to do?
Or only fancy, faith, that makes
The tonic of this bright sea view,
A cure for London pains and aches?

Enough to know we come and go,
And find the best of gifts still there;
O Summer tides, the charm abides—
'Tis by the sea and in the air.

"INCOMPLETE EXAMINATION OF THE TONSILS."

DR. ERNEST M. KNOWLING, M.B.Cantab. (Tenby), writes: Dr. Robson, in the BRITISH MEDICAL JOURNAL of August 7th, drew attention to two cases of "chronic follicular tonsillitis" in which the real source of trouble was concealed by a folding backwards of the anterior pillar of the soft palate. No doubt in such cases the more usual, but incomplete, examination of the tonsils may reveal nothing, or at most a little redness, the *fons et origo mali* remaining hidden behind the curtains of the palate. Dr. Herzfeld (*Therapeutische Monatshefte*, January, 1897), of Berlin, recently laid stress on the importance of a more complete examination of the tonsils. His paper was devoted to a consideration of the different "causes and treatment of disagreeable taste sensations;" and it is chiefly in this connection that I have experienced the value of his procedure. Like him, however, I have by the same means discovered syphilitic ulceration and foreign bodies the existence of which would have otherwise remained unnoticed. Dr. Herzfeld speaks of the formation of plugs (produced by collections of mucus, epithelial *débris*, and food remnants) in the crypts of the tonsils as affording a by no means unusual cause of these unpleasant taste sensations.

To make a more thorough examination of the tonsils he has used for some time a special palate hook; and where plugs have been found, and there were objections to the removal of the whole tonsils, he has slit up the canals in the gland with a hooked probe-pointed knife. In this way he has been able, in one or at most three sittings, to rid a patient of the unpleasant taste for which he had been unsuccessfully treated for long periods of time.

The curetting and syringing used by Dr. Robson would probably be equally successful in preventing the collection of food remnants or glandular secretions in the crypts and the bad effects consequent on their decomposition.

LETTERS, COMMUNICATIONS, ETC., have been received from:

(A) Mr. R. B. Anderson, London; Mr. J. Allan, Liverpool. **(B)** A. B. Blaikie, M.B., Oswestry; Mr. R. J. Barnes, Manchester; Dr. W. Bulloch, Sudbury; Dr. A. Bronner, Bradford; Dr. W. C. Brown, Penang; Professor Bradbury, Cambridge; Mr. N. S. Bickford, London; Miss A. J. Beatty, London; Messrs. Burroughs, Wellcome and Co., London; Dr. T. Borthwick, Adelaide; Mr. T. H. Bickerton, Liverpool; Dr. J. B. Brierley, Manchester; Mr. R. Baker, London. **(C)** Mr. E. J. Cross, St. Neots; Dr. W. T. Cocking, Sheffield; Mr. H. N. Constance, London; Dr. W. Collingridge, London; Mr. W. A. Casson, Bradford; Dr. R. H. Cole, Uxbridge; Dr. W. T. Cocking, Sheffield; Cyclist and Member B.M.A.; Mr. S. H. Croucher, London; Mr. A. Crask, London; Dr. C. W. Chapman, London; Mr. D. Curme, Blandford; J. Cunningham, M.B., Stewarton. **(D)** C. W. Daniels, M.B., Georgetown, British Guiana. **(E)** Dr. R. Erskine, London. **(F)** Mr. T. Fowler, Epping; Dr. H. Fisher, Belfast; Dr. W. E. Fothergill, Manchester. **(G)** Mr. G. Gray, Norwich; Mr. G. Gresswell, Grimsby; Dr. C. Gibson, Harrogate; A. M. Glossage, M.B., London; Mr. H. B. Gardner, London; H. M. Gay, M.B., Epping; A. Gossage, M.B., London. **(H)** Dr. W. P. Herringham, London; Mr. R. M. Heggs, Wolverhampton; Mr. R. M. Hugo, Purley; Mr. J. S. Hooker, Hastings; Mr. A. O. Honnywill, Sutton; Mr. W. S. Harry, Pickering; Mr. G. W. Homan, Lichfield. **(J)** Mr. W. R. Jenkins, New York. **(K)** Dr. R. Kirk, Glasgow; Messrs. Krohne and Sesemann, London; E. M. Knowling, M.B., Tenby. **(L)** Mr. C. Lamplough, Scarborough; W. F. Lloyd, M.B., Lampeter. **(M)** Member; Messrs. Mayer and Meltzer, London; Mr. G. J. Muriel, Whitehaven: Mr. F. J. McWeeney, Liverpool; Dr. D. J. Macdonald, Hassocks; M.B., D.P.H.; Member B.M.A.; M.D.; Mr. S. A. O. Mackenzie, Reading; A Medical Man. **(N)** Dr. J. Neil, Oxford; N. **(O)** Dr. W. Osler, Baltimore. **(P)** Mr. R. Peyton, Birmingham; Messrs. Potter and Clarke, London; Dr. Pocock, London. **(Q)** Mr. B. Quaritch, London. **(R)** Dr. E. S. Reynolds, Manchester; Mr. S. J. Ross, London; Mr. H. A. Rawlins, London; Mr. G. Rendle, London. **(S)** Mr. G. M. Silk, St. Ives; Messrs. Spottiswoode and Co., London; Dr. R. P. Smith, London; Dr. J. A. Smith, London; Dr. H. Sharman, London; Mr. W. L. Symes, London; Dr. Selby, Bradford; J. C. L. Stawell, M.B., Bagnalstown; Mr. G. S. Stansfeld, Birkenhead. **(T)** Dr. F. W. Tunnicliffe, London. **(U)** University of London, Registrar of, London. **(W)** Dr. H. Waldo, Clifton; F. K. Wilson, M.B., London; Mr. E. S. Wood, Cambridge; Mr. J. Worall, Southport; Dr. R. P. Williams, Holyhead; G. Warnes, M.B., London; Mr. S. Walker, London; Dr. O. Walthers, Nardrach. **(X)** X.Y.Z.; etc.

BOOKS, ETC., RECEIVED.

A Handbook of Diseases of the Nose and Pharynx. By J. B. Ball, M.D.Lond. Third Edition. London: Baillière, Tindall, and Cox. 1897. 7s. 6d.

A Manual of Practical Medical Electricity. By Dawson Turner, B.A., M.D., F.R.C.P.Edin., M.R.C.P.Lond. Second Edition. London: Baillière, Tindall, and Cox. 1897. 7s. 6d.

Handbuch der Therapie innerer Krankheiten. Herausgegeben von Dr. F. Penzoldt und Dr. R. Stintzing. Zweite teilweise umgearbeitete Auflage. Erste Lieferung. Jena: Gustav Fischer. 1897.

Handbuch der speciellen Therapie innerer Krankheiten. Herausgegeben von Dr. F. Penzoldt und Dr. R. Stintzing. Erster Supplementband. Zweites Heft. Jena: Gustav Fischer. 1897.

Handbuch der Anatomie des Menschen. Herausgegeben von Professor Dr. K. von Bardeleben. Fünfter Band. Erste Abteilung. Jena: Gustav Fischer. 1897.

Die Werthemessung des Diphtherieheilserums und deren theoretische Grundlagen. Von Professor Dr. P. Ehrlich. Sechster Band. Jena: Gustav Fischer. 1897.

Wounds in War. By Surgeon-Colonel W. F. Stevenson, A.B., M.B., M.Ch. Dub.Univ. London: Longmans, Green and Co. 1897. 18s.

Dangerous Infectious Diseases. By F. Vacher. London: Sanitary Publishing Company Limited. 1s. 6d.

Experimentelle und kritische Studien über Säuglingsfäces bei natürlicher und künstlicher Ernährung. Von Dr. M. Blauberg. Berlin: August Hirschwald. 1897. M.3.

A Textbook of Veterinary Ophthalmology. By G. G. Van Mater, M.D., D.V.S. New York: W. R. Jenkins. 1897. $3.00.

Exercises in Equine Surgery. By P. J. Cadiot. Translated by A. W. Bitting, D.V.M. Edited by A. Liautard, M.D., V.M. Authorised Edition. New York: W. R. Jenkins. $2.50.

Der chronische Gelenkrheumatismus und seine Behandlung. Von Professor Dr. C. Bäumler. Wiesbaden: J. F. Bergmann. 1897.

Contribution à l'Étude de l'Hémothorax Traumatique. Par le Dr. A. Figueiredo. Paris: A. Maloine. 1897.

Tuberculosis or Flesh Eating a Cause of Consumption. By J. Oldfield, M.A., B.C.L. Second Edition. London: The Vegetarian Publishing Office. 1897. 6d.

Dr. G. Beck's Therapeutischer Almanach. Herausgegeben von Dr. Schill. 24 Jahrgang. Leipzig: B. Konegen. 1897.

Jahresbericht über die Fortschritte der Diagnostik. Herausgegeben von Dr. E. Schill. 3 Jahrgang. Leipzig: B. Konegen. 1897.

Erklarung des Stotterns dessen Heilung und Verhutung. Von Dr. F. Gruenbaum. Leipzig: B. Konegen. 1897.

Crime and Criminals. By J. S. Christison, M.D. Chicago: The W. T. Keener Company. 1897. $1.00.

***** In forwarding books the publishers are requested to state the selling prices.**

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AN ADDRESS
ON THE
PROGRESS OF PHYSIOLOGY DURING THE LAST THIRTEEN YEARS.

Delivered before the Physiological Section of the British Association for the Advancement of Science, Toronto, August, 1897.

By Professor MICHAEL FOSTER, M.A., M.D., D.C.L., LL.D., Sec.R.S.,
Professor of Physiology in the University of Cambridge.
President of the Section: Montreal, 1884; Toronto, 1897.

We who have come from the little island on the other side of the great waters to take part in this important gathering of the British Association have of late been much exercised in retrospection. We have been looking back on the sixty years' reign of our beloved Sovereign, and dwelling on what has happened during her gracious rule. We have, perhaps, done little in calling to mind the wrongs, the mistakes, and the failures of the Victorian era; but our minds and our mouths have been full of its achievements and its progress; and each of us, of himself or through another, has been busy in bringing back to the present the events of more than half a century of the past. It was while I, with others, was in this retrospective mood that the duty of preparing some few words to say to you to day seemed suddenly to change from an impalpable cloud in the far distance to a heavy burden pressing directly on the back; and in choosing something to say I have succumbed to the dominant influence. Before putting pen to paper, however, I recovered sufficiently to resist the temptation to add one more to the many reviews which have appeared of the progress of physiology during the Victorian era. I also rejected the idea of doing that for which I find precedents in past presidential addresses—namely, of attempting to tell what has been the history of the science to which a Section is devoted during the brief interval which has elapsed since the Section last met; to try to catch physiology, or any other science, as it rushes through the brief period of some twelve months seemed to me not unlike photographing the flying bullet without adequate apparatus; the result could only be either a blurred or an elusive image. But I bethought me that this is not the first, we hope it will not be the last, time that the British Association has met in the Western Hemisphere; and though the events of the thirteen years which have slipped by since the meeting at Montreal in 1884 might seem to furnish a very slender oat on which to pipe a presidential address, I have hoped that I might be led to sound upon it some few notes which might be listened to.

And, indeed, though perhaps when we come to look into it closely almost every period would seem to have a value of its own, the past thirteen years do, in a certain sense, mark a break between the physiology of the past and that of the future. When the Association met at Montreal in 1884, Darwin, whose pregnant ideas have swayed physiology in the limited sense of that word, as well as that wider study of living beings which we sometimes call biology, as indeed they have every branch of natural knowledge, had been taken from us only some two years before, and there were still alive most of the men who wrote the great works of physiology of the middle and latter part of this century. The gifted Claude Bernard had passed away some years before, but his peers might have been present at Montreal: Bowman, whose classic works on muscle and eye stand out as peaks in the physiological landscape of the past, models of researches finished and complete so far as the opportunities of the time would allow, fruitful beginnings and admirable guides for the labours of others; Brown-Séquard, who shares with Bernard the glory of having opened out the great modern path of the influence of the nervous system on vascular and thus on nutritional events, and who, if he made some mistakes, did many things which will last for all time; Brücke, whose clear judgment, as shown in his constructive and other work, gave permanent value to whatever he put forth; Du Bois-Reymond, who, if he laboured in a narrow path, set a brilliant example of the way in which exact physical analysis may be applied to the phenomena of living beings, and in other ways had a powerful influence on the progress of physiology; Donders, whose mind seemed to have caught something of the better qualities of the physiological organ to which his professional life was devoted, and our knowledge of which he so largely extended, so sharply did he focus his mental eye on every physiological problem to which he turned—and these were many and varied; Helmholtz, whose great works on vision and hearing, to say nothing of his earlier distinctly physiological researches, make us feel that if physics gained much, physiology lost even more when the physiologist turned aside to more distinctly physical inquiries; lastly, and not least, Ludwig, who by his own hands or through his pupils did so much to make physiology the exact science which it is to-day, but which it was not when he began his work. I say lastly, but I might add the name of one who, though barred by circumstances from contributing much directly to physiology by way of research, so used his powerful influence in many ways in aid of physiological interests as to have helped the science onward to no mean extent, at least among English-speaking people—I mean Huxley. All these might have met at Montreal. They have all left us now. Among the peers of the men I have mentioned whose chief labours were carried on in the Forties, the Fifties, and the Sixties of the century, one prominent inquirer alone seems to be left, Albert von Kölliker, who in his old age is doing work of which he in his youth might have been proud. The thirteen years which swept the others away seem to mark a gulf between the physiological world of to-day and that of the time in which most of their work was done.

They are gone, but they have left behind their work and their names. May they of the future, as I believe we of the present are doing, take up their work and their example, doing work other than theirs but after their pattern, following in their steps.

In the thirteen years during which these have passed away physiology has not been idle. Indeed, the more we look into the period the more it seems to contain.

The Opportunities of Study.

The study of physiology, as of other sciences, though it may be stimulated by difficulties (and physiology has the stimulus of a special form of opposition unknown to other sciences), expands under the sunshine of opportunity and aid. And it may be worth while to compare the opportunities for study of physiology in 1884 with those in 1897. At this meeting of the British Association I may fitly confine myself I was going to say to British matters; but I feel at this point, as others have felt, the want of a suitable nomenclature. We who are gathered here to-day have, with the exception of a few honoured guests from the Eastern Hemisphere, one common token of unity, and, so far as I know, one only; I am speaking now of outward tokens; down deeper in our nature there are, I trust, yet others. We all speak the English tongue. Some of us belong to what is called Great Britain and Ireland, others to that which is sometimes spoken of as Greater Britain. But there are others here who belong to neither; though English in tongue, they are in no sense British. To myself, to whom the being English in speech is a fact of far deeper moment than any political boundary, and who wish at the present moment to deal with the study of physiology among all those who speak the English tongue, there comes the great want of some word which will denote all such. I hope—indeed I think—that others feel the same want too. The term Anglo-Saxon is at once pedantic and incorrect, and yet there is none other; and, in the absence of such a better term, I shall be forgiven if I venture at times to use the seemingly narrow word English as really meaning something much broader than British in its very broadest sense.

Using English in this sense, I may, I think, venture to say that the thirteen years which separate 1884 from to-day have witnessed among English people a development of opportunities for physiological study such as no other like period has seen. It is not without significance that only a year or two previous to this period, in England proper, in little England, neither of the ancient Universities of Oxford and Cambridge, which, historically at least, represent the fullest academical aspirations of the nation, possessed a chair

of physiology; the present professors, who are the first, were both appointed in 1883. Up to that time the science of physiology had not been deemed worthy, by either University, of a distinctive professorial mechanism. The act of these ancient institutions was only a manifestation of modern impulses, shared also by the metropolis and by the provinces at large. Whereas up to that time the posts for teaching physiology, by whatever name they were called, had been in most cases held by men whose intellectual loins were girded for other purposes than physiology, and who used the posts as stepping stones for what they considered better things; since that time, as each post became vacant, it has almost invariably been filled by men wishing and purposing at least to devote their whole energies to the science. Scotland, in many respects the forerunner of England in intellectual matters, had not so much need of change; but she, too, has moved in the same direction, as has also the sister island.

And if we turn to this Western Continent, we find in Canada and in the States the same notable enlargement of physiological opportunity, or even a still more notable one. If the English-speaking physiologist dots on the map each place on this Western Hemisphere which is an academic focus of his science, he may well be proud of the opportunities now afforded for the development of English physiology; and the greater part of this has come within the last thirteen years.

Professorial chairs or their analogues are, however, after all but a small part of the provision for the development of physiological science. The heart of physiology is the laboratory. It is this which sends the life blood through the frame; and in respect to this, perhaps, more than to anything else has the progress of the past thirteen years been striking. Doubtless on both sides of the waters there were physiological laboratories, and good ones, in 1884; but how much have even these during that period been enlarged and improved, and how many new ones have been added? In how many places, even right up to about 1884, the professor or lecturer was fain to be content with mere lecture experiments and a simple course of histology, with perhaps a few chemical exercises for his students! Now each teacher, however modest his post, feels and says that the authorities under whom he works are bound to provide him with the means of leading his students along the only path by which the science can be truly entered upon, that by which each learner repeats for himself the fundamental observations on which the science is based.

The Duty of Research.

But there is a still larger outcome from the professorial chair and the physiological laboratory than the training of the student; there are opportunities not for teaching only, but also for research. And perhaps in no respect has the development during the past thirteen years been so marked as in this. Never so clearly as during this period has it become recognised that each post for teaching is no less a post for learning, that among academic duties the making knowledge is as urgent as the distributing it, and that among professorial qualifications the gift of garnering in new truths is at least as needful as facility in the didactic exposition of old ones. Thirteen years has seen a great change in this matter, and the progress has been, perhaps, greater on this side of the water than on the other, so far as English-speaking people are concerned. We on the other side have witnessed with envy the establishment on this side of a university, physiology having in it an honoured place, the keynote of which is the development of original research. It will, I venture to think, be considered a strong confirmation of my present theme that the Clark University at Worcester was founded only ten years ago.

And here, as an English-speaking person, may I be allowed to point out, not without pride, that these thirteen years of increased opportunity have been thirteen years of increased fruitfulness. In the history of our science, among the names of the great men who have made epochs, English names, from Harvey onwards, occupy no mean place; but the greatness of such great men is of no national birth; it comes as it lists, and is independent of time and of place. If we turn to the more everyday workers, whose continued labours more slowly build up the growing edifice and provide the needful nourishment for the greatness of which I have just spoken, we may, I will dare to say, affirm that the last thirteen years has brought contributions to physiology, made known in the English tongue, which, whether we regard their quantity or their quality, significantly outdo the like contributions made in any foregoing period of the same length. Those contributions have been equally as numerous, equally as good, on this side as on the other side of the waters; and here I trust I shall be pardoned if personal ties and affection lead me to throw in a personal word. May I not say that much which has been done on this side has been directly or indirectly the outcome of the energy and gifts of one whom I may fitly name on an occasion such as this, since, though he belonged to the other side, his physiological life was passed and his work was done on this side, one who has been taken from us since this Association last met, Henry Newell Martin?

Yes, during these thirteen years, if we put aside the loss of comrades, physiology has been prosperous with us and the outlook is bright; but, as every cloud has its silver lining, so shadow follows all sunshine, success brings danger, and bitter rises up amid the sweet of prosperity. The development of which I have spoken is an outcome of the progressive activity of the age, and the dominant note of that activity is heard in the word "commercial." Noblemen and noblewomen open shop, and everyone, low as well as high, presses forward towards large or quick profits. The very influences which have made devotion to scientific inquiry a possible means of livelihood, and so fostered scientific investigation, are creating a new danger. The path of the professor was in old times narrow and strait, and only the few who had a real call cared to tread it; nowadays there is some fear lest it become so broad and so easy as to tempt those who are in no way fitted for it. There is an increasing risk of men undertaking a research, not because a question is crying out to them to be answered, but in the hope that the publication of their results may win for them a lucrative post. There is, moreover, an even greater evil ahead. The man who lights on a new scientific method holds the key of a chamber in which much gold may be stored up; and strong is the temptation for him to keep the new knowledge to himself until he has filled his fill, while all the time his brother inquirers are wandering about in the dark through lack of that which he possesses. Such a selfish withholding of new scientific truth is beginning to be not rare in some branches of knowledge. May it never come near us!

Lines of Progress.

Now I will, with your permission, cease to sound the provincial note, and ask your attention for a few minutes while I attempt to dwell on what seem to me to be some of the salient features of the fruits of physiological activity, not among English-speaking people only, but among all folk during the past thirteen years.

When we review the records of research and discovery over any lengthened period, we find that in every branch of the study progress is irregular, that it ebbs and flows. At one time a particular problem occupies much attention, the periodicals are full of memoirs about it, and many of the young bloods flesh their maiden swords upon it. Then again for a while it seems to lie dormant and unheeded. But quite irrespective of this feature, which seems to belong to all lines of inquiry, we may recognise two kinds of progress: On the one hand, in such a period, in spite of the waves just mentioned, a steady advance continually goes on in researches which were begun and pushed forward in former periods, some of them being of very old date. On the other hand new lines of investigation, starting with quite new ideas or rendered possible by the introduction of new methods, are or may be begun. Such naturally attract great attention, and give a special character to the period.

In the pass thirteen years we may recognise both these kinds of progress. Of the former kind I might take, as an example, the time-honoured problems of the mechanics of the circulation. In spite of the labour which has been spent on these in times of old, something always remains to be done, and the last thirteen years have not been idle. The researches of Hürthle and Tigerstedt, of Roy and Adami, not to mention others, have left us wiser than we were before. So again with the also old problems of muscular contraction, progress

if not exciting, has been real; we are some steps measurably nearer an understanding what is the exact nature of the fundamental changes which bring about contraction, and what are the relations of those changes to the structure of muscular fibre. In respect to another old problem, too, the beat of the heart, we have continued to creep nearer and nearer to the full light. Problems again, the method of attacking which is of more recent origin, such as the nature of secretion, and the allied problem of the nature of transudation, have engaged attention, and brought about that stirring of the waters of controversy which, whatever be its effects in other departments of life, is never in science wholly a waste of time, if indeed it be a waste of time at all, since, in matters of science, the tribunal to which the combatants of both sides appeal is always sure to give a true judgment in the end. In the controversy thus arisen, the last word has perhaps not yet been said, but whether we tend at present to side with Heidenhain, who has continued into the past thirteen years the brilliant labours which were perhaps the distinguishing features of physiological progress in preceding periods, and who in his present sufferings carries with him, I am sure, the sympathies if not the hopes of all his brethren, or whether we are more inclined to join those who hold different views, we may all agree in saying that we have, in 1897, distinctly clearer ideas of why secretion gathers in an alveolus or lymph in a lymph space than we had in 1884.

I might multiply such examples of progress on more or less old lines until I wearied you; but I will try not to do so. I wish rather to dwell for a few minutes on some of what seem to be the salient new features of the period under review.

The New Physiological Chemistry.

One such feature is, I venture to think, the development of what may perhaps be called the new physiological chemistry. We always are, and for a long time always have been, learning something new about the chemical phenomena of living beings. During the years preceding those immediately recent, great progress, for which we have especially, perhaps, to thank Kühne, was made in our knowledge of the bodies which we speak of as proteids and their allies. But while admitting to the full the high value of all these researches, and the great light which they threw on many of the obscurer problems of the chemical changes of the body, such, for instance, as the digestive changes and the clotting of blood, it could not but be felt that their range was restricted and their value limited. Granting the extreme usefulness of their being able to distinguish bodies through their solution or precipitation by means of this or that salt or acid, this did not seem to promise to throw much light on the all-important problem as to what was the connection between the chemical constitution of such bodies and their work in the economy of a living being. For it need not be argued that this is an all-important problem. To-day, as yesterday and as in the days before, the mention of the word vitalism or its equivalent separates as a war-cry physiologists into two camps, one contending that all the phenomena of life can, and the other that they cannot, be explained as the result of the action of chemico-physical forces. For myself, I have always felt that while such a controversy, like other controversies as I ventured to say just now, is useful as a stirring of the waters, through which much oxygen is brought home to many things and no little purification effected, the time for the final judgment on the question will not come until we shall more clearly understand than we do at present what we mean by physical and chemical, and may perhaps be put off until somewhere near the end of all things, when we shall know as fully as we ever shall what the forces to which we give these names can do and what they cannot. Meanwhile the great thing is to push forward, so far as may be, the chemical analysis of the phenomena presented by living beings. Hitherto the physiological chemists, or the chemical physiologists, as perhaps they ought rather to be called, have perhaps gone too much their own gait, and have seemed to be constructing too much a kind of chemistry of their own. But that, may I say, has in part been so because they did not receive from their distinctly chemical brethren the help of which they were in need? May I go so far as to say that to us physiologists these our brethren seemed to be lagging somewhat behind, at least along those lines of their science which directly told on our inquiries? That is, however, no longer the case. They are producing work and giving us ideas which we can carry straight into physiological problems. The remarkable work of Emil Fischer on sugars, one of the bright results of my period of thirteen years, may fully be regarded as opening up a new era in the physiology of the carbohydrates, opening up a new era because it has shown us the way how to investigate physiological problems on purely and distinctively chemical lines. Not in the carbohydrates only, but in all directions our younger investigators are treating the old problems by the new chemical methods; the old physiological chemistry is passing away; nowhere, perhaps, is the outlook more promising than in this direction; and we may at any time receive the news that the stubborn old fortress of the proteids has succumbed to the new attack.

Comparative Physiology.

Another marked feature of the period has been the increasing attention given to the study of the lower forms of life, using their simpler structures and more diffuse phenomena to elucidate the more general properties of living matter. During the greater part of the present century physiologists have, as a rule, chosen as subjects of their observations almost exclusively the vertebrata; by far the larger part of the results obtained during this time have been gained by inquiries restricted to some half a dozen kinds of backboned animals; the frog and the myograph, the dog and the kymograph have almost seemed the alpha and the omega of the science. This has been made a reproach by some, but, I cannot help thinking, unjustly. Physiology is, in its broad meaning, the unravelling of the potentialities of things in the condition which we call living. In the higher animals the evolution by differentiation has brought these potentialities, so to speak, near the surface, or even laid them bare as actual properties capable of being grasped. In the lower animals they still lie deep buried in primeval sameness; and we may grope among them in vain unless we have a clue furnished by the study of the higher animal. This truth seems to have been early recognised during the progress of the science. In the old time, observers, such as Spallanzani, with but a moderate amount of accumulated knowledge behind them, and a host of problems before them, with but few lines of inquiry as yet definitely laid down, were free to choose the subjects of their investigation where they pleased, and in the wide field open to them prodded so to speak among all living things, indifferent whether they possessed a backbone or no. But it soon became obvious that the study of the special problems of the more highly organised creature was more fruitful, or at least more easily fruitful, than that of the general problems of the simpler forms; and hence it came about that inquiry, as it went on, grew more and more limited to the former. But an increasing knowledge of the laws of life as exemplified in the differentiated phenomena of the mammal is increasingly fitting us for a successful attack on the more general phenomena of the lowly creatures possessing little more than that molecular organisation, if such a phrase be permitted, which alone supplies the conditions for the manifestation of vital activities. And, though it may be true that in all periods men have from time to time laboured at this theme, I think that I am not wrong in saying that the last dozen years or so mark a distinct departure both as regards the number of researches directed to it, and also, what is of greater moment, as regards the definiteness and clearness of the results thereby obtained. One has only to look at the results recorded in the valuable treatises of Verworn and Biedermann, whether obtained by the authors themselves or by others, to feel great hope that in the immediately near future a notable advance will be made in our grasp of the nature of that varying collection of molecular conditions, potencies and changes, slimy hitherto to the intellectual no less than to the physical touch, which we are in the habit of denoting by the more or less magical word protoplasm. And perhaps one happy feature of such an advance will be one step in the way of that reintegration which men of science fondly hope may ultimately follow the differentiation of studies now so fierce and attended by many ills; in the

problems of protoplasm the animal physiologist touches hands with the botanist, and both find that under different names they are striving towards the same end.

Closely allied to and indeed a part of the above line of inquiry is the study of the physiological attributes of the cell and of their connection with its intrinsic organisation. This is a study which, during the last dozen years, has borne no mean fruits; but it is an old study, one which has been worked at from time to time, reviving again and again as new methods offered new opportunities. Moreover, it will probably come directly before us in our sectional work, and therefore I will say nothing more of it here.

Internal Secretions.

Still another striking feature of the past dozen years has been the advance of our knowledge in regard to those events of the animal body which we have now learnt to speak of as "internal secretions." This knowledge did not begin in this period. The first note was sounded long ago in the middle of the century, when Claude Bernard made known what he called "the glycogenic function of the liver." Men, too, were busy with the thyroid body and the suprarenal capsules long before the meeting of the British Association at Montreal. But it was since then, namely, in 1889, that Minkowski published his discovery of the diabetic phenomena resulting from the total removal of the pancreas. That, I venture to think, was of momentous value, not only as a valuable discovery in itself, but especially, perhaps, in confirming and fixing our ideas as to internal secretion, and in encouraging further research.

Minkowski's investigation possessed this notable feature, that it was clear, sharp, and decided, and, moreover, the chief factor, namely, sugar, was subject to quantitative methods. The results of removing the thyroid body had been to a large extent general, often vague, and in some cases uncertain; so much so as to justify, to a certain extent, the doubts held by some as to the validity of the conclusion that the symptoms witnessed were really and simply due to the absence of the organ removed. The observer who removes the pancreas has to deal with a tangible and measurable result, the appearance of sugar in the urine. About this there can be no mistake, no uncertainty. And the confidence thus engendered in the conclusion that the pancreas, besides secreting the pancreatic juice, effects some notable change in the blood passing through it, spread to the analogous conclusions concerning the thyroid and the suprarenal, and moreover suggested further experimental inquiry. By those inquiries all previous doubts have been removed; it is not now a question whether or no the thyroid carries on a so-called internal secretion; the problem is reduced to finding out what it exactly does and how exactly it does it. Moreover, no one can at the present day suppose that this feature of internal secretion is confined to the thyroid, the suprarenal, and the pancreas; it needs no spirit of prophecy to foretell that the coming years will add to physiological science a large and long chapter, the first marked distinctive verses of which belong to a dozen years which have just passed away.

The Structure of the Nervous System.

The above three lines of advance are of themselves enough to justify a certain pride on the part of the physiologist as to the share which his science is taking in the forward movements of the time. And yet I venture to think that each and all of these is wholly overshadowed by researches of another kind, through which knowledge has made, during the past dozen years or so, a bound so momentous and so far-reaching that all other results gathered in during the time seem to shrink into relative insignificance.

It was a little before my period, in the year 1879, that Golgi published his modest note, Un nuovo processo di technica microscopica.[1] That was the breaking out from the rocks of a little stream which has since swollen into a great flood. It is quite true that long before a new era in our knowledge of the central nervous system had been opened up by the works of Ferrier and of Fritsch and Hitzig. Between 1870 and 1880 progress in this branch of physiology had been continued and rapid. Yet that progress had left much to be desired. On the one hand the experimental inquiries, even when they were carried out with the safeguard of adequate psychical analysis of the phenomena which presented themselves, and this was not always the case, sounded a very uncertain note, at least when they dealt with other than simply motor effects. They were, moreover, not infrequently in discord with clinical experience. In general the conclusions which were arrived at through them, save such as were based on the production of easily recognised and often measurable movements, were regarded by many as conclusions of the kind which could not be ignored, which demanded respectful attention, and yet which failed to carry conviction. It seemed to be risking too much to trust too implicitly to the apparent teaching of the results arrived at; something appeared wanting to give these their full validity, to explain their full and certain meaning by showing their connection with what was known in other ways and by other methods. On the other hand, during nearly all this time, in spite of the valuable results acquired by the continually improving histological technique, by the degeneration method, and by the developmental method, by the study of the periods of myelination, most of us, at all events, were sitting down, as our forefathers had done, before the intricate maze of encephalic structures, fascinated by its complexity, but wondering what it all meant. Even when we attempted to thread our way through the relatively simple tangle of the spinal cord, to expect that we should ever see our way so to unravel out the strands of fibres, here thick, there thin, now twisting and turning, and anon running straight, or so to set out in definite constellations the seeming milky way of star-like cells, so to do this as to make the conformation of the cord explain the performances of which it is capable, appeared to be something beyond our reach. And when we passed from the cord to those cerebral structures the even gross topography of which is the despair of the beginner in anatomical studies, the multiple maze of grey and white matter seemed to frame itself into the letters graven on the gateway of the city of Dis, and bid us leave all hope behind.

What a change has come upon us during the past dozen years, and how great is the hope of ultimate success which we have to-day. Into what at the meeting at Montreal seemed a cloudy mass, in which most things were indistinct and doubtful, and into which each man could read images of possible mechanisms according as his fancy led, the method of Golgi has fallen like a clarifying drop, and at the present moment we are watching with interest and delight how that vague cloud is beginning to clear up and develop into a sharp and definite picture, in which lines objectively distinct and saying one thing only reveal themselves more and more.

The Physiology of Hearing.

This is not the place to enter into details, and I will content myself with pointing out as illustrative of my theme the progress which is being made in our knowledge of how we hear and how sounds affect us. A dozen years ago we possessed experimental and clinical evidence which led us to believe that auditory impulses sweeping up the auditory nerve became developed into auditory sensations through events taking place in the temporo-sphenoidal convolution, and we had some indications that as these passed upward through the lower and middle brain the striæ acusticæ and the lateral fillet had some part to play. Beyond this we knew but little. To-day we can with confidence construct a diagram which he who runs can read, showing how the impulses undergoing a relay in the tuberculum acusticum and accessory nucleus pass by the striæ acusticæ and trapezoid fibres to the superior olive and trapezoid nucleus, and onwards by the lateral fillet to the posterior corpus quadrageminum and to the cortex of the temporo-sphenoidal convolution. And if much, very much, yet remains to be done even in tracking out yet more exactly the path pursued by the impulses while they are still undeveloped impulses, not as yet lit up with consciousness, and in understanding the functional meaning of relays and apparently alternate routes, to say nothing of the deeper problems of when and how the psychical element intervenes, we feel that we have in our hands the clue by means of which we may hope to trace out clearly the mechanisms by which, whether consciousness plays its part or no, sounds affect so profoundly and so diversely the movements of the body, and haply some time

or other to tell, in a plain and exact way, the story of how we hear. I have thus referred to hearing because the problems connected with this seemed, thirteen years ago, so eminently obscure; it appeared so pre-eminently hard a task, that of tracing out the path of an auditory impulse through the confused maze of fibre and cell presented by the lower and middle brain. Of the mechanism of sight we seemed even then to have better knowledge, but how much more clearly do we, so to speak, see vision now? So also with all other sensations, even those most obscure ones of touch and pain; indeed, all over the nervous system light seems breaking in a most remarkable way.

The Method of Golgi.

This great and significant progress we owe, I venture to say, to Golgi, to the method introduced by him; and I for one cannot help being glad that this important contribution to science, as well as another contingent and most valuable one, the degeneration method of Marchi, should be among the many tokens that Italy, the mother of all sciences in times gone by, is now once more taking her right place in scientific no less than in political life. We owe, I say, this progress to Golgi in the sense that the method introduced by him was the beginning of the new researches. We owe, moreover, to Golgi not the mere technical introduction of the method, but something more. He himself pointed out the theoretical significance of the results which his method produced; and if in this he has been outstripped and even corrected by others, his original merit must not be allowed to be forgotten. Those others are many, in many lands; but two names stand out conspicuous among them. If rejuvenescent Italy invented the method, another ancient country, whose fame, once brilliant in the past, like that of Italy, suffered in later times an eclipse, produced the man who above all others has showed us how to use it. At the meeting at Montreal a voice from Spain telling of things physiological would have seemed a voice crying out of the wilderness; to-day the name of Ramon y Cajal is in every physiologist's mouth. That is one name, but there is yet another. Years ago, when those of us who are now veterans and see signs that it is time for us to stand aside were spelling out the primer of histology, one name was always before us as that of a man who touched every tissue, and touched each well. It is a consoling thought to some of us elder ones that histological research seems to be an antidote to senile decay. As the companion of the young Spaniard in the pregnant work on the histology of the central nervous system done in the Eighties and the Nineties of the century must be named the name of the man who was brilliant in the Fifties, Albert von Kölliker.

When I say that the progress of our knowledge of the central nervous system during the past thirteen years has been largely due to the application of the method of Golgi, I do not mean that it, alone and by itself, has done what has been done. That is not the way of science. Almost every thrust forward in science is a resultant of concurrent forces working along different lines, and in most cases at least significant progress comes when efforts from different quarters meet and join hands. And especially as regards methods it is true that their value and effect depend on their coming at their allotted times. As I said above, neither experimental nor clinical observation nor histological inquiry by the then known methods had been idle before 1880. They had, moreover, borne even notable fruits; but one thing was lacking for their fuller fruition. The experimental and clinical results all postulated the existence of clear definite paths for impulses within the central nervous system, of paths, moreover, which, while clear and sharp, were manifold, and, under certain conditions, alternate or even vicarious, and were so constructed that the impulses as they swept along them underwent from time to time—that is, at some place or other—transformations or at least changes in nature. But the methods of histological investigations available before that of Golgi, though they taught us much, failed to furnish such an analysis of the tangle of grey and white matter as would clearly indicate the paths required. This the method of Golgi did, or rather is doing. Where gold failed silver has succeeded, and is succeeding. Thanks to the black tract which silver when handled in a certain way leaves behind it in the animal body—as, indeed, it does elsewhere—we can now trace out within the central nervous system the pathway afforded by the nerve cell and the nerve cell alone. We see its dendrites branching out in various directions, each alert to dance the molecular dance assigned to it at once by the more lasting conditions which we call structural, and the more passing ones which we call functional, so soon as some partner touch its hand. We see the body of the cell with its dominant nucleus ready to obey and yet to marshal and command the figure so started. We see the neuraxon prepared to carry that figure along itself, it may be to far-distant parts, it may be to near ones, or to divert it along collaterals, it may be many or it may be few, or to spread out at once among numerous seemingly equipollent branches. And whether it prove ultimately true or no that the figure of the dancing molecules sweeps always onwards along the dendrites towards the nucleus, and always outwards away from the nucleus along the neuraxon, or whatever way in the end be shown to be the exact differences in nature and action between the dendrites and the neuraxon, this at least seems sure, that cell plays upon cell only by such a kind of contact as seems to afford an opportunity for change in the figure of the dance, that is to say, in the nature of the impulse, and that in at least the ordinary play it is the terminal of the neuraxon (either of the main core or a collateral) of one cell which touches with a vibrating touch the dendrite or the body of some other cell. We can thus, I say, by the almost magic use of a silver token—I say magic use, for he who for the first time is shown a Golgi preparation is amazed to learn that it is such a sprawling thing as he sees before him which teaches so much, and yet when he comes to use it acquires daily increased confidence in its worth—it is by the use of such a silver token that we have been able to unravel so much of the intricate tangle of the possible paths of nervous impulses. By themselves the acquisition of a set of pictures of such black lines would be of little value. But—and this I venture to think is the important point, to a most remarkable extent, and with noteworthy rapidity—the histological results thus arrived at, aided by analogous results reached by the degeneration method, especially by the newer method akin to that of Golgi, that of Marchi, have confirmed or at times extended and corrected the teachings of experimental investigation and clinical observation. It is this which gives strength to our present position; we are attacking our problems along two independent lines. On the one hand, we are tracing out anatomical paths and laying bare the joints of histological machinery; on the other hand, beginning with the phenomena, and analysing the manifestations of disorder, whether of our own making or no, as well as of order, we are striving to delineate the machinery by help of its action. When the results of the two methods coincide, we may be confident that we are on the road of all truth; when they disagree, the very disagreement serves as the starting point for fresh inquiries along the one line or the other.

The Future of Physiology.

Fruitful as have been the labours of the past dozen years, we may rightly consider them as but the earnest of that which is to come; and those of us who are far down on the slope of life may wistfully look forward to the next meeting of the Association on these Western shores, wondering what marvels will then be told.

Physiology, even in the narrower sense to which, by emphasis on the wavering barrier which parts the animal from the plant, it is restricted in this Section, deals with many kinds of being, and with many things in each. But, somewhat as in man, in one aspect a tiny fragment of the world, still more of the universe, in another aspect looms so great as to overshadow everything else, so the nervous system, seen from one point of view, is no more than a mere part of the whole organism, but, seen from another point of view, seems by its importance to swallow up all the rest. As man is apt to look upon all other things as mainly subserving his interests and purposes, so the physiologist, but with more justice, may regard all the rest of the body as mainly subserving the welfare of the nervous system; and, as man was created last, so our natural knowledge of the working of that nervous system has been the latest in its

growth. But, if there be any truth in what I have urged to-day, we are witnessing a growth which promises to be as rapid as it has seemed to be delayed. Little spirit of prophecy is needed to foretell that in the not so distant future the teacher of physiology will hurry over the themes on which he now dwells so long in order that he may have time to expound the most important of all the truths which he has to tell, those which have to do with the manifold workings of the brain.

And I will be here so bold as to dare to point out that this development of his science must, in the times to come, influence the attitude of the physiologist towards the world, and ought to influence the attitude of the world towards him. I imagine that if a *plébiscite*, limited even to instructed, I might almost say scientific, men, were taken at the present moment, it would be found that the most prevalent conception of physiology is that it is a something which is in some way an appendage to the art of medicine. That physiology is, and always must be, the basis of the science of healing, is so much a truism, that I would not venture to repeat it here were it not that some of those enemies, alike to science and humanity, who are at times called antivivisectionists, and whose zeal often outruns not only discretion, but even truth, have quite recently asserted that I think otherwise. Should such a hallucination ever threaten to possess me, I should only have to turn to the little we yet know of the physiology of the nervous system, and remind myself how great a help the results of pure physiological curiosity—I repeat the words pure physiological curiosity, for curiosity is the mother of science—have been, alike to the surgeon and the physician, in the treatment of those in some way most afflicting maladies—the diseases of the nervous system. No, physiology is, and always must be, the basis of the science of healing; but it is something more. When physiology is dealing with those parts of the body which we call muscular, vascular, glandular tissues, and the like, rightly handled she points out the way not only to mend that which is hurt, to repair the damages of bad usage and disease, but so to train the growing tissues and to guide the grown ones as that the best use may be made of them for the purposes of life. She not only heals, she governs and educates. Nor does she do otherwise when she comes to deal with the nervous tissues. Nay, it is the very prerogative of these nervous tissues that their life is above that of all the other tissues, contingent on the environment and susceptible of education. If increasing knowledge gives us increasing power so to mould a muscular fibre that it shall play to the best the part which it has to play in life, the little knowledge we at present possess gives us at least much confidence in a coming far greater power over the nerve cell. This is not the place to plunge into the deep waters of the relation which the body bears to the mind; but this at least stares us in the face, that changes in what we call the body bring about changes in what we call the mind. When we alter the one we alter the other. If, as the whole past history of our science leads us to expect, in the coming years a clearer and clearer insight into the nature and conditions of that molecular dance which is to us the material token of nervous action, and a fuller exacter knowledge of the laws which govern the sweep of nervous impulses along fibre and cell, give us wider and directer command over the moulding of the growing nervous mechanism and the maintenance and regulation of the grown one, then assuredly physiology will take its place as a judge of appeal in questions not only of the body, but of the mind; it will raise its voice, not in the hospital and consulting room only, but also in the senate and the school.

One word more. We physiologists are sorely tempted towards self-righteousness, for we enjoy that blessedness which comes when men revile you and persecute you and say all manner of evil against you falsely. In the mother country our hands are tied by an Act which was defined by one of the highest legal authorities as a "penal" Act; and though with us, as with others, difficulties may have awakened activity, our science suffers from the action of the State. And some there are who would go still farther than the State has gone, though that is far, who would take from us even that which we have, and bid us make bricks wholly without straw. To go back is always a hard thing, and we in England can hardly look to any great betterment for at least many years to come. But unless what I have ventured to put before you to-day be a mocking phantasm, unworthy of this great Association and this great occasion, England in this respect at least offers an example to be shunned alike by her offspring and her fellows.

REFERENCE.

1 *Rendiconti del Reale Istituto Lombardo*. vol. xii, p. 206.

AN ADDRESS

ON

SOME DISTINCTIVE CHARACTERS OF HUMAN STRUCTURE.

Delivered before the Anthropological Section of the British Association for the Advancement of Science, Toronto, August, 1897.

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[ABSTRACT.]

THE ERECT ATTITUDE.

WHEN we look at man and contrast his form and appearance with other vertebrate creatures, the first thing probably to strike us is his capability of assuming an attitude, which we distinguish by the distinctive term, the erect attitude. In this position the head is balanced on the summit of the spine, the lower limbs are elongated into two columns of support for standing on two feet, or for walking, so that man's body is perpendicular to the surface on which he stands or moves, and his mode of progression is bipedal. As a consequence of this, two of his limbs, the arms, are liberated from locomotor functions; they acquire great freedom and range of movement at the shoulder-joint, as well as considerable movement at the elbow and between the two bones of the forearm; the hands also are modified to serve as organs of prehension, which minister to the purposes of his higher intelligence. The erect position constitutes a striking contrast to the attitude assumed by fish, amphibia, and reptiles when at rest or moving, in which vertebrates the body is horizontal and more or less parallel to the surface on which they move. Birds, although far removed from the erect attitude, yet show a closer approximation to it than the lower vertebrates or even the quadrupedal mammals. But of all vertebrates, those which most nearly approximate to man in the position assumed by the body when standing and walking are the higher apes.

The various adaptations of structure in the trunk, limbs, head, and brain which conduce to give man this characteristic attitude are essential parts of his bodily organisation, and constitute the structural test which one employs in answering the question whether a particular organism is or is not human.

These adaptations of parts are not mere random arrangements, made at haphazard and without a common purpose; but are correlated and harmonised so as to produce a being capable of taking a distinctive position in the universe, superior to that which any other organism can possibly assume. If we could imagine a fish, a reptile, or a quadruped to be provided with as highly developed a brain as man possesses, the horizontal attitude of these animals would effectually impede its full and proper use, so that it would be of but little advantage to them. It is essential, therefore, for the discharge of the higher faculties of man, that the human brain should be conjoined with the erect attitude of the body. The passage of a vertebrate organism from the horizontal position, say of a fish, in which the back, with its contained spinal column, is uppermost, and the head is in front, to the vertical or erect position of a man, in which the back, with its contained spinal column, is behind, and the head is uppermost, may be taken as expressing the full range and limit of evolution, so far as the attitude is concerned, of which such an organism is capable. Any further revolution of the body, as in the backward direction, would throw the back downwards, the head backwards, and would

constitute a degradation. It would not be an advance in the adaptation of structure to the duties to be discharged, but rather an approach to the relation of parts existing so generally in invertebrate organisms.

The Curves of the Spinal Column.

At the time of birth the infant's spinal column exhibits only two curves; one, corresponding to the true vertebræ, extends from the upper end of the neck to the lowest lumbar vertebra, and the concavity of its curve is directed forwards; the other and shorter corresponds to the sacro-coccygeal region and also has its concavity directed forwards. In the number and character of the curves, the newborn infant differs materially from the adult man, in whose spine, instead of one continuous curve from the neck to the sacrum, there are alternating curves, one convex forwards in the region of the neck, succeeded by one concave forwards in the region of the chest vertebræ, which again is succeeded by a marked convexity forwards in the vertebræ of the loins. The sacro-coccygeal region continues to retain the forward concavity of the newborn child. The formation and preservation of this alternating series of curves are associated with the assumption of the erect attitude, and the development of the lumbar convexity is correlated with the straightening of the lower limbs when the child begins to walk.

When the child is born, the curvature of its spine in the dorso-lumbar region approximates to that of an ordinary quadruped in which there is no lumbar convexity, so that the spine in that region presents one continuous curve concave forwards. For some time after its birth the infant retains the quadrupedal character of the spinal curve in the dorso-lumbar region, and, as it acquires nervous and muscular power and capability of independent movement, its mode of progression in the early months by creeping on hands and knees approximates to that of the quadruped. It is only after it has attained the age of from a year to sixteen months that it can erect its trunk, completely extend the hip and knee-joints, and draw the leg into line with the thigh, so as to form a column of support, which enables it to stand or move about on two feet. Hence there is this great difference between the young of a quadruped and that of a man, that whilst the former is born with the dorso-lumbar curve proper to its attitude, and which it retains throughout life, the child does not possess, either when born, or for some months after its birth, the characteristic spinal curves of the man. These curves are therefore secondary in their production; they are acquired after birth, and are not imprinted on the human spine from the beginning, though the capability of acquiring them at the proper time is a fundamental attribute of the human organism.

It has sometimes been assumed that the acquisition of the erect attitude by the young child is due to the fostering care of the mother or nurse; that it is a matter of training, encouragement and education, without which the child would not raise itself upon its feet. I cannot, however, agree with this opinion. If one could conceive an infant so circumstanced that, though duly provided with food fitted for its nutrition and growth, it should never receive any aid or instruction in its mode of progression, there can, I think, be little doubt that when it had gained sufficient strength it would of itself acquire the erect attitude. The greater growth in length of the lower limbs, as compared with the upper, would render it inconvenient to retain the creeping or the quadrupedal position.

There can, I think, be little doubt that muscular action plays a large part in the production of the cervical and lumbar convexities. The study of the muscles, associated with and connected to the spinal column, shows that large symmetrically arranged muscles, many of which are attached to the neural arches and transverse processes of the vertebræ, extend longitudinally along the back of the spine, and some of them reach the head. On the other hand, those muscles which lie in front of the spine, and are attached to the vertebræ, are few in number, and are practically limited to the cervical and lumbar regions, in which the spine acquires convexity forwards.

Contemporaneous with the straightening of the lower limbs and the extension of the hip-joints, the spinal column itself is elevated by muscles of the back, named "erectores spinæ," which, taking their fixed points below, draw upon the vertebræ and ribs and erect the spine. The lumbar convexity is the form of stable equilibrium which the flexible spinal column tends to take under the action of the muscular forces which pull upon it in front and behind. It is probably due to the fact that the average pull, per unit of length, of the psoas muscles attached in front is greater than the average pull, per unit of length, of the muscles attached behind in the same region.

The Lower Limb.

Sir William Turner then proceeded to consider the distinctively human characters of the bones in the thigh and leg which are associated with the erect posture, and passed on to an examination of the peculiarities of the human foot and hand, as contrasted with those of the apes.

The Cranium and Brain.

The power of assuming the erect attitude, the specialisation of the upper limbs into instruments of prehension, and of the lower limbs into columns of support and progression are not, he continued, in themselves sufficient to give that distinction to the human body which we know that it possesses. They must have co-ordinated with them the controlling and directing mechanism placed in the head, known as the brain and organs of sense.

The cranial cavity, with its contained brain, is of absolutely greater volume in man than in any other vertebrate, except in the elephant and in the large whales, in which the huge mass of the body demands the great sensory-motor centres in the brain to be of large size. Relatively also to the mass and weight of the body, the brain in man may be said to be in general heavier than the brains of the lower vertebrates, though it has been stated that some small birds and mammals are exceptions to this rule.

There is a general consensus of opinion amongst craniologists that the mean internal capacity of the cranium in adult male Europeans is about 1,500 c.cm. (91.5 cub. in.). The mean capacity of the cranium of fifty Scotsmen that I have measured by a method, which I described some years ago, was 1,493 c.cm. (91.1 cub. in.). The most capacious of these skulls was 1,770 c.cm., and the one with the smallest capacity was 1,240 c.cm. Thus, in a highly civilised and admittedly intellectual people, the range in the volume of the brain space amongst the men was as much as 530 c.cm. in the specimens under examination, none of which was known or believed to be the skull of an idiot or imbecile, whilst some were known to be the crania of persons of education and position. In twenty-three Scotswomen the mean capacity was 1,325 c.cm., and the range of variation was from a maximum 1,625 to a minimum 1,100 c.cm.—namely, 525 c.cm.

Again I have taken the capacity, by the same method, of a number of crania of the Australian aborigines, a race incapable apparently of intellectual improvement beyond their present low state of development. In thirty-nine men the mean capacity was only 1,280 c.cm. (78.1 cub. in.). The maximum capacity was 1,514 c.cm., the minimum was 1,044 c.cm. The range of variation was 470 c.cm. In twenty-four women the mean capacity was 1,115.6 c.cm., the maximum being 1,240 and the minimum 930, and the range of variation was 310 c.cm. It is noticeable that in this series of sixty-three Australian skulls, all of which are in the Anatomical Museum of the University of Edinburgh, eight men had a smaller capacity than 1,200 c.cm., and only four were above 1,400 c.cm. Of the women's skulls ten were below 1,100 c.cm., four of which were between 900 and 1,000 c.cm., and only three were 1,200 c.cm. and upwards.

It may now be of interest to say a few words on the capacity of the cranium in the large anthropoid apes. I have measured, by the method already referred to, the capacity of the skulls of five adult male gorillas, and obtained a mean of 494 c.cm., the maximum being 590 c.cm. and the minimum 410 c.cm., the range of variation being 180 c.cm. Dr. Delisle found the old male ourang (Maurice) which died a short time ago in the Jardin des Plantes, to have a capacity of 385 c.cm., whilst the younger male (Max) had a capacity of 470 c.cm. The mean of eleven specimens measured by him was 408 c.cm., which is somewhat less than the measurements

of males recorded by M. Topinard and Dr. Vogt; but it should be stated that in some of Dr. Delisle's specimens the sex could not be properly discriminated, and possibly some of them may have been females. The cranial capacity of seven male chimpanzees is stated by M. Topinard to be 421 c.cm.

The determination of the mass and weight of the brain as expressed in ounces, and of the capacity of the cranial cavity as expressed in cubic centimetres, are only rough methods of comparing brain with brain, either as between different races of men, or as between men and other mammals. Much finer methods are needed in order to obtain a more exact comparison.

The Structure of the Brain.

By the employment of the refined histological methods now in use, it has been shown that the grey matter in the cortex of the hemispheres and in other parts of the brain is the seat of enormous numbers of nerve cells, and that those in the cortex, whilst possessing a characteristic pyramidal shape, present many variations in size. Further, that these nerve cells give origin to nerve axial fibres, through which areas in the cortex become connected, directly or indirectly, either with other areas in the same hemisphere, with parts of the brain and spinal cord situated below the cerebrum, with the muscular system, or with the skin and other organs of sense.

Every nerve cell, with the nerve axial fibre arising from and belonging to it, is now called a "neuron," and both brain and spinal cord are built up of tens of thousands of such neurons. It may reasonably be assumed that the larger the brain the more numerous are the neurons which enter into its constitution. The greater the number of the neurons, and the more complete the connections which the several areas have with each other through their axial fibres, the more complex becomes the internal mechanism, and the more perfect the structure of the organ. We may reasonably assume that this perfection of structure finds its highest manifestations in the brain of civilised men.

The specialisation in the relations and connections of the axial fibre processes of the neurons, at their termination in particular localities, obviously points to functional differences in the cortical and other areas, to which these processes extend. It has now been experimentally demonstrated that the cortex of the cerebrum is not, as M. Flourens conceived, of the same physiological value throughout: but that particular functions are localised in definite areas and convolutions. In speaking of localisation of function in the cerebrum, one must not be understood as adopting the theory of Gall, that the mental faculties were definite in their number, that each had its seat in a particular region of the cortex, and that the locus of this region was marked on the surface of the skull and head by a more or less prominent "bump."

The foundation of a scientific basis for localisation dates from 1870, when Fritsch and Hitzig announced that definite movements followed the application of electrical stimulation to definite areas of the cortex in dogs. The indication thus given was at once seized upon by David Ferrier, who explored not only the hemispheres of dogs, but those of monkeys and other vertebrates. By his researches and those of many subsequent inquirers, of whom amongst our own countrymen we may especially name Beevor, Horsley, and Schäfer, it has now been established that, when the convolutions bounding, and in close proximity to the fissure of Rolando are stimulated, motor reactions in the limbs, trunk, head, and face follow, which have a definite purposive character, corresponding with the volitional movements of the animal. The Rolandic region is therefore regarded as a part of the motor apparatus; it is called the motor area, and the function of exciting voluntary movements is localised in its cortical grey matter.

By the researches of the same and other inquirers it has been determined that certain other convolutions are related to the different forms of sensibility, and are sensory or perceptive centres, localised for sight, hearing, taste, smell, and touch.

The Paths of Conduction.

Most important observations on the paths of conduction of sensory impressions in the cortex of the convolutions were announced last year by Dr. Flechsig, of Leipzig, so well known by his researches on the development of the tracts o nerve fibres in the columns of the spinal cord, published several years ago. He discovered that the nerve fibres in the cord did not become myelinated, that is, attain their perfect structure, at a uniform period of time, so that some acquired their complete functional importance before others. He has now applied the same method of research to the study of the development of the human brain, and has shown that in it also there is a difference in the time of attaining perfect structural development of the nerve tracts. Further, he has discovered that the nerve fibres in the cerebrum become myelinated subsequent to the fibres of the other divisions of the cerebro-spinal nervous axis. When a child is born, very few of the fibres of its cerebrum are myelinated, and we have now an anatomical explanation of the reason why an infant has so inactive a brain and is so helpless a creature. It will therefore be of especial interest to determine, whether in those animals which are active as soon as they are born, and which can at once assume the characteristic attitude of the species, the fibres of the cerebrum are completely developed at the time of birth. Flechsig has also shown that the sensory paths myelinate before the motor tracts; that the paths of transmission of touch, and the other impulses conducted by the dorsal roots of the spinal nerves, are the first to become completely formed, whilst the fibres for auditory impulses are the last.

Flechsig names the great sensory centre which receives the impulses associated with touch, pain, temperature, muscular sense, etc., *Körpergefühlsphäre*, the region of general body sensation, or the somæsthetic area as translated by Dr. Barker. The tracts conducting these impulses myelinate at successive periods after birth. They pass upwards from the inner and outer capsules and the optic thalamus as three systems.[1] Some enter the central convolutions of the Rolandic area, others reach the paracentral lobule, the inferior frontal convolution, the insula, and small parts of the middle and superior frontal convolutions; whilst considerable numbers reach the gyrus fornicatus and the hippocampal gyrus, which Ferrier had previously localised as a centre of common or tactile sensibility.

The Rolandic area, therefore, is not exclusively a motor area, but is a centre associated also with the general sensibility of the body. The motor fibres in it are not myelinated until after the sensory paths have become developed. As the motor parts become structurally complete, they can be traced downwards as the great pyramidal tract from the pyramidal nerve cells in this area, from which they arise, into the spinal cord, where they come into close relation with the nerve cells in the anterior horn of grey matter, from which the nerve axial fibres proceed that are distributed to the voluntary muscles.

Flechsig's observations agree with those of previous observers in placing the visual centre in the occipital lobe; the auditory centre in and near the superior temporal convolution; and the olfactory centre in the uncinate and hippocampal convolutions. Of the position of the taste centre he does not speak definitely, although he thinks it to be in proximity either to the centre of general sensation, or to the olfactory centre.

The centres of special sense in the cortex, and the large Rolandic area, which is the centre both for motion and general sensation, do not collectively occupy so much as one-half of the superficial area of the convolutions of the cortex. In all the lobes of the brain—frontal, parietal, occipito-temporal, and insula—convolutions are situated, not directly associated with the reception of sensory impressions, or as centres of motor activity, the function of which is to be otherwise accounted for. These convolutions lie intermediary to the sensory and motor centres. Flechsig has shown that in them myelination of the nerve fibres does not take place until some weeks after birth, so that they are distinctly later in acquiring their structural perfection and functional activity. As the nerve fibres become differentiated, they are seen to pass from the sense centres into these intermediate convolutions, so as to connect adjacent centres together, and bring them into association with each other. Hence he has called them the association centres, the function of which is to connect together centres and convolutions otherwise disconnected.

The Association Centres.

We have now, therefore, direct anatomical evidence, based upon differences in their stages of development, that, in addition to the sensory and motor areas in the cortex of the human brain, a third division—the association centres—is to be distinguished.

If we compare the cerebrum in man and the apes, we find those convolutions which constitute the motor and sensory centres distinctly marked in both. An ape, like a man, can see, hear, taste, smell, and touch; it also exhibits great muscular activity and variety of movement. It possesses, therefore, similar fundamental centres of sensation and motion, which are situated in areas of the cortex, resembling in arrangement and relative position, though much smaller in size than, the corresponding convolutions in the adult human brain. It is not unlikely, though the subject needs additional research, that the minute structure of these centres resembles that of man, though, from the comparatively restricted area of grey matter in the ape, the neurons will necessarily be much fewer in number.

In the cerebrum of a newborn infant, whilst the motor and sensory convolutions are distinct, the convolutions for the association areas, though present, are comparatively simple, and do not possess as many windings as are to be seen in the brain of a chimpanzee not more than three or four years old.

Again, if we compare the brain of the Bushwoman, miscalled the Hottentot Venus, figured by Gratiolet and by Bischoff, or the one studied by Mr. John Marshall, with that of the philosopher Gauss, figured by Rudolph Wagner, we also recognise the convolutions in which the motor and sensory areas are situated. In all these brains they have a comparative simplicity of form and arrangement which enables one readily to discriminate them. When we turn, however, to the association areas in the three tiers of convolutions in the frontal lobe, and in the parieto-occipital and occipito-temporal regions where the bridging or annectant convolutions are placed, we cannot fail to observe that in a highly developed brain, like that of Gauss, the association convolutions have a complexity in arrangement, and an extent of cortical surface much more marked than in the Bushwoman, and to a still greater degree than in the ape. The naked-eye anatomy of the brain therefore obviously points to the conclusion that these association areas are of great physiological importance.

The problem which has now to be solved is the determination of their function. Prolonged investigation into the development and comparative histology of the brain will be necessary before we can reach a sound anatomical basis on which to found satisfactory conclusions. It will especially be necessary to study the successive periods of development of the nerve-fibre tracts in the cerebrum of apes and other mammals, as well as the magnitude and intimate structure of the association areas in relation to that of the motor and sensory areas in the same species.

Flechsig, however, has not hesitated to ascribe to the association centres functions of the highest order. He believes them to be parts of the cerebral cortex engaged in the manifestations of the higher intelligence, such as memory, judgment, and reflection; but in the present state of our knowledge such conclusions are of course quite speculative.

It is not unlikely, however, that the impulses which are conveyed by the intermediate nerve tracts, either on the one hand, from the sense centres to the association centres, or on the other, from the association centres to the sensory and motor centres, are neither motor nor sensory impulses, but a form of nerve energy, determined by the terminal connections and contacts of the nerve fibres. It is possible that the association centres, with the intermediate connecting tracts, may serve to harmonise and control the centres for the reception of sensory impressions that we translate into consciousness, with those which excite motor activity, so as to give to the brain a completeness and perfection of structural mechanism, which without them it could not have possessed.

Instinct and Reason.

We know that an animal is guided by its instincts, through which it provides for its individual wants, and fulfils its place in Nature. In man, on the other hand, the instinctive acts are under the influence of the reason and intelligence, and it is possible that the association centres, with the intermediate association fibres which connect them with the sensory and motor centres, may be the mechanism through which man is enabled to control his animal instincts, so far as they are dependent on motion and sensation.

The higher we ascend in the scale of humanity, the more perfect does this control become, and the more do the instincts, emotions, passions, and appetites become subordinated to the self-conscious principle which regulates our judgments and beliefs. It will therefore now be a matter for scientific inquiry to determine, as far as the anatomical conditions will permit, the proportion which the association centres bear to the other centres both in mammals and in man, the period of development of the association fibres, in comparison with that of the motor and sensory fibres in different animals, and, if possible, to obtain a comparison in these respects between the brains of savages and those of men of a higher order of intelligence.

The capability of erecting the trunk; the power of extending and fixing the hip and knee joints when standing; the stability of the foot; the range and variety of movement of the joints of the upper limb; the balancing of the head on the summit of the spine; the mass and weight of the brain, and the perfection of its internal mechanism, are distinctively human characters. They are the factors concerned in adapting the body of man, under the guidance of reason, intelligence, the sense of responsibility, and power of self control, for the discharge of varied and important duties in relation to himself, his Maker, his fellows, the animal world and the earth on which he lives.

Note.

[1] Drs. Ferrier and Aldren Turner communicated to the Royal Society of London a few weeks ago (*Proc. R. S.*, June 17th, 1897) an account of an elaborate research on the tracts which convey general and special sensibility to the cerebral cortex of monkeys. Their results were obtained by the aid of destructive lesions and the study of the consecutive degenerations in the nerve tracts. From the brief abstract in the *Proceedings*, their research, though conducted by a different method, harmonises with the observations of Flechsig on the human brain, in regard to the course and connections of the great thalamic cortico-petal sensory fibres. They have also traced association fibres in connection with both the visual and auditory systems.

THE SIGNS AND SYMPTOMS OF PERFORATED GASTRIC ULCER, WITH NOTES OF TWO CASES, IN ONE OF WHICH OPERATION WAS SUCCESSFUL.

BY

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Case I.

Notes by Dr. Adamson.

On the night of November 7th, 1896, I was called to see a domestic servant, who complained of sudden and severe abdominal pain. She was lying on her back in bed, with her knees slightly drawn up, her complexion pallid, with an anxious expression. She was perfectly conscious, and stated that the pain was on the left side of the abdomen at the level of the umbilicus. On inquiring into her past health she was found to have often suffered from indigestion characterised by pain after food. She had never vomited as far as she recollected, and certainly never had vomited blood. She had felt pain in the stomach that day, and especially at 8.30 P.M. after having partaken of steak, bread, and tea. At 10 P.M. she was suddenly seized with a violent pain in the abdomen, situated at the normal level of the lower curvature of the stomach. The pain gradually increased, but there was no vomiting or feeling of sickness.

When I saw her, at 10.15 P.M., in addition to the above she pointed to one specially tender spot just below the arch of the left ribs, and midway between the middle line and the

side where the pain was particularly intense, and also complained of pain in the region of the left clavicle, passing up her neck. There was no pain elsewhere in the thorax, nor in the lower abdominal region. The pulse was 96, the temperature 98.4°. She looked more faint and collapsed than her pulse indicated, and her lips were slightly cyanotic. The abdomen was flat, and on palpation a marked board-like rigidity existed all over it. There was pain on pressure over the lower part of the normal stomach region and one specially tender spot, but no tenderness on pressure in the iliac regions. Liver dulness was absent in the middle line, as also for an inch and a-half from the costal margin. On auscultation over the stomach, a bell-like, tinkling sound was heard at intervals, sometimes noticeably synchronous with the heart's action, sometimes with respiration. Air and gas were clearly being churned together in the stomach, bowel, or peritoneal cavity. The whole history of the case pointed to commencing peritonitis due to rupture of a gastric ulcer, so I insisted on her immediate removal to the Western Infirmary, in spite of considerable opposition on the part of her friends, who did not think her sufficiently ill to go there. On arriving at the Western Infirmary shortly after midnight, and while being conveyed to bed, she complained of the intensity of the pain above both clavicles.

REMARKS BY DR. ADAMSON.

The chief factors in the diagnosis of this case were, first, the mode of onset of her symptoms; secondly, the physical signs presented by the abdomen; and, thirdly, the former gastric pain during the early stages of digestion. Without entering too much into detail, a few remarks may be made upon some of the more striking features:

1. *Shock* was slight, and quickly passed off. Just before she was carried up to the ambulance waggon she sat up in bed and said she felt much better, and objected rather strongly to making a journey at that time of night. In cases of perforation shock may vary from *nil* to instant death, and by itself alone is of no value in forming a diagnosis.

2. *The Condition of the Abdomen.*—The board-like rigidity was the most marked feature in the case, and, having noticed an exactly similar state in a case under my care a year before, it seemed strongly to support the diagnosis. The behaviour of the liver dulness suggested the presence of gas in the peritoneal cavity. The absence of alteration in the normal dulness does not necessarily indicate absence of rupture, as in a case which I saw formerly there was a ruptured ulcer with a normal condition of liver dulness. The presence of alteration, however, more especially in the early stages of the case, leads to the strong suspicion that there is a rupture.

3. *The Tinkling Bell-like Sound.*—There is obviously room for fallacy here, still the sound was a short, sharp tinkle, similar to the sound heard in pyo-pneumothorax. I was satisfied it was due to the escape of gas and fluid through the perforation, these receiving vibrations from the beat of the heart or the movements of the diaphragm in respiration. In a case under the care of Drs. Snodgrass and Renton I had the opportunity of listening to similar sounds, only so much louder as to be audible at some distance from the patient.

4. *Pain above the Clavicles.*—I wish now to refer to the presence of the "referred" pain above the clavicles. In a former case the same pain was present, only more extensively.

I may quote here the remarks I made upon that case in this connection: "I was struck at the time with the complaint of pain in practically the whole thorax in front, and especially in the clavicular and supraclavicular regions, and also in the scapular region and back. At the time the explanation did not occur to me, and I was inclined to pass over a symptom which seemed to confuse the diagnosis, whereas I believe accurate interpretation of it would have strengthened the conclusions eventually arrived at. The obvious explanation is that these pains were 'referred' pains, and the connections of the splanchnic nerve with the lower six intercostal nerves through the dorsal sympathetic ganglia, and in the spinal segments, need only be mentioned to indicate the reason of the pain in the lower six intercostal spaces. In the same way the clavicular and supraclavicular pains are xplained, when we recollect the relations that exist between the phrenic nerves and the descending superficial cutaneous branches of the cervical plexus, the latter coming from the fourth cervical, the phrenic from the fourth and fifth. The violent irritation of the upper abdominal zone by the escape of stomach contents so energetically stimulated the terminal phrenic filaments that an overflow of stimulus centrally was referred to the cutaneous positions indicated. In future cases the presence of this pain might well be included as a minor strengthening factor in arriving at a diagnosis." And so in my second case the presence of this pain did strengthen the diagnosis in the light of the former experience, but I doubt if the explanation just given can hold good. The phrenic nerves are, I believe, purely motor, and therefore the pain must be attributed to the connections of the sympathetic nervous system with the spinal segments and nerves. This distribution of cutaneous pain has been observed in cases of diaphragmatic pleurisy, pericarditis, and in flatulent distension of the stomach, and its explanation lies on the lines on which Ross, MacKenzie, and Head have worked in explaining the relations between visceral disease and cutaneous pain; but I do not enter further into that question at present.

NOTES BY DR. RENTON.

On the evening of November 7th, 1896, I saw at the Western Infirmary along with Dr. Adamson, J. N., suffering from symptoms of a perforated gastric ulcer. On examination I found considerable shock, pulse 120, pain and moderate abdominal distension, with superficial gurgling over the upper abdominal region on stethoscopic examination. There was pain in the neck and ears, and the liver dulness was diminished. With these symptoms present I advised that the abdomen should be opened.

Assisted by Dr. Burnside Buchanan and Dr. Carstairs, Dr. Adamson being present, I opened the abdomen. On dividing the peritoneum a small amount of gas escaped, and on introducing my fingers I felt the depression in the stomach which indicated a gastric ulcer, and on drawing it outside the ragged rupture was easily seen on the anterior surface. The edges were pared and a double row of silk sutures introduced. The abdominal cavity was now cleansed, the fluid being sponged out and the cavity washed with corrosive sublimate solution, 1 in 6,000, and as no collection of fluid was found in Douglas's space a second opening was deemed unnecessary. The wound was closed, a glass drainage tube being retained at its lower angle.

The patient rallied from the shock, and was fed by the rectum for twenty-four hours, and then by the stomach, getting, however, only barley water, soups, and limited stimulant for a week, until we might be sure that the wound was closed. The glass tube was removed in forty-eight hours, and the wound healed well. I feel much indebted to Dr. Adamson for his prompt recognition of the serious condition in this case, and also to Dr. Carstairs, the Sister, and nurses for their labours in connection with it. The patient is now quite well, and able to enjoy food like other people.

CASE II.

On January 29th, 1896, Dr. Snodgrass asked me to see A.M. with him. Four days previously she had had a pain in the stomach which passed off, but that evening she had a severe recurrence with collapse and intense pain in the abdomen. She looked ill, the pulse was rapid, she was suffering from anæmia and mitral disease, and when the bed was neared the heart could be heard to be causing a splashing sound, which on listening over the upper abdominal region was very distinct. It was either a ruptured stomach with extravasation into a limited cavity or pyo-pneumothorax.

Although it was a desperate case I advised that, as the only chance, the abdomen should be opened. This I did, and found the abdominal cavity perfectly healthy. The stomach I drew out and found no rupture, and I could find nothing to guide me to any explanation of the symptoms, and I closed the abdomen. Although very weak she rallied, and the next day I tapped the point where I heard the gurgling, and got nothing out. She gradually sank.

Fortunately we were allowed a *post-mortem* examination, which Dr. R. M. Buchanan performed. The cardiac end of the stomach was adherent to the diaphragm, and had formed

a localised cavity, into which a posterior ulcer had burst. This at once explained the symptoms, and it is instructive to have discovered the cause of the symptoms and the reason why we were unable to find a rupture.

Remarks by Dr. Renton.

One of the most fatal events that happens is rupture of a gastric or intestinal ulcer, and therefore it is essential that without delay the rupture should if possible be closed. Until recently, 95 per cent. of the cases of ruptured gastric ulcer died, and as the larger proportion of these are women from 14 to 30 years of age, it is most important that the symptoms be promptly recognised. As regards the symptoms, they vary according to whether the ulcer is on the anterior or posterior surface of the stomach. If posterior, there are more organs for the stomach to be attached to, and therefore the symptoms are not so marked. The rupture, however, takes place anteriorly in 84 cases out of 100. A patient with previous symptoms of indigestion with or without history of hæmorrhagic vomiting who is suddenly seized with acute pain in the upper abdomen with collapse, rapid pulse, temperature 97°, intense pain in the neck, with suffocating feeling, and in addition clear percussion in the liver region, with superficial gurgling over the upper abdomen, may be regarded as having a ruptured gastric or intestinal ulcer. The sooner that abdomen is opened the better, and if you have been wrong, and there is no rupture, you have with proper precaution done no harm. If you delay, you may lose your patient. During the last year, it is encouraging to find that a number of cases of ruptured gastric ulcer have been recorded as successfully operated upon. Their success mainly depended on early recognition of the condition by the practitioner in attendance.

A CASE OF HÆMATORRACHIS.

By WILLIAM BAIN, M.D., F.R.C.S.E., M.R.C.P.Lond.,
Harrogate.

Spinal meningeal hæmorrhage not due to injury is so exceedingly rare as a cause of death that I think the following case is worth recording.

On the morning of December 22nd, 1894, I received an urgent message to see a housemaid. I was told that the patient, being troubled with constipation, had taken the preceding night two pills which were given her by a friend. She had a good night, got up about 6 A.M., and after dressing went downstairs feeling well. Half an hour afterwards the bowels were moved, and on returning to the kitchen she complained that she felt numb "all over," and had difficulty in walking. After resting some time and not feeling any better she was assisted upstairs.

I saw her about 8 A.M., and found her in a very curious condition. She was propped up in bed complaining of difficulty in breathing, pain in the back of the neck, and loss of motion, and numbness in the upper and lower extremities. Except that she looked pale there was nothing unusual in her expression. She answered my questions intelligently but spoke slowly, with some difficulty, and in a low tone. She told me she was 18, had been anæmic about six months ago, but previous to that, and quite recently, she had been in excellent health. Her catamenia were regular and normal; the temperature was 98°, the pulse was 52 and very weak, and respirations 16 a minute. I gave her a tablespoonful of brandy diluted, which she drank slowly, and in a couple of minutes the pulse was 74. The pupils were normal and reacted to light. She could not move the left arm nor the right leg, but she could move the left leg with an effort and the fingers of the right hand slowly. The knee-jerks were absent; sensation was distinctly lessened but not abolished. She could feel the prick of a pin in both arms and legs, but she was slow in perceiving it. I hurriedly examined her chest and abdomen but detected nothing abnormal. While I was examining her she asked me to leave the room as she wished to use the bed pan; but before it could be placed under her there was a very copious watery evacuation of the bowels, and immediately after she became collapsed and died in a few minutes, the heart continuing to beat after respiration had ceased. The composition of the pills could not be ascertained. Subsequently her mistress recollected that on the morning previous to her death the girl remarked on entering her bedroom that she felt a peculiar reeling sensation as if she were drunk. Her relatives were not aware of there being any case of hæmophilia in the family, and her fellow servant was certain that the girl had not received any injury. Her medical adviser informed me that she only suffered slightly from anæmia. Her blood had not been examined.

On *post-mortem* examination there were no signs of violence. The body was well developed and well nourished. The thoracic and abdominal organs were perfectly normal. The brain also was normal; in fact I have never examined healthier organs. In examining the spinal canal from the back, we first removed the spine and transverse processes of the seventh cervical vertebra and worked upwards. We found nothing abnormal until we came to the third cervical. There we saw a clot between the dura mater and the spinal canal, the larger portion of the clot being on the right side. The dura mater was bloodstained. The clot was comparatively small, and only extended from the second to the third cervical vertebra, the dura mater above the second cervical being normal in appearance, thus showing that the clot was formed *in situ*. Dr. Simcock assisted me at the *post-mortem* examination.

Spinal meningeal hæmorrhages may occur outside the dura mater or within it. Gowers considers extra-meningeal hæmorrhage the more common, while Osler thinks intra-meningeal the more frequent. In the extradural variety the blood comes from the large plexus of veins which lie between the dura mater and the bone.

Apart from injury and very occasionally aneurysm, the causes of this rare condition are not obvious. It is easily understood that it may occur in purpuric states, and in the hæmorrhagic forms of acute specific diseases, although even in these it is very uncommon. It has also been attributed to prolonged muscular exertion.

Regarding the cause in this particular case, I cannot suggest even a far-fetched theory. The question one naturally asks oneself is, Do slight cases of anæmia bear any relation, and, if so, what, to cases of spontaneous hæmorrhage?

The symptoms in this case were indicative of a hæmorrhage above the origin of the phrenic nerves. Evidently there must have been some oozing on or before the morning previous to her death, when she complained of feeling as if she were drunk, and possibly the straining at stool may have caused the larger hæmorrhage which produced the fatal termination.

REMARKS ON THE ETIOLOGY, SYMPTOMS, AND TREATMENT OF LATAH, WITH A REPORT OF TWO CASES.

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The functional nervous affection which takes its name from a Malay word latah (nervous or ticklish) is of great interest, owing to its comparative rarity and very obscure pathology. A short residence in the ulu or interior of one of the vastest Malay States has afforded an unusual opportunity for making these notes.

Case I.—Timah, aged 44, native of Kelantan, midwife, was first seen on April 3rd, 1897, at Kuala Lipis, Pahang. The patient, a married woman, has had four children; two died in infancy. She could not tell much about her family history. There is apparently no evidence of latah, either in direct or collateral lines. Besides malarial fever and ordinary parasitic skin diseases—the usual afflictions of her race—she contracted syphilis some years ago. Menstruation is said to have commenced about the age of 10 years. It has now ceased. For some time—she could not say exactly how long—she has been latah. For the last two years she has complained of regurgitation of fluids from the mouth through the nose. She is a fairly well nourished woman with a natural expression. The chest is well developed, and the heart and lungs are normal. Pulse 80, weak. The knee-

jerks are exaggerated; there is no ankle-clonus. The pupils are normal in size, and act to light. In the roof of the mouth are two small round holes in the middle line, one in the soft palate, the other perforating the hard palate. The palate is not otherwise deformed. During a quiet conversation and during her physical examination the patient responded readily to what she was asked, but appeared to be nervous about answering. On being suddenly startled by a loud exclamation she had a slight nervous tremor, and was henceforth completely latah for the time being. She could now be induced by the verbal suggestion of anyone present, supplemented by appropriate gestures, to laugh or cry, sing, dance, or pray alternately, and advance or retreat at will. For example, I told her to strike the inspector of police, who was sitting near me, and for whom she had great respect, whereupon she responded "Strike, strike," and struck him heavily in the chest several times. No other suggestion being at once offered she seemed to recover her senses instantaneously as it were, and carried her hands to her head, looking round with a perplexed expression, evidently not having been responsible for her previous actions. This quick recovery with the disconcerted attitude occurred many times during the intervals of the suggestions. Towards the close of this pitiable exhibition, which lasted about half an hour, the patient was gradually robbed of her power of self-consciousness and command. She invariably repeated aloud the suggestions offered to her, and not only imitated grimaces, however absurd, but mimicked different qualities of voice, and repeated strange English words with remarkable accuracy. On being handed a box of matches and told to eat it, the operator at the same time pretending to masticate, she had no hesitation in commencing and declaring it delicious; but on the suggestion of another person that it was pork, she readily threw the box away with an expression of great disgust. Upon being told that a tiger was in the room she exhibited no alarm; but it being suggested that it was about to attack her she also appeared ready to attack, although frightened. At last she was evidently becoming exhausted, and asked for a glass of water. The pulse was now 100, and she was trembling. When she had half finished the water it was suddenly suggested to her that it contained poison, and that she had better throw it away. She at once dashed both glass and its contents on the floor. On recovering her natural state, and being questioned quietly as to her conduct, she could give no explanation; she was good-tempered throughout. It was very evident to all the Europeans present that the exhibition had not been premeditated with the idea of causing either diversion or pity.

CASE II.—A Pahang woman, aged about 40, living near Kuala Lipis, was first seen on April 4th, 1897. The patient is married, and her youngest child is 6 months old. She is an advanced case of latah and no history can be made out on account of her persistent repetition of each question asked. She is supposed to have been latah for the last fifteen years. She is a poorly nourished woman, and has a tired expression. The aspect is dejected, but her features are symmetrical. Her hair is turning grey. The heart and lungs are normal, the pulse weak, the knee-jerks are very brisk, and ankle-clonus can be readily produced. The eyes are normal, as is also her gait. She is garrulous, chattering to herself. On being startled, this patient acted just as the former case, but throughout she appeared to be frightened and anxious to retire. Repetition of the verbal suggestions was very noticeable. It being suggested, she nursed a felt hat as if it were her baby, even to the length of giving it the breast. On being assured, however, that it was only a hat she flung it down and assumed the perplexed attitude of the former patient. She showed concern at the suggestion and gestures of taking off her garments, but would have completely disrobed nevertheless, if allowed to do so. During the intervals of shock and suggestion she did not recover herself half so readily as in the case of the Kelantan woman. She was not so good humoured either during her fit. The easy elicitation of ankle-clonus in this case recalls to mind the term "spinal epilepsy" which is sometimes used under other circumstances.[1]

Like many other affections, latah has probably existed for a long time before being recognised as a disease. Among the few published accounts in English, one of the most important is by Dr. W. Gilmore Ellis,[2] in which he recognises latah as a special disease. It is also described in a recent textbook by Dr. B. Scheube.[3] Other descriptions principally take up the symptomatology of latah. Amongst them is a graphic account by the Resident-General of the Malay States.[4] As regards this disease, in view of the absence of detailed statistics, only a general consideration of the relation of age, sex, heredity, religion, geographical extension, and common facts can be gathered. In the majority of cases the symptoms seem to begin during middle life, and in women to be mostly pronounced at the menopause; at the same time, latah may appear earlier or later in life. It is more frequent in women than in men, but it certainly occurs also in the male sex.

There is no doubt that in this disease heredity has a great, though perhaps a not well-defined, influence. The transmission in an exaggerated form of a primordial Malay quality such as conservatism tainted by the influence of some old dormant superstition may be a factor in the etiology. The ancient superstitious faith of the Malays before their conversion to Mohammedanism still survives in their custom of ber-hantu. This witchcraft which has been described by Mr. Swettenham[4] is actually used by the native physicians in the treatment of sick persons. It bears an analogy to the religious and mystical element which pervaded the ecstatic disorders of the fifteenth, sixteenth, and seventeenth centuries, and which still prevails in the faith healing of to-day. Besides ber-hantu many exorcisms which the ear of devils cannot tolerate are commonly used by the natives of Malaya. The pure Mohammedan religion does not appear to have any influence in the causation of latah. It is the mixture of religion and superstition with the fearful belief in devils, familiars, and ghosts so common among the Malays which may have a constraining influence. The natural quality of imitativeness is well developed in the Malay mind. A morbid proclivity towards it must be an exciting cause of latah. The trick which latah persons have of verbally repeating the suggestions which they are about to carry out shows how deeply engraved this impression must be.

Hereditary antecedents such as syphilis, or any neurotic disease, do not seem to have any certain relation to the etiology. Consanguinity may have some influence, for intermarriages are very common among the Malays themselves. It is not unlikely that children become affected through family association, and it is said that tickling them to excess will predispose them to become latah. Proof by tracing the life history of individuals is wanting to justify a conclusion. The children of acclimatised Chinese settlers who have intermarried occasionally become latah in after-life—that is to say, they are not born latah. It is said that Eurasians also more rarely become affected. Social position and hygiene appear to have no influence in the causation of this disease. Latah, it is true, is usually met with among the poor inhabitants of obscure native villages, but in Singapore and in the larger towns many cases may be observed. Although the hygiene of the village is not good, nevertheless a Malay never forgets the privacy, delicacy, and retirement almost generally observed elsewhere in satisfying the calls of Nature. A regular habit of body, and cleanliness at a neighbouring stream are among the principal rules of his life.

It seems to differ from the "latak" mentioned in *Quain's Dictionary of Medicine*[5] and the "lata" or "délire à Java" noted by Bordier,[6] in not being distinctly epidemic. The varieties are, however, manifestly akin. The geographical extension of genuine latah may be said to be confined to the Malay Peninsula and the East Indian Archipelago. This limitation suggests the idea that a humid climate may have some influence in the causation; but the apparent identity which exists between latah and the miryachit of Siberia must be borne in mind. Besides its identity with the "tara" of Siberia, it seems, indeed, to share an affinity with the emotional diseases of most other countries; for example, with those of Griqualand, Norway, and Iceland, and with the "ramaninjana" of Madagascar, the "jumping disease" of North America, and the "shaking disease." In the Malay Confederated States cases are more evident in certain districts, such as Kedah, than in other parts, such as Perak. On the whole it is not rare.

It seems almost impossible to define clearly the period of onset of latah. In nature it is essentially chronic, so that, without tragic complications it may last for many years. When the typical symptoms of the fit are developed there is no difficulty in recognising the disease. Those who are affected always present the curious exhibition of creatures who are unnaturally susceptible to the influence of subjective suggestion. There are at least two remarkable characteristics —(1) the induction of an attack by means of a sudden surprise, a startling appeal, or a direct command, and (2) the sequel of an extraordinary servile imitation of that which may appear indicated. In women an involuntary use of indecorous language is often a primary symptom of their temporary loss of volition. The provocation, whether accidental or wilful, physical or by word of mouth, must be sudden. It appears to be the effect of shock which finally overbears the balance of an unstable nervous system.

It would be difficult to classify the varieties of latah; variation in degree must obviously occur. In different individuals there may be a variation in mental tone during the attack and a greater or less degree of incapacity following its decline. Often at the close of an exhibition the patient, as if overcome by excitement or tremulous ecstacy, falls into a swoon. On recovery he is quite well, and is able to follow his occupation like any ordinary person. It seems that, for the time being, an advanced case of latah might be completely in the hands of an unprincipled operator. Then, on the impulse of the moment, any unreasonable act might unconsciously, as it were, be performed. Examples in which latah has been shown to play any part in the production of a crime are however, I believe, happily unknown. Although it may be generally evident that the power of self-control is absent, yet that this depends upon a definite and recognised disease may be far more difficult to prove. The medico-legal aspect of latah might consequently be of great importance. From the more or less constant grouping of symptoms it is evidently a distinct disease. It ought, therefore, to depend upon the abnormal condition of one or more organs. There can be no doubt that the mind is affected, but it is difficult to say whether this is the sole cause of the disease. There is no reason to suppose that it, any more than the Malay amok, is a modern disease. An exact reproduction of the original form does not now probably exist. It would be therefore unreasonable to surmise that the enforced burden of a complex civilisation has caused its development. It does not seem to have been increased in any way by the influence of recent education of boys under Government direction. In fact it is less common among men than in Malay women, who, as a class, are still uneducated in a modern sense. The gradual removal of ignorant superstition by means of a lucid education may indeed prove to be the best prophylactic of the disease.

How far the influence of morbid impulse may go in causing both the state of latah and the blind passion of âmok merits special attention. In both cases—self-control being lost for the time being—the attention is mainly occupied by a single idea—in the latah woman, by an uncontrollable desire to imitate, in which the servile portion of human nature is unconsciously displayed; in the âmok man, by a reckless idea to persist in killing, in which the wild beast part of man comes uppermost.

Latah is necessarily paroxysmal in its manifestation. A gamut, if I may be allowed the expression, of such high-wrought feelings as surprise, amusement, vexation, indignation, rage, dismay, and furious frantic jealousy, which must have occurred in the case reported by Mr. Swettenham,[4] could not remain long in the same tone. This element of intermission is of significance. It may be inferred from it that no structural change affects the nervous system, especially as the general health remains unaffected. There is no indication of a progressive lesion; it is never fatal. Self-hypnotisation is clearly depicted in the clinical picture. In the words of Mr. Ernest Hart, as applied to hypnotism,[8] the latah person during her fit, is "but a marvellous and God-created machine abased and degraded by the abolition of intelligence and self-restraint." Anyone or anything can reduce her to this abnormal condition.

It would appear, then, to be an obscure psychical condition, having its pathogenic origin perchance with both hysteria and hypnotism in a neurosis which lowers nerve force and brings about an abnormal reflex discharge of it. Bearing in mind, however, that the bias of the eccentricity inclines in one direction only, it might with amôk be more practically viewed as a variety of monomania. At the same time, it is well to note that in the clinical cases there are no indications of degeneracy such as anatomical or physiological stigmata, unless the morbid emotional condition may be regarded as a physiological stigma.

The Malays themselves appear satisfied with the simple knowledge that a person is latah. They do not look upon it as being an illness in any way, but in general magnanimously refrain from influencing the sufferers to any extent. They are, however, ready to excuse even the most extravagant demonstration. Any proposal to treat the patient in an asylum would be good-humouredly rejected.

The cure of latah in the individual seems to be impossible until a precise knowledge of its pathology is obtained and verified, if possible, by means of *post-mortem* examination. Up till now this disease has not been affected by any remedy. The extraordinary mimetic tendency of monkeys might perhaps by experiment be developed into a condition identical with latah, and so afford knowledge which would lead to its cure. The aim of general treatment would appear to be to promote the *mens sana in corpore sano* by keeping both digestion and strength as perfect as possible, and at the same time, in order to make the patient's life happier, to shelter him as much as possible from the sportive suggestions of casual bystanders. Displays of this kind for the purpose of amusement cannot be too strongly deprecated, for one cannot but suppose the march of this peculiar disease to be influenced by the number of fits induced, and to be fostered by a lack of moral control.

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[1] Bristowe, *Theory and Practice of Medicine.* [2] *Journal of Mental Science,* 1896. [3] *Die Krankheiten der warmen Länder.* [4] F. A. Swettenham, *Malay Sketches.* [5] Ecstacy. [6] *La Géographie Médicale.* [7] Described in *Quain's Dictionary of Medicine.* [8] *Hypnotism, Mesmerism, and the New Witchcraft.*

EXCISION OF SCAPULA FOR SARCOMA IN THE INFRASPINATUS MUSCLE, OCCURRING IN A GIRL AGED 8 YEARS: RECOVERY WITH USEFUL LIMB.

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[With pathological note by L. R. Sutherland, M.B., C.M.Glasg., Senior Assistant to the Professor of Pathology in the University of Glasgow, and Pathologist to the Royal Hospital for Sick Children Glasgow.]

I publish the following as a contribution to the already not inconsiderable literature of similar cases.

A. M., aged 8 years and 9 months, consulted me at the Central Dispensary on December 9th, 1896, with complaint of swelling at the back of the left shoulder, painful in certain positions of the arm.

The mother stated that four days previously the child, while playing with her brothers and sisters, got a "pull" on the left shoulder. On the following day some pain was complained of when at drill in school, being elicited when the hands were placed behind her with rotation inwards of the upper limb. The swelling was first observed this morning (December 9th, 1896), when the girl was stripped for washing, and she was brought to the dispensary on this account.

Family History.

On the mother's side there have been thirteen deaths from consumption and other tuberculous affections. The father's side of the house is strong and healthy. Of present family two died young, one of "pleurisy" and the other of "tabes" (mesenterica). Some months ago the patient herself suffered from "inflammation of the lungs," followed by a cold from which she has but recently recovered.

CONDITION.

When seen on December 9th, 1896, the girl was pale and somewhat thin, but did not look as if unwell. On inspection an oval swelling, well marked, but somewhat diffuse and ill-defined at the margin was observed at the back of the left scapula in the lower half. This was fully the size of a duck's egg, and on palpation was found to be semifluctuant, and apparently lobulated. It was situated in the infraspinous fossa, but overlapped the axillary border of the bone, and while not definitely fixed to the underlying bone was not freely movable on it. On making passive movements the mass moved with the scapula. There was no tenderness on palpation, but she complained when the limb was rotated internally and the hand placed in the lumbar region, the discomfort being evidently caused by the infraspinatus being put on the stretch. A rapid examination of the lungs had a negative result, and the urine appeared normal, and was non-albuminous.

DIAGNOSIS AND TREATMENT.

The diagnosis rested between a tumour or an abscess under the aponeurosis over the infraspinatus muscle. The consistence, the lobulation, and the feeling as of a certain amount of connection with the bone pointed to a new growth. The tuberculous family history and the semifluctuant nature of the swelling pointed to the probability of one having to deal with a deep abscess. With a view to settle this she was put under chloroform at the dispensary on December 12th, 1896, by Dr. E. Arthur Gibson, when I punctured the swelling. This was followed by the escape of blood. A vertical incision over the middle of the mass showed it to be evidently a new formation of hard, grey, translucent material, situated under the fascia of the infraspinatus. The mass was scooped out as widely as possible with the finger, when it was found to be very brittle. This procedure was accompanied by some hæmorrhage. Between the cavity which remained and the bone there was a thin layer of muscle. The skin wound was closely stitched and dressings applied. The pieces of growth were submitted for pathological examination to Dr. L. R. Sutherland, and found by him to be sarcomatous (*vide infra*). It was determined, therefore, to remove the entire scapula, and this was done on December 27th, with the assistance of Drs. L. R. Sutherland and Wyllie Nicol. The original incision being too near the middle line of the scapula to be of service in exposing the bone, a vertical cut was made from the acromial end of the clavicle to the lower angle of the scapula, and, at right angles from the upper third of this, a second extending to the vertebral border near the root of spine. The flaps of skin and subcutaneous tissue thus marked out were turned up and down, and the bone, with muscles attached, exposed. The original exploratory incision had united by first intention, and there was a slightly depressed line of union in the deep parts marking the site of the former operation.

The muscles were then divided in the following order: Trapezius and deltoid, those at the vertebral border, those inserted into the humerus, and those connected with the coracoid process. The latissimus dorsi was pushed down clear of the inferior angle of the bone. The hæmorrhage, which was at no time serious, was controlled by pressure forceps applied to the vessels immediately they were cut. The incisions were closely sutured, a drainage tube being inserted at the lower end of the vertical one, and cyanide dressings applied. At the close of the operation she was in a condition of great shock, but in the evening she had rallied and felt very well.

The subsequent course of the case was uneventful, and beyond some ulceration, with gaping of edges of wound here and there which took a little time to heal, the progress was quite satisfactory. The cicatrix from the first operation gave way and healed by granulation.

For some time after she was troubled with a cough, apparently the result of exposure at the time of the operation, but this ultimately left her, and she now (June, 1897) has no signs of any chest trouble. She has good use of the limb, but abduction and flexion of shoulder are limited.

There have been occasional complaints of tenderness in the scar, but these are no longer made. There appeared, however, a bluish, slightly swollen condition of skin between the parallel vertical incisions. This was thought to be due to the fact that it was in this neighbourhood that gaping of the skin edges with ulceration had been most marked. At present time this has disappeared.

Her mother states that of late the girl has been a little nervous and self-conscious. Also about a month ago she complained of some weakness of the back on running upstairs. No signs of disease were made out in the spine, and she is in pretty fair condition now, there being complaints of her punishing a younger brother.

PATHOLOGICAL NOTE BY DR. L. R. SUTHERLAND.

The left scapula with attached muscles is submitted for examination. Occupying the substance of the infraspinatus muscle is a mass of tumour tissue measuring roughly 4 cm. from above downwards, 3 cm. from side to side, and 1 cm. from before backwards. Its relations are readily made out in the vertical sections shown. The well-demarcated upper limit of the mass is 1.5 cm. below the lower edge of the spine of the scapula, the less clearly defined lower limit is about 4 cm. above the angle of the bone. It is separated from the periosteum by a layer of muscular tissue varying in thickness from 0.5 to 1 cm. About its middle it is seen to be continuous with the deep surface of the aponeurosis covering the infraspinatus muscle. There is no extension beyond the aponeurosis. The tissue of the tumour is moderately soft, and has a uniform whitish appearance. There is no evidence of hæmorrhage into the tumour substance except centrally, where a dark, brownish area is visible. This probably has resulted from the first operation. Immediately in front of the main tumour and abutting on the periosteum is a small well-defined nodule 4 mm. in diameter. Its tissue resembles that of the larger mass.

MICROSCOPIC EXAMINATION.

The growth is highly cellular, the cells being mainly of the spindle type. The size of the spindle varies within wide limits. In addition there are also round cells which in some parts of the growth form collections of considerable size. The striking feature of the section, however, is the presence of numbers of protoplasmic masses of very varied size and form. The majority of these masses show prominent nuclei scattered, often in large numbers, throughout. Some of the masses contain single nuclei, while in other cases nuclei are absent. These masses occur most abundantly at the peripheral portions of the growth. They are seen with difficulty in the small detached nodule mentioned. Under a high power their protoplasm shows a faint longitudinal fibrillation, and in a few instances indications of slight transverse markings are obtained.

REMARKS.

The growth is a sarcoma, which has probably originated from the deep surface of the aponeurosis covering the infraspinatus muscle, and has been in process of extension to the periosteum and bone. Histologically it may, perhaps, be best included in the category of the mixed-celled sarcomata, although, as mentioned, the spindle form of cell predominates. The large, often multinucleated, protoplasmic masses, some of which so closely resemble the giant cells seen in the "myeloid" sarcomata arising in, or in direct connection with bone, are possibly to be regarded as altered muscular tissue. At the growing edge of the mass there are evidences of fragmentation, occasionally by transverse cleavage, of the muscular bundles, and the muscle nuclei are increased in number.

REMARKS BY DR. EDINGTON.

One might have had some misgivings as to operating in consideration of the history of chest affection, both remote and recent, but the facts, mentioned above, which introduced the possibility of the swelling being tuberculous, led me to the view that the lung condition was probably not related to the sarcomatous tumour.

After the first operation (exploratory) she had catarrhal symptoms in the chest, and these were worse after the second, but they seem to have arisen from her susceptibility to cold. The complaint of "weakness in the spine," which was made some four months after the operation, was suggestive of affection of the vertebræ, but on examination there was no pain complained of on pressure applied to the spinal column, directly or by percussion of the skull, and it was probably due to muscular weakness.

As regards the incisions, access was attained to the axillary border of the bone very easily, and if it had been necessary the axilla could have been cleared out without much trouble. (At the same time, the cicatrix in the length of the posterior axillary fold is liable to fretting by the clothes.)

The giving way of the apparently soundly healed cicatrix of the primary operation was unexpected, the more so as the limb was kept bandaged to the side for at least a fortnight after the secondary measures, and the tension must have been very slight. The bleeding was comparatively trifling, a fact probably due to early stage at which the operation was performed.

The result as regards subsequent usefulness of the limb is only what is to be expected from a consideration of the records of similar cases.

In conclusion I have to express my thanks to my friends Drs. Gibson, Sutherland, and Wyllie Nicol for their kindly help, and also to Mr. James Gilmour, to whom I am indebted for the execution of the accompanying illustration :

The specimen has been divided vertically about midway between the vertebral and axillary borders of the bone, and the cut surfaces are turned towards the observer. The naked eye appearances described in the pathological note are taken from this view.

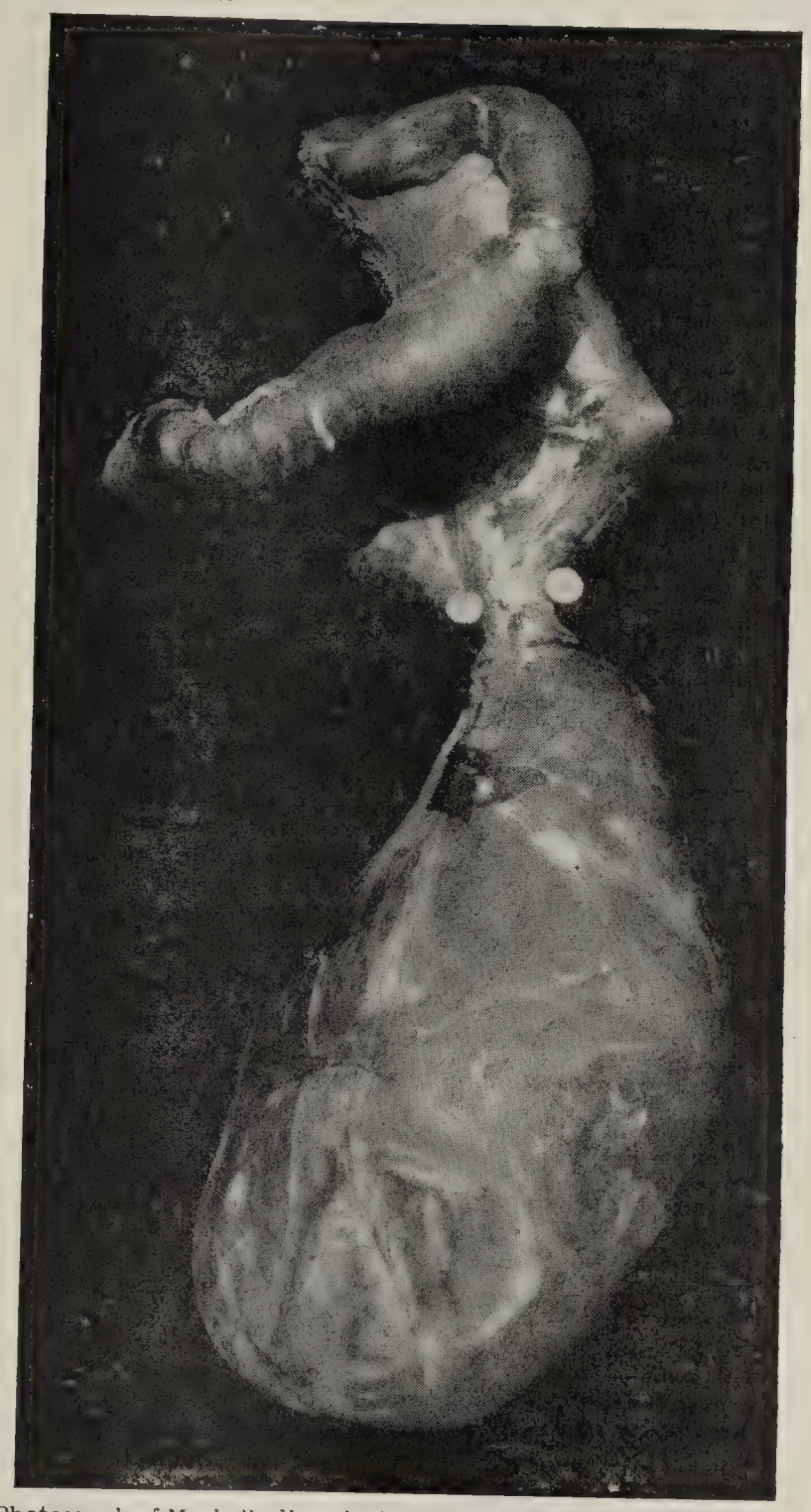
The patient and specimen were shown at the Glasgow Medico-Chirurgical Society's meeting on May 7th.

Dr. Lorans, Medical Inspector of Immigrants at Mauritius, has been deputed by the Government of Mauritius to visit Bombay and other parts of India to study the plague, with a view to devising the best means of preserving Mauritius against the introduction of plague, and to acquire a thorough knowledge of the sanitary measures and precautions taken by the Government of India.

ON MECKEL'S DIVERTICULUM.

By T. N. KELYNACK, M.D., M.R.C.P.,
Pathologist to the Manchester Royal Infirmary; Demonstrator and Assistant Lecturer in Pathology, Owens College.

Meckel's diverticulum forms the remnant of the omphalo-mesenteric duct. A few years since the Anatomical Society of Great Britain and Ireland published the results of a collective investigation as to the occurrence of this diverticulum ilei.[1] As a supplement to this research an analysis of the cases which have been met with recently in the pathological department of the Manchester Royal Infirmary may not be without interest.[2]



Photograph of Meckel's diverticulum after moderate distension with plaster-of-paris.

Number and Proportion of Cases.—Among 1,446 subjects examined, 18 examples of Meckel's diverticulum have been met with. This gives a proportion of 1 in 80, or not quite 1 per cent.

Sex.—This embryonic vestige seems to occur more frequently in the male.[3] In our cases the proportion was 11 males to 7 females.

Age.—This is merely of interest in so far as it shows that this fœtal remnant does not greatly predispose to serious

intestinal derangements. The average age of the 18 cases was 38 years, that of the males being 36 and that of the females 38 years. The eldest male was 60, the youngest 14; the oldest female 62, the youngest 13 years.

Cause of Death.—In no instance was the presence of the Meckel's diverticulum in any way connected with the cause of death. In one case at least it was so placed as to have readily allowed of the occurrence of an internal hernia.

Position.—The distance of the diverticulum above the ileo-cæcal valve averaged 34½ inches; the greatest was 50½, the smallest 15 inches.

Length.—The average length of our 18 specimens was nearly 2¼ inches; the longest 6½ inches, the shortest half an inch.

Size.—This varied considerably. The diameter in 12 averaged an inch and a half. A photograph of the largest specimen is reproduced on p. 459. It was discovered in a male subject, aged 42, dying from acute pneumonia. The diverticulum was connected with the ileum by a narrow mouth three-quarters of an inch wide, and then extending to a diameter of an inch, rapidly widened into a large pouch almost as big as the cæcum. It had a diameter of 3¼ inches, and a circumference of 10½ inches. It lay quite free in the abdomen. Possibly its large size may have been due to distension by the intestinal contents.

Connection with Intestine.—In all the cases the diverticulum freely communicated with the intestine. In only a few instances was the mouth distinctly smaller than the lumen of what might be called the body of the diverticulum. Occasionally the origin from the gut proved to be distinctly funnel-shaped. No valve was present in any case.

Relation to Mesentery.—The diverticulum always arose on the far side from the mesentery, although not always immediately opposite to it. In one instance it was adherent to an adjoining fold of mesentery. Generally the diverticulum came off at right angles to the gut, but in some subjects it was placed a little obliquely to the intestinal canal.

Contents.—In no instance did the diverticulum contain any foreign body. Often there was nothing but air, but in some a little fæcal matter was present.

Special Characters.—Two specimens had a cord-like structure coming off from their termination. In one the cord was fixed to the abdominal wall, forming a loop. One had a bifid extremity. Several had bulbous or club-shaped terminations, with secondary lateral dilatations. Many were mere nipple-shaped projections.

In no instance was the lumen of the diverticulum continued to the umbilicus or abdominal wall.

I am indebted to my brother, Mr. W. S. Kelynack, for the preparation of the accompanying photograph.

REFERENCES.

1 *Journal of Anatomy and Physiology*, 1892, vol. xxvi, pp. 91-93. 2 Some of the cases met with I have already described elsewhere; see *Transactions of the Pathological Society of Manchester*, 1892, vol. i, p. 140; *Journal of Anatomy and Physiology*, 1892; Manchester *Medical Chronicle*, 1896 vol. v, No. 5, pp. 338-43. Many of the specimens I have added to the Pathological Museum of Owens College. 3 It must be remembered that in the pathological department of the Manchester Royal Infirmary, as in most general hospitals, considerably more male subjects are examined than female.

REMARKS ON COLITIS IN THE ADULT.

BY ARTHUR JAMES CAMPBELL, B.A., M.D.,
Uley, Gloucestershire.

COLITIS is, I think, more frequently met with in the south-west than elsewhere in our island, and probably yet more frequently in tropical countries, where it merges into dysentery and is treated as such. It is generally developed in delicate persons, more particularly women; pregnant women are particularly liable to be attacked, while young girls may not only have this complaint, but sometimes on account of it develop a wretched carriage owing to "pot belly" and bowed back. Occasionally a patient may attribute the illness to some indiscretion in diet, but the majority fail to give any satisfactory cause. I believe the catarrhal condition is engendered by repeated slight irritations, possibly increased by a "chill" rather than by an error of diet.

The colon alone is the usual seat of disease, although the smaller intestine may be invaded in the later stages. The descending colon is the part most often attacked, and in those severe cases in which death occurs, the mucous membrane of the gut is swollen with more or less ulceration, and the colour resembles prune juice, or even dark chocolate, the presence or absence of bismuth not appreciably affecting the hue. The severe catarrhal condition is very intractable and prone to become chronic. It may last from months to years. One severe case under my care is now entering on her tenth year of suffering.

The ailment commences so quietly and insidiously, that it is established before much notice of it is taken by the patient. Pain in the bowels on rising, or shortly before rising, in the morning causes the sufferer to make a hurried toilet and hasten to obtain relief. The evacuation is more or less liquid, and may be repeated twice, or thrice, or oftener during the morning. About noon there is a respite, usually until next morning, unless the consumption of vegetables or fruit acts as a stimulus to the irritable bowel and prolongs the daily attack. The appearance of the motion varies from a brown pultaceous mass containing air bubbles and having a horrible odour to a pale liquid of jelly-like consistency, which may be streaked with blood. The usual stool is of a light yellow colour, offensive, and either watery, or in a thin, partially-shaped mass. At times, but especially in elderly people, there is an occasional period of comparative constipation, when several evacuations of small scybala with a little slime constitute the motion. Much exhaustion follows each stool, the appetite is capricious, "sinkings" and "longings" are commonly complained of, pain is at the worst moderate, but the distension which occurs during the stages of comparative constipation causes much distress. As the severity of a case increases, ten, twenty, or more motions may be passed daily, the quantity of each being sometimes very small, but the straining, tenesmus, and exhaustion are out of all proportion to the amount evacuated. Occasionally attacks with very watery blood-stained motions, accompanied by severe prostration and pain, may occur, or even hæmaturia may complicate the case, but this is exceptional.

The disease may be located by percussion and palpation. At certain times a sharply-defined tympanitic patch over some portion of the colon may enable the physician to judge whether local treatment is practicable, and to learn the extent of bowel affected, but there are periods when, owing possibly to the presence of fæces, the determination of the seat of disease by percussion is impracticable. Even then the increased rigidity of the abdominal muscles over the affected area may give a clue to the situation of the diseased intestine.

Temperature is, as a rule, normal or subnormal, the pulse usually quickened. Emaciation and pallor more or less quickly become noticeable. I have not found any other organ become affected; the tongue has a faint whitish coating, or is raw. Dr. George Thin has described a variety of this disease, in which sore mouth and enlarged liver are found. In none of my cases save one have these distinguishing features been present, and, I may add, I have not observed hæmorrhoids in any case.

Where "cure" has been effected, I have invariably found that with cessation of diarrhœa more or less severe attacks of colic have supervened, with some indigestion, but with suitable treatment they have passed away in the course of months.

TREATMENT.

For severe cases, milk diet and rest in bed; for the milder cases, abstention from fruits and vegetables, a considerable amount of milk daily, and the less exercise the better. Even mild excitement, such as going to church, ought to be avoided; Sunday morning I invariably find to be the worst in the week with these patients.

With regard to drugs, purgation seems unreasonable, and is certainly very unsatisfactory; even those cases in which one is led to suspect an accummulation of fæces high up do not gain much benefit from purgation, and the fact of retention ought to give rise to a serious suspicion that cancer or some narrowing of the gut exists, even if there be little pain and no sign of such a complication. The smallest purge has had bad effects in all the cases I have seen which were uncomplicated. Even a single slice of apple or a small quantity of any raw fruit generally causes most distressing diarrhœa, which is frequently prolonged.

Year.	No.	Initials.	Age.	Sex.	Cases: Duration.	Treatment.	Complications.	Result.
1879	1	A. M.	18	F.	Several years	Purgation (useless), later H_2SO_4	None	Recovery.
1887	2	X.	50	M.	3 months	Arg. nit. sol.	,,	,,
1890	3	N.	44	F.	3 years	H_2SO_4, arg. nit. inj.	,,	,,
,,	4	E. M.	16	F.	Some months	H_2SO_4	,,	Relieved, lost sight of.
,,	5	P.	56	F.	Over 9 years	Various	Sore tongue occasionally, liver possibly enlarged	Chronic, little relief obtained.
1892	6	N. N.	18	F.	Some months	H_2SO_4, arg. nit.	,,	Gradual relief, now fairly well.
1894	7	S.	18	F.	2 years	Various	Inordinate and unhealthy appetite indulged	Gradual recovery.
1895		S.	40	F.	Some months	H_2SO_4 occasionally	None	,,
,,	9	J. E.	50 ?	M.	Several years	Various	,,	Death.
,,	10	S. S.	47	M.	,,	Untreated, inquest, etc.	Scoliosis, displaced kidney	,,
1896 and 1897	11	J. P.	55	M.	2 years	Various	Cancer of sigmoid; perforation	,,
,,	12	Lady ——	—	F.	2 months	H_2SO_4, milk diet, rest	None	Recovery.
,,	13	M. E.	21	F.	Several months	H_2SO_4 occasionally	,,	Relief.
,,	14	E. G.	47	F.	8 months	Various	Hysteria	Recovery.
,,	15	F. P.	32	F.	6 months	H_2SO_4, milk	Pregnancy	Almost well, under treatment.
,,	16	A. P.	30	F.	5 months	,,	,,	Recovery.
,,	17	D. D.	19	F.	10 months	,,	——	Recovery, colic supervening.
,,	18	P. P.	25	M.	1 year	,,	——	Improving.
,,	19	M. A. P.	55	F.	Several years	,,	——	,,

The drug I most rely on is dilute sulphuric acid; 10 minims three or four times a day, with a very little opium and a carminative, generally controls the diarrhœa quickly. When this good effect is produced the drug ought to be continued as required, a loose morning motion being followed by a dose, and should diarrhœa again come on, the mixture should be regularly taken, but never should the first dose be taken before the first motion; the distension then caused is most distressing. If sulphuric acid fails, large doses of catechu, or bismuth and salol, may be tried, and these failing, 10 grains of sodium bicarbonate, with dill water, act as a sedative if nothing else.

In certain cases, in which the descending colon is attacked, the passage of a long tube and injection of a strong solution of nitrate of silver (℥ss-℥i to 1 pint distilled water warmed), is an admirable remedy; it should be administered with caution, but frequently results in absolute and, I might say, immediate cure, the after-colic being but a minor evil easily combatted.

Opium is merely of service during the early stages, or after diarrhœa has been checked. In some cases strychnine acts as a good tonic but the early administration requires caution.

SUCCESSFUL CŒLIOTOMIES FOR AN INTRA-PERITONEAL RUPTURE OF A TUBAL GESTATION AND TWO OTHER UNCOMMON PELVIC TUMOURS.

By J. LYNN THOMAS, F.R.C.S.,
Assistant-Surgeon to the Cardiff Infirmary, and Consulting Surgeon to the Cardiff Provident Dispensary.

The following cases are worthy of record on account of their individual points of interest; the first one I photographed four hours after removal. It shows the full extent of the loss of tissue over the placenta in the inner third of the Fallopian tube; I skiagraphed the same, and that shows two separate spots, as if ossific centres were already formed. The second case is an undoubted true fibroma of the ovary, and from the investigations of Sir John Williams and Mr. Bland Sutton it is evidently a very rare specimen; its macroscopic appearance is well shown in the photograph. The third case is also an example of a rare condition—the impaction of a parovarian cyst in Douglas's pouch under the reflections of the recto-vesical fascia.

Case I: Ruptured Tubal Gestation.

Mrs. H., aged 27, had been married only eleven weeks, and was fourteen days behind her period, when she was taken suddenly ill with severe abdominal pain as soon as she finished breakfast on May 25th, at 10 A.M. When my friend Dr Biggs saw her a few hours later he found her in a state of extreme collapse, with a cold, clammy surface, and obtained a history from her sister that years ago the patient had had gastric ulcer and hæmatemesis. By means of opium, rectal feeding, transfusion, and stimulants the patient was kept hovering between life and death until May 28th, when I saw her, and at that time we advised immediate operation, as she had rallied and became sensible during the last two or three hours, and hæmorrhage had also appeared from the vagina. The anterior vaginal wall was full, resisting, and depressed, more especially on the right side. She now complained of "killing, stabbing pain" on that side, was blanched, had a temperature of 102° F. Until this day the prominent symptoms were vomiting and nausea, abdominal pain, and collapse, with a running and at times imperceptible pulse. The abdomen was distended, and had signs of fluid in its peritoneal cavity; the thighs were slightly flexed. We now agreed that it was a right tubal gestation ruptured into the abdominal cavity, and gave an injection of morphine whilst the instruments were being got ready.

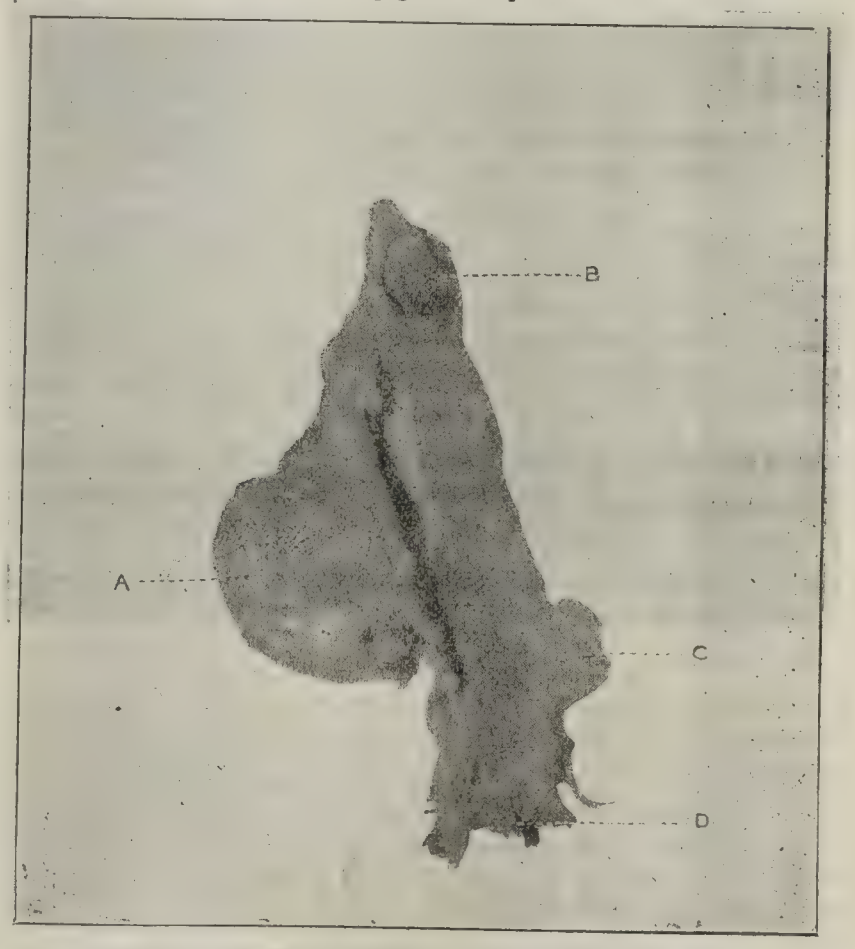


Fig. 1.—A, ovary; B, placenta; C, ampulla; D, fimbriæ.

Seventy-four hours after the first symptom Dr. Morland

administered ether, and as soon as I got my hand into the abdomen, which was full of blood, I clamped the right broad ligament with a long-curved forceps. The cavity was then rapidly cleared of many handfuls of clots and several tumblerfuls of fluid blood, when the uterus became visible with the forceps attached close to the ruptured tube. When the forceps was relaxed, blood poured out of the ruptured tube. The tube and ovary were removed close to the uterine cornu, and Fig. 1 (from a photograph) shows the exact size and condition of the parts. The rupture is on the anterior and upper surfaces of the Fallopian tube within ¼ inch of the uterus, and the placenta is attached to its inferior and also slightly to its lateral walls. The lumen of the tube on the uterine side does not admit a horsehair, whilst a thick probe is easily passed up to the placenta from the fimbriated extremity.

It is hardly necessary to state that the operation had to be done on the bed, as a removal of the patient would probably have been fatal. For the first forty-eight hours after the operation it required the constant care and skill of Dr. Biggs to combat the various and varying symptoms, and I am quite convinced that but for the timely administration of champagne, of opium, and for the resort to transfusion after the operation, the result would have been different. On the fifth day the patient had fish, and afterwards rapidly got well.

The left tube was normal, and the left ovary contained a large corpus luteum. Sister Yates stated in her note before the operation that on two occasions she thought the patient was dead.

Case II: Large Ovarian Fibroma: Elephantiasis of the Abdomen.

Fibromata of the ovary are extremely rare according to Tait, Greig Smith, John Williams, Bland Sutton, and others, whilst the series recorded by Mr. H. Briggs[1] are not altogether of the pure type, and consequently are not quite so common as the title of his valuable paper would lead one to conjecture. A woman, aged 42, was sent to me by my friend Dr. Powell (Newcastle Emlyn), who had been compelled to tap her five times to relieve dyspnœa, as she would not submit to abdominal section. The result was that when I saw her in June, 1895, her abdominal wall was of enormous thickness, the skin being coarse, tuberculated, and covered with a

Fig. 2.—Ovarian fibroma. The gap in right half is the place from which microscopic section was made.

foul secretion, looking like an advanced case of elephantiasis. There was a large solid tumour in the right lower half of the abdomen, and a cyst extending up to the ensiform cartilage. The patient's suffering had been agonising for some months before operation. The abdominal wall cut was like the subcutaneous tissue of elephantiasis, and no trace of muscle was seen. The cystic tumour was attached in all directions to intestines, abdominal wall, and bladder, whilst the fibroma itself was comparatively free from adhesions. Recovery was retarded by carboluria and albuminuria. Eighteen months after operation the abdominal wall was quite smooth, there was no tendency to hernia, and the scar was 14 inches long.

The macroscopic appearance of the fibroma is well shown in the photograph reproduced in Fig. 2. It is resting on the collapsed wall of the papillomatous cyst to which is is attached. It cut like a dense fibroma, and looked typical of one. The report of the Clinical Research Association is: "The tumour is a dense fibroma composed of wavy fibres arranged in interlacing bundles." The section was taken from near the periphery of the tumour (shown in the figure on the right hand). It weighed 5½ lbs.

Case III: Parovarian Cyst Impacted in Douglas's Pouch.

The causes of impaction of cysts in the pelvis are commonly the following: Adhesions, malformation of the pelvis, gravid uterus, and rotations; but in the following case I believe it was due to confinement under the reflections of the recto-vesical fascia and peritoneum.

Miss —, aged 20, had been treated with pessaries for nearly four years for prolapsus uteri. There was a history of difficulty in micturition for six years. Menstruation occurred first at 16, and had been irregular ever since every three or four weeks. There was in Douglas's pouch a firm cystic swelling which moved with the uterus. The uterine cavity was 3 inches long.

On September 8th, 1896, I opened the abdomen in Trendelenburg's position, and found a tumour behind the uterus, the fundus of which was higher than the cyst; I failed to release it until one of my colleagues introduced two fingers into the rectum, when after three or four strong pushes the cyst suddenly darted out into the wound and was easily removed. The cyst was the size of a lady's fist; was parovarian in origin, and had no adhesions; it had two atrophic patches the size of a threepenny bit on two opposing surfaces, probably due to pressure against the lateral walls of the pelvis. It is rather strange that she had had no trouble in defæcation. The fundus uteri was thickened. It is probable from the history that this parovarian cyst commenced at an unusually early age, for Mr. Bland Sutton in his *Surgical Diseases of the Ovaries* states that he has not found one recorded under the age of 16.

Reference.
1 British Medical Journal, May 1st, 1897.

REMARKS ON THE TREATMENT OF CUT THROAT,

WITH NOTES OF A CASE TREATED BY IMMEDIATE SUTURE IN LAYERS.

By R. G. HOGARTH, F.R.C.S.Eng.,
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Senior Resident Medical Officer, General Hospital, Nottingham.

Out of seven cases I have had to treat, the following is the only one of which I have full notes. Of the others, in one the wound was situated above the hyoid bone, three were through the thyro-hyoid membrane, one through the cricothyroid membrane, and one through the trachea. Unfortunately the immediate suture treatment was not adopted in all the cases.

J. R., aged 48, was admitted to the General Hospital, Nottingham, on February 12th, 1896, at 10 A.M. The skin was cold and clammy, the pulse rapid and feeble. He was covered with blood and vomit. There was one extensive wound in the neck, deeper on the left side than on the right, opening the larynx and pharynx by dividing the thyro-hyoid membrane. The epiglottis was completely divided at its base, and the middle constrictor of the pharynx was cut on each side. The thyroid cartilages were uninjured. The sterno-mastoid muscles were notched, but the large vessels had escaped injury. The wound gaped a great deal, and through it bubbled with expiration a mixture of saliva, vomit, and blood; by the look of the tissues the wound had been made some hours, and there was only a little oozing of blood, the primary hæmorrhage from the division of the superior thyroid or lingual vessels having stopped. The larynx and pharynx were well sponged out, and made as clean as possible, all hæmorrhage carefully stopped, and the severed tissues of the larynx brought together and fixed in position with chromic catgut. The epiglottis was done first, and came well and easily into position. The air passage was apparently rendered quite tight. The whole wound was then well washed out with biniodide of mercury solution, 1-500 first, then 1-2000, and the cut tissues united layer by layer with chromic catgut, except the skin, which was brought together with horsehair. A small drainage tube was inserted on each side at the ends of the wound, and an antiseptic dressing applied.

At 6 P.M. the temperature was 101°, the pulse 90 and of good volume. He was fairly comfortable. Now and then breathing was noisy. He had morphine ⅛ gr. early in the day He coughed very little, but when he tried

to feed by the mouth much severe coughing was produced. He was ordered a nutrient enema every four hours.

On February 13th the wound was dressed and looking very well. His general condition not so good; the pulse was irregular and small; the breathing was good, but there was slight stridor. There were no signs of pneumonia. Hypodermic injection of strychnine was ordered, mv of a 1 per cent. solution every six hours. He was fed by nasal tube night and morning (milk Oj, brandy ℥j, egg 1). The rectal feeding was continued every six hours.

On February 14th he was restless, excited, and complained of headache. The temperature 104°; the pulse 104 and stronger. He was given morphine gr. ¼ hypodermically.

On February 15th the wound was dressed; it was looking very well. The tubes were removed. The pulse was 90, and the general condition much better. The strychnine and rectal feeding were stopped. He swallowed custard and did not cough, and could talk in a whisper.

On February 19th feeding with the tube was stopped; the patient going on well.

On March 11th he was discharged cured from the hospital, the wound having healed by first intention.

I have to thank Mr. Anderson, under whose care the patient was in the hospital, for permission to publish this case.

From a consideration of the matter I think that every case of cut throat should be treated by immediate suture unless the patient is in a dying condition from shock and loss of blood. In such a case it should be done as soon as the patient recovers sufficiently to stand it.

It is very rarely necessary to give chloroform. I have always been struck by the condition of the patient in cases of cut throat. There is great depression of the nervous system, and the patient will allow the wound to be cleaned and sutured without appearing to feel in any way, although perfectly conscious of everything going on around him.

In consequence it is hardly ever necessary to administer chloroform, which must, taking the condition of the patient into consideration, add greatly to the risk. The wound must be very thoroughly cleaned after the air passage has been securely closed; it can be washed out with some strong antiseptic: hydrag. biniodide, 1 in 500, or carbolic acid 1 in 20.

The suturing should be done carefully layer by layer from the bottom, the air passage completely and tightly closed, and muscles and the fascia taken in order up to the skin. For the buried sutures chromic catgut or silk is best. The skin wound is everted and brought into apposition with horsehair or silkworm gut, and if the wound is deep and extensive a small drainage tube can be put in at each end.

If the cleansing of the wound has been done thoroughly, in most cases the wound will heal by first intention, the period of recovery will be much shortened, and the patient will not run the many secondary risks that occur after the old treatment.

With regard to the use of a tracheotomy tube, it is never, I think, necessary to put in a tracheotomy tube at the time of suturing the wound; should the patient subsequently get œdema and severe dyspnœa, the larynx or trachea should be opened below the wound, and a tracheotomy tube inserted. This will very rarely be necessary, but in any case it must be better to do it when it becomes a necessity, rather than to leave a tube in the wound itself, or to make a fresh opening below at the time of suture. The head should be inclined slightly forward, and fixed in some way to prevent movement, and much depends on good nursing.

In the majority of cases feeding by the mouth is easily accomplished, but in cases in which the epiglottis, pharynx, or œsophagus are involved, it is best to rely for a time on rectal feeding or the nasal tube.

CASE OF ACUTE PULMONARY GANGRENE.

By T. ARMSTRONG BOWES, M.D.Cantab.
Herne Bay.

A SAILOR, aged 52, was taken ill at sea, and when removed on shore was delirious for about seven days. The nature of the illness could not be ascertained. There was no history of dysentery or liver disease, but he had "something wrong" with his left lung some years ago when abroad.

When first seen on December 23rd, 1896, immediately after the delirium, he was a sallow-complexioned man, perfectly rational, and quiet by day and night. He complained of slight pain in the left side of the chest, but no abnormal condition could be discovered on this side. On the right side, however, just above the liver dulness in the nipple line, was a small area of impaired resonance, with a few *râles*, but no bronchial breathing. The heart and remainder of the right lung were natural. Over the sacrum, for the size of half a crown, the skin was abraded.

On December 25th the sputum became a little rusty, and expiration harsh over the area above mentioned.

On December 27th the temperature rose to 100.4°, the area of impairment was slightly increased, the sputum became darker in colour with a grey tinge, and began to smell. From this date to December 31st the temperature remained about 103° F., and rose on the evening of this day to 104.8° F. He was very ill, the sputum copious, very foul, and of a blackish-green colour, containing on microscopical examination pus and elastic tissue. The impairment increased rapidly, reaching to the second rib, and in the second and third interspaces bronchial breathing and coarse *râles* were present.

During the next four days his condition slightly improved, the sputum being less foul, the temperature varying between 101° and 102° F., and from this date onwards to January 29th it never reached normal, being usually about 101°, with extremes of 99° and 102.5°.

On January 10th the discoloration of the sputum was less; three days later it was slightly increased, but it finally disappeared on January 20th, the sputum after this being muco-purulent.

While slowly gaining ground, the signs of consolidation steadily progressed, till on February 7th impairment and bronchial breathing reached from the clavicle to the liver dulness. In the upper three interspaces a tympanitic note and amphoric breathing were present for a few days, but there was no bell sound. The sputum was fairly copious, and muco-purulent, and he periodically coughed up a quantity of it (about 1 ounce) which he felt collect about the second interspace. Great improvement in general condition had occurred during the last week.

On February 14th he complained of a cutting pain running up the junction of the ribs with their cartilages on the right side on drawing a deep inspiration. The condition of his chest was then as follows: On quiet respiration the left chest moved more than the right, and on the latter side expansion was shallow and deficient, the lower intercostal spaces being drawn in on inspiration. Vocal vibrations were increased from the apex to the nipple. There was impairment to percussion from the apex to the third rib from the sternum to the anterior fold of the axilla, and to a less extent below, merging into the liver dulness. The highest pitch of the note was in the third interspace near the sternum. The left lung was resonant everywhere.

On auscultation bronchial breathing and ægophony were heard in the second and third interspaces over an area 3 inches in diameter, the inner edges commencing 2 inches from the right edge of the sternum. Coarse *râles* were general on expiration and inspiration. Behind there was general impairment, with *râles* over the whole of the right lung, with bronchial breathing over the lower half of the scapula. The sputum was less in quantity, muco-purulent, and did not contain tubercle bacilli.

By March 25th the sputum had gradually ceased, and the abnormal signs in the right lung had entirely cleared up, except for harsh inspiration in the region of the right nipple. From this date the patient made an uninterrupted recovery.

DISAPPEARANCE OF A CARDIAC MURMUR.

By C. J. WHITBY, M.D.,
Limpley Stoke.

Mr. W. P., aged 59, came under my care in a hydropathic establishment on March 9th, 1897. He had been subject to persistent colds, usually following an attack of influenza. He complained of pain in the anterior mediastinum, with a feeling of constriction, "as by an iron band," across the chest. He has been an abstainer from alcohol for years, and had never smoked. Seven years ago he had what appears to have been an abortive attack of enterica, and twenty-nine years ago had nephritis after a chill. The pulse was 65, and its tension markedly high. There was no evidence of cardiac hypertrophy, but the second sound, as heard at the apex of the heart, was

accentuated, while in the aortic area there was heard a distinct, blowing, diastolic *bruit*, audible along the sternum, but not at the apex. The urine was normal but for the deposition of a few crystals of uric acid. There was occasional palpitation on exertion, and from this, and the sense of constriction, etc., the patient had suspected the existence of heart disease, although he did not mention this at first.

Considering the chest symptoms of pain and discomfort to be due, in part at least, to the high arterial tension, and its embarrassing effects upon the heart's action, and knowing by experience that such a condition (even when associated with valvular lesions) can be safely and easily relieved by the peripheral vascular dilatation and slight diaphoresis effected by brief exposure to temperatures of 120° F. to 135° F., I prescribed a mild Turkish bath, to be given with due precautions, and followed, of course, by tepid sponging only. This the patient took without the least discomfort, and with apparent benefit, but, unfortunately, was foolish enough to go a short journey in the afternoon, exposing himself to a biting wind, and getting caught in several smart showers. On his return he omitted to change his clothes, which were damp.

Next morning (March 10th) he got up as usual, but felt very ill, and finding his temperature 101° F. I sent him back to bed. Pyrexia (modified by cold packing, cold wet truncal bandages and cold sponging) continued for five days and nights, the maximum temperature being 103° F. There was expectoration, at first of dark blood, then of bloody tenacious mucus (found free from tubercle bacilli), which cleared up with the termination of the fever. There was also intense restlessness (relieved greatly by the cold packs), insomnia, slight delirium, and pain in the splenic region. The urine, at first clear and high-coloured, deposited an abundance of uric acid crystals towards the end of the attack. The diagnosis was influenza. Careful auscultation and percussion revealed no abnormal breath sounds or impaired resonance at any time.

On the second day of this attack on examining the heart I was surprised to find that the aortic *bruit* had entirely disappeared, the pulse now being compressible and remaining so henceforth. On March 31st, when he left the establishment, it had not returned. It is noteworthy that as his appetite returned and he began to eat freely, and to get about the house, the mediastinal pain and constriction returned, though in slighter degree, and would wake him up and keep him awake for an hour or two every night. The exciting cause at this time was probably dyspepsia, and the trouble was relieved by a nocturnal hot wet compress to the epigastrium.

I should be glad to learn whether any of the readers of the BRITISH MEDICAL JOURNAL have observed cases in which what one must consider that functional valvular failures have been relieved by pyrexia or the recumbent position. *Apropos* of the symptoms of aortic regurgitation, Hilton Fagge says that "all the signs just mentioned denote incompetency of the aortic valves; it does not follow, however, that they are diseased, as their want of closure may arise from dilatation of the ascending aorta or disease of its coats. For example, a yielding of the sinuses of Valsalva just above the aortic valves has been proved to interfere with their perfect action." The absence of stenosis (a usual concomitant of aortic regurgitation in organic valvular disease) in this case favours the hypothesis of a temporary dilatation of the aorta.

A CASE OF HYSTERO-EPILEPSY SIMULATING "STATUS EPILEPTICUS."

BY H. HYSLOP THOMSON, M.B., C.M.,
Wallsend-on-Tyne.

THE following case is of exceptional interest, as it fully illustrates the hysterical condition mentioned by French writers, and known as hystero-epilepsy or hysteria major.

The patient was a young married woman belonging to a highly neurotic family, and having prior to her present illness a definite history of epileptiform seizures. The exciting cause of the present attack was anxiety and sleeplessness, occasioned by the prolonged nursing of a child suffering from broncho-pneumonia. For a few days prior to the onset of convulsions many of the prodromal symptoms characteristic of this severe form of hysteria were present. The most striking of these were persistent globus hystericus, palpitation of the heart, gastralgia, marked ovarian hyperæsthesia, and severe headache with exquisite tenderness to cranial percussion. Her pulse was rapid and of very low tension, her breathing hurried and sighing, and frequently she gave way to violent paroxysms of weeping. The pupils showed continued dilatation. The tongue on protrusion was very tremulous, and the hands betrayed muscular twitching. Menstruation was suppressed owing to lactation, and the bowels were obstinately confined; her urine, however, was normal in character and quantity. The convulsions which followed, though at first slight and occurring at considerable intervals, increased so rapidly in frequency and intensity as to bear a strong similarity to the severe form of epilepsy the "status epilepticus." Each attack was ushered in with full dilatation and fixation of the pupil, succeeded by conjugate deviation of the head and eyes to the right. No cry, however, was emitted, and on subsequent questioning the patient stated that she was not conscious of any definite aura.

Three stages now followed (1) the tonic stage, (2) the clonic stage, and (3) the stage of emotional excitement. The tonic stage was short but intense, and the convulsions varied in character with each attack. At one time the patient became rigid as she lay; at another, suddenly and with great violence, she would shoot out her closed hands and rigidly assume the crucifixion attitude; or, again, the tonic stage would start with trismus, rigidity of the muscles of the neck, and marked flexion of the forearms. The pulse during this stage increased in tension.

The clonic convulsions which followed were characteristic of an hysterical element; they were most violent and varied in character, yet without exception they showed to a greater or less degree a supervision of volition. At times the head would roll from side to side, followed by rapid flexion and extension of both extremities, or violent lateral and antero-posterior movements of the trunk. Again the patient would suddenly sit up in bed and endeavour to seize with her teeth, or otherwise injure attendants present, failing which she would bend herself forwards in a posture suggestive of emprosthotonos, or throw herself back with no inconsiderable violence. During these attacks there was little or no frothing at the mouth, and her face, though pale, was never livid.

Invariably the clonic stage ended with the patient resting on her heels and vertex in the posture of opisthotonos, during which there was great muscular rigidity, with fixation of the chest and laboured breathing. The patient, now thoroughly exhausted, would lie quiet for a brief period, but gradually she passed into the stage of high emotion, in which she would weep bitterly, or point with a look of rapture and expectancy to imaginary forms, and give utterance to the names of friends long since dead. Thus her emotions would sway until she gradually quieted down or passed into another convulsion.

Regarding treatment I first enjoined rest and quietness with the absence of all reference as to the ultimate issue of her child's illness, and along with that useless sympathy. I recommended a light non-stimulating diet, saline laxatives, and put her on hypnotic doses of chloral and potassium bromide, but with little or no effect. On the third day of her illness, owing to the severity and frequency of the convulsions, I determined to administer chloroform. On proceeding to do so, I found that the induction of the first stage of chloroform narcosis was all that was necessary. With the abolition of volition the convulsions ceased, and her pupils, which were previously widely dilated, quickly contracted; her breathing became quiet and natural, previously it was hurried and gasping; her pulse slowed. At no time were the reflexes abolished. Twice she vomited. I thus kept her under the influence of the anæsthetic for the space of an hour, and after she had regained consciousness I inserted gr. ½ morphine suppository in the rectum and left her.

On the following morning I learned that she had passed a good night, with no recurrence. I consequently again prescribed chloral and potassium bromide, with the result that, excepting two slight attacks, she made an excellent recovery

DESCRIPTION OF CONDITIONS FOUND IN THE HEAD AND NECK TWO YEARS AND A-QUARTER AFTER LIGATURE OF ALL THE CAROTID ARTERIES, JUGULAR VEINS, ETC., OF THE LEFT SIDE.

By W. THELWALL THOMAS, F.R.C.S.,
Honorary Assistant Surgeon Royal Infirmary, Liverpool.

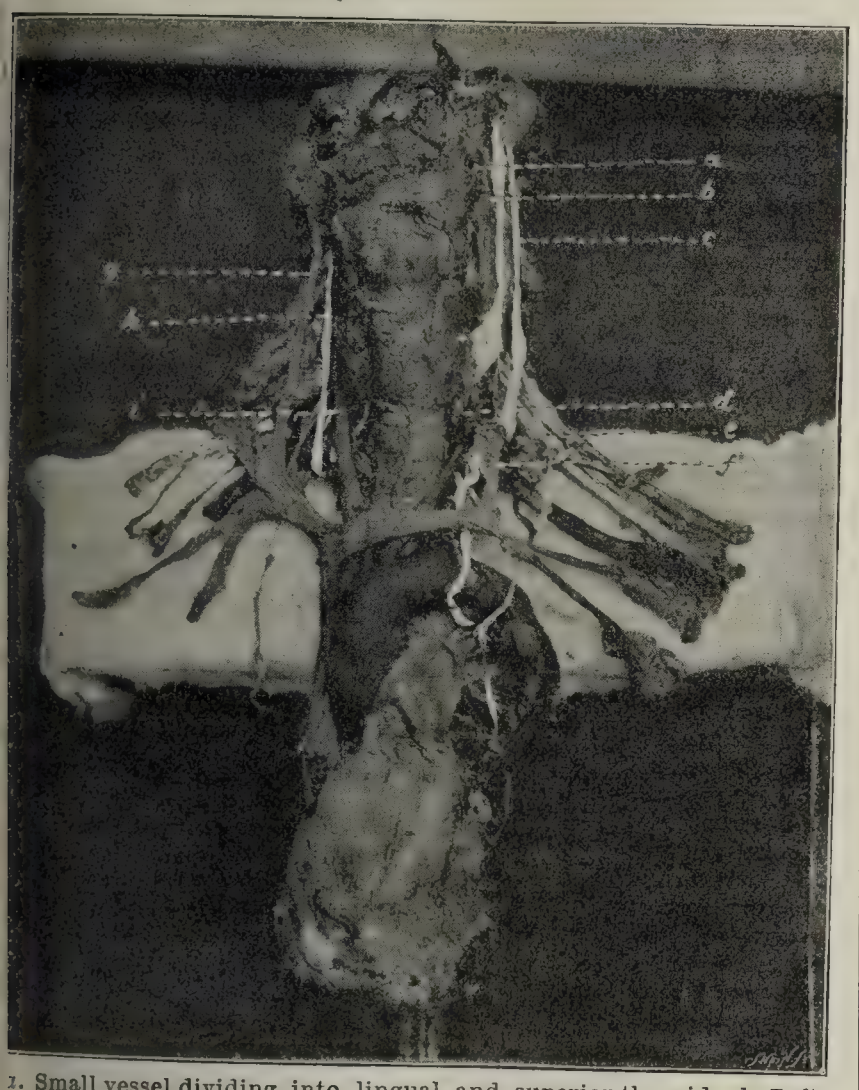
In the British Medical Journal of December 7th, 1895, I recorded a case of cut throat, and the treatment of the case was summarised thus:

October 5th, 1894. Ligature of the common carotid artery in two places, of the internal jugular vein in two places, of the external and anterior jugular veins; perfusion of 20 ounces saline fluid.

October 27th. Secondary hæmorrhage; attempted ligature of common carotid, which was rotten, so that the external and internal carotid arteries were tied, along with other ligatures on the internal jugular vein and a branch, by my colleague Mr. R. A. Bickersteth, who was fortunately at hand when the hæmorrhage occurred.

November 5th. Hæmorrhage from internal carotid artery arrested by packing and pressure. A quart of warm water in the rectum revived the patient.

He was discharged on January 25th, 1895. After following his occupation—house painter—for nearly two years, he was admitted into the infirmary, under Dr. Caton, on December 19th, 1896, on account of severe cough and pain in the right chest. He was very ill, with a high temperature and copious expectoration. He rapidly failed, and died on January 17th, 1897, two years and a-quarter after the injury, and two years after discharge from hospital.



a. Small vessel dividing into lingual and superior thyroid. *b.* Left sympathetic nerve. *c.* Left pneumogastric nerve. *d.* Left common carotid artery ending in cicatrix. *e.* Left phrenic nerve. *f.* Left internal jugular vein. *g.* Right internal jugular vein. *h.* Right pneumogastric nerve. *i.* Right common carotid artery.

A *post-mortem* examination was allowed, and, under the nd direction of Professor Paterson, the valuable—and, I nture to think, unique—specimen herewith described was tained. We were particularly requested not to mark the ce during the examination, but, with that exception, all the blood vessel arrangements of the head and neck were carefully noted.

The blood vessels forming the circle of Willis appeared normal, the last half-inch of the left internal carotid artery being hollow, but the portion in the cavernous groove was a fibrous cord. The lungs and heart, with all the tissues forming the neck (skin alone excepted) were skilfully extracted, along with the first ribs and a portion of the base of the skull, and the dissected specimen is now placed in University College Museum. Its main features are:

Left Side.—Total absence of sterno-mastoid muscle, its place being occupied by cicatricial tissue. The common carotid trunk was small, and ceased suddenly, 5 inches from the arch of the aorta, in a mass of scar tissue, there mingling with the cut ends of the pneumogastric, sympathetic, and some cervical nerves (the phrenic nerve was normal). Above this fusion nothing but the two nerves (vagus and sympathetic) and a small artery could be found. This artery, not so large as a normal facial, came down from above, and gave off the small facial, lingual, and superior thyroid, and was the sole representative of the external carotid. No traces of internal carotid nor of the internal jugular as far as the base of the skull could be found. The inferior thyroid artery was smaller on this side, but the left vertebral was half as large again as its fellow; this, in fact, appeared to be the only special provision made for collateral circulation. The deep cervical artery was much smaller on this side. The left lung was normal, and had thus not suffered from interference with the pneumogastric and sympathetic nerves.

Right Side.—The common carotid artery seemed a shade larger than the normal, but the superior thyroid, lingual, facial, and inferior thyroid arteries had not apparently enlarged. In the right lung some pathological changes, with a collection of pus, had caused death.

The specimen illustrates how little reliance can be placed on the theoretical collateral circulation so carefully enumerated in textbooks, based on ordinary anatomical anastomoses, for it will be noted that, with the exception of the increased left vertebral, and some little enlargement of the right common carotid, all the other arteries not only forgot what was expected of them, but were actually smaller; and that delight to examiners, the deep cervical artery, was so far indifferent to expectations as to be considerably smaller than its fellow of the opposite side.

A CASE OF ABSCESS OF THE TEMPORO-SPHENOIDAL LOBE, OPENED AND DRAINED THROUGH THE OSSEOUS AUDITORY MEATUS.

By ADOLPH BRONNER, M.D.,
Surgeon to the Bradford Eye and Ear Hospital; Laryngologist to the Bradford Infirmary.

Cases of successful operation for cerebral abscess of aural origin are fairly common, but the methods of operation are by no means perfect. The ordinary method of trephining an inch above and behind the auditory meatus is the most simple, but the drainage and after-treatment are not at all satisfactory. The method adopted in the following case was, I believe, first suggested by Dr. Watson Browne, of Belfast, and has recently been recommended on the Continent:

M. W., aged 28, had pain in the left ear five years ago for some weeks, and the ear has discharged more or less ever since. In November last there was severe pain for a few days, which returned about the middle of January. On February 1st the patient was suddenly taken ill in his office, and had to be carried home. When I saw him on February 4th he was semi-comatose; he complained of intense, unbearable pain in the head, and the cerebration was much impaired. The pulse was 60; temperature, 104°. The optic discs were distinctly inflamed, and their edges blurred.

On February 5th we decided to operate. A large incision was made round the left auricle. The cutaneous auditory meatus was cut through and the auricle drawn downwards. The remains of the membrana tympani and the ossicles were removed. The attic and neighbouring mastoid cells were found

to be diseased. With a sharp chisel I removed the upper wall of the osseous auditory meatus, and then, cutting upwards, I chiselled through the root of the zygoma and opened up the cerebral cavity. The dura mater was incised and a Macewen's pus-searcher passed upwards and inwards for about an inch into the temporo-sphenoidal lobe. Here (the usual place) a large abscess cavity was opened and a quantity of offensive pus escaped. The attic and neighbouring mastoid cells were then opened and scraped. The cutaneous auditory meatus was slit open so as easily to admit a finger, and its upper and posterior parts were excised so that a large drainage tube might at some future time be introduced. An india-rubber tube was then passed through the upper wound above the ear into the abscess cavity and the wound plugged with gauze and iodoform. The three following days a fair quantity of pus escaped. Then for three days there was no discharge of pus, and the cerebral symptoms began to return. The tube was removed, and the pus-searcher re-introduced. A large quantity of pus came away. After this the patient made an uninterrupted recovery. He left the hospital on March 22nd, and has since returned to business, and feels perfectly well. The wound was kept plugged from above, and allowed to heal from below by granulation. At first the drainage tube was introduced through the upper wound, but after ten days the ear was drawn up and the tube was passed through the enlarged cutaneous auditory meatus. The abscess cavity was never syringed, but insufflations of boric acid and iodoform were used daily for two months.

The advantages of this method of operating are obvious. In the first place, we get good and efficient drainage from below. The drainage tube can, if necessary, be kept in position for months without any discomfort. It can easily be removed and replaced, and there is no danger of not again finding the abscess cavity. We can also at the same time efficiently treat and cure the attic and mastoid cells, which in these cases are nearly always affected, and thus prevent any recurrence of the disease. Only one incision and only one operation are necessary. The operation and after-treatment are more difficult and tedious than in the ordinary method of trephining, but the results are certainly more satisfactory.

NOTES OF TWO CASES OF DYSTOCIA ARISING FROM RELATIVE SHORTENING OF THE UMBILICAL CORD.

BY ALEX. MACLENNAN, M.B., C.M., L.M.ROTUNDA.,
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DYSTOCIA arising from this cause is not a common occurrence, but probably it exists more frequently than is reported. These few facts noted below may be of interest as bearing on the diagnosis and treatment of this and allied conditions.

CASE I.—Mrs. H., aged 24, 2-para, was admitted to the Glasgow Maternity Hospital in February, 1897, with strong labour pains and with the history of being in labour for the previous two days, and of having had an easy first confinement. Abdominal palpation elicited the following facts: The quantity of liquor amnii was excessive, bordering on the condition of hydramnios. The fœtal parts were masked and the position could not have been made out but for the violent action of the limbs, which made the diagnosis easy. The head was situated above the brim and ballotted freely from side to side. On auscultation the fœtal heart sounds were readily heard, but were irregular in rhythm, and especially in intensity. The sounds of the fœtal movements were very distinct.

From these observations the conclusion arrived at was that the delay in the fixation of the head was caused by the degree of hydramnios present. The item in the history regarding the length of labour was discounted. Preparations were made to rupture the membranes, coincident with the vaginal examination, should this be thought desirable. The vagina on examination was found blocked by the protruding membranes, and the os was fully dilated. After rupturing the membranes and pushing the head into the superior strait, the descent of the head was very rapid. The head was soon born, and the cord was found so tightly grasping the child's neck that it was impossible to slip it over the head. By exerting pressure on the fundus the cord was with difficulty slipped over the shoulders, and labour terminated successfully. The length of the cord was 19½ inches.

CASE II.—In this case—which occurred before No. 1—the relative shortness of the cord was more marked and the hydramnios less so. Mrs. R., aged 36, 10-para, was admitted to the Glasgow Maternity Hospital in January, 1897, with strong and very rapid labour pains and with a history of being in labour for some hours. Her previous confinements had been natural. The position of the child was readily made out abdominally. The head was found freely ballotting above the pelvic brim. The fœtal heart sounds were distinct during only a period of from ten to twenty seconds, with absolute pauses during intervals corresponding to the duration of the pains. The stoppage of the sounds was very abrupt, and showed the interference with the circulation to be very complete. A diagnosis was made of dystocia due to short cord or of one relatively so from being coiled round the child's neck. Vaginal examination revealed the same state of affairs as existed in the other case. The membranes were ruptured and the case left to Nature. After an interval, notwithstanding powerful contractions, the head still remained above the brim. Suprapubic pressure was applied so as to depress the occiput into the superior strait, after which engagement and descent were very rapid till the head was born. The cord was found very tightly coiled twice round the child's neck, and was pulseless. On applying pressure to the fundus enough of the neck was available to allow of the cord being cut. Just as this was being done, and as the result of an extra strong pain, the shoulders, trunk, and breech were successively swept past the head, which remained anchored at the vulva, thus performing, outside of the pelvis, movements similar to those which go by the name of "spontaneous evolution" when performed in the pelvis. In this case the actual length of the cord was 30 inches, and the available less by two turns round the child's neck.

REMARKS.

The points which occur to me as being worthy of notice are:

1. Neither patient was a primipara.
2. In both the presenting part failed to engage, and in No. 2 the head remained free, even after rupture of the membranes.
3. The condition was in each accentuated by the excess of liquor amnii.
4. The utility of abdominal examination, and especially of auscultation, as illustrating the feasibility of diagnosing interference with the circulation through the cord, be it due to tension or compression.
5. The success of suprapubic pressure in causing or hastening engagement.
6. The indication for treatment being to express the child rather than deliver with forceps, so as to push down the placenta *pari passu* with the child.

HERPES ZOSTER OF THE FACE WITH PARALYSIS.

BY H. HOWARD MURPHY, M.D.CANTAB.,
Twickenham.

EICHHORST has written an article on this subject epitomised in the BRITISH MEDICAL JOURNAL of June 12th, 1897, in which he refers to the recorded cases of those combined affections—only 18 in number. Usually the herpes has appeared before the paralysis, there being onty 3 exceptions to this. Herpes occipito-collaris has been most frequently seen, but when the facial paralysis has appeared first the herpes has been in the distribution of a single branch of the fifth nerve. Only 1 case is recorded in which the herpes was present on a mucous surface; taste may be affected.

On looking up the literature of the subject I find no reference to it in the early edition of the *Medical Digest*. Hebra

and most other authors do not mention the paralysis. Hyde, of Chicago, would seem to have seen many cases, and gives an account of the severe symptoms often present—agonising neuralgia, formidable inflammation of all parts of the eye, and falling out of teeth and hair, scars from suppuration of the vesicles, paresis and paralysis with resulting muscular atrophy, years of intense suffering, leaving the patient a physical wreck; and, finally, a rare termination in meningitis and pyæmia. That herpes of the face may thus result in most serious illness and permanent deformity is most important for practitioners to know. These cases are probably much more frequent than the 18 Eichhorst refers to. Two were reported in the *Lancet*, 1894, and I think I have seen others in the medical papers. The two following cases occurred in my practice recently, and may be of interest.

Case I.—Mrs. R., aged 68, complained of severe neuralgic pain on the right side of head, face, and neck, on September 26th, 1896. There was no cause for it that she could assign. A red patch, the size of a half-crown, was visible near the centre of right sterno-mastoid, and another further back about third cervical spine; a smaller spot over right lower jaw below angle of mouth. There were troublesome spasmodic movements of the left eyelids, and the face was a little drawn to the left. The next day the right face was quite flaccid and paralysed, and face was drawn to the left. She could not close her right eye, nor that side of the mouth, and liquids escaped freely when she tried to feed. There were vesicles on the red patches, much pain, mostly below the right ear, and radiating in all directions. On September 29th the conjunctiva and mucous membrane of mouth were reddened and sore, and on the latter herpetic spots were visible. She complained of a very disagreeable taste from this time. On October 3rd the skin rash was drying and redness fading. The eye and mouth were rather more comfortable. There was severe neuralgia in right lower jaw. After this the case slowly improved. The neuralgia left her in two weeks. The nasals, supraorbital, infraorbital, and especially the mental exits of the fifth nerve on the right side of face remained very tender and are so still. The paralysis of the right muscles is only partly recovered, and there is rigidity and contraction of them. There is some escape of fluids from right angle of mouth, and difficulty in eating and disagreeable taste. The right eye is always uncomfortable, and sight rather dim.

Case II.—A lady, aged 54, while at the seaside in August, 1895, got her hair wet bathing in the sea. Sitting on the parade she felt a chill in her neck, and next day had severe neuralgia of the right face. On August 31st red rash on right supraorbital and temporal regions. Next day she came home, and I first saw her on September 2nd. She then complained of severe neuralgia of the right face; there was a rash of herpes along the supraorbital nerve, and at two places on the temple. The eye was very painful, and a vesicle was on the conjunctiva in the outer lower quadrant; it gave much trouble for a week. September 10th, eye better; severe neuralgia right face, head, and arm. September 13th, neuralgia less; herpes almost well, but leaves scars. At midday she had spasms of the muscles, with frequent painful twitching, drawing the right side of mouth in and outwards. September 16th, less spasm of right face, which has caused much pain and ceaseless annoyance; slight paralysis of the left side of the face. September 24th, neuralgia has ceased, and so have the muscular twitchings. There is tenderness behind and below the right ear, but not of the right fifth nerve. On the left side all branches of the fifth were very tender; so was the seventh in front of the ear, also the mastoid process and the occiput to the spine. October 1st, pains are all better. October 8th, the left side of the face is quite paralysed; she cannot close the eye, and the branches of the fifth nerve very tender. October 14th, less paralysis about mouth; cannot close the eye yet. November 3rd, less paralysis of the left face; some tenderness of the branches right fifth nerve. December 5th, slow improvement both of paralysis and tenderness of nerves on left side. December 28th, face better, mouth more natural, left angle rather drawn up and wrinkled as if by spasm of the elevator and buccinator; cheek gets between teeth when eating. Cannot quite close left eye, and it has to be occasionally bandaged. Some branches of left fifth nerve very tender, and so is the seventh below the ear. From this time she steadily but very slowly improved. In June, 1896, she was able to close her eye completely, food did not escape from mouth when eating, nor did she bite her cheek. At the present time (June, 1897) the scars of herpes are visible on the right temple, and in the course of the supraorbital nerve; and one (as a dark spot) on the outer lower quadrant of sclerotic. The muscles of the left side of the face are slightly paralysed. There is deficient movement of the lips and angle of mouth and nose; the eyebrow is slightly lower and not so mobile, and the eyelids are not so rapid in closing, nor can their closure be carried to the same extent as on the other side. The paralysed muscles are contracted; the mouth and nose are a little dragged over to the paralysed side, and droop slightly; the naso-labial fold is deepened, and cannot be flattened out; the palpebral slit is narrowed, and the wrinkles about the face thus much more numerous; a little tenderness of the branches of the fifth nerve, the nasal branch being bad enough to cause her to comment; the seventh nerve is also tender just in front of ear.

The occurrence of the eruption on the right side and the paralysis on the left is apparently unique, and to me unaccountable.

Charing Cross Hospital.—As the result of the appeal sent out by the Augustus Harris Memorial Committee, of which H.R.H. the Prince of Wales is a patron, a sum of £300 has been received. Of this sum £1,000 has been handed to Charing Cross Hospital for the purpose of founding the Augustus Harris bed for members of the dramatic and musical professions requiring medical assistance.

A CASE OF TRAUMATIC TETANUS TREATED BY ANTITOXIN AND MORPHINE: RECOVERY.

By GEORGE P. GOLDSMITH, M.D. Durh.,
Physician to the Bedford General Infirmary.

T. D., an errand boy, aged 16, fell on a gravel path two weeks before the attack and abraded the skin of his extended hand just in the transverse fold between the hand and wrist. He was first seen at 11 A.M. on December 28th, 1896, and the account was that on the previous day he began to feel poorly, and had some stiffness about his jaw and inability to open his mouth. He was in bed lying on his face, and turned with great difficulty. The muscles of the neck were stiff; the back slightly arched; the abdominal muscles relaxed; he could only separate the two rows of teeth for about half an inch. He complained of pain in the masseters and in his back. The bowels had been well relieved. The temperature was normal, the pulse 90. He was given potassium bromide gr. x every two hours.

At 4 P.M. he was lying on his side; risus sardonicus was marked, and the abdominal muscles were rigid. At 7 P.M. there was still much pain in the neck and back. The pulse was 104, the temperature normal. Chloral hydrate ℈j was ordered.

He had a bad night, and at 9.30 A.M. on December 29th the pulse was 108, the temperature normal. Morphine bimeconate gr. $\frac{1}{6}$ was injected subcutaneously. At 6 P.M. there was considerable opisthotonos and frequent painful spasms of the muscles of the back and limbs, as the result of which he was bathed in perspiration. Thirty c.cm. of fluid antitoxin serum, obtained from Messrs. Burroughs and Wellcome, were now injected in the flanks; also morphine bimeconate gr. $\frac{1}{4}$ in arm. At 11 P.M. he was still suffering much pain, and had had no sleep. A hypodermic injection of morphine gr. $\frac{1}{3}$ was given. He was restless during the night, and vomited frequently, the liquid food being violently ejected through his clenched teeth.

On December 30th, at 9.30 A.M., the pulse was 104, and the temperature 99.6°. He was sweating freely; the spasms were frequent, arching the back, but the pain was not so severe, being evidently controlled by the morphine. The pupils moderately contracted. Thirty grains of the solid serum obtained from the British Institute of Preventive Medicine were injected into the buttock, and morphine bimeconate gr. $\frac{1}{2}$ into the forearm. At 3 P.M. he was lying on his face, and was rather easier. At 7 P.M. the spasms were still severe, but he had suffered less pain during the day. He has been sick at intervals after food. Thirty grains of the solidified serum were again injected, also morphine gr. $\frac{1}{2}$. The temperature was 100°, and the pulse 110. He had a restless right, owing to frequent violent spasms. He took a little milk, but swallowing was seriously interfered with by pharyngeal spasm.

At 9.30 A.M. (December 31st) morphine gr. $\frac{1}{2}$ was given, and repeated at 3 P.M., and again at 9 P.M., when 30 gr. of the solidified serum were again injected. He had been fairly quiet under the morphine during the day. He had some sleep during the night, but the spasms had been still very violent at intervals.

On January 1st, 1897, at 9.30 A.M., morphine bimeconate gr. $\frac{1}{2}$ was given hypodermically. At 3 P.M. he was easier, and morphine gr. $\frac{1}{4}$ was injected hypodermically. At 9 P.M. morphine gr. $\frac{1}{2}$, and 10 c.cm. fluid serum from Burroughs and Wellcome were injected.

On January 2nd, he had a good deal of pain after 4 A.M., but some restful sleep before this. He took a little egg and milk and beef-tea. At 9.30 A.M. morphine bimeconate gr. $\frac{1}{2}$ was injected. At 3 P.M., the pain returning sharply, he again had the same dose, as also at 9 P.M., when the spasms were very severe, with profuse sweat and much thirst. He was now injected for the sixth and last time with 10 c.cm. of the fluid serum; he was so emaciated that it was difficult to find a suitable place for the introduction of the needle of the syringe. He had a rather better night, but pain returned sharply between 5 and 6 A.M.

On January 3rd, morphine bimeconate gr. $\frac{1}{2}$ was injected; 2.30 P.M. he was more comfortable, but looking forward to

his dose of morphine, which was given as usual. He was taking liquid food in small quantities, but the attempt to swallow, except soon after the dose of morphine, induced very painful spasms of the dorsal muscles.

January 4th was marked by progressive weakness, though he took rather more nourishment. Quiet opisthotonos persisted with frequent spasms. The same amount of morphine was given, namely, gr. 1½, in three doses during the day. On January 5th, he was evidently weaker; there were sordes on the teeth, and occasional slight delirium. The morphine was given as before.

On January 10th it was noted that there had been little change except a small but perceptible improvement. The tense condition of the muscles persisted, but the spasms were neither so frequent nor so severe. The mid-day dose of morphine had therefore been reduced to gr. ¼, and was omitted altogether on this day, gr. ⅓ night and morning being sufficient to keep "the jumps," as he called them, in abeyance.

On January 12th for the first time he was able to turn on his side without assistance.

On January 13th, as his bowels had not been opened since December 28th, glycerine ℥j was injected into the rectum and produced a copious evacuation.

By January 17th there was uniform improvement; he was taking food well; the abdominal muscles still resisted the pressure of the hand; the last morphine injection was given on this night.

I cannot pretend to say what share the antitoxin had in the recovery. The poor lad's sufferings made it absolutely imperative to administer the morphine, and it may be that this enabled him to "tide over" the critical time. Certainly it was the most acute case of traumatic tetanus that I ever saw recover.

I gratefully mention that my Board of Guardians voted, and the Local Government Board allowed, the sum of £3 18s., which the antitoxin cost me, the lad being on my district list.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

IMPACTED GALL STONE: ACUTE HÆMORRHAGIC PANCREATITIS: DEATH.

ON June 14th, 1897, I was asked to see a married lady, aged 59, who had been suddenly seized at 10 A.M. with severe pain in the epigastrium. Except for a little "bilious headache" she had been quite well up to the time of the attack, although for the last year she had suffered a good deal from "biliousness." She had never been jaundiced, and never had an attack of pain like the present one.

I found a stout, well-nourished woman, evidently suffering very severe pain. She was lying half on her back and half on her left side. The pain was chiefly in the epigastrium, radiating into the back. Pressure made the pain worse. The liver dulness was not obliterated, and there was no marked tympanites. The bowels had been open naturally that morning. There was a good deal of retching and some bilious vomit. The urine was scanty, but not very high-coloured. There was no shivering, but profuse sweating. The temperature was 99.2°. I made a provisional diagnosis of gall stone colic, and ordered hot fomentations, and gave a hypodermic of morphine, which afforded considerable relief.

I saw the patient at 10 45 that night, when she said she was much easier. Next morning at 8 A.M. I had a message to say the pain had returned. On arrival I found the patient collapsed, pallid, and evidently suffering from some internal mischief of a serious nature. A dull area could be made out on percussion over the left hypochondrium and spleen. Death occurred at 9.30 A.M. on the same day.

At the *post-mortem* examination, made with the help of my friend, Dr. Travers Smith, the same afternoon, on opening the abdomen a large quantity of blood-stained fluid was seen, evidently proceeding from a deeply engorged pancreas. A small gall stone was found impacted in the duct, and 13 other stones in the gall bladder itself. The omentum was loaded with fat. I sent a piece of the pancreas to the pathological laboratory of St. Bartholomew's, and Dr. Andrewes reports: "There is no evidence of any new growth, but there is extensive hæmorrhage into the substance of the pancreas."

There seems little doubt that the above case was one of acute hæmorrhagic pancreatitis in association with gall stones. As in some of the other cases recorded, so here: there was a large amount of fat in the omentum and mesentery. The friends said the woman had always been temperate, and had never ailed much, but for the last year had been complaining a good deal of what she called biliousness, but it had never been sufficiently troublesome to lead her to seek medical advice for it. From the rarity of the disease it seems worth recording as an addition to similar cases recently published by Cayley, Keenan, and others.

Brondesbury. J. ANDERSON SMITH, M.D.Lond.

SEA SICKNESS; ITS CAUSE, AND MEASURES TO BE TAKEN FOR ITS RELIEF.

SEA SICKNESS is caused by a modification of fear, which deprives the heart of its high-pressure power to throw the blood up to the brain. Its functions in consequence become instantly disturbed.

Digestion ceases, as when the pneumogastric nerve is divided. The food then ceases to undergo its normal changes. It speedily acts as a foreign body, which the stomach fortunately expels, preventing putrefactive fermentation. Distressing efforts to vomit may still remain, to relieve which place the person on his back. Elevate both legs and feet higher than the head, and, if necessary, the arms also. The patient should be placed transversely to the ship, and as near the centre as possible.

In the treatment of other maladies, the elevation of the extremities need only be repeated three times a day for half an hour. As the ship is always on the move, however, it may be well to keep one leg elevated for a lengthened period.

The following results will be obtained from elevating the extremities, in a few minutes, say five. The heart will receive again its full supply of blood. High pressure, and the general pressure of the circulation will be restored. The brain receiving again its full supply of blood, its function will be restored, digestion will recommence, and sickness cease. From the blood receiving a full supply of oxygen, the acidity of the urine is restored, with that also, no doubt, of the gastric juice. The temperature is prone to fall; flannel and hot water bottles should therefore be applied to the body if necessary. Two ladies on their way to India suffered terribly from *mal de mer*, until they were relieved by this method of mine.

HY. ARMSTRONG RAWLINS, M.R.C.S.

Sutherland Avenue, W.

EXSANGUINEOUS CONFINEMENT.

A MONTH or two ago I attended a Mrs. P. in her second confinement, her first having taken place some twelve years previously. The confinement was in every way a normal one with the exception that from beginning to end not a dozen drops of blood were lost; at no period was the examining hand stained with blood, and even the placenta and membranes appeared as though recently washed. The placenta had undergone a certain amount of fibrous degeneration, but no calcareous deposits had been formed. The woman was far from anæmic—strong and healthy in every way, and made an uninterrupted recovery. Possibly the fibrin was excessive in quantity, but I have never come across a description of a similar case.

HUBERT C. PHILLIPS, M.R.C.S., M. and L.S.A., etc.

Paddington.

THE Imperial Leopold-Carolina Academy of German Scientists of Halle has awarded the Gold Comenius Medal to Professor von Kölliker, of Wurzburg, who recently celebrated the completion of his 80th year and the jubilee of his appointment as Professor.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

STEEVENS HOSPITAL, DUBLIN.

ANTITETANIC SERUM IN THE TREATMENT OF TETANUS.

(By R. Bolton McCausland, B.A., M.D. T.C.D., F.R.C.S.I., etc., Surgeon to the Hospital.)

So many diseases at the present day are treated by animal extracts and serums, and such varied results are reported of their actions in the medical papers, that I think it worth while to record shortly the following facts of a case that recently came under my care. Even Dr. Myrtle in the British Medical Journal of July 24th, 1897, p. 205, states that "he is thoroughly disappointed with most of these extracts" having tried them all, and failed to get with them the excellent results in chronic skin affections that others obtained. I may be pardoned for reporting this case of mine, as it presented some points of great surgical interest, and was the cause of a legal action, which was dismissed, as "the injuries were so slight," though on admission to hospital my prognosis was "death within a week."

I. L., aged 24, a German Jew by birth, and a tailor by trade, was admitted on May 24th, 1897, under my care. Dr. Young, house-surgeon, asked me to see him at once, as he was in a peculiar condition, and Dr. Young gave me the following particulars of the case:

The previous day, about 4.30 P.M., I. L. was driving with his employer and two others on an outside hackney car, and in trying to avoid another car the step of the passing car struck I. L. on the front of both legs cutting through his trousers and drawers, and inflicting slight scrapes on both legs. These scrapes caused some pain, but they were washed with water and bound with a handkerchief, and he was then driven to Steevens Hospital, where the legs were washed with an antiseptic lotion, dusted with iodoform, and a small dry dressing applied to each.

The wounds were so slight that the man was not detained, but was told to return if not all right in a few days. On the following morning he returned, and when seen by Dr. Young he was at once admitted, having to be carried to the ward, as he was distinctly collapsed, and was suffering from "tremors" and "spasms."

When I saw him he had had a hypodermic injection of morphia and was lying on the bed, quite conscious, but unwilling to speak, his head bent back over the pillow, the back slightly arched, and only partially undressed, as all attempts to undress him brought on "spasms."

He said he was very sore all over, the legs very painful, and that he had a severe pain and "tight feeling" in the left side of the throat, and inability and disinclination to swallow fluids and solids. I tried him with some milk—it brought on two distinct general tetanic spasms, but I could not say that "risus sardonicus" was well marked. With great difficulty I removed the clothes, and the dressings from the legs. There was a scab about the size of a sixpence on the outer and front side of the left leg, and a smaller scab on the inner and front side of the right leg. The dressings were dry, but the margins of the scrapes were tender and reddish, and pressure on them or touching them brought on distinct spasms. The man was not jumping about in the bed nor shouting with the pain; he remained in the position I first described, and I may add that he was a strict teetotaller, and had not been taking strong drink of any kind or at any time.

His temperature was 97° F. and his pulse 112, weak and compressible but regular, the respirations 26 in the minute, the bowels had moved the previous day, and he had passed water a few hours before admission, with pain and difficulty, but the bladder was not full. I had him brought to a ward and himself, and my colleague, Dr. E. H. Tweedy, agreed with me in my treatment of the case.

Under an anæsthetic, with the parts disinfected, and using different instruments on each leg, I freely and deeply excised the contused portion down to the muscle, being able to avoid the internal saphena vein, which I saw in the wound on the right side, and brought the edges together with silkworm gut, except in the centre, where there was much tension, and dressed with iodoform, sterilised gauze, and cellulose.

While he was under the anæsthetic I injected, with a sterilised glass syringe (the skin having been disinfected), 10 c.cm. of antitetanic serum deeply into the side of the buttock on the left.

I had telephoned for the serum at once, and it was sent to me most promptly by special messenger by Messrs. Fannin and Co., Dublin. It had been prepared in the Institut Pasteur, Paris. The special nurse engaged was ordered to give calomel, grs. iij, on the back of the tongue, bromidia ℥j in chloroform water every second hour. Strong beef tea and chicken broth, with a teaspoonful of Brand's essence of beef, and the yolk of two eggs, was the diet prescribed to be given in small quantities when possible. Also an enema was ordered to be given, if possible, during the afternoon.

When I saw the patient again in the evening, I was surprised and glad to find all the conditions altered. After recovering from the anæsthetic, he had taken his nourishment and medicine well, had been sleeping a good deal, had had the enema with excellent result, had had no spasms, and was free from the excessive tenderness. Of course, he still felt sore all over the body and limbs, and in the throat when he swallowed; otherwise he felt remarkably well, and looked quite a different man, and was much more lively and able to move a little in the bed. His temperature was 98.6° F, pulse now 90, respirations 20, and the urine passed with much greater ease, normal.

I was prepared to repeat the serum injection, but did not feel justified in doing so, as his condition was so much improved.

There is no need to follow the case through; the man improved every day, and recovered rapidly. There were no more tetanic signs or symptoms, the stitches were removed in a week, when the incisions were found to be united, except in the centre. As the man was anxious to resume his work the legs were strapped with soap plaster, he was given a tonic, and allowed out of hospital on June 8th, and when the strapping was removed the legs were found to be soundly healed. The man is now in perfect health.

The following points seem worthy of consideration:

1. Was it a case of tetanus? I can hardly believe it could have been anything else, though the rapid recovery of the man seems to be against the diagnosis of tetanus. I suggest that the bacilli were in small quantities, were only localised, and had no time given them to multiply.
2. The rapidity with which the attack appeared.
3. The absence of any foreign bodies in the slight scrapes.
4. No disturbance at any time, either locally or constitutionally, caused by the serum injection.
5. Owing to an accident, I regret to say the pieces of skin were mislaid, but I gave the patches of the trousers and drawers, which were slightly bloodstained, to Professor O'Sullivan, F.T.C.D., who kindly examined them for me. He tells me he failed to get any results or cultivations from them. It is to be regretted that Professor O'Sullivan had not the fresh skin removed at the time of the operation to deal with.
6. Would excision, without the serum, have been followed by as good a result?

Professor Behring, at the Berlin conference, recently stated that the best results were obtained in fresh cases where the serum was promptly used.

My best thanks are due to my dresser, Dr. Gregg, for his attention to the case, and to Nurse Daly for her skilful nursing of the same.

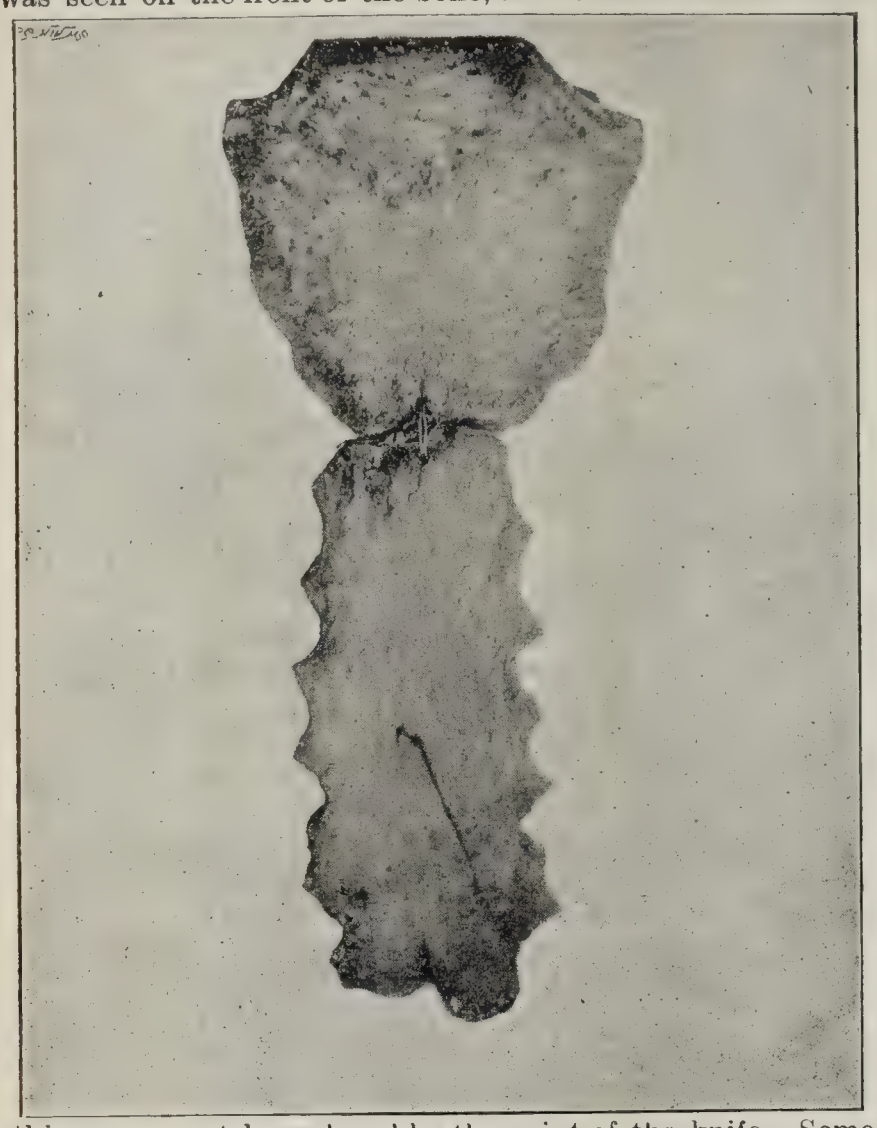
KIMBERLEY HOSPITAL, SOUTH AFRICA.

A CASE OF PUNCTURED WOUND OF CHEST WALL PENETRATING THE STERNUM AND WOUNDING HEART.

(By Richard J. Booth, M.B., C.M.)

C. J., a native, was admitted to Kimberley Hospital on the evening of August 10th, 1896. The patient was very drunk on admission, and had been struggling violently with the police-

man who brought her from Beaconsfield, a distance of about two miles. She had sustained minor injuries (chiefly small cuts about the limbs) in a quarrel with another woman, but the chief injury was a punctured wound of the chest, an inch in length, situated about an inch to the left of the middle line; the direction of the wound was downwards, backwards, and to the right. On introducing the finger one could feel what appeared to be a scratch of the anterior surface of the sternum, and on slightly enlarging the wound a linear mark was seen on the front of the bone, and it was concluded that



this was a scratch produced by the point of the knife. Some dark blood was oozing from the notch, which was attributed to hæmorrhage from the cancellous diploe of the sternum.

The wound was closed and dressed and the patient put to bed. She died somewhat suddenly twenty minutes later. *Post mortem* the sternum exhibited a fine linear perforation (so narrow that the needle end of a small probe could not be introduced); on removing the sternum the pericardium showed a small clean-cut opening (like a buttonhole) about half an inch across, corresponding in position with the sternal wound. The whole surface of the heart was covered with a loosely adherent dark, firmish blood clot, so thick as to occupy most of the available space in the pericardium. On careful examination the right ventricle was found to show a wound about a quarter of an inch across on its anterior surface, and a probe introduced followed a track which led into the right auricle; the right ventricle was not opened therefore, the wound leading from the external opening in the right ventricle to the interior of the right auricle. The valve-like nature of the wound and its relation on account of its peculiar character to the cardiac cycle no doubt go far to explain the patient's survival and capacity for exertion after the receipt of the mortal injury.

SEAMEN'S HOSPITAL, LAS PALMAS, GRAND CANARY.

A CASE OF ACUTE SEPTIC GANGRENE.

(By J. Cleasby Taylor, M.D.)

In February a marine from one of the ships of Her Majesty's navy, who acted as butcher, ten days before admission was hacking a beef bone, when a sharp splinter caused a small wound in the region of the left wrist. He paid no attention to the injury at the time, but in two days he was an inmate of the sick bay, with acute cellulitis extending to the shoulder-joint and a temperature of 105.5°. At that time four incisions were made—one on the dorsum of the hand, one on the posterior aspect of the forearm, one on the anterior aspect, and one over the seat of the original injury. Within seven days the temperature had fallen to normal and the swelling had nearly disappeared, when suddenly the temperature rose to 103° F., and it was noticed that the original wound was turning gangrenous. As soon as possible the man was removed from the ship and sent into the hospital.

On admission there was seen extending upwards from the anterior surface of the wrist-joint a patch of gangrene 3 inches long by 2 wide; the other three incisions were also gangrenous. To above the elbow-joint the skin was intensely red, with numerous small vesications; the arm as far as the deltoid muscle being swollen to twice its proper size. There was no distinct line of demarcation to any of the patches.

The man was put to bed, and on the left side hot water bags were placed to form a trough. This was lined by a piece of waterproof india-rubber sheeting. This trough was now filled with a 1 in 6,000 solution of corrosive sublimate, and the limb as high as the middle of the uppear arm was immersed in the bath, which was changed every two to three hours; as the water bags grew cold they were emptied and refilled. By the end of twelve hours it was evident that the necrosis was checked if not stopped; the temperature was lower, the forearm less inflamed, and the upper part less swollen. The improvement was very slight, but as the hours passed it continued, for in four days' time lines of demarcation had become evident.

After this the case proceeded satisfactorily, except for an abscess that developed in the dorsum of the hand. The sloughs of the smaller patches separated piecemeal; that of the larger one was finally dissected off seventeen days after admission. Three days later the arm was taken out of the bath, the raw surfaces being dressed with lint and carbolic oil.

When the man was discharged for his transmission to England, the patch at the wrist was healing most satisfactorily, the other three patches having been healed for some time.

Remarks.—When this case came into hospital it looked hopeless. To attempt the excision of the gangrenous patches would have ended in the coalescence of the four foci. To amputate through sound tissue was impossible, inflammatory exudation reached as high as the deltoid muscle. At that time I had under my care in the hospital a case of crushed finger that, from want of attention, had become very foul, and which had been easily treated by an antiseptic bath. As the recognised form of treatment for acute gangrene did not hold out any prospect of success, it was decided to try the bath on a larger scale. The result could not have been more satisfactory the case, from being; most anxious and critical, was out of danger within three days. There was never any suspicion of mercurialism, though the arm was continuously immersed for twenty-one days, and the bath kept the ward free from the odour associated with gangrene (the temperature in the ward stood at 68° to 70° F.). Fortunately, the gangrene had not spread deeper than the muscular fascia, and the disease was checked before too great destruction of integument had taken place.

COLONY HOSPITAL, GRENADA, W. I.

SEVEN CONSECUTIVE CASES OF HEPATIC ABSCESS TREATED BY INCISION.

(By Walter Boyd, L.R.C.S.I., etc., Medical Officer in Charge.)

The following cases are not selected, and are good examples of the disease as commonly seen in practice here, two only presenting clinical features of novelty.

Case I.—D. N., a coloured man, aged 42, was admitted on April 10th, 1893, suffering from malarial fever and hepatic congestion. He came from a malarious district and had been ill off and on for four months.

He complained of pain over the hepatic region, troublesome cough and onstipation. Though the urine contained a trace of bile there was o jaundice. On April 18th the thermograph showed a pyrexial variation or six days ranging from 100° to 104°. The liver was now generally nlarged, projecting out below border of the right ribs for 3 inches nd bulging forward in the epigastric space, where it formed a distinct umour yielding a sense of deep fluctuation. Exploration here with a hypo- lermic syringe produced pus. On April 19th an incision was made for 3 nches parallel to the right costal arch, and 2 inches from it, opening the iver which was firmly adherent, evacuating three pints of chocolate- oloured pus. The cavity, large and irregular, extending upwards and ackwards, was gently swabbed out, flushed with sterilised water and acked with iodoform gauze. On April 20th the temperature in the orning was 100°, in the evening 99.4°. On April 21st the temperature in the morning was 98.6°; the wound was dressed; there was ttle discharge. On April 22nd the temperature was normal and so emained, the cavity closing rapidly, and requiring but seven subsequent ressings. The patient was discharged cured on May 14th.

Case II.—E. V., a male Portuguese, aged 42, was admitted on May 27th, 93, suffering from malarial fever of two months' duration, contracted Demerara. He had pain in the right hypochondrium; the temperature as 105°, and a swelling occupied the right subcostal space continuous pwards with the liver; there was slight increase in area of hepatic ulness on the right side, and hypodermic exploration produced pus from e subcostal enlargement. On June 2nd an incision 4 inches long was ade over the swelling vertically, and 3 inches to the right of the midline: e liver was adherent at the upper part of opening, but free at the lower ngle, necessitating the suturing of its anterior border to the lower edges incision. The abscess was now freely opened, and 10 ounces of yellow pus moved; the cavity was flushed and packed with iodoform gauze. This se required dressing five times, and left cured on sixteenth day succeed- g operation. The temperature after the operation did not exceed °F.

Case III.—W. H., a coloured male, aged 45, was admitted on February th, 1894, suffering from malarial fever and acute hepatic congestion. he temperature ranged for four days from 100.4° to 104.2°, accompanied most intense pain over the seat of the congested organ, with vomiting d constipation. There was no jaundice and no bile in the urine. The rmal area of hepatic dulness was not exceeded except over the anterior d middle portions of the right lobe which formed a distinctly outlined mour situated under the arch of the right seventh, eighth, and ninth stal cartillages extending downwards to the left for 4½ inches. Explora- n with a hypodermic needle having revealed pus, a vertical 3-inch cision was made over the tumour on February 21st. The knife slipped to a small abscess cavity containing about 6 ounces of chocolate pus. is was flushed and packed with gauze. Temperature on February 22nd, d, and 24th was respectively 101°, 104.2°, and 99°. The wound was essed on the latter day. On February 28th the cavity was almost closed d the wound nearly healed. The temperature was 100°, and he had had ght ague for the last two evenings. He was now placed on full doses of inine and arsenic, and although the abscess was quite closed and the und healed recurrences of fever took place daily until March 26th, en the fever suddenly ceased, and he was discharged cured on April l after a tedious illness of forty-six days.

ASE IV.—J. D., a coloured man, aged 60, was admitted August 10th, 4, suffering from malarial fever of remittent type and a well-defined cess in the middle of the right lobe of the liver, projecting for 4 inches ow the right ribs. He had for years been a chronic drunkard, and was y slowly recovering from an acute attack of dysentery which had left n in a very weak and emaciated condition. He had had constant fever l ague for the past three weeks, and pain in the right side. On August n the temperature in the morning was 105°, the pulse intermittent, the gue dry and brown; there was low delirium, and the condition erally was extremely bad. Exploration with a hypodermic needle ved presence of pus deeply seated under the swelling. On August 12th, the patient was so weak, and the heart incompetent, local esthesia was produced by cocaine and ethyl chloride. An incision was le over the tumour for 4 inches obliquely from left to right, and above vn, and the abscess laid open, adhesion having taken place; 8 ounces ellow pus escaped, and the cavity which was small and smooth, was hed and packed with gauze in the usual manner. Great collapse owed the operation, the temperature falling to 96.4°, and pulse oming scarcely perceptible. On August 13th the temperature in the ning was 99.4°, and the patient was stronger. The temperature in the ning was 100°. On August 14th the temperature was 99°; the wound dressed, and there was no discharge; he was gaining strength. On following day he was able to sit up a little and take nourishment. m this on the patient slowly progressed and was discharged cured on tember 11th.

ASE V—J. L., aged 43, a powerful black man, was admitted on De- ber 24th, 1894, suffering from an hepatic abscess which had developed r an attack of remittent fever lasting two months, and accompanied evere pain in the right side. He had not been medically attended to pre- us to admission. The temperature after admission ranged from 100° to the pulse was 108, the tongue dry and furred. He was constipated, vomited occasionally. The urine contained a trace of bile, and the junctivæ were slightly tinged. The area of hepatic dulness was con- rably increased generally, and there was some bulging of the right in the region of the seventh, eighth, and ninth intercostal spaces. liver was explored in four places with a negative result, but on ing the needle through the seventh intercostal space pus was found. December 29th an incision 4 inches long was made along the centre of th rib, which was dissected bare, cleared of periosteum, and divided a Hey's saw in two places, the intervening piece of 2 inches being oved. The knife was now passed into the liver, which bulged out and firmly adherent around the opening, and 12 ozs. of chocolate pus oved. The cavity was flushed and packed with iodoform gauze in the ul way. The temperature was 99.6° on December 30th, and gradually reaching normal on January 1st when the wound was dressed. n this the recovery was rapid, the cavity being entirely closed on uary 12th. The patient left hospital cured on January 23rd.

SE VI—W. B., a coloured man—a very hard drinker—aged 58, was admitted on January 12th, 1895. He had been treated as an out-patient for six weeks for remittent fever and congestion of the liver, and re- covered sufficiently to permit of his resuming work as a carpenter. He never had had dysentery or even diarrhœa, and during the congestion of the liver experienced no local tenderness, but a general condition of pain throughout the organ. The temperature was 104°, and the area of hepatic dulness was generally increased, markedly so over the left lobe, which formed a swelling extending 5 inches below the left border of the costal arch. The tumour, though apparently quite solid, yielded pus through a hypodermic needle, passed deeply into it. On January 15th an incision 4 inches long was made vertically to the left of the midline over the swelling; the surface of the liver exposed looked healthy, save for ad- hesions to the parietes. The knife was now passed deeply into the liver, penetrating for nearly 2 inches ere entering the abscess, which was small and contained 7 ozs. of dark chocolate pus. Some free bleeding, fol- lowing the cleaning of this cavity, was soon checked by sponge pressure, and the cavity was closed by the usual gauze packing. The temperature in the evening was 101°, on the morning of January 16th it was 99.2°, in the evening 98.4°, and on January 17th, when the wound was dressed and the upper two-thirds of the opening sutured and a strip of gauze inserted; it was normal, and so remained. On January 19th the gauze was removed, and the cavity, which was nearly filled up, entirely closed by sutures, and external dressing only applied. On January 23rd the wound was com- pletely healed, and the patient was walking about. On January 26th an attack of acute dysentery suddenly supervened, quickly yielding, how- ever, to constant rectal douching with 1 per cent. solution of creolin and small doses of ipecacuanha and opium. The patient left the hospital cured on February 9th.

Case VII—J. B., a black man aged 23, cook to the institution, was ad- mitted as a patient June 8th, 1896. He had been invalided from duty during March and April on account of constantly recurring malarial fever. He resumed work in May, but was again put off duty owing to an attack of rötheln, then epidemic. Early in June his malarial symptoms returned with increasing severity, accompanied by marked daily ague, and severe pain over the hepatic region. The area of liver dulness was in- creased slightly, the bowels constipated, and the urine contained bile. Between June 12th and 16th the temperature ranged from 100.2° to 103.4°; the pulse was 100, the tongue thickly furred, and he perspired profusely. On June 18th the liver was explored with a needle, and pus found under the seventh intercostal space. On June 20th an incision 4 inches long was made through the seventh intercostal space, the abscess freely opened, washed out, and packed with iodoform gauze—14 ozs. of yellow pus were evacuated. The temperature subsequently was as follows: June 21st, morning temperature 100°, evening temperature 102°; June 22nd, morning and evening temperature 100°; June 23rd, morning and evening temperature 101°; June 24th, morning temperature 101 4°. He was dressed on June 23rd, when he was coughing, and on June 24th slight right basic pneumonia was detected. On June 25th the wound was dressed, the cavity was closing rapidly and looking healthy: the tem- perature was 101,2°. On June 30th the temperature was still over 101°, the pneumonic symptoms continued and prognosis was doubtful.

Remarks.—As may be seen from above, all but one of these abscesses occurred in the right lobe, though the position of the opening required to be varied somewhat to meet the super- ficial suppurating point of each case, and in none was the biliary function to any great extent interfered with. The incisions were free, always exceeding a 2-inch opening into the liver substance, thus affording a clear view of the cavity, and digital exploration. Most rigorous antiseptic precautions before, during, and after operations were observed in every case. Adhesions had taken place in six, and in one only was there any bleeding from the organ itself, this being due to the perhaps too vigorous use of a swab. No antiseptics were introduced into the cavities, which were simply flushed out with sterilised water, and packed with iodoform gauze. In six cases the temperature fell after the operation to 99°, and rarely again did it reach 100°; six left hospital cured after an average stay of twenty-eight days, the seventh being still under treatment. Cases II, IV, and VII yielded a creamy yellow pus, whilst the remainder contained the dark chocolate con- tents usually met with in these abscesses; a point of interest here being that the thermographs of the former exhibited higher points than those of the latter. I have seen no opinion hazarded on this variation in the nature of hepatic pus. Is the dark chocolate secretion a later stage of the yellow, and due to the breaking down of tissue, or is it simply the result of hæmorrhage from the abscess walls? In none of these cases was bile detected in the contents. In one case only was any history of dysentery elicited, namely IV, and in Case VI—a most interesting one—an attack of acute dysentery, accompanied by malarial symptoms, supervened ten days after the operation, quickly, however, yielding to treatment. The seven patients suffered from fever of the ordin- ary so-called remittent type prior to the hepatic trouble, subse- quently merging into continued pyrexia varying from 100° to 105°. Is hepatic abscess the direct result of malaria? We have long thought so in this colony, and these cases go far to confirm that view. It is evident that portal pyæmia can be made responsible for but one of these abscesses, and in that

case even there is considerable doubt as to its being the active agent, inasmuch as malaria preceded and coexisted with the dysentery.

REVIEWS.

BURDETT'S HOSPITALS AND CHARITIES, 1897. Being a Year-book of Philanthropy. London: The Scientific Press. (Demy 8vo; pp. 918. 5s.)

WE have had frequent occasion to notice, with due appreciation, this useful annual volume, and have now the pleasant duty of congratulating its active and zealous author on the recognition which his services to the public have worthily earned. We hope that Sir HENRY BURDETT will long live to serve the cause of the voluntary hospitals, which has found no more intelligent and earnest advocate than himself outside of our own profession.

In reviewing the volume for the present year we must deal first with the Prince of Wales's Fund, the inception of which is intended to place the hospitals in a position of financial security, and to safeguard the voluntary principle. Sir H. Burdett has had so much to do with the scheme itself, and is so good an authority on finance, that we are relieved to find that, in his judgment, the success of the fund is absolutely certain. "It is with very sincere satisfaction," he says, "that we are in a position to state that the support extended to the Prince of Wales's Hospital Fund for London, and the form in which that support is given, have already made it practically certain that his Royal Highness will achieve a permanent and lasting success" (p. 57), and in publishing some figures of income and expenditure, he adds: "These figures demonstrate that, now the Prince of Wales's Fund is an assured success, the metropolitan hospitals will have sufficient funds to enable them to do all the work they can properly undertake, and to do it with the maximum of efficiency and economy" (p. 63). The above passages must have been written some time ago, and appear to us to give a far too favourable view of the present prospects of the fund; but we hope Sir Henry's wider knowledge is more to be trusted than our impressions, derived only from the newspaper accounts. Those accounts led us to fear that the scheme had hitherto failed in what was its most distinctive feature, that is, to attract smaller but more numerous subscriptions from those many persons who, though able, do not at present subscribe at all. It seems, at any rate, certain that the fund will not amount to £100,000 for the present year, while it is quite uncertain whether, or to what extent, it will diminish the Sunday and Saturday Funds, and the subscription lists of the various individual hospitals.

Sir H. Burdett, however, is on ground which cannot be contested when he says that "when the time for distributing the fund arrives great care will have to be taken to weigh fully the circumstances of each institution," p. 65. But he does not say how this is to be done, or who is to do it. The idea of a Central Board, recently promulgated by the Charity Organisation Society and their allies, has been very unfavourably received by the great hospitals, and very hostilely criticised by Sir Henry Burdett himself. Yet how else are the varying circumstances of each institution to be "weighed"? No one (unless it be Sir Henry himself) will be satisfied to put the weighing-machine into the hands of the Hospital Sunday Fund; and how are "the various circumstances" to be collected for the weighing? He very justly says that it would never do to take the mere present pecuniary position of the hospital as a measure of the relief to be granted from the fund, for that would merely be to put a premium on reckless expenditure: but he leaves us quite in the dark as to how the problem is to be solved—and this, we must say, is a grave defect in such a work, and especially in such an author.

There are many other topics in the part of this work referring to medical charities, which we would gladly have noticed had space permitted. We note with pleasure the observations on the "evils of rate-support" on p. 135, and the strong condemnation of the pestilent system of street collections on pp. 242-4. But we must content ourselves with merely a reference to these parts of a very useful and valuable book. It is not, in our judgment, perfect; and many of the most strongly-expressed opinions must be regarded as those of the author only. But we believe it to be a thoroughly honest and well-intentioned publication, and it has become almost a necessity to the various classes of charities of which it treats.

ON THE SYNTHESIS AND MOLECULAR CONSTITUTION OF DEAD AND LIVING PROTEID. By P. W. LATHAM, M.A., M.D. Cambridge: D. Bell and Co. 1897. (Demy 8vo, pp. 28 1s. 6d.)

IT is about ten years ago since Dr. LATHAM published his Croonian Lectures, in which he put forward the theory that living albuminous matter may be regarded as being made up of cyan-alcohols united to a benzene nucleus. The present pamphlet shows that this view requires some modification a thio-alcohol is introduced as well. The evolution o carbonic anhydride and lactic acid on the death of living tissues is taken into account. Pflüger's theory concerning the different way in which the nitrogen is combined in dead proteid from that in which it exists in "living proteid" is accepted, and a constitutional formula is constructed, which when converted into an empirical formula is identical with that of Lieberkühn.

In criticising the work we would first take exception to the term "living proteid." No one has yet shown that there is proteid at all in living protoplasm; directly chemists begin to analyse proteid they kill it, and the proteid they obtain is only the *débris* of the living molecules. In the second place we fail to see why Dr. Latham should be so anxious to make his formula identical with Lieberkühn's. He nearly succeeded in his Croonian Lectures; by manipulating the formulæ a little more, he has now attained his object. A little more shuffling o the figures, and no doubt a formula could be obtained identical with that of Harnack, or Loew, or Schützenberger, or half a dozen others, all equally valuable, or equally worthless. In the light of Drechsel's recent work, Pflüger's old theory must probably fall to the ground, but Dr. Latham has no scruple in accepting it. We fear Dr. Latham has not studied the work of Drechsel and his school very closely; for instance we find him accepting lysatinine as a definite chemical unit whereas Drechsel, its discoverer, was uncertain what formula to give it, and Hedin, his colleague, has since arrived at the opinion that it does not exist. Nevertheless Dr. Latham is able to show theoretically, not only how it is formed, but even how three different varieties of it ought to be obtainable.

In chemistry facts ought to be accumulated first, and a theory deduced from them. Here we have the theory first and the experiments promised in the future. Ten years ago Dr. Latham's theory was an interesting jump in the dark to-day we fear Dr. Latham is still where he jumped, refusing the light which has been thrown on the question from othe quarters.

THE NORTH-WESTERN PROVINCES OF INDIA: THEIR HISTORY ETHNOLOGY, AND ADMINISTRATION. By W. CROOKE, Benga Civil Service (Retired). London: Methuen and Co. (Roy 8vo, pp. 361, 16 plates. 10s. 6d.)

THIS is a most interesting work from an administrative an ethnological point of view. It concerns "a wide, open plain the alluvial valley of the Ganges, Jumna, and their tributaries, with a slight uniform slope to the east and south, in the direction of the course of the great river seaward toward the Bay of Bengal; a tract to the north, including some o the highest mountains in the world, and separated by a serie of valleys from a lower range which bounds the alluvia plain; to the south of the Jumna, a poorer country risin from the river bank to the edge of the Vindhyan Plateau part of the backbone of Central India." This region, emi nently productive and populous, "one of the greatest of ou Indian provinces," is described minutely as regards it physical geography and climate, and the story of its con dition under native rule and its acquisition by the Honourabl East India Company is told in detail.

The condition of the province when it came under our rul is described as "a country with a people depressed by mis

government, a province lacking in all the essentials of civilised government, without roads or bridges, public buildings, courts, gaols, police stations, schools, and hospitals." Protection of life and property was feeble or wanting, organised crime rampant, justice venal, and oppression rife. The author tells how, during the present century, the government of these provinces addressed itself to the repression of crime, the prevention of famines by means of splendid irrigation works, and of disease and death by means of sanitation and medical relief, the education of the people, the development of agriculture and trade, and the elevation of the classes in the scale of civilisation. He sums up the result as follows:

"Our record is on the whole creditable. We have kept the peace; we have settled the land; we have relieved the miseries of famine; we have spread artificial irrigation; we have made railways, roads, and telegraphs, established the education and postal systems, codified the law with a due regard to local custom and social wants, organised medical relief and sanitation. We have made corruption and oppression an unwelcome incident instead of an element of the civil administration. We have freely admitted natives to public office; we have given them municipal and local government. Lastly, we have striven to secure toleration of all religious beliefs; we have shown a desire to treat all classes fairly without tyranny or prejudice, without regard to caste or creed." This is a striking statement of the outcome of our rule not only in these provinces, but throughout the whole of India, and it is moderate and perfectly true.

Nor does the author conceal defects, difficulties, and desiderata. Village sanitation, for example, is still an achievement of the future. "Sanitary work," he remarks, always involves some amount of odium, and to preach the gospel of cleanliness stirs up local ill-will."

Anyone desiring an insight into the ethnical and political history of India, into the religious, social, and domestic life of the people, their industries and habits; into the battle which they have to wage with their environment; into the methods of civil administration, and the tendencies and results thereof, cannot do better than consult this very instructive and readable volume.

GENITO-URINARY SURGERY AND VENEREAL DISEASES. By J. W. WHITE, M.D., Professor of Clinical Surgery, University of Pennsylvania, and ED. MARTIN, M.D., Clinical Professor of Genito-Urinary Diseases, University of Pennsylvania. Philadelphia and London: J. B. Lippincott Co. 1897. Roy. 8vo, pp. 1080, 243 engravings, 7 coloured plates. 21s.)

This book opens with two chapters on diseases and injuries of the penis and urethra, and these are followed by an account of gonorrhœa and its complications, including stricture of the urethra in men and women, and a section on the care of urethral instruments. Next comes an account of the local venereal sore, or, as the Americans prefer to call it, "chancroid," and after this syphilis occupies some 240 pages, the chapters on both these subjects being copiously illustrated. Of these illustrations it may be said that the few of them which are coloured are good, and will be found useful by the owner of the book, while most of the others are of little value.

Injuries and diseases of the bladder are next dealt with, and here also is included a useful chapter on examination of urine, with figures of the different urinary deposits taken from Guyon's large work on the urinary organs. On the much discussed question of the etiology of stone in the bladder, the authors remark that "The diathetic tendency is highly marked in certain localities, but these are so widespread, so totally different in climate and surroundings, and the diet and habits of the people so differ that no general law can be deduced which bears on calculous formation." On another point, on which also there is a difference of opinion namely, the choice of operation in children—the authors have arrived at the conclusion that in every case of calculus in male children litholapaxy should be "the operation of selection."

In the section on diseases and injuries of the ureters and kidneys it is laid down that micro-organisms are the invariable causes of renal suppurations, and that the clinical causes of congestion can do no more than make the tissues susceptible.

In view of the intimate association of Dr. WHITE's name with the treatment of enlarged prostate, one naturally turns with interest to this part of the work, and more especially to the question of castration as a means of relief from the consequences of enlargement in later life. With regard to this operation the authors state that since it was first advocated by Dr. White in 1893 it has been performed in hundreds of cases with results which establish it as the safest and most radical curative operation yet proposed. The indications for castration are those for any form of surgical intervention—namely, the breakdown of catheter life. The remote results of the operation cannot yet be determined. Cases of death with precedent mental symptoms described as mania are, according to the authors, only such as every surgeon is familiar with in a certain proportion of operations performed on aged persons. They are also of opinion that the large majority of such cases should probably be classified as uræmia, and some of the remainder as traumatic delirium.

Of the remaining subjects included in this volume it must suffice to say that they comprise affections of the scrotum, testis, spermatic cord, and vesiculæ seminales, as well as functional sexual disorders in the male.

The book is undoubtedly a good one, but it is also a decidedly bulky, not to say unwieldy, one, as indeed was inevitable in the circumstances, for the range of the numerous subjects which it includes has now become too wide to be discussed adequately in a single volume. And while the authors may fairly be congratulated on the large amount of valuable information they have been able to bring together on such a variety of matters, we cannot help thinking that the work would have been more likely to meet with the appreciation it deserves if the diseases commonly known as venereal had been reserved for a separate volume.

A TEXTBOOK OF DISEASES OF THE NOSE AND THROAT. By FRANCKE HUNTINGTON BOSWORTH, A.M., M.D., Professor of Diseases of Throat in Bellevue Hospital Medical College, New York, etc. Third Edition. London: Baillière, Tindall, and Cox. 1897. (Roy. 8vo, pp. 834, 186 engravings, 7 coloured plates. 25s.)

DR. BOSWORTH'S treatise took on its first appearance a very high place among the works on the subject published in our language. It presented a somewhat formidable appearance in its original form of two handsome volumes, and Dr. Bosworth has felt it advisable to reissue it in a slightly condensed form in one volume. This has no doubt made it more acceptable and convenient in the case of the majority of readers. Those, however, who strive after perfection and who have wisely chosen Dr. Bosworth as their guide will feel some disappointment that he has effected condensation by eliminating the numerous bibliographical references to his authorities, which added for their purposes so much to the value of his work. The book is the outcome of the personal experience of a well accredited observer, and not merely the compilation of a well-read aspirant. As such its value is thoroughly established, but the subject is one in which many advances have been made both in regard to principle and to detail.

Thus, in relation to the "deformities" of the septum much clarification has been effected by greater discrimination between outgrowths and deflections, and by the refinement in the details of the diagnosis of the affections of the accessory sinuses as given by recent writers. At the same time everything stated by Dr. Bosworth is well founded, and the student or practitioner who follows his teaching will find himself on thoroughly safe ground even in regard to his most extreme views from which the experience of others may justify a hesitating dissent. Thus his dogmatic assertion of the influence of hypertrophic rhinitis and septal deviation in producing disease of the ear is questioned by some, but it is more safe to accept than to discard it (pp. 74 and 162). The singular omission of a description of abscess of the septum in the former edition has been made up in this (p. 172). The large and valuable section on the external surgery of the nose stands as before—the standard work on the subject.

The diseases of the fauces and pharynx are fully discussed, and, as a rule, in a manner well up to date. In regard to diphtheria, the writer is a strong advocate for the use of antitoxin, which was not in use at the time of publication of his former edition. He recommends intubation rather than tracheotomy in children under 5 years of age.

In the excellent chapter on hypertrophy of the tonsils, the modern Continental operations of discission and *morcellement* are passed over in silence. In adults the cold wire snare is recommended so as to avoid the risk of hæmorrhage occasionally following the use of the guillotine. The paralyses of the palatal muscles are well described, but no reference is made to the very characteristic appearance in hemiparesis of the dimple in the unaffected half during phonation, which is a much better guide than the deviation of the uvula. Again, disease of the facial nerve is insisted on as a cause of palatal paralysis, although modern neurologists question this altogether.

Great importance is attached to the influence of nasal and naso-pharyngeal disease on the larynx. A very singular exception is made in the case of the so-called "laryngitis sicca" (p. 638).

On the whole, any shortcomings in this valuable book are quite eclipsed by its manifold and obvious excellences. It is the work of a vigorous and independent thinker who has taken his descriptions from Nature and has formed his own impressions therefrom, while at the same time he has given due attention and prominence to the views of others.

Ueber Eierstockstuberculose. [On Tuberculosis of the Ovary.] Von Dr. J. Schottländer, Privatdocent an der Universität Heidelberg. Mit 4 lithographischen Tafeln. Jena: Gustav Fischer. 1897. (Imp. 8vo, pp. 176. M. 9.)

This important work is the result of a series of investigations made in order to make sure what appearances really represent tuberculosis of the ovary. At the end we find no fewer than 247 works, pamphlets, and papers on tubercle of the genital tract, and tubercle as it appears under the microscope. All the authors are men who have taken some pains to establish their assumptions, but we know that four or five times as many have jumped to conclusions about tubercle of the ovary and tuberculous peritonitis. The latter disease is interesting for the singular manner in which cure may, it is said, follow simple opening of the abdominal cavity, but in all alleged cases careful examination of the substance found in the peritoneum has not been made.

About tubercle of the ovary there remains yet more to be discovered. Hence Schottländer, instead of investigating ovaries removed from alleged cases in the human species, has examined specimens of the ovaries of rabbits artificially infected. The work is mainly a minute record of the experiments and the appearances detected in the diseased ovaries. These organs, he finds, are slow to become infected; the tubes, uterus, and especially the connective tissue of the broad ligaments are much more liable to tuberculous changes. A fine series of lithographs demonstrate the appearances discovered in the author's specimens.

Dr. Schottländer is well fitted for his task, as he has already published valuable monographs on karyokinesis in inflamed cornea and on the structure of the Graafian follicle. Those who work at the subject must study this book, and bear in mind that Orthmann has pointed out, at the April meeting of the Berlin Obstetrical Society this year, that primary tuberculosis of the human ovary has never been satisfactorily proved to exist. Since this work was in type, Schottländer has published in the *Monatsschrift für Geburtshülfe und Gynäkologie* a series of papers of yet greater clinical interest on the same subject, including observations on tuberculosis of the tubes and of ovarian cysts. But the pathologist and the young worker at gynæcology should study first *Ueber Eierstockstuberculose*, where they will find, not any fascinating conclusions or trouble-saving and error-breeding summaries, but full demonstrations of tuberculous ovaries. After patient study of these demonstrations they will know something about the look of tubercle in the ovary, knowledge necessary for them if they are called upon to search for the presence or absence of that disease in human ovaries committed to their charge for examination.

Life in Early Britain: being an Account of the Early Inhabitants of this Island, and of the Memorials which they have Left Behind Them. By Bertram C. A. Windle, D.Sc., M.D., M.A.Dublin. London: David Nutt. 1897. (Demy 8vo, pp. 260, with map and 67 illustrations. 3s. 6d.)

The subject of this very satisfactory little book is rather more extensive than its title would lead one to expect, extending beyond the men and things of the palæolithic, neolithic, and bronze periods, through those of the Roman occupation and the Saxon conquest. The author had not hitherto been known, we believe, as an original worker in this field, but he is certainly well qualified, by reading, observation, breadth of view, and literary skill, to produce a work like this, which is an excellent introduction to the archæology and ethnology of Britain.

He is happy in his familiarity with ancient Irish tradition and literature, whence he has derived some picturesque and valuable illustrative quotations; and altogether, without losing distinctness of detail, or sacrificing the scientific character of his work, he has been able to make it attractive to the general reader.

He will be found a very safe guide by the student; and if he ever wanders from what some think to be probability, it is always in very good company. Thus he may perhaps insist too positively on the persistence of the tribal organisation in South Britain throughout the Roman occupation; but in so doing he relies on the arguments of Mr. Gomme—no mean authority.

He unhesitatingly derives the Angles not from the country about Sleswick and Flensborg, as has usually been believed, but from "a district near Magdeburg, still known as Angeln." There is something to be said for this view; for example, the community of Anglian and Thuringian law, as avouched by the title of the "Leges Anglorum et Werinorum, hoc est Thuringorum."

At page 211, however, he has been led astray by the wispy glamour of a novelist, who may know a great deal about Wessex manners and customs, but assuredly not much about historical physiognomy. "Such an observant traveller," he says, "may find himself remarking, with Mr. Hardy, that some flexible mouth which he has seen never came over from Sleswick with a band of Saxon pirates, whose lips met like the two halves of a muffin." Whereas, in fact, the mouth is æsthetically one of the best features in the Saxon type, contrasting favourably with the Kymric slit or the Ibero-gaelic muzzle. The description of Boadicea as having a profusion of dark ruddy hair is hardly correct. The words of Dion, to which reference is here made, are κομην πλειστην και ξανθοτατην, "profuse and very yellow hair."

We should like to know the authority for the statement on page 184, that the curious little church of St. Laurence at Bradford-on-Avon was built by St. Aldhelm to commemorate the victory of Cenwealh over the West Welsh at that place in 652. It seems intrinsically improbable. Aldhelm built the church, doubtless; but it was about half a century after the battle of Bradford.

The book is well printed, and well and profusely illustrated.

Bad Gastein, nach den neuesten Hilfsquellen [Bad Gastein, after the Latest Sources of Information]. Von Dr. Carl Gager. Berlin: A. Hirschwald. 1897. (Demy 8vo, pp. 131; 13 illustrations, 2 maps).

Gastein still maintains its position as one of the most frequented indifferent thermal spas, though of late years it has not been quite so much visited by English invalids as formerly. The indications for treatment at Gastein are those for the simple thermal springs in general, in combination with those for a sheltered mountain health resort, at an altitude of about 3,310 feet above sea level. The position of the spa is extremely beautiful. It lies amidst high mountains, about fifteen miles from the railway station of Lend in a slight deviation from the northern end of the Gasteiner thal. Most of the hotels and villas lie close to the imposing waterfall (of the Gasteiner Ache), which constantly sends up clouds of spray into the air. So close, indeed, do many of the

houses lie, that, owing to the continual roar of the falling water, it is advisable for some nervous patients to choose their rooms in one of the hotels or villas further off. To those who read German Dr. Gager's book will be interesting for history of the place, but also on account of the general information and the excursions to be made in the neighbourhood.

Remarks on the Uses of Some of the Bazaar Medicines and Common Medical Plants of India. By Edward John Waring, C.I.E., M.D. Fifth Edition. London: J. and A. Churchill. (Cr. 8vo., pp.292. 5s.)

The first edition of this small work was issued in the year 860. It was prepared for the use of the district vaccinators f Travancore, written in English and Tamil on opposite ages, and intended to instruct persons with little or no nedical knowledge and beyond the reach of qualified medical ssistance how to treat the common diseases of India with nedicines which could be gathered on the road side, or pro- ured from a neighbouring garden or bazaar. It succeeded in ts purpose so well that with some amplification it was found seful by missionaries, officers of public works, forest, rail- ay, telegraph, and other departments, by planters and others ving in remote and isolated places, and even by qualified nedical men desirous by choice or necessity to make use of ndigenous drugs.

Successive editions have been amplified and adapted with view to more extended use, and the Tamil version has dis- ppeared. The present edition has been prepared by the on of the late Dr. Waring, with the assistance of Dr. J. E. T. itchison, C.I.E., who also gave valuable aid in compiling revious editions. The work consists of two parts; the first description, alphabetically arranged, of some 80 bazaar edicines and Indian medical plants, setting forth their naracters, properties, and uses; and the second an index of seases giving plain directions for the treatment of the ore common maladies, accidents, and emergencies incident Indian life.

Many more comprehensive and ambitious manuals have en published with the same plan and purpose as this little ook, the special feature of which consists in its restriction, th few exceptions, to materials readily procurable locally in l parts of India.

It has no pretensions to be an exhaustive and detailed count of Indian medicines, or a complete and scientific position of Indian diseases. Its simplicity constitutes its erit, and from the point of view of its origin and object it an excellent compilation, and likely to serve a useful rpose.

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e Art of Cooking for Invalids. By Florence B. Jack. Edinburgh: T. C. and E. C. Jack. (Cr. 8vo, pp. 198. 2s.)

is is a most useful and practical little book, and should be the hands of every nurse and of every person who has to ler or cook food for invalids, whether in the home or in the spital. In it the most precise and exact directions are en how to prepare beef teas, broths, and soups; fish, meat, l vegetables; puddings, sweets, and jellies; and in every e the exact amount of the ingredients required for a single ving for one person is given, as well as the cost. The apter on drinks is particularly valuable, as the decoction of ht, nourishing, or stimulating drinks for the invalid is not ficiently considered in the sick room. The art of pep- ising foods is described, but the preparation of malted ds is omitted, and should certainly be included in a second tion; also some account should be given of how to cook, hout the use of flour or sugar, for the diabetic.

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cts for Infants and Children in Health and in Disease. By Louis Starr, M.D. Philadelphia: W. B. aunders. (Cr. 8vo, 1.25 dol.)

e increasingly-recognised importance of diet in treatment pparent from the number of diet lists and diet charts ich are published. Those designed by Dr. Louis Starr concise and well considered. Torn out and handed to the nurse or mother, exact instructions are given in a written and easily-understood form as to the kind and amount of food, the clothing, bathing, sleep and exercise of the infant or child. The diets are various and well selected, and are adapted to children of all ages. At the end of the book are a few simple recipes which can be detached and given to the nurse.

NOTES ON BOOKS.

The Value of Electrical Treatment. By J. Althaus, M.D., M.R.C.P., M.R.I. (London: Longmans, Green, and Co. 1897. Cr. 8vo, pp. 102. Second Edition. 2s.)—The second edition of this excellent work contains almost the same matter as the former one, though the outward appearance of the book is a little changed. It serves a useful purpose as an able sketch of the applications of electricity to medicine, and illustrative cases are quoted throughout. The amount of space allotted to the different subjects treated of seems to us in many cases to be inadequate; for example, infantile paralysis with sixteen lines and neuritis with twelve only cannot be said to be fully dealt with. On the other hand, impotency, which received a slight mention in the first edition, here occupies over six pages.

Diet Chart and Alimentary Index. Suggested by M. J. Kenny, L.R.C.P.Edin., L.R.C.S.I. (Bristol: John Wright and Co. Demy 8vo. 1s. 6d.)—These diet charts are arranged on a simple scale. A list of foods is given, and the doctor is able by crossing out those contra-indicated to give his patient dietetic directions. On the obverse of the page are a few recipes. These are, however, not very well considered. Thus in making beef tea instructions are given "to boil gently for twenty minutes." The one thing to avoid in making beef tea is allowing the tea to boil; it should be kept under boiling point for about five hours. With a little more care these diet charts might be much improved and rendered more useful.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections in Photo-lithochromes from Models in the Museum of the Saint Louis Hospital, Paris. By Besnier, Fournier, Tenneson, Hallopeau, Du Castel, Feulard, and Jacquet. Edited and annotated by J. J. Pringle, M.B., F.R.C.P. (London: The Rebman Publishing Co. Philadelphia: W. B. Saunders. 1897. Part VIII and Part IX.)—These two parts of this standard *Atlas* continue to show the same remarkable excellence in the coloured drawings and instructive letter press that have characterised the previous numbers. In Part VIII there is an illustration of epithelioma arising from a lupus scar, one erythema iris, an excellent representation of lichen planus, and a representation of biskra button. Amongst the contents of Part IX there are two important pictures, one of disseminated lupus pernio, and the other of gummatous tuberculous lymphangitis secondary to tuberculous dactylitis.

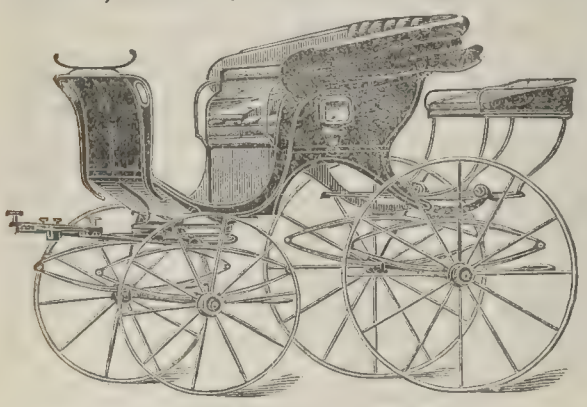
Einleitung in den Cursus der Dermatologie. Vortrag gehalten bei der Eroffnung des Ambulatoriums für Syphilis und Hautkrankeiten bei dem Marien-Krankenhause. [An Introduction to a Course of Dermatology.] By Professor Polotebnoff, St. Petersburg. (Berlin: A. Hirschwald. 1896. Roy 8vo., pp. 47. M. 1.20.)—This introduction to a Course of Dermatology is of interest chiefly to those who devote themselves to that department of medicine. The author refers in a critical manner to the facilities given for the study of that speciality in various countries, particularly in Berlin and Vienna; and, in order to show the confusion in which dermatology as a science still is, he refers to the discordant views which are held on many points regarding the classification and etiology of skin diseases, and freely criticises the opinions of leading authorities on these subjects.

It is stated that Professor Koch is about to return to South Africa to carry out further experiments in relation to rinderpest.

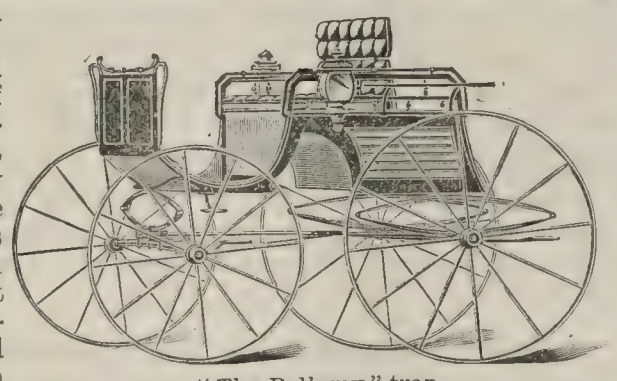
REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

CORTLAND CARRIAGES.

THE Cortland Wagon Company, Henrietta Street, Covent Garden, London, are introducing into this country a class of carriage based on the well-known American patterns, which have many advantages for professional use. Their main quality is that of the combination of light weight and light draft, with very strong material. Their weight is about half that of the ordinary carriage, and to attain this end the wheels and shafts are made of the best hickory, and the tyres of steel. They are adapted by the variety of design to all requirements, but we would draw attention to the Bellamy, which is practically a high and well-built four-wheeled dog-cart, compact and handsome, with ample room for parcels and cases of instruments, etc. It weighs only 350 lbs.

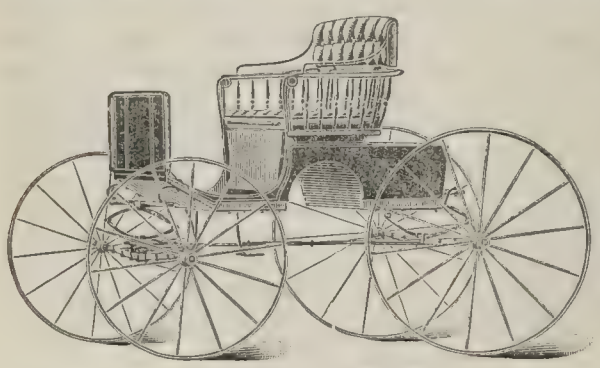


"The Norfolk" phaeton.



"The Bellamy" trap.

Another good model is what is called the Model buggy, which combines the American design with English "full lock," and can thus be turned in its own length. It has room for light packages and instrument cases, weighs only 265 lbs., and is sold at 30 guineas. The Norfolk hooded phaeton is also very light, and suitable for professional use in London and large cities. These vehicles are very serviceable for medical use, the combination of light weight and draft causing a great saving of horse labour. It is a pity that English carriage builders do not turn their attention to this matter, and use hickory for the wheels and shafts.



The "Model" buggy.

IN connection with the Hygienic Congress at the Brussels Exhibition, the members of the Sanitary Inspectors' Association have arranged to visit Belgium early in September. The programme includes visits to and inspection of the sanitary works at Antwerp, Malines, Ghent, Bruges, Ostend, and Brussels, while civic receptions will be given to them at most of these towns. M. Buls, the Burgomaster at Brussels, has invited them to a reception at the Hôtel-de-Ville on the evening of September 6th, and has placed the Militia Hall at their disposal for their meetings while in Brussels. At Ostend a reception will be given at the Hôtel-de-Ville on the morning of September 10th.

BRITISH PHARMACEUTICAL CONFERENCE.

THE annual Conference of the British Pharmaceutical Society was held last week in the Grand Hotel, Glasgow.

The Conference was opened on Tuesday, August 10th, when about 112 delegates were present. Dr. SYMES (Liverpool), the President, in his opening address, traced the history of the Association from its formation in 1863 to the present day, and spoke of its aims and work. At first they had only a small volume of "Proceedings;" now they published a large year-book, giving a complete review of progress made in chemistry, materia medica, and pharmacy. Their membership, which at the first annual meeting in 1864, was 150, had now increased to over 2,500. Referring to the Pharmacy Act and the progress of education in their calling, he thought the present preliminary education might be improved with great advantage to pharmacists. He spoke of the sale of patent medicines, and said that chemists had in the beginning probably given them undue prominence, and now the sale of them was more or less taken out of their hands—perhaps not without moral advantage to them in their calling. Dr. Symes then referred to the progress in the methods of diagnosis made in the medical profession in recent years, and thought the greatly increased importance attached to diagnosis had pushed the question of drugs into a subordinate place. This he felt sure would be remedied by time, and a more equally balanced state of things be the result. Meanwhile he urged them not to wait idly for this time to come, but to devote themselves to good scientific work and legitimate business enterprise, and so bring about such a condition of affairs as would gain the acceptance of the medical profession, and at the same time enable the pharmacist to reap the reward of his work. Both professions would thus gain in the increased confidence and respect of the public.

The annual report and a number of papers were then read.

In the afternoon the delegates and their friends went to Balloch and enjoyed a cruise on Loch Lomond.

On Wednesday a note prepared by Professor HENDERSON, of the Technical College, on Some Soluble Compounds of Arsenic, was read by the SECRETARY, Mr. Naylor. In the discussion the want of teaching in organic chemistry in the University was referred to by one of the members.

Professor ATKINSON (London) read an interesting paper on Pharmaceutical Ethics, in which he deplored the enormous increase in the use of secret remedies, about £3,000,000 now being spent annually by the public on advertised nostrums. He thought that the matter ought to be taken under control of Government. The falling off in dispensing, he considered, was much to be regretted, as it brought pharmacy more and more down to the rank of ordinary trading and competition.

Several other papers were then read.

An invitation to hold the next annual meeting at Belfast was unanimously accepted, and the proceedings closed after votes of thanks to the Chairman and others had been accorded.

THE ASSOCIATION OF GERMAN SCIENTISTS AND PHYSICIANS.—The Association of German scientists and Physicians will hold its sixty-ninth annual meeting at Brunswick from September 20th to 25th, under the presidency of Dr. V. Edler von Lang, of Vienna. Among the subjects proposed for a general discussion is scientific photography and its application to medicine; this subject will be dealt with by Dr. Wislicenus, of Leipzig; Professor Vogel, of Berlin; Dr. René du Bois-Reymond, of Berlin; Professor O. Lassar, of Berlin; and Professor E. Selenka, of Munich. An exhibition of scientific photography has been organised by Professor Müller, and will be held in the Old Hospital in the Wilhelmstrasse. Dr. J. Orth, of Göttingen, will deliver an address on Medical Education and Medical Practice. Professor Waldeyer, of Berlin, will also deliver an address, and many communications of medical interest are on the programme.

PROFESSOR W. H. CORFIELD, M.D., the medical officer of health for St. George Hanover Square, has been elected an honorary member of the Royal Society of Public Health of Belgium, of which he has been a corresponding member for some years. The honorary members consist of Ministers, ambassadors, and high State officials, and a few foreign hygienists. Professor Corfield is, we believe, the only Englishman upon whom the honour has been conferred.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY AUGUST 21ST, 1897.

THE PROGRESS OF PHYSIOLOGY DURING THE LAST THIRTEEN YEARS.

We publish this week Professor Michael Foster's address at Toronto; admirable alike for the beauty of its style and for the breadth and order of its argument. He began with eloquent commemoration of those great physiologists who were alive when the British Association met at Montreal in 1884; then, as though their lives gave him a standard measure of the work of the present day, he went on to speak of the increase, between 1884 and 1897, of opportunities for study; how these new privileges brought new duties with them; how the spirit of the men of 1897 must be that which moved the men of 1884, concerned with facts, not with products and profits; and he brought together the past and the present by quoting the honoured name of Kölliker—"who in his old age is doing work of which he in his youth might have been proud." Thus he reached the dominant theme of his address—the progress of physiology from 1884 to 1897; how it has re-stated old truths with finer accuracy and deeper insight—*la science fait progrès toujours en spirale*—and by the use of finer methods has learned new truths. Of all this high intricate research he gave a most masterly account, and it would be hard to praise his words more than they deserve. Then he passed to the future of physiology, to its millennium, when there will be light enough to see clearly those workings of the nervous system that now we see darkly, and to understand so well the physical basis of consciousness that physiology "will take its place as a judge of appeal in questions not only of the body but of the mind; it will raise its voice not in the hospital and consulting room only, but also in the senate and the school." In England, he added, physiology is hindered by the law; let other nations be thankful for the freedom that they enjoy in the things of science.

The whole address was so excellent both in its general effect and in its details that it should be studied, not read second-hand, or half the good of it will be lost. And as we study there rises this grave question, how we stand, as men busy with practice, toward physiology; what duty we owe to it, what measure of our work we can bring under its influence.

We may put first that which is our plainest duty to physiology—to uphold it among men for its own sake, as pure science, apart from its gifts to medicine and surgery. It is impossible, and if it were possible it would yet be wrong, to think of it as coldly and dispassionately as we think of astronomy and geology. We cannot, if we would, imitate that learned society who at their dinners used to drink the toast of "Pure mathematics! And thank God they were never of any use to anybody." The study of life, and experiments on living animals, touch us too closely to be contemplated in this philosophic fashion. But we have no right to measure physiology, as its opponents measure it, by its direct applicability to practice, or to demand immediate results from it, so much new treatment of disease in return for so much experimental work, or to put ourselves first and the men of science second.

And the temptation to think of physiology as subservient to medicine and surgery has become easy to resist. The wonderful progress of physiology in our time has raised it almost out of the range of our vision. In days so full of new learning, how can a man busy in practice find time and thought to reach beyond the things of practice; how can he know, even on his own ground, all that he ought to know? We may take, for example, two sentences from Professor Foster's address:

"It is the terminal of the neuraxon (either of the main core or a collateral) of one cell which touches with a vibrating touch the dendrite or the body of some other cell."

"To-day we can with confidence construct a diagram, which he who runs may read, showing how the impulses undergoing a relay in the tuberculum acusticum and accessory nucleus pass by the striæ acusticæ and trapezoid fibres to the superior olive and trapezoid nucleus, and onwards by the lateral fillet to the posterior corpus quadrigeminum and to the cortex of the temporo-sphenoidal convolution."

But we who run the race of practice cannot read diagrams of this sort; we are like a famous art critic, who became entangled in an after-dinner discussion on the Eastern question. "But I don't know," he said plaintively, "I don't know where Bulgaria *is*." Or we may compare ourselves to "honest Casca" in *Julius Cæsar*: "Did Cicero say anything? Ay, he spoke Greek. Those that understood him smiled at one another, and shook their heads; but, for mine own part, it was Greek to me." Therefore we may add this corollary to Professor Foster's address: that modern physiology, what we may call physiology *in excelsis*, has spread beyond the grasp of the busy practitioner, has risen above the range of his vision; which makes it easier for him to do his duty by it, upholding it before all men, especially its opponents, as pure science, to be judged by its facts, not only prized for its fruits.

Next, because we who are in practice take our fellow-creatures, nervous systems and all, as they are, and not as the physiologist knows them to be—because we watch their lives and their characters, and are acquainted with their secrets, family histories, faults, and habits—therefore we cannot understand how we, or anybody else, now or hereafter, could do more for them or their children by knowing more about the molecular dance and the sweep of impulses along nerve cells and nerve fibres. To the end of the world, we shall educate the sense of hearing by listening to music, in Nature and in Art, without reference to the tuberculum acusticum and the accessory nucleus; we shall strive to talk as good English as Professor Foster without inventing special exercises for the strengthening of Broca's convolution.

Surely, of all the many thoughts that are familiar to a great physiologist and strange to ourselves, this idea is the most unintelligible, that the senate and the school will some day look to be guided in their tasks by a more exact knowledge of "that molecular dance which is to us the material token of nervous action."

But this millennial speculation does not touch the immense debt of veneration and of gratitude that we owe to physiology, and, of all living physiologists, to Professor Foster, for the magnificent work that he has done in and through Cambridge, sending thence his pupils, inspired by him, to advance our art in all parts of the world.

THE DEPLETION OF THE ARMY MEDICAL SERVICE.

THE public are now in possession of the results of the last examination for the Army and Indian Medical Services: they disclose a grave state of affairs as regards the former, and even show that the once popular Indian service is no longer what it was in the estimation of the medical schools. There were only two competitors for each vacancy in it, and the number of marks obtained by those who were successful shows that, while numbers have much decreased compared with former years, so also has the quality of the competitors. The eighteen men wanted for the Indian service were, however, forthcoming; but for the army only nineteen out of twenty-two were declared eligible for the nominal thirty-six vacancies, or seventeen short. But, as is well known and not officially denied, the real number of vacancies for the Medical Staff is quite double that advertised, it cannot, even counting the seventeen secured after desperate efforts, be less than fifty under the minimum effective establishment at the present moment.

Only four of those accepted for the army obtained more marks than the lowest on the Indian list, and some of those who have now scrambled in had failed at least twice before. What the War Office will now do remains to be seen. It is quite impossible that the present policy of drifting can continue much longer; with several frontier wars in India on hand, and perhaps a near struggle with Afghanistan; with nine medical officers ordered suddenly overland to Bombay; with ordinary army medical duties at home and abroad carried on only with the utmost strain and difficulty, it is clear the authorities are incurring the gravest responsibility by making no effort to settle the army medical question in a satisfactory manner. Suffering and loss of life in the army must be the result of an undermanned and inefficient medical service. Will the country tolerate such a state of things in deference to the prejudices of a handful of senior combatant officers, who refuse to recognise medical officers as made of the same clay as themselves? A weekly contemporary lately had an editorial note on the Army Medical Service, entitled "An Unaccountable Boycott;" we once again assure our contemporary that there is no "boycott," and that the avoidance of the army by young medical men is by no means "unaccountable." It is plain to those whose eyes and ears are open, and may be summed up as follows: The army will be avoided by all the best medical men until the War Office authorities and military officers condescend to treat them as educated gentlemen, holding commissions on a footing of equality with themselves. When medical men find they can serve the State with comfort and dignity, there will be no lack of army medical candidates.

THE President of Council, with several Presidents of Section, left England on Thursday, August 19th, to attend the annual meeting of the British Medical Association at Montreal.

WE understand that about one hundred of the Roentgen ray apparatus are to be supplied to the Army Medical Department.

OUR attention has been called to the statement in our recent article on the Progress of Temperance to the effect that, though drunkenness has decreased amongst males, female intemperance has largely increased. It has been pointed out that this statement is somewhat misleading, as the facts brought out in evidence before the Royal Commission with regard to Licensing Laws, which has just finished its second sitting, do not substantiate it in any way. The replies to the questions put by the Commissioners to Sir John Bridge and other witnesses clearly indicate that while, as the article states, there has been a considerable decrease in intemperance among males, female drunkenness, on the other hand, has remained stationary, showing neither increase nor decrease.

MERCER'S HOSPITAL.

THE miseries of this institution still give occasion for newspaper comment in Dublin. The latest is an allegation that two patients were left without food. The Governors reply that they were discharged, the house-surgeon having certified that they were fit to be moved. Mr. O'Grady, who with the rest of the medical staff was dismissed from office, still visits the wards in his position as Governor, and it is contemplated to make an effort to deprive him of his seat on the Board. It is a pity is that the Governors do not resign, and allow a new Board to put an end to the sad condition into which the institution has fallen.

SEWAGE-CONTAMINATED "SHELL FISH."

SOME idea of the estimation in which sewage-contaminated mussels are held may be gathered from a consideration of the proceedings of the Northumberland County Council and the Bedlington Council at their meetings held during the last two weeks. It seems that in the River Blyth at Blyth there were laid down in 1893 a number of mussels for the purpose of providing bait for fishermen along the coast. Flowing directly on to the mussel bed is a quantity of sewage, whilst the drain from the hospital for infectious diseases belonging to the Blyth Port sanitary authority discharges at a point about seventy yards from the nearest edge of the mussel bed. The medical officer reporting on this mussel bed says: "In the course of my inquiries one family came under my observation in which the one member who escaped enteric fever was the only one in the house who had eaten uncooked mussels. This circumstance, coupled with the custom of hawking almost daily raw mussels (eaten in a raw condition) through certain collieries and villages, and only six cases of enteric fever having been attributed to this cause during the last three years, undoubtedly indicates that the mussel beds in question can have been, on very rare occasions only, so contaminated with sewage as to have been a source of general danger to the public." The medical officer of health to the Bedlington Council warned the Council "of a danger he thought had been overlooked; he meant the regular flushing and disinfection of the Cambois sewer. Many of the disinfectants used were poisonous, and these, coming into contact with the mussel bed, would render the bivalve as unfit for bait as for human food." It really seems that the Blyth mussel beds are of so little

use that they might with propriety be closed, as their products are good neither for man nor beast. We, however, incline to the opinion that in spite of the medical officer of health's statement that in a small village only 6 cases of typhoid have been traced to the products of these beds in three years, and in spite of the protective influence against typhoid that these mussels appear to have exerted in one instance, the danger from the sewage, especially that from the hospital, lies, not in the disinfectants, but in the microbes. We are afraid that such reports as this will have little effect in rehabilitating the oyster and his *confrères* in the estimation of the public. It is no good temporising—purify the beds and sewage, inspect every laying whether of mussels or of oysters, and close without reserve any beds or layings which are not approved by those in authority, whatever the authority may be. Only in this way will the "succulent bivalve" regain the confidence of the public and those who advise them.

THE MICROBE OF YELLOW FEVER: REWARDS FOR DR. SANARELLI.

It is announced that a Bill has been introduced into the Legislature of Brazil offering a prize of 220,000 dollars (£44,000), to be divided into two equal parts, which are to be awarded to the author of a work demonstrating the existence of a bacillus of yellow fever and the method of recognising it, and to the discoverer of an efficacious means of treating the disease. The Medical Institute of Rio Janeiro, the Hygienic Institute of Berlin, and the Pasteur Institute of Paris are to decide as to the award of the prizes. The Bill further provides for the reservation of a sum of 110,000 dollars (£22,000) to be applied to the creation of an establishment for the preparation of a curative serum, the discoverer of which will be appointed organising director of the institute. The former of these prizes will probably be awarded to Dr. Sanarelli, an account of whose researches on the etiology of yellow fever was published in the British Medical Journal of July 3rd. In the meantime, the Uruguay Legislature has conferred honorary citizenship on Dr. Sanarelli in recognition of his discovery of the microbe of yellow fever, and has voted him a grant of 10,000 dollars, at the same time expressing regret that "the unhappy condition of the country does not admit of its doing more to show its gratitude to a physician and scientist who has already laid those regions under such great obligations."

COLD DRINKS.

Among the various discomforts entailed upon us by the hot weather is thirst, which leads to many accidents. First and most especially is the danger arising from the ingestion of ices and cold drinks, which so many people fly to directly they feel hot. Difficult as it may be to explain in precise physiological terms the evil consequences which so often follow the sudden application of cold to the mucous membrane of the stomach when the body is over heated, there is no doubt about the fact, and people would do well to remember the risk they run when they follow their instinct, and endeavour to assuage their thirst by huge draughts of cold fluids or the rapid eating of masses of iced compounds. Ices appear to be especially injurious, doubtless in consequence of the intensity of the shock produced. Other evils, however, besides those connected with local chill are apt to arise from the copious drinking of fluids in hot weather. Drink leads to perspiration, and excessive perspiration, with the consequent tendency to catch cold, is one of the main dangers of hot weather in our changeable climate. Physiologically speaking, no doubt perspiration is one of the normal means by which the animal heat is regulated. But a man wrapped up in thick clothing is hardly in a physiological condition, and when the interstices of that clothing are full of vapour the good influence of perspiration in lowering the temperature is much lessened. On the other hand, the dangers are much increased, for the chill goes on long after the heat is past, and, unless the clothes are quickly changed, rheumatism, bronchitis, and other evils are only too apt to supervene. There can be but little doubt that the profuse perspiration which is the cause of so many dangers is greatly aggravated by drinking, and especially by drinking alcoholic fluids. No one can watch a tennis match without noticing how the men perspire while the girls hardly turn a hair. Some, perhaps, will say that the girls play the feebler game; but, game or no game, they exert themselves. The same also may be seen at any dance. The secret is that the men follow their instinct and slake their thirst while the girls simply bear it. It should be remembered that thirst is the result of want of fluid in the blood not want of fluid in the stomach, and that a pint or more may be drunk before a single ounce is absorbed. Any attempt, then, to assuage thirst by rapid drinking must of necessity lead to far more being taken than is wanted, the moral of which is that if we must drink, at least let us drink slowly.

CHILDREN'S COUNTRY HOLIDAY.

Early in the summer we published a letter from Canon Barnett, of Toynbee Hall, in which he asked medical men living in the country to assist the Children's Country Holiday Fund, of which he is chairman, by mentioning suitable persons occupying healthy cottages, who would be willing to take in poor children as paying visitors for the few weeks of the summer holidays. We are glad to learn that this request was responded to, and enough homes for the growing demands of the children have been forthcoming. Last year the Society sent 28,000 London children into country cottages for two weeks, but this year, no doubt owing to Jubilee demands, the treasurer found himself £2,000 short of the required sum. To the children's aid has come *Punch*, who, under guise of the ever-inquiring Eastern King—of Siam—asks the question, "Everyone left town, have they? Then when do these go out of town?"—pointing to a group of gutter-playing children. We can only hope that the hint will be taken, and that the £2,000 will pour into the coffers of the Children's Country Holiday Fund, at 10, Buckingham Street, Strand. 28,000 children seems a large number, but these are only the ailing ones. Out of the 600,000 children in the metropolitan elementary schools, only 1 in 20 can have what undoubtedly their health needs, that is, a change from London.

HIGH MORTALITY AT BOMBAY.

The rise in the mortality in Bombay is, our Bombay correspondent writes, causing some anxiety, the total reaching to 130 to 140 daily. It is, however, probable that this excess is not due to plague, but to cholera and to the influx of famine-stricken people. Professor Hankin, who has been recalled to Bombay to finish his work on plague, is now working at the Municipal Laboratory there. A general meeting of medical men was held in Bombay, on July 21st, 1897, to discuss the registration of deaths in Bombay, and to put the system on a sound basis. The meeting was convened at the instance of the Plague Committee, of which all the members were present. It was decided that the printed rules previously discussed and approved by the Bombay Medical Union should be submitted to a committee of three medical gentlemen, who should determine whether the Plague Committee should recommend that the rules be adopted and issued under the Epidemic Diseases Act. The meeting was also of opinion that there was very little recrudescence of the plague, except sporadic cases, and that the present high mortality was not due to plague, but to cholera and diseases of the bowels. Scarcity of labour and the consequent poverty of the people and their inability to obtain sufficient food, lead to emaciation and death, adding to the general mortality. The opinion held by most medical men in Bombay is that the disquieting increase in the mortality is due also in no small measure to the narrowed re-

sources of many of the poor, consequent upon slackness of work and dearness of grain. Mill hands have no difficulty in finding work, but many of the coolies and labourers, who usually obtain employment at the docks and elsewhere, are less fortunate, owing to the continued slackness in trade. They find one avenue of work after another closed to them, and hence there is a larger number of unemployed than usual. Meanwhile, the price of grain continues very high, and many families have to go on a very restricted supply of food. Vitality is consequently lowered, and wetting in the heavy monsoon rain often brings on diseases to which the people, if better fed, would not succumb.

THE MOSCOW CONGRESS.

A REUTER'S telegram from St. Petersburg, dated August 17th, states that the Czar had that day received a number of distinguished foreign members of the medical profession who were on their way to Moscow to attend the International Congress to be held there next week. Among them were Sir William MacCormac, of London, Sir William Stokes, of Dublin, and Professor Simpson, of Edinburgh. A correspondent of the *Daily News*, telegraphing from Moscow on August 17th, states that members and delegates of the Congress are arriving in large numbers. At the good hotels the rooms are all taken, and many are falling back upon apartments, for which, however, prices are going up. The Russians are extending every civility to the visitors. At Warsaw, however, the correspondent in question and another, while making their way about in the streets with a German map, were arrested by gendarmes. The map was seized, and they were marched to the police station. There, however, a superior officer, after they had explained, ordered them to be set at liberty, and apologised and shook hands.

THE BRITISH ASSOCIATION AT TORONTO.

THE meeting of the British Association for the Advancement of Science was opened at Toronto on August 18th, in the presence of the Governor-General of the Dominion of Canada and Lady Aberdeen, and a large number of scientific notabilities—Canadian, British, and American. The Governor-General welcomed the members on behalf of the Dominion, and the Mayor of Toronto in the name of its citizens. Sir John Evans, K.C.B., was installed as President, his predecessor, Lord Lister, retiring amid an enthusiastic demonstration. In his presidential address Sir John Evans dealt with the antiquity of man. In the Section of Physiology the opening address was delivered by Professor Michael Foster, of Cambridge, who took for his theme the progress of the science since the British Association last met in Canada, that is, at Montreal in 1884. In the Section of Anthropology the Presidential address was delivered by Sir William Turner, of Edinburgh, who dwelt on some of the distinctive characters of the human skeleton. By the courtesy of the Assistant General Secretary of the British Association, Mr. G. Griffith, we are enabled to publish both these interesting addresses in this number of the BRITISH MEDICAL JOURNAL. Among the communications of medical interest on the programmes of the various sections are the Report of a Committee, consisting of Dr. W. H. Gaskell, Professor Burdon Sanderson, Professor E. A. Schäfer, Professor J. G. M'Kendrick, Professor W. D. Halliburton, Professor J. B. Haycraft, Professor F. Gotch, Dr. A. Waller, Dr. J. N. Langley, and Dr. Mann, appointed to investigate the changes which are associated with the functional activity of nerve cells and their peripheral extensions; the report of the Committee consisting of Sir Douglas Galton, Dr. Francis Warner, Mr. E. W. Brabrook, Dr. J. G. Garson, and Mr. E. White Wallis, appointed to investigate the mental and physical deviations from the normal among children in public, elementary, and other schools; a preliminary account of the Effects of Blood Pressure produced by the Intravenous Injection of Fluids containing choline, neurine, or allied products by Dr. F. W. Mott and Professor W. D. Halliburton; The Absorption of Serum in the Intestine by Professor E. Waymouth Reid; the Physiological Effects of Peptone, and its Precursors when introduced into the Circulation, being the interim report of a Committee consisting of Professors E. A. Schäfer, C. S. Sherrington, R. W. Boyce, and W. H. Thomson; and Physiological Applications of the Phonograph, and the form of voice curves made by the instrument, a report by a Committee consisting of Professors John G. M'Kendrick and G. G. Murray, and Mr. D. S. Wingate, and Mr. John M'Kendrick.

THE ARMY MEDICAL EXAMINATION.

THE unpopularity of the Army Medical Service grows apace, and no wonder. The only wonder is the continued indifference of the War Office to what is becoming a very serious matter. Take the proportion of candidates to advertised vacancies (expressed as percentages) for the last four examinations, and the number of those vacancies left unfilled on each occasion;

	Percentage of Candidates to Advertised Vacancies.	Advertised Vacancies left Unfilled.
February, 1896	106	8
August, 1896	108	13
February, 1897	80	19
August, 1897	61	17

How many of the gentlemen whose names appear in the present list of "passed" will finally receive commissions is open to doubt, since of the thirteen who passed last August one was subsequently rejected on leaving Netley, and the same fate has just overtaken one of those who passed in February. The number of vacancies actually existing is of course by no means expressed by the number advertised. The only reliable public statement on this point in recent years seems to be that of Sir Thomas Crawford, before Lord Camperdown's Committee in 1889. He stated that 891 medical officers were unsafely few. There have been no changes since then which should modify that statement, yet this August Army List shows the establishment to be only 810. The other day the hope was expressed in the House of Commons by Mr. Price that the Government would make a great effort to ascertain why the medical profession avoided the military service. We would reply that the War Office authorities are, and have been for a long time, in full possession of the reasons. All responsibility, therefore, for the present state of affairs, and what may come of it, rests on them.

STARVATION AND CRUELTY.

IT is a matter of national importance that the National Society for Prevention of Cruelty to Children has been weighed in the balance and not found wanting. It appears, indeed, that the allegations as to extravagance are not entirely groundless; but when this has been said all has been stated that can be be alleged against the Society; and if the Executive Committee shows a willingness to reform its internal administration on the lines laid down by Lord Herschell and his colleagues, there is no reason why the public should not support the Society as liberally as heretofore, for there can be no doubt that it does excellent work, and work that is much needed. Its labours are valuable not only on account of what it has accomplished, but by the indirect results which accrue because the wealthier and happier classes have thereby been led to think of the poor and the suffering. The National Society for the Prevention of Cruelty to Children has been in existence but twelve years, but during that time its growth has been almost phenomenal, the income having increased from £903 to £58,701, and its cases during the last eight years having risen from 7,463 to 62,225. It seems incredible that in a civilised country 62,225 children should need protection from cruelty and crimes against Nature, but that these are no fancied wrongs is proved by the fact that out of 2,279 cases which were brought into court the Bench held

96.9 per cent. to be proven, inflicting in the aggregate 425 years of imprisonment and £721 fines. Out of the 61,625 children involved in the complaints, 47,880 were suffering from starvation, 7,260 from assault, 1,584 from exposure, and 1,414 from immoral treatment. It will thus be seen that in by far the larger number of cases the acts complained of were those which affect the children's health, and were caused by the indifference and neglect rather than the active cruelty of their parents. There can be no doubt that the inspectors, who now number 139 among 699 centres, do useful work in warning parents who are neglecting their offspring, and in endeavouring to create in them better feelings. Sometimes, however, the assistance comes too late, and the Society has to chronicle the deaths of 204 children whom death released while inquiries were being made. We in common with all who love children or are interested in the public weal will watch with interest the changes we trust the Committee will make to meet Lord Herschell's recommendations, for such changes will go far to re-establish in public confidence a needed and valuable agency.

NEWRY WORKHOUSE.

We find from the Irish papers that the Local Government Board have called upon certain of the officers of Newry workhouse, into whose conduct an investigation was held some weeks ago, to send in their resignations. The officers so called upon are the master and his wife (the matron), the schoolmistress, and three infirmary nurses, one of whom (the night nurse) had already resigned. We are not disposed to dispute the ruling of the Local Government Board, but we are of opinion now, as we were at the time when we commented upon the state of affairs revealed by the investigation, that some of these officers are the victims of an unworkable system. By degrees the Irish Local Government Board will discover that even workhouse infirmaries cannot be conducted as hospitals for the efficient treatment of the sick without radical alterations in the system of administration, at present in vogue. The administration can either be conducted by the untrained unskilled masters and matrons or by the trained medical officers and nurses, and before long the central authority will be compelled by just such conditions as have occurred in Newry to decide upon whom the authority and responsibility for administrative duties shall rest. Should the responsibility be placed upon the medical officers they will have to undertake the duties at present performed willingly by the surgeons to Irish county infirmaries who are not under the Poor Law and have no larger salaries on the average, we believe, than workhouse doctors.

THE QUESTION OF DEATH CERTIFICATES.

The question of death certificates for children born out of wedlock is one which, owing to the present state of the law, is bound to be brought from time to time under public notice. An inquest, notable for several reasons, was recently held before the county coroner for Cornwall in which the deficiencies of the law in this respect were clearly shown. The facts, as reported in the *Western Morning News*, were briefly as follows: The illegitimate child of a housekeeper to a working man fell ill. The mother sought the advice of a medical man, who prescribed for it. But two days later it died without anything further having been done. As soon as death had taken place the father of the child applied to a medical man for a certificate. This, however, was refused, although an offer of payment was made for it. A district nurse's evidence was to the effect that the child had not been properly fed, and although it was 12 months old it weighed only 10½ lbs instead of 19 lbs. The medical man's evidence was certainly the noteworthy feature of the inquiry. He advanced the excuse that when the father of the child came for a certificate he refused to give one because it was on a Sunday, and he did not wish to inconvenience the registrar. But he also admitted that had he given a certificate it would not have been one of the ordinary printed form, "because," to quote from the newspaper report, "he did not attend the child sufficiently long, but he should have stated on a piece of paper that the child was brought to him on a certain day suffering from such and such a disease, that he prescribed for it, and that he was informed its death took place at a certain time. He should have signed that, and given it to the friends, and told them to take it to the registrar." He then stated that for a long time he had been accustomed to give such certificates, and the registrar had made no difficulty about accepting them. However, as the coroner had complained, he had latterly only given such certificates infrequently. The law provides medical men with death certificate forms, which, in all cases where the circumstances are in order, they should not neglect to use. On the other hand, if the features of the case are such that an ordinary printed form cannot be used, then the practitioner might be well advised not to give any certificate, but place the matter in the hands of the coroner for the district, leaving him to proceed as he may think expedient. The jury in the case above narrated were evidently of the opinion here stated, inasmuch as they requested the coroner to censure the medical man for not properly attending the child, and for giving "improper" certificates, and to report the matter to the Royal College of Surgeons and the Registrar-General. As bearing upon this case, one of the jury—the sexton of the parish—stated that he had discovered, on examining the parish registers, that three sisters living in the district, all single women, had during the past eleven years buried 29 illegitimate children on the certificates of medical men and chemists. Surely this shows great laxity on the part of the local registrar in accepting the certificates of death, some, at all events, of which could have scarcely failed to be irregular.

PROPHYLACTIC INJECTIONS OF BEHRING'S SERUM.

In the *Berliner klinische Wochenschrift* for August 9th Dr. F. Rauschenbusch describes a most interesting case in which toxic symptoms foilowed a prophylactic injection of Behring's antitoxic serum. There were two cases of diphtheria in the doctor's own house, and in order to prevent the extension of the disease to the other members of his household, each one (five in number) was injected with 200 units of antitoxic serum, all the five members being injected from the same bottle, which contained 1,000 units. In four out of the five there were absolutely no untoward results, but in one of the three children (a perfectly healthy girl) curious symptoms developed very rapidly. This child, aged 10 years, five minutes after the injection developed a marked eruption at the seat of injection. This eruption rapidly extended up the thigh and on to the right side of the face. It was accompanied by very great itching, and ten minutes later the whole body, especially the face, was covered with a dark scarlatinal-red rash, and the child fainted. A warm bath relieved the itching, but as soon as the child was taken out it again fainted, and remained in a collapsed condition until it was placed in a horizontal position. The radial pulse could not be felt on either side, and the heart, though regular, was exceedingly weak. The pupils were dilated, and were sluggish. The child was sleepy, it answered slowly, and the skin was cold and pale. The scarlatinal rash soon disappeared, except on the face. Two hours after injection there was vomiting, after which the general condition of the patient improved, but the heart weakness remained. Eight hours later there was itching of the hands and feet, both of which, as well as the face, were swollen and œdematous. There was some swelling in the mouth, giving rise to difficulty in swallowing. The condition of the heart continued to improve, but at this period the radial pulse was still almost imperceptible. The urine, of moderate amount, was of a dark red colour, but it contained no albumen. Next morning the heart was stronger, and the patient continued to improve. Dr Rauschenbusch, while still believing in the efficacy of

Behring's serum, comes to the conclusion that there must be individual predispositions which make it necessary that care should be exercised in administering this substance. It is interesting to observe, however, that the same girl two years before had been injected with 600 units during an attack of diphtheria, and that there had then been not the slightest reaction. The two younger children suffering from diphtheria also received 600 units, and were not affected in the slightest degree. It is evident from the whole history of this case that for some reason or other hæmolytic changes had taken place with considerable rapidity. Whether this is due to peculiarities in the blood, to a want of coagulative power, or some similar condition, is at present a matter for careful consideration. This case is of very great interest to the practitioner who has to inject prophylactic doses of serum where diphtheria has obtained a footing in a household. Dr. Rauschenbusch's only suggestion is that the prophylactic dose should be diminished in amount.

THE ERECT POSTURE AND THE PRE-EMINENCE OF MAN.

MANY have been the attempts to express in a word the nature of our difference from—or, as we prefer to call it, superiority to—other animals. Man is variously described as a laughing animal, a cooking animal, and a sewing animal; in one place we are reminded that he has an additional small muscle in his leg; in another that he has a hippocampus major in his brain. It must, however, be generally admitted that our predominance is mainly dependent on our thinking capacity. To quote the famous saying of Pascal: "*L'homme n'est qu'un roseau, le plus faible de la nature; mais c'est un roseau pensant.*" In the able and learned address to the British Association—of which we publish an abstract to-day—Sir William Turner illustrates the correlation of this fact with the erect posture and the greater elaborateness of the brain. The shape and relative length of the limbs and the curvature of the spinal column all assist in the maintenance of this position, which is in itself mainly dependent upon the increased development of the brain. Physically man compares unfavourably with many of the so-called lower animals; he has attained his present position by virtue of his mental faculties alone. With the great development of the brain, the fore limb comes to predominate over the hind, and the hand develops in the service of the head. The latter, as the directing organ, requires to be raised above the rest, and the erect posture represents the acme of this tendency; any continuation of the process would result in the head being forced back, and would consequently entail degradation. It is interesting to note that, as Sir William points out, the spinal curves of a child before it acquires the erect posture are strictly quadrupedal in character, the specially human qualities being developed later, at a time corresponding ontogenetically with their phylogenetic appearance. From this period onwards hand and head progress *pari passu*, as they have no doubt done in the history of the race. The figures given showing the average cranial capacity of the great apes, Australian aborigines and Scotsmen, are most interesting as illustrating the rapid increase in bulk of the cerebrum. The great Edinburgh anatomist goes on to show, however, that man does not shine by reason of sheer mass of brain alone. Following Flechsig's researches, he points out that the so-called motor and sensory centres do not cover more than half of the cortex cerebri. The remaining portion is mainly occupied by a third set of centres known as association-centres. The delimitation of the position, functions, and comparative physiology of these is one of the most important problems of the day. Flechsig believes them to be the parts of the cerebral cortex subserving the higher intellectual attributes, such as memory, judgment, and reflection; but this view is at present pure hypothesis. It must, however, be noted that far more difference exists between the degree of elaboration of these centres and their convolutions in animals and human beings of varying types of intelligence than in that of the motor and sensory centres. There can be little doubt that the association centres serve to connect and harmonise those for motion and sensation between which they are physiologically interposed; more than this we cannot at present say. When we know more as to the date at which they and their fibres develop, we shall be able to state more definitely their relations to the moral qualities of which man is so proud. Such are the main anatomical points associated with the erect carriage of the human race, and such are the factors which have given the race its present pre-eminence.

THE LEPROSY CONGRESS IN BERLIN.

WE have received from the Foreign Office, through the Registrar of the College of Physicians, the programme of the Leprosy Congress to be held in Berlin from October 11th to 16th next. The invitations are issued by a Committee consisting of Dr. Ehlers of Copenhagen, Dr. Armauer Hansen of Bergen, and Professors Koch and Lassar of Berlin. Those intending to be present are requested to send in their names to Dr. E. Ehlers, 6, Laxegade, Copenhagen. The object of the Congress is to study not only the disease, but also the means of checking and limiting it. Twenty-one papers will be read by invitation on subjects of debatable interest. Among these "themata" may be mentioned those of Professor Koch on the place of leprosy among the infections, of Professor Virchow on the pathological anatomy of leprosy, and of Dr. Unna on its histology. Professor Neisser will raise a question as to the extent to which we are entitled to regard the bacillus lepræ as the cause of the disease, and Professor Campana will recount the attempts made at cultivating it. Professor Besnier will discuss the value of heredity and transmissibility as etiological factors, and Mr. Jonathan Hutchinson the relation between food and leprosy. Among the other readers of papers are Dr. Köbner, Professor Lie, Dr. Arning, Dr. Hallopeau, Professor Lassar, Dr. Looft, Zambaco Pasha, Dr. Armauer Hansen (who will take up the question of optional or obligatory isolation), Professor v. Petersen, and Professor Dehio. Each author will bring forward a subject of which he has special knowledge. Anyone desiring to contribute to the discussions will be able to have the introductory papers on application to Professor O. Lassar, 19, Karl Strasse, Berlin, N.W. In addition to these principal subjects an attempt will be made to present a complete account of the geographical distribution of leprosy, to which end papers will be read by nearly forty representatives of different countries. The English representatives will be Dr. Phineas Abraham and others not yet appointed. Among the others will be Dr. Hansen (Norway), Dr. Ehlers (Denmark and Iceland), Professor Kaposi (Austria), Dr. Blaschko (Germany), Professor Carasquilla (Columbia), and Professor Kitasato (Japan). The time of the meetings will be from 11 A.M. to 2 P.M., so that opportunity will be afforded for the deliberations of subcommittees if required; cases will be demonstrated between the same hours. There will also be an exhibition illustrating all points connected with the disease, its anatomy, histology, photography, and bibliography; a special feature will be the collection of drawings. Anyone desiring to exhibit objects of interest coming under these heads is requested to communicate with Dr. Kübler, Kaiserliches Gesundheits-Amt, Berlin, N.W.

CAMPING OUT FOR CHOLERA IN INDIA.

THE cholera regulations for British troops, to which we recently drew attention, direct that when one case of cholera has occurred in a barrack that barrack is to be vacated and its inmates camped out in the vicinity; if a second case occurs a move is to be made to another site in cantonments; and if a third appears the troops are to be marched or conveyed by rail to a selected camp at some distance. Unfortunately epidemic cholera in India breaks out mostly during

the rains, when heat and wet concur to render travelling and life under canvas irksome, uncomfortable, or actually dangerous. The greatest care is therefore necessary to minimise the effects of conditions so apt to produce mischievous consequences as these. An illustration of the evils attendant on camp life in the rains is supplied by a "Report on the Cholera Camp at Kokrail, Lucknow, from July 31st to August 27th, 1894," by Surgeon-Captain H. N. Thompson, M.B., published as an appendix to the Army Medical Department Report for 1895. The movement was rendered necessary by a serious outbreak of cholera in the 1st Battalion of the East Lancashire Regiment at Lucknow. The conditions under which the movement took place were the worst possible—incessant drenching rain, great heat, soaked soil, wet tents, bedding, and straw, heavy roads, cooking impossible, desertion of native servants, and numerous fresh attacks of cholera. "All through the night," writes Dr. Thompson, "the scene in the hospital camp was one of such horror that it is difficult to find words in which to describe it. The rain poured down unceasingly, a furious thunderstorm raged nearly the whole night, which was as dark as pitch except when it up by the lightning flashes. The place resounded with cries for mehters and bedpans, with the groans and cries of men suffering from muscular cramps and the sounds of vomiting and purging." The picture is truly gruesome, and in reading the report the devotion of the medical executive and heroism of the men stand out in bright contrast with the dark background. When the weather cleared up things were speedily made comfortable; but in view of the terrible hardship and suffering caused by this movement, the questions force themselves, Must these rules be rigidly carried out under any or every circumstance? and, Can nothing be done in anticipation to obviate discomforts such as these men were subjected to? There can be no question that movement properly conducted is the best measure for cutting short an outbreak of cholera in India. This and previous reports furnish numerous instances of success. But it is equally obvious that movement must be conducted with discretion and precaution, and it may happen that under extremely unfavourable weather conditions the lesser of two evils may be non-movement. When men go into cholera camp they ought to march out into a camp already pitched. All the hospital establishment should be drawn from the native army hospital corps, and temporary servants only taken on to fill vacancies in the station hospital. None but Pasteur filters should be taken, and all water boiled if possible. A commissioned officer of the commissariat department should be attached to the camp, and should remain on the spot to see that everything required is promptly obtained. There ought to be as little officialism and "red tape" as possible.

PUBLIC HEALTH LEGISLATION IN NEW SOUTH WALES.

The Legislature of New South Wales are to be congratulated on an enactment which has become law in the present year. It sets forth that if a municipality or municipalities erect a public abattoir, all private slaughterhouses within a radius fixed by the Board can be closed. England may learn something from its energetic and wise colony in this particular. We have sitting at the present time a Royal Commission on Tuberculosis, which will probably recommend in due course the favour of the establishment of public abattoirs and of the proper inspection of all meat intended for the food of man. Will they have the courage to recommend that within a limited number of years after the establishment of a public abattoir or abattoirs by any municipality all the private slaughterhouses within a certain radius can be closed? And, if they so recommend, is there any Government which will have the nerve to risk offending interested persons on a subject out of which no party capital is to be obtained? We shall see. In the meantime, it is to be hoped that public opinion will strengthen the weakliness of both Royal Commission and Imperial Government. Another point on which evidence has been adduced before the Royal Commission on Tuberculosis is as to the supposed hardship to the owners of home-grown and home-killed meat if it were subjected to more efficient and universal inspection than that applying to foreign meat. It was pointed out before the Commission that it would be easy to insist on a special branding of foreign and colonial as distinguished from British meat. Then the meat consumer would be able to determine as to the relative merits of the two. It is interesting to note that the New South Wales Legislature will shortly consider a Bill in which it is proposed to introduce a special brand to mark all meat which has been inspected in a thoroughly satisfactory manner, and can therefore be guaranteed for export. In bringing forward this legislation the Government of New South Wales are to be congratulated on their acumen and business capacity. The Bill, if it becomes law, will if enforced serve to enhance the value of meat exported from that colony and to assure the British public of its freedom from disease.

A CASE OF PRIMITIVE SURGERY.

In a recent number of *Science* Mr. Frank Hamilton Cushing, of Philadelphia, gives an interesting account of a case in which, during a period of residence among the Zuñi Indians in the autumn of 1890, he was called in to assist two medicine men in the performance of a surgical operation. The patient was a man belonging to the clan into which Mr. Cushing had been adopted, and the case was one of inflammation of the foot and lower part of the leg following an injury caused by a throw from his horse. The extremity had the appearance of "advanced mortification," and the patient's general condition was bad. When Mr. Cushing entered the room the medicine men made him sit at the right side of the patient (who was his clan brother), so as to lay his hands on his left breast, and occasionally breathe in his face, and administer "white medicine," which contained an opiate. The instruments used were lancets made of chips of glass and obsidian; the dressings a yellow powder made from pollen, a "certain bitter root," shredded cedar bark, buckskin scrapings, and old soft rags. After a prayer the sore was cleansed and examined, and the muscles of the foot pronounced to be "wi-wi-yo-a," which, being interpreted, means "worm-becoming"—to wit, dead. Their plan was to make a double or inverted T-shaped incision, so that the skin could be raised in wo flaps, the "dead flesh" removed," the "decayed" or "black blood" extracted, the worms and "the seed of their kind" thoroughly grubbed. After mapping out the lines of incision with their fingers, one of the surgeons seized the foot with both hands and turned it up, pulling the skin on the stretch; the other with one of the obsidian lancets cut downwards from the ankle about $2\frac{1}{2}$ inches along a line corresponding in direction with that of the tendon of the little toe, afterwards making another incision straight down from the middle of the first. With other lancets he deepened the incisions, and dissected away the diseased structures without injuring arteries, veins, or tendons. On exposing the bone they found the periosteum inflamed and discoloured, and proceeded to scrape it. The material removed, which was believed to contain the "worms," was placed on ashes in a hollow potsherd. Then one of the medicine men took a small fetish or medicine stone from his wallet. It was an ovoid object of banded aragonite much resembling a ringed worm or maggot. He laid this in the wound, and presently took it out, lifted it aloft with an air of triumph, and carefully placed it on the ashes with the bone scrapings and other tissues which had been removed. The incision was then held open and thoroughly washed out; next the operator, taking up a bright red liquid made from an infusion of willow root bark, filled his mouth therewith, and repeatedly blew it out into the wound. The wound was then washed, dried with the scraped buckskin, washed and dried again, until it looked clean, when it was finally

sprayed out with the red liquid. Finally, the wound was stuffed with piñon gum, softened by the breath and in the hands, which meanwhile were kept constantly wet with the red liquid. More gum was then spread on narrow strips of cloth, and with these the wound was closed as with adhesive plaster. The entire foot was sprinkled or thickly dusted over with yellow pollen and root powder; and, lastly, bandaged neatly with long strips of the old rags. These methods, which might seem to be founded on a crude conception of the germ theory of disease, were in reality founded on mere superstition. The notion of the medicine men, which accords with the general belief of their people, is that blood—good, fresh, red blood—was the source of "new flesh." They believed that when the blood became thinned and black it was weakened and spoiled, and must therefore be removed and replaced with fresh blood; that as blood is the source of new flesh, so is water the first source of new blood, of life itself, since nothing can live without water, however abundant sustenance of other sort may be. Therefore, since the willow never lives apart from springs or other continuous sources of water, it must contain within its roots, its sources, the very source of life. An infusion of its roots and bark becomes brightly red. It is imagined, therefore, to be the source of new life blood, of flesh-forming blood itself, and to be effective for the renewal of decaying or "worm-turning" flesh. The employment of the "fire-feeding" and therefore "purifying and maturing" piñon gum and of the cooling and hardening yellow (or "winter" root) powder and sustaining pollen was based on reasoning of a similar kind. The belief in worms as the cause of mortification needs no explanation, and the treatment directed to their extirpation and destruction of them and of their "seed" is a practical application of the theory. The substances supposed to contain the "worms" were placed on the ashes because these are considered to be in themselves dissolving and destructive. It is also believed that no worm or insect can make its way through or escape from fine ashes. The fetish stone was introduced as a kind of magical sponge to absorb any malignancy remaining in the wound. In the after-treatment of the case similar methods of cleansing and dressing were employed, the use of the fetish stone as a supreme disinfectant not being forgotten. The patient was also put on diet, being allowed only the freshest possible corn food for some days, and being forbidden all meat containing fat and other non-muscular tissue till the cure was complete. He recovered with amazing rapidity. In conclusion, Mr. Cushing enters a plea on behalf of the medicine man. He is not usually, we are assured, the arrant knave or juggler so frequently pictured by travellers. His so-called "tricks" are not attempts at deception. They are solemn operations by which he is himself as much deceived as any of his witnesses. What he really attempts to do is to expose, or otherwise make as uncomfortable as possible, the living cause of the disease, and then to furnish it with a decoy, as it were, a vehicle or body of escape, as a killed and squeezed-out body of one of its own kind, or else in the form of its kind as seen in some ancient and more potent and nearly natural object resembling it. Sometimes, again, living insects or worms, or fetishes that are supposed to be living, ravenous and inimical to the worms of disease, are introduced, that they may prey upon and destroy these worms and the seed substance of their kind. This is said to be the true explanation of what appears to the uninitiated the "trick" of finding and holding triumphantly aloft some grub, insect, or other small object—frequently a minute fetish stone—which they are supposed to "pretend" to have extracted from the diseased part.

CHEMICAL BACTERIOLOGY.

Under the name proteus vulgaris are included a large number of microbes differing from each other in many points, but all having the same general characteristics. It has recently been suggested by MM. Lannelongue and Achart that a distinguishing character might possibly be obtained by studying the effects of the individual organism from a chemical point of view. Acting on this suggestion, Dr. Gaillard, working in Lannelongue's laboratory has in a recently published thesis[1] given the first results of his investigations. The author has studied with great care the products formed by growing the various organisms in standard broth. To this broth was added calcium carbonate with the object of fixing any acids formed, with the addition in various experiments of glucose, saccharose, glycerine, dextrin, etc. In each case the products of metabolic activity were carefully investigated. The principal differences are conveniently given in a table. This is the kind of bacteriological work very much needed at the present time. Not until we know more about the chemical activity of even the commonest and most ubiquitous bacteria can we say that bacteriology is an exact science. Not until biological chemistry is placed on a firm basis can physiological processes be understood, and on this rests the whole of medicine.

ALCOHOLISM AND THE PENAL LAW IN EUROPE AND THE UNITED STATES.

The Society for the Study of Inebriety recently held a quarterly meeting, at which Mr. J. J. Pitcairn, L.R.C.P.Lond., etc., Deputy Medical Officer of H.M.'s Prisons Holloway and Newgate, read an instructive paper upon the above subject. He reviewed the present state of the penal law amongst the principal civilised nations, having regard not only to simple intoxication, but to the degree of responsibility attaching to acts committed whilst in that state. In most communities, Mr. Pitcairn remarked, it would be found that drunkenness presented certain marked features of resemblance, and that, although the habitual drunkard was of universal incidence, his existence had hitherto been almost entirely ignored, few or no adequate means of dealing with him being prescribed, save the now discredited plan of imprisonment. This comparative impotence, Mr. Pitcairn added, is no doubt due in many instances to a blind worship of so-called liberty, and is a survival of the times when no special disgrace attached to intoxication, and when to get drunk was considered as natural an action as to go to bed. Amongst all civilised nations the last half century has seen a great change. Inebriety is unanimously regarded by the Continental psychologists as a mental disease requiring compulsory seclusion. The publicists, on the other hand, have demonstrated the relationship between crime and alcoholic excess. The habitual drunkard has thus assumed a national as opposed to an individual importance, and although it has remained for Austria to take the initiative in seriously grappling with the problem, public opinion is now ripe for a similar reform elsewhere.

ABUSE OF MEDICAL CHARITY IN NEW YORK.

It is stated in the *Journal of the American Medical Association* that the medical profession in New York has determined to make a united effort to correct the abuses of medical charity existing in that city. For that purpose a joint committee composed of two representatives of each of the following societies—namely, the New York County Medical Association, the New York County Medical Society, the New York Medical League, and the Society for the Advancement of Medical Practice—have met and organised. The committee will sit through the summer, prepare plans and data, appeal to all the medical societies of the State for sympathy and aid, and have ready for presentation to the Legislature when it convenes next winter a Bill meeting with the approval of the entire medical profession. The Bill introduced last year obtained the unanimous approval of the Senate and the Assembly, and failed to become law only by the neglect of the Executive to give it sanction.

[1] Contribution à l'Étude Chimique du Groupe Proteus. Paris: Henri Jouve, 1897.

VACCINATION STATISTICS.

The Report of the Royal Commission.

Since the Royal Commission on Vaccination drafted its final report three notable efforts have been made to discount the value of the conclusions at which the large majority of the Commissioners arrived as to the efficacy of vaccination as a protection against small-pox. The first and most comprehensive of these is unquestionably the statement of dissent issued subsequently to the report itself, but published with it as a Parliamentary document. This statement is drafted with the ability which might be expected from the two Commissioners (Dr. W. J. Collins and Mr. J. Allanson Picton) whose opinions it expresses. It is so exhaustive in the scrutiny with which it has dissected all the points in the report open to criticism that it may fairly be assumed that there are few, if any, which have escaped its attention. A considerable portion of this statement deals with vaccination statistics, but the bulk of the remainder is devoted to historical and ethical considerations which are less amenable to precise valuation. This criticism has, in its turn, been subjected to a correspondingly minute analysis by Dr. McVail,[1] which all who are interested in the subject at issue will do well to peruse. For nearly twelve months after the issue of this statement no further effort worthy of serious notice has been made to shake the validity of the Commissioners' conclusions, though a good deal of loose cavil and unsupported assertion with regard to them has in the interval been circulated by the opponents of vaccination, especially in the form of letters in the provincial press.

Fresh Attacks on the Report.

But quite recently, and almost simultaneously, fresh attacks upon the report of a more substantial character have been made by two assailants, who think that they have discovered weak points in the Commissioners' panoply which had escaped the searching investigation of Messrs. Collins and Picton. The first is a pamphlet by Mr. Alexander Paul, entitled "A Royal Commission's Arithmetic: A Criticism on Vaccination Statistics and a Plea for Fresh Figures and Fair Inferences." The other is in the form of a paper read in June last before the Royal Statistical Society by Mr. A. Milnes. We have already dealt at some length with Mr. Milnes's arguments and statistics, and we propose now to examine Mr. Paul's criticism. There is the more reason for this as Mr. Milnes, in his paper, has made considerable use of the principal argument which Mr. Paul has adduced in support of his demands for "fresh figures and fair inferences."

More than 28 of the 48 pages of which Mr. Paul's pamphlet consists are devoted to the criticism of a table which appears in page 50 of the Commissioners' report. The remainder is made up of a somewhat desultory discussion of various topics, not of a strictly statistical character, which are leading features of the vaccination controversy. Whilst giving Mr. Paul full credit for a general clearness of style which indicates the trained writer, it is not always easy to follow the drift of his argument. Some portion of this difficulty is, no doubt, due to the great complexity of the subject itself and to the variety of issues which it raises.

The Question of Age Incidence.

The general object of Mr. Paul's criticism is obvious: it is to minimise the force of the age incidence argument upon which the support of vaccination from the statistical side so largely rests. This is attempted by showing that one illustration of this argument which the Commissioners have given will not bear the interpretation they have put upon it. And it is noteworthy that out of the mass of such illustrations which the report contains this appears to have been almost the only one that has lent itself to Mr. Paul's use for a destructive attack which has been organised with no small amount of skill. Let us see with what effect.

In the section of the report which Mr. Paul has selected for his attack the Commissioners propose to show that special and valuable information bearing on the protective influence of vaccination is to be found in the age incidence of fatal small-pox amongst children in six recent local epidemics. And the particular point which they seek to make is that the percentage of deaths borne by children between age of 0 and 10 years in these several epidemics is such as to suggest the operation of some common cause in explanation of the difference between them. The epidemics and percentages are as follows:

	Percentage.		Percentage.
Warrington ...	... 22.5	Dewsbury ...	... 51.8
Sheffield ...	... 25.6	Gloucester ...	... 64.5
London ...	... 36.8	*Leicester ...	... 66.6

*A higher alternative figure of 71.4 may be given for Leicester, but as it is open to some doubt the lower one is adopted here.

The Commissioners remark, "One is naturally led to inquire what is the explanation of these remarkable differences in the age incidence of the fatal cases of small-pox." They suggest that it is to be found in the varying degrees of efficiency with which primary vaccination had been carried out in these several towns for some years prior to the epidemic in each.

It is unnecessary to give the precise ratios of defective vaccination in these towns, as the facts under this head are not in dispute. It is sufficient to say that they show, speaking broadly, that whilst the defect was most conspicuous in Gloucester and Leicester, it was least so in Warrington and Sheffield, and of an intermediate degree in London and Dewsbury. From the relation between these two series of facts the Commissioners draw the general inference that "if the proposition that vaccination has a very potent protective influence for 9 or 10 years be a sound one, the difference in the degree of vaccination of the child population in the several towns at the time when they were visited by the epidemics, would account for the particular phenomena we have been examining." In a subsequent section they add: "We have said that the phenomena are accounted for on the supposition that vaccination has the protective influence alleged. Is there any other satisfactory explanation of them?" The Commissioners then proceed to discuss the allegation that sanitary conditions supply the required explanation, and they assert that they do not offer a satisfactory explanation, and that "apart from the difference in the extent of vaccination no cause has been suggested at all adequate to account for the variations in the age incidence of fatal small-pox, on which we have been dwelling." On this plea Mr. Paul joins issue. He does not contest the facts. He asserts that their explanation is to be found in another direction. He does not deny the general correspondence between the ratios of child mortality and vaccination default in these towns, but suggests that the Commissioners have ignored an important factor in the case, and that is, the relative fatalities of these epidemics.

And, first of all, Mr. Paul traverses the propriety of comparing in this way the age incidence of cases in different epidemics. He calls it "a rough and ready test." It is certainly "rough," in the sense that all comparisons of age groups covering a period of 10 years must obviously be so. But it is no rougher than all other tests of the kind necessarily are when the facts to which they are applied are not in all respects strictly commensurable.

Mr. Paul admits that these and other similar statistics are a fair and reasonable indication that whilst in the pre-vaccination period small-pox seems mainly to have attacked children, it now prefers generally to attack adults. Whether this inference is drawn from the records of the kingdom generally or from a comparison of the statistics of special local epidemics can scarcely be considered to affect its probability, if all the facts point in the same direction, as they certainly appear to do. Mr. Paul objects that the Commissioners are not justified in applying this "rough and ready" test to these six epidemics, because we have general information as to the circumstances of these epidemics in other respects. For instance, he refers to the relative fatalities amongst the children aged 0 to 10 years, which he sets out in the following table:

	Percentage.		Percentage.
Warrington ...	... 9.83	Dewsbury ...	... 21.64
Sheffield ...	... 12.42	Gloucester ...	... 35.67
London ...	... 15.21	Leicester ...	... 30.53

On comparing this table with that previously given, it will be seen that the chief difference is in the much higher proportion exhibited by the deaths than by the attacks. This

[1] In a paper read before the Epidemiological Society in February last, and published in its *Transactions*, vol. XVI, New Series.

of itself is sufficiently suggestive. Take Warrington, for instance: whilst only about 10 per cent. of the cases were children under 10 years of age, they contributed more than 20 per cent. of all the deaths. In Leicester, on the other hand, nearly one-third of the cases were children, and more than two-thirds of the deaths occurred in the same class.

But what is equally obvious is the general correspondence between the several towns in regard to both sickness and mortality, with one exception, and that is Leicester, where the general fatality amongst children was relatively higher than it was in the other towns. Mr. Paul appears to recognise that in pointing out this concurrence of relationship between sickness and mortality he does not materially help his contention, and he endeavours to show that the figures are not wholly consistent with what might be expected if the fatality from small-pox is proportional to the neglect of vaccination. But he seems to forget that he has himself urged that the comparison is only a "rough" one, and that therefore precision in correspondence of the figures compared is scarcely to be expected. Mr. Paul then produces with some show of dramatic effect what he calls "proof of a pitfall," which is contained in the following table of the relative fatality of the disease amongst children under 10 years of age in these several towns:

	Percentage.		Percentage.
Warrington ...	... 21.53	Dewsbury ...	... 26.02
Sheffield ...	... 22.03	Gloucester ...	... 39 66
London ...	... 18.71	Leicester ...	... 13.76

"Who would imagine," Mr. Paul triumphantly asks, "from the Commissioners' table alone that the children's fatality was lowest in Leicester?" The Commissioners might fairly reply that the object of their table was not to exhibit relative fatalities of the disease in these towns, but the coincidence of relative mortality with relative default in vaccination. And it cannot be denied that the coincidence, however it is to be explained, is a striking one. The only attempt to explain it otherwise than by default of vaccination, which is certainly the most obvious explanation that has been hitherto offered, is to attribute it to the effects of sanitation. But this explanation is clearly not tenable, unless it can be shown that the sanitary condition of Leicester is twice as bad as that of Warrington, and worse than any of the other four towns, in the proportions indicated by the respective percentages. Mr. Paul's contention is, not that "sanitation" is the clue to the coincidence, but that there is really no coincidence at all, and that if the Commissioners, instead of testing the effect of vaccination default by the relative percentage of deaths, had compared it with the relative fatalities of these two age groups they would have seen at once that their coincidence does not exist. In this case Leicester, instead of being at the bottom of the list, should be at the top.

Mr. Paul goes still further, and claims that even on the Commissioners' own showing their table fails to support their argument. For when the fatality amongst children under 10 in the several towns is compared, it is only proportionate to the number of attacks, and he urges that this is just what might be expected. "More dangerous disease, more deaths." He claims if we compare two towns, one of which has been for some years well vaccinated and the other in which vaccination has been increasingly neglected, we ought to find, when an epidemic occurs, that the deaths are not merely proportionate to the number of attacks, but increasingly so in the badly-vaccinated towns. To use his own illustration: "Say there are 40 small-pox deaths in a well-vaccinated town, then, in a second town, which happens to be equally well vaccinated, you would not be surprised to hear of 80 deaths if you heard that it had doubled the amount of small-pox. But if the town had neglected vaccination, then, according to the Commissioners, it would be very surprising if it had only double the number of deaths in the first town. For by their theory the fatality risk of the unvaccinated town should be greater. You must pay at compound interest for neglecting vaccination"

We must confess ourselves unable to see the force of Mr. Paul's argument. The Commissioners' table certainly does show that so far as the Gloucester and Leicester epidemics are concerned, those towns had to pay, if not compound interest, at least a heavy penalty for their neglect of vaccination, since nearly two-thirds of the deaths which occurred in them were those of children under 10 years of age. But, urges Mr. Paul, the true criterion of Leicester's penalty is not the proportion which the deaths of children under 10 years of age bore to those of persons over that age, but the proportion which the number of deaths under 10 bore to the attacks under 10, that is, the fatality of the epidemic in this class.

Now, here Mr. Paul is raising a totally different issue. The point under discussion is this: In a certain population a a certain proportion of persons are attacked by small-pox. Of these persons, a certain number die. These deaths obviously represent the severest form of the disease, and are, therefore, least open to doubt as to their nature. At Leicester 71.43 per cent. of them were children under 10 years of age. To say that this large percentage of mortality is explained by the fact that there was a corresponding excess of attacks under 10 years of age does not suggest a cause; it only throws the problem a stage further back. The introduction of the element of fatality brings with it a new complication, the effect of which it is impossible to appreciate exactly. For the fatality may, on the vaccination hypothesis, be due to one or both of two factors: either to the variation in the ratio amongst the total children's deaths of vaccinated children, or to the variation in the ages of vaccinated children themselves. We cannot estimate the exact value of the fatality without information as to the ages of the children, and as to whether they were vaccinated or not. The want of this information, it is true, affects also the value of the relative mortality numbers for the purpose for which they are used by the Commissioners; but it does so in a way that makes the case much less strong for vaccination than it otherwise would be.

"PITFALLS."

Moreover, when Mr. Paul introduces the word "vaccinated," whether in connection with the qualifying words "well" or "ill," he prepares for himself and his readers two "pitfalls" of quite as treacherous a character as that which he assumes to have found for the Commissioners. For what is to be understood by a "well-vaccinated" population? It does not follow, because in any given population the percentage of births vaccinally "unaccounted for" has for some years been small, that therefore the population as a whole is well vaccinated. The adults may not have been vaccinated at all, or, what is more probable, they may have been vaccinated only in infancy, and have lapsed, more or less, into the unvaccinated condition. It is only to the children under 10 that we can apply the terms "well" or "ill vaccinated." And even in their case there may during the course of an epidemic be such a rapid acceptance of vaccination that before the epidemic has made any material progress the town may have passed from the condition of an ill-vaccinated to that of at least a moderately-well vaccinated infant population. Further, even in regard to the condition of a so-called well-vaccinated child population, there may be considerable difference between the efficiency of vaccination in two different towns. In one the private as well as the public vaccination may have been thoroughly well done for years past, from its having been in the hands mainly of one or two practitioners who have done their work well. This was the case in the epidemic which occurred at Willenhall in 1894, and was distinguished by the large proportion of adults who were attacked, as well as by its very low general fatality. In another town there may not have been a large amount of default in infant vaccination, but much of the private vaccination may have been done in a slovenly manner, many of the children having been vaccinated in one or at most in only two places. This is stated to have been the case at Gloucester.

It is clear, therefore, that for purposes of comparison, in testing the effect of vaccination on any locality, we can only, for any useful purpose, take the child population under 10 years of age, and that even in this crude form the comparison is open to an unknown amount of fallacy. If we want to reduce this fallacy to a minimum we must compare the two populations year by year up to 10 years, under the heads of vaccinated and unvaccinated respectively, and we shall then have more nearly commensurable numbers.

But there is still another "pitfall" which Mr. Paul fails to recognise in taking relative fatalities as his basis of com-

parison between different towns, without more exact discrimination of age, and that is that epidemics vary considerably in their severity. The Commissioners have called attention to this fact, and however it may be explained, its reality is unquestionable. Mr. Paul himself gives us the means of testing the probable influence of this condition in the case of the Leicester epidemic, for he shows us that whilst the fatality in the children under 10, as a whole, was an admittedly low one (13.76), that of the adults was phenomenally low, having been only 2.42 per cent. of the attacks. This is surely an indication that, so far as the crude statistics enable us to judge, the Leicester epidemic, taken as a whole, would appear to have been a relatively mild one. On the other hand, there is abundant evidence to prove that the Gloucester epidemic was relatively a severe one.

Before leaving the Leicester epidemic it may be well to refer to some facts which do not appear in Mr. Paul's remarks upon it, but which have an important bearing on the question at issue. They are to be found in the report on the Leicester epidemic of small-pox in 1892-3 by Dr. Joseph Priestley, the then medical officer of health for the borough.[2] The first is that of the 15 deaths of children under 10 years, all were unvaccinated. The next is that of the 19 deaths of unvaccinated persons, 16 were of a malignant or semi-malignant character. In his report Dr. Priestley also calls attention to what is evident from one of the tables already given, the very large percentage of children under 10 who were attacked at Leicester (30.53), and adds: "In this respect Leicester practically stands alone." So it did until the subsequent experience of Gloucester showed that it was possible to improve upon the lesson thus taught.

It is also not unimportant to note a fact connected with revaccination which forms a feature of the statistics of the Leicester epidemic, but is not referred to in Mr. Paul's pamphlet. Out of 28 persons, of whom the staff of the isolation hospital consisted at the time of the outbreak, 22 had been "efficiently" protected by a previous attack of small-pox or by vaccination, and all escaped. The remaining 6 had only been vaccinated in infancy, and had not therefore been efficiently protected. "Of these 6 inefficiently protected officials," says Dr. Priestley, "all of whom refused revaccination, which I offered them, 5 contracted small-pox and 1 died"; and, he adds, "comment is unnecessary; the silent testimony of such facts is a sufficient answer to all who may have their doubts as to the efficacy of revaccination as a preventive measure against small-pox." Lastly, of the 107 children under 10 years of age who were attacked, all were unvaccinated except two, and their vaccination was doubtful. When this fact is compared with a correlative one, that 91 children under 10 years, who had been vaccinated, were resident in houses infected at the time with small-pox, whilst 271 unvaccinated children were similarly exposed, with the result that only 1 per cent. of the former was attacked for 8.7 of the latter, we have still further evidence from Leicester to set against Mr. Paul's fatality figures and the inference he seeks to draw from them.

The Gloucester Epidemic.

Mr. Paul devotes a good deal of attention to these two epidemics, and seeks to prove that the high fatality of the Gloucester epidemic amongst children was due to the alleged defective administration of the small-pox hospital. This, as our readers are aware, from references which have more than once been made to this matter in our columns, is a subject of much dispute. We have no intention of discussing it here, if for no other reason, because no inquiry has yet been made into the facts of the case which can be looked on as thorough and impartial. But Mr. Paul has overlooked two points in connection with the Gloucester epidemic which go far to rebut his own contention. The first is that only about one-third of the cases at Gloucester were treated in the hospital. In the remaining two-thirds the influence of hospital mismanagement, whether it was a real factor in the problem or not, could not have been operative. The second is that one of the tables which he himself quotes shows that the relatively high fatality at Gloucester was not confined to the children, but affected also the older persons. To leave no doubt upon this point we append the table as Mr. Paul gives it:

Percentage of Fatal Cases.

	Amongst Children.	Over 10 Years of Age.
Warrington...	21.53	8.05
Sheffield	22.03	8.98
London	18.71	5.76
Dewsbury	26.02	6.68
Gloucester	39.66	12.09
Leicester	13.76	2.42

The coincidence between these two columns, though not exact, as it could not reasonably be expected to be, is sufficiently general to be very suggestive.

Both in children and older persons the ratios of the fatalities are such as are explicable only on the assumption that the general severity of the several epidemics to which they refer must have varied a good deal. Such marked differences, especially as those between Gloucester and Leicester, both of them with badly vaccinated juvenile populations, do not appear to be explicable except upon this supposition.

Mr. Paul, however, refuses to accept this explanation. He even asserts that the evidence points the other way, but he gives us no idea where that evidence is to be found. He claims that the high percentage of children under 10 who were attacked in Leicester was due to the accident of the proximity of the small-pox wards to the scarlet fever hospital, and that they were "prostrate with scarlet fever when they were exposed to infection." But he gives no evidence in support of this assumption, and it is quite as allowable to assume that the children were convalescent when attacked. But whether this be so or not, the number of children who were thus attacked was only 12 per cent. of all the children attacked; and, as has been before noted, of the whole number so attacked (107), all were unvaccinated except 2, and their vaccination was doubtful.

The fact is that, so far as the evidence of any single epidemic is concerned, it has to be taken with considerable caution, the complications and consequently the sources of fallacy involved being often such as to modify considerably the inferences which may appear *primâ facie* to be deducible from the statistics. This consideration must, we think, put out of court the argument which Mr. Paul seeks to found on a comparison of the "severity" of the attacks in Warrington, London, Dewsbury, and Leicester, apart from actual mortality. The percentages of cases that were recorded as "confluent" in the epidemics amongst these populations may not be so accordant with the percentages of vaccination default as the mortalities are, but it is hardly correct to say, as Mr. Paul does, that "they do not move together at all." Still, the sources of error are, as we have indicated, so material, that we do not attach much weight to these numbers. It is a curious illustration of Mr. Paul's inability to see the drift of his own arguments, that after devoting some five pages of his pamphlet to the discussion of the relationship of fatality to severe attack, he comes to the very obvious conclusion that "death is a function of confluent small-pox, not of vaccination default." The use of the word "function" here seems a trifle pedantic. What is more to the point is that it should have required so much argumentation to establish what everyone who knows anything about small-pox is well aware of, that, as a rule, it is the confluent form of small-pox which is the most fatal. Really, if Mr. Paul were not evidently so very much in earnest in his contentions we should feel inclined to suspect that he was poking fun at his readers.

Conclusions.

At the end of this section of his pamphlet Mr. Paul pauses to review his position, and to summarise in eight propositions the points which he claims to have established. It is unnecessary to burden our space with the details of these propositions; it is sufficient to say that Mr. Paul claims to have proved various things which, so far as we can see, he has not proved at all. The Commissioners have shown by figures, which Mr. Paul does not contest, that there is a remarkable general coincidence between the vaccination default of the six towns which they quote and the share contributed to the general mortality of the epidemics which occurred in them by children under 10 years of age. The facts involved in this comparison are not, the Commissioners observe, open to the same chance of error as is involved in a comparison of

[2] The numbers given in the Commissioners' tables differ slightly from those dealt with in Dr. Priestley's report, as they include five cases which occurred in 1894.

the mortality among persons said to be vaccinated or unvaccinated. We think, for reasons we have already given, that although the ages of deaths are not open to any material error, the vaccination default cannot be so certainly assessed. But, making every reasonable allowance for the possible error on this side of the balance sheet, there still remains sufficient coincidence to suggest that it is a real and not a merely accidental one. If vaccination be a wholly ineffectual or even a mischievous proceeding, how is it, as the Commissioners ask, that the towns in which there has been the least amount of vaccination default have suffered from fatal small-pox so much less amongst the class who are assumed to have been best protected by vaccination, than those in which that protection had been the most neglected? Mr. Paul may claim as much as he likes to have shown that "these percentages are entirely fallacious," but until he can propound some cause other than vaccination which is a more probable explanation, not of some, but of all of the elements of the coincidence, we cannot think that any unprejudiced judge will allow that his claim has been established. But Mr. Paul makes another claim which is even less admissible. It is that "without casting any aspersion on a noble profession, I think it may be pleaded that we cannot reasonably expect the medical man, with the bias of his medical education and training, to bring to this task the impartiality of a trained statistician." Why not? A medical man cannot make two and two into five, however much his "bias" might lead him to wish to do so.

The conclusions of the Royal Commissioners, on which Mr. Paul comments, were not drawn exclusively by medical men, and certainly the figures on which they were founded were not concocted by the medical profession. What is wanted in order to deal with vaccination statistics, and to draw correct inferences from them, is, not the impartiality of a "trained statistician," but of a man who knows by practical experience of the subject where fallacies are likely to lie. So far as the mere handling of the numbers is concerned an intelligent schoolboy can do all that is needed. We have no desire to depreciate Mr. Paul's competency as a trained statistician, for we have no knowledge what his qualifications as such may be, but we may be allowed to doubt whether, in the capacity in which he dedicates his pamphlet to "his fellow journalists," he has had the practical experiences of small-pox epidemics which justifies his ruling out of the treatment of this question the whole of the medical profession. If the journalists of the United Kingdom are unable to appreciate at their true value their fellow journalist's statistical diversions, we shall have a lower idea of their capacity as "statisticians" than we at present entertain. At any rate, whether Mr. Paul be a trained statistician or not, he has tumbled into more pitfalls of his own digging than the Commissioners have, even on his own showing, prepared for themselves.

REPORT ON THE PREPARATION AND STORAGE OF GLYCERINATED CALF VACCINE LYMPH.

THE Local Government Board has just issued a report on the preparation and storage of glycerinated calf vaccine lymph, with an introduction by its medical officer, Sir Richard Thorne Thorne, K.C.B., who, addressing the President of the Board, writes:—

Shortly after the issue of the report of the Royal Commission on Vaccination last autumn, I received your instructions that I should, together with Dr. Monckton Copeman, visit certain cities in different countries on the continent of Europe, with a view of obtaining information as to the methods adopted, by the respective authorities and others concerned, in the distribution of vaccine lymph derived from the calf, more especially in reference to the preparation, storage, and distribution of glycerinated calf lymph.

The necessary visits were commenced in December of last year, but, owing to the fact that in some of the countries to be visited public vaccination is practically limited to certain months of the year, commencing with the spring, it was found impossible to complete the inspections until quite recently. In eliciting information as to the methods adopted in each of the countries visited, we held especially in view two points to which the Royal Commission gave prominence in their report. The first of these—one which the Commissioners put "in the forefront"—is the recommendation in Section 437 of their report "that parents should not be required to submit their children to vaccination by means of any but calf lymph." The second, which is referred to in Section 448, is concerned with experiments which Dr. Copeman made and announced to the International Congress of Hygiene, which met in London in August, 1891, as to the effect of the storage of vaccine lymph in glycerine. "The conclusions at which he arrives," say the Commissioners, "are that the addition of glycerine, whilst it leaves the efficacy of the lymph undiminished, or even increases it, tends to destroy other organisms;" and they add that: "The question is one a further investigation of which is obviously desirable."

The places visited by us were Paris, Brussels, Berlin, Dresden, Cologne, and Geneva; and in submitting to you an account of the operations which came under our notice in each of these cities, I beg leave to make the following observations.

It will be noted that in each of the countries concerned, vaccination with calf lymph has become the habitual, if not the universal, practice. In some, indeed, we were informed that although vaccination with humanised lymph is not definitely prohibited under any statute or regulation, yet resort to such lymph by any medical practitioner having official responsibility to the Government is altogether discouraged.

In only one of the places visited—namely, Paris—did we find that vaccination was carried out under official sanction with crude calf lymph, and even there the process was limited to vaccination direct from calf-to-arm, all lymph stored for distribution being glycerinated calf lymph.

The circumstances of Paris in the matter of vaccination direct from the calf deserve consideration, because they have a certain similarity to those which may be encountered in this country, in case the use of calf lymph should become habitual. Thus, we were informed that if vaccination had, during past years, been limited to the use of glycerinated calf lymph, stored in tubes or otherwise, it would have been found difficult, amongst certain classes of a population which heretofore had only known of stored humanised lymph, to convince persons whose vaccination it was desired to secure that the lymph proposed to be used on them was really calf lymph, not humanised lymph. In order to secure confidence in this respect, it had been the practice to convey calves to the vaccination stations, or to districts infected with small-pox, and to perform the vaccination direct from calf to arm. Perusal of the account which we give as to this practice in the hands of MM. Chambon and Ménard will show that it has been brought to a position of very considerable efficiency.

In all the other countries visited we found that, acting on the indications announced by Dr. Copeman in 1891, the Governments and other authorities concerned had made sustained investigation as to the preparation, storage, and use of glycerinated calf lymph, and had gradually come to adopt that preparation of lymph for official, and in some cases for all, purposes throughout their jurisdictions. Thus in Germany we were informed that the system of vaccinating direct from the calf had come to be abandoned as completely as that from arm to arm, the use of glycerinated calf lymph having become general throughout the empire.

The reasons for this change have been two. The governing reason has been the confirmation by competent bacteriologists of the results obtained by Dr. Copeman, to the effect that, by the admixture to calf lymph of a 50 per cent. solution of pure glycerine in sterile water, and by subsequent storage of the lymph material in tubes, under due precautions, for a term of several weeks, the preparation remained quite active as vaccine, whilst a very remarkable germicidal effect was produced on extraneous micro-organisms in the lymph, even including certain pathogenic organisms which had been purposely added to the lymph material. The second reason was that, by reason of the admixture referred to, the amount of vaccine procurable from a given calf could be greatly, even enormously, increased, and that, within certain wide limits, this could be done without interfering with

the insertion success following on the use of the lymph. At the Board's Animal Vaccine Establishment it has hitherto not been deemed necessary, nor even expedient, to make one calf serve for more than some 200 to 300 vaccinations. It is no unusual thing abroad to provide from a single calf an amount of glycerinated lymph that shall serve for from 4,000 to 6,000 vaccinations, and in Berlin we were assured that the glycerinated lymph which was prepared in our presence from one calf would suffice for no fewer than 15,000 vaccinations. We brought some of this Berlin lymph to England, and it was used for the purposes of vaccination at intervals of 9, 11, and 37 days after its collection, with the result that in 76 vaccinations performed, in each case by five insertions, its use resulted in a mean insertion success of 92.0 per cent. Storage of this particular sample for a much longer period did not give satisfactory results. With other preparations of glycerinated lymph, diluted to about one-third of the amount of the Berlin sample, and which were used in England at intervals varying from 7 to 31 days after collection and preparation, the insertion success reached 97, 98, and 99 per cent.; and in the case of 111 vaccinations, all effected with two other supplies of glycerinated lymph, used at intervals of from 7 to 30 days after preparation, the success reached 100 per cent., every insertion of lymph being followed with success. In all these cases the vaccination was performed by means of five insertions.

In every instance we found that the work of collecting, preparing, and storing the glycerinated lymph was carried out with the greatest care; a condition of scientific cleanliness was especially aimed at, and a laboratory, fitted with bacteriological and other scientific apparatus, always formed an essential part of the vaccine institution. The extent to which the desired end of freedom from extraneous impurity was attained depended largely on whether a first attempt to adapt an existing calf station or similar establishment to its new purposes had been maintained, or whether it had been abandoned in favour of an institution constructed especially for the purposes of that which is in the main scientific laboratory work. Several of the stations which we visited are already under condemnation, because of the difficulty of ensuring that freedom from extraneous micro-organisms which should be aimed at during the preparation of the lymph supply; the Cologne station is one of the newest, and may well serve, in its main features, as a type of that which should be aimed at.

The condition of scientific cleanliness to which I have referred extended to such matters as the following: (*a*) the construction and administration of the stabling for the calves; (*b*) the means for washing or bathing calves before their vaccination; (*c*) the construction, cleansing, etc., of the operating rooms; (*d*) the cleansing of the vaccinated surface of the calf with germicidal preparations and sterilised cloths before collection of the lymph; (*e*) the use of clean sterilised outer garments by all officials concerned in the processes carried out; (*f*) the sterilisation of all instruments, etc., employed; and (*g*) the carrying out of the process of admixture of the lymph material or pulp with glycerine, as also its preparation and storage, under conditions of laboratory freedom from extraneous organisms.

Further, we found that it was an invariable practice at the stations visited on the Continent not to issue any lymph until a report had been received from a veterinary surgeon, after slaughter of the animal, as to the freedom of the calf furnishing it from disease; in brief, the lymph issued is that of healthy calves only. This practice is mainly with a view of avoiding all risk of conveying tuberculosis along with calf lymph; though such risk would, under any circumstances, be a very remote one, seeing that tuberculosis is extremely rare in young bovine animals, and seeing also that the tubercle bacillus, when experimentally added to a mixture of lymph and an aqueous solution of glycerine, rapidly loses its vitality.

The information which we obtained in the course of our visits does not profess to be complete. Much remains to be ascertained by careful scientific research, in order to learn what are the precise conditions under which glycerinated calf lymph can be prepared and stored, so as to secure to the utmost freedom from extraneous, and especially from pathogenic micro-organisms, whilst at the same time retaining to the utmost the undiminished protective value of the lymph material against small-pox. We learned that in every country visited further research is being made in this direction, and in Germany a special commission of medical and bacteriological experts has been appointed by the Government to study and report upon the subject.

But the information which is now available in this country, and that which, during the course of our visits abroad, was placed at our disposal with a readiness and a courtesy which calls for an expression of the fullest acknowledgment, suffices to enable me to submit the following conclusions for your consideration:

1. It is desirable that vaccination, both primary and secondary, carried out under the auspices of the Government, should be performed exclusively with vaccine lymph derived from the calf.

2. There will probably be advantage in retaining, for a time at least, the system of calf-to-arm vaccination at the Board's Animal Vaccine Station for such parents and others as may specially desire it, and for the purposes of comparing its results with those following the use of calf lymph preserved in one or another way.

3. The distribution of calf vaccine from the National Vaccine Establishment should be limited to glycerinated or similar preparations of lymph and pulp material, in air-tight tubes, or other glass receptacles.

4. To give effect to the above, it will be requisite that the Board's Animal Vaccine Station should be reorganised, both as regards construction and administration. Notably will it be requisite that it should include a properly-equipped laboratory, under the direct supervision of a bacteriological expert.

INTERIM REPORT OF THE DANGEROUS TRADES COMMITTEE: ELECTRICAL GENERATING WORKS.

The second interim report of the Departmental Committee appointed by the Home Secretary to inquire into and report upon certain miscellaneous dangerous trades has recently been published. The Committee is composed of Mr. H. J. Tennant, M.P., Chairman; Mrs. H. J. Tennant; Thomas Oliver, M.D.; and Commander Hamilton Smith, R.N., Secretary. In the first report presented a little over a year ago, the industries dealt with were india-rubber works, paper staining, dry cleaning, bronzing, and the use of metallochrome powder in lithographic works, the use of inflammable paints in ship yards, etc.; but in the present report only one subject has been inquired into—namely, the dangers incidental to the generation and distribution of electricity. Twenty-six generating stations were visited in various parts of the United Kingdom, and thus not only were the opportunities utilised of inspecting the various methods of production, but also the means adopted to prevent injury to workmen carefully scrutinised. The increasing demands that are made upon electricity for illuminating and heating purposes, for haulage and as a means of locomotion, have brought a dangerous force well within the reach of the public; and yet, considering the extent to which it is employed, there have been in this country at least few fatal accidents comparatively speaking. It may be that as a nation we are more careful than our cousins are in America, for in the United States more people have been killed by electricity than in Britain. Since 1892 only fourteen deaths have in Britain been attributed to this cause; but to these must be added two other deaths caused by electric shock since the report of the above Committee was presented to the House of Commons. One of these deaths occurred at Bournemouth, and the other at Bristol. Although the number of fatal cases has not been large, there are minor accidents happening almost daily which never come to the knowledge of the public; besides, the number of people employed in the generation of electricity is not great. It is interesting to note that several of the men who were accidentally killed were not in regular employment at electrical generating stations, and that deaths occasionally occurred in unusual places and under unexpected circumstances. These are facts which the Committee have

paid special attention to, and a recurrence of which they hope to avert.

Recognising the difficulty of dealing with such a purely technical and abstruse subject as electricity, Sir Matthew White Ridley wisely added to the Departmental Committee for this special inquiry Mr. Charles Vernon Boys, F.R.S., whose assistance to and influence upon the Committee are distinctly observable in the recommendations which are made. While the report, generally speaking, is preventive rather than remedial, attention is drawn to the fact that the dangers from electric shock in the generation and distribution of high-pressure currents can never be entirely obviated. After alluding to the various pressures "low," "high," and "extra high" under which electricity is distributed to consumers, the processes of generation, the uses, and the dangers of working electricity are detailed. This part of the report, although more or less technical, can be readily understood by anyone. To the ordinary reader it conveys information of considerable value. Death from electric shock is generally so sudden that direct personal contact of an individual, particularly if his skin is moist, with a piece of highly charged metal, may be immediately fatal. Too great caution, therefore, cannot be exercised in regard to the proper insulation of the dangerous portions of machinery and cables. In the twenty-two recommendations which the Committee make there is nothing that is too drastic or elaborate. It must be a matter of considerable difficulty to a Committee, such as that appointed to inquire into the operation of certain trades that are known to be dangerous, to draw out rules that will cover the whole ground of the inquiry, or which can be readily and easily given effect to where there is the variety of expensive plant met with in electrical generating works. Special rules never give universal satisfaction, but so long as the main object of the investigation undertaken by the Committee is kept well in view, and the recommendations made are such that if carried out they will not only minimise the danger to life and limb among the employed, but not press unduly hard upon the industry in question, it may be said that the purpose sought has been realised. While the recommendations apply equally to existing generating stations, it is in the erection of new buildings and the laying down of improved machinery that their influence will be most felt. The generation and distribution of electrical energy is, comparatively speaking, a modern industry, and as the public demand for it has been urgent, it is only thus the fact can be explained that in certain stations the work is carried on in too confined spaces. Therein lies a great danger. The recommendation of the Committee that in future there shall be, for example, space of at least four feet behind the switchboards receives our heartiest support; also the requirement that only skilled workmen shall be employed, and the wearing of india-rubber gloves. Having described in detail the sources of danger to those engaged in electrical generating stations, and the means to be adopted to prevent accidents, the report proceeds to discuss other points, among which may be mentioned the probable cause of death in electric shock, and the methods to be put in force for the resuscitation of those apparently killed by electricity. The cause of death under these circumstances is, it would seem, still *sub judice*. As the result of a number of experiments carried out by Dr. Oliver, of Newcastle-upon-Tyne, who is the medical expert upon the Committee, it would appear that while in most of the animals death arose from sudden failure of the heart's action rather than from arrest of the respiration, yet that gentleman succeeded in restoring animals apparently killed by electricity by means of artificial respiration, in one instance as long as thirteen minutes after the heart had ceased beating and the breathing had been entirely suspended.

The report concludes by recommending that all workpeople employed in electrical generating stations should be made thoroughly aware of the dangers incidental to their calling, and that they should receive practical instruction in the application of methods for the resuscitation of individuals who are supposed to have received a fatal shock. The methods recommended are the same as those used for the restoration of people who have been drowned. In the appendix of the report is described Sylvester's method of carrying out artificial respiration, and for the present we may regard this as the best means of inducing recovery. Apart from the necessity which obliged the Departmental Committee to carry out this inquiry, the report which it has issued contains information valuable alike to the public and the medical profession.

BRITISH MEDICAL JOURNAL REPORTS

SPECIAL REPORT ON THE CONDITION OF THE RIVER BRENT.

By E. BAILEY DENTON, M.Inst.C.E.

IN compliance with the desire of the Editor of the BRITISH MEDICAL JOURNAL that I should report to him upon the condition of the Brent, a small river which, as is well known, rises on the high ground to the north of London, and ultimately joins the Thames at Brentford, flowing through a residential district specially favoured by Nature, but which has, unfortunately, recently occupied a notoriously unenviable reputation owing to the comments made both in the public press and in the House of Commons upon the foul state of the stream, I have carefully gone up the valley during four of the hottest days of the present month (August), when the evils consequent on river pollution would necessarily be very apparent. I propose to treat the question in five sections, and to refrain as far as possible from the use of technical language, so that all readers of the JOURNAL may readily appreciate the condition of this unfortunate valley. The sections relate:

1. To the condition of the lowest or canalised portion of the river from its junction with the Thames at Brentford upwards to a point by Hanwell Asylum, where the stream proper separates from the Grand Junction Canal.

2. To its condition between Hanwell Asylum and the culvert under the main line of the London and North-Western Railway, situated at a distance of about a mile and a half north-west of Willesden Junction.

3. To its condition between this culvert and the Welsh Harp reservoir.

4. To the condition of the Welsh Harp Reservoir and of the two feeders which flow into it at its northern and north-eastern extremities; the first from East Finchley, Hornsey, and Dollis; and the second from Collindale and Edgware.

5. To some remedial measures, which are necessary to restore the river to something like its original purity; and health and happiness to the people living on its banks.

1. At the Brentford Lock there was nothing unsightly in the appearance of the river, and it in no way differs from any ordinary canal; neither was there any smell, the only evidence of pollution being that after the passing of barges gases rose to the surface from the bottom—not an uncommon occurrence along our inland waterways.

There is evidence, however, that the pollution of the water is considerable—though perhaps not visible to the eye—because, whereas in days gone by fishermen were accustomed to assemble in considerable numbers, and even to pay for the privilege of pursuing their favourite amusement, and a good day's sport was the rule and not the exception, now I am informed that there are no fish whatever in this length of river, all of them—even the eels—having been poisoned by its foulness.

This condition of things prevails up to King's Lock, where there is a backwater; here the first stench was noticeable, and the water was discoloured. On the left bank at this point is situated the Southall-Norwood Sewage Farm; these sewage-disposal works consist of about 18 acres of land, 11 of which are irrigated, the remainder being occupied by engine house, precipitating tanks, filter beds, etc., chemical treatment being adopted in addition to, or as an alternative to, natural filtration through soil. By the courtesy of the manager, Mr. Selbidge, I was permitted to go over the works. The sewage was being applied to the irrigation land without the addition of chemicals, and the effluent as discharged into the river was clear to the eye and without smell. Having carefully inspected everything, I am of opinion that if the same care and attention was bestowed at all the other sewage-

disposal works along the valley as here, the Brent would not be in its present foul condition. With an increasing population, however, permanently satisfactory results are endangered both with regard to irrigation and chemical treatment because of the limited area of land which the authority have purchased, but at the present time I do not consider that the public have cause of complaint against the Southall-Norwood Urban District Council.

Here also, but on the other side of the river, are situated the Hanwell Sewage Farm and Disposal Works, where a very different state of things prevailed on the day of my inspection. The land over which the sewage, after partial treatment by chemicals, was being applied was in a very objectionable condition, the liquid lying in pools on its surface and giving off offensive effluvia. I likewise examined the so-called effluent which discharges into the backwater previously referred to. At the point of outlet its character did not differ from ordinary town's sewage previous to any treatment whatever; and the backwater was in consequence nothing more nor less than a cesspool giving off a disgusting smell. Further comment on the Hanwell Works is superfluous.

2. From the point near the asylum where the river leaves the canal there is no real change for the worse in its appearance until it passes under the main London Road to the west of the town. It is here that the first great alteration takes place in the main stream, and from this bridge upwards it becomes merely an open sewer.

I was informed that not only had all the fish between Hanwell and Ealing long since been killed, but that even the water rats had fallen victims to the foulness of the water. There appears to be but little pollution from the small village of Greenford, and there is nothing worthy of record until the sewage works of Ealing are reached, which are situated on the south bank a little below Perivale. They consist of twenty-one acres of land upon which the sewage of a portion of the town is purified by filtration through the soil after deposition in tanks and chemical treatment. Being clean and tidy, they present an agreeable appearance. The effluent was clear to the eye and without smell. In a word, their management is satisfactory.

Above the bridge by Perivale Church the stench was awful, and men under the orders of the Ealing Urban District Council were at work adding lime to the water.

The next point of interest is the Wembley District Sewage Works, which are situated on the north side of the stream, about a mile above Perivale Bridge; these works are, in my opinion, unsatisfactory. The effluent was discoloured, and the smell of the brook at the various outlets most nauseating. Moreover, they are too small in area to efficiently perform the duties which will be required of them when the Brent Valley has again come into public favour, and the popularity of Wembley Park has become established. If allowed to remain for a time without extension, they must be most carefully managed and frequently inspected in order to minimise, if not prevent, the probability of the sewage delivered to them being discharged directly into the river at times when it is inconvenient to adopt any treatment. If this is not done nuisance will continue, and the value of the remedial works now being carried out, or about to be commenced by other authorities, will be much reduced.

Above the Wembley Works up to the North-Western Railway the flow of the river becomes less, pools of foul sewage alternating with heaps of dirty shingle. In close proximity to the cottages near the Alperton Road servants of the Willesden Urban District Council were busy cleaning out the bed of the stream, and creating the most filthy stench possible. I cannot help thinking that it must be very unwise to continue this cleaning process during the present hot weather, for it certainly must be provocative of illness.

3. Immediately above the culvert under the London and North-Western Railway the flow was very trifling owing to the dam, the sluices of which were closed, placed across the stream by the Willesden Urban District Council. Above these sluices the river continues in the garb of a cesspool, emitting a most disgusting smell as far up as the high road to Harrow-on-the-Hill. Here a backwater, which was full of foul sewage and effluent from the neighbouring works of the Willesden Urban District Council, diverges from the main stream. On ascending further, with the farm on its eastern bank, I came across two other dams, at both of which the council's men were in a rough and ready manner mixing lime with the river water. These dams, by holding back the water, provide a sufficient quantity behind them, which, when let go after lime has been added to it, flush out, and, to a certain extent, deodorise the reach below.

I forbear to criticise in any way what the Willesden authority are now doing, because they are spending a very large sum of money in permanent improvements. It must, however, be conceded by all that they have caused gigantic nuisance in the past.

Above Willesden the river presented a much improved appearance, for water lilies and green vegetation abound, with no black deposit in its bed, at the several places which I examined, and without any smell, thus clearly proving no recent contamination of importance.

Pursuing my course upwards I next came to the branch from Kenton, which flows into the main stream in proximity to the Metropolitan Railway. I followed this rivulet up for a short distance and found that, although the small quantity of water flowing down it was slightly discoloured, there was nothing in its condition to justify public protest.

To the north of the Metropolitan Railway there were evident signs of pollution in the stagnant pools of which the river bed consists, though nothing like the serious condition of things prevails as below the Willesden Farm outlets.

Between the Neasden Road and the Welsh Harp Reservoir there may truthfully be said to be no Brent at all, the sluices of the reservoir being closed, as is usually the case during the summer months, and not a gallon of water passing through them. The result is, I am informed, that for about seven months out of twelve the natural flow of the river is absolutely stopped, the feeder of the Grand Junction Canal, which follows a course somewhat parallel to the river bed but at a higher level than it, taking all the outflow from the reservoir. As far as I know, this state of things, although sanctioned by Parliament, is without parallel in this country, and the most serious consequences must inevitably result if an alteration is not soon effected.

4. As regards the reservoir I need not say much as most Londoners are well acquainted with it, but I feel sure that if its contents were drawn off or if a chemist were to analyse and report on the quality of the water upon which during winter so many of us skate, and on the banks of which during summer so many of us spend holiday afternoons, great astonishment would be universally expressed at no ill-effects having resulted before now. I must add, however, before passing onwards, that the tenant of the Old Welsh Harp Hotel informed me that twice during the last two years large quantities of fish have been killed owing to the polluted condition of the water, and that it was a matter of great moment to him that this destruction should not occur again.

Following up the East Finchley, Hornsey, and Dollis branch I found it in a most offensive condition, the smell being such as to make my companion and myself ill. Black lumps of sewage were floating down the stream and on all sides gases were bubbling up from its bed. I was not long before I traced this pollution to the effluent from the Hendon sewage works, which I can say, without any fear of contradiction, was the most filthy and impure effluent that I have ever seen; indeed, in my opinion the Hendon Urban District Council are incurring the gravest responsibilities if they allow this dangerous condition of things to continue for a single day longer than is absolutely necessary.

Above the junction of the effluent with the brook a great improvement is immediately noticeable; and though in all probability the water is to some extent polluted, still the pollution is, comparatively speaking, trifling, and no nuisance is caused to the passer by. The Edgware branch, which joins the reservoir at its northern extremity, is badly polluted as far up its course as Schweppe's manufactory of mineral waters, and the several sources of pollution are clearly visible to the eye. Above this point the brook calls for no further comment, as its contamination is not serious.

5. On the assumption that the local authorities of Southall-Norwood and Ealing are satisfactorily doing their duty, and that the remedial works now in course of construction at

Willesden will, when completed, produce permanently good results, it is necessary that Hanwell, Wembley, and Hendon should be immediately compelled to take steps to stop the pollution which they are now causing, because unless this is done, the efforts of those authorities who are conscientiously doing their best will be to a great extent wasted. When the County Council are satisfied that the effluents from all the sewage works along the valley conform to the requisite standard of purity, the river bed should be cleaned out from Hanwell to the Welsh Harp Reservoir, not omitting all the small tributaries and backwaters from Brentford upwards, whilst above the reservoirs the north-eastern feeder to above the Hendon Sewage Works and the northern feeder to above Schweppe's manufactory should be treated in a similar manner.

As the course of the Brent is very tortuous, it might be advisable to straighten it in certain places so as to secure a more rapid flow; but in all probability this proposal would be opposed by some riparian owners, whilst many might say that the alteration is not essential.

It has been suggested that a special conduit should be laid from the Thames alongside the river to receive the effluents from the sewage works along its course, and so to free it entirely from this means of defilement. Such a scheme would be very costly, and an equally satisfactory result would, in my opinion, be obtained if the Canal Company were compelled to daily send down the Brent in perpetuity from their reservoir at the Welsh Harp a quantity of water equivalent to the combined effluents of all the local authorities below, which, roughly speaking, according to Mr. Jones, engineer to the District Council of Ealing, represents about 1,000,000 gallons per diem. I am quite aware that it may be a matter of considerable expense and difficulty to store more water than is now done at the Welsh Harp Reservoir, and that it may be even advisable to construct an additional reservoir higher up the valley; but questions of expense and difficulty sink into insignificance when the health and lives of thousands are at stake, and this is now literally the case in the unfortunate Valley of the Brent.

THE SERUM DIAGNOSIS OF TYPHOID FEVER.

DISCUSSION AT THE MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

AT the meeting of the American Medical Association recently held in Philadelphia an important discussion took place on the Serum Diagnosis of Typhoid Fever. A Committee, consisting of Drs. W. H. Welch, Wyatt Johnston, J. H. Musser, R. C. Cabot, S. S. Kneass, A. C. Abbott, J. M. Swan, E. B. Block, H. M. Biggs, N. S. Davis, jun., M. W. Richardson, J. B. Herrick, A. R. Guerard, and A. P. Ohlmacher, was appointed by the President of the Section on Practice of Medicine to draw up a summary of the views expressed on the subject in the discussion. The following report, a copy of which we owe to the courtesy of the Committee, was drawn up by these gentlemen. It is pointed out, however, that while expresssing the general consensus of opinion brought out in the course of the discussion, the report does not claim to represent exactly the individual views of any one of those who took part in it.

REPORT OF THE COMMITTEE.

1. In selecting the material used in making the test the choice between (*a*) serum, (*b*) dried blood, (*c*) fluid blood, and (*d*) blister fluid will depend largely upon whether the object be scientific research, clinical diagnosis in hospital or private practice, or public laboratory diagnosis where the samples have to be sent some distance.

2. In spite of considerable variation in technique, there has been a remarkable uniformity in the results obtained by those taking part in the discussion, and their average of about 95 per cent. of successes agrees with the general average of the cases, nearly 4,000, thus far recorded in medical literature.

3. Each of several methods of technique advocated may thus give good results in the hands of those thoroughly familiar with the details found necessary in each case and the sources of error to be avoided, success depending rather on being perfectly familiar with one method than on the particular one selected.

4. For routine diagnostic work even the very simplest methods may give good practical results, but for recording scientific observations these methods which are accurately quantitative should be selected. This is especially necessary in reporting exceptional cases at variance with the general results recorded, or where the observations are made the basis of generalisations.

5. A complete reaction should comprise both characteristic clumping and total arrest of motion occurring within a definite time limit. For practical diagnostic work a dilution of 1 to 10, with a fifteen minute time limit, is convenient. In any doubtful case the dilution should be carried as far as 1 to 50, or perhaps 1 to 60, and a reaction not obtainable at that point should not be regarded as perfectly conclusive. For these higher dilutions the time limit should be extended to two hours.

6. Intensity of reaction in a given serum should be estimated by determining the degree to which it may be diluted without losing its power of giving a decided reaction, both as to agglutination and loss of motion.

7. The intensity of reaction shown by the same serum is influenced by the age, condition and virulence of the test culture and by the composition and reaction of the culture medium. For purposes of comparison the sensitiveness of the test culture should be taken into consideration.

8. The evidence so far recorded establishes that the reaction may be delayed or occasionally may not be obtained in cases of genuine typhoid infection; and also that it may be exceptionally present in non-typhoid cases, though not in an intense degree.

9. In investigating exceptional and contradictory results the following circumstances have to be considered: (*a*) The uncertainty of clinical diagnosis; (*b*) the absence of bacteriological or other confirmatory methods of diagnosis during life, giving decisive negative results; (*c*) the possibility of overlooking typhoid infection, even *post mortem*, in the absence of characteristic intestinal lesions where a very thorough bacteriological examination has not been carried out.

10. The modifying influences mentioned above suffice to explain the divergencies existing in the reports of different observers. Without being absolutely infallible the typhoid reaction appears to afford as accurate diagnostic results as can be obtained by any of the bacteriological methods at our disposal for the diagnosis of other diseases. It must certainly be regarded as the most constant and reliable sign of typhoid fever, if not an absolute test.

UNITED KINGDOM POLICE SURGEONS' ASSOCIATION.

THE annual meeting of this Association was held at Exeter Hall on July 28th, when the report of Council was received and adopted, and 200 copies ordered to be printed and distributed to police surgeons.

A resolution congratulating the retiring President (Sir H. J. Littlejohn) on his appointment as Professor of Forensic Medicine in the University of Edinburgh was unanimously adopted, and Dr. Edmund King Houchin, Metropolitan Police Surgeon and Deputy Coroner for East London, was elected as his successor.

A form for recording *post-mortem* notes, which had received the sanction of the Coroner for Central Middlesex, was considered and adopted, and copies ordered to be sent to members of the Association.

A letter was read from Dr. J. F. Craig, of Birmingham, urging that coroners should be communicated with as to the desirability of police surgeons being selected to make necropsies and give evidence in cases where no medical man had been called in during life, and it was resolved that this should be done.

The following officers and Council were elected for 1897-98:—*President:* Dr. E. K. Houchin. *Vice-Presidents:* T. Holmes, F.R.C.S.; T. Bond, F.R.C.S.; Sir H. J. Littlejohn, M.D.; H. Barnes, M.D. *Treasurer:* H. Nelson Hardy, F.R.C.S.Ed. *Honorary Secretaries:* F. W. Lowndes, M.R.C.S. (Liverpool); H. C. Hopkins, M.R.C.S. (Bath). *Council:* J. R. Baumgartner, M.R.C.S. (Newcastle); J. F. Craig, M.D. (Birmingham); C. Eastwick-Field, M.R.C.S. (Midhurst); G. H. Heald, M.R.C.S. (Leeds); W. J. Heslop, F.R.C.S.Ed.

(Manchester); D. McDonald, M.D. (Belfast); L. Maybury, M.D. (Portsmouth); H. W. Roberts, M.R.C.S. (London); W. Roocroft, M.R.C.S. (Wigan); C. Templeman, M.D. (Dundee); W. Washbourn, M.R.C.S. (Gloucester); S. Wyborn, M.R.C.S. (Windsor).

AT LAST! THE DEATH BLOW TO PAUPER NURSING.

We announce with feelings of no small satisfaction the ultimate victory in the war which we have waged for many years against the cruel and unjust system which up till now has permitted that gross and unrighteous abuse—the employment of untaught, untrained, and incapable paupers as nurses in the workhouse infirmaries. Our campaign has lasted for many years. It virtually began with the reports on metropolitan workhouse infirmaries by Mr. Ernest Hart, the late Dr. Anstie, and Dr. Rogers thirty years ago. That campaign, which led to the formation of the Workhouse Infirmaries Association and the consequent introduction of Gathorne Hardy's Act, created the metropolitan asylums, and led to the removal of the acutely sick paupers from workhouses to suitable hospital administration under the Asylums Board.

It aided much, also, in the creation of a better and more humane system of nursing and administration for the aged and infirm left in the metropolitan workhouses, but it left almost untouched the provincial and rural workhouse infirmaries. Our reports of three years ago on the condition of the sick poor in provincial workhouses showed how cruelly inadequate, to say the least, was the nursing system throughout the country, except in some of the great cities where important reforms had been introduced. The immediate effect of our reports and the Commission which we issued was of course, as is usual, to evoke passionate denials in some places, but still to quicken the advancement of the much-needed reforms, and directions were issued from the Local Government Board introducing a better state of things and many workhouses have been partially remodelled in this respect.

There remained a great and unknown residuum of cruelty and neglect arising from the ignorance and want of training of pauper nurses still employed so numerously. At last, however, our final triumph in the cause of the sick poor has come, and the Local Government Board has, we understand, happily seen its way to fulfil our full demand, and have issued an order which forbids the employment of paupers as nurses in the future—"notwithstanding anything contained in the orders now in existence, no pauper inmate of a workhouse should in the future be employed to perform the duties of nursing the sick in the lying-in-wards of a workhouse or be otherwise employed for nursing."

This is the death-warrant of the pauper nurse. It has come none too soon, but considering all that is involved in this order—all the care, humanity, consideration, and proper nursing which will now be the lot of the sick pauper—for their sake, though it has been long in the coming, we are thankful for it.

This order must not be confounded with the circulars of which so many have been of late sent out to guardians; the circulars could be disregarded, but a sealed order has the effect of law, and supersedes previous orders to the same effect, as in this case it supersedes the order which empowers the matron to select from among the inmates such as in her opinion are suitable to attend on the sick. This order likewise appoints a superintendent nurse to control the other nurses in the case of a workhouse employing three or more nurses under the direction of the medical officer. This order will do something, though not all that is needed, towards improving the position of the nurse in the workhouses and workhouse infirmaries throughout the kingdom; it is a great step in the right direction—the preliminary, in fact, of a humane revolution of which the development will be watched with deepest interest by all well-wishers of humanity.

A CHOLERA SCARE IN LONDON.

An attempt having been made in certain quarters to work up a cholera scare on the strength of a case of fatal illness which occurred a few days ago in the East End of London, we have thought it worth while to investigate the matter. The following are the facts of the case: The patient was a girl aged 17 employed at a waste paper merchant's. Her work was to sort paper shavings, and she had nothing to do with either foreign rags or paper. On August 11th she was in her usual health at dinner time; she consumed nothing of significance at this meal. In the afternoon she ate an ice from a street barrow; a companion who indulged similarly suffered no ill-effects. The girl was still perfectly well at 10 P.M., when she took a meal of bread and butter, cheese, tomatoes, and fried potatoes with a little ale, soon after which she went to bed. At 1 A.M. she was attacked with violent vomiting and diarrhœa. She brought up a frothy white material and also some of the potatoes. These symptoms persisted for between one and two hours, at the end of which time she fell into a deep sleep. Up to this time her condition had obviously caused no great alarm, as no medical man was sent for. At 10 A.M. the patient's father called her and found her, to use his own expression, "looking very dark." He then sent for Mr. Style, of Brady Street, who found the patient collapsed and extremely cold, the temperature being only 94° F. Ether and brandy were injected and sinapisms applied to the precordia, as well as hot water bottles to the feet. Death, however, occurred at 4 P.M., or five and a-quarter hours from the time when she was first seen by a medical man. A *post-mortem* examination was made, when it was found that there were ecchymoses on the brain, heart, etc., that the lungs were collapsed and the blood tarry, and that the intestines contained a greenish fluid. It should be said that while the patient was under medical care it is stated that her bowels were relaxed, but there is no mention of violent diarrhœa or of cramps.

The above facts came out at the inquest held by Dr. Wynn Westcott on Saturday last, and the jury returned a verdict of death from English cholera. The adjective was somehow omitted in the report which appeared in some newspapers, and the death thus acquired an exaggerated significance.

On examining the evidence, the idea of Asiatic cholera may at once be dismissed as absolutely untenable. The absence of cramps, the cessation of the diarrhœa during the deep sleep, the nature of the vomit and of the intestinal contents, all tend to contravene the supposition. Furthermore, a piece of the intestine was sent to Dr. Klein, who made a bacteriological examination with results negative as regards Asiatic cholera. Had the malady proved to be of this nature all accepted views as to the etiology of the disease would have had to be abandoned. Absolutely no source of infection can be traced by the most careful inquiry, nor—this is of the greatest importance—have any sporadic or mild cases of a suspicious nature been noted. One or two patients whose symptoms seemed for the moment suggestive were found to be suffering from ordinary diarrhœa *plus* fright. If, then, this girl had died of Asiatic cholera, we should have had proof positive of the now universally discredited spontaneous origin of the disease. *Apropos* of this case, Dr. Hamer, the Assistant Medical Officer to the London County Council, expressed his belief that there was not at the present moment a single true cholera germ in the whole of Europe.

We may even go a step further, and raise the point whether in spite of the verdict the case was really one of cholera in any shape or form. The *post-mortem* appearances as described at the inquest were not those of Asiatic cholera. Of the symptoms, it may be said that, although not absolutely typical of cholera nostras, they might quite possibly have been produced by that disease. Still we are inclined to think that the balance of probability is against this being the case. English cholera, particularly in an isolated example such as this, does not, as a rule, kill with such appalling suddenness as was here noted, particularly when the subject is an adult. It will be remembered that the patient partook of a particularly heterogeneous meal before retiring to rest; a fatal result might have arisen from an imperfection in any one of the elements of which it was composed. So far as we have been able to gather, there is nothing in the clinical history or *post-*

mortem investigation which is inconsistent with this supposition. Taking all the facts into consideration, it seems to us just as probable, to say the least, that the cause of death was food poisoning as English cholera.

A serious outbreak of cholera in London is always improbable, and just at present, when the Continent is practically free from it, to all intents and purposes impossible. We may now take it for granted that it can only be introduced from foreign cases of the disease, and spread through the imperfections of our water supply. Epidemic cholera in England is a preventable disease, and no alarm need arise from the report of an isolated case in a sanitary neighbourhood. Still less occasion is there for fear when the symptoms are so atypical as in the present instance.

THE BRITISH DENTAL ASSOCIATION.

The annual general meeting of the British Dental Association was held in the Trinity College, Dublin, during the past week. The proceedings began with a reception in the College of Physicians on Monday night. On Tuesday Mr. Canton, the outgoing President, delivered a valedictory address, in the course of which he claimed that their investigations had shown the true scientific spirit which preferred quiet and unostentatious progress to the applause of popular wonder and ignorance.

Installation of New President.

Dr. Theodore H. Stack, the new President, then took the chair amid applause, and welcomed the Association very cordially.

Treasurer's Report.

The Treasurer's report showed that the reserve fund amounted to £800, and the balance in bank to £430 10s. 7d.

Entertainments.

In the evening the Representative Board were entertained at dinner in the Royal College of Surgeons, under the presidency of Mr. Robt. H. Moore. Among the speakers were the Chairman, Mr. Smith-Turner, Mr. F. Canton, Mr. Bacon, Sir William Thomson, President of the College. Afterwards the company adjourned to the Arts Club, where they were entertained at a smoking concert by the "Odontoblasts." On Wednesday evening Dr. and Mrs. Stack gave a magnificent reception in the Science and Art Museum; and on Thursday evening Dr. Stack presided at the annual dinner in the Dining Hall of Trinity College. On Friday the meeting closed, and many members proceeded on excursions.

Papers.

The following is a list of the papers read:—W. Booth Pearsall, F.R.C.S.I.: (1) Some Aids in Practice; (2) The Edentulous Mouth and its Treatment, with and without springs. S. J. Hutchinson, M.R.C.S., L.D.S.Eng.: A Few Notes in Practice. Dencer Whittles, L.D.S.Eng.: Some Factors which cause Eruption of Teeth, with lantern slides. Charles M. Cunningham, L.D.S.Edin., D.D.S.Mich.: Report of an Examination of Teeth in Arran Islands, County Galway. T. Quinlan: The Conservative Treatment of Exposed and Diseased Pulps as Opposed to Extirpation. —Address by the President of the Microscopical Section, Dr. A. W. W. Baker. R. Theodore Stack, M.D., L.D.S. Eng., Professor of Dentistry, R.C.S.I., A Contribution to the Prophylaxis of Dental Irregularities. J. Alfred Scott, M.D., F.R.C.S.L., Professor of Physiology, R.C.S.L., Colouring Lantern Slides for Scientific Demonstrations. C. S. Tomes, F.R.S., M.R.C.S., L.D.S.Eng., Undescribed Forms of Enamel, with Lantern Slides. F. J. Bennett, M.R.C.S., L.D.S.Eng., (*a*) Concerning the Expansion and the Closure of the Dentinal Tubes; (*b*) Some Ancient Jaws of Irish Origin. Storer Bennett, F.R.C.S., L.R.C.P., L.D.S.Eng., A New Method of Staining Nerve Fibres in the Dental Pulp. J. Choquet, D.E.D.P. (Paris), Dental Anatomy, with Lantern Slides.

Demonstrations at the Dental Hospital.

"Tube Crown," by J. J. Andrew, L.D.S.Eng. "Crown Work," by William Helyar, L.D.S.I. "Dowel Crowns on Six Front Teeth," by Alfred Jones, L.D.S.I. "A New Form of Crown," by S. J. Reeves, L.D.S.I. "Application to Several Practical Cases of Angle's Apparatus," by Edward A. Angle, D.D.S. "Automatic Hot Water Apparatus," by J. J. H. Sanders, L.D.S.I. "Various Methods and Processes in Use in Dental Microscopy," by Dencer Whittles, L.D.S.Eng. "The Use of Choquet's Microtome," by the Hon. Secretary of the Microscopical Section. "The Use of Dall's Crown and Bridge Furnace with Gas," and a similar "Furnace with Air Gas" (using Ash's generator), by William Dall, L.D.S.Glas. "Improved Gas Furnace," by J. H. Gartrell. "The Use of Three-part Flask in Vulcanite Work," by E. Lloyd-Williams, L.R.C.P.Lond., M.R.C.S., L.D.S.Eng. "The Pearsall Moulding Flask," by R. P. Lennox. "A Method of Making a Deep Counter Die with all the Advantages and none of the Disadvantages of a Shallow Counter," by R. P. Lennox. "A New Shot Swager for Continuous Gum-work," by J. H. Gartrell.

LITERARY NOTES.

Mr. Richard Ellis, F.R.C.S.Edin., has received a communication from Her Majesty's Private Secretary stating that he has been commanded by the Queen to thank him for a copy of his *Health Resorts of Northumberland and Durham* recently presented to Her Majesty.

The Scientific Press will shortly publish a work entitled *Elements of Neurology* by Dr. Bertram L. Abrahams. The book will be divided into three principal sections, in the first of which a judicial summary of the recent work in the anatomy and physiology of the nervous system will be given; the second will deal with nervous pathology, and the third with the diagnosis of nervous diseases in the light of the most recent developments of knowledge in that department of pathology.

It is said to be doubtful whether the life of Professor Huxley, which is being prepared by his son, Mr. Leonard Huxley, will appear before Christmas or not. The biographer's task is made somewhat difficult by the large range of subjects dealt with by his distinguished father. Mr. Leonard Huxley is a master at Charterhouse School.

Messrs. J. and A. Churchill have just issued a sixth edition of Walsham's *Surgery*, containing forty new illustrations; a fourth edition of Clowes and Coleman's *Quantitative Chemical Analysis*; and a third edition of Hartridge's *Ophthalmoscope*.

In the beautifully illustrated work, *Les Lépreux Ambulants de Constantinople*, by Zambaco Pasha, which has recently been published by Masson et Cie., of Paris, the somewhat startling statement is made that there are more than 400 lepers going about the streets of Constantinople plying all kinds of trades, and freely admitted into shops and households. Amongst these lepers some come from provinces of the Ottoman Empire where leprosy is endemic; others are descendants of Spanish Jews, whose progenitors have lived in the Turkish capital since they were expelled from Spain in Inquisition times, and "descended from the Hebrews of Exodus, who took refuge in Iberia after the Babylonian captivity in the year 536 before the Christian Era, and particularly at the time of the conquest of Jerusalem by the Romans." Zambaco Pasha, who is an ardent non-contagionist, affirms that in spite of the unrestricted intercourse of lepers with the rest of the population, there is no case on record of the transmission of the disease to any of the other inhabitants of Constantinople.

Annotationes Zoologicæ Japonenses is the title of a new periodical which has lately appeared in Japan under the auspices of the Zoological Society of Tokyo. It will be published quarterly. The contents of Parts I and II, which are before us, are almost entirely in English, but articles may be written in English, German, French, or Italian. Among the contributions are, On the Accommodation of some Infusoria to the Solutions of Certain Substances in Various Concentrations, by A. Yasada; On Changes which are found with Advancing Age in the Calcareous Deposits of Stichopus Japonicus, Selenka, by K. Mitsukuri; and Two New Species of Asthenosoma from the Sea of Sagami, by S. Yoshiwara.

The August number of the *Phonographic Record of Clinical Teaching and Medical Science* contains one of the problems in Practical Diagnosis, by Sir W. R. Gowers. Among the con-

tents are a paper by Mr. Peyton Beale on Purifying the Skin prior to Surgical Operations, and a note on a case of Traumatic Neuralgia of the Arm treated by rest and continuous cold by Dr. Colman.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING OF COUNCIL FOR 1897.

A meeting of the Council will be held on October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the meeting—namely, September 30th.

Election of Members.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

Francis Fowke, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

East Anglian Branch.—The autumnal meeting of the East Anglian Branch will take place at Aldeburgh on Thursday, September 16th, 1897, under the Presidency of Mrs. Garrett Anderson, M.D. It is requested that gentlemen desirous of joining the Association or Branch, and members willing to read papers or contribute cases to the meeting, will communicate at once with Dr. Barnes, Eye, Honorary Secretary.

North Wales Branch.—The autumn intermediate meeting will be held at the Waterloo Hotel, Bettws-y-coed, on Thursday, September 30th, 1897. Members having papers to read, cases to communicate, or specimens to show, are requested to intimate before August 20th. Nomination forms for new members should be sent, duly filled up, on or before that date.—Samuel Griffith, M.D., Portmadoc.

NORTH OF IRELAND BRANCH.

The annual meeting of this Branch was held in the Museum, College Square North, Belfast, on July 29th. Professor Whitla, M.D., President, occupied the chair, and there was a large attendance of members.

Confirmation of Minutes.—The minutes of the last annual meeting were read and confirmed.

Annual Report.—The Secretary's report and Treasurer's statement were taken as read, and adopted by the meeting.

Election of Office-bearers for 1897-98.—The following were appointed: *President:* Dr. Gray, F.R.C.P. (Armagh). *Vice-Presidents:* Dr. M'Kisack (Belfast) and Dr. Gaussen (Dunmurry). *Members of Council:* For Belfast: Dr. Calwell, Professor Sinclair, Professor Cuming, Dr. Lindsay, Professor Byers, Dr. Bingham, Dr. Whitla, and Dr. M'Caw. For the country: Dr. Hall (Monaghan), Dr. St. George (Lisburn), Dr. Stuart (Ballymena), Dr. Palmer (Armagh), Dr. Dunlop (Holywood), Dr. Darling (Lurgan), Dr. O'Hara (Ballymena), and Dr. Thompson (Omagh). Dr. George Gray (Newcastle) was reappointed Treasurer, and Dr. John Campbell (Belfast) Secretary. Dr. Campbell and Dr. Lindsay were re-elected to represent the Branch on the Council of the British Medical Association, and Dr. Stuart was reappointed representative on the Parliamentary Bills Committee.

Ethical Committee: The Council was reappointed as the Ethical Committee.

Journalistic Committee.—The President, Past-President, and Secretary were elected a Journalistic Committee.

Medical Men and Law Courts.—The Subcommittee to consider the relations of medical men to courts of law made the following recommendations:

That, considering the grave issues which may ultimately arise, *post-mortem* examinations for the coroner's court should in all cases be made by a specialist in pathology in conjunction with the medical practitioner engaged in the case.

That medical practioners should avoid being made to appear as partisan witnesses. They recognise that the system adopted in this country of examining and cross-examining medical witnesses permits counsel to suppress or minimise portions of evidence unfavourable to his client, and prevents the medical witness from stating the "whole truth." They therefore suggest that, in order to avoid apparent differences of opinion, medical men employed to give evidence on opposite sides in civil cases should, when possible, consult together with the object of discovering how far they can agree upon matters of fact without compromising the interests of either party.

3. That the Council, together with Drs. McKeown and Lorrain Smith, be reappointed a Subcommittee to consider the relation of medical men to courts of law.

These recommedations were adopted by the meeting.

New By-law.—On the recommendation of the Council the following was added to the by-laws:

XXIV. That a member of the Branch who has read a paper at one of its meetings shall not publish such a paper in the lay press without having previously obtained the authority of the Council to do so.

Attendance of Members of Council.—On the motion of Dr. R. M. Fraser it was decided that a record of the attendance of members of Council be inserted in the annual report.

Communications.—Dr. Darling (Lurgan) (1) Read short notes of a case of Intestinal Obstruction due to an intraperitoneal band which he successfully operated upon; (2) showed a patient on whom he operated for Intracranial Inflammation due to otitis media. Remarks were made on these cases by Drs. Campbell, Byers, St. Clair Boyd, Mitchell, Huston, and the President.—Dr. Donnan (Holywood) and Dr. Colville (Belfast) read a Note on the Examination of One Hundred Cases of Typhoid Fever by Widal's Serum Test. The President thanked them for the paper.—Dr. Henry O'Neill (Belfast) showed several skiagrams of Fractures of the Bones of the Legs.—Dr. J. Campbell Hall (Monaghan) showed a patient on whom he had performed Nephrectomy.—Dr. St. Clair Boyd (1) read a note on an obscure Abdominal Tumour successfully removed; (2) showed a Hairpin and Concretion removed from the female bladder, where it had remained for two years. Dr. Tennant made some remarks on the pathology of the tumonr.—Dr. Calwell showed (1) Acromegaly in a woman; (2) Plumbism in a man; (3) Paralysis of the Posterior Thoracic Nerve.

New Members.—The following were elected: James Munce, L.R.C.P. and S.Edin., Saintfield, co. Down; Walter Bold Robertson, M.B., Belfast; Robert Campbell, M.B., F.R.C.S. Eng., Belfast.

Annual Dinner.—In the evening the annual dinner took place in the Grand Central Hotel. The President proposed "The Queen," "The Prince and Princess of Wales and other members of the Royal Family," and "The Lord Lieutenant and Prosperity to Ireland," which was responded to in an able speech by the Lord Mayor of Belfast. He then proposed "Mr. John Fagan," in whose honour the dinner was held. This toast was supported by Professor Cuming, Dr. Robert Gray (President-elect), Dr. Lindsay (President of the Ulster Medical Society), Dr. Walton Browne (Senior Surgeon to the Royal Hospital), and Professor Sinclair. All the speakers referred to the eminent services rendered to surgical science in the North of Ireland by Mr. Fagan, and, while congratulating him on his appointment, expressed regret at his departure from amongst them. The Honorary Secretary then read an address to Mr. Fagan from the members of the Branch. When the toast had been drunk Mr. Fagan replied, and before sitting down proposed "The Health of the President." The President then proposed "The Honorary Secretary" (Dr. John Campbell). A notable feature in the proceedings was the very hearty appreciation shown of the noble efforts of the Lord and Lady Mayoress to bring to a successful issue the scheme for the erection of the Royal Victoria Hospital and of the generosity of the City Council in giving a free site.

Address to Mr. John Fagan.—The following are the address and reply:

Address.

To John Fagan, Esq., F.R.C.S.I., from the Members of the North of Ireland Branch of the British Medical Association.

We, the members of the North of Ireland Branch of the British Medical Association desire to give expression to the sorrow with which we view your departure from amongst us. Since the inauguration of this Branch you have been one of its most zealous and loyal supporters, and you have contributed largely to the success of its meeting by the exhibition of many interesting cases and the reading of numerous original and instructive papers. Your election to the honourable office of President, and for

many years to the position of a member of its Council, testifies to the esteem in which you have been held by your colleagues. Your influence and work have done much to advance the interests of the medical profession in the province of Ulster, and to strengthen the surgical reputation of the Belfast Medical School.

We congratulate you upon your appointment to the important and responsible office which you now hold, and we wish you and Mrs. Fagan every happiness in the new sphere of life to which you have been called.

Signed on behalf of the North of Ireland Branch of the British Medical Association,

W. WHITLA, President.
JOHN CAMPBELL, Honorary Secretary.

Belfast, July 29th, 1897.

REPLY.

GENTLEMEN,—Your kind and sympathetic expressions of regret at my departure from amongst you have made an impression that will not easily be effaced.

While I have heard with pardonable pride your references to the part I have taken in the inauguration and work of this Society, I have at the same time felt that any effort of mine to further the interests of this Branch was but a humble part in a pleasing work, in which I was ably assisted by willing and distinguished colleagues.

My work as a teacher of cltnical surgery in the Belfast Medical School has been a labour of love, and I ask no better reward than your recognition of my devotion to that branch of our profession, and my efforts to give it its proper place in the province of Ulster.

All through my professional life it has been a guiding principle with me to shape my actions so, that having first done my duty to my patients, my next concern would be to maintain the dignity and prestige of our common profession, and aid and encourage, more especially my younger colleagues, by word and example.

I thank you for your congratulations on obtaining my present office, one that I am happy to say affords me ample field for doing good, and in which I hope to show such results as will justify the kind things said of me by many friends concerned in my appointment.

My wife and I are are deeply grateful to you for your good wishes for our future happiness, and will always look back with pleasure to the happy time we spent amongst you in Belfast.—Yours sincerely,

JOHN FAGAN.

At a previous dinner given by the Senior Surgeon of the Belfast Royal Hospital (Dr. J. W. Browne) a handsome illuminated address was presented to Mr. Fagan by the members of the medical and physical staff of the hospital.

SPECIAL CORRESPONDENCE.

PARIS.

Congress of French-speaking Alienists.—Education and Hysteria.—The Notification of Infectious Diseases.—Morphinomania and Will-making.—General News.

THE eighth annual congress of French-speaking alienists opened at Toulouse on August 2nd. This city was chosen as being the birthplace of Pinel and Esquirol. Dr. Ritti, in his presidential address, eloquently set forth the glorious work done by these two physicians. Before they studied mental diseases and toiled to improve the treatment of the insane, the latter were treated as something between criminals and wild beasts. Dr. Pinel was appointed physician of the Bicêtre Hospital in 1793. He did away with chains and rivets then in use, and gave the patients the benefit of air and sunshine, which till then had been denied to them, and the preliminary barbarous treatment inflicted on patients before they were admitted into an asylum was by the persevering efforts of Pinel abolished. Esquirol's famous phrase, "Il faut aimer les aliénés pour être digne et capable de les servir," was the mainspring of his work. During forty years all the resources of his knowledge and activity were devoted to improve the condition of the insane. As a private citizen he travelled over all France to inspect lunatic asylums.

M. Bezy presented an interesting communication on infantile hysteria, and quoted the following interesting facts published by Dr. Pitres, who says: "People are born hysterical, and do not become so. Where there is this hereditary constitution three principal factors may provoke the manifestations of hysteria; these are 'education,' 'emotion,' and 'contagion.' Education is a frequent factor. Nervous children, instead of being sent to bed early and kept free from excitement during the day, are by some parents obliged to work too much, or are excited by being taken to pay visits or by being allowed to play at noisy games. Sometimes they are taken to the theatre, or made to play little parts in private theatricals. Telling moving or terrifying stories is a faulty form of education, and especially instrumental in provoking hysterical manifestations in children thus constituted. M. Baralait has published a history of six children in one Brittany family who became hysterical after having been told stories about witches and ghosts. Dr. Terrier, in a thesis recently maintained before the Toulouse Medical Faculty, adds to this class of data.

The law passed in 1892 authorised medical men, in the interests of public health, to disregard professional secrecy and obliged them to notify cases of contagious illnesses met with in their practice. Among these diphtheria is classed. Practitioners are directed by this law to observe certain rules in their notifications. Thus the illness is indicated by a number. In October, 1895, a medical man of Arpajon sent to the mayor five notifications, each indicating by its number the illness; all were diphtheria. A municipal councillor stating that he wished to assure himself whether there really was diphtheria at Arpajon and whether the sanitary law was properly observed, asked to be put in possession of the bulletins sent by the medical man to the mayor. The municipal councillor criticised the diagnosis. The medical man complained. The secretary of the mayoralty was proceeded against, and cited to appear before the *Tribunal Correctionnel* of Corbeil for having revealed secrets of which he was the official depositary; he was acquitted. The general law court of Paris ratified the judgment, but the Court of Cassation annulled it, and the Rouen law court ratified the judgment of the Court of Cassation.

The validity of a will made by a morphinomaniac has been established quite recently by a French civil law court. It was decided that as morphinomania in the penal code is not mentioned as a cause of irresponsibility it can still less be considered as such in a question of civil law.

A Committee, of which M. Planchon, director of the Pharmaceutical School, is chairman, has been formed to take steps for the erection of a monument to the memory of the chemists Pelletier and Caventon who, in 1820, when organic chemistry was still in its infancy, succeeded in isolating quinine.

M. Hervieux is considering the question of the treatment of small-pox in the French colonies so intimately connected with their prosperity, and expresses his belief that compulsory vaccination is the only means of stamping out small-pox. This question will not be discussed at the Academy of Medicine until November.

CORRESPONDENCE.

SNAKE VENOMS.

[PROFESSOR T. FRASER, of Edinburgh, asks us to publish the following letter adddressed by him to the Editor of the *Nineteenth Century*.]

[*Copy*.]

To the Editor, *Nineteenth Century*.

July 16th, 1897.

SIR,—I have to-day had an opportunity of reading the article on Recent Science, signed "P. Kropotkin," in the July issue of the *Nineteenth Century*. At page 41 a reference is made to some work which I have published on Snake Venoms, and, while I do not admit the accuracy of other parts of this reference, I specially repudiate the latter part of the statement that I "began to immunise a horse, but could not continue, having no snake venom." There does not exist the slightest ground for justifying this remark. The writer gives references to two out of several papers which I have published on the subject, the one in the *Proceedings* of the Royal Society of Edinburgh of June 3rd, 1895, and the other in the BRITISH MEDICAL JOURNAL of June 15th, 1895. In neither is it stated that the immunisation of a horse could not be or was not successfully accomplished. On the other hand, in a paper communicated to the Royal Society of Edinburgh on July 15th, 1895, I described the results of many experiments made with the blood serum of an immunised horse[1]; and again, in an address delivered before the Royal Institution of Great Britain on March 20th, 1896, published in the *Transactions* of the Institution and also in *Nature* and the BRITISH MEDICAL JOURNAL, nearly all the experiments described are distinctly

[1] *Proceedings*, 1894-95, pp. 466 and 467

stated to have been made with antivenene derived from a highly immunised horse.

Not only is this the case, but the blood serum of a horse, both in the liquid and dry state, has been sent by me to Africa and India. In the latter country it has been tested, on behalf of the Government, by so experienced and highly competent an observer as Dr. D. D. Cunningham, F.R.S., who has also applied similar tests to three different samples of antivenene prepared at Lyons. In reference to these testings, Dr. Cunningham remarks: "The result of the entire series of experiments with this antivenene" (from Lyons) "was very disappointing and very inferior to that obtained with Professor Fraser's preparations.....The material, as it reaches this country at all events, would thus appear to be distinctly inferior in potency to Professor Fraser's preparations, and to possess only very feeble antidotal properties."[2]—I am, etc.,

(Signed) Thomas R. Fraser.

THE GOVERNMENT OF INDIA AND THE PLAGUE.

Sir,—Two annotations in the British Medical Journal have just been brought to my notice: one headed, "The Indian Epidemic Diseases Bill," which appeared in the number for March 6th last; and the other, "Sanitary Guidance of the Government of India," in the succeeding number. In both, you strongly reflect on the advice given by me to the Government of India regarding the measures to be taken in connection with the plague, without having been in possession of the facts, and evidently without having seen all the remarks made by Sir John Woodburn at the discussion which took place at the Council on the introduction of the Epidemic Diseases Bill.

The speech containing the remarks to which you refer was not the one delivered by the hon. member in introducing the Bill; it merely consisted of explanations in reply to objections raised at the meeting, and the remarks had no reference to me, and were never intended by the speaker to apply to me.

On bringing your annotation to the notice of Sir John Woodburn, he immediately sent me a letter, copy of which is enclosed for publication, and I trust that you will give it the same publicity as the articles referred to.—I am, etc.,

James Cleghorn,

Director-General, Indian Medical Service.

Simla, July 11th.

[Copy.]

Simla, July 9th, 1897.

My Dear Cleghorn,—You have brought to my notice an article in the British Medical Journal, in which reference is made to the remarks of mine in Council on February 4th. I do not need to say to you that I did not refer to you in those remarks.

In the earlier stage of the disease the management was in the hands of the Local Government. After your visit to Bombay the opinions you formed were accepted and acted on by the Local Government, as well as the Government of India.—Yours sincerely,

(Signed) J. Woodburn.

*** It is not denied that the Government of India had been misled by the medical advice tendered to it. Surgeon-Major-General Cleghorn is, however, entitled to the full benefit of his protest and Sir John Woodburn's letter. Neither touches the accuracy and justice of our comments, which were founded on well-known facts. Dr. Cleghorn's opinion that *plague is not infectious in the ordinary sense* is, in the opinion of the most competent persons here, incomprehensible. Happily, the action ultimately taken was not logically connected with that opinion.

THE COLLEGE OF PHYSICIANS AND HOSPITAL REFORM.

Sir,—Although in your leading article in the British Medical Journal of August 7th, and Dr. Garrett Horder's letter in the same issue, this subject has been pretty fully discussed, there yet remain a few words to be said on the subject, for which I hope you may be able to afford me space before the pressure of the reports from Montreal fills up your columns. As one of the signatories to the petition to the College I was considerably surprised to find from your report (see British Medical Journal, May 22nd) of what took place in the comitia at which our petition was discussed, that we were charged by several eminent Fellows, especially Dr. Dickinson and Dr. Church, with having enormously exaggerated the abuse of the out-patient department, with having put many such exaggerations into the petition, with trades unionism, and by the President himself with a strong animosity towards those connected with hospitals. This last accusation must have been particularly galling to those dozens of hospital physicians and surgeons, both in London and provincial towns, who had signed the petition. We were assured, however, that many of our statements could be controverted, and would be disproved if investigation were made by those conversant with the subject (the very thing for which we had asked), and we waited patiently to see how this could be done.

What has happened? After months of consideration "with great care" of the petition by the Council, the only reply given to us is that it is impossible for the College to make the investigation we asked for. Not a word is said as to the charges of exaggeration, trades unionism, or animus so publicly made against those who signed the memorial, not a single fact is brought forward to disprove any one of the plain statements of fact contained in the petition, nor on the other hand is any apology vouchsafed to those Fellows, Members, or Licentiates who had been publicly insulted in their own college. A bare *non possumus*, is considered by the Council of the College sufficient to settle the question so far as they are concerned.

It would be in vain, of course, and might even be considered presumptuous, for us to imagine why it was impossible for the College to make such an investigation, seeing that it has not proved impossible for the handful of medical men constituting the Hospital Reform Association to make a similar inquiry into the working of the special hospitals of London, and to present a most valuable report on the subject; nor has it been impossible for the Charity Organisation Society, whose interest in the matter is not a tithe of ours, to investigate very fully the condition of both the voluntary and rate-aided hospitals in the metropolis; nor again has it been impossible for the Council of the Hospital Sunday Fund to cause investigation to be made into the working of some thirty hospitals where some defective management was alleged to exist. No one knows better than the respected President of the College, how very important it is that our great London hospitals should, if possible, be authoritatively declared to be free from abuse, for he has explained in the *Medical Magazine* for January, 1896, that one reason why the General Medical Council could not interfere with the medical aid associations was that "the Committee saw that the principle of prohibiting men attempting impossible work was very far reaching, even including the assistant physicians and surgeons to out-patients in many London hospitals;" so that it will be seen that hospital abuse is not only an evil in itself, but is indirectly the cause of the perpetuation of other evils.

To come to the question of remedy: I fully agree with Dr. Garrett Horder that pressure should be brought upon the medical staffs of hospitals. For nearly thirty years the British Medical Journal has consistently advocated hospital reform, while during the last few months the *Lancet*, with all the zeal of a new convert to the cause, has declared that the medical profession could, if it wished, diminish the amount of abuse to one-half in six months, and in a year practically abolish it. Let us try as an Association what we can do. Let no man be elected to any position of honour either in the Association or its Branches, who is opposed to hospital reform. Let every candidate who is proposed for any office among us, either as a representative on the general or Branch councils, or for president, honorary secretary, etc., be asked to state his views on this important subject, and let it depend on his answer whether he shall be opposed or supported. Thus, and thus only, as it appears to me, shall we give effect to the general desire for reform which pervades the whole body of our Association.—I am, etc.,

Dulwich, Aug. 16th. H. Nelson Hardy.

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[2] Report on the Result of Experiments on the Action of Various Reputed Antidotes to Snake Venom, conducted during the season 1895-96.

HOSPITAL REFORM.

SIR,—Will you kindly announce that we are organising a conference on the hospital reform question, and that we propose to deal more especially with the administration of the out-patient departments and with the promotion of a central hospital board? The dates provisionally fixed are October 20th and 21st.

Sir Henry Burdett and Mr. C. S. Loch have already expsessed their willingness to take part, and I should be glad to hear from other gentlemen who would also like to do so.—I am, etc.,

Cardiff, Aug. 17th. T. GARRETT HORDER.

THE NURSING EXAMINATION OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

SIR,—In reading asylum reports for the past year one is struck by the number of candidates who are said to have passed the above examination and by the remarks attesting to the enormous value such an examination has in perfecting the nursing of the insane.

Of late it has become the common practice of asylum medical officers to declare the superiority of the holders of certificates for the above examination over trained hospital nurses, as they have, in addition to ordinary sick nursing, experience in nursing the insane, and it is only just that medical men generally should know what is the real value of the certificate awarded for the above examination.

First, as regards the class of candidates. The great majority of asylum nurses are drawn from the ranks of domestic servants, and although most of them have had a fair elementary education, yet, even in these days, a large proportion of them can only write and spell imperfectly. So much for the raw material.

As regards the course of study, there is a book called *Handbook for Attendants on the Insane*. It consists of 117 pages, and is the joint effort of eleven alienists. The contents of this book are required to be mastered in two years with the aid of lectures by the medical staff of asylums.

The examination consists of written and oral parts. The paper for the written part is set by examiners appointed by the Medico-Psychological Association; the *vivâ voce* part is conducted by the superintendent of the particular asylum in which the attendants are engaged, with the help of an assessor who is generally a friendly superintendent; they also mark the papers. As the number of successful candidates redounds to the credit of the superintendent, this part of the examination can scarcely be an impartial one.

As to the standard of work required: if the official textbook is perused it will be seen that it contains a very superficial smattering of anatomy and physiology, with thirteen pages devoted to symptoms of disease and disorder, fifteen to mind and its disorder, nineteen to sick nursing, and thirteen to mental nursing. Taking the standard of work required from the official handbook, together with the method of examination, one cannot but think that the value of the certificate is not what its high-sounding name leads one to expect.

The rarity of unsuccessful candidates is a curious phenomenon about this examination. In all examinations which have any pretensions to any standard at all, there is always a percentage of failures, yet, in this examination it is no uncommon thing for batches of attendants in various asylums to all present themselves successfully.

A guide to the standard and value of the examination may be taken from the examination of the St. John Ambulance Association in first aid. It frequently happens that candidates for the Medico-Psychological Association's examination are prepared simultaneously for the First Aid Examination of the St. John Ambulance Association, and, whereas, the successful candidates for the former examination are often 100 per cent., yet the same candidates for the latter supply a fair amount of failures, although it is an examination which is easily passed by policemen and railway porters of average intelligence.

I do not wish to decry in any sense the systematic training of asylum attendants by means of lectures and examinations, but, when the Medico-Psychological Association takes upon itself the business of launching into the world certificated individuals, surely the general medical world and the public may expect that such certificates should indicate that the holders possess that sound knowledge and ability which has enabled them to pass an examination which should be thorough and impartial.

No objection can be urged against superintendents of asylums training and examining their own attendants and nurses, and using their own certificates, as is the practice in hospitals, but it is certainly harmful for a public body to organise a system of training and examination of an exceedingly low standard, and after delegating the functions of examiners to individuals who cannot be impartial, and who are perhaps even unconnected with them, to issue certificates which are really no guarantee of knowledge or proficiency.

I may say that I speak from personal experience, having for some years prepared candidates for the above examinations with what must have been flattering success were not the real facts of the case known to me.—I am, etc.,

August 16th. M. P. C.

EXPULSION OF MEMBERS FROM THE BRITISH MEDICAL ASSOCIATION AND ITS BEARING ON HOSPITAL REFORM.

SIR,—For twenty years at least we have been trying to induce the medical staffs of hospitals to make a determined stand against the monstrous abuse of our medical charities which they all admit exists. Their one argument is that the lay Board will not attempt to lessen these abuses, and when we say, Then resign, the reply is that their places would be filled at once by men only too glad to have these lucrative appointments. This miserable excuse has no longer any weight. Our great representative Association has denounced this feared appropriation by outsiders.

The action of the Council is a grave step, but it has been too long delayed; and backed as they are by the all but unanimous vote of the annual meeting, will be encouraged to extend this wholesome treatment to others, not one whit less culpable than Dr. Leith Napier and Dr. Ramsay Smith.

I called the attention of the Lancashire and Cheshire Branch to the conduct of certain members of the Association who were going about advertising themselves by lecturing to lay people and depreciating the profession in the eyes of the public.

This practice is most noticeable in those "self-elected teachers of obstetrics to lay women," and some of them have not hesitated to tell their pupils how much more skilful they are than duly-qualified medical men who have had a complete education. I was seconded by Dr. O'Sullivan, of Southport, but we had no support, Dr. Woodcock, one of our representatives on the Central Council, being the strongest opponent to our suggestion that the attention of the Council should be brought to this matter. Things have changed now; I shall at once bring the question up again; it will be interesting to see how our leaders will now act. I agree with Mr. Loch that the remedy for hospital abuse is entirely in the hands of the profession.—I am, etc.,

Old Trafford, Aug. 10th. JAMES BRASSEY BRIERLEY.

THE CAUSATION AND TREATMENT OF SPINAL CURVATURE.

SIR,—In the BRITISH MEDICAL JOURNAL of August 14th appear two letters commenting on my communications as to Certain Points in the Causation and Treatment of Spinal Curvature. The latter of these, from Dr. Sharman, as it is also the shorter, may be answered first. He wishes to know in what way I "prove that amesiality of the pelvis is a cause of the curvature and not a result," and adds, after an interpolated sentence to which I must revert, that "the mere history of the patient or her friends, as to which condition first attracted their attention, cannot be considered as satisfactory evidence." Herein he is perfectly right; only I never did imagine nor offer such history as proof; in fact, the amesial condition is not in my papers given as history at all—neither patients nor friends can detect it—but as deductions derived from my previous knowledge. That knowledge, and the proof that amesiality is not a result,

but a cause, of lateral curvature, are furnished by photographs, larger in number than could be published in the Journal, of young persons showing marked amesiality, and then developing, with varying degrees of rapidity, spinal curvature.

The interpolated sentence above alluded to states that if he (Dr. Sharman) stands in front of some perpendicular object, and bends his head and shoulders to the left, "he finds his pelvis moves to the right, that is, becomes amesial, obviously for the sake of balance." Here I must differ; in trial on my own person, and frequent experiment on others, I find that an individual so bending can keep the pelvis mesial; can move it to the right or left just as he pleases. Moreover, in thus bending to the left the spine is made convex to the right, and according to Dr. Sharman the pelvis is amesial also to the right. Even if I conceded, which I do not, the accuracy of this statement, it would not touch the matter in hand; for in all my cases (photographed or not), when the pelvis is amesial to the right, the resulting curvature is primarily convex to the left, precisely the contrary to that which Dr. Sharman thinks necessary for balance.

Regarding Dr. Percy Lewis's letter, it is dated two days after the appearance of my first paper (July 17th), and it may be supposed that the greater part of it would not have been written had he awaited the second communication. He assumes that the diagram which early in 1895 appeared in the fifth edition of my book on spinal curvature constitutes the whole of my work on amesiality, whereas it marks only the first inception of a, till then, undiscovered condition. My second paper completes, and where necessary corrects, this first, and therefore somewhat crude, description. The photographs there reproduced show that I do not, as he imagines, draw a line from the vertebra prominens downwards; they also very plainly demonstrate one-sidedness of the whole figure. Yet, as "pelvic amesiality" is the primary defect giving rise to all the others, I have so named the condition.

A controversy about nomenclature would be a mere battle of words not worth while for either Dr. Lewis or myself. I am very pleased that he is, as he says, fully alive to this condition, being much gratified to learn that he has so thoroughly assimilated a demonstration of amesiality, which by the aid of my scoliometer I was able to give him in November, 1895, when he was good enough to bring me a patient.—I am, &c.

Wimpole Street, Aug. 16th. RICHARD BARWELL.

THE SUPPOSED IMMUNITY OF NATIVES OF INDIA TO ENTERIC FEVER.

SIR,—In view of the recent communications on this subject in the columns of the British Medical Journal (editorial and otherwise), I would ask you to give me space for the following remarks on this interesting and important disease topic.

A perusal of the Indian reports, army returns, papers in the *Indian Medical Gazette*, and elsewhere, will prove beyond all doubt that the so-called natives of India (dark-skinned races) possess no natural immunity to this disease. Its existence among them has been demonstrated, through morbid anatomy, from such wide ranges as the Punjab, South India, Assam, Burmah, among plain dwellers and hill tribes; while susceptibility in other lands has been shown among native troops at Hong Kong, North China, and Singapore, and among Bombay coolies in the Mauritius. And the same details equally clearly show that not only is there no racial immunity, but that on the part of some adults at least there has been no acquired immunity, these individuals, whether in their own or foreign lands, having responded to the cause severely and as characteristically as the youthful British soldier does on Indian soil. In point of fact, no section of the human family in India is exempt from the operation of the cause, the doubts being limited to the degree of susceptibility, the character of the produced disease, and the explanation of the non-recognition by European observers of the disease amongst adult natives.

I think that it will be granted that the more knowledge accumulates the more certain it becomes that enteric fever in India, whether among Europeans, half-castes, or natives, follows the same laws as the European type; and that granted, considering that the cause is undoubtedly widespread in India, that the fostering influences are rampant in the native haunts, that the native young cannot advance far in youth without being subjected to these conditions, the inference drawn by many observers that the explanation of the comparative absence of the disease among Indian adults lies in an acquired immunity through contraction of the disease at an early age is one which has marked support from experience and pathology. And do not the details of small-pox in India furnish corroborative evidence?

Again, we know that the enteric virus does not equally impress in degree all individuals subjected to it, that the clinical and pathological manifestations vary from mild fever with intestinal disturbance to rapidly fatal systemic poisonings or profound structural changes, and that in India a modifying influence from exposure to the cause has been in operation from generation to generation with the probable resultant of an elimination of the most susceptible, and progressive production of a less susceptible community; and hence the inference would be that the existent disease among the natives would partake in character of the mild rather than the severe type, the same one cause exemplified as a mild febrile intestinal affection in the native-born dark race and as profound enteric disease with marked structural lesions and systemic poisoning in the exotic European.

Yet again, in the returned statistics of the larger towns there are suggestive details which lead to the inference that we are yet in comparative ignorance of what the actual disease entities common in the communities and causing native deaths are. The mortality among the young from "combined fever and diarrhœa," and among adults from "simple continued" and "remittent" fevers is great, and among the latter far in excess of the mortality of the British troops from associated forms; an explanation of the causes in operation is wanted, the same differentiation which years ago was effected among European fevers is required for these Indian forms.

Hence, then, on any of these grounds—probable early prevalence of the disease, probable mildness of type in the majority, want of knowledge of the true character of the frequent and oft fatal fevers at work among native communities—non-recognition of enteric fever among native and especially military adults may easily pertain, and may be in strict accord with facts, yet be far from a true index of the condition of the community generally. The experiments by Surgeon-Major Freyer are both interesting and suggestive, and provided that the serum diagnosis can be relied on as an exponent of a prior subjection of the human body to the operation of the B. typhosus and of an immunity acquired thereby a wide field of inquiry is opened up. Yet it must be remembered that it is only on the specific theory (not fully acknowledged in India) that the main interest of this inquiry rests—on the supposed necessity of showing a possible and probable chain of transmission of the cause from the native to the alien newcomer as explanatory of the origin of the disease among the British troops landed in India free of the disease.—I am, etc.,

Lee, Aug. 15th. FRANCIS H. WELCH, F.R.C.S., Surgeon-Colonel (retired) A.M.S.

THE FOUNDER OF BANDS OF HOPE.

SIR,—In your interesting article entitled "Progress of Temperance," you give the credit of the institution of these useful societies to John Hope, of Edinburgh. Now, although Auld Reekie may lay claim to the early establishment of juvenile total abstinence societies on the lines of Bands of Hope, the real founder was a Leeds Nonconformist minister named Jabez Tunnicliff. To Leeds and Tunnicliff then belongs the honour.—I am, etc.,

Leeds, Aug. 14th. GORDON SHARP, M.D.

THE ADMINISTRATION OF SAFE ANÆSTHETICS.

SIR,—On page 352 in the British Medical Journal of August 7th, Mr. George Foy, of Dublin, takes exception to my statement on page 160 in a previous number (July 17th), that "practitioners in Ireland and the English provinces keep writing about chloroform as if they had never heard of

ether at all," and remarks, "We are all familiar with ether, its good and bad properties, and we will continue to select such anæsthetics as we consider suitable for the occasion, forming our opinion not from the London schools alone, but from the experience of our brethren in the different countries of the world."

I refer Mr. Foy to the communication of Dr. Charles O'Neill, of Belfast, in this JOURNAL for June 12th, page 1466, in which there is a statement that "In using 'methylene' through a Junker's inhaler we have the safest anæsthetic at present known," and throughout the four columns of the article (which extols the use of chloroform and 'methylene') there is not one reference to ether except as a hypodermic injection in threatened collapse under those anæsthetics. In 1877 Dr. Ormsby and Professor Morgan, of Dublin, collected statistics on this subject which showed [1] that there had been a mortality:

Under bichloride of methylene ... ... of 1 in 5,000 cases.
,, chloroform ... ... of 1 in 2,873 ,,
,, ether ... ... of 1 in 23,204 ,,

Nine deaths under "methylene" were recorded in the medical journals between 1869 and 1875, "with symptoms almost identical with those which characterise chloroform fatalities." [2] Bichloride of methylene (whatever may be its primary formula) consists, after removal of the stopper of the bottle and momentary exposure to the air, of a mixture of chloroform and methylic alcohol, [3] and it is not, therefore, practicable to administer bichloride of methylene at all.

Continental and American statistics agree with those of Dr. Ormsby, of Dublin, in showing that ether is more than five times as safe as chloroform.

Dr. Julliard, of Geneva, [4] put the mortality of

Chloroform at ... 1 in 3,258
Ether at ... 1 in 14,987

Dr. Gurlt, of Berlin, at the Congress of 1891 and 1892, showed from personal experience a mortality from:

Chloroform ... 1 death in 2,614
Ether ... ... 1 death in 8,431

M. Landau stated from his researches that the German statistics were:

Chloroform ... ... 1 in 3,111
Ether ... ... 1 in 14,640

and the English:

Chloroform ... ... 1 in 3,749
Ether ... ... 1 in 16,675

The result of adding all these together with Dr. Ormsby's gives the mortality of

Chloroform at ... 1 in 3,121 cases.
Ether at ... 1 in 15,587 cases.

In the face of these facts from "the different countries of the world," which Mr. Foy justly says should constitute the basis for the formation of our opinion in the selection of an anæsthetic, it is not correct to state that methylene is safer than ether; nor can its choice be justified for routine administration when we find it is diluted chloroform and kills its victim in a similar manner to that drug.

I have the authority of the two senior London anæsthetists to whom I referred in my first letter for saying that "they use ether and gas and ether for almost the whole of their routine work." I am intimate with the opinions of the anæsthetists who lecture and administer the anæsthetics at most of our large general London hospitals; the majority of these hold an undoubted preference for ether. In one of the largest hospitals the use of chloroform has been forbidden to the resident officers except under special circumstances. At Charing Cross Hospital more than 70 per cent. of our cases have gas and ether or ether, and the occurrence of a fatality under its influence in London is a matter of extreme rarity.

Now let us turn to the *St. Bartholomew's Hospital Reports*, which Mr. Foy has brought forward in answer to my statement that those "London anæsthetists who have a lifetime of experience use ether in preference to chloroform." Mr. Foy has given an imperfect table of these statistics; the number of the chloroform administrations is accurate, but he has entirely omitted the gas and ether inhalations as if they were not ether cases at all. Now as the precedence of ether by a few inspirations of gas is the most skilled method of administering ether to a patient, the complete table of the St. Bartholomew's Hospital statistics of anæsthetics stands as follows:

Year.	Chloroform.		Gas and Ether and Ether.	
	Cases.	Deaths.	Cases.	Deaths.
1884	1,244	—	1,720	—
1885	1,331	—	1,504	—
1886	1,425	1	1,676	—
1887	1,702	1	1,859	—
1888	1,711	1	1,352	—
1889	1,601	2	1,319	—
1890	1,860	1	1,113	1
1891	2,031	1	1,096	—
1892	1,887	1	897	—
1893	2,524	2	1,437	—
1894	2,350	2	1,682	—
1895	2,553	2	1,392	—
Total ...	22,219	14	17,067	1

By this we observe that chloroform has been administered at this particular institution more frequently than ether, but in nothing like the proportion which Mr. Foy would have us believe, neither did Mr. Foy in his table give us the resulting mortality of this practice, which has yielded 1 death in every 1,587 chloroform cases, and 1 death in 17,067 ether inhalations. It is indeed difficult to understand why the more dangerous drug is still used in Great Britain and Ireland when ether is at hand and affords so safe and wide a road for us to travel when compared to the narrow deadly path of chloroform narcosis.—I am, etc.,

H. BELLAMY GARDNER,
M.R.C.S.Eng., L.R.C.P.Lond., Assistant Anæsthetist to Charing Cross Hospital, Anæsthetist to the Male Lock Hospital.

Welbeck Street, W., Aug. 9th.

THE ETIOLOGY OF BERI-BERI.

SIR,—Having seen something of beri-beri in the far East, I should like to offer a few remarks on the very interesting paper contributed by Dr. Macleod in the BRITISH MEDICAL JOURNAL of August 14th.

However seductive the rice theory as to the cause of beri-beri may be it is hardly convincing. Rice is the staple food in the East; it is consumed by all classes and races, by Europeans as well as Asiatics. Europeans, however, are hardly ever attacked by beri-beri, and the disease is almost restricted to the low-lying, overcrowded filthy districts along the coasts, and is peculiarly prevalent in places subject to inundations.

The *Ancona* without doubt had picked up the germs of the disease from some beri-beri country, and the cases reported by Dr. Macleod will not be the last in her. In many respects beri-beri is curiously like anæsthetic leprosy, and, most likely, as in leprosy, it is due to a specific micro-organism. Moreover, it is most probable that, as in leprosy, under certain conditions it may be communicated from one person to another. Indeed, there seems to be abundant evidence that such is the case. The tendency to break out in certain ships, the frequency with which it spreads through a whole household, and the numerous instances in which it has attacked the inmates of prisons and hospitals point to the fact that in all probability beri-beri is a contagious disease. This theory has received some support in a Blue Book recently published relating to the Cocos-Keeling Islands.

The food supply of these islands is drawn from Batavia the monthly sailing of a small schooner constituting the only direct communication with the outside world. From January, 1880, to August, 1885, out of a population of 51(there had been 57 deaths, 35 being from beri-beri, the only disease which gave any trouble. Up to that time the only measure which was found to be efficacious in checking the disease was washing the floors with quicklime. In 1888 an outbreak of beri-beri coincided with the arrival of a new batch of coolies from Java, one dying directly on arrival, and in spite of all efforts, it quickly spread.

Mr. Ross, the proprietor of the islands, a man of great experience, whose words must carry great weight, stated that there appeared no assignable cause for the prevalence of beri-beri except importation from Java, and that outbreaks had s(

[1] BRITISH MEDICAL JOURNAL, April 14th, 1877.
[2] Hewitt, *Anæsthetics and their Administration*, p 252.
[3] Hoffmeister, Regnauld, and Villejean, quoted by Hewitt, *op. cit.*, p. 250.
[4] Extrait de la *Revue Médicale de la Suisse Romande*, No. 2, Février, 1891.
[5] Dr. Wm. Campbell, *De l'Emploi de l'Ether*, Paris, 1894, p. 42.

regularly followed upon the arrival of fresh coolies from thence, as to compel him to restrict the importation of labour. During 1888 there were 29 deaths, almost all from beri-beri. In the same year Mr. Ross resolved to build a sea wall to keep the water from flooding the village, and resorted to stringent measures to prevent the spread of the disease. After death all the clothes of the patient, together with the house in which he had lived, were burnt. From that year until the present time not a case of beri-beri has occurred in the islands. Mr. Ross is firmly convinced that beri-beri is contagious, and is able to quote numerous cases in support of his opinion.

It is surely not a mere coincidence that from the time that Mr. Ross built his sea wall in 1888 and instituted his hygienic precautions, beri-beri instead of being a scourge has ceased to exist. The rice is still imported from Batavia, where the disease is most prevalent, but the coolies are all medically examined before leaving Java, and no suspected person is allowed to land. In this precaution lies the secret of the cessation of the epidemics, together with the improved sanitary condition of the islands.

This interesting report seems to throw much light on the etiology of beri-beri, and is worthy of more attention than it has yet received.—I am, etc.,

Bognor, Aug. 14th. H. C. L. Morris, M.D.Brux.

Sir,—Dr. Macleod, in his article on beri-beri, in the British Medical Journal of August 14th, refers to an outbreak of beri-beri amongst sixty Australian aboriginal native prisoners at Wyndham, East Kimberley, Western Australia. I was medical officer there at the time, and beg to add a fact which would seem to corroborate his view: One of the attacked was my native servant, a boy 16 or 17 years of age, and so marked was the paralysis of the lower extremities from the peripheral neuritis that for a period of a month he was quite unable to stand. I then took him out of the gaol and gave him more or less of a European diet—for example, fresh meat, fruit, etc. In a week he showed signs of improvement, in a fortnight could "wobble" about very much like a duck on land with the aid of a stick, and in six weeks was convalescent. The rice was purchased at the local store, and was partaken of, amongst others, by Malays, Chinese, Japs, etc.—these were not prisoners—none of whom were affected. From my own observations, however, I am firmly of opinion that overcrowding and a high temperature are the two most potent factors in its causation.—I am, etc.,

Hull, Aug. 16th. J. A. Wetherell.

OBITUARY.

By the death of Dr. Juan Creus y Manso, which was recently announced in the British Medical Journal, Spain has lost one of her foremost surgeons. He was a most skilful operator, and one of the pioneers of antisepsis in the Peninsula. He was Professor of Surgery first in the University of Granada, and afterwards in that of Madrid, of which he was also for a time Rector. Among his contributions to surgical literature are papers on the thermo-cautery and its uses; on a new operative procedure for fibrous ankylosis of the jaws, the treatment of uterine myoma, an introduction to the Spanish translation of Erichsen's *Surgery*, an *Elementary Treatise of Medico-Chirurgical Anatomy* (first edition 1861, second 1872), a monograph on subperiosteal resection (1862), and others on myeloma (1867), disarticulation of the knee (1888), etc.

Dr. David Hume Nelson, for many years a familiar figure in Birmingham medical circles, died on August 10th at Llandudno, where he has resided since his retirement from professional life. Dr. Nelson, who was in his 88th year, graduated at Edinburgh in 1848. Early in his career he came to Birmingham, and in the early Sixties he was Professor of Medicine at Queen's College. He published numerous papers, including an address on the Practical Study of Physic, with a view to Correctness in Medical Inquiry.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently passed away are Dr. Benjamin Clémenceau, father of the political leader of that name, aged 87; Dr. C. J. Ask, Professor of Surgery in the Swedish University of Lund; Dr. Joseph Kovács, Professor of Surgery in the University of Buda-Pesth, aged 65: Dr. Cesareo Magdalena, Assistant-Professor in the Madrid Bacteriological Institute; Dr. E. Finotti, *Privatdocent* of Surgery in the University of Gratz; Dr. B. F. Sherman, Dean of the Medical Society of the State of New York, of which he was President in 1884, and a prominent consultant in New York, aged 80; Dr. F. H. James, a notable connoisseur and collector, and one of the best authorities on numismatics in the United States, aged 72; Dr. T. Bogomoloff, Professor of Medical Chemistry in the University of Charkoff, and a former Assistant of the late Professor Botkin, aged 55; Dr. Zdrislaw Niészkówski, of Warsaw, editor of the Polish medical journal, *Medyzyna*; and Dr. Kremnitz, Physician to the Crown Prince of Roumania.

UNIVERSITIES AND COLLEGES.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The following gentlemen, having passed the necessary examinations, and having complied with the by-laws and regulations, have been admitted Members of the College, namely, Messrs.

Abbott, H. W.	Downes, G.	Martin, Thomas
Ackland, C. H.	Dudgeon, H. W.	Maver, P. A. J.
Adams, A. H.	Duncan, G. E.	Maxwell, J. B.
Alcock, G. H.	Dykes, C.	Maxwell, R. D.
Aldridge, A. W.	East, W. N.	Mayou, M S.
Alford, H. T. M.	Ferguson, W. A.	Meacock, H. C.
Allan, H. W.	Fergusson, J. H.	Meade, F. E.
Allen, H.	Fox, E. H. B.	Meade, N. G.
Anthony, F.	Gaskell, L. S.	Morgan, W. H.
Aslett, W. S.	Gervis, C. B.	Morland, E. C.
Atkinson, G. L.	Gibbons, C. J. P. T.	Musselwhite, W.
Bahadurji, J. N.	Godwin, H. J.	Myers, C. S.
Baker, A. E.	Greaves, H.	Newland, H. S.
Barrett, F. W.	Haines, A. W.	Ogilvie, J.
Barton, E. R.	Hardwicke, G.	Paterson, A. R.
Barton, J.	Harvey, F.	Payne, A. E.
Batchelor, F. S.	Hitchins, F. C.	Price, D.
Battye, W. R.	Hodgson, C. R.	Ransome, G. H.
Baylis, H.	Holmes, J.	Roberts, D. F.
Beckton, W.	Hughes, S.	Riley, A.
Benham, C. H.	Hull, A. J.	Ryland, R. F.
Bennett, H. C. P.	Jackson, W. A. L.	Sanderson, E. S.
Bennett, J.	Jago, T. D.	Sangster, J. I.
Bergin, W. M.	Jamieson, H. H.	Sansome, T.
Betteridge, T.	Jeaffreson, A. E.	Scott, H. H.
Bonnin, J. H.	Jones, A. R.	Smith, H. V.
Brett, H. C. M.	Jones, J. L.	Snowden, A. de W.
Brewer, D.	Kay, R.	Spencer, T.
Brown, R. P.	King, N. P.	Stephen, L. H. G.
Cade, H. M.	Kirk, J. L.	Storrs, W. T.
Cardin, H.	Knechtel, R.	Tempest, J.
Chapman, C. L. G.	Lamb, A. W.	Tomlinson, J. H.
Chapple, W. A.	Lankester, C. P.	Turner, P.
Charles, J. R.	Latham, D. W. F.	Turner, S. D.
Cheeseman, H. H.	Lewis, C. T.	Tuxford, R.
Churchill, J. H.	Lloyd, L. J.	Walker, H. J.
Cleveland, A. J.	Long, J. R.	Wallis, J. G.
Clifford, H.	Lord, C. C.	Watson, J. H.
Cloud, F. H. L.	Lucas, J. J. S.	Watson, J. W.
Cobb, E. H.	McClure, J.	Way, M. H.
Coleman, E. H.	Macdonald, J. N.	Weld, A. E.
Collier, R. S.	Mackie, F. P.	Whincup, F.
Cotterill, A. E.	McNally, G. J.	Whipham, F. R. C.
Deakin, F. N.	Mainprise, C. W.	Whitfield, A.
Dent, H H. C.	Mannington, F.	Wood, W. B. H.
Dixon, H. C.	Marles-Thomas, J.	Woolley, E. J.
Dobson, J. F.	Martin, J.	

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

Staff-Surgeon Henry W. D. Walsh is promoted to be Fleet-Surgeon, August 14th. He was appointed Surgeon, September 30th, 1876, and Staff-Surgeon twelve years thereafter. He was Surgeon of the *Cygnet* at the bombardment of the Alexandria Forts in 1882 and during the Egyptian war, for which he has received a medal with clasp and the Khedive's bronze star.

The following appointments have been made at the Admiralty: Cyril J. Mansfield, M.D., Surgeon, to the *Hotspur*, August 12th; Arthur R. H. Skey, M.B., Surgeon, to the *Medway*, August 12th; Thomas S. Hartley, Surgeon, to the *Medina*, August 12th; Anthony Kidd, Staff-Surgeon, to the *Blenheim*, August 12th; Evan St. M. Nepean, Staff-Surgeon, to the *Black Prince*, August 15th.

ARMY MEDICAL STAFF.

IT has been decided that battalions of the Foot Guards going to Gibraltar shall take with them their own medical officers; but these, in addition to their battalion duties, will take a share of the other garrison duties performed by officers of the Army Medical Department.

Surgeon-Major JOHN GEORGE STEPHEN LEWIS died at Waterford on July 16th, at the age of 39. He was appointed Surgeon, March, 1880; and Surgeon-Major, July 6th, 1892. He was placed on half pay on account of ill health in June of last year, but was restored to the establishment in December.

CHANGES OF STATION.

THE following changes of Station amongst the officers of the Army Medical Staff have been officially notified to have taken place during last month:

		From.		To.
Surg.-Colonel	E. Townsend, M.D.	—	...	Umballa.
Surg.-Major	R. D. Hodson ...	—	...	Sheerness.
,,	J. Tidbury, M B.	Parkhurst	...	Portsmouth.
,,	R. D. Donaldson, M.D....	Buttevant	...	Bermuda.
,,	J. R. Dodd, M.B.	Leeds ...	...	W'lwich Arsnl.
,,	H. J. R. Moberly ...	—	...	Woolwich.
,,	J. Carmichael	Glenbeigh	...	Cork.
,,	R. Crofts	Ballydaniel	...	Ballincollig.
Surg.-Captain	B. A. Maturin	Warley ...	...	Tower of Lond.
,,	T. H. Corkery	Bermuda...	...	Cork District.
,,	J. Ritchie, M.B.	Landguard Ft....		Sierra Leone.
,,	B. J. Inniss...	Tipperary	...	Buttevant.
,,	A. P. Blenkinsop ...	—	...	Dublin.
,,	H. S. Peeke...	Winchester	...	Portsmouth.
,,	L. Way	Dover ...	...	Canterbury.
,,	G. S. M'Loughlin, M.B....	Curragh ...	...	East Africa.
,,	J. D. Ferguson	Dublin ...	...	,,
,,	J. H. E. Austin	Woolwich	...	Gren. Guards.
,,	C. E. P. Fowler	Alnwick ...	...	Strensall.
Surg.-Lieut.	W. A. Ward...	Brackenber M....		Chester.
Quartermastr.	G. L. Allen... ...	—	...	Dublin.

THE VOLUNTEERS.

THE appointment of Mr. WILLIAM M'CLELLAND, M.B., as Surgeon-Lieutenant, in the 4th Lancashire Artillery, bears date June 29th, and not as stated in the *London Gazette* of July 13th.

Mr. JAMES REGINALD ATKINSON is appointed Surgeon-Lieutenant in the 2nd Cheshire (Railway) Artillery, August 18th.

Surgeon-Captain R. BELL LORRAINE, M.B., Galloway Rifles, has resigned his commission, August 18th.

Surgeon-Lieutenant W. A. GRIFFITHS, 1st Volunteer Battalion the Hampshire Regiment, is promoted to be Surgeon-Captain, August 18th.

Surgeon-Captain ALEXANDER MACGREGOR, M.D., 19th Middlesex (St. Giles's and St. George's, Bloomsbury) Rifles), is also promoted to be Surgeon-Captain, August 18th.

THE VOLUNTEER MEDICAL STAFF CORPS.

THE resignation of Surgeon-Captain A. MACGREGOR, M.D., of the Aberdeen Company, which appeared in the *London Gazette* of May 18th, is cancelled.

FIGHTING ON THE INDIAN FRONTIER.

IN view of the threatening aspect of things on the Indian frontier, all leave has been stopped in the Indian Medical Service and twenty-one medical officers have been recalled from furlough home. A number of medical officers have been ordered to India for immediate service.

THE PLAGUE AT HURDWAR.

THE North-West Provinces Government issues in a Gazette various resolutions on the subject of the plague outbreak at Hurdwar and its suppression. The thanks of the Government are conveyed to various medical officers for their valuable services; to Surgeon-Majors S. J. Thomson and J. F. Tuohy, and Surgeon-Captains Chaytor-White, Kelly, and A. W. Dawson, etc. Paragraph 13 of the resolutions says: The Plague Commissioner, Surgeon-Major D. S. Read, A.M.S., considered it "conclusively proved that the disease was brought to the district by pilgrims from Sind, and probably from Karachi; he thought the outbreak was probably caused by clothes brought from an infected area, the evidence pointing to the person or persons who brought the clothes remaining unaffected." The Government says "the evidence that has been collected undoubtedly supports the view that the disease was imported from Sind."

REGISTRAR AT THE HERBERT HOSPITAL.

THE *Broad Arrow* announces that Surgeon-Lieutenant-Colonel U. J. Bourke, A.M.S., has been appointed Registrar and Secretary at the Herbert Hospital, Woolwich, *vice* Brigade Surgeon-Lieutenant-Colonel W. J. Fawcett, with effect from August 9th.

MILITARY HOSPITAL AT EDINBURGH.

THE erection at Edinburgh Castle of the new military hospital, for which a grant of £18,000 was recently voted by Parliament, is now being rapidly proceeded with. The site is at the north-west corner of the Castle rock, where the stores and the magazine formerly stood. The buildings will, it is expected, be ready for occupation in about a year.

MEDICO-LEGAL.

FALSE DEATH CERTIFICATE.

AT the North London Police-court, on August 17th, Mr. S. Kent Jones, of Mount Pleasant Terrace, Featherstone, Pontefract, was summoned by Mr. Charles Townley, Superintendent-Registrar for Islington, for that on July 3rd, at No. 151, Blackstock Road, N., he did make a false medical certificate of the cause of death of Flora Constance Mack, contrary to the provisions of the Births and Deaths Registration Act of 1874, Section XL, Subsection 2. According to the *Times* report, Mr. Townley said that the defendant was an unqualified medical man. He was engaged as assistant to Mr. Isaac Cohen, a registered medical practitioner, of Blackstock Road, and apparently he had charge of the dispensary. In July Mr. Cohen went into the country for a holiday, and he left his business in charge of the defendant. During Mr. Cohen's absence the defendant was called to attend a child named Mack, who died. The defendant then wrote out a certificate as to the cause of the child's death, which he signed not in his own name nor that of Mr. Cohen, but "J. Cohen." The qualifications mentioned were those of Mr. Cohen.

Mr. Windsor, for the defence, said the signature was meant for "I. Cohen." Mr. D'Eyncourt: I and J are so much alike that one may stand for the other. Mr. Windsor said defendant had had a long medical experience, although he was not legally qualified. He had acted as assistant to medical men who had given him the highest testimonials. Defendant advertised in a medical journal for a position as "unqualified assistant," and Mr. Cohen replied to the advertisement and engaged him. Immediately Mr. Cohen went off for a holiday, and the defendant was left in sole charge. He was given authority to sign ordinary certificates relating to injuries and illnesses for clubs, etc., but he was told that if any serious case arose he was to call in another medical man. The defendant was called to see the child Mack, and, finding that pneumonia had set in and that the child was in a critical condition, he wired for the other medical man. The reply he received was that the medical man in question was away. The child died that day, and next day the parents came and asked him to give a certificate. To avoid the pain and exposure of a *post-mortem* examination and an inquest the defendant did sign the certificate. Directly he had done so he felt that he had done wrong, and he wrote to Mr. Cohen to tell him what he had done and that he would at once resign his position in consequence.

Mr. D'Eyncourt asked if the Registrar-General proposed to take proceedings against Mr. Cohen.

Mr. Townley said that he should have to report the matter to the proper quarter, but it seemed that the defendant had only authority to sign certificates of a non-legal character.

Mr. D'Eyncourt said that, while the fact that the defendant had had a long medical experience might be morally in the defendant's favour, considering the position he occupied it made the action of giving an illegal certificate much more serious. A false certificate opened the door for the most alarming crimes. The defendant would have to pay the full penalty of £10, with £1 16s. costs, or one month in default of distress.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

THE USE OF CALF LYMPH.

LETTER FROM THE LOCAL OVERNMENT BOARD.

THE Clerk of the Christchurch Guardians has received the following letter from the Assistant Secretary to the Local Government Board:

Local Government Board, Whitehall, S.W., August 5th, 1897.

Sir,—I am directed by the Local Government Board to acknowledge the receipt of your letter of July 20th with reference to the use of calf lymph in the performance of public vaccination in the Christchurch Union. In reply I am to state that the Board consider that the guardians may permit the use of calf lymph by the public vaccinators, and that they can make it a condition of a contract that public vaccinations done under the contract with calf lymph shall be paid for at a higher rate than cases vaccinated with human lymph. In this connection the Board are advised that a payment of 6d. per case in addition to the ordinary fee is sufficient for cases in which calf lymph is employed. The alteration in the contract with the public vaccinator may be made by an endorsement under the seal of the guardians upon the existing contract, and the specimen form of endorsement which would meet the case is enclosed. I am at the same time to add that the question whether in any particular case calf lymph should be used is one to be determined by the public vaccinator, who alone is responsible for the lymph which he employs and for the results which follow its use. The use of calf lymph should not depend upon a mere requisition by parents. A copy of the instructions for vaccinators under contract as prescribed by Board's orders of February 28th, 1887, and January 7th, 1897, is enclosed.—I am, Sir, your obedient servant,

ALFRED D ADRIAN, Assistant Secretary.

A. Druitt, Esq., Clerk to the Guardians of the Christchurch Union.

After this letter was read at a meeting of the Christchurch Guardians on August 16th one member offered to give two calves to the public vaccinators for the establishment of a service of supply of calf lymph.

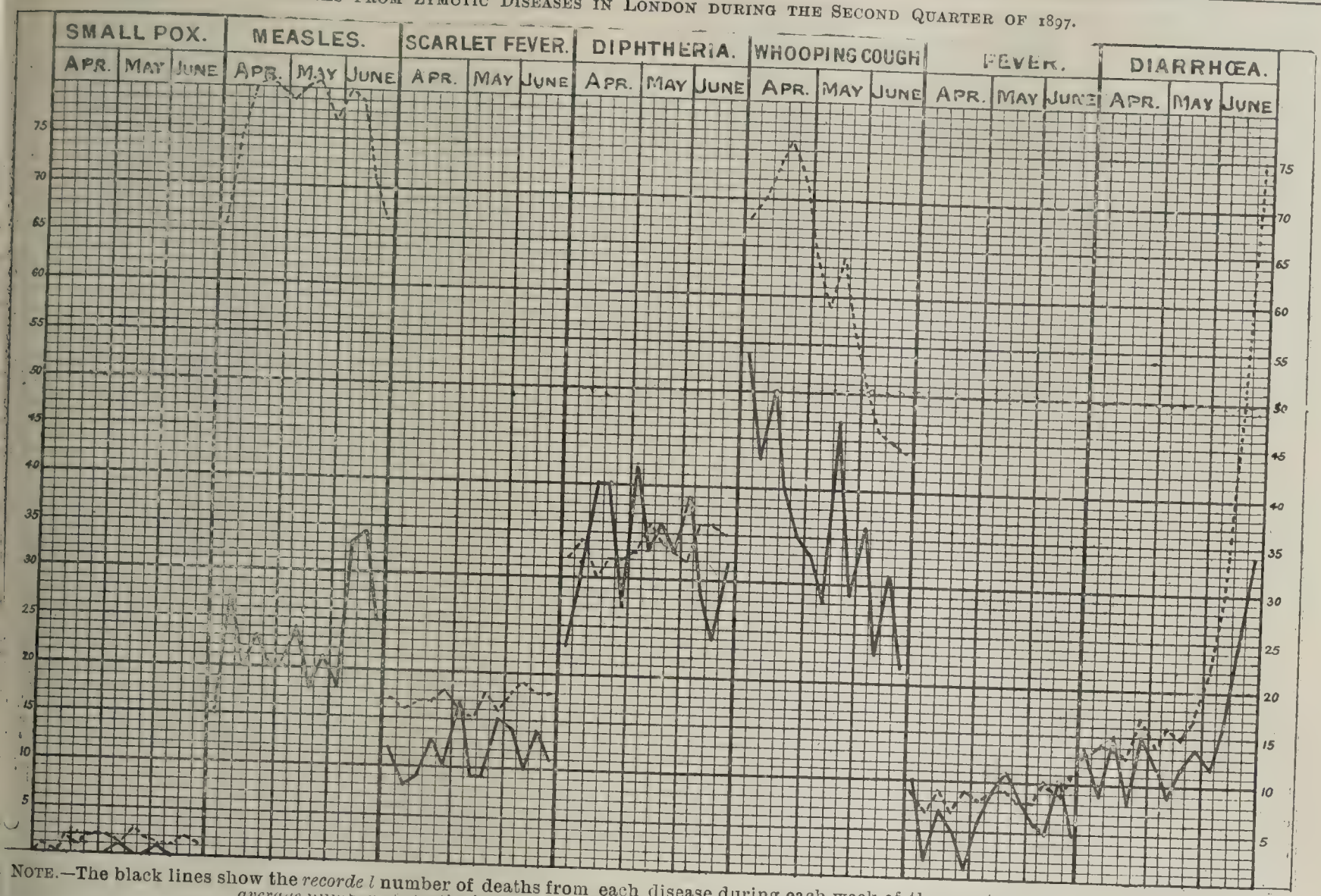
ZYMOTIC MORTALITY IN LONDON.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

THE accompanying diagram shows the prevalence of the principal zymotic diseases in London during each week of the second quarter of the current year. The fluctuations of each disease, and its fatal prevalence as compared with that recorded in the corresponding weeks of recent years, can thus be readily seen.

Small-pox.—Only 2 deaths were referred to small-pox in London last quarter, the corrected average number in the corresponding periods of

DEATHS FROM ZYMOTIC DISEASES IN LONDON DURING THE SECOND QUARTER OF 1897.



NOTE.—The black lines show the *recorded* number of deaths from each disease during each week of the quarter. The dotted lines show the *average* number of deaths in the corresponding week of the ten preceding years, 1887-96.

ten preceding years having been 18. Of these 2 fatal cases, 1 belonged lerkenwell and 1 to Shoreditch sanitary areas. There were no small-patients under treatment in the Metropolitan Asylums Hospitals at end of June last; 17 new cases were admitted during last quarter, nst 41, 5, and 68 in the three preceding quarters.

easles.—The fatal cases of measles, which had declined from 1,632 to n the four preceding quarters, rose again to 298 during the three ths under notice, but were little more than a fourth of the corrected age number. Among the various sanitary areas of the metropolis sles showed the highest proportional fatality in Clerkenwell, St. e, Bethnal Green, Whitechapel, St. George-in-the-East, Limehouse, ington, and Rotherhithe.

arlet Fever.—The deaths referred to this disease, which had been 263 166 in the two preceding quarters, further declined to 151 during quarter ending June last, and were 71 below the corrected average ber in the corresponding periods of the ten preceding years. Among arious sanitary areas this disease was proportionally most fatal in nal Green, Whitechapel, St. George-in-the East, Limehouse, Ber-lsey, Rotherhithe, and Woolwich. The number of scarlet fever nts in the Metropolitan Asylums Hospitals, which had been 3,847, and 2,468 at the end of the three preceding quarters, had risen to 2,786 at the end of June last. The number of cases admitted into hospitals, which had been 4,835 and 2,934 in the two preceding ers, rose again to 3,289 during the three months ending June last.

phtheria.—The fatal cases of diphtheria registered in London, which een 649, 785, and 641 in the three preceding quarters, further de-d to 428 during the three months under notice, and were 7 below orrected average number. Among the various sanitary areas this se showed the highest proportional fatality in Chelsea, Stoke New-n, St. Luke, Whitechapel, St. George-in-the-East, Limehouse, Poplar, Bermondsey. The cases of diphtheria admitted into the Metro-n Asylums Hospitals, which had been 1,275, 1,558, and 1,328 in the preceding quarters, rose again to 1,437 during the three months g June last, and 864 patients remained under treatment at the end e quarter.

ooping-cough.—The deaths from this disease, which had been 504, id 543 in the three preceding quarters, declined again to 471 during ree months ending June last, and were 313 below the corrected aver-umber; among the various sanitary areas whooping-cough was rtionally most fatal in St. Pancras, Holborn, Clerkenwell, St. Luke, viour Southwark, St. George Southwark, Newington, and Lambeth.

r.—Under this heading are included deaths from typhus, enteric, imple and ill-defined forms of continued fever. The deaths ed to these different forms of "fever," which had been 169, 213, and the three preceding quarters, further declined to 85 during the three is ending June last, and were 29 below the corrected average number. Of these 85 deaths from "fever," 82 were certified as enteric fever and 5 as simple continued fever. Among the various sanitary areas the highest proportional fatality of "fever" was recorded in Stoke Newington and St. Martin-in-the-Fields. The Metropolitan Asylums Hospitals tained 70 enteric fever patients at the end of June last, against 149, 116, and 75 at the end of the three preceding quarters; 148 new cases were admitted during last quarter, against 288, 263, and 188 in the three preceding quarters.

Diarrhœa.—The 195 fatal cases of diarrhœa registered in London during the three months ending June last were 116 below the corrected average number. This disease was proportionally most fatal in Hammersmith, Whitechapel, St. Olave Southwark, and Woolwich sanitary areas.

In conclusion, it may be stated that the 1,630 deaths referred to the principal zymotic diseases in London during the second or spring quarter of this year were no fewer than 1,264, or more than 33 per cent. below the average number in the corresponding periods of the ten preceding years, 1887-96. Each one of these zymotic diseases was below the average. Among the various sanitary areas the lowest zymotic death-rates last quarter were recorded in St. George Hanover Square, St. James Westminster, St. Marylebone, Hampstead, Islington, St. Martin-in-the-Fields, Strand, and Plumstead; and the highest rates in Clerkenwell, St. Luke, Bethnal Green, Whitechapel. St. George-in-the-East, Limehouse, Bermondsey, and Rotherhithe.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 7,195 births and 6,212 deaths were registered during the week ending Saturday last, August 14th. The annual rate of mortality in these towns, which had increased from 14.7 to 26.9 per 1,000 in the six preceding weeks, further rose to 29.5 last week. The rates in the several towns ranged from 14.6 in Swansea, 15.8 in Halifax, and 16.4 in Croydon and in Huddersfield to 39.6 in Salford, 40.9 in Liverpool, 42.6 in Preston, and 43.0 in Birmingham. In the thirty-two provincial towns the mean death-rate was 31.7 per 1,000, and exceeded by 5.5 per 1,000 the rate recorded in London, which was 26.2 per 1,000. The zymotic death-rate in the thirty-three towns averaged 11.2 per 1,000; in London the rate was equal to 8.5, while it averaged as much as 13.1 per 1,000 in the thirty-two provincial towns, among which the highest rates were 17.1 in Leeds, 18.2 in Sheffield, 21.7 in Preston, and 22.0 in Birmingham. Measles caused a death-rate of 1.9 in Birmingham and in Birkenhead, 2.0 in Blackburn, 2.4 in Salford, and 13.6 in Preston; scarlet fever of 1.0 in Huddersfield; whooping-cough of 1.1 in Plymouth, 1.2 in Blackburn, and 1.8 in Wolverhampton; "fever" of 1.0 in Derby; and diarrhœa of 15.1 in Liverpool, 15.5 in Leeds, 15.6 in Sheffield, 16.3 in Nottingham, and 19.0 in Birmingham. The 54 deaths from diphtheria registered in the thirty-three

towns included 38 in London, 3 in Birmingham, and 3 in Leicester. No fatal case of small-pox was registered either in London or in any of the thirty-two provincial towns; and no small-pox cases were under treatment in the Metropolitan Asylums Hospitals on Saturday last, August 14th. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 3,239 at the end of the fourteen preceding weeks, had further risen to 3,341 on Saturday last; 347 new cases were admitted during the week, against 396, 360, and 376 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, August 14th, 884 births and 565 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 18.2 and 20.5 per 1,000 in the two preceding weeks, declined again to 19.0 last week, and was as much as 10.5 per 1,000 below the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 10.2 in Aberdeen and 14.4 in Edinburgh to 23.7 in Greenock and 25.6 in Perth. The zymotic death-rate in these towns averaged 5.2 per 1,000, the highest rates being recorded in Glasgow and Greenock. The 311 deaths registered in Glasgow included 79 from diarrhœa, 9 from whooping-cough, and 2 from "fever." Nine fatal cases of scarlet fever, 6 of whooping-cough, and 5 of diarrhœa were recorded in Edinburgh, and 4 of measles in Leith.

LONDON BAKEHOUSES.

THERE are forty-eight bakehouses in the city of London which are workshops under the Factory and Workshops Act, 1878. The law as to them requires the walls and ceilings to be painted in oil or varnished every seven years, and washed with hot water and soap or limewashed every six months. No sleeping place to be allowed on a level with a bakehouse. No watercloset may be within or communicate directly with a bakehouse. No drain shall have any opening within a bakehouse. After January 1st, 1896, no bakehouse shall be established when below the level of the ground.

THE DIAGNOSIS AND TREATMENT OF DIPHTHERIA IN BIRMINGHAM.

AN arrangement has been entered into between the Health Committee of the City Council of Birmingham and the medical faculty of Mason College, whereby any medical man who has a patient resident within the city whom he fears to be suffering from diphtheria can have his diagnosis confirmed by the Bacteriological Department of Mason College. The department provides a culture outfit, which, when inoculated from the throat, according to the instructions enclosed therewith, and returned to the department is examined bacteriologically. Within twenty-four hours a report is sent to the physician in charge of the case. At the same time should the case prove to be one of diphtheria, a supply of antitoxin, together with the requisite injecting syringe is sent, if asked for on the necessary form.

COMPENSATION FOR LOSS OF OFFICE.

M.O.H. has held office as medical officer of health in a district for some thirty years, and the district being about to be incorporated in a borough extension scheme, he seeks information as to what compensation his long and faithful service entitles him. His appointment has been an annual one.

*** We much fear that no claim to compensation can be set up by our correspondent. His tenure of office having been only for a year at a time, it was competent for his local authority to appoint a successor at the close of any year of his service; and hence it is competent for them to let the appointment lapse with the end of the term which next precedes or follows the dissolution of the district. We have already expressed strong views on the matter of tenure on yearly sufferance and of superannuation and compensation, and need not dwell on the subject here again.

THE NOTIFICATION OF INFECTIOUS DISEASES AT HUNTLY.

AT a meeting of the Huntly Burgh Commisssioners on August 10th, Mr. William Yule proposed that the Notification of Infectious Diseases Act be adopted and brought into force in the burgh on September 15th. Mr. Rhind seconded, and the motion became the unanimous finding of the meeting.

HOSPITAL AND DISPENSARY MANAGEMENT.

THE ROYAL VICTORIA HOSPITAL, BELFAST.

THE movement to raise the sum of £100,000 to found a new hospital in Belfast in lieu of the present Royal Hospital, and to serve as a memorial of the Queen's Diamond Jubilee, has been crowned with complete success. The required sum was realised on the morning of the Jubilee, with a few pounds to spare. In view of the fact that this movement was only inaugurated at a town meeting held in November, 1896, the result must be regarded as highly creditable to the citizens of Belfast and to the Lord Mayor and Lady Mayoress (Alderman and Mrs. Pirrie), who have been indefatigable in their efforts to forward this great philanthropic effort. Subscriptions sent in subsequently to Jubilee Day will be devoted to an endowment fund for the new hospital. The question of a site for the new hospital has been carefully considered by a Committee specially appointed for the purpose, and it is expected that the present asylum grounds on Grosvenor Road will be selected. Ten acres or more are here available, and the site is an excellent one.

INDIA AND THE COLONIES.

INDIA.

GRADUATION IN THE MADRAS MEDICAL SCHOOLS.—For some unexplained reason (says the *Indian Lancet*) the profession of medicine seems to be waning in popularity among Madras University students. Not a single candidate presented himself during the year for the degree of M.D., while the L.S.Sc. degree was equally neglected. A solitary student aspired to the honour of Bachelorhood in Medicine, and failed to gain it. Yet the strength of the College Department of the Medical College advanced from 72 to 89. For the diploma of apothecary fourteen candidates presented themselves in the primary and final examinations, and all were successful. Considering that the Madras Presidency boasts three schools of medicine, with a muster-roll of some 400 students, these results are not extravagant.

NATIONAL ASSOCIATION FOR SUPPLYING FEMALE MEDICAL AID TO THE WOMEN OF INDIA.—The twelfth annual report of this Association, commonly known as the Countess of Dufferin's Fund, after its founder, gives, in a volume of 453 pages, a very elaborate account of the proceedings of the year 1896, drawn up by Surgeon-Colonel Franklin, the Hon. Secretary. The movement has taken firm root in India, and many hospitals started or aided by the fund are now working independently, and supported entirely by local resources. This report gives details regarding all efforts and institutions which carry out the objects of the Association, whether they are supported or aided by the Central Committee or any of the eleven provincial branches, or the 130 local associations affiliated with them or not. There are now in operation throughout India 163 hospitals, wards, and dispensaries for the treatment of women which are officered by women. In these, 1,327,000 women received medical relief during 1896, or 26 per cent. more than in 1895. One hundred and sixty-eight female doctors of different grades are employed in Zenana hospitals, and 240 female students are under training in Indian colleges and schools. Over 14 lakhs of rupees have been invested by the branches, yielding an annual income of 55,647 rupees. The income from subscriptions and donations in 1896 amounted to nearly 2¼ lakhs. These figures indicate a large amount of sound work, and the report shows that it is progressive. Many of the ladies employed in these hospitals are doing much good in private practice.

POISONING IN NORTH-WESTERN AND CENTRAL INDIA.—The report of the Chemical Examiner to the Governments of the North-West Provinces, Oudh, and the Central Provinces for the year 1896, supplies interesting information regarding the examination of materials in cases of suspected poisoning; 256 were cases of human, and 371 of cattle poisoning, and detections were made in 69 per cent. of the former and 75 of the latter. In human cases arsenic (142), opium (20), and dhatura (41) were the poisons found in 113 out of 134 cases. In cattle cases arsenic was detected in 249, abrus precatorius in 11, snake venom in 6, dhatura in 5, and ptomaines or decomposition products in 3 of 280 successful searches. Arsenic is given as a pill made with flour and wrapped up in green leaves or grass, the seeds of the abrus (goonch) are pounded and made into a paste which is shaped into a *sui* or needle and dried. These needles are driven into the skin by means of a wooden handle. The effect is a malignant and fatal cellulitis. Surgeon-Captain Lumsden, who writes the report, describes the manner in which snake venom is used and detected, as follows: "Snake venom is almost invariably administered on a rag, the rag soaked in the poison being inserted into the lower bowel of the animal. The hypodermic injection of 2 c.cm. or less of an extract made from a square inch of rag is usually sufficient to kill a guinea-pig. In detecting snake venom Dr. Calmette's antivenomous serum was found useful, the injection of the serum with the venom inhibiting its lethal action.

BACTERIOLOGY IN INDIA.—When a chemical and medico-legal laboratory for the North-West Provinces, Oudh, and Central Provinces was organised at Agra in 1892 it was resolved to make it available also for bacteriological researches. Under the zealous and energetic management of Mr. E. H. Hankin this section of the work has assumed large dimensions. In the year 1896, as reported by Surgeon-Captain Lumsden officiating for Mr. Hankin, who was deputed in October to Bombay on plague duty, 677 specimens of water were examined for the enteric microbe, 322 for the cholera microbe, and 1,001 for the number of microbes per cubic centimetre. Ninety-eight other articles were also examined for enteric and cholera microbes. Mr. Hankin has trained an assistant, Dr. Ghadially, for this work. This gentleman has discovered a microbe named by Mr. Hankin micrococcus Ghadialli, which appear to possess the power of hindering the growth of and destroying the enteric microbe. A large portion of the report is occupied with experiments and observations tending to this conclusion. It has also been proved experimentally that the cholera vibrio can pass through the bheesti's mussack, through earthenware vessels (surrahis) and ordinary filters. It is proposed to employ Mr. Hankin exclusively in this work, for which he has so much taste and aptitude, and to develop and extend the bacteriological department of the Agra laboratory.

THE NURSING HOMES FOR OFFICERS.—The *Pioneer* in a recent issue draws attention to the need of doing away with the exclusiveness of the rules for admission to these homes, and pleads for an extension of the advantages to officers of Government in the Civil department, who would willingly pay whatever fees may be fixed for their nursing. It remarks that "the wards at times remain empty for weeks on end," and that the nursing staff have little or nothing to do. On such occasions Government officers of the civil department might be eligible. If these institutions in the hills were always full of military men not a word could be said as to their exclusiveness, but it is otherwise when room is partially or wholly available in the absence of military patients.

THE ORIGIN OF THE BOMBAY PLAGUE.—It is generally believed that the recent visitation of plague was imported into Bombay from China via Singapore. Dr. Hutcheson, Sanitary Commissioner, North-West Provinces, believes that it was derived from the mountain region of Gurhwal, where it is perennially present at a height of some 7,000 feet above sea level, perpetuated and nurtured there by accumulations of filth which gather under and around the dwellings of the unsavoury folk who people these otherwise healthy altitudes

MEDICAL NEWS.

The Queen has been pleased to appoint Mr. Henry Edgar William Hoffmeister, M.R.C.S., L.R.C.P., Surgeon Apothecary to Her Majesty at Osborne, jointly with Mr. William Hoffmeister, M.D., and Mr. John Bates Hoffmeister, M.R.C.S., L.R.C.P.

Congress of French Alienists and Neurologists.—The meeting of the Congress of French Alienists and Neurologists in 1898 will be held at Angers, and that of 1899 at Marseilles. M. Motet has been chosen President for the ensuing year. The following questions are proposed for discussion at the meeting in 1898:—*Mental Pathology:* Post-operative Psychical Disturbances (to be introduced by M. Rayneau). *Nerve Pathology:* The part played by Arteritis in the Pathology of the Nervous System (to be introduced by M. Sabrazès). *Forensic Medicine:* Transient Deliriums from the Medico-Legal Point of View (to be introduced by M. Vallon).

The Late Sir Joseph Tholozan.—A Dalziel's telegram from Paris states that the *Evenement* gives currency to a report that the late Sir Joseph Tholozan, Physician to the late Shah of Persia, was poisoned. Sir Joseph, who had been the trusted confidante of Nasr-ed-Din for over thirty years, was acquainted with many of the secrets of the Court, and his removal was desired on this account by the new Government. After the death of Nasr-ed-Din Sir Joseph Tholozan wrote to a friend in France stating that he intended to resign his post because his life was not safe, and it would appear that his fears were only too well founded. His predecessor in the Persian Court is stated to have been done away with in the same manner.

Cape Town and the Diamond Jubilee.—The foundation stone of a Jubilee Commemoration Wing of the New Somerset Hospital was laid in June last with full masonic ceremony. An address was presented to Her Majesty's High Commissioner in South Africa by the medical, nursing, and administrative staff of the hospital. Reference was made to the fact that the hospital, founded and supported entirely by the Government of the Colony, gave its services to all comers from different parts of the world without distinction of race, creed, or colour. It was added that the staff viewed with profound gratification the commencement of the addition to the hospital, which they trusted might in time become the centre of the first South African medical school. Sir Alfred Milner in reply said he was fortunate in the fact that almost his first public act as governor of the colony was in connection with the extension of a work of such immense beneficence as the Somerset Hospital. He was sure there was no permanent tribute which the people of Cape Town could have offered to Her Majesty so appropriate and so welcome to her personally as the strengthening of an institution of mercy and charity.

MEDICAL VACANCIES.

The following vacancies are announced:

BIRMINGHAM GENERAL HOSPITAL.—House-Physician. Salary, £70 per annum, with residence, board, and washing. Appointment for one year, but eligible for re-election. Applications to Howard J. Collins, House-Governor, by September 3rd.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Senior House-Surgeon. Salary, £100 per annum, with board, washing, lodging, etc. Also Junior House-Surgeon. Salary, £50 per annum, with board, washing, lodging, etc. Applications to Nathan W. Smith, Secretary, Infirmary Office, 15, Richmond Terrace, Blackburn, for the former appointment by August 23rd, and for the latter by August 30th.

BOURNEMOUTH ROYAL VICTORIA HOSPITAL.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Chairman by October 15th.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE.—Bacteriologist to the Antitoxin Department at Sudbury. Salary, £200 per annum, with dwelling accommodation on the premises. Applications to Allan Macfadyen, Honorary Secretary and Director, 101, Great Russell Street, London, W.C., by September 15th.

BRIDGE: ADDENBROOKE'S HOSPITAL.—Resident House-Physician. Salary, £65 per annum, with board, lodging, and washing. Applications to the Secretary by August 24th.

BYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Junior House-Surgeon; doubly qualified and unmarried. Salary, £60 per annum, with board, lodging, and washing. Applications to the Honorary Secretary by September 1st.

DENBIGHSHIRE INFIRMARY, Denbigh.—House-Surgeon. Must be doubly qualified and conversant with Welsh language. Salary, £80 per annum, with board, residence, and washing. Applications to W. Vaughan Jones, Secretary, by August 31st.

DUNDEE ROYAL INFIRMARY.—Medical Superintendent. Applications to the Secretary, D. Gordon Stewart, Solicitor, Dundee, by September 1st. Also Third Resident Medical Assistant. Salary, £40 per annum, with board and residence. Appointment for six months. Applications to Dr. N. Raw, Medical Superintendent, by August 25th.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House-Surgeon. Board, residence, etc., are provided, with honorarium of £15 15s. at completion of six months approved service. Applications to Thomas Hayes, Secretary, by September 11th.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Two Resident Physicians. Applications to Messrs. Henry and Scott, 20, St. Andrew's Square, Edinburgh, by September 15th.

GUILDFORD ROYAL SURREY COUNTY HOSPITAL.—Assistant House-Surgeon. Board, residence, and laundry found. Applications to the Honorary Secretary.

HOSPITAL FOR DISEASES OF THE THROAT, Golden Square, W.—Junior Resident Medical Officer. Salary, £50 per annum, with board, lodging, and washing. Applications to Wm. Holt, Secretary, by September 25th.

JOHN LUCAS WALKER STUDENTSHIPS.—Studentship value £250, and tenable for three years; must devote himself or herself to original research in pathology. Applications to Dr. A. A. Kanthack, Pathological Laboratory, Cambridge, by October 15th.

LANARK, COUNTY OF.—Resident Physician for the Middle Ward Isolation Hospital. Salary, £140 per annum, with board, etc. Applications to J. F. Mackenzie, District Clerk, County Buildings, Hamilton, by August 25th.

LANCASTER: ROYAL ALBERT ASYLUM.—Assistant Medical Officer, unmarried; age not under 25. Salary commencing £120 per annum, and increasing by £15 annually to £150, with board, apartments, and washing. Applications to James Diggens, Principal and Secretary, by August 26th.

LENZIE BARONY PAROCHIAL ASYLUM, Woodilee.—Junior Medical Officer. Salary, £100 per annum, with board, apartments, etc. Applications, marked "Assistant Medical Officer," to J. R. Motion, Barony Parish Council Chambers, 38, Cochrane Street, Glasgow, by September 6th.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House-Surgeon. Appointment for six months. No salary. Board and lodging provided. Applications to C. W. Carver, Honorary Secretary, by August 23rd..

MANCHESTER CLINICAL HOSPITAL FOR WOMEN AND CHILDREN, Park Place, Cheetham Hill Road.—House-Surgeon. Salary, £80 per annum, with apartments and board. Applications to Mr. Hubert Teague, Secretary, 30, Burton Arcade, Manchester by August 28th.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer; unmarried, and not under 25 years of age; doubly qualified. Appointment for twelve months from October 1st next. Salary, £150 per annum, with board and residence. Applications to W. L. Saunder, General Superintendent and Secretary, by September 11th.

MANCHESTER ROYAL INFIRMARY, DISPENSARY, AND LUNATIC HOSPITAL OR ASYLUM.—Honorary Dental Surgeon. Applications to the Chairman of the Board by Augugt 31st.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer at the North-Eastern Fever Hospital, St. Ann's Road, Tottenham, N.—Salary, £160 during the first year, £180 during the second year, and £200 during the third and subsequent years of service, with board, lodging, attendance, and washing. Must be doubly qualified, unmarried, and not exceed 35 years of age. Applications on forms to be obtained at the Chief Office of the Board, Norfolk House, Norfolk Street, Strand, W.C., where they must be delivered by 10 A.M. on August 26th.

NORTHAMPTONSHIRE.—Medical Officer for the County. Salary at the rate of £700, and allowance for travelling and other out-of-pocket expenses. Must reside at a place approved by the Sanitary Committee. Applications to H. P. Markham, Clerk to the Council, County Hall, Northampton, by September 8th.

PRESTWICH, MANCHESTER: COUNTY ASYLUM.—Pathologist and Assistant Medical Officer. Salary, £200 per annum, with board, residence, and washing. Applications to the Superintendent.

ROTHERHAM HOSPITAL AND DISPENSARY.—House-Surgeon; doubly qualified. Salary £105, with board, lodging, and washing. Appointment for three years. Applications to the Hon. Secretary by August 31st.

ROYAL ALBERT HOSPITAL, Devonport.—Assistant House-Surgeon for six months. Board, lodging, and washing provided. No salary. Applications to "Honorary Secretary of Medical Committee" by August 14th.

SOUTHPORT INFIRMARY.—Resident Junior House and Visiting Surgeon, doubly qualified. Appointment for six months, which is renewable. Honorarium at the rate of £30 per annum. Board and washing provided. Applications to Joseph Worrall, Infirmary Office, Arcade, Southport, by August 24th.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House-Surgeon. Appointment from September. Salary, £30 per annum, with board, lodging, and washing. Applications to House-Surgeon by August 30th.

SUSSEX COUNTY HOSPITAL, Brighton.—Fourth Resident Medical Officer, doubly qualified. Unmarried, and when elected under 30.

years of age. Board, washing, and residence in the hospital, and salary not exceeding £30 per annum. Applications to the Secretary, by September 1st.

TEIGNMOUTH HOSPITAL, South Devon.—House-Surgeon. Salary, £60 per annum, with board, lodging, and washing. Applications to A. V. Chapman, Secretary, by August 23rd.

WEST HAM HOSPITAL, Stratford, E.—Junior House-Surgeon; doubly qualified and registered. Salary £35 per annum, with board, lodging, and washing. Appointment for twelve months. Applications, marked "Junior House-Surgeon," to L. D. Rea, Secretary, by September 2nd.

MEDICAL APPOINTMENTS.

CAMPBELL, R. B., M.B., C.M.Edin., appointed Senior Assistant to the Sunnyside Asylum.

CARRUTHERS, E. J. W., M.D.Edin., M.B., C.M., appointed Medical Officer of the Congleton Union, *vice* Dr. Moss, deceased.

CHARLTON, F. J., M.R.C.S., L.R.C.P.Lond., appointed Medical Officer of No. 4 District of the Wimborne and Cranborne Union.

COWIE, G., M.B., C.M., appointed Assistant Medical Officer of the City of London Infirmary, *vice* E. M. Wyche, resigned.

FRY, W. W. B., M.B., C.M.Edin., appointed Medical Officer of Health to the Builth Urban District, *vice* Mr. H. Bennett.

GARLAND, E. C, L.R.C.P.Edin., M.R.C.S.Eng., reappointed Medical Officer of Health for the Yeovil Borough.

HITCHINGS, R., M.R.C.S., L.R.C.P.Lond., appointed Medical Officer of the Headington District of the Headington Union.

JACKSON, W. A. L., M.R.C.S., L.R.C.P., appointed Assistant House-Physician to the General Hospital, Birmingham.

KINGDON, Wilfred R., M.B.Durh., B.S., appointed Resident Medical Officer of the Ticehurst Asylum, Sussex.

ROBINSON, J., L.R.C.P.I., L.M., appointed Medical Officer of the Kidderminster District of the Kidderminster Union, *vice* Mr. S. Stretton, resigned.

STIRK, Percy H., M.R.C.S., L.R.C.P.Lond., appointed House-Surgeon to the General Hospital, Hereford, *vice* A. M. Watts, resigned.

SYMES, J. O., M.D.Lond., D.P.H., appointed Honorary Bacteriologist to the Bristol Royal Infirmary.

TURNER, W., M.B., B.S.Lond., F.R.C.S.Eng., appointed Assistant Surgeon to the Westminster Hospital.

VERDON, E. S., M.A., M.B., B.C.Camb., M.R.C.S., L.R.C.P., appointed House-Physician to the Norfolk and Norwich Hospital, Norwich.

WIGHAM, W. H., M.B.Durh., M.R.C.S.Eng., appointed Medical Officer of Health to the Borough of South Molton, *vice* M. A. Hind, resigned.

WOOD, W. B. Herepath, M.R.C.S., L.R.C.P., appointed Assistant House-Physician to the General Hospital, Birmingham.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

CARRUTHERS.—On August 16th, at Halton, Cheshire, the wife of W. Hodgson Carruthers, M.D., of a daughter.

YEOMAN.—On August 15th, at Stokesley, R.S.O., Yorks, the wife of Wm. M. Yeoman, M.B., M.R.C.S., of a daughter.

MARRIAGES.

ASHE—COWAN.—On July 10th, at St. Matthew's, Kimberley, South Africa by the Ven. Archdeacon Holbech, Evelyn Oliver Ashe, M.D.Lond., F.R.C.S.Eng., to Agnes Cowan, late Matron Kimberley Hospital.

FARMER—USHER.—August 5th, at Market Weighton, by the Rev. R. de French, M.A., vicar of the parish, Edward John Farmer, M.B.Dub. Univ., Assistant Surgeon at Kola Gold Fields, Mysore State, India, son of the late John Farmer of 148, Leinster Road, Dublin, to Lily, second daughter of Edward William Usher, of Market Weighton, East Yorks. No cards.

MATHEWS—BURNETT.—August 12th, at Scotby Church, Carlisle, by the Bishop of Ossory and Ferns, assisted by the Rev. Canon Mathews, Vicar of Bassingham, Lincolnshire, father of the bridegroom, the Rev. R. S. Greene, Vicar of St. John's, Workington, and the Rev. G. W. Simpson, Scotby, Thomas Graham Mathews, M.D.Edin., Tibshelf Derbyshire, to Millicent Clara, daughter of the Rev. George Burnett, Scotby.

SCOTT—BRADLEY.—At All Saints, Hove, by the Rev. J. Spencer Walker, M.A., assisted by the Rev. J. Howard, M.A., William Whitelaw Scott, L.R.C.S.I., L.K.Q.C.P.I., of 76, Waterloo Place, Brighton, to Beatrice Mary, only daughter of the late Charles Lawrence Bradley, F.R.C.S., F.L.S., of 62, Brunswick Place, Hove, Sussex.

DEATHS.

DAVIES.—August 6th, at Plas Darland, Wrexham, suddenly, aged 65 years, Edward Davies, M.D., M.R.C.S., J.P., who is succeeded by his son, Dr. J. E. Davies.

JOHNSTONE.—On August 14th, at Upholland, near Wigan, George Warrack Johnstone, L.R.C.P.E., L.F.P.S.G., L.M., aged 56.

MUDD.—On August 11th, at 1, Dalebury Road, Upper Tooting, Barrington Richard Mudd, M.R.C.S., L.R.C.P., L.S.A., late of Storrington, Sussex, aged 75

TAYLOR.—On August 13th, at his residence, The Hollies, Hathersage Derbyshire, Joseph Henry Taylor, L.F.P.S.G., L.S.A., aged 76 years.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 2.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W., S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which pecial departments of the* British Medical Journal *are devoted will be ound under their respective headings.*

QUERIES.

'. R. B. desires to know of an institution in the North of England to which a young woman, suffering from repeated but mild epileptic seizures, could be sent for treatment. Relations could not afford to pay anything.

)R. Batten Williams (Wesley House. New Street, Pwllheli) asks for information as to what sort of climate is to be found at Connemara in West Ireland, as a patient of his is removing there; particularly whether suitable to rheumatism.

:OUNTRY Practitioner would be glad to know of an institution where a neurotic young lady could be received for treatment by the Weir-Mitchell system. Provinces preferred. Patient able to pay moderate fees.

)R. T. J. would be grateful for advice on the following point: The medical officer of a club is required to extend his duties as medical officer to the families of members. What would be the minimum fee per head a year he would have to ask, the members themselves paying 4s. a year?

[EMBER wishes to know if there is any book or pamphlet published on the treatment of syphilis as practised at Aix-la-Chapelle.

*** Dr. Brandis describes the treatment of syphilis at Aix-la-Chapelle in a paper translated by Dr. Auchinleck, and published in the *Medical Press*, November 21st and 28th, 1883, and also, we believe, as a pamphlet

. W. W. would be glad of information as to a suitable health resort for the winter months for a young lady patient convalescent from empyema but still wearing a tube; South of Europe preferred, but not essential. Essential points: (1) Dry, bracing air; (2) cheerful society and surroundings; (3) good resident practitioner.

:RGEON would like to know what experience any readers may have had in the treatment by operation of incomplete rupture of the female perineum under the influence of local anæsthesia, such as the ether spray or cocaine injection. He is aware that the modern consensus of opinion is in favour of a plastic operation, but would like an expression of opinion from members of the old school who leave such cases to granulate. What is their experience as to after-trouble in the way of displacements or impaired sexual capacity?

)OMERANG writes: 1. I shall be glad if any of your readers can tell me :he cause of a distinct phosphorescent odour in the breath of certain ndividuals. I have sometimes thought it was due to the use of a phos-)hatic preparation in the stopping of teeth, but I have found it occur imong those who have no such filling, for example children. I shall ilso be glad to know of any reference to such a condition in medical iterature.

2. What is the difference between French oil of turpentine and ordinary turpentine, and why is it that the former is supposed to be so fficacious in phosphorus poisoning? Is it not a solvent of phosphorus lso?

:. Lionel J. West, M.R.C.S., etc. (Marlboro House, Queen Street, Morley) ?ould be glad to know of a home where an old lady who has been a choolmistress could live by paying about ten shillings a week, which is he fullest amount she could pay. She is quite helpless, suffering from isseminated sclerosis; she cannot walk, and more often than not in her fforts to feed herself throws the food over her shoulder, and she has ifficulty in speaking and swallowing. She is most unhappy in her resent house, which is her own for life, and then goes to a stepson who i at least a drunkard: consequently the old lady is very neglected, nd at times left a day or two on the hands of any friend who happens) come in.

:TAB writes: Would any reader kindly give me his opinion as to the ause of the enlargement of glands and treatment in the following case: gentleman, aged about 30 years, consulted me about enlargement of the guinal glands on the right side. I found three of the glands enlarged, ne about the size of a walnut and the others about the size of a filbert. iere is no chancre or irritation about genital organs, and enlargement painless; no signs of scrotula. He informed me that about four ars ago he had a soft chancre, and one gland enlarged to the size of a bert. This never quite went down. It cannot be a *bubon d'emblée*, nce he was not exposed to infection.

ANSWERS.

). C.—The water in question can be procured by ordering from any emist.

The Treatment of Pruritus.

:IRER begs to thank those correspondents who have kindly come ward to his assistance, and will act upon some of the suggestions ndly vouchsafed.

Books for D.P.H. Examinations.

iave frequent inquiries on this subject. Our correspondents will find tter and Firth's *Theory and Practice of Hygiene* (J. and A. Churchill, 6) an invaluable aid. The chemistry and bacteriology now required most Boards can scarcely be obtained except at a school; and the cher selected would have his own preference in regard to books. oodhead's short work on bacteria would be a useful one to read as a preliminary, but practical work in a laboratory is desirable. Wanklyn's *Water*, *Milk*, and *Air* are good working manuals, but a certain amount of manipulative dexterity is a desideratum.

Directorship of Public Companies.

Enquirer.—In reply to our correspondent's question, it is doubtless undesirable from many points of view for a medical practitioner to become director of a public company trading as "chemists," but we know of no means of stopping it.

NOTES, LETTERS, Etc.

Duplicate Periodicals.

The Dundee Medical Library has on hand a number of duplicate volumes of the *Edinburgh Medical Journal*, *Medical Times and Gazette*, *Journal of Mental Science* etc., which the Committee are desirous of giving away in exchange. Full particulars on application to the Assistant Librarian, Medical Library, University College, Dundee.

The Safe Administration of Chloroform.

A Correspondent writes: The more one dives into the subject of "chloroform anæsthesia," with its successes and failures, the more is the conviction forced upon one that Dr. John Snow, born at York on June 15th, 1813, and who died in London on June 16th, 1858, at the early age of 45 years, was one of the greatest benefactors to man and animal kind any country has yet produced, for every report of fatal and successful cases of chloroform administration proves that "had the rules laid down by Snow for the gradual and regular progressive method of administering chloroform been universally practised intelligently from the first, no fatal and non-fatal accidents would ever have happened from its use."

According to the estimate published in the British Medical Journal of August 7th, a child of 12 years requires not more than about 8 minims of pure chloroform uniformly diffused in the blood to cause perfect insensibility to any ordinary surgical operation, and not more than 10 minims should at one time be present in the blood to cause Snow's fourth degree of narcotism or thorough relaxation of the muscles for the purpose of more easily reducing old-standing dislocations in children of that age. If four minutes are given for the gradual absorption of 8 minims, and five minutes for the absorption of 10 minims, the air breathed does not contain on an average more than 0.46 per cent. of chloroform vapour. Of course those giving chloroform in larger doses do not know that air containing on an average 0.5 per cent. of vapour is capable of causing, even in some adults, the deepest degree of narcotism, because they do not trouble themselves to read and study the results obtained by Drs. Carter,[1] Arnold,[2] O'Neill,[3] and others on Snow's method by means of the regulating inhaler, or they would see that the six examples given in the Journal of August 7th serve to prove that 10 minims of pure chloroform is the maximum dose that should be given to a child of 12 years for the purpose of easily reducing old-standing dislocations. The staunchest opponents of Snow's method cannot but admit that the small quantity of pure chloroform found capable of causing perfect anæsthesia is quite incapable of causing the paralytic dilatation of the heart physiologists speak of as found on *post-mortem* examination to be the cause of death, and that such over-distended and flabby heart is alone due to the exhibition of too concentrated vapour of chloroform, as again proved in the two cases of fatal chloroform administration reported in the British Medical Journal of August 14th:

"About half an ounce of Duncan's chloroform was administered to a boy, aged 11 years, dropped into a Skinner's inhaler (facepiece). The patient took the anæsthetic very well for several minutes, when he became cyanosed first and then suddenly very pale." Both these conditions are, of course, symptoms of an overdistended heart, found flabby after death. "Two drachms of pure chloroform were administered to a stalwart, muscular seaman, also dropped on a Skinner's facepiece. He appeared to take the chloroform well, and was under in about twelve minutes, but, about half a minute after, breathing abruptly ceased and the face at once became cyanosed. These symptoms developed in a moment, and, in the administrator's opinion, without the least warning." Such are the inevitable results which must be expected from teaching students "That the quantity of the anæsthetic used must not be considered, for the patient's symptoms are the only guide." Can any teaching be more misleading?

Treatment of Ringworm of the Scalp.

Dr. E. T. A. Boyton (Forest Gate) writes: May I suggest izal oil, not the izal sold by chemists, which is an emulsion, but the genuine oil itself as a remedy worth trying with ringworm of the scalp? Painted lightly over a few of the patches at a time it vesicates, but if the skin is free of irritation caused by other remedies, without any œdema, and with little or no pain, it gives excellent results. It should not be rubbed in with the brush too energetically, or when the scab has cleared off a scar and slight baldness may result. An ointment of lanolin and vaseline equal parts with izal oil 1 in 20 by weight is a capital ointment where the disease is very widely spread; indeed whilst acting well it produces no irritation of the scalp, and possibly would act more quickly of a strength of 1 in 10, but perhaps with some irritation. Messrs. Newton, Chambers, and Co. kindly placed a supply of izal oil at my service.

Neurasthenia.

Dr. Cunningham (Stewarton) thinks that the following diagnosis and treatment suggested by Charcot for neurasthenia may be interesting to those medical gentlemen who have been writing to the British Medical Journal on that subject. Charcot wrote in French—which has been carefully translated—as follows:

"Neurasthenia, tachycardia, and trembling of the extremities (latent

[1] British Medical Journal, December 16th, 1893; October 6th, 1894.
[2] *Ibid.*, December 12th, 1896.
[3] *Ibid.*, June 12th, 1897.

Graves's disease): 1. Make an ablution every morning with a sponge dipped in water at 8° to 10° C. (that is, 72° to 75° F.) over the whole body. 2. Paint the nape of the neck and over the whole of the spine with the tincture of iodine. 3 Take immediately before each meal every day 3 of the following pills: ℞ Bromohydrate of quinine, 0.05 cgr.; extract of cinchona, 0.10 cgr. For one pill. Make 50. 4. Take every night on going to bed dessert spoonfuls of the following solution: ℞ Bromide of soda, 10 g.; water, 200 g.; mix. To be followed for three months without discontinuing."

Dr. Cunningham's patient consulted Charcot during 1880. At that time the palpitating heart gave considerable trouble, and he was informed that there was slight dilatation of the left ventricle. His appetite has always been good, but he usually suffers from constipation and flatulence. Occasionally there has been marked anæmia. The spleen is normal in size. For the first few years the disease seemed to progress slowly, but it appeared to have been stationary for some time.

GASTRIC DILATATION.

DR. JAMES GARDNER (Manchester) writes: May I be allowed to pass a few criticisms on Dr. Boyd's Clinical Lecture on Gastric Dilatation which appeared in the BRITISH MEDICAL JOURNAL for July 31st? I would like to know what proof Dr. Boyd has for the statement in the third paragraph that the stomach may be dislocated downward by the weight of its own fluid contents and the yielding of the gastro-hepatic ligaments, and still more for the following statement: that it may become so much dilated that we "find it occupying the entire of the lower portion of the abdominal cavity, extending from one iliac region to the other." Such a condition as that quoted is, I think, always due to organic stricture. If it can be caused by mere overfilling of the organ it ought to be common in Berlin and Munich, but I never saw nor heard any such cases referred to either in these places or in Vienna. Displacement downwards with dilatation ought to be more common in men than in women in these cities, considering the enormous quantities of beer the men drink, but it is the other way about.

The vertical position of the stomach or displacement downwards is either congenital or acquired. Congenitally it may exist with no symptoms even in adult life. The causes of the acquired form are tight lacing (or what is even more important, the amount of clothes hung from the waist, as seen in German women, who wear a large number of petticoats and often no corsets), and weakening of the abdominal walls from pregnancy, ascites, abdominal tumours, exhausting diseases, etc. In the first case, the liver and stomach are forced down; in the second, after the pregnancy or removal of the ascites, etc., the support is withdrawn, so that the stomach and intestines fall down. The displacement is soon followed by dilatation, and, unless the true cause be recognised, washing out the stomach will be of very temporary benefit, for the pain and vomiting are due to the food escaping with difficulty through the kink at the junction of the movable and immovable portions of the duodenum, the stomach dragging down the movable portion.

Under "causes arising outside the pyloric walls leading to obstruction and dilatation," we find a somewhat curious one, "*(f)* kinking of duodenum or pylorus from non-yielding of gastro-hepatic ligaments when stomach is dragged down by the weight of its own fluid contents *when in a dilated condition*" (italics mine); this looks like arguing in a circle, or at least we are left ignorant of the cause of the primary condition.

Can Dr. Boyd explain how "*(d)* floating kidney" causes gastric dilatation? The ordinary explanation is inadequate It is much more likely that there is one common cause for both, or the existence of both in any one case is a coincidence.

One other criticism, on the use of the word "dislocation" in the fourth paragraph, "in this variety the dislocation is upwards." We do not talk of a dilated heart, or emphysematous lung, or distended bladder as being dislocated, and why should we of a distended stomach? There is just as much, or as little, reason for the one as the other.

TREPHINING AMONG SAVAGE PEOPLE.

OF the many recorded cases in which the practice of modern surgery seems to have been anticipated by the rough and ready methods of races living in a state of semi-barbarism perhaps that of trepanning as practised among several tribes in various parts of the world is the most curious. The custom is a very ancient one, but for what purpose or on what basis it was used there is not much to guide our conjectures. The latest contribution to this subject is contained in a most original and interesting volume recently published by Dr. Munro on *Prehistoric Problems*. At the present day the practice is prevalent in the Mountains of the Cedars—Djebel-Auress—which form the south-east border of the Algerian plateau. In this volume the method of operation is very fully described, and a native doctor showed the author a skull which contained no fewer than a dozen circular holes, two slits, and a large irregular orifice. The operation is practised for the treatment of blows or wounds on the head. With them it is a routine practice, to be applied in every instance; it is even undertaken some time after all traces of the wound have disappeared. It is said that owing to the remarkable recuperative power possessed by the natives, bad results very rarely follow.

INEBRIETY IN ROUMANIA.

WE learn from the *Journal* of the Belgian Patriotic League against Alcoholism that, following the example of other European countries, a league against the abuse of alcoholic liquors has been founded at Jassy. Among the founders we note with pleasure the names of several members of the medical profession who have honoured the traditions of medicine by taking a leading part in the emancipation of their land from the increasing ravages of a grave disease.

LETTERS, COMMUNICATIONS, ETC., have been received from:

(A) A. M.; Mr. R. B. Anderson, London. **(B)** Sir H. R. Beevor, London; Mr. J. Burney, Bristol; Professor J. B. Bradbury, Cambridge; Messrs. Burroughs, Wellcome and Co., London; Mr. R. Barwell, London; Dr. Bond, Gloucester; Mr. E. T. A. Boyton, London; B.; Mr. G. A. H. Barton, Morchard Bishop. **(C)** Mr. A. E. Canney, London; H. O. Corfield, M.B., Bristol; Dr. E. Cureton, Shrewsbury; Mr. W. W. S. Carry, Pickering; Messrs. J. and A. Churchill, London; Dr. H. J. Campbell, Bradford; Professor Corfield, London; Cantab. **(D)** W. D. Donnan, M.B., Belfast; F. Deighton, M.B., Cambridge; H. Distin, M.B., Enfield. **(E)** Mr. J. J. Eyre, London; Mr. R. Ellis, Newcastle-on-Tyne. **(F)** Fiat Justitia; Mr. P. C. Fenwick, Christchurch, N.Z.; W. E. Fothergill, M.B., Manchester; Dr. J. C. Fletcher, London; Ferrous; W. E. Foggie, M.B., Dundee. **(G)** Dr. W. Gordon, Exeter; Dr. J. Galloway, London; Mr. H. F. Gillett, London; G. P.; Mr. H. R. Greene, Woking; J. Gardner, M.B., Manchester; G. P. **(H)** Mr. F. G. Hallett, London; Mr. A. T. Hobbs, London, Ontario; Dr. W. P. Herringham, London; Mr. T. G. Horder, Cardiff. **(I)** Inquirer. **(J)** J. R. B.; J. W.; Mr. W. A. L. Jackson, Birmingham; Dr. C. M. Jessop, Redhill; Dr. Johnson, London. **(K)** W. Kingdon, M.B., Hawkhurst; Mr. C. W. Krohne, London. **(L)** Mr. G. J. Long, London. **(M)** Mr. J. S. W. MacCormac, Leicester; Mr. M. Mollett, Southampton; Dr. F. H. Martin, Chicago; Dr. W. F. MacCarthy, Worcester; Dr. H. C. L. Morris, Bognor; Dr. G. MacDonald, London; Member; Dr. Moorhead, Cootehill; Mr. H. W. Manders, London. **(N)** Natalis; Mr. C. Norman, Dublin. **(O)** Mr. E. A. Onyon, Eye. **(P)** Dr. J. W. Paton, Rockferry; W. E. Price, M.B., Ross; Dr. C. E. Purslow, Birmingham; Mr. F. M. Purchas, Edinburgh. **(Q)** Mr. S. M. Quennell, London. **(R)** Mr. J. D. Reckett, Newcastle, Jamaica; Messrs. Robb and Co., London; Dr. M. J. Robinson, London. **(S)** Mr. E. A. F. Steele, Southend-on-Sea; Dr. G. Sharp, Leeds; Dr. F. H. Spooner, London; Surgeon; Dr. J. O. Symes, Clifton; Messrs. Street and Co., London; Dr. J. S. Scriven, Stourport; Dr. A. P. Stevenson, Darlington; J. H. Sproat, M.B., Wells, Somerset. **(T)** Mr. J. M. Thomson, London; Dr. J. Taylor, London. **(W)** Dr. B. C. A. Windle, London; Mr. R. W. Winstanley, Haslemere; Mr. B. Williams, Pwllheli; Mr. L. F. West, Morley; Mr. J. A. Wetherell, Hull. **(Y)** Mr. A. H. Young, Manchester; etc.

BOOKS, ETC., RECEIVED.

The Spas of Mid-Wales. By A. Foxwell, M.A., M.D. Birmingham: Cornish Brothers. 1897. 6d.

The Book of Tephi. By J. A. Goodchild. London: Kegan Paul, Trench Trübner and Co., Limited. 1897. 6s.

Rheumatism and its Treatment by the Use of the Percusso-Punctator. By J. Brindley James, M.R.C.S. Second Edition. London: Rebman Publishing Co. 1897.

Lippincott's Medical Dictionary. London and Philadelphia: J. B. Lippincott Co. 1897. 31s. 6d.

Untersuchungen über das Soldatenbrot. Von Dr. Plagge und Dr. Lebbin. Berlin: August Hirschwald. 1897. M. 12.

A Bibliography of Medicine. By W. S. Sonnenschein. London: Swan Sonnenschein and Co. 1897.

The Eye as an Aid in General Diagnosis. By E. H. Linnell, M.D. Philadelphia: The Edwards and Docker Co. 1897.

The Insane in Private Dwellings and Licensed Houses. By J. F. Sutherland, M.D., F.R.S.E. Second Edition. Edinburgh: E. and S. Livingstone. 1897. 1s.

Elements of the Comparative Anatomy of Vertebrates. Adapted from the German of Dr. R. Wiedersheim by W. N. Parker, Ph.D. Second Edition. London and New York: Macmillan and Co. 1897. 12s. 6d.

Handbuch der Laryngologie und Rhinologie. Herausgegeben von Dr. H. Heymann. Lief. 16, 17, und 18. Wien: Alfred Hölder. 1897.

The A. B. C. of the X Rays. By W. H. Meadowcroft. London: Simpkin Marshall, Hamilton, Kent and Co. 4s.

System of Diseases of the Eye. Edited by W. F. Norris, A.M., M.D., and C. A. Oliver, A.M., M.D. Vol. II. London and Philadelphia: J. B. Lippincott Co. 1897.

*** **In forwarding books the publishers are requested to state the selling prices.**

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EDUCATIONAL NUMBER.

SESSIONS 1897-98.

THE TRAINING FOR THE MEDICAL PROFESSION.

It is not easy to decide in what way a man may best be trained for the practice of medicine, nor is the best alike for all. Means, capacity, prospects, purposes differ, and the balance must be struck for each man afresh. Only a few general remarks can be offered here, and they must be supplemented by reference to the special information of the various courses of education which are printed elsewhere.

The chief circumstance to be considered must be that of expense, and the length of training must be suited to the means of the student. For a pass diploma five years' training is required by the General Medical Council, of which the first two years are spent in the preliminary studies of chemistry, physics, anatomy, and physiology, and the last three in clinical medicine. A university degree in England, or the Fellowship of the College of Surgeons, will need six years, the extra time being somewhat differently spent in each case. A degree costs more than a diploma, and it has an undoubted advantage, not only in the preference of the public, but also in the greater length of training and the better acquaintance with physics and chemistry which it implies.

Those who can can afford it had better take the degree of Oxford or Cambridge, since a certain social training, which stands a man in good stead, is here added to the scientific. A degree may be obtained more cheaply at the London University through any of the metropolitan or provincial schools; at the Victoria University, from Owens College at Manchester, or University College at Liverpool; from the Durham University, either by taking the whole course at Newcastle or by intercalating a certain amount of residence there into a London training; or, lastly, at any of the Scotch universities.

It is a hardship on the south of England that the London degree, though in some respects needing less than the others, yet requires in the student a capacity for book-work which takes it out of the reach of a certain number. This peculiarity, however, has been modified in the past, and will no doubt be further lessened. On the other hand, the London degree is open to all wherever they are trained, and this is a boon which it alone confers.

Should a university degree be beyond reach, or should the London degree be selected, the place of training will be chiefly determined by circumstances of residence and of connection. The various schools are so well known that it is not needful and would be invidious to compare their merits. Each of them furnishes a handbook in which their advantages are fully set forth. Here in London we have of late years made great advances in the luxuries of education. Most of the great schools have athletic clubs of all sorts, some have excellent cricket and football grounds, and there are musical, dramatic, and debating clubs for those who enjoy them. Life is no longer rough, and though boys will be boys at times, we have as few elements of rowdyism among our students as any university. In proportion as men have proper objects on which to exercise their bodily powers and their spirits, they less indulge in the dissipation which used to be the danger of a London student's life. Discipline also is much stricter than it used to be, and an idle student with us is sent down just as an undergraduate at Oxford or Cambridge may be if he fails to do his duty. Nor does the addition of natural and healthy recreation spoil the amount or quality of the work done, but rather the contrary. Men work the better for being healthy and the harder for being happy.

After qualification at least one year should be spent in a resident appointment at some hospital, and if possible another year in perfecting education by attendance at special hospitals. Medicine is like Aristotle's *Ethics*; it must be allowed to soak, and an extra year of study is an investment which is well repaid.

It is necessary to add that knowledge of medicine must be supplemented by knowledge of the world. Not only are men and women a kittle cattle to drive, but disease of the body is so much influenced by the mind that in each case we have to understand the patient quite as much as the malady. This is not learnt at hospitals, and a man should therefore neglect no opportunities of extending his knowledge of men which his tastes, connections, or other circumstances may afford him.

THE COST OF A MEDICAL EDUCATION.

In this essentially business-like age, when the main object of every man is to get a little more value for his money than his neighbour, anyone who enters a youth for the medical or, indeed, any other profession, must regard himself as embarking upon a commercial speculation. He is bound first of all to calculate the cost, and then to estimate the return he is going to obtain for his outlay. The latter proceeding is often quite simple, for the speculator, if we may call him so, may have a practice ready for the student to drop into, or the means of procuring him a remunerative connection from the outset. But in very many cases, perhaps the majority, the parent has neither the wealth nor the influence to ensure such a favourable start, and is actually staking everything upon the results of his son's medical education. Here too

much weight cannot be laid upon the gravity and importance of thoroughly testing the decision arrived at as regards the choice of a profession. The would-be student must not only have an instinctive love for his work in its wider and more striking aspects; he must be prepared to give a self-sacrificing devotion to its laborious and occasionally repulsive details. Personally he requires the soundest of health, both physical and moral, and a faculty of self-control that will be called for in almost every action of his life. But given all these, can the expenditure necessary before he qualifies be looked upon from the business standpoint as a sound investment? We would answer most emphatically, Yes. The material prizes of the profession are dazzling but rare, the moral are frequent but not commercially estimable. Still, we have no hesitation in affirming that any qualified man who is conscientious, tactful, and not wholly incapable, is practically certain of earning his living. It may not be for him to acquire a fortune or a title, but he may almost infallibly rely on a competence.

The man, therefore, who, having correctly gauged his son's character and capacity, has brought him up to the medical profession, may reckon that, barring accidents, he has provided for his future. We must now consider what amount of money he must be prepared to lay out to this end. It is absolutely necessary that he should be ready to sink a considerable proportion more than the bare minimum which is theoretically requisite, for accidental ill-health or ill-success may much delay the attainment of the goal, while it must be remembered that anyone who devotes himself to the study of medicine burns his boats as regards entrance into any other occupation except the miserably paid one of teaching biological science. The minimum expenditure is in itself not difficult of calculation, but will vary to some extent with the qualification which the student seeks, and the medical school to which he attaches himself. It is an extraordinary circumstance that whereas he himself and his family have long decided that he is to "go in for medicine," the selection of his course of study and his school are very frequently left to an absurdly late period, often actually to chance. The importance from the pecuniary, as from any other, point of view of a careful choice in these respects cannot be too strongly emphasised. To act upon a casual recommendation may entail serious waste of money and misdirection of energy.

The expenses of a medical education are of two kinds—inevitable and accessory. The former cannot be kept below an easily ascertainable minimum; the latter may be reduced almost indefinitely, though to attempt to do so is usually the falsest of pennywise economy. The irreducible outlay comprises the actual fees for education and examinations, while the reducible refers to the personal expenses of a student's career. With regard to these latter, we may here repeat that the endeavour to keep them to a figure simply sufficient to provide the bare necessities of existence is in the vast majority of cases an unjustifiable error. In many cases in which medical students have utterly gone under the primary cause has been a mistaken notion on the part of their parents that they could be kept out of mischief by limiting their allowances. Under such circumstances the contraction of debts by a young man in the not unnatural desire to emulate his better-supplied fellows has often proved the first step towards his irretrievable downfall. There are, of course, those whose devotion to duty suffices to render them proof against such temptations, but as a general rule we would advise any parent who is unable to allow his son enough to permit him to join in the ordinary social and athletic life of his contemporaries to refrain from entering him for the medical profession at all. A student so handicapped has at the best a disadvantageous start, and may have to wage a continual warfare with unpopularity and loss of self-respect. Such an incubus acquired at this period not infrequently clings to him and weighs him down in his professional career, which thus may be foredoomed to failure, or at least hardship, from the outset. The student's allowance then should be reasonably ample; if his parent cannot trust him to spend it aright he should certainly never think of making him a medical man.

Of the expenses to which we have already referred as irreducible it will be convenient to consider first those required for examinations. The examinations themselves are of two kinds: those necessary for mere qualification and those which are taken as stepping-stones to the higher positions in the profession, whether in appointments or in practice. There can be no doubt that the public is in a condition of imperfect education as regards medical qualifications, which renders the possession of a University degree of great value from the latter point of view. We say imperfect education advisedly, for the public has not yet acquired the power of differentiating between the degrees granted by various Universities, and cannot in consequence realise that the value of an M.D. degree may be in some cases considerably less than that of the ordinary "Colleges" qualification. There can be no doubt that this last-named diploma is for all ordinary purposes the most valuable one to seek. University graduates usually take it in addition or as a preliminary to their degree, and it is indispensable to those who wish for the higher diplomas of the London colleges, which alone qualify for most hospital and teaching appointments in England, and which are held by the great majority of consultants. The fees for the qualifying examination of the Conjoint Board amount to £36 15s., those for the licence of the Society of Apothecaries to £15 15s. It is not usual, however, for students to commence their career with the intention of taking the latter qualification and no other.

The M.D.London (excluding matriculation) costs £20, the F.R.C.S.Eng. and the M.R.C.P.Lond. (only necessary for medical consultants) each 25 guineas. Each also necessitates a prolongation of the years of study, the latter two being granted only to persons of 25 years of age and upwards. It may safely be said that of these "higher" examinations the F.R.C.S.Eng. is by far the most generally valuable. It is not only indispensable for surgical specialism, but confers a status upon a general practitioner in the provinces and colonies such as no other diploma can do. We think, however, that preparation for this examination should not begin till after qualification, and that to take an extra year for the primary section of it in the middle of the medical curriculum is as a rule inadvisable.

At every medical school a fixed composition fee covers all lectures and hospital practice required for the diploma of the Conjoint Board; these fees will be found on p. 539, where it will be seen that in London they range from £115 to £157 10s. To them must be added the cost of certain unavoidable extras, such as books, instruments, chemicals, "parts" for dissection, etc., together with subscriptions to athletic Clubs and to the

Students' Society, which may be practically obligatory. At many hospitals the finances of these latter bodies are amalgamated by the formation of a "union." When this exists a lump sum paid down on entrance serves as a composition fee for all the clubs, and will, as a rule, be found a good investment. Before paying it, however, it is as well to ascertain whether the union really includes all the clubs and societies; we know of one the subscription of which does not comprise that of the society which it is most important that the student should join—the Medical Society.

With regard to books, a word of caution is necessary against too promiscuous outlay in the purchase of bulky and expensive textbooks which become out of date almost before they are read. One standard work on each of the leading subjects should suffice; any book of special nature can be obtained from a medical library. It need hardly be added that the purchase of instruments before qualification, except for dissection and minor surgery, is, as a rule, ill-advised.

Turning now to the more elastic item of personal expenditure, much, of course, will depend upon the habits of life to which the student has been accustomed, much also upon the set with which he becomes associated in his hospital career. It is thus not easy to give even approximate figures under this heading. There is first of all the question of bare maintenance, and although the nominal minimum of time for which this must be provided is five years, it is no exaggeration to state that various causes prolong it to at least six in fully four cases out of every five. Then with regard to residence, it is undoubtedly advantageous that a London medical student, particularly if country bred, should lodge in the suburbs during the first two years of his curriculum. The extra expenditure incurred in travelling will be more than repaid in improved health. During the next two years, which are devoted to hospital appointments, he must needs live near his work, and will consequently require more exercise, so that the money saved on travelling is best laid out in athletics. In his fifth year he will again be more his own master, and may even be able to do part of his actual work in the country.

Taking all these matters into consideration, we may assign the limits of an average allowance for board, residence, pocket money, and incidental expenses at 30s. and 45s. per week. To live on less than the smaller sum will entail pinching, while no student should require more than the larger. During each of the first two years he must be forty weeks in town; during the second two at least forty-five will probably be required of him; and the same may be said of the last year, though this is a period at which a holiday is more easily obtained, but, owing to the interesting nature of the work, less sought.

We are now in a position to put together the facts and figures we have collected. In so doing we can take as examples two typical cases—one that of the man who aims simply at the diploma of the Conjoint Board, who succeeds in obtaining it in the minimum time, and who cuts his expenses down as far as possible; the other that of a student who occupies six years in obtaining a degree or higher diploma as well, and whose living is ordered on a more extended, though not lavish, scale. In both instances we assume the cost of clothes to be about £20 per annum, and take a fair average as regards books, instruments, and so forth.

	£ s. d.	£ s. d.
Composition fee for school and hospital ...	115 0 0	157 10 0
Extra fees (vaccination, fevers, maternity, etc.)	4 4 0	6 6 0
Materials, chemicals, and "parts"	6 6 0	6 6 0
Clubs	5 5 0	8 8 0
Instruments	10 10 0	10 10 0
Books	10 10 0	10 10 0
Diploma fees	36 15 0	63 0 0
Maintenance—215 weeks at 30s., and 260 weeks at 45s. a week respectively	322 10 0	585 0 0
Clothing at £20 per annum	100 0 0	120 0 0
Total.....	£611 0 0	£967 10 0

To these must be added the expense of vacations with railway fares, etc.; it must be remembered also that rejection in an examination or in any part of it will entail at least three months' delay, and possibly necessitate the extra expense of "coaching." Taking all things into consideration, it may be said that while under favourable circumstances much less will be necessary, a parent who is prepared to spend in instalments a thousand pounds on his son's medical education and maintenance will be able to allow for all reasonable delays, but at the same time will probably in most cases get very little change out of his money.

Of course, when a student lives at home, his expenses will be correspondingly less, though this will not be always possible unless he is very near to the hospital. To many hospitals, such as St. Bartholomew's, Guy's, King's College, St. Mary's and Middlesex there are attached residential colleges at which students can live comfortably during the clinical part of their studies. Similarly, in connection with Owens College, Manchester, there are Dalton Hall and Hulme Hall; at Leeds there is Lyddon Hall, and at Cork Berkeley Hall. University Hall, Edinburgh, partakes of the nature of a residential club. "Settlements" such as Toynbee Hall cannot be recommended, as they are apt to lead to a clashing of interests; and, furthermore, as the appropriate relaxation from medical study should be taken in the open air and not indoors.

With regard to the residential Universities in England, the expense of living at Durham, or rather Newcastle, may be taken as rather less than in London. The outlay incurred in sending a medical student to Oxford or Cambridge is, however, considerably increased. This is partly due to the greater length of the curriculum, and partly to the fact that residence for the University year of about twenty-four weeks costs at least £150 to £200. To economise below this—and it must be remembered that the fees in the science schools are higher than in any of the others—would prevent the student from reaping those social advantages which are among the main objects of a sojourn at one of the older Universities.

One very pertinent question may be asked, as to whether there is no means by which the student can lighten the pecuniary burden of his education? To this the answer must, as a rule, be an emphatic negative. Medical scholarships are few and far between, nor is their value in general great. The ordinary student is a great deal more likely to incur additional expense for "coaching" than to save money by gaining scholarships. As to the possibility of eking out slender means by taking pupils, this also applies only to the gifted, and the laborious nature of the work detracts greatly from the value of its hard-earned emoluments.

One final word must be said, even at the risk of repetition, on the question of retrenchment. However this may be effected, the last thing to suffer should be recreation. The laborious

nature of medical study demands a counterpoise in active exercise, and we would insist that this should not be solitary. Companionship is essential to the healthfulness of athletics, if for no other reason than the exclusion of "shop" from the minds of the participators. Hence cricket and football are better than cycling and walking, and the latter may be almost useless except when taken in company.

Such are the expenses incident to starting a young man in the medical profession. They may seem, indeed are, unavoidably heavy, but we have already expressed our conviction that if proper care has been exercised in the original choice of vocation, a competence may be relied upon to result, and that the expenditure can consequently be regarded as a good investment.

REGULATIONS OF THE GENERAL MEDICAL COUNCIL

IN REGARD TO THE REGISTRATION AND EDUCATION OF MEDICAL STUDENTS.

The regulations of the General Medical Council as to registration, preliminary examination, and as to professional education must be followed by all medical students seeking to obtain degrees or licences to practise from the universities or medical corporations of the United Kingdom. The separate regulations of the universities and corporations are so drawn up as to meet the requirements of the General Medical Council.

PRELIMINARY EXAMINATIONS.

Every medical student must be registered by the General Medical Council at the commencement of his studentship. To obtain registration the student must pass a preliminary examination in general education, and must produce evidence that he has commenced medical study. The student must make application for registration on a special form to be had on application to the several qualifying bodies and medical schools.

The *Students' Register* is kept by the Branch Registrars, namely: in England, Mr. H. E. Allen, B.A., LL.B., 299, Oxford Street, London, W.; in Scotland, Mr. James Robertson, 48, George Square, Edinburgh; in Dublin, Mr. S. Wesley Wilson, 35, Dawson Street, Dublin.

The following is a list of examining bodies whose examinations in general education are recognised by the General Medical Council as qualifying for registration as medical or dental student:

I.—Universities in the United Kingdom.

University of Oxford:
(1) Junior Local Examinations; Certificate to include all the required subjects at one time.
(2) Senior Local Examinations; Certificates to include the required subjects.
(3) Responsions; Certificate to be supplemented by others showing that the required mathematical subjects have been passed in.
(4) Moderations; Certificates to include the required subjects.
(5) Final Examination for a Degree in Arts.

University of Cambridge:
(6) Junior Local Examinations; Certificate to include all the required subjects at one time.
(7) Senior Local Examinations; Certificates to include the required subjects.
(8) Higher Local Examinations; Certificates to include the required subjects.
(9) Previous Examination; Certificates to include the required subjects.
(10) General Examination: Certificates to include the required subjects.
(11) Final Examination for a Degree in Arts.

University of Durham:
(12) Examination for Certificate of Proficiency; Certificate to include all the required subjects at one time.
(13) Preliminary Examination in Arts for Graduation in Medicine and Science; Certificate to include the required subjects.
(14) Final Examination for a Degree in Arts.

University of London:
(15) Matriculation Examination; Certificate to include the required subjects.
(16) Final Examination for a Degree in Arts or Science.

Victoria University:
(17) Preliminary Examination; Certificate to include all the required subjects at one time.
(18) Entrance Examination in Arts; Certificate to include all the required subjects at one time.
(19) Final Examination for a Degree in Arts or Science.

University of Wales:
(20) Matriculation Examination; Certificate to include all the required subjects at one time.
(21) Final Examination for a Degree in Arts.

University of Edinburgh:
(22) Junior Local Examination; Certificate to include all the required subjects at one time.
(23) Senior Local Examination; Certificate to include the required subjects.
(24) Preliminary Examination for Graduation in Medicine and Surgery; Certificate to include the required subjects.
(25) Preliminary Examination for Graduation in Arts or Science; Certificate to include the required subjects.
(26) Final Examination for a Degree in Arts or Science.

University of Aberdeen:
(27) Junior Local Examination; Certificate to include all the required subjects at one time.
(28) Senior Local Examination; Certificate to include the required subjects.
(29) Preliminary Examination for Graduation in Medicine and Surgery; Certificate to include the required subjects.
(30) Preliminary Examination for Graduation in Arts or Science; Certificate to include the required subjects.
(31) Final Examination for a Degree in Arts or Science.

University of Glasgow:
(32) Preliminary Examination for Graduation in Medicine and Surgery; Certificate to include the required subjects.
(33) Preliminary Examination for Graduation in Arts or Science; Certificate to include the required subjects.
(34) Final Examination for a Degree in Arts or Science.

University of St. Andrews:
(35) Preliminary Examination for Graduation in Medicine and Surgery; Certificate to include the required subjects.
(36) Preliminary Examination for Graduation in Arts or Science; Certificate to include the required subjects.
(37) Final Examination for a Degree in Arts or Science.
(38) Final Examination for the Diploma of L.L.A.

University of Dublin:
(39) Public Entrance Examination; Certificate to include the required subjects.
(40) Examination for the First, Second, Third or Fourth Year in Arts; Certificate to be signed in the approved form by the Medical Registrar of the University.
(41) Final Examination for a Degree in Arts.

Royal University of Ireland:
(42) Matriculation Examination; Certificate to include the required subjects.
(43) Final Examination for a Degree in Arts or Science.

Oxford and Cambridge Schools' Examination Board:
(44) Lower Certificate; to include all the required subjects at one time.
(45) Higher Certificate; to include the required subjects.

II.—Medical Licensing Bodies.

Royal Colleges of Physicians and Surgeons in Ireland:
(46) Preliminary Examination; Certificate to include all the required subjects at one time.

III.—Educational Bodies other than Universities.

College of Preceptors:
(47) Examination for a First Class Certificate or a Second Class Certificate of First or Second Division; Certificate to include all the required subjects at one time.
(48) Preliminary Examination for Medical Students; Certificate to include all the required subjects at one time.

Scotch Education Department:
(49) Examination for Lower Grade Leaving Certificate; to include all the required subjects at one time.
(50) Examinations for Higher Grade or Honours Leaving Certificate; to include the required subjects.

Educational Institute of Scotland:
(51) Preliminary Medical Examination; Certificate to include all the required subjects at one time.

Intermediate Education Board of Ireland:
(52) Junior or Middle Grade Examination; Certificate to include all the required subjects at one time.
(53) Senior Grade Examination; Certificate to include the required subjects.

IV.—Indian, Colonial, and Foreign Universities and Colleges.

University of Calcutta:
(54) Entrance Examination.

University of Madras:
(55) Matriculation Examination
(56) First Examination in Arts.

University of Bombay:
(57) Matriculation Examination.

Ceylon Medical College:
(58) Preliminary Examination

Punjab University:
(59) Entrance Examination.

University of Allahabad:
(60) Entrance Examination.

University of M'Gill College, Montreal:
(61) Matriculation Examination.
College of Physicians and Surgeons of the Province of Quebec:
(62) Matriculation Examination.
University of Bishop's College, Montreal:
(63) Matriculation Examination.
Trinity Medical College, Toronto:
(64) Departmental Arts Matriculation Examination.[2]
University of Toronto:
(65) Departmental Arts Matriculation Examination.[2]
Trinity University, Toronto:
(66) Departmental Arts Matriculation Examination.[2]
Queen's University, Kingston:
(67) Departmental Arts Matriculation Examination.[2]
Victoria University, Toronto:
(68) Departmental Arts Matriculation Examination.[2]
College of Physicians and Surgeons of Ontario:
(69) Departmental Arts Matriculation Examination.[2]
Western University of Ontario:
(70) Departmental Arts Matriculation Examination.[2]
University of Manitoba:
(71) Preliminary and Previous Examinations.
University of Fredericton, New Brunswick:
(72) Matriculation Examination.
University of Mount Allison College, New Brunswick, Canada:
(73) Matriculation Examination.
College of Physicians and Surgeons of New Brunswick:
(74) Matriculation Examination.
University of King's College, Windsor, Nova Scotia:
(75) Matriculation Examination.
Dalhousie College and University, Halifax, Nova Scotia:
(76) Matriculation Examination.
Provincial Medical Board of Nova Scotia:
(77) Preliminary Examination.
Newfoundland Medical Board:
(78) Preliminary or Matriculation Examination.
University of Melbourne:
(79) Matriculation Examination.
University of Sydney:
(80) Matriculation Examination.
(81) First Year Examination in Arts.
(82) Senior Public Examination.
(83) Entrance Examination for Medicine and Science.
University of Adelaide:
(84) Senior Public Examination.
University of Tasmania:
(85) Senior Public Examination.
University of the Cape of Good Hope:
(86) Matriculation Examination.
University of Otago:
(87) Preliminary Examination for Medical Students.
University of New Zealand:
(88) Preliminary Examination for Medical Students.
Codrington College, Barbadoes:
(89) Examinations qualifying for a Degree in Arts at the University of Durham.
Continental Bodies:
(90) The German Abiturienten-Examen of the Gymnasia and Real-gymnasia; Examinations entitling to the French Diplomas of Bachelier ès Lettres and Bachelier ès Sciences, and other corresponding Entrance Examinations to the Universities.
Egyptian Government:
(91) Secondary Education Certificate.

*** (*a*) No certificate from the bodies in the foregoing Section (iv) will accepted unless it shows that the Examination has been conducted by under the authority of the body granting it, includes all the subjects quired by the General Medical Council, and states that all the subjects Examination have been passed in at one time. Copies of the form the required certificate will be supplied by the Registrar of the Council the purpose.

(*b*) In the case of natives of India or other Oriental countries, whose rnacular is other than English, an examination in a classic Oriental nguage may be accepted instead of an examination in Latin.

The examinations in Divisions I, II, III at present entitle registration on production of satisfactory evidence that e applicant has passed them. The examinations in IV are cepted if the certificates contain evidence that the examiion passed included all the subjects required by the neral Medical Council. These are:

(*a*) English Language, including Grammar and Composition. (Marks t exceeding 5 per cent. of the total marks obtainable in this section of examination may be assigned to candidates who show a competent owledge of shorthand).

(*b*) Latin, including Grammar, Translation from specified authors, Translation of easy passages not taken from such authors.

(*c*) Mathematics, comprising (*α*) Arithmetic; (*b*) Algebra, as far as ple Equations, inclusive; (*c*) Geometry, the subject matter of Euclid, ks I, II, and III, with easy deductions.

(*d*) One of the following optional subjects:
) Greek. (*β*) French, (*γ*) German, (*δ*) Italian, (*ε*) any other modern nguage, (*ζ*) Logic.

The Council will not in future accept any certificate of having passed a Preliminary Examination in General Education, cept in the cases indicated in the above list, unless the ole of the subjects included in the Preliminary Examination required by the Council for Registration of Students of Medicine have been passed in at the same time.

[2] nducted under the direction of the Provincial Education Department of Ontario.

PROFESSIONAL EDUCATION.

The period of professional study between the date of registration as a medical student and the date of the Final Examination for any diploma which entitles its holder to be registered under the Medical Acts must be a period of *bonâ fide* study during not less than five years. The course of professional study and examinations must include the following subjects:

(i) Physics, including the Elementary Mechanics of Solids and Fluids, and the rudiments of Heat, Light, and Electricity. (ii) Chemistry, including the principles of the science, and the details which bear on the study of Medicine. (iii) Elementary Biology. (iv) Anatomy. (v) Physiology. (vi) Materia Medica and Pharmacy. (vii) Pathology. (viii) Therapeutics. (ix) Medicine, including Medical Anatomy and Clinical Medicine. (x) Surgery, including Surgical Anatomy and Clinical Surgery. (xi) Midwifery, including Diseases peculiar to Women and to newborn Children. (xii) Theory and Practice of Vaccination. (xiii) Forensic Medicine. (xiv) Hygiene. (xv) Mental Disease.

Graduates in arts or science of any university recognised by the General Medical Council, who have spent a year in the study of Physics, Chemistry, and Biology, and have passed an examination in these subjects for the degrees in question, are held to have completed the first of the five years of medical study. It is also to be noted that a student who has previous to registration attended a course or courses of study in one or all of the subjects, Physics, Chemistry, or Biology, in any university, school of medicine, or teaching institution recognised by any of the licensing bodies, may without further attendance be admitted to examination in these subjects: provided always that such course or courses shall not be held to constitute any part of the five years' course of professional study.

THE ENGLISH UNIVERSITIES.

UNIVERSITY OF OXFORD.

There are two degrees in Medicine (B.M. and D.M.), and two degrees in Surgery (B.Ch. and M.Ch.), which under the most favourable circumstances may be obtained in six or seven years from Matriculation.

B.A. Degree.

The Degrees of B.M. and B.Ch. are conferred only on candidates who have taken the B.A. degree, for which residence for three years within the University is necessary; the examinations, however, for the degrees in Arts and Medicine may be passed in any order, provided the subjoined regulations are complied with.

The degree of B.A. may be obtained in either of the following ways:

(*a*) By passing Responsions (or one of the Extra-University Examinations, which are held as equivalent to it), Moderations, a Divinity Examination, or, in the event of a candidate objecting, an examination in some specified Greek book; and the Final Pass School in three subjects, two of which may be the same as the Preliminary Examination in Natural Science.

(*b*) By passing Responsions, an additional subject in Responsions, the Divinity Examination, and the Preliminary Examinations in the Natural Science School, and by passing the Final Honour Examination in Chemistry, Physics, Animal Morphology, Botany, *or* Physiology.

Responsions and the additional subject may be passed before a candidate is a member of the University;[1] Moderations can be passed in the fourth term; the Divinity Examination at any time after Responsions; the Final Pass School may be taken any time after Moderations; a Final Honour School may be taken at the end of the third or within the fourth Academical year, that is, twelve or sixteen terms respectively; the Preliminary Examinations of the Natural Science School may be taken as soon as Responsions have been passed.

[1] Membership is constituted by Matriculation, and by becoming a member of a College or Hall, or a non-collegiate student.

DEGREES IN MEDICINE AND SURGERY.

Candidates for degrees in Medicine must take the degrees of B.M., B.Ch., to obtain which the following examinations must be passed:

Preliminary.—The preliminary examination of the Natural Science School must be passed. It is held in two parts, namely: (1) Mechanics and Physics, and (2) Chemistry in November and June, (3) Animal Morphology, and (4) Botany in December and March.

Professional.—There are two professional examinations, held twice a year at the end of Michaelmas and Trinity terms. The subjects of the first B.M. examination are Organic Chemistry, Human Anatomy and Physiology, Materia Medica, and Pharmacy; but candidates who have previously obtained a First or Second Class in the Final Examination in Physiology or Chemistry are exempt from further examination in these subjects. This examination may be passed at any time after the preliminary. The second examination, held in June, may be taken at any time after the first, but usually two or three years elapse. It comprises the remaining subjects of the medical curriculum, namely, Medicine, Surgery, Midwifery, Pathology, Forensic Medicine, and Hygiene.

D.M. Degree.—A B.M. who has entered his thirty-ninth term is admitted D.M. on presentation of a dissertation approved by the appointed professors and examiners.[2]

M.Ch. Degree.—An examination for this degree is held in June. The candidate must be in his twenty-seventh term.

Fees.—University: B.A., £16 or £17. B.M. and B.Ch., £14. D.M., £25. M.Ch., £17. Also an annual fee to the University of £2 for the first four years, reduced to £1 when the B.A. is taken.—College: Fees (varying in amount) on taking degrees and for first four years of membership. Tuition fees, £21 to £30. The cost of living for the four University terms cannot be stated at less than £120.

Scholarships, etc.—The several colleges grant scholarships of £80 a year tenable for four years in Natural Science, Chemistry, Physics, and Biology, and also exhibitions. Particulars can be obtained on application to the College tutors. A Radcliffe Travelling Fellowship of £200 a year, tenable for three years, is conferred annually. Candidates who have been placed in the First Class in any Final Examination in the Natural Science School, whether they have taken the degree of B.M. or not, are eligible.

TEACHING.

Preliminary Examination.—Courses of lectures and demonstrations on elementary Mechanics and Physics, on Inorganic Chemistry, on Animal Morphology, and on Botany, are given at convenient periods, and are open to members of the University intending to proceed to a medical degree.

Degree of B.A.—The course of instruction for the Final Honour Examination in Physiology consists of lectures and practical work, and extends over two years. It is intended for students who have passed the Preliminary Examination in other subjects.

First B.M.—The instruction in Human Anatomy is by lectures and demonstrations; the dissecting room is open daily, and dissection may be continued during the vacation. The course of instruction in Physiology consists of a course of lectures extending over three full terms, a course of practical instruction in Histology during three terms, and a course of Elementary Physiological Chemistry, with practical laboratory work during two terms. Instruction in Organic Chemistry is given in the Chemistry Department.

Second B.M.—Lectures on Materia Medica and practical instruction in Pharmacology are given during the summer term, and clinical lectures and tutorial instruction and demonstrations in Physical Diagnosis and Regional Anatomy are given in each term at the Radcliffe Infirmary. Lectures on Pathology and Practical Instruction in Bacteriology and Pathological Histology are given in Michaelmas and Hilary Terms in the Pathological Laboratory.

UNIVERSITY OF CAMBRIDGE.

BACHELOR OF MEDICINE (M.B.) AND BACHELOR OF SURGERY (B.C.)

A student proceeding to this degree must (1) reside in the University during the required portion of each of nine terms, (2) pass (or obtain exemption from) the Previous Examination, (3) pursue medical study for five years.

There are three examinations for the degree of Bachelor of Medicine. They are partly in writing, partly oral, and partly practical. The examinations take place twice in the year, in the Michaelmas and Easter terms.

The First Examination is divided into two parts: 1. Chemistry and other branches of Physics; 2. Elementary Biology. These two parts may be taken together or separately. Before admission to this examination the candidate must have passed (or obtained exemption from) the Previous Examination. He must also produce certificates of diligent attendance on a course of lectures in Chemistry, and of practical instruction in Chemical Manipulations.

The Second Examination is divided into two parts, which may be taken together or separately: 1. Human Anatomy and Physiology; 2. Pharmaceutical Chemistry. Before admission to this examination the student must have passed both parts of the First Examination, must have attended hospital practice, and have practised dissection, during six months, and must produce certificates of diligent attendance on a course of lectures on each of the following subjects: 1. Human Anatomy; 2. Physiology.

The Third Examination is divided into two parts, called the First part and the Second part respectively. Before presenting himself for either part, the student must have passed both parts of the Second Examination. The first part includes Principles and Practice of Surgery and Midwifery and Diseases Peculiar to Women. The second part includes Pathology, Principles and Practice of Physic, Elements of Hygiene, Medical Jurisprudence, and Mental Diseases. The student, before admission to the First part, must produce certificates of attendance on one course of lectures in each of the following subjects: Pathology, Principles and Practice of Surgery, and Midwifery; he must have attended a course of Practical Surgery, and acted as dresser or house-surgeon at a recognised hospital for six months; must have attended twenty cases of Midwifery, and must have obtained a certificate of proficiency in vaccination from an authorised vaccinator appointed by the Local Government Board. Before admission to the Second part, he must produce evidence that he has completed the five years' course of medical study, and obtained certificates of diligent attendance on one course of lectures in each of the following subjects: Principles and Practice of Physic, Physiological Actions and Therapeutic Uses of Remedies, and Medical Jurisprudence; he must also have attended the Medical and Surgical Practice of a recognised hospital (with clinical lectures), including certain special hospitals and asylums, during three years at least; must have been Clinical Clerk at a recognised hospital for six months at least, or have, subsequently to the completion of his attendance on Hospital Practice, attended to Practical Medicine or Surgery with special charge of patients in a hospital, dispensary, or parochial union, under superintendance of a qualified practitioner, unless the student himself be duly qualified. All candidates must also produce certificates of attendance during three months on (1) practical instruction in Pharmacy and Dispensing, (2) clinical instruction in Fevers at a general or special hospital.

Act.—After these examinations have been passed, an Act must be kept in the schools in the following manner. The Regius Professor of Physic assigns a day and hour for keeping the Act, of which public notice has to be given eight days before. The candidate reads a thesis, composed by himself, on some subject approved by the Professor; the Professor brings forward arguments or objections for the candidate to answer, and examines him orally on questions connected with his thesis as well as on other subjects connected with medicine of a more general nature. As the Third Examination for the degree of M.B. includes operative and clinical surgery, the degree of Bachelor of Surgery is conferred upon candidates who pass the Final Examination for M.B. without further examination and without the Act. The degree of M.B., B.C. is thus a registrable qualification in Medicine, Surgery, and Midwifery.

DOCTOR OF MEDICINE (M.D.)

This degree may be taken by an M.B. of three years' standing, or by an M.A. of four years' standing, who has been

[2] The regulations for Graduates who took the degree of B.M. previous to 1886 differ slightly.

engaged in medical study for five years at least. In the latter case certificates of attendance on lectures and hospital practice for the M.B. must be produced, and the examination for the M.B. must be passed. In either case the candidate keeps an Act by reading an original thesis upon which he is examined, and writes a short extempore essay upon one of four topics (at his choice) relating severally to Physiology, Pathology, Medicine, or State Medicine.

Master in Surgery (M.C.).

This degree is granted to a candidate who has completed all that is required for the degree of B.C. at least two years previously; the candidate is either (1) examined in Pathology, Surgery, Surgical Anatomy, and Surgical Operations, the examination being both written and practical; or (2) submits books or writings constituting original contributions of merit to the science or art of surgery.

Dates, Fees, etc.

The dates of examinations are announced early in the Michaelmas and Lent terms. Each candidate pays £2 2s. to the Registrary of the University on giving notice of his intention to offer himself for either part of the First, Second, or Third Examination for M.B. He pays £3 3s. before that for M.C. Schedules defining the range of subjects in the First M.B. Examination, and of the Pharmaceutical Chemistry in the Second Examination; also schedules for the necessary certificates, and a list of the schools of medicine and hospitals recognised by the University, may be obtained on application to the Registrary of the University, The Registry, Cambridge.

UNIVERSITY OF LONDON.

Degree of M B.

Every candidate for the degree of M.B. is required to pass four examinations:

1. *Matriculation*, held twice a year in January and June. This examination consists of the following subjects: (1) Latin, (*a*) translation of selected authors, (*b*) unseen translation, (*c*) translation of English into Latin, (*d*) Latin grammar; (2) one of the following languages: Greek, French, German, Sanscrit, Arabic; translation and grammar; (3) English, the general history and grammatical structure of the language; History of England to the end of the seventeenth century, with the geography relating thereto; (4) Mathematics, including Arithmetic, Algebra to Quadratic Equations inclusive, Geometry, including the subjects of the first four books of Euclid, and simple deductions; (5) Mechanics (including a general acquaintance with the apparatus by which the elementary principles of Physics can be illustrated and applied); (6) one of the following branches of science: (*a*) Chemistry, (*b*) Heat and Light, (*c*) Magnetism and Electricity, (*d*) Botany. The full text of the regulations with the syllabus in each subject, can be obtained on application to the Registrar of the University of London, Burlington Gardens, London, W. The candidate must be 16 years of age.

2. *Preliminary Scientific (M.B.) Examination.*—This examination is held for Pass and Honours in July, and for Pass only in January. It consists of two sections: (*a*) Chemistry and Physics, (*b*) General Biology. The examinations are conducted by written papers, *vivâ voce* and by practical tests. The two sections may be taken together or separately, and the candidate who passes in one section only, though presenting himself in both, will be credited with the one in which he is successful. Honours may be taken in (*a*) Inorganic Chemistry, (*b*) Experimental Physics, (*c*) Botany, (*d*) Zoology. Particulars as to the conditions of competition for honours and syllabuses of the subjects, both in the Pass and in the Honours examination, may be obtained on application to the Registrar, as above.

3. *Intermediate Examination in Medicine.*—This examination is held for Pass and Honours in July, and for Pass only in January. The candidate must have completed his nineteenth year, and must, subsequently to having passed the Preliminary Scientific Examination, to have been a student in a recognised medical school for at least two years, have dissected for two sessions, have attended courses of Practical Chemistry and Practical Pharmacy, and have attended three courses of lectures in the medical school. The subjects of the examination are: Anatomy, Physiology and Histology, Organic Chemistry, Materia Medica and Pharmaceutical Chemistry. The examination is conducted by written papers, *vivâ voce*, and by practical examinations. Honours may be taken in any one of the subjects of the examination under conditions stated in the *Calendar*, an extract from which containing these particulars, as well as syllabuses of the subjects, can be obtained from the Registrar.

4. *M.B. Examination.*—This examination is held for Pass and Honours in October, and for Pass only in May. The candidate must have passed the Intermediate Examination at least twenty-one months earlier, must have attended lectures and hospital practice in a recognised medical school for two years, one of which must be subsequent to the Intermediate Evamination, must have conducted at least twenty labours, and have acquired proficiency in vaccination. The examination, which is conducted by written papers, *vivâ voce*, and by practical examinations, comprises the following subjects: Pathology, Therapeutics, Hygiene, Surgery, Medicine, Obstetric Medicine, and Forensic Medicine. The candidate must pass in all the subjects. Honours may be taken in Medicine, Obstetric Medicine, and Forensic Medicine.

Degrees in Surgery.

Bachelor of Surgery (B.S.)—This degree is granted to Bachelors of Medicine after an examination held annually in December. The candidate must have attended a course of operative surgery. The examination comprises Surgical Pathology and Surgery, and the candidate is examined by written papers and clinically, and is required to operate on the dead body. Candidates who pass this examination may be examined for Honours.

Master in Surgery (M.S.)—This degree is granted, after examination, to Bachelors of Surgery of at least two years' standing. The examination comprises Mental Physiology, Surgery, and Surgical Anatomy.

Degree of M.D.

Doctor of Medicine.—The degree of Doctor of Medicine is granted to Bachelors of Medicine of at least two years' standing. The examination comprises Mental Physiology and Medicine, and is conducted by written papers, clinical examination, and *vivâ voce*. A candidate who presents a printed dissertation, thesis, or commentary, which shall have been approved by the examiners, will be excused the written examination.

Doctor of Medicine in State Medicine.—This degree is granted to Bachelors of Medicine after examination, on producing evidence of having been engaged in the study of State Medicine for at least two years. The examination is similar to that for the ordinary M.D., State Medicine taking the place of Medicine.

Fees and Scholarships.

The fees are as follows: Matriculation, £2; for the other examinations, in each case, £5. A rejected candidate, on again presenting himself, pays half the fee.

Exhibitions or Scholarships are granted to the first six candidates in honours at the Matriculation Examination, and, if sufficient merit be evinced, to the first candidates in honours at all the other examinations.

The Sherbrooke Prize.—This prize, founded by the late Lord Sherbrooke, will in future be awarded triennially for the best essay embodying original research in some branch of natural science. It is open to all graduates of not more than five years' standing. The subject presented for 1898 is "The Treatment of Infectious and Contagious Diseases by the Serum Method." The essays must be sent to the Registrar by May 1st, 1898.

VICTORIA UNIVERSITY.

Colleges.—The Colleges of the Victoria University are Owens College, Manchester; University College, Liverpool; and the Yorkshire College, Leeds.

Entrance: The first step towards a Degree in Medicine or Surgery is to pass the Entrance Examination in Arts, or some other examination recognised by the University. The candidate for the Entrance Examination in Arts, who must present

a certificate from his last instructor to the effect that he is a proper person to be admitted to the examination, is examined in: (1) Latin; (2) Elementary Mathematics; (3) Elementary Mechanics; (4) English Language, including Grammar and Composition; (5) *One* of the following: i, Greek; ii, French; iii, German; iv, Italian; v, Spanish. Candidates may, by special permission of the Board of Studies, substitute any other modern language for either of the subjects named under (5). Candidates who propose to present themselves in Italian or Spanish, or in a modern language not included in the list, must give notice to the Registrar on or before March 1st in the year in question.

Matriculation.—Before matriculating, which consists in signing the University Register, candidates must produce proof that they are registered students of a College of the University, or of a medical school recognised by it.

Degrees of Bachelor of Medicine and of Surgery (M.B., Ch.B.)

Curriculum and Residence.—Five years must be spent in study at a recognised medical school subsequent to registration as a medical student; of these five years, two must be passed in a college of the University, and one of these two years must be subsequent to passing the first M.B. Examination.

First M.B. Examination.—Candidates must have attended during at least one year courses of lectures and laboratory work in each of the subjects of the examination—namely: Part I. (*a*) Physics; (*b*) Chemistry. Part II. Physiology (Animal and Vegetable Morphology, Physiology, and Laboratory work). The two parts may be taken together or separately.

Second M.B. Examination.—Candidates must have attended winter courses in Anatomy and Physiology, and a summer course in Materia Medica and Pharmacy, must have dissected for two winter sessions and one summer, and must have had practical instruction in Physiology and in Materia Medica and Pharmacy. The subjects of the examination are: (1) Anatomy; (2) Physiology; (3) Materia Medica and Pharmacy; (3) may be passed separately.

Final M.B. Examination.—Candidates must produce certificates of having attended, in a recognised medical school, courses of instruction in all the subjects of the examination, which are: Part I. (*a*) Pharmacology and Therapeutics, (*b*) General Pathology and Morbid Anatomy, (*c*) Forensic Medicine and Toxicology and Public Health. Part II. (*d*) Obstetrics and Diseases of Women, (*e*) Surgery, (*f*) Medicine (including Mental Diseases and Diseases of Children). The two parts may be taken separately, and any one of the subjects of Part I may be deferred and taken with Part II.

Degree of Doctor of Medicine (M.D.).

A candidate must have obtained the degree of M.B. at least one year previously. He must present a printed dissertation, and may be examined on any subject connected therewith.

Degree of Master of Surgery (Ch.M.).

A candidate must have obtained the degree of M.B. at least one year previously, must have been engaged in the study of Practical Surgery in the interval, and have held a surgical appointment for not less than six months in a hospital or other public institution. He must also produce certificates of having attended special courses in Operative Surgery, Surgical Pathology, and Ophthalmology.

Fees and Dates of Examination.

Entrance examination, £2; re-examination after failure, £1. First, Second, and Third M.B. Examinations, each £5; re-examination after rejection, £2. M.D., £10. Ch.M., £5 on examination, and £5 on the conferring of the degree.

The entrance examination in Arts is held in June and September. The First M.B. Examination is held in June (Part I) and July (Part II), and also in September. The Second and Final M.B. Examinations are held in March and July, and that for the Ch.M. in July.

UNIVERSITY OF DURHAM.

The University of Durham grants six degrees in the medical faculty—M.B., M.D., B.S., M.S., B.Hy., D.Hy. The degrees of M.D., B.S., and M.S. are granted only to M.B. graduates of the University. The degrees B.Hy. and D.Hy. are granted under certain conditions to registered medical practitioners (see page 551). The University also grants a Diploma in Public Health. These degrees are open both to men and women. It is hardly necessary to say that every student intending to attend the University of Durham College of Medicine (Newcastle-on-Tyne) would do well to pass the necessary examination in general knowledge, and qualify himself to obtain the degrees of the University.

Degree of Bachelor in Medicine (M.B.).

Preliminary Examination in Arts.—In addition to the Certificate of Registration a candidate must (*a*) pass the Preliminary Examination in Arts for the degrees in Medicine of the University of Durham, or hold a certificate of having passed the first public examination for the Degree of B.Litt. of the University of Durham, or (*b*) be a graduate in Arts of the University of Durham, Oxford, Cambridge, London, Victoria (Manchester), Dublin, Queen's University (Ireland), Edinburgh, Glasgow, St. Andrews, Aberdeen, Calcutta, Madras, Bombay, McGill (Montreal), Sydney (Melbourne), Queen's College (Kingston), the Victoria or the Royal University of Ireland. Particulars as to the Preliminary Examination of the University of Durham (*a*) can be obtained from the Rev. J. R. Shortt, M.A., Secretary of the Examinations, the University, Durham, to whom the fee (£1) is payable.[1]

The Preliminary Examination in Arts is held twice yearly, in March and September, at the same time as the Registration Examination. The next examination will be commenced on September 14th, 1897.

Curriculum.—The curriculum extends over five years, of which one at least must be spent in attendance at the University of Durham College of Medicine, Newcastle-on-Tyne, and in the clinical practice of the Royal Infirmary there. Students are recommended to carry out the curriculum on some such plan as the following:

First Winter: Anatomy, Dissections, Chemistry, Physics. First Summer: Practical Chemistry, Practical Physics, Practical Physiology, Elementary Biology.

Second Winter: Anatomy, Physiology, Dissections. Second Summer: Practical Physiology, Practical Pharmacy, Materia Medica, Therapeutics, and Pharmacology.

Third Winter: Medicine, Surgery, Hospital Practice, with Clinical Lectures. Midwifery and Diseases of Women and Children, Practical Midwifery, Public Health. Third Summer: Pathology, Practical Pathology, Medical Jurisprudence, Hospital Practice, with Clinical Lectures.

Fourth Winter: Medicine Surgery, Regional Anatomy, Hospital Practice, with Clinical Lectures Fourth Summer: Mental Diseases, Operative Surgery, Hospital Practice, with Clinical Lectures.

Fifth Winter: Infectious Diseases and Clinical Lectures. Fifth Summer: Clinical Lectures.

Professional Examinations.—There are four professional examinations conducted in writing, practically, and *viva voce*, each held twice a year (April and September). *First Examination:* Elementary Anatomy and Biology, Chemistry, Physics. *Second Examination:* Anatomy, Physiology, Materia Medica, Therapeutics, and Pharmacology. *Third Examination:* Pathology, Medical Jurisprudence, Public Health, and Elementary Bacteriology. *Final Examination:* Medicine, Clinical Medicine and Psychological Medicine, Surgery and Clinical Surgery, Midwifery and Diseases of Women and Children. The *Calendar* of the University of Durham College of Medicine, Newcastle-on-Tyne, contains synopses of the subjects of the examinations and examination papers. Applications for further information should be addressed to Professor Howden at the College. A candidate who has passed the First Examination of the Conjoint Board in England of the Royal College of Physicians of London and the Royal College of Surgeons of England

[1] Candidates from Indian Universities must have passed a Matriculation Examination at one of the Indian Universities, and will have to reside for one academic year at the University of Durham College of Medicine, at Newcastle-upon-Tyne, before presenting themselves for the M.B. Degree Examination, in accordance with the regulation on page 56 of the *Calendar*. If the Matriculation Examination at the Indian University did not embrace Latin, and Persian, or Sanskrit, then it will be necessary for the candidate, in addition, to produce evidence that he has passed in Latin and one of those subjects, or in Greek, within twelve months of his presenting himself for the Examination of the Degree in Medicine.

will be exempt from the First Examination of the University of Durham except in the subjects of Elementary Anatomy, Chemistry, and Physics.[2] Candidates who hold a qualification from a recognised licensing Board in the United Kingdom at the date of entry for the First Examination for the Degrees of Medicine are in every case required to pass in Chemistry with Chemical Physics.[3] Candidates who have completed part of their curriculum elsewhere may pass their First, Second, and Third Examinations *previously* to entering at Newcastle-upon-Tyne.

Degree of Doctor of Medicine (M.D.).

A candidate for this degree must have been engaged in practice for at least two years subsequent to obtaining the degree of M.B. in the University of Durham. The candidate is required to write an essay based on original research or observation, and is subject to examination on the topic of his essay. For particulars as to the degree of M.D. for medical practitioners of fifteen years' standing, without curriculum, see page 548.

Degrees in Surgery.

Bachelor of Surgery.—A candidate must have passed the examination for the degree of M.B.(Dunelm), and have attended courses of lectures on Operative Surgery and on Regional Anatomy. He is required to perform operations on the dead body, and to show practical acquaintance with the use of surgical instruments and appliances.

Master in Surgery.—A candidate must have obtained the degree of B.S.(Dunelm) at least two years previously, and have been engaged in practice for that period. The subjects of the examination are Principles and Practice of Surgery, Surgical Pathology, Surgical Anatomy, Surgical Operations, and Clinical Surgery.

Degrees in Hygiene (B.Hy., D.Hy.).

For the regulations as to these degrees, see page 551.

Fees.

Preliminary Arts Examination for Degrees, £1. First, Second, and Third Professional Examinations (M.B.), each £5. Final (M.B.), £10. Examination for the degrees of M.D., B.S., and M.S., each £5, in addition to the University of Durham for each degree, £6 6s.

THE ENGLISH COLLEGES.[1]

The Medical Corporations in England are the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Society of Apothecaries of London. The two Royal Colleges now co-operate to hold a series of examinations, on passing which the candidate receives the Diploma of Licentiate of the Royal College of Physicians (L.R.C.P.), and Member of the Royal College of Surgeons (M.R.C.S.). The Society of Apothecaries grants its diploma separately.

CONJOINT EXAMINING BOARD IN ENGLAND.

A candidate who desires to obtain the licence of the Royal College of Physicians of London and the diploma of Member of the Royal College of Surgeons of England is required to pass three professional examinations, and to produce evidence of having passed through a stated course of instruction in a recognised medical school. The full period of five years must be spent at recognised medical schools and hospitals after registration as a medical student. The candidate must pass an examination in subjects of Preliminary Education before entering the medical school (see page 512), and must register as a medical student within fifteen days of entering a school. Except in the case of Chemistry and Physics, Practical Chemistry, Practical Pharmacy, and Elementary Biology, professional studies commenced before registration will not be recognised.

First Professional Examination.

The examination consists of three parts: (1) Chemistry and Physics, (2) Practical Pharmacy, (3) Elementary Biology.

A candidate may take this examination in three parts at different times, or he may present himself for the whole at one time. A candidate will be admitted to examination in Chemistry and Physics and Practical Chemistry and Elementary Biology before registration as a medical student by the General Medical Council, *and he may take Practical Pharmacy at any time during the curriculum.*

A candidate is required to produce evidence of having received instruction in each of the above-mentioned subjects. A candidate referred in any part or parts will not be admitted to re-examination for three months. If referred in Chemistry or Biology he must produce evidence of further instruction. A candidate who produces evidence of having passed an examination for a degree in Medicine on any of the subjects of this examination at a university in the United Kingdom, India, or a British colony will be exempt from examination on the subjects in which he has passed.

Second Professional Examination.

The subjects of this examination are Anatomy and Physiology, and both must be passed at the same time. A candidate must have passed the Parts I and III of the First Examination at least six months earlier, and have attended during two winter sessions and one summer session (or fifteen months during the ordinary sessions) at a recognised medical school lectures on Anatomy, Physiology, and a course of Practical Physiology and Histology, and have dissected for twelve months during the ordinary sessions. If rejected, a candidate, before being admitted to re-examination, must continue his studies for not less than three months.

Third or Final Professional Examination.

This examination consists of three parts: Part I, Medicine, including Medical Anatomy, Pathology, Practical Pharmacy,[1] Therapeutics, Forensic Medicine, and Public Health; Part II, Surgery, including Pathology, Surgical Anatomy, and the use of Surgical Appliances; Part III, Midwifery and Gynæcology.[2] The examination may be passed at one time or in each part separately. Evidence of attendance at courses of instruction in the subjects of the three parts must be produced, and also of attendance on twenty labours. The candidate must have passed the Second Examination two years previously, and have been registered as a medical student for at least five years. A rejected candidate must produce evidence of further instruction during three months.

All applications with reference to the examinations for the Licence of the Royal College of Physicians of London and to the Diploma of Member of the Royal College of Surgeons of England should be addressed to the Secretary, Examination Hall, Victoria Embankment, London, W.C. (telegraphic address, "Conjoint," London), from whom also synopses of some of the subjects can be obtained.

Regulations for Colonial, Indian, or Foreign Candidates and University Candidates.

A person holding a Colonial, Indian, or foreign qualification which entitles him to practise in the country where such qualification has been obtained, is, after a course of study and examination equivalent to those required by the Regulations of the two Royal Colleges, admissible to the Second and Third or Final Examinations without any interval. Members of an English, Scotch, or Irish University are under certain conditions eligible for admission to the Third or Final Examination two years after passing at their University the subjects included in the First and Second Examination of the Board.

A Doctor or Bachelor of Medicine or Surgery of an Indian, Colonial, or foreign University recognised for the purpose,

candidate who has passed the First and Second Examinations of niversity will be exempt from the First and Second Examinations e Conjoint Board in England, and will be entitled to present himself ne Final Examination of the Board on the completion of the neces- curriculum.

ll candidates for the First Examination for the Degrees in Medicine, her exempt from a portion of it or not, are required to pay the full £5.

[1] Candidates who have previously passed in Practical Pharmacy will not be re-examined in that subject at the Third Examination.

[2] Candidates may present themselves for examination in Midwifery and Diseases of Women at any time after the completion of the fourth year of professional study, not less than one year after the passing of the Second Examination, on production of the required certificates.

who shall have passed at his university in the subjects of the First and Second Examination, will be eligible for admission to the Third or Final Examinations two years after passing in the said subjects.

FEES, DATES, ETC.

First Examination, £10 10s. Re-examination, Part I, £3 3s., Parts II, III, each £2 2s. *Second Examination*, £10 10s. Re-examination, £6 6s. *Third Examination*, £15 15s. Re-examination, Part I, Medicine, £5 5s. Practical Pharmacy, £2 2s. Part II, Surgery, £5 5s. Part III, £3 3s. Members of an English, Scottish, or Irish University, £5 5s.; for the diplomas, £31 10s.[3]

The examinations are held in January, April, July, and October. A book of questions set at the several examinations is published annually, and can be obtained from Messrs. Taylor and Francis, Red Lion Court, Fleet Street, London, E.C.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

Licentiates.—Candidates are now subject to the regulations of the Conjoint Examining Board in England.

Members.—The Membership of the College is granted after examination to persons above the age of 25 years who do not engage in trade, do not dispense medicine, and do not practise in partnership. Under the provisions of the Medical Act of 1886 the Diploma of Membership is not registrable at the present time as a primary qualification, and is therefore granted only to persons already registered.

Medical graduates of a recognised university are admitted to a pass examination, but others must have passed the examinations required for the licence of the College. The examination, which is held in January, April, July, and October, is partly written and partly oral. It is directed to Medicine, and is conducted by the President and Censors. Candidates under 40 are examined in Latin, and either Greek, French, or German. Candidates over 40 are not so examined, and the Examination in Medicine may in their case be modified under conditions to be ascertained by application to the Registrar. The fee for the Membership is £42, but if the candidate is a Licentiate the fee is the difference between what he has already paid and £42. In either case £6 6s. is paid before examination.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Membership.—Candidates who registered on or after October 1st, 1884, are now subject to the regulations of the Conjoint Board.

Fellowship.—The Fellowship of the College of Surgeons is granted after examination to persons at least 25 years of age, who have been engaged in professional studies for six years. There are two examinations—the first in Anatomy and Physiology, which may be passed after the third winter session; the second, chiefly directed to Surgery, which may be passed after six years of professional study. A Bachelor or Master of Arts, or Bachelor or Doctor of Science of a university recognised by the Council for the purpose, provided he was registered as a medical student before October 1st, 1884, may present himself for the Second Examination after six years of professional study, but if a candidate holding either of these degrees has been admitted to the membership, he may present himself for the Second Examination after five years of professional study. In all other cases, admission to Membership of the College is requisite before admission to the Second Examination.

Fees: At First Examination: Members, £5 5s.; non-Members, £10 10s.; £5 5s. returned if rejected. At Second Examination: Member, £10 10s.; if not a Member, £21. In the latter case £10 10s. is returned in case of rejection. Further information can be obtained on application to the Secretary, Examination Hall, Victoria Embankment, London, W.C.

SOCIETY OF APOTHECARIES OF LONDON.

The following are the regulations for the Five Years Curriculum required by the General Medical Council:

The examinations are Primary and Final (Sections I and II). The Primary Examination is held quarterly on the first Wednesday, and on the Monday and Thursday in the same week, in the months of January, April, July, and October. Section I of the Final Examination is held monthly, and consists of: 1. The examination in Surgery, on the second Wednesday and following days. 2. The examination in Medicine and Forensic Medicine, on the third Wednesday and on the Monday and Thursday of the same week. 3. The examination in Midwifery, on the third Wednesday and on the Monday and Thursday of the same week. Section II of the Final Examination is held monthly, and consists of: 1. The examination in Surgery, on the second Wednesday and following days. 2. The examination in Medicine, on the third Wednesday and on the Monday and Thursday of the same week. 3. The examination in Midwifery, on the third Wednesday and on the Monday and Thursday of the same week. Candidates for the examination in Midwifery may enter for the same at Section I or Section II of the Final Examination.

Primary Examination.—This examination consists of two parts: Part I includes (*a*) Elementary Biology (oral only), (*b*) Chemistry, the Principles of the Science which bear on the Study of Medicine; Chemical Physics, including the elementary mechanics of solids and fluids, heat, light and electricity; Practical Chemistry; (*c*) Pharmacy. A synopsis indicating the range of the subjects in the examination will be sent with the regulations on application. Evidence of instruction in these subjects must be produced prior to examination; *a* and *b* may be passed any time before or after, and *c* any time after registration as a medical student, and *a*, *b*, and *c* may be passed either together or at separate times; *c* may be postponed to the Intermediate Examination. No professional studies commenced before registration, except in *a* and *b*, will be recognised as part of the medical course. Should the candidate not succeed in passing in all the subjects of the examination, he will be referred only in the subject or subjects in which he failed. Part II includes Anatomy, Physiology, and Histology. This examination cannot be passed before the completion of twelve months' Practical Anatomy, with demonstrations. These subjects cannot be taken separately except in the event of the candidate having previously passed in one. Evidence must be produced of the candidate's course of study. A schedule for the Primary Examination, to be obtained of the Secretary, must be signed by the Dean of the Medical School or other authority. Candidates will be excused any or all the subjects of the Primary Examination on producing evidence that they have passed equivalent examinations before any examining body recognised by the General Medical Council. Candidates referred in Anatomy will be required to produce evidence of further work in the dissecting room before being admitted to re-examination.

Final Examination (Sec. I).—This examination consists of three parts. Part I includes: The Principles and Practice of Surgery, Surgical Pathology, and Surgical Anatomy. Part II includes: (*a*) The Principles and Practice of Medicine (including Therapeutics, Pharmacology, and Prescriptions), Pathology, and Morbid Histology; (*b*) Forensic Medicine, Hygiene, Theory, and Practice of Vaccination, and Mental Diseases. Candidates passing either of the Sections (*a*) or (*b*) will not be re-examined therein. Part III: Midwifery, Gynæcology, and Diseases of Newborn Children, Obstetric Instruments and Appliances. Part III may be postponed to Sec. II of the Final Examination, and candidates may enter for Parts I, II, and III together or separately. Candidates who have passed in Pharmacy at the Primary Examination will not be re-examined therein. Sec. I of the Final Examination cannot be passed before the expiration of 45 months after registration as Medical Student, during which time not less than 3 winter sessions and 2 summer sessions must have been passed at one or more of the medical schools connected with a general hospital recognised by the Court of Examiners.

Final Examination (Sec. II).—This examination consists of three parts. Part I includes: An examination of and written report of Surgical Cases, Operative Manipulation and Surgical Anatomy, Instruments and Appliances. Part II includes: An examination of and written report on Medical Cases, Medical Anatomy. Part III includes: Midwifery, Gynæcology, and Diseases of Newborn Children, Obstetric Instruments and Appliances. Parts I and II of this examination cannot be passed before the end of the fifth year. Candidates may enter for Parts I, II, and III together or

[3] On and after January 1st, 1900, this amount will be raised to £36 15s.

separately. Course of Medical Study.—The course of study is as follows: For the Primary Examination, Part I, Elementary Biology, not less than 3 months; Chemistry and Chemical Physics, not less than 6 months; Practical Chemistry, not less than 3 months; Pharmacy and Dispensing, not less than 3 months. Evidence of having received instruction in Biology and Chemistry before registration will be admitted. Instruction in Pharmacy and Dispensing must be given by a registered medical practitioner or by a member of the Pharmaceutical Society by examination or in a public hospital, infirmary, or dispensary. Part I: Anatomy, not less than 6 months; Practical Anatomy with Demonstrations, not less than 12 months; Physiology, not less than 6 months; Histology with Demonstrations, not less than 3 months. Class examinations on the above subjects. The study of these subjects must be pursued at a medical school or at a place of instruction recognised by the Society.

Information as to the details of the course of study required and as to the certificates which must be produced, may be obtained on application to the Secretary to the Examiners, who attends at the Hall of the Society, Blackfriars, E.C., from 10 to 12 o'clock daily.

Fees.—The fee for the three examinations is £15 15s., or £5 5s. for each examination, except in the case of persons holding a foreign diploma, who are required to pay the entire fee of £15 15s. In the event of failure a candidate will be referred for three or for six months, as may be directed. Re-examination Fees.—For the Primary Examination: A fee of £1 1s. is required for an extra or additional examination in the case of failure in Part I or Part II of the Primary Examination, or any subdivision of such parts respectively. For the Final Examination, Sec. I: A fee of £3 3s. is required for an extra or additional examination in the case of failure in Parts I, II, or III, or any subdivision of such parts respectively. For the Final Examination, Sec. II: A fee of £3 3s. is required for an extra or additional examination in the case of failure in Parts I, II, or III respectively, or any subdivision of such parts respectively. Separate or Special Examination Fee: The fee for this examination, which can be held only under very exceptional circumstances, and previously approved of by the Examiners, is £26 5s. No fees are returned under any circumstances.

THE SCOTTISH UNIVERSITIES.

It will be convenient to give the regulations for Edinburgh more in detail, and then briefly indicate points of difference as regards the other three Universities.

UNIVERSITY OF EDINBURGH.

The new regulations apply to all who begin their studies after October 1st, 1892.

Four degrees in Medicine and Surgery are conferred—namely, Bachelor of Medicine, Bachelor of Surgery, Doctor of Medicine, and Master of Surgery. The degree of M.B. is not conferred separately from Ch.B., and *vice versâ*, but M.D. and Ch.M. are separable.

Preliminary Examination.

This must be passed before beginning medical study; the subjects are: (1) English[1]; (2) Latin, Translation, and Parsing, Prose, Composition, Grammar, and Sentences: (3) Elementary Mathematics, Arithmetic,[2] Algebra, and Geometry, Euclid, Books i, ii, and iii (or their equivalents with easy deductions); (4) Greek (Translation, Sentences, and Grammar), or French, or German. [One paper shall be set in French and one in German. The papers shall be on a somewhat lower standard than the papers set in these subjects in the Arts and Science Preliminaries. The time allowed for such paper will be three hours. The papers will comprise questions in grammar, translations, a piece of English for translation, and some short sentences.]

Excellence in one or more subjects will in some measure compensate for deficiency in others. The examination is conducted by a Joint Board of the four Universities, and will be held from September 25th to October 2nd, 1897, and from March 26th to April 2nd, 1898, and these dates apply to all the Scottish universities. The standard of examination corresponds pretty nearly to the leaving certificate of the Scotch Education Department, or the lower certificate of the Oxford and Cambridge Schools. In and after October, 1897, candidates will be required to pass in all the necessary subjects at one or at not more than two examinations. The examinations of a large number of bodies are taken as equivalents of the Preliminary; these will be found on pages 357-359 of the *University Calendar* (Regulations of the Joint Board of Examiners). The fee is 10s. 6d. each time, and is to be sent with the schedule to T. Gilbert, the University Clerk, not later than September 18th, 1897, and March 1st, 1898.[3]

Registration.

The student must register within fifteen days after the commencement of medical study. There is no fee. Forms and information may be had from Mr. James Robertson, 1, George Square, Edinburgh, or at the office of the Faculty of Medicine.

Professional Education.

The course extends over five years. During the first four the student must attend Elementary Botany, Elementary Zoology, Physics, Practical Chemistry, Practical Physiology, Practical Pathology, and Medical Jurisprudence and Public Health during courses of not less than $2\frac{1}{2}$ months each; Practical Anatomy during two courses of not less than 5 months each; Chemistry, Anatomy, Physiology, Pathology, Surgery, Materia Medica and Therapeutics, Medicine, and Midwifery, and the Diseases of Women and Infants, during courses of not less than 5 months each. During the fifth, or final year, he must be engaged in clinical study for at least 9 months, and must attend a 9 months' course in Clinical Medicine and in Clinical Surgery. In all, before graduation he must have attended, for at least three years, a hospital which accommodates not fewer than 80 patients, and possesses a distinct staff of physicians and surgeons, and he must have acted as clerk in the medical, and dresser in the surgical, wards of such a hospital. He must have had approved opportunities of studying at a hospital *Post-mortem* Examinations, Fevers, and Ophthalmology. He must have had a course of Operative Surgery. Every candidate must also attend one of the two following courses: 1. A six weeks' course of clinical instruction in the Diseases of Children. 2. A course of instruction, of at least 18 meetings, in diseases of the Larynx, Ear, and Nose. He must have attended a course of 25 meetings on Practical Pharmacy, a course on Mental Diseases, been properly instructed in Vaccination by a certified public vaccinator, have attended 12 cases of labour, or had 3 months' attendance at a lying-in hospital, and have personally conducted 6 cases. Certificates for these various courses must attest regular attendance and due performance of the work of the class. The fees vary from 1 to 4 guineas for each class, and the total minimum cost in class, examination, and other fees for M.B. and Ch.B. may be set down as £150. Two of the five years' course must be taken in the University of Edinburgh. For students beginning their course in winter there may be given the following minimum curriculum for the degrees of M.B. and Ch.B., with suggested order of study and examination:

First Winter Session: Chemistry, including Practical Chemistry, Physics,[4] or Elementary Zoology, Anatomy (Lectures), Examination in

[1] And after October, 1897, the papers set in English shall no longer be of the same character as the paper on English in the Arts and Science examination; no set books shall be prescribed, nor shall a general knowledge of the life and works of the greater authors be expected of candidates, but one or two questions may be set, giving an opportunity to candidates to show a knowledge of famous literary works. The historical questions shall not be confined to any one period, but shall cover the whole of British History, and shall be set in such a way as to give an opportunity to candidates who have confined their studies to a single period to show their knowledge. A single three hours' paper shall be set, containing an Essay, a Paraphrase, two questions on History, two on Geography, four on Grammar (including correction of sentences, parsing, analysis of sentences, and derivations), two of a literary and general character. Eight answers shall be required. The Essay, the Paraphrase, one question on History, and one on Geography shall be compulsory.

[2] *Arithmetic* (including Vulgar and Decimal Fractions, Proportion, Percentage, Square Root Simple Interest); *Algebra* (including Fractions, Factors, Square Root, Equations of the First Degree, Simultaneous Equations of the First Degree, Easy Quadratics, and Problems leading to Equations).

[3] A student whose native language is not English may substitute his own language for either French or German, and may substitute any other classical language for Latin or Greek.

[4] Three months' course.

Chemistry, including Practical Chemistry, and either Physics or Elementary Zoology. First Summer Session: Elementary Zoology or Physics,[4] Elementary Botany. Examination in Elementary Botany and Elementary Zoology or Physics.

Second Winter Session: Practical Anatomy, Physiology, Surgery, Second Summer Session: Practical Physiology, Practical Materia Medica, Clinical Surgery (with Dressership), Hospital.

Third Winter Session; Materia Medica, Practical Anatomy, Clinical Surgery (with Dressership), Hospital, Examination in Anatomy, Physiology, and Materia Medica and Therapeutics (the last may be postponed to the end of the following summer). Third Summer Session: Practical Pathology, Medical Jurisprudence and Public Health, Clinical Medicine, Hospital, examination in Materia Medica and Therapeutics (if not previously taken).

Fourth Winter Session: Pathology, Medicine, Midwifery and Diseases of Women and Children, Clinical Medicine (with Clerkships), Hospital, Examination in Pathology, and Medical Jurisprudence and Public Health (the latter may be postponed to the end of the following summer). Fourth Summer Session: Examination in Medical Jurisprudence and Public Health (if not previously taken).

Fourth Summer and Fifth Winter Session: Clinical Medicine, Clinical Surgery, Mental Diseases, Ophthalmology, *Post-mortem* Examinations, Fevers, Diseases of Children, or Diseases of the Larynx, Ear, and Nose, Out-practice of a Hospital, Dispensary, etc., Midwifery Cases and Practice, Vaccination, Hospital.

Fifth Summer Session: Examination in Surgery and Clinical Surgery, Medicine and Clinical Medicine, and Midwifery.

PROFESSIONAL EXAMINATIONS.

These are four in number, and the first three may be taken in sections as indicated above.

First.—Botany, Zoology, Physics. Chemistry, taken any time after the full specified course in these subjects.

Second.—Anatomy, Physiology, Materia Medica, and Therapeutics, at the end of the fourth winter.

Third.—Pathology, Medical Jurisprudence, and Public Health, at the end of the third winter.

Final.—Surgery, Clinical Surgery, Medicine, Clinical Medicine, and Midwifery, at the end of the fifth year.

Failure in one subject does not involve failure in the other subjects of that division. Candidates must be 21 years of age before admission to the degrees of M.B. and Ch.B.

Examination Fees for M.B. and Ch.B.

	First Time.	Re-entry.
	£ s. d.	£ s. d.
Preliminary	0 10 6	0 10 6
First Professional	6 6 0	£1 1s. each time for each subject.
Any two Subjects of Ditto	3 3 0	
Second Professional	6 6 0	
Anatomy and Physiology	4 4 0	
Materia Medica, etc.	2 2 0	
Third Professional	4 4 0	
Final	6 6 0	

DEGREE OF M.D.

The candidate must be M.B. and Ch.B. of Edinburgh, must have been engaged for one year in the medical wards of a hospital, or at scientific work in a recognised research laboratory, or in the military or naval medical services, or for at least two years in general practice, and must be 24 years of age. He must write a thesis on a subject not exclusively surgical, and he will be examined in Medicine, and in some of its special departments. The fee is £10 10s., and the re-entry fee £5 5s.

DEGREE OF CH.M.

The candidate must be M.B. and Ch.B. of Edinburgh, have worked one year in the surgical wards of a hospital, or been engaged in scientific work, or in the military and naval medical services, or for at least two years in practice not confined to medicine. He must be 24, must submit a thesis on a subject not exclusively medical, will be examined on Surgical Anatomy, Operations on the Dead Body, Clinical Surgery, and some of its special departments. The fee is £10 10s.

For further details the student is referred to the *University Calendar* (published by Mr. Thin, South Bridge, Edinburgh, price 3s., post free 3s. 6d.), or the medical *Programme*, price 2d., also published by Mr. Thin, or to the Dean of the Faculty of Medicine, University of Edinburgh.]

UNIVERSITY OF GLASGOW.

The regulations are essentially the same as those given above for Edinburgh.

PRELIMINARY EXAMINATION.

The dates of the next two Examinations are the same as those given under Edinburgh. Fee, 10s. 6d. each time. Names to be given in and fee paid by September 9th, 1897, and March 7th, 1898, to the Assistant Clerk, Matriculation Office. The extent of the examination will be found under Edinburgh.

REGISTRATION.

Printed form of application may be had from the Assistant Clerk at the Matriculation Office, and this must be transmitted to Mr. James Robertson, Scottish Branch Registrar, 11, George Square, Edinburgh.

PROFESSIONAL EDUCATION.

The minimum cost is about £126, and the course is the same as at Edinburgh.

FEES, ETC.

The total examination fees for M.B., Ch.B., are the same as for Edinburgh, but are differently distributed. The fee for the First and Second is £6 6s., and for the Third and Fourth £5 5s. each. In the event of a candidate being rejected in any of these he may be admitted once to re-examination without payment of further fee, but for a second and for each subsequent re-examination a fee of £2 2s. is charged.

For further details the student is referred to the *Glasgow University Calendar* for 1897-98, published by James Maclehose and Sons, 61, St. Vincent Street, Glasgow, price 3s., post free 3s. 6d. (see also p. 536).

Queen Margaret College, which provides a course of instruction for women, has now been affiliated with the University. For course of study, etc., see p. 536.

UNIVERSITY OF ABERDEEN.

The new regulations came into force at the beginning of the winter session of 1892-93. They are essentially the same as for Edinburgh.

PRELIMINARY EXAMINATION.

The next Preliminary Examinations will be held on precisely the same dates as are given under Edinburgh, and the subjects are the same. Names must be intimated, and the fee paid ten days previously, to the Secretary of the Medical Faculty, Marischal College.

PROFESSIONAL EDUCATION.

The University Court has ordained that the candidate before admission to his Final Examination must produce certificates to the effect that he has acted for a period equal to a winter session both as a Clinical Clerk and Surgical Dresser, that he has attended not fewer than twenty-five necropsies, and taken part in some; that he has attended for not less than three months a fever hospital of at least forty patients, and has had a three months' course on Disease in Children, and the same in Ophthalmology. The total minimum cost for M.B. and Ch.B. is about £115.

The fees for Professional Examinations are: Preliminary, 10s. 6d.; First, Second, and Third, £5 5s. each; Final, £7 7s. The fees for second and subsequent examination have apparently not yet been adjusted.

Further information will be given by the Secretary of the Medical Faculty, or will be got in the *University Calendar* for 1897-98, published by A. King and Co., Aberdeen; price 2s. 6d., or post free 2s. 11d.

UNIVERSITY OF ST. ANDREWS.

The new regulations came into force on April 19th, 1897.

PRELIMINARY EXAMINATION.

The dates of the next two examinations are the same as those given under Edinburgh. Fee 10s. 6d. each time. Examination schedules to be returned, filled up, and fees paid by September 20th, 1897, and March 21st, 1898, to the Dean of the Faculty of Arts.

Registration.

Printed forms may be obtained from the Dean, and must be sent to the Scottish Branch Registrar.

Professional Education.

Only two complete *anni medici* can as yet be taken at St. Andrews. Ere long provision may be made for more. Meanwhile the remaining three *anni medici* must be taken at some other medical school.

Scholarships and Bursaries.

The following Scholarships and Bursaries for male and female medical and science students are available at St. Andrews:

One Scholarship of the annual value of £150, tenable for two years. A second Scholarship of the annual value of £100, tenable for one year, and occasionally for two years. (The second Scholarship can be taken by students studying Physiology, Zoology, and Botany in connection with the Bachelor of Science degree).

Two Bursaries for male medical students, of the annual value of £60 each, for two years.

Three Bursaries for male medical students, of the annual value of £20 each, for three years.

Twenty Taylour Thomson Bursaries for female medical students, of the annual value of from £15 to £30 each, tenable for one or three years, namely: Three Taylour Thomson Bursaries, of the annual value of £30, each tenable for two years; one ditto, annual value of £20 each, tenable for two years; eight ditto, annual value £15 each, tenable for two years; two ditto, annual value £30 each, tenable for one year; one ditto, annual value £20, tenable for one year; five ditto, annual value £15 each, tenable for one year.

The Taylour Thomson Bursaries are Presentation Bursaries, and are awarded to female medical students who pass their Preliminary Medical Examination at St. Andrews.

The Bursaries are allocated in the order of merit, the most valuable ones being given to those students who obtain the highest marks in the Preliminary Medical Examination, and who are prepared to take two *anni medici* at the United College, St. Andrews.

Fees, etc.

The total fees for M.B. and Ch.B. are the same as for Edinburgh. The distribution of amount among the four professional examinations does not appear yet to have been fixed by the Court.

Degrees of M.D. and Ch.M.

The regulations and fees for these will be found under Edinburgh.

Further information will be given by the Dean of the Faculty of Medicine, or will be found in the *University Calendar* for 1897-98, published by William Blackwood and Sons, 45, George Street, Edinburgh, price 2s. 6d., or post free, 2s. 11d.

Regulations for Degree of M.D. for Registered Medical Practitioners.

The Ordinance of the Scottish Universities Commissioners repealing these regulations has now come into force.

THE SCOTTISH COLLEGES.

The three medical corporate Colleges in Scotland—the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons in Glasgow—now co-operate to hold a series of examinations, after passing which the student is presented with the diplomas of all three Colleges. Each College grants a single qualification only to persons who already possess the other and opposite qualification (see below).

CONJOINT EXAMINATION.

A candidate who passes this series of examinations is granted the diploma of each of the co-operating bodies, and is entitled to register the three diplomas under the Medical Acts, and to write after his name—L.R.C.P.Edin., L.R.C.S Edin., and L.F.P.S.Glasg.—qualifications which are recognised by the army, navy, and other public services.

Preliminary Examination.

The Educational Institute of Scotland conducts special preliminary examinations in Edinburgh and Glasgow for the Colleges. Full particulars may be obtained from Thomas Morrison, LL.D., Free Church Training College, Glasgow, Secretary to the Examining Board of the Institute; or to Alex. Mackay, LL.D., 40, Princes Street, Edinburgh, Treasurer of the Institute. Certain other preliminary examinations, of which a list may be obtained on application, are also accepted. The entire examination must be passed at one period.

Professional Curriculum.

The course of study after registration as a medical student must occupy not less than forty-five months, which period shall include not less than four winter sessions' attendance.[1] Professional studies commenced before registration will not be recognised, except in the case of Physics, Elementary Biology, Chemistry, Practical Chemistry, and Practical Pharmacy; but graduates in arts or science of any recognised University, who have spent a year in the study of Physics, Elementary Biology, and Chemistry, and have passed examinations in these subjects for their degrees, are held to have completed the first year of medical study. The fifth year must be devoted to practical clinical work, and six months of this year may be spent as a pupil of a registered practitioner.

The following order of study is recommended as conforming generally to the sequence of examinations, but is not imperative:

First Summer: Physics, Elementary Biology. First Winter: Chemistry, Practical Chemistry, Junior Anatomy, Dissections. Second Summer: Histology, Dissections. Second Winter: Anatomy, Dissections, Physiology. Third Summer: Pathology, Materia Medica, and Hospital Practice. Third Winter: Surgery, Hospital Practice, with Clinical Surgery. Fourth Summer: Midwifery and Gynæcology, Hospital Practice, with Clinical Surgery. Fourth Winter: Medicine, Hospital Practice, with Clinical Medicine. Fifth Summer: Clinical Medicine, Medical Jurisprudence and Hygiene, Insanity, Practical Midwifery, Eye Diseases. Fifth Winter: Hospital Practice, Dispensary, Fevers, Vaccination.

Students are also recommended to study in the fifth year the following subjects: Operative Surgery, Diseases of Children, Ear and Throat, Skin.

Professional Examination.

During the five years of the professional curriculum the student has to pass four examinations. Each examination is held six times in each year, four times in Edinburgh, and twice at Glasgow, and a candidate may present himself at either place. An interval of not less than three months must elapse between the passing of any two successive examinations, and an interval of two academic years must intervene between the passing of the Second and of the Final Examination. Candidates may enter for all the subjects of an examination at one period, or may enter for any division of subjects. If the latter a higher percentage is exacted. Schedules showing the course of study followed must be submitted before the examinations to one or other of the Inspectors of Certificates: in Edinburgh, Mr. James Robertson, Solicitor, 1, George Square; in Glasgow, Mr. Alexander Duncan, B.A., Faculty Hall, 242, St. Vincent Street, to whom all inquiries as to professional examinations should be addressed.

Table showing the Fees for the Conjoint Examinations in Scotland.

The Figures signify Pounds Sterling.

	Whole Examination.	Re-entry for all Divisions.	Re-entry in one or two Divisions.	Entry for one Division.	Re-entry for one Division.
Preliminary	1	½	—	—	—
Professional First ...	5	3	2½	2½	2
,, Second ...	5	3	2	—	—
,, Third ...	5	3	2	—	—
,, Final ...	15	5	—	6	2

The total minimum cost for Lectures and Examination Fees for the Conjoint Examinations is about £102.

[1] This regulation does not apply to students who commenced medical study before January 1st, 1892.

First Examination.—This examination may be passed at any time after registration as a medical student, by any candidate who has attended the obligatory courses. The examination consists of three parts; (1) Physics, (2) Chemistry, (3) Elementary Biology, and each division may be taken separately.

Second Examination.—This examination may be passed at any time after the end of the second year by a student who has attended courses of Anatomy, Physiology, and Dissection for six months each. The subjects of the examination are: (1) Anatomy, and (2) Physiology, including Histology. A candidate may pass in one subject while failing in the other.

Third Examination.—The student must have attended a course of Pathology and of Materia Medica before presenting himself for this examination, the subjects of which are: (1) Pathology, (2) Materia Medica and Pharmacy. It may be taken in three divisions, or at one time, or at any time after the end of the third year; but the subjects must be entered for together.

Final Examination.—The student must be 21, and may not pass this examination till the end of the fifth year. The subjects are: (1) Medicine, including Therapeutics, Medical Anatomy, and Clinical Medicine; (2) Surgery, including Surgical Anatomy, Clinical Surgery, and Diseases and Injuries of the Eye; (3) Midwifery and Diseases of Women and of Newborn Children; (4) Medical Jurisprudence and Hygiene. Candidates may also be examined on Diseases of Children, Diseases of the Ear and Throat, Insanity, Vaccination, etc. The examination may be taken in divisions at different times or all at once.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

Licence.—The Licence is only granted as a separate qualification (in Medicine) to persons (of either sex) who already possess a recognised British, Irish, Colonial, or Indian qualification in Surgery. A candidate, who must not have been rejected within three months by any Licensing Board, is subjected to written and oral examination in Medicine, Clinical Medicine, Materia Medica, Midwifery, and Medical Jurisprudence. The fee for the examination is £15 15s.; it is held on the first Wednesday and succeeding days of each month except September and October. A special examination can be obtained on showing cause, and paying £5 5s. extra. Eight days' notice must be given by all candidates to the Secretary of the College, from whom further particulars can be obtained.

Membership.—The candidate, who must be a Licentiate of a College of Physicians, or graduate of a British or Irish University, and 24 years of age, is examined in (1) Medicine and Therapeutics, and in (2) one of the following subjects chosen by him: (*a*) One or more departments of Medicine specially professed; (*b*) Psychological Medicine; (*c*) General Pathology and Morbid Anatomy; (*d*) Medical Jurisprudence; (*e*) Public Health; (*f*) Midwifery; (*g*) Diseases of Women. Further particulars as to other formalities can be obtained from the Secretary. A candidate 40 years of age and ten years in practice *may be excused* any part of or all the examination by the Council. The fee paid by a Licentiate of the College is £21 if licensed prior to August 1st, 1876; if subsequently, £15 15s. Fee for others, £31 10s. The examination is held quarterly (October, January, April, and July), and application must be made a month previous to the date of examination.

Fellow.—A Member, aged 25, and of at least two years' standing, may be elected a Fellow; he pays £56 10s. (including stamp duty). Women are not yet admitted to the Membership or Fellowship.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

Licence.—The Licence is only granted as a separate qualification (in Surgery) to persons (of either sex) who already possess a recognised British, Irish, Colonial, or Indian qualification in Medicine. A candidate, who must not have been rejected by any other Licensing Board in Surgery within three months, is examined on one day by written papers, and on a subsequent day orally, on specimens in the wards of a surgical hospital, and may be required to operate on the dead body. The fee is £15 15s., of which £10 10s. will be returned to unsuccessful candidates, and is payable to Mr. James Robertson, Clerk to the College, 1, George Square, Edinburgh, from whom further particulars may be obtained, and to whom eight days' notice must be given. A special examination can be obtained on showing cause. The fee is £20, of which £10 will be returned to candidates remitted on examination.

Fellowship.—A candidate must have the diploma of the Royal College of Surgeons of Edinburgh, England, or Ireland, or of the Faculty of Physicians and Surgeons in Glasgow, or the surgical degrees of the Universities of great Britain and Ireland, must be 25 years of age, and must have been engaged in practice for two subsequent years at least. Candidates who are Licentiates of the Edinburgh Colleges are examined in Surgery, Surgical Anatomy, including Clinical and Operative Surgery, and one optional subject, and in other subjects not adequately included in the examination passed elsewhere. The optional subjects embrace: (*a*) Surgery in any of its Ophthalmic, Aural, Laryngeal, Cerebro-spinal, Dental, Abdominal, Gynæcological, Orthopædic, Venereal, or Genito-Urinary branches; (*b*) Advanced Anatomy; (*c*) Advanced Physiology; (*d*) Surgical Pathology and Morbid Anatomy; (*e*) Midwifery; (*f*) Medical Jurisprudence. The Examinations are written, oral, and practical. Three weeks' notice must be given to Mr. James Robertson as above, from whom full particulars as to certificates required (among others two from Fellows of the College, of whom one must reside in Edinburgh) may be obtained. The fee is £30 for those who hold the diploma of Licentiate of the College, and £45 to others (no stamp duty is payable on the diploma). Registered practitioners, aged not less than 40, and who have been in practice for not less than twenty years, and who have distinguished themselves in their profession, may under special circumstances be elected without examination. Women are not admitted to the Fellowship.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

Licence.—The Licence is only granted as a separate qualification to candidates who already possess a recognised British, Irish, Colonial, or Indian qualification in Medicine. Candidates are examined in Surgery (including Clinical Surgery) and Surgical Anatomy. The fee is £15 15s. The examination is held quarterly. Further particulars can be obtained on application to Mr. Alexander Duncan, B.A., 242, St. Vincent Street, Glasgow.

Fellowship.—Every candidate must be qualified for two years, and aged 24. The ordinary mode of admission to the Fellowship shall be by examination and subsequent election. The subjects of examination shall be either (*a*) Medicine (including Clinical Medicine, Medical Pathology, and Therapeutics); or (*b*) Surgery (including Clinical Surgery, Operative Surgery, Surgical Anatomy, and Surgical Pathology); and one of the following at the option of the candidate: (1) Anatomy, (2) Physiology, (3) Pathology, (4) Midwifery, (5) Diseases of Women, (6) Medical Jurisprudence, Surgery, in one of its following branches, (7) Ophthalmic Surgery, (8) Aural, Laryngeal, and Nasal Surgery, (9) Dental Surgery, Medicine in one of its following branches, (10) State Medicine, (11) Psychological Medicine, (12) Dermatology. Four examinations are held annually (January, April, July, October). Fourteen days' notice must be given. The fee is £30, unless he desires to qualify to hold office, when it is £50. In the case of a Licentiate of the Faculty, £25 and £15 respectively.

Four Fellows may be elected in each year "in virtue of distinction," and without examination. They must be not less than 40 years of age, and ten years qualified.

THE IRISH UNIVERSITIES.

UNIVERSITY OF DUBLIN.

THE University of Dublin grants two degrees in Medicine (M.B. and M.D.), two in Surgery (B.Ch. and M.Ch.), and two in Midwifery (B.A.O. and M.A.O.). A candidate for any one of these degrees must be a graduate in Arts, and have passed the Previous Medical Examination.

The following schools, in addition to the School of Physic, are recognised by the Board of Trinity College—the Schools of the Royal College of Surgeons in Ireland, the Schools of the Catholic University.

Previous Medical Examination.

This examination is divided into three parts—(1) Physics and Chemistry, (2) Botany and Zoology, (3) Anatomy, Practical Histology and Physiology. The three parts may be taken together or passed at separate examinations. The examinations are held in November, January, May, and June.

Degrees in Medicine.

Regulations for Students who Matriculated since 1891.—The following conditions must be fulfilled in order to qualify for the degrees in Midwifery (B.A.O.), Surgery (B.Ch.), and Medicine (M.B.): The student must be of B.A. standing, and his name must be for at least five (academic) years on the books of the Medical School, reckoned from the date of his matriculation. He may carry on his Arts course concurrently with his medical course, and he need not have taken his B.A. before presenting himself for his Final Medical Examination, but he cannot have the Medical degrees conferred without the Arts degree. The following courses must be attended:—Lectures: Winter Courses: Systematic Anatomy; Practical Anatomy (with Dissections), first year; Practical Anatomy (with Dissections), second year; Applied Anatomy (with Dissections), Chemistry, Surgery, Physiology (two courses), Practice of Medicine, Midwifery, Pathology. Summer Courses: Practical Chemistry, Practical Histology, Botany, Zoology, Materia Medica and Therapeutics, Medical Jurisprudence and Hygiene, Operative Surgery, Practical Pathology. Term Courses: Physics (Michaelmas, Hilary, and Trinity Terms). The student must attend 3 courses of nine months' attendance each on the Clinical Lectures of Sir Patrick Dun's or other metropolitan hospital recognised by the Board of Trinity College. One year at a recognised London or Edinburgh hospital or two years at a recognised county infirmary or recognised Colonial hospital previous to the commencement of their metropolitan medical studies may be allowed, on special application to the Board of Trinity College, to count as equivalent to one year spent in a recognised metropolitan hospital. The following examinations must passed: The Previous Medical or Half M.B. Examination and the Final Examination. The Final Examination is arranged as follows:—First Part—Section A: Applied Anatomy (Medical and Surgical), paper; Applied Physiology, *vivâ voce*; Materia Medica and Therapeutics, paper and *vivâ voce*. Section B: Medical Jurisprudence and Hygiene, paper and *vivâ voce*; Medicine, paper and *vivâ voce*; Surgery, paper and *vivâ voce*; Pathology, paper and *vivâ voce*. Section A may be passed in any part of the fourth year, provided the corresponding curriculum shall have been completed, and must be passed before B can be entered for; Section B not before Trinity Term of the fourth year. Examinations for both Sections are held in November, January or February, and May or June. Liceat fee £5 to be paid on entering for A. Second Part—Section C: Midwifery, paper and *vivâ voce*; Gynæcology, paper and *vivâ voce*; Obstetrical Anatomy, paper. Section D: Clinical Medicine; Mental Disease, paper. Section E: Clinical Surgery, Operations, Clinical Ophthalmology. Both sections of the First Part must be passed at least one term before any section of the Second Part can be entered for. One section of the Second Part must be passed in Trinity Term of the fifth year or subsequently; the other two in any part of the fifth year if the corresponding curriculum be completed. Subject to this provision the sections of the Second Part may be taken in any order. Liceat fee £5 to be paid when entering for whichever section the candidate takes first.

Degree of M.D.—The candidate must have taken, or have been qualified to take, the degree of M.B. three years previously, and must read a thesis before the Regius Professor of Physic.

Degree of M.Ch.—The candidate must be a B.Ch. of not less than three years' standing, and have been engaged in practice for two years. Graduates of ten years' standing may be given a special examination.

Degree of M.A.O.—The candidate must have passed the M.B. and B.Ch. examinations. The examination is specially directed to Obstetrics and Practical Gynæcology.

University Diplomas.

The University grants diplomas in Medicine, in Surgery, and in Obstetric Medicine. A candidate must have completed two years in Arts and five years in medical studies.

Diploma in Medicine.—The medical course and examination are the same as for the degree of M.B., excepting that attendance is not required on lectures on Botany and Zoology, and that the candidate is not examined in these subjects.[1]

Diplomas in Surgery and in Obstetric Science.—The examination and courses necessary for those diplomas are the same as for the degrees of B.Ch. and B.A.O. respectively.

Fees.

Matriculation, 5s.; M.B., B.Ch., B.A.O., £17; M.D., £13; M.Ch., £11; M.A.O., £5; L.M., L.Ch., L.A.O., £11.

A schedule containing recommendations respecting the five years' medical curriculum can be obtained on application to the Registrar of the School of Physic in the University of Dublin.

ROYAL UNIVERSITY OF IRELAND.

The University grants two Degrees in Medicine, M.B. and M.D.; two in Surgery, B.Ch. and M.Ch.; and two in Obstetrics, B.A.O. and M.A.O. The course of five years for these degrees is reckoned from the completion of one academical year from the date of matriculation. Graduates in Arts or Science who have spent a year in the study of Physics, Chemistry, and Biology, and passed an examination in those subjects, are held to have completed the first of the five years.

Medical Curriculum.

The order in which the subjects of the medical curriculum are required to be studied is minutely stated in the *Calendar;* the general character of the curriculum is sufficiently indicated by the examinations held at the termination of each year.

Matriculation and First University Examination.

Candidates for any degree must pass the Matriculation Examination and First University Examination.

Matriculation.—This examination is held for pass and honours in June, and for pass only in September. Notice of intention to compete must be sent with the fee to the Secretaries, Royal University of Ireland, Dublin, on a printed form, not later than May 15th or August 15th respectively. The examination consists of the following parts:—I, Latin; II, any one of the following languages: Greek, French, German, Italian, Spanish, Celtic, Sanskrit, Hebrew, or Arabic; III, English Language; IV, Elementary Mathematics; V, Natural Philosophy. A schedule of the subjects is contained in the *University Calendar.*[2]

First University Examination.—A candidate who has passed the Matriculation Examination in the autumn of one year may be admitted to the First University Examination in the summer of the next year, otherwise an academical year must elapse. The subjects are: I, Latin; II, any one of the following languages: Greek, French, German, Italian, Spanish, Celtic, Sanskrit, Hebrew, or Arabic; III, English Language and Literature; IV, Mathematics; V, Natural Philosophy. Schedules are published in the *Calendar.*

Degrees in Medicine, Surgery, and Obstetrics.

A candidate must pass four examinations subsequently to the First University Examination.

First Examination in Medicine.—Candidates must have matriculated two years previously, and must have completed the first year of the medical curriculum. The subjects are Natural Philosophy, Systematic Chemistry, Botany, and Zoology. Schedules are contained in the *Calendar.* The examination is written, oral, and practical.

Second Examination in Medicine.—Candidates must have

[1] A Diplomate in Medicine, on completing his course in Arts and proceeding to the degree of B.A., may become a Bachelor in Medicine by attending the lectures on Botany and Zoology, passing the Previous Medical Examination in those subjects, and paying the degree fees.

[2] Dublin: Alex. Thom and Co. London: Longmans, Green, and Co. Price, 2s. 6d.; by post, 3s. Extracts can also be obtained, price 4d.

passed the First Examination one year previously, and are examined in Anatomy, Physiology, and Practical Chemistry. Schedules will be found in the *Calendar*.

Third Examination in Medicine.—Candidates must have passed the Second Examination one year previously. They are examined in Anatomy, Physiology, Materia Medica, Pharmacology, and Therapeutics.

Examination for the Degrees of M.B., B.Ch., B.A.O.—Candidates must have passed the Third Examination. The examination consists of three parts—(*a*) Medicine, theoretical and clinical, including Therapeutics, Mental Diseases, Medical Jurisprudence, Sanitary Science, and Medical Pathology. (*b*) Surgery, theoretical, clinical, and operative, including the use of instruments and appliances; Surgical Anatomy, Ophthalmology and Otology, Surgical Pathology. (*c*) Midwifery and Diseases of Women and Children. All candidates must enter for and go through the entire examination, but a candidate may be adjudged to have passed in any of the foregoing parts in which he satisfies the examiners. Successful candidates receive the triple degree.

Honours.—There are special examinations for honours held in connection with each of the last four examinations.

M.D. Degree.

A candidate must have obtained the degrees of M.B., B.Ch., B.A.O. at least three years previously, and must have spent at least two of these in practice. The candidate is examined in writing and orally in Medicine and Pathology and at the bedside.

M.Ch. Degree.

The candidate must have obtained the degrees of M.B., B.Ch., B.A.O. at least three years previously, two of which must have been spent in practice. The candidate is examined in Surgery, including Ophthalmology and Otology, and in Pathology at the bedside, and is required to write detailed reports on cases.

M.A.O. Degree.

The candidate must have obtained the degree of M.B., B.Ch., B.A.O. at least three years previously, have been engaged in practice for two years, have had personal charge of at least twenty cases of labour, and have attended clinical Gynæcology for three months. The candidate is examined in writing, orally, and clinically, in Midwifery, Diseases of Women and Children, and Pathology.

Exhibitions and Scholarships.

Two first class and two second class exhibitions are given after each of the four examinations in Medicine. They are of the value at the first of £20 and £10; at the second of £25 and £15; at the third of £30 and £20; and at the degree examination of £40 and £25 respectively. A travelling medical scholarship, value £100, is awarded in October, after a special examination, to a candidate who has passed the Medical Degrees Examination in that year or the preceding one. Two Dr. Henry Hutchinson Stewart Medical Scholarships are awarded annually, the one of the value of £10, tenable for three years, in the subjects of the Second Examination in Medicine; the other of the annual value of £50, tenable for three years, for Proficiency in the Knowledge of Mental Diseases. One Medical Studentship, tenable for two consecutive years, of the annual value of £200, is offered for competition in October.

Fees.

Matriculation, £1; First University Examination, £1; First, Second, and Third Examinations in Medicine, for each £1. The Examination for Degrees, £2; for admission to the Degrees, £10; for the Degrees of M.D., M.Ch., M.A.O., each, £5.

THE IRISH COLLEGES.

CONJOINT EXAMINING BOARD OF THE ROYAL COLLEGE OF PHYSICIANS AND THE ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE diplomas of these two bodies are now granted upon conditions and after examinations settled between the Colleges.

Preliminary Examination.—Examinations in general education, which fulfil the requirements of the General Medical Council, are accepted by the Colleges (see pages 512-513). The Preliminary Examination of the College is held twice a year, in spring and autumn, and seven clear days' notice must be given to Mr. Greenwood Pim, Secretary of the Committee of Management, Royal College of Physicians, 6, Kildare Street, Dublin. The Preliminary Examination for the commencement of medical study of the Royal Colleges of Physicians and Surgeons for Sessions 1897-98 will be held on Tuesday and Wednesday, September 28th and 29th, 1897. Prospectus can be had on application.

Professional Examinations.

There are four Professional Examinations:

The *First Professional Examination* may be passed not earlier than the end of the first winter session. It consists of four Parts: I, Chemistry and Physics; II, Practical Pharmacy; III, Biology; IV, Anatomy (Bones and Joints). The four Parts may be taken together or separately.

The *Second Professional Examination* may be passed not sooner than the end of the second winter session. It consists of four Parts: I, Anatomy; II, Histology; III, Physiology; IV, Materia Medica; the two last named subjects may be postponed at the option of the candidate, and if he fail in either of the other two subjects, he may, at the discretion of the examiners, receive credit for the subject in which he obtains passing marks.

The *Third Professional Examination* may be passed not sooner than the end of the fourth winter session. It consists of five parts: I, Medicine; II, Surgery; III, Pathology; IV, Therapeutics; V, Public Health and Forensic Medicine. A candidate must present himself in the first instance in I, II, III, and IV at least, but if he pass at either I or II he will obtain credit therefor.

The *Final Professional Examination* may be passed not sooner than the end of the fifth year of medical study. A candidate may present himself in all the subjects at one time, or in one or more in the following groups: (*a*) Medicine, including Mental Diseases, Medical Anatomy, and Clinical Medicine; (*b*) Surgery, including Ophthalmic and Aural Surgery, Clinical Surgery, Operations, and Surgical Anatomy; (*c*) Midwifery, including Diseases of Women and Newborn Children, and the Theory and Practice of Vaccination.

Curriculum.

The curriculum as above stated extends over five years, and its general arrangement can be gathered from the subjects of the examination which are arranged to test the student's progress. Full details may be obtained on application to the Secretary as above.

Fees.

Preliminary Examination, £2 2s., except in the case of matriculated pupils of the Royal College of Surgeons, who pay £1 1s.; re-examination, £1 1s. First Professional Examination, £15 15s.; Second, £10 10s.; Third, £9 9s.; Final, £6 6s.; Re-examination fee, £1 1s. for each subject, with a maximum fee of £3 3s., except in Medicine and Surgery at the Final Examination, for each of which the Re-examination fee is £2 2s.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

This College continues to issue its Licence in Medicine and the Licence in Midwifery to registered medical practitioners whose names appear on the *Medical Register* of the United Kingdom.

Licence in Medicine.—The subjects of examination are: Practice of Medicine, Clinical Medicine, Pathology, Medical Jurisprudence, Midwifery, Hygiene, and Therapeutics.

Licence in Midwifery.—The candidate must produce certificates of having attended a course of lectures on Midwifery, and of having attended Practical Midwifery and Diseases of Women, for six months, at a lying-in hospital or maternity recognised by the College; or, where such hospital attendance cannot have been obtained during any period of the candidate's course of study, of having been engaged in Practical Midwifery under the supervision of a registered practitioner holding a public medical appointment, the certificate in either case to state that no fewer than twenty labour cases have been actually attended. A registered medical prac-

titioner of five years' standing is exempted from the examination by printed questions.

Fees.—Fee for the Licence to practise Medicine, £15 15s., except in the case of Graduates in Arts and Medicine of any University in the United Kingdom, when the fee shall be £5 5s. only. Fee for examination for the Licences in Medicine and Midwifery, if obtained within the interval of a month, £16 16s.—to be lodged in one sum.[1] Fee for special examination for the Licence to practise medicine, £21. Fee for examination for the Licence to practise Midwifery, £3 3s. Fee for special examination for the Licence to practise Midwifery, £5 5s. The admission fee, less the sum paid to the examiners, will be returned to rejected candidates. The examinations for these licences are held in the week following the first Friday in February, May, and November. Notice must be given, and the schedule transmitted at least four days before the first Friday in each of the above months to the Registrar of the Royal College of Physicians of Ireland, Kildare Street, Dublin, from whom further information can be obtained. A special examination can be obtained under certain conditions which can be ascertained on application to the Registrar.

Membership.—A candidate for the Membership of the College must be 25 years of age and a Licentiate of the College of three years' standing, or if a graduate of Arts of a university in the United Kingdom, a Licentiate of one year's standing, or if a practitioner of seven years' standing, then he is admitted to the Membership after one year. He must not be engaged in trade, dispense medicine, or practise in partnership. He must also have held during at least six months the office of resident physician or resident medical pupil, or of having acted during the same period as medical clinical clerk in a recognised hospital, or of having been in medical charge for at least twelve months of a public institution for the treatment of the sick. Every candidate must pass an examination in: 1. Principles of Medicine, including Pathology, Morbid Anatomy, and Medical Chemistry; 2. Practice of Medicine, including Principles of Public Health; 3. Clinical Medicine. The fee for the examination is £21 (to graduates in Arts 15 guineas), which must be lodged in the Royal Bank, Dublin, before the applications and certificates are sent in. The examinations are held in January, April, July, and October.[2]

Officers—President: Sir George F. Duffey, M.D. *Vice-President:* Wallace Beatty, M.D. *Treasurer:* Lombe Atthill, M.D. *Registrar:* James Craig, M.D. *Librarian:* R. G. J. Phelps.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

Fellowship.

A candidate for the Fellowship shall make application to the President and Council to be admitted to examination, and, if the Council decide to entertain the application, it shall lie on the table for at least a fortnight for consideration before it is put to the Council for approval. All the required evidences of study or qualification, fees, and testimonials as to character must be submitted previously to its being so considered, and the candidate shall then, if approved by the Council, be admitted to the next Sessional Examination or to a Special Examination if granted by Council, at such date as the President may fix.

Periods of Examination.—Sessional Fellowship Examinations commence, as far as arrangements permit, on the third Mondays in February, May, and November. Special Examinations may be granted at other times by the Council if they see fit, a sufficient cause being shown.

Grades of Examination.—Candidates for the Final Fellowship Examination are divided into two grades: (1) Licentiates or Graduates in Surgery of less than ten years' standing. (2) Licentiates or Graduates in Surgery of more than ten years' standing. Candidates, not either Licentiates or Graduates in Surgery, are permitted to present themselves for the Primary Examination under Grade 1.

Grade 1.—Candidates are required to pass two Examinations—Primary and Final. But candidates may present themselves for the Final Examination immediately after passing the Primary part, provided they have complied with the necessary regulations. The subjects for the Primary Examination are: (*a*) Anatomy, including Dissections, (*b*) Physiology and Histology; those for the Final are: (*a*) Surgery, including Clinical and Operative Surgery, (*b*) Surgical Pathology.

Grade 2.—The subjects of examination are: (*a*) Surgical Anatomy, (*b*) Surgery, including Clinical and Operative Surgery, (*c*) Surgical Pathology.

Fees—Grade 1: For Licentiates of the College—for Primary Examination, 15 guineas; for Final Examination, 10 guineas. For Licentiates in Surgery of other licensing bodies—for Primary Examination, 25 guineas; for Final Examination, 15 guineas. *Grade 2*: Licentiates of the College, 25 guineas; Licentiates in Surgery of other licensing bodies, 40 guineas. Extra fee for Special Examination, 10 guineas. In case of rejection, £10 10s. in addition to the Special Fee, if such has been paid, is retained by the College, and is not allowed in the fees of re-examination. In the case of Fellowship candidates who fail to present themselves for the examination at the time fixed, without having previously given at least a week's notice of their withdrawal, £5 5s. of the fees is retained by the College.

Regulations and entrance forms can be obtained from the Registrar at the College.

APOTHECARIES' HALL OF IRELAND.

The Apothecaries' Hall of Ireland is now entitled to grant a full registrable diploma entitling the holder to practise Medicine, Surgery, and Midwifery; also it grants the power to practise as an Apothecary through Ireland along with above, not granted separate except to persons holding other qualifications registered. The Hall also grants its licence to qualified practitioners, whose names appear on the *Medical Register*, who wish to add this to other qualifications who have a certificate in Practical Pharmacy. The fee is £10 10s. on examination.

The Hall has ceased to be conjoined with the Royal College of Surgeons of Ireland, but candidates who entered their names previous to the cessation of that examination are allowed to enter for examination under that system on applying to Dr. Woods, F.R.C.S., Secretary.

Certificate of Assistant.—The Hall grants a certificate of Assistant after examination to persons of not less than 16 years of age who have spent two years at Practical Pharmacy under the superintendence of a duly registered Apothecary or Pharmaceutical Chemist. The examination, which is held monthly (except in August), embraces the subject of Pharmacy, practical and theoretical, Materia Medica, the *British Pharmacopœia*, and the correct translation and compounding of Medical Prescriptions. Fee for examination and registration, £1 7s.

Further information can be obtained from Mr. R. Montgomery, M.R.C.S., Secretary.

NOTES ON MEDICAL SCHOOLS AND COLLEGES.

LONDON.

The special attention of all students intending to enter at a medical school in London should be directed to the fact that the degrees of Doctor and Bachelor of Medicine are conferred by Universities only. The holders of diplomas from Corporations (the Colleges of Physicians and Surgeons, or the Apothecaries' Hall) have no legal right to use the title of "Doctor." Those students who desire the degree of Doctor, and intend to obtain their medical education in London, are warned that they should matriculate at the University of London before entering a medical school. Failure to understand this point is a common source of delay, disappointment, and avoidable expense. Further remarks on this subject will be found in the article on the Training for the Medical Profession printed on page 509.

[1] Any candidate who has been rejected at the examination for the Licence in Medicine loses this privilege, and shall be required to pay the full fee of £3 3s. for the Licence in Midwifery.

[2] The admission fee, less the sum paid to the examiners, will be returned to the rejected candidates.

Particulars are given below of the twelve medical schools in London which provide for the full curriculum. The schools are connected in each case with a large general hospital, where clinical instruction is given in Medicine and Surgery, and within which students can obtain the necessary appointments as medical clinical clerks and surgical dressers. All the schools have arrangements under which the student is enabled to attend the requisite number of cases of midwifery.

The arrangements at the various schools are everywhere the same in principle, and are in conformity with the requirements of the General Medical Council and the qualifying bodies. The laboratories for chemistry, physiology, and histology, and pathology have at most of the schools been greatly improved during recent years, and the facilities for instruction at the smaller, as well as at the larger, schools are now in most respects very complete, and are yearly extended and improved.

ST. BARTHOLOMEW'S HOSPITAL MEDICAL SCHOOL.

The Hospital contains 750 beds.

Appointments.—Clinical Clerks to the Physicians and to the Physician-Accoucheur, and Dressers to the Surgeons and in the Casualty Department are chosen from the most diligent students. Clerks and Dressers are also selected to attend in the out-patient rooms, in the special departments (Ophthalmic, Orthopædic, Gynæcological, Laryngological, Aural, Dermatological, and Electrical), and in the *post-mortem* room. Ten House-Physicians and ten House-Surgeons are appointed annually. During their first six months of office they act as "Junior" House-Physicians and House-Surgeons, and receive a salary of £25 a year. During their second six months they become "Senior" House-Physicians and House-Surgeons, and are provided with rooms by the hospital authorities, and receive a salary of £80 a year. A resident Midwifery Assistant and an Ophthalmic House-Surgeon are appointed every six months, and are provided with rooms and receive a salary of £80 a year. Two Assistant Anæsthetists are appointed annually, and receive salaries of £120 and £100 a year respectively. An Extern Midwifery Assistant is appointed every three months, and receives a salary of £80 a year. Two Assistant Electricians are elected every six months.

There is a residential college within the precincts of the Hospital.

A recreation ground has recently been purchased for the use of members of the Students' Amalgamated Clubs, which all students are expected to join.

A special class is held for students preparing for the Preliminary Scientific Examination, and special laboratory instruction for the D.P.H. of Cambridge, Oxford, Durham, and London. Tutorial Classes in all subjects are held in preparation for all University and other examinations without further fee.

Entrance Scholarships.—Two Senior Open Scholarships in Science, value of each £75, tenable for one year to be competed for at the end of September; candidates must be under 25 years of age. The subjects are Physics and Chemistry for one, Physiology and Biology for the other. Two Junior open Scholarships, value £150 and £50, will be competed for at the same time in the subjects of the London University Preliminary Scientific Examination. Candidates must be under 20 years of age. The successful candidates must enter at St. Bartholomew's Hospital in the October succeeding the examination. Jeaffreson Exhibition: £20; examination at the end of September; subjects: Latin, Mathematics, and any one of the following languages—Greek, French, German. Candidates for the open Scholarships and the Jeaffreson Exhibition must not have entered to the hospital practice of any metropolitan medical school. The Treasurer's Research Studentship in Pathology, of the value of £100 a year, is given by election to the most promising of the recently qualified men. The Research Student must engage in original work in the Hospital laboratories. The total value of the Scholarships and Prizes is nearly £900 per annum.

Communications regarding the Hospital and Medical College must be addressed to Dr. T. W. Shore, Warden of the College, St. Bartholomew's Hospital.

CHARING CROSS HOSPITAL MEDICAL SCHOOL.

The Hospital contains 180 beds. Students are also admitted to the practice of the Royal Westminster Ophthalmic Hospital, which contains 30 beds.

Appointments.—In the Medical School Demonstratorships and Assistant Demonstratorships, in many classes, when they fall vacant, are open to students of the school, and carry honoraria. The Curator and Pathologist is appointed annually, and receives £100 a year. Medical and Surgical Registrars to the Hospital are appointed annually, and receive £40 a year each, with luncheon in the hospital. Six House-Physicians, six House-Surgeons, and two Resident Obstetrical Officers are appointed each year on the recommendation of the Medical Committee, after Competitive Examinations held on or about the 1st of February, May, August, and November. They are provided with board and residence in the hospital. An Electrical Assistant is appointed every six months, after examinations held on or about June 1st and December 1st. He receives an honorarium of twelve guineas, with luncheon at the hospital. Clinical Clerks, Dressers, and Surgical Ward Clerks are appointed in all the general and special departments of the Hospital. Arrangements can be made for students who have not entered for the entire medical curriculum to hold the posts of Clerk and Dresser. Every student is required to hold the appointment of Pathological Assistant for one month. His duties are to assist at the *Post-mortem* Examinations, in such way as the Pathologist or other officer may direct. The above appointments are open without any additional fee.

Entrance Scholarships.—Five Entrance Scholarships, of the respective value of 100 guineas (Livingstone Scholarship, founded in memory of the late Dr. Livingstone, a former student of this school), 60 guineas, 55 guineas (Huxley Scholarship, founded in memory of the late Professor Huxley, a former student of this school), 40 guineas, and 30 guineas are open to students commencing their medical curriculum. Three of these (100 guineas, 60 guineas, and 40 guineas) are open to all general students,[1] one (55 guineas) is reserved for the sons[1] of medical men, and one (30 guineas) is open to Dental students only. All these Scholarships are awarded annually at the commencement of each winter session, after a competitive examination in the following groups of subjects: (1) English, including Language, History, and Geography; (2) Any two of the following four languages—Latin, Greek, French, and German; (3) Mathematics, including Arithmetic, Algebra and Geometry; and Mechanics, including statics and Dynamics; (4) Inorganic Chemistry and Experimental Physics, including Acoustics, Heat, Magnetism, Electricity, and Optics; and (5) Animal and Vegetable Biology. No candidate may offer himself for examination in more than three of the above groups of subjects, the selection of the groups being entirly left to the candidate. Students who join in the summer session have the same privileges as regards scholarships, medals, and prizes as those who join in October of the same year. The value attached to each group of subjects is 1,000 marks. No credit will be given for any paper in which the candidate obtains less than one-fifth of the total marks. Candidates must be under 25 years of age on the first day of the examination. In the first three groups the subjects, as regards extent and the authors selected, will be the same as those chosen for the Matriculation Examination of the University of London in the June immediately preceding; in the fourth and fifth, the same as those for the Preliminary Scientific Examination of the same University. Candidates must give notice to the Librarian of their intention to compete, and of the groups in which they offer themselves for examination, on or before Saturday (10 A.M.), September 25th, 1897. The examination will commence at the school on Monday, September 27th, at 9 A.M., and will continue during the two following days. The successful candidates will be required to enter forthwith for their complete medical education at the Charing Cross Hospital.

[1] Those who enter for their entire medical education.

One Epsom Scholarship, giving a free education, is, at the commencement of each winter session, placed at the disposal of the Royal Medical Benevolent College at Epsom, to be competed for by their foundation scholars who have passed the Preliminary Scientific M.B. Examination of the University of London.

Two Universities Scholarships, of the value of 60 guineas each, are open to students from the University of Oxford who have passed the First M.B. Examination, to students of the University of Cambridge who have passed the Second M.B. Examination, and to students of the University of London who have passed the Intermediate Examination in Medicine, and who have not entered at any London Medical School. Subjects: Anatomy and Physiology, including Histology. The examination for these Scholarships, which will be partly practical, will be held at the school on September 28th and 29th. Candidates must give notice to the Librarian of their intention to compete on or before Monday (2 P.M.), September 27th, 1897. The successful candidates will be required to enter forthwith at the Charing Cross Hospital for the completion of their curriculum.

Further information may be had of the Dean, Dr. Montague Murray.

St. George's Hospital Medical School.

The Hospital contains 351 beds, of which 205 are devoted to Surgical, and 146 to Medical cases.

Two new Operating Theatres have been built during the last twelve months, and considerable additions have been made to the School.

Appointments.—Four House-Physicians and four House-Surgeons are appointed quarterly from among the perpetual pupils; they hold office for six months in each capacity in succession, and reside and board in the hospital free of expense. An Obstetric Assistant is appointed annually; he must be a legally qualified practitioner. He resides and boards in the hospital, and receives a yearly salary of £100. A Curator of the Pathological Museum, two Medical, and one Surgical Registrar are appointed annually from among the senior pupils, each with a salary of £50; and an Assistant Curator, with a salary of £30. A Senior Anæsthetist is appointed annually, with a salary of £50 a year; and two Junior Anæsthetists with salaries of £30. As the result of a competitive examination held every three months, those students who desire to proceed to the offices of House-Physician and House-Surgeon are appointed as assistants during twelve months in the special and general divisions of the out-patient department. Two demonstrators of Anatomy are appointed annually, each with a salary of £50. Each pupil of the Hospital must act as Clinical Clerk and Dresser before a certificate of attendance on hospital practice can be signed.

Entrance Scholarships.—The following Entrance Scholarships are offered for competition: 1. A Scholarship, value £150, for the sons of medical men who have entered the schools during the current year. 2. Two Scholarships, each of £50, open to students commencing their studies. The subjects for these three Scholarships will be Latin, Greek, French, German, Mathematics, Physics, Chemistry, and Physiography. Three of these to be taken, at option, save that at least one linguistic and one scientific subject must be taken. The examination for all these Scholarships will be held on September 27th to 30th. 3. Two Scholarships, value £85, for students who have entered during the current year, and have passed or completed the curriculum for the Oxford First M.B. or the Cambridge Second M.B. Subjects for these three Scholarships: Organic Chemistry, Anatomy, Physiology, Zoology, Botany; any two to be taken, at option. 4. A Scholarship, value £85, for students of Provincial University Colleges in England and Wales who have entered the School during the current year, and have passed or completed the curriculum for the First M.B. of London or the corresponding examination of the Victoria University or of Durham. The examinations for these Scholarships will commence on October 4th. *Further information* may be obtained from the Dean of the School; from any of the Lecturers; or from Mr. F. J. Marshall, the Resident Medical Officer at the Hospital.

Guy's Hospital Medical School.

The Hospital contains more than 600 beds, of which 21 are in constant occupation. Thirty-six beds are set apart for diseases of the eye, and 40 for the most urgent and interesting medical cases, which form the subjects of the weekly clinical lectures. One of the wards containing 40 beds, which has been closed for fifteen years, has been reopened for the reception of cases of diseases of women. A few beds will be reserved for cases of difficult labour.

Appointments.—All appointments are given without extra payment, and according to the merits of the candidates, as determined by a committee of the medical staff. Eight assistant house-physicians, 8 house-physicians, 8 assistant house-surgeons, and 8 house-surgeons are appointed annually. The house-physicians and house-surgeons hold office for six months each, and receive free board and lodging in the college, as also do the resident obstetric physicians, of whom 12 are appointed annually, each holding office for two months. Every student is provided with rooms and commons in the hospital during the period of his "take in" as a dresser. In addition to the clerkships and dresserships in the medical and surgical wards, students are appointed to the posts of clinical assistant, dresser, or clerk in the special departments of ophthalmology, laryngology, gynæcology, dermatology, otology, electricity, anæsthetics, and dentistry. More than 150 additional appointments have this year been added to the list of those annually open to students of the hospital, the majority of them being in the special departments.

The College, fronting the east gate of the hospital, provides accommodation for 60 resident students. It contains a dining hall, reading rooms, library of general literature, and gymnasium for the use of the residents and of the members of the Clubs' Union.

Scholarships, Prizes, etc.—Entrance Scholarships in Arts (£100 and £50). Subjects: English, Latin, Arithmetic, Algebra, Euclid, and either Greek, French, or German. Entrance Scholarships in Science (£150 and £60). Subjects: Chemistry, Practical Chemistry, Biology, and Physics. These examinations begin on September 22nd; names must be sent in on or before September 7th. Junior prizes for general proficiency, £20, £15, £10; Arthur Durham prizes for dissection, £15, £5; Hilton prize for dissection, £5; Michael Harris prize for anatomy, £10; Sands Cox scholarship for physiology, £15 for three years; £1 Wooldridge Memorial prize for physiology, £10. Senior prizes for general proficiency, £20, £15, £10; Beaney prize for pathology, £34; Bredin prize for clinical study, £25; Treasurer's gold medal in medicine, Treasurer's gold medal in surgery, and the Golding-Bird gold medal and scholarship (£20) for sanitary science are awarded annually after competitive examination. The Gull Studentship in pathology and the Beaney Scholarship in materia medica, of the annual value of £150 and £31 10s. respectively, are awarded without examination to enable the holders to carry on research in these subjects.

Practical Classes.—The south wing of the new school buildings was opened by H.R.H. the Prince of Wales in May, 1897, and provides a complete series of laboratories, class rooms, lecture and demonstration theatres complete for the practical teaching of physiology.

An advanced course of Practical Physiology is held in the new laboratories during the winter session and in association with the advanced course of Practical Anatomy is designed to prepare candidates for the University and Fellowship examinations in these subjects.

Special classes are held for the Preliminary Scientific examination of the London University throughout the year. Two courses of laboratory instruction for the D.P.H. are conducted annually.

The Clubs' Union recreation ground, situated at Honor Oak Park, is reached from the Hospital in less than twenty-five minutes.

King's College Medical Faculty.

The Hospital contains 220 beds in daily use.

Appointments.—Resident Medical Officers, Clerks, and Dressers are chosen from matriculated students, and the former have rooms and commons free. Two Sambrooke Registrarships, Medicine and Surgery, of the annual value of £50 each, tenable for two years, open to matriculated students who have filled any of the higher appointments of the Hos-

pital. Clinical assistants are appointed in the Ophthalmic, Ear, and Throat Departments.

Entrance Scholarships.—1. Two Warneford Scholarships, for the encouragement of previous education, each £75 value; subjects of examination, Mathematics, Classics, Divinity. 2. Two Sambrooke Exhibitions, one £60 and one £40, open to all matriculated students at the commencement of their course of study; subjects of examination, Mathematics, Elementary Physics, Inorganic Chemistry, Botany, and Biology. 3. Rabbeth Scholarship, value £20, in July, for best evidence of early scientific training. 4. Two Science Exhibitions, given annually, in October, by the Clothworkers' Company, value £60 and £40, for proficiency in any four of the following subjects: Mathematics, Mechanics, Physics, Chemistry, Botany, Geology, Mineralogy, and Zoology will be open to all candidates who are under the age of 19. 5. Medical Entrance Scholarships.—One of 70 guineas and one of 60 guineas, instituted for Students who propose to take their degree at Oxford, Cambridge, or other British University, having already passed the examination of that University in Biology, Chemistry, and Physics.

During the curriculum Scholarships and Prizes of the value of £300 are open to matriculated students.

For conditions of Scholarships and Subjects of Examinations apply to the Dean, Medical Faculty. Examinations commence September 23rd.

The Dean of the Medical Department, Sir Hugh Beevor, attends daily (Saturdays excepted), at King's College, for the purpose of seeing students and their friends. Any letter addressed to the Dean during the vacation will receive early attention.

University of London.—Classes for the science subjects are held by the Professors of the Science Faculty of King's College, and students avail themselves of their laboratories.

Athletic Club.—All students are entitled to the privileges of the Athletic Club, which manages a large recreation ground of the College at Wormwood Scrubbs.

Resident Chambers are available to students. The cost of the academical year varies from £50 to £60 for rent of rooms and dinner.

LONDON HOSPITAL MEDICAL SCHOOL.

The Hospital is the largest general hospital in the kingdom; it contains 786 beds.

Appointments.—The following appointments are open to students: 1 Medical Registrar, 1 Surgical Registrar, each at £100 annually; 2 Resident Accoucheurs, 10 House-Physicians, 10 House-Surgeons; Clinical Assistants (8 Medical, 8 Surgical, and 8 Ophthalmic), each at £80; 8 Aural Assistants, 8 Assistants in Electrical Department; 12 Receiving Room Officers, each at £25 for 3 months; 4 Senior Dressers to Out-patients, £10 each; 4 Dental Assistants; 30 or more Clinical Clerks (In-patient, Obstetric, and Out-patient), every 3 months; 30 Dressers (In-patient, Out-patient, Ophthalmic), every 3 months; Dressers in Aural and Throat Department; 26 Maternity Pupils: *Post-mortem* Clerks, Prosectors of Anatomy.

Scholarships and Prizes.—The following is a list of scholarships and prizes. *At Entrance:* Price Scholarship in Science, £120; Price Scholarship in Anatomy and Physiology, £60; Entrance Scholarships in Science, £60 and £35; Epsom Scholarship, £126; Buxton Scholarships in Arts £30 and £20. *After Entrance:* Anatomy and Biology Scholarship, £20; Anatomy and Physiology Scholarship, £25: Letheby Prize, Senior, £20; Letheby Prize, Junior, £10; Scholarships in Clinical Medicine, Surgery, and Obstetrics, £20 each; Duckworth Nelson Prize, £10; Hutchinson Prize, £35; Sutton Prize, £20; Sir Andrew Clark Prize, £26; Anderson Prizes, £9; Out-Patient Dressers' Prizes, £60; Practical Anatomy Prizes, £10.

Information may be obtained from the Warden, Mr. Munro Scott, at the College.

ST. MARY'S HOSPITAL MEDICAL SCHOOL.

The Hospital contains 281 beds; the number will shortly be raised to 381.

Appointments.—Three House-Physicians and three House-Surgeons are appointed for six months each, and two Obstetric Officers for six months each; all live free of expense in the Hospital. All students must act as Clinical Clerks and Dressers for eight months after passing the Primary Examinations, and after having acted as Dressers for two months in the Casualty Department. Demonstrators of Anatomy are appointed annually at salaries of £70; two, or more if necessary, Assistant Demonstrators and two Prosectors with an honorarium of £5 each; a Demonstrator of Physiology at a salary of £100, and two or three Assistant Demonstrators, who receive an honorarium of £5; a Demonstrator of Chemistry and Physics at a salary of £100, and an Assistant Demonstrator, who receives an honorarium of £5; a Demonstrator of Biology at a salary of £50, and two Assistant Demonstrators who receive £5; and two Demenstrators of Pathology, to assist the lecturers, who receive an honorarium of £5 each.

Entrance Scholarships.—One Scholarship in Natural Science, value £144, two of the value of £78 15s., and one of the value of £52 10s.; subjects, Inorganic Chemistry, Experimental Physics, and Elementary Biology. There will be a practical examination in each subject. The examination takes place at the end of September. The candidates must not have completed a winter session of study at a medical school in London. The successful candidates must enter as perpetual pupils of the Hospital, and pursue the full course of study there. A scholarship of £133 for students of Epsom College, who are sons of medical men. Two scholarships, each of £57 15s., open to students from a University, who have not entered at any London medical school; subjects, Physiology and Histology, and either Anatomy or Chemistry, at the option of the competitor.

Special Classes are held for the Preliminary Scientific, Intermediate M.B., and Final M.B. Examinations of the University of London, and for the Examinations for the Fellowship of the Royal College of Surgeons.

Students may reside in the College, 33 and 35, Westbourne Terrace, under the supervision of the Warden, Mr. H. S. Collier. Terms can be obtained on application to the Warden.

Further information may be obtained from the School Secretary, Mr. Frederic H. Madden, or from the Dean of the School, Mr. George P. Field.

MIDDLESEX HOSPITAL MEDICAL SCHOOL.

The Hospital contains 320 beds.

Appointments, etc.—Eighteen Resident appointments are open annually to competition among pupils of the Hospital. The officers reside and board in the Residential College free of expense. There are two Casualty Medical and two Casualty Surgical officers appointed annually. Six House-Surgeons are appointed every year at intervals of two months, after examination; they must have a legal qualification. Six House-Physicians are also appointed annually at similar intervals; they must have a legal qualification, or hold a Broderip Scholarship. An Obstetric House-Physician (qualified to practise) is appointed every six months. Non-Resident Physicians' Assistants are appointed in the out-patient department. Clinical Clerks and Dressers are appointed for six months. An Obstetric Physician's Clerk is appointed. In the out-patient department the appointments are: Dresser to the Assistant Surgeon and to the Dental Surgeon, Clerk to the Assistant Physician, Dresser to the Ophthalmic Surgeon, Clerk in the Department for Diseases of the Skin, Clerk in the Department for Diseases of Women, and Dresser to the Throat and Ear Department. There are also Extern Midwifery Clerks, and *Post-mortem* Clerks. The appointments are so arranged that every student may during his course take both a Clerkship and a Dressership. Each student must be an out-patient clerk or an out-patient dresser before being eligible to an in-patient clerkship or dressership. No student can be appointed to any office until he has passed the second examination of the Examining Board in England, or its equivalent. Clinical Assistants are appointed in the Ophthalmic, Skin, and Throat and Ear Departments.

Entrance Scholarships.—Two Entrance Scholarships, value £50 and £30, tenable for two years,[1] are open to all gentlemen

[1] The following are the subjects for examination:—(1) Latin: The examination will consist of passages for translation into English; short

ommencing their medical studies at the Hospital in May or October, 1897. The successful candidates must become general pupils of the school. Examination on September 3rd and following days. Candidates must send in their names to the Dean, stating the three subjects they select, on or before September 15th.

Universities Scholarship.—An annual Entrance Scholarship, of the value of £30 a year, tenable for two years, is open to students of the Universities of Oxford and Cambridge who have completed their Anatomical and Physiological studies: subjects: Anatomy and Physiology, including Histology. The examination takes place on October 5th.

The Freer Lucas Scholarship is annually awarded on the nomination of the head master to a pupil of the Royal Medical College, Epsom, who has passed the Preliminary Scientific M.B. Examination.

New Buildings.—The new school buildings now in progress will provide a much larger dissecting room, a room for operative surgery, a complete physiological department, spacious pathological and bacteriological laboratories, and extended facilities for the teaching of Chemistry, Physics, Biology, &c.

Information may be obtained from Dr. Pasteur, the Dean; from any of the Lecturers; or from the Resident Medical Officer at the Hospital.

The Residential College is situated in Cleveland Street, W., and has its frontage in the Hospital garden; it accommodates about 30 students. The Warden is the Rev. W. G. Deighton, M.A., Chaplain of the Hospital.

St. Thomas's Hospital Medical School.

The Hospital contains 572 beds, of which about 490 are in use. It is built on the system of separate pavilions, which are connected by a covered and an open-air corridor. The Hospital and School are situated along the banks of the Thames between Westminster and Lambeth Bridges, an open-air terrace running the whole length of the buildings facing the Houses of Parliament. The Operating Theatres have been lately thoroughly refitted, re-floored, and provided with electric light, and are specially adapted for the carrying out of aseptic surgery. A Clinical laboratory has been recently built, in which all the more difficult methods of diagnosis, bacteriological, chemical, and microscopical, are carried on under the direction of a Superintendent. The Department for Out-patients has been rearranged, and now consists of a series of rooms, among which are two large, well-ventilated rooms which are provided with ample sitting accommodation, so that large numbers of students are enabled to follow closely the practice and teaching of the assistant staff. During the twelve months ending December 31st, 1896, the number of patients admitted into the hospital amounted to 6,011. In the same period, 20,232 out-patients have been treated, and in the maternity department 2,477 women have been attended at their own homes. Casualties to the number of 99,178 attendances were treated during the same period.

The *School Buildings*, which are separated from the hospital by a quadrangle containing a lawn tennis court for the use of the residents, comprise numerous theatres, laboratories, and class rooms, and are well adapted for the modern teaching of large bodies of students in all the subjects of the medical curriculum. A large library and reading room and a very complete museum are open to all students from 9 A.M. to 5 P.M. The new club premises, opened in 1894, contain a dining room, a smoking and reading room supplied with daily and illustrated weekly papers, and a gymnasium. A cloak room with lockers, and a lavatory with bath rooms are in the old building. Students are thus able to spend the whole day at the school, all meals being obtainable at a moderate tariff, and they are further provided with facilities for exercise and recreation. A ground of more than nine acres in extent is provided at Chiswick. It can be reached in forty minutes from the hospital, it is admirably adapted for football, cricket, lawn tennis, and athletic sports. It is provided with a pavilion where refreshments can be obtained.

Scholarships.—Three Entrance Scholarships will be offered for competition in September, namely: One of £150 and one of £60, in Chemistry and Physics, with either Physiology, Botany, or Zoology at the option of candidates, for first year's students. (The Medical School Committee is empowered to grant an exhibition of £20 to any unsuccessful competitor who obtains sufficient marks to qualify for a scholarship); one of £50 in Anatomy, Physiology, and Chemistry for students who have completed their examinations in Anatomy, Physiology, Materia Medica and Pharmacy for a medical degree in any of the Universities of the United Kingdom, and have not entered as students in any London Medical School. Copies of the examination papers of last year may be obtained on application to the Medical Secretary. Applications must be sent in not later than September 19th, with certificate of birth and of Preliminary Examination, and in the case of candidates for the Science Scholarships with a notification of their choice of optional subject. Numerous Scholarships, prizes, and medals are open to competition throughout the whole career of a student, including a Fellowship of £100 given by the Salters' Company for research in Pharmacology.

Appointments.—All Hospital Appointments are open to students without charge. A Resident Assistant Physician and a Resident Assistant Surgeon are appointed annually at a salary of £100 with board and lodging. Two Hospital Registrars, at an annual salary of £100 each, are appointed yearly. An Obstetric Tutor and Registrar is appointed each year at an annual salary of £50. The tenure of these offices may be renewed for a term not exceeding three years. Four House-Physicians, four House-Surgeons, four Assistant House-Surgeons, two Obstetric House-Physicians, two Ophthalmic House-Surgeons, and eight Clinical Assistants in the special departments are appointed every three months. Clinical Clerkships and Dresserships to the in- and out-patient departments are available to the number of 400 each year.

Fees.—The Fees may be paid in one sum or by instalments. Entries may be made separately to lectures or to hospital practice. Special arrangements are made for students from the Universities and elsewhere entering in their second or subsequent years, also for dental students and for qualified practitioners.

University Examinations.—Special Classes for the Preliminary Scientific and Intermed. M.B.Lond. for the Oxford and Cambridge Examinations, and for the Primary F.R.C.S., are held throughout the year.

Lodgings.—A register of approved lodgings is kept by the Medical Secretary, who has a list of local medical practitioners, clergymen, and others who receive students into their houses.

Further information may be obtained by application to Mr. Rendle, the Medical Secretary.

University College: Medical Faculty.

The Hospital contains 210 beds available for clinical instruction and study.

Appointments.—Eight House-Physicians, six House-Sur-

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ages for translation from English into Latin; and questions in mmar. September, 1897, *Cæsar*, Gallic War, II, III; September, 1898, *il*, Æneid I and II.—(2) Greek: The examination will consist of easy ages for translation into English, and questions in grammar. September, 1897, Euripides, *Alcestis*; September, 1898, *Æschylus*, Persæ. The es selected are those set for the Matriculation Examination of the versity of London held in the preceding June.—(3) French or German: examination will consist of passages (authors not set) for translation English, short passages for translation from English into French or man, and questions in grammar.—(4) Mathematics, comprising Arithc, Algebra up to and including Quadratic Equations; and Euclid, es I, II, III.—(5) Mechanics and Experimental Physics, comprising the position and resolution of Statical Forces. Simple Machines, the of the Power to the Weight in each. Centre of Gravity. General s of Motion. Law of the Motion of Falling Bodies. Pressure of ids and Gases. Specific Gravity and the subjects included in the dule of Experimental Physics for the Preliminary Scientific (M.B.) mination of the University of London.—(6) Chemistry: the range of ects is comprised in the course prescribed by the University of ion for the Preliminary Scientific (M.B.) Examination under the of "Chemistry." The fundamental principles of the Science aptly trated will claim more attention than a detailed account of the ufacture of the Salts of the Metals.—(7) Botany: the use of recognised nical Terms. Vegetable Morphology. The Outlines of Vegetable iology. The Features and Life-history of the various classes of the logamia. The classification of the principal British Natural Orders. onstration of the characters of recent Specimens, and the recognition egetable Tissues and Organs in prepared Microscopical Slides.—ology: the Schedule will be that of the Preliminary Scientific mination of the University of London.—Candidates will be required camine Microscopic and other Specimens. Candidates will be ined in any three, and not more, of the above subjects which they elect.

geons, twelve Obstetric Assistants, Out-Patients Physicians' and Surgeons' Assistants, Clinical Clerks, Surgeons' Dressers, and Ophthalmic Surgeons' Assistants, are selected annually from among the students without extra fee. The House-Physicians, the House-Surgeons, and four Obstetric Assistants reside in the Hospital, receiving free board and lodging.

Entrance Scholarships.—Three Entrance Exhibitions, one of the value of 131 guineas, and two of the value of 55 guineas, to gentlemen who are about to commence their first winter's attendance. Subjects: Chemistry, Physics, and Biology. The examination will take place on September 24th and 25th. Notice of intention to compete must be given on or before September 23rd.

Other exhibitions and prizes of the annual value of about £500 are given in the Faculty of Medicine.

Information respecting the College may be obtained from the Dean, Professor R. J. Godlee; the Vice-Dean, Professor T. Barlow; the Sub-Dean, Professor Thane; or the Secretary, Mr. J. M. Horsburgh.

WESTMINSTER HOSPITAL MEDICAL SCHOOL.

The Hospital contains upwards of 200 beds.

Appointments.—A Curator of the Museum and a Pathologist are appointed annually, with salaries of £40 and £50 respectively, and a Medical and a Surgical Registrar, each with a salary of £40. Two House-Physicians, Two House-Surgeons, two Assistant House-Surgeons, and a Resident Obstetric Assistant are appointed for six months, after examination, and are provided with rooms and commons. An Assistant House-Surgeon, after six months' service, becomes House-Surgeon for a further period of six months. Clinical Assistants to the Assistant Physicians and Assistant Surgeons, and to the officers in charge of special departments, are appointed from among qualified students. Every student must perform the duties of Out-patient Dresser for four months, and afterwards hold the office of In-patient Dresser for four months, of Out-patient Clinical Clerk for four months, and of In-patient Clinical Clerk for four months. Two Pathological Clerks are appointed every four months to assist in the *Post-mortem* Room. No student is eligible as In-patient Dresser or Clinical Clerk until he has passed the Second Examination of the Conjoint Board, or an equivalent examination. Clerks and Dressers in the Special Departments of Hospital Practice are periodically appointed. So far as vacancies permit students of other hospitals are admitted to In-patients' Dresserships or Clerkships.

Entrance Scholarships.—An examination for three Entrance Scholarships, value respectively £60, £40, and £20, will be competed for on September 22nd and 23rd, 1897. The third is offered for competition to intending students of dentistry. The subjects of examination are: Latin (same subjects as those of the Matriculation Examination of the University of London of the same year), Greek, French or German, Mathematics, and Experimental Physics and Chemistry. A scholarship in Anatomy and Physiology is offered for competition to members of the University of Oxford or Cambridge. A week's notice must be given to the Dean. An examination for a Natural Science Scholarship (Inorganic Chemistry, Physics, and General Biology), value £60, will be held on April 21st and 22nd, 1898. On the same date will be held an examination for a Scholarship (Chemistry, Inorganic and Organic, and Physics), value £40. There will also be held, on the same dates, an examination in Arts for two Entrance Scholarships of the value of £50 each, the subjects for which will be the same as for the September examination. There is a Free Presentation open to pupils of Epsom School. Preliminary Scientific (M.B.) Examination: Special classes in Chemistry, Physics, and Biology; fee, £12 12s. to those becoming general students. Intermediate M.B. and First F.R.C.S.: Special classes in Anatomy and Physiology, including Advanced Practical Histology and Embryology. Diploma in Public Health: The course of Laboratory instruction in Chemistry, Physics, and Bacteriology; fee, £12 12s. General Bacteriology: A separate course in General Bacteriology; fee, £5 5s. Any of the above classes are open to other than students of the School on terms to be learned on application to the Dean, from whom further information can be obtained.

LONDON SCHOOL OF MEDICINE FOR WOMEN.

Clinical Instruction is given at the Royal Free Hospital, which contains 160 beds. There are separate departments for Diseases of Women, Diseases of the Eye, of the Throat and Ear, and of the Skin, and classes for instruction in Anæsthetics, Bacteriology, etc. There is a class in Practical Forensic Medicine twice yearly, and one in Mental Pathology yearly. Demonstrations in Clinical Testing in the wards are given twice yearly.

Entrance Scholarships.—An Entrance Scholarship, value £30, is offered for competition at the end of September in each year. Candidates must have passed a Preliminary Examination in Arts, and the successful candidate must enter on a full course of medical study at the school. The Stuart Mill Scholarship, value £30 a year for four years, is offered every four years, alternately to English and Indian ladies willing to practise in India under the Dufferin Fund. The John Byron bursary, value £20 a year, is offered to ladies requiring assistance for the prosecution of their medical studies. The Fanny Butler Scholarship, value £14 10s. a year for four years, for ladies guaranteeing to practise medicine under the Church of England Zenana Missionary Society. Two Mackay prizes of £20 each are awarded to the two students taking the highest place in the class examinations of the first two years. Three Evans prizes of £3 3s., £2 2s., and £1 1s. respectively, are given in the Midwifery class, and one of £5 5s. for the Operative Midwifery class. The Helen Prideaux Memorial Prize of £50 is offered every alternate year to graduates of the School. The Mary Royce Memorial Fund gives £5 to the Senior Assistant Anæsthetist at the Royal Free Hospital on the completion of her term of office. Two Singleton prizes are offered to students in connection with work at the New Hospital for Women. The Society for the Promotion of Christian Knowledge offers valuable scholarships on certain conditions. The Zenana Medical Mission Society assists ladies who wish to go to India as missionaries.

COOKE'S MEDICAL SCHOOL, LONDON.

The School is prepared to admit to its supplementary work all who may wish to join the same, but in regard to its curriculum work it does not receive more than half a dozen students in the course of the year. These curriculum students are supplied with the necessary material for dissecting the human body two or three times over, which amount of most profitable dissecting is rendered easy of accomplishment by the methods of the "Dissection Guides." Corresponding advantages are offered in regard to Physiology. Charges but slightly in excess of current charges. The Syllabus of the experimental work in physiology will be forwarded on application.

The Bland Sutton Presentation—named after Mr. Bland Sutton, F.R.C.S., Sir Erasmus Wilson Lecturer at the Royal College of Surgeons, Surgeon to the Middlesex Hospital (a former pupil of the School)—confers the privilege of free education during the first two years of medical studies. Particulars forwarded on application.

By decision of the various Examining Bodies, gentlemen rejected at their Anatomical and Physiological Examinations (Second Conjoint, etc.) can get "signed up" from this school for the three or six months' supplementary work they are now required to put in before re-examination. The School is also recognised for the special dissections for the Fellowship of the Royal College of Surgeons.

The instruction is given on the dissected and undissected body, with normal and pathological specimens, microscopical preparations, chemical, physiological, and surgical apparatus, splints, etc. The operations of Surgery are performed on the dead body. The School possesses a collection of physiological and chemical apparatus, and gentlemen preparing for the higher examinations receive special instruction in the more difficult subjects, and have the advantage of personal use of the physiological apparatus.

SURGEON-GENERAL WILLIAM HENRY MUSCHAMP, who entered Her Majesty's service in 1855, served in the Crimea, was present at the siege and fall of Sevastopol, and also served in the Indian Mutiny, died on August 21st.

PROVINCES.

The medical schools in England, outside London, which give instruction in the full medical curriculum are those of the Universities of Oxford, Cambridge, and Durham (University of Durham College of Medicine, Newcastle-on-Tyne); the three Colleges of the Victoria University (Owens College, Manchester; University College, Liverpool; and the Yorkshire College, Leeds); Mason College, Birmingham (Queen's Faculty of Medicine); University College, Bristol; and University College, Sheffield (School of Medicine).

The opportunities for obtaining a good knowledge of the Preliminary Sciences, and of Anatomy and Physiology at the Universities of Cambridge and Oxford are unsurpassed; the staffs of teachers are distinguished, and the laboratories are most completely appointed. Instruction in Clinical Medicine, Surgery, and Midwifery is given by the University Lecturers, and by the visiting staffs of the Radcliffe Infirmary at Oxford and of Addenbrooke's Hospital, Cambridge; but it is the rule for Oxford and Cambridge men, after spending three years at the University and passing the necessary examinations, to proceed for the remaining two years to London or some other large towns where the opportunities for gaining clinical experience are greater. At many of the London schools special arrangements—as to which full particulars can be obtained on application to the respective Deans—are in existence to meet the case of students from the Universities joining under these circumstances. At some of the schools they are placed on the same footing in regard to obtaining the appointments of House-Physician and House-Surgeon as students who have attended the hospital throughout. As the circumstances of the various schools are liable to vary from time to time, special inquiries should be made on this point, which after-experience will show to be of great importance.

The arrangements and appliances for laboratory and other practical instruction at Owens College, Manchester, at University College, Liverpool, at Bristol, and at the Yorkshire College, Leeds, are most complete, having in each case been recently enlarged and improved. At Birmingham the medical school is now a Faculty of the Mason College, and is provided with all the most modern facilities for instruction in science, while the great hospitals afford equal excellent opportunities for clinical work. Reference may also be made here to the new Medical School of the University College of South Wales and Monmouthshire at Cardiff. The school now gives instruction in all the subjects of the medical curriculum belonging to the first three years.

Mason University College, Birmingham (Queen's Faculty of Medicine).

Mason College was founded in 1875 by Sir Josiah Mason, Kt. The Medical Faculty was transferred from Queen's College, Birmingham, to Mason College in 1892, additional buildings being erected at a cost of about £20,000. There are Professorships of Medicine, Surgery, Anatomy, Physiology, Chemistry, Physics, Biology, Therapeutics, Forensic Medicine, Public Health, Midwifery, Gynæcology, Pathology, and Dental Diseases; and Lectureships in Operative Surgery, Toxicology, Ophthalmology, Osteology, Applied Anatomy, Materia Medica, etc.

Clinical instruction is given in the General and Queen's Hospitals, which have a joint total of upwards of 400 beds; 6,000 in-patients and 80,000 out-patients are treated annually.

Appointments.—General Hospital: Two Resident Medical Officers, salary £70 a year; a degree in Medicine is necessary. One Resident Surgical Officer, salary £130 a year. Four Assistant House-Surgeons, office tenable for six months, without salary; a Surgical qualification is necessary. Two Medical Assistants, tenable for six months, without salary. Candidates must possess a Medical qualification and be registered. One Resident Assistant at the Jaffray Hospital, unqualified, tenable for three months. *Queen's Hospital:* Two House-Physicians, tenable for twelve months, at a salary of £50; a Medical qualification is necessary. Three House-Surgeons, tenable for twelve months, at a salary of £50; a Surgical qualification is necessary. One Obstetric and Ophthalmic House-Surgeon, tenable for six months; candidates must have a qualification; salary £10, with board and lodgings, etc. One Resident Dresser, unqualified, tenable for three months.

Entrance Scholarships.—Queen's Scholarship, 30 guineas; Sands Cox, restricted to sons of medical men, 30 guineas; Sydenham Scholarships, one or more annually, restricted to orphan sons of medical men, elected by the Council, on the recommendation of the Medical Board of Studies, 30 guineas.

Further particulars may be obtained by application to Professor Windle, Dean of the Medical Faculty, at the College.

University College, Bristol: Faculty of Medicine.

The lectures and instruction given in the Faculty of Arts and Science of University College, Bristol, are adapted to the various Preliminary Examinations, including the Preliminary Scientific Examination of the University of London; and Students can complete in Bristol the entire course of study required for the Medical and Surgical Degrees of the University of London, the Diplomas of the Royal College of Physicians of London and the Royal College of Surgeons of England, and of the Apothecaries' Society of London, and for the Examinations of the Army and Navy Boards.

Clinical instruction is given at the Royal Infirmary and General Hospital. The Royal Infirmary contains 264 beds, a Library, and Museum. The General Hospital contains 200 beds, a Library, and Museum.

Appointments—Royal Infirmary: House-Physician, House-Surgeon, Junior House-Physician, and Junior House-Surgeon; Clinical Clerks and Dressers, also Ophthalmic, Obstetric, and Pathological Clerks are appointed. The Dressers reside in the Infirmary in weekly rotation. *General Hospital:* House-Surgeon, Assistant House-Surgeon, Assistant House-Physician, and Casualty Medical Officer; Clinical Clerks, Dressers, and Obstetric, Ophthalmic, and Pathological Clerks are appointed. The Dressers reside in the Hospital in rotation free of expense.

Entrance Scholarships—Royal Infirmary: Two Entrance Scholarships (in subjects of general education), value £36 15s. and £10 10s. *General Hospital:* Lady Haberfield Entrance Scholarship, value, the interest of £1,000, at the beginning of the winter session, after examination in subjects of general education. Second Entrance Scholarship, value £20. Clarke Surgical Scholarship, for third year students, £15 annually.

Full information can be obtained on application to the Dean of the Medical Faculty, Professor E. Markham Skerritt, University College, Bristol.

The Yorkshire College, Leeds: Medical Department.

Clinical instruction is given at the Leeds General Infirmary, which has over 400 beds in constant use, and includes gynæcological and ophthalmic wards and a large new out-patient department. The Ida Semi-convalescent Hospital attached to the Infirmary has over 40 beds. The West Riding Lunatic Asylum at Wakefield is also open for the study of Mental Diseases. Students can in addition attend the practice of the Leeds Public Dispensary, the City Fever Hospitals (100 beds), and the Hospital for Women and Children.

Appointments.—Senior Anæsthetist, £50. Two Anæsthetists, £25 each. The Resident Medical, Surgical, and Casualty Officers, each at £100 per annum. The Resident Ophthalmic Officer at £50 per annum. A Resident Obstetric Officer is attached to the gynæcological ward and an extensive external maternity department. A Resident Medical Officer is appointed every six months for the Ida Hospital (honorarium £25). Four House-Physicians, each holding office for six months, and four House-Surgeons holding office for twelve

months. Physicians' Clerks, Surgeons' Dressers are appointed for six months; Ophthalmic and Aural Dressers, Gynæcological Ward Clerks, Assistant Physicians' Clerks, and Assistant Surgeons' Dressers, Dressers in the Casualty Room, *Post-mortem* Clerks, and Laboratory Assistants for three months. A Pathological Curator (honorarium 20 guineas) has charge of the new pathological laboratory. Appointments are also open to students at the Leeds Public Dispensary (three Resident Medical Officers, with salaries commencing at £80), at the Hospital for Women (House-Surgeon, honorarium £70), and at the West Riding Asylums.

Entrance Scholarships.—The Yorkshire College awards annually a scholarship in the form of a free admission to the lectures and classes covered by the composition fee. Candidates must have passed the Preliminary Scientific (M.B.) Examination of the London University or the First (Scientific) Examination of the Victoria University. The subjects of the examination are those included in the above examinations. The Infirmary also awards a scholarship of the value of 40 guineas in the form of a free admission to the clinical teaching of the Infirmary. The subjects of the examination are (*a*) Latin, (*b*) Elementary Mathematics, (*c*) English Dictation and Composition, (*d*) English History, and (*e*) one of the following languages; French, German, or Greek.

Further information can be obtained from the Dean, the Medical School, Leeds, or from the Secretary of the Faculty, General Infirmary, Leeds.

UNIVERSITY COLLEGE, LIVERPOOL: MEDICAL FACULTY.

The new Physiological and Pathological Laboratories are nearing completion, and will be ready for occupation during the Winter Session, 1897-98. The Chemical Laboratories have been extended, so as to provide *inter alia* more complete accommodation for medical students and those engaged in laboratory work for diplomas in Public Health. The Anatomical Department has undergone structural alterations, and the Dissection Room and Theatre have been provided with the electric light. The chair of Pathology has secured adequate temporary accommodation in Ashton Hall, an institute adjacent to the College, which contains ample class-room and laboratory accommodation for study and research in Pathology and Bacteriology. The museums of Anatomy, Pathology, Materia Medica, and Public Health are furnished with complete provision for the needs of students, and have recently been reorganised and revised. The first instalment of new anatomical and surgical laboratories has been erected, at a cost of £2,000, in the form of permanent anatomical outbuildings and courtyard. The buildings include mortuary, store rooms, museum work rooms, and macerating room, along with lavatories, etc. The erection of new anatomical and surgical laboratories will be commenced as soon as practicable.

Royal Infirmary.—The Royal Infirmary, which adjoins the School, contains 300 beds, with 40 special beds for the treatment of Diseases of Women. The Lock, Lying-in, Eye and Ear, Children's, and Dental Hospitals are in the immediate vicinity, and their practice is open to the students of the Medical Faculty.

Fees.—The composition fee for lectures and classes is £24 15s. for Preliminary Scientific Classes; £60 for the Medical Classes required for the Victoria University Degree; £70 for all the classes required for the diplomas of the Conjoint Boards. The medical composition fees are payable in two instalments, at intervals of twelve months. The fee for hospital attendance at the Royal Infirmary is 40 guineas, also payable in two annual instalments.

Appointments.—Three House-Surgeons, three House-Physicians, and one External House-Surgeon to the Thornton Wards, are appointed for six months, after (if necessary) competitive examination. Candidates must have a legal qualification. Three Clinical Clerks for each physician, three or more Dressers for each surgeon, and two Clerks to the Thornton Wards for Diseases of Women, are appointed every three months. *Post-mortem* Clerks are appointed for six weeks. All students are required to perform this duty before the schedule for the Final Examination is signed.

Scholarships.—(*a*) Two Holt Tutorial Scholarships, each of the value of £100 for one year, are awarded annually by the Medical Faculty to senior students. The successful candidates are required to devote a year to tutorial work and investigation in the Anatomical and Physiological Departments. (*b*) Two Lyon Jones Scholarships, of the value of £21 each for two years are awarded annually—a Junior Scholarship, open at the end of the first year of study to Victoria University students, in the subjects of the first M.B. Examinations; and a Senior Scholarship, open to all students in the School at the end of the third year of study, on the subjects of Anatomy, Physiology, and Materia Medica. (*c*) The Derby Exhibition of £15 for one year is awarded in Clinical Medicine and Surgery in alternate years. Students may compete in their fourth and fifth years; in 1898 the subject will be Clinical Surgery. (*d*) The Torr Gold Medals in Anatomy and Physiology, and numerous Class Prizes are awarded annually.

Communications should be addressed to the Dean, Professor Paterson, M.D., University College, Liverpool.

School of Pharmacy.—A department of Pharmacy has recently been instituted, comprising the necessary courses for the minor and major examinations of the Pharmaceutical Society in Chemistry, Physics, Botany, Materia Medica, and Pharmacy. The composition fee is £17, and the classes may be attended in one or two years.

Prospectuses and further information may be had on application to the Registrar, University College, Liverpool.

OWENS COLLEGE, MANCHESTER: MEDICAL DEPARTMENT.

The Royal Infirmary contains 300 beds. Associated with it are the Convalescent Hospital (136 beds), and the Royal Lunatic Asylum at Cheadle, which accommodates 260 patients.

Appointments.—The following appointments are made: A Surgical Registrar, at £100 per annum; a Pathological Registrar, at £100 per annum; a Medical Registrar, at £70 per annum; two Assistant Medical Officers, each at £80 per annum; an Anæsthetist, at £50 per annum; an Assistant Anæsthetist, at £50 per annum. Resident Medical Officer, two years, £150 per annum; ditto, at Cheadle, one year, £150 per annum. Resident Surgical Officer, one year, £150 per annum; two House-Surgeons and three House-Physicians; and one at Cheadle, each for six months. The House-Physicians and House-Surgeons must possess a qualification which can be registered. For the Resident Assistant at Cheadle a qualification is not absolutely necessary. Four or more Clinical Clerks are attached to each Physician or Assistant-Physician, and four or more Dressers to each Surgeon and Assistant-Surgeon, and to the Ophthalmic Surgeon, Accident Room Dressers will be appointed every three months, and will hold their appointment for three months; there will be three Senior Dressers and twelve or more Junior Dressers, the former selected from students who have acted as Dressers in the wards for the full period of six months. Additional Clinical Clerks are appointed to assist in the department for the Diseases of the Ear and Throat, and to assist the Surgical Registrar.

Entrance Scholarships.—Rogers and Seaton Scholarships (in alternate years), £40 per annum, tenable for two years. Subjects: Greek and Latin. Credit given for knowledge of Geometry, Algebra, French, German, and English. Examination May 23rd, 24th, 25th, and 26th, 1898. Dalton (entrance), two of £40, one of which will be awarded annually, and tenable for two years. Examination May 23rd, 24th, 25th, 26th, 1898. Subjects: Geometry (Euclid I—IV and VI, or the subjects thereof); Algebra (as far as the Binomial Theorem, inclusive); Plane Trigonometry (to Solution of Triangles); Elementary Analytical Geometry, the Conic Sections. Credit given for knowledge of Classics and Modern Languages (including English). Cartwright Scholarship, £35 per annum, tenable for three years; subjects as in Dalton. Examination in May, 1903. Hulme, three of £35, one of which will be awarded annually, tenable for three years. Examination on May 23rd, 24th, 25th, and 26th, 1898. Subjects: English Language (Grammatical Structure and Outlines of its History); English Literature (an Essay on some subject of English Literature); and Modern History (Outlines of English History and Geography); with at least two of the following: Latin (Translation at sight; Grammar and Easy Composition); Greek (ditto); French (ditto); German

ditto). Credit given for knowledge of Mathematics (Geometry and Algebra). James Gaskill, two of £40, one of which will be awarded annually, and tenable for two years. Examination on May 23rd, 24th, 25th, 26th, 27th, and 28th, 1898. Subjects: Mathematics—Geometry, the subjects of Euclid, I—IV and VI; Algebra, as far as the Binomial Theorem inclusive; Plane Trigonometry (to Solution of Triangles); Elementary Mechanics, including Composition and resolution of forces in a plane, centre of gravity of simple bodies, uniform acceleration, direct impact, the elements of Hydrostatics, Boyle's Law. Chemistry: Inorganic Chemistry, Elementary Organic Chemistry; Practical work, including preparations, analysis of mixtures of inorganic salts, easy quantative analysis. Credit given for knowledge of Classics and Modern Languages (including English). Two Dauntesey Medical Scholarships, value £35, tenable for one year. Candidates must not have attended lectures in a medical school. Subjects of Examination: Zoology, Botany, and Chemistry. The successful candidates must enter for the full course of Medical studies at the College. A Gilchrist Scholarship of £30 per annum, tenable for three years in the College, awarded annually upon the results of the June Preliminary Examination of the Victoria University. Grammar School Scholarship, value £18 per annum, tenable for three years, open to scholars of the Manchester Grammar School between the ages of 16 and 21. Subjects: Mathematics, with Classics and Physical Science in alternate years. A subject for an English Essay will be set each year.

Prospectuses may be obtained from the Registrar, Mr. S. Jaffers.

University College, Sheffield: Department of Medicine.

The Sheffield School of Medicine has been recently incorporated by Royal Charter with Firth College and the Sheffield Technical School under the name of University College, Sheffield. During the present year the Physiological Department, thanks to the generosity of anonymous donors, has been entirely reconstructed and equipped to fulfil the most modern requirements in memory of the late President of the School, Mr. Wm. F. Favell, and is to be called the Favell Laboratory. The department consists of a lecture and demonstration theatre, students' laboratory, professor's room, preparing room and galvanometer room. In addition to the usual fittings the theatre is provided with a projection lantern and microscope for the demonstration of microscope slides. Each student has his own laboratory bench, with gas, water, electric light, and the requisite apparatus. The department is lighted by electricity throughout.

The Arthur Jackson Chair of Anatomy has been founded by Mrs. Arthur Jackson in memory of her late husband.

Changes in Officers.—Dr. Christopher Addison has been appointed Arthur Jackson Professor of Anatomy in the new College. Dr. Hugh Rhodes has been appointed Lecturer on Forensic Medicine in place of Dr. Harvey Littlejohn. Dr. Drew Walker has been appointed Demonstrator of Practical Bacteriology. Mr. Baynes-Smith has been appointed Laboratory Assistant in Physiological Department.

Clinical instruction in Medicine and Surgery is given at the Sheffield Royal Infirmary and the Royal Hospital, and in Midwifery and Gynæcology at the Jessop Hospital for Diseases of Women. Students are also admitted to the practice of the Borough Fever Hospitals and the South Yorkshire Asylum. The Royal Infirmary contains 240 beds, including ophthalmic wards and Dermatological department. A new ophthalmic department, containing 30 beds and operating theatre, has been recently erected. The Royal Hospital contains 125 beds, and a fully equipped Dental department.

Scholarships, etc.—An entrance scholarship of the value of £— will be awarded at the commencement of the winter session to the best candidate, if of sufficient merit, in Latin, Mathematics, Elementary Physics, Inorganic Chemistry, and English. The examination will be held on September 23rd and 24th at Firth College; applications to be sent to the Secretary of the Medical Department not later than September —. Prizes in Clinical Medicine and Surgery, of £10 10s. are awarded by the Clinical Committee. Certificates and Prizes are awarded annually.

Fees.—The composition fee, if paid at the commencement of medical study, is 60 guineas; or the fees may be paid 35 guineas at the commencement of the first, and 30 guineas at the commencement of the second year. These fees do not include hospital practice or instruction. The composition fee for this is £45.

University of Durham College of Medicine, Newcastle-on-Tyne.

The Royal Infirmary contains 280 beds.

Appointments.—Assistant Demonstrators of Anatomy, Prosectors for the Professors of Anatomy, Assistant Physiologists, Pathological Assistants, Assistants to the Dental Surgeon, and Assistants in the Eye Department, Throat and Ear Department. and Department for Skin Diseases are elected annually. The Assistant Demonstrators of Anatomy receive £5 each; the others are unpaid. Four times in the year Clinical Clerks and Dressers are appointed for three months.

Scholarships.—A University of Durham Scholarship, value £100, for proficiency in Arts, open annually at the beginning of the winter session to intending students, and to those who have attended only one winter and one summer session. The Dickinson Memorial Scholarship, interest of £400, with a gold medal, for Medicine, Surgery, Midwifery, and Pathology, open to perpetual students who have passed the primary examination of a licensing body. The Tulloch Scholarship, interest of £400 annually, for Anatomy, Physiology, and Chemistry. The Charlton Memorial Scholarship, interest of £700 annually, open to full students entered for the class of Medicine, at end of winter session. The Gibb Scholarship, interest of £500 annually, for Pathology, at end of summer session. The Goyder Memorial Scholarship, proceeds of £325; subjects: Clinical Medicine and Clinical Surgery. Luke Armstrong Memorial Scholarship, proceeds of £680, for best Essay on some subject in Comparative Pathology. The Scholarship is open to all Graduates in Medicine or Hygiene, and candidates for these degrees who have spent at least six months at the University of Durham, and whose age does not exceed 30 years. The Stephen Scott Scholarship in Surgery, interest of £1,000 annually. The Heath Scholarship. The late George Y. Heath, M.D., M.B., D.C.L., F.R.C.S., President of the University of Durham College of Medicine, bequeathed the sum of £4,000 to found a scholarship in surgery, the interest to be awarded every second year. First award in 1896. The Gibson Prize in Midwifery and Diseases of Women and Children, interest on £225.

University College of South Wales and Monmouthshire Medical School, Cardiff.

This College has for some years prepared students for their Preliminary Scientific Examination (M.B.), and these students have continued their studies in London and elsewhere. By the foundation in 1893 of two new Chairs of Anatomy and Physiology, and also of a Lectureship in Materia Medica and Pharmacy, students are enabled to prepare for the Intermediate M.B. of London, and may spend three out of their five years of medical study in Cardiff, proceeding subsequently to a London hospital for the remaining two years. A student preparing for a Scottish University, the University of Durham, for the Conjoint College Surgical and Medical Diploma, or that of the Society of Apothecaries, may spend his first two or three years in Cardiff. Believing that many students—more especially in Wales and Monmouthshire—will avail themselves of the opportunity of study near home, the Council has sanctioned the construction at considerable cost of new laboratories and lecture rooms for the teaching of Anatomy, Physiology, and Materia Medica and Pharmacy, which are now complete and furnished with the newest and best appliances for teaching and research; these, together with the laboratories of Physics, Chemistry, and Biology previously founded, will enable a student to obtain the best possible training in the work of his first three years of medical study.

Students preparing for the Preliminary Scientific, and Intermediate Examination in Medicine of the University of London may compound for their classes by paying a composition fee of £57 10s. Students who are preparing for the examinations of the Conjoint Board or of the Society of

Apothecaries, London, may compound for their classes by paying a composition fee of £35. In both cases the composition fees may be paid in two instalments.

Scholarships and Exhibitions.—Seven College Scholarships and Fifteen Exhibitions are open to students of Medicine. The examinations for these will take place in September. (See Medical Prospectus, which may be obtained on application to the College Registrar.) The teaching staff is as follows:

Physics.—Professors: J. Viriamu Jones, M.A.Oxon., B.Sc.Lond., F.R.S., Fellow of University College, London, and A. L. Selby, M.A., Fellow of Merton College, Oxford. Demonstrator and Assistant Lecturer: W. S. Hensley, B.A., Christ's College, Cambridge.
Chemistry.—Professor: C. M. Thompson, M.A., Trinity College, Cambridge, D.Sc.Lond., F.C.S. Assistant Lecturers: E. P. Perman, D.Sc. Lond., and A. A. Read.
Biology.—Professor: W. N. Parker, Ph.D.Freiburg, F.Z.S.
Botany.—Lecturer: A. H. Trow, B.Sc.
Anatomy.—Professor: A. Francis Dixon, B.A., M.B.
Physiology.—Professor John Berry Haycraft, M.D., D.Sc., F.R.S.E.
Materia Medica.—D. R. Paterson, M.D., M.R.C.P.
Registrar.—J. A. Jenkins, B.A.

The students have the privilege of attending the Cardiff Infirmary, a large and growing institution containing 200 beds, a large and well-organised out-patient department, and special departments for the eye, ear, etc. The Infirmary is within three minutes of the College, and notices of cliniques, operations, and *post-mortem* examinations are posted on the College notice boards. Further information may be obtained from Dr. John Berry Haycraft, Dean of the Medical Faculty.

SCOTLAND.

UNIVERSITY OF ABERDEEN.

Special opportunities for practical instruction are afforded in the chemical, anatomical, physiological, pathological, and hygienic laboratories; and anatomical, pathological, botanical, materia medica, forensic medicine, midwifery, natural history, and surgical museums throughout the day, under the direction of the professors. Practical instruction is given also in the toxicological, pharmaceutical, botanical, and zoological laboratories, and in the surgical museum and laboratory. Courses of practical instruction are given in summer in Medical Jurisprudence and Hygiene; in Diseases of Children, at the Sick Children's Hospital; in Fevers, at the Fever Hospital; in Insanity, at the Royal Asylum; in Diseases of the Ear and Larynx, at the Dispensary; in Diseases of the Eye, at the Infirmary and Eye Institution; in Diseases of the Skin, at the Royal Infirmary and Sick Children's Hospital. The General Dispensary and the Lying-in, Vaccine, and Eye Institutions, and the Sick Children's Hospital are open daily. Practical Pharmacy, Operative Surgery, Practical Medical Jurisprudence, and Hygiene, fee to each class, £3 3s., except Anatomical Demonstrations, Practical Natural History, Practical Midwifery, and Gynæcology, each £2 2s.; Practical Ophthalmology, Insanity, Public Health, Diseases of the Ear and Larynx, Diseases of the Skin, and Dental Surgery, each £1 1s.; Matriculation Fee, both sessions, £1; summer session alone, 10s.; Royal Infirmary, Perpetual Fee, £6; or first year, £3 10s.; second year, £3. Clinical Medicine and Clinical Surgery, each £3 3s. The winter session begins on October 13th. Bursaries, scholarships, and fellowships, to the number of forty-seven, and of the annual value of £1,028, may be held by students of medicine in this University. They range from £8 to £100 per annum, and are tenable in most cases for two years.

EDINBURGH UNIVERSITY.

Practical Instruction.—The following means are afforded for practical instruction; Royal Botanic Garden, Herbarium, and Museum; Zoological Laboratory and Museum of Science and Art; Physical Laboratory; Chemical Laboratories; Dissecting Rooms, Bone Room, and Anatomical Museum; Physiological Laboratory; Medical Jurisprudence Laboratory; Materia Medica Museum and Laboratory; *Post-mortem* Department of Royal Infirmary, and University Pathological and Bacteriological Laboratory; Royal Infirmary of nearly 800 beds; Royal Hospital for Sick Children, with nearly 100 beds; Maternity Hospital; City Fever Hospital, with nearly 400 beds; Mental Diseases at Royal Morningside Asylum. Tutorial Classes of Practice of Physic, of Clinical Medicine and Clinical Surgery.

Fees.—The Sessional Fee for Zoology, Botany (Garden Fee, 5s.), Chemistry, Anatomy Lectures, Physiology, Pathology, Materia Medica, Medical Jurisprudence, Surgery, Medicine, Clinical Surgery (Winter), Clinical Medicine (Winter), is £4 4s. each. Second Course, £3 3s. Third free. A perpetual ticket taken at the beginning of the first year is £6 6s. Physics, Practical Chemistry, Practical Physiology, Pratical Pathology, Clinical Surgery (Summer), Clinical Medicine (Summer), Practical Anatomy (Winter), Operative Surgery, Insanity, Obstetric Operations, Diseases of the Eye, and Comparative Embryology are £3 3s. Practical Botany (besides charge of 10s. for Laboratory expenses), Practical Anatomy (Summer), Anthropology, Anatomy Demonstrations, Diseases of Children, £2 2s. Vaccination, £1 1s. Matriculation Fee, £1 for each year, or 10s. for a Summer Session. Library open from 10 to 4; Saturdays, 10 to 1.

FELLOWSHIPS, SCHOLARSHIPS, BURSARIES, AND PRIZES OPEN TO COMPETITION IN THE FACULTY OF MEDICINE IN 1897-98.

I. *Fellowship.*—The Freeland Barbour Fellowship, of the value of £10[illegible] is open to award in each alternate year to the Bachelor of Medicine [illegible] Master of Surgery who has gained the highest collective marks in Anatomy, Physiology, and Pathology in the Professional Examinations and who is prepared to devote not less than one year to original research in Midwifery or Diseases of Women, in any of the Laboratories or Practical Departments of the University of Edinburgh. The next award may be made in July, 1898.

II. *Scholarships.*—(1) The Stark Scholarship in Clinical Medicine, of about £100, is tenable for one year, and is for the encouragement of the study of Clinical Medicine. It is open to competition among all matriculated students of the University who are or have been in attendance at the University Class of Clinical Medicine, and to Bachelors of Medicine of the University of not more than eighteen months' standing who have attended this class. The Examination, oral and in writing, shall include (*a*) Examination of Patients; (*b*) Questions on Therapeutics and Pathology; (*c*) Examination of Specimens. Each holder of the Scholarship shall be required to devote his time in the wards of the Professors of Clinical Medicine to original investigation or other work directly connected with Clinical Medicine; to report his proceedings every three months to the Professors of Clinical Medicine; and, within a reasonable time after the expiry of his tenure of the Scholarship, to present to the Faculty of Medicine a written statement of the results of his investigations or other work. It cannot be held along with any other Fellowship, Scholarship, or Bursary in a Scottish University. The next competition will take place in July, 189[illegible] (2) The Murchison Memorial Scholarship, tenable for one year, consisting of the annual proceeds of about £1,000, will be awarded in alternate years in Edinburgh and London, for proficiency in Clinical Medicine. Candidates to be registered students of medicine in attendance for not less than four nor more than six years at hospitals and classes in Edinburgh and London, recognised by the University of Edinburgh or the Royal College of Physicians of London. The competition is open to candidates from London and Edinburgh, and in 1898 will take place in London. (3) The Buchanan Scholarship, of about £40 10s., is awarded annually to proficiency in Midwifery and Gynæcology. The award will be based upon the results of competitive examinations in the University class of Midwifery and Diseases of Women and Children, upon the character of the records kept of cases treated in the Gynæcological section of the University class of Clinical Medicine, and upon the appearance made by the candidate at the Final Graduation Examination. (4) The James Scott Scholarship, of the value of £42 10s., is awarded annually for proficiency in Midwifery. The award will be based upon the results of the competitive examinations in the University class of Midwifery, upon the character of the records of cases of Midwifery attended by the candidate at the Royal Maternity and Simpson Memorial Hospital, and upon the position obtained by him at the Final Examination for degrees in Medicine. The Scholarship is held for one year, but may in special circumstances be continued for another year. (5) The Thomson Scholarship, value £40, tenable for four years, open to matriculated students commencing their first Winter Session in Medicine. The examination is on Botany, Zoology, and Elementary Mechanics. Students of the name of Thomson or Traquair, or those who are natives of the town or county of Dumfries, or of the city of Edinburgh, have a preference. Candidates claiming such preference must intimate their names to the agents for the trust at least one clear week before the examination. The next competition will take place in October, 1898, on a day to be afterwards announced. For further particulars, apply to Messrs. Traquair, Dickson, and Maclaren, W.S., 11, Hill Street, Edinburgh, the Agents for the Trustees, before September 20th. (6) The Ettles Scholarship in Medicine, of the value of about £31 5s., is awarded annually to the Bachelor of Medicine and Master in Surgery whom the Medical Faculty may consider the most distinguished of the year. (7) Two Hope Prize Scholarships, in connection with the Chemical Laboratory of the University, each of the value of about £30 per annum, tenable for one year, are awarded annually at the end of the Winter Session. The scholarships are awarded to the two students whom the Professor of Chemistry thinks most deserving of those who have worked during the Winter Session in the Chemical Laboratory of the University. The scholars must work during the Summer and Winter Sessions succeeding their appointment in the Chemical Laboratory of the University, and must assist the Professor of Chemistry in such manner as he thinks fit in each case. The scholars are not required to pay fees for the laboratory. (9, 10) Two Crichton Scholarships for Research may be offered in October to candidates who have been students of this University for not less than four years—one in Anatomy and one in Physiology—each of the value of £100, and tenable for one year, with power of reappointment. Candidates are required to intimate their names, and to give a sufficient description of the research work they propose to undertake, to the Dean of the Faculty of Medicine on or before September 1st. The examinations are both written and practical. (11) The Houldsworth Scholarship, for promotion of research in Pharmacology in the department of Materia Medica in the University

the annual value of about £40, and tenable for one year, with power to re-elect for a second or even a third year, if good work is being done by the scholar. It is open to Graduates in or Students of Medicine of the University, after such examination, competitive or otherwise, as may be deemed necessary. The first competition will take place in January, 1898, the date to be afterwards announced. Candidates to give in their names to the Dean of the Faculty of Medicine on or before December 17th, 1897. (12) The Mackay Smith Scholarship in Chemistry. This Scholarship is of the annual value of £25, tenable for two years, and is open for competition to students who have attended the Class of Chemistry in this University. The successful candidate is bound to attend the Class of Chemistry, or to prosecute the study of chemistry in the University during at least one year of his tenure of the Scholarship, in such way as the Senatus Academicus may direct or approve. The next examination will take place on March 25th, 1898, at 10. Names of Candidates to be entered at the Matriculation Office on or before March 15th.

III. *Bursaries.*—(1 and 2) Two Sibbald Bursaries of £30 a year, tenable for three years. For particulars, apply to Messrs. Mackenzie, Innes, and Logan, W.S., 23, Queen Street, Edinburgh, before September 15th. (3 and 4) Two Thomson Bursaries, value £25 each, tenable for four years. One to be competed for each March and October, at the Preliminary Examinations required of Candidates for graduation in Medicine. Candidates must be about to commence their Medical Curriculum, and must pass the Preliminary Examination in the University in a sufficient number of subjects to enable them to appear for a Professional Examination, provided (1) that they have not already passed the said Preliminary Examination; and (2) that in the event of their having passed an equivalent examination and presenting themselves for the Medical Preliminary Examination, they shall waive all right to admission to the Faculty of Medicine except through the ordinary Medical Preliminary Examinations of this University, which have to be passed before the First Professional Examination. Preference to be given to candidates of the names of Thomson or Traquair, or to natives of the town or county of Dumfries, or of the city of Edinburgh. Candidates claiming a preference must send their names to Messrs. Traquair, Dickson, and Maclaren, W.S., 11, Hill Street, Edinburgh, before September 15th. (5, 9) Five Grierson Bursaries, to be awarded to natives of the parishes of Crawford and Loadhills. In the absence of preferential candidates each bursary will be tenable for one year only, and will be open to competition. One bursary of £20 to the student who shall pass the best examination of the year in the subjects of the Preliminary Examination, provided (1) that he has not already passed the Medical Preliminary Examination, (2) that at the date of the examination he has not completed his 21st year, and (3) that, in the event of his having passed an equivalent examination and presenting himself for the Medical Preliminary Examination, he shall waive all right to admission to the Faculty of Medicine except through the ordinary Medical Preliminary Examinations of this University, which have to be passed before the First Professional Examination. The next competition will take place in October, 1897. One bursary of £20 to the student commencing the Second Winter Session who, having already passed the subjects of the Preliminary Examination required for graduation in Medicine, shall pass the best Examination in Chemistry, Botany, Natural History, and Physics. One bursary of £20 to the student commencing the Third Winter Session who, having already passed the First Professional Examination, shall pass the best examination in Anatomy and Physiology. One bursary of £10 to the student commencing the Fourth Winter Session who, having already passed the Second Professional Examination, shall pass the best Examination in Materia Medica. One bursary of £10 to the student commencing the Fifth Winter Session who shall pass the best Examination in Pathology. Candidates for the Second, Third, Fourth, and Fifth year bursaries must also show that they are eligible candidates. The competition for the Second, Third, Fourth, and Fifth year bursaries will take place in October, 1897, on a date to be afterwards announced. Names of candidates to be entered on or before September 17th. (10, 11) Two John Aitken Carlyle Bursaries, of the value of £28, each tenable for one year, are awarded at the end of each Winter Session; one to a first year's student for proficiency shown in the Ordinary Class Examinations in Anatomy and Chemistry; one to a second year's student for proficiency shown in the Ordinary Class Examinations in Anatomy and Physiology. (12, 13) Two Mackenzie Bursaries, each of the value of £20 (which may be divided), are awarded annually to students of Practical Anatomy of any year who shall display the greatest industry and skill in Practical Anatomy work during the Winter Session. (14) Renton Bursary, about £20, for one year. Candidates must attend one or more of the classes of Natural Philosophy, Mathematics, Chemistry, or Political Economy, and must show that they require pecuniary aid. It cannot be held by anyone under the age of 16 or above 21, or with another Bursary of the value of £30 or upwards. The Examination is in English and Elementary Mathematics, as for the First Year Open Bursaries in Arts. Names of candidates to be entered at the Secretary's Office on or before September 17th. (15, 16) Two Crichton Bursaries, each of the annual value £50, open to students who are entering the Faculty of Medicine of this University, and tenable for four years, provided the Bursars continue students of Medicine of this University. The Examinations are in Latin, Greek, French, German, Mathematics, Logic, and Moral Philosophy, and one will be competed for annually at the Preliminary Examination in Autumn and one in spring.

IV. *Prizes.*—In addition to Gold Medals given on the day of Graduation to Doctors of Medicine whose theses are deemed worthy of that honour, some twelve prizes will be available for the session 1897-98.

V. *William Dickson Travelling Fund.*—This fund (the interest of which amounts to about £100 per annum) has been established for the purpose of assisting graduates of any faculty, of not more than three years' standing, to travel, for a shorter or longer period, for purposes of study or research. Grands from the fund may be made to holders of scholarships, bursaries, etc. Applicants are required to state: (1) The purpose for which they desire to get a grant for travelling; (2) the total amount of expenditure thought necessary; (3) the other means they have towards meeting this expenditure; and (4) the amount of the grant required. Holders of grant required to report periodically to the Senatus. Applications to be made to the Secretary of the Senatus on or before March 15th

VI. *Lectureship.*—The Swiney Lectureship on Geology is in the patronage of the Trustees of the British Museum; is of the annual value of £144; is open to graduates in any of the faculties of the University of Edinburgh who have obtained their degrees after examination. The lectureship is tenable for five years only. Twelve lectures must be given by the holder in each academical year.

VII. *Regulations for George Heriot's Bursaries for Women Students of Medicine.*—George Heriot's Trust have arranged for a certain number of bursaries for those who require aid in obtaining "higher education." Application by the appropriate form of schedule has to be made by September 15th, 1895, to the Treasurer, 20, York Place, Edinburgh. The Bursar may attend any School of Medicine for Women recognised by the Edinburgh University Court, and may hold her bursary for three years. III. The subjects of examination shall be the same as those prescribed for the Preliminary Examination in Arts or Science—namely, English, Latin (Higher Grade), Latin (Lower Grade), Greek (Higher Grade), Greek (Lower Grade), Mathematics (Higher Grade), Mathematics (Lower Grade), French, German, Italian, and Dynamics. Candidates may take as many subjects as they please, but should they fail to secure 25 per cent. of the marks allotted to a subject, the paper in that subject will be cancelled. *Note.*—The marks assigned to each subject are as follows: English, 100; Latin (Higher Grade), 100; Latin (Lower Grade), 50; Greek (Higher Grade), 100; Greek (Lower Grade), 50; Mathematics (Higher Grade), 100; Mathematics (Lower Grade), 50; French, 70; German, 70; Italian, 70; Dynamics, 50. No marks shall be given for the lower paper in any subject where the higher paper in that subject is also taken.

VIII. *Earl of Moray's Bequest for the Promotion of Original Research.*—All graduates and other members of the University, "or other persons who have given satisfactory proof of general education and fitness to engage in some special study of research," may apply for grants from this fund. In so far as the subject of the Research admits, the investigations shall be conducted in the buildings of the University.

Edinburgh Royal Infirmary.

Fees.—Six months, £4 4s.; one year, £6 6s.; perpetual, £12 in one sum, or separate payments, £12 12s.

Six resident physicians and five surgeons are appointed every six months; they live in the house free of charge, save laundry. They must be registered. Many non-resident clinical clerks are also appointed for six months. The physicians and surgeons appoint their own clerks and dressers, and assistants in the Pathological Department are appointed by the pathologists. Instruction is given in all the special departments.

School of Medicine of the Royal Colleges, Edinburgh.

The School of Medicine of Edinburgh dates from 1505. The teaching is similar to that of the Scottish Universities, and the students receive similar certificates at the close of each session. The courses on the special subjects not included in the curriculum of the Examining Boards are also conducted by teachers specially qualified in each branch, and have for the last quarter of a century formed a special feature of the School.

This School of Medicine is composed of lecturers licensed by the Royal Colleges of Physicians and Surgeon, and who are also recognised by the University through their *licentia docendi*, who, for the sake of convenience, lecture in several buildings near at hand to the Royal Infirmary. The lecturers form one body, are all subject to the same rules and regulations, and enjoy the same privileges. A new constitution and set of regulations have just been drawn up, in virtue of which the government of the School is placed in the hands of a Governing Board consisting of five members elected by the Royal College of Physicians, of five members elected by the Royal College of Surgeons, and of five members elected by the Lecturers in the School. This Board, with the assistance of the Standing Committees of the School, supervises the whole management, and specially the maintenance of the efficiency and discipline of the School. The different buildings at present utilised for the purpose of lecturing are the following: 1. Surgeons' Hall, Nicolson Street; 2. Minto House, Chambers Street; 3. Nicolson Square; 4. Marshall Street; 5. The New School, Bristo Street; and other places.

Edinburgh School of Medicine for Women.

No student is admitted under the age of 18, and a form of application must be got from the Secretary, filled up, and returned before the beginning of each session. The teachers are now recognised as giving qualifying courses for the Edinburgh degrees of M.B. and Ch.B., as well as for the various other bodies admitting women to medical diplomas and degrees.

A full curriculum of instruction in all subjects is provided. Anatomy and Practical Anatomy, Chemistry and Practical Chemistry, Botany and Zoology, will be given every year at the School, and Physiology at Surgeons' Hall; as also courses of Clinical Medicine and Surgery at the Hospital; and the other courses in biennial rotation. For winter 1897-98 the courses will be Practice of Medicine, Physiology, Materia Medica, Clinical Medicine, Clinical Surgery, Hospital Visits, Pathology, Practical Pathology, *Natural Philosophy*, *Anatomy*, *Practical Anatomy*, *Chemistry*. [Those in italics are for Junior Students.] For summer 1898: Operative Surgery, Ophthalmology, Fevers, Hospital Visits, Clinical Medicine, Clinical Surgery, *Botany*, *Zoology*, *Practical Chemistry*, *Practical Pharmacy*.

Cost.—The whole amount of a student's fees for education and examination may be set down at about £160. This includes £30 as examination fees for the "Triple Qualification" of the Scotch Colleges, or the University fees for graduation. The usual arrangement as to the fees for the classes in the School is to pay £30 for each of the first two years, £25 for the third, £20 for the fourth, the fifth year being free. The University of Edinburgh accepts this system of payment by instalments as equivalent to University fees. Single classes can also be attended at University fees on payment of a School matriculation fee. The cost of books, instruments, etc., will vary from £10 to £30 over and above the £160.

Scholarships.—(1) The Executive Committee hope every year to be able to offer two or three Entrance Scholarships of £20 for competition to those who need assistance; (2) the Arthur Scholarship, of the value of £40, open to competition among first year students who need help, to be awarded in 1898-99; (3) the Waldie Griffith Scholarship of £30 open similarly to the last, to be awarded in 1897-98; (4) the Dufferin Scholarship of £100, open to women who intend to practise in India, is hoped to be again available as in 1890; (5) the Cropper Scholarship of £50, for Indian ladies; (6) some five missionary societies frequently give help in bearing the cost of education. Particulars as to George Heriot's Bursaries for Women Students will be found in previous column. The classes at this School form an integral part of the Extramural School (The School of the Royal Colleges) of Edinburgh, and provide the whole curriculum required by the Scottish Conjoint Board, and the classes also qualify for such of the Examining Boards as are open to women, namely, the University of London, the University of Edinburgh, the University of St. Andrews, the Royal University of Ireland, the Conjoint Irish Colleges of Physicians and Surgeons, and the Society of Apothecaries of London.

It is hoped that a hall of residence may ultimately be opened in connection with the School, and in the meantime Miss Scott-Moncrieff will be glad to assist students to find desirable lodgings, or board in families. The latter can be obtained at about £1 per week, more or less, according to requirements. Arrangements will be made to supply a substantial midday meal at the school during the session for those who cannot conveniently go home. The charge is £3 for a winter session, and £1 10s. for a summer. Further particulars from Miss Scott-Moncrieff, or in the *Edinburgh Medical School Calendar*, published by E. and S. Livingstone, 15, Teviot Place, Edinburgh, price 2s.; post free, 2s. 3d.; or the prospectus of the school got on application to the Secretary, Miss Scott-Moncrieff.

MEDICAL COLLEGE FOR WOMEN, EDINBURGH.

Clinical instruction in the Royal Infirmary qualifies for graduation in the Universities. Precisely the same facilities for medical study are given as to male students in the School of Medicine, Edinburgh. Arrangements, fees, and regulations are similar. All the teachers are qualified lecturers of the School, and their courses admit to the various qualifying bodies for women. The lecturers are also recognised by the University of Edinburgh as giving courses admitting to the degrees of M.B., Ch.B. In the case of those proceeding to such degrees, the same fees as those in the University must be paid. The classes are open to all ladies, whether taking a full medical curriculum or not. The school is a large and vigorous one. Prospectus and all information from Miss H. F. Mackay, 20, Chambers Street (Minto House).

UNIVERSITY OF GLASGOW.

The whole course of study presented by the University of Glasgow (*q. v.*) can be passed in the Medical School of the University.

For practical work there are available the Physical, Chemical (winter course, £10 10s.; summer, £5 5s.), Physiological, Zoological, and Botanical Laboratories; and the Botanic Gardens.

Partial Study Elsewhere.—Only two of the five years need be spent at the University; the remaining three may be spent in such universities or schools, or under such teachers, as are recognised by the University Court.

Bursaries, etc.—Sixteen Bursaries and Prizes in Medicine are open to competition during Session 1897-98, the aggregate value of which is about £300, besides fourteen in the Faculty of Science.

Hospitals.—The University is in the immediate neighbourhood of the Western Infirmary, with 400 beds, and near to the Lunatic Asylum, and Special Hospitals for Diseases of the Eye, Skin, etc.

Fees.—The class fees are, as a rule, £3 3s., excepting Practical Anatomy and Anatomical Lectures (in summer), Operative Surgery, Embryology, and Diseases of Women, which are £2 2s. A Perpetual Hospital Ticket costs £21, payable £10 10s. in the first year, and the same the second, and this includes clinical instruction. The fee for the degree of M.D. is £10 10s. (exclusive of stamp duty, £10); for Ch.M., £10 10s. The total class and hospital fees for the five years' course amount to about £97 13s., to which add the annual matriculation fee (£1 1s.) and the fees for M.B., Ch.B. (£23 2s.) making a total of £126.

The Women's Department of the University (Queen Margaret College).—The course of study, degrees, regulations, fees, etc., are the same as for men. Women students have their own buildings, with reading and writing rooms, drawing room, library, etc., and are taught in classes apart from male students, but have all the rights and privileges of university students. Their clinical studies are taken in the Royal Infirmary, where wards are reserved for their exclusive use, and in its dispensaries; also in the Royal Hospital for Sick Children; the Royal Asylum, Gartnavel; the City of Glasgow Fever Hospital, Belvidere; and the Glasgow Maternity Hospital.

Scholarships and Bursaries at Queen Margaret College.—A scholarship of £20 for three years will be open to competition by first year students at the First Professional Examination in October, 1898. The Mackintosh Mental Science Bursary of £30 is open to medical students who have attended the Insanity Lectures. The University Commissioners have issued an Ordinance to make regulations for the admission of women to certain Bursaries, Scholarships, and Fellowships. It came into force on May 11th, 1895. Miss Galloway will supply details.

Class and Examination Fees.—The class and hospital fees for the subjects enjoined by Ordinance as constituting a five years' course of study and clinical work amount to about £95 11s. To this must be added £5 5s. for matriculation fees (£1 1s. for each of five years), £23 2s. for examination fees and £5 1s. for registration as a medical practitioner.

Board for Students.—A House of Residence for women students, Queen Margaret Hall, is situated near the College. The cost for board and residence is £30 to £37 10s. for the College session of 30 weeks, according to accommodation. Students bring their own towels and dinner napkins. Full information will be obtained from the Honorary Secretary, Mrs. D. S. Riddoch, 2, Lawrence Place, Dowanhill, Glasgow; or from Miss Galloway, Queen Margaret College.

For further information male students may apply to Mr. W. Innes Addison, Matriculation Office, Glasgow University; women students to Miss Galloway, Queen Margaret College, Glasgow, W., from whom copies of the prospectus may be got.

ST. MUNGO'S COLLEGE, GLASGOW.

The College buildings are situated within the grounds of the Royal Infirmary, the wards and clinical instruction therein being available for students. The Winter Session opens on October 14th. Qualifying classes are held during the winter

n Physics, Zoology, Embryology, Chemistry, Anatomy, Materia Medica, Physiology, Pathology, Medicine, Surgery, Ophthalmology, Gynæcology, Diseases of Throat and Nose, nd in Public Health, Laboratory Work. Instruction is also iven daily in the Dispensary by the Assistant Physicians nd Surgeons of the Royal Infirmary. During the summer he classes include Botany, Medical Chemistry, Practical 'athology, Practical Physiology, Anatomy, Operative Surery, Diseases of Children, Clinical Medicine, Clinical urgery, Medical Jurisprudence, Dermatology, Otology, Bacriology and Psychological Medicine. All classes in this ollege qualify for the diplomas of the English, Scotch, and rish Conjoint Boards.

Sessional Fees.—First year, £15 15s; second year, £15 15s.; ird year, £10 10s.; fourth year (and perpetual), £5 5s. Total ost of qualifying course, including Corporation Licence, bout £100.

Class Fees.—£2 2s. for each class, except Anatomy, £4 4s.; athology, £4 4s.; Zoology, £4 4s.; Botany, £3 3s.; Otology, hroat and Nose, and Dermatology, £1 1s.

Hospital Fees.—First year, £10 10s.; second year (and peretual), £10 10s.

Full information from the Dean of the Faculty of Medicine, r. R. T. Kent, at the College.

Glasgow: Anderson's College Medical School.

Lectures are delivered on all the subjects of the five years' rriculum. Hospital Practice and Clinical Lectures in estern or Royal Infirmary; Pathology in Western or Royal firmary; Vaccination and Dispensary Practice in Western Royal Infirmary Dispensary. The above lectures qualify r all the Licensing Boards in the United Kingdom. They e also recognised by the Universities of London, Durm, Ireland, Glasgow, and Edinburgh (the latter two der certain conditions which are stated in the School lendar).

The new buildings are situated in Dumbarton Road, immeately to the west of the entrance to the Western Infirmary, thin two minutes' walk of that institution and four minutes' lk of the University.

A *Calendar* containing full particulars of the School may be tained from Professor A. M. Buchanan, M.A., M.D., the cretary to the Medical Faculty, Anderson's College Medi School, Dumbarton Road, Partick, Glasgow.

The session opens on Thursday, October 14th.

Class Fees.—(Anatomy, Chemistry, Practical Materia dica and Pharmacy, Zoology, Botany, and Mental Diseases cepted), first session, £2 2s.; second session, £1 1s.: erwards free. Anatomy Class Fees: Winter, first session cluding Practical Anatomy), £4 4s.; second session (inding Practical Anatomy), £4 4s.; third session, £2 2s. those who have had the necessary courses of ctical Anatomy, the fee will be £1 1s. Summer—tures and Practical Anatomy, £2 12s. 6d.; Lectures ne, £1 11s. 6d.; Practical Anatomy alone, £1 1s.; Osteology l Practical Anatomy, £2 12s. 6d.; Osteology alone, 11s. 6d. Chemistry Class Fees: Winter, first course, 2s.; second course, £2 2s. Summer (Practical), first rse, £2 2s.; second course, £2 2s. Practical Materia dica and Pharmacy Fees: first session, £2 2s.; second sion, £2 2s. Zoology, £1 11s. 6d. Practical Zoology, 1s. Botany, £1 11s. 6d.. Practical Botany, £1 1s. ntal Diseases, £1 1s. Matriculation Fee: Winter, 10s. to se taking out two or more classes, which represents a mbined fee for the winter and summer sessions; 5s. to se taking only one class. Summer, 5s., except to those have paid a fee of 10s. for the winter session. Students have attended classes at other schools, and who desire pursue their studies at Anderson's College Medical School, be admitted to such classes as they may have attended where at the reduced fees.

University College, Dundee.

tudents proceeding to the degrees of the Scotch universi, the University of London, the Royal University of Ire, and the licences of the Royal Colleges, can now come the first two years of the curriculum by attendance on the classes of this department, which along with the practice of the Dundee Royal Infirmary are open to women.

The following order of study is suggested:

First Winter.—Chemistry, Physics, and Anatomy. *First Summer.*—Botany, Anatomy. *Second Winter.*—Anatomy, Physiology, Surgery, Hospital. *Second Summer.*—Practical Physiology, Practical Pharmacy, Practical Anatomy, Hospital.

Dundee Royal Infirmary.—The Infirmary contains 286 beds, with a special ward for the treatment of diseases of children. Two Resident Qualified Assistants are appointed annually. Clinical Clerks and Dressers are attached to the physicians and surgeons, and students are appointed to assist in the *post-mortem* room. Instruction in Practical Pharmacy is given in connection with the dispensary. Out-patients are seen daily at 9 A.M. The instruction given at the infirmary is recognised for purposes of graduation by all the Scotch Universities, and by the Royal Colleges of England and Scotland. Further information may be had on application to the Medical Superintendent.

Dundee Royal Asylum.—The appointments include a qualified Resident Assistant and a Resident Clinical Clerk. Clinical instruction is given.

The session begins on Tuesday, October 5th.

Further information as to scholarships, etc., may be had from Mr. R. N. Kerr, F.E.I.S., Secretary.

IRELAND.

Students desirous of prosecuting their medical studies in Ireland may attend the School of Physic in the University of Dublin; the Schools of Surgery of the Royal College of Surgeons of Ireland, the Catholic University School of Medicine, Dublin; or the Schools of Medicine of the Queen's Colleges in Belfast, Cork, or Galway. The student will be guided in his arrangements for clinical instruction by the advice of the teachers of the School which he may select to attend.

School of Physic in Ireland, Dublin.

This school is formed by an amalgamation of the medical schools of Trinity College and of the Royal College of Physicians; the King's Professors of Institutes of Medicine, Practice of Medicine, Materia Medica, and Midwifery, being appointed by the latter. (See also page 539.)

Clinical instruction is given by the staff of Sir Patrick Dun's Hospital. The following Hospitals are also recognised by the Board of Trinity College: Adelaide Hospitals, City of Dublin Hospital, Dr. Steevens's Hospital, House of Industry Hospitals, Jervis Street Infirmary, Mater Misericordiæ Hospital, Mercer's Hospital, Meath Hospital, the National Eye and Ear Infirmary, St. Mark's Ophthalmic Hospital, St. Vincent's Hospital, Richmond Hospital, St. Patrick's Hospital.

Catholic University Medical School.

Prospectuses and further information about this school, which provides complete courses of lectures as required by the examining bodies, may be obtained from the Registrar of the School, Cecilia Street, Dublin, who has written a very useful *Guide for Medical Schools*, which is supplied on application. (See also page 539.)

The Schools of Surgery of the Royal College of Surgeons in Ireland.

The Schools of Surgery are attached by Charter to the Royal College of Surgeons, Dublin, and have existed as a department of the College for nearly a century. They are carried on within the College buildings, and are specially subject to the supervision and control of the Council. The buildings have been reconstructed, the capacity of the Dissecting Room nearly trebled, and special Pathological, Bacteriological, Public Health, and Pharmaceutical Laboratories fitted with the most approved appliances, in order that students may have the advantage of the most modern methods of instruction. There are special rooms set apart for lady students. The entire building is now heated by hot-water pipes, and lighted throughout by the electric light. A refreshment room is also open where students can have luncheon. The certificates of this school are accepted by all the Universities and Colleges of Physicians and Surgeons throughout the Kingdom. All the lectures and courses of practical instruction may be attended by medical students who are otherwise unconnected with the College. (See also page 539.)

Queen's College, Belfast.

The courses of study meet the requirements of the Royal University of Ireland and other examining bodies. The class fee is £2, except in a few cases. The total cost of the medical curriculum of the Royal University of Ireland, including examination fees and perpetual fee for the Royal Hospital, but not including fees for the special hospital, is £87. It amounts to about the same for the course of the Conjoint Board in Ireland.

Clinical instruction is given at the Royal Hospital. *Fees*, six months, £7 7s.; nine months, £9 9s.; Perpetual, £21 in two instalments. The Ulster Hospital for Diseases of Women and Children, the Maternity Hospital, the Ophthalmic Hospital, the Ulster Eye, Ear, and Throat Hospital, the Hospital for Sick Children, and the District Lunatic Asylum are open to students.

Prizes.—(1) Ten medical scholarships each year, value £20 each; (2) two Dunville studentships (one each alternate year), value £145 each; (3) one Andrews studentship each alternate year, value £150; (4) numerous sessional prizes. Clinical Prizes: two exhibitions each year, value £20 each.

Extensive additions have been recently made to the College laboratories; these comprise a new Chemical Department, opened in 1894-95, together with the new Physiological and Pathological Laboratories to be ready for the opening of the winter session.

A pamphlet containing full information can be had free on application to the Registrar, Queen's College, Belfast.

Queen's College, Cork.

Clinical instruction is given at the North and South Infirmaries (each 100 beds). Students can also attend the Mercy Hospital (60 beds), the Cork Union Hospital, the County and City of Cork Lying-in Hospital, the Maternity, the Hospital for Diseases of Women and Children, the Fever Hospital, the Ophthalmic and Aural Hospital, and the Eglinton Lunatic Asylum. The session at Queen's College extends from October to April inclusive (twenty-seven weeks), but arrangements have been made for the delivery of some of the three months' courses of lectures during the months of April, May, and June. The hospitals are open to students in May, June, and July also.

Queen's College, Galway.

Clinical instruction is given at the Galway County Infirmary and the Galway Town Hospital.

Prizes.—Attached are eight scholarships of the value of £25 each. The Council may award Exhibitions to matriculated students at the examinations for junior scholarship. All scholarships and exhibitions of the second, third, and fourth years may be competed for by students who have attained the requisite standing in any medical school recognised by the College Council, and have passed the Matriculation Examination in the College, or in the Royal University of Ireland.

Clinical Hospitals of Dublin.

Sir Patrick Dun's Hospital.

Appointments.—A House-Surgeon is appointed annually, and four Resident Pupils half-yearly.

Hospital Attendance and Clinical Lectures.—The payment of £12 12s. entitles a student to the benefits of Hospital attendance and Clinical teaching for the winter and summer sessions commencing October 1st. *Fee* for winter session only, £8 8s. *Fee* for summer session only, £5 5s. The fees will be received by Dr. Taylor, Honorary Secretary, by any member of the Staff, or by the Registrar of the School of Physic in Trinity College.

Richmond, Whitworth, and Hardwicke Hospitals.

These Hospitals contain 312 beds: 110 for surgical cases, 82 for medical cases, 120 for fever and other epidemic diseases.

The Richmond Lunatic Asylum, containing over 1,200 patients, adjoins these hospitals, affording facility for the study of mental disease.

Appointments.—A Resident Surgeon and a Resident Physician are appointed every year, receive a salary, and hold office for one year. Eight Residential Clinical Clerks are appointed each half year, and provided with furnished apartments, fuel, etc. These appointments are open not only to advanced students, but also to those who are qualified in Medicine and Surgery. The Dressers are selected from among the best qualified of the pupils, without the payment of any additional fee.

Further information can be obtained from the Honorary Secretary, Dr. J. O'Carroll, 27, Westland Row, or the Hon. Treasurer, Sir William Thomson, 54, Stephen's Green, E.

Adelaide Medical and Surgical Hospitals.

The hospitals contain 140 beds. A House-Surgeon is appointed yearly, and three resident pupils are selected half-yearly.

Further particulars may be obtained from Mr. F. T. Heuston, 15, St. Stephen's Green, Dublin, N., or any of the members of the medical staff.

City of Dublin Hospital.

Appointments.—Clinical Assistants to the Physicians and Dressers to the Surgeons are appointed from the most deserving of the class, and certificates awarded for the faithful performance of their duties. Medical and Surgical Resident Pupils are appointed, and Special Certificates awarded if merited. A House-Surgeon is appointed annually.

For further particulars apply to Mr. Arthur Benson, F.R.C.S., 42, Fitzwilliam Square, or at the hospital.

Jervis Street Hospital, Dublin.

The hospital was founded in 1718, and was rebuilt in 1886.

Appointments.—Resident Pupils, Clinical Clerks, and Dressers are appointed every six months without additional fee, and are awarded special certificates if their duties have been satisfactorily performed. Six interns are appointed each half-year, and are provided with apartments, etc., free of expense. *Fees:* Winter Session, £8 8s.; summer, £5 5s.; winter and summer, £12 12s.

The hospital prospectus and any further information can be obtained from Dr. J. J. Cranny, Hon. Secretary, Medical Board.

Mater Misericordiæ Hospital.

This hospital, the largest in Dublin, at present contains 323 beds. Fifty beds are specially reserved for the reception of patients suffering from fever and other contagious diseases. Connected with the hospital are extensive Dispensaries, which afford valuable opportunities for the study of general Medical and Surgical Diseases, Accidents, etc.

Appointments.—A House-Physician and Four House-Surgeons are appointed annually. They each hold office for one year. Sixteen Resident Pupils are elected from the most attentive of the class, each one to hold office for six months.

Entries are to be made with and fees paid to the Registrar, A. Chance, F.R.C.S., 90, Merrion Square, Dublin.

A prospectus containing in detail the arrangements for clinical instruction, prizes, etc., may be obtained from the Secretary of the Medical Board, Dr. Joseph Redmond, 8, Clare Street, Dublin.

Dr. Steevens's Hospital.

The hospital contains 200 beds. The facilities for obtaining practical acquaintance with the treatment of injuries from accidents and other emergencies are unusually great in this institution, owing to its position, and there are always in the wards instructive cases of acute and chronic disease. The various forms of syphilis can be studied in the ward set apart for this disease, and there is also a separate Fever House.

A fee of £10 10s. is charged for each term of three months' residence. This fee includes that for Hospital Practice, and must be paid in advance. Resident pupils not requiring certificates in Hospital Practice are admitted at reduced rates.

There is accommodation for two Medical and Six Surgical Resident Pupils, who are provided with separate furnished rooms, with coals and gas, also a common comfortable sitting-room for meals, which latter can be obtained at a reasonable rate.

Further particulars may be obtained from the Honorary Secretary, Dr. R. A. Hayes, 82, Merrion Square South, Dublin.

TABLE OF FEES FOR HOSPITAL ATTENDANCE AND LECTURES—IN ENGLAND AND IRELAND.

	St. Bartholomew's.	Charing Cross.	St. George's.	Guy's.	King's College.	London.	St. Mary's.
Composition Fee for all Systematic Lectures and Hospital Practice required by Examining Boards, with certain minor exceptions in some instances	£157 10s.; or 1st year, £42; 2nd year, £42; 3rd year, £42; 4th year, £42	£115 10s. in one payment, or £127 1s. in five instalments,* namely: 1st win., £34 13s; 1st sum., £23 2s.; 2nd win., £23 2s.; 2nd sum., £23 2s.; 3rd win., £23 2s.	£145 9s.; or, by four instalments, £150	150 guineas; or four instalments of 50 guineas each	£135; or two years £70 each year; or three years, £48 each year; or four years, £37 each year	130 guineas by three instalments, or 120 guineas in one payment	Perpetual, £139; or £144 by instalments: 1st year, £46; 2nd year, £40; 3rd year, £30; 4th year, £28.
University students who have finished Anatomical and Physiological studies	£84, or £85 1s. in three instalments	£63 in one payment, or £68 5s. in two instalments	£85	£80, or instalments of £52 10s. and £31 10s.	—	£63	£26 5s. a year.
Fee to qualified practitioners for Hospital Practice and Clinical Lectures	£15 15s.	—	—	Three months, £7 7s.; six months, £10 10s.; unlimited, £15 15s.	£10 10s. for one year; £5 5s. for any less period	—	Perpetual, £15 15s.

* To sons of regular medical practitioners £105 in one payment, or £115 10s. in five instalments. Dental students £56 14s. in one payment, or £63 in two instalments.

	Middlesex.	St. Thomas's.	University College.	Westminster.	London School of Medicine for Women.	Mason College, Birmingham.	Bristol Medical School.
Composition Fees for all Systematic Lectures and Hospital Practice required by Examining Boards, with certain minor exceptions in some instances	£126; 1st win., £63; 2nd win., £42; 3rd win., £31 10s.	£150; or on entr., £85; 2nd year, £72 10s.; or, 1st year, £75; 2nd year, £50; 3rd year, £32 10s.; or, 1st year, £65; 2nd year, £50; 3rd year, £30; 4th year, £12 10s.	£141 15s.; or 1st year, £68; 2nd year, £52 10s.; 3rd year, £26 5s.	£105; or two instalments of 55 guineas each; or six instalments of 25 guineas and 15 guineas alternately	£135; or 1st year, £56; 2nd year, £40; 3rd year, £30; 4th year, £10	£112	£94 10s.; or for lectures, two instalments, £36 15s. and £26 5s.; and perpetual hospital, £36 15s.
University students who have finished Anatomical and Physiological studies	£73 10s., or instalments of £42 and £36 15s.	£80, or two instalments of £52 10s. and £31 10s.	—	£64, or two instalments of £34	—	—	—
Fee to qualified practitioners for Hospital Practice and Clinical Lectures	Ordinary class fees if certificates are required, if not £2 2s. for three months.	Perpetual, £15 15s.	Special arrangements may be made.	£12 12s.	—	—	—

	Yorkshire College, Leeds.	Univers. Coll., Liverpool.	Owens Coll., Manchester.,	University of Durham Coll. of Med.	School of Physic, University of Dublin.	Catholic University School of Medicine.	Schools of Surgery, R.C.S.I.
Composition Fees for all Systematic Lectures and Hospital Practice required by Examining Boards, with certain minor exceptions in some instances	£115 10s., or two instalments of £59 16s.	£112; or Comp. for Vict. M.B., Ch.B., three instalments, £24 15s., £51, and £51	£112, or two instalments of £57	£99 15s., or by two instalments of £61 19s. and £49 7s.; or by three of £59 17s., £42, and £27 6s.	£122 6s. 6d., or including degree fees, £150 18s.	R.U.I. course, total cost, including degree fees, £163 1s.; Conjoint course, R.C.P. and S.I., total cost, including examination fees, £162 15s.	Conjoint course, R.C.P. and S.I. Lectures and Hospital Practice, £121 5s.; total cost, including licence fees, £161 5s.; R.C.S.I. and A.H., £105 10s., and £131 15s. respectively.
University students who have finished Anatomical and Physiological studies	£67 4s., or two instalments of £34 13s.	—	—	—	—	—	—

St. Vincent's Hospital.

This hospital contains 160 beds, and has attached to it a dispensary and three special dispensaries. The whole practice of the hospital is available for clinical instruction, which is carried on during the session in a systematic manner. Systematic courses are delivered in Medicine and Surgery. *Post-mortem* examinations are made in the pathological theatre, and frequent opportunities are given for the examination of morbid specimens. There is a museum in connection with this department. Instruction is also given daily in the dispensaries.

The hospital is in proximity to the principal colleges and medical schools. Its certificates are recognised by all the universities and licensing bodies in the United Kingdom. Two Resident Medical Officers and sixteen Resident Pupils are appointed annually from amongst the most deserving members of the class. The fees for clinical attendance are the same as at the other Dublin hospitals.

Arrangements have been made with the Fever Hospital, Cork Street, for providing senior students with clinical instruction in infective fevers, as required by the licensing bodies, without extra charge.

Further particulars can be obtained on application to the Honorary Secretary, Dr. McHugh, 25, Harcourt Street, Dublin.

MEATH HOSPITAL AND CO. DUBLIN INFIRMARY.

This hospital now contains 160 beds available for clinical teaching. A new building for the isolated treatment of Fevers has recently been added. The certificates of this hospital are recognised by all the universities and licensing bodies of the United Kingdom.

Medical and Surgical Resident Pupils and Clinical Clerks and Dressers are appointed every six months, and a House-Surgeon is elected annually.

A prospectus giving the complete arrangements for the Medical and Surgical Classes for the coming session may be obtained from the Secretary of the Medical Board, R. Glasgow Patteson, F.R.C.S., 20, Lower Baggot Street, Dublin.

ROTUNDA HOSPITAL.

Master—Dr. R. D. Purefoy.

This institution consists of two distinct hospitals—namely, the Lying-in Hospital, into which 1,700 labour cases are, on an average, admitted annually, and the Auxiliary Hospital, set apart for the reception and treatment of patients suffering from the various forms of uterine and ovarian disease; about 500 patients are received into this hospital during each year.

There is also in connection with the hospital a large extern maternity (1,838 patients were in the past year attended at their own homes), and a Dispensary for Diseases Peculiar to Women, which is open daily.

Pupils are admitted to the practice of all these departments. Clinical Instruction in Midwifery and the Diseases of Women is given daily, and lectures are delivered regularly during the session on these subjects. Pupils can enter at any time.

The diploma from this hospital is granted to pupils on their passing an examination before the Master and Assistants after a period of six months' attendance on the practice of the hospital.

Accommodation is provided for a limited number of intern pupils.

Fees.—Intern pupils: Six months, £21; three months, £12 12s.; two months, £9 9s.; one month, £6 6s. Extern Pupils: Six months, £10 10s.; three months, £6 6s.

CLINICAL HOSPITALS.[1]

OPPORTUNITIES for clinical instruction and study are afforded by many hospitals which are not directly connected with any medical school, and the student will often find it to his advantage to resort to them, especially in the fifth year of the curriculum, as they offer great facilities for practical clinical experience. The following pages contain brief particulars as to the most important of these.[2]

A student may obtain clinical instruction at certain hospitals in London, and at some of them, both general and special, he can hold appointments.

GENERAL HOSPITALS: LONDON.

Great Northern Central Hospital, Holloway Road, N.—This hospital is now recognised by the Examining Board in England of the Royal Colleges of Physicians and Surgeons as a place of study during the fifth year of the medical curriculum. The hospital contains 155 beds, of which 100 are at present occupied. The large rectangular and circular wards, each of which contains 20 beds, the operation theatre, out-patient general and special, and the pathological departments, have all been erected since 1887. They are specially designed with a view to offering the greatest facilities for clinical work, and the wards and out-patient department contain all the most recent and approved hygienic and antiseptic requirements for the proper care of the sick, and for the treatment of disease. Medical practitioners are cordially invited to see the general and special practice of the hospital. Clinical Assistants (qualified), Clinical Clerks, and Pathological Clerks are appointed in the general and special departments, and may receive certificates at the end of their terms of office. There are four Resident Medical Officers, Senior and Junior House-Surgeons, Senior and Junior House-Physicians; also Pathologist and Registrar, Casualty Officer, and Anæsthetist. Full particulars of and rules for these appointments can be obtained from Peyton T. B. Beale, F.R.C.S., Hon. Sec. Medical Committee.

London Temperance Hospital.—The hospital contains 110 beds. The medical and surgical practice is open to students and practitioners. Appointments (vacancies for which are advertised in the medical journals): Registrar and Pathologist, Resident Medical Officer, and one Assistant Resident Medical Officer. For particulars as to hospital practice and classes apply at the hospital.

Seamen's Hospital Society, Greenwich.—The hospital contains 235 beds, and the branch hospital 18 beds. Opportunities are afforded to students and others who may be desirous of studying Practical Surgery and diseases incidental to Tropical Climates before entering the services or going abroad.

West London Hospital, Hammersmith Road, W.—The hospital contains 175 beds, of which 100 are now in occupation, and the remainder will be opened this summer. Some 1,700 in-patients are treated in the hospital during the year. The teaching in the hospital is especially devoted to the requirements of post-graduates. The Physicians and Surgeons attend on Mondays, Tuesdays, Thursdays, and Fridays, at 2.30 P.M., and instruction is given by the Assistant Physicians and Surgeons in the O.P. department daily, at 2.15 P.M. There are special departments for Diseases of the Eye, Skin, Ear, Throat and Nose, Women, and for Orthopædic Surgery. Post-Graduate lectureres are delivered on Wednesdays at 5 o'clock. The date of the commencement of each course is advertised in the medical journals. No Junior Students are admitted to the practice of the hospital, but since it is recognised by the Conjoint Board of the College of Physicians and Surgeons as an institution where six months of the fifth year of study may be passed, fifth year's students will be admitted as Clinical Clerks and Dressers. The course of Ophthalmology is recognised by the Army Medical Department. The fee for the hospital practice, including Post-Graduate Lectures, is £3 3s. for three months, and £5 5s. for one year. For Post-Graduate Lectures alone, £1 1s. for each course. Full particulars of the next Post-Graduate Course, and any other information about Post-Graduate teaching, can be obtained on application to the Dean, Mr. L. A. Bidwell, at the hospital.

North-West London Hospital, Kentish Town Road.—The hospital, which was established in 1878, provides 53 beds. The average number occupied last year was 47. It is a general hospital. There are two spacious wards for men and women respectively. The children's wards contain 18 cots. There are two resident officers; an honorarium at the rate of £50 per annum attaches to the senior post. Operation day Thursday, at 2.30 o'clock. Further particulars from J. Herbert Stowers, M.D., Honorary Secretary, Medical Committee, 128, Harley Street.

CHILDREN'S HOSPITALS: LONDON.

The Hospital for Sick Children, Great Ormond Street, W.C., contains 186 beds, divided into 88 medical, 73 surgical, and 25 for special and infectious cases, besides 52 beds at the Convalescent Branch, Highgate. The hospital having been recognised by the Conjoint Board for England as a place where, under the new curriculum, six months of the fifth year may be spent in clinical work, the practice is arranged to meet this need, and is open to students who have completed four years of medical study, and also to qualified medical men. Appointments are made every three months to six medical clerkships and six surgical clerkships, which are open to students at the hospital. Lectures or Demonstrations are given once or twice every week during both winter and summer sessions. The sessions are of ten weeks' duration, and begin in October, January, and March. Fees for hospital practice, three months, 2 guineas; perpetual, 3 guineas. Prospectuses and further information will be forwarded on application to the Secretary, Mr. Adrian Hope, at the hospital.

East London Hospital for Children, Shadwell.—The hospital contains 100 cots, one-third being devoted to infants. Two House-Surgeons and two House-Physicians (holding office for six months) are appointed annually. This hospital is recognised by the Conjoint Board for England as a place of instruction for students, at which six months of their fifth year under the new regulations may be spent in clinical

[1] Additions or corrections intended for future editions should be forwarded to the Editor not later than the end of July in each year.

[2] For Clinical Hospitals in Dublin see preceding pages.

work. The following opportunities for the study of the diseases of childhood are offered to gentlemen who have completed four years of medical study, and to those who are already qualified: The practice of the hospital (in the out-patients' department) is open to students every day (except Saturdays), at such hours as the physicians or surgeons for the day are attending. The in-patient practice is open to students holding clerkships or dresserships in the hospital, and to students not holding appointments during the attendance of the physicians and surgeons. A certain number of Clinical Clerks and Dressers are appointed every three months to each physician and surgeon. Gentlemen who wish to hold these appointments must have completed their fourth year of medical study. They are eligible for re-appointment at the end of three months. A clinical lecture is given every week by a member of the staff. The subjects of lectures will be duly announced in the medical journals. The lectures are open to all gentlemen attending the hospital practice. Three courses of lectures will be given in the year, from January to March, from May to July, and from October to December, inclusive. Fees for hospital practice: Attendance for one month, £1 1s.; three months, £2 2s.; six months, £3 3s.; perpetual composition fee, £4 4s. The fees admit to the whole practice of the hospital. No extra fee is charged for clerkship or dressership. All fees are payable to the Secretary of the hospital, Thomas Hayes, from whom a prospectus or other information may be obtained.

North-Eastern Hospital for Children, Hackney Road, Shoreditch, N.E.—The hospital contains 57 beds. Patients in 1896: In-patients, 705 (180 under 2 years of age; out-patients, 15,272 new cases, 55,149 attendances. Particulars of facilities for attending Medical and Surgical practice can be obtained on application to T. Glenton-Kerr, Secretary, (City office), 27, Clement's Lane, E.C.

Lying-in Hospitals and Hospitals for Women.

Queen Charlotte's Lying-in Hospital and Midwifery Training School.—This hospital receives over 1,100 patients annually, besides having a large out-patient department. Medical pupils are received at all times of the year. Pupils have unusual opportunities of seeing Obstetric complications and Operative Midwifery, on account of the very large number of primiparous cases—upwards of three-fourths of the total admissions. Clinical Instruction is given in the more important cases that present themselves. Certificates of attendance at this hospital are recognised by all Universities, Colleges, and Licensing Bodies. Pupil Midwives and Monthly Nurses are received and specially trained. *Fees.*—Medical Pupils, £8 8s. for four weeks, exclusive of board and lodging; Pupil Midwives, £26 5s. for three months; Pupil Nurses, £15 15s. for twelve weeks, inclusive of board and lodging. There is a residence for Medical Pupils quite close to, and in telephonic communication with the hospital. *Terms.*—Partial board and residence, £1 1s. per week.

Hospital for Women, Soho Square.—There is an organised School for Gynæcology open to qualified medical men, and students after their fourth year. A limited number of Clinical Assistants to the Physicians and Surgeons in the Out-patient Department are appointed every three months. Clinical instruction is also given in the theatre and in the wards. *Fee* for the three months' course, £8 8s. Further information can be obtained by letter, addressed to the Dean at the Hospital.

Ophthalmic Hospitals: London.

Royal London Ophthalmic Hospital, Moorfields.—There are 90 beds for in-patients, and a large out-patient department. Operations are performed daily, from 10 A.M. until 1 P.M. Gentlemen are admitted to the Practice, and to Lectures and Demonstrations. *Fees*, for six months, £3 3s.; perpetual, £5 5s. Students of the hospital are eligible for the office of House-Surgeon, and may be appointed Clinical Assistants for twelve months, Junior Assistants for six monnhs. Courses of instruction in Ophthalmoscopy, Refraction, and External Diseases are given three times in each year. Perpetual students of the hospital are allowed to attend one course in each subject without extra fee. Other students can attend these courses on payment of a separate fee for each course. Systematic instruction is also given in the Pathology of the Eye.

Royal Westminster Ophthalmic Hospital, King William Street, West Strand.—The hospital contains 30 beds, and an out-patient department. The practice is open to practitioners and students from 1 to 4 P.M. daily. Special instruction is given in the Diagnosis, Pathology, and Treatment of Eye Affections, including the Operations on the Eye, the Treatment of Errors of Refraction, and the Use of the Ophthalmoscope. *Fees:* Six months, £3 3s.; perpetual, £5 5s. For particulars apply to Mr. Adams Frost, 17, Queen Anne Street, W.

Royal Eye Hospital, Southwark.—This hospital contains 40 beds and 2 cots. The new patients in the out-patient department number over 16,000 yearly. Operations are performed and patients seen daily at 2 P.M. Qualified practitioners and students are admitted to the practice of the hospital. *Fees:* For three months, £2 2s.; for six months, £3 3s.; perpetual, £5 5s. Courses on Ophthalmoscopy, Refraction, and Diseases of the Eye, each £1 1s. (perpetual students one course free); Pathology, £1 1s., to cover cost of materials. Tutorial classes arranged to suit candidates for the various examinations. Qualified students of the hospital are eligible for the offices of Registrar and House-Surgeon, and may also be appointed Clinical Assistants for six months, and are eligible for re-election. Further particulars may be obtained from Mrs. J. E. Cope, Secretary, at the hospital, Southwark, S.E.

Fever and Small-Pox Hospitals of the Metropolitan Asylums Board.

Students are admitted to study at the Fever Hospitals and the Small-Pox Hospital Ships of the Metropolitan Asylums Board after they have completed the third year of medical education, provided they have held the offices of clinical clerk and dresser, and have obtained the sanction of the medical school to which they belong. The minimum duration of the course of study at the fever hospitals is two months, and at the small-pox ships not less than two weeks, nor more than four. At the fever hospitals the student may attend three days, and must attend two days, a week; at the small-pox ships he resides, paying 12s. a week for board and lodging. He must abide by the rules laid down as to disinfection and other matters, and must satisfy the Board of Management that he is sufficiently protected against small-pox by vaccination or otherwise. A certificate signed by the medical superintendent of the hospital at which attendance is made is granted to students who complete satisfactorily the courses of study. Qualified medical men are admitted under similar terms and conditions.

Fees.—Fever hospitals, two months, £3 3s., and £1 1s. for every additional month; small-pox ships, two weeks, £2 2s., and £1 1s. for the remaining period.

Other Special Hospitals: London.

Bethlem Royal Hospital.—Two resident clinical assistants are appointed twice a year for six months from recently qualified medical students. Students of certain hospitals are allowed to attend for clinical instruction. Qualified medical men are allowed to attend for three months on payment of a fee. Post-graduate courses are given from time to time.

Hospital for Consumption and Diseases of the Chest, Brompton.—The hospital has been recognised by the Conjoint Board for England as a place where under the present curriculum six months of the fifth year may be spent in clinical work. There are 321 beds in the two buildings constituting the hospital, and a special throat department. Pupils are admitted to the in-patient and out-patient practice of the hospital. Three courses of lectures and demonstrations will be given during the year. The next course will commence in October, 1897. Clinical assistants are appointed to the Assistant Physicians in the out-patient department, and clinical clerks are appointed to the Physicians in the wards. These appointments are tenable from three to six months. The fee for the practice of the hospital is £1 1s. for each month, or £2 2s. for each period of three months, or a perpetual fee of £8 8s.

City of London Hospital for Diseases of the Chest, Victoria Park.—There are 164 beds. The practice of the hospital, both as regards in- and out-patients, is open to students and medical practitioners. Certificates of attendance in the medical practice of this hospital are recognised by the London University and London medical examining boards. Information as to medical instruction can be obtained on application to the Secretary of the Clinical Subcommittee at the hospital.

National Hospital for the Paralysed and Epileptic, Queen Square, Bloomsbury.—This hospital with the Finchley branch contains 200 beds and cots. The out-patient practice and lectures are free to students and practitioners. Lectures and demonstrations are given each year in three courses, a spring course, a summer course, and a winter course, and the physicians attend every Monday, Tuesday, Wednesday, and Friday. Surgical operations are performed by Mr. Horsley and Mr. Ballance on days and at hours of which notice will be posted at the Hospital. The hospital has been recognised by the Conjoint Board for England as one of the places where part of the fifth year of study may be spent. All communications regarding clinical clerkships, lectures, and hospital practice should be addressed to the Secretary and General Director at the hospital.

Central London Throat and Ear Hospital, Gray's Inn Road.—The hospital contains accommodation for seventeen in-patients, and has an extensive out-patient department, which is open to all medical practitioners and students for the purpose of Clinical Demonstration and Instruction. Fee for three months' attendance, 3 guineas; for six months, 5 guineas. A course of lectures on the special diseases treated at this hospital is delivered during the winter months by members of the staff. Last year there were over a thousand attendances at the series, with an average of 80 at each lecture. The date of these lectures is announced in the medical journals prior to their commencement. They are free to qualified practitioners and advanced students of medicine. Considerable attention is given to scientific work, particularly with regard to bacteriology of the diseases of the ear and respiratory passages, for which a special department has been inaugurated.

St. Peter's Hospital for Stone and Urinary Diseases (Henrietta Street, Covent Garden).—Qualified medical men and students are admitted free to the practice of this hospital, which contains 27 beds, and has a large out-patient attendance (32,717 for 1896). New cases, 4,799. Operations are performed and consultations are held on Wednesdays and Fridays at 2. Clinical lectures and demonstrations are given regularly by members of the staff.

Royal Ear Hospital, Frith Street, Soho Square, W.—Courses, of six weeks' duration, in Diseases of the Ear and Nose are given by the members of the staff throughout the teaching year. Students can attend one or more surgeons; the fee for each surgeon's course is one guinea. The teaching is of a practical character, and the number of students is limited. The next series of classes will commence on October 1st. For information address the Honorary Secretary of the Medical Board.

St. John's Hospital for Diseases of the Skin: Out-patient Department, 49, Leicester Square: In-patient Department (with 50 Beds, 238, Uxbridge Road, W.—The Out-patient Practice is open to medical practitioners, except Friday, from 1 to 4, on presentation of their cards to the Medical Officer in attendance; also on Thursday mornings from 10.30 to 12 noon. Clinical Demonstrations and Lectures are given regularly. Fee for each course, one guinea. Entries should be made with the Superintendent, who will be pleased to furnish full particulars on application.

LIVERPOOL.

Royal Southern Hospital: Clinical School.—The hospital is situated within convenient distance of the School of Medicine, and contains 200 beds. There is a children's ward, and beds are appropriated to the diseases of women. Clinical teaching is given in the hospital, and arrangements have been made to render it both thorough and systematic. The members of the staff visit the wards daily, and clinical lectures are given each week. Tutorial classes are also held each day, at which the junior students are instructed in the methods of diagnosis, and the seniors are prepared for their final examinations. The pathological department has a good laboratory attached, in which the students receive practical instruction. *Appointments:* In addition to the usual clinical and *post-mortem* clerkships, the resident post of Ambulance Officer is awarded every three months to the student whom the Board may consider most suited to hold it. *Fees:* Perpetual, £26 5s.; one year, £10 10s.; six months, £7 7s.; three months, £4 4s. *Terms:* (Exclusive of fees for Hospital Practice), £15 15s. per quarter. The practice of the hospital is recognised by all examining bodies. Further particulars may be obtained from the Dean, Mr. Robert Jones, 11, Nelson Street, Liverpool.

Northern Hospital.—The hospital contains 155 beds. There is a special ward for the treatment of children. Clinical instruction is regularly given by the physicians and surgeons during the summer and winter sessions. Clinical clerkships and dresserships are open to all students without additional fee. The foundation stone of a new hospital of not less than 200 beds was laid during the past year in which there will be every facility for Clinical Instruction and accommodation for Resident Pupils. *Fees:* Perpetual, £26 5s.; one year, £10 10s.; six months, £7 7s.; three months, £4 4s. Students can enter to the medical or surgical practice separately on payment of half the above fees. Practical Pharmacy, three months' fee, £2 2s. For further particulars apply to Dr. Bushley, Secretary of the Medical Board, 47, Rodney Street.

Eye and Ear Infirmary, Myrtle Street.—The infirmary contains 46 beds. Evening courses of Lectures on Refraction and Medical Ophthalmoscopy and Diseases of the Ear are delivered at this infirmary during the winter months by the honorary medical staff. Students of medicine of University College, Liverpool, have free access to the practice of the infirmary. Out-patient dresserships may be obtained on application to the Secretary of the Medical Board. The infirmary is recognised by the Conjoint Board as a teaching institution.

Liverpool Infirmary for Children.—The infirmary contains 88 beds, and has a large out-patient department. In-patients (1895), 1,165; new out-patients, 14,156; out-patient attendances, 56,764. The practice of the hospital is free to students, and clinical instruction is given by the Medical Staff. For further particulars apply to the Secretary of the Medical Board.

MANCHESTER.

General Hospital for Sick Children, Pendlebury.—The hospital at Pendlebury contains 140 beds, including 28 for fever. The medical staff see out-patients daily at the Dispensary, Gartside Street, at 9.30 A.M., and visit the hospital at 10 A.M. and 5 P.M. The practice of the hospital and dispensary is free to students accompanying the medical staff.

Royal Eye Hospital.—The hospital contains 100 beds. The medical staff attend daily from 9.30 to 12. Clinical instruction is given to students. Mr. E. Smith, M.B., C.M., has been appointed Junior House-Surgeon, *vice* J. A. Menzies.

St. Mary's Hospital for Diseases of Women and Children.—Fifty-five beds, including seven for the reception of lying-in cases, especially those attended with difficulty or danger. In the out-patient department students are taught the various methods of examination and diagnosis, and the use of gynæcological apparatus; while, in the wards, they have an opportunity of becoming familiar with the diagnosis and treatment of graver cases, and of witnessing more important gynæcological operations. The large number of maternity cases attended annually (3,400) in connection with this hospital affords ample opportunity to students for receiving instruction in practical midwifery. Every student, on registering himself as a midwifery pupil, is supplied with a card, on which must be filled in the particulars of every labour at which he is present, each entry being attested by the initials of the medical officer or certified midwife in charge of the case. His first five cases must be attended under the immediate supervision of the House-Surgeon and Resident Obstetric Assistant Surgeon. The hospital possesses a library, presented by the late Dr. Radford, consisting of nearly 5,000 volumes, chiefly on subjects connected with obstetrics and gynæcology. There is also a museum, con-

taining a large number of pathological specimens, and a valuable collection of deformed pelves, casts, obstetric instruments, and anatomical models. The gynæcological practice of the hospital is free to third and fourth years' students. The fee for the midwifery practice, which includes attendance upon twenty cases of labour, as required by the examining bodies, is £2 2s. Application must be made to the House-Surgeon at the hospital.

Manchester Clinical Hospital for Women and Children.—The hospital is situated in Cheetham Hill Road, near the centre of the town, and contains 70 beds. Out-patients are seen daily at 9.30, and the wards are visited at 11. The hospital practice is open free to students and practitioners, both in the out-patient department and in the wards during the hours of the medical staff. Applications to be made to the Secretary, Mr. H. Teague, Barton Arcade, Manchester.

Newcastle-on-Tyne.

Hospital for Sick Children.—There are 60 beds in the hospital, which the honorary staff visit every day. There is a large out-patient department. The practice of the hospital is open free to all students or qualified practitioners.

Sheffield.

Jessop Hospital for Diseases of Women.—The number of beds is 45; in the Diseases of Women Department 36, and in the Maternity Department 9. Students can attend the practice of the hospital, and be supplied with cases of midwifery. (See also p. 533.)

Bath.

Royal United Hospital.—130 beds. The hospital is recognised by the Royal Colleges of Physicians, Surgeons, etc., and licensed for dissections. It contains a library and an excellent museum, in which are a large number of interesting specimens, both in Pathology and Comparative Anatomy. Fees for attendance: Twelve months, £10 10s.; six months, £5 5s. (temporary pupils can also, by permission of the honorary staff, attend the practice of the hospital by the payment of £1 1s. for each month). Instruction in Practical Pharmacy for three months, £3 3s. For further particulars apply to the Registrar.

Birmingham.

Birmingham and Midland Hospital for Skin and Urinary Diseases.—This hospital admits medical practitioners and advanced medical students to attend its practice.

Bradford.

Infirmary and Dispensary.—The hospital contains 230 beds. Non-resident pupils are received, and have every opportunity of acquiring a practical knowledge of their profession under the superintendence of the House-Surgeon and House-Physician. One year's attendance is recognised by the Examining Boards. *Fee:* Perpetual, £10 10s.

Brighton.

Sussex County Hospital.—The hospital contains 190 beds, with separate wards for children and for cases requiring isolation; and the Out-Patient Department is attended by 700 or 800 patients weekly. It is recognised by the College of Surgeons and by the Conjoint Board as a hospital where part of a medical course may be spent. Out-pupils are admitted to the clinical teaching and the classes at the fee of £21 for two years. The Ormerod Exhibition, of the average value of £30, is awarded annually, after examination, to the best student of those leaving to pursue their studies at a medical school. Further information may be obtained from the House-Surgeon.

Canterbury.

Kent and Canterbury Hospital.—The hospital contains 106 beds. Over 600 in-patients and 1,200 out-patients attend every year. Lectures are delivered weekly during term time to the students of St. Augustine's Missionary College, on Practical Medicine by Dr. Gogarty, and on Surgery by Mr. T. W. Reid.

Derby.

Derbyshire Royal Infirmary.—The infirmary has been rebuilt, and will accommodate 186 patients. Pupils are admitted to the practice of the infirmary at £10 10s. a year.

Devonport.

Royal Albert Hospital.—The hospital contains 92 beds. The pupils of the medical staff are allowed to attend the hospital practice and to learn pharmacy on the payment of £2 2s. to the dispenser.

Edinburgh.

Victoria Hospital for Consumption and Diseases of the Chest.—Excellent opportunity is afforded for the clinical study of Diseases of the Chest. Special Cliniques are arranged from time to time, both in the hospital itself, which contains 15 beds, and the extensive out-door department, which has its headquarters in Lauriston Place, close to the University. The number in attendance at these cliniques is limited. The fee is £2 2s. for a six weeks' course. Application for places has to be made some time in advance to Dr. R. W. Philip, 4, Melville Crescent. Two medical appointments in connection with the hospital are vacant every six months: (1) Resident Physicianship; (2) Non-resident Physicianship for the out-door department. The vacancies occur usually in April and October.

Royal Edinburgh Hospital for Sick Children.—The hospital, which has been recently built, stands in Sciennes Road, about seven minutes' walk from the Medical School and Royal Infirmary, contains 96 available beds, and is fitted up with modern improvements. There are some 700 in-patients, and 7,750 out-patients yearly. No cases of infectious disease are admitted. The out-patient department (medical and surgical) is conducted in a building adjoining the hospital, and is well equipped. Systematic clinical courses of instruction, at a fee of £2 2s., which qualify for the University and other Examinations, are given at various times throughout the year by the ordinary physicians and surgeon. These are Drs. James Carmichael, John Playfair, T. Burn Murdoch, and Mr. Joseph Bell. Students may enter at any time. A limited number of clinical clerkships are available, and four resident appointments are made yearly. The Registrar of the Hospital will supply particulars.

Edinburgh Eye, Ear, and Throat Infirmary.—Open daily at 6, Cambridge Street, at 1 P.M., for Eye Diseases; on Monday, Thursday, and Saturday at 12 for Ear Diseases; on Tuesday and Friday at 4 for Throat Diseases. There is a small infirmary of six beds in male and female wards. 2,000 patients are treated annully. Fee, for three months, £1 1s.

Edinburgh Royal Maternity and Simpson Memorial Hospital has 28 beds, about 310 in-patients, and 610 patients yearly. Cliniques are given by the physicians and their assistants. Fees for three months, £2 2s.

Edinburgh City Hospital for Infectious Diseases contains nearly 400 beds, a large number of which are available for teaching purposes. Short courses of instruction are given by the Visiting Physician during the winter and summer session at a fee of £2 2s.

Royal Asylum, Morningside, Edinburgh.—There is a clincal field of 500 beds, comprising all the wards except those for private patients. Students have the opportunity of personally coming in contact with and examining the cases, so as to learn the modes of dealing with patients suffering from mental disease; they are exercised in diagnosis and the drawing up of certificates, the aim being to enable them to recognise its early stages, to distinguish its varieties, to adopt suitable treatment, and to advise the relatives as to sending the patient to an asylum. The course extends through the last month of the winter session and the most of the following summer session, and the fee is £2 2s. Dr. Clouston is the Lecturer on Insanity for the University of Edinburgh.

Exeter.

Devon and Exeter Hospital.—The hospital contains 214 beds,

including a special Children's Ward. There are a good Library, Museum, Dissecting, and *Post-mortem* Rooms. Attendance on the practice at this hospital qualifies for all the Examining Boards. Two Resident Pupils are received. Arrangements may be made by which students can attend Midwifery. For further particulars as to fees, etc., apply to the House-Surgeon.

West of England Eye Infirmary.—This infirmary contains 50 beds. Arrangements can be made for students of the Exeter Hospital to attend the practice of the Eye Infirmary.

GLASGOW.

Royal Hospital for Sick Children.—This hospital, containing 80 beds for the non-infectious diseases of children, is open for clinical instruction, as is the dispensary, or out-patient department. Students, by paying the fee of £1 1s., are entitled to the practice of the hospital and dispensary for twelve months from the term of entry. Further particulars may be had by applying to the Resident Medical Officer, 45, Scott Street, Garnethill.

Glasgow Western Infirmary.—This hospital adjoins the University of Glasgow. Number of beds 400. The Clinical Courses are given by the Physicians and Surgeons, each of whom conducts a separate class, and students may attend whichever they select at the beginning of the session. Special instruction is given to junior students by tutors or assistants, and clinical clerks and dressers are selected from the members of the class. Special wards are set apart for Diseases of Women and for Diseases of the Skin. In the Out-Patients' Department there are special clinics for Diseases of Women and for Diseases of the Throat, Ear, and Teeth. All the courses of clinical instruction are recognised at the University of Glasgow and other Boards in the Kingdom. Nine resident assistants are appointed annually without fee from those who have completed their course. *Fees.*—For the hospital practice, including the various courses of clinical instruction in Medicine and Surgery, £21 in one payment, or in two equal instalments for the first and second years; for six months, £7 7s.; and for three months, £4 4s.

Glasgow Eye Infirmary.—This infirmary is situated at 170, Berkeley Street, and 76, Charlotte Street. During the year 1894, 17,264 patients were treated, and 3,130 operations performed. Dispensaries open daily at 1 P.M. Operations performed on Wednesday and Saturday at 2 P.M. Fee for six months, 1 guinea.

GLOUCESTER.

The General Infirmary and the Gloucestershire Eye Institution.—The hospital contains 156 beds. Resident and non-resident pupils are admitted by the General Committee on the recommendation of a member of the Medical Board. Each pupil pays in advance £10 for the first half-year, and £5 for every subsequent quarter, or portion of a quarter, of a year. Each resident pupil has board and lodging in the house, for which he pays in advance 26 guineas for the first half-year, and 13 guineas for every subsequent quarter, or portion of a quarter, of a year. Each pupil pays in advance to the House-Surgeon a fee of £5 5s. for instruction, and a further fee of £3 3s. for every subsequent year or portion of a year. One year spent at this hospital, after passing a preliminary examination, is recognised by the Royal College of Surgeons.

LINCOLN.

County Hospital.—The hospital contains 125 beds, and 5 isolation beds. The House-Surgeon is allowed to take two pupils, on terms arranged by the Weekly Board, himself, and the pupils. A fee of not less than £10 10s. is paid by every pupil to the hospital. The House-Surgeon is responsible for the conduct of his pupils. The pupils remain in the hospital only when occupied in performing or observing the actual work of the hospital.

NORWICH.

Norfolk and Norwich Hospital.—The hospital contains 220 beds. Fees: £10 10s. for six months, £15 15s. for twelve months' Medical and Surgical Practice. Pupils (non-resident) are admitted.

NORTHAMPTON.

General Infirmary.—There are 160 beds and a large out-patient department. Out-pupils are received, and have every opportunity of acquiring a practical knowledge of their profession. Instruction is also given by the House-Surgeon in Anatomy, Materia Medica, and Pharmacy. Non-resident pupils are taken at a fee of £10 10s.

NOTTINGHAM.

General Hospital.—The hospital contains 175 beds. The Honorary Staff introduce pupils to witness the practice of the hospital on payment of £10 10s. annually in advance. The pupils receive instruction from the Resident Medical Officers.

PORTSMOUTH.

Royal Portsmouth Hospital.—133 beds. One year's attendance recognised by the Examining Boards. Fer particulars as to fees apply to the Secretary of the Committee of Management.

SOUTHAMPTON.

Royal South Hants Infirmary.—The out-patient department contains an eye department, fitted with modern instruments, lamps, lenses, etc.; also an electrical department, containing a new set of modern batteries. The hospital contains 120 beds.

STAFFORDSHIRE.

Staffordshire General Infirmary.—There are 75 beds. The pupils of medical practitioners resident in the county of Stafford are allowed to witness the medical and surgical practice of the infirmary, and to be present at operations. The pupils of the officers of the institution are admitted to these privileges gratuitously, those of other practitioners on the payment of £10 10s. with each pupil. The assistants of a medical practitioner, having gone through a complete curriculum, are admitted on the annual payment of £5 5s.

North Staffordshire Infirmary and Eye Hospital.—The infirmary has accommodation for 216 patients, including children's wards, eye department, and special ovarian wards. The attendance of pupils at this infirmary is recognised by all the Examining Boards. Particulars as to fees, etc., may be obtained from the Secretary, Mr. R. Hordley, Hartshill, Stoke-on-Trent.

SWANSEA.

Swansea Hospital.—The House-Surgeon is permitted to take two articled pupils, whom he binds himself to transfer to his successors in the event of his leaving the hospital during the term of their apprenticeship. The premium or fee on the introduction of pupils is such a sum as the Committee may consider reasonable. It is apportioned between the House-Surgeon and the institution, as the Committee for the time being may determine. The hospital contains 130 beds. The number of in-patients in 1895 was 1,181.

WINCHESTER.

Royal Hants County Hospital.—The hospital contains 108 beds. Apprentices are received by the Committee on payment of £75 per annum, and are bound to the House-Surgeon for five years. During the first two years they are chiefly employed in dispensing; afterwards they may witness the practice, and attend clinical lectures and operations and *post-mortem* examinations. The Physicians and Surgeons are allowed to introduce a certain number of pupils; the House-Surgeon may also receive a pupil on payment of £100 per annum. Pupils of qualified medical practitioners not belonging to the staff of the hospital may, with the consent of the Committee, become out-pupils, and see the practice of the hospital, under the direction of the House-Surgeon, on the payment of £10 10s. for one year, of £21 for unlimited attendance. Out-pupils are permitted daily (Sundays excepted) to read in the Library on payment of £1 1s.

WOLVERHAMPTON.

Wolverhampton and Staffordshire General Hospital.—The hos-

pital contains 230 beds, and is a preparatory School of Medicine and Surgery. The pupils see the whole of the practice of the physicians and surgeons, and are trained in clinical work by the medical and surgical staff. Attendance at this hospital is recognised by all the Examining Boards. *Fees:* Six months, £6 6s.; twelve months, £12 12s.; perpetual, £21.

INSTITUTIONS FROM WHICH CERTIFICATES ARE ACCEPTED BY THE CONJOINT BOARD IN ENGLAND.

I. Hospitals recognised *for a part* of the required attendance on Medical and Surgical Practice, for Medical Clinical Clerkship, and for Surgical Dressership, namely:

In England and Wales.

Bath.—Royal United Hospital.
Bedford.—General Infirmary.
Bradford.—Infirmary.
Brighton.—Sussex County Hospital.
Canterbury.—Kent and Canterbury Hospital.
Cardiff.—Glamorganshire and Monmouthshire Infirmary.
Derby.—Derbyshire General Hospital.
Exeter.—Devon and Exeter Hospital.
Gloucester.—General Infirmary.
Hartshill.—North Staffordshire Infirmary.
Hull.—Royal Infirmary.
Leicester.—Infirmary.
Liverpool.—Northern Hospital.
Northampton.—General Infirmary.
Norwich.—Norfolk and Norwich Hospital.
Nottingham.—General Hospital.
Oxford.—Radcliffe Infirmary.
Plymouth.—South Devon and East Cornwall Hospital.
Portsmouth.—Royal Hospital.
Reading.—Berkshire Royal Hospital.
Salisbury.—General Infirmary.
Shrewsbury.—Salop Infirmary.
Stafford.—Staffordshire General Infirmary.
Winchester.—Hampshire County Hospital.
Wolverhampton.—Wolverhampton and Staffordshire General Hospital.
Worcester—Infirmary.
York.—County Hospital.

In Scotland.

Dundee.—Royal Infirmary.

In Ireland.

Dublin.—Sir Patrick Dun's Hospital.

In Tasmania.

Hobart Town.—The General Hospital.
Launceston.—The General Hospital.

II.—Institutions recognised for Instruction in Chemistry, including Chemical Physics, Practical Chemistry, and Elementary Biology.

Aberystwyth.—University College of Wales.
Bangor—University College of North Wales.
Bath.—Kingswood School.
Bedford.—The Grammar School (without Biology).
Bishop Stortford.—Nonconformist Grammar School (without Biology).
Bournemouth.—School of Science and Art (without Biology).
Bradford.—The Grammar School; Bradford Technical College.
Brighton.—Municipal School of Science and Art.
Bristol.—University College; Merchant Venturers' Technical College
Bristol Grammar School (without Biology).
Bromyard.—The Grammar School (without Biology).
Burslem.—Wedgwood Institute (without Biology).
Cardiff.—University College of South Wales.
Cheltenham.—Public School of Science and Technical School, Clarence Street.
Chester.—School of Science and Art, Grosvenor Museum.
Clifton, Bristol.—Clifton Laboratory (without Biology).
Dover.—Municipal Technical School (without Biology).
Dulwich.—Dulwich College.
Epsom—Epsom College.
Eton.—Eton College.
Exeter.—Technical and University Extension College.
Gloucester—Municipal Schools of Science, Art, and Technology (without Biology).
Huddersfield.—Technical School.
Leeds.—Royal Institution (without Biology).
Leicester.—Wyggeston School.
Liverpool.—School of Science, Technology, and Art.
London.—The Department of Science and Art, South Kensington.
" City of London School (without Biology).
" St. Paul's School, West Kensington.
" The Pharmaceutical Society (without Biology).
" Birkbeck Literary and Scientific Institute.
" South West Polytechnic Institute, Chelsea (without Biology).
" City of London College.
" Polytechnic Institute, Regent Street (without Biology).
Marlborough.—Marlborough College (without Biology).
Newcastle-upon-Tyne.—The Durham College of Science; Rutherford College.
Nottingham.—University College; The High School (without Biology).
Plymouth.—The Science, Art, and Technical School.
Portsmouth—Higher Grade Board School (without Biology); Grammar School (without Biology); Municipal Technical Institute.
Reading.—University Extension College.
Sheffield.—Royal Grammar School.
Sherborne (Dorset).—Sherborne School (without Biology).
Southampton.—Hartley Institution.
Stoke-upon-Trent.—School of Science and Art (without Biology).
Swansea.—Technical College (without Biology).
Tonbridge.—Tonbridge School.
Walthamstow—Forest School (without Biology).
Wellington (Shropshire).—Wellington College (without Biology).
Weston-super-Mare.—Grammar School (without Biology).
Wolverhampton.—Science School in connection with the Free Library.
Woodford (Essex).—Bancroft School.
Worcester.—Victoria Institute (without Biology).

III. Recognised Lunatic Asylums.

Banstead.—London County Asylum.
Birmingham.—Borough Asylum.
Cane Hill.—London County Asylum.
Claybury.—London County Asylum.
Colney Hatch.—London County Asylum.
Dartford.—City of London Asylum.
Hanwell.—City of London Asylum.
London.—Bethlem Royal Hospital; Grove Hall Asylum, Bow (Dr. Julius Mickle); Camberwell House Asylum (Dr. Hack Tuke); Bethnal (Dr. J. Kennedy Will).
Morpeth.—Northumberland County Asylum.
Rainhill.—Lancashire County Asylum.
Wadsley, near Sheffield.—South Yorkshire Lunatic Asylum.
Wakefield.—West Riding Asylum.

IV. Recognised Fever Hospitals.

Birmingham—Corporation Fever Hospital.
Bristol.—Public Health Department Hospitals.
Leeds.—Corporation Fever Hospitals.
Liverpool.—Corporation Fever Hospitals.
London.—Metropolitan Fever Hospitals.
Newcastle-upon-Tyne.—Fever Hospitals.
Sheffield.—City Hospitals.

V. Recognised Ophthalmic Hospitals.

Liverpool.—The Eye and Ear Hospital.
London.—Royal London Ophthalmic Hospital, Moorfields.
Southampton.—The Eye and Ear Hospital.

VI. Hospitals recognised for six months' attendance during the fifth year of the curriculum.

London.—City of London Hospital for Diseases of the Chest, Victoria Park; Hospital for Sick Children, Great Ormond Street; Brompton Hospital for Consumption; Great Northern Central Hospital; National Hospital for the Paralysed and Epileptic; West London Hospital; East London Hospital for Children, Shadwell.

VII. Laboratories recognised for instruction in Public Health for the Diploma in Public Health.

London.—St. Bartholomew's, Guy's, London, University College, King's College, Charing Cross, St. George's, St. Mary's, Westminster, St. Thomas's, British Institute of Preventive Medicine.
Birmingham.—Mason College.
Bristol.—Medical School.
Leeds.—Yorkshire College.
Liverpool.—School of Science and Technology; University College.
Manchester.—Owens College.
Newcastle-on-Tyne.—University of Durham College of Medicine.

MEDICAL EDUCATION OF WOMEN.

QUALIFICATIONS FOR FEMALE PRACTITIONERS.

Degrees, Diplomas, and Schools.

The qualifying bodies in the United Kingdom which admit women as candidates for their degrees as diplomas are as follows: The University of London, the University of Durham, the University of Edinburgh, the University of Glasgow, the University of Aberdeen, the University of St. Andrews, and the Royal University of Ireland, the Society of Apothecaries, London, and the Conjoint Board of the Royal College of Physicians and Surgeons in Scotland and Ireland. Women candidates for qualification are subject to the regulations of the General Medical Council as to education and examinations in precisely the same manner as men.

Women medical students can obtain a complete medical education by becoming students of the London School of Medicine for Women, the Edinburgh School of Medicine for Women, the Medical College for Women, Edinburgh; Queen Margaret College, Glasgow, and the Schools of Surgery of the Royal College of Surgeons in Ireland. The three first-named schools receive women only. In the Schools of Sur-

gery of the Royal College of Surgeons in Ireland special rooms are set apart for lady students. They can also enter at the Universities of Aberdeen and St. Andrews, and at the University of Durham, the Medical and Science Faculties of which are located in Newcastle-upon-Tyne, the former in the College of Medicine, and the latter in the College of Science, where women students can receive instruction in the various subjects of these two Faculties.

For the University of Glasgow a complete medical education is given at Queen Margaret College, which has been transferred or affiliated to that University. The University of St. Andrews does not as yet give a complete medical course, but women are admitted to the classes of Botany, Zoology, Physics, Chemistry, and Physiology; and the Lecturers of the Edinburgh School of Medicine are held *ex officio* to give qualifying courses in their various subjects for the degrees of M.B., C.M. of that University.

The classes available for women, University College, Dundee, are stated at page 537. The rest of the course must be taken elsewhere, and it may be in Edinburgh, Glasgow, or London. If in Edinburgh it will be necessarily at one or other of the two schools alluded to at p. 536, and the course, examination fees, etc., of the second of these are those of the Conjoint Board given at p. 521. The course of Queen Margaret College, Glasgow, is noted at page 536.

Some further particulars as to the London School of Medicine for Women will be found on page 530, but intending students should write to the Secretary of the School, 30, Handel Street, Brunswick Square, London, W.C. The prospectus of this School contains an article of advice to students, which will be found very useful. A further note on the Edinburgh School of Medicine for Women will be found on page 535. Candidates may obtain a prospectus on application to the Secretary, Miss Scott-Moncrieff, School of Medicine, Surgeon Square, Edinburgh, who will also forward a pamphlet containing full particulars on medical facilities offered to women in the United Kingdom, published by the National Association for Promoting the Medical Education of Women (post free six stamps).

Before entering upon the career of a medical student a woman should consider well whether she is in a position to meet the serious calls which the career will make upon pocket and health. She must be prepared to spend at least five full years at a medical school (after passing a preliminary examination in Arts), and must remember that during this period she will find her time fully occupied, and should not attempt—in fact, if she does her duty, should have no time—to earn a penny. Further, the work, which is severe and prolonged, and of necessity sometimes performed under somewhat unhealthy conditions, makes a serious call upon a constitution not naturally robust.

POST-GRADUATE STUDY.

Of late years it has become much more common than it used to be to find men who are fully qualified still attending hospital work, or, as is even more frequently the case, returning to the hospitals—maybe after many years of practice—with the object of renewing their knowledge of those more scientific aspects of the profession as to which men are so apt to become "rusty" while engaged in the more ordinary humdrum of general practice. Army and navy men, men educated in the provinces, who wish before settling in practice to see something of the London hospitals, and men who, after qualifying, wish to take up special lines of study, together with a growing stream of Colonial and American practitioners anxious to see something of English practice, are constantly to be met with in London, as in Edinburgh, Dublin, and other centres.

The principal difficulties which strangers meet with arise from the long distances between the various hospitals, the unpunctuality of the visits made to the wards by some of the clinical teachers, and the absence of any published information as to where the most interesting clinics are to be found.

Medical visitors to London will very rarely find any difficulty in gaining admission to any of the hospitals, and to some extent the difficulties are got over by joining the London Post-Graduate Course, which, under the management of its Secretary, Dr. Fletcher Little, has become a permanent institution. Three full courses are given every year, besides short courses on public health subjects during each vacation. The courses have been found very useful, and they have been made to cover most of the specialities. They are arranged quite independently of the ordinary students, and may be recommended to those who do not care to take their chance of seeing or of not seeing during the ordinary rounds of the clinical visit.

The persons to whom the Lectures of the London Post-Graduate Course are most suitable are those who, having for one purpose or another to spend a couple of months in London, are glad to take out a few lectures on a variety of medical subjects. But the courses do not give enough for those whose main object is medical study, and they certainly do not give enough on any one subject to suit specialists. If, sometime, it should be possible to concentrate the courses in one building, where cases might be brought for purposes of demonstration, study would be very much facilitated. At present the lectures are delivered in connection with the following hospitals and institutions: The Hospital for Diseases of the Skin, Blackfriars; Bethlem Royal Hospital for Lunatics; the London Throat Hospital, Great Portland Street; the Bacteriological Laboratory, King's College; the Central London Sick Asylum, Cleveland Street; the Parkes Museum; and the Institute of Preventive Medicine, 101, Great Russell Street, W.C.

The teaching is, as far as possible, of a practical character, including demonstrations of selected cases and lectures on the diagnosis and treatment of the diseases, for the study of which the above-mentioned hospitals and institutions afford facilities. Instruction is given in the use of the microscope, ophthalmoscope, laryngoscope, and aural and nasal specula. The short courses which are given during the vacations are really more useful to many, as they are given daily, and fairly run through their subjects so far as can be done in the time. The subjects usually taken are bacteriology, pathology, and hygiene, and the classes are held during the fortnight preceding the commencement of the spring, summer, and winter terms. Further particulars may be obtained from Dr. Fletcher Little, 32, Harley Street, W.

At University College, London, Dr. Vaughan Harley, Professor of Pathological Chemistry, holds classes in Pathological Chemistry intended for the advantage of qualified practitioners and advanced students. Each course is practical, and includes demonstrations and lectures on the principal points brought out by analysis in the diagnosis and prognosis of disease. Each member of the class is given the actual material to analyse, and from results obtained is required to make the diagnosis, which is corrected if necessary. Thus each man not only does the ordinary class analysis, but he learns to apply his results to practice. Each course includes the analysis of the saliva, stomach, contents, fæces, urine, calculi, and pathological fluids, and in the lectures the chemical changes which occur in disease are fully discussed, and as far as possible explained. The laboratory is open from 9 A.M. to 5 P.M., so that the practical work can be done at the hours most convenient to those attending the class. The next class will commence in October at a date to be fixed by mutual arrangement. The fee for the class, including apparatus and material, is five guineas. A department is also fitted up for research work, and is open to all researchers at the fee of one guinea a month. Most excellent original research work has been and is being done in the laboratory, and in many instances the workers have received grants from the Scientific Grants Committee of the British Medical Association.

At Charing Cross Hospital special series of clinical lectures and practical demonstrations, exclusively arranged for the convenience of practitioners and post-graduate students, are given by members of the staff throughout the year. The lectures for the year are arranged in three courses, each consisting of ten meetings, and lasting ten weeks. Two of these

courses are held during the winter, and one during the summer. The class meets on each Thursday afternoon at 4 P.M. in the Board Room of the Hospital, and proceeds thence to the wards or other department in which the demonstration may be held. The fee at present charged for each course of ten lectures is £1 1s. The first of the two winter courses of the ensuing academical year will commence on October 14th next, and will be conducted by the following members of the medical and surgical staff: Drs. Green, Bruce, Willcocks, Murray, Mott, Routh, Galloway, and Messrs. Boyd, Waterhouse, and Gibbs. Practitioners wishing to attend can receive any further information as to the dates and subjects by communicating with the Honorary Secretary of the Post-Graduate Class, Dr. Willcocks, at the Hospital.

At the British Institute of Preventive Medicine courses of instruction are given and laboratory facilities are provided. In the Bacteriological department three courses are given: (1) The General Course, dealing with Bacteriology in relation to Medicine and Pathology generally; (2) in relation to Hygiene, intended for health officers and students of hygiene; and (3) Biological Chemistry for advanced students. Members of the staff afford every facility to those wishing to prosecute original researches. In the Hygiene department a practical laboratory course is given, but the laboratory is primarily intended for furthering research work in the field of Preventive Medicine. In the Clinical Investigation department medical men can obtain practical instruction in Bacteriological and Chemical methods employed in the diagnosis of disease. The Institute contains a Water Laboratory, fully equipped for bacteriological and chemical examination of samples of water, and instruction is also given in Photomicrography by the photographer to the Bacteriological department.

Special arrangements for advanced study and research have been made recently in the University of Cambridge. Graduates of other Universities may be admitted to the University of Cambridge as advanced students. They may for one or more terms pursue courses of advanced study or research, literary or scientific, under the direction of the University teachers, and may become members of certain colleges without fulfilling the same conditions as are imposed on junior students, their collegiate status being assimilated to that of students who have taken their first degree in the University. Advanced students may, if they wish, obtain a certificate certifying to their proficiency in research, or may proceed to the degree of B.A. or LL.B. under certain conditions. In their third or some subsequent term of residence they may become candidates for certain parts of the Tripos (Honour) Examinations, among others the Natural Science Tripos, Parts I and II. Having satisfied the examiners, and after residence of six terms in all, they are admissible to the degree of B.A. or LL.B. The Certificate of Research may be obtained after residing for three terms (one academical year), and when the student has completed six terms' residence he is admissible to the degree of B.A. The facilities for advanced study and research offered by the University include the University Library and the Philosophical Library, while each of the seventeen Colleges possesses its own library, as do also the respective Natural Science departments. The department of Zoology and Comparative Anatomy includes a museum of zoology and a laboratory for animal morphology and elementary biology. The department of Botany contains a comprehensive herbarium and a museum of specimens illustrating the morphology and life-history of plants. There are also laboratories and class rooms fitted for experimental work, while the Botanic Garden contains a large and varied collection, with numerous plant houses and a botanic laboratory. The department of Human Anatomy contains a spacious dissecting room, a museum, osteological room, and a number of rooms for special study and research in anatomy, histology, and physical anthropology; upon the last-named subject a special course of lectures is given. The department of Physiology contains a number of rooms provided with electric light and motive power, and with abundant and complete appliances of all kinds for practical work. Special rooms are set apart for histology, chemical physiology, and experimental inquiries, including psycho-physical researches. The department of Pathology is well equipped for the study of the processes and results of disease and for bacteriological teaching and investigation. There is also a museum containing a fine collection of specimens illustrative of morbid anatomy. The surgical portion is of special importance, and contains a large number of interesting specimens presented by the late Sir George Humphry. The Pharmacological Museum and laboratory, at present lodged in Downing College, possesses a complete collection of the official materia medica and ample appliances for experimental and chemical research on the nature and uses of medicinal substances. Lectures on clinical medicine and surgery are given at Addenbrooke's Hospital by the staff. The department of Chemistry is very completely furnished, and several of the Colleges also possess chemical laboratories. Certain scholarships are open, including the John Lucas Walker Studentship for Pathology, the Balfour Studentship for Animal Morphology, and the Coutts Trotter Studentship (at Trinity College) for Physiology and Experimental Physics. Special arrangements for advanced students have been made already by King's College, Christ's College, St. John's College, Trinity College, and Emmanuel College. Further particulars may be obtained from the Registry of the University Registry, Cambridge.[1]

At Edinburgh there are permanent post-graduate courses, some of them running more or less continuously throughout the year, among which may be noted: (1) Demonstrations on the Anatomy and Pathology of the Central Nervous System by Dr. Alexander Bruce; a six weeks' course (twelve meetings) at Surgeons' Hall, fee £2 2s. (2) Dermatology, by Drs. W. Allan Jamieson, assisted by Dr. Norman Walker, twelve demonstrations, fee £3 3s. Also at the Skin Dispensary, Drummond Street, by Dr. Stewart Stirling, fee £1 1s. (3) Chest Diseases, by Dr. R. W. Philip, at the Victoria Hospital and Dispensary; short course, meeting twice weekly; fee £2 2s.; hours 4 to 5.30. (4) Ophthalmology, at the Royal Infirmary, by the ophthalmic surgeons, at 11 a.m. (5) Ophthalmoscopy, by Dr. George Mackay, at the Eye Dispensary, Chambers Street; limited class of twelve, fee £2 2s., at the Eye, Ear, and Throat Infirmary, Cambridge Street, by Dr. Sym; limited class of ten, fee £2 2s. (6) Diseases of Ear, Nose, and Throat, and Laryngology, at the Royal Infirmary, by Dr. P. McBride, assisted by Dr. R. Mackenzie Johnston and Dr. Logan Turner; at the Eye, Ear, and Throat Infirmary, Cambridge Street, by Dr. Hunter Mackenzie; limited classes of eight, meeting four afternoons a week, fee £2 2s. (7) Diseases of Children, by Dr. John Thomson, at the Outpatient Department of the Children's Hospital, and at the New Town Dispensary; the ordinary physicians and surgeon also give Clinical Courses at the Children's Hospital; a short course of Minor Surgery in Children is given at the Outpatient Department twice a week, by Mr. Stiles, fee £2 2s. (8) Pathological Bacteriology; occasional courses are given by Dr. Robert Muir, the University Lecturer, fee £3 3s., with an entrance fee of 5s.; and a three weeks' course at Surgeons' Hall by Dr. Shennan, fee £2 2s. (9) Gynæcology; three weeks' course (four days weekly) by Dr. Brewis, fee £2 2s. (10) Clinical Surgery; three weeks' course at Leith Hospital, by Mr. Miles, fee £2 2s.

In addition to these more or less permanent courses, arrangements have been made for a special series of courses in the undermentioned subjects, to commence simultaneously on or about September 27th next: Anatomy (Medical and Surgical); Bacteriology; Central Nervous System (Anatomy and Pathology of); Dermatology; Demonstrations of Modern Gastric Methods; Diseases of the Chest, Children, Ear, Throat and Nose; Electricity in Medicine; Gynæcology; Infectious Diseases; Ophthalmology; Ophthalmoscopy; Pathology; Practical Sanitation; Surgery, Clinical, Practical and Operative, and Minor Surgery in Children.

On application to the Honorary Secretary, Post-Graduate Courses, Surgeons' Hall, a fuller syllabus will be forwarded.

At many of the special hospitals in London and at some of the general hospitals also, courses are given by the members of the staff specially arranged for post-graduate students. Some particulars as to the hospitals having such arrangements will be found under the head of Clinical Hospitals [pp. 540 *et seq.*] Details are usually published in the adver-

[1] A *Guide for Advanced Students*, compiled by Dr. Donald MacAlister, tutor of St. John's College, and University Lecturer in Medicine, has been printed by the Cambridge University Press, and can be obtained (price 6d.) from any bookseller.

tisement columns of the British Medical Journal from time to time. The facilities which exist for the practical study of diseases of throat and ear are considerable. Special arrangements for the study of laryngology exist in London at St. Thomas's, Guy's, St. Mary's, Charing Cross, and the West London Hospitals; and for otology at the London Hospital and the Royal Ear Hospital; and for both subjects at the Golden Square Hospital, the London Throat Hospital, and the Central London Throat Hospital. In connection with Owens College, Manchester, a post-graduate course is held at the Ear Institute in June. Anderson's College, Glasgow, has special courses for ear diseases in November and May, and at the Aberdeen General Dispensary there is a course which extends from April to June. At many other hospitals clinical practice can be attended, and full particulars will be furnished by the Secretaries.[2]

For one who wishes to engage seriously in post-graduate medical study, it is a good plan to attach himself to one or more hospitals. One large general hospital will always give ample field for work for two or three months to anyone who wishes to follow the general course and to see what is going on in the various specialities, for which special departments are now attached to those hospitals which have medical schools. But if it is wished to take up any particular speciality alone there is usually no difficulty in attaching oneself also to one or more special hospitals, where it will be possible not only to see the desired class of cases every day, but to study them under a variety of teachers.

At many of these special hospitals, also, a certain number of appointments are available as clinical clerks or clinical assistants. No doubt these posts are mostly filled by senior students or newly-qualified men, but as the special hospitals are not connected with schools, there is nothing to prevent senior men taking them up. The field is very large, and the opportunity for gaining technical knowledge is great, as the work is done in connection with, and under the eye of, a member of the staff. At the children's hospitals, both at Great Ormond Street and at Shadwell, and also at the Evelina Hospital, appointments of this kind can be obtained.

A very interesting place for strangers to visit, and one where many post-graduate students come together, is Mr. Hutchinson's museum, close to Portland Road Station on the Metropolitan Railway. During the session, on Wednesday afternoons, Mr. Hutchinson gives clinical demonstrations, which are very interesting and well worth attending by the post-graduate students. There is no fee.

A word must be said to the casual visitors who, being in London, would like to see a few operations and go round with some of the well-known men. By introducing one's self, the stranger will generally be made welcome, and invited to visit the wards or witness the operation as the case may be. It must, however, be borne in mind that one of the objects of the visit is clinical instruction, and neither students nor professor will be likely to allow that to be interfered with. The visit to the wards is thus rather apt to be unsatisfactory. To the operating theatre, however, the medical visitor is usually admitted without difficulty.

DEGREES FOR PRACTITIONERS.

Since it was formerly the almost universal custom for medical students educated in London not to seek a University degree, and as that custom still prevails to a considerable extent, a very large proportion of medical men in actual practice in England possess diplomas to practise but not degrees in Medicine. The want of a degree and of the title of "Doctor" is often a subject of regret in after-life, and certain universities have issued special regulations under which the degree of M.D. is granted to practitioners of a certain standing under special conditions. The regulations of these universities are stated briefly in the following paragraphs. The University of Brussels also grants the degree of M.D. to practitioners after examination, without restrictions as to residence or curriculum; but this degree is not registrable on the *Medical Register* if obtained subsequently to June, 1886.

[2] *The Journal of Laryngology*, May, 1896, published a full tabular statement, giving the hours of attendance, fees, etc. The fees range from 1 to 5 guineas.

University of London.

Registered medical practitioners of not less than three years' standing, and not less than 25 years of age, who shall pass, or have already passed, the Matriculation and Preliminary Scientific Examinations, may proceed to the Intermediate and M.B. Examinations without the intervals prescribed by the Regulations, on producing certificates that they have gone through the required course of training at any time previously (see p. 515).

University of Durham.

The degree of M.D. is granted by the University of Durham to registered practitioners of not less than fifteen years' standing, who have been qualified and in practice for that period, upon the following conditions without residence: The candidate must be 40 years of age, and must produce a certificate of moral character from three registered medical practitioners. If he have not passed previously to the professional examination in virtue of which his name was placed on the *Register* an examination in Arts, he is examined in classics and mathematics; if otherwise, he is required to translate into English passages from Cæsar, *De Bello Gallico* (first three books), Virgil, *Æneid* (first three books), or Celsus (first three books); he is afforded an opportunity of showing proficiency in Moral Philosophy, Greek, or some modern language, but no extra marks are awarded for these subjects.

Professional Examination.—The candidate must pass an examination in the following subjects: i. Principles and Practice of Medicine, including Psychological Medicine, Hygiene, and Therapeutics; ii. Principles and Practice of Surgery; iii. Midwifery and Diseases Peculiar to Women and Children; iv. Pathology, Medical and Surgical; v. Anatomy, Medical and Surgical; vi. Medical Jurisprudence and Toxicology. The examination is conducted by means of printed papers, clinically, in the Royal Infirmary, Newcastle, and *vivâ voce*. The classical portion of the examination may be taken separately from the professional, on payment of a portion (£10 10s.) of the full fee.

Foreign and Colonial Practitioners.—Natives of India or the British Colonies are placed on the same footing as natives of Great Britain. Natives of India may produce evidence from an Indian university that they have passed within one year an examination in Latin and in Greek, Persian, or Sanskrit.

Fees.—The inclusive fee is fifty guineas; if a candidate fail to pass twenty guineas are retained, but if he present himself again forty guineas only are required.

Dates, etc.—The examinations are held twice a year, at the end of April and of September. Notice, accompanied by the fee and certificates, must be sent to Professor Howden, Secretary of the University of Durham College of Medicine, Newcastle-on-Tyne, at least twenty-eight days before the commencement of the examination.

University of Brussels.

British practitioners of medicine holding medical and surgical qualifications are, in common with legally-qualified practitioners in other countries, admissible without further curriculum to the examination for the degree of M.D. of the University of Brussels.

Examination.—The examination is divided into three parts. The "First Doctorate" includes Medicine, Pathology (with microscopical examination), Therapeutics, Mental Diseases, and Diseases of Women and Children. The "Second Doctorate" comprises Surgery, Midwifery, Hygiene, and Medical Jurisprudence. The "Third Doctorate" consists of clinical examination in Medicine and Surgery, examination in Midwifery with the mannequin, Ophthalmology, Operative Surgery (amputation, ligature of arteries in the dead subject), and Regional Anatomy with Dissections. Special importance is attached to practical knowledge. The examination is conducted in French through an official interpreter, but most of the examiners, it is stated, speak English fluently. The examination is *vivâ voce*, but a written

examination may be obtained on paying a special fee of £1 for each part.

Dates.—The examinations take place on the first Tuesday in November, December, February, May, and June. It is desirable that the candidate should arrive in Brussels on the previous Saturday before 2 P.M. at latest. The whole examination (First, Second, and Third Doctorate) may be got through in about a week, and seldom exceeds eight to ten days.

Fees.—Candidates are required to leave their diplomas with the Registrar of the University prior to the examination. The fees are: for inscription of name, £8 12s.; for examination, £13; for legalisation of diploma, 8s.; total, £22. If a candidate fail in the first part of the examination the fees for the second and third are returned to him; if in the second, the fees for the third. A rejected candidate may present himself again in three months on paying the examination fees, provided his second appearance be in the same academic year (October 1st to June 30th); otherwise matriculation fee must be renewed, that is, fee for inscription of name.

Further particulars may be obtained from Dr. Major Greenwood, Hon. Sec. Brussels Medical Graduates' Association, 243, Hackney Road, London, N.E. An article containing a full description of everything concerning the degree was published in the British Medical Journal on September 15th, 1888.

N.B.—This degree, if obtained subsequent to June, 1886, is not registrable.

PUBLIC HEALTH OR STATE MEDICINE.

A medical officer of health of any county or of any single or combined district, with a population at its last census of 50,000 or more, or of any metropolitan district, or the deputy of any such officer, must be legally qualified for the practice of Medicine, Surgery, and Midwifery, and also either be registered in the *Medical Register* as the holder of a diploma in Sanitary Science, Public Health, or State Medicine under Section xxi of the Medical Act, 1866, or have been, during three consecutive years preceding the year 1892, a medical officer of a district or combination of districts in London or elsewhere with a population, according to the last published census, of not less than 20,000, or have, before the passing of the Local Government Act, 1888, been for not less than three years a medical officer or inspector of the Local Government Board.

Certain regulations for candidates for diplomas in Public Health have been laid down by the General Medical Council. These regulations are designed to ensure "the possession of a distinctly high proficiency, scientific and practical, in all the branches of study which concern the Public Health." The regulations have recently been revised, and the Council in forming its judgment on the conditions of education and examination, now expects the following rules to have been observed.

Every candidate shall have produced evidence of having, after obtaining a registrable qualification, attended during six months practical instruction in a laboratory.

(1) A period of not less than twelve months shall elapse between the attainment of a registrable qualification in Medicine, Surgery, and Midwifery, and the admission of the candidate to any examination or any part thereof for a Diploma in Sanitary Science, Public Health, or State Medicine.

(2) Every candidate shall have produced evidence of having, after obtaining a registrable qualification, attending during six months practical instruction in a laboratory or laboratories, British or foreign, approved by the body granting the diploma, in which chemistry, bacteriology, and the pathology of the diseases of animals transmissible to man are taught.

(3) Every candidate shall have produced evidence that, during a period of six months after obtaining a registrable qualification, he has practically studied the duties of outdoor sanitary work, (*a*) in England and Wales, either under the medical officer of health of a county or of a single sanitary district having at the date of the last census a population of not less than 50,000 or the medical officer of health of a combination of two or more sanitary districts having collectively at the date of the last census a population of not less than 35,000; or (*b*) in Scotland or Ireland under the medical officer of health of a county or of one or more sanitary districts having at the date of the last census a population of not less than 30,000; or (*c*) under a medical officer of health who is a teacher in the Department of Public Health of a recognised medical school. The certificate of an assistant officer of health of a county or a large urban district may be accepted, provided the medical officer of health of the county or district consents to the assistant officer giving such instruction.

*** Any candidate who shall produce evidence that he has himself held an appointment of medical officer of health under conditions not requiring the possession of a special sanitary diploma shall be exempt from this regulation.

(4) Every candidate shall have produced evidence that he has attended the clinical practice of a hospital for infectious diseases recognised by one of the licensing bodies; provided that such a course of instruction may have been taken as part of the curriculum for his registrable qualification in Medicine, Surgery, and Midwifery.

(5) The examination shall have been conducted by examiners specially qualified; it shall have extended over not less than four days, one of which shall have been devoted to practical work in a laboratory, and one to practical examination in, and reporting on, subjects which fall within the special outdoor duties of a medical officer of health.

*** The rules as to study shall not apply to medical practitioners registered, or entitled to be registered, on or before January 1st, 1890.

The examinations for diplomas in Public Health, granted by the various Universities and Medical Corporations, and the courses of study required are adapted to meet the regulations of the General Medical Council, and, as a rule, to fulfil the recommendations issued by that body from time to time. It would be unnecessary to recapitulate in every case details of this nature.

Books.

Inquiries are often made with regard to the most suitable books to be read by practitioners preparing for examinations in Public Health. The following list issued until recently by the University of Cambridge will be found useful. It is not, of course, intended that these candidates should read all, or even the majority, of these works, but it will not be difficult to make a selection. The books marked (*) may be used for reference.

Parkes's *Manual of Practical Hygiene* (Churchill); Wynter Blyth's *Manual of Public Health* (Macmillan); Grimshaw and others, *Manual of Public Health for Ireland* (Fannin, Dublin; and Longmans); Cameron's *Manual of Hygiene* (Hodges, Foster, and Co., Dublin; and Baillière, Tindall, and Cox); Seaton's *Handbook on Vaccination* (Macmillan); McVail's *Vaccination Vindicated* (Cassell); *Reports of the Royal Commission on Vaccination; *Army Medical Reports, *Reports on Hygiene* (Eyre and Spottiswoode); *Reports to Privy Council and Local Government Board by their Medical Officer (Eyre and Spottiswoode); Simon's works (Churchill).

On Chemistry: General Principles.—Watt's *Manual of Chemistry* (Churchill); Bloxam's *Chemistry* (Churchill); Roscoe's *Lessons in Elementary Chemistry* (Macmillan); *Miller's *Chemistry* (Longmans); *Thorpe's *Dictionary of Applied Chemistry* (Longmans).

Analysis.—Sutton's *Systematic Handbook of Volumetric Analysis* (Churchill); Frankland's *Water Analysis for Sanitary Purposes* (Van Voorst); Wanklyn and Chapman's *Water Analysis* (Trübner); Hartley's *Air and Its Relations to Life* (Longmans); Wanklyn's *Air Analysis* (Trübner); C. Fox, *Sanitary Examination of Water, Air and Food* (Churchill); Wynter Blyth's *Foods, Composition and Analysis* (Griffin).

Physics.—Everett's *Textbook of Physics* (Blackie); Ganot's *Physics* (Longmans); Deschanel's *Physics* (Blackie); *Daniell's *Textbook of the Principles of Physics* (Macmillan).

Microscopy.—Macdonald's *Guide to Microscopical Examination of Drinking Water* (Churchill); Davis's *Practical Microscopy* (Allen); *Cornil and Babes's *Les Bactéries* (Alcan); Crookshank's *Manual of Bacteriology* (Lewis); Klein's *Micro-organisms and Disease* (Macmillan); Flügge's *Micro-organisms* (New Sydenham Society).

Sanitary Engineering, Water Supply, Sewage, etc.—Eassie's *Sanitary Arrangements for Dwellings* (Smith, Elder, and Co.); Galton's *Healthy Dwellings* (Clarendon Press); Corfield's *Dwelling Houses: their Sanitary Construction and Arrangements* (Lewis); *Bailey-Denton, *Sanitary Engineering* (Spon); *Latham's *Sanitary Engineering* (Spon); *Bayles's *House Drainage and Water Service* (Williams, New York); Tomlinson's *Warming and Ventilation* (Lockwood); Corfield's *Treatment and Utilisation of Sewage*, 3rd edition, 1887, by Corfield and L. Parkes (Macmillan); *Report of Committee appointed by President of Local Government Board on Modes of Treating Town Sewage (Eyre and Spottiswoode); *Reports of Royal Commission on Pollution of Rivers, especially the Sixth on Doncaster Water Supply (Eyre and Spottiswoode); *Reports (two) of Royal Commission on Metropolitan Sewage Discharge; *Report from Select Committee on Public Health Act (1875) Amendment Bill, with the Evidence (Eyre and Spottiswoode); *R. Angus Smith's *Air and Rain* (Longmans).

On the Laws of the Realm and By-laws relating to Public Health.—For England: Public Health Act, 1875, and the Acts of Parliament relating to the various subject matters within the domain of Hygiene passed since that date; Housing of the Working Classes Act, 1890; Vaccination Acts. For the Metropolis, or for Scotland, or for Ireland: Laws dealing with the same subject-matters as the above, and having application to the particular part of the United Kingdom; Model By-laws of the Local Government Board (Eyre and Spottiswoode), or the same annotated (Knight); Adulteration of Food and Drugs Act.

Statistics.—Newsholme's *Vital Statistics* (Sonnenschein); Lewis's *Digest of the English Census* (Stanford); *The articles on "Statistics" in the *Cyclopædia of Anatomy and Physiology* (Longmans); *Papers by Mr. Noel Humphreys in the *Journal of the Statistical Society*; *Dr. Farr's *Vital Statistics* (Stanford); *Dr. Farr's letters to the Registrar-General in the early Reports of the Registrar-General; *Reports of the Registrar-General

(Eyre and Spottiswoode); *Deaths in England. Average Annual Proportion of Deaths, etc., 1861-70, Parliamentary Paper C. 874, Session 1873 (Eyre and Spottiswoode).

Construction of Hospitals—Miss Nightingale's *Notes on Hospitals* (Longmans); Galton *On the Construction of Hospitals* (Macmillan); Burdett, *Cottage Hospitals* (Churchill); **Hospital Construction and Organisation*—Johns Hopkins Essays (W. Wood and Co.); *Mouat and Snell's *Hospital Construction and Management* (Churchill); **L'Etude et les Progrès de l'Hygiène en France*, article "Hôpitaux et Hospices" (Masson); *Sir R. Thorne Thorne's *Report on Infectious Hospitals*—Local Government Board (Eyre and Spottiswoode); *De Chaumont, article "Hospitals" in the *Encyclopædia Britannica*, ninth edition.

The books recommended in the regulations for the diploma in Public Health and the degree of B.Hy. in the University of Durham are:

Professor A. Wynter Blyth, *Manual of Public Health*; Dr. Louis C. Parkes, *Hygiene and Public Health*; Dr. George Wilson, *Handbook of Hygiene*.

Comparative Pathology.—Professor Crookshank, *Manual of Bacteriology*; Dr. G. Sims Woodhead, *Bacteria and their Products*; or Drs. Kanthack and Drysdale, *Practical Bacteriology*; Dr. Leuckart, *Parasites of Man*.

Sanitary Chemistry and Physics—Dr. C. B. Fox *Sanitary Examination of Water, Air, and Food*; Professor Wanklyn, *Analysis of Food and Water*; Mr. Noel Hartley, *Air, Water, and Disinfectants*.

Professor Corfield, *Dwelling Houses*; Professor Walley, *Meat Inspection*; Aitken's *Practice of Physic—Medical Geography*.

Law.—Knight and Co.'s *Public Health Acts* (latest edition); Knight's *Model By-laws*; Public Health Acts; Rivers Pollution Prevention Act, 1876; Public Health (Water) Act, 1878; Infectious Diseases (Notification) Act, 1889; Local Government Act, 1882; Infectious Diseases (Prevention) Act, 1890; Housing of the Working Classes Act, 1890; Public Health Acts (Amendment) Act, 1890.

NOTE.—These lists are given in the form in which they were last issued; it should be noted, however, that Parkes's Manual has now been largely rewritten, and the new volume is known as the *Theory and Practice of Hygiene*, by Notter and Firth (Churchill). *A Treatise on Hygiene and Public Health*, in three volumes, containing essays by various authors, and edited by Stevenson and Murphy, has also been published by Messrs. Churchill. Though these lists are already too long, we would add Scott's or J. W. Moore's *Meteorology*, the latter more specially adapted for medical men. Some elementary work on geology, such as Geikie's, should also be read. Dr. J. W. Moore's *Textbook of the Eruptive and Continued Fevers* is likely to be useful to all students of hygiene.

UNIVERSITY OF CAMBRIDGE.

A diploma in Public Health is granted by the University, and any person whose name is on the *Medical Register* may apply to be examined, provided that he can show that he has complied with the regulations laid down by the General Medical Council (*see* Regulations (*b*), (*c*), (*d*), (1), (2), page 512. [These regulations do not apply to candidates registered or entitled to be registered on or before January 1st, 1890.]

The examination, which is usually held twice a year, during parts of two successive weeks and beginning on the first Tuesday in April and October respectively and three or four following days, is divided into two parts, both of which are partly oral and practical, and partly in writing. One day at least will be devoted to practical laboratory work, and one day to oral and practical examination in and reporting on subjects connected with outdoor sanitary work. They may both be passed together. A fee of £6 6s. must be paid before admission to either part.

Part I comprises Physics and Chemistry: the principles of Chemistry and methods of analysis, with especial reference to analyses of air, water, and food: applications of the microscope, including the investigation of micro-organisms; the laws of heat, and the principles of pneumatics, hydrostatics, and hydraulics, with special reference to ventilation, water supply, drainage, construction of dwellings, disposal sewage and refuse, and sanitary engineering in general; metereology in relation to health; sources of water supply; statistical methods in their application to public health.

Part II comprises laws and statutes relating to public health; origin, propagation, pathology, and prevention of epidemic and infectious diseases, including those diseases of animals that are transmissible to man; effects of overcrowding, vitiated air, impure water, and bad or insufficient food; unhealthy occupations and the diseases to which they give rise; water supply and drainage in reference to health; nuisances injurious to health; distribution of diseases within the United Kingdom, and effects of soil, season, and climate.[1] The foregoing schedule is not to be understood as limiting the scope of the examination, which will include every branch of sanitary science. No candidate will be approved by the examiners who does not show a high proficiency in all the branches of study, scientific and practical, which concern the public health.

Applications for further information should be addressed to Dr. Anningson, Walt-ham-sal, Cambridge, who will also supply particulars as to the course of instruction provided in the University.

A list of Colleges and Schools of Medicine at which the courses of laboratory instruction have, for the purposes of this examination, been already approved by the syndicate, can be obtained on application.

Application for admission to the examination must be made to J. W. Clark, M.A., Registrary, University Registry, Cambridge, not later than March 13th or September 17th, and must be accompanied by the proper fee and certificates. A candidate who has not been on the *Medical Register* for three years must show that he is in his 24th year at least when he presents himself for Part I, and at least 24 years old when he presents himself for Part II.

N.B.—It should be understood that the qualification is non-gremial, and confers no University position or privilege.

[1] The examination papers set at former examinations can be obtained at the Cambridge University Press Warehouse, Ave Maria Lane, London, price 1s. each set, or by post 1s. 1d.

UNIVERSITY OF OXFORD.

A Diploma in Public Health is granted after an examination which will be held in Michaelmas Term, 1897. The examination will begin November 22nd, and will be conducted in two divisions: (1) First Division: The application of Chemistry and Physics to General Hygiene. (2) Second Division: (*a*) General Pathology, with special relation to Infectious Diseases: (*b*) Laws relating to Public Health; (*c*) Sanitary Engineering; (*d*) Vital Statistics. It will be permissible to take the two divisions at the same or at different examinations. Candidates must comply with the regulations of the General Medical Council (see p. 512). The First Division may be passed at any time after registration, provided that the candidate has spent six months studying in a public health laboratory approved by the Board of the Faculty of Medicine.

UNIVERSITY OF LONDON.

The University does not grant a Diploma in Public Health, but Sanitary Science is made a branch of the M.D. Examination, which is open to persons holding the degree of M.B.Lond. Candidates must in addition have complied with the regulations laid down by the General Medical Council (See Regulations (*b*), (*c*), (*d*), p. 512.

VICTORIA UNIVERSITY.

A Diploma in Public Health is granted after an examination, which begins about the middle of July in each year. The candidate must fulfil the requirements laid pown by the General Medical Council (see Regulation (*b*), (*c*), (*d*), page 512). The examination is divided into two parts: the subjects of the University so nearly coincide with those of the University of Cambridge that it is unnecessary to reproduce them. Special mention is, however, made of the use of meteorological instruments, of the diseases of animals in relation to the health of man, and of "Sanitary Reporting," every candidate being expected to visit and report upon the sanitary condition of some actual locality assigned to him by the examiners.

Each part of the examination occupies two days, and the fee for each part is £5 5s. Application for admission to the examination must be made to the Registrar of the Victoria University, Manchester, not later than July 1st, and the fee must be paid on or before July 1st.

CONJOINT BOARD IN ENGLAND.

The diploma in Public Health of the Royal College of Physicians of London and the Royal College of Surgeons of England is granted to persons whose names are on the *Medical Register*, subject, so far as concerns those who have registered after January 1st, 1890, to the conditions laid down in the Regulations printed below. The examination is held in two parts, and Part I may be passed before fulfilling Clauses 1 and 2 under Part II. The subjects of the two parts of the examination are as follows:

PART I.—1. Physics, in their application to Health, with reference to—(*a*) Warming and Ventilation; (*b*) Water Supply,

Sewerage, and Drainage; (*c*) Sanitary Construction. 2. Meteorology in relation to Health. 3. Chemistry with special reference to Food, Air, Soil, and Water. 4. Microscopical Examinations as applied to Air, Food, and Water. 5. Bacteriology, including the Cultivation and Recognition of Micro-organisms. 6. Geology and Soil in their Relation to Drainage and Water Supply.

Part II.—1. The origin, development, and prevention of Disease with reference to: (*a*) Special Pathology of Epidemic and Endemic Diseases, including the Natural History of the Specific Organisms of Diseases; (*b*) Influence of Climate, Season, and Soil; (*c*) Effects of Unwholesome Air, Water, and Diet; (*d*) Diseases of Animals in relation to the Health of Man; (*e*) Influence of Occupation and Lodgment; (*f*) Isolation, Quarantine, Disinfection, Vaccination. 2. Sanitary Work and Administration with reference to: (*a*) Health Requirements of Houses, Villages, and Towns; (*b*) the Sanitary Regulations of Households, Establishments, and Occupations, including the Construction and Arrangement of Hospitals; (*c*) the Prevention and Control of Epidemic and Endemic Diseases. 3. Statistics in Relation to Health. 4. Statutes, Orders, and By-laws relating to Public Health. 5. Duties of Sanitary Authorities and their Officers. (The candidates may be required to visit and report on some premises selected by the examiners.)

A candidate will be admissible to examination in Part I on producing evidence: (1) Of having been in possession of a registrable qualification in Medicine, Surgery, and Midwifery for at least 12 months. (2) Of having attended, after obtaining such registrable qualification, practical instruction in a Laboratory recognised by the Examining Board in England during a period of six months.

I. Physics. Gases: examination of their physical properties; their weight and bulk under varying alterations of pressure and temperature, and the movements thereby set up; diffusion, with especial reference to warming and ventilation. Anemometers, and their use. Liquids: their physical properties, their pressure, and flow through tubes and conduits; their action on gases. Meteorological instruments, their construction and use. Barometers, thermometers, hygrometers, rain gauges. II. Chemistry. The analysis of water for drinking purposes, including the qualitative and quantitative estimation of total solids (lime, magnesia, chlorides, sulphates, nitrates and nitrites, ammonia, and lead), and loss on ignition of solids; determinations of hardness, of organic impurities, and of acidity and alkalinity. Chemical methods of treating sewage. The examination of air for the detection of polluting gases. Simple methods of eudiometry. Estimation of the quantity of carbon dioxide in air. III. Microscopy. The recognition of the constituents of food, such as starches, and muscular fibre. The recognition of the chief fibres of clothing, such as wool, cotton, and silk. The recognition of constituents of ordinary dust and deposits from water. IV. Bacteriology, including the cultivation and recognition of micro-organisms. V. Parasites and other organisms infesting foods, stuffs, or the human body.

(3) Of being at least 23 years of age. A candidate will be admitted to Part II of the examination on producing evidence: (1) Of having, during a period of six months after obtaining a registrable qualification, either practically studied the duties of outdoor sanitary work under the medical officer of health of a county or large urban district, or else held appointment as Medical Officer of Health under conditions not requiring the possession of a special Sanitary diploma. (2) Of having attended the clinical practice of a hospital for infectious diseases recognised by the Examining Board in England, either before or after obtaining his registrable qualification in Medicine, Surgery, and Midwifery.[1] (3) Of being at least 24 years of age.

The two parts may be passed separately or at the same time. The fee for each is £5 5s., and must be paid three days before the examination commences. Fourteen days' notice must be given to the Secretary at the Examination Hall, Victoria Embankment, from whom further particulars and the dates of the examinations (which are held in the months of January and July) may be obtained.

University of Durham.

The University grants a Diploma in Public Health (D.P.H.) and the degree of Bachelor in Hygiene (B.Hy.) and Doctor in Hygiene (D.Hy.).

Degree of Bachelor in Hygiene (*B.Hy.*).—1. The candidate for the degree of Bachelor in Hygiene (B.Hy.) must be a registered medical practitioner and a graduate in medicine of a recognised University, not less than 22 years of age, and must have passed his first registrable qualification in Medicine, Surgery, and Midwifery at least twelve months previously. He must have spent six months of professional study subsequent to the attainment of a first registrable qualification in Medicine, Surgery, and Midwifery, in attendance at Newcastle-upon-Tyne, in the following manner: *University of Durham College of Medicine.* (α) Course of Lectures on Public Health. (β) Three Months' Course of Lectures on Comparative Pathology with practical work in a Bacteriological Laboratory. *Outdoor Sanitary Work.*—(γ) Six Months' practical Study of outdoor Sanitary Work under the Medical Officer of Health, Newcastle-upon-Tyne, *City Hospital for Infectious Diseases, Newcastle-upon-Tyne.*—(δ) Three months' attendance on the Clinical Practice and Instruction. Regulation (*a*) to be omitted in the case of a candidate who has already attended the course before obtaining a registrable qualification. Regulation (γ) to be omitted in the case of a practitioner who has himself held appointment as a medical officer of health under conditions not requiring the possession of a Sanitary Diploma under the Local Government (England and Wales) Act, 1888. *Durham College of Science.*—(ε) Course of Lectures on Sanitary Chemistry and Physics. (ζ) Three months' practical instruction in a chemical laboratory. This course must not be concurrent with the three months' course of Lectures on Comparative Pathology with practical work in a bacteriological laboratory. The candidate shall be required to pass an examination in the following subjects: (*a*) Sanitary Chemistry.—The examination of Air; detection of noxious gases and atmospheric impurities. Water for sanitary purposes; detection of metals in water; the action of water on metals. Milk and Food. Detection of Poisons in Articles of Dress and Decoration. (*b*) Physics.—Hydrodynamics, Pneumatics, and Hydraulics, as applied to Hygiene. Light; Propagation of Light; Reflection and Refraction; Photometry; Heat; Thermometers; Laws of Heat in relation to Hygiene. Principles of Hygrometry and Hygrometers. (*c*) Sanitary Legislation.—Knowledge of the following Statutes and By-laws, namely: The Public Health Acts, 1875; Rivers Pollution Prevention Act, 1876; The Public Health (Water) Act, 1878; The Infectious Diseases (Notification) Act, 1889; The Local Government Act, 1888; The Infectious Diseases (Prevention) Act, 1890; The Housing of the Working Classes Act, 1890; The Public Health Acts (Amendment) Act, 1890; The Model By-laws of the Local Government Board relating to Cleansing, the Prevention of Nuisances, New Streets and Buildings, Slaughter-houses, Common Lodging Houses, Houses Let in Lodgings, Offensive Trades. Most of the above-mentioned statutes will be found in Knight and Co.'s *Public Health Acts* (latest edition), and the By-laws in the work under that title, by the same publishers. (*d*) Comparative Pathology, etc.—Knowledge of the Comparative Pathology, Methods of Propagation, and Prevention of Microbic and Parasitic Diseases intertransmissible between Man and the lower Animals; Morphology of Microbes and Animal Parasites; Methods of Microscopical Examination and Artificial Cultivation of Micro-organisms. The Bacteriological Examination of Water, Air, and Earth; the Special Characteristics, Life-History, Properties, and Natural and Artificial Modes of Inoculation of Pathogenic Micro-organisms and Animal Parasites. (*e*) Vital Statistics.—Rates of Birth, Death, and Marriage; Methods of Calculation, Classification, and Tabulation of Returns of Sickness and Mortality; Data required and Conclusions deducible therefrom. (*f*) Nosology.—Definition, Nomenclature, and Classification of Diseases. (*g*) Meteorology, Climatology, and Geographical Distribution of Health and Disease over the Globe, and in Different Urban and Rural Districts of the United Kingdom. (*h*) Sanitary Science in relation to the Origin, Propagation, Pathology, and Prevention of Epidemic, Endemic, Epizootic, and other Communicable Diseases; Diseases attributable to Heat, Cold, or Dampness, Insufficiency or Impurity of Air, Food, or Drink; Parasitic and other Diseases affecting the Food and Drink of Man; Diseases due to Habitation in Cities, Towns, Villages, and Separate Houses; Occupation and Trade Operations in relation to the Health of the Workers; Overwork, Intemperance, Heredity; Preventive Measures, Vaccination, Isolation, Disinfection; the Regulation of Noxious and Offensive

[1] This certificate is not required in the case of a candidate who produces evidence that he has commenced special study in Sanitary Science before January 1st, 1894.

Manufactures and Trades; the Removal of Nuisances. (*i*) Practical Hygiene in reference to Meteorological Apparatus, Sanitary Appliances, the Site, Materials, Construction, Capacity, Lighting, Ventilation, Warming, Dryness, Water Supply, Drainage, and Refuse Disposal of Houses, Schools, Hospitals, Artisans' Dwellings, Workshops and Workhouses, and other Buildings of Public or Private Resort; the Construction of Drains, Abattoirs, and Disinfecting Stations; Action with respect to Nuisances and Outbreaks of Disease; the Examination of Butcher's Meat and other Food; the Preparation of Sanitary Reports, and other Duties of a Medical Officer of Health. The examination will be conducted by written papers, and practical and *viva voce* examination, and will be commenced on September 13th, 1897, and April 11th, 1898. The candidate shall also be required: (1) To pass an examination on medical clinical cases at the City Hospital for Infectious Diseases, or elsewhere; (2) to draw up outlines for annual or other reports of a medical officer of health; (3) to report upon the condition of some actual locality; (4) to analyse liquids, gases, and specimens of food; (5) to describe the construction and use of instruments employed in Meteorological, Hygienic Apparatus, and Sanitary Appliances; (6) to examine with the Microscope submitted Specimens; (7) to describe submitted Specimens of Diseased Organs and Tissues (human and other); (8) to show a practical acquaintance with the usual methods of Bacteriological investigation; (9) to inspect and describe Carcasses. The fee for the examination for the B.Hy. is £10 10s., and for the degree £6. The fee for the examination and Diploma in Public Health is £10 10s. Holders of the licence in Sanitary Science in the University of Durham, prior to January, 1892, who are Graduates in Medicine of the University of Durham, are entitled to admission to the examination for the Degree of Bachelor in Hygiene without residence.

Degree of Doctor in Hygiene (D.Hy.).—The candidate must be a Bachelor in Hygiene, and must have been engaged for two years subsequently to the date of his acquirement of the degree of Bachelor in Hygiene, in practice, as a Medical Officer of Health. He will be required to write an essay upon some practical Hygienic subject, selected by himself and approved by the Lecturer on Public Health, and shall be examined thereon, and upon questions relative to the subject of the essay. The essay should not exceed thirty pages. The essays must be forwarded to the Lecturer on Public Health one month before the date of the examination, and will be retained by the Faculty of Medicine.

Diploma in Public Health (D.P.H.).—The regulations for education and examination for the Diploma in Public Health (D.P.H.) are the same as those for the degree of Bachelor in Hygiene on pp. 551, etc., with the following exceptions, namely: (1) That the candidate is not required to be a Graduate in Medicine of a recognised university; (2) the course of study for the D.P.H. need not be spent at Newcastle-upon-Tyne.

Diploma in Public Health for Medical Practitioners.—The following are the regulations for the Diploma in Public Health, for medical practitioners, registered, or entitled to be registered, on or before January 1st, 1890: (1) The candidate shall be a medical practitioner, registered or entitled to be registered, on or before January 1st, 1890; (2) The candidate shall be required to pass the same examination as that for the ordinary Diploma in Public Health; (3) every candidate wishing to be present for the examination must give at least twenty-eight days' notice to the Secretary of the College, and must, at the same time, send the examination fee and the necessary certificates; (4) the fee for the examination and diploma is £10 10s.

UNIVERSITY OF ABERDEEN.

The University grants a diploma in Public Health. Candidates for the diploma must have graduated in Medicine in the University, or in a University in the United Kingdom, one year before they received the diploma; and they must produce evidence of (1) having complied with the regulations of the General Medical Council (see p. 512); (2) of having attended a fever hospital, containing not fewer than 50 beds, for six months; (3) if not a graduate in Medicine of Aberdeen University, of having attended a course in the University in one or more of the subjects embraced in the examination for the diploma. The examination consisted of two parts; Part I (*a*) Physics, Engineering, and Meteorology; (*b*) Chemistry, Microscopy, and Bacteriology; Part II (*a*) General Hygiene; (*b*) Sanitary Law and Vital Statistics. The examination (which is written and oral) is held in March and July, and notice must be given to the Secretary of the Medical Faculty two weeks before. A detailed synopsis can be obtained from the Dean of the Medical Faculty, or will be found in the University *Calendar* for 1897-98. The fee, which must be paid at the time of giving notice, is £5 5s. The fee for re-examination, £1 1s.

UNIVERSITY OF EDINBURGH.

This University confers two degrees in science in the department of Public Health—namely, Bachelor of Science (B.Sc.) and Doctor of Science (D.Sc.).

Bachelor of Science.—Two examinations must be passed, and the candidate must produce evidence of having complied with the regulations of the General Medical Council (see p. 512), and have taken a degree in Medicine in the University of Edinburgh or in a university recognised by it. The subjects of the First Examination are: (1) Laboratory work, practical, written, and oral; (2) Elements of Experimental Physics; (3) Geology, written and oral. The second examination cannot be taken sooner than six months after the first. The candidate must have attended a course of lectures (fifty at least) in the University of Edinburgh, or in a university recognised by the Court. The subjects of the Second Examination are: (1) Medicine in its application to Public Health; Sanitation; (2) Sanitary Law; (3) Vital Statistics; (4) Medicine in its bearings on Public Health; and the examinations in these subjects are taken at one time; (5) Mensuration and Drawing. (A detailed syllabus is given in the *Calendar*, pp. 235—239.) The examinations are held in March and July. The fee for each examination is £3 3s. Further particulars may be obtained on application to the Dean of the Faculty of Science at the University Matriculation Office, where the schedules for examination are issued and the certificates of candidates examined.

Doctor of Science.—Bachelors of Science in the Department of Public Health may, after the lapse of five years, proceed to the degree of Doctor in the same Department on presenting a Thesis on some subject in the Department of Public Health, or a published memoir of works, and are required to pass an examination in Public Health, and in such of its special departments as may from time to time be determined. (Candidates for D.Sc. in Public Health may appear for examination in any one of the departments of knowledge required for the degree of B.Sc. in Public Health. They are required to submit the subject in which they propose to be examined for approval at least two months before the date of the examination.) Every such Thesis must be certified by the candidate to have been composed by himself, and must be approved by the examiners. The Thesis must be lodged with the Dean of the Faculty of Science on or before January 20th, in the year in which the candidate proposes to graduate. The fee is £10 10s.

THE CONJOINT BOARD OF SCOTLAND.

The Royal Colleges of Physicians and Surgeons of Edinburgh and the Faculty of Physicians and Surgeons of Glasgow will grant a conjoint diploma in Public Health, after examination by a Board on which these bodies are represented. Candidates qualified before 1890 will be admitted without evidence of special instruction (though even in their case such instruction is strongly recommended). Registered medical practitioners who have for a period of three years held the position of medical officer of health to any county or urban district of more than 20,000 inhabitants, or any entire rural sanitary district, are also exempt from courses of special instruction. Other candidates must produce evidence of attendance (subsequent to obtaining a registrable qualification) for six months at a Public Health Laboratory, and for six months under a Medical Officer of Health of a county or large urban district. There are two examinations, and candidates may present themselves for both of them at one period, or for either examination separately. The First Examination

embraces the following subjects in their relation to Public Health: Chemistry, Laboratory Work, Physics, and Meteorology. The Second Examination includes: (*a*) Report on premises visited; (*b*) examination at fever hospital; (*c*) examination at public abbatoir; (*d*) epidemiology and endemiology; (*e*) vital statistics and sanitary law; (*f*) practical sanitation. The various subjects of both examinations are detached and limited by synopses given. The laboratory work embraces not only Chemical Analyses, but also Microscopical Examination, Bacteriology, Parasites, etc. At the Second Examination each candidate is required to submit a report on the sanitary condition of premises to which he may be sent for the purpose, and is examined on the Acts of Parliament included under "Sanitary Law." The fee is ten guineas, or five guineas in respect of each examination; and candidates referred are readmitted on the fee of three guineas in respect of each examination. The examination is held in Edinburgh or in Glasgow, there being two periods of examination yearly—October and May. Application for examination in Edinburgh to be sent to Mr. James Robertson, 1, George Square, Edinburgh; and in Glasgow to Mr. Alexander Duncan, 242, St. Vincent Street, Glasgow, not later than fourteen days before the examination day. The regulations and synopsis of subjects will be found at page 75 of the 1896-97 edition of the *Calendar* of the Royal Colleges of Edinburgh, issued by Mr. Andrew McDougall.

University of Dublin.

The diploma in State Medicine is conferred after examination upon M.D.'s or graduates in Medicine and Surgery of Dublin, Oxford, or Cambridge. The name of the candidate must have been on the *Medical Register* at least twelve months before the examination, and, subsequently to registration, the candidate must have completed six months' practical instruction in a laboratory approved by the University, and have studied practical outdoor sanitary work for six months, under an approved officer of health. [This condition does not apply to candidates registered or entitled to be registered on or before January 1st, 1890.] The examination is held in December, and candidates are required to send in their names at least a week before the first day of the examination to the Registrar of the School of Physic, from whom a full syllabus of the examination can be obtained. Candidates who have registered since January 1st, 1890, are required to make application for permission to present themselves for examination to the Board of Trinity College, submitting at the same time certificates of the required courses of study. The subjects of examination are: State Medicine and Hygiene (paper); Chemistry (paper and laboratory); Physics and Meteorology (oral); Engineering (paper); Sanitary Engineering (practical); Morbid Anatomy (oral); Vital Statistics (paper); Medical Jurisprudence (oral); Law (paper); Epidemiology and the Work and Duties of a Public Officer of Health.

Further particulars can be obtained on application to the Registrar of the School of Physic, Dublin.

Royal University of Ireland.

The University grants a diploma in Sanitary Science, but only to graduates in Medicine of the University. The fee is £2. Further particulars will be found in the *Calendar*.

Conjoint Examining Board in Ireland of the Royal College of Physicians and the Royal College of Surgeons.

A diploma in State Medicine is granted by these two Colleges after an examination conducted by them jointly. Candidates are required to comply with the regulations of the General Medical Council (see page 512). The regulations as to study do not apply to practitioners registered or entitled to be registered on or before January 1st, 1890. The examination comprises the following subjects: State Medicine and Hygiene, Chemistry (including Chemical Physics), Meteorology and Climatology, Engineering, Vital Statistics, Law, and Bacteriology. The candidates will be examined orally in Hygiene, and practically in the reading of Plans, Sections, and Scales, as well as in Analytical Chemistry, with special reference to Air, Water, and Food, including the use of the Microscope, and in Bacteriology. They will also be required to read meteorological instruments, and to explain their construction; and they may be called upon to make a practical Sanitary Report.

The candidate must return his name to the Secretary of the Committee of Management under the Conjoint Scheme, Royal College of Physicians, 6, Kildare Street, Dublin, three weeks before the examination, and lodge with him a testimonial of character from a Fellow of either of the Colleges, or of the Royal Colleges of Physicians or Surgeons of London or Edinburgh.

The examination is divided into two parts, which may be passed either together or separately, but no candidate can present himself for Part II who fails to satisfy the examiners in Part I. The examination occupies four days.

The fee for examination is £10 10s., for re-examination £5 5s.; the examinations begin on the first Tuesday of the months of February, May, and November.

A Special Examination for the diploma can be obtained on payment of £5 5s., in addition to the ordinary fees mentioned above, except during the months of August and September, and on giving notice at least one fortnight before the date of the proposed examination.

Schedules of the subjects can be obtained from the Secretary.

Instruction and Laboratory Classes.

Courses of lectures and laboratory instruction to suit the requirements of candidates for diplomas in Public Health have been organised at the following schools, and could probably be arranged for at any other schools and colleges. The chemical and bacteriological examinations for many of the health diplomas are now so practical, and the time allowed so short, that unless a candidate—even though familiar with the duties of an M.O.H.—has a certain amount of the manipulative dexterity only to be acquired by work in a laboratory, he may come to grief.

London.

St. Bartholomew's Hospital.—Inclusive fee, 20 guineas.
Charing Cross Hospital.—Inclusive fee, 20 guineas.
St. George's Hospital.—Inclusive fee, 20 guineas; for candidates registered before January 1st, 1890, 12 guineas.
Guy's Hospital.—Inclusive fee for six months' course of Laboratory Instruction and Lectures, 20 guineas.
King's College.
London Hospital.—Inclusive fee, 20 guineas; three months' course, 12 guineas.
St. Mary's Hospital.—Six months' course, inclusive fee, 12 guineas.
St. Thomas's Hospital.—Inclusive fee, 20 guineas; short course, 6 guineas.
University College.

Provincial.

Cambridge University.
Mason College, Birmingham.
University College, Liverpool.
Yorkshire College, Leeds.
University of Durham College of Medicine, Newcastle-on-Tyne.
University College, Bristol.

Ireland.

School of Physic, Dublin.
The Catholic University School of Medicine.
Royal College of Surgeons, Schools of Surgery, Dublin.

Scotland.

University of Edinburgh.—Fees, winter session 10 guineas, summer session 6 guineas.
University of Glasgow.—Fee for course of instruction, 10 guineas.
University of Aberdeen.
St. Mungo's College, Glasgow.—Fees: Winter session of Lectures and six months' Laboratory instruction, 12 guineas; summer session of Lectures and 3 months' Laboratory Instruction, 6 guineas.
The Conjoint Board in Scotland.

The British Institute of Preventive Medicine.

The British Institute of Preventive Medicine, in addition to the facilities it affords for the prosecution of research work, conducts classes in Bacteriology, Hygiene, Biological Chemistry, etc. The work is under the superintendence of the Director, Dr. Allan Macfadyen, assisted by Dr. R. T. Hewlett, and Mr. Foulerton, F.R.C.S.

Courses in Bacteriology for medical men, students of hygiene, etc., are given in the Bacteriological Department throughout the year. Lectures and Practical Demonstrations are also held from time to time upon such subjects as Immunity, the preparation of Toxins, Antitoxins, etc., and the varied material sent to the Institute for examination is

utilised for classwork. The Institute is recognised by the examining bodies for the curriculum for the D.P.H., and the whole course of study can be pursued in its bacteriological or chemical laboratories.

The increasing importance of Chemistry in Biology has been recognised by the institution of a Biological Chemistry Laboratory, where general instruction in this subject is given suitable to medical men, chemists, and others. The methods for the detection and isolation of bacterial products are practically demonstrated.

The Water Laboratory, founded by funds from the Berridge Bequest, conducts Bacteriological and Chemical Examinations, and gives instruction in all matters appertaining to Water and Sewage.

A Photographic Department is in working order, and instruction is given in Photomicrography.

During the past year the Laboratories have been attended by a large number of students from all parts of the world. In addition to teaching a number of investigations have been carried out, the results of which are embodied in a volume of *Transactions* about to be published. In each department of the Institute opportunity for research work is afforded. The work has hitherto been carried out in premises in Great Russell Street, London, and has been somewhat hampered by want of space, but in January next it is anticipated that the large new building on the Chelsea Embankment will be ready for occupation, and with an environment worthy of its objects and aims it is to be expected that the Institute will develop and prosper.

PSYCHOLOGICAL MEDICINE.

THE facilities for the study of mental diseases are now vastly increased, and in addition to the regular lectures given in the different medical schools, post-graduate lectures are also given at the Bethlem Royal Hospital. The London County Council is proposing to throw open their large asylums, and contemplate applying to the Conjoint Medical Boards for the recognition of all of them as teaching hospitals. Dr. Savage at Guy's, and Dr. Rayner at St. Thomas's, have special classes, with clinical instruction, at Bethlem Royal Hospital; Professor E. W. White lectures at King's College, and gives clinical instruction at the City of London Asylum, near Dartford; Dr. Percy Smith is the Lecturer at Charing Cross, and gives clinical instruction at Bethlem; Dr. Claye Shaw at St. Bartholomew's; Dr. Mickle at Middlesex and University College; Dr. Hyslop at St. Mary's; Dr. C. Mercier at Westminster; Dr. J. K. Will at the London Hospital.

In the provinces, also, each medical school has a Lecturer on Psychological Medicine, who gives clinical instruction in a neighbouring asylum; and in Scotland and Ireland similar arrangements exist.

The Royal University in Ireland grants a diploma for proficiency in the treatment of mental diseases under the following conditions:

The diploma is conferred only on Graduates in Medicine of the University.

Candidates must give notice, in writing, to the Secretaries of their intention to present themselves, and must pay the prescribed fee of £2 at least one month previous to the examination.

Candidates who satisfy the examiners will be required to pay a further fee of £3 before the diploma is conferred.

The subjects for this examination are those required for the Hutchinson Stewart Scholarship for proficiency in the treatment of Mental Diseases.

The Medico-Psychological Association of Great Britain and Ireland also grants a Certificate in Psychological Medicine after a course of training, according to the rules of the Association, to candidates registered under the Medical Act. The examinations are held in London, Scotland, and Ireland twice a year. The fee for the examination is £3 3s. Full particulars may be obtained from the General Secretary, Dr. Percy Smith, Bethlem Hospital. The Medico-Psychological Association further gives a Bronze Medal and £10 10s. to Asylum Assistant Medical Officers for the best dissertation on any clinical or pathological subject relating to insanity, and also the Gaskell Prize, value £30, and in 1898 it is expected the Hack Tuke Memorial Prize will be awarded for an essay on some subject connected with insanity.

OPENING OF THE MEDICAL SCHOOLS.

THE arrangements for the opening of the Winter Session of the Medical Schools and Colleges in the United Kingdom, as far as they are at present complete, are as follows:

LONDON.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.

The Winter Session will begin on Friday, October 1st. The Old Students' Dinner will be held in the Great Hall of the Hospital on October 1st, Sir Thomas Smith, Bart., in the chair. The systematic courses of Lectures and Laboratory work on the subjects of the Preliminary Scientific and Intermediate B.Sc. Examinations of the University of London will commence on October 1st, and continue till July, 1898. There will be a special class for the January examination. Elementary classes in Bacteriology, each lasting five weeks, will be given in the Bacteriological Laboratory to qualified men, beginning early in October. The examinations for scholarships and exhibitions will be held on September 27th. Further particulars can be obtained by application to the Warden of the College, St. Bartholomew's Hospital.

CHARING CROSS HOSPITAL MEDICAL SCHOOL.

The Winter Session will commence on Monday, October 4th, when Dr. William Carter, Professor of Materia Medica in University College, Liverpool, will deliver an Introductory Address at 4 P.M. The Livingstone and Huxley Scholarships will be awarded in October. The examination will commence on Monday, September 27th, and will continue during the two following days. An examination for two University Scholarships will be held on September 28th and 29th. Full particulars can be obtained from the Dean, Dr. H. Montague Murray, Charing Cross Hospital Medical School, Chandos Street, W.C.

ST. GEORGE'S HOSPITAL MEDICAL SCHOOL.

The Winter Session will commence on Friday, October 1st, when an Introductory Address will be delivered at 4 P.M. by Dr. Patrick Manson, LL.D., M.D., medical adviser to the Colonial Office, Lecturer on Tropical Medicine in the School. Six Entrance Scholarships will be offered for competition in September and October. Full particulars can be obtained from the Dean. The Old Students' Dinner will be held on October 1st at the Whitehall Rooms, Hôtel Métropole, and the chair will be taken by Dr. T. T. Whipham, Consulting Physician to the hospital. The prizes and certificates gained during the past year will be presented by Dr. Alex Hill, Vice-Chancellor of the University of Cambridge, in the new Board Room of the hospital on Friday, October 29th, at 3 P.M.

GUY'S HOSPITAL MEDICAL SCHOOL.

The Winter Session will begin on Monday, October 4th. Two open scholarships in arts, two open scholarships in science, and an open scholarship for University students will be competed for in September. Full particulars can be obtained from the Dean, Guy's Hospital, S.E.

It is in contemplation to hold a House Dinner on the first day of the Winter Session, Monday, October 4th, but the details are not yet settled.

KING'S COLLEGE, LONDON.

The session will begin on October 1st. There will be a reception by the Principal and Professors at the College at 4 P.M. on Friday, October 1st. The Rev. A. Robertson, D.D., Principal, will distribute the prizes. All students, past and present, are invited. The Old Students' Dinner will be held at Limmer's Hotel at 7 P.M. the same evening. An examination for entrance scholarships will be held on September 27th. Particulars may be obtained from the Dean, Sir Hugh Beevor, Bart., M.D.

THE LONDON HOSPITAL AND MEDICAL COLLEGE.

The Winter Session will commence on October 1st, and on the evening of that day the annual dinner of past and present students will be held in the College Library, when Dr. Sansom, Physician to the Hospital, will take the chair. Six entrance scholarships will be competed for in September.

Particulars can be obtained on application to the Warden, London Hospital Medical College, Mile End, E.

St. Mary's Hospital Medical School.

The Winter Session will begin on Friday, October 1st, when an introductory address will be delivered at 4 P.M. by Dr. W. J. Gow, Physician Accoucheur to out-patients. The annual dinner of past and present students will be held in the evening at the King's Hall, Holborn Restaurant, under the presidency of Mr. A. J. Pepper, F.R.C.S., Surgeon to the Hospital. Examinations for three entrance scholarship and two entrance scholarships, open to students from Oxford and Cambridge, will be held in September 22nd and 23rd.

Middlesex Hospital Medical School.

The Winter Session will commence on Monday, October 4th, when Lord Strathcona and Mount Royal (formerly Sir Donald Smith), G.C.M.G., LL.D., Chancellor of McGill University, Montreal, and High Commissioner of the Dominion of Canada in London, will distribute the prizes gained during the previous year and deliver an address to the students at 3 P.M. The dinner of past and present students and their friends will be held at the Café Royal, Regent Street, on Monday, October 4th, at 7 P.M. Mr. Storer Bennett, F.R.C.S., Dental Surgeon to the Hospital, will preside. Examinations for two Entrance Scholarships will be held on September 23rd and 24th, and an examination for an Entrance Scholarship open to students of the Universities of Oxford and Cambridge will be held on October 5th.

St. Thomas's Hospital Medical School.

The Winter Session will open on Saturday, October 2nd, when the prizes will be distributed at 3 P.M. in the Governor's Hall. Three Entrance Scholarships will be offered for competition in September. The Old Students' Dinner will be be held at the Whitehall Rooms, Hôtel Métropole, on Saturday, October 2nd, at 6.30 P.M. The chair will be taken by Sir William Mac Cormac, Bart., President of the Royal College of Surgeons.

University College London Medical Faculty.

The Winter Session of the Faculty of Medicine will commence on Monday, October 4th, when an Introductory Address will be delivered by Mr. Raymond Johnson, M.B., B.S., F.R.C.S., Assistant Surgeon to the Hospital, at 4 P.M. The Examinations for the Entrance Exhibitions will commence on September 23rd. Full particulars can be obtained from the Dean, University College, Gower Street, W.C. The annual dinner of the old and present students will be held at the Hotel Cecil at 6.30 P.M., Dr. Bastian, F.R.S., in the chair.

Westminster Hospital Medical School.

The Winter Session will commence on Friday, October 1st, 1897. The annual distribution of prizes will take place at the Westminster Town Hall on September 30th, at 8.30 P.M., and will be followed by a *conversazione*. Four Entrance Scholarships will be competed for in September. Further particulars may be obtained by application to the Dean, Dr. R. G. Hebb, Westminster Hospital Medical School, Caxton Street, W.C.

London School of Medicine for Women.

The Winter Session will begin on October 1st.

PROVINCES.

Mason College, Birmingham.—The Winter Session will commence on Friday, October 1st, when Sir James Crichton Browne, LL.D., M.D., F.R.S., will deliver an address. A *conversazione* will be held in the evening. The annual dinner will take place on February 23rd, "Founder's Day," when all past and present students are invited.

Owens College, Manchester.—The Winter Session will begin on Friday, October 1st. The annual medical school dinner of the Owens College and Manchester Royal Infirmary will be held at the Albion Hotel on Thursday, October 7th, at 7.30 P.M. Mr. F. A. Southam, F.R.C.S., will preside.

University College, Bristol.—The Winter Session will commence in October.

University College, Liverpool.—The Winter Session will begin on Friday, October 1st, and the medals and certificates gained during the past year will be distributed on Saturday, October 9th.

University College, Sheffield.—The winter session, being the seventieth of the Sheffield School of Medicine, will commence on Friday, October 1st, when an introductory address will be given by P. H. Pye-Smith, M.D., F.R.C.P., F.R.S., Senior Physician and Lecturer on Medicine at Guy's Hospital. The annual dinner of past and present students will be held on the evening of the same day. An Entrance Scholarship will be awarded after examination on conditions which may be ascertained by application to the Dean, Dr. W. T. Cocking.

University of Durham College of Medicine, Newcastle-on-Tyne.—The Winter Session will be opened on Friday, October 1st, when the scholarships and prizes will be presented.

Yorkshire College, Leeds.—The Winter Session, being the sixty-seventh session of the Leeds School of Medicine, will open on Friday, October 1st, 1897, with an address by Mr. T. R. Jessop, F.R.C.S., who will distribute the prizes for the past year. There will be a Practitioners' Dinner in the evening.

SCOTLAND.

University of Edinburgh.—The medical classes open on Tuesday, October 12th; the Anatomy Rooms and Laboratory Courses on October 1st.

The Edinburgh School of Medicine.—The session commences on Tuesday, October 12th. The Practical Anatomy Rooms and Chemical Laboratories will be opened on October 1st.

The Medical College for Women, Edinburgh.—Tuesday, October 12th.

Edinburgh School of Medicine for Women.—Tuesday October 12th.

The University of Aberdeen.—Wednesday, October 13th.

The University of Glasgow.—Thursday, October 14th. Opening Address by one of the Professors.

University of Glasgow: Queen Margaret College, Medical School for Women.—Thursday, October 14th.

St. Mungo's College, Glasgow.—The Winter Session will be opened on Tuesday, October 12th, when an Address to medical students will be given.

Anderson's College Medical School, Glasgow.—Thursday, October 14th.

The University of St. Andrews.—Tuesday, October 5th.

University College, Dundee.—Tuesday, October 5th.

IRELAND.

Queen's College, Belfast.—The Lectures of the Winter Session will commence on Tuesday, October 19th.

Queen's College, Cork.—The Lectures will begin on October 25th. Eight Scholarships will be awarded on the results of examinations which will begin on October 21st. Particulars may be obtained from the Registrar, Alex. Jack, M.A.

Queen's College, Galway.—The Matriculation Examination will be held on October 22nd. The Examination for Junior Scholarships will be held on October 25th.

THE PUBLIC SERVICES.

THE NAVAL AND MILITARY MEDICAL SERVICES.

The Medical Services of the Royal Navy, of the Army Medical Staff, and of India, offer careers which possess certain advantages, but are not without some drawbacks. The pay offered to the young surgeon on joining is fair, if not liberal, and it ought to be possible for him, with care, to live upon it. On the other hand, the prizes of the services are few, and a man without private means may in middle life find himself in somewhat straitened circumstances if he has incurred the responsibility of maintaining and educating a family.

The prospects of officers entering the Indian Medical Service are not now what they were a generation, or even a decade, ago. A variety of circumstances have combined to bring about this unfavourable result, the chief among which may be mentioned the fall in the value of the rupee, which has not only much diminished in this country an income derived from India, and dependent on exchange rates, but has also seriously hampered the financial resources of the Government of India. The fall in the value of the Indian currency also much affects the Medical Staff, of whom a large number are constantly employed in that country. Representations have been made by the Parliamentary Bills Committee of the British Medical Association to the India Office, and the proposals have recently been met by concession of an increase of pay to Brigade-Surgeon-Lieutenant-Colonels and Surgeon-Captains and Lieutenants, although there is reason to fear such increase will be found inadequate. Medical officers will participate in the benefit of the recent regulation issued by the Government of India, which has undertaken, in view of the great depreciation in the value of the rupee, to make special allowance to officers whose pay does not amount to £1,000 a year, with regard to exchange rates of so much of that pay as they may be entitled to transmit to this country. This concession will be a great boon. The Indian Medical Service is a great and honourable service; it affords to earnest men almost unlimited opportunities of clinical work. It places within the reach of the more fortunate administrative posts of much importance and some dignity, and it has a splendid record of past service to the State, and to our Indian fellow subjects.

The Army Medical Department has long laboured under grievances with regard to military status and titles which sometimes appear to civilians to be mainly of a sentimental character, but which those who have served, or who are serving, know to be very real and substantial. These grievances were partly remedied by the concession of the progressive compound titles of Surgeon-Lieutenant, Surgeon-Captain, Surgeon-Major, Surgeon-Lieutenant-Colonel, Surgeon-Colonel, and Surgeon-Major-General. It is not altogether unlikely that the Army Medical Staff will eventually be converted into a Royal Corps. The representations on various points made to the Secretary of State by Mr. Ernest Hart on behalf of the Parliamentary Bills Committee of the British Medical Association have lately been met by concessions whereby the tours of foreign service have been shortened, and special "study leave" promised, although in the present undermanned condition of the department it is difficult to see how the latter can be carried out. There has also been an important concession affirming the rank and status of medical officers on mixed Boards; but it is as yet too early to judge of the spirit in which these concessions will be met and carried out by the military authorities. The concession of the all-important point of the formation of a medical corps in which medical officers shall have definite army rank and title has been for the time refused by the Secretary of State for War, no doubt at the instance of his "military advisers"; and until this is granted medical officers cannot have an assured army position.

The Medical Service of the Royal Navy we mention last, though the Royal Navy is the senior service, because at the present time the position of the department is on the whole satisfactory to medical officers belonging to it. No man who feels he has a vocation for the Navy need be deterred from entering its medical department by the fear of meeting with ungenerous or harsh treatment at the hands of the authorities.

All candidates for these services must submit to an examination by a medical Board into their physical fitness before being admitted to the entrance examinations. Special attention is given to the candidate's power of vision. A moderate degree of myopia is not considered a disqualification, provided it does not necessitate the use of glasses during operations, and that no organic disease of the eye exists.[1]

As the prospects of a medical officer of one of these services attaining to the highest administrative grades depends on a large extent upon the regulations with regard to compulsory retirement at the age of 55, if below a certain grade at that age, there is a distinct advantage in entering the service at as early an age as possible.

ARMY MEDICAL STAFF.

A candidate for a commission in the Army Medical Staff must be over 21 and not over 28 years of age at the date of the commencement of the competitive examination. He must be of unmixed European birth, and registered under the Medical Act.[2] He must produce a certificate of moral character, and a certificate to the effect that he is of steady habits, and likely to prove creditable to the department. Before admission to the examination his physical fitness will be determined by a Board of Medical Officers. These and some additional facts of minor importance must be embodied in a "declaration" upon a special form, which may be obtained on application to the Director-General of the Army Medical Department, War Office, London, S.W., who will also forward a memorandum on conditions of admission, pay, etc.

A competitive entrance examination is held twice a year, generally in February and August. Announcement of the date and of the number of vacancies is made in advance by advertisement in the medical and some other papers, and in the *Monthly Army List*.

Entrance Examination.

The examination consists of two parts:

I. *Compulsory*, the subjects of which are (*a*) Anatomy and Physiology, (*b*) Surgery, (*c*) Medicine, including Therapeutics and the Diseases of Women and Children, (*d*) Chemistry and Pharmacy, and the Practical Knowledge of Drugs: Medicine 1,200 marks; Surgery, 1,200 marks; Anatomy and Physiology, 600 marks: Chemistry and Pharmacy, 600 marks. The examination in medicine and surgery is in part practical, and includes operations on the dead body, the application of surgical apparatus, and the examination of medical and surgical patients at the bedside. The examination in chemistry is limited to the elements of the science, and to its application to medicine, pharmacy, and practical hygiene.

II. *Voluntary.*—A candidate may be examined in the following voluntary subjects: (*a*) French and German (200 marks each), (*b*) Natural Sciences, two subjects (300 marks). Competitors are urged to qualify in French and German, as a knowledge of modern languages is considered of much importance. The Natural Sciences include Comparative Anatomy, Zoology, Natural Philosophy, Physical Geography, and Botany, with special reference to Materia Medica. A number less than one-third of the marks obtainable will not be allowed to count. An entrance fee of £1 is payable, and candidates are now allowed to compete on more than two occasions.

Successful candidates are arranged in order of merit, and are required to proceed to the Army Medical School at Netley as Surgeons on Probation: they receive an allowance of 8s. a day.

[1] Further particulars as to the standard of eyesight will be found in the pamphlet by Sir J. Fayrer, Bart., M.D., K.C.S.I., entitled, *Regulations as to Defects of Vision*, etc., published by Messrs. J. and A. Churchill, 11, New Burlington Street, London, W. Price 2s.

[2] He must have a diploma in Medicine and in Surgery, but the diploma of the Society of Apothecaries in London, obtained under the conditions of the Medical Act of 1886, is accepted as a double qualification. A candidate is required to produce also the following certificates: (1) Of having discharged the duties of a medical clinical clerk during six months, and of a surgical dresser during another period of six months, of which, in each case, not less than three months must have been spent in the wards of a hospital. (2) Of having attended a course of instruction during not less than three months at an ophthalmic hospital, or the ophthalmic department of a general hospital, which course shall include instruction in the errors of refraction.

Final Examination.

Surgeons on probation at Netley attend courses in: (1) Hygiene; (2) Clinical and Military Medicine; (3) Clinical and Military Surgery; (4) Pathology of Diseases and Injuries incident to Military Service. At the conclusion of the Netley course a further examination in the subjects there taught is held, for which marks are awarded, and the final position of the candidate is determined by the number of the marks obtained at the Entrance and Final Examinations. On leaving Netley the Surgeon on Probation receives a commission of Surgeon-Lieutenant, the pay of which rank is £200 a year. The next grade is Surgeon-Captain, and after five years' service the pay is £250 a year. A Surgeon-Captain may be promoted to the rank of Surgeon-Major after twelve years' full pay service; to qualify himself for this promotion he must at any time after his seventh year of service pass a special examination in Surgery, Medicine, Hygiene, the Duties of Medical Officers, Hospital Organisation, Military Law, and the Administration of the Medical Staff Corps.

Retired Pay.—All officers under the rank of Surgeon-Colonel must retire at the age of 55; above this rank at the age of 60, unless specially extended. An officer of ten years' service on full pay may be permitted to retire on a gratuity of £1,250; after fifteen years' service, £1,800; after eighteen years' service, £2,500.

MEDICAL DEPARTMENT OF THE ROYAL NAVY.

The regulations for admission to examination for the Medical Department of the Royal Navy are generally the same as in the case of the Army Medical Staff (see preceding page). The candidate must be between 21 and 28 years of age. The entrance examination consists of two parts; in Part I, *Compulsory*, the subjects are the same as in the Army Medical Staff, but the marks are: Medicine, 1,200; Surgery, 1,200; Anatomy and Physiology, 600; Chemistry and Materia Medica, 600. Part II, *Voluntary*, consists of two divisions: (*a*) French and German (200 marks each). A knowledge of modern languages being considered of great importance, all candidates are urged to qualify in them. (*b*) Natural Sciences (Zoology, Botany, Physics, and Physical Geography). Candidates will be examined in not more than two of these sciences. Candidates who qualify in the compulsory subjects will be allowed to count marks in those of the two sciences only in which they obtain one-third of the maximum marks for each.

Zoology.—The examination in Zoology will include the general principles of biology and a comparison of animals with plants; the distinctive characters of the larger groups of animals—the protozoa, cœlenterata, vermes, arthropoda, mollusca, echinodermata, and vertebrata—as illustrated by common types; the elements of embryology; animal parasites.

Botany.—The examination in Botany will comprise the general principles of the morphology and physiology of low forms of life, for example, torula, bacteria, spirogyra, moss, fern; the general morphology of flowering plants; diagnosis of the important British natural orders; medicinal plants.

Physics.—The examination in physics will be limited to the general principles of mechanics, acoustics, optics, heat, magnetism, and electricity, such as: the properties of solids, liquids, and gases; conservation of energy, specific gravity, propagation and reflection of sound and light, temperature, specific and latent heat, thermometers, properties of mirrors and lenses, chromatic dispersion of light, forms of batteries, galvanic and frictional electricity, general properties of magnets.

Physical Geography.—The examination in physical geography will be limited to general principles, such as the relation of the earth to the rest of the solar system, nature of the earth's crust, and the chief kinds of rocks, general configuration of land and water, mountains, plains, lakes, rivers, islands, glaciers and icebergs, the ocean currents, tides, the earth's atmosphere, winds and storms, dew, storms, rain, climate, volcanoes, earthquakes, general distribution of animal and vegetable life.

The order of merit is determined by the total number of marks obtained in the compulsory and voluntary parts.

Successful candidates, immediately after passing the examination, will receive commissions as Surgeons in the Royal Navy, and will undergo a course of practical instruction in Naval Hygiene, etc., at Haslar Hospital.

The rate of pay of Surgeon is on entry £209 17s. 6d. a year; after four years' full pay service, £246 7s. 6d. a year; after eight years' full pay service, £282 17s. 6d. A Surgeon at the expiration of twelve years' service may, on the recommendation of the Director-General, be promoted to the rank of Staff-Surgeon, if he has passed the required examination at any time after completion of eight years' service. The pay on promotion is £383 5s.; after four years' full pay service in the rank, £438.

Retirement.—Compulsory retirement will be as follows:

Inspector and deputy-inspector-general of hospitals and fleets.	At the age of 60, or at any age, if he has not served for five years. Except that if in any particular case the Lords Commissioners of the Admiralty may consider that the interests of the public service will be materially advanced by the further retention of an inspector-general of hospitals and fleets on the active list, the age for the retirement of such inspector-general may be extended to 62.	To be retired irrespective of age if found physically unfit for service.
Fleet-Surgeon, staff-surgeon, and surgeon.	At the age of 55, or at any age, if he has not served for five years.	

Voluntary retirement and withdrawal will be allowed as follows:

(*a*) Every officer will have the option, subject to their Lordships' approval, of retiring after twenty years' full pay service on the scale of retired pay, as laid down below, or with a gratuity.

(*b*) At the expiration of 8, 12, or 16 years' full pay service, every officer will be permitted, subject to their Lordships' approval, to withdraw from the Naval service, receiving a gratuity on the scale laid down below.

The name of an officer so withdrawing will be removed from the lists of the Navy, with which all connection will then be severed.

(*c*) Voluntary retirement and withdrawal will be allowed, as a rule, only when an officer is unemployed or serving at home.

(*d*) Applications from officers, not entitled to retire or withdraw, to resign their commissions will receive every consideration.

Gratuities and retired pay will be awarded on retirement and withdrawal on the undermentioned scale:—

Rank.	Gratuities.	Daily.	Yearly.
	£ s. d.	£ s. d.	£ s. d.
Surgeon and Staff-Surgeon:			
After 8 years' full-pay service	1,000 0 0	—	—
,, 12 ,, ,,	1,500 0 0	—	—
,, 16 ,, ,,	2,250 0 0	—	—
Fleet-Surgeon:			
After 20 years' service (including proportion of half-pay time)...	—	*1 0 0	365 0 0
After 24 years' service (including proportion of half-pay time)...	—	*1 2 6	410 12 6
After 27 years' service (including proportion of half-pay time)...	—	*1 5 0	456 5 0
After 30 years' service (including proportion of half-pay time)...	—	*†1 10 0	547 10 0
Deputy-Inspector-General ...	—	1 15 0	638 15 0
Inspector-General	—	2 0 0	730 0 0

* To obtain this rate an officer must hold the Commission of Fleet-Surgeon.

† Or on compulsory retirement at the age of 55.

The allowance of 5s. a day, in addition to full pay, at present granted to the fleet-surgeon of a flag-ship bearing the flag of a commander-in-chief on a foreign station, will be given to the senior medical officer of such ship, being a fleet- or staff-surgeon; and an allowance of 2s. 6d. a day to the senior medical officer, being a fleet- or staff-surgeon, of a ship of a commodore or of a senior officer commanding a foreign station.

Medical officers conducting the course of instruction at Haslar Hospital will receive the following allowances:

The senior officer employed upon this duty ... £150 a year.
The junior officer assisting ... ... 50 ,,

The hospital allowances for naval medical officers at home and abroad, in lieu of provisions for themselves and servants, and for fuel and light, are as follow:

	At home.	Abroad.
Inspectors-general of hospitals	£85	£130
Deputy-inspectors-general	67	112
Fleet-surgeons and staff-surgeons ...	53	112
Surgeons	39	108

Medical officers serving afloat receive an allowance of 1s. 6d. a day in lieu of provisions, fuel, and lights, as laid down in the Queen's Regulations.

The travelling allowances, extra pay, lodging money, and compensation for losses are fixed for naval medical officers according to their relative rank in the Service.

INDIAN MEDICAL SERVICE.

All natural-born subjects of Her Majesty between 21 and 28 years of age may be candidates; the conditions are otherwise

the same as for the Army Medical Staff (see above), but there is an additional voluntary subject (Hindustani), for which 150 marks are allowed.[1] All particulars regarding condition of admission and subjects of examination are contained in the "Regulations for the Examination of Candidates for Admission to Her Majesty's Indian Medical Service," issued by the India Office, and obtainable by application to the Military Secretary. The following is the present scale of marks: Surgery and Medicine, each 1,200; Anatomy with Physiology, and Chemistry with Pharmacy, each 600; French, German, and Hindustani, each 200; Physics, Zoology, Geological and Physical Geography, and Botany, each 300. A certificate of three months' attendance at an Ophthalmic Hospital is required.

The final order of merit is determined, as in the case of the Army Medical Staff, by the combined results of the Preliminary and of the Final Examinations, and, so far as the requirements of the Service will permit, candidates will have the choice of commands in India (that is, Bengal, Punjab, Madras, or Bombay), according to their position in that list. The examinations are held, as a rule, twice a year, in February and August.

Free passage to India is provided. The rate of pay, until arrival in India, is 10s. a day. The minimum rate of pay in India is stated to be Rs.317.8 a month. After seventeen years' service for pension, the rate of retired pension is £292 a year; after twenty, £365; after twenty-five, £500; after thirty years, £700. Further particulars as to rates of pay, promotion, pensions, and half-pay will be found in Military Department Form 124, which can be obtained on application to the Under-Secretary of State, India Office, London, S.W.

It should be stated that much dissatisfaction is expressed as to the mode in which certain of the provisions as to pay and allowances are interpreted by the authorities. The Parliamentary Bills Committee of the British Medical Association is in communication with the India Office, with a view of obtaining some remedy of the grievances alleged.

PRISON MEDICAL SERVICE.

The prison department consists of two branches—the convict service and the local prison service. These are now practically amalgamated, and the officers of each branch are freely interchangeable. In the case of the smaller prisons the medical officer is usually a local practitioner, but in the case of the larger prisons the medical officers are appointed by the Convict Prison Board or the Prison Commission, and form practically a special service. The Chairman of the Boards is Mr. Evelyn Ruggles Brise. Application for employment may be made to the Board on a special form which, we understand, can be obtained from the Secretary, Major E. G. Clayton, Prison Commission, Home Office, London, S.W.

The number of vacancies is not large, and the prospects of promotion are bad. This is due in part to the fact that the rate of pay of the higher appointments depends upon the number of prisoners in the particular prison, and that the total number of prisoners in the country is decreasing.[2]

The following was the staff in 1895:

Convict Service.—Four deputy medical officers at £250, rising to £300; four medical officers, at incomes ranging from £300 to £550.

Local Prison Service.—Ten deputy medical officers, at £250, rising to £300; seven medical officers, at £200; two medical officers, at £250; three medical officers, at £300, rising to £390; six medical officers, at £400, rising to £500.

MEDICAL APPOINTMENTS IN THE COLONIES.

1. Medical appointments are from time to time filled up by the Colonial Office in the following Colonies: British Guiana, Jamaica, Trinidad, Windward Islands, Leeward Islands, British Honduras, Fiji, Sierra Leone, Gambia, Gold Coast, Lagos, Ceylon, Straits Settlements, Hong Kong, Cyprus, Gibraltar, St. Helena, and the Falkland Islands. In Ceylon and Jamaica vacancies are almost always filled locally by the appointment of qualified native candidates.

It is for the West Indies and the West African Colonies that medical officers are chiefly required.

2. The majority of the West Indian appointments involve medical charge of a district, including, as a rule, the care of a hospital, poor-house, asylum, or other institution, and free attendance on the aged and children.

In West Africa the medical officers are also required to take charge of any hospital, public dispensary, lunatic asylum, or other Government institution at their respective stations, to supervise the sanitation of the district, to perform vaccination, and to give gratuitous attendance to all Government officials, and, in most cases, the families of such officials also.

N.B.—Passage money on first appointment, and leave of absence on half-pay (in case of sickness, or after six years' service, if the medical officer has given satisfaction in the discharge of his duties), are granted to medical officers in the cases specified in the Colonial Regulations; and those serving in West Africa are allowed six months' leave with full pay and free passages home and out again, after every 12 or 15 months of continuous residential service. With regard to pension, medical officers are usually on the same footing as other Government servants; but in cases where private practice is allowed, the rule is that they are not entitled to pension, except in West Africa.

3. The following is a short account of the appointments in the separate Colonies:

British Guiana.—Forty-five appointments. Candidates must have held for at least six months a resident medical appointment in some public institution. Officers are appointed on two years' probation as supernumeraries, and are paid a salary at the rate of £300 per annum with quarters, without the right to private practice. Supernumerary officers, married or single, who obtain leave to reside out of the quarters provided for them, will not be entitled to lodging allowance. After serving for two years, if appointed to the permanent staff, the officer will receive £400 per annum, rising by increments of £25 annually up to £700 per annum. A Government medical officer on being appointed to a district, and a supernumerary on being appointed to act in charge of a district, will receive a salary of £500 per annum, but will not receive any increments thereto until entitled to such increments by length of actual service. Every medical officer appointed to a district or to act in charge of a district will receive a travelling allowance at a rate varying from £100 to £150 per annum as the extent of the district may require. He is allowed private practice. No more than £30 is allowed for passage money on first appointment. There is a Widows' and Orphans' Fund in the Colony to which all Government servants are compelled to subscribe at the rate of 4 per cent. on their salaries.

Jamaica.—The appointments, 56 in number, are mainly district appointments with private practice allowed; the salary paid by Government varies from £150 to £250 per annum, and in most cases is £200. New comers are, in some cases, attached for a while to the public hospital in Kingston, and given an allowance at the rate of £200 per annum, but not permitted to undertake private practice. There is a Civil Service Widows' and Orphans' Fund established by law, to which all medical officers are obliged to subscribe at the rate of 4 per cent. on their salaries.

Trinidad and Tobago.—In Trinidad there are 32 appointments. Officers are appointed in the first instance on two years' probation as supernumeraries. They will receive a salary of £250 per annum with furnished quarters, and are usually attached to the Government Hospital; the salary assigned to the district appointments, to which they are promoted as vacancies occur, is £300, which is increased to £400 and upwards by various allowances for horse, house, or otherwise; these posts carry the right to private practice; after every five years' service an officer is given an additional personal allowance at the rate of £50 per annum. All officers hereafter appointed are required to contribute 4 per cent. of their salaries to the Widows' and Orphans' Fund.

[1] Candidates presenting themselves for examination in Hindustani are recommended to study some recognised textbook, such as the annotated edition of the *Taubat-un-Nasuk*, which is the text used by candidates for the Indian Civil Service.

[2] Intending applicants would do well to consult a memorandum prepared for the use of the Parliamentary Bills Committee of the British Medical Association, and published in the British Medical Journal on April 23rd, 1892.

In the Island of Tobago there are 3 district appointments with salary of £200 per annum attached.

Windward Islands (Grenada, St. Lucia, St. Vincent).—The 22 appointments are, with few exceptions, district appointments with the right to private practice attached; the salaries paid by Government vary from £200 to £400 with allowances in certain cases.

Leeward Islands (Antigua, St. Christopher and Nevis, Dominica, Montserrat, Virgin Islands).—The 25 appointments are of the same nature as in the Windward Islands. An officer when first sent out is not appointed to a particular colony, but to the service of the Leeward Islands with a salary of £200, and the Governor decides as to the district which is to be allotted to him. As a rule, £30 only is allowed for passage money. The medical officers receive fees for successful vaccinations, *post-mortem* examinations, attendance and giving evidence at courts of justice, certificates of lunacy, and, in the larger islands, for burial certificates. They are also allowed private practice.

British Honduras.—There are 5 medical appointments, in all of which private practice is allowed, if it does not interfere with the public duties of the officer; the pay is $720. The Colonial Surgeon and district surgeon are public vaccinators, and, as such, receive a fee for every successful case. Four of the medical officers are also district magistrates, and receive an additional $720 in the latter capacity. Unless they already possess a Diploma of Public Health, medical officers before they join the Colony are liable to be required to undergo a course of instruction at a laboratory of public health or analogous institution.

Fiji.—There are at present 8 medical officers, of whom the senior medical officer receives £600 per annum, the others receiving £300 per annum with quarters, or £50 house allowance at the option of the Government. District medical officers receive, in addition, capitation fees upon all the indentured labourers in their respective districts. These amount usually to sums ranging between £60 and £150 per annum. Government medical officers are entitled to the private practice of their profession in all districts, on the understanding that their official duties are not made subservient to it.

Sierra Leone.—There are 3 Government medical officers, who are all allowed to take private practice. The pay of the Colonial Surgeon is £500 a year. One Assistant Colonial Surgeon receives £300, and the other £250. The senior is in charge of the lunatic asylum, and the incurable and small-pox hospitals at Kissy, and is stationed in Freetown; the other is stationed in Sherbro. Quarters are not provided.

Gambia.—There are 2 medical officers, paid respectively £400 and £300 per annum, and allowed private practice. Quarters are provided, or an allowance in lieu thereof.

Gold Coast.—The pay of the Chief Medical Officer is £800, rising to £1,000 by £50 per annum, with consultation practice only. The Colonial Surgeon, the next officer, receives £600 with annual increments of £25 to £700, and there are two Assistant Colonial Surgeons receiving £500 with annual increments of £25 up to £600. The other Assistant Colonial Surgeons, 16 in number, are paid at the rate of £350 per annum for three years. After three years, if the officer has performed his duties in a satisfactory manner and is continued in his appointment, the salary will be increased to £400, rising by annual increments of £20 to £500. Private practice is allowed, but there is very little to be had, and it cannot be counted upon, as the medical officers are liable to frequent change of station. Free quarters are provided. It is not considered desirable that anyone under 25 should be appointed to the Medical Department of the Gold Coast.

Lagos.—The pay of the Colonial Surgeon is £500 per annum, and he also receives £100 as Health Officer. The senior Assistant Colonial Surgeon receives a salary of £400 a year, rising by annual increments of £20 to £500. Three other Assistant Colonial Surgeons receive £350, rising by triennial increments of £25 to £400. There are two other native Assistant Colonial Surgeons at £250, rising by triennial increments of £25 to £300 per annum. Private practice is allowed in all cases. Free quarters, or allowances in lieu thereof, are granted to the Colonial Surgeon and to the European Assistant Colonial Surgeons. (N.B.—The special rules as to leave and pension in the case of Government servants on the West Coast of Africa apply also to medical officers.)

Ceylon.—The pay of the (35) Sub-Assistant Colonial Surgeons and (10) Deputy Colonial Surgeons, and (8) other subordinate medical officers who are mainly recruited from among gentlemen born in the island but possessing British diplomas, is at the rate of from Rs.600 to Rs.1,500 per annum. The (22) Assistant Colonial Surgeons are paid at a rate of from Rs.3,000 to Rs.5,000 per annum, and the (4) Colonial Surgeons and (3) other superior medical officers at a rate of from Rs.5,000 to Rs.8,000 per annum. The Principal Civil Medical Officer receives Rs.12,000 per annum. Private practice is allowed to the subordinate officers, but the Colonial Surgeons may take only consultation practice.

Straits Settlements.—The pay of the (11) different medical appointments is not uniform in value, but the salary of a Colonial Surgeon varies from $1,800 to $6,000 per annum, with quarters in some cases, private practice being generally not allowed.

Hong Kong.—The pay of the (5) Government medical appointments varies from $2,400 to $4,800 per annum, besides rent and carriage allowances in some cases, but private practice is in general not allowed.

N.B.—There are Widows' and Orphans' Pensions Funds in Ceylon, Straits Settlements, and Hong Kong, to which all permanent Government servants are called upon to subscribe at the rate of 4 per cent. on their salaries.

Gibraltar.—There is a surgeon of the Colonial Hospital receiving 7,500 pesetas (peseta=about 9½d.) and an assistant surgeon receiving 2,625 pesetas, with quarters and private practice. The surgeon of the hospital, assisting surgeon of the civil prison and lunatic asylum, receives 1,520 pesetas. The assistant surgeon is also police surgeon (pesetas 1,250), port surgeon (3,000 pesetas), public vaccinator (pesetas 625), and has private practice.

Cyprus.—There is a Chief Medical Officer paid at the rate of £500 per annum, and two District Medical Officers paid at the rate of £250 per annum; all enjoying private practice; these are the only medical appointments in the island which are open to English candidates.

St. Helena.—The Colonial Surgeon receives £200 per annum, and £30 horse allowance. Private practice is allowed.

Falkland Islands.—There are two appointments, one of which is paid at the rate of £300 per annum, and the other at the rate of £200 per annum. Private practice is allowed in both cases.

4. All applicants for ordinary medical employment in these Colonies must be between the ages of 23 and 30, and must be doubly qualified; preference will be given to those who have held hospital appointments as house-physicians and house-surgeons: certificates of moral character and of sobriety will be required, and every officer before being appointed will be medically examined by one of the consulting physicians of the Colonial Office—Dr. Patrick Manson, 21, Queen Anne Street, Cavendish Square, London, W.; Sir D. S. Maclagan, 28, Heriot Row, Edinburgh; and Dr. Hawtrey Benson, 57, Fitzwilliam Square, Dublin.

5. In addition to the ordinary medical appointments in these Colonies vacancies also occasionally, though very rarely, occur for which specialists are required, as, for example, to take charge of a lunatic asylum, and the particulars of chief medical officer in some of the larger Colonies have not been given, as the headship of the medical department in such Colonies, requiring administrative as well as professional qualifications, is not reserved to the ordinary medical staff of the same Colony, but is often filled up directly by transfer, and sometimes from outside the service.

6. Applications for medical employment in these Colonies from persons in the United Kingdom must be addressed to the Private Secretary, Colonial Office, Downing Street, S.W., during the month of April in each year, and notices to that effect will be posted up early in the year in the leading hospitals and medical schools of Great Britain and Ireland. Out of the total number so applying a list of candidates will be made, who will be eligible to fill any vacancies which may occur during the year, but no promise whatever can be held out that candidates will eventually receive an appointment. It is not possible to forecast either the number or the nature of the vacancies which will arise in the course of any given year

and it is not expected that candidates should hold themselves in readiness by refraining from other employment, as usually, when selected for an appointment, they can be allowed sufficient time to make their preparations and to terminate their existing employment.

In the course of the year April, 1887, to April, 1888 there were in all 15 vacancies to which appointments were made from this country. They occurred in the following colonies: British Guiana, British Honduras, Falklands, Gambia, Gold Coast, Hong Kong, Straits Settlements. In the course of the year 1888-1889, there were eight vacancies (British Guiana, Fiji, Gold Coast, Straits Settlements, Trinidad). In 1889-1890 there were twelve vacancies (British Guiana, Fiji, Gibraltar, Gold Coast, Hong Kong, Lagos, St. Helena). In the year 1890-1891 there were 17 vacancies (British Guiana, British Honduras, Gambia, Gold Coast, Leeward Islands, Straits Settlements, Windward Islands). In the year 1891-1892 there were 12 vacancies (British Guiana, British Honduras, Fiji, Gold Coast, Leeward Islands, Windward Islands). In the year 1892-1893 there were 18 vacancies (British Guiana, British Honduras, Fiji, Gold Coast, Jamaica, Leeward Islands, Trinidad). In the year 1893-1894 there were 18 vacancies (British Guiana, British Honduras, Falklands, Fiji, Gambia, Gold Coast, Jamaica, Lagos, Leeward Islands, Straits Settlements, Trinidad).

In the year 1894-1895 there were 14 vacancies (British Guiana, Cyprus, Fiji, Gold Coast, Lagos, Leeward Islands, Trinidad, Windward Islands).

In the year 1895-1896 there were 15 vacancies (Gold Coast, Lagos, Gambia, Jamaica, St. Vincent, Straits Settlements, Cyprus, and Zululand).

The list of candidates applying in April, 1897, comprised about ninety names.

Application for further information should be made at the Colonial Office, Downing Street, S.W.

BRITISH PRACTITIONERS ABROAD.

Foreign practitioners can practise medicine in Great Britain without restriction, but unless registered cannot recover their fees by legal process nor give medical evidence in courts of law, nor hold public medical offices. Under the Medical Act of 1886 the General Medical Council may recognise equivalent qualifications granted in countries which treat this country with reciprocity; after certain formalities such qualifications would be registrable. At present, however, no foreign countries have arranged to treat this country with reciprocity, and as a rule British practitioners are required in European countries to pass an examination of greater or less severity. The following list contains particulars as to the regulations of the British Colonies as well as of foreign countries:

BRITISH COLONIES AND DEPENDENCIES.

Australasia.

New South Wales.—British qualifications, if verified, admit holders to practise as duly qualified medical practitioners here. By Order in Council the second part of the Imperial Medical Act, 1886, now applies to New South Wales.

Victoria.—Local registration compulsory. British qualifications entitle holder to registration here.

South Australia.—Registration not compulsory here, and persons can practise without it. British qualifications entitle to registration here. Part II of the Imperial Medical Act, 1886, now applies to South Australia.

Queensland.—All medical practitioners must be registered by the Queensland Medical Board. British qualifications subject to verification entitle holder to registration. Persons registered under Medical Act, 1858, can claim registration, but such registration must be legally proved.

Western Australia.—Persons registered under Medical Act, 1858, can claim to be registered by the Medical Board after legal proof of identity and registration.

Tasmania.—Registration compulsory by local Medical Council, but any person entitled to be registered under Medical Act, 1858, can after legal proof obtain from the Court of Medical Examiners a certificate entitling him to practise in this Colony.

New Zealand.—Medical practitioners must be registered here, paying a fee of £1 5s. All persons entitled to be registered under Medical Act, 1858, can after legal proof be entitled to registration, but have to pay the fee.

South Africa.

Cape Colony.—No person can practise here without a licence signed by the Colonial Secretary on the recommendation of the Colonial Medical Council. Women are eligible for registration. The fee payable is £5. All persons entitled to be registered under the Medical Act, 1858, can, after legal proof, claim to be registered in the Colony, but the fee has to be paid. The following foreign degrees are made by order in Council qualifications entitling to local registration—The Staats-Examens of Austria, Germany, Holland, Russia and Switzerland. A further fee of £1 1s is required for registration of any additional diplomas or degrees after the first registration.

Midwives are also registered by the Colonial Medical Council.

Natal.—No unlicensed person can either practise in Natal or recover fees. All persons entitled to be registered under the Medical Act, 1858, can, after legal proof, claim to be registered by the Natal Medical Board upon payment of fees from one to three guineas. An annual licence has also to be taken out, fee £5.

Dominion of Canada.

All British degrees and diplomas are registered by the Provincial Medical Board.

Prince Edward Island.—No one may practise here unless registered and licensed by the Colonial Medical Committee. All persons entitled to be registered under the Medical Act, 1858, can claim, after legal proof and the payment of fees not exceeding $20, registration.

New Brunswick.—All practitioners must be locally registered by the Colonial Medical Council under conditions which vary from time to time according to the direction of the Council. Each medical practitioner has to pay an annual fee of $1 to $2.

Nova Scotia.—Local registration compulsory by Provincial Medical Board.

Quebec.—Local registration compulsory by Provincial Board.

Ontario.—No one may practise Medicine, Surgery, or Midwifery who is not registered by the Council of the College of Physicians and Surgeons of Ontario. "It shall be optional," says the Act, "for the Council to admit to registration all such persons as are duly registered in the *Medical Register* of Great Britain, or are otherwise authorised to practise Medicine, Surgery, and Midwifery in the United Kingdom of Great Britain and Ireland upon such terms as the Council may deem expedient."

Manitoba.—No person may practise Medicine, Surgery, or Midwifery unless registered by the Council of the College of Physicians and Surgeons of Manitoba. Persons on *Medical Register* can claim to be registered locally upon legal proofs.

North-West Territories.—No one may practise here unless registered by the Medical Council which sits at present at Regnia, under a penalty of not exceeding $100. All persons entitled to be on *Medical Register* can claim registration after legal proof and payment of $50, and an annual fee of $1 or $2.

British Columbia.—No person can practise Medicine or Surgery here unless registered by the Medical Council of British Columbia. All persons entitled to be registered under Medical Act, 1858, can claim registration here after legal proof and payment of fee not exceeding $100.

West Indies.

Jamaica.—Local registration compulsory. Persons entitled to be upon *Medical Register* can claim registration here after legal proof.

British Guiana – Registration necessary. Medical Board accepts after legal proof any person who is registered under the provisions of the Medical Act of 1858.

Fiji.

Practitioners must be registered in Fiji. The *Register* is kept by the principal medical officer, and any person entitled to be registered under the Medical Act can after legal proof claim to be registered in the Colony. The principal medical officer has power of erasing the name of any registered person for felony, misdemeanour, or unprofessional conduct.

Gold Coast Colony.

Registration before the Licensing Board compulsory here, but proof of being upon the *Register* under Medical Act, 1858, establishes right to practise.

Gibraltar.

Registration under local law necessary, but right to practise conferred after legal proof upon persons registered under Medical Act, 1858.

Leeward Islands.

Registration under local law necessary, and licence to be obtained from the Governor. Persons registered under Medical Act, 1858 can after legal proof claim registration.

Virgin Islands.

No person not entitled to practise in the United Kingdom allowed to practise medicine or surgery here.

EUROPE.

Austria.—It is necessary to pass the State examination, or to obtain a University Degree in Medicine, a necessary preliminary to which is naturalisation as an Austrian subject. Exemptions may be granted under very special circumstances.

Belgium.—Upon the advice of a jury which has a right to grant the diploma of Doctor, the Government can give permission to practise medicine to a foreign subject who possesses a diploma in Medicine, Surgery, and Midwifery.

Denmark.—Foreigners are required to pass the State examination.

France.—The degree of M.D. obtained by examination before a French faculty (Paris, Montpelier, Nancy, Bordeaux, Lyons, Lille, or Toulouse) is required. This regulation applies to Algiers. By a recent decree of the Minister of Public Instruction the degree will confer the right to practise only if it has been obtained on precisely the same conditions as those to which French students are subject—that is to say, before registration as medical students they must produce evidence of having passed the examination for the French diploma of Bachelor in classical education (Arts and Philosophy) and the certificate in Physical, Chemical, and Natural Science, and they must go through the regular curriculum of professional study. The degree of M.D. will still be obtainable by holders of British diplomas under the old conditions of exemption, at the discretion of the Minister of Public Instruction, from any preliminary examination in Arts or Science and from portions of the professional curriculum

and examinations. The degree obtained in this way will not, however, confer the right to practise in France. The wards of hospitals and laboratories will still be freely open to foreigners; and for those who may wish to obtain the purely honorary M.D. degree the facilities offered in the way of dispensation from preliminary examinations will be even greater than heretofore. Application for such exemption must be addressed to the Minister of Public Instruction, to whom the documents showing the examinations passed by the candidate in his own country and the degrees or qualifications possessed by him must be submitted Fees to the amount of £69 must be paid. The *Progrès Médical* (14, Rue desCarmes, Paris) publishes a "Students' Number" every year about November, in which full information is given as to teaching and examinations in every medical school in France.

Holland.—Foreigners are required to pass the State examination.

Germany.—Any person may practise medicine, but if he has not passed the State examination he does so at his own peril, and is liable to fine and imprisonment if convicted of a mistake. The right to practise is obtained only by passing the German *Staats-Examen.* A lad who intends to enter the profession of medicine must attend a gymnasium (upper school), and pass an examination in general knowledge—Latin, Greek, German, French, divinity, mathematics, physics, history, and geography. After passing this examination the student may be accepted as an ordinary full student of a university. At the end of the fourth semester (second year) he can pass the first State Examination (*Tentamen Physicum*), which embraces anatomy, physiology and physics. chemistry, botany and zoology. In the tenth semester he may pass the Final State Examination. In some universities the degree of M.D. can be obtained at the end of the eighth semester (fourth year)—that is, before the *Staats-Examen* can be passed. The degree of M.D. does not in itself confer a licence to practise in the German Empire. We believe that the Universities of Leipzig, Göttingen, Heidelberg, and some others do not grant the degree of M.D. except to persons who have passed the State examination. The fee for the *Tentamen Physicum* is £1 16s.: for the final State Examination, £10 6s. The fee to the University for the M.D. degree varies between £15 and £25.

Greece.—A State examination must be passed, but graduates of foreign schools may take their examination in French or English.

Italy.—A foreigner must (*a*) obtain an authorisation (*abilitazione*) from one of the Royal Universities of Italy; or (*b*) if he desires to practise only among foreigners he is at liberty to do so.

Monaco.—The following British qualifications are, for the purposes of medical practice in the Principality of Monaco, considered equivalent to the French diploma of Doctor of Medicine: The degree of Doctor of Medicine of the universities of "the United Kingdom of Great Britain," and the diplomas of Fellow of the Royal Colleges of Surgeons and Physicians of London, Edinburgh, Dublin, and of the Faculty of Physicians and Surgeons of Glasgow. Every application for leave to practise must be accompanied by the diplomas of the applicant or by copies of those documents certified as correct either by a consul of the Principality or by the Mayor of Monaco. The applicants must enter into an undertaking to live in the Principality and to practise their profession during the whole or part of the months of May, June, July, August, September, and October, agreeably to Article 1 of the Ordinance of May 29th, 1804.

Portugal.—The State examination must be passed.

Roumania.—The State examination must be passed (*vivâ voce*).

Russia.—The State examination must be passed, but if the applicant possess the degree of M.D. from a university of high repute, the Minister of Education may give an authorisation after requiring the candidate to compose and defend a dissertation.

Norway.—The State examination must be passed.

Spain.—The State examination must be passed, but exemptions are sometimes granted on application through the British Ambassador. A licence costing from £1 to £24 must be taken out. This regulation applies to Spanish colonies (Canary Islands, etc.).

Sweden.—The State examination must be passed.

Switzerland.—A qualified English practitioner desiring to practise in Switzerland, even if he desire to practise only among his own countrymen, is required to pass the Federal examination in that country. The degree of Doctor of Medicine does not give the right to practise. The Federal examination may be passed at Basle, Zürich, or Berne in German, and at Geneva or Lausanne in French. The applicant is advised to obtain from one of his teachers in this country an introduction to a professor of the university at which he proposes to pass the examination. His proper course would be to call upon the Rector of the University. We are informed that every information would be afforded, and that no difficulties are placed in the way of candidates. At the University of Zürich, the three examinations which it is necessary to pass are held as a rule at the following periods of the year:—*First Examination:* End of January and mid-September; *Second Examination:* end of January and mid-September; *Third Examination:* beginning of January, end of May, and beginning of October. At Basle the next examinations are in October. At Geneva the examinations are held in the third week of October, and in the second week of July, at the opening and conclusion respectively of the winter and summer session. At Lausanne the examinations take place as follows: *First and Second Examinations:* April and October; *Final Examination:* February and March, and June and July.

Turkey.—An examination in the chief branches of medicine and surgery must be passed at Constantinople (fee, £4 10s.). Before being admitted to the examination the candidate must present a diploma from a medical school recognised by the Government of the country in which it is situated.

SOUTH AMERICA.

Argentine Republic.—The applicant's diplomas must be verified by the Argentine Consul in this country (fee £1 4s.). This should be done before leaving this country. On arriving at Buenos Aires the endorsement of the Argentine Consul in this country must be verified by the Argentine Foreign Office. Three examinations must be passed in the University of Buenos Aires or Cordova. First Examination: Anatomy with Dissections, Physiology, Pathology, Ophthalmology, and Gynæcology. Second Examination: Clinical and Operative Surgery, Histology, Materia Medica, and Mental Diseases. Third Examination: Clinical Medicine, Pathology, Midwifery, and Toxicology. The fee for examination is 300 dollars, half of which is retained in case of rejection. The examinations can be passed consecutively at a few short intervals or separately: a rejected candidate is not readmitted to examination until after the lapse of six months. The examination is conducted *vivâ voce* in Spanish. Temporary authorisations to practise for six months may be obtained from the Governor of a province, and the applicant may utilise this time to improve his knowledge of Spanish. The regulations for graduates of Spanish Universities are less onerous.

Brazil.—A State examination must be passed which is conducted in Portuguese or French. The Faculties of Medicine are at Rio de Janeiro and Bahia.

Chili.—The regulations resemble those in the Argentine Republic; examination by the University of Santiago.

Peru.—Five examinations must be passed. Spanish is the official language. Application to be made to the Dean of the Medical Faculty, Lima.

Uruguay.—An examination, conducted in Spanish, at the University of Monte Video, must be passed.

NORTH AMERICA.

The laws regulating the practice of medicine differ in the different States and Territories. The requirements, corrected up to a comparatively recent date, are as follows:

A. In some States the possession of a diploma does not convey the right to practise, an examination being required in all cases. The following States make this demand:

Florida	Mississippi	North Dakota
Delaware	Montana	Oregon
Georgia	Washington	Pennsylvania
Louisiana	Indian Territory	South Carolina
Maine	New Jersey	Texas
Maryland	New York	Utah
Minnesota	North Carolina	Virginia
		West Virginia

B. The following States require an examination by a duly qualified Board, or the approval thereby of the presented diploma:

California	Rhode Island	Nebraska
Connecticut	New Mexico Territory	South Dakota
Illinois	Colorado	Vermont
Kentucky	Iowa	Indian Territory
Tennessee	Missouri	Oklahoma Territory

C. In a few States the presentation of diploma or other certificate of qualification is the only requirement. This is the case in:

Arkansas	Wyoming	Ohio
Indiana	Arizona Territory	Wisconsin
Michigan	Idaho	Alaska Territory
Nevada	Kansas	District of Columbia.

DENTAL SURGERY.

REGULATIONS OF THE GENERAL MEDICAL COUNCIL.

Candidates for a diploma in Dental Surgery are required to produce certificates of having been engaged during four years in professional studies, and of having received three years' instruction in Mechanical Dentistry from a registered practitioner. One year's *bonâ fide* apprenticeship with a registered dental practitioner, after being registered as a dental student, may be counted one of the four years of professional study. The three years of instruction in Mechanical Dentistry, or any part of them, may be taken by the dental student, either before or after his registration as a student; but no year of such mechanical instruction shall be counted as one of the four years of professional study unless taken after registration.

A Register of Dental Students is kept by the Registrar of the General Medical Council, 299, Oxford Street, London.

Preliminary Education.—Dental students are subject to the same regulations as regards preliminary education as medical students, but professional study may commence by pupilage with a registered dental practitioner. (This does not apply to dental students who were apprenticed or had commenced attendance upon professional lectures before July 22nd, 1878.)

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Licence in Dental Surgery.

The following are the regulations:

I. There is a Preliminary Science Examination and two Professional Examinations for the Licence. The Preliminary Science Examination consists of Chemistry, Physics, and Practical Chemistry, and is identical with Part I of the First Examination of the Examining Board in England. The First Professional Examination for the Licence consists of Mechanical Dentistry and Dental Metallurgy; and the Second General Anatomy and Physiology, General Surgery

and Pathology, Dental Anatomy and Physiology, Dental Pathology and Surgery, and Practical Dental Surgery.

Candidates will be required to show a general knowledge of the Anatomy of the whole human body.

II. Candidates will be required to produce Certificates of having received instruction, at an institution recognised for the purpose, in Chemistry, Physics, and Practical Chemistry before entering for the Preliminary Science Examination.

This instruction may be taken prior to the date of registration as a Dental Student.

III. Candidates will be required to produce the following Certificates before entering for the First Professional Examination, namely:

1. Of having been engaged, during a period of not less than three years, in acquiring a practical familiarity with the details of Mechanical Dentistry, under the instruction of a competent practitioner, or under the direction of the Superintendent of the Mechanical Department of a recognised Dental Hospital, where the arrangements for teaching Mechanical Dentistry are satisfactory to the Board of Examiners in Dental Surgery. In the case of qualified Surgeons, evidence of a period of not less than two instead of three years of such instruction will be sufficient.

This instruction may be taken prior to the date of registration as a Dental Student.

2. Of Registration as a Dental Student by the General Medical Council.
3. Of having attended at a recognised Dental Hospital and School:
   - (*a*) A course of Lectures on Dental Metallurgy.
   - (*b*) A course of Practical Dental Metallurgy.
   - (*c*) A course of Lectures on Dental Mechanics.
   - (*d*) A course of Practical Dental Mechanics including the manufacture and adjustment of 6 dentures and 6 crowns.

IV. Candidates will be required to produce the following Certificates before entering for the Second Professional Examination, namely:

1. Of having been engaged during four years in the acquirement of professional knowledge subsequently to the date of registration as a Dental Student.
2. Of having attended at a recognised Dental Hospital and School:
   - (*a*) A course of Dental Anatomy and Physiology
   - (*b*) A separate course of Dental Histology, including the preparation of Microscopical Sections.
   - (*c*) A course of Dental Surgery.
   - (*d*) A separate course of Practical Dental Surgery.
   - (*e*) A course of not less than five lectures on the Surgery of the Mouth.*

   * These Lectures may be given either at a recognised Dental Hospital and School, in which case the Lecturer must be a qualified Surgeon practising Surgery, or they may be given at a recognised Medical School, and may form part of the course required by Section IV, clause III (*d*).
3. Of having attended at a recognised Dental Hospital or in the Dental Department of a recognised general Hospital, the Practice of Dental Surgery during two years.
4. Of having attended at a recognised Medical School:
   - (*a*) A course of Lectures on Anatomy.
   - (*b*) A course of Lectures on Physiology.
   - (*c*) A separate Practical Course of Physiology.
   - (*d*) A course of Lectures on Surgery.
   - (*e*) A course of Lectures on Medicine.
5. Of having performed Dissections at a recognised Medical School during not less than 12 months.
6. Of having attended, at a recognised Hospital or Hospitals, the Practice of Surgery and Clinical Lectures on Surgery during two Winter Sessions.
7. Of being 21 years of age.

The Certificates of professional study will be required to show that Students have attended the courses of professional study to the satisfaction of their Teachers.

V. Candidates may present themselves for the Preliminary Science Examination before entering at a Dental School on production of the certificates required under Section II. This Examination will be identical with Part I of the First Examination of the Examining Board in England.

VI. Candidates may present themselves for the First Professional Examination for the Licence after the completion of six months' attendance at a recognised Dental Hospital and School, on production of the certificates required under Section III.

VII. Candidates may present themselves for the Second Professional Examination on production of the certificates required under Section IV, after the completion of four years' professional Study from the date of registration as a Dental Student and after the lapse of not less than six months from the date of passing the First Professional Examination.

VIII. Synopses of the Examination in Chemistry, Physics, and Practical Chemistry, and Dental Metallurgy are issued with the Regulations.

IX. The Preliminary Science Examination will be held in January, March or April, July, and October in each year.

The First and Second Professional Examinations will be held in May and November in each year. Candidates are required to give twenty-one clear days' notice of their intention to present themselves for examination.

Special Exemptions.

A candidate who shall produce satisfactory evidence of having passed an examination for a degree in Medicine, conducted at a University in the United Kingdom, in India, or in a British Colony, on the subjects of the Preliminary Science Examination, will be exempt from that Examination.

Candidates who have passed the Second Examination of the Examining Board in England, or who shall produce evidence of having passed the Examination in Anatomy and Physiology required for the Licence in Surgery of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons in Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or an Examination in Anatomy and Physiology required for a degree in Medicine or Surgery at a University in the United Kingdom, will be exempt from re-examination in those subjects.

Candidates, who are Members of the College, or who have passed the Examination in Surgery of the Examining Board in England, or who shall produce evidence of having passed the Examination in Surgery for the Licence in Surgery of the Royal College of Surgeons of Edinburgh, the Royal College of Surgeons in Ireland, or the Faculty of Physicians and Surgeons of Glasgow, or an Examination in Surgery for a degree in Medicine or Surgery at a University in the United Kingdom, will be exempt from re-examination in General Surgery and Pathology.

Fees to be paid by Candidates.

			£	s.	d.
Preliminary Science Examination	Each admission		3	3	0
First Professional Do.	Do		2	2	0
Second Do. Do.	Do.		5	5	0

The balance, if any, of the total fee of 20 guineas to be paid on the completion of the several examinations before the licence is granted.

Further particulars may be obtained on application to the Secretary, Examination Hall, Victoria Embankment, London, W.C.

THE ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

Licence in Dental Surgery.

The candidate must fulfil the conditions of the regulations of the General Medical Council (see above); and the regulations as to curriculum are generally the same as those of the Royal College of Surgeons of England.

Examinations.—First: Anatomy, Chemistry, and Physiology (lectures on these subjects must have been attended). *Second:* Surgery, Medicine, Therapeutics, and the special subjects of Dental Anatomy and Physiology, Dental Surgery and Pathology, and Dental Mechanics.

Special Exemptions.—Candidates who have passed the corresponding examinations for the Triple Qualification will be exempt from the first dental examination, and will have the advantage of being admissible either to the final dental examination or to the final examination for the Triple Qualification, or to both. But the first dental examination will not be held as equivalent to the Triple examinations, and will admit to the final dental examination only. Candidates who are Licentiates of this College, or who may be registered medical practitioners, will require to produce certificates of attendance on the special subjects only, and will be examined in these only for the Dental diploma. Any candidates who shall produce satisfactory evidence of having passed in any of the subjects of the first dental examination before any Dental or Surgical Licensing Board recognised by the Royal College of Surgeons of Edinburgh will be exempt from examination in such subject or subjects; but no examination will be recognised as giving exemption unless it is coextensive in its scope with the examinations of this College, and is the only final examination on the subject or subjects required by the Board at which it was passed.

Fees.—The fee for the diploma is £10 10s. to those who began their studies before October 1st, 1896; £15 15s. to those who began after that date.

A copy of regulations, giving a list of preliminary examinations recognised for this, as well as of the subjects of the professional examinations, may be obtained from Mr. James Robertson, Clerk to the Royal College of Surgeons, at No. 1, George Square, Edinburgh.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

The regulations as to certificates, curriculum, number of examinations, fees, and examinations are in effect similar to those of the Royal College of Surgeons of Edinburgh. There is special provision for candidates who intend to qualify both under the Medical and the Dentists' Act, and there is an examination in Practical Dentistry conducted in a dental hospital, and also a practical examination in Mechanical Dentistry.

THE ROYAL COLLEGE OF SURGEONS IN IRELAND.

Licence in Dentistry.

Candidates are required to pass three examinations, namely: Preliminary (in General Education), Primary Dental, and Final Dental.

I.—Preliminary Examination.

All examinations in General Education recognised by the General Medical Council are accepted by the College. Preliminary Examinations are held conjointly by the Royal Colleges of Physicians and Surgeons. A syllabus can be obtained on application to the Registrar.

II.—Primary Dental Examination.

Every candidate is required to produce evidence: (1) Of having passed a recognised Preliminary Examination, and of having been registered as a medical or dental student by the General Medical Council; (2) of having, subsequently to registration as a dental or medical student, attended at a recognised medical school (*a*) one course (six months) lectures on Practical Anatomy, including Dental Anatomy; (*b*) two courses (six months each) Demonstrations and Dissections; the certificate must include a statement that the candidate has dissected the head and neck at least three times; (*c*) one course (six months) lectures on Chemistry; (*d*) one course (six months) lectures on Physiology, including Dental Physiology; (*e*) one course (three months) lectures on Materia Medica; (*f*) one course (six months) lectures on Surgery; (*g*) one course (six months) lectures on Medicine; (*h*) one course (three months) Practical Chemistry, including Metallurgy; (*i*) one course (three months) Practical Physiology and Histology, including Dental Physiology and Histology, human and comparative; (3) of having attended clinical instruction at a recognised general hospital for one year. The subjects of examination are: Physics, Chemistry (including Metallurgy), Anatomy, Physiology and Histology, and Surgery. Candidates who have passed in Chemistry and Physics at a First Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or an equivalent examination recognised by the College, are exempted from examination in these subjects at the Primary Dental Examination. There will be practical examinations in Physiology and Histology and in Chemistry and Metallurgy.

III. Final Examination.

Candidates must produce evidence of having passed the Primary Dental Examination of this College, or the Third Professional Examination under the Conjoint Board with the Royal College of Physicians in Ireland, or with the Apothecaries' Hall, or an equivalent examination recognised by the College. Candidates are required to produce certificates of having attended subsequent to registration as a Dental or Medical Student: (1) The following courses of Lectures recognised by the College, Dental Surgery and Pathology (two courses), Dental Mechanics (two courses); (2) for two years the practice of a Dental Hospital recognised by the College, or of the Dental Department of a general hospital so recognised; (3) of having been engaged during four years in Professional Studies; (4)[1] of having received three years' instruction in Mechanical Dentistry from a registered dentist. Exemptions: Candidates holding a diploma in Surgery shall be admissible to the Final Dental Examination on producing certificates of having attended (1) one course of lectures on Dental Surgery and Pathology; (2) one course of lectures on Dental Mechanics; (3) for one year the practice of a Dental Hospital recognised by the College, or of the Dental Department of a General Hospital so recognised, where such attendance has been subsequent to the date of diploma. This remission (3) has been made on the understanding that the Surgeon devotes his whole time to Dental work; (4) of having been engaged during a period of not less than two years in acquiring a practical familiarity with the details of Mechanical Dentistry, under the instruction of a registered dentist. Candidates are examined in Dental Surgery, theoretical (including Dental Pathology), clinical, and operative; Dental Mechanics, theoretical, clinical, and practical (including the metallurgy of the workshop). Candidates must pass in all the subjects at the same time.

Fees.

Primary Dental Examination, £10 10s.; if rejected, £5 5s.

Final Dental Examination.—Candidates holding L.R.C.S.I., or students who have passed Primary Dental, or Third Professional Examination of the College, £10 10s.; Re-examination, 5s. Fees for Final Examination of all other candidates, 6 5s. Re-examination, £10 10s. Extra fee for Special Examination, £5 5s. Fees are not returned to candidates who may fail to present themselves without having given two days' previous notice to the Registrar, or who may have been rejected. A rejected candidate will not be again admitted to Examination until after a period of three months.

Candidates seeking a Special or Supplemental Examination must make application to the Council of the Royal College of Surgeons (showing special cause), and, if admitted thereto, must pay £5 5s. in addition to the fees of the examination which they seek.

Age and Moral Character.—The Licence in Dentistry is not conferred on any candidate under the age of 21 years, and unless he be of good moral character.

Examinations for the Licence in Dentistry sine Curriculo.—The Council has power to admit to examination, *sine curriculo*, candidates whose names are on the *Dental Register* published under the direction of the General Medical Council, and who are unable to furnish the certificates required by the foregoing regulations, on presentation of the schedule of application as hereinafter set forth, accompanied by any certificate they may have of general or professional education, and by the required fee. The application of the candidate for examination shall be made on a form, obtainable at the College, setting forth a certificate, signed by two Fellows, Members, or Licentiates of a College of Surgeons, and by two Licentiates in Dental Surgery in the Royal College of Surgeons in Ireland (or two members of the British Dental Association, or of the Odontological Society) to the effect that applicant is of good moral character, has been for five years engaged in the practice of dentistry, is a registered Dentist, and has not during the past two years attracted business as a Dentist by advertising or other unbecoming practices. The applicant must also submit a declaration made by him before a magistrate to the effect that the applicant has not during the two years preceding the date of such declaration attracted business as a Dentist by advertising or other unbecoming practices. The application must also contain a statement by the applicant subscribing to the terms of the declaration laid down for all candidates before receiving the diploma. The examination and fees for candidates *sine curriculo* are the same as for Final Dental Examinations of other candidates. Regulations and entrance forms can be obtained from the Registrar at the College.

[1] The three years' instruction in Mechanical Dentistry, or any part of it, may be taken by the Dental Student, either before or after his registration as a student: but no year of such instruction in Mechanical Dentistry shall be counted as one of the four years of professional study unless taken after registration. One year's *bonâ fide* instruction from a registered dentist after being registered as a Dental Student may be counted as one of the four years of professional study.

DENTAL SCHOOLS AND MEDICAL SCHOOLS HAVING SPECIAL DENTAL DEPARTMENTS.

Dental Hospital of London and London School of Dental Surgery, London.

Students can attend lectures in the special subjects of the dental curriculum and dental hospital practice.

Appointments.—There are eight house-surgeons, and these appointments may be held by students as soon as they are qualified. Twelve senior dressers for extraction under anæsthetics, and eighteen junior dressers for ordinary extractions, are appointed every month.

Fee for two years' hospital practice required by the curriculum, including Lectures, £50 in one payment, or £52 10s. in two yearly instalments. The *Calendar*, containing further particulars, may be obtained on application to the Dean, at the hospital, Leicester Square, London, W.C.

National Dental Hospital and College, London.

Students can attend lectures in the special subjects and dental hospital work required by the colleges. Applications from medical men desirous of obtaining experience in nitrous oxide administration are considered by the Medical Committee.

Exhibition.—An entrance exhibition of the value of £15 is awarded at the commencement of each summer and winter session after an examination in Elementary Physiology (Functions of Respiration, Circulation, and Digestion), Osteology (Bones of the Head), Chemistry, and Dental Mechanics (Theoretical and Practical).

The usual medals and certificates are open for competition in the Class Examinations.

Appointments.—Dresserships in the extraction room are held for two months by twelve senior and twelve junior students of the hospital.

Fees.—Total fees for the special lectures and hospital practice required, 40 guineas. Information respecting the hospital practice and the college may be obtained from the Dean, who attends at the hospital, Great Portland Street, on Tuesday mornings.

Each student on entering the school passes through a preliminary course under the care of a demonstrator, and all the members of the staff take part in chair-side teaching, and also give Special Demonstrations. Tutorial classes are held to prepare for the Final Examinations.

GUY'S HOSPITAL DENTAL SCHOOL.

At the Guy's Hospital Dental Department a student can obtain all the special instruction in dentistry required to enable him to pass the examination for the Licence in Dental Surgery without attending a special dental hospital. There are seven dental surgeons on the staff of the hospital, of whom one attends each morning of the week, and there are four demonstrators of practical dentistry attending in the afternoons.

Dental out-patients are seen every morning at 9 o'clock, and extractions, with or without gas, are undertaken by the dressers under the supervision of the staff. The extractions last year numbered more than 19,000. From the out-patient department cases suitable for conservative treatment are transferred to the conservation room in charge of one of the senior dressers. The conservative operations, including fillings, crowns, and dentures, last year numbered more than 15,000. The conservation room, erected in 1893, contains fifty Morison chairs and all other modern appliances for operative dental surgery. Dentures, which are supplied only to necessitous patients and without charge, are constructed by the students in the mechanical laboratory under the supervision of a skilled mechanic. The senior dental surgeon undertakes the treatment of dental patients in the wards and demonstrates the mechanical methods of treating cleft palate, fractured jaw, and oral deformities.

Appointments.—After a period of probationary study under the demonstrators, during which students become familiar with all the usual operations of dental surgery, every student is required to hold in turn the appointments of junior and senior dresser in the conservation room, dresser in the extraction room, and dresser in the gas room. Students who have satisfactorily held these appointments are eligible for the posts of demonstrator in the conservation room, demonstrator of dental microscopy, assistant dental house-surgeon, and dental house-surgeon. The dental house-surgeons hold office for six months and receive an honorarium.

An entrance Scholarship in Arts, of the value of £30, is offered for competition annually in September, and prizes of the aggregate value of £35 are awarded for general proficiency and skill in practical dentistry.

Dental students are eligible for admission to residence in the College, and enjoy all the social advantages of the students in the Medical School. Special arrangements are made to encourage dental students to become qualified medical practitioners.

Further information can be obtained from the Dean, who attends daily in the Medical School Office.

MASON UNIVERSITY COLLEGE, BIRMINGHAM (BIRMINGHAM DENTAL SCHOOL).

The teaching of Dentistry is undertaken by the Mason College, acting in association with the Birmingham Dental Hospital and the Birmingham Clinical Board, so that students may fully qualify themselves for the dental diploma of the Royal Colleges. The college buildings contain a special dental museum and a dental laboratory, etc.

Entrance Scholarship.- A scholarship of £15 15s. is open to competition by students entering in October.

Fees.—Hospital, Dental, Composition, £12 12s.; Non-composition, £14 14s.; General Surgical Hospital, two winters, £10 10s. A Composition Fee of £50, payable in one sum—or in two sums—namely, £25 at the beginning of the first year, and £25 at the beginning of the second year of studentship—admits to the full curriculum required for the Dental Diploma. Students wishing to take the diplomas of M.R.C.S. and L.R.C.P. in addition to a dental qualification pay a Composition Fee of £75, payable in two annual instalments of £37 10s. each.

OWENS COLLEGE, MANCHESTER.

Arrangements have been made for dental students to attend the hospital practice at the Manchester Royal Infirmary and the practice at the Victoria Dental Hospital. Lectures on the special subjects will be given in the College.

Fees.—For course of Metallurgy, £3 3s.; other lectures, one course, £3 3s.; two courses, £4 4s. Dental practice for two years at the Manchester Royal Infirmary, £10 10s.; at the Victoria Dental Hospital at Manchester, £12 12s., paid in advance, or £8 8s. for the first year, and £5 5s. for the second year.

Further particulars can be obtained from the Dean of the Dental School, Victoria Dental Hospital, Manchester.

UNIVERSITY COLLEGE, LIVERPOOL.

There is a school of Dental Surgery in connection with the medical faculty. The curriculum includes Lectures and Demonstrations on all the subjects required for the Licences in Dental Surgery of the Royal Colleges of Surgeons of London, Edinburgh, and Dublin, and of the Faculty of Physicians and Surgeons of Glasgow. In addition Laboratory courses are conducted in Dental Histology and Dental Pathology.

Practical instruction in Dentistry is given at the Dental Hospital in Mount Pleasant.

Fees.—A payment of £50 on entrance, or in two equal instalments (one-half on entrance and the remainder within twelve months), entitles the student to attendance on all lectures and demonstrations (medical and special) required for the Dental Licence of the College of Surgeons. The fee for two winters' surgical practice is £10 10s., and for two years' dental hospital practice is £12 12s. The total expenditure for the whole curriculum is £73 2s.

Further information can be obtained from the Dean of the Medical Faculty, Professor Paterson, University College, Liverpool.

THE INCORPORATED EDINBURGH DENTAL HOSPITAL AND SCHOOL.

The following lectures are given in the School: Dental Anatomy and Physiology (winter); Dental Surgery and Pathology (summer); Mechanical Dentistry; Practical and Dental Mechanics; Introductory Dental Surgery; Conservative Dentistry; Dental Mechanics; Dental Microscopy; Dental Materia Medica; Dental Metallurgy; Gold Filling; Dental Histology.

Fees.—The fee to Hospital Practice, including one course of Demonstrations in Gold Filling, is £15 15s.; one course of Dental Anatomy, Dental Surgery, and Mechanical Dentistry, £9 15s. The minimum fees payable for the compulsory course of lectures and instruction are £37 1s. for the first two years; £31 5s. for the second two years; examination fees, £11 10s.: total £79 16s.

Further information can be obtained from the Dean at the School, 31, Chambers Street, Edinburgh.

GLASGOW ROYAL INFIRMARY DENTAL DEPARTMENT.

The following course in the curriculum can be taken at St. Mungo's College; Anatomy, six months; Practical Anatomy, nine months; Physiology, six months; Chemistry, six months; Practical Chemistry, with Metallurgy, three months; Surgery, six months; Medicine, six months; Materia Medica, three months; Clinical Surgery, six months; Dental Surgery, six months; and attendance for two years on the Dental Department of the hospital. The attendance on the dental clinic is free to students of the hospital; to dental students, one year, £5 5s.; perpetual, £10 10s. Lectures on Dental Surgery, £2 2s.

GLASGOW: ANDERSON'S COLLEGE MEDICAL SCHOOL.

Dental Curriculum.—Students studying with a view to the Dental Diploma can obtain instruction in the following subjects: Anatomy, Chemistry, Physiology, Surgery, Practice of Medicine, and Materia Medica. The special Dental Courses may be obtained at the Dental School, 4, Chatham Place,

Stirling Road, or from the Secretary, Mr. D. M. Alexander, 97, West Regent Street, Glasgow.

Devon and Exeter Dental Hospital.

Attendance at the practice of this hospital is recognised by the Royal College of Surgeons of England as qualifying for its Dental diploma. Pupils of any member of the staff, or other recognised practitioner (being a Life or Annual Governor), are permitted to attend the practice of the hospital, subject to the approval of the Medical Subcommittee, on payment of £5 5s. annually to the funds of the institution. The honorary secretary is Mr. Henry Yeo.

CHANGES IN THE MEDICAL SCHOOLS.

THE following are the principal changes in the staff and teaching arrangements that have taken place in the Medical Schools and Hospitals during the past year:—

Middlesex Hospital.

New buildings now in progress include a much larger dissecting room, a room for operative surgery, a complete physiological department, spacious pathological and bacteriological laboratories, and extended facilities for the teaching of chemistry, physics, biology, etc.

St. George's Hospital.

During the past year Dr. T. T. Whipham has retired; Dr. Penrose has become full Physician, and Dr. C. Ogle Assistant-Physician. Dr. A. Latham has been appointed Curator; Drs. W. Davidson and W. J. Fenton have been appointed Medical Registrars, and Mr. F. Jaffray, Surgical Registrar.

St. Mary's Hospital.

It is anticipated that the new Out-patient Department, which occupies the entire ground floor of the Clarence Wing, will be ready for use on September 18th. The old out-patients' buildings have been apportioned for the purpose of new laboratories and class-rooms and an improved museum, and during the past year a new laboratory fitted with electric light and all modern improvements for the study of Biology, Pathology, and Bacteriology has been added to the school buildings.

St. Thomas's Hospital.

At St. Thomas's Hospital Dr. Ord will cease to be Senior Physician in September. Sir Felix Semon has resigned the post of Physician to the Throat Department. Dr. A. Barry Tucker has been appointed Superintendent of the *X*-Ray Department. Dr. L. L. Jenner has been appointed Superintendent of Clinical Laboratory. Dr. A. E. Russell has been appointed Medical Registrar and Demonstrator of Practical Medicine in succession to Dr. C. R. Box, appointed Resident Assistant Physician. Mr. E. O. Thurston has been appointed Surgical Registrar *vice* Mr. C. S. Wallace, appointed Resident Assistant Surgeon. Dr. A. F. Stabb has been appointed Obstetric Tutor and Registrar in succession to Dr. Tate. Dr. H. G. Turney has been appointed Joint Lecturer on Forensic Medicine *vice* Mr. Mackellar, and Mr. A. W. Sikes has been appointed Demonstrator of Physiology and Practical Physiology.

Mason University College, Birmingham.

At Mason College, Birmingham, the Bacteriological Laboratory has been rebuilt, and the College has entered into a contract with the city authorities by which examinations of suspected diphtheritic products will be made for the latter by the former.

Dr. R. M. Simon, M.D.Cantab., F.R.C.S.Lond., has been appointed Professor of Forensic Medicine in place of Mr. J. S. Wilders, resigned.

Dr. J. S. Bolton has been appointed Assistant Lecturer on Physiology and Demonstrator in Physiology in place of Dr. Le Vincent, appointed a Research Scholar of the British Medical Association.

Dr. C. Leedham Green, M.D., F.R.C.S., has been appointed Assistant Lecturer in Bacteriology.

An Act of Parliament has been obtained during the year incorporating the College, and amongst other things altering the name to that of Mason University College. This incorporation is the first step towards the application for a charter conferring University privileges, which it is intended to make at an early date.

University College, Liverpool.

A sum amounting to over £7,000 has recently come into the hands of the Council of the College from the estate of Mrs. Gee, widow of the late Dr. Gee, for the purpose of providing fellowships or scholarships on lines similar to the Holt Scholarships. It has been decided to found with this bequest (*a*) a Robert Gee Fellowship in Anatomy, on lines similar to the Holt Scholarships, of the value of £100 for one year; (*b*) four Entrance Scholarships, for students preparing for the study of medicine, of the value of £25 each for one year. During the year arrangements have been made for adequate instruction in outdoor midwifery. A new out-door maternity charity has been established, and this arrangement has been supplemented and completed by an alliance with the Ladies' Charity and Lying-in Hospital. In association with the departments of pathology and hygiene, and made possible by the possession of laboratory and museum accommodation in Ashton Hall, a scheme has been devised for the establishment in Liverpool of a School of Sanitary Science in connection with the College.

During the year the faculty has been engaged in the revision of the dental curriculum, so as to bring it into line with the requirements of the new regulations of the Royal College of Surgeons of England.

The changes in the staff this year include the appointment of Dr. R. C. Dun, formerly Demonstrator in the anatomical department of the University of Edinburgh, as Senior Demonstrator of Anatomy, and of Dr. A. S. Grünbaum, formerly of Cambridge University and St. Thomas's Hospital, London, as Senior Demonstrator of Physiology. During the year Dr. Manby has been made Assistant Lecturer in Public Health, and Dr. W. B. Warrington has been made a Demonstrator in Pathology. Emeritus Professor Alexander Davidson has resigned the offices of Lecturer in Clinical Medicine, and Physician to the Royal Infirmary. Dr. Davidson's connection with the Medical School extends over a period of more than thirty years. Dr. Davidson becomes Consulting Physician to the Royal Infirmary, and is succeeded by Dr. James Barr, who now joins the Medical Faculty as Lecturer in Clinical Medicine. The Lectureship on Hygiene has this year been converted into a Chair of Public Health.

The Thompson-Yates Laboratories are now approaching completion, and will be occupied by the departments of physiology and pathology at an early date. The formal opening of the laboratories by Lord Lister will take place next spring. Mr. Thompson-Yates has made during the year two further munificent donations for the laboratories—one of £5,600 for the internal fittings of the laboratories, and another of nearly £4,000 for apparatus and technical equipment. The college will shortly be in possession of the most adequate equipment for the education of medical students in physiology and pathology.

The Medical Faculty has done all in its power to promote the extension of the school buildings. A hearty response was made to the appeal made last year, and a welcome addition to the fund was made by a donation from Mrs. Nottingham. Mrs. Nottingham has presented to the College the valuable collection of books and instruments belonging to the late Dr. Nottingham, and has made a donation of £500 towards the erection of anatomical and surgical laboratories. The total sum collected, including Mr. Holt's contribution for the erection of the anatomical courtyard and outbuildings, amounted to £2,827 10s. 7d. The expenditure amounted to over £2,000, of which the greater part was spent on the anatomical courtyard and outbuildings.

The various departmental museums have been increased during the year by the addition of many valuable specimens. The anatomical collection has grown very considerably, the storage and preparation of specimens having been greatly facilitated by the possession of adequate workrooms. The pathological museum has been enriched by a large number of new specimens, and many old ones have been remounted. Mr. Thelwall Thomas has presented to the museum 150 bromide prints illustrative of surgical pathology, which will be permanently mounted for exhibition in the museum. A

museum of hygiene is now being formed in Ashton Hall on the lines of the Parkes Museum in London; and already a large amount of material has been collected, and much more is promised, to illustrate this important subject.

UNIVERSITY COLLEGE, SHEFFIELD.

In the Department of Medicine of the University College, Sheffield, Dr. Christopher has been appointed Arthur Jackson Professor of Anatomy. Dr. Hugh Woods has been appointed Lecturer on Forensic Medicine, in place of Dr. Harvey Littlejohn. Dr. Andrew Walker has been appointed Demonstrator of Practical Bacteriology. Mr. Baynes-Smith has been appointed Laboratory Assistant in the Physiological Department. Dr. John Robertson has been appointed Lecturer on Public Health. Messrs. A. Cuff and L. T. Giles have been appointed Demonstrators of Anatomy.

British Medical Journal.

SATURDAY AUGUST 28TH, 1897.

WE regret to announce the death of Mr. C. F. du Pasquier, F.R.C.S., which took place at Norwood on August 20th, at a very advanced age. Mr. du Pasquier was formerly Surgeon-Apothecary to Her Majesty the Queen, and also to the Queen's household and to that of the Prince of Wales.

THE OVERCROWDING OF THE MEDICAL PROFESSSION.

THE overcrowding of the medical profession is a matter which should be taken into serious consideration by those intending to enter it. In the last ten years the number of medical practitioners increased by over 20 per cent., while the population of the United Kingdom increased only by 7 per cent. in the ten years 1881 to 1891. The average earnings of each one must therefore tend to be smaller than they were. This reduction of the average earnings is aggravated, it is said, by several abuses which should be remedied. Dr. Garrett Horder enumerates in the *Standard*—(1) The enormous growth of the out-patient departments; (2) the increase of patent medicines; (3) the liberty allowed to quacks; and (4) the extensive prescribing by chemists. The first will probably not increase much in the future. The large centres are by this time well provided, and the funds available for charity are not even now sufficient, so that it is not likely that many fresh hospitals will arise. The out-patient department of each may be expected rather to diminish as supervision is more fully adopted. But whatever measures be taken it is certain that the increase in the sum of medical earnings from this improvement will be comparatively small. In the sale of patent medicines there will quite as certainly be no decrease. No public will ever limit these save so as to render them free from danger to itself. The quacks and the chemists will be treated on the same lines. Where the public can be convinced that legislation is required for their own benefit they will approve it, but they will certainly do nothing simply to bring about medical protection. We do not therefore believe that the medical wage fund can be much increased; nor do we believe that the competition which at present exists can be much lessened. This means, and must mean, failure in a certain proportion of cases, and since not only are our numbers rising, but also our general standard, it is perfectly true that a man who started practice in 1877 will probably have succeeded better than one exactly like him who starts to-day. Success not only requires better training now than then, but also means a smaller income than twenty years ago.

WASTE OF MEAT.

WE have received from Dr. C. Moore Jessop a letter drawing attention, *àpropos* of our note on the waste of bread in workhouses, to the fact that much good meat is also thrown away in workhouses and infirmaries. We agree that public attention should be directed to the matter, which is caused by the slavish obedience demanded by the Local Government Board to its dietary tables. At Hampstead one of the guardians reported to his Board that he had been in the dining room just as the women were leaving the tables, and that he had counted at least twenty-nine plates either half or three-quarters full of slices of beautiful meat (pork) untouched. He characterised it as "sinful waste," an opinion in which we concur. At the Brentwood schools during one of the visits of the Inquiry Committee, two members saw large pieces of meat not only left on the plates, but thrown on the floor, besides which whole platefuls of good food were left almost untouched. At Spalding meat freshly cut from the joint, and not even touched by the inmates, was taken from the tables to the hog-wash tub. The Hartlepool and Newcastle Boards wish for more power to vary the rules with regard to diet, and Hexham, Louth, Gainsborough, Huddersfield, Bolton, Boston, and many other unions have the matter under discussion. It must not be forgotten that those poor who ultimately have to ask the shelter of the "house" have not as a rule been able to obtain meat as a daily article of diet, and that to many, habit having become second nature, meat is distasteful. But the difficulties to which we referred in our note on wasted bread equally apply to wasted meat; and that these are not easily disposed of will be readily understood by those who know that among the qualities of the poor is infinite patience and a "dumbness which oft harms their cause."

THE INTERNATIONAL MEDICAL CONGRESS, MOSCOW.

OUR Moscow Correspondent writes: If the success of the Congress is to be gauged by the numbers attending it, there can no longer be any doubt as to the success of the present Congress in Moscow. Over 6,000 members' names have been received, and every day adds to the numbers. The Committee of the Congress has already arranged lodging accommodation for over 3,000 members.

NOTES FROM THE CONGRESS.

A SPECIAL correspondent writes: In a country where practically a press is non-existent it would be, perhaps, ridiculous to expect that the convenience of the members of the press of other countries should be carefully considered; but whether it was expected or not, it certainly has been most studiously neglected. The Bureau is such only in name; in it one finds neither information nor officials, nor anything indeed more than tables, pen, and ink. It rests therefore with the individual correspondent to seek such information as can be gleaned from overworked secretaries and personal observation over some ten or eleven sections. Under such circumstances some important contributions are apt to be overlooked. Unfortunately the number of contributions is so great in some sections that already the work is behindhand, and discussion is entirely out of the question.

In the Section of Therapeutics, Dr. Cautru, of Paris, read a paper on Massage of the Abdomen, with special reference to constipation and appendicitis. He was followed by Dr. Theodore Williams, who in the main was in agreement with him, but differed somewhat in his views upon its uses in the treatment of the latter.

In the section of Diseases of Children Dr. Vidal Jalares, of Barcelona, discussed the use in the various diseases of children of physiological horse's serum. He claims that its use is followed by temporary increase of temperature, immediately followed by improvement in the appetite, digestion and assimilation; that the cardiac action is steadied and strengthened, the nervous system rendered more stable, and that all anæmic conditions are greatly relieved. It is of great value in chorea.

In the same Section, Professor Monti, of Vienna, recommends the use of laparotomy in tuberculous peritonitis, specially in cases where there is but little adhesion of the intestines and swelling of the mesenteric glands, but at the same time a large quantity of exudation. Cases in which the reverse of these conditions exists are very unfavourably influenced by operation.

The same author finds lumbar puncture in tuberculous meningitis of value neither diagnostically nor therapeutically.

In the Section of Nervous Diseases, Dr. Greidenberg, of Simferopol, pointed out the great increase of general paralysis of the insane in women; that in men it was at first an aristocratic disease, but is now democratic; that in women it is progress in the reverse direction, that it is becoming aristocratic. He considers that its causes are the same, but that combinations of the causes act differently in the two sexes, that the general paralysis of women has a distinct clinical type, and that its progress is slower in women than in men.

Professor Van Gehuchten lectured on the finer points in the anatomy of the nerve cell which have been discovered in the last few years. He was followed a little later by Dr. Marinesco, of Paris and Bucharest. In a dissertation on the pathology of the Nerve Cell, Dr. Marinesco reviewed the work which has been recently accomplished. He illustrated the various forms of degeneration by limelight projections. In the form known as the "reaction à distance" he recognises three stages. The first, where dislocation of the nucleus occurs; the second, where the nucleus is replaced but the dark granules are hyperphied, and pointed out that many observers seeing this stage have declared the cells to be normal; the third stage is where the chromophile elements have almost entirely disappeared, and the cell has lost its processes, and is swollen and rounded. The first stage he describes as one of shock, the second as one of accumulation of energy on account of the non-functioning of the nerve fibres, while the third stage is one in which the whole energy of the cell is being used to repair the damaged nerve fibres. The explanations are certainly ingenious, but whether they will be accepted by neurologists in general is perhaps somewhat doubtful; and certainly, in regard to the second and third stages, he is much at variance with other eminent neurologists. In toxæmic degenerations he has been able to show that swelling and degeneration of the chromatophile elements, the cardinal signs of this form of pathological change, may commence in the cell processes (protoplasmic). In cases of infection, bacteria may be found lying in the cells themselves or their immediate neighbourhood. We must confess, however, that conviction would have been more easily induced had not photographs of drawings, but photographs of the preparations themselves, been projected on the screen.

In the Section of Midwifery and Gynæcology, Dr. Budin, of Paris, has been strongly advocating symphysiotomy in certain cases of narrow pelvis. M. Pinard, also of Paris, has shown some radiographs of a Nägelé pelvis taken during life. The deformity is shown with great distinctness.

Professor Snegirev gave a *soirée* to members of this Section in the Clinic, which is situated in large and beautiful grounds.

A group of rich merchants in Moscow has generously decided to endow a hospital for epileptics and feeble-minded persons of both sexes in commemoration of the Congress.

ASSOCIATION INTELLIGENCE.

BRANCH MEETINGS TO BE HELD.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—The next meeting will be held at the Sackville Hotel, Bexhill, on Tuesday, September 28th, at 3 P.M., Dr. Wills in the chair. A paper on Syphilitic Diseases of the Throat will be read by Mr. H. E. Juler. Dinner at 5.30 P.M.; charge 6s., exclusive of wine. Notice of intended communications should be sent to the Honorary District Secretary, J. W. BATTERHAM, M.B., Grand Parade, St. Leonards.

EAST ANGLIAN BRANCH.—The autumnal meeting of the East Anglian Branch will take place at Aldeburgh on Thursday, September 16th, 1897, under the Presidency of Mrs. Garrett Anderson, M.D. It is requested that gentlemen desirous of joining the Association or Branch, and members willing to read papers or contribute cases to the meeting, will communicate at once with Dr. BARNES, Eye, Honorary Secretary.

NORTH WALES BRANCH.—The autumn intermediate meeting will be held at the Waterloo Hotel, Bettws-y-coed, on Thursday, September 30th, 1897.—SAMUEL GRIFFITH, M.D., Portmadoc.

ARMY MEDICAL STAFF EXCHANGE.

SURGEON-LIEUTENANT-COLONEL, home end of last season, is open to an exchange to Bengal or Punjab in December or January. Apply to "Fitzniblick," care of Messrs. Holt and Co., 17, Whitehall Place, London, S.W.

MEDICAL VACANCIES.

The following vacancies are announced:

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Assistant House-Surgeon; must be M. or F.R.C.S., England, Ireland, or Scotland. Salary, £50 per annum, with apartments and board. Applications to the Chairman of the Medical Board by September 9th.

BIRMINGHAM GENERAL HOSPITAL.—House-Physician. Salary, £70 per annum, with residence, board, and washing. Appointment for one year, but eligible for re-election. Applications to Howard J. Collins, House-Governor, by September 3rd.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Senior House-Surgeon. Salary, £100 per annum, with board, washing, lodging, etc. Also Junior House-Surgeon. Salary, £50 per annum, with board, washing, lodging, etc. Applications to Nathan W. Smith, Secretary, Infirmary Office, 15, Richmond Terrace, Blackburn, for the latter by August 30th.

BOURNEMOUTH ROYAL VICTORIA HOSPITAL.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Chairman by October 15th.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE.—Bacteriologist to the Antitoxin Department at Sudbury. Salary, £200 per annum, with dwelling accommodation on the premises. Applications to Allan Macfadyen, Honorary Secretary and Director, 101, Great Russell Street, London, W.C., by September 15th.

BELGRAVE HOSPITAL FOR CHILDREN, Gloucester Street, S.W.—House-Surgeon. Appointment for six months. Board, lodging, etc. Applications to the Secretary by September 18th.

CARLISLE DISPENSARY.—House-Surgeon. Salary, £130 per annum, with apartments. Applications to Mr. G. A. Lightfoot, Honorary Secretary, 14, Bank Street, Carlisle, by August 31st.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Junior House-Surgeon; doubly qualified and unmarried. Salary, £60 per annum, with board, lodging, and washing. Applications to the Honorary Secretary by September 1st.

DENBIGHSHIRE INFIRMARY, Denbigh.—House-Surgeon. Must be doubly qualified and conversant with Welsh language. Salary, £80 per annum, with board, residence, and washing. Applications to W. Vaughan Jones, Secretary, by August 31st.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House-Surgeon. Board, residence, etc., are provided, with honorarium of £15 15s. at completion of six months' approved service. Applications to Thomas Hayes, Secretary, by September 11th.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Two Resident Physicians. Applications to Messrs. Henry and Scott, 20, St. Andrew's Square, Edinburgh, by September 15th.

GLASGOW EYE INFIRMARY.—Resident Assistant House-Surgeon. Salary, £50 per annum, with apartments and board. Applications to W. G. Black, Secretary, 88, West Regent Street, Glasgow, by September 15th.

HOSPITAL FOR DISEASES OF THE THROAT, Golden Square, W.—Junior Resident Medical Officer. Salary, £50 per annum, with board, lodging, and washing. Applications to Wm. Holt, Secretary, by September 25th.

ISLE OF MAN ASYLUM.—Assistant Medical Officer, doubly qualified Salary, £100 per annum, with board, residence, and washing. Applications to Dr. Richardson, Lunatic Asylum, Isle of Man.

LENZIE BARONY PAROCHIAL ASYLUM, Woodilee.—Junior Medical Officer. Salary, £100 per annum, with board, apartments, etc. Applications, marked "Assistant Medical Officer," to J. R. Motion, Barony Parish Council Chambers, 38, Cochrane Street, Glasgow, by September 6th.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer; unmarried, and not under 25 years of age; doubly qualified. Appointment for twelve months from October 1st next. Salary, £150 per annum, with board and residence. Applications to W. L. Saunder, General Superintendent and Secretary, by September 11th.

MANCHESTER ROYAL INFIRMARY, DISPENSARY, AND LUNATIC HOSPITAL OR ASYLUM.—Honorary Dental Surgeon. Applications to the Chairman of the Board by August 31st.

NORTHAMPTONSHIRE.—Medical Officer for the County. Salary at the rate of £700, and allowance for travelling and other out-of-pocket expenses. Must reside at a place approved by the Sanitary Committee. Applications to H. P. Markham, Clerk to the Council, County Hall, Northampton, by September 8th.

PRESTWICH, MANCHESTER: COUNTY ASYLUM.—Pathologist and Assistant Medical Officer. Salary, £200 per annum, with board, residence, and washing. Applications to the Superintendent.

ROTHERHAM HOSPITAL AND DISPENSARY.—House-Surgeon; doubly qualified. Salary £105, with board, lodging, and washing. Appointment for three years. Applications to the Hon. Secretary by August 31st.

SHEFFIELD UNION WORKHOUSE INFIRMARY.—Junior Assistant Medical Officer; doubly qualified and unmarried. Appointment for six months, with an honorarium of £12, with furnished apartments, board, and washing. Applications to Albert E. Booker, Clerk to the Guardians, Union Offices, West Bar, Sheffield, by September 2nd.

SLIGO DISTRICT LUNATIC ASYLUM.—Assistant Medical Officer; doubly qualified, unmarried, and under 30 years of age. Salary, £150 per annum and allowances for furnished apartments, fuel, light, washing, and attendance, valued at £50 per annum. Applications to the Chairman of the Board of Governors by September 8th.

SOUTHAMPTON, ROYAL SOUTH HANTS INFIRMARY.—House-Surgeon; must be M.R.C.S. and L.S.A., or Graduate of Medicine of a University. Salary, £100 per annum, with board and lodging. Applications to T. A. Fisher Hall, Secretary, by September 8th.

SOUTH DEVON AND EAST CORNWALL HOSPITAL, Plymouth.—Assistant House-Surgeon. Appointment for six months (renewable for a further similar period). Honorarium of £10, with board and residence. Applications to H. N. Shanks, R.N., Secretary, by September 4th.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House-Surgeon. Appointment from September. Salary, £30 per annum, with board, lodging, and washing. Applications to House-Surgeon by August 30th.

SUSSEX COUNTY HOSPITAL, Brighton.—Fourth Resident Medical Officer, doubly qualified. Unmarried, and when elected under 30 years of age. Board, washing, and residence in the hospital, and salary not exceeding £30 per annum. Applications to the Secretary, by September 1st.

TOXTETH PARK WORKHOUSE INFIRMARY.—Junior Assistant Resident Medical Officer: doubly qualified. Salary, £175 per annum, with washing, board, and apartments. Applications endorsed "Junior Assistant Medical Officer," to J. Moulding, Clerk to the Guardians, 15, High Park Street, Liverpool, by September 8th.

WEST HAM HOSPITAL, Stratford, E.—Junior House-Surgeon; doubly qualified and registered. Salary £35 per annum, with board, lodging, and washing. Appointment for twelve months. Applications, marked "Junior House-Surgeon," to L. D. Rea, Secretary, by September 2nd.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

BIDWELL.—On August 23rd, at 59, Wimpole Street, Cavendish Square, W., the wife of Leonard A. Bidwell, F.R.C.S., of a son.

DRAKE-BROCKMAN.—August 19th, at Mussoorie, North-West Provinces, India, the wife of Surgeon-Captain H. E. Drake-Brockman, F.R.C.S. Eng., Indian Medical Service, of a daughter.

EVELYN.—On August 17th, at 24, Micklegate, York, the wife of W. A. Evelyn, M.D., of a son.

MASON.—On August 18th, at 73, Willes Road, Leamington, the wife of Harold Mason, M.B., of a daughter.

MURDOCH.—On August 17th, at The Oaks, Hythe, Kent, the wife of Alan Murdoch, M.R.C.S., L.R.C.P., of a son.

STEVENSON.—At Prince Albert, South Africa, on July 29th, the wife of Robert Stevenson, M.B., of a son.

MARRIAGES.

WILLIAMSON—STROTHER.—At Kilchurn, Inverness, on August 19th, by the Rev. J. J. Black, LL.D., Inverness, and the Rev. Norman MacLeod, D.D., Inverness, George Alexander Williamson, M.A., M.B., C.M., District Medical Officer, Cyprus (Colonial Medical Service), to Flora M. L., daughter of the late Alexander Strother, Esq., of Belmachree, Inverness.

DEATHS.

DU PASQUIER.—On August 20th, at Clifton House, Church Road, Upper Norwood, S.E., Claudius Francis Du Pasquier, F.R.C.S., formerly of 62, Pall Mall, late Surgeon-Apothecary to Her Majesty and late Surgeon-Apothecary to His Royal Highness the Prince of Wales's Household, in his 86th year.

SMITH.—On August 18th, at Ostend, Katie, wife of E. Stanley Smith, M.D., of Kensington Gardens Square and Stratford Place, and second daughter of the late Lieutenant-Colonel H. M. Garstin. No cards.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DR. G. H. SEAGRAVE (Milnthorpe) would be glad if any readers of the BRITISH MEDICAL JOURNAL can throw light on the following case: A gentleman who had been grouse shooting on the 12th, 13th, and 14th, after coming home complained of irritation over the front of one leg just below the knee. On examination our correspondent found the part indicated red and showing a few scattered vesicles. On the following day a rash resembling herpes came out and spread over the upper part of the leg. This condition of things has lasted for about a week. The vesicles after discharging a clear watery fluid are now drying up. The patient says that two other gentlemen shooting with him complained of the same trouble, but in a less marked degree. Dr. Seagrave's opinion is that the rash was caused by some parasite which infests either heather or bracken.

M.D. would be glad of any information about Buluwayo in Rhodesia, and if there is any chance of his succeeding there as a doctor. He has had large experience as deputy police surgeon, medical officer of health, anæsthetist to cottage hospital, etc.

AN OLD MEMBER wishes to know who are the makers of the polished bore aseptic silk elastic catheters that can be kept in an antiseptic solution without damage. They were mentioned in the BRITISH MEDICAL JOURNAL some time since.

SCOTIA will feel obliged for any hints from those who have had practical experience of the working of a parish nurse. Should she be entirely under the control of the local medical men? How are her duties to be regulated, and what is to be expected of her? What is the best and most economical source from which to obtain such a person, and what salary will be expected? The neighbourhood is suburban and the population mostly working class and market-garden labourers.

GLYCERINATED CALF VACCINE.

A MEMBER writes: When preparing the glycerinated calf vaccine, is the whole crust ground up, or is it the underlying pulp and liquid vaccine only that is made use of in England? Dr. Francis Martin, of Boston, discards the scab or crust, whereas I take it, from the article in the BRITISH MEDICAL JOURNAL of August 21st, that the whole pock is used in Germany, else how do they get so much material from one calf?

*** Some experts use the whole crust, some carefully wash and scrape off the scab, and some, again, collect a lymph pulp before the formation of any vesicle, scab, or crust. The report dealing with this subject is expected to be issued very shortly as a Parliamentary paper. It is entitled: Report to the Local Government Board on the Preparation and Storage of Glycerinated Calf Vaccine Lymph, with an Introduction by the Medical Officer, and, when issued, can be obtained through Messrs. Eyre and Spottiswoode. The several methods referred to will be found described in it.

LETTERS, COMMUNICATIONS, ETC., have been received from:

(A) A.M.D.; Administrative Medical Officer, Retired; Avenue. (B) Mr. T. H. Bickerton, Liverpool; Mr. H. S. Beadles, Bromley; Mr. G. F. Blake, Dublin; Mr. R. M. Bucke, Muskoka, Ontario; Dr. G. B. Beale, Bournemouth; Mr. P. B. Bentlif, Jersey; J. W. Batterham, M.B., St. Leonards; Messrs. Brady and Martin, Newcastle-on-Tyne; Dr. M. A. Boyd, Dublin; Messrs. P. Blakiston and Co., Philadelphia. (C) Mr. D. Campbell, London; Mr. E. F. Clowes, Winchester. (D) Dr. C. Dixson, London; Mr. C. Duer, Rangoon. (E) Dr. W. D. Eddowes, Hanley; P. Edmunds, M.B., London. (F) Dr. T. R. Fraser, Edinburgh; Mr. G. Foy, Dublin. (G) Dr. M. Gunning, Leieester; Mr. J. B. Garman, Wednesbury; Mr. T. W. N. Greene, London. (H) W. J. Harris, M.B., London; Dr. W. Harding, Northampton; Mr. Heuston, Dublin; Mr. H. Hall, Frant; Dr. T. G. Horder, Cardiff. (K) Dr. R. Kirk, Glasgow. (L) Listerian; Mr. T. L. Laxton, Pretoria; Mr. S. R. Lovett, London; Dr. E. Lee, New York. (M) Mr. T. Mitton, Manchester; Dr. F. C. Melhado, London; Mr. F. C. Madden, London; Dr. S. Mackenzie, London; Dr. R. Maclaren, Carlisle; Dr. Moorhead, Cootehill; M.D.Edin.; Member; M.O.H.; M.D., M.R.C.S.; Mr. J. McOscar, Watlington; Dr. J. McNaught, Newchurch; Member, British Medical Association; C. Mercier, M.B., London; M.D.; Mr. W. C. M'Donnell, London. (P) Mr. H. H. Perrott, London; Mr. H. H. Parkinson, Sacramento; Mr. W. B. Paterson, Dublin; Dr. J. H. Philipson, Newcastle-on-Tyne. (Q) Mr. C. Quinton, Sandy. (R) Dr. W. Robertson, Johannesburg; Mr. H. D. Ryder, London; R.; Dr. H. Renney, Sunderland; F. Radcliffe, M.B., Oldham. (S) Mr. H. Sell, London; Dr. J. S. Scriven, Stourport; Dr. R. Saundby, Birmingham; Dr. R. W. B. Smith, Hamilton, Ontario; Mr. N. Smith, London; Mr. R. G. Style, London; M. G. H. Seagrave, Milnthorpe; J. C. Stawell, M.B., Bagnalstown; Scotia; H. R. Swanzy, M.B., Dublin; Dr. A. Stewart, Manchester. (T) M. F. Taylor, Sydenham; Mr. L. Tait, Birmingham; Mr. S. J. Thomson, Lucknow; Dr. J. K. Tomory, Halkirk; Dr. W. E. F. Thomson, Glasgow; Mr. A. Teevan, Ballarat. (W) Dr. A. T. Wilkinson, Manchester; M. W. R. Williams, Preston; Mr. W. E. Wright, London; E. T. Whitaker, M.B., Shrewsbury; Mr. A. Walker, Rochdale; Dr. F. Williams, Liverpool. (Y) M. Young, M.B., Crewe. (Z) Mr. W. G. Zermann, Dublin, etc.

PRESIDENT'S ADDRESS,

DELIVERED AT THE

SIXTY-FIFTH ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION,

BY

T. G. RODDICK, M.D.,

Professor of Surgery in McGill University, Montreal.

CANADA IN ITS MEDICAL ASPECTS.

I RISE to welcome you on behalf of the medical profession in Canada, and to thank you for the honour conferred on this city and country by your presence here to-day. Would that I could find suitable language in which to thank you also for the high honour you have done me in electing me to preside at this great meeting of the British Medical Association, an honour which is appreciated none the less by the consciousness that it is not a personal matter, but a compliment to Canadian medicine.

This meeting of the British Medical Association in Canada is an event which will serve still more to impress upon the memory of our people the year 1897, the year of the Diamond Jubilee of our beloved Sovereign, Queen Victoria. In no part of her vast empire—not even its very heart—did her subjects celebrate the great event with more enthusiastic loyalty and devotion than in Canada, especially in this province, the home of the French Canadians. We Canadians of both tongues love and honour our Queen. Long may she live! Deeply, too, have we appreciated here the splendid reception accorded in the old home to our Premier, the Right Hon. Sir Wilfrid Laurier, whose distinguised bearing and grace of manner eminently fitted him for the important part it was his peculiar privilege to play in the magnificent ceremonies of the Jubilee. A French Canadian, Sir Wilfrid's presence in England as the chosen representative of the Dominion was an object lesson to the empire and to the world in the harmony existing between the two nationalities which comprise the Canadian people.

And here let me express, on behalf of every representative from the British Isles, and on behalf of every Canadian present, the genuine pleasure we feel in having among us on this memorable occasion so many of our brethren from the United States. This only proves the cosmopolitan character of our profession; this is only another recognition of the unity of medicine. Legislators may squabble, the air may be filled with wild alarms, and war may appear imminent day by day, but our relations are not disturbed in the slightest degree; our interests are common—we are kinsmen in science; we go forward hand in hand, irrespective of race, or creed, or colour, having one intent only—the advancement of our noble profession, and through that the amelioration of the ills of mankind.

It is my privilege also to welcome the representative of another Republic, La Belle France, to whose gifted men of science our profession is so greatly indebted. This gentleman, who bears the credentials of his Government, and officially represents the great nation of which he is so bright an ornament, is known far and wide as the Professor of Physiology in the University of France, Dr. Charles Richet. In coming to Canada it cannot be said, nor will he feel, that he comes to a foreign country, for in the Province of Quebec he will find another France, with a delightful mingling of the old and the new; his own beautiful language spoken with all the grace and purity of the old *régime*.

But we are further honoured by the presence among us to-day of the most illustrious surgeon of our generation, Lord Lister, who stands for the rise and zenith of modern surgery. It has been well and truly said that as long as surgery is scientifically discussed Lord Lister's name cannot fail to be mentioned. We have only to compare the surgery of the time before 1873 with the surgery as practised to-day to appreciate all that he has done for the science. The remark is frequently heard that Lord Lister has made operative proceedings possible which only twenty-five years ago would have been considered criminal. Undoubtedly, the most powerful agency in the development of surgery in this century has been the introduction of the antiseptic and aseptic methods of wound treatment which he initiated. It is due to his efforts that surgical wards have been freed from pyæmia, and the mortality of lying-in hospitals reduced to the limits of normal parturition. For the past twenty years honours many and great have been showered upon him. Oxford, Cambridge, Edinburgh, Glasgow, Dublin, Toronto, and now McGill have vied with one another in hastening to do him homage. Our Sovereign, in conferring upon him the richly deserved distinctions which he bears with such gracious dignity, only gives expression to the general feeling of his countrymen throughout the Empire and his admirers the world over. We are glad, I say, to have him with us to-day; his presence is an intellectual stimulus and an energising force in our deliberations.

It is, I understand, an unwritten law of the Association that the President shall not in his address encroach upon the topics which belong by right and usage to the readers of the main addresses and to the Presidents of the various Sections. I have observed that the majority of my predecessors have contented themselves with discoursing on objects and circumstances of local interest; they describe the town or city in which the meeting is held, or perhaps they discuss questions of a public character. In the absence of an Address on Public Medicine, others have taken that for their theme. It has been my unhappy lot to select and consider subjects only to find in quick succession that they had already been appropriated, either by the Association JOURNAL, in describing so fully Montreal and its surroundings, or by the Editors of the Official Guide or Souvenir, who have given a very comprehensive description of Canada, or by some of the gentlemen who preside ove the Sections, who, I have been led to understand, purpose discussing questions of medical education. I fear, therefore, that what I have to say this afternoon will fall far short of the brilliant presidential addresses which members of this Association have been accustomed to in other years. Indeed, when I look at the long roll of eminent men who have been my predecessors in this high office—men oftentimes distinguished for their literary gifts as well as for their exalted position in the medical world—I confess that I marvel at my temerity in accepting so great a responsibility. In speaking of my predecessors, allow me especially to refer to the retiring President, Dr. Henry Barnes, whose courteous and kindly manners, together with his sterling ability, make us all glad to know that his election as a Vice-President for life ensures his continued official and active connection with the Association. Here might I also be permitted to say how greatly I appreciated the many kindnesses and courtesies extended to me by the President (Dr. Saundby) and members of the Council when in London last winter making the initial arrangements for this meeting.

With respect to the other addresses which it is customary to deliver on these occasions, medicine will be dealt with by one whose reputation is now world-wide—by our Osler—whose professional education was in great part received in this city, and who, I am happy to say, is still a Canadian. How he has been able to escape the alien law is a puzzle to many; but he has really only been borrowed for a time; he is merely passing through the United States in bond. We are only waiting until we can find a place large enough to hold him, when we shall coax him back. Sorry am I that his old colleagues in his own department of medicine—Howard and Ross and Macdonnell—are not here to share with us the genuine pleasure we experience in finding him in the position which he occupies to-day.

You will hear addresses in Surgery and Public Medicine, delivered by gentlemen who have devoted their lives to their special subjects.

Before proceeding, however, with the remnants of subjects which my *confrères* have been graciously pleased to leave for my share on this occasion, allow me first, for the benefit of those who may not be acquainted with the work of the British Medical Association, to give in as few words as possible a general idea of its organisation.

THE BRITISH MEDICAL ASSOCIATION.

When, in 1832, Sir Charles Hastings, of Worcester, communicated to a few of his personal friends the idea he had conceived of a medical association which should bring the whole provincial profession of England into a common brotherhood, it may be safely affirmed that he did not dream that he was laying the foundation of an association which would ultimately not only embrace the whole of the British Isles, but extend to that Greater Britain beyond the seas, and become an association of imperial magnitude and of imperial importance and significance. I have no hesitation in expressing my belief that the British Medical Association will be an important factor in bringing to a successful issue that great scheme of imperial federation which now exercises the minds, and let me add the hearts, of the leading statesmen of the empire. Sir Charles Hastings's aim was to bring town into professional union with town, county with county; now it has become the aim of the Society he called into being to add State to State—and may I not say continent to continent?—until all the nations and peoples who live under the British flag are brought within the beneficent influence of the Association.

With respect to the objects of the Association, as set forth on its foundation, they may briefly be stated to be:

1. The collection of speculative and practical information through essays, hospital reports, infirmaries, dispensaries, or private practice.

2. Increase of knowledge of the medical topography of England through statistical, meteorological, geological, and botanical inquiries; the investigation of the modification of endemic and epidemic diseases in different situations and at various periods, so as to trace, as far as the recent state of the art would permit, their connection with peculiarities of soil and climate or with the localities, habits, and occupations of the people.

3. The advancement of medico-legal science through succinct reports of cases occurring in courts of judicature.

4. The maintenance of the honour and respectability of the profession generally in the provinces by promoting friendly intercourse and free communication of its members and by establishing among them the harmony and good feeling which ought ever to characterise a liberal profession.

During its earliest years the movements and proceedings of the Association were quiet and unostentatious, the meetings simple in their arrangements; but it was not long before medical societies began to join the newer body, and towns in all parts of the Kingdom soon came to regard it as an honour to entertain the Association. Gradually the best men of each district enrolled their names, and the membership increased so greatly that subdivisions into Branches became a necessity. Each Branch, with its own ordinary and annual meetings, became practically a replica of the parent society, possessing its own President, Vice-President, Secretary, Treasurer, Council, and by-laws, subject to the approval of the Council of the Association, to which, besides, each Branch sent representatives according to its numerical strength. In 1837—five years after the foundation of the Association—there were three of these Branches formed, namely, the East Anglian, the Bath and Bristol, and the Lancashire and Cheshire. By the end of 1878 the Association had spread over the whole United Kingdom, the total number of Branches at that date being 30—one of the 30, it is interesting to note, being Jamaica, the first Colonial Branch to be formed. It was organised in 1878. Two years later we find that Australia appears for the first time, contributing three Branches to the Association. Since then 36 more Branches have been added, making a grand total of 65, with a collective membership of nearly 17,000. Of the Branches, 27 are Indian and Colonial. Doubtless before long those portions of Africa which are now becoming rapidly civilised will also add their quota, so that it is possible that within the lifetime of all present the British Medical Association will be represented wherever the British flag flies. As Nova Scotia is always to the fore in matters intellectual, it is not surprising that the first Canadian Branch of the Association should have been formed in Halifax. It was started in 1887, four years ahead of Montreal, Toronto, Manitoba, and British Columbia. Canada has now seven Branches, the Ottawa and Quebec Branches having been formed within the last year. The formation of the Manitoba, Toronto, and Montreal Branches was the immediate result of the visit to this country of Mr. Ernest Hart. In 1891 Mr. Hart, who has been editor of the BRITISH MEDICAL JOURNAL since 1867, passed through Canada, and addressed *en route* the members of the profession in Winnipeg, Toronto, and Montreal. Of the Manitoba Branch, which began with twenty-five members, Dr. Ferguson was nominated as president, and Drs. Thornton and Lamont as vice-presidents. In Toronto the Branch also began with twenty-five members, Dr. Macullum being nominated president, and Dr. Thistle honorary secretary. In Montreal the meeting was largely representative in spite of the short notice given, and twenty-six members of the profession at once signed applications for membership. The officers nominated were: President, Dr. (now Sir William) Hingston; first vice-president, the late Dr. George Ross; second vice-president, Dr. James Perrigo. The members of the Council were: Drs. Roddick, F. W. Campbell, and George Wilkins. In the course of a very happy speech made on that occasion by Mr. Hart he remarked that he looked forward to the time when the Canadian membership would be large enough to invite the Association to hold a meeting in Canada; and he hoped that the first meeting held outside the limits of the British Isles might be held in this country. Little did we think at the time that Mr. Hart's hopes would be so quickly realised. But the idea has ever been present with us, and those who subsequently attended meetings of the British Medical Association in England have lost no opportunity of advocating the claims of Canada, and especially of this the metropolitan city of Canada, as a place of meeting for the Association.

One of the secrets of success of the British Medical Association is that it makes no distinction in the treatment of its members. Colonial members have all the privileges of the British members, and are always warmly welcomed at the headquarters in the Strand and at the annual meetings. The Association has a large reserve fund of £40,000 sterling, which is the joint property of the members, to be used for public and professional purposes, and any suitable applications for grants for medical research, whether from British or Colonial members, always receive attention.

A gentleman to whom the Association is greatly indebted is Mr. Francis Fowke, who was appointed Secretary and General Manager in 1872. At that time the Association was in rather a precarious condition financially, owing to its deficient organisation; but shortly after Mr. Fowke took up the reins of office matters were found steadily to improve. About the time he was appointed the subscriptions amounted to £4,677. Ten years later they had nearly doubled, the amount being £9,147; and in 1891 they had reached the very respectable sum of £14,759. It is interesting to note how closely the advertisements in the JOURNAL kept pace with the increase in membership. In 1871 the amount received for advertisements was £1,992; in 1881, £6,089; and in 1891, £14,568. The head office, which had been in Birmingham, was moved to London in 1872, where, after two removals, the present commodious premises in the Strand were taken. In 1879 the Association began the printing as well as the publishing of its JOURNAL. The library, which now contains 10,000 volumes, and which includes nearly every modern medical work of note, and many valuable books of reference, has developed in that time. That the British Medical Association is the largest and most influential guild in the world cannot be questioned. Moreover, the good it accomplishes increases from year to year, and more than keeps pace with the expansion of the Association. Imagine the mighty power of the collective action of 17,000 earnest men pitted against false dogmas and ever battling for the truth! It is not, however, by the greatness of numbers that the Association will be judged—it is by the diversity and quality of results. It is impossible to imagine any combination of circumstances which would render this great Association any less necessary or useful than it is to-day. It will undoubtedly continue to grow in numbers, to increase in importance, and to be ever more and more an influence making for the amelioration and elevation of mankind.

The Canadian people, and especially the citizens of Montreal, are highly flattered and gratified that Canada should be the first country without the United Kingdom to

be honoured by a meeting of the British Medical Association; and while they hope that it will not be long before the honour is repeated, our people are not insensible to the claims of other portions of the Empire, more especially the great island continent of the Antipodes, Australia. Either Sydney or Melbourne would be a fit meeting place for such an imperial organisation as this; and should the next meeting which is held outside the British Isles be held under the Southern Cross, our hospitable Australian kinsmen may count on a large contingent from the Dominion of Canada.

Climatic Conditions of Canada.

As it may be presumed that to the majority of those present here to-day Canada is almost an unknown country, I have thought that among one or two other subjects a few remarks on the atmospheric conditions and health resorts of the Dominion would not be without interest.

The best way to understand the atmospheric conditions of a country is first to understand its physical features. The physical features of Canada are very remarkable. Broadly speaking, the country is separable by climatic and physical conditions into three great regions—the Eastern, Central, and Western Regions, which approximately run north and south in the general trend of the continent. The eastern region, which includes the older provinces of the Dominion —Ontario, Quebec, Nova Scotia, New Brunswick, and Prince Edward Island, besides the great fur territory stretching far to the east and north-east of James's Bay, extends from the Atlantic to Lake Superior and the chain of Great Lakes running in a northerly direction from Lake Superior to the Arctic Ocean. Between this great chain of lakes and the eastern base of the Rocky Mountains is the immense interior continental plain which constitutes the central region of Canada, its southern part consisting of open prairie, its northern part of forest lands. The third part of the division, the western region, is naturally very well defined, consisting of the wide and wild mountainous border of the continent on the Pacific side—the Rocky Selkirk and Gold Ranges, which form the great Cordilleran belt, whose average width in Canada is 400 miles.

Eastern Canada, our first and largest region, is geologically of very ancient origin. Here geologists have placed the nucleus of the continent—the broad belt of crystalline rock of great antiquity called the Laurentian Plateau. This region is remarkable for its immense number of lakes, large and small, and for its irregular and winding rivers with numerous rapids and falls. Between the Laurentian Plateau on the north and the Appalachian mountain system on the south lies the great valley of the River St. Lawrence. The basin of this majestic river covers 530,000 square miles, of which 460,000 are in Canada. Above the city of Quebec the base of the Laurentian highlands and the ridges of the Appalachian system diverge, and the mighty river flows through an extensive low country of notable fertility, in earlier days the great granary of Canada.

It may be added *en passant* that Mount Royal, which gives such distinction and character to our city, represents the basal remnants of a volcanic vent of great antiquity. From its picturesque summit may be seen similar abrupt elevations far off towards the east and south—Montarville, Belœil or St. Hilaire, Mount Rougemont, with Mount Yamaska behind it, Mount Shefford, and the conical Mount Johnson or Monnoir. The Adirondacks are visible in the distance to the south-west, and the Green Mountains to the south-east.

Included in the Eastern Region is one of the most remarkable geographical features of Canada—the great fresh water lakes or inland seas, Superior, Huron, Erie, and Ontario, which form the perennial reservoirs of the St. Lawrence. Together with Lake Michigan, which is wholly in the United States, they have an aggregate area of 94,750 square miles, an area larger than that of Great Britain. They stand at four distinct levels above the sea—Ontario 247 feet, Erie 573, Huron 581, and Superior 602. The Niagara Falls, the greatest and most impressive of the natural wonders of our continent, are the direct result of the great height of Lake Erie above Lake Ontario, the river connecting the lakes being only a few miles long. Besides the St. Lawrence, Eastern Canada has several other great rivers, notably the Ottawa, which has a course of 1,800 miles and a basin of nearly 1,000,000 square miles, the St. Maurice, the Saguenay, and the St. John, the glory of New Brunswick, which, together with the Atlantic Slope, has a basin of 50,214 square miles. The Central and Western Regions also have their abundant share of large and small lakes and great rivers, an account of which would fill reams of paper. It should be noted that the Canadian rivers and lakes collectively cover an area of 130,000 square miles, and contain one-half the fresh water on the globe.

I draw special attention to this series of vast lakes and rivers because it exerts an immense and beneficent influence on the climate of Canada. It preserves the mean temperature while the land experiences the extremes. In summer the water is cooler and in winter warmer than the land conditions, which tend to modify the differences and to favour uniformity of climate. Without these waters, too, we should have vast regions of comparatively little value, as in Africa, Asia, and in the United States west of the Mississippi river, where large tracts of land far from water are nothing more than arid wastes. Our climate is more uniform than that of Europe; the meteorological differences are produced by position alone, but Europe has a higher mean temperature, and the extremes there are not so marked or so wide apart as in Canada. Owing to the great area of Canada, extending over 20° of latitude, or from the latitude of Constantinople to that of North Cape in Norway, the range of temperature is naturally very wide. The southern boundary stretches over fully 4,000 miles, along which line we find that Southern Ontario has the latitude of Central Italy, Nova Scotia that of Northern Italy, Manitoba and Vancouver that of Central Germany. Speaking generally, the Canadian summer may be stated at 60° F. to 70° F.

From its vast and varied extent Canada may be said to be the possessor of several climates. Taking Solly's classification as to position, we have in Canada all the three land climates—the low, the medium, and the high. The first has an elevation up to 2,500 feet, the second up to 4,500, and the the third from 4,500 upwards. As to temperature and humidity, Canada comes under the category of "cold, moderate, and dry."

Canadian Health Resorts.

In the eastern region of the Dominion there are at least two localities which have been proved to possess many of the qualities which constitute a climate for convalescents from fevers and other depressing diseases, and also for consumption in the incipient stage. I refer to the region in the Province of Quebec among the Laurentians north of this city, of which the village of Ste. Agathe is the centre, the other being the Muskoka District, in Ontario.

The first has been called the Adirondacks of Canada, having many of the features, physical and climatic, of that now celebrated plateau situated in the north-eastern part of New York State, and stretching from the Mohawk Valley in the south 150 miles north, almost to the frontier line. The average elevation of the two regions is about the same, being from 1,600 to 1,800 feet. The immense pine forests, together with the moderate temperature, constitute the chief characteristics of the Canadian district, from the medical point of view. No very systematic meteorological observations have yet been taken of the Ste. Agathe region, but the indications will probably prove to be very similar to those of the American resort. It is in contemplation to erect a sanitarium on Trembling Mountain, overlooking the village of Ste. Agathe, which will doubtless in time rival the Adirondacks Cottage Sanitarium near Saranac Lake Village, which has proved such a marked success under the able management of Dr. E. L. Trudeau. The elevation of the sanitarium will be 2,500 feet, thus having an altitude of nearly 900 feet greater than the establishment at Saranac. It is the intention of the Quebec Government to set apart a sufficient portion of the Crown lands to form a natural park in that part of the province. It will be called the Trembling Mountain Park, and will cover an area of 100,000 acres of land, in which are several beautiful lakes. Within the boundaries of this park the sanitarium will be constructed. There is therefore no reason to doubt that we will shortly have within our own lines a health resort possessing all the advantages of the Adirondacks region, and capable of affecting for good the

same class of patients now so decidedly benefited by a residence in those mountains.

One hundred miles north of Toronto, in the highlands of Ontario, is the Muskoka Lake region, an area of about 10,000 square miles, perhaps the most picturesque portion of the whole province. Within this district, which has a mean altitude above the sea of about 800 feet (200 feet above Lake Huron), there are nearly a thousand lakes and ponds, connected by innumerable streams. The chief lakes are Muskoka, Rosseau, and Joseph. These contain about 400 islands. It is a region abounding in pine forests; the climate is dry, and the air pure and invigorating. The Muskoka region has been found undoubtedly to possess remarkable climatic advantages for those with phthisical tendencies. The death-rate from phthisis in this section of Ontario is proved to be less than one-tenth the rate which obtains in other parts of the province. At Gravenhurst the Muskoka Cottage Sanitarium for the cure of incipient phthisis has recently been founded, under the best auspices, with accommodation for forty patients. The present sanitarium consists of a large and well-planned main building, surrounded within easy distance by a number of small cottages. The grounds, which embrace seventy-five acres, are situated on Lake Muskoka. Pine forests and rocky ridges protect the buildings on the north and west sides, whence come the colder winds in winter. Like the Adirondacks Sanitarium, the intention is to occupy it all the year round. The progress of this institution, at present in the experimental stage, will be watched with much interest.

In the central region of Canada, that section of the North-west Territories known as Southern Alberta—the home of the cowboy—has much to recommend it as a health resort. This strip of prairie and hill country is bounded on the north by the Canadian Pacific Railway, and on the south by the international boundary line: its eastern boundary extends as far as Medicine Hat; its western boundary to the summit line of the Rockies and British Columbia, comprising in all an area of about 20,000 square miles. The plain here has an elevation above sea level of 2,700 feet, which gradually increases up to the entrance of the Crow's Nest Pass, where the elevation is 4,500 feet. Calgary, the capital of Alberta, is itself 3,500 feet above sea level. With this gradual incline from a low to a high level altitude, the patient can choose the locality which suits his particular case. In a long experience Kennedy knew of only two cases of phthisis originating in that country: one of acute tuberculosis with a strong hereditary taint, which proved fatal; the other, of the ordinary type, recovered without leaving the place. He claims for the climate of Southern Alberta a dry aseptic atmosphere and a dry soil, the greatest possible number of sunshiny days (90 per cent.), with cool nights. Patients can live there all the year round, and, with the exception of an occasional snowstorm, which may cover the prairie to a varying depth, nothing need interfere with their practically living in the saddle. The so-called Chinook wind has a remarkable influence over all this western section of Canada. It is a warm wind which blows with varying intensity from west to south-west. McCaul, who describes it very graphically, speaks of its approach being heralded by the massing of dark clouds above the mountain tops, and a distinct wailing and rumbling from the passes and gorges. Its effect in winter is little short of miraculous. When the real Chinook blows the temperature often rises in a few hours from 20° below to 40° above zero. The snow, which in the morning may have been a foot deep, disappears, and before night everything is dripping; but in the space of a single day all the water is lapped up by the thirsty wind, and the prairie is so dry that a horse's hoof hardly makes an impression.

The cases which have been most especially benefited by Alberta's climate are pulmonary tuberculosis in the earliest stage, although neurasthenics and anæmic women are likewise favourably affected to a marked degree. It is well known that delicate lads sent from the British Isles to this section of the North-west to work on the cattle ranches become in a year or two healthy and vigorous men, and are scarcely recognised on their return.

Still farther west, and nearly midway between Calgary and the Pacific Coast, is the beautiful Valley of Kamloops, another all-the-year-round resort which has much to recommend it to those suffering from many forms of tuberculous disease. This picturesque valley, which lies between the Rocky Mountains and the Cascade Range, has a low altitude climate of 1,100 feet, but is exceeding dry, showing an annual rainfall of only 11.05 inches, with an average of about 75 rainy days in the year. The rain soon disappears, the soil being light and gravelly. In this region we have an illustration of the local variability of climate recently pointed out by Bryce, who, in referring to the two not very distant localities of Vancouver and Kamloops, showed that whereas the former has an annual rainfall of 35 inches, the latter records but 11 inches and a decimal. The mean annual temperature of the Valley of Kamloops is 46.03° F., the annual range being only 22.8°. The tuberculous patients who appear to be most benefited by a residence in Kamloops are those in whom there is a tendency to chronic congestion. Cases of bronchitis are likewise said to do well there. The climate can also be recommended for consumptives where cardiac disease exists as a complication.

That Canada is an exceptionally healthful country is the general testimony of the army and navy surgeons who have been stationed in Canada with the different regiments from the time of the conquest to the present day. Crawford, who was attached to one of the regiments stationed in Montreal many years ago, and who subsequently left the army and practised in this city, published elaborate and carefully-collected statistics to prove that few portions of the British Empire have a climate equal to that of Canada. In fact, his statistics prove conclusively that out of every 1,000 of the troops stationed at the various garrisons throughout the empire, the percentage constantly ineffective from sickness was smaller in this country by 7 per cent. than at Gibraltar, which was then taken as the type. I think it can be satisfactorily proved that Canada is expressly fitted to develop a hardy race capable of great endurance. The races of the British Isles and the French race have certainly not degenerated here. Hingston proved this very conclusively some years ago by observations made upon the medical students attending the various schools in this city. He found that the lumbar strength of the British Canadian of the third generation exceeded by 20 lbs. that of the recently-arrived English and Scotch students. But the French-Canadian of the tenth generation did better than all by nearly 30 lbs. Not only has the French-Canadian increased in strength but also in height and weight over the original Normandy stock.

Has the intellectual improvement in our people kept pace with the physical? We are a modest people, but I think we can say with truth it has. We have a very respectable literature of our own, but the best intellect of the country is as yet absorbed in the practical affairs of life, and has too seldom found expression in art and literature. It is not very long since a distinguished American *littérateur*, Charles Dudley Warner, gravely attributed what he called the literary inactivity of Canada to the coldness of the climate. He said, in short, that the cold benumbed our intellectual faculties, and we had to spend so much of our energy in trying to keep warm that none was left for any other purpose. It must be admitted that if we measure the intellectual capacity of our people by the number of books produced in Canada the result is not all we might desire; but the climate is not to blame. Especially is it not the cold, for the winter is the season devoted pre-eminently to intellectual effort and intellectual amusements. If Mr. Warner had said that the heat of our summer was an unfavourable factor in our intellectual life he would not have shot quite so wide of the mark; he would not have been right, but he would not have been quite so wrong. The very vicissitudes of our climate, by training the system to endure severe physical conditions must react favourably upon the mental attitude.

Canadian Spas.

We have in Canada several mineral springs of undoubted therapeutic value, and they are pretty generally distributed all over the Dominion, although differing materially in temperature and composition. The best known Canadian spas are the Caledonia, the St. Leon, and the Plantagenet Springs in the Province of Quebec, and the Banff Springs in Alberta. Other springs in the Province of Quebec are the Abenakis

and the Caxton. Besides these there are at least three or four artesian wells or springs. Of these the chief are the Laurentian Spring in the east end of this city (a mild alkaline water with sodium bicarbonate as its predominating ingredient), and the Radnor, a well of some considerable repute situated in the County of Champlain. This was discovered a very few years ago when boring for water to supply the workpeople engaged at the well known Radnor Forges. It has been likened to the German seltzer, many of the properties being alike. It bids fair to become a rival in time of the celebrated Apollinaris water, to which it is preferred by many. The well is over 400 feet in depth. In the Province of Ontario the chief springs are the Winchester and the Preston, and those in the town of St. Catharines, near Niagara Falls. The best known and the most popular are the Caledonia springs, situated on the line of the Canadian Pacific Railway about midway between Montreal and Ottawa, and about nine miles from the Ottawa River. They consist of four springs—the gas, the saline, the white sulphur, and the intermitting or Duncan spring. The first three are situated within a distance of three or four rods of each other, and the mouths of the latter two are not more than four feet apart. The intermitting spring is situated about two miles from the others. This is so named because the discharge of gas is not regular, some minutes elapsing between the periods of quiescence and disturbance. The average temperature of these springs is about 46° F. The intermitting spring has the largest percentage of chloride of sodium, and differs from all the others in possessing a greater portion of chlorides of calcium and magnesium. It has also nearly twice the proportion of carbonate of magnesium that the others contain. It has been found that taken judiciously and under advice these waters have a remarkable effect in subacute and chronic rheumatic conditions. People suffering thus are found flocking to Caledonia from all parts of this Continent and even South America, especially during the months of July and August. Gouty conditions depending upon liver disturbances also yield very readily to these waters. The waters of St. Leon and Plantagenet are similar in many respects to those just described, and as a rule suit the same class of patients.

All the springs so far described yield cold waters, but Canada also possesses the most famous thermal springs on this Continent.

Banff, now a picturesque town magnificently situated in the heart of the Rocky Mountains yet within the limits of that division of the North-West Territories known as Alberta, has become one of our noted health resorts, although frequented more on account of its remarkable thermal springs than for its climatic advantages. The town is built on the banks of the Bow and Spray rivers, two large glacier streams, and is surrounded by mountains towering many thousands of feet above the level of the sea. The winter is short, beginning in December and ending in February, and is much milder than Ontario. Very little rain falls, and the days, as a rule, are bright and cloudless. Prolonged periods of warm weather are experienced during winter. March and April are variable; May is warm and bright; June is the month in which the greatest rainfall occurs; July, August, September, and October are very warm and very dry, with cool nights. At all seasons, with the exception perhaps of June, the air is dry and notably aseptic. It is positively stated that no case of malaria or tuberculosis has ever been known to originate at Banff. Independently of the springs, then, Banff has much to recommend it from a climatological standpoint. The far-famed thermal springs of Banff were only discovered some fifteen years ago during the construction of the Canadian Pacific Railway. At its source in the mountain side it has a temperature of 127° F., and the air is charged for some distance around with the steam emitted from the pool to which the water flows. The most recent analysis shows it to contain the following ingredients:

Calcium sulphate	56 85
Magnesium sulphate	12.39
Calcium carbonate	3 29
Sodium sulphate	15 60
Sodium carbonate...	35·73
Silica	traces
Organic matter	traces.

The waters of Banff have been used with great benefit in rheumatism, gout, sciatica, and glandular affections, in certain forms of skin disease, and especially, it is thought, in tuberculous affections of the skin and mucous membrane. Aided by the admirable climatic conditions the waters have also been found to benefit in a marked manner functional diseases of the liver, stomach, and kidneys, and tuberculous joint affections. In constitutions debilitated from any cause the activity of the skin is noticed to be increased, the heart and vascular system strengthened, and the muscular and nervous systems much improved in tone. Rachitic and delicate children are much benefited by the thermal springs. This seems a large order; but the therapeutic effects of these springs have been carefully studied by competent medical men who have been stationed there for some years. The climate doubtless assists materially the action of the waters in very many cases.

I doubt if the Canadian profession sets a sufficiently high value on the therapeutic properties of our own mineral springs. When visiting the spas of Great Britain and Europe one is impressed by the caution exercised by patients in the method of using the waters which have been prescribed. There competent local medical men are always to be found who can give the proper advice regarding the water to be taken for the ailment from which the patient suffers, and the judicious use of baths. Here, unfortunately, in many places no professional advice is available, and the patient consequently does very much as he pleases, or as the hotel proprietor may advise, and in consequence more harm than good constantly follows the use of the waters.

Medical Education in Canada.

The general question of medical education is one of great importance and of unceasing interest, nor is this interest confined to the profession; it is becoming universal. The needs of medical education are fortunately being more fully realised by those who on account of their wealth and influence are in a position to render that substantial assistance which is so requisite. The time was when every medical school was a purely proprietary concern "run" for the money that was in it. We feel in Canada, and I think I can speak for the profession in the neighbouring republic, that this day is passed, that high-minded philanthropists like Lord Strathcona and Mount Royal, the late John Henry Molson, and others with us, and the Johns Hopkins, the Stanfords, the Vanderbilts, the Rockfellers, the Miss Garretts, and others with them are beginning to realise that unendowed instruction in medicine must lead to imperfect results, and that private endowment, in the absence of State aid, has become an absolute necessity to a proper medical training. I am not an advocate for State aid to universities, and I rejoice that the University to which I have the honour to belong is not so dependent, as it might thus be deprived of those gifts of private munificence to which I have just referred. All honour to those far-seeing, open-handed men and women who are giving of their abundance in order to elevate the standard of medical education, and by so doing benefit their kind. As Gould very tersely puts it in one of his clever articles: "I think our reliance must be upon private bequests, and these can be secured only as we interest the rich. We must never weary in showing the neglect of the greatest, most palpable, most certain means of doing good. There is a strange fatality in men, an unaccountable inability of seeing the need that lies nearest the good that is dearest. There is more money to-day devoted to astronomy than to the prevention of disease. It is positively wonderful to think that men should be more interested in stars and constellations than in their bodies and their physiological life."

A question which is nowadays agitating the minds of those especially interested in medical education is the kind of groundwork which is likely to bear the most direct relation to the future studies of the medical student. I think it is now conceded by all that he is placed at a greater advantage who first passes through an arts or a science course. I am happy to be able to report that from 15 to 20 per cent. of those who are studying medicine in this country to-day have had a collegiate training in either arts or science. Which of the two should the parent or guardian choose? Had I a son whose instincts were in the direction of medicine, I think I should choose for him the science course. The late Professor

Huxley thought it was a self-evident proposition that the educational training for persons who proposed to enter the medical profession should be largely scientific; not merely or even principally because an acquaintance with the elements of physical and biological science is absolutely essential to the comprehension of human physiology and pathology, but still more because of the value of the discipline afforded by practical work in these departments in the process of observation and experiment, in inductive reasoning and in manipulation.

The subjects in the science curriculum might be specially selected for the future medical student. Of course it may be said in favour of the arts course that many of the subjects, such as physics and chemistry, constitute part of the curriculum; but then calculate the loss to the future surgeon of that training of the hand and eye which would lead him up to be a skilled operator; or to the scientific physician whose complicated instruments of precision employed in the diagnosis of disease need some mechanical knowledge for both their use and repair. Besides, the number of those has been increasing in number and complexity with the increase of scientific knowledge.

But can we not make a new departure? Can we not urge that a special scientific education be arranged by the universities for those who desire to enter the medical profession? Such a course would embrace elementary Latin and Greek, French and German, physics, chemistry, biology, psychology, elementary mechanics, a practical laboratory course on electricity and drawing. After two years' study this might entitle the successful candidate to the degree of Licentiate in Science.

Something of this kind has been recently attempted in the University of McGill. By a special arrangement with the Faculty of Arts it is now possible for students to obtain the degree of B.A. along with M.D., C.M., after only six years of study. It has been decided to allow the primary subjects (anatomy, physiology, and chemistry) in medicine to count as subjects of the third and fourth years in arts. It follows, then, that at the end of four years' study a student may obtain his B.A. degree and have two years of his medical course completed. The last two years of study are of course devoted to the third and fourth year subjects in medicine. A certificate of Licentiate in Arts will be given along with the professional degree in medicine to those who previous to entrance upon their professional studies proper have completed examinations therein. By this plan, also, during the first two years of the arts course the medical student practically completes his studies in physics, chemistry, botany, and elementary psychology. This scheme is still in the experimental stage, but there is every reason to believe that it will result satisfactorily. What deters so many from taking a full course in arts or science before entering medicine is the length of time consumed before the doctorate degree is reached.

I might state that the standard for the ordinary matriculation examination for entrance to medicine exacted by all universities and licensing boards in this country is, with one or two exceptions, very high. I doubt if the requirements in this way of the General Medical Council of Great Britain are any higher.

Now, as to the purely professional portion of medicine, I might state that we have in the Dominion of Canada no fewer than eleven medical schools, including one for women only, all having the power of granting degrees, and all connected directly or by affiliation with university bodies. To enumerate them, beginning with the Atlantic Provinces, we have in Halifax the medical school attached to Dalhousie University, the only medical school in the Maritime Provinces; in this province there are four schools, Laval in Quebec, Laval in Montreal, McGill and Bishop's in Montreal; in Ontario, four schools, namely, the Royal College of Physicians and Surgeons, Kingston; the University of Toronto Medical Faculty, Trinity Medical College, and the Ontario Women's Medical College, in Toronto; in London, Ontario, the Western University Medical Faculty; and, lastly, in Winnipeg, the Manitoba University Faculty of Medicine. All told, we had in Canada, during the last winter sessions 286 teachers, including professors, lecturers, and demonstrators, and 1,736 students. The tendency for the past two years has been to increase the teaching staff quite out of proportion to the increased number of students. Taking McGill we find that there are in the present year 53 teachers for 388 students, being a proportion of nearly one to eight. Laval, in Montreal, has 36 teachers and 197 students, a still greater proportion. The Toronto School of Medicine had during the past year 41 teachers and 293 students. We find that this proportion compares well with the larger schools in the United States. Thus, in 1893, there were in Harvard Medical School 71 teachers to look after 471 students; at the Columbia Medical College in New York, with 661 students, there were 105 teachers (1 to 6); in the University of Pennsylvania the teaching staff in the same year comprised only 84 members with 825 students, being a little over 1 to 10. What does this mean? Ten years ago, when McGill had 237 students, a staff of 23 professors and demonstrators was considered sufficient. Why are so many more thought necessary nowadays? The number of subjects taught has not increased very much. The answer is that the subjects are differently taught. The old-fashioned daily didactic lectures are now given two or three times a week only. I should be sorry to see them further reduced in number, for I believe that so many are absolutely necessary. It is in the dissecting room, the chemical, physiological, therapeutical, and pathological laboratories that we see the change. These which before were for the most part only "side shows" are now made to hum with the practical work which is done within them, while demonstrators are moving about busily, engaged in examining and instructing.

In clinical teaching also we have made marked advances. A creation of the last few years is the clinical demonstrator, who takes small classes of students into the wards or the outdoor department of our hospitals, and gives them that "bedside instruction" which is so essential; leaving the clinical professor to deal with the full classes in the lecture or operating room. Thus each student is enabled personally to examine the case, to study the physiognomy of disease, and to make deliberate, thorough, and systematic examinations. He thus learns to use his special senses, and gets into careful habits of observation which once thoroughly acquired will be found to contribute largely to future success. With this in view, we encourage students to attend the outpatient department of the hospitals as early as the second year.

In order to make the clinical instruction more complete and more thorough, chemical and bacteriological laboratories have been added to the pathological departments of our hospitals. Thus it will be seen that laboratory methods everywhere prevail, all with the idea of developing the scientific spirit in students and of cultivating methods of thought with observation.

The question sometimes arises, however, May the student not be getting too much of a good thing? Is it not possible that laboratory teaching may be overdone? because, as Welch very truly says, "The student whose knowledge of a subject is derived exclusively from laboratory courses is likely to lose his perspective in details, to acquire only a fragmentary knowledge of the subject, to fail to comprehend the general bearing of observed facts; and not to acquire the general principles and systematic conceptions which are essential. Laboratory work should be accompanied and supplemented by the reading of textbooks and by lectures." I am convinced that with us in Canada laboratory work is not overdone, but, on the contrary, in some departments needs and deserves further encouragement. I hope every laboratory teacher in the country realises that the object of a college is to give a good general education, and not to make experts in various branches. I have long felt myself, however, that the didactic lectures were being unfairly dealt with. There is a feeling abroad that they should be practically elbowed out of sight. I think the didactic lecture has its place in the medical course; and while I quite feel that the old plan of compelling students to listen to five didactic lectures a week in all of the great subjects was a mistake, I still feel that a good lecturer can teach in this way a certain something which cannot be imparted by practical instruction or by recitations. The personal influence of a good lecturer very often makes an impression which nothing else can make; and if such lectures are made also demonstrative, as by the use of diagrams, the

lantern, experiments, etc., they must of necessity fill a very important place in the medical course.

Hygiene is at last receiving in this country the attention which its importance demands; all medical schools in Canada have facilities for teaching it. In McGill University the scope of the teaching of hygiene has been vastly extended, thanks to the generous endowment of that department recently by the Chancellor, Lord Strathcona and Mount Royal. The subject can now be taught in a scientific, and at the same time eminently practical, manner. There will be three teachers associated with the professor himself, namely, the heads of the Department of Practical Chemistry, of Pathology, and of Bacteriology. This is following very much the German system, also adopted by the University of Pennsylvania, the chemical and bacteriological aspects of the subject being really regarded as the most important. An extensive working museum, with sanitary apparatus of every kind, forms part of the scheme, and will doubtless add greatly to the efficiency of the course when it is completed. Should the experiment succeed you will be rejoiced to hear at no distant date that the other schools in Canada have followed the lead of their elder sister.

I fear I have given you a very imperfect idea of medical education in Canada, and it may be charged against me that I have been partial in my description to my own university; but I assure you that such was furthest from my thoughts. The medical faculty of McGill University has the right of seniority, and might fairly, I think, be taken as a type of Canadian medical schools. Be assured there is no mean spirit of rivalry abroad. We are all working with one object only, the advancement of medicine in Canada. The teaching facilities of some medical schools in this country may be and are actually greater than others, owing to the munificence of citizens, and the school attached to McGill is, I am happy to say, in that position; but although assistance has been rendered in a general way, with two exceptions the chairs are still unendowed; yet we have great expectations, which we hope will be realised in the near future. Let us hope that our sister universities throughout Canada will be equally fortunate, so that before long we shall be able to report that we are all marching abreast equally equipped.

The facilities for clinical teaching in the larger cities of Canada are admirable. Speaking for the city of Montreal, we have in the five general hospitals—the Hôtel Dieu, Montreal General, Notre Dame, Royal Victoria, and Western Hospitals—nearly 800 beds. The number of students attending the three medical schools was last session 646; and, considering that only about half—those of the third and fourth years—have access to the wards, there will be at least two beds for each student. The number of outdoor patients attending the five hospitals daily would aggregate at least 300, so that there could be no possible cause for complaint regarding both the quantity and quality of clinical material available in this city.

While on the subject of hospitals, I would take this opportunity of saying that the training schools attached to the larger English hospitals are in a very flourishing condition, and are found to contribute not a little towards the thoroughness of the practical teaching. It was my intention to have referred at some length to the whole question of nurses and nursing, but the limits of this address forbid. I might say, however, while as a profession we feel the absolute necessity for the training school, and thoroughly appreciate the services of the well-trained nurse, both in hospital and in private practice, there is the fear that the supply may soon exceed the demand. A project is on foot now, however, which may delay, if not actually prevent, such a result. I refer to the recent establishment by that most estimable and charitable woman, the Countess of Aberdeen, of the Victorian Order of Nurses—another outcome of the jubilee of our beloved Queen. Her Excellency's idea in establishing this order is to supply the sparsely settled parts of our great North-West, the outlying districts of Canada generally, and the poor in towns and cities with nursing aid. In this great work hundreds of nurses will in time be employed. The scheme, which is purely non-sectarian, and appeals to all, irrespective of nationality, when thoroughly worked out and more generally understood, will become one of our national institutions. Let us wish it every success.

Medical Legislation in Canada.

Time will not permit of my discussing the subject of medical legislation in Canada at any length; and, besides, you will find it very fully treated in the excellent Souvenir or Local Guide prepared for you by the Executive Committee. In addition, I might explain, however, that when the British American provinces became federated in 1867, under the British North America Act, the governance of educational matters was taken away from the Federal authorities, and handed over to the provinces, each to look after them in its own way. In consequence we have since had a curious complexity of medical legislation, there being practically no uniformity amongst the provinces in regard to standard of study or qualification for practice. Each province has its own medical board or medical council, as the case may be, which has the power to grant licence to practise either after examination or on simply presenting the diploma of certain recognised universities. In the provinces of Ontario and British Columbia an examination is exacted; in the others the licence is given under certain restrictions on presentation of the degree, although in the Maritime Provinces an examining board is now about to be established. In this way, as can readily be seen, a Chinese wall is built round each province, and the frontier is carefully guarded, so that it is unsafe for a medical man to pass from one to the other unarmed with a licence, because of the risk of fine or even imprisonment. Such a condition of affairs is hardly credible, and probably exists nowhere else to the same extent. What is the remedy? Two remedies have been suggested—either the establishment of a central examining Board in each province with a uniform standard of matriculation and a uniformly high standard of curriculum which shall in time lead up to a general scheme of reciprocity; or, secondly, a Dominion Examining Board. The first scheme is at present under serious consideration, although there are many difficulties in the way of its accomplishment, none of which is insuperable, however, providing a spirit of conciliation prevails. The second alternative (a Dominion Examining Board) would in many respects be more desirable, because not only could the licentiate practise in any part of the Dominion, but he could register in Great Britain, and thus receive recognition all over the Empire. As you are doubtless aware, we as a profession suffer in this country from being inhabitants of provinces which are confederated. In an enactment, now of some twelve years' standing, the British Medical Council decided in effect to recognise the degrees of universities situated in autonomous provinces only. As a consequence, Australians obtain privileges which are denied to us, being permitted to register in Great Britain without examination. We are being punished for belonging to a colony whose form of Government is recognised to be in advance of theirs and likely to be imitated by them. Let us give our Australian brethren a hint: if the confederation of your provinces be in contemplation, see to it that all matters of professional education are left in the hands of the Central Government, at least as far as qualification for registration is concerned. By so doing you will avoid the almost inextricable tangle in which we in Canada find ourselves. Let common school education go to the various provinces if you will, but for the profession of medicine (and doubtless law also) there should be a uniform standard of matriculation, a uniform curriculum of medical studies, and one Central Examining and Registering Board composed of the best men from all the universities. We hope in Canada to reach that ideal at no distant date; in fact I have the very best authority for stating that it is not impossible of accomplishment. Some scheme of reciprocity first arranged would doubtless make the task less difficult, but failing that, our duty is to arrange for some legislation which shall give our better and more ambitious students an opportunity of passing a Dominion Licensing Board (or whatever it may be called) which shall give the privilege of practising their profession not only in any part of their native country, but in any part of the world over which the British flag flies. Such a scheme need not interfere in any way with the autonomy of the provinces. Each may still retain its Provincial Board for the purpose of examining and issuing licences to those candidates who are satisfied to practise their profession in the limited sphere of their own provinces. I

think the legislators of this country will some day (and that not far distant) be induced to see that the system which at present obtains is unworthy of a great and growing country.

In conclusion, allow me to express the hope that the arrangements made by the Executive Committee for the entertainment of our guests may meet with appreciation and approval, and that the memories of the brief sojourn here may be all that is bright and happy. The loyalty and unanimity with which the profession throughout the Dominion has co-operated with us in Montreal to make this meeting of the British Medical Association a success from every point of view, deserve and receive our heartiest thanks. We are also greatly indebted for the kind and ready assistance of the Dominion Government, the Quebec Government, and the Civic Government of Montreal. Our hands have been strengthened, and the cause we have so much at heart has been furthered, by the active goodwill of the country's official representatives.

One word more. It is a good thing to be here to-day in the midst of this great gathering so full of power and vigour. The fruits of such a gathering should be tangible, enduring—not ephemeral, nor for to-day, but for all time. To our kinsmen from beyond the great seas let me express the earnest hope that in the future our kinship will be a more real and living thing than in the past. We are members of one great family, members one of another, in a peculiar and very real sense. Let that once be recognised, and the statesman's task will be an easy one. In more than words has Canada shown herself worthy of her high heritage, worthy of a part in the Empire, worthy to share in its trials and triumphs. We, who know her history, can say with well-founded confidence:

> So in the long hereafter this Canada shall be,
> The worthy heir of British power and British liberty.
> Spreading the blessings of her sway to her remotest bounds,
> While with the fame of her fair name a continent resounds.
> True to her high traditions, to Britain's ancient glory,
> Of patient saint and martyr, alive in deathless story;
> Strong in their liberty and truth to shed from shore to shore
> A light among the nations till nations are no more.

ADDRESS IN MEDICINE

BY

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At the Annual Meeting of the British Medical Association, Montreal, September, 1897.

BRITISH MEDICINE IN GREATER BRITAIN.

THE MAKING OF GREATER BRITAIN

To trace successfully the evolution of any one of the learned professions would require the hand of a master, of one who, like Darwin, could combine the capacity for patient observation with philosophic vision. In the case of medicine the difficulties are enormously increased by the extraordinary development which belongs to the history of the present century. The rate of progress has been too rapid for us to appreciate, and we stand bewildered, and, as it were, in a state of intellectual giddiness, when we attempt to obtain a broad comprehensive view of the subject. In a safer 'middle flight" it is my purpose to dwell on certain of the factors which have moulded the profession in English-speaking lands beyond the narrow seas—of British Medicine in Greater Britain. Even for this lesser task (though my affiliations are wide and my sympathies deep) I recognise the limitations of my fitness, and am not unaware that in my ignorance I shall overlook much which might have rendered less sketchy a sketch necessarily imperfect.

Evolution advances by such slow and imperceptible degrees that to those who are part of it the finger of time scarcely seems to move. Even the great epochs are seldom apparent to the participators. During the last century neither the colonists nor the mother country appreciated the thrilling interest of the long-fought duel for the possession of this continent. The acts and scenes of the drama, to them detached, isolated and independent, now glide like dissolving views into each other, and in the vitascope of history we can see the true sequence of events. That we can meet here to-day, Britons on British soil in a French province, is one of the far-off results of that struggle. This was but a prelude to the other great event of the eighteenth century, the revolt of the colonies and the founding of a second great English-speaking nation—in the words of Bishop Berkeley's prophecy, "Time's noblest offspring."

Surely a unique spectacle that a century later descendants of the actors of these two great dramas should meet in an English city in New France. Here the American may forget Yorktown in Louisberg, the Englishman Bunker Hill in Quebec, and the Frenchman both Louisberg and Quebec in Chataquay; while we Canadians, English and French, in a forgiving spirit, overlooking your unseemly quarrels, are only too happy to welcome you to our country, this land on which, and for which, you have so often fought. Once, and only once, before in the history of the world could such a gathering as this have taken place. Divided though the Greeks were, a Hellenic sentiment of extraordinary strength united them in certain assemblies and festivals. No great flight of imagination is required to picture a notable representation of our profession in the fifth century B.C. meeting in such a colonial town as Agrigentum under the presidency of Empedocles. Delegates from the mother cities, brilliant predecessors of Hippocrates of the stamp of Damocedes and Herodicus, delegates from the sister colonies of Syracuse and other Sicilian towns, from neighbouring Italy, from far distant Massilia, and from still more distant Panticapaeum and Istria. And in such an assemblage there would have been men capable of discussing problems of life and mind more brilliantly than in many subsequent periods, in proportion as the pre-Hippocratic philosophers in things medical had thought more deeply than many of those who came after them.

We English are the modern Greeks, and we alone have colonised as they did, as free people. There have been other great colonial empires, Phœnician, Roman, Spanish, Dutch, and French, but in civil liberty and in intellectual freedom Magna Græcia and Greater Britain stand alone. The parallel so often drawn between them is of particular interest with reference to the similarity between the Greek settlements in Sicily and the English plantations on the Atlantic coast. Indeed, Freeman says, "I can never think of America without something suggesting Sicily, or of Sicily without something suggesting America." I wish to use the parallel only to emphasise two points, one of difference and one of resemblance. The Greek colonist took Greece with him. Hellas had no geographical bounds. "Massilia and Obia were cities of Hellas in as full a sense as Athens or Sparta." While the emigrant Britons changed their sky, not their character, in crossing the great sea, yet the home stayers had never the same feelings towards the plantations as the Greeks had towards the colonial cities of Magna Græcia. If, as has been shrewdly surmised, Professor Seeley was Herodotus reincarnate, how grieved the spirit of the "Father of History" must have been to say of Englishmen, "Nor have we even now ceased to think of ourselves as simply a race inhabiting an island off the northern coast of the continent of Europe." The assumption of gracious superiority which, unless carefully cloaked, smacks just a little of our national arrogance, is apt to jar on sensitive colonial nerves. With the expansion of the empire, and the supplanting of a national by an imperial spirit, this will become impossible. That this sentiment never prevailed in Hellas, as it did later in the Roman empire, was due largely to the fact that in literature, in science, and in art the colonial cities of Greece early overshadowed the mother cities. It may be because the settlements of Greater Britain were things of slower growth, that it took several generations and several bitter trials to teach a lesson the Greeks never had to learn.

The Greek spirit was the leaven of the old world, the workings of which no nationality could resist. Thrice it saved Western civilisation, for it had the magic power of leading captivity captive, and making even captive conquerors the missionaries of culture. What modern medicine owes to it will appear later. "The love of science, the love of art, the love of freedom, vitally correlated to each other and brought into organic union" were the essential attributes of the

Greek genius (Butcher). While we cannot claim for the Anglo-Saxon race all of these distinctions, it has in a high degree that one which in practical life is the most valuable, and which has been the most precious gift of the race to the world—the love of freedom,

> Of freedom in her regal seat
> Of England.

It would carry one too far afield to discuss the difference between the native Briton and his children scattered so widely up and down the earth. In Canada, South Africa, Australia, and New Zealand types of the Anglo-Saxon race are developing which will differ as much from each other and from the English as the American does to-day from the original stock; but amid these differences can everywhere be seen those race qualities which have made us what we are—"courage, national integrity, steady good sense, and energy in work." At a future meeting of the Association, perhaps in Australia, a professional Sir Charles Dilke, with a firm grasp on the subject, may deal with the medical problems of Greater Britain in a manner worthy of the address in medicine. My task, as I mentioned at the outset, is much less ambitious.

The Influence of Greece on Britain.

Could some one with full knowledge patiently analyse the characteristics of British medicine he would find certain national traits, sufficiently distinct for recognition. Three centuries cannot do very much—and that period has only just passed since the revival of medicine in England—but the local conditions of isolation, which have been singularly favourable to the development of special peculiarities in the national character, have not been without effect on the medical profession. I cannot do more than touch upon a few features, not distinctive but illustrative—features which will be useful as indicating the sources of influence upon Greater Britain in the past, and which may, perhaps, be suggestive as to lines of progress in the future.

Above the fireplace in Sir Henry Acland's study are three panelled portraits of Linacre, Sydenham, and Harvey; the scroll upon them reads *Literæ*, *Praxis*, *Scientia*. To this great triumvirate, as to the fountain heads, we may trace the streams of inspiration which have made British medicine what it is to-day.

Linacre, the type of the literary physician, must ever hold a unique place in the annals of our profession. To him was due in great measure the revival of Greek thought in the sixteenth century in England, and in the last Harveian Oration Dr. Payne has pointed out his importance as a forerunner of Harvey. He made Greek methods available; through him the art of Hippocrates and the science of Galen became once more the subject of careful, first-hand study. Linacre, as Dr. Payne remarks, "was possessed from his youth till his death by the enthusiasm of learning. He was an idealist, devoted to objects which the world thought of little use." Painstaking, accurate, critical, hypercritical perhaps, he remains to-day the chief literary representative of British medicine. Neither in Britain nor in Greater Britain have we maintained the place in the world of letters created for us by Linacre's noble start. It is true that in no generation since has the profession lacked a man who might stand unabashed in the temple at Delos; but, judged by the fruits of learning, scholars of his type have been more common in France and Germany. Nor is it to our credit that so little provision is made for the encouragement of these studies. For years the reputation of Great Britain in this matter was sustained almost alone by the great Deeside scholar, the surgeon of Banchory, Francis Adams, the interpreter of Hippocrates to English students. In this century he and Greenhill have well maintained the traditions of Linacre. Their work, and that of a few of our contemporaries, among whom Ogle must be specially mentioned, has kept us in touch with the ancients. But by the neglect of the study of the humanities, which has been far too general, the profession loses a very precious quality.

While in critical scholarship and in accurate historical studies British medicine must take a second place, the influence of Linacre, exerted though the Royal College of Physicians and the old Universities, has given to the humanities an important part in education, so that they have moulded a larger section of the profession than in any other country. A physician may possess the science of Harvey and the art of Sydenham, and yet there may be lacking in him those finer qualities of heart and head which count for so much in life. Pasture is not everything, and that indefinable, though well understood, something which we know as breeding is not always an accompaniment of great professional skill. Medicine is seen at its best in men whose faculties have had the highest and most harmonious culture. The Lathams, the Watsons, the Pagets, the Jenners, and the Gairdners have influenced the profession less by their special work than by exemplifying those graces of life and refinements of heart which make up character. And the men of this stamp in Greater Britain have left the most enduring mark: Beaumont, Bovell, and Hodder in Toronto; Holmes, Campbell, and Howard in this city; the Warrens, the Jacksons, the Bigelows, the Bowditches and the Shattucks in Boston; Bard, Hossack, Francis, Clark, and Flint in New York; Morgan, Shippen, Redman, Rush, Coxe, the elder Wood, the elder Pepper, and the elder Mitchell in Philadelphia—Brahmins all, in the language of the greatest Brahmin among them—Oliver Wendell Holmes—these, and men like unto them, have been the leaven which has raised our profession above the dead level of a business.

The *literæ humaniores*, represented by Linacre, revived Greek methods, but the faculty at the end of the sixteenth and the beginning of the seventeenth centuries was in a slough of ignorance and self-conceit, and not to be aroused even by Moses and the prophets in the form of Hippocrates and the fathers of medicine.

In the pictures referred to Sydenham is placed between Linacre and Harvey, but science preceded practice, and Harvey's great Lumleian Lectures were delivered before Sydenham was born. Linacre has been well called by Payne Harvey's intellectual grandfather. "The discovery of the circulation of the blood was the climax of that movement which began a century and a half before with the revival of Greek medical classics and especially of Galen" (Payne). Harvey returned to Greek methods and became the founder of modern experimental physiology and the great glory of British scientific medicine. The demonstration of the circulation of the blood remains in every detail a model research. I shall not repeat the oft-told tale of Harvey's great and enduring influence, but I must refer to one feature which, until lately, has been also a special characteristic of his direct successors in Great Britain. Harvey was a practitioner and a hospital physician. There are gossiping statements by Aubrey to the effect that "he fell mightily in his practice" after the publication of the *De Motu Cordis*, and that his "therapeutic way" was not admired; but to these his practical success is the best answer. It is remarkable that a large proportion of all the physiological work of Great Britain has been done by men who have become successful hospital physicians and surgeons. I was much impressed by a conversation with Professor Ludwig in 1884. Speaking of the state of English physiology, he lamented the lapse of a favourite English pupil from science to practice; but he added, "while sorry for him, I am glad for the profession in England." He held that the clinical physicians of that country had received a very positive impress from the work of their early years in physiology and the natural sciences. I was surprised at the list of names which he cited—among them I remember Bowman, Paget, Savory, and Lister. Ludwig attributed this feature in part to the independent character of the schools in England, to the absence of the university element, so important in medical life in Germany, but, above all, to the practical character of the English mind, the better men preferring an active life in practice to a secluded laboratory career.

Thucydides it was who said of the Greeks that they possessed "the power of thinking before they acted and of acting too." The same is true in a high degree of the English race. To know first what has to be done, then to do it, comprises the whole philosophy of practical life. Sydenham (*Anglæ lumen*, as he has been well called) is the model practical physician of modern times. Linacre led Harvey back to Galen, Sydenham to Hippocrates. The one took Greek science, the other not so much Greek medicine as Greek methods, par-

ticularly intellectual fearlessness, and a certain knack of looking at things. Sydenham broke with authority and went to Nature. It is an extraordinary fact that he could have been so emancipated from dogmas and theories of all sorts. He laid down the fundamental proposition, and acted upon it, that "all diseases should be described as objects of natural history." To do him justice we must remember, as Dr. John Brown says, "in the midst of what a mass of errors and prejudices, of theories actively mischievous, he was placed, at a time when the mania of hypothesis was at its height, and when the practical part of his art was overrun and stultified by vile and silly nostrums."

Sydenham led us back to Hippocrates; I would that we could be led oftener to Sydenham. How necessary to bear in mind what he says about the method of the study of medicine. "In writing, therefore, such a natural history of diseases, every merely philosophical hypothesis should be set aside, and the manifest and natural phenomena, however minute, should be noted with the utmost exactness. The usefulness of this procedure cannot be easily over-rated as compared with the subtle inquiries and trifling notions of modern writers, nor can there be a shorter, or, indeed, any other way of coming at the morbific causes, or of discovering the curative indications, than by a certain perception of the peculiar symptoms? By these steps and helps it was that the father of physic, the great Hippocrates, came to excel, his theory being no more than an exact description or view of Nature. He found that Nature alone terminates diseases, and works a cure with a few simple medicines, and often enough with no medicine at all." Well, indeed, has a recent writer remarked, "Sydenham is unlike every previous teacher of the principles and practice of medicine in the modern world."

Sydenham—not Linacre or Harvey—is the model British physician, in whom were concentrated all these practical instincts upon which we lay such stress in the Anglo-Saxon character. The Greek faculty which we possess of thinking and acting has enabled us, in spite of many disadvantages, to take the lion's share in the great practical advances in medicine. The three greatest scientific movements of the century have come from Germany and France. Bichat, Laennec, and Louis laid the foundation of modern clinical medicine; Virchow and his pupils of scientific pathology; while Pasteur and Koch have revolutionised the study of the causes of disease; and yet the modern history of the art of medicine could almost be written in its fulness from the records of the Anglo-Saxon race. We can claim almost every practical advance of the very first rank—vaccination, anæsthesia, preventive medicine, and antiseptic surgery—the "captain jewels in the carcanet" of the profession, beside which can be placed no others of equal lustre.

The Influence of Authority in Medicine.

One other lesson of Sydenham's life needs careful conning. The English Hippocrates, as I said, broke with authority. His motto was

> Thou, Nature, art my goddess; to thy law
> My services are bound.

Undue reverence for authority as such, a serene satisfaction with the *status quo*, and a fatuous objection to change, have often retarded the progress of medicine. In every generation, in every country, there had been, and ever will be, *laudatores temporis acti*, in the bad sense of that phrase, not a few of them men in high places, who have lent the weight of a complacent conservatism to bolster up an ineffectual attempt to stay the progress of new ideas. Every innovator from Harvey to Lister has been made to feel its force. The recently issued life of Thomas Wakley is a running commentary on this spirit, against the pricks of which he kicked so hard and so effectually. But there are signs of a great change. The old universities and the colleges, once the chief offenders, have been emancipated, and remain no longer, as Gibbon found them, steeped in port and prejudice. The value of authority *per se* has lessened enormously, and we of Greater Britain have perhaps suffered as the pendulum has swung to the other extreme. Practice loves authority, as announced in "the general and perpetual voice of men" (Hooker). Science must ever hold with Epicharmus that a judicious distrust and a wise scepticism are the sinews of the understanding. And yet the very foundations of belief in almost everything relating to our art rest upon authority. The practitioner cannot always be the judge, the responsibility must often rest with the teachers and investigators, who can only learn in the lessons of history the terrible significance of the word.

In the treatment of fever the fetters of a thousand years were shattered by Sydenham—shattered only to be riveted anew. How hard was the battle in this century against the entrenched and stubborn foe. Listen to the eloquent pleadings of Stokes, pleading, as did Sydenham, against authority, and against the bleedings, the purgings, and sweatings of fifty years ago. "Though his hair be grey, and his authority high, he is but a child in knowledge and his reputation an error. On a level with a child, so far as correct appreciation of the great truths of medicine is concerned, he is very different in other respects, his powers of doing mischief are greater; he is far more dangerous. Oh! that men would stoop to learn, or at least cease to destroy." The potency of human authority among "the powers that be" was never better drawn than by the judicious Hooker in his section on this subject. "And this not only with the 'simpler sort,' but the learneder and wiser we are, the more such arguments in some cases prevail with us. The reason why the simpler sort are moved with authority is the conscience of their own ignorance; whereby it cometh to pass that having learned men in admiration, they rather fear to dislike them than know wherefore they should allow and follow their judgments. Contrariwise with them that are skilful, authority is much more strong and forcible; because they only are able to discern how just cause there is why to some men's authority so much should be attributed. For which cause the name of Hippocrates (no doubt) were more effectual to persuade even such men as Galen himself than to move a silly empiric."[1]

Sydenham was called "a man of many doubts," and therein lay the secret of his great strength.

Medicine in America: to 1820.

Turning now to the main question of the development of this British medicine in Greater Britain, I must at once acknowledge the impossibility of doing justice to it. I can only indicate a few points of importance, and I must confine my remarks chiefly to the American part of Greater Britain.

We may recognise three periods, corresponding to three distinct waves of influence: the first from the early migrations to about 1820; the second from about 1820 to 1860; and the third from abont 1860 to the present time.

The Colonial settlements were contemporaneous with the revival of medicine in England. Fellow-students of Harvey at Cambridge might have sailed in the *Mayflower* and the *Arbella*. The more carefully planned expeditions usually enlisted the services of a well-trained physician, and the early records, particularly of the New England colonies, contain many interesting references to these college-bred men. Giles Firman, who settled in Boston in 1632, a Cambridge man, seems to have been the first to give instruction in medicine in the new world. The parsons of that day had often a smattering of physic, and illustrated what Cotton Mather called an "angelical conjunction." He says: "Ever since the days of Luke the Evangelist, skill in physic has been frequently professed and practised by persons whose more declared business was the study of divinity." Firman himself finding physic "but a meane helpe," took orders. These English physicians in the New England colonies were scholarly, able men. Roger Chillingworth, in Hawthorne's *Scarlet Letter*, has depicted them in a sketch of his own life: "Made up of earnest, studious, thoughtful, quiet years, bestowed faithfully for the increase of knowledge; faithfully, too, for the advancement of human welfare; men thoughtful for others, caring little for themselves, kind, just, true, and of constant if not warm affections"—a singularly truthful picture of the old colonial physician.

Until the establishment of medical schools—University of Pennsylvania, 1763; King's College (afterwards Columbia) 1767; and Harvard, 1782—the supply of physicians for the colonies came from Great Britain, supplemented by men trained under the old apprentice system, and of colonists who went to Edinburgh, Leyden, and London for their medical

ducation. This latter group had a most powerful effect in ıoulding professional life in the pre-revolutionary period. 'hey were men who had enjoyed not alone the instruction, ut often the intimate friendship of the great English and :uropean physicians. Morgan, Rush, Shippen, Bard, Wistar, {ossack, and others had received an education comprising all ıat was best in the period, and had acquired the added ılture which can only come from travel and wide acquaint- nce with the world. Morgan, the founder of the medical :hool of the University of Pennsylvania, was away seven :ars, and before returning had taken his seat as a corre- ›onding member of the French Academy of Surgery, besides aving been elected a Fellow of the Royal Society. The War Independence interrupted temporarily the stream of udents, but not the friendship which existed between ullen and Fothergill and their old pupils in America. The ›rrespondence of these two warm friends of the colonies stifies to the strong professional intimacy which existed at :e time between the leaders of the profession in the old ıd new worlds. But neither Boerhaave, Cullen, nor Fother- ll stamped colonial medicine as did the great Scotchman, ›hn Hunter. Long weary centuries separated Harvey from alen; not a century elapsed from the death of the great ıysiologist to the advent of the man in whose phenomenal :rsonality may be seen all the distinctive traits of modern edicine, and the range of whose mighty intellect has had w, if any, equals since Aristotle. Hunter's influence on the ofession of this continent, so deep and enduring, was erted in three ways. In the first place, his career as an my surgeon, and his writings on subjects of special interest military men, carried his work and ways into innumerable mpaigns in the long French wars, and the War of Inde- ndence. Hunter's works were reprinted in America as rly as 1791 and 1793. In the second place, Hunter had a ımber of most distinguished students from the colonies, ıong whom were two who became teachers of wide reputa- ›n. William Shippen, the first Professor of Anatomy in e University of Pennsylvania, lived with Hunter on terms the greatest intimacy. He brought back his methods of ıching, and some measure of his spirit. With the excep- ›n of Hewson and Home, Hunter had no more distin- ished pupil than Philip Syng Physick, who was his House- rgeon at St. George's Hospital, and his devoted friend. For ›re than a generation Physick had no surgical compeer in nerica, and enjoyed a reputation equalled by no one save ish. He taught Hunterian methods in the largest medical ıool in the country, and the work of his nephew (Dorsey) surgery is very largely Hunter modified by Physick. t in a third and much more potent way the great master luenced the profession of this continent. Hunter was a turalist to whom pathological processes were only a small :t of a stupendous whole, governed by law, but which could ver be understood until the facts had been accumulated, ›ulated, and systematised. By his example, by his pro- ious industry, and by his suggestive experiments he led n again into the old paths of Aristotle, Galen, and Harvey. made all thinking physicians naturalists; he lent a nity to the study of organic life, and re-established a close on between medicine and the natural sciences. Both in tain and Greater Britain he laid the foundation of the at collections and museums, particularly those connected h the medical schools. The Wistar-Horner and the rren Museums originated with men who had been greatly uenced by Hunter. He was, moreover, the intellectual ıer of that interesting group of men on this side of the antic, who, while practising as physicians, devoted much e and labour to the study of natural history. In the er part of the last century, and during the first thirty rs of this, the successful practitioner was very often a uralist.

wish that time permitted me to do justice to the long list men who have been devoted naturalists, and who have le contributions of great value. Benjamin Smith Barton, id Hossack, Jacob Bigelow, Richard Harland, John D. lman, Samuel George Morton, John Collins Warren, ıuel L. Mitchell, J. Aiken Meigs, and many others have the records of their industry in their valuable works, and he *Transactions* of the various societies and academies. Canada many of our best naturalists have been physicians, and collections in this city testify to the industry of Holmes and McCullough. I was regretting the humanities a few minutes ago, and now I have to mourn the almost complete severance of medicine from the old natural history. To a man the most delightful recollections of whose studentship are the Saturdays spent with a preceptor who had a Hunterian appetite for specimens — anything from a trilobite to an acarus—to such a one across the present brilliant outlook comes the shadow of the thought that the conditions of progress will make impossible again such careers as those of William Kitchen Parker and William Carmichael McIntosh.

Until about 1820 the English profession of this continent knew little else than British medicine. After this date in the United States the ties of professional union with the old country became relaxed, owing in great part to the increase in the number of home schools, and in part to the development of an American literature. To 1820, 114 native medical books of all kinds had been issued from the press, and 131 reprints and translations, the former English, the latter almost exclusively French (Billings). Turning for a few minutes to the conditions of the profession in Canada during this period, I regret that I cannot speak of the many interesting questions relating to the French colonies. I may mention, however, that with the earliest settlers physicians had come, and among the Jesuits, in their devoted missions, there are records of *donnés* (laymen attached to the service) who were members of the profession. One of these, René Goupil, suffered martyrdom at the hands of the Iroquois.[2]

Between the fall of Quebec in 1759 and 1820, the English population had been increased by the settlement of Upper Canada, chiefly by United Empire Loyalists from the United States, and after the war of 1812 by settlers from the old country. The physicians in the sparsely-settled districts were either young men who sought their fortunes in the new colony, or were army surgeons who had remained after the revolutionary war or the war of 1812. The military element gave for some years a very distinctive stamp to the profession. These surgeons were men of energy and ability, who had seen much service and were accustomed to order, discipline, and regulations. Sabine, in his *History of the Loyalists*, refers to the Tory proclivities of the doctors, and says that they were not so much disturbed as the lawyers and clergymen. Still a good many of them left their homes "for conscience sake;" and Canniff, in his *History of the Profession in Upper Canada*, gives a list of those known to have been among the United Empire Loyalists. The character of the men who controlled the profession of the new colony is well shown by the proceedings of the Medical Board, which was organised in 1819. Drs. Macaulay and Widmer, both army surgeons, were the chief members. The latter, who has well been termed the father of the profession in Upper Canada, a man of the very highest character, did more than anyone else to promote the progress of the profession, and throughout his long career his efforts were always directed in the proper channels. In looking through Canniff's most valuable work one is much impressed by the sterling worth and mettle of the old army surgeons, who in these early days formed the larger part of the profession. The minutes of the Medical Board indicate with what military discipline the candidates were examined, and the percentage of rejections has probably never been higher in the history of the province than it was in the first twenty years of the existence of the Board.

One picture on the canvas of those early days lingers in the memory, illustrating many of the most attractive features of a race which has done much to make this country what it is to-day. Widmer was the type of the dignified old army surgeon, scrupulously punctilious, and in every detail regardful of the proprieties of life. "Tiger" Dunlop may be taken as the very incarnation of that restless, roving spirit which has driven the Scotch broadcast upon the world. After fighting with the Connaught Rangers in the war of 1812, campaigning in India, clearing the Sangur of tigers—hence his sobriquet "Tiger"—lecturing on Medical Jurisprudence in Edinburgh, writing for *Blackwood*, editing the *British Press* and the *Telescope*, introducing *Beck's Medical Jurisprudence* to English readers, and figuring as director and promoter of various companies, this extraordinary character appears in the young colony as "Warden of the Black Forest" in the employ of the Canada Co npany. His life in the backwoods at Gair-

braid, his *Noctes Ambrosianæ Canadenses*, his famous "Twelve Apostles," as he called his mahogany liquor stand (each bottle a full quart), his active political life, his remarkable household, his many eccentricities—are they not all pourtrayed to the life in the recently issued *In the Days of the Canada Company?*

AMERICA: 1820—1860.

Turning now to the second period, we may remark in passing that the nineteenth century did not open very auspiciously for British medicine. Hunter had left no successor, and, powerful as had been his influence, it was too weak to stem the tide of abstract speculation with which Cullen, Brown, and others flooded the profession. No more sterile period exists than the early decades of this century. Willan, a great naturalist in skin diseases, with a few others, save it from utter oblivion. The methods of Hippocrates, of Sydenham, and of Hunter had not yet been made available in everyday work. The awakening came in France, and such an awakening! It can be compared with nothing but the renaissance in the sixteenth and seventeenth centuries, which gave us Vesalius and Harvey. "Citizen" Bichat and Broussais led the way, but Laennec really created clinical medicine as we know it to-day. The discovery of auscultation was only an accident—of vast moment it is true—in a systematic study of the correlation of symptoms with anatomical changes. Louis, Andral, and Chomel extended the reputation of the French School, which was maintained to the full until the sixth decade, when the brilliant Trousseau ended a long line of Paris teachers, whose audience had been world-wide.

The revival of medicine in Great Britain was directly due to the French. Bright and Addison, Graves and Stokes, Forbes and Marshall Hall, Latham and Bennett were profoundly affected by the new movement. In the United States, Anglican influence did not wane until after 1820. Translations of the works of Bichat appeared as early as 1802, and there were reprints in subsequent years, but it was not until 1823 that the first translation of Laennec—a reprint of Forbes's edition—was issued. Broussais's works became very popular in translations after 1830, and in the journals from this time on the change of allegiance became very evident. But men rather than books diverted the trend of professional thought.

After 1825 American students no longer went to Edinburgh and London, but to Paris, and one can say that between 1830 and 1860 every teacher and writer of note passed under the Gallic yoke. The translations of Louis's works, and the extraordinary success of his American pupils—a band of the ablest young men the country has ever seen—added force to the movement. And yet this was a period in which American medical literature was made up largely of pirated English books, and the Systems, Encyclopædias, and Libraries, chiefly reprints, testify to the zeal of the publishers. Stokes, Graves, Watson, Todd, Bennett, and Williams furnished Anglican pap to the sucklings, as well as strong meat to the full grown. In spite of the powerful French influence the textbooks of the schools were almost exclusively English.

In Canada the period from 1820 to 1860 saw the establishment of the English universities and medical schools. In Montreal the agencies at work were wholly Scotch. The McGill Medical School was organised by Scotchmen, and from its inception has followed closely Edinburgh methods. The Paris influence, less personal, was exerted chiefly through English and Scotch channels. The Upper Canada schools were organised by men with English affiliations and the traditions of Guy's, St. Bartholomew's, St. Thomas's, St. George's, and of the London Hospital rather than those of Edinburgh, have prevailed in Toronto and Kingston.

The local French influence on British medicine in Canada has been very slight. In the early decades of the century, when the cities were smaller, and the intercourse between the French and English somewhat closer, the reciprocal action was more marked. At that period English methods became somewhat the vogue among the French; several very prominent French Canadians were Edinburgh graduates. Attempts were made in the medical journals to have communications in both languages, but the fusion of the two sections of the profession was no more feasible than the fusion of the two nationalities, and the development has progressed along separate lines.

AMERICA: 1860-1897.

The third period dates from about 1860, when the influence of German medicine began to be felt. The rise of the Vienna school was for a long time the only visible result in Germany of the French renaissance. Skoda, the German Laennec, and Rokitansky, the German Morgagni, influenced English and American thought between 1840 and 1860, but it was not until after the last date that Teutonic medicine began to be felt as a vitalising power, chiefly through the energy of Virchow. After the translation of the *Cellular Pathology* by Chance (1860) the way lay clear and open to every young student who desired inspiration. There had been great men in Berlin before Virchow, but he made the town on the Spree a Mecca for the faithful of all lands. From this period we can date the rise of German influence in the profession of this continent. It came partly through the study of pathological histology under the stimulus given by Virchow, and partly through the development of the specialities, particularly diseases of the eye, of the skin, and of the larynx. The singularly attractive courses of Hebra, the organisation on a large scale in Vienna of a system of graduate teaching designed especially for foreigners, the remarkable expansion of the German laboratories, combined to divert the stream of students from France. The change of allegiance was a deserved tribute to the splendid organisation of the German Universities, to the untiring zeal and energy of their professors, and to their single-minded devotion to science for its own sake.

MEDICINE IN AUSTRALASIA.

In certain aspects the Australasian settlements present the most interesting problems of Greater Britain. More homogeneous, thoroughly British, isolated, distant, they must work out their destiny with a less stringent environment than, for example, surrounds the English in Canada. The traditions are more uniform, and, of whatever character, have filtered through British channels. The professional population of native-trained men is as yet small, and the proportion of graduates and licentiates from the English, Scotch, and Irish Colleges and Boards guarantees the dominance of old country ideas. What the maturity will show cannot be predicted, but the vigorous infancy is full of "crescent promise." On looking over the files of Australian and New Zealand journals one is impressed with the monotonous similarity of the diseases in the Antipodes to those of Great Britain and of this continent. Except in the matter of parasitic affections and snake bites, the nosology presents few distinctive qualities. The proceedings of the four Intercolonial Congresses indicate a high level of professional thought. In two points Australia has not progressed as other parts of Greater Britain. The satisfactory regulation of practice, so early settled in Canada, has been beset with many difficulties. Both in the United States and in Australia the absence of the military element which was so strong in Canada, may, in part at least, account for the great difference which has prevailed in this matter of the State licence. The other relates to the question of ethics, to which one really does not care to refer, were it not absolutely forced upon the attention in reading the journals. Elsewhere professional squabbles, always so unseemly and distressing, are happily becoming very rare, and in Great Britain and on this side of the water we try at any rate to wash our dirty linen at home. In the large Australian cities differences and dissensions seem lamentably common. Surely they must be fomented by the atrocious system of election to the hospitals, which plunges the entire profession every third or fourth year into the throes of a contest in which the candidates have to solicit the suffrages of from 2,000 to 4,000 voters. Well indeed might Dr. Batchelor, in his address to the Fourth Intercolonial Congress, say: "It is a scandal that in any British community, much less in a community which takes pride in a progressive spirit, such a pernicious system should survive for an hour."

MEDICINE IN HINDUSTAN.

Of India, of 'Vishnu-land," what can one say in a few minutes? Three thoughts at once claim recognition. Here in the dim dawn of history, with the great Aryan people, wa

he intellectual cradle of the world. To the Hindus we owe debt which we can at any rate acknowledge; and even in ıedicine many of our traditions and practices may be traced) them, as may be gathered from that most interesting *listory of Aryan Medical Science* by the Thakore Sahib of Gondal. Then there arises the memory of the men who have done) much for British medicine in this great empire. Far from ıeir homes, far from congenial surroundings, and far from ıe stimulus of scientific influences, Annesley and Ballingall, wining, Morehead, Waring, Parkes, Cunningham, Lewis, Van-/ke Carter, and many others have nobly upheld the tradi-ons of Harvey and of Sydenham. On the great epidemic dis-.ses how impoverished would our literature be in the absence their contributions. But then there comes the thought of the little done, the undone vast" when one considers the markable opportunities for study which India has pre-nted. Where else in the world is there such a field for ·servation in cholera, leprosy, dysentery, the plague, phoid fever, malaria, and in a host of other less important aladies? And what has the British Government done wards the scientific investigation of the diseases of India? ıtil recently little or nothing, and the proposal to found an ɜtitute for the scientific study of disease has actually come ·m the native chiefs. The work of Dr. Hankin and of Pro-ɜsor Haffkine, and the not unmixed evil of the brisk epi-mic of plague in Bombay, may arouse the officials to a ɜsciousness of their shortcomings. While sanitary pro-ɜss has been great, as shown in a reduction of the mor-ity from 69 per mille before 1857 to 15 per mille at present, ny problems are still urgent, as may be gathered from . Harvey's Presidential Address in the Proceedings of the lian Medical Congress. That typhoid fever can be called "scourge of India," and that the incidence of the disease ɔuld remain so high among the troops, points to serious ɨitary defects as yet unremedied. As to the prevalence of ıereal disease among the soldiers, an admission of nearly per mille tells its own tale. On reading the journals and ɔussions one gets the impression that things are not as y should be in India. There seems to be an absence of per standards of authority. Had there been in each sidency during the past twenty years well-equipped ɣernment laboratories in charge of able men, well trained nodern methods, the contributions to our knowledge of lemic diseases might have been epoch making, and, at rate, we should have been spared the crudeness which is lent in some of the work (particularly in that upon aria) of zealous but badly-trained men.

The Future of Medicine in Greater Britain.

ı estimating the progress of medicine in the countries prising Greater Britain, the future rather than the present ıld be in our minds. The strides which have been taken ng the past twenty years are a strong warrant that we ɜ entered upon a period of exceptional development. ɜn I see what has been accomplished in this city in the ɜt space of time since I left I can scarcely credit my eyes. reality exceeds the utmost desires of my dreams. The ɣening of the profession in the United States to a con-ɪsness of their responsibilities and opportunities has ed unparalleled changes, which have given an impetus to ical work which has already borne a rich harvest. Within hundred years who can say where the intellectual centre ıe Anglo-Saxon race will be? The mother country her-has only become an intellectual nation of the first rank in a period altogether too short to justify a prediction she has reached the zenith. She will probably reverse history of Hellas, in which the mental superiority was ɾst with the colonies. At the end of the next century ıt old-world students may come to this side, "as o'er a ɾ," seeking inspiration from great masters, perhaps in very city; or the current may turn towards the schools e great nations of the South. Under new and previously own conditions the Africander, the Australian, or the Zealander may reach a development before which even 'glory that was Greece" may pale. Visionary as this appear, it is not one whit more improbable to-day than ɨ have been a prophecy made in 1797 that such a gather-s the present would be possible within a century on the ɜ of the St. Lawrence.

Meanwhile to the throbbing vitality of modern medicine the two great meetings held this month, in lands so widely distant, bear eloquent testimony. Free, cosmopolitan, no longer hampered by the dogmas of schools, we may feel a just pride in a profession almost totally emancipated from the bondage of error and prejudice. Distinction of race, nationality, colour, and creed are unknown within the portals of the temple of Æsculapius. Dare we dream that this harmony and cohesion so rapidly developing in medicine, obliterating the strongest lines of division, knowing no tie of loyalty but loyalty to truth—dare we hope, I say, that in the wider range of human affairs a similar solidarity might ultimately be reached? Who can say that the forges of Time will weld no links between man and man stronger than those of religion or of country? Some son of Beor, touched with a prophetic vision, piercing the clouds which now veil the eternal sunshine of the mountain top, some spectator of all time and all existence (to use Plato's expression) might see in this gathering of men of one blood and one tongue a gleam of hope for the future, of hope, at any rate, that the great race, so dominant on the earth to-day, may progress in the bonds of peace—a faint glimmer, perhaps, of the larger hope of humanity of the day when "the common sense of most shall hold a fretful world in awe." But these, I fear, are the dreams of the closest student who knows not the world nor its ways. There remains for us, Greater Britons, of whatsoever land, the bounden duty to cherish the best traditions of our fathers, and particularly of the men who gave to British medicine its most distinctive features; of the men, too, who found for us the light and liberty of Greek thought—Linacre, Harvey, and Sydenham —those "ancient founts of inspiration," and models for all time in literature, science, and practice.

References.

[1] *Ecclesiastical Polity*, Book ii, vii, 2. [2] Parkman, *Jesuits in Nort America.*

ADDRESS IN SURGERY

BY

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THE SURGEON OF OLD IN WAR.

I am indeed greatly honoured by having to deliver to you to-day an Address in Surgery. Fortunately for me the title is a wide one, and I shall take advantage of that fact to diverge from the strict consideration of surgical disease, and shall offer you instead a brief sketch of some of the most notable work done of old by a body of members of our profession who have never received their due reward—those, namely, who have devoted their lives to the succour of the sick and the wounded in war.

Military Surgeons in the Roman Army.

Twelve months ago my friend, Dr. Barnes, of Carlisle, ex-President of this Association, made me acquainted with a remarkable paper by the late Sir James Simpson, entitled Was the Roman Army provided with Medical Officers?—a paper exhibiting such profound learning, so charmingly written, and so little known that I need not make any apology for acquainting you with some of its chief points of interest.

The most careful investigations have failed to make out from their writings whether the Romans regularly appointed physicians and surgeons to their armies or not, although nearly every other question relating to their military organisation has been treated of, sometimes very fully. Curiously enough, what little information we possess on the subject comes mainly from mortuary or from votive tablets. Borcovicus, in Northumberland—now called Housesteads—was one of the principal stations on the line of Hadrian's wall. Here, about seventy years ago, was found a

monumental tablet, now in the Newcastle Museum. On it is the following inscription:

D M	D(IIS) M(ANIBUS)
ANICIO	ANICIO
INGENUO	INGENUO
MEDICO	MEDICO
ORD COH	ORD(INARIO) COH(ORTIS)
I TUNGR	PRIMAE TUNGR(ORUM)
VIX AN XXV	VIX(IT) AN(NOS) XXV

The First Tungrian Cohort is known to have been present at the battle of the Mons Grampius, and to have served at Castlecary, at Cramond near Edinburgh, in Cumberland, and at Housesteads. The tablet is highly ornamented, and antiquarians hold that a rabbit and round bucklers carved in the upper part, which are emblems of Spain, show that the young military doctor was probably a native of that country. From various works treating of Roman inscriptions Simpson was enabled to find that four more tablets, in which surgeons of cohorts are mentioned, existed. They were found at Rome. One of them is a votive tablet, the inscription upon which intimates that it was dedicated by Sextus Titius Alexander to Æsculapius and to the safety of his fellow soldiers. It was cut in the year of the consulship of F. Flavius Sabinus, which is known to have been A.D. 83. As the Roman legion consisted of ten cohorts, it is interesting to known that there were not only medical officers attached to each cohort, but also one attached to the legion—a sort of surgeon-colonel, as we should call him nowadays. Three tablets have been discovered in which the *medicus legionis* is mentioned. One found at Verona was a tablet raised by Scribonia Faustina to her dearest husband J. Caelius Arrianus, medical officer to the Second Italian Legion, who died at the age of 49 years and 7 months. Furthermore, Simpson routed out of Mommsen's Latin inscriptions of Naples a tablet, now in the Dresden collection, which was found in the Elysian fields near Baiae, close to the Portus Julius, which was the station of a division of the Imperial fleet. The inscription tells that M. Satrius Longinus, *medicus duplicatorius* to the Trireme Cupid, and the heirs of those freed by Julia Veneria erected the tablet to the manes of that deserving lady. The term *duplicatorius* means that by reason of long or meritorious service he was entitled to double pay and rewards. These little gleanings from Simpson's paper show what an interesting one it is, and one is astonished at the labour that must have been expended in digging up the information contained in it.

Ambroise Paré.

Hundreds of years went past before there came upon the scene any military surgeon of note, but when he did appear he was a man of transcendent merit—the illustrious Ambroise Paré. From 1517 to 1590, for seventy-three years, he lived a long and incessantly active life, the contemporary of Vesalius, the immediate predecessor of Harvey. We have only time to glance at the soldier-surgeon side of Paré's life. For over thirty years he followed the wars under four kings of France—Henry the Second, Francis the Second, Charles the Ninth, and Henry the Third, with intervals of a few years at home in Paris. Perpignan, Metz, Verdun, Rheims, Hesdin (where he was taken prisoner and had to write to his wife for his ransom), St. Quintin, La Fère, Amiens, the taking of Rouen, Dreux, Moncontour—these are but some of the bloody battles and sieges at which he was present. Through them all his humanity, his love of his profession, his independent character, and his jovial, frank disposition carried him safe, and made for the son of the poor country joiner warm friends among the greatest and noblest warriors of France. Even that miserable monster, Charles the Ninth, loved the Huguenot surgeon, and when the awful day of St. Bartholomew came, Paré was spared to tend his wretched master through the brief term of agonised and remorseful life that was given him. The description in Dumas's novel, the *Two Dianas*, of the wound of the famous warrior, Duke of Guise, where the lance entered above the right eye and came out between the nucha and the left ear, breaking short off, and how Paré lugged it out, with the chance that when it did come, one terrible gush of blood would finish his illustrious patient's life and his own career at the same moment—the picture of all this is real history.

Amid all the splendid work, both anatomical and surgical, which Paré did, the application of the principle of the ligature to bleeding arteries is of course that with which his name will be for ever associated. In this day of grace it is impossible for us to imagine the horrors that awaited a wretched man so soon as his limb was cut off and the process of stopping the bleeding began. Think of the raw and exquisitely sensitive stump exposed to the red hot cautery or plunged into boiling pitch! For this frightful treatment Paré substituted the ligature, which in our own day, employed in the form of an aseptic animal material which the tissues quietly absorb, has practically reached the pitch of perfection. In his time, too, there was a fixed belief that the danger from gunshot wounds arose from the poison of the gunpowder conveyed on the bullet. To destroy this poison the treatment was to pour into the wound boiling oil in which elder-wood bark had been stewed. On one occasion, not having this infernal concoction at hand, Paré used a cold mixture of yolk of egg, oil of roses, and turpentine to his wounded soldiers. He passed a sleepless night from dread that this would injure those to whom it had been applied, and his delight next day was proportionately great when he found that they had had but little pain, while their wounds were free from inflammation and swelling. This was his panacea for wounds ever afterwards. There are of course persons who wish to make out that he was not original in the matter of the ligature. He himself says this about it: "Taught me as I interpret it by the suggestion of some good Angel, for I neither learnt it of my masters nor of any other man. And thus I wish all chirurgions to doe. For it is not in our Art, as it is in civill affaires, that prescription, law, or authority should prevail over right reason." But these cavillers have doubtless never heard of an ancient proverb which says that there is nothing new under the sun. In spite of them the world will ever believe in a glorious trio—Paré, the Frenchman, who invented the ligature; Morton, the American, who discovered anæsthetics; and Lister, the Englishman, who introduced antiseptics. In the fulness of years, possessed of affluence and surrounded by friends, died Paré, the whilom poor barber-chirurgeon, now a Councillor of State and Surgeon-in-Chief to the King. One final touch will perhaps reveal a sentiment that permeated and guided his every labour. On one occasion, after the successful treatment of a wounded officer, he made this wise and reverent remark, afterwards adopted as his motto: "*Je le pansay; Dieu le guarist*"—I treated him; God cured him.

Robert Clowes.

Coming to England, a surgeon who saw no little fighting was Robert Clowes, who was born somewhere about 1540 and died in 1604. He served in France in the army commanded by the Earl of Surrey, and was afterwards for several years in the navy. He then began practice in London, and was made surgeon to St. Bartholomew's and Christ's Hospitals. But, after being about fourteen years in civil practice, he was despatched by Queen Elizabeth's orders into the Low Countries to attend upon the Earl of Leicester, Commander of Her Majesty's forces. He was at Zutphen when Sir Philip Sydney was killed. His last piece of service was a glorious one, he being with our fleet that defeated the Spanish Armada. It is told of him that he always kept beside him his military surgical chest with the bear and ragged staff of his old chief Leicester on the lid. He finally settled down once more in London, where he was very successful in practice, and was made surgeon to the Queen. He wrote several works in English, of which the most important is entitled *A profitable and necessarie Booke of Observations for all those that are burned with the flame of gunpowder, &c., and also for curing of wounds made with musket and caliver shot, and other weapons of war commonly used at this day both by sea and land.* A good half of this treatise is occupied with a record of surgical cases of note which he had treated, and this renders the work very entertaining, inasmuch as we get an accurate and positive knowledge of everything that was done for a wounded man in those days, while there are numerous little side touches very characteristic of life at the time it was written. He tells us, for instance, of "The cure of one Master Andrew Fones, a merchant of London, which, being in a ship at the sea was set upon by the Flushingers, in which fight he was

very dangerously wounded with gunshot." There is "The Cure of one Henry Rhodes, one of the waiters at the Custom House, he being upō the river of Thames a skirmishing with his peece, and by reason the peece had certain flaws in it, did breake into many peeces, and made a great wound upon his chin, and carried away a good part of the manduble and the teeth withall; moreover, it did rend his hand greatly: all which I cured without maime or deformitie." There is "An observation for the cure of the master of a Hoy that had both his legs fractured and broken into many peeces with an iron bullet, shot out of a great basse or harquebusse of crocke at the sea by a Pyrat or sea rover." These few titles will give you an idea of Clowes's clinical cases. The importance which attaches to them, and the reason why they constitute a distinct advance in the science of surgery is that the author gives his actual experiences and tells us what he did to his patients, whereas at that period the tendency was to write endless commentaries on ancient writers, to whose every dictum the blindest and most unreasoning respect was paid.

Peter Lowe.

Contemporary with Clowes was a most interesting character—Maister Peter Lowe—who was born in Scotland about 1550, and lived some sixty or sixty-five years, reaching well into the seventeenth century. Like many of his countrymen, he went to France when very young, where he lived, for some say ten, some twenty years. Then he returned to Glasgow, where he lived and died a citizen of much renown, having obtained in 1599 from King James the Sixth a charter for the Faculty of Physicians and Surgeons of Glasgow, which he thus founded. A few years ago Dr. Finlayson published a most charming account of Maister Peter.

His most important work is termed *A Discourse of the whole art of chirurgery, compiled by Peter Lowe, Scottishman, Doctor in the Faculty of Chirurgerie at Paris, and ordinary Chyrurgion to the French King and Navarre.* The first edition dated from 1597, and is one of the earliest, if not the very earliest, work embracing the whole art of surgery published in English. It is clear that Lowe must have seen a good deal of military service abroad, being "Chirurgion-Major to the Spanish regiments two years at Paris, and since that time following the king of France my maister in the warrs." In his day, as we have seen, the surgical world was still greatly exercised about gunshot wounds and burning by gunpowder, as it was believed that they were injuries of quite a peculiar and very poisonous character. Lowe, however, treats of them with great good sense. Thus: "*Of Wounds done by Gun-shot.*—These wounds come indifferently to all parts of our body whereof there are divers opinions; some think that there is a venenosity in the powder, and burning in the bullet, which is false, for the things whereof the powder is ordinarily made, as Brimstone, Saltpeter, coales of divers sorts of trees, Water, Wine and Aquavitæ, have no venenosity in them; likewise there is no burning in the bullet, for if the bullet of lead being shot a great way, should burne, through heat would be melted itself. I have cured divers within these thirty yeares of divers nations which have followed the warres in Fraunce and other cuntries, in the which I have found no more difficulty than in any other contused wounds." Here, again, we have a most important advance made by a military surgeon, for only those who are acquainted with the medical literature of Lowe's time can understand the ridiculous views then held about gunshot wounds, and the dreadful consequences to the patients which followed from them.

We have seen that Paré lived between 1517 and 1590, and that Peter Lowe was in France betweeen 1570 and 1580; consequently, he probably learnt all about the ligature for the arrest of hæmorrhage. When treating of amputations he describes the whole process of the operation up to the removal of the limb. Then he says: "One of the Assisters shall put the extreamities of his fingers on the great vains and arteries to stay them from bleeding till the Chyrurgion either knit or cauterise them one after another. Where there is putrefaction we stay the flux of blood by Cauters actuals, and where there is no putrefaction, malignitie nor humour venomous we use the legator." He narrates the case of a certain valiant Captain Boyle of the Spanish troops whom he, in the capacity of Chyrurgion-Major to the regiment, was summoned to treat for an "aneurisme on the right side of his cragge." Lowe ordered it to be let alone, "but the captain sent for an ignorant Barbor who did open the swelling with a Launcet, which being done, the spirit and bloud came forth with such violence that the Captain died in fewe howers after." Having duly castigated the Jgnorants who do such things, Lowe observes that his treatment for such cases is first to draw blood in both arms, and then to apply on the tumour "Rec., Pulveris subtilissimi boli arminici, sanguinis draconis, myrtilorum, lapidis calaminaris in aceto extincti, absinthii ad unc. cum cerato refrigerantis Galeni quantum sufficit, fiat unguentum." Curious to note how, even in men of distinct ability like Lowe, a complete ignorance of pathology dragged them into the perpetration of the silliest empiricism.

Woodall's "Viaticum."

In 1628 appeared the first work in England specially devoted to military and naval surgery. Some eleven years later a second edition appeared, and this is its title—*Viaticum, being the Pathway to the Surgeon's Chest, containing chirurgical instructions for the younger sort of surgeons imployed in the service of his Majestie or for the Common-Wealth upon any occasion whatsoever intended for the better curing of wounds made by Gunshot*, by John Woodall. A perusal of the *Viaticum* shows that Woodall was a very practical surgeon and an eminently religious man, and the way in which he mixes up pills and piety is sometimes very diverting. After some excellent general advice to the surgeon's mate, including a warning against "being given and dedicated to the Pot and Tobacco-pipe in an unreasonable measure,"—he enumerates the instruments for the Surgeon's Chest, including among others Catlings, Rasours, Trapans, Trafine, Lavatories, Cauterising Irons, Storks bills, Ravens bills, Crowes bills, Terebellum, Probes or flamules, Glister Sirings and (what would have utterly damned his book in the present day) "one bundle of small German instruments." Then comes a list of medicines under the heading Unguentum, Aqua, Sol, Oleum, Chemicall Oyles, Syrups, Conserva, Electuariæ, and so on, winding up with a list of the Simples, and of the Herbs and Roots most fit to be carried. A long and careful description of the uses of the instruments and drugs follows, and then come chapters on wounds, apostumes, fractures, dislocations, amputation, scurvy, the plague, gangrene, and other topics. He observes that the cauterising irons had gone somewhat out of fashion, and he did not use them much himself "because of the feare they put the Patient into and for speech of people who are ready to scandalise an Artist upon each light occasion." In amputation, moreover, they are "now wholly forborne for reasons aforesaid, and for that a more pleasant course is known better for the patient and the Artist by making a ligature upon the veine, wound or artery, which is the binding of each end thereof, being first caught and holden with some fit instrument, and tied with a sure and strong thread."

Woodall advances the cure of wounds a distinct step, once more putting us under an obligation to the soldier-surgeon. This he does by sharply attacking all through his works the inordinate and meddlesome use of strong caustics. He says that he had seen men lamed by the needless use of caustic medicines, even in slight wounds to which if an old wife had only applied her one salve for all sores, no such thing had happened. "They will not see a wound incarne and red and good flesh to grow, but straight they slander it of pride, and call it proud flesh, like their owne; and then must at the fairest Precipitate or Vitriale burnt goe to work, yea though the Patient be lame for it, or at the least the griefe put back again."

Richard Wiseman.

I wish I had time to give you a proper account of the adventurous life of Richard Wiseman, who has been termed the Father of English Surgery, and that not without reason. Born in 1620, dying in 1676, he lived in the time of Charles the First, of the Commonwealth, and of Charles the Second. He was a naval surgeon to begin with, serving in the early part of his life in the Dutch navy. Being, however, a devoted Royalist he served with the armies of Charles the First, and after his death went into exile with his son in France. He was present at the battle of Worcester, where he was taken prisoner, and afterwards confined in Lambeth House for awhile. During the Commonwealth he was

naturally under a cloud, and even went off for three years to serve in the Spanish navy. At the restoration the King did not forget his old surgeon, who had done and suffered so much in his service, but appointed him his surgeon-in-ordinary, and afterwards serjeant-surgeon. The first edition of his work, printed in 1672, is quite a small book, and is entitled *A Treatise of Wounds*, but it afterwards expanded into a very large volume.

Nothing reveals a man like his own words, and so in trying to give you an idea of these old worthies I have let them tell their own stories. Wiseman believed in the need for giving stimulants to a man who was in the habit of taking them, if that man was in a dire strait. After describing the parlous case of a certain patient, it seems that the "man swooned and complained that he could not live without wine. I complied with his desire; he drank again as he pleased, his sickness went off, his wound digested, and he cured. This I have often seen in some of our Dunkirkers at sea, who drank extraordinarily, and were full of drink in our sea fights. I could scarce ever cure them without allowing them wine, and thereby their spirits were kept up, and I had the liberty to bleed them as I thought fit.' From this it is clear that the old saying about Dutch courage has a distinct origin in fact. But if the unhappy Batavians were liable to be bled at once by the lance of the enemy and the lancet of the surgeon, one can hardly wonder at their taking something to keep their spirits up.

When speaking of gunshot wounds, he insists upon the bullet being searched for and extracted at once. "The part is at first dressing, with what diligence you can, to be cleared of all such Foreign Bodies as have made violent Intrusion into it, while the patient is warm with the heat of Battel, and the wound fresh and very little altered by either Air or Accidents, so that less pain must necessarily follow upon the extraction. In the *Armada Naval de Dunquerque*, where we Chirurgeons were oft employed in this Service, we after every fight went together visiting one another's wounded men. Amongst us it was thought a great shame if any of this work of Extraction was there to be done. It hath been the cause of the death of many a brave Souldier, and every Battel produces instances of it, to the discredit of our profession." This is good surgery and straight talk. I think it must have been a fine spectacle to have seen these rough old surgeons, with their limited knowledge and their miserable means of treatment, walking round to see each other's patients and learning how best to mend their mistakes.

He has a chapter entirely devoted to a great case of a fracture made by a splinter. The patient had his arm badly smashed above the elbow, and ought to have had it amputated; but a sudden cry of fire stopped this. "I hastily clapt a dressing upon his wound and rouled it up, leaving his arm in his other hand to support it, and endeavoured to get up out of the hold as the others did, I verily believing I should never dress him or any of them more. But our men bravely quitted themselves of the Fire-ship by cutting the Sprizil Tackle off with their Hatchets (which they wore during fight sticking in their Shashes); we were freed of the fire, and by our hoisting up the top sails got free of our Enemy. Now, I was at a loss what to do with this man, who lay not far off complaining of his arm. I would have cut off his arm presently with a Razor (the Bone being shattered there needed no Saw); but this man would not suffer me to dress his arm; he cryed 'it was already drest.' The Fight over, we got into the next Port; I caused presently the Mariner's Bed to be set up (which was four pieces of wood nailed together and corded, and a Bear's skin laid upon it); this was fastened between two Guns to the Carriages." Wiseman then set hard to work to save this unfortunate mariner's arm; but "when it came to my turn to be visited by my brother Chirurgeons of our Squadron, they did not dislike the wound nor my way of dressing (for we, being used to see one another's Patients, had all much one way of dressing); but they laught at the excuse I made for not cutting of his arm, and doubted I should yet be forced to do it. But at the end of two months there was in this Patient a strong callus, filling up the void place of the lost Bone at least two inches, with little or no shortening of the arm." Well done, Wiseman!

Baron Larrey.

Up till the time of the French Revolution it is clear that military surgeons were not men of much importance, and probably had very little influence, if any, in the conduct of campaigns. But in the latter part of last century war was made on a scale which was never known before, and was made also with a rapidity and a precision quite unprecedented. Moreover, the science and art of surgery had been rescued from quackery, and surgeons in actual practice were able to be of great and real service to the wounded. As a result of the vast masses of men that were hurled against each other, the number of wounded after a big battle amounted to thousands, and civilisation had so far advanced that it was imperative that immediate help should be given to them. So that about this time the military surgeon really became an important officer in warfare, and began to have his rank and pay well defined, and his merits (up to a certain point) recognised.

In 1776, near the Pyrenees, was born Jean Dominique Larrey, the Chirurgien-en-Chef de la Grande Armée, the friend and body surgeon of Napoleon, and the greatest military surgeon that ever lived. He studied at the medical school of Toulouse, and in 1792 joined the headquarters of the Republican Army of the Rhine under Custine. Now, the ambulances of these days were obliged to remain about a league from the army, and the wounded were only picked up after the fighting was done. General Custine was a man who moved his troops very rapidly, which made matters worse for the wounded. This greatly affected Larrey, who set to work and devised a new ambulance hung on springs, and combining great strength with lightness. Such carriages were termed *ambulances volantes*. They could keep up with the advanced guard of the army with the speed of flying artillery, and they carried off the wounded almost as they fell. Larrey had early perceived the enormous advantage a wounded man got by having his fracture set or his bleeding stopped as rapidly as possible, and by then getting a roof over his head before night set in. General Beauharnais, in a despatch to the Convention, made special mention of "Surgeon-Major Larrey and his comrades with flying ambulances, whose indefatigable care in the healing of the wounded has diminished those afflicting results to humanity which have generally been inseparable from days of victory, and has essentially served the cause of humanity itself in preserving the brave defenders of our country." The staff of a flying ambulance was about 340 in number. For each division there were four heavy carriages and twelve light ones. Some had two and others four wheels, and they were furnished with mattresses. In Napoleon's Italian campaigns they came greatly to the fore, and the great man displayed a lively interest in them, reviewing them and causing them to manuœvre before him just as if they were on a battle field. After one of these inspections he said to Larrey: "Your work is one of the most happy conceptions of our age. It will suffice for your reputation."

When Napoleon undertook his Egyptian campaign Larrey proceeded to Toulon to organise the medical staff. So readily did professional men respond to the call made by him that he soon was able to reckon on 800 well qualified surgeons, of whom many had served in the army of Italy, and these were in addition to the medical officers actually attached to regiments. This, I think, shows the value that the king of commanders set upon the health of his troops, and the trouble and expense which he was prepared to face in order to maintain it—a great contrast to the miserable way of dealing with this subject which has too long been the fashion with our military rulers. Not long after the landing at Alexandria a certain General Figuières was severely wounded. By able treatment he recovered, and in gratitude for the preservation of his life he asked Napoleon to accept a valuable Damascus sword. "Yes," said the latter, "I accept it in order to make a present of it to the Surgeon-in-Chief by whose exertions your life has been spared." Upon the sword were engraved the words "Aboukir" and "Larrey," and the surgeon had it till the fatal day of Waterloo, when the Prussians robbed him of it. Some months after the occupation of Egypt a terrible revolt took place in Cairo by fanatical Turks. Utterly regardless of anything except how to get at Frenchmen to murder them, they attacked the hospital, which was crowded with sick and wounded soldiers, but the

doctors valiantly defended their patients, and two staff-surgeons, Roussel and Monjin, were killed, while Larrey nearly shared the same fate.

At one period there was a total dearth of meat, and Larrey had nothing wherewith to make even a drop of bouillon for his patients. He ordered camels' meat to be used for this purpose, and, when that fell short, he used up the horses. Years afterwards, in the second campaign against Austria, the Imperial Guard and several other corps were crowded together in the island of Lobau in the midst of the Danube, which Napoleon was endeavouring to cross. The days were roasting, and the nights icy cold, and provisions became so scarce that Larrey's patients were in danger of starvation. Without more ado he impounded certain officers' horses and had them slaughtered and employed as food. As there was a lack of kettles, he employed the cuirasses of those who had been killed, and made his horse flesh soup and stews in them. Certain generals made bitter complaint of Larrey's proceedings to the Emperor, who summoned the Surgeon-in-Chief, and in the presence of his staff demanded an explanation with a severe expression of countenance. "What," he said, "have you on your own responsibility disposed of the horses of the officers in order to give soup to your wounded?" "Yes," answered Larrey. He added no more, but soon afterwards he heard of his promotion to the rank of Baron of the Empire.

One of the most appalling retreats, next to that from Moscow, was Napoleon's retreat from the invincible walls of St. Jean d'Acre through Jaffa. There is no doubt that at that place a considerable number of patients sick of the plague were quietly put out of their misery by opium. Alison says 60; Sir Robert Wilson says 580. The retreat had to go on, the Turks were only an hour's march behind, and nothing but a cruel death awaited these unfortunates, so that whether this were a justifiable deed or not may well give ground for argument. But, as Alison says: "History must record with admiration the answer of the French chief of the medical staff when the proposal was made by Napoleon to him: 'My vocation is to prolong life, and not to extinguish it.'"

In those days means of transport were so inferior, and the necessity for removing hopelessly damaged limbs as soon as possible after the injury so imperative, that amputations were performed on the field of battle, while it was still raging, and amid showers of bullets. During the battle produced by the landing of the English in Aboukir Bay, General Silly had his knee crushed by a bullet. Larrey saw that unless the leg were promptly amputated the case would prove fatal, and, the General giving his consent, the operation was performed in the space of three minutes under the enemy's fire. Just then the English cavalry came upon them. "I had scarcely time," said Larrey, "to place the wounded officer on my shoulders and to carry him rapidly away towards our army, which was in full retreat. I spied a series of ditches, some of them hedged with caper bushes, across which I passed, while the enemy, owing to the ground being so cut up, had to go by a more circuitous route. Thus I had the happiness to reach the rearguard of our army before his corps of dragoons. At length I arrived at Alexandria with this honourably wounded officer, where I completed his cure." We must all agree that these were a pair of heroes.

As may be imagined, the awful retreat from Moscow called into play all Larrey's resources, and many an interesting story could be told of his efforts. Think of the awful battle of the Borodino, where under Larrey's own direction 200 amputations were performed, where there were neither couches nor blankets nor covering of any kind, and where the food consisted of horseflesh, cabbage stalks, and a few potatoes; think of cold, so intense that the instruments requisite for the operations too often tumbled from the powerless hands of the French surgeons. Think of the savage Cossacks, hovering about all the while, and waiting their chance to kill the surgeon and the wounded man equally with the combatant. Then came the passage of the Beresina. Take an incident of it. Among the wounded was General Jayonchek, who was over 60 years of age. His knee was crushed, and without amputation the saving of his life was impossible. It was performed under the enemy's fire, and amid thick falling snow. There was no shelter except a cloak, which two officers held over him while the operation was being performed; but the surgeons did their work with such coolness and dexterity that the old general survived, and died fourteen years afterwards Viceroy of Poland. Larrey succeeded in getting over the Beresina with the Imperial Guard, but discovered that the requisites for the sick and wounded had been left on the other side. At once he recrossed the river, only to find himself in the midst of a furious struggling crowd. He was on the point of being crushed to death when providentially the soldiers recognised him. No sooner did they do so than they carried him across the river in their arms, with the cry, "Let us save him who saved us!" and forgot their own safety in their desire to preserve the man whose tender kindness they had so often experienced.

Following his adored master through victory and defeat, Larrey at last stood at night on the field of Waterloo alone, except for some medical officers and the wounded who lay groaning around them. Down upon them came a squadron of Prussian lancers. Expecting no quarter he fired his pistols at them and galloped away. They shot his horse and sabred him as he lay on the ground. Leaving him apparently dead they went off. But he recovered his senses, and tried to crawl by cross roads into France. Again he was seized by another detachment of Prussian cavalry. They robbed him promptly of all he possessed, and took him before a superior officer, who ordered him to be shot. What a reward from a soldier to one whose life had been passed in succouring soldiers! About a quarter of an hour before the sentence was to be carried out, a surgeon-major recognised Larrey. He had attended with deep interest a course of lectures which Larrey had delivered in Berlin six years previously. The prisoner was brought before Bulow, and finally presented to Blücher, whose son in the Austrian campaign had been badly wounded and captured by the French, and who owed his life to Larrey's exertions.

Larrey's honourable and glorious life terminated in 1842. Napoleon, when he made his will at St. Helena, wrote in it: "I bequeath to the Surgeon-in-Chief of the French Army, Larrey, 100,000 francs. He is the most virtuous man I have ever known." From Napoleon's lips the words of free, spontaneous, ungrudging praise such as this rarely fell.

Pestilence more Deadly than the Sword.

In the middle of last century, while surgery had distinctly improved, the gross neglect of the Government, and the pig-headed obstinacy of the generals were such that our unfortunate soldiers and sailors were hardly any better off than they were in the days of Paré. It has been maintained that Smollett, in the appalling picture of naval life as witnessed in the miserable expedition to Carthagena which he drew in *Roderick Random*, and which is known to have been the record of his own experience as a surgeon's mate, grossly exaggerated the evils thereof. I do not believe this. Look at the awful and unsuccessful expedition to Porto Bello in 1726, when nearly the whole of the crews of the ships were destroyed by fever three times over; where 2 admirals, 10 captains, 50 lieutenants, and about 3,000 to 4,000 inferior officers and men perished without striking a blow. Look at the taking of Havannah in 1762. The Earl of Albemarle took with him in the fleet 11,000 soldiers. Between June and the middle of October, when Cuba was ours, we had lost 560 men by wounds, and 4,708 by sickness. At the end of the Seven Years' War, a statement was drawn up in the *Annual Register* for 1763 from which it appeared that in all the naval battles of that war there were but 1,512 sailors and marines killed, while 133,738 had died of disease or were "missing." Look even at the end of last century, and consider the wretched and disgraceful Walcheren campaign. Never did our poor soldiers fight with more gallantry than in that campaign, only to perish beside Dutch ditches and canals from fever and ague and dysentery.

Military Courage.

As we have just seen, Baron Larrey's whole life shows that, while absolutely devoted to the work of his profession, he displayed a cool courage on the field of battle not less heroic than the more dazzling deeds of his fellow combatant officers. Not less does it mark the military surgeon of the present day. Have you ever heard of Surgeon Thomson who, during the Crimean war, when the army marched off after the

battle of the Alma, volunteered, with his servant, John McGrath, to remain behind on the open field with 500 terribly wounded Russians, and passed three awful days and nights—these two Englishmen alone—among foreign foes, some dead, some dying, and none able to raise a hand to help themselves? Have you ever heard of Assistant-Surgeon Wolseley, of the 20th Regiment, who, at the battle of Inkerman, had quietly established his field hospital in that awful place, the Sandbag Battery? When the 150 men, who were all that remained of its defenders, were forced to desert it, about 100 of them fell back in one direction, and in that they found, at 30 paces from them, a Russian battalion blocking their path. There was not a combatant officer left, so the assistant surgeon took command. He had not even a sword with him, but, laying hold of a firelock with a fixed bayonet on it, he spoke a few words to the men within range of his voice, and told them that what they now had to fight for was not victory but life. Then he gave them the word of command: "Fix bayonets, charge, and keep up the hill." The soldiers answered him with a burst of hurrahs, sprang forward to the charge, and the next instant were tearing through the thickest of the Russians. One half of these reached the other side alive. Have you ever heard of Surgeon Landon, who was shot through the spine while attending to the wounded on Majuba Hill? His legs were paralysed, but he caused himself to be propped up, and continued his merciful work till his strength ebbed away. When unable for more he quietly said: "I am dying; do what you can for the wounded." Have you ever heard of Surgeon-Captain Whitchurch, who gained the Victoria Cross at the beleaguering of Chitral for the most determined courage in endeavouring to save the life of Major Baird? Yes, you have, for last year at Carlisle you gave him the gold medal of the Association, the highest honour which our Association can give to its members. There died the other day a certain Surgeon-General Reade, C.B., V.C. During the siege of Delhi, while attending to the wounded at the end of one of the streets of the city, a party of rebels advanced from the direction of the bank, and having established themselves in the houses in the street commenced firing from the roofs. The wounded were thus in very great danger, and would have fallen into the hands of the enemy had not Surgeon Reade drawn his sword and, calling upon a few soldiers who were near to follow, succeeded under a very heavy fire in dislodging the rebels from their position. Surgeon Reade's party consisted of about ten in all, of whom two were killed and five or six wounded. Ladies and gentlemen, Surgeon Reade was a Canadian, and the son of a colonel of the Canadian Militia. Of the 118 wearers of the Victoria Cross 14 are surgeons, nearly 12 per cent. of the whole number. They stand in the proportion of 9½ per cent. of all the officers of the army, so at all events they have contributed not less than their fair share of the deeds of valour which alone can win that glorious distinction.

THE ARMY MEDICAL SERVICE TO-DAY.

Ladies and Gentlemen,—I have diverged from the beaten track common to the givers of addresses such as this to tell you what splendid men have been the military and naval surgeons of old, who not merely did their duty nobly and courageously as such, but who have in their day enormously contributed to the advance of the art of surgery. I have done it with a purpose; with the hope of attracting more strongly than ever the sympathy and help of this great Association to their military brethren in a critical juncture of their history. To-day Her Majesty's Government cannot induce candidates to come forward for the medical service of the Queen's army. And why? Because it has persistently treated the Army Medical Department meanly and shabbily. To-day the Government of India can secure the services of the pick of our newly fledged doctors for its army. And why? Because it has always treated the Indian Medical Service liberally and generously. I am not going to enter into the reasons for this; I desire merely to emphasise one point, namely, that money is not at the bottom of this difficulty. The soldier-surgeons of to-day are the same men now that they were in the days of William Clowes, who winds up his book, as I shall my address, with these verses:

When valiant Mars, with brave and warlike band,
In foughten field with sword and shield doth stand,
May there be mist a surgeon that is good,
To salve your wounds and eke to stay your bloud.

To cure you sure he will have watchful eie,
And with such wights he means to live and die,
So that againe you must augment his store,
And having this he will request no more.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PATHOLOGY.

At the Annual Meeting of the British Medical Association in Montreal, September, 1897.

BY W. WATSON CHEYNE, M.B., F.R.C.S., F.R.S.,
Professor of Surgery, King's College, London;
President of the Section.

ON THE PROGRESS AND RESULTS OF PATHOLOGICAL WORK.

GENTLEMEN,—On such an occasion as this one is naturally tempted to look back on the history of pathology during the last sixty years, but I hope that you will not expect me to follow the fashion in this respect. To trace the history of pathology during the last sixty years would be to follow the science practically from its commencement and to go back to a state of matters which it is almost impossible for us now to realise. Even going back to the time when I was first introduced to the study of pathology, some twenty-five years ago, the changes which have taken place are enormous. At that time the lectures on pathology consisted practically entirely of morbid anatomy—long descriptions, for the most part very accurate and not materially different at the present day, were given of the naked-eye appearances of the diseased parts, but as to how or why these changes were brought about hardly any reference was made. Indeed, very little was known, and when an explanation was attempted it was generally of a mechanical or physical character. At the present time while, of course, the changes which take place in disease must be known, the study of pathology is especially directed to the discovery of the mode in which these changes occur and the reasons why they appear. To-day it is the etiological side of pathology, so to speak, which occupies our attention, and deservedly so, for, so far as practical results in the treatment of disease are concerned, the knowledge of the changes produced is of comparatively minor importance as compared with that of the reason why they are set up and how they take place. The more accurately we can trace the etiological factors in disease and the subsequent course of events, the more likely are we to arrive at a rational method of treatment.

The most striking and important advance has been the growth of the great science of bacteriology, a science which has not only led to most important practical results, but has also thrown a flood of light on the processes which go on in the body as a whole, and has stimulated research in other directions not immediately associated with it. Twenty-five years ago bacteriology as a science was non-existent. So far as I remember bacteria were not even alluded to in our course of pathology, and it was only from Lord Lister that we heard the real facts so far as they were known, or gained any idea of the importance of their study; but even at that time, although his methods of treatment were already yielding brilliant results and saving many lives, and although he had deduced from clinical facts many points in the life-history of bacteria and their relations to the living body, which were only confirmed by experiment subsequently, still the number of actual proved facts was extremely few.

It is difficult for those who have only taken up the subject of bacteriology comparatively recently to realise the absolute blank which it presented even twenty years ago. When I became house-surgeon to Lord Lister in 1876 objections of all kinds were urged against the theory on which Listerism was based, some denying the existence of bacteria at all, others maintaining the theory of spontaneous generation; some asserting that organisms were always present in the healthy tissues, others denying that they had anything to do with disease, or that the success of the antiseptic principle

depended in any way on the exclusion of micro-organisms from wounds. It was these objections which led me to take up bacteriology, for it seemed to me of great importance to ascertain whether or not, as the result of antiseptic treatment, organisms were absent from the discharges from the wounds. Although at the present time such an investigation would be one of the simplest, yet when I came to carry it out I was met with the greatest difficulties. Practically nothing of the kind had been done before, and all the means of investigation had to be devised. Methods of staining bacteria had not been introduced, we had no oil immersion lenses, and I very soon found that by looking at discharges from wounds containing leucocytes, granular matter, and *débris* with dry or water immersion lenses, and without substage condensers, no satisfactory result could be arrived at. Hence I came to the conclusion that attempts must be made to see whether organisms grew in suitable fluids inoculated from the discharges. Here again everything had to be devised. A suitable pabulum, methods of sterilisation, of inoculation, and of incubation had to be worked out. A large amount of time was spent in getting over the preliminary difficulties, and after a satisfactory method had been found, much labour had to be devoted to preliminary questions, such as spontaneous generation, morphological characters of bacteria, their presence or absence in the living body, conditions of growth, and so on.

A great advance which followed soon afterwards was the remarkable research by Lord Lister on the bacterium lactis, in which he devised a method of separating bacteria by fractional cultivation, which resulted in the separation of the bacterium which causes lactic fermentation from other organisms. By this research, apart from the method, a great step was gained in the proof of the specificity of a particular bacterium, both as regards morphological characters and chemical action.

Then came Koch's work on infective diseases of wounds, and the publication of his methods of staining and examining bacteria and of cultivating them on solid media, and this work is at the foundation of all modern bacteriological research. From this period the investigations have branched off in two directions. In the first place, almost all the infective diseases have been investigated for parasitic organisms, and in a large number the causal agents have been identified. And, in the second place, researches have been carried on in the direction of tracing out the life-history and functional activity of bacteria, and of ascertaining what occurs in the body when organisms or their products are introduced.

From the latter point of view we come to another great landmark in the study of bacteriology, namely, Metchnikoff's work on phagocytosis, a theory which is not only very fascinating in itself, but which has proved a most suggestive working hypothesis leading to many of the researches which have given bacteriology its present position. What a remarkable series of views have been opened up in this direction; questions of the relation of the cells of the body to the parasite, the differentiation of cells, alterations in serum, chemiotaxis, the development of the protective agencies and of antibacteric substances, antitoxins, immunity, and so forth! And yet we are clearly only on the threshold. The very simplicity of many of the explanations is, to my mind, sufficient to show that they are incomplete, for the workings of the living body are far too intricate to be summed up in a simple formula.

In spite, however, of all that has been done, many problems still remain unsolved. In the case of tuberculosis, why is it that in one part of the body we have a slow growing lupus disease, and in another part, perhaps, of the same body a rapidly developing tuberculosis? None of the explanations usually given, such as differences in the structure or resisting power of the tissues affected or of the individual, differences in the virulence or activity of the organism, etc., seem to furnish sufficient explanation. And the same problem is apparently presented with regard to the bacilli of diphtheria, in that we may have in one case a true diphtheria, in another a membranous rhinitis, while in a third although the bacilli are present in the throat, the individual may be apparently healthy.

Another very remarkable problem is presented by the results which follow free incisions into tuberculous tissue. An incision is made into the abdominal cavity, masses of tuberculous tissue and tubercle are found scattered over the peritoneum, nothing whatever is done, the wound is stitched up, and yet in many cases the patient, who up to that time has been going steadily down hill, begins to pick up, and the disease may come entirely to a standstill. This phenomenon is not limited to peritoneal tuberculosis. When I was a student the tuberculous nature of what are now recognised as tuberculous diseases of bones and joints was then only suspected, and was not generally accepted by the medical profession. At that time Lord Lister, under the impression that these diseases were of a simple inflammatory nature, and having observed the improvement which often followed free incisions into chronically inflamed tissues, began as an ordinary line of practice to make free incisions through the thickened synovial membrane of tuberculous joints with the view of relieving tension, which he looked on as the chief cause of the continuance of the trouble. Nothing else was done: the joint was not even washed out, nothing was taken away, and yet in a considerable number of cases so treated improvement began from the time that the incisions were made, the patients lost their pain, the wounds gradually healed up and the disease subsided. Even in cases in which the results were not so satisfactory it could as a rule be noted that, although the swelling continued in other parts of the joint, and although the disease began again after a few weeks as vigorously as before, yet for a time at least the thickening disappeared in the neighbourhood of the scars, showing that there at any rate temporary benefit had occurred. What possible explanation can we give of such a result? The older surgeons used to speak of "setting up a healthy action in the part," and were quite satisfied with that statement. Such a view is too vague for us nowadays, but may there not be here a possible working hypothesis which if followed out might throw light on this matter? May not the occurrence of healing processes at one part influence in some way or other morbid processes in the vicinity?

Again, what is the meaning of a chronic abscess? How is it that the tubercle bacilli at one time produces a quantity of tuberculous tissue, at another a cheesy mass, and at another a chronic abscess? I do not for one moment accept the view that we have in the latter case to do with a mixed infection, and that the pyogenic organisms have died out before the abscess was opened.

In connection with the pyogenic organisms also we have many problems. How is it, for example, that after an abscess is opened antiseptically suppuration at once ceases? If instead of opening the abscess antiseptically a poultice be applied, suppuration goes on and may be very profuse. But if it be opened at a time when there is free fluctuation and when it is beginning to point, and if the necessary antiseptic precautions be taken and proper drainage provided no more pus forms, and yet when the abscess is opened it is found to contain living pyogenic organisms. We can easily understand that the subsidence of the fever and general disturbance is due to diminished absorption of toxic products. But why do not these living pyogenic organisms keep up the suppuration? and why is it that after two or three days one may fail to obtain any cultivations from the serum which escapes from the wound? If the inflamed part be opened up antiseptically, however, at an early period, just when pus is beginning to form, there is not always the same complete absence of suppuration, although it seldom goes on to any considerable extent.

Again, an operation wound becomes septic and one naturally opens it up freely and establishes drainage; but here suppuration does not cease at once in the same typical manner as in the case of an abscess which has existed for some days. The old surgeons used to speak of an abscess being "ripe," and they allowed it to remain unopened for some days till it was pointing. They found that if they opened a deep abscess early, suppuration went on and was apt to extend. No doubt a variety of causes led to this dictum: they did not provide proper drainage; they introduced other and more vigorous organisms at the time of operation and afterwards, etc.; but do not the facts seem to indicate that, as regards the cessation of suppuration, there is some ground for this idea of ripeness? Is it possible that when the abscess has attained a considerable size and the

tension of the pus in it is great the sudden release of the pent-up fluid may lead to such a pouring out of serum containing antitoxic substances as to absolutely destroy the organisms present, while, the case being treated antiseptically, no fresh organisms can come in to take their place? And yet I can hardly think that that is the whole explanation.

Although it is in the department of bacteriology that the most striking advance has been made, great progress has also gone on in pathology generally, in a considerable number of cases no doubt stimulated by the results of bacteriological research, and more especially by Metchnikoff's work. The subject of inflammation has had much attention paid to it as the result of these studies, although I cannot say that to my mind it has been made any clearer. The tendency now appears to be to regard inflammation as the natural effort at repair after injury. At one time this was the view held by surgeons, and the doctrine was that inflammation was essential to healing, and in the description of healing by first intention it was stated that a red blush occurred around the wound, not so severe, however, as where suppuration takes place, and that without this red blush the edges did not adhere. When antiseptic treatment was introduced it became evident that no inflammatory blush or other sign of inflammation was necessary for healing by first intention; in fact, it was found that wounds healed best when no visible sign of inflammation was present. I have, therefore, always taught that inflammation and healing are two different, and, indeed, to some extent antagonistic processes, and that although in every wound the tissues in resenting the injury show the early stage of inflammation, yet if no organisms be admitted the inflammatory phenomena soon pass off, and where there is destruction of tissue a second process, namely, that of repair, begins. As I have said, in recent writings the tendency appears to be to look on inflammation and healing as parts of the same process; but, in spite of the very able arguments adduced in favour of this view, I am still unconvinced. I still look on inflammation as the mechanism which gets rid of noxious agents or neutralises their effects, and on the healing process as that which repairs defects, whether they are caused by injury and associated with inflammation or not. In fact, inflammation must be followed by repair if recovery is to take place, but repair need not be preceded by inflammation. The difficulty arises from the close association of the two processes, both of which have to do with the growth of cells, and from the fact that repair follows as soon as the inflammation begins to subside. Hence under the microscope, except in cases of acute suppurative inflammation, one sees the two processes at work side by side, and it is not a matter of surprise that they should be confounded. As a matter of fact, the more the cellular processes are investigated the more it becomes evident that there is a marked differentiation of cells as regards function.

When Cohnheim first published his observations on the emigration of corpuscles, it was thought by many that the leucocyte was everything and did everything, but it was soon evident that other cells of different origin must be taken into consideration. When Metchnikoff's theory of phagocytosis first came out, some of those who adopted it assumed that all wandering cells were phagocytes; but here, again, further investigation has shown that cells differ greatly as regards their phagocytic action. I think that a good deal of the confusion of these processes arises from the fact that expressions involving a teleological argument are becoming very common, more especially with regard to the protective arrangements of the body. On the idea of an acting intelligence on the part of the cells, the two processes would naturally go together; but, looked on as the simple effect of an injury, they should, I believe, be regarded as independent, and the less and the shorter the inflammation the better and quicker the healing process.

A very remarkable thing in connection with these advances, especially in experimental pathology, is the enormous direct practical benefit which has already resulted to the human race; and it is sufficient answer to the antivivisectionists who oppose the use of intelligence and observation and experiment, to point to the saving of human life and the relief of suffering which has taken place in the last few years. Since Pasteur's experiments on spontaneous generation were published, only thirty-six years have elapsed, and during that time remarkable results have been attained in treatment as the result of experimental pathology.

Scientific efforts to arrive at the truth as regards the workings of Nature are necessarily slow, and must be carried on without any regard to possible ultimate practical results. When the earlier investigators studied the phenomena of electrical action, I doubt if it ever occurred to them that the result of their study would be of any practical value; certainly they could have had no idea of the revolution which the study of electricity would effect in the history of the world. When Pasteur resolved to test the theory of spontaneous generation, it did not seem likely to lead to any beneficial result; indeed, his friends tried to dissuade him from entering into what was apparently a useless investigation, and yet what numbers of human lives have been saved as the result of that work, and what incalculable benefit has accrued! It is greatly the fashion with the opponents of experimental research to demand a single instance in which an experiment has led to the discovery of a means of cure; but in no department of science has a single experiment of itself alone led to the practical result; the final observation which led to the practical result has been built up on numerous and laborious preliminary investigations and observations. And similarly, in regard to the cure or prevention of disease, the final trials on man have been led up to by numerous preceding observations and experiments. If these deluded people had their way, the result would be that experiments would be limited to man, and everyone to whom a new idea occurred would apply it without any previous investigation—surely an appalling prospect, whether for physician or patient.

The practical results already obtained affect diagnosis, prophylaxis, and treatment. The diagnosis of many parasitic diseases has now been rendered certain and easy by searching for the causal organism, and I need only instance such diseases as diphtheria, tuberculosis, malaria, anthrax, gonorrhœa, etc. And it is not only by the discovery of the parasite that diagnosis is assisted, but also by other effects of the organism such as the sort of changes set up in the tissue, the reaction to products of the organism, for instance, tuberculin and mallein, etc., and we shall hear a good deal about one of these diagnostic advances in the course of the meeting, namely, the action of the serum of typhoid patients on motile typhoid bacilli. If no other practical advance had resulted from bacteriological work, the possibility of establishing a definite diagnosis in obscure cases is surely a gain of the utmost importance, for it enables a rational prophylaxis and treatment to be instituted.

The greatest of all the advances, because so wide-reaching, has been in the prophylaxis of disease, expecially in the prevention of septic disease after operations, as brought about by the discoveries of Lord Lister. By these discoveries the occurrence of sepsis in wounds made through unbroken skin is prevented, and the chances of general sepsis in septic wounds are much diminished, and numerous lives are saved, not only in this way, but also by the fact that the Listerian treatment permits the performance of many life-saving operations which could not otherwise be attempted. In other cases, also, prophylaxis is of great value as in diphtheria. and in Pasteur's treatment of rabies, which may properly be grouped as a prophylactic rather than a curative treatment.

Lastly, I may refer to advances in the cure of disease. In the case of diphtheria there can be no question that the antitoxin is a most potent curative agent, and that, used in the early stages, it is almost certain to cut short the disease. As regards tetanus, the evidence in the case of animals is absolutely convincing, but in patients suffering from the disease the effect is not certain, probably because we have to do with an acute illness, which runs its course before the serum has had time to act. The same may also be the case with the antistreptococcic serum, although I have great doubts of its value as a curative agent. In other instances, such as plague and snakebite, we may apparently look forward to a cure; while researches are being carried on with regard to pneumonia which may lead to valuable results; nor must I forget to mention Pasteur's system of inoculating cattle against anthrax. What are we to say about the new tuberculin? We all know how careful an observer Koch is, and the fact

that he looks on it as a valuable remedy is to my mind sufficient to make it necessary to give it a careful and hopeful trial. I must say that I have always been favourably inclined to the old tuberculin, and have regarded it in relation to phthisis like iodide of potassium in relation to syphilis, and, had I been a physician, I do not think I should have abandoned it in the hurried manner in which it was thrown aside.

But it is not only in the direction of bacteriology that advantage has resulted from pathological research. Look at the advances in treatment from the use of organic fluids. As the result of observations on man and researches on animals as to the effects of excision of the thyroid gland attempts were made to transplant the healthy thyroid gland into animals and patients in whom it was absent, and following these attempts the use of thyroid extract has ultimately come to be a recognised method of treatment. There is, perhaps, nothing more striking in medical treatment than the rapid and remarkable improvement in cases of myxœdema from the use of thyroid extract.

I might enumerate many other instances of direct benefit from pathological research, such as the advances in the treatment of tuberculous diseases of bones and joints as the result of better knowledge of the nature and distribution of the disease, the treatment of appendicitis, and the investigations on peritonitis and diseases of the appendix, the more complete operations for cancer following fuller study of the mode of spread of the disease, and so on; but I have said enough to show the great importance and value of pathological research. Such results must encourage us to go on working with all our might and without ceasing, bearing in mind that many are suffering and dying every day who might be saved if only we had just a little more knowledge of the workings of the body and the processes of disease.

But while pathologists are thus working out problems which affect the general well-being of mankind, and the solution of which can be of no personal gain to themselves, is it too much to ask mankind to furnish the means for such research? The English are looked on as a thoroughly practical people, and yet it is a very remarkable thing that England is almost the only country which does not realise the importance of scientific research, and the result is that in England, with very few exceptions, men who might otherwise have thrown much light on these matters are compelled to turn their attention to practice in order to make a living. Unless work of this kind is done, how can we hope to advance with any rapidity in the treatment and cure of disease? The surgeon or physician must wait till the information of which he is urgently in need has been acquired for him by the pathologist. Such apathy can surely only be the result of ignorance. A rich man affected with an obscure or incurable malady cannot understand how it is that he fails to obtain the definite opinion or the relief which he so earnestly desires, and for which he is prepared to pay any price. Surely if he understood the meaning and importance of pathological research, and that the practising physician can only apply and carry out what is taught by the pathologist, he would bestir himself to aid research in order to gather information which might be of much use to him and to others.

Doctors in the Argentine Republic.—The number of medical practitioners in Buenos Ayres is 805, the proportion being 1 to rather less than 1,000 inhabitants. And the cry is still, "They come." The number of students of medicine has increased within the last ten years to more than double what it was before. At the present time there are 950 students in the medical school, of whom 248 are recent entries. The medical profession in Argentina is becoming alarmed at the increasing overcrowding of its ranks. Among the measures suggested for the relief of the congestion are the closure of the medical school for five years or more, and more drastic methods of examination. Among the students are two young ladies, both of Argentine nationality.

The proceedings of the twenty-third annual Congress of the Sanitary Association of Scotland were begun on August 25th, when the business meeting was held in the Burgh Courtroom, Dundee. The President-elect, Mr. Gilbert Thomson, C.E., occupied the chair, and there was a fair attendance.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF OBSTETRICS AND GYNÆCOLOGY.

At the Annual Meeting of the British Medical Association at Montreal, September, 1897.

By W. JAPP SINCLAIR, M.D.,

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THE INJURIES OF PARTURITION: THE OLD AND THE NEW.

When I received the flattering invitation of the Council of the British Medical Association to occupy this position to-day, which is to me one of distinguished and, I fear unmerited, honour, I began to debate with myself whether I ought to take advantage of the privilege granted to me to open the proceedings of this Section with an address. The occasion seemed at first too great; no subject within my range of ideas appeared adequate. It did not seem fitting that I should take advantage of a meeting of such unique interest—a British Empire meeting during the Queen's commemoration year, in this already historic centre of commercial and intellectual achievement in the greatest of the British Colonies—to give utterance to some formal discourse on a subject of mere academic interest, chosen without spontaneity, and laboriously compiled in the library. After much cogitation, however, the feeling grew upon me that there had been in my mind more or less continuously in recent years a subject sufficiently interesting to myself and sufficiently general for this occasion. The subject is so important in its far-reaching practical bearings in obstetrics and gynæcology that I became convinced that you would hold me justified in pressing it upon your attention, and would find in the interest of the subject-matter some measure of excuse for the inevitable shortcomings in my method of handling it. The subject to which I refer is that of the Injuries of Parturition, the Old and the New; and I may state at once at the outset that the reason why it has haunted my mind is the frequency with which, as a gynæcologist, I am called upon to deal with injuries produced by parturition, and a growing conviction that in many, if not in the majority, of those instances, their existence has not appeared to be altogether satisfactorily explained as inevitable, and not a few have been proved by irrefragable evidence to be produced by operative proceedings altogether unwarranted by the circumstances. My position will be made more clear by one or two examples, and these lead me *in medias res*.

Some time last year I was asked to see a young primipara who was very ill towards the end of the first week of the puerperium. When we met in consultation I was informed by the practitioner in charge that the case had been quite straightforward from first to last, and in answer to my inquiries he could not in any way account for the patient's condition, which was as serious as it could be, even in a case of the kind; it appeared, in fact, almost or altogether hopeless. On making a physical examination without moving the patient from the dorsal position I discovered a deep and wide laceration of the vaginal vault, the examining finger passing easily into the tissues of the parametrium. No mention of forceps was made in the conversation we had before seeing the patient, and it was only after the examination and in reply to a question that my colleague explained why and when they had been applied. It seemed to me at the time that he thought the completion of labour by means of the forceps such an insignificant detail that he omitted to mention it. The child, in this case, was saved, but the mother died.

A few years ago I felt called upon to make several repairing operations on the injured pudenda of a young married woman who came under my care as a hospital patient. She had been by all accounts perfectly sound and active a year before, but meanwhile she had got married and she had become a mother. When I first examined her, the uterus was found to be completely prolapsed, and it was so lacerated that the

anterior and posterior halves of the cervix, projecting from between the nates, looked like two separate organs, and the perineum was torn completely through into the anus. This patient then suffered from dislocation of the uterus, transverse laceration of the cervix, and complete rupture of the perineum. She was treated by Emmet's operation, restoration of the perineum, and shortening of the round ligaments, and then she was fairly comfortable with a pessary. I learned afterwards that this case had been one of normal labour in a primipara, and that the delivery had been effected instrumentally by a *locum tenens* within six hours from the commencement of the pains.

Let us now compare this sort of practice, still possible at the present day, in spite of all our anæsthetics, antiseptics, and perfected scientific apparatus, with what occurred in a former and different age. Mauriceau,[1] for example, mentions a case, "Du laborieux accouchement d'une femme dont l'enfant étoit resté au passage, á cause de l'extrème grosseur de la teste." He was called in March, 1669, to a primipara, aged 35, who had been in labour eight days. The head was in the cavity of the pelvis, and the child had been dead four days. The patient had been visited and abandoned by three or four surgeons, one of whom had made an incision into the soft parts of the vulva. The obstruction arose from the large size of the child's head. Mauriceau perforated and extracted with the crotchet, and the woman, who appeared to be moribund when the accoucheur arrived, lived on for eleven days, ultimately dying of "une grosse fiévre qu'elle avoit cinq ou six jours auparavant." From this circumstance Mauriceau concluded that the patient might have escaped if she had been delivered two or three days earlier, that is to say, if she had been in labour only five or six days.

He relates another case "de l'accouchement d'une femme qui eut un très-laborieux travail." It was that of a primipara, aged 28, who had been in labour two entire days after the rupture of the membranes. There had been ten hours of very strong pains. The head was low down in the vagina, and had rested there for twelve hours. The pains had now ceased, "quoique sa Sagefemme luy eut donné deux clystères assez forts, pour tâcher de luy exciter de nouvelles douleurs, et qu'elle l'eût fait aussi saigner du bras suivant mon conseil." . . . . Mauriceau ordered a strong dose of senna to be administered, and two hours afterwards a powerful clyster. Pains then came on, and the patient was delivered without more ado "d'un gros enfant mâle, qui étoit encore vivant."

Here, then, we have two extremes of practice contrasted the helplessness of the seventeenth century and our own resourcefulness at the end of the nineteenth; and yet it may be alleged, not without reason, that there is to be seen in the contrast only one more illustration of how "knowledge comes but wisdom lingers." Such results of our modern practice as I have given in illustration do not make it so perfectly obvious that in obstetrics we are much wiser than our sires.

The work of Mauriceau from which I have quoted contains the famous case in which he met Chamberlen, who failed to deliver with his forceps a woman with a deformed pelvis, and immediately after fled from Paris.

Mauriceau's practice illustrates, then, that of the age immediately preceding the introduction of the obstetric forceps. We may divide the century and a half from the introduction of the forceps to the present time roughly speaking into three periods: first, from the introduction of the forceps to the discovery of anæsthetics, about a century; secondly, from the discovery of anæsthetics to the introduction of antiseptics, a quarter of a century; and, thirdly, from the general introduction of antiseptics in midwifery practice to the present time, very nearly a quarter of a century.

Now, if we consider our present position, we have much to congratulate ourselves upon, and yet we may fairly ask if there is not much room for improvement in the use which we make of our resources. Is not one of the most remarkable things in the history of medical science during the last quarter of a century the extraordinary development of gynæcology in its surgical aspect? Gynæcology flourishes and has become largely surgical; so largely surgical that Sir W. O. Priestley, my predecessor of two years ago in the position which I occupy to-day, addressed to the Obstetrical Section a warning and a remonstrance on the too free application of surgical methods to gynæcology. Midwifery has during the same period become also largely surgical—too surgical—and a thesis which I shall endeavour to maintain to-day is that gynæcology has become so largely surgical as the direct result of surgical interference in midwifery practice; the accoucheurs are the providers of material for the gynæcologists. I fully appreciate the admirable work done during that time by gynæcological surgeons in dealing with the new growths of the sexual organs, and I do not decry it; but for the material of his ordinary daily labour the gynæcologist has to look to the accoucheur. Last year Dr. Cullingworth did a good service to the medical profession by addressing the Obstetrical Society of London on the subject of the undiminished childbed mortality in England in spite of our advantages and improved methods of practice. But in addition to the avoidable childbed mortality, there is the very serious question of childbed morbidity, which I maintain and repeat is largely owing to the prevalence of surgical methods in the practice of midwifery. The term "surgical" is employed here with almost exclusive reference to the use of midwifery forceps. It was said by Baudelocque that the midwifery forceps was the most useful surgical instrument ever invented, and with that strong and unqualified opinion we are all more or less in agreement. But, like all our powerful remedies, the forceps must be used with circumspection, else disastrous consequences must ensue.

Now, the avoidable evils which I maintain are so prevalent at the present time have developed insidiously and largely in consequence of the resources which have come to us in the evolution of medical science. If we sin, it is against the clearest light. If we trace the history of obstetrics during the last century and a-half, and consult the old and many of the new masters on the subject, we find their opinions are almost unanimous on the limitations and conditions under which the practitioner should resort to his most powerful remedy. There have been from the beginning fluctuations and fashions in practice, but none in theory.

First Period.

In addressing a meeting of English-speaking obstetricians one cannot illustrate the theory and practice of the first period to which I refer without quoting Smellie.[2] In Smellie's time the men who practised obstetrics were no longer helpless in dealing with the most frequently-occurring cases of difficulty—namely, in tedious labour from inertia, or from disproportion between the fœtal head and the maternal passages. In reading Smellie's collection "of laborious cases when the head of the child is low in the pelvis and delivered with forceps," no one could fail to be impressed with the caution exercised in the use of the forceps in obviously suitable cases. Take, for example, the first case, in which he makes his visit, gives his instructions for the night, and then proceeds: "When I called in the morning I found the child's head advanced lower in the pelvis." He gives in detail his reasons for expecting further progress. He says: "Being called in the evening, and understanding that the pains were still weak and the gossips uneasy, I examined in time of a pain and found the head was lower." He then describes in minute detail how he applied the forceps and extracted the first child in a twin pregnancy, and concludes: "I used the forceps in this case as a pair of artificial hands to assist the delivery, because the pains were too weak to expel the child."

This case very well illustrates Smellie's practice, particularly the patient waiting for the natural efforts of delivery before interference. In another case he says: "The patient though much recruited, being still weak and the pains languid, I directed the midwife to proceed in supporting her with the broth, and prescribed a cordial mixture without any opiate, to amuse the woman and her friends." In another case he was called to a patient who had been in labour for three days under the care of a midwife. "As soon as I was disengaged," he says, "I accompanied my pupil to the place where I found this loquacious midwife extremely ignorant, without the least tincture of knowledge in her possession. When called to the patient, whose pains were just beginning in this her first labour, she had walked her about and fatigued her so much that she was quite exhausted and the pains had entirely ceased. The midwife complained that

her fingers were swelled and painful with "stretching the birth, but she did not know how long the waters had been discharged." Smellie gave directions with the object of obtaining some rest for the patient, and early the next morning delivered her with the forceps, "without lacerating her parts or even marking the child's head."

By way of illustration of the theory of the next generation in this period, I may quote from the *Practical Essays on the Management of Pregnancy and Labour*, by Dr. John Clarke, published in London in 1793. "Violence offered by the improper use of instruments may also become a cause of fever; therefore they ought never to be employed in any case except where they are absolutely and indispensable necessary. He who uses them unnecessarily, and solely with the intention of saving his own time, has much to answer for, both to society and to his conscience."

If, instead of accepting an opinion, we prefer to turn to a record of facts in order to draw our own conclusions, let us look into the *Practical Treatise on Midwifery*, by Dr. Robert Collins, published in 1835. The author gives an account of 16,414 cases of labour in the Dublin Lying-in Hospital during his Mastership. The rules laid down by Collins for the use of the forceps sound very like some contained in the most recent German literature on the same subject. He says, "In tedious labours, where the mouth of the womb is fully dilated, the soft parts relaxed, and the head so low in the pelvis as to bring the ear within reach of the finger, if there be a necessity for interference, the forceps may be used with advantage; but ample experience has most fully proved to me that under these circumstances uterine action fails but seldom in expelling the child, and that it is only in cases as above described, where the safety of the patient requires assistance, that we are justified in using this instrument."

In 16,414 deliveries in the Hospital, he met with but 14 cases answering this description, in 11 of which the forceps were used, and in 3 the lever. In the other instances where the forceps was applied the labours were complex.

There are several other situations in which the forceps may be applied with much benefit, as in convulsions, hæmorrhages, etc., where the case is, in other respects suited to their application; these are pointed out in the remarks on the treatment of such labours.

"The forceps was used during my Mastership 24 times, and the lever 3 times; total, 27; making the average about 1 in 608 deliveries. According to this calculation, most physicians in private practice would require to use them but seldom, as, supposing an individual to attend 4,000 cases in the course of his life, which is a greater number than falls to the lot of most men, the forceps or lever would be necessary in little more than six cases. I consider the forceps, when used with prudence, a most valuable instrument; but its utility is greatly lessened by the injury so frequently inflicted on the patient, by having recourse to it where no instrument is necessary, but much more so by using it where, in my mind, is not only inapplicable, but highly dangerous to the parent's safety."

But it may be objected to the frank acceptance of Collins's rules for our guidance at the present time, that the childbed mortality under such rules must have been very high. It was far otherwise. After giving an account of the measures adopted to banish or guard against puerperal fever, he says, "of 10,785 patients delivered in the hospital subsequent to this period, only 58 died, which is nearly in the proportion of 1 in every 186;" the lowest mortality, perhaps, on record in an equal number of a similar class of females. Another objection which naturally arises, to what some might call procrastination in the management of labour, is the high death-rate among the children born under such circumstances; but Collins supplied us with full and exact information on this subject, and the infant mortality is surprisingly small. He says: "The total number of children born was 16,654; of these 284 died previous to the mother leaving the hospital. This is nearly in the proportion of 1 in 58½, which must be considered a moderate mortality under any circumstances; however, when it is considered that this includes not only all the deaths that occurred in children born prematurely, and twins, but also every instance where the heart even acted, where respiration ceased in a few seconds after birth, the proportion of deaths becomes trifling indeed.

"Of the 284 deaths, 100 were premature deliveries."

The introduction of anæsthetics into midwifery practice marks the opening of such an era that every modification of practice within the first period sinks into insignificance. Time permits me only to indicate, not to detail fully, the modifications of practice during that time. We find, for example, that Smellie was rather attracted by the use of the forceps, and that he and his pupils initiated a mode of practice which came dangerously near to abuse. The work of William Hunter, who published his "Anatomy of the Gravid Uterus" in 1774, and founded physiological midwifery, produced some modification in the opposite direction, and the opinion brought about through his influence may be indicated by a quotation from his pupil Denman. "It has long been established, in this country, that the use of instruments of any kind ought not to be allowed in the practice of midwifery from any motives of eligibility.....Whoever will give himself time to consider the possible mistakes and want of skill in younger practitioners, which I fear many of us recollect; the instances of presumption in those who by experience have acquired dexterity, and the accidents, which under certain circumstances seem scarcely to be avoided, will be strongly impressed with a sense of the propriety of this rule."

This is also the position taken up by Collins, from whose work I have already quoted. There can be little doubt, however, that in the interests of the mother the practice was to delay too long during the second stage of labour, and this brought about those terrible injuries from sloughing leading to fistulæ between the vagina and the bladder, and between the vagina and rectum, which produced such a frightful amount of suffering among women at the most vigorous and useful period of their lives. Collins speaks of using the midwifery forceps only once in 608 cases, but he gives concisely the facts of many cases of cruelly prolonged childbirth, of which the following are fairly typical examples:

No. 504 was brought to hospital from the country; reported to have been five days in labour; it was her first child; it was dead, and the head firmly fixed in the pelvis. She was much exhausted; pulse 110; tongue parched. "The head was immediately lessened," and delivery effected with the crotchet. She sank on the ninth day from admission.

No. 555 was sixty hours in labour of her first child. The pelvis was defective, and there had been no advance for the last twelve hours; the child's death having been ascertained by the stethoscope some hours previous, the head was lessened and delivery thus completed.

No. 608.—The labour pains were very tardy and feeble, producing much irritation without causing any dilatation of the mouth of the womb. In this state she remained for thirty hours; after which opiates were given three times at considerable intervals, each time with benefit, and at the expiration of fifty-three hours she was delivered naturally of a stillborn child.

We need not go abroad to seek the advice of masters of the obstetric art during this period, and I need not further multiply quotations. We shall find the great teachers always sound and clear in their utterances. I shall only refer to our own Ramsbotham, who comes in with Sir James Y. Simpson at the end of the first period. His great work[4] made its appearance in 1841. He considers the application of the forceps such an important operation that he strongly recommends consultation, "even though a neighbouring, probably a rival, and, perhaps, not very friendly practitioner" may have to be called in. And he eloquently exclaims: "Cautiously and tenderly must this iron instrument be used!..... We must remember that one injudicious thrust, one forcible attempt at introduction, one violent effort in extraction may bruise, may lacerate, may destroy!"

The typical injury of parturition during this period was vesico-vaginal fistula, but there can be no doubt that the not infrequent use of perforating instruments and the crotchet produced bruises and lacerations which, in pre-antiseptic days, must have conduced considerably to the maternal mortality. The mistaken practice also of "stretching the birth," which I am afraid is by no means a thing of the past, was so prevalent that it must have done infinite injury. By causing minute necroses or lowering the vitality of the tissues it must have opened up the way to bacterial invasion with all its consequences.

Laceration of the perineum must have been occasionally inevitable in former generations as in our time. But special attention appears to have been given to its prevention. Denman, indeed, refers to its prevention as "the principal object of our attention in natural labours."

With the second period, commencing with the discovery of anæsthetics and ending with the general introduction of antiseptics, I have at present comparatively little concern. The obstetrician of that quarter of the century, of whom we may take as a type the late Dr. Matthews Duncan, was much concerned with the mechanism of labour, and this is the only period, if any exists, in the history of obstetrics when the warnings against meddlesome midwifery by the teachers ceased to be as clear and emphatic as they had been in former times. With the beginning of this period we have the work of Marion Sims marking an epoch in the history of gynæcology. He and his contemporary imitators and his successors were long busy repairing the characteristic ancient injury of vesico-vaginal fistula, for they had the accumulated misery of a whole generation of women to cure or ameliorate. With the end of the period comes the introduction of Emmet's operation, which, according to Jenks, marks "one of the greatest advances in modern gynæcology"—an opinion not so generally held in England as it ought to be.

The introduction of anæsthesia did not lead to any great improvement in the practice of obstetrics. The medical practitioner could now relieve the patient from the worst pangs of parturition, and therefore could well afford to wait in normal labour for completion by the natural process. But it was soon found that the production of anæsthesia was not all gain. It was found that the prolonged administration of chloroform brought on inertia of the uterus, tedious labour, and *post-partum* hæmorrhage. The tediousness of the labour made the "gossips uneasy," and the most conservative of practitioners was too often driven to the application of the forceps. In fact, the consciousness that the final pangs of labour and the acute suffering which would otherwise be produced by the application of the forceps could be entirely relieved by the administration of an anæsthetic had for its practical effect a great extension of operative midwifery. Lacerations of the perineum became much more frequent than under the old practice of delay, and as it was quite unusual to suture these lacerations, as is now the universal practice, incontinence of urine owing to vaginal sloughing was replaced by incontinence of fæces resulting from complete laceration of the perineum. The lacerations of the cervix and vagina and their relation to parametritis were either unobserved or not understood until Emmet taught the medical world their importance. Just as the practice of the first period made material for the special beneficent work of Marion Sims, the abuses of the second period provided the opportunities which Emmet had the genius to recognise and to use.

The advent of the third period, that of anæsthetics combined with antiseptics, dates from 1870 to 1873, or somewhat later. About that time began those triumphs of abdominal and pelvic surgery applied to the diseases of women, of which men of our special branches of medicine are so justly proud. The operations in general surgery also took on a new phase, and our students, accustomed to witness in the hospital the audacity with which the modern surgeon, depending upon anæsthetics and antiseptics, could deal with new growths and surgical injuries, were influenced perhaps almost unconsciously by what they had seen of operative surgery, into applying its methods of midwifery practice. There has been little of precept and example to counteract this tendency. Our students in the medical schools are not taught obstetrics and gynæcology in a reasonably practical way; while, on the other hand, they apply themselves to surgery, theory and practice, from the time they pass the entrance examination until they graduate. They learn surgery which they will never practise, and they will practise midwifery which they have never learned.

But the mischief is not merely negative. If the young practitioner turns to some of our English manuals of midwifery, or to contributions to our medical journals, he is liable to be misled into practice which is actively harmful. It would be a long and invidious task to support this statement by references, but it may be as well to take one or two illustrations. A friend of mine has published a *Practice of Midwifery* as a guide for practitioners and students. The edition from which I quote is dated 1896. He says: "The perverted old adage that 'meddlesome midwifery is bad' has long stood in the way of an early application of the forceps in uterine inertia. . . . . Rash and inconsiderate measures I would not be thought to encourage . . . . but we must not let our caution warp our judgment, and so delay a comparatively simple and harmless operation until it becomes one that is difficult and dangerous." On the rest of his chapter on the forceps I have no relevant criticism to make, except that it is too much like the summing up of a judge to a jury, to be clear, definite, and helpful guidance to the student; but in this respect it is by no means an exception among the manuals.

I have already quoted a Master of the Rotunda Hospital, of Dublin, and I should like to refer for a moment to a phase of midwifery practice initiated or largely influenced in its development by another. Dr. Johnston[5] published an account of the use of the forceps at the Rotunda Hospital in Dublin during the year 1875. He says, "There were 113 cases where we considered it advisable to deliver with the forceps, and 83 of these were primiparæ. . . . 75 mothers recovered, 8 died, 6 being cases of seduction, fretting; 2 cases of peritonitis; 30 were pluriparæ; 28 mothers recovered, 2 died." There were 1,025 cases, and the forceps were used in 11 per cent. The maternal mortality is 10 per cent. in the forceps cases. Death in childbed from "fretting" appears to be a speciality of the Dublin Medical School. They have not anything of the kind in Germany, and Fritsch, in his book on puerperal fever, in referring to the Dublin peculiarity, calls it "*Dummheit*." Dr. Johnston goes on to meet the objection that the forceps is a dangerous instrument, and he says, "As a proof to the contrary I may mention that of the 752 cases that have been delivered within the last seven years, in no one instance was injury inflicted by the instrument on the soft parts of the mother." We shall see again how the best practice in the German lying-in hospitals contrasts with this wonderful result. There they have not three times as many deaths from fretting as from peritonitis, but they confess to inflicting much injury on the soft parts by the use of the forceps. After the usual formal caution against rash interference, Dr. Johnston goes on to say, "The more we see of early interference and the benefits arising from it, the more are we induced to persevere in it." He says little about his mortality, which was about double that of ovariotomy in experienced hands. The argument that this operation should not be undertaken by an "unskilful person," introducing a comparison between applying the forceps and tying the subclavian artery or lithotomy, amounts to an argument to leave operative midwifery entirely in the hands of a special class.

Facilis Descensus Averni.—We soon find even such an experienced and cautious obstetrician as Dr. Swayne,[6] of Bristol, referring to Dr. Johnson's hospital reports, and expressing approval of the practice of using the forceps during the first stage of labour. Dr. Swayne quotes Denman's aphorism, "The first stage of labour must be perfectly finished before we think of applying forceps;" and he declares with evident satisfaction that in no branch of obstetrics have we departed so much from the precepts and practice of our forefathers as in this

Further examples might be quoted by the score. The deterioration went on rapidly, until many teachers and writers of manuals seemed to have hardly the courage to speak with decision, and they talked and wrote as if they had no decided opinion of their own. The formal cautions and restrictions, more or less explicitly stated to be applicable to the practice of the experienced and skilful, are a mere sham as applied to the untaught young practitioner. and they become a delusion and a snare.

It is only about twenty years since Dr. Swayne referred to the use of forceps in the first stage of labour as a "startling innovation" in obstetric practice; and the midwifery practice of to-day, especially among the working classes in England, is something to wonder at and deplore. The young practitioner sees a woman suffering under the pangs of labour; he can relieve these by anæsthetics; normal labour is a process which requires time; the practitioner does not like waiting, and he has appliances by which he can abridge the

process of normal labour; he knows that he may produce injuries, but these are in his eyes trifling compared with the injuries which he has been accustomed to see treated successfully by the surgeon with the aid of antiseptic appliances; and a laceration can always be sutured if it appears to be of sufficient importance. Why, therefore, should he permit suffering to his patient and waste his own time? He does not know enough of gynæcological practice to be impressed with the importance of a laceration of the cervix or vagina, or a dislocation of the uterus—that is to say, of the remoter consequences of his well-meant interference. More than that, although he may have attended the statutory number of labours required by his college or university, he has enjoyed few advantages of direct practical instruction and example; he may be unable to diagnose the presentation, so he must trust to force alone; he has seen little or nothing of the puerperal state, so he is hardly in a position to appreciate the risk to his patient or to recognise some of even the immediate effects of operative midwifery.

I have endeavoured to trace the course of change in obstetric practice in England and to indicate its causes. That practice is now, in my estimation, vastly too meddlesome and mischievous, and some reform is urgently required. Probably few men even in the medical profession who do not actually see midwifery practice among the working classes of our large towns, or have their attention constantly drawn to the injuries resulting from that practice, are aware of the actual state of affairs. In Manchester and the manufacturing towns of Lancashire, the proportion of cases in which the forceps are applied, with or without indications, amounts to 25 or 30 per cent., and even more. One of my friends who has a large general practice within the area covered by our Maternity Hospital has been good enough to give me a statement of his midwifery practice for the last ten years, and the proportion comes as nearly as possible to 25 per cent. From 1885 to 1889 (five years), he attended 839 cases, and applied the forceps in 142, that is in 17 per cent. From 1890 to 1896 (seven years), he attended 900 cases, and used the forceps in 246, that is a percentage of 27.3. His rate of forceps delivery is highest in 1896, when he used the instrument fifty times in 150 cases. Another friend, whose practice lies within the same area, tells me that his proportion is at least 30 per cent. The highest figure mentioned to me has been 75 per cent. A busy practitioner whose field of operation lies in one of the largest manufacturing towns in Lancashire, told me, in answer to the question which I so frequently put, 'What is the percentage of forceps cases in your practice?" that his was "At least 75 per cent." "But," I replied, "you must be joking." "Not at all," he said, "between high and low applications of the forceps, at least 75 per cent." "But," said, "surely you have no appreciable number of cases of application of the forceps at the brim?" "I had three cases only last week, but it is a good while since I had such a case before," and to prove to me that his 75 percentage was a fact and within the mark, he promised to give me the exact figures from the record of his cases.

I have been frequently told by practitioners in similar communities, that in the case of a multipara they allow half an hour for the second stage of labour, and if the case does not show signs of immediate spontaneous completion they apply the forceps. Among the gynæcological cases at the Manchester Southern Hospital it is by no means a rare thing to find a young woman suffering from dislocation of the uterus and lacerations of the cervix and of the perineum, whose first labour was terminated by forceps within four to six hours of the onset of regular pains.

Now, before passing judgment on this kind of practice as to whether it is reasonable, or unavoidable, or praiseworthy, or the reverse of all that, we must find a criterion of good practice. What means have we of forming an opinion as to the proportion of cases in which we may have to interfere under proper indications; that is to say, when symptoms indicate some danger to the mother, to the child, or to both? We can obviously compare the methods of treatment adopted, and the results obtained, over large numbers of recorded cases. For my present purpose I naturally put before you, in the first place, facts with which I am conversant and can establish beyond dispute. I have here figures showing the details of two years of the practice of the Manchester Maternity Hospital. The hospital contains only twelve beds for in-patients. The home-patients who form the great majority, are attended by more or less trained and experienced midwives. The midwives have instructions in cases of difficulty to send for the assistance of a district obstetric physician, who lives within the area for which she is responsible.

MANCHESTER MATERNITY HOSPITAL.

From October 1st, 1894, to September 30th, 1895:	
In-patients:	
Total number confined in hospital	183
,, ,, delivered with forceps	12
Out-patients:	
Total number attended	1,102
District obstetric physicians sent for by midwives (forceps cases)	15
Doctor called in by midwife on account of:	
Adherent or retained placenta	4 cases.
Breech presentation	1 case.
Transverse presentation	1 ,,
Placenta prævia	1 ,,
From October 1st, 1895, to September 30th, 1896:	
In-patients:	
Total number confined in hospital	177
,, ,, delivered with forceps	21
Out-patients:	
Total number attended	947
,, ,, forceps cases	14

In the home-patient department, in addition to the 14 forceps cases, the doctor was called in three times to twin cases (second twin transverse): abortion 1, retained placenta 2, *post-partum* hæmorrhage 1, hand presentation 1, placenta prævia 1.

Only simple forceps cases are set down in this statement; the few in which forceps were applied after version are not included.

It will be seen from these figures that the forceps deliveries among in-patients are in a comparatively high proportion, but it must be explained that the hospital beds are understood to be retained for cases of difficulty and danger; hence a large proportion of the women admitted have a history of difficult or operative labour in the past. The proportion of forceps deliveries among these in-patients is almost exactly 9 per cent., and no woman died after the use of the forceps. The proportion of forceps deliveries among the home patients in the charge of the midwives may be considered the normal requirements of such a community as ours. The midwives are under strict supervision. Their credit is at stake if they lose their heads and send too frequently for medical assistance, and their position is in danger if harm comes to the mother or child by showing want of knowledge and judgment in failing to send when necessity arises.

Now, in 2,049 home-patient deliveries, the forceps had to be applied by the obstetric physicians twenty-nine times; that is as nearly as possible 1.4 per cent. I have already called your attention to the fact that within the same area of population, but among the class of people who can afford to pay for private medical attendance, the proportion of forceps deliveries is 25 to 30 per cent. Such a striking contrast surely supplies food for reflection and calls for explanation. Another point, which I mention with some diffidence because I have only my own figures to offer by way of illustration, is the remarkable difference in the proportion of forceps deliveries among the poor as compared with those in a better position in life. I have for a long time made cautious inquiries with regard to the history of the confinements in taking notes of my private gynæcological cases, and my conclusion is that the hospital patients are delivered with forceps more than ten times as often as the class of women who consult the gynæcologist privately, and may therefore be assumed to be in a position to pay higher fees to the accoucheur. If this result should be found on extended inquiry to coincide with the experience of others in a similar position, it is a not unimportant fact in guiding our judgment to a conclusion as to how far we may have drifted astray from right and reasonable midwifery practice at the present time, and as to one cause at least of the aberration.

My attention was first attracted to this subject about twelve years ago, and I have given it some considerable attention ever since. I was then assisting an experienced accoucheur in a case of normal labour in a primipara. As far as I could judge nothing could be more typically normal than the labour up to the point of what appeared the approaching completion of the second stage, and yet I was asked to assist

in an obstetric operation by administering an anæsthetic, although my senior had made previously some joke about the "healthy young animal" type of the pains, and, as far as I could see, they had not changed from that type. He applied the forceps, and by repeated efforts at traction effected delivery, lacerating the vagina and perineum. The immediate results were those we are familiar with, including an attack of parametritis; the remoter effects were prominent cicatrix of the vagina, chronic bad health, and one-child sterility. I am reminded of the history from time to time by being consulted by the patient.

My inquiries into the need for such operations and their consequences have gone on intermittently ever since, and I have noted with great satisfaction the rising protest in Germany against the abuse of the forceps.

There is now a considerable literature on this subject of forceps deliveries. There is not time, nor is this quite the occasion, for going into many details on the subject. I may, however, make some concise reference to certain facts recorded in this literature, as I consider it of the greatest possible value to those who may wish to form an independent judgment on the matter, on account of the large amount of material and the exactness with which the whole matter is put before the reader. In 1889[7] Münchmeyer published a valuable article, in which he gave an account of the cases of labour completed with forceps in the Royal Hospital for Women in Dresden from 1883 to 1888, and the last of this series of papers which I have seen is that by Dr. Béla von Walla, which he calls "Studien im Anschluss an 115 Zangenoperationen." It appears in the fifth volume of the *Monatsschrift für Geburtshülfe und Gynäkologie*. It is an account of the cases delivered with forceps in the University Clinic for Obstetrics and Gynæcology at Buda-Pest. From September 1st, 1882, to December 31st, 1895, there were 11,064 women confined in this hospital. Of these labours, 115 were completed with forceps—that is, in the proportion of 1.04 per cent. over the whole time; and in 1895 the percentage of forceps operations sank to 0.32. It is instructive to compare with this the frequency with which forceps operations are performed in other German University clinics, and also to compare the most extreme cases with our own general practice. Wahl, in his paper continuing the report of the Dresden Hospital begun by Münchmeyer, gives an interesting table showing the relative frequency with which the forceps have been used at various maternity hospitals:

	Per cent.
Kézmárszky, Budapest, 1874-1882	1.4
Abegg, Danzig, 1872-1885	2.2
Von Winckel, München, 1884-1890	22.6
Leopold, Dresden, 1889-1894	2.56
Gusserow, Berlin (Charité), 1882-1886	2.66
Leopold, Dresden, 1883-1888	2.8
Von Winckel, Dresden, 1879-1883	3.
Ahlfeld, Marburg, 1881-1888	3.5
Von Rosthorn, Prag., 1891-1894	3.63
Stuttgarter, Geb.-Anstalt, 1972-1885	3.7
Braun, Wien	4.3
Kehrer, Heidelberg	4.6
Olshausen, Berlin	4,96
Fehling, Basel, 1887-1893	5.33
Sutugin	6.
Von Säxinger, Tübingen	6.5
Olshausen, Halle	8.4
Schauta, Innsbruck, 1881-1887	9.16
Schultze, Jena	11.6

As Wahl points out in the contribution from which I am now quoting, the great difference in these figures indicates a marked difference of opinion as to what are the indications for the use of the forceps. In Budapest and in Dresden, the indications for the forceps are very strictly and narrowly defined, whatever may be the rule at other institutions. At some of the medical school hospitals it is unfortunately thought right to apply the forceps in cases of normal labour in order to give instruction to the students.

This is an excellent account of the forceps treatment of labour in the Dresden Hospital which is given by Wahl.[8] It is, as already mentioned, in continuation and supplement of Münchmeyer's report six years before, and deals with the cases delivered within the hospital from 1889 to the end of 1894—six years. The whole number of cases was 9,061; forceps were used in 232 cases, that is, in 2.5 per cent. An examination of the details gives some extremely interesting information, which, however, is not altogether relevant to the present purpose. The forceps were used only on certain exact conditions and indications. The cervix must be completely dilated, the membranes ruptured, and the sagittal suture as nearly as possible in the antero-posterior diameter of the pelvic outlet. There were 212, or 91.3 per cent. of typical cases for the application of the forceps; there were only 17 cases in the whole 9,000 in which the forceps were applied while the head was at the pelvic brim. The final indication for resorting to forceps was always danger to the mother, to the child, or to both; and three to four hours was the period allowed for the second stage of labour. At Buda-Pest the time allowed for the second stage was five to six hours.

Remarkably interesting, too, is the information contained in this report regarding the morbidity and the mortality of both mothers and children. The results for both were as good as any ever published. The only point, however, to which I wish specially to call attention is the number and extent of the lacerations and injuries which are attributed to the forceps under conditions in which observations could be exactly made. Münchmeyer reports 85 per cent. of lacerations, including in this episiotomy performed by himself to prevent worse laceration, and those small injuries which could be repaired with a single suture. Schmidt found 84.6 per cent. of lacerations of the vagina and perineum, two of the latter complete, in 132 forceps operations at the clinic of Basel. The latest results at Dresden, as given by Wahl, appear to be somewhat better. In 232 cases the percentage of injuries was 31.4 per cent. These included injuries to the vagina, to the cervix, and to the perineum, some of which were slight, others extremely severe. There were lacerations of the cervix which required immediate suturing to stop the hæmorrhage, and there were six complete lacerations of the perineum. Only 18 per cent. of the cases were uninjured. Münchmeyer may well refer to the application of the forceps as "the bloodiest operation in medical practice;" and Wahl quote with approval the opinion of von Winckel that even in the hands of an experienced operator the forceps is an instrument by no means devoid of danger. Compare these results of cautious forceps delivery with Dr. George Johnston's, who had 752 forceps cases "without once injuring the soft parts," and yet he applied the forceps in the first stage.

It would be tedious and serve no good purpose to go on multiplying experiences. All that we see and all that we read seems to point to the fact that we have replaced the one great injury of parturition of former generations—vesico-vaginal fistula—by a host of others, vesico-vaginal fistula by laceration instead of by sloughing included. There is a general impression that sloughing was very common in former generations owing to long-continued pressure. It is extremely difficult to get any information on the relative frequency.

I have gone through the 700 cases which form the material of Mauriceau's work, and have found only 6 cases in which incontinence of urine resulted from tedious labour. The utero-vesico-vaginal fistulæ which we have to deal with are not extremely rare, and these are invariably produced by premature application of the midwifery forceps in primiparæ. There can be no question that many other such fistulæ are produced, but we never see them because the patients die in childbed. In addition to the lacerations and disablement which come from them as lacerations, there are numerous other acute and subacute troubles, such as parametritis and cicatrisation. When we see such injuries with attendant displacements so frequently produced, when we think of the extreme differences in the practice prevailing in one country and another or among one class of society and another, is it not reasonable to conclude that there must be something seriously wrong with our theories or our practice, or with both?

My present purpose is not so much to attempt to prove anything to demonstration, as to call attention to certain obvious evils, and by a plain statement of facts to establish a *primâ facie* case for closer investigation of the question—

> That from Discussion's lip may fall
> The law which working strongly binds.

I may, however, without irrelevance remark now, that I have myself a firm conviction that serious evils exist; that a vast amount of unnecessary misery is produced; and that it

should not surpass the wit of man to find a remedy. I am quite aware of the difficulties that meet the individual practitioner. I have been too long a general practitioner, before specialising, to have missed my share of those experiences, and perhaps it may raise a smile if I say, from that point of view, "that the gossips being uneasy," in the language of Smellie, is one of the real difficulties in the way of reform, if by "gossips" we mean those interested in the patient, who may have some sort of right to ask questions, or claim the privilege of offering well-meant but ignorant suggestions concerning the "exhausted" condition of some vigorous young woman in the first hours of a normal labour. It is only the formation of a strong professional opinion, and then a public opinion that will enable the individual practitioner to hold on to the proper course without ruinous injury to his professional position and character. But I believe that just as twenty years ago we met with men who feared to suture a spontaneously lacerated perineum, lest they should be blamed for producing the injury, and now among their successors we meet with few who would not fear to be blamed if they did not suture such a lacerated perineum, so the same process of formation of opinion by the practice of men of clear views and strong will, with regard to the use of the forceps, would bring about a similar reform.

Among the causes which give rise to the present abuses must be put in a high place our over-confidence in antiseptics. Too many of our practitioners think that they can do anything in the way of manipulation, digital or instrumental, if only they use some chemical solution with sufficient copiousness. This, I am afraid, is a fatal delusion. Such, at least, is the conclusion I am compelled to draw from my own experience of cases of puerperal fever seen in consultation. It is a pathetic and humiliating sight to see a healthy young woman dying in childbed, with her little wedding presents as yet untarnished around her, because the medical attendant has thought it right to risk the production of injuries in a first and normal labour under the mistaken impression that he can prevent bacterial invasion by means of some weak solution of permanganate of potash or mercury or other chemical which he calls an antiseptic. I believe in antiseptics certainly, but my faith does not carry me to the extreme point of the schoolboy's definition as the faculty of believing what we know cannot be true.

But the great difficulty in the way of either prevention or reform of abuses is the want of systematic practical instruction in our maternity hospitals, the absence of the precept and example of the best available men at the bedside. The consequence is that our young medical practitioners at the commencement of their careers have to learn midwifery by a process which amounts to involuntary experiment upon their patients. While the German medical student learns midwifery and gynæcology as he learns surgery, and the subject ranks with medicine and surgery in the examinations, we are still content to insist, as far as practical instruction in obstetrics is concerned, merely upon a formal compliance with certain regulations which do not necessarily imply practical knowledge worthy of the name.

The solution of the problem before us must sooner or later be attempted. That problem is, How are we to proceed in order to reconcile the avoidance of injuries to our patients which may carry important consequences to life and health in their train with the use of the scientific resources of our generation, which should enable us, under proper safeguards, to soothe and curtail the mental and physical sufferings which at the best are inherent in the process of parturition?

Cremation in Great Britain.—According to Mr. A. Spencer, Chief Officer of the Public Control Department of the London County Council (as quoted in the *Daily News* of August 18th), cremation seems to make slow progress in this country. "Public opinion," he says, "on the subject of cremation in this country can be gauged by the fact that there are only four public crematoria in Great Britain. The number of cremations at these in the year ending March 31st last were: Woking, 137; Manchester, 52; Glasgow, 11; and Liverpool, 2. The crematorium at Liverpool was only opened in September last."

NOTE ON THE ANTIVENOMOUS AND ANTITOXIC QUALITIES OF THE BILE OF SERPENTS AND OF OTHER ANIMALS.

By Professor FRASER, M.D., F.R.S., F.R.C.P.E.

In a paper recently published in the British Medical Journal (July 17th, 1897), in which it was shown that bile is able to prevent death from lethal doses of venom, the conviction was expressed that bile would be found also to possess antitoxic properties against the the toxins of disease, such as of diphtheria, tetanus, etc. Experimental evidence in confirmation of this conviction has since been obtained.

Thus there was given by subcutaneous injection to a rabbit 0.15 c.cm. per kilo. of diphtheria toxin mixed with 0.05 gramme per kilo. of the dried bile of normal rabbits, and to a second rabbit also 0.15 c.cm. per kilo. of diphtheria toxin, but mixed with 0.025 gramme per kilo. of rabbit's bile. No remarkable symptoms were produced except a temporary rise of temperature, and both animals are now in good health (a month after the injections had been made), and both have gained in weight.

The toxin employed was kindly given to me by Dr. Noël Paton, Superintendent of the Research Laboratories of the Edinburgh Colleges. Portions of the same toxin were also injected without bile under the skin of three rabbits, one receiving 0.15 c.cm., the second 0.075 c.cm., and the third 0.05 c.cm. per kilo.; and all these rabbits have died, the first in from two to three days, the second in from eight to nine days, and the third in from ten to eleven days.

In the paper referred to it was shown that there is present in the bile of serpents a constituent or constituents, the process for whose separation was described, which possesses in a concentrated form the antidotal qualities of the bile itself. By a similar process there has now been separated from the bile of the ox a constituent which likewise possesses antivenomous qualities in a more powerful degree than the original bile. Experiments with this product have as yet been made only on white rats. They show that slightly larger than the minimum lethal dose of Indian cobra venom can be rendered non-lethal when mixed with so small quantities of this ox bile product as 0.004 g., 0 003 g., 0 002 g., and 0.001 g. per kilo. These quantities, though small, are not, however, so minute as the quantities effectively antivenomous in similar circumstances of the product derived from the bile of venomous serpents.

The evidence already obtained, no doubt suggesting extension and elaboration in various directions, seems, therefore, sufficient to establish that in addition to its generally recognised functions bile possesses the power of rendering inert such organic poisons as venoms and disease toxins.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

CASE OF CARBOLIC ACID POISONING TREATED WITH VINEGAR: RECOVERY.

The patient was a servant girl, aged 18. On August 3rd, 1896, a medical man was called in to see her at 8.30 A.M. He was told that she was subject to "fits," and that she had just had one. She was then in a semiconscious condition, frothing at the mouth. She had vomited slightly; the vomit, it is stated, having a sour smell, but no carbolic acid odour was observed. She appeared to be coming round, and a "bromide draught" was administered. She was then sent home in a cab. She gradually got worse, and another meidcal man who was passing the house was called in. He diagnosed carbolic acid poisoning. Failing to rouse her or get her to swallow anything, he ordered her to the hospital.

On admission at 11.45 she was quite unconscious, cyanosed, and nearly pulseless. The lips and tongue were discoloured, and the breath had a slight carbolic acid odour. I gave her a

hypodermic injection of strychnine gr. $\frac{1}{80}$. Then, as she could not swallow, I passed a soft stomach tube, and washed her out with vinegar and water (equal parts), following this up with about six pints of warm water. I then gave her ℥v milk and ℥j brandy, and left this in the stomach. She was put into bed and kept warm.

She gradually regained consciousness, and could speak at 4 P.M. She was fed on Benger's Food and milk and soda water for the next three days. She never vomited or complained of any pain. Carboluria was present for two days. It is now a year since it happened, and she has never felt any discomfort.

REMARKS.—I was led to use vinegar in this case on account of Professor Carleton's suggestion quoted in the *Practitioner* of August, 1896. I cannot say definitely what quantity of carbolic acid was taken. A bottle of Calvert's commercial carbolic was found in her room, out of which ℥jss had been taken, but I do not know if it was full before. The long period of unconsciousness, the rapid recovery with no discomfiting after-effects, I think, speak well for the vinegar, and I think it should be given a fair trial, as it is a remedy which can be obtained in any house.

A. PAGET STEAVENSON, M.D.,
Late Senior House-Surgeon,
Hurworth-on-Tees. District Hospital, West Bromwich.

SUPERFŒTATION IN A CASE OF TWINS: PREMATURE.

ON May 31st, 1897, Mrs. J. O., married, aged 26, called at the surgery and wished to engage with me to attend her in her fifth pregnancy due in the following October. She told me she had quickened on the preceding day, and also complained that she was "unusually large," and experienced much more difficulty than at former times in getting about, etc.

On June 28th, at 10 A.M., she sent for me, and on examination I found her with little or no labour pains, the os uteri dilated to about the size of a two-shilling piece and very flaccid, with the membranes presenting. I gave her pil. opii, gr.j, telling her to send for me when the labour pains became more urgent. At 1 P.M. I was sent for in a great hurry, and on my arrival found a shrivelled 10-weeks-old male fœtus lying in the bed, still connected to the woman *per vaginam* by a thin cord, which I divided. The os uteri had dilated somewhat since the morning, and the membranes were now more tense, but no presentation could be made out. She had very few pains. I ordered her a simple milk diet (there was no vomiting), and 10-minim doses of tinct. opii in a simple saline solution every four hours. At 10 P.M. I called round to see the woman and found the symptoms unchanged.

At 1 A.M. on June 29th I was again sent for, and on my arrival found the woman having severe pains every few minutes, with violent uterine contractions. I then ruptured the membranes, thereby liberating an unusually large quantity of the liquor amnii, which at once accounted for the size and inconvenience complained of by the woman when she first came to see me. This relieved her very much. I then made out a breech presentation of a medium-sized fœtus, so immediately got hold of the feet and delivered it. It proved to be a male child of about 6 months' gestation. I was surprised to find a few minutes afterwards a third fœtus being expelled unaided, that also a breech presentation and a male child of the same size as the last.

Both these two 6-months children had a separate existence, and breathed for several minutes. There was only one placenta, which was a large one, with two cords attached. Unfortunately I did not notice the placenta of the 10-weeks' fœtus; it evidently came away earlier, and was passed unnoticed amongst the blood clots. The woman made a good recovery. I may mention that her first pregnancy was premature—seven months; her second a case of twins, also premature, which died; her third and fourth were full term, and are both living.

I find that all authorities agree that superfœtation is well nigh impossible after the third month of pregnancy; this apparently took place at about that period. The fact of the superfœtation occurring in a woman pregnant with twins is, I think, unique, and must be my excuse for publishing an account of it.

Hanley, Staffs., August 20th. W. DOWLEY EDDOWES, L.R.C.P.

REVIEWS.

THE SURGICAL DISEASES OF CHILDREN. By EDMUND OWEN, M.B., F.R.C.S., Senior Surgeon to the Hospital for Sick Children, Great Ormond Street; Senior Surgeon to, and Lecturer on Surgery at, St. Mary's Hospital. 3rd edition. London: Cassell and Co., Limited. 1897. (Roy. 8vo, pp. 504, 5 chromolithographs, 120 engravings. 21s.)

THIS work reappears, as stated on the title page, in a revised and enlarged form, still essentially practical as before, and of a size compatible with the requirements of the modern student. In the descriptions of the causation of disease full advantage is taken of bacteriological investigations, and in the diagnosis of bone lesions the *x* rays are made to play an important part. Every chapter teems with suggestions advantageous to the practitioner, and derived from the author's wide experience. In the remarks on syphilis we would certainly agree that syphilitic dactylitis is more often described than met with, but the question of the infectiousness of congenital syphilis, a matter which recently has been somewhat controversial, is settled in very positive terms.

The value of craniectomy for microcephalus is summed up at its proper value, and the operation is consigned to the limbo of the past.

The author's practical advice for the treatment of hare lip and cleft palate is very valuable, and in the latter especially the advantage gained by cutting through the aponeurosis of the soft palate, according to the lines laid down, is pointed out. In tuberculous disease of the spine preference is given to Sayre's plaster jacket, which latterly has not been so much used, over the poroplastic jacket.

Whatever may be the merits of litholapaxy in boys, the writer seems unduly hard on suprapubic lithotomy as an operation, in spite of the dire results recorded in the book. Most surgeons would consider that crushing or suprapubic lithotomy were the two alternatives, and that the old lateral operation, which is strongly advocated, would hardly be entertained.

The treatment recommended for tuberculous testis is at variance with that of some surgeons, but the author, in his recommendation of early removal, although the vesicula be affected, has a strong case when he shows the frequency of dissemination in such disease. Perhaps the most interesting chapter is that dealing with the septic diseases of bone. The account of acute septic diaphysitis is very forcibly put, and well worthy of perusal.

FOOD IN HEALTH AND DISEASE. By I. BURNEY YEO, M.D., F.R.C.P. New and revised Edition. London: Messrs. Cassell and Co. 1896. (Demy 8vo, pp. 592. 10s. 6d.)

To every student of dietetics Dr. BURNEY YEO's standard work is so valuable that a new and revised edition will be welcomed. The new volume contains two chapters not included in the first edition, namely, on Diet in Affections of the Circulatory and Respiratory Organs, and on Food in Acute and Chronic Rheumatism and in Rheumatoid Arthritis, in Skin Diseases, in Insanity, and Certain Other Affections of the Nervous System; in the appendix will also be found an account of the sterilisation and pasteurisation of milk.

In acute rheumatism, milk containing from 30 to 40 grs. of sodium bicarbonate and 10 to 20 grs. of common salt to the pint is recommended, while all meat extracts or animal broths are condemned in the febrile stage and when the urine is dense and highly-coloured; except in exceptional cases alcohol is proscribed. General directions are given as to the dietary in chronic rheumatism and arthritis, and the distinction is made that, whereas in chronic rheumatism meat should be taken in strict moderation, in rheumatoid arthritis animal food of the best quality and the most generous diet are recommended.

In skin diseases, in so far as they are dependent on dyspepsia, the dyspepsia must be treated by the usual dietetic measures, but Dr. Yeo quotes Mr. Malcolm Morris to show that diet has no influence on parasitic diseases of

the skin. Very useful directions are given as to the feeding of the insane and the methods to be followed in forcible feeding.

There is a lucid account of the means taken to ensure sterilisation and pasteurisation of milk. Perfect sterilisation, which is obtained by submitting milk to the action of continuous steaming for two hours, at a temperature of 248° F., or for thirty minutes at a temperature of 266° F., produces changes in the milk which injure it as a food. By partial sterilisation, that is, by heating for an hour at 154° to 167° F., or for three-quarters of an hour by steam at 212° F., the most dangerous pathogenic germs are destroyed. It has, however, been contended that sterilised milk is indigestible for delicate infants, and thus resort is had to pasteurisation, in which the milk is exposed to the comparatively low temperature of 140° to 147° F. Though the spores are not destroyed, fermentation is temporarily arrested, and the bacteria most likely to be present are destroyed. The introduction of the use of pasteurised milk amongst the poor people in New York has greatly reduced the infant mortality during the hot summer months.

Dr. Yeo's book is one which general practitioners cannot afford to be without, inasmuch as the feeding of a patient is as important as the drugging of him, and requires to be as much directed by science and knowledge.

Excretory Irritation, and the Action of Certain Internal Remedies on the Skin. By David Walsh, M.D. London: Baillière, Tindall, and Cox. 1897. (Demy 8vo, pp. 68. 3s. 6d.)

Dr. Walsh, arguing from a number of facts connected with various diseases, points out how some forms of dermatitis are due to irritation caused by the excretion from the blood of certain specific substances, the skin being only one of a group of excretory organs which are similarly affected. Serous and synovial membranes are inflamed by the same irritants, and he points out the probability that internal irritants which inflame the skin may be suspected of inflaming other excretory outlets. Any drug, therefore, that inflames the skin should be administered with great caution, owing to the possibility of damage to other organs. He discusses the action of certain internal remedies on the skin in the light of certain well-known facts, and in the light of observations recorded by physiologists and students of pharmacology. Arsenic, mercury, and iodine are singled out for discussion, and it is asked whether such drugs when used in skin practice may not have an injurious effect on other organs. Albuminuria, for instance, may occur during a course of mercury or of arsenic. A drug that is irritating to epithelium may in some instances damage not only the skin but other eliminating organs as well. The author considers that the action of internal remedies upon the skin might perhaps be made more energetic and more constant by stimulating the activity of that organ.

Manual of Mental Diseases. By Campbell Clark. London: Baillière, Tindal, and Cox. 1897. (Demy 8vo, pp. 484. 10s. 6d.)

In reviewing any book, the first point to determine is for whom it is intended; next, what the author's object in writing the book was; and finally, whether he has performed the task which he set himself in an efficient way. The book before us is intended for practitioners and for students, and the special object it is meant to accomplish is to provide a textbook for medical students, who are now required to show some knowledge of insanity. It is at once evident that this is one of the so-called practical books, not weighted with any speculative pathological theories. The author thinks that little has been gained by all the work done along the coarsely pathological lines. The book does not itself add to the stock of knowledge of the causes, course, or treatment of insanity. It resembles a sketch map which gives the outlines and little more.

Taking the author's view of the object of the book, we cannot complain, but while there are so many good textbooks on the subject it may perhaps be doubted whether it was really required, except as a handy book of reference for Dr. Clark's class. The author disclaims any need for apology for the book, and boldly says it must stand or fall on its merits, and we recognise many merits apart from its faults. The book is handy, is well printed on excellent paper, it is illustrated with fair photographs of patients. It covers the ground, and gives many interesting clinical histories.

The earlier chapters contain the introductory subjects, which are rather happily classed under mental constitution and mental character, with detailed reference to mental health. It is doubtless true that the consideration of sleep is one of the most important duties of those concerned with the insane, but it hardly required a special chapter when so many similar and equally important subjects are less liberally treated. Methods of examination of patients are given, and the chief symptoms which occur, and their relative importance is stated. Then follows a more formal study of the varieties of insanity, with, in most instances, good clinical examples. The importance of syphilis as a contributing cause of general paralysis is not so fully recognised as is, perhaps, desirable. The chapter on evolutional and dissolutional types is worth reading. As we have already said, the ground is well covered, so that insanities associated with bodily diseases of various kinds are recognised. The chapter on the legal relationship is also fairly satisfactory. The legal and civil relationships of insanity are pointed out, and the book concludes with copies of the various lunacy forms of England, as well as of Scotland and Ireland.

Ueber Die Funktionelle Prüfung des Menschlichen Gehörorgans. [Functional Testing of the Human Organ of Hearing.] Gesammelte Abhandlungen und Vorträge von Dr. Friedrich Bezold, Professor der Ohrenheilkunde in München. With Two Lithographic Plates and Illustrations in the Text. (Wiesbaden: J. F. Bergmann. 1897. Pp. 252. Roy. 8vo. M. 6.)

Professor Bezold here presents us a collection of his various writings and lectures on the functional examination of the organs of hearing which have been published at various times from 1882 onwards.

The first is a description of his experimental investigations regarding the conducting apparatus. These were ably carried out on the manometrical method, which, with due allowance for certain possible errors which he points out, gives results of very great value. His experiments were made both on the opened and the unopened tympanum, also with and without the removal of the incus. Among other points he dwells upon the remarkable degree of mobility of the membrane of the round window as compared with the foot plate of the stapes, the latter of which he computes as being limited to $\frac{1}{25}$ of a millimetre, whereas Helmholtz, while recommending further investigations, made it out to be $\frac{1}{14}$ millimetre. To his original paper he has added remarks upon the reflex contractions of the tensor tympani discovered by Hensen, and excited, according to Pollak, by stimulation of the acoustic nerve. Bezold believes that there is a simultaneous action of the tensor tympani and of the stapedius for the purpose of tightening up the chain of bones during the act of hearing.

The next papers are reproduction of his classical discussions of the value of Rinne's test, published in 1885, and by his statistical report on the same subject published in 1887. Very little has been added by subsequent authors, and there certainly remains very little to add.

Among his more recent papers is one pleading for the use of the continuous series of tones as a means of testing the hearing, followed by communications regarding the physiological limits of hearing for high and for low-pitched tones. Another is on the average degree of hearing at various ages. The question of operative removal of the stapes is discussed in a short paper, giving the full history of a case in which he had performed the operation, absolute deafness following within the next few days, although in the third week there returned a residuum of hearing, but much less than what the patient possessed before the operation. The eighth paper gives a clinical description of a case of ankylosis of the stapes, and one of nerve deafness, with the *post-mortem* ap-

pearances found in both. This is a valuable objective confirmation of the reliability of the methods of functional testing which are now employed by progressive otologists. There is also a description of another case of bilateral ankylosis of the stapes, in which the diagnosis made during life was confirmed by the *post-mortem* appearances.

In a description of a case of bilateral congenital atresia of the meatus with rudimentary auricle, there was preservation of hearing for the upper part of the scale, which is in accordance with the usual observation that the labyrinth, except in very rare instances, is fully developed. The present position of auditory tests is then fully discussed. The following points are brought out: That the best all-round test for hearing is the voice, especially in the form of whispered speech; that, for testing bone condition, the higher and the lower tuning forks are not available; that in all chronic affections of the middle ear, hearing is chiefly diminished for the lower part of the scale, this being quite insignificant in acute exudative processes with accumulation of secretion in the tympanic cavity; also that it is impossible by any means at present known to shut out from a normal ear the sounds of any tuning forks above a^2.

The volume concludes with a description of the continuous scale for the detection of defects of hearing, more especially in deaf-mutes. Out of 158 ears of deaf-mutes, 48 were totally deaf, and the remainder could be classed in six groups: (1) 28 retained an "island;" (2) 20 had one or more "holes" in the scale of hearing; (3) 1 had lost the upper half of the scale; (4) 8 had defects both at the upper and lower limit; (5) 18 had extensive defects at the lower part; and (6) 33 had only slight defects for the hearing of tones at the upper and lower ends of the scale, but, in spite of the considerable remainder of hearing power for such tones, were incapable of acquiring and understanding speech, and were therefore presumably the subject of some central cerebral defect. In the facts brought forward in these cases Professor Bezold finds considerable support for Helmholtz's theory.

The volume will be greatly valued by all otologists, and many will find difficulties cleared away by its study.

NOTES ON BOOKS.

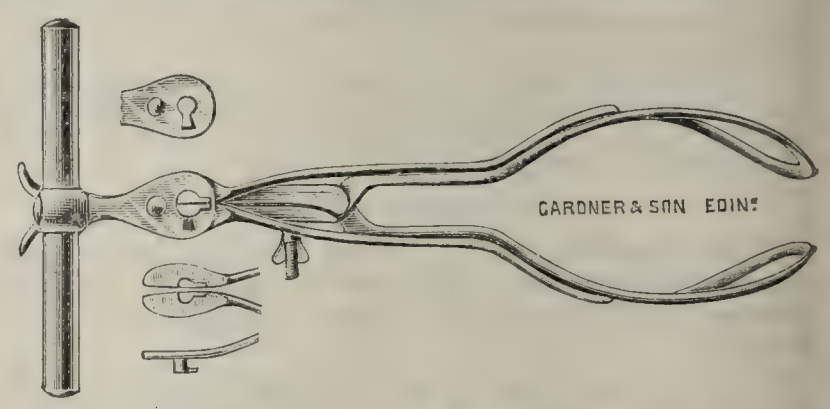
Dr. G. Beck's Therapeutischer Almanach. [Beck's Therapeutical Almanack.] Herausgegeben von Oberstabsarzt Dr. SCHILL in Dresden. 2 Semester. (Leipzig: B. Konegen. 1897. Cr.8vo, pp. 238. M. 1.)—This small work comes out twice in the year, and deals with the various advances in therapeutics during the preceding six months. The journals from which the abstracts are made are to a large extent German, some few being French and one English and one American. The abstracts are of necessity short, but the book is far from being a mere collection of recipes. The subject matter is arranged in much the usual way under the various systems. Surgery and gynæcology are treated only in so far as they are likely to be required by the general practitioner. Under diseases of the intestine and peritoneum, for example, several abstracts are given of articles on the value of tannigen and tannalbin in the intestinal affections of infants and young children; others on the treatment of chronic diarrhœa, chronic constipation, intestinal obstruction, dysentery, perityphlitis, hæmorrhoids; and others on the after-treatment of hernia, on purgatives, medicinal clysters, etc. Reference is made easy by an index of material and of authors.

THE ST. PETERSBURG SCHOOL OF MEDICINE FOR WOMEN.—The Director of the St. Petersburg School of Medicine for Women (Professor Anrep) has recently stated that 160 students have entered for the first course. By a recent ukase women who are not Christians will be admitted to the St. Petersburg Medical School for Women. The number of such students, however, must never exceed 5 per cent. of the total, which is the actual proportion at present. More than a hundred applicants have had to be refused admission on the score of want of room. The first course of study includes anatomy, histology, physiology, and the preliminary subjects, besides dogmatic theology, which is compulsory for the first half-year.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

AXIS-TRACTION FORCEPS.

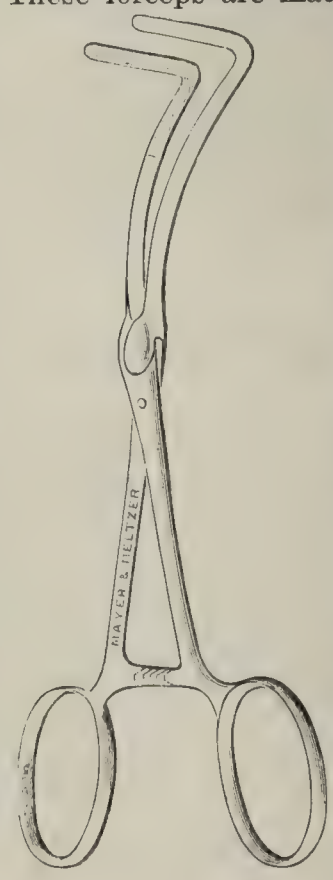
MR. F. M. PURCHAS, of Auckland, New Zealand, sends a description of a simple device for fixing the traction handle to the rods in the Simpson axis-traction forceps, and at the same time locking the traction rods. The figures show, in place of the usual stud on each rod, half a stud on each rod, set at the adjacent edges in such a way that when approximated they form one stud, which with the hole and slot in the traction plate forms a joint on the well-known Péan principle. The advantages claimed for this device are: (1)

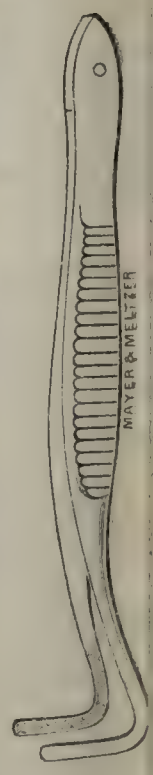


simplicity of mechanism, giving cleanliness and saving of time; (2) rigidity, the traction apparatus forming a triangle with force applied at apex, instead of a polygon with force down two opposite sides; (3) uniform ease of adjustment for all sizes of head and all grips, good and bad. A pair of these forceps has been made for Mr. Purchas by Messrs. Gardner and Son, of Edinburgh, and he finds that they work very satisfactorily, whilst the traction handle can be removed in half the time required for other methods.

NEW PALPEBRAL FORCEPS.

These forceps are made at the suggestion of Mr. H. Work Dodd, F.R.C.S., in two varieties, one with bow handles and step-catch fixation, furnished with the antiseptic joint; the other like the ordinary spring forceps. The blades are slightly curved backwards in their course, and finish by being bent forward at a right angle. At this angular portion, which is about 1 inch in length, they are slightly roughened on their inner surfaces to prevent slipping, and are so made that, closing in a parallel manner, they give an equal grip throughout this area. These instruments have been found useful as fixation forceps in various operations upon the lids, such as the removal of Meibomian cysts, plastic operations, etc. They are made by Messrs. Mayer and Meltzer, Great Portland Street, W.





BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, SEPTEMBER 4TH, 1897.

THE ANNUAL MEETING AT MONTREAL.

The annual meeting now in progress at Montreal is already, as can be gathered from our own special cablegrams, as well as from the reports supplied to the daily newspapers, an assured success. The gathering is satisfactory in point of numbers and brilliant from the personal distinction of many of those taking part in it. Among these—to name only some of the members from this side of the water—are Lord Lister, Sir William Turner of Edinburgh, Professor Michael Foster, Professor Alexander Macalister and Dr. W. H. Gaskell of Cambridge, Mr. Christopher Heath, Dr. Barnes of Carlisle (the ex-President of the Association), Dr. Stephen Mackenzie, Mr. Watson Cheyne, Mr. Malcolm Morris, Professor Leech of Manchester, Mr. Mitchell Banks, Mr. Nettleship, and other leading members of the profession. The attendance comprises some 200 members from the United Kingdom and more than 500 practitioners from Canada, including over 100 French Canadians and representatives from many other Colonial Branches. Between 200 and 300 practitioners from the United States are present as guests. The debates in all the Sections are well sustained. The Government and the administrative authorities have treated the Association with especial honour, and both the members of the medical profession and the private citizens of Montreal have been most cordial in their welcome and lavish in their hospitality. Professor Adami and the Organising Committee are to be congratulated on the success of their efforts to make this, the first meeting of the Association held outside the United Kingdom, one of exceptional brilliancy in every respect.

THE PRESIDENT'S ADDRESS.

It may perhaps be accounted not the least among the advantages of the selection of Montreal as the meeting place of the British Medical Association that it gave the President the opportunity of choosing for the subject of his address a topic almost entirely new to a large proportion of his hearers. At home, where the Association has met at least once in every great town of the three kingdoms, Presidents must find it increasingly difficult as year follows year to find anything to speak about that has not furnished matter for the eloquence of preceding orators. The climate, geology, ethnology, and antiquities of every part of our little island and its emerald sister have been dealt with; the medical history of every important city has been related; every problem of medical polity, ethics, and education has been discussed; every phase in the development of the healing art has been pourtrayed. There is not for the moment, in the somewhat narrow sphere which custom allows the President of the Association, any new thing on which he can discourse; and had the meeting been held in the old country he must perforce, with a muttered *Pereant qui ante nos nostra dixêre*, have fought old battles o'er again, and striven to put some artificial gloss of newness on well-worn themes. But if Dr. Roddick was fortunate in the opportunity which gave him a subject as full of novelty as of interest to handle, it may truly be said that his audience was not less fortunate in the opportunity of hearing such an address.

It was peculiarly appropriate that in this year of the commemoration of our gracious Sovereign's unprecedentedly long and unprecedentedly glorious reign, the annual meeting should be held in a city of Greater Britain, for the British Medical Association is, in the professional sphere, an embodiment of the idea of a federated Empire. Dr. Roddick may be a trifle sanguine in his expression of a belief that the Association will be "an important factor in bringing to a successful issue that great scheme of Imperial Federation which now exercises the minds and . . . the hearts of the leading statesmen of the Empire." He speaks but the plain unvarnished truth, however, when he says that it has become the aim of the body which Sir Charles Hastings called into being to add State to State and Continent to Continent, until all the nations and peoples who live under the British Flag are brought within the beneficent influence of the Association. It is also possible, as Dr. Roddick said, that "within the lifetime of all present the British Medical Association will be represented wherever the British flag flies." The President's testimony to the satisfaction felt by our brethren of the Dominion at the fact of Canada having been chosen as the first country outside the United Kingdom in which the Association should hold its annual meeting, is highly gratifying. It is pleasing, too, to dream of a time when his suggestion that the meeting should be held in some future year at Sydney or Melbourne may be realised. As things are, we fear that, unless the power whose help is invoked to make lovers happy by annihilating space and time should intervene, this dream must, for a time at any rate, remain unfulfilled.

Dr. Roddick's especial theme, however, was to tell his hearers something of the wonders of the land they had gone to see. His description of the physical features and climatic conditions of Canada, besides its instructiveness from the medical point of view, helps us to form an idea of the empire of which the Dominion is but a province. The fact that "the Canadian rivers and lakes collectively cover an area of 130,000 square miles, and contain one-half the fresh water on the globe," suggest that "Our Lady of the Lakes" would be a more appropriate designation of Canada than that of "Our Lady of the Snows," given it by Mr. Rudyard Kipling. This vast system of lakes and rivers has a great and beneficent influence on the climate of Canada, which is more uniform than that of Europe. Owing to the great area of Canada, however, extending as it does from the latitude of Constantinople to that of the North Cape in Norway, the range of temperature is very wide. Speaking generally, the Canadian summer temperature is from 60° F. to 70° F. In respect of temperature and

humidity, Canada may be described as "cold, moderate, and dry." Owing to its vast extent, however, and to the varied configuration of its surface, it has several distinct climates.

Canada possesses some valuable health resorts. Among these Dr. Roddick makes particular mention of the Ste Agathe district in the province of Quebec, and the Muskoka district in Ontario. The chief characteristics of the former are its immense pine forests and its moderate temperature. It is proposed to erect a sanatorium on Trembling Mountain overlooking the village of Ste Agathe at an elevation of 3,000 feet, and it is the intention of the Quebec Government to form a park of 100,000 acres, with several beautiful lakes, about the Sanatorium. The Muskoka region is said to have remarkable climatic advantages for persons with a tendency to phthisis. There is a sanatorium situated in grounds covering seventy-five acres on Lake Muskoka. Other Canadian health resorts are Southern Alberta, "the home of the cowboy," in the North-West Territories, in the Central Regions, and the Valley of Kamloops, lying between the Rocky Mountains and the Cascade Range. In both these regions tuberculous patients may, it is said, with advantage live all the year round.

Canada has also not a few mineral springs, cold and hot. Among the latter Dr. Roddick particularly mentions Banff, in the heart of the Rocky Mountains, the waters of which are credited with much therapeutic virtue in rheumatism, gout, sciatica, and glandular affections, and in certain affections of the skin and mucous membranes. We gather, however, that Canada is not yet sufficiently alive to the value of its mineral springs. Dr. Roddick's address will doubtless give a powerful stimulus to greater activity in the development of its natural resources of this kind.

Dr. Roddick claims for Canada a high character in the the matter of health, and in support of this he cites the general testimony of the medical officers who have been stationed in Canada with troops from the time of the conquest to the present day. He refers to statistics collected by Crawford which show that out of every 1,000 troops stationed in the various garrisons throughout the Empire, the percentage constantly ineffective from sickness in Canada was smaller by 7 per cent. than at Gibraltar, which was then taken as the type.

Dr. Roddick is of opinion that Canada is especially fitted to develop a hardy race capable of great endurance. Both the British and the French races thrive there, the latter apparently more than the former. The researches of Sir William Hingston have shown that the French-Canadian has increased not only in strength but in height and weight over the original Normandy stock.

Has the intellectual improvement of the stock kept pace with the physical? Dr. Roddick gives his opinion with no uncertain sound that it has. He repudiates with some appearance of indignation the amiable suggestion of Mr. Charles Dudley Warner that the cold of Canada benumbs the intellects of its inhabitants. He admits that if the intellectual capacity of Canadians is measured by the number of books produced in that country, the result is not all that could be desired; but he maintains that the climate is not to blame, at least not in winter. In summer, indeed, the heat might, he is willing to allow, be an unfavourable factor in their intellectual life. Here, however, we think Dr. Roddick hardly does his countrymen justice. To judge from his own address, and from the quality of the contributions to the work of the annual meeting by the Canadian members, we certainly cannot see that the Canadian summer has the slightest unfavourable effect on the intellectual faculties of those exposed to its influence.

There are many other points in Dr. Roddick's address on which we should have liked to dwell had space permitted. We can only heartily recommend all our readers to study for themselves what may be described in the words applied by the late Lord Hannen to Lord Russell's speech before the Parnell Commission as "a great speech and worthy of a great occasion."

THE ADDRESS IN MEDICINE.

In taking "British Medicine in Greater Britain" for the subject of his address at Montreal, Professor Osler chose a theme specially suited to the occasion, and one which he was specially qualified to treat. There is no man in the profession on the other side of the Atlantic who is better known or more highly appreciated here. As he truly says, his affiliations are wide and his sympathies deep. His works have made his name a household word throughout the medical world. A son of Canada not only by birth but by intellectual training, he has been so much among us at the annual meetings of the British Medical Association and at other times, that he has come to be looked upon as one of ourselves. Though adopted in an academic sense by the United States, he has not ceased to be a Greater Briton. We may indeed say of him in sober sooth that

> In spite of all temptations
> To belong to other nations,
> He remains an Englishman!

It is delightful to note in his Address such phrases as "We English," and even "our national arrogance," for we are as proud of our William Osler as he evidently is of being ours. Does not the *Civis Romanus sum* feeling pulsate visibly in this sentence? "In Canada, South Africa, Australia, and New Zealand, types of the Anglo-Saxon race are developing which will differ as much from each other and from the English as the American does to-day from the original stock; but amid these differences can everywhere be seen those race qualities which have made us what we are—courage, national integrity, steady good sense, and energy in work."

Tracing the evolution of British medicine, Dr. Osler points out that it presents certain national characteristics. These are typified in three of the makers of it—Linacre, Sydenham, and Harvey, representing respectively literature, practice, and science. To Linacre we owe the unearthing of the buried treasures of Greek lore and the consequent introduction of Greek methods and something of the Greek spirit into the study of disease. Linacre remains the great exemplar of the medical scholar, and Dr. Osler regrets that the study of the humanities of which he was one of the pioneers in this country is now too much neglected by the medical profession, which consequently loses a very precious quality. This regret will be shared by most thoughtful men. The "dry light" of pure science has shown us new worlds of truth, which are changing the whole face, not only of medicine but of human life; but there are elements and processes in the nature of man, having a direct influence on the well-being of the body and on the course of disease, that cannot be detected by the thermometer, the stethoscope, or the sphygmograph; that cannot be

analysed in a test tube or measured with a manometer; that are beyond the range of the finest apparatus and the most ingenious method of laboratory research. "The physician who knows nothing but physic does not even know physic" expresses a truth which at the present day teachers and students alike are in some danger of forgetting. Dr. Osler does well, therefore, to point out that a physician may possess the science of Harvey and the art of Sydenham, and yet be wanting in qualities of the highest importance to success in his mission of healing the sick. "Medicine," as he most truly says, "is seen at its best in men whose faculties have had the highest and most harmonious culture."

It is the special value of a literary training that it develops the human side of a man, and teaches him not only to know but to sympathise with the manifold feelings, motives, and manifestations of our complex nature in its greatness and in its littleness. This faculty, invaluable to those who have to treat diseased men and women, cannot be cultivated by a merely scientific training; it is to be hoped, therefore, that Dr. Osler's plea for a larger culture as a preliminary to the study of medicine, and an accompaniment to its practice, will not be without effect.

Dr. Osler well defines the relation of the three great men whom he chooses as representing the natural characteristics of British Medicine, when he says that "Linacre led Harvey back to Galen, Sydenham to Hippocrates." He rightly regards Sydenham—not Linacre or Harvey—as the model British physician "in whom were concentrated all these practical instincts upon which we lay such stress in the Anglo-Saxon character." It is a proud boast, but one fully justified, that although Bichat, Laennec, and Louis laid the foundation of modern clinical medicine, Virchow and his pupils that of scientific pathology, whilst Pasteur and Koch revolutionised the study of the causes of diseases, yet the modern history of medicine could almost be written in its fulness from the records of the Anglo-Saxon race. As Dr. Osler puts it: "We can claim almost every practical advance of the very first rank — vaccination, anæsthesia, preventive medicine, and antiseptic surgery — the 'captain jewels in the carcanet' of the profession, beside which can be placed no others of equal lustre." He might have added that in the two fields in which the greatest triumphs of modern surgical art have been won—the surgery of the abdomen and that of the brain—the pioneers have been men of our race.

In considering the development of British medicine in the new worlds which British enterprise has conquered for civilisation, Dr. Osler first takes America. In the history of medicine in the English-speaking part of America, three distinct waves of influence may be recognised. From the time of the early Colonial settlements till about 1820 British influence was predominant. In the "good old colony times" the supply of medical practitioners came almost wholly from Great Britain. Even when towards the end of last century medical schools began to be established at Philadelphia and elsewhere, the teachers for the most part were men who had spent a long time in European schools—in Edinburgh under Cullen, in London under John Hunter, at Leyden under Boerhaave. Medical literature was also largely of British origin till 1820. In Canada the medical practitioners in the early years of the present century were for the most part army surgeons who had remained in the country after the War of the Revolution or that of 1812. The military element for some years gave a distinctive stamp to the profession of the Dominion, and Dr. Osler shows what an influence for good these men with their habits of military discipline had in moulding the character of the profession in Canada. Between 1820 and 1860 medicine in America was largely under French influence; after 1825 American students no longer went to Edinburgh or London to complete their education, but to Paris.

In Canada the same period witnessed the establishment of English universities and medical schools, Edinburgh being the intellectual metropolis for Montreal, and London that for Toronto and Kingston. The local French influence on British medicine in Canada has been very slight. Attempts to bring about a professional fusion between the two nationalities have failed, and the development of medicine in the two sections of the Canadian people have not been successful. About 1860 American medicine began to come under German influence, which has continued to be preponderant till the present time.

Turning to Australasia, Dr. Osler finds that there the medical traditions are more uniform, and have filtered through British channels. The majority of practitioners have received their training in the schools of the mother country. Dr. Osler alludes to the difficulties surrounding the proper regulation of the practice of medicine in Australia, which he attributes, in part at least, to the absence of the military element which had so good an effect in Canada. Another unsatisfactory feature of the profession in Australia, under present conditions, is the deplorable frequency of quarrels among its members, which Dr. Osler justly considers to be at least in some measure due to "the atrocious system of election to the hospitals, which plunges the entire profession every third or fourth year into the throes of a contest in which the candidates have to solicit the suffrages of from 2,000 to 4,000 voters." Nothing more likely not only to breed dissension but to degrade the moral tone of the profession than such a system could well be imagined.

Dr. Osler touches lightly on British Medicine in India. He acknowledges the services of the many distinguished and devoted men whose beneficent work has so largely contributed to the extension and consolidation of our empire in the East. But what most impresses him is "the little done, the undone vast," notwithstanding the unequalled field offered by India for the study of cholera, plague, malaria, dysentery, leprosy, and other diseases. He echoes Mr. Ernest Hart's denunciation of the apathy of the Indian Government in regard to the scientific investigation of the diseases prevalent among the millions whose welfare is in its keeping. Quite lately the first streaks of the dawn of a brighter day have appeared, and it is possible that India, instead of being the cradle of epidemics which lay waste the world, may become the source of a light which shall show us how they may be prevented.

In the peroration of his admirable address, the spirit of prophecy comes upon Dr. Osler, and he speaks of a time—at the end of next century—when ardent old-world students will cross the Atlantic in search of great masters in Montreal and other cities of the great Western Continent. At the meeting of the American Medical Association earlier in the summer, Dr. Nicholas Senn had already prophesied in the

same sense, though, as was natural in addressing an American audience, a good deal more positively and more definitely. Whatever changes the whirligig of time is to bring in the coming centuries, the lesson for the present hour is that so eloquently enforced by Professor Osler, "to cherish the best traditions of our fathers, and particularly of the men who gave to British medicine its most distinctive features; of the men, too, who found for us the light and liberty of Greek thought—Linacre, Harvey, and Sydenham—those 'ancient founts of inspiration,' and models for all time in literature, science, and practice."

THE ADDRESS IN SURGERY.

There are many difficulties that attend a Presidential address at the annual meetings of the British Medical Association, and among them is the right choice of a subject. The President of each Section must decide between things ethical, and scientific, and historical; between coasting round a whole continent of thought, and exploring some one small region; whether he shall speak of the past, the present, or the future, or all three of them. The ethical address is often a failure, too vague in its generalisations, *de omnibus rebus et quibusdam aliis;* and the same objection holds good against speaking of the politics of our profession. Again, there is risk of failure in those addresses that go to the opposite extreme, being devoted to the full exposition of this or that special subdivision of scientific work. The historical mode is the surest way to success; but there is no great pleasure or profit in a bird's-eye view of the whole history of our art, from Hippocrates down to ourselves. Indeed the name of Hippocrates should be put aside at all Association meetings; and, it may be added, he has figured in so many introductory addresses, that it would be well to let him rest for the next few years. Therefore the President, if he has taken history for his motive, must limit himself to one period, or to one set of facts.

And this is the excellence of Mr. Mitchell Banks's address in Surgery: that he brings together the lives of a few great surgeons, men far apart in time and place, but united in their high calling. It would make a good book, the history of military surgery, and Mr. Banks should write it; for he has already won his laurels on this field of literature.

And what he says of "The Surgeon of Old in War" is of especial value both for the freshness of the subject and for the heroic note in it. He begins with the Romans, and tells how their legions were not left without organised medical service; how tablets have been found in Northumberland, Rome, Verona, and "the Elysian Fields near Baiæ," witnessing that where the legions went, there the doctors went with them. But why does Mr. Banks begin with the Romans? Surely the Greeks had "surgeons of old in war," as far back as the Homeric age: Machaon, and Podalirius, and the rest of them:

> ἰητρος γὰρ ἀνηρ πολλῶν ἀντάξιος ἀλλῶν
> "A wise physician, skilled our wounds to heal,
> Is more than armies to the common weal."

Therefore, if he will write this book, he should begin with the Greeks, and having done with Greece and Rome, and come to "the Middle Ages," there is a wealth of facts, as he knows, in Malgaigne's colossal introduction to his edition (1840) of Paré's works; all about Saint Louis and Jehan Pitard, and the medical service that Charles the Bold, Duke of Burgundy, organised for his army.

But he must reconstruct his account of Paré. For all that Malgaigne says about it, the date of Paré's birth was 1509 or 1510, not 1517; nor did he "lead an incessantly active life," in the ordinary sense of the words, for the first few years after he was born. It is not probable that the Verdun story is genuine; there was no battle or siege of Rheims or of La Fère; he went to Dreux the day after the battle; and we do not know that he was at Saint Quentin or at Moncontour, or that he attended Charles IX in his last illness. He did not write to his wife for ransom after the fall of Hesdin; it was M. Goguier who wrote. He did not "invent the ligature," and never said that he did; he only invented the use of it in amputations; and he did not take for his motto that favourite saying of his, "Je le pansay, Dieu le guarist;" the motto he chose for his own portrait in his books was "Labor improbus omnia vincit."

The lives of Clowes and of Lowe, of Woodall and of Wiseman are delightful reading, and Mr. Banks has handled them so well that he has left us wishing for more. Then he shows us a man who excelled all of them; and if he had begun with Paré and ended with Baron Larrey, he would have persuaded his hearers that the highest names in military surgery belong not to the English-speaking nations but to the French. Therefore, to redress the balance, his peroration honoured the names of Thomson, Wolseley, Landon, Whitchurch, and Reade—to whom he should have added Thomas Heazle Parke.

Then, for the final touch, he gave that most memorable fact that fourteen men of our profession have the Victoria Cross; and with this reminder offered to Her Majesty's Government for their consideration, ended a most admirable address, off the beaten track, on the right lines.

The Japan Red Cross Society is, we understand, about to build two vessels (2,600 tons each) at a cost of one million yen, for the use of patients in time of war.

The Right Honourable Lord Barnard will distribute the prizes and scholarships at the opening of the Winter Session at the University of Durham College of Medicine, Newcastle-on-Tyne.

Princess Henry of Battenberg, Governor of the Isle of Wight, visited Ryde on August 30th for the purpose of laying the foundation stone of a children's wing of the Royal Isle of Wight Infirmary. The wing is to be erected in commemoration of the Diamond Jubilee. Over £6,000 has been subscribed, and provision is to be made for ten cots.

A telegram from Bombay states that the plague is getting worse round Poona, and several cases have been detected coming from the out stations. Five hundred people are now in the segregation camp, and the cantonment camp is being reopened. The 4th Cavalry are under canvas at Sirur owing to plague having appeared in their lines. Professor Haffkine is performing inoculation at Kirkee, and a house-to-house visitation is being carried out.

SOME FORTHCOMING CONGRESSES.

Among the medical gatherings to be held within the next two months are the Congress of Railway and Marine Hygiene, to be held at Brussels, September 6th to 8th; the International Congress of Neurology and Electrotherapy, also at Brussels,

September 14th to 19th; the French Congress of Surgery, to be held in Paris, October 18th to 25th; the meeting of the French Urological Association, to be held in Paris, October 21st to 23rd; the National Dental Congress, Paris, October 28th to 30th. The Italian Congress of Medicine will be held in Rome in October. During the present week (August 30th to September 6th) a Congress for the Repression of the Abuse of Alcoholic Drinks is sitting at Brussels.

BATHING IN DRINKING WATER.

East Londoners have much to put up with from the East London Water Company, but now a new danger threatens them. Four youths have been summoned for unlawfully bathing in a certain aqueduct belonging to the East London Water Works Company. It seems that last year a lad was drowned at the same spot, and the practice of bathing in the cutting having become common, the Company took action in self-defence and on public grounds. Certainly we can support their argument that if someone happened to be drowned there and the body were not be removed from the water, their supply would be seriously contaminated and the health of the consumers jeopardised. The Company's concern for the purity of the water is admirable, but this should not blind the eyes of the public or the legislators to the real sins of a company which can take the money of thousands of persons, and then keep them short of a necessity of life for which they have paid in advance. We have watched in vain for any adequate explanation of the state of things shown us by the curate of St. Jude's in Whitechapel, when some 15,000 persons were deprived of sufficient water, having only that which they could fetch from the standpipes in the road, and this during the weeks when the temperature was at its highest. The sickness and suffering which such neglect causes can hardly be estimated, and when we also learn that hundreds of persons had to be turned away from the Whitechapel Public Baths because the East London Water Company failed to give their customary supply, we are bound to acknowledge that East London has a patience which can only be explained by a lamentable indifference to cleanliness. It is, however, good news that the Government have decided that their Bill, insufficient as it is, should date from September 1st instead of November 1st, so Whitechapel has gained something by its sufferings and the energy of one of its curates.

THE RINDERPEST.

The preliminary investigations undertaken by the two French scientists from the Pasteur Institute, Drs. Danysz and Bordet, in conjunction with the Government veterinarian, Mr. A. Theiler, have been so successful as to warrant their advising the authorities to adopt their method of inoculation. The experiments were carried on at the trial station at Waterfall, Pretoria, from February 15th to June 5th. The report recently presented to the Government contains much interesting matter, and in addition to a summary and criticism of other methods of treatment, gives the following details of their procedure: For injections they use the defibrinated blood of "salted" animals, which they find to possess a far greater antitoxic strength than either the gall of Professor Koch or the mixture of blood and gall and "Zucht" of the Waterburg method. With regard to inoculations with gall, since the publication of Professor Koch's report thousands of animals have been inoculated with the result that in some cases the gall must be looked upon as a (actual infectant, communicating the disease to the inoculated animal; in other cases the gall can produce a mild disease, and thus the animals are "salted," while in others no results at all follow. The following are briefly the details of the method. For the purpose of procuring the blood those animals must be bled which have contracted the disease in its most severe form, and which have been "salted" one to five months previously, and have received at least one injection of rinderpest blood. The blood must be used after it has been defibrinated. The animals to be inoculated must be treated in two different ways, according to whether they are still healthy or already sick. The first injection is made with the blood from a "salted" animal; the inoculated animals are then allowed to mix with the sick oxen at the time of the first injection or on the following day, and for some days after. The second injection is made five days after the first, with 100 c.cm. of "salted" ox blood. Animals that are ailing at the time of injection receive from two to three times more blood from a "salted" ox than healthy animals. It is stated never to be dangerous to inject even large quantities of curative blood, and in the case of animals that have shown visible signs of rinderpest 200 to 300 c.cm. are injected immediately, and this is repeated two days later. With regard to the results which have been obtained by this method, in one case a herd of 106 healthy animals was treated, and all were satisfactorily "salted;" in another case 260 infected animals were also inoculated, and not a single one died. Fifty-three others which were advanced in the disease were inoculated, with the result that only 3 died, the remaining 50 being completely cured. With a view of taking the necessary steps to prevent the possible return of the rinderpest, it is proposed to convene a congress at which shall be represented the Governments of the South African Republic, the Orange Free State, Cape Colony, Zululand, Natal, and the Portuguese possessions. In order to facilitate the speedy trial of the above methods, Drs. Danysz and Bordet have offered to place three of their assistants at the disposal of the Government.

ABSTINENCE AND LIFE INSURANCE.

In corroboration of our reference, in an article on "The Progress of Temperance," to the lower rate of mortality in the groups of abstaining assured lives than in the groups of non-abstainers, Mr. W. E. Wright cites the experience of the Sceptre Life Association. The calculations of mortality have been based on the Institute of Actuaries H. M. Table, and extend over thirteen years—1884-96. Among the abstainers the expected deaths were 744, while there were only 432, a percentage of 58.06. Among the non-abstainers, the number of deaths looked for was 1,399, and the actual number who died were 1,131, or 80.84 per cent. of the expectancy. These with similar experiences of insurance societies which have two groups of lives, abstaining and non-abstaining, present an object lesson of great interest to physiologists and physicians.

LIABILITY FOR PTOMAINE POISONING.

The words of an Act of Parliament may sometimes be applicable to cases which certainly were not contemplated by those who framed it. The result may nevertheless be wholesome. It is an old principle of law that persons who sell goods to be used for a particular purpose warrant them to be fit for that purpose. This principle was recognised and repeated by the Sale of Goods Act, passed a few years ago, which provides that where an article is sold for a specific purpose the vendor is deemed to "warrant it to be fit for that purpose." The county court judge at Newcastle-on-Tyne has recently had to apply this law to somewhat unusual facts. In March last, several people who lunched at a restaurant partook of roast pork, which to all appearance was quite suitable for food, but which, as the result showed, was affected with ptomaines, and therefore highly poisonous. All who partook of the pork were subsequently seized with violent pains in the stomach, followed by diarrhœa and sickness. Some of them suffered severely, others more lightly. Fortunately no one died. Under these circumstances a test action was brought against the restaurant company by one of the consumers of the pork, claiming damages for the injury and discomfort to which he had been put. The facts that the plaintiff had been made ill by reason of eating the pork, and that the pork was to all appearances fit for food, were not really disputed; and it became a question of pure law whether under such circumstances the restaurant company were

liable to pay damages to their customer. The judge held that they were. The meat was sold for the purpose of being eaten, and, in such circumstances, one of the conditions of the contract of sale was that the meat should be fit for eating. The knowledge, or absence of knowledge, on the part of those who served the meat, that it was unwholesome, was immaterial. They contracted to sell eatable meat, and had failed to supply it, and must pay the damages resulting from their breach of contract. This judgment is to some extent a new departure. But apparently it only applies recognised legal principles to new facts, and applies them rightly. Leave to appeal was given, and, as the question is one of pecuniary importance to the defendant company, the appeal will probably be argued strenuously after the termination of the Long Vacation. There seems, however, to be no reason to anticipate its success. The law very properly recognises the importance of checking the sale of unwholesome food. In some cases those who sell it may be punished criminally, even though it is not shown that they knew it to be bad when it was exposed for sale. There is less reason for considering absence of knowledge as a legal excuse when the question is one of civil responsibility for injuries due to the sale of unwholesome food. Those who embark in the provision business have better opportunities of discovering the qualities of the goods they sell than their customers can be expected to have. They sell their goods for the purpose of being eaten, and it is their business to take care that they are fit for that purpose. The business is commonly supposed to be profitable, and the liability, on very rare occasions, to pay damages to persons who can prove that they have suffered injury by reason of partaking of food which was unwholesome when it was sold, is not likely seriously to diminish the profits. The case does not seem to be one of those hard ones which proverbially make bad law. But it is a wholesome reminder to dealers in food that besides their criminal liability, which by reason of legal technicalities can often be successfully evaded, there is a civil liability to pay damages. The object of the law should be, and is, to check the sale of unwholesome and doubtful food. The knowledge that such sales may prove expensive to the vendor will go far towards enforcing care.

THE MEDICAL EXAMINATION OF ARMY CANDIDATES.

This matter is discussed from time to time in the newspapers, and has lately been reopened. It is one, we think, that presses for some solution; for the present system of medical examination after the competition seems open to grave objection, as inflicting hardship on the candidates and their guardians, without any benefit that we can discover to the service. Taking that last which should be first is placing the cart before the horse; for it stands to reason that physical fitness is the first essential, without which mere literary ability is unavailing. As matters stand, it appears a youth may spend years in special study, and pass with flying colours, only to be afterwards physically rejected for a disability overlooked, or perhaps unsuspected and unknown. The loss and disappointment over such a case are only too evident. Of course, it may be retorted that parents and guardians should provide against such a contingency by taking care to discover physical disabilities in their boys. But in such discovery civilian medical men are not always aware of the special points which constitute grounds of objection, and it is generally difficult to get the opinion of an old and expert army medical officer, which is often sought. We have lately noticed the suggestion of a periodical medical examination of intending candidates for Woolwich and Sandhurst at intervals of six months; but this, we fear, is quite impracticable. The old system of medical examination just before the competition no doubt involved much trouble and expense in assembling a large number of medical officers for the purpose, but it was the only fair one for all concerned; although it did not obviate the previous useless study and expense to the candidates physically rejected. Could not some system be devised by which the physical fitness of intending candidates should be ascertained, say, a year before the competitive examination? They might be called upon to furnish a medical certificate, with special reference to such points as vision, varix, varicocele, etc., before coming before the Army Medical Board; the candidates might then be examined in the light of such certificates and weeded out, and those rejected thus warned in time not to prosecute useless studies. Of course successful candidates at any ensuing competition would have to be re-examined medically to ascertain that no disability had arisen in the interval. The argument of trouble and expense can no doubt be brought against this or any other really effective scheme; but it is surely worth while securing the very best material for the officers of our army in a fair manner, even if it cost the country something to get them, and throw additional work on the War Office.

PRIVATE ASYLUMS ON THEIR TRIAL.

Once more an accident has occurred in an asylum, and certain papers write as to the abuses which are to be met with in private asylums. Such attacks are not only unjust but cowardly, inasmuch as those who are attacked have no power to defend themselves. The evidence on which most of the attacks rest is derived from patients many of whom are still insane, who are ever ready to pour out their complaints to anyone who will listen. From long personal experience, however, we can state positively that nine-tenths of the charges are false or exaggerated. Lunatics if at large are often dangerous, and the public is justified in seeking their safe custody and removal to suitable asylums, yet the same public hedges round with difficulty the medical duty of certification, and is too ready to credit the statements of those who, having been in asylums, endeavour to prove that they were unjustly certified or unduly detained. It is impossible to avoid accidents due to lunatics at large or in asylums; the custody of such patients is a very trying duty, and though no supervision can be too constant and thorough, an immense amount of harm is done by false and exaggerated reports such as those referred to.

THE WORK OF THE "DAILY CHRONICLE" FUND FOR THE GREEK WOUNDED.

The report of the chief medical officer of the *Daily Chronicle* Fund for the Greek wounded details the work so far accomplished. Two hospitals were completely equipped and in active operation. They were situated, the one at Piræus, the other at Chalcis, on the Island of Eubœa. The surgical part of the work was carried out by five English surgeons, of whom three were Fellows of the Royal College of Surgeons, while all had been house surgeons at one or other of the large London hospitals. The fund had admitted the supply of a complete equipment both for major and minor surgery. At both hospitals there was an operating theatre very fairly equipped with operating table, steriliser, etc. One of the chief difficulties was the inadequate supply of hot water, as all the Greek cooking is done over small charcoal stoves. An ample supply of cold sterilised water was, however, obtained from Berkfeld filters, and the additional precautions adopted of antiseptic rather than the more modern aseptic technique. In all, over 60 operations were performed under chloroform, in addition to many minor ones which did not need an anæsthetic. The majority of the operations were for the removal of bullets or portions of bone, and informal operations on joints. The Greek soldiers are stated to be good patients, and their wounds heal well. This is attributed by Mr. Francis C. Abbott, the chief medical officer, to the hardy life of the peasant, and to the fact that there is practically no drunkenness in the country. Most of the wounds were caused by the Martini, and a few only by the Maüser bullet, with which rifle one Turkish brigade was armed, but there was sufficient experience of its

clean penetrating power to emphasise the importance of rendering the Lee-Metford bullet more destructive in its transit. In all, 145 in-patients, and about 270 out-patients were treated. Among the 145 in-patients there were 10 deaths, of which 4 were medical cases without wounds, taken *in extremis*; these, with a few other medical cases, thus reducing the surgical mortality to 4.6 per cent. The Roentgen ray apparatus supplied by the fund proved of great practical benefit. The apparatus was set up at the Piræus Hotel. In taking the skiagraph glass, negatives were replaced by the use of the Eastman's special paper. In many cases fluorescent work is reported to have been satisfactory. In all, 8 bullets were discovered in various parts of the body, including 1 in the lung, 2 in the thigh (1 of which was embedded in the middle of the bone), 1 in the shoulder blade, 2 in the upper arm, 1 in the hand, and 1 at the back of the orbit. All these bullets had eluded the previous search of the surgeons, and most of them were subsequently successfully removed, though in one or two cases their position rendered this impossible. From this record it will be seen that the *x* rays can be practically and usefully used as a base hospital. The equipment of instruments has been left in Greece to be given to the Greek hospitals most in need of them.

PASTEUR INSTITUTE IN INDIA.

The Maharana of Dholepore has been heartily congratulated by the Viceroy as the prime mover in the Victoria Pasteur Institute in India, and promised every encouragement. About half a crore of rupees will be required before work commences, of which 20 lacs are subscribed. The Indian chiefs are concentrating all their efforts for this purpose instead of contributing to other objects in commemorating the Jubilee.

ENTERIC FEVER IN INDIA.

A severe outbreak of enteric is reported from Cherat, the sanitarium near Peshawar. Up to the date of the last homeward mail there had been admitted to hospital 1 officer, 50 men, 2 women, and 1 child. Enteric fever is also reported at Quetta, where 5 officers were in hospital. The type of the disease is reported to be mild.

THE INTERNATIONAL MEDICAL CONGRESS.

The St. Petersburg correspondent of the *Standard* states that the generally-expressed opinion is that the twelfth International Congress, in spite of all the difficulties with which the Council has had to contend, has been a great success. Few mishaps have occurred, and the large majority of the members will take away pleasant recollections of the hospitable attentions of the people of Moscow. Individual misfortunes have chiefly occurred from the loss of luggage and the consequent impossibility of taking part in the ceremonies. Among the sufferers are an official representative of the Admiralty and a well-known West End physician. The adventures of the latter in search of a lodging show the extreme attentions of the organising bureau, two members of which spent the greater part of a night in driving about Moscow with the benighted traveller, who had lost everything; and they only succeeded in getting him into an hotel at 5 o'clock in the morning, when on the point of attempting to smuggle him into a hospital to which one of them was attached. There were over a hundred similar cases, which were due generally to linguistic difficulties on the Russian frontier, combined with some mistaken intelligence concerning luggage examination, given apparently in Berlin.

THE DIARRHŒA OF 1897.

A correspondent writes to the *Times* asking for suggestions as to the cause of the considerable increase of infantile diarrhœa, and inquiring as to the practicability of the sanitary officers giving advice and help to mothers and to those having the care of children. It may be generally stated that the Public Health Service believe that diarrhœa is produced by changes taking place in food, produced by probably several allied organisms, and that therefore the *materies morbi* is swallowed rather than breathed. This, at all events, is a good working hypothesis; it explains why it is most rife in crowded, dirty, and insanitary places; it fits in with its undoubted relationship with soil and temperature and also with its seasonal character. We are, however, perfectly in the dark as to why this and various other maladies attain periodically more or less virulence and become epidemic, nay, pandemic, and can only say in vague terms that in this respect such diseases strictly copy the lower vegetable and animal world. In certain years moulds or blights or insects spread to a prodigious and unaccountable extent. A considerable number of our health officers issue printed instructions as to the care and management of children when diarrhœa threatens. Whether such advice reaches the classes most requiring such elementary knowledge is doubtful.

INADEQUATE FEES TO WITNESSES.

Another case has come into Court—and the newspapers—in which a medical witness has been subjected to abuse because he demurred to giving evidence for an inadequate fee. The individuals who are so treated are to be commiserated, but the fact that cases are now frequently reported in which professional men object to give their time and services gratis, shows that the grievance under which they labour is becoming recognised. While they were content to grumble in private, no one thought whether the fees allowed for attendance in court were adequate or not. Now that objections to their inadequacy are frequently urged in open court, the fact of their being insufficient is becoming apparent to the public. When the scale of fees will be revised it is impossible to say. Professional men who object to them do well to publish their objections on all suitable occasions. The latest objector, who was summoned as a witness in the City of London County Court, does not seem to have had as strong a case as many others. According to the report, he was summoned on behalf of a pauper plaintiff who had sustained personal injuries, and was paid a guinea for his attendance, which probably must have been supplied by the solicitor conducting the case. Considering the case, the fee was quite as large as could have been expected. The witness naturally failed. May the next objection be better founded and more successful.

MR. HALL CAINE AND THE NURSES.

When the writer of a popular book allows himself free scope among professional technicalities, it appears to us that the first step necessary is to acquaint himself with the manners and customs of the profession from which he selects his characters. This is the more important in a book intended for the people, as the work will be read by the class that accepts everything in print as of the highest authority. The portraits of Sairey Gamp and Betsy Prig are so true to life, though intentionally exaggerated, that the contemporaries of these "nurses" of the past at once recognised the familiar figures. It is not so with the heroine of *The Christian*. Mr. Caine has sketched an impossible character, and placed her amid hospital surroundings which exist only in his own imagination. Glory Quayle, a native of the Isle of Man, an inexperienced and undisciplined girl, flings herself into a London Hospital without any thought of fitness or desire to qualify for the work. Whilst she is probationer at "St. Martha's Hospital" she is represented as doing and seeing things which never come within the range of a first-year's probationer. On the first night of her arrival she is turned loose by the housekeeper to roam where she will through the hospital. In her first letter home she relates how a drunken house-surgeon wishes to inject morphine into a patient recovering from kidney trouble, and, she—the probationer of a month or less—suggests to the patient to feign sleep, whilst she tells the doctor she has lost the syringe.

She goes to a nurses' ball at St. Bartimæus's Hospital given in the lecture theatre, where the President of the College of Surgeons opens the ball with the matron, and later on the nurses and students are left by their seniors to their own devices. This incident is outside the limits of possibility, as the author could have ascertained had he taken the trouble to make himself acquainted with the inside of the lecture or operating theatres. The next letter home has a tale of the probationer loosening a bandage at the request of a patient, and of playing monkey-tricks in the ward in the absence of the sister; whilst being reproved by the house-surgeon and the sister she is called out of the ward by the chaplain, who endeavours to advise and control her. One of Glory Quayle's fellow nurses is convicted of immorality; this unhappy woman is brought before the Board, where she is lectured and admonished on her sad condition by the assembled gentlemen, whilst the probationer defies the Board, accusing them of heartless brutality to the unhappy nurse. Were such conduct possible on the part of any hospital committee towards one of its servants in her time of supreme trouble, we might be tempted to agree with Glory Quayle, but any nurse thus unhappily circumstanced would be dealt with by the matron, her action being endorsed by the Board. In this incident and that of the hospital ball it appears to us that Mr. Hall Caine has revived some old newspaper reports of the proceedings of Boards of Guardians before these public bodies had attained their present state of enlightenment, and has served these up as depicting the everyday life in a London hospital. Mr. Caine's hospital is one in which there is an absence of all discipline, a hospital in which a probationer can run a course of unfettered licence, outraging all ideas of decency, in which she can twist the authorities round her fingers, and make its routine administer to her unbridled love of pleasure—a picture of a hospital which we are proud to say is not to be found within the four seas. The nursing profession naturally feels itself much aggrieved by this false portraiture and gross perversion of the truth. This is no caricature, it is a monstrosity; and its exhibition in a popular book is in our opinion a grave offence against that good taste which should always control a writer in describing any particular class of the community.

CLAYBURY ASYLUM.

On Monday, August 30th, Dr. Collins, the Chairman of the London County Council and a prominent member of the Asylums Committee, to whose advocacy the Pathological Laboratory for the London asylums is due, distributed the certificates of the Medico-Psychological Association for proficiency in mental nursing to the male and female staff. He delivered an interesting address reviewing the treatment of insanity from the early days of "Bedlam" in 1653, when the victims of disease were imprisoned and ill-treated for being a "displeasure to God and an annoyance to the king's subjects." He urged upon nurses and attendants the cultivation of forbearance, gentleness, and graciousness in their dealings with the insane, saying that their duty was to extend human happiness and lessen human pain, and that kindness and softness of manner would go far to assist in the recovery of those whose lives had probably been, before a stern and relentless fate decreed otherwise, full of hope, energy, and happiness.

THE ROYAL VICTORIA EYE AND EAR HOSPITAL, DUBLIN.

The long-talked-of amalgamation of St. Mark's Ophthalmic Hospital and the National Eye and Ear Infirmary in Dublin was recently effected by Act of Parliament; and since then Her Majesty has been graciously pleased to direct that the amalgamated institution shall be called the Royal Victoria Eye and Ear Hospital, Dublin. The two old institutions have now come under the control of one council, the first members of which are named in the Act, but which in future will be elected annually by the general body of life and annual members at a general annual meeting. We are glad to see that under the Act a good representation of the medical staff on the Council is provided for, inasmuch as three of the senior staff must always be *ex officio* members of it. It is intended to build a new hospital for 120 beds, 40 more than the present hospitals together contain, in which the latter will actually be combined. This new hospital is to be in all respects up to the standard of modern ideas in hospital construction, and substantial funds are in hand towards its cost. In the meantime the old institutions will continue to do their work as hitherto.

UNQUALIFIED ASSISTANTS.

At an inquest held recently at Islington, upon the body of an infant, evidence was given that the child had been attended by an unqualified assistant named Day, who visited and prescribed for the child in the absence of his father, Dr. Charles Day, Benwell Road, Holloway. The child died, and a certificate was given by the unqualified assistant in the name and with the qualifications of his father. As we understand that ulterior proceedings are about to be taken against Mr. Day by the Registrar-General, we refrain from commenting upon the case. It is sufficient to say that the attention of the General Medical Council has already been called to it.

EARTH FOR EARTH CLOSETS.

With the increasing favour towards the earth closet for farm and other country houses and cottages, we have remarked a disposition to substitute ashes for earth or peat, thus getting rid of two kinds of refuse at one time, while the sifting avoids the waste of unburnt fuel. But however breezes and ashes may deodorise the excreta, or at any rate conceal their smell, they are wholly devoid of the power of nitrifying organic matter and reducing it to the inorganic state in which only is it available as food for plants. Still the ash closet, though not so inoffensive as the earth, has much to recommend it, especially in small households where the work devolves on the family or female servants; and there are few facilities for the preparation and storage of suitable earth, while the manure, though in a cruder state, is not less valuable as a fertiliser, and in stiff soils even more useful. But this nitrification by means of the bacteria of the soil applies to dead organic matter only, and in no way affects the question of the possible danger arising from the retention in the earth of the bacilli of enteric fever and other pathogenic microbes. Little is at present known of the extra-corporeal life of the so-called facultative parasites, and there are good grounds for suspecting that even under unfavourable conditions they do not, when turned adrift, perish so soon as is commonly assumed. Dr. Sinnhuber, in his inaugural thesis at Königsberg, describes some researches carried out by him under the direction of Professor E. von Esmarch, in which he found that in pulverised garden soil, kept in a moderately moist state, cholera and enteric bacilli retained their vitality for several months, perhaps for indefinite periods, but that they were speedily destroyed by the addition of small proportions of quicklime thoroughly incorporated with the earth. With 4 per cent. they perished in four hours, with 6 per cent. in less than an hour, and with 8 per cent. within fifteen minutes. If kept fairly dry the mixture lost its activity very slowly, not, in fact, until the lapse of many weeks or months, while it was fully as efficient a deodoriser as the pure earth. He therefore recommends as the best material for earth closets a mixture of 10 per cent. of quicklime with dry garden mould, stored under cover from the rain and well worked together, as calculated to act as a disinfectant or germicide as well as to render excreta inoffensive to the smell without any deterioration of its value as a manure.

SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

MONTREAL.

[By Special Cablegram.]

The sixty-fifth annual meeting of the British Medical Association opened at Montreal on Tuesday, August 31st, with a choral service in Christchurch Cathedral. An eloquent sermon was preached by Bishop Dumoulin, of Niagara, from Acts x., 38. The cathedral was crowded, among those present being the Governor-General.

In the afternoon the opening meeting was held in the Windsor Hall. The hall, which is capable of seating about 3,000 people, was filled by a large and interested audience, which included, in addition to the members and guests of the British Medical Association, many of the leading citizens of Montreal.

The chair was taken by Dr. Saundby, President of Council, who formally inducted the new President, Professor T. G. Roddick.

The Mayor of Montreal welcomed the Association, and invited guests to study the natural resources of Canada and its climatic characters. He dwelt on the loyalty of Canadians and on the great progress made by educational institutions, and described the hospitals of Montreal.

Sir Adolphe Chapleau, Lieutenant-Governor of the Province of Quebec, gave assurance of a hearty welcome from every citizen to members of that important Association, whose visit must be fruitful in beneficial results. In an eloquent peroration he dwelt on the loyalty of the French Canadians to the British Empire.

Lord Aberdeen said the whole Dominion welcomed so many distinguished members of the medical profession and its representative Association. The British Medical Association appealed to their public spirit. Canadians gave of British welcome to their brethren, their kith-and-kin.

Professor Adami presented the foreign delegates and Branch representatives to the President and Governor-General.

Dr. O'Donnell invited the Association to meet at Winnipeg at some future occasion.

Dr. Saundby thanked him, and said the offer would be considered by the Council.

Professor Roddick delivered his address (published at p. 569), which was much applauded.

Lord Lister, who was very warmly received, moved a vote of thanks, and dwelt on the healthiness of the climate of Canada and on the progress which had been made. Medical education and medical institutions in Canada were so excellent that Canadian students now less often attended British schools. In the name of British members of the Association he expressed gratitude for the cordial welcome extended to them by the entire Dominion and his gratification at the loyal sentiments expressed by the Lieutenant-Governor in the name of the French Canadians.

Sir James Grant seconded the motion, expressing the gratification felt by all Canadians at receiving the Association and so many guests from the neighbouring Republic.

On Monday Professor Roddick entertained a hundred guests, comprising the officers of the Association and sections, at dinner at the St. James's Club, to meet the Governor-General, the Lieutenant-Governor of Quebec, Lord Strathcona and Mount Royal, the Solicitor-General of Canada, the Mayor of Montreal, and Sir William Hingston. Among the other guests were Professor Richet, Dr. Shrady (Editor of the New York *Medical Record*), Dr. Shattuck, Professor Keen (of Philadelphia), and Professor Welch (of Baltimore). The same evening the Canadian Medical Association entertained the members generally at a smoking concert.

On Tuesday evening the Montreal Medico-Chirurgical Society entertained Lord Lister at dinner. Dr. Wilkins, the President of the Society, presented an illuminated address to his lordship.

The same evening a *conversazione* was given to the Association at Laval University, the great Roman Catholic University of Montreal, in the fine University Buildings in Denis Street. The *conversazione* was attended by a large number of members and guests, and by many ladies. Professor Charles Richet, of Paris, who is present as the representative of the Paris Medical Faculty and the French Republic, was formally introduced to the members, and delivered an address which was much applauded. His presence in an official capacity is much appreciated as an act of international courtesy, and a special compliment to the French Canadian members of the Association. Professor Richet's address was delivered in French, the subject being, The Work of Pasteur and Modern Conception of Medicine.

Wednesday, September 1st.

On Wednesday morning at 10 A.M. the eleven Sections which have been constituted this year met in the several rooms assigned to them. These are all either in the buildings surrounding the Campus of the McGill University, or in its immediate neighbourhood. They afforded most excellent accommodation for the purpose, and are all within a few minutes of each other.

In the Section of Medicine the President (Dr. Stephen Mackenzie) delivered an address on the Influences that have Determined the Progress of Medicine during the Preceding Two and a Half Centuries.

In the same Section, a discussion on Arthritis Deformans (Rheumatoid Arthritis) more especially its Relation to Rheumatism, Nervous Disease, and Tuberculosis, was opened by Dr. James Stewart, of Montreal.

In the Section of Surgery the President (Mr. Christopher Heath) opened the proceedings by the delivery of an address on the Teaching of Surgery, which will be published next week. A discussion on the Surgical Treatment of Appendicitis was opened by Dr. G. E. Armstrong, of Montreal.

In the Section of Public Medicine the proceedings were opened by the President (Dr. E. P. Lachapelle), President of the Board of Health of the Province of Quebec, who described the progress in sanitation that had been effected in Canada down to the present time. A discussion was opened by Dr. P. H. Bryce (Secretary of the Provincial Board of Health, Ontario), Dr. C. O. Probst (Secretary of the State Board of Health, Ohio), and Dr. H. Handford (Medical Officer of Health to the County of Nottingham) on the question How far should Mandatory Measures go in dealing with (*a*) Measles, (*b*) Whooping-cough, (*c*) Tuberculosis, and (*d*) Leprosy.

In the Section of Obstetrics, a discussion took place on the Causation and Treatment of Hyperemesis Gravidarum.

In the Section of Pathology and Bacteriology the President, Professor Watson Cheyne, F.R.S., delivered the address on the Progress and Results of Pathological Work, which is published at p. 586. Subsequently a number of miscellaneous papers were read.

The proceedings in the Section of Psychology were opened by the President, Dr. R. M. Bucke, Medical Superintendent of the Lunatic Asylum, London, Ontario, who delivered an address on Mental Evolution, which will be published next week.

The proceedings in the Section of Laryngology and Otology were opened by the President, Dr. Greville Macdonald, who read a paper introducing a discussion on Turbinotomy.

In the Section of Dermatology the proceedings were opened by the President, Mr. Malcolm Morris, who delivered an address on The Rise and Progress of Dermatology.

In the Section of Pharmacology and Therapeutics, the President, Professor D. J. Leech, of Manchester, delivered an introductory address, which will be published in our next issue. A discussion followed on the Treatment of Insomnia.

The Address in Medicine (published at p. 576) was delivered on Wednesday afternoon by Dr. William Osler, Professor of Medicine in the Johns Hopkins University, Baltimore. Dr. Osler, who was formerly Professor of Pathology in the McGill University, Montreal, and who is equally known in Great Britain, was very warmly received.

Conferment of Honorary Degrees.

On Wednesday afternoon Lord Strathcona and Mount Royal, as Chancellor of McGill University, conferred the honorary degree of Doctor of Laws on Lord Lister, Professor Richet, Sir William Turner, Dr. Henry Barnes, Professor Michael Foster, Dr. W. H. Gaskell, Mr. Christopher Heath, Professor Alexander Macalister, Dr. R. Saundby, and Mr. C. G. Wheelhouse.

Thursday, September 2nd.

On Thursday, in the Section of Medicine, a discussion on the Dietetic Treatment of Diabetes was opened by Dr. Robert Saundby.

In the Section of Surgery a discussion took place on the Treatment of Cancer of the Rectum by Kraske's method.

In the Section of Public Medicine the question of the utility, in certain countries at least, of quarantines as now conducted (inspection, disinfection, and isolation) was discussed.

In the Section of Obstetrics a discussion took place on The Vaginal *versus* the Abdominal Route in dealing with Inflammatory Conditions and Tumours in the Pelvis, which lasted the whole day.

In the combined Sections of Pharmacology and Therapeutics and Dermatology a discussion took place on the Treatment of Syphilis.

In the Section of Pathology and Bacteriology a discussion on Serum Diagnosis and the Agglutinating Action of Serums was opened by Professor Wyatt Johnston, of Montreal.

In the Section of Anatomy and Physiology, the President (Dr. Augustus Waller, F.R.S.), on taking the chair, at once proceeded to open a discussion on Anæsthetics.

The number of members and guests registered up to Thursday was 1,100.

Among the most interesting of the more recent theses which have been added to the valuable collection in the Library of the British Medical Association are the following: Brot, *On Immunity by Vaccination and the Necessity of Revaccination in Old People;* A. Bourbon, *Essay on the Hygiene of the Rural Dwelling;* D. Couroubacalis, *Study on the Bubonic Plague;* R. Breville, *On the Methods of Ascertaining the Value of Potable Water:* and F. de Ribier, *Midwives in France, What they have been, what they are, and what they might be.*

THE INTERNATIONAL MEDICAL CONGRESS.

A Special Correspondent writes:

The twelfth International Medical Congress commenced to-day, August 19th. The opening meeting was held in the Grand Imperial Theatre, under the presidency of H.I.H. the Grand Duke Sergius Alexandrovitch, about 2,000 members of the Congress being present.

Opening Addresses.

The proceedings having commenced, a series of addresses were delivered by the representatives of the different countries who had sent delegates and members to the Congress.

The first address was given by one of the representatives of Germany, who spoke of the great discoveries and advances which had been made in the medical sciences during recent years, and of the enormous value their practical application might be in times of war.

Then followed representatives of Austria, Hungary and Roumania.

Next Sir William Mac Cormac spoke on behalf of the English Government and the representatives of the different British bodies who had sent delegates to the Congress. He said that he did not know until he entered the theatre that he would be called upon to speak on behalf of the British members of the Congress. He considered that International Congresses of this kind were of great value, and helped very materially in the making of scientific discoveries and the promotion of science. On behalf of the 300 British representatives he thanked the Russian Government for the support and great help they had given to the Congress, and said that he felt sure that the success of the meeting was due entirely to the kindness of the Russian Government, and the energy and ability of the Committee of Organisation.

Representatives of fifteen other countries then spoke, including the United States, Japan, Mexico, and Turkey, and finally the representatives of Russia (St. Petersburg, Moscow, etc.).

When the preliminary addresses had been delivered, the report of the Committee of Organisation was presented by Professor W. R. Roth.

Next the officers of the Congress were elected. Professor Skliffosowski becoming President, and Professor W. R. Roth Secretary-General.

After a short adjournment the three opening scientific addresses were delivered. First, Professor Rudolf Virchow (of Berlin) gave a most interesting oration on The Part of the Blood Vessels in Inflammation; next, Dr. Lauder Brunton (of London) discoursed upon The Relations between Physiology, Pharmacology, Pathology, and Practical Medicine. This was a most suggestive, instructive, and interesting paper, and will well repay detailed study. Finally, Professor Lannelongue (of Paris) read a paper on The Treatment of Surgical Tuberculoses in General. These three orations completed the proceedings of the first general meeting.

Professor Clifford Allbutt is here as the representative of the University of Cambridge.

Section of Surgery.

Surgery of the Lung.—The sittings of the Surgical Section commenced with a series of papers on the Surgery of the Lungs, contributed by Professors Tuffier (Paris), Macewen (Glasgow), Delagenière, Beck, Coromilas, Doyen, and Fabrikant. The reading of these was followed by a discussion. The main conclusions which were arrived at were:

a.—Pneumotomy is indicated in cases of abscess and of gangrene of the lung, and also in cases of pulmonary phthisis associated with the development of large tuberculous cavities in which the distressing symptoms are dependent upon the presence of these cavities. The presence of a large abscess or area of gangrene does not contraindicate the performance of a surgical operation.

b. Operation.—If the intercostal spaces are large over the diseased area, the drainage of the cavity may occasionally be carried out through a simple incision; but usually it is necessary to resect portions of one or more ribs in order to give plenty of room to the operator. When the two layers are not adherent over the diseased portion of the lung, the margins

f the incision in the parietal layer should be carefully utured to the visceral layer before incising the lung tissue nd opening the pathological cavity. In order to avoid æmorrhage, some advised the use of the thermo-cautery hen incising lung tissue, but the various speakers were ot agreed upon this point. When the cavity has been pened, its contents are evacuated, its interior swabbed out ith antiseptic sponges, and then the interior is packed with ng strips of iodoform gauze. In some cases tubular drainge is advisable.

c. Prognosis.—This is best in cases of abscess of the lung, hen there are few if any secondary abscesses in other parts. a gangrene the best results are obtained in those cases which e associated with pneumonia and putrid bronchitis, whilst ngrene due to a bronchiectasis is much less favourable. In ses of pneumotomy for tuberculous cavities the prognosis is ry bad, since in nearly all cases if the patient survives the eration he dies at an early period from the general disease.

Intestinal Surgery.—Frank (of Chicago) described a new ntrivance which is intended for use in resection of the instine. He calls it "A new absorbable intestinal coupler." consists of two discs of decalcified bone, which are fixed gether by a section of a thin indiarubber tube. The prinple of the instrument is essentially the same as that of a urphy's button, the elastic tube being used to induce pressre. Sutures are applied to fix the intestine after approxiation has been effected. The objections urged against this ntrivance are the small lumen of the discs, and the method inserting it. Its advantages are the absorbable nature of e discs and the small liability of concretions being formed ound the non-absorbable piece of rubber tubing.

Splenectomy.—Professor Jonnesco (of Bucharest) contrited an interesting paper on Splenectomy, in which he ve a detailed account of 12 cases which had been operated on by himself, with good results in most cases.

Malignant Stricture of Alimentary Canal.—Professor Czerny eidelberg) discussed the Treatment of Cancerous Stricres of the Œsophagus, Pylorus, and Rectum, and gave an count of the results which had been obtained by the ferent methods of treatment which are adopted by different geons.—Van Iterson (of Leyden) considered the treatment cancerous strictures of the alimentary canal, and gave tistics of his own cases. Out of 16 gastrostomies 12 overed and 4 died; 20 gastro-enterostomies, 19 recovered 1 1 died; of 2 resections of the pylorus, 1 died after 29 days l the other after 16 hours; 1 jejunostomy died after 14 irs; 2 intestinal resections, both recovered; and 10 cases of mation of artificial anus in which 9 recovered and 1 died.

Treatment of Peritonitis.—At the second general meeting d on August 22nd, Professor Senn (Chicago) read a comnication on the Classification and Surgical Treatment of ite Peritonitis. *a.* Acute diffuse septic peritonitis is that n of peritonitis in which death occurs in nearly every e within a few days of the commencement of the affection. s due to the presence of microbes which pass along the phatics, and are almost invariably streptococci. It occurs t commonly as the result of perforating wounds of the omen, and occasionally follows a surgical operation. It be caused by the rupture of an abscess into the perieal cavity. When the abdomen is examined after death changes are visible, since all the material which has been ded has passed from the peritoneum along the lymphatics. recorded cases of recovery from this affection, in the ion of Professor Senn, have been in reality cases of acute purative peritonitis, and ought to belong to the next s. *b.* Acute suppurative peritonitis is a general peritonwhich is associated with the formation of pus in the perial cavity, and in the majority of instances is due to pertion or rupture of some portion of the abdominal alitary canal, most commonly the vermiform appendix. A ain proportion of these cases recover after an operation, the prognosis in these cases is much better than in the eding class. In cases of threatening acute septic peritonSenn advises the administration of saline cathartics g. sulph. 30 to 60 grs.), as he thinks that it tends to avert nset of the affection. Opium ought not to be given in e cases, since it retards the peristaltic movements of the stines. Senn thinks that free peristaltic movements of intestines promote the absorption of septic material by the lymphatics. Opium should be administered in all cases of peritonitis which are due to perforation. Stimulants should be freely given by the mouth or the rectum, and, if they are not readily retained, they should be administered by injection. Early operation is advocated in all cases of acute septic peritonitis, since without this death is certain, whereas a certain proportion of those operated upon recover. Often it is advisable to administer stimulants both before and after operation. The incision may be made in the middle line or elsewhere if perforation is suspected, but in every case it should be large enough to allow the ready insertion of the surgeon's hand into the peritoneal cavity. All exudation should be removed from the peritoneum by sponging, irritation with hot (110° F.) sterile solutions, or by turning the patient into the prone or semiprone position and allowing it to drain out. When the intestines are distended, it is often advisable to make small incisions into them, or to puncture with a needle. The incisions are afterwards sewn up. Free drainage (either tubular or capillary) should be established. Usually capillary drainage is the more satisfactory. Senn advises that plain sterilised gauze should be covered with one or two layers of iodoform gauze, so as to avoid the occurrence of iodoform poisoning, a condition which he thinks is very likely to be met with if nothing but iodoform gauze is used. Drainage should be dispensed with as soon as possible, and should be left off gradually. Senn thinks that before closing the external wound it may be advisable to inject a strong solution of a saline cathartic into the lumen of the intestine through the walls, in order to promote peristalsis and avoid intestinal paresis and distension. He also expressed the opinion that antistreptococcic serum treatment would probably be a valuable help in the surgical treatment of peritonitis, but did not think that it would ever replace operative measures.

Serum Therapy of Malignant Growths.—Sématzky (St. Petersburg) gave an account of 22 cases of malignant growths which he had treated by serum therapy. All these cases had a negative result. From a consideration of these cases the author affirms that in no case is the treatment of a malignant disease justifiable, since he considers that it is a dangerous method which is liable to be followed by serious complications, such as pyæmia and erysipelas. He thinks that in all the published cases which have received benefit from serum therapy, error has been made in the diagnosis.

Lithotrity for Large Calculi.—Milton (Cairo) discussed lithotrity at a single sitting as the best method of treating vesical calculi, and came to the conclusion that (1) all stones, however large and however hard, may be removed by lithotrity at a single sitting, and (2) that either perineal or suprapubic lithotomy may give results almost as good as those given by lithotrity in the treatment of small stones, but the larger the stone and the more exhausted the patient the greater is the indication for lithotrity.

A New Method of Nephrorrhaphy.—Jonnesco (Bucharest) described a new procedure for the operation of nephrorrhaphy He makes an ordinary oblique lumbar incision, and exposes the posterior aspect of the organs, all superabundant perenephric fat being removed. Next the capsule is separated from the entire length of the exposed part of the kidney, and three double sutures are passed, each of which passes through the abdominal wall on one side of the wound, then through the renal capsule and substances, and finally through the abdominal wall in the upper part of the wound, care being taken to take up the periosteum of the twelfth rib, or, when the latter is very short, that of the eleventh. Each double ligature is tied over a roll of gauze, and by this means the margins of the lumbar incision are approximated. Jonnesco claims that this method of operation is not liable to be followed by a recurrence of the affection.

Other Papers.—A series of papers was read on the Treatment of Infected Wound; on the Radical Cure of Hernia; and also on the Operative Treatment of Diseases of the Nervous System, especially those which are associated with the occurrence of Jacksonian, or focal epilepsy. The series of papers on the Nervous System was read at a meeting of the combined Sections of Surgery and Diseases of the Nervous System.

The proceedings of the Surgical Section terminated on Wednesday, August 25th.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, TORONTO.

Section of Physiology.

Thursday and Friday, August 19th and 20th.

[from our special correspondent.]

Rhythmical Contraction of Smooth Muscle Fibres.

Professor H. P. Bowditch read a paper on the rhythmical contraction of smooth muscle fibres, the work having been carried out with the gastric muscular coat of the frog. When rings of the muscle are attached to a recording apparatus, a rhythmical contraction often occurs, in some cases immediately, in other cases after the lapse of from twenty minutes to three hours, and in only 30 per cent. of the cases was entirely absent. In some cases there were two or more sets of rhythmical contractions superimposed on one another, and this fact may perhaps be best explained by supposing that the muscle cells contract, not all together, but in two or more groups.

A New Dynamometer.

Dr. J. H. Kellog described a new dynamometer by which he has studied the strength of the several groups of muscles in man. By a study of the tabulated results of several thousand examinations he has been able to formulate a series of new physical coefficients by which the working power and physical condition of the individual can be expressed.

Output of the Heart.

Professor G. U. Stewart described a new method for determining the output of the heart depending upon the change of resistance to the passage of electric currents through the blood in a length of artery brought about by the injection of a 2 per cent. salt solution into the heart. When the mixture of salt solution and blood reaches the artery selected, the electric currents, which were previously balanced by the Wheatstone's bridge, are thrown out of equilibrium, and this event is ingeniously announced by a telephone. A sample of blood is drawn off from the corresponding artery in the other limb, during the passage of the salt solution past the electrodes, and from this is determined the amount of salt solution which which must be added to normal blood to make its resistance equal to that collected during the passage of the mixture. From these data the output of the heart for the period of injection, and consequently for a single beat, can be determined. In a dog of moderate size the output was found to be some 40 c.cm. per beat, or about 2.3 c.cm. per kilo. of body-weight per second.

The Mammalian Heart.

Professor W. T. Porter gave an account of observations on the mammalian heart in support of the proposition that the cause of the rhythmic contraction of the ventricle lies in the ventricle itself, and, further, is not localised in a single co-ordination centre, but is present in all parts of the ventricle. He also showed that a strip of the muscle of the apex of the mammalian heart, left attached only by a band of pericardium, may exhibit spontaneous rhythmic contractility, such region being free from nerve cells. He also brought forward evidence to show that the contraction of the heart compresses the blood vessels in the substance of the heart, acting as a force pump on the coronary circulation. After the coronary circulation is occluded, a considerable amount of nutrition of the mammalian heart may be maintained through the veins of Thebesius by passage of blood from the cavities through the substance to the surface of the organ, the blood changing from arterial to venous during the passage. This is probably an important source of nutrition in hearts, in which the coronary arteries are obstructed by pathological processes.

Resistance of Vascular Channels of Organs.

Professor K. Hürthle, of Breslau, described a method by which the resistance of the vascular channels of an organ may be measured. The internal friction of the blood, which, together with the dimensions of the tubular system, form the two factors upon which the resistance depends, was determined by allowing the blood from the artery to flow through calibrated capillary tubes for 30 seconds, the quantity, pressure, and time of flow being accurately measured. The internal friction of the blood of the dog is about 4.5, and of the rabbit 3.2, that of water being unity. If in any particular organ we know the quantity of blood flowing through in a unit of time, the arterial pressure, and the co-efficient of internal friction, we can, by Poisenille's law, calculate the bore and length of a tube through which, under the given conditions, the same quantity of blood would flow. By this means the author proposes to measure and express the resistance through the several organs.

Effects of Various Substances on the Heart.

Professor A. R. Cushing described the rhythmical variations in the strength of the contractions of the mammalian heart observed in poisoning with heleborein, caffeine, and substances of the digitalis group. The movements of the heart were registered by the Roy-Adami myocardiograph. The variations observed seemed independent of inhibitory action, and occur only when the ventricle contracts spontaneously in a different rhythm to that of the auricle. Under these circumstances the systoles of the auricles at a certain stage in the rhythm occur during the systole of the ventricles, and in consequence can only partly empty itself, while the ventricle has to work against the resistance offered by the blood entering it from the auricles. At the same time the auricles fails to supply blood to the ventricles during its relaxation, and the auricles becomes much distended. In the normal heart the position of the auricular systole in the ventricular cycle varies from the first third of the diastole to the extreme end of the diastolic pause, and may even be prolonged into the ventricular systole. The efficiency of the heart must be effected by this factor, least work being expended when the auricular systole corresponds with the first part of the ventricular relaxation.

Absorption of Isotonic Fluids from the Intestine.

Professor Waymouth Reid gave an account of some experiments on the absorption of isotonic fluids from the intestine under conditions where the hydrostatic pressure on each side of the intestinal membrane could be measured. The animal's own serum was introduced into a loop of its intestine and the hydrostatic pressure in the cavity of the loop, and in a mesenteric vein proceeding from a control loop were observed continuously during the experiment. Water, organic solids and inorganic salts of the serum were absorbed against considerable excess of pressure in the blood vessels. Occlusion of the lactials of the experimential loop produced hardly any effect on the absorption. Absorption from the intestine can take place against both osmotic and hydrostatic pressure.

Effect of Highly-Charged Conductors on Muscle Nerve near them.

Professor Jaques Loeb showed some interesting experiments on the effects produced by the discharge of a highly charged conductor on a muscle nerve preparation of the frog placed near it. The experiments were undertaken for two reasons. He had found nine years ago that the phenomenon of heliotropism, which heretofore had been known only in plants, are a common phenomenon in the whole animal kingdom, and that in both cases the effects of the light are determined by the direction of the rays and the wave length, the more refractive rays of the visible spectrum being exclusively or chiefly effective. These facts might, with the help of the electromagnetic theory of light, lead to new results. In order to show how this theory might be applied to these phenomena, he tried whether it was not possible to directly stimulate the nerve through electric rays. Moreover he had found that the galvanic current apparently did not act upon living matter, and that the phenomena which we have assumed to be the effects of electricity are in reality only the effects of the direct or secondary products of electrolysis. It was necessary to see how the effects of the electric wave would agree with such a theory.

It was known that if a highly-charged conductor be discharged in the neighbourhood of a nerve, the muscle contracts. The new facts which he found, in addition to this are as follows:

1. If one puts the nerve of a frog parallel with the spark discharge of a friction machine, one gets maximal effec

when the electrodes are symmetrical in regard to the nerve. If one pushes the nerve to one side, near one electrode, the effects decrease.

2. If one puts the nerve at right angles with the spark discharge, one gets minimal effects, when the electrodes are symmetrical to the nerve. One gets strong effects if one pushes the nerve near one electrode.

3. Through placing a conductor behind the nerve in Experiment 1 one annihilates or diminishes the effects.

4. In placing a conductor between muscle and one electrode, in Experiment 2, when the nerve is a little nearer the other electrode, one gets an increase of the effect.

THE WEST INDIES AS A HEALTH RESORT.

MEDICAL NOTES OF A SHORT CRUISE AMONG THE ISLANDS.

I.—BARBADOS, TRINIDAD.

Now that the dog-days are past and the autumn is upon us, invalids, and those who seek rest, sunshine, and health in distant climes during the raw English winter, are beginning to ask themselves and their medical advisers, "Where shall we go this winter?" It is to help answer this question that I propose to give a short account of a cruise to the West Indies which I took last winter, and to indicate some of the opportunities for recovering health which such a cruise affords. For the attractions and advantages which the West Indian Islands offer to invalids and sun worshippers are many and considerable.

It was on January 13th that I set sail from Tilbury in the *Lusitania*, a fine and well administered pleasure yacht of the Orient S.S. Co. I had been for some months in a depressed condition of health, and my medical advisers strongly urged me to take a cruise to the West Indies. The winter weather had hitherto been mild, but a few days after we had left, England was visited with severe snowstorms, which we had, therefore, the good luck to escape.

The *Lusitania* is a screw steamer of over 3,000 tons, and is fitted with every appliance for the comfort of the company of pleasure seekers, convalescents, and holiday makers. No cargo nor second- or third-class passengers are carried, so that the whole ship, from stern to bow, is devoted to the comfort and well-being of the first-class passengers. The catering is excellent, and a captain of great *bonhomie* and good-nature devotes himself to the agreeable task of making everybody happy.

It takes only a few days to discover anew the fact that there is something wonderfully recuperating in a sea voyage. The total absence of worry, the perfect freedom from the postman, the sense of the absence of care, soon tell upon the spirits, and the fresh air, enjoyed day and night, quickly improves appetite and gives tone to the jaded system.

I have been many times across the Bay of Biscay, and have never yet encountered very bad weather. On this journey the Bay was kind, and five days after leaving England we dropped anchor in the harbour of Santa Cruz at Teneriffe. As our stay at the island was only of thirty-six hours' duration, and as the drive to Orotava takes about six to accomplish, I did not go ashore, but was content to stay on the ship in the midst of the fine scenery of the bay. Among the charms of a cruise on a pleasure yacht are the days passed quietly in harbour. There is no cargo to shift, no donkey-engine to make distracting noises, no dirty coolies to shout and push; the captain takes care to select a good berth, and with the ship almost to oneself, and with a level shady deck, the most delightful days of peace and leisure may be passed just doing nothing in harbour.

On the morning of February 2nd we sighted Barbados, and dropped anchor at daybreak in the busy harbour of Bridgetown. I was not dressed when Dr. Archer, President of the Barbados Branch of the British Medical Association, came to pay a visit of ceremony, and he asked with cordial hospitality that we should go ashore and become his guests during the stay of the *Lusitania* at Barbados. This we gladly consented to do, and a few hours later we were enjoying a breakfast of "pepper-pot," yams and other viands with the family of Dr. Archer in his airy bungalow. The house is in the midst of a large garden, access to which is given by an avenue of mahogany trees. In the park Dr. Archer has erected a cool and delightful convalescent home and sanitorium for the benefit of visiting invalids and convalescents. It is spacious and well arranged, and most attractive as a residence or temporary home. The doctor drove me in a light buggy through the sugar-cane fields and the negro villages, and along the busy streets of the bright little town of Bridgetown. The soil of Barbados is everywhere closely cultivated, 100,000 of the 106,000 acres it contains being planted with sugar cane. The villages of the negro labourers, consisting of streets of small, box-like, wooden houses, give evidence, by their close juxtaposition, of the densely populated condition of the island, and there is, in fact, in Barbados, an island but 21 miles long by 14 broad, a population of no fewer than 182,000, of whom not more than 10 per cent. are white.

Barbados is well furnished with institutions for the medical relief of the poor; there is a large general hospital, a lunatic asylum, and a lazaretto. The medical staff are paid, but the salaries are not so high as in other of the West Indian islands.

In the absence of vital and mortality statistics, which, strange to say, are not collected and published in Barbados, accurate information as to the health and the prevalent diseases is not obtainable, but there is every reason to believe that the island is extremely healthy. The population increases at a remarkable rate, and if it were not for a constant stream of emigration to Trinidad, Demerara, and Bermuda, the struggle for existence would be keener even than it is now. One of the results of male emigration for labour is the extraordinary preponderance of females over males. There are 123 females to 100 males. This disproportion of the males to the females is more marked among the coloured races than the white people, and after 40 years of age it rises in the mixed races to 190 to 100. The emigration of able-bodied young men from the island in such large numbers is much deprecated, the result being that the aged, infirm, and children are left to swell a weakened population, and often to be a burden on the poor relief. The increase of population in Barbados is, however, not among the whites but the blacks; in thirty years the whites have decreased 6 per cent., while the blacks have increased 22 per cent., and the coloured and mixed 21 per cent. The number of the blacks is more than double both the white and brown, and at the present the whites are 8.6 per cent. of the population, the mixed 24.1, and the blacks 67.3. The blacks have also the advantage in long life; Barbados boasts of having 34 centenarians, 30 of whom are black and 4 brown.

It is greatly to be regretted that Barbados, while spending a very large annual sum on administration, does not institute an efficient system of registration of births, deaths, and marriages, and collect vital and medical statistics. Without such the data are wanting for an accurate knowledge of the progress and condition of the island.

Bridgetown is provided with excellent water by the Bridgetown Waterworks Company, and the rural population of the island with water up to the height of 750 feet above sea level by the Barbados Water Supply Co., who obtain their supply from borings in the coral strata. Secure in the benefits of good and pure water, admirable winter climate, and lively society, Barbados may be safely recommended as a winter resort to those invalids who are in search of "pastures new," and who do not mind crossing the Atlantic to reach them. Bathsheba and Bath are charming villages on the seashore, where the "hollow-bellowing ocean" thunders on coral shores and the tropical sunshine is tempered by the trade winds and its shafts broken by the long plumes of the cocoa palms.

Trinidad.

After two pleasant days passed in Barbados we bade adieu to hospitable friends and went aboard, and the *Lusitania* set her course south for Trinidad. Early in the morning of the next day we passed Tobago, the island of Robinson Crusoe, after which we sighted the Spanish Main, but leaving this to starboard we threaded our way through the islands and channels of the Bocas, and about midday dropt anchor in the harbour of the Port of Spain. A delegation of members of the British Medical Association at once came aboard to kindly give me welcome to Trinidad, and Dr. Lovell, the

Surgeon-General, made us his guests with unbounded hospitality at the Grand Marine Hotel.

Trinidad has been so enthusiastically described by Kingsley, in *At Last*, that it seems superfluous to add anything to descriptions which have become classic in the English language. Here one sees tropical vegetation in its fullest luxuriance. Groves of cocoa palms line the sea-shore, silk-cotton trees send out immense buttresses into the earth to support long branches laden with calladiums and epiphytes; the crimson hibiscus, the scarlet poinsettias, and the purple bougainvillia blooming in midwinter, claim attention in every hedge and garden, and above the cocoa plantations the flame-tipped branches of the *bois immortel* seem tangled in the blue mazes of the sunny air. The temperature is warm; the thermometer registers 80° in the shade, but yet it is not oppressive, for every day the trade wind sweeps across the sea and the Savannah, and brings refreshment on its wings.

The Port of Spain is a busy commercial city, with wide streets, electric trams, and handsome shops. Beyond the town is the Savannah, or common, at the edge of which are the houses of the principal residents, surrounded by gardens. The Governor's House is set in the interesting Botanical Gardens, where economic agriculture is combined with horticultural beauty. The revenues of Trinidad are in a flourishing condition, so that money is liberally found for all the medical requirements of the island.

The annual public expenditure of the island for medical purposes amounts to not less than about £61,500, of which over £17,000 is paid in salaries to medical officers. The Trinidad medical service is one of the best paid that I know of. The salaries vary from £250 to £1,000 per annum, and nineteen hospital officers receive salaries from £500 to £850. There are Colonial hospitals at Port of Spain and San Fernando, and a number of district hospitals in the more remote country and seaboard districts; these serve not only as hospitals but for the relief of the destitute.

Accustomed as we are to send our patients to the tropics to ensure recovery from bronchial and pulmonary affections or to stay the ravages of phthisis, it is strange to learn in Trinidad that here bronchitis and pneumonia cause more deaths than malarial fevers, and that phthisis and tubercle are more fatal to the population than all the fevers put together, though the highest mortality is due to diarrhœa and dysentery.

The death-rate is rather high, reaching 25 per 1,000; but far the greatest mortality is among children under one year of age, and is 22 per cent. of the total deaths. On the other hand, as a testimony to the healthiness of Trinidad for adults, it should be noted that old age is a more frequent cause of death than is probably the case in Western countries. Trinidad may also boast of taking the palm in the matter of centenarians; for of the 14 persons said to be over 100 years of age, one man is stated to be 111, and three women to have attained the ages of 110, 125, and 131!

Yellow fever, once the scourge of the West Indies, has been banished from Trinidad by sanitation, and in 1895 there was but one death from this cause, and this was an imported case. Yaws is rather frequent among the coloured people, but yields readily to treatment.

I visited the Leper Hospital, which contains over 200 patients. It is under the care of the good Sisters who devote their lives entirely to the care of the most afflicted of mortals. Dr. Robert H. E. Knaggs, the medical attendant, is of the opinion that the excision of tuberculous growths gives disheartening results, and he depends for treatment on cleanliness, liberal non-irritating diet, fresh air, exercise, sea-bathing, gurgon and chaulmoogra oil.

Dr. Lovell showed me with considerable and just pride the fine lunatic asylum which is being constructed by Government on the hillside above the Savannah. The buildings are on the most approved model, and the position is one of remarkable beauty.

Though it was warm at Trinidad—as hot as in hot summer weather in England—the heat was by no means overpowering, owing to the influence of the cool and steady trade winds. At Port of Spain one does not feel oneself to be beyond the reach of a riper civilisation, for here every comfort can be obtained, and no better fate could befall an invalid, called upon to seek a warm winter climate, than to be located in this beautiful island, where skilful medical attendance, ceaseless sunshine, and the luxuriant beauties of a bounteous Nature are easily at his command. A man has but to live temperately, abstain from alcohol, and avoid chills to emulate here the centenarians of the coloured races.

We left Trinidad with regret, and, going northwards, we sailed up the Windward Islands.

MEDICAL MEN AND THE ENGLISH BAR.

To a large number of medical men the possession of a registrable qualification is no longer the completion of their academic course, but serves rather as a stepping-stone to more special courses of study. This may arise from the absolute necessity of the case—as, for example, where a sanitary diploma is essential to holding the office of medical officer of health to a large district, or where the possession of an extra qualification would be a great recommendation in seeking some public appointment, as that of a coronership.

To men seeking either of the appointments just mentioned the Bar offers many attractions, and we have received so many inquiries on this subject that we have thought it desirable to furnish a brief summary of the course such a medical man would have to follow to get "called to the Bar." In doing so we wish it to be distinctly understood that these remarks are not intended for those who intend practising at the Bar, but rather for those men who are more or less engaged in professional work, and who do not desire to know more law than is essential to their passing the necessary examination.

The entire course to be followed comprises: (1) Formal admission to one of the four Inns of Court; (2) payment of certain fees; (3) keeping terms; (4) one examination. There is a preliminary examination, from which, however, medical men are exempted.

There are four Inns of Court, namely, the Inner Temple, the Middle Temple, Lincoln's Inn, and Gray's Inn. They are to some extent analogous to the component colleges of a university, and the candidate must become a student at one of them. It does not make very much difference which one is chosen. It is better to join the one where a man has friends. The Inner is chiefly frequented by university men, and is the largest; the Middle has more of the social element, and is perhaps less exclusive, besides being somewhat less expensive. The other two Inns offer less attraction to medical men.

To gain admission a form must be obtained from the Treasurer of the Inn chosen. This costs a guinea. After being filled up by the intending student, it has to be signed by two barristers of five years' standing, to whom the student must be either known or introduced. Admission fees amounting to £40 are then paid to the Treasurer, and a bond entered into and a deposit made. The bond is for £50 to cover term dues; and the deposit is for £100, which is repayable on call or resignation. If a candidate is a member of either of the Universities of Oxford, Cambridge, Durham or London, the Inner will exempt him from the deposit; while the other Inns grant the same privilege to them, and also those who are members of Edinburgh, Glasgow, Aberdeen, St. Andrews, Royal University of Ireland, and Victoria (Manchester) Universities.

The next step is that of keeping terms, which is done by dining in the hall of the inn a certain number of times in each of twelve terms. There are four terms in the year. Members of those universities mentioned have to dine three times a term—all others six times. The dining terms last about three weeks, and the dinners may be taken any of these nights (including Sundays); so that if the student should be called away during term he may return and complete his number providing the term is not over. To medical men this is a point worth noting. A man practising in the country can thus come up to town for a week-end, dine from 6 to 7 on three nights, see what is going on in town, and return on Sunday night or Monday morning all the better for a little change. The fees for keeping term amount to about 30s. or £2 a term. Lectures are given during the term: but attendance at present is by no means compulsory.

The examination, which must be completed before Call, consists of: (1) Roman Law; (2) Constitutional Law and

egal History; (3) English Law and Equity. The examination may be taken in parts as indicated. The amount of eading required is somewhat extensive, but to a man accusomed to the study necessary for a degree in medicine is comaratively easy. If a regular amount of reading can be done aily, say two or three hours, for a period of six or nine ionths, it should not prove a serious obstacle.

The candidate cannot be called for three years after adission, and the first two parts would be taken during the econd year, leaving the third year for the real reading. Of ourse there are men who can do a great amount of useful eading in a very short time, but at the rate of reading menoned it would not be safe to attempt a pass on less than x months for the third part, and two or three for the other vo together. Most men will find it a great assistance, as ell as a great economy of time, to obtain some coaching ipervision, though it is not at all essential. All informaon as to subjects of examination can be got from the Conolidated Regulations, to be obtained from the Treasurer or the office of one of the Inns. Before commencing reading copy of the Schedule of Lectures should be got each term. s to what books to read the candidate will find a list given ie readers in the papers just mentioned, but this list is far o great to be of much help. Here comes in the advantage some supervision; otherwise he must use his own judgent.

On completing the examination, and having kept twelve rms the student can be called. This is purely a formality, it entails the payment of a fee of nearly £100. In the case here a student has deposited this sum the deposit will just ver it. The total cost of call to the Bar, not including exenses of living in town, books, and any coaching, is not very uch less than £200.

THE NEW INFIRMARY, NEWCASTLE-UPON-TYNE.

the year 1751, the members of a Convivial Society, in ewcastle, resolved, on account of the deaths of some and the vancing age of others of their body, to discontinue their eetings; but, before doing so, to leave some permanent emorial of the Society having existed, by the proposal of me project of public utility. Mr. Richard Lambert, an sistant surgeon in Newcastle, suggested the establishment an infirmary; and, this having received the approval of the embers, a subscription was opened, and soon attracted the tice of many distinguished residents in the district. On ptember 5th, 1751, the first stone of the building was laid Dr. Joseph Butler, Lord Bishop of Durham; and on tober 8th, 1752, the institution was opened for the recepn of patients, and was designated the Infirmary for the k and Lame Poor of the Counties of Newcastle-upon-Tyne, rthumberland, and Durham. The edifice was arranged for accommodation of fifty in-patients and out-patients, and s computed to have cost upwards of £3,000. On October h, 1754, the chapel of the infirmary was consecrated by hop Butler, and named St. Luke. Lady Musgrave pre.ted two pieces of silver plate, and Mrs. Byne a silver flagon, the use of the chapel. The first physicians were Adam rew, William Cooper, Cuthbert Lambert, and Francis nson; and the first Surgeons Samuel Hallowell and hard Lambert.

a the year 1800 the infirmary was enlarged by an addial building. Again in 1850 an extension, by a new wing, made, including a new out-patient department, dispen-y, and pathological department. In 1885 an additional ilion was added. The total accommodation was then nged for 270 in-patients. The number of in-patients ted in 1851 was 1,468, in 1861, 1,720; and in 1896, 4,043. population of Newcastle, according to the census returns 851, was 89,156; in 1861, 109,000; and as estimated by the istrar-General for the middle of 1896, 212,223. Comparing number of in-patients with the population of Newcastle hese years, the percentages are: 1851, 1.7; 1861, 1.6; and ; 1.9. These figures are approximative only as far as castle is concerned, for it is to be remembered that a portion of the patients would be from the surrounding district; but they clearly indicate that the increase in the number of in-patients has been due to the increase of the population, and not to an increased percentage of patients seeking treatment, the percentages of the three years being virtually equal. The great increase in the number of in-patients has pressed heavily on the resources of the infirmary, and as a consequence of the frequent delay of admission much inconvenience and disappointment have been occasioned.

On August 25th, 1896, the Mayor of Newcastle (Mr. Riley Lord) addressed a letter to the local newspapers calling attention to the fact that, on June 20th, 1897, Her Majesty Queen Victoria would have completed the sixtieth year of her reign, and suggesting that the auspicious event should be commemorated by the erection of a new infirmary for Newcastle. The proposal having been favourably received, a public meeting was held in the Council Chamber, Newcastle, on October 6th, 1896, under the chairmanship of the Mayor, who proposed "that it is fit and proper that the reign of our Gracious Sovereign Queen Victoria—the longest in English history—marked as it has been by the greatest prosperity of the city and district, should be suitably commemorated." Professor Philipson moved "that in grateful rememberance of Her Majesty's constant sympathy with the suffering poor amongst her subjects, it is deemed suitable and appropriate to commemorate her reign by the erection of a new infirmary for sick and lame poor of the city and county of Newcastle-upon-Tyne and the counties of Northumberland and Durham." The meeting elected a General Committee to promote the object set forth. On June 22nd, 1897, the Jubilee day, it was announced that the subscriptions had reached the munificent sum of over £100,000.

In view of the difficulty of procuring a new site, steps were taken to ascertain how far it would be possible to erect the necessary building on the present site, which covers an area of four acres. For this purpose, Mr. Alfred Waterhouse, R.A., was asked to report. He gave it as his opinion that the site had many advantages in point of its situation, over and above the open spaces with which it was surrounded. It sloped to the south, and it could not be more convenient, with regard to the railway station, nor more accessible from all parts of the city. The recommendations received the ratification of the governors. Later, a Building Committee was appointed, with Mr. Riley Lord as the chairman, and Professor Philipson as the vice-chairman. A scheme has been prepared which has been embodied in conditions of competition and instructions to architects. The competition has been limited to selected architects, who have been requeste to send in designs for an infirmary, to contain 400 beds (18 medical and 220 surgical), and complete in every respect. It will be necessary to construct the new building step by step, and so as at all times to maintain during the construction, not less than the present number of 270 beds and the necessary accommodation for the working staff required in the hospital. The architects will therefore be required to show the order in which the various parts will have to be erected, and also to what purpose those parts can be temporarily applied so as to meet the requirements of the hospital during the reconstruction, as well as the purpose for which they are finally intended. The designs are to be sent in on March 1st, 1898, and will be submitted to Mr. Alfred Waterhouse, R.A., who will advise the Building Committee in their selection.

The Newcastle New Infirmary Fund may fairly be regarded as one of the greatest achievements of the Jubilee year, for though the Prince of Wales's Fund exceeds, and is likely to exceed very greatly, the sum which has been raised in this north-easterly portion of England, the Prince appeals not only to the country at large, but appeals with such a power as no other subject of the Queen can possess, whilst the area from which subscriptions could be collected for the Newcastle New Infirmary has practically, and almost strictly, been limited to the two counties of Northumberland and Durham, and the originator of the movement had to rely on his own personal force and determination, the excellence of the cause which he had taken in hand, and the temporary advantage of a civic position. The timely, the amazing, the almost phenomenal success which has attended a courageous effort, inspired by a fortunate idea, is a striking illustration alike of the power of personal energy, of the wealth of the district,

and of the loyalty and generosity of all classes in the two counties.

Since the above article has been in print it has been announced that at a special meeting of the governors of the Newcastle Infirmary, held on August 28th, it was intimated that Mr. John Hall, a shipowner of Newcastle, had offered to give a sum of £100,000 to build and furnish a new infirmary, provided that the building was erected on one of two sites—namely, the Leazes or the recreation ground—on the North Road, upon the understanding that the subscriptions to the New Infirmary Building Fund will become available for the general purposes of the infirmary.

THE DUKE AND DUCHESS OF YORK AND THE IRISH COLLEGES.

DURING the recent visit of the Duke and Duchess of York to Dublin, addresses were presented to their Royal Highnesses by the Irish Colleges of Physicians and Surgeons in Dublin. On behalf of the Royal College of Physicians of Ireland, the President of the College, Sir George F. Duffey, M.D.—who was accompanied by Dr. Wallace Beatty, Vice-President; Dr. Lombe Atthill, Treasurer: Dr. James Craig, Registrar; Sir John Banks, K.C.B., M.D, Senior Fellow, Physician-in-Ordinary to Her Majesty the Queen in Ireland; and Dr. William Moore, M.D., Physician-in-Ordinary to Her Majesty the Queen in Ireland—read the following address on August 20th:—

To His Royal Highness George Frederick Ernest Albert, Duke of York, Earl of Inverness, and Baron Killarney.

May it please your Royal Highness,—We, the President and Fellows of the Royal College of Physicians of Ireland, on the occasion of your present visit to this country, beg to offer to your Royal Highness a hearty welcome to Ireland, and a renewed expression of our devoted loyalty and attachment to Her Most Gracious Majesty the Queen. We would also assure you of the great gratification we feel that you have been pleased to honour Dublin with your presence at so memorable a time as this, when we have been celebrating the completion of the sixtieth year of the Queen's reign. We desire also most respectfully to express our satisfaction that you are accompanied by Her Royal Highness the Duchess of York, sharing as we do most warmly the feeling of attachment with which all loyal citizens welcome the visit of members of a Royal Family so universally and justly beloved.

Signed on behalf of the College,
GEORGE F. DUFFEY, M.D., Knt., President.
JAMES CRAIG, M.D., Registrar.

The following address was presented by the Royal College of Surgeons in Ireland:—

To His Royal Highness George Frederick Ernest Albert, Duke of York, K.G.

May it please your Royal Highness,—We, the President, Vice-President, and Council of the Royal College of Surgeons in Ireland beg most respectfully to offer to your Royal Highness and to the Duchess of York a cordial welcome on the occasion of your visit to our country.

As a member of the family of Her Majesty, our revered Queen, and as the lineal representative of Their Royal Highnesses the Prince of Wales and the Princess of Wales, your advent to Ireland affords us great satisfaction, and will, we believe, be received as a manifestation of your desire to acquire that personal knowledge of Her Majesty's Irish subjects which can only be obtained by direct observation. We are convinced that frequent association of Your Royal Highness and other members of the Royal Family with our people will be attended by the most beneficial results, by confirming and increasing the attachment of this country to the Throne, and by maintaining in the Royal Family a warm interest in the prosperity of Ireland.

We beg further to assure Your Royal Highness of the determination of our College to aid in maintaining, in the future as in the past, those loyal and dutiful relations with Her Majesty and her august family which have hitherto existed.

WILLIAM THOMSON, President.
ROBERT L. SWAN, Vice-President.
ROBERT H. WOODS, Secretary of Council.
CHARLES CAMERON, Secretary of the College.
GEORGE F. BLAKE, Registrar.

TOTAL ABSTINENCE AND LONGEVITY.

MR. JAMES WHYTE, Secretary of the United Kingdom Alliance, desires to prove that a teetotaller, as a general rule, lives longer than a person who uses alcoholic liquor. He writes: Nearly a quarter of a century ago Dr. William Farr, who at that time was the medical assistant to the Registrar-General, wrote as follows:

"The great pending experiment of total abstinence by thousands of all classes seems to show already that men can live in health without alcoholic liquors; but whether their lives are better or worse, as age creeps on, than the lives of their fellow mortals the insurance offices will find out. Abstainers deserve to be watched attentively by the physiological student."

I have been watching them very attentively, and have found that ever since the time when Dr. Farr wrote this passage evidence has been rapidly accumulating that total abstinence produces a highly beneficial effect on health and life.

The following statistics, the substantial accuracy of which is beyond all rational controversy, are specimens of this evidence: The Independent Order of Rechabites is a teetotal working men's benefit society. It has an adult membership of 142,000 and a juvenile membership of 76,000. It has been in existence over sixty years, and financially is highly prosperous. Its mortality experience, as calculated by Mr. Neison, the eminent actuary, shows that at 18 years of age Rechabites have an "expectancy" of life of 50.62 years, while, according to the Registrar-General, the expectancy of all males of the community is 41.90, and according to the Institute of Actuaries' life tables, that of "healthy males" belonging to the well-to-do classes, whose lives are insured, and are at the age named, is 43.60 years.

If the Rechabite figures are accepted as true, a very formidable conclusion will necessarily be drawn from them. They will be held, and rightly held, to show that all males in the country over 18 years of age who use alcohol shorten their lives to the extent, on the average, of something more than seven years each.

A WOOLSORTER'S DEATH: INATTENTION TO REGULATIONS.

NOT long ago we reviewed the report of the Anthrax Committee of the Home Office. On that occasion we alluded to the opportune publication of the report, for on the day of its appearance a death had occurred in Yorkshire from woolsorting. Since then another death has taken place in Bradford, that of a female aged 28 years. It appears that the deceased had been leading rather an irregular life, and that there was the history of her having received a kick on the head four months previously from the man with whom she had been cohabiting. While this circumstance at first threw an element of doubt into the nature of the illness which caused her death, its influence was completely set aside by the fact that Dr. Lodge, the police surgeon of Bradford, found the bacillus anthracis in large numbers in the blood of the deceased, and that the corpse, as is usual in these cases, underwent rapid decomposition.

The sad interest of the case centres in the fact that in spite of the recent regulations issued by the Home Secretary, the foreman of the factory, while acknowledging his familiarity with the regulations, admitted that the bales of wool had not been opened by the deceased as they ought to have been—over a fan in a room specially provided for this purpose, and separate from the ordinary sorting room; nor was the dust which collected in the fan removed twice a week, as required by the rules, but only once. The owners of the factory had been unfortunately advised to place a box in such connection with the fan that the dust would not escape into the open air. This had the effect of reducing the ventilating power of the fan. Naturally, one would imagine that dust of such a dangerous nature as that which gathers in the fan of a woolsorting factory would have been burned immediately it was removed, but instead of this being the case simply because it had a money value we learn from the evidence tendered at the coroner's inquiry that it was sold to manure merchants and used for fertilising purposes. If, as we showed in our review of the report of the Anthrax Committee, the escape of this dust is prejudicial to life outside the factory, there must have been considerable risk incurred in allowing it to be sold for manurial purposes. Woolsorter's disease is preventable. If, therefore, after careful investigation and a due regard paid to all the circumstances under which the industry is carried on, the regulations issued by the Home Office are ignored, steps must be taken to enforce them. In our earlier paper we recommended the sterilisation of all bales of foreign wool by steam under high pressure previous to their being opened in the sorting room; and we see no reason to depart from this position, but fresh cause for

repeating the recommendation Fans and improved methods of ventilation are all very well for the removal of dust, but the essential point is to destroy all the virulent properties of the wool previous to its being unpacked from the bales; the danger to the health of the workpeople consequent upon inhalation of the dust will thereby be largely averted. There has been some delay in the issuing of fresh rules from the Home Office, but since an understanding has been come to between the Factory Department at Whitehall and the Bradford Chamber of Commerce and the District Trades and Labour Council, it is to be hoped that the enforcement of the new regulations will, by improving the conditions under which woolsorting is carried on, succeed in further diminishing, if not in entirely abolishing, death from anthrax, for which Bradford and certain parts of Yorkshire have enjoyed of late an unenviable notoriety.

NURSING AS A PROFESSION.

THE DUKE OF DEVONSHIRE, speaking on the occasion of laying the corner stone of the new nurses' home in connection with the Bradford Infirmary, said he thought there was nothing upon which they could more legitimately congratulate themselves at the present time than the admirable spirit which had been shown in every part of the country in the provision which had of recent years been made for the sick and for those who were suffering from accidents. It was a department of public duty with which it had never as yet been found necessary for the State or for municipal bodies to associate themselves. Apart from the care of the indigent sick and injured, which was carried on in the workhouse dispensary, the whole provision for the great mass of the people of hospital accommodation was, he believed, at the present moment made by voluntary contribution, and the completeness with which the work had been, and was still being, performed showed that in this respect we had followed a wise course in relying solely upon voluntary subscriptions and private benevolence. For the efficiency which was seen in the hospitals to-day we were no doubt indebted in a great measure to the extraordinary exertions of the medical profession. But the services of nurses were now admitted more fully than at any previous time, and were second only to those rendered by the medical profession. The step which was being taken that day was only one of a series which had been taken of recent years for improving the position of nurses. Nursing had become a profession, and it was recognised that it required training, intelligence, and assiduity. His Grace added that the patience, perseverance, and arduous toil with which the members of this noble profession devoted themselves to the relief of suffering and the cure of disease had brought about good results, and had awakened the public conscience to the duty which rested upon the public to second the efforts so nobly made by the medical profession, and to afford it the means to carry on its work with full efficiency, including ample hospital accommodation, with all the necessary scientific appliances. The practical part of the work of the medical profession must be carried on in our great hospitals, and if they desired to look forward to obtaining the highest skill and most efficient service from the medical profession, they must secure for them the means of that complete professional and practical training which only hospitals could confer; therefore, it was not only through a feeling of duty, but through a feeling also of self-interest, that the public had become aroused to a sense of what was due to the medical profession in this respect.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETING OF COUNCIL FOR 1897.

A MEETING of the Council will be held on October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the meeting—namely, September 30th.

FRANCIS FOWKE, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—The next meeting will be held at the Sackville Hotel, Bexhill, on Tuesday, September 28th, at 3.30 P.M., Dr. Wills in the chair. A paper on Syphilitic Diseases of the Eye will be read by Mr. H. E. Juler. Dinner at 5.30 P.M.; charge 6s., exclusive of wine. Notice of intended communications should be sent to the Honorary District Secretary, J. W. BATTERHAM, M.B., Grand Parade, St. Leonards.

EAST ANGLIAN BRANCH.—The autumnal meeting of the East Anglian Branch will take place at Aldeburgh on Thursday, September 16th, 1897, under the Presidency of Mrs. Garrett Anderson, M.D. It is requested that gentlemen desirous of joining the Association or Branch, and members willing to read papers or contribute cases to the meeting, will communicate at once with Dr. BARNES, Eye, Honorary Secretary.

NORTH WALES BRANCH.—The autumn intermediate meeting will be held at the Waterloo Hotel, Bettws-y-coed, on Thursday, September 30th, 1897.—SAMUEL GRIFFITH, M.D., Portmadoc.

BERMUDA BRANCH.

A general meeting of this Branch was held on July 5th, T. A. OUTERBRIDGE, President, in the chair.

Delegate and Papers for Montreal.—The object of the meeting was to receive and read any papers for the Montreal meeting, and to appoint a delegate to be present at the annual meeting in Canada. Dr. E. C. Wilkinson was unanimously elected to represent Bermuda Branch.

Papers.—Two papers were read and approved, one on the Climatology of Bermuda, by Dr. ELDON HARVEY, medical officer of health; the second paper by Surgeon-Captain H. A. CUMMINS, Bermuda.

BRITISH GUIANA BRANCH.

THE third quarterly meeting of this Branch was held on July 29th at the Public Hospital, Georgetown, Dr. D. PALMER Ross, President, in the chair. Twelve members were present.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Appointment of Auditors.—Drs. Conyers and Fowler were appointed auditors for the current year.

Letter from Lord Lister.—A letter from Lord Lister thanking the Branch for a congratulatory address forwarded to him was read.

Communications.—Dr. DICKSON read a paper on Coolie Itch, a pustular itching eruption most commonly met with in East Indians. A discussion followed in which most of the members present took part. A vote of thanks to Dr. Dickson was carried.—Specimens were shown by the SECRETARY (1) of Lucilia Macellaria and Sarcophaga Magnifica, reared from larvæ in a case of nasal myiasis; and (2), for Dr. LAW, of the Distoma Crassum and Amphistoma Hominis, passed after administration of thymol by a female East Indian immigrant, who had been two years in the Colony.

SPECIAL CORRESPONDENCE.

PARIS.

Professional Secrecy.—Scientific Commissions.—Radiography of the Skull.

AT the International Congress of Legal Medicine recently held at Brussels, M. Alfred Moreau and M. G. Smetz Mondez, barristers of the Brussels Appeal Court, read papers on Professional Secrecy, and stated that it must be studied from two points of view—one purely legal, which varies in almost every country, and therefore cannot be treated in an international congress; the other, which deals only with the views and opinions conscientiously formulated and expressed by the medical men of all nations. The results of such an inquiry, according to the opinions of MM. Moreau and Smetz Mondez, would be most fruitful; they would serve to indicate the shortcomings and mistakes in the laws of different nations on the subject. Professor Brouardel, Dean of the Paris Medical Faculty, does not agree with these Belgian barristers, who consider that in certain cases medical men may be allowed to depart from professional secrecy. Dr. Brouardel's views were not

unanimously admitted, and the question is therefore to be reopened at the Congress of 1900.

The Seine General Council has commissioned Dr. Émile Dubois, Dr. Astier, and Dr. P. Brousse to visit the Poor-Law Asylums in England and Scotland. Dr. Dubois is President of the Council. Dr. H. Le Roux, Director of the Departmental Affairs, and Dr. Edward Toulouse, Physician to the Villefeuf Asylum, will also be members of the Commission.

Dr. Robert Wurtz, Professor Agrégé of the Paris Medical Faculty, has been commissioned by Government to go to Abyssinia. Dr. Wurtz was one of the most distinguished pupils of Dr. Strauss. His object is to organise a vaccination service and to study bovine plague and other infectious diseases which at times devastate certain parts of Menelek's empire. Dr. Gires is entrusted by the Minister of Public Instruction to study the methods of the United States medical schools.

M. Regnier has studied the anatomical topography of the cranium and encephalon for surgical purposes, by means of radiography. Notwithstanding the slight change in the form of the image, the brain is seen through the cranial bones, also the outlines of the sutures and the cerebral fissures separating the convolutions.

NEWCASTLE-UPON-TYNE.

The New Royal Infirmary: Munificent Offer.

The Committee and Governors of the infirmary were at a day's notice requested to attend a meeting on Saturday morning, August 28th, "to consider a question of supreme importance to the institution." There was a large attendance, but so well had the secret been kept that, with the exception of the Chairman of Committee who had summoned the meeting, no one present had any information whatever as to the business. The keenest interest, and even excitement, prevailed, and as the chairman proceeded the scene became almost dramatic in its development. He explained that he had called the meeting out of the usual course in order to make a communication about which he had until then been bound to secrecy. He then read a solicitor's letter to the following effect:

> That if the Governors of the infirmary, instead of rebuilding upon the present site, decide upon the erection of a new infirmary upon the Leazes or upon or near to the recreation ground on the North Road, and acquire a site there, a client of ours will be prepared, subject to proper provisions and to details to be hereafter arranged, to defray the cost of the new building, and to fit and furnish it within the limit of £100,000, upon the understanding that the subscriptions to the new infirmary building fund will become available for the general purposes of the institution. We shall be obliged if you will bring this letter before the Governors, and we should be glad to hear from you that you have done so.—We are, dear Sir, yours faithfully, Dees and Thompson.

The donor, he was then at liberty to say, was Mr. John Hall, of Newcastle (a shipowner well known for his generosity and sympathy in all public and philanthropic movements). Mr. Hall's intention was that a handsome building should be erected at his expense, and he would furnish it throughout ready for occupation. The chairman then stated that he had called the meeting simply to give this information, and on his resolution discussion was deferred until a special meeting to be held on Thursday, September 2nd. It is needless to add that the news was received with the greatest enthusiasm, and that it afforded unbounded gratification to all interested in the institution.

The present position of affairs is briefly as follows: The Queen's Jubilee fund for the rebuilding of the Royal Infirmary was started about a year ago by Mr. Riley Lord, who was then Mayor of Newcastle, his object being to raise the sum of £60,000, being £1,000 for each year of the Queen's reign. The matter was so warmly taken up that not only was this amount subscribed, but on the day of the Queen's Jubilee Mr. Lord was able to announce that £100,000 had been raised. This was sufficient to enable the plans for the building to be proceeded with, and as the City Council had been unable to grant the request of the infirmary authorities for a site on the Leazes or on the recreation ground, it was decided to pull down the present building gradually and replace it by a new hospital on the same site. Mr. Hall's offer, however, is made on condition that the building is to be erected on one of these sites, and it is hoped that the City Council will now see the r way to grant it. If this can be done it is almost certain that the £100,000 already subscribed will be allowed by its donors to be used as an endowment. In any case, however, a new and splendid hospital will before long replace the present inadequate and inconvenient building.

CORRESPONDENCE.

THE NURSING EXAMINATION OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION.

Sir,—The letter of "M.P.C.," under the above heading, in the British Medical Journal of August 21st, requires a reply from those who are endeavouring to raise the standard of attendance upon the insane throughout the country.

"It has become a common practice of asylum medical officers to declare the superiority of the holders of certificates for the above examination over trained hospital nurses." I deny that there is any such practice.

"The great majority of asylum nurses are drawn from the ranks of domestic servants." This also I deny.

"A large proportion of them can only write and spell imperfectly." I believe that the examinations of the College of Preceptors show that this is true also of a large proportion of candidates for the medical profession. If true, it does not appear to afford any reason why an endeavour should not be made to raise the standard.

"The *Handbook for Attendants on the Insane* consists of 117 pages." This *Handbook* is now undergoing revision. If the number of pages appears to "M. P. C." to be too large or too small, any suggestion that he has to make with regard to it will be carefully considered by the Handbook Committee.

"It contains a very superficial smattering of anatomy and physiology." It contains as much anatomy and physiology as, in the opinion of competent judges, it is essential for an attendant on the insane to know. The book is not written for medical students.

The apportionment of pages to different subjects is unsatisfactory to "M. P. C." Perhaps he will indicate in the proper quarter what number of pages should be given to each.

The rarity of unsuccessful candidates: at the last examination, of 544 candidates, 72, or 13 per cent., failed.

"It *frequently happens* that candidates for the Medico-Psychological Association's examination are prepared simultaneously for the First Aid examination of the St. John Ambulance Association, and, whereas the successful candidates for the former are *often* 100 per cent., yet the same candidates for the latter supply *a fair amount* of failures" [italics inserted]. Before dealing with this assertion, we require to know in a number of given instances (1) How many candidates were simultaneously prepared for the two examinations, and (2) How many failed at each. Such a general statement as as that of "M. P. C." is valueless. If the occurrence is as frequent as he asserts, it must be easy to give figures.

But, Sir, apart from the accuracy of this or that statement by "M. P. C.", the assumption underlying his whole letter is radically erroneous. That assumption is that the members of the Association attach an "enormous value" to the influence "that such an examination has in perfecting the nursing of the insane." If we held such an opinion, we should be as fatuous as "M. P. C." tries to make us out. We hold that the examination has no more influence in perfecting the nursing of the insane than any other examination has in perfecting any other art. What we do attach a high value to is the system of training, which is necessary to attain the proficiency that is tested by the examination. It may be that the system of training is not perfect. It may be that the examination is not absolutely uniform in all asylums. But it is surely better that a minimum of time and other requirements of training should be fixed, and that absolutely identical questions should be set to every candidate, than that the matter should rest, as "M. P. C." suggests it should, at the caprice of individuals.

We do not claim that our system is perfect, but we do claim that it is an advance upon any system elsewhere in practice for ensuring the proficiency of nurses. It is true that superintendents examine their own nurses, but in this examination

they are subject to the check of the observation and participation of an outsider, who may be, as "M. P. C." suggests, a personal friend of the examining superintendent, but who is, at any rate, a stranger to the examinees. The certificates given to hospital nurses are subject to no such checks. The amount of training, the system of training, the stringency of the examination are entirely at the discretion of the authorities of the hospital, who are also the examiners. I have no wish to disparage these certificates. No doubt they are properly given upon the merits of the candidates, but I affirm that whatever defects our system has are equally inherent in the systems of training and certification pursued in hospitals, and that in whatever particulars our system differs from these, it differs in the direction of securing greater uniformity and greater impartiality.

If I do not notice other charges made by "M. P. C.," it is not because they are unanswerable, but from consideration for your space.

The attribution of a "high-sounding name" to our modest certificate of proficiency is noticeable. It seems to indicate an animus, the motive of which does not appear; and what adds probability to this conjecture is the fact, of which "M. P. C." as a present or late asylum medical officer can scarcely be ignorant, that proposals for remodelling the nursing examination are now before the Medico-Psychological Association, and, but for an accident, would now be in force. These proposals include the examination of all written answers by a central board of examiners, who would not even know from what asylums the answers were sent.—I am, etc.,

CHAS. MERCIER,
Hon. Sec. Educational Committee,
Medico-Psychological Association.

Catford, Aug. 23rd.

SIR,—I am not disposed either to attack or to defend the nursing certificate of the Medico-Psychological Association. "M.P.C.'s" letter calls for an answer which will doubtless be forthcoming.

For some years past considerable attention has been paid to the education of nurses in this asylum, and in 1890 a system of training was instituted by Dr. Greene. This, including attendance at classes, extends over three years, which must all be spent in Berrywood. The nurse must pass an examination at the end of each year, and her work and conduct in the wards must have been satisfactory. The certificate is given by the Committee on the recommendation of the Superintendent who conducts the examinations, and for the credit of the institution is not likely to recommend unsuitable candidates. Though between 30 and 40 nurses attend the classes, only 20 certificates have been granted, or about 4 yearly. This shows that the test is a severe one. Several of the certificated nurses are now successfully engaged in private nursing, or have obtained posts as trained nurses in other institutions.

My experience does not coincide with that of "M. P. C." when he says the great majority of asylum nurses belong to the class of domestic servants. The greater proportion of our nurses have been daughters of farmers or of professional men. At the same time I see no reason why a fairly educated domestic servant should not make an efficient nurse if pains be taken with her.

The asylum nurse has made great strides during the last few years, and though not exactly on the same platform as her sister from the hospital, she may soon claim to stand on one equally as high. It is in surgical work that she necessarily fails, while the hospital nurse is equally wanting in the management of mental cases. She alone is the superior who can combine the knowledge and experience of both.

Much good might be done by an interchange of probationers between the hospital and asylum.—I am, etc.,

W. HARDING, M.D.

Northampton, Aug. 21st.

THE CONDITION OF THE RIVER BRENT.

SIR,—My attention has been called to Mr. E. Bailey-Denton's report on the condition of the river Brent which appeared in the BRITISH MEDICAL JOURNAL of August 21st. With reference to that part of it which refers to the Hanwell Sewage Farm and Disposal Works, I should state that the chief treatment used at the works is precipitation by lime and sulphate of alumina, and that the effluent is but intermittently passed over the land for filtration. I have made full inquiries as to the character of the effluent discharged from the effluent pipe into the backwater, as to which there has been no complaint for the last four years, and I am assured by the council's surveyor that no such effluent as that described by Mr. Bailey-Denton has ever been discharged into the river. As to the backwater itself, which is immediately below the Tumbling Bay on the canal after the junction with the Brent, it has for years received, and does now receive, all the sewage and other filthy matter which comes from the upper reaches of the Brent, to which it has been proved the Willesden and Wembley authorities largely contribute, and this well accounts for the state of affairs in the backwater and the effluvia arising therefrom to which Mr. Denton alludes. At the present time masses of sewage sludge are visible floating on the canal above the Tumbling Bay, and are being continually carried over into the backwater only some thirty yards above the effluent outlet from the Hanwell works. Each laden barge that passes up the canal stirs up the filthy deposit in the bed, and bargemen state that the condition of the waterway above the Hanwell outfall is such that they are unable to eat their meals until they get above the London County Asylum Locks.

I trust you will be good enough to find space to insert this in the JOURNAL, so that the exact position of my council may be understood.—I am, etc.,

ROBERT GRAVES BURTON, M.D.,
Medical Officer of Health.

Council Offices, Hanwell, W., Aug. 26th.

THE CAUSATION OF CHLOROFORM SYNCOPE.

SIR,—The Hyderabad Commission can afford to smile at Mr. Leonard Hill's "severe treatment," which consists of the reiteration of dreary personalities and exploded fallacies, seeing that he admits that "no one would for a moment deny the statement of the Hyderabad Commission, that the uncomplicated action of chloroform produces lowering of the blood pressure, with first anæsthesia, then stoppage of the respiration, and then death from stoppage of the heart." Consequently Mr. Leonard Hill cannot deny that anything which happens during the administration of chloroform, such as "primary syncope," or stoppage of the heart while respiratory movements continue, or any other of the dire events which he attributed in his first paper to the action of chloroform, is due to some complication introduced by the administrator.

This admission is so satisfactory that it would be unnecessary to reply to his letter were it not that he and his thick-and-thin supporter, Dr. J. Frederick W. Silk, have made statements which are inconsistent with fact and cannot be allowed to pass uncontradicted. For example, Mr. Leonard Hill says, "Now the plain matter of fact is this. It is in India practically impossible to anæsthetise a dog with ether owing to the climate and rapidity of evaporation"; and Dr. Silk, in order to show the bias of the Commission, states that "Surgeon-Lieutenant-Colonel Lawrie was President of both (the Hyderabad) Commissions." These two statements, which are fair samples of the Hill and Silk methods of discussing a scientific subject, are ridiculously untrue. It is quite possible to anæsthetise and to kill dogs with ether in India, though the climate at certain seasons of the year renders the use of that drug as a regular anæsthetic impracticable. In the second place I was not President of the first Hyderabad Commission. The work of the second Commission was directed throughout entirely by Dr. Lauder Brunton, and I was only invited to be President out of compliment to His Highness the Nizam, through the courtesy of Dr. Lauder Brunton, whose example in this respect Messrs. Hill and Silk would do well to imitate.

With regard to the well-known fact quoted from our report that the first Commission was applied for "because Surgeon-Major Lawrie had always believed in the truth of Syme's teaching," Dr. J. Frederick W. Silk remarks: "It cannot be denied that terms of reference such as these were, to put it mildly, extremely unfortunate, for it is obvious that they go far to justify Dr. Leonard Hill's view as to the bias of the Commission." It is, "to put it mildly, extremely unfortunate" for Dr. J. Frederick W. Silk's reputation for accuracy that he did not state the whole truth. Dr. Lauder Brunton was selected to serve on the Commission as the representa-

tive of the *Lancet* for this reason, among others, that he had "very decidedly stated that one of the dangers resulting from chloroform is death by direct stoppage of the heart; and we think[1] that by getting both opinions regarding chloroform on the heart represented on the Commission, as they will be by Dr. Lauder Brunton and Surgeon-Major Lawrie, we are more likely to obtain a correct conclusion." So much for the "bias" of the Commission, which, like Mr. Leonard Hill's imaginary "wild-goose chase," was, if anything, all the other way. The *Lancet* further stated that "The question whether chloroform paralyses the heart or not is one of the greatest possible practical importance, for upon its correct solution the lives of thousands of people and the happiness of thousands of families may depend." The Hyderabad experiments solved the question correctly. They proved that chloroform has no direct action upon the heart, and can be given, in accordance with Syme's principles, with uniform safety in any part of the world, provided only that regularity of the patient's breathing is maintained, and the heart is entirely disregarded as a factor in the administration.

In spite of this fact, however, "the lives of thousands of people and the happiness of thousands of families" are jeopardised, and deaths from chloroform are reported in the medical press by the dozen, solely because the professional anæsthetists and certain physiologists refuse to be guided by the Commission's conclusions, and still teach the false doctrine that chloroform produces direct cardiac syncope, and must be given with "a finger on the pulse." This method of administration is frightfully dangerous, and causes death from chloroform to be inevitable in exact proportion to the fidelity with which the pulse is taken as a guide to the effects of the drug. It is attended with the appalling death-rate which, in Mr. Hill's own words, "roughly averages 1 in 2,000 (many cases are never recorded)."

The question is, How long will the profession tolerate and submit to this state of affairs? It is not only that deaths from chloroform, which are unquestionably avoidable, occur by the dozen year after year owing to the practice of anæsthesia being based upon the deadly doctrine that chloroform directly affects the heart, but year after year the rank and file of our profession, to say nothing of the anæsthetists themselves, are deprived of thousands and thousands of perfectly legitimate fees. This is no exaggeration. Thousands of minor operations are performed every year in England without chloroform where the patients would only be too glad to pay a fee and have it, because of the unfounded dread of its direct action on the heart. The relief of pain is almost, if not quite, the highest object of the profession, and yet the curious fact remains that the relief of pain by anæsthetics is the opprobrium of modern surgery.—I am, etc.,

Edward Lawrie,
President, Hyderabad Chloroform Commission.

London, August 17th.

OBITUARY.

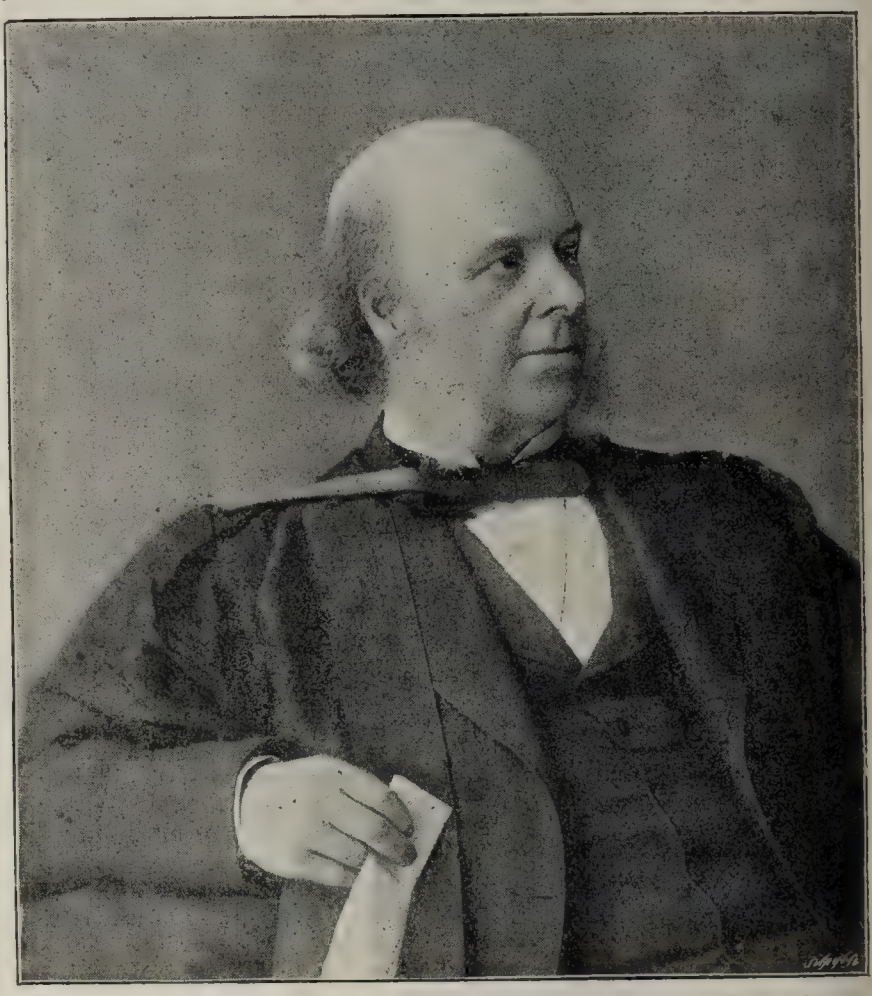
JOHN BRAXTON HICKS, M.D.Lond., F.R.C.P., F.R.S.

We regret to record the death, at the age of 72, of Dr. John Braxton Hicks, late Consulting Obstetrical Physician to Guy's and St. Mary's Hospitals, which took place on August 28th. He died at his residence, the Brackens, Lymington, whither he retired from active practice some three years ago, after a painful illness of three months, the result of influenza. He was the son of Mr. Edward Hicks, J.P. He studied medicine at Guy's Hospital, where his career was distinguished. In 1844 he passed the First M.B. Examination of the University of London, taking the Scholarship and Medal in Materia Medica and Pharmacy, together with Honours in Anatomy and Physiology, and in Chemistry. At the Final M.D. Examination in 1847 he obtained honours in Physiology and Comparative Anatomy, in Surgery, and in Medicine.

Braxton Hicks will always be remembered as one of the pioneers of British work in midwifery and diseases of women. It was at Guy's Hospital, where he held the post of Obstetric Physician for many years, that most of his best work was done. In 1859 he was appointed Assistant Obstetric Physician, in 1870 Obstetric Physician, and in 1882 Consulting Obstetric Physician.

The whole range of midwifery and diseases of women has been enriched by his work, but his reputation will rest upon his classical papers on the Combined Internal and External Version, and on Intermittent Contractions of the Uterus during the whole of Pregnancy, which will be found in the *Transactions* of the Obstetrical Society. His work on the Cephalotribe in 1869, and the modifications he introduced in the instrument, have stood the test of experience, and the special pattern of the instrument which bears his name is still and is likely to continue in use by the majority of British obstetricians.

The key to Dr. Braxton Hicks's success was his enthusiasm. No detail of his work was too small to receive his careful attention, and in practice his care and consideration for the welfare and comfort of his patients, even in the smallest matters, was a leading feature of his professional character. But it is as an earnest student of the scientific aspect of his profession that he will be chiefly remembered, and many of



his published papers will always remain as foundation stones on which the modern science of obstetrics is being so carefully built by his contemporaries and pupils. During his life he took a leading part in the active work of his profession, and was on the Council of the Obstetrical Society in the second year of its existence. Rapidly passing through the offices of Secretary and Treasurer, he became its President in 1871. He was a Fellow of the Royal Society, and presented several valuable memoirs to that distinguished body. In 1896 he was elected an Honorary Fellow, and he received the same honour from the Obstetrical Societies of Edinburgh, Berlin, and Philadelphia.

His was, however, not the type of mind that one interest would satisfy. He was a man of nimble intellect and wide cultivation. He was, for instance, equally at home in Wedgwood ware, of which he had at one time a magnificent collection, and in botany. At a *soirée* of the Royal College of Physicians some ten or fifteen years ago, he exhibited a magnificent specimen of Sundew (Drosera Rotundifolia) which he had found near Ambleside, and had afterwards cultivated in London by approximating the soil in which it grew to that in which it was fixed before its transplantation.

[1] *Vide Lancet*, 1889.

For the following particulars of Dr. BraxtonHicks's last illness we are indebted to his medical attendant, Dr. A. D. Pithie: "Since influenza began its ravages in our islands he contracted frequent and severe attacks of this disease, seeming peculiarly susceptible to its infection. These attacks evidently depreciated to a great extent the cardiac muscular fibre, which never subsequently recovered its tone. About three months ago he consulted a medical friend, who found him suffering from glycosuria, passive congestion of both lungs behind, enlarged liver and œdema of the lower extremities, with an intermittent pulse of 46. Under treatment the glycosuria and œdema of the legs disappeared, so also to a great extent did the lung congestion; but the rally was only temporary, as the lungs again became congested and the limbs œdematous—the effect of weak cardiac power. The pulse dropped to 36, and eventually before death to 28 per minute. Death was due to cardiac failure, the result of depreciated muscular fibre, most probably an influenzal sequela."

CLAUDIUS FRANCIS DU PASQUIER, F.R.C.S.Eng.

We regret to record the death of Mr. Du Pasquier at his residence, Upper Norwood, on August 20th. He was born in London on November 23rd, 1811. His father was a native of Neufchatel, Switzerland. He received his education at Brompton. Subsequently he served his apprenticeship to Mr. John Nussey, of Cleveland Row, St. James's, and entered as a student at St. George's Hospital. In due time he became a Licentiate of the Society of Apothecaries and a Member of the Royal College of Surgeons. He was then appointed Assistant Apothecary to St. George's Hospital, where he remained between two and three years, when he was admitted into partnership with Mr. Nussey. He afterwards became Apothecary to H.R.H. the late Prince Consort, and in 1862 was appointed Surgeon Apothecary to Her Majesty. Later he was gazetted Surgeon Apothecary to H.R.H. the Prince of Wales's Household. At that time, and whilst he remained in practice, he lived at 62, Pall Mall. After being in practice forty years he retired from the profession and went to reside at Norwood. He was for some years on the Court of the Society of Apothecaries, and was offered the Mastership, which he declined.

Du Pasquier was very skilful with his fingers, and fond of working with the microscope. In his early years he was a great collector of butterflies and ferns. Later, in his years of retirement, he became devoted to his garden and beds of rose trees. In his later years he suffered frequently from attacks of eczema. He had been failing very much in health during the last twelve or eighteen months, and had recently become very feeble. A week before his death occurred he had to take to his bed, owing to a gouty attack from which he never rallied.

He married the youngest daughter of Mr. John Bidwell, of the Foreign Office, who survives him.

Mr. Edward Tegart writes as follows: "The late Mr. Du Pasquier deserves more than a mere formal notice, because he was so excellent a representative of that class which socially is so important—the trusted family adviser. A gentleman in feeling and conduct, incapable of anything unnerous and unhandsome, he was one in whom thorough confidence could be placed. With his sensitive disposition, he shrank from seeking the prominent position which he might have taken, but those who knew him best valued him the more. He had resources in himself besides his profession. He was fond of natural history. He had retired from practice many years before his death; indeed, his health required this. From his advanced age, he survived most of his old friends, and those who remain will think of him with affection and regard. I had known him intimately for so long, that I deem it a duty to offer my tribute to his memory."

Dr. J. B. LUYS,

Paris.

M. Jules Bernard Luys, whose death was recently announced in the British Medical Journal, was born in Paris in 1828, and had just completed his 69th year when he died. He gained the position of *interne* of the Paris hospitals in 1853, took his degree in 1857, and became *professeur agrégé* in 1863, having been appointed Physician to the hospitals in 1862. He was first attached to the Salpêtrière, then to the Charité; he was also Director of the Lunatic Asylum of Ivry. He was elected a Member of the Academy of Medicine in 1877, and in the same year received the decoration of the Legion of Honour, being promoted to the grade of officer in 1895. In 1893 he retired. M. Luys founded, and for many years directed, *L'Encéphale*, a periodical devoted to nervous and mental diseases. He was the author of a number of works on neurology and the anatomy of the nervous system, for some of which prizes were awarded him by the Académie des Sciences. Among his works the principal are the following: *Recherches sur le Système Nerveux Cérébro-spinal* (1865); *Leçons sur les Maladies du Système Nerveux* (1875); *Le Cerveau et ses Fonctions* (1878); *Traité Clinique et Pratique des Maladies Mentales* (1881); and *Traitement de la Folie* (1894).

In his later years M. Luys devoted himself to researches on hypnotism, his views on the subject being given to the world in two works, *Les Emotions chez les Hypnotiques* (1888), and *Leçons Cliniques sur les principaux Phénomènes de l'Hypnotisme* (1889). In this field of investigation M. Luys was not successful. He allowed himself to be imposed upon by the "subjects" on whom he experimented, and the tricks of which he was the victim were trenchantly and decisively exposed by Mr. Ernest Hart in the *Times* and in the Journal. The *Progrès Medical* of August 28th says of M. Luys in relation to this matter: "Luys wished in this province to push beyond Charcot, and undertook the study of these questions—too subtle for his mind, which was but little accustomed to the rigorous methods of pure science—without any suspicion of the gulf into which they were to plunge him. Misled by certain appearances he let himself be carried away, and 'the action of remedies at a distance' robbed him of a part of the scientific reputation which it had taken him forty years to acquire." Those who knew him never doubted of his good faith, but in dealing with the mysteries of hypnotism the investigator has more need of the wisdom of the serpent than the simplicity of the dove.

Mr. J. H. Taylor, of Bradwell and Hathersage, whose death is announced, was one of the oldest practitioners in Derbyshire, having commenced to practise in Bradwell fifty-seven years ago. For more than forty years he was medical officer and public vaccinator for the Hathersage and Eyam District of the Bakewell Union, and for more than fifty years for the Welcome Traveller of the Peak Lodge of Oddfellows, at Bradwell, and friendly societies at Hope and Hathersage.

Mr. George Warrack Johnstone of Upholland, near Wigan, whose death is announced, studied at Aberdeen, Edinburgh, and Glasgow, taking in 1867 the L.R.C.P. and L.M. of Edinburgh, and the L.F.P.S. and L.M. of Glasgow. Two years later he began practice in Upholland. He was a member of the British Medical Association and one of the oldest members of the Wigan Medical Society. Mr. Johnstone was also a Fellow of the British Institute of Public Health, and held several public appointments.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently passed away are: Dr. Frithiof Holmgren, Professor of Physiology in the University of Upsala, whose name is associated with tests for colour blindness; Dr. Emmerich Poor, Emeritus Professor of Dermatology in the University of Buda-Pesth, aged 74; Dr. Pirotte, President of the Medical Syndicate of the Western District of Belgium; Dr. Cesare Fumagalli, Consulting Surgeon to the Ospedale Maggiore, Milan; Dr. Pietro Ambrosoli, physician to the same hospital, aged 54; Dr. T. Debrou, surgeon to the Hôtel-Dieu of Orleans, author of numerous contributions to surgical literature, aged 83; Professor Carl Liebmann, head of the Gynæcological Department of the Municipal Hospital of Trieste; Dr. Eduard Ritter Von Hofmann, Professor of Forensic Medicine in the University of Vienna, aged 60; and Dr. Eugène Vigneron, lecturer in the Medical School of Marseilles and author of several contributions to surgical literature on diseases of the bladder and urinary passages, aged 35.

NAVAL AND MILITARY MEDICAL SERVICES.

ARMY MEDICAL STAFF EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

A SURGEON-MAJOR, home nine months, is open to an exchange to India. Apply to "Honey Dew," care of Messrs. Holt and Co., 17, Whitehall Place, London, S.W.

THE NAVY.

SURGEON WILLIAM E. HOME, M.D., B.Sc., RICHARD A. FITCH, HENRY B. BEATTY, WILLIAM SPRY, PERCY E. MAITLAND, JAMES J. WALSH, M.B., JOHN MOORE, B.A., M.D., CYRIL J. MANSFIELD, M.D., ROBERT HICKSON, HERBERT P. SHUTTLEWORTH, JOHN LOWNEY, and OCTAVIUS S. FISHER, having completed twelve years' service, are promoted to be Staff-Surgeons, August 20th. The war services of these officers are as follows:—W. E. Home, Surgeon of *Swallow*, landed with Naval Brigade from *Blanche*, *Swallow*, and *Sparrow*, under Commander Lindley, assisted by 70 native troops at Vitu, Zanzibar, August, 1893, to punish a robber chief, Fumo Omari, who had indulged in various acts of treachery. His fortified strongholds at Pumwani and Jongeni were stormed and captured with great gallantry (medal with clasp).—P. E. Maitland, Surgeon of *Philomel*, served with the naval expedition under the command of Rear-Admiral Bedford, C.B., Commander-in-Chief, for the punitive expedition against the Chief Nanna of Brohemie, in the Benin River, resulting in the capture of his stronghold at Brohemie, September 25th, 1894 (medal with clasp).—J. Moore served as Surgeon of H.M.S. *Goshawk*, from 1887 to 1889 on the West Coast of Africa; present at the blockade of the Opobo River, and subsequent deposition of King Ja-Ja; as Surgeon of the *Alecto*, served in the naval expedition under Rear-Admiral F. G. D. Bedford, C.B., from the *Raleigh*, *Alecto*, *Magpie*, *Satellite*, and *Widgeon*, at Bathurst, in the River Gambia, West Coast of Africa, in February, 1894, in co-operation with two companies of the West India Regiment, for the punishment of Fodi Silah (medal with clasp).

The following appointments have been made at the Admiralty: HORACE ELLIOTT, M.D., Staff-Surgeon, to the *Ganges*, August 22nd; BASSETT C. E. F. GUNN, Staff-Surgeon, to the *Medusa*, September 7th; JAMES M. FRANCE, Surgeon, to the R.N. Barracks, Devonport, September 9th; JOHN MENARY, M.D., Surgeon, to Chatham Hospital, August 20th; JOHN W. SLAUGHTER, M.B., and DANIEL J. P. MCNABB, Surgeons, to Haslar Hospital, August 20th; FRANCIS J. BARTER, M.B., to the *Pembroke*, September 9th; HERBERT L. PENNY, Surgeon, to the *Pembroke*, July 29th; FREDERICK A. CAPPS, Surgeon, to the *Rupert*, for Gibraltar Hospital, August 31st; PERCIVAL K. NIX, M.B., Surgeon, to the *Excellent*, August 10th; WILLIAM E. HORNE, M.D., Staff-Surgeon, to the *Tamar*, August 20th; RICHAND A. FITCH, Staff-Surgeon, to the *Barrosa*, August 20th; HENRY B. BEATTY, Staff-Surgeon, to the *Royalist*, August 20th; WILLIAM SPRY, Staff-Surgeon, to the *Calypso*, August 20th; ROBERT HICKSON, Staff-Surgeon, to the *Philomel*, August 20th; JOHN LOWNEY, Staff-Surgeon, to the *Melampus*, August 20th; CYRIL J. MANSFIELD, M.D., Staff-Surgeon, to the *Hotspur*, August 20th; CHARLES S. FACEY, M.B., Surgeon, to the *Pembroke*, August 20th; LOUIS E. DARTNELL, Surgeon, to the *Triton*, August 20th; ERNEST A. SHAW, M.B., Surgeon, to the *Inflexible*, August 27th.

ARMY MEDICAL STAFF.

SURGEON-LIEUTENANT-COLONEL CALEB K. POWELL, M.D., retires on retired pay August 21st. He was appointed Surgeon August 5th, 1877; Surgeon-Major August 5th, 1889; and Surgeon-Lieutenant-Colonel August 5th, 1897. He served in the Afghan war of 1878-80, receiving the medal granted for that campaign.

Surgeon-Majors WILLIAM T. JOHNSTON, M.D., ABRAHAM W. BROWNE, ROBERT D. HODSON, CALEB K. POWELL, M.D., HUGH C. KIRKPATRICK, M.D., JOHN ARMSTRONG, WILLIAM W. KENNY, M.B., F.R.C.S.I., PHILIP M. ELLIS, and JAMES F. BRODIE, M.D., having completed twenty years' full-pay service, are promoted to be Surgeon-Lieutenant-Colonels August 5th. The war services of these officers are as follow:—W. T. Johnston: Egyptian war of 1882 (medal and Khedive's bronze star); Bechuanaland expedition in 1884-5; Chin-Lushai expedition in 1889-90 with the Burmah Column (medal with clasp). A. W. Browne: Afghan war of 1878-80, including battle of Ahmed Khel and storming of the Fort of Urzoo (medal with clasp); Soudan campaign in 1884 (medal and Khedive's bronze star). R. D. Hodson: Afghan war of 1878-80, including the occupation of Candahar (medal). C. K. Powell, H. C. Kirkpatrick, and J. F. Brodie: Afghan war of 1878-80 (medal). W. W. Kenny: Afghan war of 1878-80 with the Khyber Line Force (medal); Soudan campaign in 1885, including the action at Hasheen and Tofrek, and the destruction of Temai (medal with two clasps and Khedive's bronze star).

The surname of Surgeon-Lieutenant S. W. SWEETNAM, promoted to be Surgeon-Captain in the *Gazette* of August 3rd, is as now, and not as therein stated.

The undermentioned Surgeons on probation are appointed to be Surgeon-Lieutenants from July 28th:—STEVENSON L. CUMMINS, M.B., JOSEPH MCARDLE, MB., CHARLES H. HOPKINS, LEWIS J. C. HEARN, M.B., PETER MCKESSACK, M.B., JOHN MCD. M'CARTHY, ERNEST BRODRIBB, JOHN POE, M.B., HENRY L. W. NORRINGTON, HAMILTON G. F. STALLARD, ROBERT D. JEPHSON, ARTHUR W. N. BOWEN.

Surgeon-General WILLIAM HENRY MUSCHAMP died at his residence, 26, Ovington Square, Brompton, on August 21st. He entered the service as Assistant-Surgeon, January 23rd, 1855; became Surgeon, November 9th, 1867; Surgeon-Major, March 1st, 1873; Brigade-Surgeon, May 26th, 1880; Deputy-Surgeon-General, September 10th, 1884; and Honorary Surgeon-General on retirement, May 12th, 1886. He served in the Crimea from August 30th, 1855, and was present at the siege and fall of Sebastopol, and the attack of September 8th (receiving the medal with clasp and Turkish medal). He also served in the North-West Provinces in suppressing the Mutiny of 1857-58, and was present at the operations at Cawnpore under Windham, the defeat there of the Gwalior contingent, the actions of Kali Nadi and Khankur, the capture of Bareilly, the relief of Shahjehanpur, and the affairs of Mahomdi, Shahabad, and Bunkagaon, and was awarded a medal. He was the youngest son of the late Mr Christopher Muschamp, of Beverley, was born in 1833, and married, in 1863, Rosa Jane, daughter of the late Mr. Alfred Pryor, of Hatfield, his wife dying in 1872.

Surgeon-Lieutenant-Colonel U. J. BOURKE has been selected for appointment as Registrar and Secretary of the Herbert Hospital, Woolwich, in place of Brigade-Surgeon-Lieutenant Colonel W. J. Fawcett, who is about to embark for India.

Brigade-Surgeon-Lieutenant-Colonel M. M. GALLWEY, M.D., is placed on retired pay, August 22nd. He was appointed Assistant-Surgeon, October 1st, 1867; Surgeon, March 1st, 1873; Surgeon-Major, October 1st, 1879; granted the rank of Lieutenant-Colonel, October 1st, 1887; and made Brigade-Surgeon-Lieutenant-Colonel, August 1st, 1893. He has no war record in the Army Lists.

Surgeon-Lieutenant-Colonel CHARLES H. SWAYNE is promoted to be Brigade-Surgeon-Lieutenant-Colonel, *vice* M. M. GALLWEY, M.D., August 22nd. He entered the service as Assistant-Surgeon, March 30th, 1872; became Surgeon, March 1st, 1873; Surgeon-Major, October 18th, 1886; and Surgeon-Lieutenant-Colonel, August 21st, 1894. He served with the Nile Expedition in 1884-5, in charge of a field hospital at Dongola (medal, with clasp, and Khedive's bronze star); and with the Burmese expedition in 1886-7 (medal, with two clasps).

ARMY MEDICAL RESERVE.

SURGEON-LIEUTENANT-COLONEL T. M. DOLAN, M.D., and Surgeon-Captain JOHN CUNNINGHAM, M.B., having resigned their Volunteer appointments, cease to belong to the Army Medical Reserve, August 21st.

INDIAN MEDICAL SERVICE.

THE Queen has approved of the following admissions to be Surgeon-Lieutenants in the Indian Medical Service, dated July 28th: JOHN G. P. MURRAY, SAMUEL ANDERSON, FRANCIS H. G. HUTCHINSON, JAMES L. MARJORIBANKS, ALEXANDER FENTON, JAMES A. DREDGE, ROBERT W. KNOX.

The retirement from the service of the undermentioned officers, which has been already announced in the BRITISH MEDICAL JOURNAL, has received the approval of the Queen: Brigade-Surgeon-Lieutenant-Colonel C. J. M. MEADOWS, Bengal Establishment; Surgeon-Lieutenant-Colonel A. E. R. STEPHENS, Bengal Establishment; Surgeon-Lieutenant-Colonel S. B. HALIDAY, Bombay Establishment.

Surgeon-Lieutenant-Colonel A. H. WILLIAMS, M.B., Bengal Establishment, has retired from the service, which he entered as Assistant-Surgeon March 30th, 1872, attaining the rank of Surgeon-Lieutenant-Colonel twenty years therefrom. He was in the Afghan war in 1880 (medal).

Brigade-Surgeon-Lieutenant-Colonel H. J. HAZLETT and Surgeon-Lieutenant-Colonel S. L. DOBIE, Madras Establishment, have also retired. Brigade-Surgeon-Lieutenant-Colonel Hazlett was appointed Assistant-Surgeon, April 1st, 1867, and became Brigade-Surgeon-Lieutenant-Colonel March 7th, 1891. Surgeon-Lieutenant-Colonel Dobie entered as Assistant-Surgeon, March 30th, 1872, becoming Surgeon-Lieutenant-Colonel, March 30th, 1892. He was in the Afghan war of 1878-80, in medical charge of the 1st Madras Cavalry (medal), and at Suakim in 1885-86 with the Indian Contingent, in medical charge of the No. 2 Field Hospital.

Brigade-Surgeon-Lieutenant-Colonel G. A. MACONACHIE, M.D., Bombay Establishment, has retired from the service from June 22nd. His first commission dates from April 1st, 1867; that of Brigade-Surgeon-Lieutenant-Colonel from May 1st, 1890. He served in the Abyssinian war in 1867-68 with the 3re Sind Horse, receiving a medal.

Surgeon-Lieutenant-Colonel JOHN SCULLY, Bengal Establishment, is promoted to be Brigade-Surgeon-Lieutenant-Colonel from April 9th. His commission as Surgeon dates from March 30th, 1872; that of Surgeon-Major twelve years thereafter.

Surgeon-Colonel G. C. ROSS, Bengal Establishment, Inspector-General of Civil Hospitals, Bengal, retires from the service from October 1st. Appointed Assistant-Surgeon, October 2nd, 1865, he attained the rank of Surgeon-Colonel, January 1st, 1894. He has no war record.

THE VOLUNTEERS.

M. WILLIAM LAWTON, M.B., is appointed Surgeon-Lieutenant in the 1st Cheshire Engineers, August 25th.

Surgeon-Major A. MECHAN, M.B., 1st Lanarkshire Engineers, has resigned his commission, August 25th; he retains his rank and uniform.

Surgeon-Captain J. MURRAY, M.B., 1st Volunteer Battalion the King's Own Royal Lancaster Regiment, is promoted to be Surgeon-Major, August 25th, and resigns his commission, retaining his rank and uniform.

Surgeon-Lieutenant E. MORTON, M.D., from the 2nd Volunteer Battalion the Worcestershire Regiment, is appointed Surgeon-Lieutenant in the 3rd Volunteer Battalion the South Staffordshire Regiment, August 25th.

Surgeon-Captain J. J. A. V. C. RAYE, 2nd Volunteer Battalion the Oxfordshire Light Infantry, August 25th.

Surgeon-Lieutenant-Colonel A. WILSON, 2nd Volunteer Battalion the Northumberland Fusiliers, is promoted to be Brigade-Surgeon-Lieutenant-Colonel on being appointed Senior Medical Officer to the Tyne and Tees Brigade Volunteer Infantry, August 25th.

MEDICAL ARRANGEMENTS FOR THE MALAKAND FIELD FORCE.

SURGEON-MAJOR-GENERAL GORE has made the following provision for the medical and surgical needs of this force: With the 1st Brigade, consisting of 1 European regiment and 3 native corps, are No. 1 British Field Hospital (Sections A and B), No. 38 Native Field Hospital (Malakand), and No. 50 Native Field Hospital (Sections A and B). With the 2nd Brigade, also composed of 1 British regiment and 3 native, are C and Sections of No. 1 British Field Hospital, No. 37 Native Field Hospital

and C and D Sections of No. 50 Native Field Hospital. With the divisional troops, consisting of 1 squadron native cavalry, the guides cavalry, 3 British mountain batteries with sappers and miners, there are Section B of No. 13 British Field Hospital and Sections A and B No. 35 Native Field Hospital.

The lines of communication are provided with No. 34 Native Field Hospital and one Field Veterinary Hospital. The concentration to take place at Malakand. With the principal medical officer, Surgeon-Colonel G. Thomson, I.M.S., is authorised a staff surgeon as a collateral charge. Each corps unit is equipped according to Appendix I Field Service Departmental Code, and first field dressing packets are taken by every officer and soldier. The collateral medical charges for batteries and companies of sappers and miners will be found by the principal medical officer.

A strict medical examination of officers, troops, and followers is made in accordance with Paragraph 49 of the Field Service Departmental Code. The following field hospitals are mobilised: 1 British (Peshawar); 13 British (Section B) at Umballa; 37 Native at Mian Mir; 34 Native Meerut; 50 Native at Meean Meer.

A British general hospital with 50 beds for men and 10 for sick officers is established at Nowshera, and a native general hospital also with 150 beds.

The Reserve Brigade is composed of 2 British corps, 2 native regiments, 6 guns of a field battery with sappers and miners. With this Reserve Brigade is No. 14 British Field Hospital and 45 Native Field and a Field Medical Depôt. Brigade-Surgeon-Lieuteuant-Colonel J. Ring is Senior Medical Officer. The hospitals to be mobilised at Rawal Pindi.

The losses at Malakand were 23 killed and 123 wounded.

THE HEALTH OFFICER, HYDERABAD.

SURGEON-CAPTAIN HEHIR, health officer, has been ordered by the Government of India to join his regiment, though the Nizam's Government applied for a five years' extension of his services.

THE HEALTH OF THE ARMY, INDIA.

A SOCIETY called the Army Purity Association has already been started, and is at work. It has issued a circular to all officers and chaplains asking their co-operation, and as much help has been earnestly asked to aid the Association as has been extended to the Army Temperance Association.

ENTERIC IN ISLAND BRIDGE BARRACKS, DUBLIN.

THE *Army and Navy Gazette* of August 28th has some strong remarks on the occupation of these barracks by the Remount Depôt and married families after the barracks (Island Bridge) had been vacated by the Royal Dragoons, owing to the prevalence of enteric fever. Enteric fever has again appeared in the families, and the *Army and Navy Gazette* very properly remarks that if the barracks were unfit for the Dragoons, they were surely also unfit for the families and other soldiers. No structural or sanitary improvements have been attempted. The Island Bridge barracks are, it may be stated clearly, beyond sanitary redemption, and no tinkering or patching can make them fit for housing our troops. They were practically condemned years ags by the principal medical officer in Ireland.

MIXED BOARDS.

OBSERVER writes he is unable to agree with "H. B. C.," who advocated medical officers sitting as president or members of mixed boards on soldiers' injuries. It would throw too much on the medical officer without benefit to the soldier. As it is, the opinion of the Board is always based on medical evidence. The proceedings of such Boards, however, should be reviewed by the principal medical officer on the general's staff by his "order" and for his final decision.

ENEX writes: Medical Boards on native soldiers in India are, according to the Indian regulations presided over by a combatant officer. It is an old custom, and is still practised in the royal navy, in medical Boards over sailors. It is now out of date, and should be abolished.

EMPLOYMENT OF CIVIL PRACTITIONERS.

M. D. writes: The permission to employ civilian practitioners in order that medical officers may get leave is, like most War Office concessions to the department, delusive, for civilians can be employed provided the medical establishment of the district is under strength; and as medical officers while on leave and those under orders for foreign service are kept on the strength of a district till embarkation, it follows that the strength of a district may be complete on paper and yet in need of civil assistance to enable leave to be given.

LORD NELSON ON HEALTH.

ATALIS writes: It is well to remind our modern military and naval heads how advanced Nelson was in placing the health of his men in the very forefront. How successful he was in that is splendidly instanced in his wonderful cruise 1803-5, where, after nineteen months literally buffeting the stormy seas without entering a port, his own *Victory* had only one man sick out of 840. He wrote to a medical friend: "The great things in all military service is health, and you will agree with me that it is easier for an officer to keep men healthy than for a physician to cure them." Nelson's care for his men was rewarded by a devotion on their part which proved the very salvation of our country.

CANDIDATES AND THE MEDICAL SCHOOLS.

CORRESPONDENT suggests that, after the names of the successful candidates at the entrance examinations for the Navy, Army, and Indian Medical Services the medical schools at which they studied should be inserted. That would give increased interest to the lists.

*** The suggestion is one which could be easily carried out if the naval and military authorities concerned agreed to furnish the information. In official documents it is the medical qualification rather than the place of study that is registered.

MEDICO-LEGAL.

NOVEL ADULTERATION OF BEER.

THE *Standard* of August 11th reports a curious action recently brought at the Edmonton County Court. From the evidence it would appear that the plaintiff bought a dozen bottles of beer of the defendant, a beer retailer, and in one of them was found the decomposing body of a mouse. Both the plaintiff and his sister partook of the beer containing the mouse, and became ill on the following day. Dr. Jones, who was called on their behalf, gave evidence that the illness was due to the beer in question; he said he found them suffering from "nausea, irritation, and swelling of the iris, the lips, jaws, and tongue, and there were some symptoms of gastritis." After some legal argument between the solicitors as to whether the defendant was responsible, the judge found there was no negligence on the part of the latter; but he held that under Section 14 of the Sale of Goods Act there was an implied condition that the beer in the bottle was reasonably fit to drink, and as it proved to contain beer tainted with poison the defendant must be held liable. His Honour accordingly gave the plaintiff judgment for the amount claimed.

CROSS-EXAMINATION OF MEDICAL WITNESSES.

IN the course of the trial of an action on August 27th in the City of London Court, in which a working man was claiming damages for being knocked into a coal barge, Dr. Hillyard, of Bromley, was called to testify to the poor man's injuries, which were extensive and serious. While the doctor was being cross-examined by the counsel for the defendants, Mr. Commissioner Kerr said he was always sorry to see a medical practitioner in the witness-box and treated as a partisan. In his view the doctor ought to sit with the judge on the Bench and advise the Court as to the injuries of the particular litigant. He did not like to see doctors cross-examined. The sooner the system was stopped the better it would be for the public at large.

PROSECUTION UNDER THE MEDICAL ACT.

AT the Accrington Police-court last week, according to the report in the *Lancashire Express*, John Haworth was summoned at the instance of William Geddie for falsely implying that he was recognised by law as a physician under the Medical Act, 1858, Section XL. Evidence was given to the effect that at Haworth's house on the fanlight over the door the words "Dr. Haworth, Homœopathic Physician," appeared, and on the brass plate the words, "Dr. Haworth. Homœopathic Dispensary and Massage Institute." It was contended that these words were sufficient to bring the defendant under the penal section of the Act. The defence raised was that the word "Canada" was placed upon the brass plate referred to after the name and title The defendant had a medical diploma from Canada, it was alleged, and that he had never given himself out to be anything more than he really was. It was submitted that he had a right to assure the whole world he was a doctor so long as he showed that his qualifications came from Canada. The Bench retired, and on their return the Chairman announced that there would be no conviction, the magistrates being equally divided. It appeared in evidence that the defendant had been convicted in April last year on a similar summons.

PROCURATORS-FISCAL AND DEATH-CERTIFICATES.

J. T. F.—1. If our correspondent could not certify the cause of death in this case, he should, in writing, have stated his inability to do so without a *post-mortem* examination.

2. On the other hand, if from the symptoms during life and the history of the case, together with the absence of marks of violence or suspicion of poisoning, it was reasonable to suppose that death was due to natural causes, our correspondent should have reported this in short and decisive terms. The report furnished by him appears to us to be too wordy. Any irregularity on the part of a procurator-fiscal should be reported privately to the Crown Office, Edinburgh, when the circumstances would at once be inquired into. The letter of the procurator-fiscal in this case appears to us, however, to be a reasonable one. Should the doctor report in the manner we have indicated, he will receive the usual fee.

UNIVERSITIES AND COLLEGES.

UNIVERSITY COURT OF ST. ANDREWS.

AT a meeting of the University Court, on August 11th, it was reported that the Universities Commissioners had notified that Ordinance General No. 39 had been laid before Parliament, and also that Ordinances St. Andrews Nos. 27, 28, 29, 30, 31, and 32, and General Nos. 40 and 41 had been transmitted to the Secretary for Scotland to be laid before Parliament. A letter from the Secretary of Commissioners of August 7th was submitted, stating that the Commissioners cannot advise as to the proper action for the Court to take with regard to the appointments to the five new Medical Chairs enumerated in Schedule iii of Ordinance No. 45, and pointing out that it is necessary that some arrangements be made as to the disposal of the Parliamentary grant apportioned to the University by that ordinance; also, that the Commissioners consider that as the said ordinance is under challenge it would not be their duty to pay to the University Court the accumulations of the grant, so long, at least, as the Court refuses its assent to the provisions of the Ordinance. The letter further stated that

as the work of the University could not be carried on were all payments from public monies to be withheld, the Commissioners are prepared to pay to the University the sum of £6,300, the amount named as the St. Andrews share of the grant under the Act of 1889 in Ordinance No. 46, and that, were the Court formally to intimate to the Commissioners its assent to the terms of the union embodied in the Ordinance, the Commissioners would be prepared to consider whether any further payment should be made out of the accumulation in their hands. After consideration the meeting resolved to transmit to the Commissioners a statement of the financial requirements for the ensuing year, and to request them to make payment of a further sum from the accumulations in their hands, pointing out that if the amount is limited to £6,300 it would be impossible for the Court to carry on efficiently the work of the University; also to repeat that the Court is willing to make the appointments to the five medical professorships, and begs the Commissioners to pay to the Court the sum allocated by them in this regard. Minutes of the Business and Finance Committee of date 19th ult. which had been printed were approved of. The Marquess of Bute indicated that he wished to confirm the gift previously intimated by him, and stated that he was prepared to provide from £7,000 to £8,000 for the erection of medical buildings, without any condition as to security for repayment of the money in certain events, but that he desired that the gift should be considered a conditional one, the condition being that the buildings should be used exclusively for teaching practical anatomy and other subjects necessary to give the full courses required for the two first *anni medici*. The Court resolved to accept the gift, subject to the condition referred to, and undertook that the buildings should in all time coming be used for the said purposes only. The Court further resolved to record their grateful appreciation of Lord Bute's munificence. The Committee appointed as to the medical buildings reported that the cost would be upwards of £10,800, and the Court empowered them to proceed with the erection thereof, and resolved that the balance required to complete the buildings, after taking into account Lord Bute's gift should be borrowed or provided out of the University funds. The Lecturer on Botany was reappointed for one year. The Court appointed the following gentlemen to be Examiners for the three years commencing January 1st next, namely: Mathematics and Natural Philosophy, the Rev. J. G. M'Pherson, M.A., Ph.D.: Chemistry, Mr. James Wallace Walker, M.A., Ph.D.; Physiology, Dr. W. Ernest Thomson.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates passed in:

Surgery.—L. L. Allen, St. Bartholomew's Hospital; P. S. Blaker, Calcutta; J. B. Cautley (Section I), St. Bartholomew's Hospital; J. W. F. Rait, University College Hospital; L. Tong, Manchester; C. A. Trouncer, Cambridge and Guy's Hospital; E. M. Vernon (Section II), Royal Free Hospital.

Medicine.—E. L. Anderson, Liverpool; S. R. Bhagtani, King's College Hospital; E. C. Corfield, St. Bartholomew's Hospital; D. F. Maunsell, St Thomas's Hospital; C. C. Poole, Guy's Hospital; G. Steel, Cambridge University; C. A. Trouncer, Cambridge and Guy's Hospital; E. M. Vernon (Section II), Royal Free Hospital; S. K. Vines, Birmingham; A. M. Weir, Royal Free Hospital.

Forensic Medicine—H. A. Ahrens, King's College Hospital; E. L. Anderson, Liverpool; E. C. Corfield, St. Bartholomew's Hospital; D. F. Maunsell, St. Thomas's Hospital; C. C. Poole, Guy's Hospital; G. Steel, Cambridge University; C. A. Trouncer, Cambridge and Guy's Hospital; S. K. Vines, Birmingham; J. H. Wilson, Middlesex Hospital.

Midwifery.—E. L. Anderson, Liverpool; S. R. Bhagtani, King's College Hospital; E. C. Corfield, St. Bartholomew's Hospital; D. F. Maunsell, St. Bartholomew's Hospital; C. C. Poole, Guy's Hospital; G. Steel, Cambridge University; C. A. Trouncer, Cambridge and Guy's Hospital; S. K. Vines, Birmingham; A. M. Weir, Royal Free Hospital.

The diploma of the Society was granted to the following candidates, enabling them to practise Medicine, Surgery, and Midwifery: E. C. Corfield, J. W. F. Rait, G. Steel, C. A. Trouncer, E. M. Vernon, and S. K. Vines.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,796 births and 6,058 deaths were registered during the week ending Saturday, August 21st. The annual rate of mortality in these towns, which had increased from 14 7 to 29 5 per 1,000 in the seven preceding weeks, declined again to 28.7. The rates in the several towns ranged from 12.0 in Halifax, 12.8 in Huddersfield, 17.2 in Swansea, and 18.9 in Bristol, to 42.9 in Birmingham, 45.2 in Hull, 45.3 in Preston, and 52.6 in Wolverhampton. In the thirty-two provincial towns the mean death-rate was 31.8 per 1,000, and exceeded by 7 6 per 1.000 the rate recorded in London, which was 24.2 per 1,000. The zymotic death-rate in the thirty-three towns averaged 11.0 per 1,000; in London the rate was equal to 7.7, while it averaged 13 3 per 1,000 in the thirty-two provincial towns, among which the highest zymotic death-rates were 20.7 in Birmingham, 24.5 in Wolverhampton, 25.7 in Hull, and 28.1 in Preston. These exceptionally high rates were principally due to the excessive fatality of summer diarrhœa. Measles caused a death-rate of 1.6 in Blackburn, 1.9 in Birmingham, 2.5 in Manchester, and 15.9 in Preston; scarlet fever of 1.8 in Wolverhampton; whooping-cough of 1.0 in Gateshead; and diarrhœa of 14.2 in Burnley, 14 4 in Salford, 14.9 in Leicester, 17.9 in Birmingham, 19.7 in Wolverhampton, and 24.8 in Hull. The mortality from "fever" showed no marked excess in any of the large towns. The 42 deaths from diphtheria registered in the thirty-three towns during the week included 29 in London and 3 in Liverpool. No fatal case of small-pox was registered either in London or in any of the thirty-two provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals on Saturday, August 21st. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 3,341 at the end of the fourteen preceding weeks, had further risen to 3,400 on August 21st; 340 new cases were admitted during the week, against 360,376, and 347 in the three preceding weeks.

During the week ending Saturday last, August 28th, 6,828 births and 5,180 deaths were registered in thirty-three of the largest English towns. The annual rate of mortality in these towns, which had been 29.5 and 28.7 per 1,000 in the two preceding weeks, further declined to 24.6 last week. The lowest rates in these towns were 14 4 in Huddersfield, 15.5 in Bristol, 17.2 in Swansea, and 18.5 in Bolton: the highest rates were 32 5 in Salford, 34 5 in Birmingham, 41.9 in Hull, and 47.6 in Preston. In the thirty-two provincial towns the mean death-rate was 27.4 per 1,000, and exceeded by 7.0 the rate recorded in London, which was 20.4 per 1,000. The zymotic death-rate in the thirty-three towns averaged 8.5 per 1,000; in London the rate was equal to 5.4 per 1,000, while it averaged 10.5 in the thirty-two provincial towns, among which the highest zymotic death-rates were 13.5 in Birmingham, 15.7 in Salford, 22.7 in Hull, and 25.4 in Preston. Measles caused a death-rate of 1.4 in Birmingham and in Oldham, 1.5 in Manchester, 2.4 in Blackburn, and 9 1 in Preston; whooping-cough of 1.5 in Sunderland; "fever" of 1.1 in Halifax and 1.2 in Hull; and diarrhœa of 11.2 in Birmingham, 12.0 in Leicester, 13.9 in Salford, 14.9 in Preston, and 21.1 in Hull. The mortality from scarlet fever showed no marked excess in any of the large towns. The 39 deaths from diphtheria registered in the thirty-three towns included 28 in London. No fatal case of small-pox was registered, either in London or in any of the thirty-two provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals on Saturday last, August 28th. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital, which had increased from 2,380 to 3,400 at the end of the fifteen preceding weeks, had further risen to 3.448 on Saturday last; 356 new cases were admitted during the week, against 376, 347, and 340 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

IN eight of the principal Scotch towns 1,004 births and 643 deaths were registered during the week ending Saturday, August 21st. The annual rate of mortality in these towns, which had been 20.5 and 19.0 per 1,000 in the two preceding weeks, rose to 21.6, but was 7.1 per 1,000 below the mean rate during the same period in the thirty-three large English towns. The lowest rates in these eight towns were 13.6 in Perth and 16.9 in Aberdeen, and the highest rates 24.2 in Dundee and 31.3 in Greenock. The zymotic death-rate in these towns averaged 6.3 per 1,000, the highest rates being recorded in Glasgow and Greenock. The 320 deaths registered in Glasgow included 89 from diarrhœa, 16 from whooping-cough, 4 from scarlet fever, and 3 from "fever." Eight fatal cases of diarrhœa and 2 of diphtheria were recorded in Edinburgh, and 21 deaths from diarrhœa occurred in Greenock.

During the week ending Saturday last, August 28th, 867 births and 58[illegible] deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 19.0 and 21.6 per 1,000 in the two preceding weeks, declined to 19 6 last week, and was 5.[illegible] per 1,000 below the mean rate during the same period in the thirty-three large English towns. The lowest rates in these eight towns were 17.3 in Leith and 17.4 in Edinburgh, and the highest rates 23.7 in Greenock and 23.8 in Paisley. The zymotic death-rate in these towns averaged 4.6 per 1,000, the highest rates being recorded in Paisley and Greenock. The 27[illegible] deaths registered in Glasgow included 50 from diarrhœa, 12 from whooping-cough, 5 from "fever," and 2 from scarlet fever. Four fatal cases of scarlet fever and 12 of diarrhœa were recorded in Edinburgh, and 5 of whooping-cough in Dundee.

MONAGHAN WORKHOUSE.

THE following letter appeared in the Monaghan *Northern Standard* of August 21st:

"Dear Sir,—I have just heard that a pauper in the workhouse has lost his reason, and has been sent to the asylum. That some weak-minded inmates should be made fit subjects for the asylum I do not wonder at. The beds are literally alive with vermin, and the food is anything but what it should be. Let any guardian go and examine the beds, or better still, have some of the inmates stripped and see for themselves the state they are in, and they will see that sleep is almost impossible. I trust some guardian will ask for and obtain a return of when fresh straw was supplied for beds previous to the date of this letter: and also how often during the past twelve months fresh bedding of this kind has been procured for them. It is all very well to have a big balance to the credit of the Guardians at the bank, but some consideration should be shown towards the poor paupers. I have often wondered at the horror expressed by people I have advised to go into the workhouse, but since my visit, I with them, would prefer dying behind a hedge. "A LADY VISITOR."

When our Commissioner two years ago reported upon very similar conditions in the adjoining Unions of Castleblaney, Cootehill, and Clonis our statements were characterised by the Guardians as "wilful perversions of facts," and "grossly misleading assertions." We are therefore not a little pleased to find that others besides our Commissioner are able to see the condition of filth, squalor, and misery in which the poor live in some of these Ulster workhouses.

Is there any hope that the letter of "A Lady Visitor" will effect any change for the better? We fear not. It is easy to forecast what will happen. The letter will be read at the next Board meeting. A Committee of guardians will be appointed to go and inspect the inmates; by the

time everything will have been superficially prepared for their visit, and they will report that the letter in question is a tissue of falsehoods—that the inmates are all clean and comfortable, and if anything too well fed, and that the officials treat them with as much kindness as if they were members of their own families. Whereupon the Board will pass a resolution that this lady visitor, if her identity can be discovered, shall be refused further admission to the house.

As to the way the inmates of Monaghan Workhouse are fed, we find from the Local Government Board report for 1896 that the average cost per week for the food and necessaries of an inmate of the house, including the infirmary and fever hospital, is 2s. 3¾d. and 3¼d. for clothing, total 2s. 7d.

This Board has got into trouble over its refusal to give outdoor relief under any circumstances. Dr. Crawford, the recently-appointed medical officer of the Castleshane dispensary district, being sent for to attend on a ticket a girl suffering from enteric fever, whose friends were too poor to procure nourishment for her, called upon the relieving officer to provide her with milk, beef-tea, and stimulants. The relieving officer declined, on the ground that he was not permitted by the guardians to give outdoor relief to anyone. Much to his credit, Dr. Crawford provided them out of his own pocket to the extent of 24s., but when he applied to the guardians to refund him the amount he was met with a flat refusal. Dr. Crawford having communicated with the Local Government Board, their inspector was sent down and held a sworn inquiry on August 13th, when the relieving officer admitted that he dare not disobey the guardians by giving outdoor relief.

We believe the rates in Monaghan Union are almost the lowest in Ireland, and we are not surprised, for neither in the house nor outside the house do the guardians appear willing to carry out their duties to the poor of the union. The question now is, What will the Local Government Board do? Who will be the scapegoat in this case? Probably some unfortunate official will have to answer, as usual, for the sins of the Board of Guardians.

EDENDERRY WORKHOUSE.

An inquiry has been held at this workhouse by the inspector of the Local Government Board into certain charges preferred by the medical officer against the master. These charges were: (1) That the master refused to supply on June a wardman to look after the patient Lenahan suffering from delirium tremens); (2) That the master refused to supply whisky for the patient on the same night; (3) that on the morning of June 22nd, at 7.15 A.M., the medical officer was unable, owing to the lax discipline maintained by the master, to obtain an entrance to the workhouse. The evidence showed that when Lenahan was admitted the master directed him to be placed in the lunatic wards, but the nurse, acting with much discretion, declined to do so, and placed him in an empty ward. The master refused to send a man to watch the patient, and also declined to send for the medical officer on the ground that he had complained of being sent for too often. The nurse then sent for the doctor herself. Dr. Duigenan having arrived, directed the master verbally to supply whisky, and to procure an attendant. In both cases he was bound to give his orders in writing, and on the grounds that he did not do so the master neither supplied the whisky nor sent an attendant. It was also proved that Dr. Duigenan left the patient without waiting to see that his verbal orders were carried out. Unfortunately, the relations between the master and the medical officer have been very unsatisfactory for some years, and the Local Government Board felt obliged to call upon both for their resignations. We cannot on the evidence before us take exception to the finding of the Board. Officers of these institutions must not allow their private differences to interfere with their duties. We regret the result the more because we are aware that Dr. Duigenan is one of those medical officers who have been trying, under most adverse circumstances, to reform his hospital. The inquiry again brings into prominence the folly of trying to mend old garments with new cloth. According to the general regulations, the Master is superior in authority to the medical officer. He is required to see that the medical officer does his duty, and he is only required to carry out the directions of the medical officer in medical matters. Now the Local Government Board are placing more authority and responsibility upon the medical officer while leaving the old worn-out rules intact. The system is becoming more intolerable every day, for either the doctor or the Master must be the head of the hospital; both cannot be. We congratulate Nurse Reilly upon her bravery in acting upon her own better judgment in defiance of the Master's orders. Only those who know the difficult position of an Irish workhouse hospital nurse can appreciate her courage.

INFECTIOUS DISEASES AND SCHOOL CHILDREN.

Dr. A. E. Harris, Medical Officer of Health for Islington, in a report just issued, states that during the past twelve months special inquiries were made as to the schools attended by children attacked with infectious disease, and, in cases where the children were not scholars, as to the schools attended by any children who resided on the premises. It was found that small-pox attacked 3 scholars, scarlet fever 844, diphtheria 355, enteric fever 28, and other fevers 12—total, 1,242. The same diseases attacked persons who were not scholars, but who lived in houses in which scholars resided, in the following numbers: Small-pox 17 persons, scarlet fever 329, diphtheria 240, enteric fever 72, other fevers 166—total 824.

THE HOSPITALS OF THE ASYLUMS BOARD.

Dr. A. Wynter Blyth, the Medical Officer of Health for Marylebone, in his report to the local Vestry for July, issued recently, comments upon "a remarkable burst of diphtheria which has taken place generally over the metropolitan area," and he adds: "A number of beds ordinarily used for scarlet fever patients have been utilised by the Asylums Board authorities for the reception of diphtheria patients. The hospitals are practically full, and there is from time to time considerable delay in removals. This fact shows that although the hospitals of the Board are each year extending, still the demand exceeds the supply, and the metropolis has insufficient appliances to cope properly with an epidemic of even moderate dimensions."

FEES FOR CERTIFICATION OF PAUPER LUNATICS.

From the *Sunderland Daily Echo* we learn that at the last meeting of the Sunderland Board of Guardians the question arose of fees paid to district medical officers for certifying pauper lunatics in order to be sent to the public asylum. The guardian who moved that the Relief Committee should consider the matter and report, is stated to have deprecated the placing of anyone in a position in which he might be tempted to send a person to the asylum for the half-guinea fee. Naturally the district medical officers, or some of them, resent the suggestion (as they take it) that the small fee would or might prove to be a temptation to them to sign certificates unnecessarily for the reception of lunatics into asylums. But it may well be that there was not an intention to make that suggestion. Certainly for such a suggestion there would be no ground.

One point that strikes us in reading the necessarily condensed report of the discussion is that the workhouse medical officer seems to have had some time ago an increase of his salary in lieu of about £60 a year he had received for signing such certificates. But, strangely, he does not sign the certificates now, at least so we are led to infer from the report; so that the guardians seem practically to pay now for the certificates twice over. One would have supposed that the increase in salary would have been as payment of a lump sum for the certifications instead of payment by fees for individual cases.

INDIA AND THE COLONIES.

INDIA.

Poona.—Dr. Bahmanjee B. Darabsett, L.R.C.P., has been appointed Acting Health Officer, Poona Municipality. In February last, says the *Times of India*, when the plague was raging in Poona, the authorities were looking out for a competent medical officer to take charge of the Special Plague Hospital, when Dr. Darabsett, who holds a certificate of proficiency in Practical Bacteriology from Professor E. Klein, and who has visited the Pasteur Institute in Paris, volunteered his services, and was appointed in charge of it. Owing to an increase in the number of patients Surgeon-Major J. P. Barry had subsequently joined, and they both continued in charge of the hospital till the end of June, when the plague had almost disappeared, and there were only five patients left. During this period about 1,180 cases were treated, and over 200 cases suspected of plague were discharged.

MALTA.

Opposition to Sanitary Reform.—In the British Medical Journal of May 15th we commented on certain reports published in the *Daily Malta Chronicle*, of April 23rd, on the insanitary condition of our great naval base in the Mediterranean. Our contemporary republishes our comments in its issue of May 25th, and characterises them as "severe, but not by any means uncalled for or undeserved." It goes on to say that, "For a long time we have neglected to put our house in order; we have left a large area of the island undrained; we have allowed nuisances to continue unchecked in all directions; we have treated street conservancy as of no account, and some of our legislators have offered persistent opposition to the contraction of the loan necessary to remedy the existing state of affairs. We have therefore only ourselves to thank if we are subjected to severe criticism from outside." Our stringent criticisms have therefore gone home, as our contemporary frankly admits; we only desired to rouse public attention to a really important matter, both from an imperial and international point of view. We hope some member of Parliament will take the matter up; the insanitary condition of civil Malta is a standing danger to ourselves and our neighbours on the Mediterranean. Only on one point do we join issue with our outspoken contemporary. It states we were "wrong in stating that responsibility for the sanitary and economic condition of Malta rests with the military authorities. Such responsibility lies with the Council of Government."

No doubt our contemporary is technically right, as it proves, in alluding to "some legislators" who offer "persistent opposition" to the raising the means to remedy sanitary defects. But the British Government does not occupy Malta merely to allow free play to such fatuous opposition to that indicated; it is there for Imperial ends, and cannot shelter itself either from the British public or foreign governments behind a backward and factious native autonomy. The real power in Malta lies in our fleet and army, and if local "legislators" will live in filth and squalor, why, then, the paramount power must step in and enforce sanitary measures. That is our argument and we call for Parliamentary interference.

SIERRA LEONE.

Sanitary Neglect and Its Consequences.—During this year the statistics of mortality and sickness amongst the white inhabitants of Sierra Leone are remarkable. The Colonial Medical Service has lost the services of its chief, who has been invalided, and not one of the other surgeons has escaped a severe attack of fever. One of the two nurses at the Princess Christian Hospital, after a dangerous illness, had to be sent home. Amongst the other Government officials three have died, and in the civil population there is the same story of death and invaliding. Amongst the troops, happily, so far the rates of sickness are if anything below the average. This may be attributed to their living out of the town, so avoiding the putrid exhalations arising from the filthy capital of the West Coast.

The Baby Farming Act.—At Edmonton Petty Sessions, Millicent Clifford, a middle-aged woman, was fined 20s. and costs for failing to notify the coroner for the district of the death of four nurse children of which she had charge. It was stated that she was registered under the Infant Life Protection Act, and that during the last thirteen months six out of nine children received by her had died.

MEDICAL NEWS.

The trustees of the University of Illinois have decided to admit women to the College of Physicians, Chicago.

The Use of Poisonous Substances in Dentistry.—A Bill on this subject is to be submitted to the General Court of Massachusetts. The following are its provisions:—Section I. The use of any of the amalgams of mercury as a filling for dental cavities, or the use of red or pink rubber plates which contain mercury or any of its compounds, is hereby prohibited. Section II. Any dentist who shall violate the provisions of this Act shall be punished by a fine of not less than fifty or more than one hundred dollars, or by confinement for a period of three months in a county gaol, or both, for each and every offence.

The Plymouth correspondent of the *Morning Advertiser* telegraphs that the P. and O. mail steamer *Britannia*, which arrived at that port on August 26th from Bombay, reported that since leaving Brindisi there had been no further development of the cholera outbreak, which was confined to the native crew. The death reported at Brindisi was that of a native who died a day out from Suez, and the other case of the disease was now convalescent. The names and addresses of the passengers landing at Plymouth were taken by the port sanitary authority, and the *Britannia* left Plymouth for London.

Infant Life Protection.—In a London County Council return just issued relating to the Infant Life Protection Act and its enforcement 60 houses were registered by the Council in the year ending March 31st last for the keeping of more than one infant under a year old. By the Act as amended the age has been raised to 5 years, but the new law only comes into operation next January. The two male inspectors of the Council under the Act made 2,437 investigations during the year with a view to detect unlawful baby farming; 404 infants were found at unregistered houses, 142 of whom were over and 262 under the age of 12 months; only 185 infants under 12 months were kept in the registered houses and benefited by the supervision provided by the Council.

Medical Practitioners in the German Empire.—Statistics recently published show that that the proportion of medical practitioners to population in the leading towns of the German Empire is as follows: In Charlottenburg the ratio is 1 doctor to every 624 inhabitants; in Halle-on-Saale, 1 to 684; in Munich, 1 to 778; in Frankfort-on-the-Main, 1 to 785; in Königsberg, 1 to 792; in Berlin, 1 to 807; in Stuttgart, 1 to 810; in Breslau, 1 to 834; in Dresden, 1 to 943; in Hanover, 1 to 974; in Stettin, 1 to 1,042; in Danzig, 1 to 1,064; in Leipzig, 1 to 1,082; in Aachen, 1 to 1,162; in Brunswick, 1 to 1,203; in Düsseldorf, 1 to 1,227; in Cologne, 1 to 1,250; in Hamburg, 1 to 1,284; in Nuremberg, 1 to 1,336; in Magdeburg, 1 to 1,339; in Bremen, 1 to 1,364; in Dortmund, 1 to 1,566; in Altona, 1 to 1,752; in Elberfeld, 1 to 1,960; in Chemnitz, 1 to 1,987; in Barmen, 1 to 2,082; in Crefield, 1 to 2,145.

The *London Gazette* of August 27th announces that Surgeon-Major H. H. Pinching, who retired from the Army Medical Staff last year, has been allowed to accept the order of the Second Class of the Star of Ethiopia, conferred upon him by the Emperor Menelek II. of Abyssinia. The undermentioned officials of the Zanzibar Government are permitted to accept the honours specified, conferred upon them by the Sultan of Zanzibar in recognition of their services in His Highness's employ: Alfred H. Spurrier, Leper Superintendent and Medical Officer, and Editor of the Government Gazette, the order of the Hamondieh of the Third Class; George A. Macdonald, Zanzibar Government Medical Officer in charge of the hospital during the bombardment, the Hamandieh of the Fourth Class; and Pestonji B. Nariman, Zanzibar Government Hospital Surgeon, the Hamondieh of the Fifth Class.

A Year's Inquests.—A London County Council return issued shows that, in 1896, 7,300 inquests were held in the County of London, at a total cost of £15,227 19s. 11d., or £2 1s. 8d. per inquiry. The average cost of each inquest varied considerably in the different districts. It was least in the Eastern district—namely, £1 9s. 4d.—and most in the Clapham district—£2 17s. 6d.; 3,606 *post-mortem* examinations were made, the average percentage to inquest being 57, after deducting hospital cases. The largest number of inquests took place in the central district, of which Dr. G. Danford Thomas is coroner, namely, 1,674, being 238 in excess of the number of the Eastern district. The minimum number of 5 occurred in the Savoy district. The quinquennial revision of two of the coroner's salaries, those of Dr. Thomas, and Mr. W. E. Baxter of the Eastern district, resulted in a reduction of a basis on which they were fixed from £1 10s. to £1 6s. 8d. per inquest, with an allowance of £150 and £100 respectively in lieu of travelling expenses. Dr. Thomas's salary is thus fixed at £2,263 1s. 4d., and that of Mr. Baxter at £1,952 16s.

Cambridge Medical Society.—At a meeting on May 7th, Dr. Holden (President) in the chair, Mr. Deighton showed a case of large Axillary Aneurysm cured by Ligature of the Subclavian Artery.—Mr. Wherry related the case of a servant, aged 43, who could no longer follow her occupation, being anæmic and feeble in consequence of Uterine Fibroids. Cystic ovaries and uterine fibroids were removed, the patient making a good recovery. Mr. Wherry elicited from those present at the meeting that no one had tried any preparation of ovarian tissue as a remedy in the flushings of the menopause, or artificial menopause. The important clinical fact was mentioned that menorrhagia was often associated with cystic ovarian disease.—Dr. Griffiths showed a little girl from whom he had removed the greater part of the Horizontal Ramus of the Lower Jaw for a Recurrent Cystic Growth. At the time of the removal an artificial jaw made of vulcanite was substituted and left in position for some weeks, when another and permanent jaw bearing teeth was fixed on. The resulting deformity was very slight, the chin retaining almost its normal degree of projection. The mechanical part of the work was done by Messrs. Jones and Lennox.—Dr. Griffiths also exhibited the Skull and Brain of a child upon he had recently performed two operations (Linear Craniectomy) for smallness and deformity of the skull associated with defective mental development. The child after the first operation distinctly improved; after the second he died in five days from infective meningitis.

MEDICAL VACANCIES.

The following vacancies are announced:

BATH ROYAL UNITED HOSPITAL.—House-Surgeon; must be M.R.C.S. Eng. Appointment for one year. Salary, £60 per annum, with board, lodging, and washing. Applications to W. Stockwell, Secretary, by September 14th.

BETHLEM HOSPITAL.—Two Resident Clinical Assistants; doubly qualified. Appointment for six months. Apartments, board, and washing. Applications, endorsed "Clinical Assistantship," to the Treasurer, Bridewell Hospital, New Bridge Street, E.C., before October 4th.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Assistant House-Surgeon; must be M. or F.R.C.S., England, Ireland, or Scotland. Salary, £50 per annum, with apartments and board. Applications to the Chairman of the Medical Board by September 9th.

BOURNEMOUTH ROYAL VICTORIA HOSPITAL.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Chairman by October 15th.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE.—Bacteriologist to the Antitoxin Department at Sudbury. Salary, £200 per annum, with dwelling accommodation on the premises. Applications to Allan Macfadyen, Honorary Secretary and Director, 101, Great Russell Street, London, W.C., by September 15th.

BELGRAVE HOSPITAL FOR CHILDREN, Gloucester Street, S.W.—House-Surgeon. Appointment for six months. Board, lodging, etc. Applications to the Secretary by September 18th.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House-Surgeon. Board, residence, etc., are provided, with honorarium of £15 15s. at completion of six months' approved service. Applications to Thomas Hayes, Secretary, by September 11th.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Two Resident Physicians. Applications to Messrs. Henry and Scott, 20, St. Andrew's Square, Edinburgh, by September 15th.

GLASGOW EYE INFIRMARY.—Resident Assistant House-Surgeon. Salary, £50 per annum, with apartments and board. Applications to W. G. Black, Secretary, 88, West Regent Street, Glasgow, by September 15th.

GROVE HALL ASYLUM, Bow, London, E.—Junior Assistant Medical Officer. Salary at the rate of £120 per annum, with board, lodging, and washing. Applications, to be made personally, to the Medical Superintendent.

HOSPITAL FOR DISEASES OF THE THROAT, Golden Square, W.—Junior Resident Medical Officer. Salary, £50 per annum, with board.

lodging, and washing. Applications to Wm. Holt, Secretary, by September 25th.

HOSPITAL FOR WOMEN, Soho Square, W.—Non-Resident House-Physician. Appointment for three months. Applications to David Cannon, Secretary, before September 15th.

HUDDERSFIELD INFIRMARY.—Junior House-Surgeon. Salary, £40 per annum, with board, lodging, and washing. Applications to Mr. Joseph Bate, Secretary.

ISLE OF MAN ASYLUM.—Assistant Medical Officer, doubly qualified. Salary, £100 per annum, with board, residence, and washing. Applications to Dr. Richardson, Lunatic Asylum, Isle of Man.

KENZIE BARONY PAROCHIAL ASYLUM, Woodilee.—Junior Medical Officer. Salary, £100 per annum, with board, apartments, etc. Applications, marked "Assistant Medical Officer" to J. R. Motion, Barony Parish Council Chambers, 38, Cochrane Street, Glasgow, by September 6th.

LINCOLN LUNATIC ASYLUM.—Assistant Medical Officer. Salary, £5 per month, with board, lodging, and washing. Applications to Medical Superintendent immediately.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House-Surgeon. Appointment for six months. No salary; board and lodging. Applications to C. W. Carver, Honorary Secretary, by September 6th.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer; unmarried, and not under 25 years of age; doubly qualified. Appointment for twelve months from October 1st next. Salary, £150 per annum, with board and residence. Applications to W. L. Saunder, General Superintendent and Secretary, by September 11th.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—House-Physician, House-Surgeon, Assistant House-Physician, and Assistant House-Surgeon; doubly qualified. Appointments tenable for six months. Salary of the House-Physician and House-Surgeon at the rate of £40 per annum; Assistant House-Physician and Assistant House-Surgeon at the rate of £20 per annum. Applications to C. H. Byers, Secretary, by September 18th.

NORTHAMPTONSHIRE.—Medical Officer for the County. Salary at the rate of £700, and allowance for travelling and other out-of-pocket expenses. Must reside at a place approved by the Sanitary Committee. Applications to H. P. Markham, Clerk to the Council, County Hall, Northampton, by September 8th.

SALOP INFIRMARY, Shrewsbury.—House-Surgeon; must be doubly qualified—M.R.C.S.Eng., Edin., or Dub. Salary, £100 per annum, with board and residence. Applications to Joseph Jenks, Secretary, by October 1st.

SLIGO DISTRICT LUNATIC ASYLUM.—Assistant Medical Officer; doubly qualified, unmarried, and under 30 years of age. Salary, £150 per annum and allowances for furnished apartments, fuel, light, washing, and attendance, valued at £50 per annum. Applications to the Chairman of the Board of Governors by September 8th.

SOUTHAMPTON, ROYAL SOUTH HANTS INFIRMARY.—House-Surgeon; must be M.R.C.S. and L.S.A., or Graduate of Medicine of a University. Salary, £100 per annum, with board and lodging. Applications to T. A. Fisher Hall, Secretary, by September 8th.

SOUTHPORT PARK WORKHOUSE INFIRMARY.—Junior Assistant Resident Medical Officer; doubly qualified. Salary, £175 per annum, with washing, board, and apartments. Applications endorsed "Junior Assistant Medical Officer," to J. Moulding, Clerk to the Guardians, 15, High Park Street, Liverpool, by September 8th.

TYNEMOUTH VICTORIA JUBILEE INFIRMARY, North Shields.—Resident House-Surgeon; doubly qualified. Salary, £120 per annum, of which £55 will be required for board, lodging, and washing. Applications to John W Meadows, Secretary, 43, Howard Street, North Shields, by September 18th.

MEDICAL APPOINTMENTS.

ABBOTT, F. W., L.R.C.P.Lond., M.R.C.S.Eng., appointed Resident Obstetric Physician to Charing Cross Hospital.

ADAMS, William Francis, M.R.C.S.Eng., L.R.C.P.Lond., appointed Senior Assistant Medical Officer to the Cornwall County Lunatic Asylum at Bodmin.

ARKLE, G. M., L.S.A., appointed Medical Officer of the North Part of the No. 2 District of the West Derby Union.

BINGHAM, C. W. R., M.R.C.S., L.R.C.P., appointed Medical Officer of the No. 8 District of the Weymouth Union, *vice* Mr. J. Bartlett, resigned.

CADLES, H. S., M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Surgeon to the Grimsby and District Hospital.

DOWNING, B., M.D., D.P.H., reappointed Medical Officer of Health for the Urban District of Weymouth for twelve months from August 12th.

GAY, John, M.B., B.S., appointed Surgical Registrar to the Royal Infirmary, Newcastle-on-Tyne.

HOWES, Ernest F., M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Surgeon to the Royal Hants County Hospital, Winchester.

HOSBIE, R. P., M.B., B.Ch., appointed Extern Surgeon to the South Charitable Infirmary, Cork, *vice* N. H. Runciman, resigned.

HOWE, George E., B.A.Dub., M.D., B.Ch., appointed Medical Officer of the No. 2 District of the Chorlton Union.

KING, B. G., M.B.,C.M.Edin., appointed Medical Officer of Health to the Ardsley East and West Urban District.

KITTON, W. R., B.A.,M.B.Dub., appointed Police Surgeon at Salisbury, Mashonaland.

LEGUSON, R. Bruce, M.A.,M.D.Cantab., appointed Surgeon to the Y Division of Police at New Southgate.

FERNIE, J. F., M.R.C.S., L.R.C.P., appointed House-Surgeon to the Staffordshire General Infirmary.

GIBSON, Thomas, M.B.,C.M.Edin., appointed Resident Assistant Medical Officer of the Birkenhead Union Workhouse.

GORING, Charles, M.R.C.S., L.R.C.P., appointed Senior House-Physician to the Great Northern Central Hospital, London.

GOWING, B. C., M.R.C.S.Eng., L.S.A., appointed Medical Officer of the No. 5 District of the Wortley Union.

GRAHAM, William, M.D.,R.U.I., Medical Superintendent, Armagh County Asylum, appointed Medical Superintendent to the Belfast District Lunatic Asylum.

GREENWOOD, A., M.B., L.R.C.P.E., appointed Medical Officer of the Salford Union Infirmary.

HANNAY, Mary B., M.B., C.M.Glasg., appointed Medical Officer for the Islands of Flotta and Flara, Orkney.

HARTLEY, J., M.B.,Ch.B.Vict., appointed House-Surgeon to Ancoats Hospital, Manchester.

HEATH, Arthur, M.B.Lond., M.R.C.S., L.R.C.P., appointed House-Physician to St. Bartholomew's Hospital.

HIRST, W., L.R.C.P.Edin., L.R.C.S., appointed Medical Officer of the Howden District of the Auckland Union, *vice* Mr. W. R. Tough, resigned.

HOWARD, A. D., B.A., M.D.Brux., appointed Medical Officer of the New Hampton District of the Kingston Union.

KENDALL, H. W. M., M.R.C.S.Eng., appointed House-Surgeon to the Central London Ophthalmic Hospital.

LEIGH, W. W., L.R.C.P.Edin.&L.M., M.R.C.S.Eng., L.S.A., appointed Medical Officer and Public Vaccinator to the District of Llanfabon.

MACLAREN, John, M.B., C.M.Edin., appointed Medical Officer of the No. 3 District of the Wortley Union, *vice* Mr. P. E. Barker, resigned.

MADDEN, Frank C., M.B., B.S.Melb., F.R.C.S.Eng., appointed Medical Superintendent to the Hospital for Sick Children, Great Ormond Street, W.C.

MATHIESON, A. L., M.B.Glasg.&C.M., appointed Medical Officer of the Children's Homes, Sheffield.

MUNDEN, C., M.R.C.S.Eng., L.S.A., appointed Medical Officer of the No. 2 District of the Cnard Union, *vice* Mr. C. H. M. Mules, deceased.

MURRAY, W. A., B.A.Camb., M.B., appointed Medical Officer of the Carlton and Drax District of the Selby Union, *vice* Mr. T. Perkins, deceased.

NEWTON, R. E., M.B.,C.M.Glasg., appointed Medical Officer of the Fransham District of the Mitford and Launditch Union.

PERKINS, J. J., M.A., M.B.Cantab., M.R.C.P.Lond., appointed Assistant Physician to the City of London Hospital for Diseases of the Chest.

PIMBLETT, W. H., M.B., C.M.Edin., appointed Medical Officer of the No. 7 District of the Preston Union.

PINHORN, R., L.R.C.P.Lond., M.R.C.S.Eng., L.S.A., appointed Honorary Medical Officer to the Dover Hospital, *vice* Dr. R. E. England.

THOMSON, W. Ernest, M.A., M.D., appointed Examiner in Physiology to the University of St. Andrews.

SIMPSON, W., M.B., C.M., appointed Assistant Medical Officer to the Newcastle-on-Tyne Union Workhouse.

SWEETON, Benjamin, M.B.,C.M.Edin., appointed Medical Officer of the Mexborough and Bolton-upon-Dearne Districts of the Doncaster Union.

WILKIN, R. H., M.R.C.S., L.R.C.P., appointed Medical Officer to the No. 3 District of the Newmarket Union.

WOODHOUSE, W. M., M.R.C.S., L.R.C.P., appointed Medical Officer of the Vale District of the Wantage Union.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

HAMMOND.—On August 27th, at the Hollies, Croxteth Road, Liverpool, the wife of Thomas Hammond, Surgeon, Her Majesty's Prison, Liverpool, of a son.

SELBY.—On August 31st, at 20, South Parade, Doncaster, Edith, wife of E. W. Selby, M.D.,B.S.Lond., F.R.C.S.Eng., of a son.

WEAR.—On August 18th, at 8, Hanover Place, Park Lane, Leeds, the wife of Algernon Wear, M.D., of a son.

MARRIAGES.

LOGAN—DOUGLAS.—On August 25th, at Free Church of Scotland, Scone, N.B., by the Rev. A. K. McMurchy, M.A., James Logan, youngest son of the late James Logan, of Green Vale, Kelso, N.Z., to May, eldest daughter of T. Kennedy Douglas, M.B., C.M., Scone, and formerly of Tapanui, N.Z.

SURRIDGE—BIRTWELL.—On August 31st, at St. Elizabeth's Church, Ashley, by the Rev. H. A. D. Surridge, M.A., Vicar of High Leigh, father of the bridegroom, assisted by the Rev. Canon Quennel, M.A., Rector of Shenfield, uncle of the bridegroom, and the Rev. C. J. K. Bowstead, M.A., Vicar of Pitlochry, N.B., Edward Ernest North Surridge, B.A., M.B.,B.C.Cantab., of Knutsford, to Edith Winifrede, eldest daughter of the Rev. Geoffry Birtwell, B.A., Vicar of Ashley, Cheshire. No cards.

DEATH.

HODGSON.—At Green Street, Darwen, on the 29th August, Thomas Moore Hodgson, M.B., Surgeon, aged 36 years.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

N. S. would be glad to know of a home or asylum where he could send an incurable case of epilepsy, a boy aged about 7. The parents could pay a very small monthly maintenance fee.

H. M. would be glad to know if an "antifebrin habit" is now known to exist. He has recently come across a patient who secretly takes large doses of the drug. The discovery was accidently made, and up till then the alarming cardiac symptoms were inexplicable.

South Wales would like to know the most suitable locality (if there is one), as regards soil and climate especially, within about twenty miles of Llanelly, South Wales, for a lady to winter in. Her lungs were phthisical three years ago, the disease coming on whilst living in Llanelly. A bracing climate suits her best.

Hygiene asks with reference to the hereditariness of cancer if any statistics have been accumulated to show what proportion of the children of cancerous parents subsequently contract the disease. What proportion when both parents died of cancer, and what proportion when one only died of cancer?

J. J. J. would be glad of advice as to the treatment of a case of hyperæsthesia of the mucous membrane of the nose and naso-pharyngeal region occurring in a man aged 63. There is a history of gout; otherwise the patient is in excellent health. The hyperæsthesia is so marked that any exposure to draught or hot sun causes intense pain and violent cough, which rapidly disappear when the irritant is removed. There are no polypi or nasal growths of any kind. Gout remedies, alkaline lotions, cocaine lozenges, morphine lozenges, Dobell's solution, Ferrier's snuff have given no relief.

Antiquarian asks for information about John Browne, who in 1684 published six lectures in Latin, with curious woodcuts, on the muscles of the human body.

*** An account of John Browne appeared in the British Medical Journal, vol. ii, 1895, p. 555. Further details of his life will be found in the *Dictionary of National Biography*. The work referred to is the *Myographia Nova*.

Avenue asks for an opinion on the following case: A. has been attending a case, and B. is called in by the friends of the patient. Is it sufficient for B. to direct the friends to tell A. his services are no longer required, or should B. under no circumstances take up the case until he has met A. in consultation?

*** If a practitioner is called to attend a patient who has been under the care of another, it his duty to see that the latter has been properly dismissed before he undertakes such attendance. Any further action on his part must be at his own discretion, although it is readily conceivable that an interview, or a courteous letter, in many of these cases would greatly conduce to professional good feeling, and tend to prevent much unpleasantness.

Ferrous writes: Mrs. B., a primipara, engages the services of a nurse to attend her in her confinement on September 10th. Mrs. B. wished the nurse to attend on September 1st, but the nurse was engaged with another case till September 7th, and Mrs. B. agreed to take the nurse on September 10th. Mrs. B. is prematurely confined on August 3rd, and has to engage a nurse from an institution. She at once informs the nurse originally engaged. Is Mrs. B. liable for the full fee of the nurse originally engaged for September 10th, or should a modified fee be offered in view of the circumstances?

*** According to the dates Mrs. B. was in a position to give, and presumably did give, the nurse ample notice that her services would not be required, and the latter had the opportunity of obtaining another engagement. Under such circumstances it is doubtful whether any payment could legally be claimed. The nurse ought certainly to be glad to take a fee less than she would have charged if she had been employed for the expected period.

Listerian writes: I should be much obliged if you will kindly inform me if there be any home or institution for the purpose of disinfecting nurses and others who have been attending infectious cases. I was asked this question by a lady who keeps a district nurse, and I am anxious to give her the fullest particulars.

*** There are one or two homes in the suburbs which are prepared to take nurses for a period of quarantine, but as they do not advertise it is difficult to know where to find them. The most serious question in dealing with a nurse who has been exposed to infection is her transit from one place to another; if she is in a fit condition to travel in a public conveyance, and is quite disinfected as regards clothing and person, there are some homes which will place her apart during the period of quarantine, but this must always be a matter of private arrangement. Nurses under such circumstances are sometimes admitted at the Nurses' Hostel, Francis Street, Tottenham Court Road. All nursing institutions have some rooms set apart for quarantining the nurses attached to their staff.

ANSWERS.

Lieut.-Col., A.M.S.—The substance of our correspondent's letter will be used when occasion arises.

Surg.-Major H.—The suggestion should be kept in mind as the question of Army Medical reorganisation develops.

Joseph Cavargna.—Cigarettes with cotton-wool mouthpieces have been introduced some time, but do not seem to have become very popular.

Silk Elastic Catheters.

Dr. Percy Newell (Crowborough) writes: An "Old Member" in the British Medical Journal of August 28th probably refers to the catheters recommended by Dr. Moullin, F.R.C.S., on page 1162 of the Journal, 1895, vol. ii. The makers are Messrs. Maw, Son, and Thompson, 7, Aldersgate Street, E.C.

The Climate of Connemara.

M.D. writes, in reply to a query about the climate of Connemara in the British Medical Journal of August 21st, 1897, that the winter there is particularly mild, the temperature being raised by the Gulf Stream. Hydrangeas and fuchsias grow freely in the open air. It is apt to be rainy in summer, but the winter allows open-air life. The alterative effect of sea air may benefit rheumatism indirectly; it has no direct effect.

Formic Aldehyde Vapour as a Disinfectant.

T. H. M. will find much information relative to the action of formic aldehyde in Dr. Rideal's work *Disinfection and Disinfectants*, London, 1895, pp. 219. Numerous observers have shown that the gas effectually sterilises, and is a true germicide. The most recent experiments are probably those of Mr. Wynter Blyth, who disinfected two similar rooms side by side, the one with sulphur dioxide and the other with formic aldehyde; the latter destroyed cultures of diphtheria, typhoid, and anthrax, the sulphur only destroying the diphtheria cultures. There can be little doubt that it would be an excellent steriliser of surgical dressings. In solution, under the name of formalin, it has been used in several parasitic cutaneous affections.

Phosphorescent Odour of the Breath.

Dr. Meredith Young (M.O.H. Crewe) writes: In part reply to "Boomerang" writing in the British Medical Journal of August 21st, I may say that I have frequently observed a phosphorescent odour in the breath of adults, but have invariably found this to be due to the imperfectly cleansing of artificial teeth plates, and it is almost exclusively confined to those who wear non-metallic plates or artificial gums. There appears to be something in the composition of these plates which is acted upon by the products of food decomposition. In children, from infants a few days old to children 7 and 8 years old, I have frequently observed a strong sweet chloroform-like odour of the breath, and I am unable to account for this; it appears in breast-fed children, children taking artificial foods of all sorts, and even in children living practically on adult diet; is observable during sleep and when awake, at all seasons and under all conditions apparently. I have several times thought of asking the opinion of some of your readers on it, and should be glad to hear if anyone else has observed it In both of my own children, aged 2 years and 3 months respectively, I frequently notice it.

NOTES, LETTERS, Etc.

A Disclaimer.

Dr. Chas. T. Aveling, M.S., M.D.Lond. (Stamford Hill, N.), writes: Will you kindly allow me to state that I am not the Dr. Aveling who spoke at the Anarchist meeting in Trafalgar Square on Sunday, August 22nd?

Hospital Reform Association.

Dr. T. Garrett Horder (Cardiff), Honorary Secretary, announces that he has received the following donation:

Mr. William Allingham, F.R.C.S. ... £10 10 0

"Paragraphic Puffing."

A correspondent sends us a cutting from the *Yorkshire Herald* of May 18th, entitled "Removal of an Influential Teesside Doctor," and asks if such "paragraphic puffing" is in accordance with medical ethics.

*** It is charitable to believe that the practitioner in question is in no way responsible for the paragraph referred to, and that when it is brought to his notice he will be the first to repudiate it.

Reported Cholera in Bethnal Green.

Mr. R. Geo. Style (Cambridge Road, N.E.) writes: May I venture to doubt the accuracy of the opinion in your article anent the reported case of cholera in Bethnal Green, where the writer appears dubious that "the case was one of cholera in any shape or form," and asserts that the symptoms were "atypical?" If sudden and severe collapse, subnormal temperature, absence of radial pulse, leaden hue of face, body, and extremities, colourless and inodourless stools, and death, notwithstanding energetic treatment, five hours after my first visit, coupled with the fact that the patient's work was paper sorting, and that rag sorting was also done at the same establishment, near the river, and also that cholera usually makes its appearance in London *viâ* the docks, are not facts calculated to give rise to suspicion, what others do you consider necessary? Although cramp was not a prominent symptom in the later stage, it was present at first, and the fingers were markedly contracted. The sleep following the primary diarrhœa and vomiting was, I suppose due to exhaustion, and the fact that the intestines were full, presumably owing to paralysis, accounted for the absence of subsequent diarrhœa, and probably also of cramp, both of which symptoms authorities state are not always present in the stage of "cholera asphyxia." *Quain's Dictionary of Medicine* states (p. 244):

"Choleraic diarrhœa, even in the tropics, rarely passes on within a few hours of the commencement of the attack into collapse such as is commonly seen in Asiatic cholera."

Surely this case did pass rapidly into collapse; and again, "However great the collapse and depression of the patient may seem, a previously healthy adult seldom dies of choleraic diarrhœa." If the result of the necropsy—collapsed lungs, ecchymoses on and in heart and pericardium, which books state are invariably found in cholera, tarry blood, full gall bladder, all the intestinal canal full of a creamy (not greeny) semiflocculent fluid "not unlike whey," empty bladder, etc., are not all very suspicious signs of cholera, then I fear textbooks on the subject are ignorant of the morbid anatomy thereof; and it would be interesting to know in what diseases such *post-mortem* appearances are present. With the knowledge of the foregoing facts and of the nature of the patient's work and its locality, and in the absence of any definite history of a dangerous diet, I think I was not wrong in notifying the case and procuring prompt disinfection. Surely it would have been unwise to have waited the result of the bacteriological examination, which eventually proved "entirely negative." At any rate, my action was approved of by the local authorities, and I am content to think with them better fifty "scares" than one epidemic.

In fourteen years of East End practice I have never seen symptoms in any degree approaching those in this case in severity, nor have I ever seen death from diarrhœa in an adult. If heterogeneity of diet was solely responsible for the death, as your article seems to hint—and I presume it is fair to say others participated in the same articles of food as the deceased did, without any ill effects—then, knowing what I do of the dietary of ordinary East Enders, it seems simply marvellous that half of them do not suffer and succumb in a similar manner. I may add that Mr. Plews, who saw the case during life, was with Dr. Quinlivan present at the *post-mortem* examination, and that both agree with me in every respect. I apologise for the length of this letter, which, however, I hope you may in justice insert, as a certain amount of obloquy must necessarily attach itself to a medical man whose diagnosis your influential Journal may deem fit to criticise.

*** While fully agreeing with the wisdom and prudence of disinfecting the surroundings of any case regarding which a suspicion of cholera might be entertained, we are unable to find anything in Mr. Style's letter to cause us to modify the views expressed in our article. We hope that Mr. Style will believe that although our opinion—and we may add that of others well qualified to judge—differs from his, such difference involves no question of professional capacity.

Nursing in Workhouses and Workhouse Infirmaries.

We have received a communication under the above title commenting on the new Order of the Local Government Board. Our correspondent is a little puzzled with the apparent repetition of Article 1 in Article 2; to his mind it is intended to provide the medical officer with an assistant for the wards in time of temporary pressure, by allowing him to select an inmate to work under the trained nurse, and as we understand it the medical officer is to be responsible for the selection. Article 1 does not require the sanction of the medical officer. Our correspondent is also puzzled by the use of the word "otherwise" in Article 1. We read that this word covers the numberless irregular opportunities for attendance on the sick which are constantly recurring in a workhouse, such as delirium tremens, "fits" of all kinds, the night admissions, a case of sickness occurring in the body of the house, and the like; as we understand the word "otherwise" it means that the guardians are to provide a paid officer to meet all these emergencies. The effect of this order will be to empower the medical officer to requisition for a trained nurse in his workhouse or workhouse infirmary, where such an officer is not previously been employed, and that he is to be responsible for the employment of an inmate as attendant on the sick if extra help is needed to meet an emergency. This Order comes in force on and after September 29th next.

Refund of Income-Tax.

The Income-Tax Repayment Agency (6, Chichester Road, Paddington, London, W.), writes: The correspondence in the London *Times* on the difficulties of obtaining a refund of income-tax clearly shows that the Land Revenue, far from facilitating the process as promised in the House of Commons by the Chancellor of the Exchequer, have, in fact, made it more complicated. One correspondent justly says that in numerous cases no inexperienced person can obtain a refund without expert assistance; another states that he has considerable and varied experience, having made no less than twenty claims and attempted at least four others, which he had to abandon on account of the practical difficulty of complying with the official requirements. If this is the percentage with a solicitor who confessedly makes a habit of preparing claims, what can it be with amateur claimants? Official requirements have never deterred us from making a claim, and it is our boast that we have never abandoned one nor failed to obtain a refund where a person was entitled to it, and our claims for clients at home and abroad exceeds 2,000 per annum. We are at all times glad to give gratuitous information as to claims, and we undertake all formalities on receipt of full particulars.

The Income-tax Adjustment Agency (12 and 13, Poultry, E.C.) writes: The interest which has been aroused in regard to income-tax by the correspondence in the *Times*, and the articles which have appeared in a large number of other metropolitan and provincial papers, has resulted in calling attention to many grievances which taxpayers suffer; but there is one practice of the Inland Revenue authorities which we think quite unjustifiable and which seems to have been overlooked. The practice referred to is that of sending to traders and others at this period of the year a blue notice of charge, showing an assessment of profits at £160, and allowing the whole by way of abatement, no tax being demanded in respect of the business profits. Of course, where those who receive such notices have no income from any source other than their business no injustice is done; but in the case of such as have income from other sources from which tax has already been deducted the effect is to bar their right to claim repayment, unless the assessment of the business profits be appealed against, the full abatement having already been allowed.

It is, therefore, of the utmost importance that those of your readers who are now receiving notices of charge for the year 1897-98 should, if the amount at which they are assessed is greater than the average of their profits for the three years ending April 5th, 1897 (or at such prior date as they usually make up their accounts), at once give notice of appeal in accordance with the instructions on the notice of charge. Moreover, if they find that the profits of the three years named show an average profit less than the amount upon which they paid tax for 1896-7, they should give notice of appeal in respect of that year also, and claim repayment of the amount overpaid. There is no time to lose in business appeals, as this class of claim for repayment should have been made before now; while a claim to set off a loss in farming or business against income from other sources must be lodged before October 6th next. Many people are now entitled to make a claim on one ground or another for three years to April 5th last and the tax recoverable might amount to £38. We are at all times happy to advise your readers whether they can make a claim, on their sending us full particulars of their income and a stamped envelope for reply.

An Appeal.

In the British Medical Journal of August 7th there was an obituary notice of Dr. Henry Winchester, Fort Augustus, whose death occurred under rather trying circumstances, the result of cellulitis following an injury received while dressing a wound on the hand of one of his patients. For some time prior to his death Dr. Winchester had but indifferent health, and was frequently laid aside by illness. He has left a widow and two young children totally unprovided for. We therefore make an appeal to our professional brethren to contribute something towards a fund we are getting up on behalf of the widow and young children. Dr. Winchester's good qualities, both as a professional man and a neighbour were well known, and to those of his fellow students who remember him at Aberdeen University, their recollections of his likeable qualities will, we trust, prompt them to send a subscription towards this fund which is being raised for the benefit of his family. Subscriptions will be thankfully received by either of the undersigned, and will be acknowledged in the Journal from time to time.

James McNee, M.D., Inverness.
Munro Moir, M.D., Inverness.

The following subscriptions have been already intimated:

	£	s.	d.
Dr. J. McNee, Inverness...	3	3	0
Dr. W. Bruce, Dingwall ...	2	2	0
Dr. F. Fox, Strathpeffer...	2	2	0
Dr. A. W. Mackay, Inverness	1	1	0
Mr. F. M. Mackenzie, L.R.C.S.Ed., Inverness	1	1	0
Mr. A. Finlayson, L.R.C.P. Ed., Munlochy	1	1	0
Dr. D. Grant, Inverness...	1	1	0
Dr. J. W. Black, Inverness	1	1	0
Dr. J. M. Moir, Inverness	1	1	0
Dr. G. W. England Kerr, Inverness	1	1	0
Mr. J. L. Fraser, L.D.S., Inverness	1	1	0
Dr. D. MacDonald, Glen-Urquhart	1	1	0
Dr. J. Murray, Inverness ...	1	1	0
Dr. J. G. Asher Fosyth, Inverness	1	1	0
Dr. J. MacDonald, Inverness	1	1	0
Dr. H. E. Fraser, Inverness	1	1	
Mr. D. MacFadyen, L.R.C.S. Edin., Inverness	1	1	0
Dr. G. A. Lang, Inverness...	1	1	0
Dr. A. MacLennan, Inverness	0	10	0
Dr. J. Adam, Dingwall ...	2	2	0
Dr. Ogilvie Grant, M.O.H., Inverness	1	1	0
Dr. J. P. Smith, Dingwall ...	1	1	0

The Institute of Dental Technology.

The importance of manual dexterity in a dental student is so great that an institution devoted to the technical education of dental students must be of genuine practical utility. The institute of Dental Technology, which has its laboratories and workshops at Langham Chambers, and which is under the directorship of Mr. George Cunningham, was founded for the purpose of providing manual training and instruction in those branches of art and science which have an essential bearing on the processes of mechanical dentistry. The fundamental idea of the institute is an excellent one—namely, to give to students, by a series of well-graduated courses, such acquaintance with the practical working of metals and materials as will enable them more readily to profit by the instruction they will receive from the practical dentist. Modern dentistry involves the practical manipulation of so many different materials that some such institution seems to us to be almost a necessity. At a luncheon recently given in London, the institution met to celebrate another year of completed work. Dr. Sedley Taylor, whose interest in technical education matters is well known, was in the chair, and from the tone of his remarks as well as those of the other speakers we should judge that the work already accomplished has found appreciation among the dental profession.

The Overcrowding of the Medical Profession.

W. L. writes: In your article (August 28th) you state that the overcrowding of the medical profession is a matter for the serious consideration of those intending to enter it; and as it also concerns those already in it, as a practitioner of more than thirty years' standing, I would like to venture a few remarks on the subject. There can be no doubt that from the numbers who have lately entered the profession, many will meet with disappointment in time to come; my own experience has been that there is often more work than can be got through in a satisfactory manner, but that the remuneration has been insufficient, or what amounts to the same thing, that the expenses have been too great.

One of the objects I have in writing this is to point out how expenses might be lessened if members of the profession would co-operate more; for instance, take the case of a small town, where there are three or four or more practitioners working in opposition to each other, on some day may be seen several doctors' conveyances going towards the same village, whereas if the owners had been working together, only one-third or one-fourth of this kind of expense would have been necessary.

A young man starts a small practice on his own account, and year after year he finds himself out of pocket, whereas, had he been acting as an assistant or junior partner, not only would he be better off in a pecuniary sense, but his life would in all probability have been happier; his continuous friendly contact with another practitioner could not but be advantageous to both, and if he could bring himself to brook any trifling annoyances, and to treat his co-worker with the respect due to his position, age, or experience, he would at least show himself worthy of success.

Might not this subject be worth the consideration of those who deliver the opening addresses at the various medical schools?

I should like a minimum scale of fees to be arranged for the poor of the working classes, and those not able to pay even these should have a ticket from the relieving officer for the parish doctor, who should be properly paid; in this connection boards of guardians should be called upon to make returns of salaries of medical officers, with expenses deducted.

Unqualified Assistants.

A Qualified Practitioner writes: The perennial question of the unqualified assistant has again come up. Without raising the many vexed issues which have been argued with such acerbity, I would venture to draw attention to one class of unqualified practitioner which has not received adequate notice. I am a medical practitioner living in a very highly-rated parish in West London. If an accident occurs within a few yards of my door and the victim falls into the hands of the police, he or she is at once "treated" in accordance either with the preconceived notions of surgery of the active and intelligent constable, or with such knowledge as "first aid" learning may have imparted; but it appears to be a canon with the force to avoid calling in qualified medical aid where by any possible means this can be done. Should any unfortunate result accrue to the patient, no note is taken of the fact that the preliminary treatment was applied not merely by an unqualified, but by an amateur surgeon. If, on the other hand, the patient were brought to my surgery, and by any chance in my absence were to be attended by an unqualified assistant, skilful and perfectly competent as many men in practice, and any mischance of whatever kind eventuated, an outcry would at once have been raised as to the employment of the unqualified assistant.

There is also a further view of the case. Departmental ideas, whether local or otherwise, upon this subject are not always in harmony with the practice of the departments. To take a concrete case: On the Saturday preceding Bank Holiday my unqualified assistant saw a case which proved to be scarlet fever. He immediately referred the matter to me, and I, diagnosing the case, informed the parents that it required either isolation or removal to hospital, giving them of course the option, but informing them that in any case I must notify it. I notified it, but though I am to a certain extent anticipating, I may say that my notification, posted in due observance of the law on the Sunday, was received and opened only on Tuesday morning.

In view of possible complications which might have arisen, and also in view of some which did arise recently in a somewhat similar case in which I was to a certain extent—by implication at least—concerned, I took measures to have the case removed at once. The curious part of the whole matter is that the medical officer of health, who took high ground recently where the "u. a." question was a feature in the case, but where his own department was proved to demonstration to be utterly and hopelessly in the wrong, has now left the professional work of his department to an unqualified assistant. Wanting information as to the propriety of notifying certain doubtful cases in connection with the present high rate of mortality (about 70 per 1,000), I was told that I could not see the doctor till his return after a six weeks' holiday, but I might see his clerk. I draw no inference.

A Dispensary Doctor for 10s. a Week.

The following paragraph is taken from an Enniskillen paper, and as no contradiction has appeared, we are compelled to accept it as correct:—"A meeting of the committee of the Ballymagrane Dispensary, which is adjacent to the town of Aughnacloy, was held on Monday, the 2nd instant, to consider the appointment of a *locum tenens* for August during the illness of the medical officer. Two candidates presented themselves—the one, Dr. Kennedy, of Belfast, who was the medical officer's substitute, and who held the *locum tenency* during May and June at a salary of two guineas a week, and the other, Dr. Patterson, of Caledon, who holds an adjoining dispensary. Dr. Patterson proposed to do the work for a month at a reduced salary of 10s. a week, and was appointed." Dr. Patterson may have some sufficient reason to assign for lowering the status of the profession in Ireland by accepting 1s. 5d. per day for his professional services. If so, our columns are open to him.

Sea-Sickness.

Dr. Geo. B. Beale (Bournemouth) writes: Possibly my experience may be useful. I never was sea-sick in my twenty-five years' service in the Royal Navy, but always when there was extra movement of the ship from a gale or on leaving harbour, the kidneys took on increased action, the bladder filling every 10 to 15 minutes: this was not a single but a constant experience; it depended, I have no doubt, on some disturbed condition of blood supply to the brain. As your correspondent of August 21st puts it, "a modification of fear," a similar experience is not unknown to the student waiting examination, but I cannot quite explain the physiological sequence.

Extraordinary Fecundity.

Dr. J. Kay Tomory (Halkirk, Caithness) writes: I think the following case of extraordinary fecundity worthy of being recorded. On May 4th, 1896, Mrs. McD., primipara, aged 37, was delivered of twins—a boy and a girl—both of whom survive. They were both delivered by forceps. On August 18th, 1897, Mrs. McD. was again delivered of triplets—three girls—all of whom still survive. The first child was very small, the second a little bigger but still a small child, while the third was a plump child of average size. Labour was normal. Such an occurrence must be very rare, so I send you the particulars for publication.

LETTERS, COMMUNICATIONS, Etc., have been received from:

(A) Dr. Adami, Montreal; Dr. C. T. Aveling, London; Dr. E. Antrobus, Great Malvern; Mr. R. B. Anderson, London; Mr. W. F. Adams, Bodmin; Mr. W. M. B. Alderson, London. (B) Dr. J. W. Ballantyne, Edinburgh; Mr. A. E. Barrett, London; Dr. R. G. Burton, Hanwell. (C) Mr. T. A. Clinch, Moscow; J. Clay, M.B., Newcastle-on-Tyne; Dr. C. Corlette, London; A. Cuff, M.B., London; Mr. C. E. Corlette, London. (D) Dunelm. (F) Professor T. R. Fraser, Brechin; Dr. R. B. Ferguson, London. (G) G. R. L.; Mr. C. Goring, London; Mr. W. F. Garner, Nottingham. (H) C. H. Hall, M.B., Watford; Dr. T. B. Hyslop, London; R. Howden, M.B., Newcastle-upon-Tyne; H. M.; Dr. E. Hobhouse, Brighton; H. Hollis, M.B., Wellingborough; Mr. H. Humphris, London. (J) J. J. J.; J. F.; A. K. Jarratt, M.B., Bridlington Quay. (L) Mr. E. A. Lightbourne, London. (M) Mr. L. Mark, London; Dr. Moorhead, Cootehill; Dr. T. Maguire, Stony Stratford; Medicus; Mr. C. T. Mills, London; M. O. H.; Member B.M.A.; M.B. (N) Mr. R. Nitch-Smith, London; Mr. P. Newell, Crowborough; Mr. T. Nelson, Strabane. (O) Observer; Mr. J. P. O'Connor, Keighley; Mr. M. W. O'Sullivan, London. (P) C. E. Potter, M.B., Ashbourne; Dr. T. F. Pearse, Southsea; Dr. J. B. Potter, London; Mr. A. D. Pithie, Lymington; F. L. Pochin, M.B., London; Practitioner. (R) Mr. G. A. Rae, Devonport; Mr. C. E. Ross, Tenbury. (S) Dr. G. E. Shuttleworth, Moscow; Messrs. Street Bros., London; Mr. G. W. Shuttleworth, Toronto; Subscriber; Dr. A. Shaw, St. Austel; Mr. J. L. Steven, Moscow; Dr. J. S. Scriven, Stourport; South Wales; Dr. J. Shaw, Liverpool; Surgeon-Major Retired Half Pay. (T) Mr. B. Thornton, Margate; W. Thomson, M.B., Montevideo; H. H. Thomson, M.B., Glasgow. (W) Mr. A. J. Wilson, London; W. C. D.; Dr. J. M. Wilson, Doncaster; Dr. F. H. Walmsley, Dartford; W. L.; Dr. B. Walker, Kirkby Stephen; C. J. Whitby, M.B., Bath. (Y) Mr. M. Young, Crewe. (Z) Mr. W. S. Zerman, Dublin, etc.

BOOKS, Etc., RECEIVED.

Our Baby: for Mothers and Nurses. By Mrs. L. Hewer. Bristol: John Wright and Co. 1897. 1s. 6d.

Kriegschirurgische Erfahrungen aus dem Japanisch-Chinesischen Kriege, 1894-95. Von Dr. Haga. Berlin: August Hirschwald. 1897. M. 4.

Encyklopädie der Therapie. Herausgegeben von Prof. O. Liebreich. Zweiter Band. Berlin: August Hirschwald. 1897.

Practical Muscle Testing and the Treatment of Muscular Atrophies. By W. S. Hedley, M.D. London: H. K. Lewis. 1897. 3s. 6d.

The Relation of Cancer to Life Insurance. By Wm. Thorburn, F.R.C.S. Manchester: Policy-Holder Journal Company. 1897.

Die Pathologie der tabischen Hinterstrangserkrankung. Von Dr. E. Redlich. Jena: Gustav Fischer. 1897. M. 8.

Ueber chronische Nephritis und Albuminurie im Kindesalter. Von Dr. O. Heubner. Berlin; August Hirschwald. 1897. M. 2.

The Valley of Zermatt and the Matterhorn. A Guide by E. Whymper. London: John Murray. 1897. 3s.

La Suisse Balnéaire et Climatique. Par Dr. E. de la Harpe. Zurich: César Schmidt. 1897.

Annual of the Universal Medical Sciences and Analytical Index. Edited by C. E. Sajous, M.D. Vols. 1-5. Philadelphia: F. A. Davis and Co. 1896.

Handbuch der Therapie innerer Krankheiten. Herausgegeben von Dr. F. Penzoldt und Dr. R. Stintzing. Zweite teilweise umgearbeitete Auflage. Zweite und Dritte Lieferung. Jena: Gustav Fischer. 1897.

The Diseases of Women. By J. Bland Sutton, F.R.C.S., and A. E. Giles, M.D., B.Sc., F.R.C.S. London: Rebman Publishing Company. 1897. 14s.

Twentieth Century Practice. Edited by T. L. Stedman, M.D. Vol. x. Diseases of the Nervous System. London: Sampson Low, Marston and Co. 1897.

*** **In forwarding books the publishers are requested to state the selling prices.**

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N.B.—It is against the rules of the Post Office to receive letters at *Poste Restantes* addressed either in initials or numbers.

ADDRESS IN PUBLIC MEDICINE

BY

HERMANN M. BIGGS, M.D.,

Pathologist and Director of the Bacteriological Laboratories, New York City Health Department, and Professor of Therapeutics and Clinical Medicine and Adjunct Professor of the Practice of Medicine, Bellevue Hospital Medical College.

Delivered at the Sixty-Fifth Annual Meeting of the British Medical Association, held at Montreal, September, 1897.

PREVENTIVE MEDICINE IN THE CITY OF NEW YORK.

I DESIRE to express my high appreciation of the honour conferred upon me by the invitation of the Council of the British Medical Association to deliver the address on Public Medicine at its annual meeting, and for this I wish to render my grateful acknowledgment.

I interpret the invitation, however, as a tribute to the Health Department of New York City, with which I have had the honour to be connected for many years, and as an expression of the desire of the Council to give recognition to the practical advances made in sanitary science in the greatest city of the new world. I have, therefore, regarded your invitation as a command to select for the subject of this address the consideration of some of the measures which have more particularly distinguished the work of the New York City Health Department, and to describe some of the procedures followed in the sanitary surveillance of infectious diseases, which have been introduced by it.

I feel a great diffidence in presenting an address dealing with these subjects before the British Medical Association, representing, as it does, the medical profession, and, to a great extent, the health officers of a country which has been so long and justly regarded as the birthplace and home of sanitary science. It has been the custom of sanitarians of all nations to look to England for guidance and direction in matters connected with the public health, and the low mortality statistics, especially for zymotic diseases, in England testify in no uncertain language to the value of English sanitary methods and the efficiency of their execution. When we remember that never before in the world's history have there been 30,000,000 people living within 50,000 square miles, as is the case in England, and that more than 20,000,000 of this population reside in towns, often crowded, we appreciate more fully the remarkable healthfulness of the England of to-day and the extraordinary success of English sanitation, as of English methods in all the practical affairs of life.

The fact should be strongly emphasised that the advances in preventive medicine in Great Britain, as shown by the mortality tables for nearly half a century, have preceded those in every other country, and I doubt not that the influence of the British Medical Association has been no small factor in contributing to the high standard of the public health. In view of these considerations, it is natural that a foreigner should hesitate to address this Association on such matters.

I must further ask your indulgence for having devoted the greater part of this address to the study and description of procedures and methods rather than, as is generally the custom, to the consideration of some one of the broader questions in public medicine. This course has been adopted because, in my judgment, such a discussion will be of greater value and interest than the consideration of any general topic, which latter could furnish little specific information as to the conditions and methods of sanitary work in the United States.

It seems necessary, in order that you may have an intelligent conception of the conditions under which sanitary work in the United States is carried on, that I should first point out in a general way how they differ from those in Great Britain. It should be noted particularly that in the United States there is no national Board of Health, and there are no national regulations of general application. In each of the several States of the Union the sanitary administration is solely under the control of the State authorities. The State Boards of Health are energetic and progressive in many of the States, but in some there is no sanitary work of importance done.

It necessarily follows that throughout the United States there is a great lack of uniformity in regulations and methods and in the efficiency of their execution. It is hardly possible to make any definite statement as to the condition of preventive medicine generally, for what is true of one State is not true of another. Speaking broadly, in the rural districts and in the towns and smaller cities, especially in the south and west, the sanitary methods are of the crudest type. On the other hand, in many of the large cities, there is found a broad, enlightened, and progressive policy, and an efficient administration, equal to that presented in any of the great cities of the world.

Instead, therefore, of attempting the consideration of the broader subject of public medicine in the United States, I shall confine myself to a discussion of the conditions and methods of sanitary work in New York, as these serve as a type of the best of those found in the greater American cities.

The Health Department of New York City is organised under a special Act of the Legislature of New York State, and is an entirely independent sanitary organisation, not being subject even to the jurisdiction of the State Board of Health.

The Board of Health of the Health Department is composed of four members, namely: The President, who is the chief executive officer; the Commissioner of Health, who must be a physician (these two being appointed by the Mayor of New York City), and two *ex officio* members—the Health Officer of the Port of New York (who is a State officer nominated by the Governor), and the President of the Board of Police Commissioners of New York City (the latter being added to bring the Police Department and the Health Department in closer relation to one another). The Commissioner of Health of the Health Board of New York City is *ex officio* a member of the State Board of Health, as is also the Health Officer of the Port of New York; so that two of the members of the Municipal Board are also members of the State Board of Health; but the State Board has no jurisdiction in New York City, and the action of the Municipal Board is absolutely independent.

The Board of Health of New York City has jurisdiction over the whole of New York City, as it now exists, with its about 2,000,000 of population, and with the beginning of 1898 a similar Board, increased to five members, will have complete jurisdiction over greater New York, with a population of about 3,250,000. All of the administrative and executive work of the Department is concentrated at the main offices, and is carried on under the immediate direction of the chiefs of the various divisions into which the Department is divided. The Act of the Legislature of New York State creating the Department gives to the Board most ample powers, executive, judicial, and legislative in character. The funds for the support of the Department are supplied from the general funds of New York City.

Before proceeding to a discussion of the management of infectious diseases in New York, I desire to call especial attention to the fact, that all matters connected with the scientific investigation, diagnosis, care or sanitary supervision, in every way, of the infectious diseases are regarded by the Board of Health as properly coming within its province. In the development of the methods now in use, the proposition expressed has furnished the governing principle. I need hardly point out the great difference between this conception of the functions of a Sanitary Board and that usually held.

The duties of sanitary authorities relating to the infectious diseases are generally regarded as limited to the inspection of reported cases of only a few of the infectious diseases, their removal to hospitals when required, and the subsequent proper disinfection of the premises.

In times of emergency, as in the presence of serious epidemics, more comprehensive and stringent measures are considered justifiable; but it has not generally been regarded as

necessary or desirable that municipal sanitary authorities should furnish opportunities for, or assistance in, the diagnosis of infectious diseases, should conduct experimental investigations into their causes, should assist in the treatment in any way of cases outside the hospitals, or otherwise concern themselves with these matters. It has seemed to us in New York City, however, that everything connected with the infectious diseases in every form came properly within the scope of the department's work.

The first important departure in New York City from the older methods, was made in 1892 by the establishment of a bacteriological laboratory. This was, I believe, the first bacteriological laboratory ever established under municipal control. It was designed originally to afford facilities for the bacteriological diagnosis of Asiatic cholera, and for the investigation of questions relating to disinfection and disinfectants. A few months after the opening of the laboratory, the scope of its work was broadened and facilities for the bacteriological diagnosis of diphtheria were offered to the physicians of New York City free of charge. The necessity for making repeated examinations during the course of this disease soon became evident, and such changes were made by the Health authorities in the methods of dealing with diphtheria as were suggested by the earlier experimental observations.

These investigations of the New York City Health Department relating to diphtheria laid the foundations of municipal bacteriological laboratories, and made them necessary to the proper conduct of sanitary work.

The work in diphtheria was soon followed by the perfecting of arrangements for the free bacteriological examination of sputum for the diagnosis of cases of suspected tuberculosis occurring among residents of New York City.

In October, 1894, investigations in connection with the production of diphtheria antitoxin were begun, and in December of that year the municipal authorities made a special annual appropriation (antitoxin fund) of $30,500 for the prosecution of this work. The Health Department commenced the use of the antitoxin produced in its own laboratories on January 1st, 1895. The plan, as now developed, includes:

1. The furnishing of free supplies of diphtheria antitoxin to all public institutions in New York City.

2. The furnishing of free supplies of diphtheria antitoxin to private physicians for use among persons too poor to pay for the remedy; the only condition being that reports of the cases treated be forwarded to the Health Department on their completion.

3. The free administration of diphtheria antitoxin on the request of the attending physician to any resident of New York City by a specially detailed staff of medical inspectors.

The sale of the surplus product of diphtheria antitoxin was authorised by a special Act of the New York State Legislature in 1895, and the funds thus derived, according to the provisions of this Act, are devoted solely to "the production and use of diphtheria antitoxin, or other antitoxins." The remedy is on sale in over 100 pharmacies in the city, to which it is consigned, the price being fixed by the Health Department in all cases, and 10 per cent. on the sales is allowed to the pharmacies as commission.

The special antitoxin fund made possible the establishment of a hospital and research bacteriological laboratory devoted to the production of diphtheria antitoxin and other bacteriological products, and to general experimental investigations in relation to the infectious diseases. The work of this laboratory now includes the production of tetanus and streptococcus serums, mallein and tuberculin (used by the department in the diagnosis respectively of glanders and tuberculosis in animals) and numerous experimental investigations regarding the infectious diseases, especially diphtheria, typhoid fever, tuberculosis, and small-pox.

In October, 1896, arrangements were completed for placing at the command of the physicians of New York City Widal's test for the diagnosis of typhoid fever, largely after the method of Wyatt Johnston, of Montreal, and recently arrangements have also been made for the administration of Pasteur's treatment for the prevention of rabies.

A special laboratory and stable are devoted to the production of bovine vaccine virus, and this is freely distributed and vaccination is performed free of charge by the medical officers of the Department. Special investigations undertaken in this laboratory have resulted in the production of a glycerinated vaccine pulp of great activity and durability. This pulp has entirely displaced the virus, prepared by drying on quills or ivory points, generally employed.

A better idea, perhaps, of the extent of the work performed in the laboratories of the Health Department of New York City may be obtained from the following statistical statement of some of the routine work:

During the year 1896 25,049 cultures were examined for diphtheria bacilli; 1,856 specimens of sputum from cases of suspected tuberculosis were examined for tubercle bacilli; 16,796 vials of diphtheria antitoxin were issued; 918 cases of diphtheria were treated in their homes by the medical *attachés* of the laboratory, and 1,214 persons were immunised.

The scientific staff of the bacteriological and vaccine laboratories now includes 25 physicians, 1 chemist, and 2 veterinarians, in addition to clerical and laboratory assistants and attendants.

The work connected with disinfection was formerly in charge of the Director of the Bacteriological Laboratories, and the methods employed are still determined in the laboratories, but the details of execution are now entrusted to the Chief Inspector of Contagious Diseases.

Every case of contagious disease reported to the Department is regularly inspected by the Medical Inspector assigned to the district in which it occurs. When consent can be obtained such cases are removed to the department hospital, and when necessary the removal to the hospitals is enforced. A comparatively small proportion of the total cases, however, are actually treated in the hospitals for contagious diseases. After completion of the illness, or transfer of the patients, thorough disinfection is performed in the apartment, and all infected materials are removed to the disinfection station for destruction, or for disinfection by steam. After treatment they are returned to the owner, no charge being made for the services. Disinfection is compulsory in every case.

The inspection work of the Health Department is carried on by a number of different corps of inspectors attached to the various divisions of the Department. These inspectors are in part medical men, and in part they are non-medical men who have had special training in the work to which they are detailed. The medical corps include the district medical inspectors, the district and special vaccinators, the inspectors for the administration of diphtheria antitoxin, the diagnosticians, the summer corps of inspectors, the medical inspectors of schools, the veterinary inspectors, and several special inspectors of disinfection of lodging houses and public institutions. These various corps, with the exception of the summer corps and the school inspectors, are permanent, and are on duty throughout the year. The school inspectors are on duty only through the school year, and the work of the summer corps is limited to July and August. There are also a number of corps of sanitary and food inspectors (not necessarily medical men), and the disinfection corps. These include the inspectors of plumbing and ventilation, the sanitary police, the inspectors of offensive trades, the inspectors of meat, fish, milk, and food, and the inspectors of mercantile establishments.

The functions of most of these different corps are, for our purpose, sufficiently indicated by the name. It may be here added, however, that, under the law creating the corps of inspectors of mercantile establishments, definite provisions are made as to employment of women and children in such establishments, and as to the time, nature, and condition of such employment.

It should, perhaps, also be stated that the function of the diagnosticians, two of whom are always on duty day and night, is to give expert assistance in the clinical diagnosis of contagious diseases. It is a part of their duty to see every case of contagious disease before its admission to the department hospitals.

The veterinary inspectors have supervision of the application of the tuberculin test for the diagnosis of tuberculosis in cattle, and the diagnosis of other infectious diseases of cattle and horses.

I desire now to present somewhat in detail the methods of procedure in relation to two diseases—namely, diphtheria

and tuberculosis, as in these diseases the methods have been developed to an unusual extent in New York.

Knowledge of the existence of cases of diphtheria reaches the department, either by a direct report of the case by the attending physician, or through the forwarding of a culture to the laboratory for bacteriological examination, when the case is of doubtful character. If on examination of the culture the Loeffler bacilli are found, the case is reported to the Division of Contagious Diseases from the laboratories, at the same time that a report is forwarded to the attending physician. In both instances the cases are immediately referred to the medical inspector connected with the Division of Contagious Diseases assigned to the district in which the case occurred. If the person lives in a tenement house, lodging-house, boarding house, or hotel, and a culture has not been previously made by the attending physician, the inspector makes, in each instance, a culture to confirm the diagnosis. The subsequent action of the department depends upon the result of this culture. If diphtheria bacilli are found, the case is treated as one of diphtheria; if they are absent, the subsequent treatment depends on the special conditions existing. In every instance in which the case is proven to be diphtheria, at the end of ten days a secondary culture is made by the attending physician or the district medical inspector, to determine whether the diphtheria bacilli are still present in the throat, and subsequent cultures are made at short intervals until the examinations show that the organisms are no longer present. The case is then referred for disinfection, a detailed statement being left at the house by the medical inspector in charge, to guide the disinfectors as to the course which shall be followed.

Every case of diphtheria which comes to the knowledge of the department is recorded in a card index according to the number of the house and the street in which it occurs, envelopes being used in place of cards. In each envelope, representing always one case, are placed all of the data relating to the first and subsequent cultures, and results; and as each case is recorded, it is at the same time plotted on a sectional map of New York City drawn to scale, showing every house lot in the city. This plotting is done by conventional signs, so that it is possible at a glance to determine the grouping and distribution of cases in different parts of the city, the number of cases occurring in any given house in the city during the last four years since this method has been in use, and the date when reported. It is also possible in a moment, by reference to the yearly card index, to find all the information in relation to each case which the department possesses.

A special corps of inspectors is assigned to the administration of diphtheria antitoxin, and, on request, one of these inspectors will visit a person suffering from diphtheria in any part of the city, day or night, and administer diphtheria antitoxin under the supervision of the attending physician. When the patients are too poor to have an attending physician, the inspectors will supervise their removal to the hospitals. These inspectors are also prepared, at the request of the attending physician, to perform intubation in laryngeal diphtheria. It is the usual course, when antitoxin is administered by an inspector, to immunise all members of the family who have been exposed to the disease. Diphtheria antitoxin has also been largely employed for the immunisation of the inmates of public institutions, especially children, when diphtheria has appeared. This is the ordinary routine, and in every instance during the last two years and a half it has been possible to quickly stamp out diphtheria in institutions by this process of immunisation.

As already stated, diphtheria antitoxin is furnished on request free of charge to all public institutions, and may be obtained by physicians at any of the hundred depôts where it is on sale, and free of charge for administration to persons who are too poor to pay for the remedy.

In connection with the study of diphtheria, experimental investigations are constantly being carried on to determine the virulence of the diphtheria bacilli found in healthy throats, in simple catarrhal angina and follicular tonsillitis, and regarding the various matters which relate to the bacteriological study of this disease.

The attitude assumed by the Health Department of New York City towards pulmonary tuberculosis and the measures adopted for its prevention, constitute, in my opinion, a most important feature of its work. No more striking example of the influence of inherited and transmitted beliefs and prejudices can be found than is afforded by the exhibition of hesitation and reluctance on the part of the proper authorities to assume the sanitary supervision of the tuberculous diseases. It is now universally admitted that tuberculosis is infectious and communicable, and the most fatal disease to which the human race is subject; yet as a rule no effective measures, or no measures at all, have been adopted by sanitary authorities with relation to it. Nevertheless, we believe it may be more easily controlled than any other of the principal infectious diseases with which we have to deal, and that it is of as great importance—judged by the deaths it causes—as all the others together. The full courage of scientific conviction seems to have been generally lacking among public officers in dealing with this disease.

The Health Board of New York City first began an educational campaign in relation to the causation and prevention of pulmonary tuberculosis in 1889. In that year a communication on this subject presented by the writer and the associated Consulting Pathologists of the Department was widely published, and leaflets, based on it, giving the essential facts as to the nature of this disease, were freely distributed. No further action was taken at that time, as investigation showed that the medical profession and the public were not then prepared for more extended measures.

In December, 1893, the attention of the Department was again called to the subject by the writer, and it was determined to at once institute more comprehensive measures for the prevention of this disease. The measures then adopted required the notification of all cases of pulmonary tuberculosis occurring in public institutions, and requested reports of cases occurring in the practice of private physicians. They also included arrangements for the bacteriological examination of sputum, to assist in the early diagnosis of this disease; the inspection of all reported cases in tenement houses, lodging-houses, hotels, and boarding-houses, and the instruction of the patients and their families as to the nature of the disease and the means to be taken for its prevention; the inspection of the premises in all instances where deaths were reported as due to tuberculosis, and the issuing of orders, when it was deemed necessary, upon the owners of apartments which had been occupied by consumptives and vacated by death or removal, requiring that such apartments be thoroughly renovated, by cleansing and by painting, papering or kalsomining, before they were again occupied by other persons; and, finally, the education of the public by wider and more comprehensive methods as to the nature of this disease.

Placards were attached to the doors to prevent the re-occupation of apartments which had been vacated by death or removal before the orders requiring renovation had been complied with.

Under the resolutions by virtue of which these measures were enforced, 4,166 cases of tuberculosis were reported in 1894; 5,818 in 1895, and 8,334 in 1896. So far as was possible, all of these cases, except those in private houses, were visited or the premises where they had lived were inspected, and, in addition, the premises occupied by persons dying from tuberculosis (numbering each yearly 6,000) were inspected, and such action taken as was considered possible and desirable. Altogether the premises and cases thus coming under observation during these three years numbered more than 35,000.

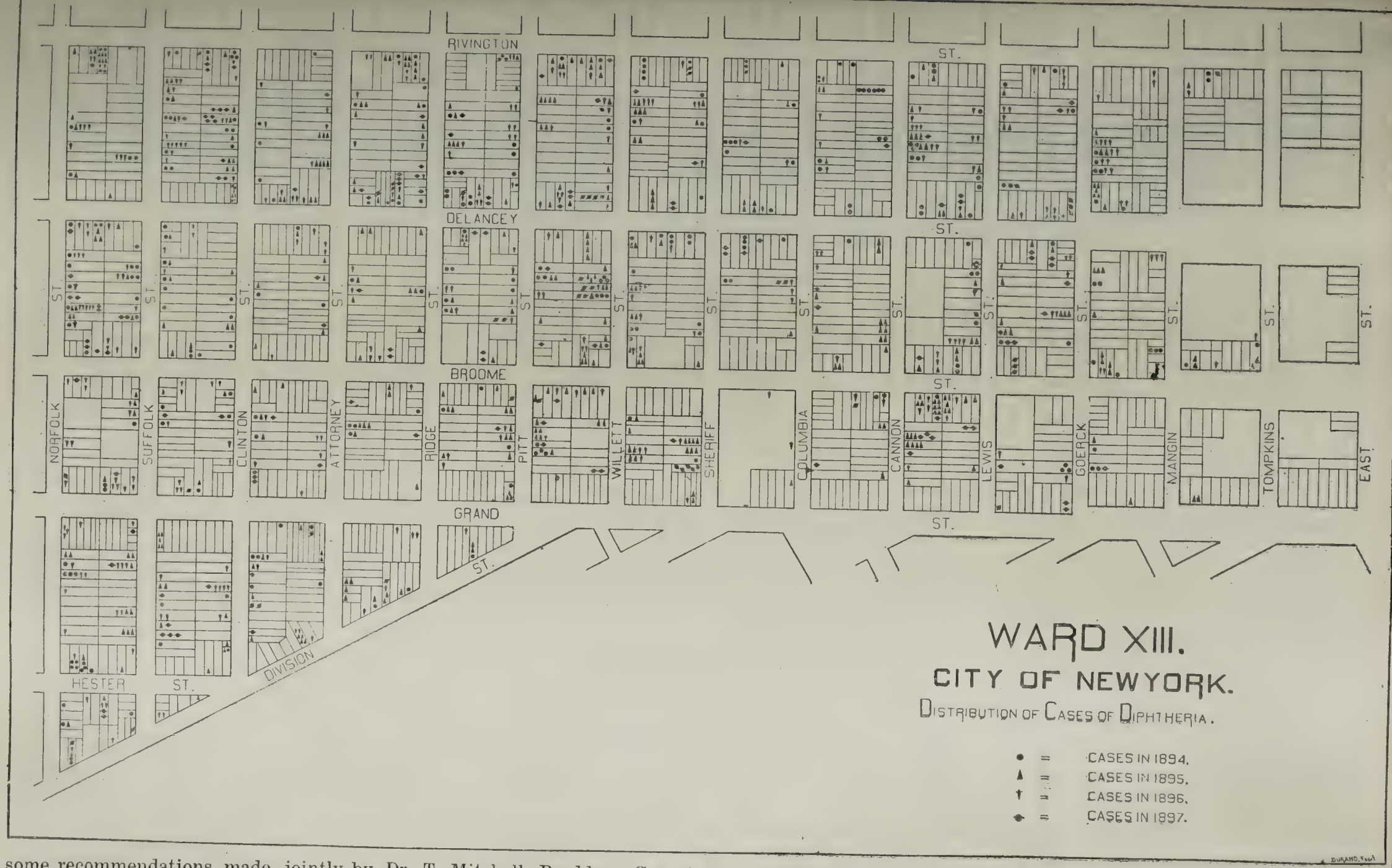
These facts convey some idea of the enormous sanitary importance of the subject. It is conservatively estimated that there are at least 20,000 cases of well-developed and recognised pulmonary tuberculosis now in New York City, and an additional large number of obscure and incipient forms of disease. A very large proportion of the former cases constitute more or less dangerous centres of infection, the degree of danger depending in each instance upon the intelligence and care which is exercised in the destruction of the expectoration. All the suffering and death consequent upon the prevalence of this disease, in view of modern scientific knowledge, is largely preventable by the careful observation of simple, well understood, and easily applied measures of cleanliness, disinfection, and isolation.

In the beginning of 1897 the Health Board further adopted

WARD IV.

DISTRIBUTION OF CASES OF TUBERCULOSIS

● = CASES IN 1894.
| = CASES IN 1895.
▼ = CASES IN 1896.
▭ = DWELLINGS WITH CASES
▭ = DWELLINGS WITHOUT CASES



some recommendations made jointly by Dr. T. Mitchell Prudden, Consulting Bacteriologist to the Health Department, and the writer, which advised that pulmonary tuberculosis be declared to be an "infectious and communicable disease, dangerous to the public health," and which required "the notification of all cases occurring in the city," in the same way as is required with regard to typhoid fever, diphtheria, and other similar diseases. Tuberculosis, however, in accordance with the special section of the Sanitary Code, enacted to provide for these measures, is distinctly separated from the eruptive diseases, is not classed with them as a contagious disease, but is referred to as "an infectious and communicable disease." It has always appeared to the Health Board exceedingly desirable that a broad distinction should exist in the public mind between this disease and those diseases which are more properly classed as contagious.

In the treatment of apartments, which have been occupied by tuberculous patients and vacated by death or removal, renovation has been and is ordered, rather than disinfection attempted, because the Health Board has always felt that disinfection for tuberculosis in the poorest tenement houses was too difficult to be satisfactorily performed, and has considered renovation as certainly efficient. In the thousands of orders requiring the renovation of premises which have been issued under the resolution referred to upon the owners of real property during the last four years, little or no difficulty has been experienced in enforcing compliance, and rarely has there been serious objection.

Public institutions, hospitals, asylums, homes, etc., are now not only required to report the name, last address, sex, age, and occupation of every case of tuberculosis coming under observation within one week of such time,

but they are further required to notify the Department of the discharge or transfer of such patients. The purpose of this procedure is to keep under more or less constant supervision those cases of pulmonary tuberculosis which occur among the poorest classes of the population; in other words, those which are most likely to be dangerous sources of infection to others. Unfortunately, at the present time there are no hospitals directly under the control of the Health Department for the care or isolation of cases of pulmonary tuberculosis; but it is hoped that such hospitals may be soon provided.

The best medical opinion forbids that persons suffering from pulmonary tuberculosis be treated in association with other classes of cases in the general medical wards of general hospitals. This opinion is based on the daily observation of the dangers incident thereto, and it has very properly resulted in the exclusion, to a large extent, of persons suffering from this disease from many of the general hospitals to which they were formerly admitted.

A large experience has also shown that in institutions devoted solely to the care of consumptives the general welfare of the patients is more easily fostered, the risks of fresh infection more certainly diminished, and the chances for recovery more surely enhanced than in general hospitals in which all classes oi cases are received.

From the beginning of this work, the officials of the Health Department of New York City have encountered, in the lack of proper facilities for the care of consumptives, a great obstacle to practical success, and I am convinced that the grave responsibilities which rest upon sanitary authorities generally in this matter cannot be properly discharged without the establishment, under their direct control, of additional special hospitals for the care and treatment of this disease. No week passes in which the officers detailed to this work in New York do not encounter many instances in which the members of many households, numerous inmates of crowded tenement houses, employees in dusty and unventilated workshops, and many others, are dangerously exposed to infection from victims of this disease, who cannot gain admittance to the overcrowded public institutions, or who reject all proffered assistance and instruction, and, from ignorance, indifference, or inability through weakness due to the disease, scatter infectious material broadcast, thus diminishing their own chances for recovery and imperilling the health and safety of others. In such cases sanitary suggestions are futile, and removal to a hospital constitutes the only effective action. I am convinced that no factor is so potent to-day in perpetuating the ominous death list from pulmonary tuberculosis as the lack of proper facilities for the adequate care of the poor stricken with this malady.

The measures designed for the prevention of tuberculosis properly include not only those which relate to the transmission of the disease from human beings to each other, but also those which relate to the transmission of the disease from affected animals, especially the bovine species, to human beings, through the meat and milk used as food. The Health Department of New York City, while feeling strongly that the most important source of infection is through the sputum of consumptives, has yet elaborated with great care methods for protecting the public, so far as lies within its power, from infection by the meat and milk of tuberculous animals. In order that a more effective control of the milk supply should be possible, an ordinance was passed in 1895 forbidding the sale of milk within the city without a permit from the Health Department, and requiring that all wagons used for transportation or delivery of milk should likewise have wagon permits. Before these permits are issued, the holder of the permit must furnish information as to the source from which the milk is obtained, the number of animals, the character of the food supply, and the sanitary conditions surrounding the dairy. Special regulations have been established with regard to the sale of milk, and permits may be revoked at any time by the Health Board, where evidence exists that the regulations have not been strictly complied with. All milch cows in New York City (about 3,000 in number) are now being subjected to the tuberculin test, under the supervision of the Health Department, and animals found to be diseased are killed. It is proposed, as soon as this work is completed in New York City, to require similar tests to be applied to all cows whose milk is sent to New York City. There also exists a careful inspection of animals slaughtered for food, and of all meat sent into the city, and the carcasses of those found to be tuberculous are destroyed.

Most beneficial effects have already resulted from the various measures instituted for the prevention of this terrible disease. Not only has there been a very material decline in the number of deaths occurring from it, but there has been a most gratifying increase of knowledge and intelligence as to its nature among the poorest class of the population. The inspectors detailed for this work report that on their first inspection in nearly one-half of the cases occurring in many parts of the tenement house districts of the city, it is found that more or less efficient precautions are being taken for its prevention. Such precautions are the use of rags to receive the sputum, which are later burned, instead of handkerchiefs, the use of cups containing water or a disinfecting solution, the separation of the clothing of the patient from that belonging to others, and similar measures.

This increase of intelligence and the precautions resulting from it afford the greatest promise for the future, of a persistent and still more rapid decline in the frightful morbility and mortality caused by the tuberculous diseases.

Investigations made by the Department, showing that the dust in the street cars and various public places is often infectious, led to the enactment of an amendment to the Sanitary Code prohibiting spitting on the floors of street cars, ferry boats, and other public conveyances, and requiring that all companies should post in their cars, boats, etc., printed notices forbidding this. This regulation is very difficult of enforcement; but while the results have been by no means entirely satisfactory, there has yet been a definite improvement in the existing conditions.

The method employed for recording and plotting cases of diphtheria is also used for cases of tuberculosis. I have had prepared transcripts from the maps on which are plotted the cases of diphtheria and tuberculosis to show the distribution of these cases in certain wards of the city. These wards have been selected in each instance because of the large number of cases of the respective diseases occurring in them.

Maps 1 and 2 [exhibited] show the 4th (see p. 632) and 6th wards, with the distribution of reported cases and deaths from tuberculosis in these wards during three years. The cases and deaths in 1894 are plotted with a circle, cases and deaths in 1895 with a triangle, and the cases and deaths in 1896 with a dagger. The dwelling houses in the maps have been shaded so as to put them in contrast with buildings not occupied as dwelling houses. Thus, the dwellings which had one or more cases of tuberculosis during this period are shaded, and those free from tuberculosis during these years are distinguished by shadings at opposite angles. The plots which are unshaded are not dwelling houses, but occupied as business buildings, warehouses, etc.

These maps argue more forcibly for the infectious and communicable character of this disease than could any words. It should be said, however, that in some instances, where a large number of cases have occurred in one house during these years, the house has been occupied as a Chinese lodging house. This is especially true of several of the houses on Pell and Mott Streets.

Maps 3 and 4 show the distribution of cases of diphtheria for the same period in the 10th and 13th wards. These maps, as has been said, are simply transcripts, reduced in size, from the maps on which are plotted day by day the reported cases and deaths from these diseases throughout the city.

TABLE I.

Analysis of Distribution of Reported Cases and Deaths from Tuberculosis in Wards IV and VI.

Years 1894, 1895, 1896, to March, 1897.

WARD IV.

According to the census of 1896, there were 663 inhabited houses in Ward IV, with a population of 18,323, or an average number of 27.6 persons per house.

Number of houses in which cases occurred			243
,, cases in 1894...		173	
,, ,, 1895...		161	
,, ,, 1896-97		207	
Total number of cases in 3 years ...			541
Average number of cases per infected house			2.81

Percentage of houses infected				37·3
Average number of cases per house in ward				0 81
Cases per 1,000 population in 1894			9 4	
,, ,, ,, 1895			8·7	
,, ,, ,, 1896-97			11.2	
Total cases per 1,000 population in 3 years				29.3

TABLE II.

WARD IV.

(Houses showing three or more cases each of tuberculosis.)

Number of houses in which 3 or more cases occurred...			70
,, cases in 1894		88	
,, ,, 1895		95	
,, ,, 1896-97		119	
Total cases in these houses in 3 years ...			302
Average number of cases per house			4 3
Comparing those figures with those obtained for the whole ward:			
Total number of infected houses in Ward IV			248
Number of houses in which 3 or more cases occurred ...			70
Percentage of total infected houses			28 2
Total number of cases in ward			541
Cases occurring in 28.2 per cent. of the houses infected			302
Percentage of total cases			55.8
Total number of inhabited houses			663
Number of houses in which 55.8 per cent. of cases occurred			70
Percentage in total houses			10.5

It is thus seen that of the infected houses 28 2 per cent. contained 55.8 per cent. of the cases, and these occurred in only 10½ per cent. of all the houses in Ward IV.

TABLE III.

WARD VI.

According to census of 1896, there were 030 inhabited houses in Ward VI., with a population of 22,897.

Number of houses in which cases occurred			239
,, cases in 1894		157	
,, ,, 1895		127	
,, ,, 1896 97		191	
Total number of cases in three years			465
Average number of cases per house			1.94
Total number of dwellings in ward			630
Number of houses infected with tuberculosis			239
Percentage of infected houses			37.9
Average number of cases per house in ward			0.72
Cases per 1,000 population in 1894		6.8	
,, ,, ,, 1895		5 5	
,, ,, ,, 1896-97		8.2	
Total cases per 1,000 population in 3 years			20.5

TABLE IV.

WARD VI.

(Houses showing 3 or more cases each of tuberculosis.)

Number of houses in which 3 or more cases occurred...			45
,, cases in 1894...		72	
,, ,, 1895...		56	
,, ,, 1896-97		78	
Total cases in these houses in 3 years			206
Average number of cases per house			4.5
Comparing these with the figures obtained for the whole ward:			
Total number of infected houses			239
Number of houses in which 3 or more cases occurred...			45
Percentage of total infected houses			18.9
Total number of cases in ward			465
Cases occurring in 18.9 per cent. of the houses infected			206
Percentage of cases in same			44·3
Total number of inhabited houses			630
Number of houses in which 44·3 per cent. of cases occurred			45
Percentage in total houses			7 1

Thus 44.3 per cent. of the cases occurred in 18.9 per cent. of the infected houses, and these constituted only 7.1 per cent. of all the houses in Ward VI.

I desire now to refer briefly to the system of medical school inspection instituted by the Health Department during the last year, which has given thus far most satisfactory results, and which promises greater good in the future.

Early in 1897, under the authority of a special resolution of the Board of Estimate, 150 medical school inspectors were appointed by the Health Board, after Civil Service examination. The duties of these inspectors consist in the examination daily, at the opening of the primary and grammar departments of each of the public schools and of the parochial and industrial schools, of all the children who are set apart by the respective class room teachers as not appearing to be entirely well. These children are examined in each school by the inspector detailed to the school, and are either excluded from the school or returned to the class room, depending on the result of the examination. Every pupil found to be suffering from any form of general contagious disease, or any contagious disease of the eye or parasitic disease of the skin, is sent home, with a written statement to the parents of the cause for the action, and in the case of the eruptive diseases and diphtheria, reports are immediately forwarded to the Chief Inspector of Contagious Diseases, and by him referred to the various District Medical Inspectors for inspection and supervision.

During three months (65 school days) in which this system has been in operation, there have been examined 63,812 children who had been set aside by the teachers as not appearing entirely well, of which number 4,183 were excluded for the following reasons:

Measles	88
Diphtheria	167
Scarlet fever	32
Croup	11
Whooping cough	26
Mumps	117
Contagious eye diseases	702
Parasitic diseases of head	2,627
Parasitic diseases of body	108
Chicken-pox	130
Skin diseases	175
	4,183

The children excluded because they were thought to be suffering from measles, scarlet fever, diphtheria, and chicken-pox, were afterwards seen by the medical inspectors, and in the majority of cases the original diagnosis was confirmed.

The educational work of the Health Department is, I believe, of great importance. It has been the custom of the Department for some years past to issue from time to time circulars of information on various topics, and especially with relation to the infectious diseases, their diagnosis, treatment, or management. Some of these circulars are popular in character, very large editions being published—50,000 or more at a time—and are designed for general distribution, particularly among the tenement house population.

Examples of this class are the following: Information for Consumptives and their Families, Infant Feeding, Methods of Transmission of Contagious Diseases, and numerous others on similar topics. Circulars of information are also issued which are designed for distribution among the medical profession. These relate to the work of the Health Department in connection with infectious diseases or to the bacteriological products of the laboratories. Many such circulars have been issued on various topics connected with diphtheria, such as Bacteriological Examinations for the Diagnosis of Diphtheria, Relation of Membranous Croup to Diphtheria, Diphtheria Antitoxin, Persistence of Diphtheria Bacilli in the Throat during Convalescence from Diphtheria, Occurrence of Diphtheria Bacilli in Healthy Throats and in Catarrhal Angina, etc. Other circulars of information have been issued on the Importance of Bacteriological Examinations in the Early Diagnosis of Pulmonary Tuberculosis, the Nature and Causation of Pulmonary Tuberculosis, the Measures adopted by the Board of Health for the Prevention and Restriction of Pulmonary Tuberculosis, and on the use of Mallein, Tuberculin, Tetanus Antitoxin, Glycerinated Bovine Vaccine Virus, etc.

As these various circulars are published by the Health Department, copies of them are sent to the medical journals published in New York City and to the daily press. Thus they gain at once a wide circulation. In addition, some one or more of these circulars is included in each report of the results of the bacteriological examinations in diphtheria and tuberculosis as they are sent from the laboratories. As more than 100 reports daily are sent out, a large circulation is again attained among physicians in this manner. In some instances circulars considered to be of unusual importance have been delivered by messenger to the house of every physician in New York City.

Aside from the circulars described, numerous scientific bulletins have been issued from time to time from the bacteriological laboratories, detailing the results of original investigations in connection with infectious diseases, and these bulletins are widely distributed among the profession of New York City.

I do not believe that the importance of this educational work can be over-estimated. Its value is incalculable in

widely disseminating popular and scientific information with regard to the results of the latest studies in infectious diseases, and there have been constantly exhibited in New York the most gratifying indications of the influence of the information thus distributed, on both the general public and the medical profession.

More than this, the circulars keep constantly before the medical profession and the laity the work, the duties, and the functions of the Health Department, as related to the people and the profession.

It has been frequently urged, especially in the earlier work of the New York City Health Department, that the methods proposed were theoretically commendable enough, but that they were impracticable. This criticism has been often made, particularly in Europe. The best reply to it is, that the results have shown that they are not impracticable. What has been described is not something that it is proposed to do, but it is a statement of what has been and is being done, and this work, as briefly outlined in some of its phases, is to be considered as only introductory.

It is the purpose of the Health Board to establish a supervision of all infectious diseases along the lines which have been thus far developed in relation to tuberculosis and diphtheria, as rapidly as the scientific knowledge at command will make such a course possible.

The final test of the efficiency of any scheme of sanitary control and of the healthfulness of any community or locality is found in the morbility and mortality statistics, considered in relation to the causes of sickness and death. It is not simply the number of deaths or cases of sickness in proportion to the population, but also the nature of the diseases which cause morbility and mortality.

In comparing the statistics for different localities the special factors relating to each locality must, however, be taken into consideration; for a death-rate which would indicate unusually favourable conditions in a large city might show far from favourable conditions in a rural population. The density of population has generally a very definite relation to the mortality.

Dr. Farr attempted to deduce a formula by which the mortality of any locality could be translated into that of another having a different degree of aggregation of the population. He showed that when the population has reached a certain density there is a constant and uniform increase in the death-rate with any further increase in its density. For example, in fifty districts in Great Britain, with a population of 2,500,000 and with 650 persons to a square mile, the death-rate was 20.5 per 1,000. In those districts which contained 2,100 persons to a square mile, and a population of 2,000,000, the death-rate had increased to 24.4; with a population of 2,800 to a square mile the death-rate had further increased to 25.5, and with a population of 6,144 persons to a square mile the death-rate was 30.2.

The local variation in mortality with the density of population has not been constant in New York City, for in some of the wards, where the density of the population is greatest, the mortality has been below the average, and in other wards, with a relatively scarce population, the mortality has been extremely high. Other factors have exerted an even greater influence on local variations of mortality than density. The highest death-rates have been found in the lower and oldest parts of the city, where the buildings are old and the sanitary conditions in many respects unfavourable.

The nationality of the population has a definite influence, as has been shown in an analysis of the death-rates in different parts of New York City made by Dr. Roger S. Tracy, Registrar of Vital Statistics. Those districts with the densest population, where the rates are comparatively low, are largely inhabited by Russian and Polish Jews, who are a hardy race and proverbially long lived. On the other hand, the wards having the highest death-rates, or nearly the highest, are occupied largely by Italians, among whom, in the United States at least, the death-rate is exceedingly high.

The sanitary problems presented in a city like New York are unusually difficult, on account of the diversity and cosmopolitan character of the population. The presence of large numbers of foreign-born inhabitants of many different nationalities, grouped often in restricted localities and retaining their native customs and modes of life, and the great density of the population, constitute factors which largely complicate the situation.

The physical conformation of Manhattan Island is, in some respects, exceedingly unfavourable. The island is long and very narrow, and as a result certain parts of the city, and in fact the island as a whole, is overcrowded. Fully three-fourths of the population live in tenement houses, which are five, six, or more stories in height, and contain from two to four or more families on each floor. Each house is placed on a lot not more than 25 by 100 feet, and frequently 20 families, numbering more than 100 persons, live on an area of this size.

The average density of population in New York City below the Harlem River, that is, on Manhattan Island, is greater than that of any other great cities in the world. The only localities approaching in density of population certain wards in New York are a small area in Paris, where the population is 430 to the acre; one district in Prague, where the population is 485 to the acre; the Whitechapel district in London, which has a population or about 300 to the acre in Spitalfields, Mile End and New Town, and 365 in Bethnal Green. In New York City, Sanitary District A of Ward XI has a population of more than 800 to the acre: Ward X, over 640 to the acre; Ward XIII, 540; Ward XVII, 430; Ward VII, 360; and Ward XIV, 295.

These facts must be kept in mind in considering the mortality statistics of New York, as compared with those of the large cities of Great Britain and the Continent. With these before us, the diminution of the death-rates, and the present death-rate, are most significant.

A comparison of the mean total death-rate for decennial periods in New York City since 1834 shows that there was an increase during the first three periods ending in 1863, and that since that date there has been a continuous and very heavy decline in the rate, especially marked in the most recent years. The mortality in New York arose to such a high point that the inhabitants became alarmed, and in 1866 the Health Department as now constituted was organised. In the decennial period ending in 1843 the mean death-rate was 28.03; for the period ending 1853 it had risen to 33.81; during the next period ending in 1863 it was 33.94. Since that time it has declined to 31.11 for the decennial period ending in 1873; to 26.87 for the period ending in 1883; to 25.78 for the period ending in 1893, while in the year 1894 it was 22.76; in 1895, 23.10; in 1896, 21.54, and for the first half of 1897, 19.60. The population meanwhile has increased from 312,090 in 1840 to an estimated population of 1,990,000 on July 1st, 1897.

TABLE V.

New York City.—Annual Death-rate for all Causes and for certain Diseases, 1886 to 1896, inclusive, and January-July, 1897.

Year.	All Causes.	Diphtheria and Croup.	Phthisis.	All Tuberculous Diseases.	Measles.	Small-pox.	Scarlet Fever.	Typhoid Fever.	Diarrhœal Diseases of Children under 5 years.	Diphtheria and Croup, all Tuberculous Diseases, Measles, Small-pox, Scarlet Fever, Typhoid Fever, and Diarrhœal Diseases of Children under 5 years.
1886 ...	25.99	1.87	3.79	4.42	0.46	0.022	0.26	0.23	2.08	9.34
1887 ...	26.32	2.06	3.56	4.06	0.52	0.067	0.40	0.22	2.20	9.53
1888 ...	26.39	1.68	3.46	3.99	0 39	0.050	0.89	0.24	2.00	9.24
1889 ...	25.32	1.46	3.31	3.86	0.30	0.0006	0.79	0.25	2.00	8.66
1890 ...	24 87	1.11	3.41	3.97	0 45	0.001	0.25	0.22	1.86	7.86
1891 ...	26.31	1.19	3.11	3.56	0.40	0.001	0.74	0.23	1.92	8.04
1892 ...	25.95	1.23	2.95	3.55	0.51	0.050	0.57	0.23	1.85	7.99
1893 ...	25.30	1.45	2.91	3.51	0.22	0.060	0.31	0.22	1.65	7.42
1894 ...	22.76	1.59	2.57	3.16	0.32	0.085	0.30	0.18	1.50	7.14
1895 ...	23.11	1.05	2.77	3.34	0 42	0 005	0.25	0.17	1.51	6.75
1896 ...	21.52	0.91	2.58	3.06	0.37	0.0005	0.21	0.15	1.32	6.02
Jan.-July, 1897 ...	19.60	...	2.44	2.97	0.20	0.021	0.30	...	...	...

The mortality rate is normally higher for the first half of the year than the second half, and it is therefore probable that the rate for 1897 will be a fraction over 19, or a diminution of 25 per cent. on the death-rate for the decennial period ending in 1893.

The percentage of mortality occurring in children under 5 is always high, and has been long regarded as an excellent index of existing sanitary conditions. The injurious effects of insanitary conditions and surroundings always fall heaviest upon the youngest element of the population.

TABLE VI.

New York City.—Death rates for all causes and for certain diseases, by decennial periods, 1844 to 1893; by years, 1894, 1895, and 1896, and January—July, 1897.

	ALL CAUSES.	Over 5 years of age.	* Under 5 years of age.	‖ Miasmatic, Diarrhœal and Tuberculous Diseases.
§1844 to 1853	33.81	—	—	—
1854 to 1863	33.94	—	—	—
†1866 to 1873	31.11	17.2	123.3	13.2
1874 to 1883	26.87	16.4	104.7	11.8
1884 to 1893	25.78	16 8	95 1	9.3
1894	22.76	14.7	85.3	7.5
1895	23.11	15.1	85.3	7.2
1896	21.52	14.5	76.4	6.4
Jan. to July, 1897	19.60	13.9	64.8	‡5.4

* The population under 5 years of age is computed for each decennial period or year as 11.37 per cent. of the total population, based on the census of April, 1895. In 1880, the percentage of population under 5 years to total population was 11.63, based on the United States census of that year.

† Eight years only—1866-1873; Health Department organised in 1866.

‡ This rate is comparatively too low, as the deaths from diarrhœal diseases are at a maximum during the third quarter of the year.

§ The general death-rate prior to 1851 is below the actual rate, as the registration of deaths, where burial occurred within the city limits, was not required by law.

‖ Miasmatic diseases include small-pox, measles, scarlet fever, typhoid fever, typhus fever, simple and ill-defined and irritative fevers, diphtheria, croup, and whooping-cough. The rates given in the above tables are the crude death-rates.

Table VI. shows the death-rate from all causes and the rate over and under 5 years of age for the decennial periods since 1866, and for 1894-95-96, and the first half of 1897.

As will be seen, the average death-rate in children under 5 for 1894-95-96 was 40 or more per 1,000, less than the average rate during the eight-year period ending in 1873, and in 1896 was 47, or 38 per cent. less than for this period. In 1897 there will undoubtedly be a still greater diminution, although the death-rate for children under 5 for the first six months of the year cannot be taken as the average for the year, as the deaths from diarrhœal diseases are always much lower during the first half of the year.

This table also shows the combined death-rate from miasmatic, diarrhœal, and tuberculous diseases for these same periods and years, and, as will be noted, there has been a diminution of more than 50 per cent. in the deaths from these diseases during these years.

The search for the causes of diminished mortality from all causes shows that the largest reduction has been in the zymotic death-rate, including diarrhœal diseases of children under 5, and there has been also a steady and important decline in the tuberculous death-rate since 1886. (Table V.)

Investigation further shows that a special reduction in the mortality from diphtheria and croup, amounting to nearly 40 per cent., has occurred since the introduction of diphtheria antitoxin with the beginning of 1895. This reduction has taken place in spite of an increase in the number of reported cases of this disease. Up to the beginning of 1895 there had been a steady increase for some years in the mortality from diphtheria and croup, and for the year 1894 the death-rate was higher than that from any other single disease, excepting tuberculosis and pneumonia—pneumonia really including a number of different affections. The combined death-rate from measles, scarlet fever, diphtheria, croup, small-pox, and typhoid fever has been reduced almost exactly one-half within ten years, the rate for 1896 for these diseases being 1.64 per 1,000 population as contrasted with 3.26 for 1887; for 1897 it will apparently be still lower.

Sanitarians may point with pride to the remarkable demonstration of the value and efficiency of sanitary methods presented in London, the greatest city of the world, with a population of nearly 6 millions, and which still shows the lowest death-rate of any of the great cities of the world. The mortality rates of London we hope to equal notwithstanding the greater difficulties and obstacles.

The Government of the United States is democratic, but the sanitary measures adopted are sometimes autocratic, and the functions performed by sanitary authorities paternal in character. We are prepared, when necessary, to introduce and enforce, and the people are ready to accept, measures which might seem radical and arbitrary, if they were not plainly designed for the public good, and evidently beneficent in their effects. Even among the most ignorant of our foreign-born population, few or no indications of opposition or resentment are exhibited to the exercise of arbitrary power in sanitary matters. The public press will approve, the people are prepared to support, and the Courts sustain, any intelligent procedures which are evidently directed to the preservation of the public health. The belief is never aroused in any class of the population, however ignorant, that the institution or enforcement of any sanitary measure is primarily designed for the restriction of individual freedom. There is nowhere to be found any jealousy or distrust of law or government, as such. It is, therefore, possible to adopt measures more arbitrary in many respects than could be adopted in most other countries, simply because our government is democratic.

This gives the keynote to the attitude of the sanitary authorities of New York. The most autocratic powers, capable of the broadest construction, are given to them under the law. Everything which is detrimental to health or dangerous to life, under the freest interpretation, is regarded as coming within the province of the Health Department. So broad is the construction of the law, that everything which improperly or unnecessarily interferes with the comfort or enjoyment of life, as well as those things which are strictly speaking detrimental to health or dangerous to life, may become the subject of action on the part of the Board of Health. It attempts not only to increase the healthfulness of the city, but also to render it a more enjoyable and comfortable place of residence. In its relation to the medical profession, it aims to give every assistance which the latest scientific investigations can place within its power in the treatment and management of communicable infectious diseases, while not interfering in any way with the privileges or prerogatives of the medical attendant, unless such interference becomes necessary for the protection of other persons from possible infection. It prescribes specific regulations as to the management of infectious diseases, the violation of which may be followed by the forcible removal of the patient to its hospitals. The public press, quite without reference to its political affiliations, offers a unanimous and most cordial support to the policy of the Board.

The conduct of sanitary matters in New York is restrained by no traditions or precedents. It is determined, from month to month, by what is believed to be for the best good of the inhabitants, in view of the most recent knowledge and the latest developments in scientific medicine.

The limits of this address do not permit, nor is it desirable, that I should touch upon many of the other phases of the work of the Health Department indirectly related to the prevention of disease, and the preservation of the public health.

It has been my purpose, as was stated in the introduction, simply to detail some of the features which have more particularly distinguished the work of the New York City Health Department, and to describe some of the phases of the sanitary supervision of certain infectious diseases, which have been introduced by it.

I believe it may be truly said that there is no great city in the world to-day which, in the broad sense, is cleaner and healthier than New York. By clean is meant the purity of the atmosphere, the cleanliness of the streets, the abundance and purity of the water supply, and the efficiency of the sewerage system. I wish that so much could be said as to

the character of the habitations of the poor, the public baths and public convenience stations, the breadth of its parks and public commons, and the type of its charitable and penal institutions. In many of these respects New York is deficient; but great and rapid advances have been made and are being made in these matters.

When it is said that no city is healthier than New York, this statement is made with a consideration of all the sanitary factors in the situation, such as the size and density of the population, the varied nationality of the inhabitants, the character of climate, etc.

Nowhere can there be found a fuller recognition than in the United States, of England's high standard of excellence in public medicine, or a more sincere appreciation of her vast contributions to the progress of sanitary science. But she must look well to her laurels, if her cities are to be kept cleaner than the great cities of the United States, and her urban population made healthier and happier than the same class on this side the Atlantic.

In the United States we are prepared to adopt, without hesitation, the best that England produces, or that the world affords, in public medicine, as well as in science, art, and commerce; and notwithstanding the persistent and determined efforts of our sensational press, the sentiments of the medical profession, and of the people at large, towards Great Britain, are those of sincere respect for her institutions, profound admiration for her great achievements, and warm affection for her people.

If I have appeared in this address to have dwelt too long upon and described too fully some of the sanitary methods followed in New York, I would urge in extenuation that it has been from a desire that you should know our institutions and methods as well as we know yours, and that through the medium of this great Medical Association, the largest and most influential in the world, the two great English-speaking nations might, in this respect, be brought into somewhat closer and more intelligent relations with each other, and thus greater good redound to preventive medicine. Then the people of both nations will live healthier and therefore happier and longer lives.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF MEDICINE.

At the Annual Meeting of the British Medical Association at Montreal, September, 1897.

By STEPHEN MACKENZIE, M.D., F.R.C.P.,
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THE INFLUENCES THAT HAVE DETERMINED THE PROGRESS OF MEDICINE DURING THE PRECEDING TWO AND A HALF CENTURIES.

On this very interesting and, indeed, unique occasion, when the British Medical Association meets for the first time on Canadian soil, the mind is irresistibly led to compare the condition of medicine at the present day with that which existed when Europeans first settled in Canada, and to trace the paths by which progress has been made. When Maisonneuve and his companions landed in what is now the Custom House Square in Montreal in 1642, and when, shortly after, the first hospital was established by the missionary priests, medicine was in a very rudimentary stage. Though anatomy had been prosecuted for some centuries, chiefly on the European Continent, it formed no part of ordinary mental education; physiology in the scientific sense was unborn, and organic chemistry not yet created. The medical teaching of that day consisted mainly of the ancient doctrines of the four elements and their corresponding temperaments; of the separate functions of the vegetative, sentient, and rational souls; of the agency of the natural, vital, and animal spirits, that had continued to be taught with very little variation from the time of Galen. It was an age of aphorisms, definitions, systems, and nosologies. Medical opinions were so dominated by theories and burdened by the weight of authority that the phenomena of disease for the most part passed unnoticed and their teachings were neglected. Such knowledge of medicine as the enterprising members of the medical profession who accompanied the early expedition to Canada possessed must have been of the most elementary character, gained by apprenticeship under teachers whose knowledge consisted in the doctrines of Hippocrates and Galen, and such crude experience as they themselves had obtained. Without doubt they were as zealous and earnest in their professional duties as we as a profession are to-day, and their treatment was as certainly unfettered and unrestrained by any scepticism as to the theories they had been taught or doubts as to the efficacy of their remedies for disease. But this period was the dawn of a new era in science and medicine. Harvey's great work *On the Movements of the Heart and Blood* and Bacon's *Novum Organon* had recently been given to the world, and the seventeenth century was a time of the greatest activity and discovery in geography and in science.

What a gulf separates that medicine of 250 years ago from that of to-day! In tracing how it has been bridged it is right that we should justly apportion the influence that various spheres of activity have exercised in reaching our present position.

We must in the first place ascribe the greatest importance to the study of anatomy. Vesalius and Sylvius, Fallopius and Fabricius, had already advanced it to a very high point, but the study had been confined to the leisured few. Gradually our knowledge of every detail of naked-eye anatomy has been gained, and at the present time every one practising medicine must have a competent knowledge on the subject gained by dissection. The same systematic study has extended to comparative anatomy, and great, for its time, as was the knowledge of Aristotle, it has undergone an entire revolution by the application of scientific methods to increased data of information by such workers as Cuvier, Darwin, and Owen. It is now taught as a branch of medical education. Physiology could have no scientific basis until anatomy was fairly advanced. The facts on which it was at first based were founded on medical observations, but in the seventeenth century direct investigations and observations were commenced by Haller, Hunter, Spallanzani, and Hewson. It has since been prosecuted with the greatest zeal and success, and the position of physiology at the present time is that of a science, explaining the action and interaction of the organs and tissues, and the forces of the body, which is the true foundation of scientific medical knowledge—the Institutes of Medicine. Morbid anatomy could not exist until normal anatomy was fairly complete, but from that time, in the eighteenth century, by the laborious researches of Morgagni and numerous other workers, until now, the broad facts of morbid anatomy have been accumulating until we have at the present day a fairly accurate knowledge of the principal pathological changes found in the body. The rise of physics and chemistry in the seventeenth and eighteenth centuries contributed greatly to the progress of medicine by increasing our powers of "searching out the secrets of Nature" by methods and instruments of precision.

Of any one influence that has helped the advance of scientific study and the progress of medicine probably the increasing perfection of the microscope has been the greatest. With each new development of this instrument a greater range has been given to our researches, and with the assistance of chemistry it is continuing to reveal to us fresh facts that have created new branches of science.

Starting from the observations of Bichat on the minute anatomy of the tissues in 1801, the microscope has enabled us to understand the details of structure which were essential to complete anatomy. Until the microscope was capable of practical use the capillaries could not have been discovered by Malpighi, nor the composition of the blood understood; the mechanism of renal secretion could not be worked out until the minute structure of the kidney was known; the functions of glands, the process of digestion and secretion could not be understood until the histological details of the parts concerned were ascertained; the mechanism of light and hearing, of taste and smell were not revealed until the ultimate details of the structures involved had been investigated; the marvellous complexity of the nervous system,

whether in the delicate though comparatively coarse structure of the nerves, the higher intricacy of the spinal cord, and the marvellous details of the arrangement of ganglionic cells and communicating fibres of the cerebral tissue, which by improved methods of preparation and staining are being revealed to us at the present time, could not have been worked out without its aid. Just as anatomy had to reach a certain stage before physiology and morbid anatomy became possible, so normal histology had to advance before pathological histology could come into existence; and as knowledge advances from the special to the general, special pathological histology had to reach to a very high point before we could reach that knowledge of general pathology on which our conceptions of the nature of disease are at present based. What would Harvey have given to see the capillaries that completed the "circle" of the blood stream, or to have watched the process of inflammation in the exposed mesentery of the frog by the aid of the microscope, to see the contraction followed by dilatation of the blood vessels, the escape of the blood corpuscles through the walls of the vessels!

What a vastly different conception has the reader of Cohnheim's Lectures on General Pathology from that of the most advanced and profound investigator and physician of two and a-half centuries ago! The microscope again has introduced us to a new world, revealing minute organisms that play a great part in the plan of Nature, and which are largely concerned in the production of disease. It has led to a new department of science, Bacteriology, which has taught us how bacteria enter the body, how they increase and multiply therein, and how the tissue reacts for self-protection. Chemistry has shown how the poisons formed by such organisms act in the body, and supplied us with means—as yet only in their infancy—for counteracting their effects or guarding against their exclusion and by protective inoculation. The microscope has further furnished us with evidence of parasitism other than bacteria in the blood, in the muscles, in the skin and hair, and on the mucous membranes. By its aid we are able to diagnose and watch the course of several primary diseases of the blood. It has enable us to differentiate the various new growths that develop in our bodies. So much does the microscope constitute a necessary means of research that it would be impossible to perform our daily medical duties conscientiously without its aid.

The thermometer, again, has been of invaluable aid in the study of disease, allowing of our measuring and recording the degree of fever, and of watching its progress with such a degree of accuracy as to furnish us with evidence of the greatest value in the diagnosis, prognosis, and treatment of disease.

Electricity, by the laborious and complete investigations of Du Bois-Reymond, has revealed to us the mode of action of nerve and muscle that would have been impossible to obtain in any other way. Though the hopes at first entertained of its value in the treatment of disease have not been altogether fulfilled, it is still of much service in this respect, and perhaps still more valuable as an aid in diagnosis.

The ophthalmoscope, introduced by Helmholtz, has enabled us to understand diseases of the interior of the eye, which, without its assistance, was impossible. It has admitted of the exact examination of refraction, and has revealed changes in the termination of the optic nerve, in the retina and choroid, not only valuable in themselves, but so important in the light they throw on pathological changes occurring in the nervous system, and in the body generally, that the use of this instrument has become a necessity of practical medicine.

The laryngoscope perfected by Czermak has given a precision to the diagnosis and treatment of diseases of the throat not otherwise attainable, and which has important bearings on general medicine, by the recognition of paralyses of the muscles that move the vocal cords in aneurysm and in disease of the central nervous system.

The sphygmograph, the cardiograph, the arteriometer, and, the latest invention of this class, the sphygmometer, have enabled us to ascertain the exact condition of the circulatory system of the greatest service not only in studying the problems of normal and abnormal physiology, but in the recognition of disease and its tendencies, and in the influence of remedies.

Auscultation.—Nothing from the time of Harvey gave such an impetus to the study of exact medicine as the introduction or discovery of auscultation by Laennec in 1816, and, indeed, Harvey's great discovery had little practical application in clinical medicine until its introduction. Auenbrugger had introduced percussion in 1761; Laennec had adopted it, and his discovery of auscultation, with his zeal as a morbid anatomist, enabled him to work out most of the great problems of diseases of the thorax. The knowledge thus begun has by the labours of many workers increased in range and accuracy down to the present time, and the diagnosis of diseases of the chest has reached a degree of precision unequalled in any other department of practical medicine. We are now able not only to recognise diseases of each of the valves of the heart, but to estimate its degree, and the influence of the lesion on the greater and lesser circulations, and to trace the course and effects of emboli carried along the blood stream. Our knowledge of diseases of the lungs is nearly as complete as that of the circulatory system.

Vaccination.—During the period that bridges the time since Canada first became populated by Europeans to the present day, probably no discovery has exercised a greater influence in medical science, or conferred more lasting benefits on mankind than the introduction of vaccination by Jenner. It is not necessary in such a meeting to trace how Jenner was led to his discovery. Protective inoculation from small-pox by the introduction of the small-pox matter had long been known in the East, and had been introduced into England by Lady Mary Wortley Montagu, but Jenner's rare merit consisted in testing the statement made to him by Gloucestershire rustics by scientific methods and experiments, and by waiting for years until the value of the protection, the "variolæ vaccinæ" introduced by inoculation into the human subject, had been tested by exposure to contagion from small-pox, and until time had elapsed to demonstrate that this protection was no ephemeral influence, but of more or less permanent duration as much as that of an attack of small-pox itself. "I never expected it would do more, and it will not, I believe, do less" are Jenner's words. It was not until many years after he had satisfied himself as to the protective influence of the vaccine virus that Jenner in 1796 published his observations. It is needless to trace the effects this discovery has had in saving human lives, and in averting the disfigurements with which those who escaped death from the disease were almost invariably afflicted. It is probable that the full significance of his discovery was not revealed to Jenner himself, and, on the other hand, it is possible that he exercised self-restraint in not speculating as to the possible result that might accrue from his remarkable inquiries. Certain it is that the indirect results that have followed from Jenner's discovery that an attenuated virus was protective against contagion from the disease from which the virus was originally obtained have only recently been fully utilised. Probably several causes have been concerned in the want of continuity of progress in this direction, the most important of which has been the difficulty in isolating and handling the virus in many contagious diseases.

The investigations into the full extent of the value of inoculation with attenuated virus and derivatives of bacteria have only been commenced in the last few decades since bacteriology has been cultivated by Pasteur, Lister, Koch, Klein, Gaffky, Martin, and others, and the whole subject, with the aid of organic chemistry, made a branch of exact science. Bacteria are now classified by their morphological qualities, by their reactions to staining reagents, by their modes of growth in various media; the temperature at which they grow and at which they are destroyed is determined, their need of oxygen ascertained, the parts of the body they make their habitat studied, the effects of their invasion in the tissues and the protective powers of the organism observed. The chemical products to which they give rise are isolated, their nature ascertained, and their effects observed on the living body independently of that of the organisms by which they are formed. Finally, the knowledge thus obtained is turned against the bacteria. The virus is attenuated by various methods, often by passing through the body of an animal immune to the disease, and its exact strength is ascertained. It is then used for protective inoculations or for antidotal purposes in those already attacked by the disease from which

the virus was originally obtained. Jenner's and the recent researches are equally scientific—observation, induction, experiment—but the differences in carrying out the inquiry on small-pox by Jenner and that of any specific disease due to an organised virus at the present time, illustrate my theme of how the progress of medical science has been effected. Great as it has been, and precise as a rule as are our methods of research, it is remarkable that up to the present time in two diseases in which protective and curative inoculations have been most conspicuously successful—namely, small-pox, in which we had, thanks to Jenner, the first vaccine; and in hydrophobia, in which Pasteur succeeded in attenuating the virus and using it as an antidote—we have not succeeded in finding the micro-organism that is the true virus, unless, indeed, Monckton Copeman has at length done so in the case of small-pox and vaccinia. As a matter of fact, this organised virus has yet to be discovered in many of the most common specific communicable disease; but the knowledge gained by the study of some members of this class in animals, and of some—for example, diphtheria—in the human subject, has afforded a basis of knowledge applicable to the whole group.

There is one other branch of medical science which has been incidentally alluded to in the previous remarks, but which requires fuller recognition in the survey of the influences that have governed our progress. I allude to experimental investigations in animals. In the seventeenth century in the hands of Harvey and others, but more especially in the eighteenth by the labours of Hunter and others, and in the nineteenth centuries this method of observation has been the basis of normal physiology, and, later, of abnormal physiology or pathology and therapeutics. These investigations have enabled us to reach a degree of knowledge not obtainable in other ways, not only of value to man, but also to the lower creation.

Therapeutics.—Until the exact nature of disease is fully understood a truly scientific treatment is manifestly impossible. I need not discuss how entirely in the past but also at the present day our knowledge of treatment has been mainly empirical. It could not be otherwise. It is true that up to the present time scientific therapeutics only influence our treatment to a small extent. But looking back as we have been doing to the course of progress in medicine we have seen that it has throughout followed the line of patient and exact research. The action of drugs is now studied with the same care and precision that have been employed in physiology and pathology, and we are yearly adding to the stock of exact knowledge of the action of remedies. The scientific application of this knowledge will come with a more complete understanding of the cause of disease, increased knowledge of pathology, and greater precision in diagnosis. But therapeutics is not coterminous with drug treatment. It includes all the circumstances of the management of the sick, the surroundings, the feeding and general care of the patient. In all of these respects enormous strides have been made, which greatly influence the chances of recovery of the patient of to-day. Moreover, therapeutics includes prophylaxis, the prevention of disease. It is in preventive medicine that the greatest triumphs of medicine have been and will continue to be gained. The work of Jenner, Pasteur, Lister, Koch, and other pioneers of preventive medicine has saved more lives probably than remedial art can claim. Fresh fields of therapeutical triumphs are opening to us in the employment of antitoxin serums and extracts of animal secretions, so that if therapeutics has lagged behind other branches of medical science it has been due to unavoidable causes, and we may look forward hopefully and confidently to its future.

We must not leave out of consideration in tracing the path of progress the remarkable development of the university system in all civilised countries, and the increased care and methods of medical teaching.

All the branches of scientific knowledge we have been considering—anatomy and physiology, chemistry and physics, morbid anatomy and pathology, therapeutics and preventive medicine—have helped us to the knowledge we at present possess. But they have rendered a further aid to medicine than the mere knowledge they enabled us to acquire. Themselves scientific studies utilising methods and instruments of precision, they have influenced our whole mode of thought, and made us exact and precise in our observations and investigations of disease. We may paraphrase an expression of Burdon Sanderson's: "The history of modern medicine is largely the history of scientific method." So when we are taunted with the assertion that medicine is not a science, we can reply that medicine utilises the knowledge gained in every branch of science, and is scientific in its methods of research into the nature and treatment of disease. If its results are not so exact as in some other branches of knowledge, this is not due to any want of scientific method and care in its investigations, but to the very complicated phenomena with which it has to deal, whilst the investigator has not the same unfettered freedom of dealing with his subject that the investigator into chemistry or physics has. By a continuance of the same methods and exact research, we cannot for a moment doubt that the progress that has been so manifest in the past will be exceeded in the future.

If we turn now to clinical medicine we shall see what great strides in progress have been made. It is only possible to give a few illustrations in the time at my disposal.

Fevers.—One of the most important advances in clinical medicine has been the separation of enteric from typhus fever by the labours of Jenner, A. P. Stewart, Murchison, Liebermeister, and in America by Smart. Relapsing fever has in like manner been separated from the other fevers by Barker and Cheyne, by Graves and Stokes, whilst in 1873 Obermeier described the spirillum in the blood of this disease, at that time the only instance in which a specific organism in the blood was proved to be always present in fever. Quite recently, by the labours of Laveran and Marchiafava, Celli and Golgi, Councilman and Osler, after previous unsuccessful attempts by Salisbury and Balustra, Klebs and Tommasi-Crudeli, it has been conclusively proved that a microscopic parasite, the plasmodium malariæ, is the actual cause of malarial diseases that are so common and destructive in some parts of this Continent and in other parts of the world. All these gains to clinical medicine, so important in the recognition and treatment of disease, have been due to increased precision in clinical observation and morbid anatomy, aided in a high degree by the use of the microscope.

Diseases of the Kidneys.—It may be safely asserted that two centuries and a half ago nothing was known of diseases of the kidney except the facts of the very coarsest lesions, such as calculus and suppuration. Even these were very imperfectly connected with their clinical manifestations. The detection of albumen in the urine by Cotugno in 1770, followed by the observations of Wells and Blackall, but more especially the work of Richard Bright, who combined in a rare degree the powers of accurate clinical observation and diligent *post-mortem* research, furnished a new vantage ground to the study of clinical medicine. The continued researches of many of th ablest physicians in all countries who have availed themselves of each new discovery and perfection of instruments of exact investigation have brought our know ledge to a very high degree of perfection on this subject. The recognition of the association of increased arterial tension with renal disease, and the far-reaching effects of this in the production of cerebral hæmorrhage and other consequences, has been one of the triumphs of modern medicine.

Diseases of th Nervous System.—The gradual unfolding of the closed book of the nervous system, by the successive gains in our knowledge of its anatomy and physiology, the invaluable work of Sir Charles Bell and Marshall Hall, the histological researches of Gaskell, the clinical and pathological work of Charcot and Westphal, the experimental work of Fritz and Hitzig, of Ferrier, Beevor, Victor Horsley, and others, has helped us to understand in a great measure the working of the nervous system and the effects of its lesions. But clinical medicine may justly claim to have had a large share in aiding us to reach our present knowledge of its workings and disease. The deductions of Hughlings Jackson and Broadbent, and the recent valuable work by Starr, Edward Head, and Thurston have greatly increased our knowledge of the physiology of the nervous system, and aided us in our means of diagnosis. Improved methods of surgical technique, especially the advent of antiseptic surgery by the genius of Lister, have brought some of these into the region of curative treatment.

Addison's Disease.—The discovery by Addison of the asso

ciation of asthenia, gastric irritation, and pigmentation of the skin with diseased changes in the suprarenal bodies, will always remain a model of good scientific work, combining clinical and pathological observation. At the time when Addison recorded his observations no definite functions were ascribed to the adrenals, and he could do no more than draw attention to the association of the clinical and *post-mortem* conditions. The full fruition of his discovery was to come later, when it was established that the suprarenal bodies formed a secretion which supplied to the circulation, probably through the vasomotor centres, a stimulus or tonic necessary for the maintenance of health, and that the asthenia which is the cause of death in Addison's disease, is due to the deprivation of this secretion by destruction of the adrenals.

Myxœdema.—In the developments of our knowledge of this condition we have one of the most completely worked out sections of medical knowledge, and the manner and modes in which our knowledge has been gained is most instructive. Starting from the recognition of endemic cretinism in which goître is prevalent, we next have the observations of sporadic cretinism in England by Curling, who noted that the thyroid gland was ill-developed or absent in these cases. Then came the description by Gull of "A Cretinoid State supervening in Adult Life in Women." Later followed a communication by Ord, in which he pointed out that the changes in this disease were due to a mucin-yielding œdema, and who also noted the atrophy of the thyroid body, and discussed its relations to endemic and sporadic cretinism. He gave to the disease the name of myxœdema, which it has since been known by. Next, the observations of Reverdin and Kocher that a condition similar to myxœdema was apt to follow upon total extirpation of the thyroid gland for the cure of goître. The latter called this condition "cachexia strumipriva." Semon pointed out the identity of myxœdema, cachexia strumipriva, and cretinism, and that each was dependent on a loss of function of the thyroid body. Paul Bruns published a case in which the extirpation of the thyroid gland in a boy, aged 10, had been followed by the condition hitherto described in this country as sporadic cretinism. Then Victor Horsley, by experimental research on animals, succeeded in demonstrating that loss of function of the thyroid gland produced all the symptoms known as myxœdema and cachexia strumipriva, and varying the mode of experimentation obtained strong evidence that cretinism was a more chronic form of the condition. Finally came the crowning of the edifice by Horsley proving that transplantation of the thyroid gland arrested the changes, by the same results being obtained by Murray by subcutaneous injections, by Hector Mackenzie by feeding with the glands, and lastly by other observers by the internal administration of an extract of the thyroid body. By these means we have learnt that myxœdema and sporadic cretinism cannot only be kept at bay, but that in the latter class of cases a remarkable growth and development can be brought about.

Thus it has been shown that the thyroid gland, and probably every other ductless gland, removes or forms certain products from the body, and that the integrity of these glands is essential to the well-being of the individual. This knowledge is being turned to account in the treatment of quite a number of conditions. It is interesting to observe how these results have been acquired by the steady progress of scientific methods of observation and research, and to my mind the report of the Myxœdema Committee of the Clinical Society of London, which embraces most of the above facts, is one of the most instructive contributions to medicine, by showing how each of the great branches of medical science has contributed to the result.

The question may be asked, Have the great and undoubted advances in medicine been attended with any benefit to mankind? To this question no uncertain answer will be given. Human life has been prolonged; and not only is this so, but, as brought out very clearly by Dr. James Pollock from the figures of Mr. Noel Humphreys, several years have been added to the most useful and valuable period of life. There has been a manifest decrease of mortality from small-pox, scarlet fever, diarrhœa, typhus, enteric fever, phthisis, convulsions, croup, diseases of the digestive system, and puerperal diseases, etc. On the other hand, there has been an increase of mortality from cancer and some other diseases. The gains have been greater than the losses, and this is not the occasion to discuss why we have failed in this direction.

But whilst the review we have taken of the progress of the science and art of medicine is encouraging, we must remember there will always be a limit to our powers of curing disease. When any part of the higher tissues is destroyed, it can never be replaced by the recuperative powers of Nature or improvements in medical science. Sclerosis and destruction of the nervous elements means that they are almost irremediably lost. If the lung is destroyed by tubercle or other disease, it can never be replaced. Nothing can make good disintegration of the kidney or liver. Nor shall we be ever able to retard the effects of time. "To die is as natural as to be born" it has been truly said, and the silver cord that chains us to this world must sooner or later give way. Great as have been the improvements in the treatment of disease, our greatest triumphs, in the future as in the past, will consist in the prevention of disease.

One of the most important features in modern medicine has been the remarkable development of medical societies and associations, and the fact that they are yearly increasing is strong evidence that the profession finds them useful in its work. They enable us to submit our observations and inquiries, our theories and our practice, to the criticism of those most competent to discuss them, and thus to separate the wheat from the chaff. The meetings of the British Medical Association, amongst others, have been most useful in this respect.

Let me conclude by expressing a hope that the work done at this meeting at Montreal, and especially this Section of Medicine, will aid in the search after truth, will stimulate and ennoble the aims and energies of those taking part in its proceedings for the advancement of knowledge and the good of mankind.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF SURGERY.

At the Annual Meeting of the British Medical Association at Montreal, September, 1897.

By CHRISTOPHER HEATH, F.R.C.S.,

Holme Professor of Clinical Surgery in University College, London
Senior Surgeon to University College Hospital;
President of the Section.

ON THE TEACHING OF SURGERY.

Gentlemen,—In taking the chair at this, the opening meeting of the Section of Surgery, allow me to express my sense of the high honour I enjoy in presiding here to-day. It is no small matter for an English surgeon to be called upon to preside over colleagues of such eminence as are represented by the Vice-Presidents of the Surgical Section, and I beg leave to tender to them, and to the eminent surgeon who is President of the Association, my thanks for having selected me for so distinguished a position. As an English surgeon it gives me the greatest pleasure to meet the members of the profession in the Canadian portion of Greater Britain, and also those medical brethren from the United States who have been good enough to attend this meeting. I trust that our deliberations will not merely advance the science of surgery, but will cement those bonds of fellowship between the members of a united profession, which our common Anglo-Saxon origin should foster and maintain.

In addition to the various papers which will be read in the Surgical Section, it has been thought desirable that there shall be held two discussions on questions of surgical interest; and after considerable deliberation it has been decided that these subjects shall be: (1) Appendicitis and its Surgical Treatment; and (2) the Treatment of Cancer of the Rectum, with special reference to the High Operation. The Honorary Secretaries have arranged with certain eminent surgeons to introduce these subjects, one this morning and the other to-morrow, and I trust that the discussions will be well supported.

Nothing, I venture to think, is more remarkable than the recent progress of abdominal surgery. Twelve years ago I

was engaged in editing a *Dictionary of Practical Surgery*, and neither appendicitis nor the operation for removal of the rectum, with which Kraske's name is connected, was mentioned in it, although I had the assistance of the leading London hospital surgeons. Kraske's original paper, I may mention, was published in 1885, and is referred to in Ball's work on the rectum published in 1887, and in most surgical works since that date. The subject of appendicitis, so far as British surgery goes, dates from a paper read before the Royal Medical and Chirurgical Society in February, 1888, by Mr. Frederick Treves, though the title of it was *Relapsing Typhlitis treated by Operation*. In August of the same year Mr. Treves opened a discussion on the Surgical Treatment of Typhlitis, at the meeting of the British Medical Association at Leeds, and subsequently published his address with additions and alterations in the form of a monograph, entitled *The Surgical Treatment of Perityphlitis*. I do not know to whom we are indebted for the hybrid term "appendicitis," but it did not appear in the index to the British Medical Journal before 1891.

But it is not merely in these two departments that progress has been made. The surgery of the kidney and of the liver has advanced *pari passu* with that of the hollow viscera, and the labours of Morris and Robson in England, and of Keen and others on this side of the Atlantic, have done much for the relief of suffering and the prolongation of life.

Looking back over forty years of professional life, nothing surprises me more than the change which has come over the treatment of calculus. In my student days, to see Fergusson cut for stone by the lateral method was to witness an operation as near perfection as was conceivable, and the dexterity and rapidity with which the calculus was extracted were only marred by the frequency with which death from septic causes spoiled the skill of the surgeon. To have one's first lithotomy was an event in the life of the young surgeon, and every now and then a reputation was spoiled by some *contretemps* in the public performance of the operation. Later, I was the frequent witness of my colleague Henry Thompson's skill in using the lithotrite to break up the calculus in a series of "sittings." Then came "litholapaxy," or rapid lithotrity, which we owe to Bigelow, the great American surgeon; and, lastly, that recurrence to the old high or suprapubic operation which was due to the Scandinavian surgeon Petersen. Hence the student of to-day rarely, if ever, sees a perineal lithotomy, and as a consequence his interest in the anatomy of the parts concerned in the operation has greatly diminished. Possibly the surgeons of the last generation laid too much stress upon anatomical details, but it is somewhat remarkable to find how little anatomy seems to serve for practice in the present day.

I am told by those who are teaching anatomy now that it is difficult to get the student to take the trouble to make a neat dissection, because he can find in the various museums, and notably at the College of Surgeons of England, such beautiful preparations in spirit that he prefers to study from them or from pictures rather than labour to get out the details for himself. If this is so I can only regret that the present race of students is so short-sighted, for without a working knowledge of human anatomy I can conceive of no progress in surgery.

But I regret to find that, in Great Britain at least, the teaching of anatomy is gradually getting more and more into the hands of professors who are anatomists but not surgeons, and that their tendency is to lay stress upon transcendental details rather than surgical relations. When these gentlemen happen to become examiners this tendency to specialise becomes very marked, and as this applies equally to the teachers of physiology and chemistry, the unfortunate medical student becomes the victim of science (falsely so called), and sometimes develops into that marvellous being a London B.Sc.

But seriously, are we not overdoing the scientific teaching of the man who has after all to get his living as a practitioner of medicine, surgery, and midwifery? When the medical curriculum was lengthened by a year it was hoped that the additional time would be devoted to clinical work, but I fear that this is by no means always the case, for it is not uncommon for the student to take three years in passing his primary examinations, with the result that but two remain for the study of medicine and surgery. When I became a student of medicine I took to heart the advice of my teacher of physiology, William Bowman, and never allowed a day to pass without visiting the hospital; and though as a lad of 16 I failed of course to appreciate the importance of all that I saw, yet I saw it, and I can carry my mind back now to cases seen and lessons learnt in the early Fifties which are of service to me at the present time. But the student is practically forbidden to enter the wards now until he has satisfied the examiners in anatomy and physiology, which he may or may not do in two years, and then there are but three years left for him to study *totam rem medicam*.

Far be it from me to decry the modern methods of teaching medicine in the wards of our hospitals. I believe that the care taken to induct every student into the mysteries of auscultation and percussion is beyond praise; and if with some teachers treatment is regarded as of secondary importance, at least the student has the opportunity of studying the *vis medicatrix naturæ* untrammelled under one teacher, and of watching the effects of every new drug upon the human system under another. But all this takes time, and so also the elaborate manipulations of the gynæcological department, the researches of the pathological professor, and all the other teachings of the third and fourth years. And where, then, does surgery come in? Why, I consider myself fortunate if I can secure the regular attendance of candidates for a surgical diploma for the last three months, when their names are put on my list, and I subject them to rigid surgical cross-examination. But if I venture to refer to an illustrative case of last year, I find that no one present saw it or even heard of it, though at the time the whole surgical staff may have been in consultation upon it. How, I ask, is it possible for the student to see the serious surgical ailments which are not very common, such as aneurysm, tumours of bone, tetanus, etc., if his attendance in the surgical wards is limited to a few months?

And yet there has never been a time of greater activity in operative surgery, not only among hospital surgeons, but among general practitioners, who—thanks to anæsthetics and antiseptics—undertake operations of a magnitude which the hospital surgeon of the last generation would have hardly attempted. How are we to explain the apparent contradiction? In the first place, I am afraid we must allow that a great many mistakes in diagnosis are made, or rather, that too often no attempt at diagnosis is made, but that an operation is undertaken to "clear up the case." That it generally does no doubt, but not always to the benefit of the patient. Then we must concede that, with unlimited time for the anæsthetic, the least skilful surgeon may hope to bring an operation to a conclusion more or less satisfactory to himself, and, if he operates under fairly favourable circumstances, for his patient also. Lastly comes the enormously increased opportunity for the publication of a success at one of the numerous mutual admiration societies and in one of the medical journals of the day. Can we wonder, then, that young surgeons whose stock-in-trade of professional knowledge is of the smallest, blossom rapidly into operating surgeons in some special department, and try not unsuccessfully to prove that all is fish which comes to their net?

Still, gentlemen, the great foundations of the art and science of surgery remain undisturbed. Without a knowledge of anatomy, of pathology, and histology progress in surgery is impossible, and it is for those who hold the important positions of teachers in our great medical schools to insist upon a foundation of scientific and practical training being given to our students, if they are to become the successful practitioners of the future. The growing tendency of the non-medical teachers of collateral science to regard their particular subject as the one most essential for the medical student must be restrained, and the preliminary period of medical study must be cleared of many obstructions, if the student is to have the necessary time to devote to the thorough study of those strictly medical subjects which will fit him to be a sound, practical, and at the same time scientific, physician and surgeon.

Dr. Byrom Bramwell, of Edinburgh, has been elected an honorary member of the Société des Médecins Russes de St. Pétersbourg.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PSYCHOLOGY.

At the Annual Meeting of the British Medical Association at Montreal, September, 1897.

By R. M. BUCKE, M.D.,

Medical Superintendent of the Insane Asylum, London, Ontario, Canada; President of the Section.

MENTAL EVOLUTION IN MAN.

About sixty years ago now, in the time of the Millerite excitement, a man who believed that the world was about to end expressed his fears to Emerson, who replied that it was really a matter of little consequence, "for," said he, "we can do very well without it." There are wise men who teach that each man creates the world he lives in, and as he gives it its substance so also does he give it its quality, insomuch that it is good or bad as he is good or bad. Be this as it may, it is certain that each one of us is of more consequence to himself than is all the outside world, be it shadowy or be it solid; be it created by each inhabitant or be it independent and self-existent. Not only so, but the essential part of each man is what we call his mind, in comparison to which the body is an insignificant factor.

The Study of Psychology.

This being granted, it would seem to follow that psychology ought to be the most interesting of all the sciences, and as a matter of fact it undoubtedly is so, though it has been greatly discredited by the imperfection of the method by which it has until very lately been studied. That imperfection is so great that it would hardly be an exaggeration to assert that nearly all the study and thought expended upon it down to the beginning of our own age has been fruitless and as good as wasted, except inasmuch as it has at last made clear the impassability of the route men have sought to follow, the route, namely, of introspection. For we might as well study the human body alone without reference to that of any other creature, and attempt in that way to decipher its genesis, development, and meaning as to attempt to comprehend a single human mind without including in our examination not only other human minds in all stages of evolution, but equally all other minds to which our own is related—that is to say, all minds other than human belonging to our kinsfolk the animals, minds which stand to-day like mile posts along the almost infinite length of the path which our mind has followed in its upward march across the immensities and eternities from its remote infancy to the present hour; minds which in a thousand faculties represent to us everywhere, in infinite sameness and variety, replicas of our own or of parts of our own, showing us, as the poet says, tokens of ourselves which we "negligently dropped as passed that way huge times ago."

Comparative Psychology.

As man's bodily life rests upon and grows from that of countless prehuman ancestors; as man includes in his structure the heart of the reptile, the gills of the fish, as well as the forms in outline of innumerable still lower races, so is his so-called human mind rooted in the senses and instincts of all his ancestral species; and not only so, but these senses and instincts still live in him, making up, indeed, far the larger part of his current every-day life; while his higher psychical life is merely the outgrowth and flower of them.

As truly as the plant is an embodiment of inorganic matter vivified by the transmuted forces which in the non-vital world about us we call light and heat, so truly is man's mind the outcome of—the expansion and culmination of—the imperfect sensation of the worm, the rudimentary sight, hearing, and taste of the fish and reptile; and the simple consciousness which, springing from these, passed to us after almost infinite ages of slow evolution and amelioration through tens of thousands of generations of placental mammals our immediate progenitors.

In the growth of mind, whether that of the race or of an individual, we recognise two distinct processes: First, the very gradual evolution to, or toward, perfection of faculties that have already come into existence; and, secondly, the springing into existence (as new branches start from a growing tree) of faculties which had previously no existence. For it is clear to the least thoughtful student that no faculty (as no organ) came into mature and perfect life at once. Hearing and sight, we are told, developed by slow degrees from the sense of touch; and in the region of the intellect conceptual life was born from ages of receptual, and that from millenniums of perceptual.

Mental Growth in the Individual and in the Race.

Let us now suppose mind growing for millions of years in the way set forth. It begins, we will say, as mere excitability; to that after a long time is added what may be called discrimination, or choice and rejection of, for instance, different kinds of food. After another long interval of almost infinitely slow advance sensation appears, and with it the capacity of pleasure and of pain; then, later still, memory; by and by recognition of offspring; and successively thereafter arise reason, recognition of individuals, and communication of ideas. Concurrently with these intellectual faculties certain moral functions such as fear, surprise, jealousy, anger, affection, play, sympathy, emulation, pride, resentment, grief, hate, revenge, shame, remorse, and a sense of the ludicrous have also arisen in the nascent mind. We have reached now the mental plain of the higher animals, which is equally that of the human being at about 2 years of age. Then occurs in the child the mental expansion which separates man from the higher mammals—for something like a year the child mind steadily grows from the status of the latter to the status of the human mind. This year in the individual, during which it walks erect but possesses a receptual intelligence only, not having yet the power of forming either concepts or true words, represents in the race the age of the *alalus homo*, the period of perhaps a hundred thousand years, during which our ancestors walked erect, but not having self-consciousness had no true language. At the average age of 3 years in the individual self-consciousness is born, and the infant, from the point of view of psychology, has become a human being. But we all know that after the attainment of the distinctively human faculty, self-consciousness, the child has still much to acquire both in the way of the expansion of already possessed faculties, and in the acquisition of new ones before it is mentally a mature man. Of the numerous faculties which it still has to acquire I shall only mention here the colour sense, the sense of fragrance, the human moral nature, and the musical sense. A consideration of these four and of self-consciousness will occupy the short time allotted me to-day.

And first a word as to that basic and master human faculty, self-consciousness. It occurs, as said, at about the average age of 3 years, but when it first made its appearance in the race it must have done so at full maturity; perhaps at the age of 20, both life and childhood being shorter at that time than they are to-day. You will see at once why I say self-consciousness must have occurred at first at maturity. Its acquisition at a given epoch supposed a higher mental life than had hitherto existed—such higher life on the part of the race could not have come to the individual before his maturity. To suppose that it would be (if you will think of it) a contradiction in terms. The human mind attains its high water mark at maturity (that is what the word means), and one generation could not reach before maturity what the preceding generation had not reached at all. Well, but self-consciousness occurs to-day at 3 years of age, and we only reach full mental maturity (on the average) at the age of 35. The advance then made by the individual from the age of 3 to that of 35 represents the advance of the race between the date of the appearance of self-consciousness and to-day, the mental status of the 3-year-old child to-day being the mental status of the adult when self-consciousness first appeared. How long has it taken the human mind to grow from mere self-consciousness to its present stature? Not less certainly than several hundred thousand years. Whatever the time required is the time during which man has inhabited the earth.

Of all the mental faculties below self-consciousness each one has its own time for appearing in the human infant—as, for instance, memory and simple consciousness appear within

a few days after birth, curiosity ten weeks after, use of tools twelve months after, shame, remorse, and a sense of the ludicrous—all of them about fifteen months after birth. Now it is to be noted that in every instance the time of the appearance of a faculty in the infant corresponds with the stage at which the same faculty appears (as far as can be at present ascertained) in the ascending animal scale; for instance, memory and simple consciousness occur in animals as primitive as the echinodermata, while the use of tools is not met with below monkeys, and shame, remorse, and a sense of the ludicrous are almost, if not entirely, confined (among animals) to the anthropoid ape and the dog.

To turn now to the true subject of this paper I want to say in the first place that as in prehuman so in human psychology each superadded faculty was acquired in its own time in the history of the race, and that that historic period corresponds with the time in the life of the individual into whom the faculty is born to-day. For instance, self-consciousness appears in the individual at the age of about 3 years—it appeared in the race several hundred thousand years ago. It has been proved by Geiger and others that our colour sense has been acquired by the race not more than about thirty thousand years ago. Well, it is acquired by the individual at the age of about 5 or 6. It is thought that the sense of fragrance was acquired by the race later than the colour sense; it is also acquired later by the individual. Some considerable study of history has led me to the conclusion that our human moral nature cannot be more than ten thousand years old. For a careful consideration of the records that have come down to us from the early Romans, Hellenes, Hebrews, Egyptians, Assyrians, and Babylonians would indicate, I think unmistakeably, that, as we go back into the past, this faculty tapers down towards the vanishing point, and that if it continues so to taper as we ascend the ages all of what we distinctively call our human moral nature would certainly have disappeared by the time we had gone back the number of centuries mentioned—that is ten thousand years.

Well, to-day the human moral nature in the individual, instead of being born at the age of 3 years as is self-consciousness, or at 5 or 6 as is the colour sense, does not come into existence before the average age of about 15 years. As to the musical sense, it is almost certainly less than five thousand years old in the race, and, when it occurs at all, is not usually born in the individual before adolescence.

There are three other laws, each well worthy notice, which govern the acquisition of new faculties by any given race. They are as follows:—

1. The longer a race has been in possession of a given faculty the more universal will that faculty be in the race. This proposition scarcely needs proof—every new faculty must occur first of all in one individual, and as other individuals attain to the status of that one they too will acquire it, until after perhaps many thousands of years the whole race having attained to that status the faculty shall become universal.

2. The longer a race has been in possession of a given faculty the more firmly is that faculty fixed in each individual of the race who possesses it. In other words: The more recent is any given faculty the more easily is it lost. High authority, such as that of Charles Darwin, could be quoted in support of this proposition; but it scarcely seems to be required; it is almost, if not quite, a self-evident proposition.

3. A study of dreaming seems to reveal the fact that in sleep such mind as we have differs from our waking mind, especially by being more primitive; that in fact it would be almost strictly true to say that in dreams we pass backward into a prehuman mental life; that the intellectual faculties which we possess in dreams are, especially, recepts as distinguished from our waking concepts; while in the moral realm they are those faculties such as remorse, shame, surprise, along with the older and more basic sense functions, that the more modern mental faculties such as colour sense, musical sense, self-consciousness, the human moral nature, have no existence in this condition, or if any of them do occur it is only as a rare exception.

Let us now compare, one with the other, a few of the faculties which have been already mentioned in the light of the rules laid down. To do this will give us, more clearly than perhaps anything else could, a definite notion of the growth of mind by the successive addition of new functions. For this purpose we will take simple consciousness, shame, self-consciousness, colour sense, the human moral nature, and the musical sense.

Simple Consciousness.

Simple consciousness makes its appearance in the human infant at the age of a few days; it is absolutely universal in the human race; it dates back certainly to the earliest mammals, and probably much earlier; it is only lost in deep sleep and coma; it is present in all dreams.

Shame.

Shame is said to be born in the human infant at the age of 15 months; it is a prehuman faculty, being found in the dog and in apes, and undoubtedly existed in our prehuman ancestry; it is almost universal in the race, being only absent in the lowest idiots; it is very common in dreams.

Self-Consciousness.

Self-consciousness makes its appearance in the child at the average age of 3 years; it is not present in any species but the human; it is, in fact, that faculty the possession of which by an individual constitutes him a man. It is not universal in our race, being absent in all true idiots; that is, it is permanently absent in about one in each thousand human beings born into the world. In our ancestry it dates back to the first true man; a race, we are told, unclothed, walking erect, gregarious, without a true language, to a limited extent tool-using, destitute of marriage, government, or of any institution, animal, but in virtue of its highly developed receptual intelligence, king of animals, developed self-consciousness, and by that fact became man. It is impossible to say how long ago it was when this event occurred, but it could not have been less than several hundred thousand years. This faculty is lost much more easily and frequently than is simple consciousness. We lose it in coma and also often in the delirium of fever; in certain forms of insanity, as in mania, it is often lost for weeks, even months at a time; and lastly, it is never present in dreams.

Colour Sense.

I have elsewhere written at large on the colour sense, and have only space here to give the facts which bear on the present inquiry. That these are facts the argument referred to I think demonstrates. This faculty appears in the individual at the average age of about 5 years. It is absent in one adult human being out of every forty-seven; it appeared in our ancestors, as Geiger has shown from linguistic palæontology, in the Aryan period, probably less than 30,000 years ago. It is seldom present in dreams, and when it does occur, that is when any colour is seen in a dream, it is generally that colour which for good reasons was first perceived by man, namely, red.

The following occurrence illustrates (I think in a striking manner) the usual absence of the colour sense during the partial consciousness which occurs in sleep. A man whose hair is white dreamed that he was looking in a glass and saw plainly that his hair was not only much thicker than he knew it to be in fact, but instead of being white, as he also knew it to be, it was black. Now, he well remembered in his dream that his hair had never been black. It had, in fact, been a light brown. He wondered (it is worth mentioning here that wonder or surprise is a prehuman faculty, and is common in dreams) in his dream that his hair should be black, remembering distinctly that it had never been so. (I may say here that memory is a prehuman faculty, and is common in dreams). The important thing to note about the dream under consideration is that, though it was clear to the dreamer's mind that his hair had never been black, yet he did not remember that it had been brown. For some reason (and I think the reason is quite clear) there was a difficulty in calling up before consciousness any colour.

Moral Nature.

The human moral nature belongs to a much later stage of evolution than any of the faculties so far considered. It does

not make its appearance in the individual before the average age of 15 years. It is congenitally and permanently absent in at least forty human beings out of every thousand. It would seem clear, as stated already, from a consideration of our historic ancestors, from the fact that this faculty rapidly fades out as we ascend into the past, that it cannot have existed in the race more than 10,000 years at the most. It is far more unstable in the individual than older faculties, such as self-consciousness. It is never present in dreams.

Musical Sense.

Finally, the musical sense (a faculty which is now in act of being born into the race) does not appear in the individual before the average age of about twenty years. It does not exist in more than half the members of the race. It has existed less (perhaps considerably less) than 5,000 years in the race. It is never, or almost never, present in dreams, even in the case of professional musicians.

The Scheme of Mental Evolution.

You see now clearly the scheme upon which I suppose the mind (as far as we have got) to have been built. I say advisedly "as far as we have got," because, if the mind has grown in the way set forth, it is still growing and is not built but is in the act of building. No man can ever say positively that his theory (of any fact) is the true one, but I am prepared to say of the above hypothesis that, if it be accepted, it will enable us to understand something of the phenomena of mind as we observe it, whereas if we should prefer to hold, as many do, that the human mind was created independently of any that preceded it by a fiat and *per saltum*, then I say deliberately that there is and can be no such thing as a science of psychology, and that every attempt to investigate or explain, to comprehend or divine the rationale of the facts observed as to its origin and growth in the individual must remain for ever futile. And if I could find the right words, I would bring home to each one who hears me the inextinguishable conviction that, in this idea of evolution, lies enfolded the mystery of the past, the explanation of the present, and the sure prescience of the future—what we were, what we are, and what we shall be.

The Atavistic Theory of Idiocy and Insanity.

In conclusion, I desire to refer briefly to two corollaries which flow from this hypothesis. The first is, that if it is correct, then all forms of insanity, including all forms of idiocy, are nothing more nor less than cases of atavism. In this view insanity is due to congenital absence or imperfection (leading to breakdown) of some faculty or faculties, such absence or imperfection being due to more or less complete reversion to an ancestral type. In my opinion, this view explains insanity and its numerous forms more completely than these can be explained from any other point of view, and is therefore of great value to the thoughtful student of these phenomena. Upon this view, the comparatively recent origin and rapid evolution of the human mind, and especially the rapid mental evolution of the so-called Aryan peoples in the last four or five thousand years, is almost solely responsible for the large number of cases of insanity in the modern civilised world, since the stability of any form, function, or faculty in any race is dependent upon the time it has existed in that race, and therefore the more recent a faculty is in a race the more frequently will it be found absent, defective, or unstable in the individuals of the race.

Future Development of Mind.

The second corollary, which is even more important than the first, is that, upon the view here set forth, the human mind at present is not formed, but forming, is not completed, but in process of construction. By slow and dubious steps taken in darkness our remote ancestors wearily climbed to simple consciousness. After another immense interval they reached self-consciousness. But that cannot be the end—the cosmic process cannot stop there—cannot indeed stop anywhere. Evolution, as far as we can see, has always gone on, is going on to-day, and will always go on. Our old mental faculties are some of them fading out, others advancing towards greater perfection, and alongside of them new ones are springing up, some of which will, without doubt, be of overshadowing importance in the future.

So-called telepathy and clairvoyance seem to be specimens of such nascent faculties. I place in the same class the phenomena of what is often named spiritualism. The labours of the Society for Psychical Research have made it to me plain that these phenomena, as notably in the case of W. Stainton Moses, really exist. And I think that a study of the above-mentioned case, together with that of Mrs. Piper and that of Mary J. Fancher, of Brooklyn, would compel any unprejudiced person to make the same admission. But to me these are not cases in which outside agents are acting on or through a human being, but are cases in which a given human being has faculties which are not commonly possessed. Whether any given faculty, such as one of those now alluded to, shall grow, become common, and finally universal in the race, or wither and disappear, will depend upon the general laws of natural selection, and upon whether the possession of the nascent faculty is advantageous or not to the individual and to the race.

But of infinitely more importance than telepathy and so-called spiritualism (no matter what explanation we give of these, or what their future is destined to be) is the final fact to be here touched upon. This is that superimposed upon self-consciousness, as is that faculty upon simple consciousness, a third and higher form of consciousness is at present making its appearance in our race. This higher form of consciousness when it appears occurs, as it must, at the full maturity of the individual, at about the age of 35, but almost always between the ages of 30 and 40. There have been occasional cases of it for the last 2,000 years, and it is becoming more and more common. In fact in all respects, as far as observed, it obeys the laws to which every nascent faculty is subject. Many more or less perfect examples of this new faculty exist in the world to-day, and it has been my privilege to know personally, and to have had the opportunity of studying, several men and women who have possessed it. In the course of a few more millenniums there should be born from the present human race a higher type of man possessing this higher consciousness. This new race, as it may well be called, would occupy, as toward us, a position such as that occupied by us toward the simple conscious *alalus homo*. The advent of this higher, better, and happier race would amply justify the long agony of its birth through the countless ages of our past. And it is the first article of my belief, some of the grounds of which I have endeavoured to lay before you, that such a race is in course of evolution.

THE CAUSATION AND TREATMENT OF SPINAL CURVATURE.

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It would require a very long paper to discuss adequately the various causes of lateral curvature of the spine, but there are a few points which I shall be glad to refer to in connection with the present controversy.

When weakness of any kind affecting the back happens to be the predominant condition, whether it be weakness of the muscles alone or weakness affecting the vertebral joints, it is chiefly or entirely during relaxation of the back in its upright position that the spine becomes crooked, or, being crooked, that the curvature increases. This relaxation of the back, or, more correctly speaking, relaxation of the dorsal muscles happens chiefly and typically when the individual is sitting down, so that if the back be not adequately supported in an upright manner the spine tends to curve unduly in one or other direction. If during this relaxation there exist any exciting influence to guide the spine to one or other side, lateral curvature is produced, but otherwise we get excessive "roundness" of the shoulders (kyphosis). Irregularity of the spine, as a whole, to one or other side is either secondary or is dependent upon a variety of causes. Anything which throws the pelvis to one side (a short leg) may produce the so-called "amesial" condition, or it may be, and often is, the result of general debility or of a neurotic condition of the patient.

Considering it to be secondary in importance, I have dealt first and chiefly with what I have taken to be the primary condition—that is, the lateral curvature—and in treating this I have always found the amesial condition disappear rapidly. If the patient be very weak, the spine may tend to give way all the time that the patient is not recumbent, but in a great many instances the spine will be held straight during activity, and will only relapse into its lateral curves when the patient is trying to rest, by sitting down without supporting the back thoroughly.

It seems to me obvious that these facts—if they be facts—point to two objects of attainment: one the strengthening of the muscular system, so as to increase the power of the patient to keep the spine from subsiding into lateral curves, and the other the support of the spine in a straight position during the necessary periods of rest.

Periodical rest of the muscles is a physiological necessity, as we all know; and however much the muscular system may be developed, the spine cannot be constantly held upright. Directly the muscles cease to act, lateral curves are produced, unless the normal position is maintained by recumbency or by artificial support in sitting. For the latter purpose, a chair fitting the natural form of the spine must be used constantly whenever the patient is not using his dorsal muscles actively, if we are to obtain a beneficial result from the strengthening of the muscles.

This line of treatment applies only to slight cases—those in which the curves have so little developed that they do not show themselves when the patient stands firmly erect, or sits upright with muscular effort. When the curves are more pronounced—so that they are apparent under all conditions of posture, even when the patient makes the greatest effort to hold himself erect—something more must be done.

Some surgeons consider that these cases are hopeless, but I have found, upon the contrary, that the majority of them can be cured if dealt with before very severe rotation of the vertebræ has taken place.

Then comes the question which has been so often raised, and is now again under discussion, as to the relative advantages of treatment by exercises alone or by exercises in combination with mechanical support. We must bear in mind that when distinct curves have been developed the cartilages and even perhaps the vertebræ have already changed their form. They have become more or less wedge-shaped. The convexities of the curves are formed by the thicker sides of the cartilages and bones, and the concavities by the thinner edges of these wedge-shaped parts. Such a spine, in the earlier stages of the deformity, may, by certain movements and exercises, be temporarily placed in a straight position, and by long-continued and persistent application of this treatment permanently beneficial results may be obtained. The natural forces are, however, very much against perfect success by this means, for directly, and every time, these special exercises cease the spine will subside again to its curved position.

The object of mechanical treatment is to maintain any improvement effected by exercises, or by the support alone, keeping up the improved position until the cartilages and vertebræ have again altered their shapes into the normal.

That these parts can alter their shapes is proved by the gradual increase of deformity which occurs when no treatment is employed, and therefore, if we can hold the spine straight continuously for a sufficient length of time, we may depend to a certainty upon obtaining a perfect and permanent cure, provided we take care to strengthen the body in the meantime. If we agree as to the correctness of this view, it remains to be decided if it be possible to effect this correction by any mechanical means at our disposal. In such a case as I have last described we can generally, upon examination of the patient, hold the spine by means of our hands alone, in a much straighter position than the patient can possibly effect by his own unaided muscular efforts, and in many cases we are able to entirely remove the curve while so holding him. That being so, we ought to be able, by scientifically constructed apparatus, also to hold up the spine, and in my experience we are certainly able to do this. The use of apparatus undoubtedly requires careful study and aptitude, and should be avoided by those who cannot carry out the details of adjustment themselves without the help of the instrument maker.

Some of the advantages of Chance's splint and the modifications of it which I have introduced, are correctly described by Dr. Lewis in the BRITISH MEDICAL JOURNAL for August 14th, but the description in the JOURNAL for July 17th is no hard-and-fast rules as to the disposition of the plates, as absolutely incorrect. In using such an apparatus there are might be supposed from the statements there made. Each case is treated in accordance with its own peculiarities, and it is quite possible by careful adjustment to hold up the spine without interfering with the development of the patient's body, without interfering in the least with the use of the muscles, and without producing any harmful effect upon any function or organ of the body.

I have entered so fully elsewhere[1] into all the details of these matters, that I should be encroaching unfairly upon the columns of the JOURNAL if I were to discuss them now; but I shall be glad to touch upon one important point. It is well known that in lateral curvature the rotation is increased when the individual stoops, and in the examination of the spine it is customary to make the patient bend down as low as possible to show the degree of this rotation.

If in treatment we can only hold the patient upright and prevent his stooping we shall thereby lessen the rotation and also straighten the curves. The maintenance of this upright position will alone in some cases entirely remove the curves, and therefore is a curative procedure. When side plates are applied they do not exert injurious pressure, but hold the spine straight or towards that position, just as the hands of the surgeon have previously done. The instrument as a whole acts as a guide to the patient, directing him how to hold himself straight by his own exertions, and it only interferes with those movements which would be detrimental in their action.

If the patient can hold himself for any short period absolutely erect and straight the apparatus does not interfere, but directly he allows the spine to subside towards its former vicious position the instrument comes into action and checks that subsidence.

Judging from the large number of cases treated in this way by my colleagues and myself at the City Orthopædic Hospital I can say that the use of apparatus is of very great value in the treatment of lateral curvature of the spine; so much so that cases undertaken in the earlier stages can be cured with almost absolute certainty.

There are a variety of means which can be brought to bear to help our efforts, amongst which I have found massage of great value, but if we wish to produce the greatest amount of good with the least amount of trouble to the patient and the least amount of expense to the parents we shall have to use mechanical apparatus.

REFERENCE.

[1] *Curvatures of the Spine.* Fourth edition. London: Smith, Elder and Co. 1896.

A CASE OF SPONTANEOUS ANEURYSM OF THE ULNAR ARTERY IN THE PALM: EXCISION OF THE ANEURYSM: RECOVERY.

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THE rarity of spontaneous aneurysms of the ulnar artery, or, indeed, of any small limb artery, is so great, that each example that comes under notice deserves to be put on record. The case I herein describe came under my care at Addenbrooke's Hospital, and, in addition to a descriptive account of it, I intend giving the results of an inquiry into the changes induced in the artery wall, and making some remarks upon the plan of treatment adopted.

The cases hitherto published are (1) one reported by Walton[1] an aneurysm, the size of a horse-bean, that formed without any assignable cause in the ulnar artery one inch above the wrist in a medical student, 21 years of age, a pupil at the Middlesex Hospital Medical School. Direct com-

pression of the aneurysm and of the artery immediately led to cure; (2) one reported by Guattani [2] occurred in a groom, 45 years of age, in the portion of the right ulnar artery in the hypothenar eminence; this was more or less solid, and its nature was not suspected until it was deemed advisable, from the skin showing signs of giving way, to incise it; when this was done the flow of blood was very great, and the wound was rapidly increased and packed with dry lint; (3) one reported by De Morgan [3] occurred in the lower part of the ulnar in a man, 47 years of age, who suffered from albuminuria and heart disease; (4) one reported by Sir Astley Cooper [4] in the upper part of the ulnar; (5) one by Erichsen,[5] which was under the care of Todd, and in which the brachial artery was successfully tied; (6) one referred to by Holmes [6] in a lad, 17 years of age, who died from vegetative endocarditis. The aneurysm in this last case was considered by Holmes to be the result of the impaction of an embolus detached from the valves of the heart, since other cases have been reported in which emboli (septic) proved to be the cause of aneurysmal dilatations.[7]

The following are the notes of the case which has been under my care at Addenbrooke's Hospital:

C. M., aged 23, single woman, residing at Fordham, admitted August 23rd, 1896; fair and healthy-looking, appetite good; pulse 82, regular, and artery walls soft and supple; no cough and no difficulty in breathing; urine normal. There is a smooth fusiform swelling 1¼ in. in length by ½ in. in breadth in the inner part of the hypothenar eminence of the right hand and in the position of the ulnar artery; this pulsates synchronously with the heart, and the swelling expands equally in all directions. On compression of the brachial the swelling almost disappears, to fill again on release of the artery. It is not tender and not adherent to the skin of the palm. Occasionally there is pain in the inner side of the forearm, and usually numbness of the little, ring, and of the ulnar side of the middle finger. Early in May, 1896, she first noticed a throbbing in the hand, and in June following observed a small swelling on the inner side of the palm, which has since continued to throb and increase slightly. She can assign no cause. She is the second of seven children, and her father, mother, brothers, and sisters are quite well and healthy.

On August 25th, 1895, a longitudinal incision 1½ in. long was made over the swelling. After cutting through skin, lower half of palmaris brevis, and palmar fascia, the aneurysm was exposed and carefully dissected, the ulnar nerve lying behind and to the inner side and easily separated and pulled to one side. The ulnar artery proximal and distal to the swelling was next ligated. The sac was then removed by scissors, and from it proceeded the deep branch of the ulnar, which had also to be ligated. The wound was stitched, and ten days after all had firmly healed and there was no sign of aneurysm.

The wall of the aneurysm was found unevenly thickened, and on its inner surface, which was everywhere smooth and glistening, and with no trace of clot on it, there were many small elevations not unlike, but much smaller than, those usually seen in atheroma. Under the microscope the wall of the aneurysm was seen to be composed in the main of fibrous connective tissue, in the middle of which there were remains of unstriped muscular fibres of the middle coat. The inner part of the wall, which corresponds to the intima, was much thickened from the proliferation of the connective tissue cells normally present in it, and, it may be, from the proliferation of the endothelial lining. Near the free surface the cells are elongated and flattened, and close together layer upon layer, deeper the cells are larger and with more matrix between them, and deeper still the cells are few in number, and the matrix, which is here distinctly fibrous, is proportionately greater. Many of the cells in this—the deeper part—are already converted into globules of fat. Beyond, or outside this inner layer, is a thick layer of dense fibrous connective tissue, which represents both the middle and external coats; and in the inner part of this there are dwindled and degenerating unstriped muscular fibres. These changes are almost identical with those seen in a subacute atheroma (endarteritis deformans), the extension into the two outer coats seen in so complete a manner being in all probability accelerated by undue stretching of the walls during the formation of the aneurysm. In the above case there was no evidence (1) of cardiac valvular disease, (2) of a widely distributed disease in the arteries, (3) of any increased blood pressure, (4) of sudden strain, (5) nor of any kind of injury. The wall of the aneurysm, however, showed definite structural changes. In the intima, or what corresponds to it, the changes were similar to those observed in subacute endarteritis deformans; in the middle coat the muscular tissue was in most places almost completely replaced by fibrous connective tissue; in the outer coat the loose areolar tissue was also replaced by fibrous tissue, which was directly continuous with that replacing the muscular fibres in the middle coat.

So far as can be judged, this case is an instance of subacute localised endarteritis deformans, with extension into and almost complete disappearance of the muscle fibres and of the elastic membrane.[8] Although this must be of rare occurrence in the smaller limb arteries, yet, as we know, it is known—though not by any means of frequent occurrence—in the smaller cerebral arteries.

The treatment adopted in this case, namely, excision of the sac after ligation of the artery proximal and distal to the aneurysm previously dissected from surrounding structures, commends itself in all such cases. The aneurysm was small, defined, superficial, and not in relation to any important structures, and its excision proved an easy matter, the ulnar nerve being early exposed and carefully drawn to one side. In ten days the wound was healed, and the hand quite well, the patient having got rid of the aneurysm completely; and she was in consequence without the inconvenience of a contracting blood clot that might, seeing the close relation that the ulnar nerve bore to the wall of the sac, prove tender to pressure for some months, and thus prevent her having the full use of the hand. The speediness of recovery and the completeness of the removal of the diseased portion of the artery constitute, I venture to think, the ideal plan in the treatment of aneurysms; and wherever excision of the sac can be performed under careful aseptic conditions, it must be preferable to any of the other methods now in use. Doubtless the risk of septic infection and the liability to secondary hæmorrhage deterred surgeons from adopting this plan in the treatment of aneurysms of the extremities, and the almost uncontrollable hæmorrhage in the incision method required a boldness that many did not possess. With our Esmarch tubing and our almost perfect cleanliness neither the one nor the other need we have any fear of. The above were not, however, the only reasons that prevented the adoption of the method of excision by the older surgeons; for ever since the time of John Hunter it has been believed that in cases of aneurysm the wall of the artery is usually diseased for some distance away from the actual dilatation.[9] We may find examples illustrating this view now and again, but the majority of instances of aneurysms that I have seen have shown hardly any signs of disease, either in patches or over any extent of surface; and in many the arteries were perfectly healthy immediately above and below the seat of the aneurysm. It seems to me that this view should be accepted only when there is positive evidence of general disease of the arteries, a state which is by no means always present in persons suffering from a single aneurysm. In the instances of false aneurysm or aneurysm following clearly upon a strain, probably the result of a tear in the walls of the artery, this method of treatment has been in vogue, and of recent years Thorburn[10] of Manchester and Littlewood[11] of Leeds have published some cases in which it has succeeded well.

References

[1] Walton, *Med. Times and Gaz.*, August 12th, 1865. [2] Guattani, Erichsen, *Obs. on Aneurysm*, p. 316. [3] De Morgan, *Med. Times and Gaz.* November 22nd, 1862. [4] Sir Astley Cooper, *Lect on Surg.*, p. 47. [5] Erichsen, *Science and Art of Surgery* [6] Holmes, *System of Surg.*, 11 Ed. vol. iii, p. 29. [7] Langton and Bowlby, *Trans. Med. Chir. Soc.*, vol. lxx, p. 117; John Hunter; Erichsen, *Obs. on Aneurysm*, p. 373. [8] For an account of the degree of involvement of the middle or muscular coat in the early stages of the formation of aneurysms see Coats and Auld, British Medical Journal, August 26th, 1896. [9] This view is given by Home, in his account of the first case of ligature of the femoral artery for popliteal aneurysm as the reason why John Hunter gave up the old operation. Hunter endeavoured first by experiment on animals and then by the confident application of the result to man to procure a safer mode of treatment of popliteal aneurysm; see Erichsen, *Obs. on Aneurysm*, p. 373. [10] Thorburn, British Medical Journal, 1891, p. 1147. [11] Littlewood, British Medical Journal, 1894, p. 1114.

A CASE OF SYMMETRICAL GANGRENE ASSOCIATED WITH PERIPHERAL NEURITIS.

By N. GORDON MUNRO, M.B., C.M.Edin.,
Yokohama.

F. B., aged 46, a native of Java, was incapacitated from duty as quartermaster of the steamship *Macduff* about the beginning of last January, owing to weakness and numbness of the legs. The vessel was on a voyage from the United States to Japan, *viâ* Honolulu; and it is noteworthy that this trouble began before reaching the intermediate port—that is to say, before cold weather was experienced. From Honolulu the weather was cold, although there was no frost on deck. During this time he remained in his berth, as he was unable to stand.

On admission to the Yokohama General Hospital the patient exhibited some œdema over the tibiæ and loss of tactile sensation in the same region. He had hyperæsthesia of the inner heads of the gastrocnemii, and to a slighter degree of the quadratus magnus on the right side. Knee-reflex was absent on both sides. Cremasteric and abdominal reflexes normal. Pulse was 96, running up to 104, and even more, on slight exertion. Not to be too prolix, it looked like a case of beri-beri.

The urine was described as small in amount; in hospital it ranged between 12 and 20 ounces per diem for some days, but gradually increased under digitalis, strychnine, and convallaria. No sugar, no albumen, no hæmoglobin. No history of alcoholism, but one of very severe beri-beri twenty years previously, which laid him up for over a year.

A thin black line, barely the thickness of a match, crossed the tips of the toes, symmetrically in both feet. On account of the dark skin and feet not over-clean, it needed some cleansing to establish this beyond doubt as a line of advancing gangrene.

The process extended slowly in a dry form, with a morning temperature below the normal, and in the evening touching 100°. By the later part of February a line of demarcation had formed in both legs, about 2 inches above the ankles; and on March 2nd, the temperature being continuously subnormal and the pulse and dry tongue pointing to septic absorption, I removed both legs at the "seat of election." The method of skin flaps with circular division of the muscles was adopted, and the seat of election chosen, because time was an object owing to the amputation being double, and because the knees could be easily utilised did the stumps not bear pressure well.

The skin wounds healed by first intention, but a slight bagging of serum in both wounds, accompanied with a rise of temperature to 101.6° F., obliged me to drain them. Afterwards the temperature never exceeded 99.4° F., and the patient made an excellent recovery, the contracted skin flaps forming most promising cushions. With the proper amount of pressure on the faces of the stumps the bagging would not have taken place, but I was naturally afraid of putting much pressure on the stumps of gangrenous limbs. Glutol was used in the dressing. In some half a dozen cases in which I have tried it, it seems to have proved almost too good an antiseptic, if one may say so, as it prevents the natural dissolution of epithelial cells, which form with the gelatine a glutinous scab which is difficult to remove.

There is not much doubt that this patient had beri-beri, and that paralysis of the vaso-dilator nerves of both extremities, corresponding to the interference with the vagus function so frequently found in beri-beri, and indicated by the rapid pulse, resulted in local asphyxia and death. It is highly probable also, that this result was, in no small measure, due to the stimulating effect of cold on the vaso-constrictor nerves. The loss of balance created by the vaso-dilator paralysis would permit of greater contraction of the arterio-capillary network under stimulation of the constrictor nerves. Interference with irrigation, exaggerated, perhaps, by backward pressure from the dilated veins results, if long continued, in gangrene. This may be produced by cold alone, especially in persons whose circulation is "slow" and whose vaso-dilator nerves do not open the irrigating canals with sufficient alacrity. One is inclined to think that Raynaud's disease is to be traced to paralysis of the vaso-dilator, even more than to stimulation of the vaso-constrictor nerves, an explanation more in keeping with the presence of a peripheal neuritis.

A SUCCESSFUL CASE OF RETROPERITONEAL URETERO-LITHOTOMY.

By H. BETHAM ROBINSON, M.S.Lond., F.R.C.S.,
Assistant Surgeon to St. Thomas's Hospital, and to the East London Hospital for Children.

Up to this date very few operations have been recorded of the removal of a calculus from the ureter. With the more exact methods of diagnosis now available, such operations will undoubtedly be more frequent in the future. Any such operation, whether successful or not, should at the present time be recorded, to enable us to formulate definite lines of treatment. All must admit that many cases of hydronephrosis have been dealt with unsuccessfully from inadequate exploration of the ureters, but now aspiration or incision of the kidney will be only a *dernier ressort* after a negative exploration of the ureter by pelvic examination, rectal or vaginal, by catheterisation, or by abdominal section.

Calculi have been found to lodge either close to the bladder, about the pelvic brim, or just below the kidney. In the pelvic cavity the stone may be just beneath the vesical mucous membrane, and, in these cases, it has been extracted by dilating the urethral orifice,[1] or by incising the mucous membrane over it after suprapubic cystotomy in the male, or dilatation of urethra in the female.

When the stone has been felt by the side of the vagina at the base of the broad ligament it has been cut down upon and removed (Emmett,[2] Cabot,[3] Rigney[4]). This "vaginal uretero-lithotomy" is advocated as being quite safe from injury to peritoneum, but its drawback is the production of a very troublesome uretero-vaginal fistula. Ceci[5] has performed rectal uretero-lithotomy.

For stones below the pelvic brim not dealt with as above, and where the ureter is closely related to the peritoneum, they may be removed (*a*) intraperitoneally as in the cases of Cullingworth and Lane.[6] Here the attendant risks from fouling of the peritoneum outweigh the ease of performing the operation; if it be done, the suturing of the ureter must be very perfect. (*b*) Retroperitoneally, as in the case recorded below, and in one by Twynam of Sydney.[7]

At the brim of the pelvis and above several cases have been dealt with extraperitoneally (see cases of Kirkham,[8] Perkins,[9] Cabot,[10] Ralfe and Godlee[11]).

The details of the case are as follows:

A. H., a married woman, aged 23, was admitted into St. Thomas's Hospital on May 8th, 1897, under the care of my colleague, Dr. Hector Mackenzie. The family history was good. At the age of 15 she first had pain in the side, which came on gradually, lasting for periods varying from one to three days. During an attack she had always intense sickness, and it was painful to pass water; the urine was noticed to be dark red with blood and very thick. Her catamenia were regular. Sometimes she would be a month without feeling any pain. At the age of 20 some swelling was first noticed, which would disappear at the times of the painful attacks. About one year ago she had a very severe attack, since which date the swelling has persisted; this took place just after the birth of a child, which lived six months. About this date (seven months ago) she was admitted into Adelaide ward for he swelling, and as this was found not to be of pelvic origin she was transferred to the medical side. The swelling was then pronounced to be of renal origin, and she became an out-patient under Dr. Mackenzie, during which time she had much the same symptoms, and the swelling increased in size.

On readmission (May 8th) she showed no signs of disease except the tumour. The right side of the abdomen above the umbilicus was markedly fuller than the left side, being especially round and prominent about 2 inches from the middle line; there was some fulness in the right flank. On palpation the tumour was lobulated, and fluctuation could be

obtained from before backwards. Its inner margin passed just over the mid-line, its lower margin was on a level with the umbilicus, and above it receded rather from the surface, passing up under the costal margin. Its position was very slightly affected by respiration. There was dulness all over it, and some tenderness over the prominence anteriorly. Urine: specific gravity 1030, and with no albumen or sugar.

May 10th. Prominence not so marked this morning; this is explained by the passage of 58 ozs. of urine in the preceding twenty-four hours.

May 13th. Still less swelling; 33 ozs. of urine passed.

May 18th. The pain in the abdomen has spread to the other side; quantity of urine passed has ranged between 13 and 39 ozs.

May 21st. Estimation of urea gives $7\frac{1}{2}$ grs. per oz.

May 27th. More pain this morning and sickness. Only 9 ozs. of urine passed in preceding twenty-four hours.

June 1st. Complaining of more pain. Urine: 1030, acid, no albumen or sugar.

Recognising that the swelling was a hydronephrosis, and from its size presumably dependent on some obstruction in the lower part of the ureter, it was determined to explore the ureters after the method of Howard Kelly. As there had been nothing elicited at the previous gynæcological examination, it was thought possible that the obstruction might be a valvular fold of mucous membrane; if the catheter could be passed beyond this, and the sac emptied, this diagnosis presumably would have been established. Simple stricture did not seem likely, as there had been no trauma, and there was no history or evidence on pelvic examination of any inflammatory exudation to cause blocking from the outside; this latter cause must be especially taken into account when hydronephrosis is present in a woman.

Accordingly on June 2nd the exploration was made. After dilatation of the urethra, the left ureter was first found and a catheter was passed in. A little urine was drawn off from this kidney, which contained a trace of albumen, but no casts. The orifice of the right ureter was difficult to find, and when found seemed distorted. The catheter could be passed in for only a quarter of an inch, then coming to a dead stop, and drawing off no urine. A bimanual examination was again made, and I was able to feel in the right ureter a body the shape of a date stone, only larger. This was undoubtedly a stone, and situated in relation with the posterior part of the cervix uteri. An operation for its removal through the vagina was contra-indicated by its posterior situation, and also by the known difficulty of treating afterwards the fistula so produced. No bad result ensued from the examination.

On June 8th retroperitoneal uretero-lithotomy was performed. The patient was placed under ether, and an incision of $3\frac{1}{2}$ inches was made, starting about on a level with and about 1 inch internal to the anterior superior spine upwards and a little inwards. The abdominal wall was divided to the subperitoneal tissue, and the peritoneum stripped off the iliac fossa and bifurcation of the common iliac artery exposed. Here, in front of it, a large thickened-walled tube was seen, which from its position appeared to be the ureter. On pricking this with a knife well below the bifurcation there was considerable venous hæmorrhage and slight pulsation, sufficient to suggest the possibility of the tube being the vena cava. Before proceeding farther the tube was followed down, and in so doing a very small tear was made in the peritoneum bounding Douglas's pouch, which was puckered up and a ligature put round: over it was placed a cyanide gauze plug. Having decided that the tube was the ureter, and proving it by a trocar and cannula, a free incision was made longitudinally giving exit to about a pint of almost colourless urine. By gentle manipulation the finger could be passed along the dilated tube. At a distance of $1\frac{1}{4}$ inch the dilatation came to a full stop and for the moment nothing else could be felt; on depressing the lower wall a small circular orifice was found, with a diameter not exceeding a quarter of an inch, but nothing more could be made out. The right index finger was then passed into the vagina, and the stone was felt. From its shape, like a datestone with pointed ends, it was difficult to manipulate, as no purchase could be got on the lower end to guide the upper end into the small orifice before mentioned. Another obstacle was in the ureter itself, which was pouched on its posterior and external aspect backwards by the side of the rectum towards the right sciatic notch to such an extent that its antero-posterior axis exceeded the length of the stone. The effect of this anatomical arrangement was that, if in poising the stone between the index fingers to guide it to the orifice it slipped, it got away into the pouch, and was difficult to get again into the required position. At last, using some force, the stone was pushed upwards through the small orifice, which it dilated, into the ureter above, and then it was easily removed. The wound in the ureter, which was an inch long, was carefully stitched up with fine interrupted silk sutures, taking care that the mucous coat was not perforated. Two cyanide gauze drains were introduced, one at the upper angle of the wound passing down to the ureter, and another at the lower angle passing to the site of the peritoneal tear. The abdominal wall was sutured with fine silk, layer by layer, for the muscles, and horsehair for the skin, and the wound dressed with cyanide gauze. The patient bore the operation well.

The stone measured $1\frac{1}{2}$ inch long, with a diameter of $\frac{1}{2}$ inch, and weighed 97 grains. It was tuberculated and irregular, composed of oxalates, with a deposit externally of phosphates and some uric acid.

June 9th. Not had much pain, but slightly sick. Temperature 99.2°; 11 ounces of urine passed, containing a considerable quantity of blood.

June 10th. Had a bad night, complaining of discomfort from the dressings from distension; been sick. Given a soap and water enema, which was attended by the passage of plenty of flatus and a great feeling of relief. Highest temperature since operation 99.8° F. In the afternoon wound dressed and both gauze drains removed without any escape of urine. A small piece of gauze was reinserted a short way at upper part of wound.

June 12th. Now quite comfortable, taking her food well; no sickness; temperature normal; urine still blood-stained.

June 15th. Wound dressed and gauze removed; no fulness or tenderness in kidney region nor over the wound.

June 17th. All stitches removed and wound healed except just at top where gauze was; no leakage of urine, and no tenderness or distension; temperature normal; urine shows very slight traces of blood.

June 24th. Feels quite well again, without any pain; sleeping well; appetite good; no tenderness or distension of kidney; urine 1020, acid, no albumen or blood.

June 28th. Getting up.

July 8th. Went to convalescent home quite well.

Remarks.

After removing the stone the ureter was in this case stitched up by interrupted sutures. This is not in accordance with the practice advocated by others (Mayo Robson, Greig Smith, Jacobson), who state that it is quite unnecessary in the extraperitoneal operation. I think, however, it is a distinct advantage if it can be done, for time must be gained if the sutures hold, and the soaking of the cellular tissue with urine prevented. Of course in such a case if a gauze drain is not inserted and the ureter should give way, disaster is courted.

The anatomy of the parts, especially the sacculation of the ureter, with the difficulties arising from the same, is worth noting.

It will be seen from the after-notes that the setting free of the pent-up urine from the kidney had no bad effect on the wound. The fluid presumably was sterile, and so did not prevent the ordinary course of repair of an aseptic wound.

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Skiagraphic Canards.—The latest American *x*-radiation is that by taking a skiagraph of an ordinary photograph the bones and diseased tissues can be revealed. We thought that we had seen the end of these newspaper *canards*.

NOTES ON ENDEMIC GOITRE IN NORTH-EAST BENGAL.

By SURGEON-LIEUTENANT E. E. WATERS, M.B.EDIN., I.M.S.,
Baksa-Duar, Jalpaiguri District, Bengal.

RECENT communications on goître in the BRITISH MEDICAL JOURNAL have led me to collate the following facts with regard to the occurrence of the disease in the district of Baksa, situated at a height of about 2,000 feet above the sea level. Some two miles away to the south lies the intensely malarious Terai. To the north lie the Eastern Himalayas, on the lower slopes of which Baksa is placed.

The soil, according to Hunter's *Gazetteer*, consists of vegetable mould, gneiss, clay, slate, gravel boulders, conglomerate, soft sandstone, and a little lignite. Limestone is found in considerable quantities in the neighbourhood. The soil is extremely porous, so much so that in the cold season the streams often disappear into the ground for long distances, appearing again lower down.

The inhabitants of the district are of two distinct and widely different classes. The permanent inhabitants are Bhutias, a squat, sturdy race of the Mongolian type, who earn their living as coolies to the military station, or by carrying enormously heavy loads of merchandise up the Himalayas into Bhutau. They are omnivorous, and will eat the flesh of an animal which has died from disease; poverty, however, causes a large number of them to be vegetarians. The chief diseases they suffer from are goître, syphilis, malaria, and intestinal parasites.

The temporary inhabitants of the station are the troops in garrison. These in the present instance are Rajputs from the North-Western Provinces. They are men in the prime of life, healthy, practically free from syphilis, and living under excellent hygienic conditions. They are all vegetarians. Here we have two groups of men of widely different races, living within a couple of miles or so of one another under the same climatic conditions, but under different conditions as to occupation, etc. The one class—the Bhutias—were born here, the other class—the sepoys—came here from Bareilly, and had been here about fourteen months when I examined them.

In the neighbouring Bhutia village of Chunabutti I examined the thyroid glands of 169 persons of all ages, from a baby 12 hours old to an old woman of 70. For purposes of classification four degrees were recognised, namely, well marked, marked, slight, and very slight. (Some of the goîtres were enormous; 23 or 24 inches circumference is by no means an uncommon neck measurement.) No attempt was made to select the cases; I simply went from house to house and examined every one I found.

Of the 169 Bhutias:

42, or 24.8 per cent., had no goître.
37, or 21.9 ,, had very slight.
36, or 21.3 ,, had slight.
30, or 17.8 ,, had marked.
24, or 14 2 ,, had well marked.

Thus of 169 Bhutias, 127, or 75.2 per cent., were affected with goître.

If children under 12 be eliminated, then of 120 people over that age, we find that—

15, or 12.5 per cent., had no goître.
32, or 26.6 ,, had very slight.
23, or 19.2 ,, had slight.
26, or 21.6 ,, had marked.
24, or 20.0 ,, had well marked.

Or of 120 Bhutias of 12 years of age and over, 87.5 per cent. were affected with goître.

Of 49 children under 12:

27, or 55.2 per cent., had no goître.
5, or 10.02 ,, had very slight.
13, or 27.51 ,, had slight.
4, or 8.27 ,, had marked.

There were no well-marked cases.

Or of children under 12 years only 44.8 per cent. suffered, as compared with 87.5 per cent over that age.

The particular lobe of the thyroid most affected also presents some peculiarities.

Of the 127 cases of goître:

In 43 cases, or 35.8 per cent., the right lobe was the one most enlarged.
In 41 cases, or 34.16 ,, the enlargement was general.
In 22 cases, or 19.2 ,, the isthmus was most enlarged.
In 17 cases, or 14.16 ,, the lateral lobes were equally enlarged.
In 4 cases, or 3.34 ,, the left lobe was most enlarged.

Amongst the men, the most common appearance is a general enlargement of the whole gland (lateral lobes and isthmus), 38 per cent. being so marked, while 21.4 per cent. had the right lobe most enlarged. The women inclined especially to the right lobe; among them, 46.3 per cent. had their right lobe most prominent. In many it was the only part affected, in others the isthmus was only enlarged. This special susceptibility of the right lobe among the women is quite noticeable on even the most casual observation. Amongst the children the enlargement is usually general (45.4 per cent.), the right lobe and the isthmus each claiming 22.2 per cent. of cases.

On examining the sepoys in garrison here, I got the following results:

Of 380 men examined, 205 men, or 54 per cent., had their thyroids distinctly enlarged.

Of these 205 men, 114 (or 30 per cent. of the wing) had definite goîtres, the remaining 91 (24 per cent. of the wing) being affected only to a slight degree.

As stated above, these men had been twenty months in Baksa, were healthy, and had come from a non-goîtrous district.

It is generally stated that where goître prevails there cretinism is also common. My experience here does not confirm this. I cannot recall seeing a single cretin amongst the Bhutias, nor can I find traces of any. I know of one epileptic and one half-imbecile boy, but I have seen no cases to compare with the idiots one sees in English asylums. Myxœdema I have also failed to find. Another statement made[1] is that the majority of goîtrous subjects are mentally deficient and dull. This the Bhutias strongly deny. They say many of their most powerful nobles and llamas are men with very large goîtres. One or two went so far as to say that a large goître was a sign of extra intelligence, but I imagine that on this point their opinions were somewhat biassed.

Most of the Bhutias say that their goîtres increase during the rainy season; this is borne out by our out-patient register and by the regimental admission book for 1895. In the latter, for the months of July and August the admissions were several times more numerous than for the remainder of the year.

There is apparently no definite relation between goître and the occurrence of menstruation or pregnancy. Practically all the Bhutias denied that they noticed any change at their menstrual periods; two or three women told me that whilst carrying a child they noticed their goîtres increase in size, but generally the answers obtained were very indefinite.

I discovered only one congenital case—a boy, aged 9 years, who had an enlargement of his right lobe at birth. Recently it is said to have got smaller, and it is extremely hard to the touch—almost stony, in fact. Both of this boy's parents are without goîtres, and another child of the same family that I saw at the age of 12 hours had no goître.

As to the causation of goître I can say but little. The water used by the Sepoys gives the following results on analysis (in parts per 100,000):

Total solids, 3.7; chlorine, 0.4; free ammonia, 0.004; albuminoid do., 0.01; nitrogen as nitrates, 0.036; hardness (Clark's), total, 2.0; temporary, 0.5; permanent, 1.5. No blackening of residue on ignition. Trace of sulphates, and only a very minute trace of iron.

The Bhutias have two streams from which they draw their supply (A and B); the analysis of them is:

Total solids (A), 14.5; (B), 9.45. Chlorine (A), 0.4; (B), 0.4. Free ammonia (A), 0.008; (B), 0.006. Albuminoid ammonia (A), 0.0088; (B), 0.012. Nitrogen as nitrates, etc. (A), 0.03; (B), 0.03. Hardness total (A), 10.5; (B), 3.5. Hardness temporary (A), 7.0; (B), 1.5. Permanent (A), 3.5; (B), 2.0. Residue on ignition (A), No blackening, (B), slight browning. Sulphates (A and B), trace; iron (A and B), minute trace.

All the British officers stationed here during last rainy season suffered from enlarged thyroid glands. In their case the drinking water was passed through a Pasteur filter; all other water was consumed in the shape of tea or soda water.

In Quain's *Dictionary of Medicine* goître is ascribed to a double salt of iron and magnesia, whilst Stevenson in the BRITISH MEDICAL JOURNAL of October 3rd, 1896, ascribes it to iron pyrites. It will be seen from the above analyses that iron is present only in very small quantities, whilst the permanent hardness is nowhere more than 3.5.

Lime is popularly supposed to be a cause; the Bhutias to a man eat slaked lime with their "pán" and betel nut, yet there is apparently no connection between the two. Many Bhutias who are great lime eaters have no goîtres. Again, the sepoys never touch lime, and yet developed goîtres to a considerable extent.

A third theory is that carrying heavy loads up and down hills may cause thyroid enlargements. Many Bhutias earn their livelihood in this way, but the sepoys do no such work, and are by no means exempt.

The liability to goître is evidently much less before the age of puberty than later; 55 per cent. of children below 12 had no goître, yet they had lived all their lives in a malarious district. The sepoys, who had only been here twenty months, were attacked as above.

Is it not possible that goître may spring from an animal or vegetable rather than from a mineral cause? Why should limestone or iron cause goître? Many people take iron for months and get no goitre, and if every baby that drank lime water developed goître some other diluent for milk would have been discovered long ago.

Why, again, should goître be affected by the seasons, if it be due to a mineral poison? Personally, I believe it is due to an animal poison—say of an amœba type, and resembling the malaria organism. We see the enlargement of the spleen against the malarial organism, the lymphatic glands against streptococcus or the tubercle bacillus; why should not the same process go on in the thyroid gland?

An organism with a selective power against the thyroid gland or its secretion enters the blood; for a time the system battles against it, and in a certain number of cases successfully. In other cases the organism is too strong for the phagocytic resources of the system, and we have the thyroid enlarging (? hyperplasia) in an effort to combat the poison. This latter argument is, I think, strengthened by the results of treatment. The ordinary endemic or parenchymatous goître may be treated in two ways: (1) By counter-irritation with iodine or red iodide of mercury; (2) by thyroid feeding. The first of these methods might be applied to almost any (non-inflammatory) swollen gland. It simply means counter-irritation, a larger blood supply to the part, and consequently increased activity and phagocytosis on the part of the gland, *plus* a certain "alterative" action from the mercury or iodine.

Thyroid feeding is also an effectual method of treatment in most cases of parenchymatous goître. I have records of sepoys' neck measurements diminishing from $\frac{1}{4}$ to $\frac{1}{2}$ an inch weekly in circumference under two thyroid tabloids daily. These were B. and W. 5-gr. tabloids. How does this come about? Simply, I take it, that the goître poison is overcoming gradually the resistance of the system; the thyroid hypertrophies in an attempt to overcome the poison; additional resisting power is administered in the shape of thyroid glands; with this help the system can keep the poison in check, and the thyroid diminishes to its normal size. When the thyroid feeding is stopped the gland may again enlarge. All these facts tell in favour of an organismal as opposed to a purely mineral theory.

It is also, I believe, recognised that epidemics of goître occur at times in the Punjab and North-Western Provinces. I have no literature available here on the subject, but a sudden outbreak seems to be more associated with a specific organism than with a mineral poison, which would probably take some time to act, and then act slowly.

These views as to etiology are advanced with the utmost diffidence. I have no microscopical or bacteriological data with which to support them, but taken in conjunction with the above statistics, a bacterial theory seems much more likely to be correct than does a mineral one.

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, October 3rd, 1896, p. 974.

NOTES OF A CASE OF CHRONIC SUPERFICIAL DISSECTING GLOSSITIS.*

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Cases of the kind about to be described are not very common, possibly the sketch and description will not be uninteresting.

* Read at the annual meeting of the Midland Branch, British Medical Association, at Leicester.

H. C., aged 21, a non-smoker, first consulted me as to state of his tongue in November, 1896. There was no history or appearance of syphilis. He had suffered in the same way with his tongue for some five or six years past. It would improved and then relapsed. He was not addicted to drink, taking occasionally only a little beer, but he had had attacks of dyspepsia, and when these were on, the tongue was sore also, as might very naturally have been expected. The tongue was large, and gave the impression of being swollen, the surface smooth (save for the furrows to be noted presently) and glossy red. On each side of the median fissure, however, there were whitish leucomatous patches on the dorsum and two or three at the tip of the tongue, looking, to use the late Mr. Morrant Baker's expressive phrase, as if they had been touched with nitrate of silver. There were deepish fissures running in for half an inch or so from the edge of the tongue; these though not ulcerated were extremely tender, as was the rest of the surface of the tongue. His teeth were fairly good, he was rather anæmic, and, as was mentioned above, subject to indigestion. His diet was reduced to a very simple one, allowing no condiments or salt meat, or anything, in short, which could irritate the tongue, and he was permitted to take a little claret. He was put on a mixture of potassium chlorate, tincture of nux vomica, and gentian for over two months; then he took for another month a mild pre-

Photographed from a painting by Dr. E. Mansel Sympson.

paration of iron. In local application he had glycerine of borax as a mouth wash. Later his tongue was painted with a solution of chromic acid (gr. x-$\frac{3}{3}$j), and for about eight or nine times with a solution just double the strength.

The improvement, though slow, was very marked. His tongue became much smaller, the islands of leucoma (?) vanished, and the cracks closed. In less than three months' time he had almost a normal tongue.

The late Mr. Baker did not allude to any fissures in his admirable article on the Diseases of the Tongue in Heath's *Dictionary of Surgery*, and these fissures do not seem so deep as those in Wünderlich's true "dissecting glossitis" but I think the chronicity, the superficial nature of the complaint, and the fissuring of the tongue may justify the conglomeration of names at the head of this note.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

TONSILLITIS ACCOMPANIED BY RAPIDLY FATAL PYÆMIA.

ON August 9th, L. B., aged 17, a strong, healthy girl, went into service in a village a few miles from her home, and on August 13th developed a sore throat, accompanied by pains in the back and limbs, but continued to do her work until Sunday, the 15th, when, though the throat was no worse, the pains in her limbs had become so severe, that, as she said, she had to go upstairs on her hands and knees.

Monday, 16th, she was brought home, and remained in thout fresh symptoms until Tuesday night, when great set in in the left forearm and wrist, and in both thighs. s called to see her on Wednesday, and found the left ist-joint distended with pus, and some phlebitis and red- ess in the course of the left internal saphena vein. The temperature was 101° F., pulse 120; the throat injected and the tonsils covered with a slight, ragged, greenish slough, and the submaxillary glands very slightly enlarged and tender. I evacuated the pus from the wrist, but, as the temperature remained the same, injected 30 c.cm. of dried antistreptococcus serum into the abdominal wall.

Next day temperature was 102°, pulse 130, both saphena veins blocked and red with great tenderness, and the right elbow-joint swollen and painful; 30 c.cm. of serum were again injected but with no result, and that night and on Friday the temperature remained between 102° and 104.°

On Saturday morning, at 11 A.M., I found her much cyanosed and evidently sinking, though the lungs remained unaffected. At noon she suddenly became maniacal, and struggled violently to get out of bed and then suddenly fell back, and, with a few muscular twitchings, died.

Remarks.—I hear from a brother practitioner that he has lately attended two maids in the same house for slight sore throats, and there have been similar slight cases in an adjoining house. The drains do not appear to be defective, but the water supply is polluted. The case is peculiar in that there were never any rigors beyond a sense of chilliness during the first two days' illness, and again in the virulence of the septic poisoning accompanying very mild throat symptoms. During last winter I saw a similar case, but the septic condition was marked by continual and severe rigors, and lasted for over three weeks, with no joint trouble or pus formation. I regret that I did not examine the blood when I first saw the case. A drop taken on the day of death was swarming with streptococci in chains and separate. The serum in this case had no effects of any kind, but in my previous case always reduced the temperature to normal for from five to seven hours, and my patient always expressed himself as feeling much better after an injection. It is usually recommended that the injection should be made into the back, which I have learned never to do, as I find that invariably the injection produces an area of extreme tenderness, lasting for three days at least, and when on the back this causes very severe discomfort to the patient.

W. Longworth Wainwright, M.B., B.S.Lond.

Brixworth, Northampton.

MENSTRUATION IN A NEWBORN INFANT.

On August 19th I performed Cæsarean section on a primipara with a badly-contracted pelvis. The child, a female, weighing 6¾ lbs., was asphyxiated, as is usual in these cases, but soon came round under artificial respiration. She is a well-formed, healthy child. On August 24th, a bloody discharge was noticed on her napkin. On making a careful examination, I found it was coming from the vagina. It was bright red in colour; it lasted about two days. The child did not seem to suffer in any way. It will be interesting to note if it recurs. The mother is making a good recovery, and has been able to nurse her child.

Robert Jardine, M.D.,
Physician to the Glasgow Maternity Hospital.

A CASE OF TETANUS TREATED WITH ANTITOXIN.

On July 1st, 1897, a boy, aged 15, fell from a horse, and was either kicked or fell on a stone, causing a wound about 5 inches long, extending from the bregma to half way down the forehead in the middle line, raising the scalp on the right side and exposing the bone. The wound was carefully cleaned, and the edges brought together with four stitches.

On July 2nd the wound was dressed. On July 3rd the face was swollen, and there was purulent discharge. Three stitches were removed, and a drainage tube put under the scalp. Temperature 102°. July 4th to 7th. The wound improved in appearance and there was less discharge, temperature varying from 100° to 102°. On the 8th he complained of the jaws being stiff; the masseters were hard but the mouth could be opened about ¼ inch; temperature 98°, pulse 75. My partner, Mr. Audland, saw him with me, and we decided to inject antitoxin.

In the afternoon 10 c.cm. of Pasteur's antitoxin were injected under the skin in the right lumbar region. Four hours later he was asleep, perspiring freely. Temperature 97.8°, pulse 60. On the 9th the condition was the same. Injection of 10 c.cm. Temperature 98.4°, pulse 58. On the 10th there was stiffness down the right side of the neck and under the jaw. He bit his tongue in the night. As the stiffness was increasing we decided to inject 20 c.cm.—half in the morning, half at night. Temperature 96.7°, pulse 64. July 11th. Bad night; broke a tooth in a spasm; lips hard; sterno-mastoids and anterior cervical muscles all stiff. One injection of 20 c.cm. Temperature 98°, pulse 54. July 12th. Bit tongue in the night; lips less hard; throat does not hurt so much. Injection of 10 c.cm. Temperature 97 8°, pulse 64. July 13th. Bit tongue again; lips harder; head turned towards right shoulder; all the cervical muscles stiff. Injection of 10 c.cm. Temperature 97.4°, pulse 64. July 14th. Neck stiffer; mouth cannot be opened at all. Two injections of 10 c.cm. each. Temperature 97.4°; pulse 74. July 15th. Says he is more comfortable. Injection of 10 c.cm. Temperature 97°, pulse 70. July 16th. Bad night; severe spasm when swallowing; throat hurts very much. One injection of 20 c.cm. Temperature 98°, pulse 70. July 17th. Better night; right side of neck softer; can move lips slightly; urticaria over lower part of back and loins. Injection of 10 c.cm. Temperature 97.5°, pulse 62. July 18th. Rather better. Injection of 10 c.cm. between scapulæ. Temperature 97°, pulse 74. July 19th. Can separate lips. Temperature 97°, pulse 74. July 20th. Wound stitched again; lips separated better. July 21st. Urticaria all over body. July 22nd. Urticaria worse over legs. Injection of 10 c.cm. July 23rd. Says he can open his mouth a little. July 24th. Urticaria fading.

From this date he improved rapidly; the jaws were soon opened sufficiently for him to take semi-solid food; the muscles of the neck lost their stiffness entirely before those of the jaw. Now (August 31st) the wound is healed, no stiffness remains, and the boy is getting fat. He was always able to take a fair amount of milk, eggs, and beef tea poured between the lips and teeth. No drugs of any kind were given him. Whether the antitoxin (160 c.cm. in all) was or was not the cause of his recovery I cannot say, but he always seemed more comfortable for some hours after the injections, and usually went to sleep.

H. Hollis, M.B., B.C.

Wellingborough.

INCIPIENT ACUTE MANIA ARRESTED BY HYOSCINE.

On January 17th, 1897, I was called to see Mrs. H., aged 45, who was suffering from maniacal excitement. She had been under my care in an asylum sixteen years previously. Her first husband died insane on the day of her admission to the asylum, her youngest child being then aged 4½ years. Some years after her recovery she had remarried, having in the meantime supported herself and her three children by her own exertions. She had had no children by her second husband, to whom she had been married three years. No insane heredity was acknowledged, and she presented no degenerative stigmata, but her sister seemed to me to be peculiar, of the nervous temperament, and had somewhat irregular ears.

Early in 1896 Mrs. H. became possessed of the idea that she was pregnant. According to her own account and that of a midwife who then saw her, her breasts were enlarged, her abdomen was swollen, and she had various sensations (nausea, abdominal fluttering, etc.) suggestive of pregnancy. The menses were for a time profuse and very irregular (" dodging-time" of menopause), and for some months had ceased altogether. On being told definitely by a gynæcologist on January 11th, 1897, that she was not pregnant she was disappointed and became excited. Since then she had been excited and talkative at night, and had slept little. Her face was flushed, her conjunctivæ were glistening, and she was loquacious, with exalted memory, but fairly coherent, being able to describe with great accuracy of detail persons and events connected with her residence in the asylum years ago

She heard all sorts of voices in the front wall, and sometimes saw faces. Besides these hallucinations there were illusions, and she was apprehensive that something was going to happen. Pulse 80. I gave her a bromide and cannabis indica mixture and a chloral night draught.

When seen the next day (18th) she had slept only two hours. She was pale and angry-looking with corrugated forehead, bent brows, and retracted upper lip. She was panting with excitement, threatening and reviling her daughter and husband, extremely restless, throwing things about, and shouting loudly. She knew me and could answer questions, but could not be kept to any subject as she could on the previous day. Chloral was again given at night, a larger dose being used, but without procuring sleep. Pulse 92, temperature 97.2°. Pupils unequal.

On the 19th she was still more talkative, noisy, and violent, striking out at people wantonly, and alternately laughing, weeping, upbraiding, and talking obscenely. She dashed the fluid food out of the hands of those offering it to her, and once when so doing broke a cup, cutting her hand. Pulse 100, temperature 96.6° I injected a hundredth of a grain (two $\frac{1}{200}$ gr. B., W. and Co.'s tabloids) hyoscine at 4.15 P.M. This began to take effect in twenty minutes, and in half an hour the patient was fast asleep. She slept six hours, and remained quiet and dozing throughout the night.

Next day she was quiet and took nourishment well. Her tongue was moist and less furred than it had been. At 9 P.M. the pulse was 92 and the temperature 98.2°. The pupillary inequality was increased, and there was some tremor of the right hand. The patient had a frightened, restless look, and asked to be taken away. There was some bronchial wheezing. A diaphoretic and diuretic mixture with bark was given; also an aperient draught to be taken in the morning. When seen on the 21st she had slept all night without any hypnotic. She looked better and the oral droop had disappeared, though there was still some tremor of the right hand at times. Frightened facial expression much diminished. The patient was able to converse coherently about present and past events. Less desirous to be sent away. Pulse 84, temperature 97.4°.

On the 24th she looked, and said she felt, very much better. She slept well every night and a little in the daytime. She gave me a coherent account of her past life, and of the symptoms which led to the erroneous idea that she was pregnant, and she was being very kindly treated at home, and was anxious not to be taken away. She remains well mentally at time of writing (August).

Liverpool. JAMES SHAW, M.D.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

STATION HOSPITAL, NAINI TAL, INDIA.

SEVERELY MAULED AND CLAWED BY A WOUNDED TIGRESS: RECOVERY.

(By Surgeon-Captain M. O'HALLORAN, A.M.S.)

—, aged 27, wounded a tigress with a 0.303 Jeffrey's bullet, on December 8th, 1896, in a jungle about fourteen miles from Jubbulpore. The bullet entered the chest on the left side "over the heart," and passed obliquely in a backward direction. The animal rushed through the jungle for a short distance. A. immediately proceeded to follow her up, accompanied by a friend, when he soon found her lying down among some brushwood. He fired a second shot with a 0.303 rifle. The bullet struck the abdomen, causing the infuriated beast to charge, during which she received two more bullets from the friend's 0.500 Express, one of which hit her in the chest, and the other blew away a fore claw while she was in the act of springing through the air towards the subaltern, whom she knocked down and seized by the right elbow. She mauled and clawed him until she was shot (at very close range) through the head by A.'s friend. Shock was almost *nil*, but he felt most acute pain during the mauling. There was considerable bleeding from the elbow, which unluckily was quite bare, as he had previously taken off his coat and rolled up his shirt sleeves. He was brought to hospital on a native bed, and was seen about 9.30 P.M., nearly seven hours after he received his injuries. Hæmorrhage had practically ceased, but the elbow and forearm were very much swollen and painful. A hypodermic injection of morphine was given at once. Though the joint was exceedingly painful on passive motion, no fracture could be detected. He had several deep punctured and lacerated wounds around the elbow, caused by the animal's canine and lateral incisor teeth, and in most places the lacerated muscles were protruding. One of the wounds, which was about 3 inches in length, was situated across the front of the elbow-joint. It was more superficial than the rest, and almost completely denuded the brachial artery, which was seen pulsating. The arm was carefully washed with carbolic acid lotion (1 in 20), and all the wounds thoroughly syringed with mercury perchloride lotion (1 in 1,000). In a few cases I divided the skin and subcutaneous tissue between adjoining wounds on a director, as they were found to communicate freely, thus facilitating the application of antiseptics and providing for the free discharge of pus which was certain to follow. He bore the pain remarkably well without an anæsthetic. Iodoform and antiseptic dressings were then applied, and the arm was bandaged in a semiflexed position.

Attention was next directed to the claw wounds, which were not so severe. Four of these wounds were situated on the posterior aspect of the middle third of the right thigh; though extending well into the hamstrings it was not considered necessary to make incisions. The wounds were carefully syringed and dressed antiseptically, as in the case of the elbow. One superficial claw wound, about the size of a shilling, was found on the chest wall, to the right of the sternum, and there was a smaller one in the lower portion of the epigastric region on the left side, which did not penetrate the abdominal wall. Both of these wounds were washed with antiseptic lotion, cauterised with silver nitrate, and dressed with iodoform. There were a few bruises about his body and extremities. The pulse was 62 per minute and fairly strong; the temperature 100.4° F., probably due to malaria, brought on by a chill while he was being carried to hospital. Injectio morphinæ hypodermica ℥iij was again given for the relief of pain, and during the night he got pulv. opii. gr. j, but slept little.

All claw wounds were completely healed in less than a fortnight without suppuration. The elbow wounds suppurated on the fourth day, and fever continued till December 30th. At one time it rose to 103.4° F., and there was intense inflammation of the entire arm with marked œdema of the hand. It was feared that septicæmia was about to set in, but the discharges, though profuse, continued to be healthy, and all inflammatory symptoms rapidly disappeared. All wounds were quite healed on January 30th, 1897. During the course of the disease antiseptic dressings were employed.

When the wounds were healed there remained great loss of motion and some swelling, due no doubt to the inflammation of soft tissues, periostitis which chiefly affected the upper portion of the ulna, and synovitis of the elbow-joint. Passive motion was begun within a fortnight after the injury, and kept up almost daily until March 8th, when he left for England on medical certificate. During this time he made wonderful progress. The arm was getting stronger daily and deformity was decreasing. The forearm could be almost completely flexed and pronated, but extension and supination were more limited. After all adhesions are broken down he should have a very useful arm.

REMARKS.—The chief points of this case are (1) the escape of the brachial artery; (2) the absence of fracture, although the incisors, which were driven home, measured over $2\frac{1}{2}$ inches in the upper and 2 inches in the lower jaw; (3) the absence of septicæmia, which is about the most common cause of death in tiger bites; (4) non-suppuration of claw wounds. A common idea prevails among sportsmen that claws are even more dangerous than teeth owing to the presence of dirt and decayed animal matter; in this case it is probable that protection was afforded by the clothing; (5) the saving of the

with only slight deformity, and a useful joint, doubtless to antiseptics and early passive motion.

injury being of recent origin, for obvious reasons it was considered advisable to break down all adhesions under anæsthetic, as passive motion gave rise to some pain, which was daily diminishing.

From the sportsman's aspect a few words might not be amiss. "Over the heart" is rather vague, for in this case the original bullet entered the chest well behind the left shoulder, and as it passed backwards in an oblique direction the heart could not have been injured. The 0.303 Jeffrey's bullet is not to be condemned on that account, more especially as the animal received one other wound in the "chest" from a 0.500 bullet (Express) without apparent injury to its mauling powers. Animals drop readily enough when these bullets pass through the chest in a transverse or forward direction, and I have found that tigers are no exception when shot in this manner with a 0.500 Express. Recent accounts show that the new .303 Dum Dum bullet, which differs in some respects from the "Jeffrey's," is very effective against large and dangerous game, and seems to "set up" in a remarkable manner.

WATLINGTON COTTAGE HOSPITAL.

THE TREATMENT OF HARE LIP WITH SILVER WIRE AND AVELING'S SHOT AND COIL.

(By JOHN MCOSCAR, M.R.C.S., L.R.C.P.Lond., Surgeon.)

MRS. W. brought her baby, aged 11 months, with a simple left hare lip. She was admitted on July 13th into the hospital, and given a day or two to settle down in the new quarters. On July 14th when seeing her the nurse told me she did not think it would be much use operating, as the child did nothing but cry, and she thought no sutures would hold. However, on July 14th, after an anæsthetic, I pared the edges and brought them well together with two silver sutures secured with Aveling's shot and coil, using two other fine silk sutures. Having applied over the wound a thick layer of collodion and iodoform I place a broad piece of adhesive plaster over both cheeks and the wound. Even with a sedative mixture every four hours of chloral and bromide the child cried very much when awake.

I determined to leave the sutures as long as possible, and did not remove them until July 19th, when the wound was perfectly united and quite aseptic, with no suppuration. Having applied another application of iodoform and strip of plaster, I left this until July 24th, when I found the wound then perfectly sound. Replaced the plaster, to be kept on for another week.

REMARKS.—The use of Aveling's shot and coil suggested itself to me in such cases as most useful owing to the tension needed and the spring action of the coil. The iodoform and collodion also is a capital cement and antiseptic application.

REVIEWS.

DISEASES OF THE GALL BLADDER AND BILE DUCTS. By A. W. MAYO ROBSON, F.R.C.S. London: Baillière, Tindall, and Cox. 1897. (Demy 8vo. Pp. 150, with tables of cases, pp. 27. 7s. 6d.)

THIS book is the outcome of thirteen years' study, and 170 operations; the work of one of the most distinguished surgeons in England, who has won his laurels on the whole field of surgery. That is part of the excellence of these lectures: they appeal, all of them, to the general rules of good surgery, and find guidance in them through all the difficulties of operations on the gall bladder and the bile ducts; they do not present this part of surgery in a mysterious fashion, as something remote from general surgical practice, but they are themselves a notable example of what great success may be attained in a special pursuit by a surgeon who has mastered the whole of surgery. Whether all surgeons can be as skilful as Mr. MAYO ROBSON is another question; but so far as concerns these operations on the gall bladder and the bile ducts, henceforth it will not be his fault if they are not. And the excellence of his work is so sure, that in the absence of malignant disease, deep jaundice, or inflammation of the bile ducts, he has never lost a single patient after any operation for gall stones.

He has so carefully arranged his subject that these lectures are most pleasant reading; nothing is left out, everything is in its right place, and he has the art of compelling us to see all that is especially worth seeing. After a general introduction and a good account of the anatomy of the parts come the inflammatory affections, then intestinal obstruction, then tumours, then the surgical treatment of gall stones.

In the ordinary operation for opening and draining the gall bladder, he emphasises the fact that we must fasten the edges of the open gall bladder not to the skin but to the aponeurotic layer of the abdominal wall: "since adopting this method I have never had a fistula to follow cholecystotomy, if the ducts have been cleared." In the operation for making a communication between the gall bladder and the intestine, he uses a Murphy's button, and has given up using for this operation the bobbin that he invented. He is careful to note the almost hopeless risk of operation in cases of malignant disease with extreme jaundice, and the grave risk of all tedious operations and rough handling of the parts.

The illustrations are excellent, and there is a full tabulated statement of all his cases. The names of these operations on the gall bladder and bile ducts are terrible, fit only for Welsh villages; for example, choledocholithotomy and cholecystenterostomy; and cholelithotripsy has betrayed Mr. Robson himself, on page 123, into the only misprint in the whole text. One must unravel these names, and treat each group of syllables by itself; and in the end it would be quicker to say, instead of choledocholithotomy, the removal of a stone by opening the common duct.

It would be hard to praise this book more than it deserves; and if anything in surgery could be called final, this title might fairly be given to Mr. Robson's work.

A HANDBOOK OF MEDICAL CLIMATOLOGY. By S. EDWIN SOLLY, M.D., M.R.C.S., late President of the American Climatological Association. London: J. and A. Churchill. 1897. (8vo, pp. 470, 11 map-plates. 16s.)

SAMUEL JOHNSON, when told by Boswell that a certain person was unwilling to return from the south of Europe, probably on account of the fine climate, said he did not believe in the alleged reason. "What is climate," he asked, "to happiness?.....What proportion does climate bear to the complex system of human life?" We can answer that if the preservation of health plays any part in human happiness—and the idea of the *mens sana in corpore sano* is no new one—then certainly climate, if properly used, can claim some influence on human happiness. It can in fact claim a share equal to that of most other therapeutic means, and, perhaps, scarcely yields in importance to any except to modern sanitary science, which, by the prevention of disease, has already done much, and must soon yield still greater results.

Since therefore medical climatology is so important a part of therapeutic science, we must admit that Dr. SOLLY is justified when he objects to the constant prescription of climates by medical men who have made no special study of the subject. "Why, then, should a physician presume," he says, "as so many do, to prescribe a climate without having acquainted himself with the meteorological facts and climatic data, and with their meaning and significance?"

We cannot here speak in detail of Dr. Solly's work and the particular regions and places he treats of. First come general principles of climatology, the influence of physical agents upon the healthy organism, ethnology, the geographical distribution of disease, and the classification of climates. The author then discusses the different forms of disease as they can be influenced by climate, and, finally, in Section III, deals with the medical bearings of the climates in the various regions and health resorts of the world.

Special features of Dr. Solly's work are the two large portions of it which he devotes to the subject of pulmonary tuberculosis, this most important disease of the human race, and to the climate of North America. Here the five maps of the rainfall for spring, summer, autumn, winter, and the whole year, in the United States, will be found useful; the relief

maps for this continent, as well as for the other continents of the world, must be specially noted.

For English readers, this book on general medical climatology has the advantage over other books of having been written by an English medical man, resident in another part of the world, who has made the subject his special study for a great number of years. He says the volume "is not limited to the climatology of any country, but essays to report the typical climates of the world. Comprehensive and comparative climatic studies have been introduced, with tables affording opportunities of comparing European and American climates. A twofold benefit is derivable therefrom, for in the first place American Government investigations throw additional light on the principles of climatology, so that physicians have a broader basis on which to found climatic prescriptions; and, secondly, in comparing the better known European resorts with those of America, the physician can form conclusions from data beyond the reach of local prejudice and interest." The author thinks it possible to prescribe a climate with as much precision as a drug, and with far greater effect in appropriate cases. He has, as he says, sought far and wide for facts, and has deduced theories and practical conclusions from them, which he hopes may be of service to physicians who prescribe travel, to travellers themselves, and to the rising generation of medical students. The book is certainly an important contribution towards the establishment of general principles in the subject with which it deals. It may be noted that accounts and analyses of several mineral waters are included in the work.

La Cure d'Altitude. [Treatment by High Altitudes.] Par le Dr. Paul Regnard. Paris: Masson et Cie. 1897. (Roy. 8vo, pp. 446, 29 plates and 110 figures. 15 francs.)

This is a comprehensive treatise, admirably arranged, and written in the clear, entertaining manner with which readers of French medical works are familiar. A minor defect, common in French books, is that it lacks an index, and for reference its utility is consequently somewhat impaired.

Much space has been devoted to the effects of altitudes on the blood, a subject on which the author has done good experimental laboratory work. For instance, by subjecting animals for a long period to an atmosphere containing more oxygen than ordinary air he found that a diminution in the number of their red blood corpuscles slowly took place. Sellier's previous experiments had given uncertain figures. Regnard's results were especially important as confirming the most likely explanation of why the red blood corpuscles increase in number on residence in high altitudes.

With this subject the names of Paul Bert, Viault, and Egger are amongst those specially associated. Whether an increase in the amount of hæmoglobin accompanies the increase of corpuscles is not absolutely agreed on by the different observers. Certainly the hæmoglobin does not increase in the same proportion as the number of red corpuscles; but it is probable that those observers who failed to find any increase at all in the percentage of hæmoglobin have, in most cases at all events, not waited long enough. The French explanation is that the lessened tension of oxygen in the air, and the consequent diminution of oxygen in the circulating blood, cause a definite vital reaction to take place. Large numbers of microcytes are formed, which gradually increase in size, gain in hæmoglobin, and develop into ordinary red blood corpuscles. Hence the blood becomes gradually richer in hæmoglobin and can absorb more oxygen. The general nutrition of the body is increased, and the tissues, besides other changes, become more resistant to the tubercle bacillus. When the patient descends from the mountains to the plain the proportion of red corpuscles and hæmoglobin gradually sinks to the normal standard, but not below it, though the patient was probably anæmic before he came for tonic treatment in the mountains.

Like the majority of authorities on the subject, Dr. Regnard believes that diminution of oxygen is an indispensable factor in the causation of true mountain sickness. In order, however, to prove the joint part taken by fatigue in its production, he has devised an ingenious experiment. Two guinea-pigs are placed under an air pump, but one allowed to rest and the other made to run in a revolving wheel. As long as the air is not exhausted beyond the degree equivalent to that at an altitude of 3,000 metres, both animals appear well; but when the air is rarefied to resemble that at 4,600 metres (the top of Mont Blanc), the guinea-pig in the wheel tumbles down panting on its back. At last, when the equivalent of an altitude of 8,000 metres (Himalayas) is obtained, the other animal becomes agitated and rolls on its back. Air is then allowed to enter, and both animals recover, but the guinea-pig in the wheel is much slower in doing so than the one which has been doing no work.

The second part of the book, which the author calls "Hypsiatrie," derives especial value from his having himself visited the different climatic stations he describes. He points out the absurdity of supposing that in most cases a stay of twenty-one days in the mountains is sufficient for the "cure." During occasional foggy and rainy weather it may be very disagreeable in mountain resorts, but Dr. Regnard points out that if patients fly to spas at lower elevations they may find equally bad weather there, more mud, and less pure air.

The altitude (1,069 metres) given below the frontispiece picture of the Little Scheideck is evidently a misprint for 2,069 metres.

Wounds in War: the Mechanism of their Production and their Treatment. By Surgeon-Colonel W. F. Stevenson. London: Longmans, Green, and Co. 1897. (Demy 8vo, pp. 419, 86 illustrations. 18s.)

This book is of the very highest value not only to military surgeons, but to all engaged in the practice of surgery; and it has a yet wider field of influence, for no educated man could read it without profit to himself. From beginning to end, it appeals straight to experience; it is the work of a master of his subject, who has come by constant study of it to teach it with authority. The book arose out of Surgeon-Colonel Stevenson's lectures at Netley, and it has all the completeness and order of a really good course of lectures: the arrangement and proportions of the details are excellent, and nothing is left out, unless we may count it an omission that he does not speak of the Roentgen rays. The book is written in a very clear and pleasant style, and it has the very best of illustrations and of type.

Starting with general consideration of the mathematical laws of projectiles—rather hard reading—Surgeon-Colonel Stevenson goes on to the usual characters of gunshot wounds, and the special features of those that are made by modern hard-mantled bullets; the "stopping power" of the weapons of the present day; the fallacies of belief in "explosive injuries" and in "wind contusions"; the rules of exploration of the wound, and many other points of great importance. Then he comes to the main theme of his work, the regional surgery of gunshot wounds. Every chapter is admirable, full of hard facts, experience, and true surgical instinct. The last two chapters of the book, on the effects of the use of modern small-arms in the wars of the future and on the Geneva convention, are too good to be kept for surgeons only—everybody ought to read them.

The whole book is dominated by two great contrasts—one between the old weapons and the new, the other between surgery before Lister and surgery after Lister; and these contrasts make the book delightful to read. It is indeed one of the best contributions of our time to the literature of surgery, so accurate and so authoritative that it will for many years be accepted as the best of all guides through the difficulties of the battle-field—not a book made out of other books, but a book out of which other books will be made.

Erklärung des Stotterns, dessen Heilung und Verhütung. [Explanation of Stammering, with its Cure and Prophylaxis.] Von Dr. Ferdinand Gruenbaum in Dresden. Leipzig: B. Konegen. 1897. (Demy 8vo, pp. 63.)

The author begins by drawing attention to the comparative frequency of stammering, and to the slight efforts which are made towards its cure in the earlier stages of the disease. He gives a short account of the history of the study of stammering, and then proceeds to the discussion of its causes. Dr.

ENBAUM apparently accepts the spastic theory to account he affection, but naturally lays much stress on neuro- c predisposition, on the effects of mental shock such as t, grief, etc., and on imitation.

he treatment would appear, in the author's opinion, to be iefly suggestive, including hypnotism, but he also empha- ises the importance of improving the general health. He almost ridicules the treatment by respiratory and graduated exercises, so well given in Ssikorski's work; but it must be remembered that planned exercises have been of service in other spastic affections such as writer's cramp. Prophylaxis is very properly insisted upon.

TWENTIETH CENTURY PRACTICE. By Leading Authorities in Europe and America. Edited by Dr. THOMAS L. STEDMAN. Vol. ix. London: Sampson Low, Marston and Company, Limited. 1897. (Roy. 8vo, pp. 820.)

THE ninth volume of this encyclopædia contains the following groups of diseases of the digestive organs: (1) Diseases of the Mouth, by Professor Mikulicz and Dr. Kummel; (2) Diseases of the Intestine, by Professor Ewald, of Berlin; (3) Hernia, by Professor Gibney and Dr. Walker; (4) Diseases of the Spleen, by Dr. A. Stengel; (5) Diseases of the Liver and Biliary Passages, by the late Professor Semmola and Dr. Gioffredi; (6) Diseases of the Gall Bladder and Ducts, by Professor Murphy, of Chicago; and (7) Movable Kidney, by Mr. Kendal Franks.

Diseases of the mouth fall chiefly under the headings of glossitis, phlegmonous processes, and tumours. Tumours naturally occupy the largest space, 73 out of 95 pages being devoted to them. The operative treatment is mostly given only in outline, as in other parts of this work. A word of warning is wisely given in reference to antisyphilitic treatment in doubtful cases of malignant disease, as valuable time must not here be unnecessarily squandered away. We miss, in this place, any account of syphilis and tuberculosis of the mouth.

Diseases of the Intestines, under the authorship of Professor Ewald, are, as might be expected, well described. They are preceded by remarks on general therapy, methods of examination, and general symptomatology. The very important subjects of appendicitis and intestinal obstruction receive very considerable attention. Ewald is inclined to range himself with those who would deny the existence of a stercoral typhlitis, but he opposes those who would adopt operative treatment indiscriminately in appendicitis. The best results are, in his opinion, obtained by a judicious combination of medical and surgical treatment as the individual case requires.

It is refreshing to see that Professor Ewald protests against withholding morphine in some painful and distressing abdominal affections. The reaction against morphine has been excessive, and if the drug is used rationally it should not deceive the skilled observer. One cannot but notice that although the author's meaning is never in doubt, yet the style is uneven, distracting the attention by somewhat un-English expressions and too literal translations. A short chapter on diarrhœa (although only a symptom) would have been acceptable. Functional disturbances of the intestine are fully discussed.

Hernia of all forms and kinds receives a very full and careful treatment. Diseases of the spleen are dealt with under the headings of movable spleen, inflammation and congestion, infarction, rupture, degeneration, tumours and parasitic diseases. Splenic leukæmia is described elsewhere.

Diseases of the liver are preceded by general considerations on the anatomy, physiology, general pathology, and general symptomatology. The account of the functions of the liver is extremely good, and includes much knowledge of more or less recent acquisition. The account of the pathology of icterus is also a good one. Biliary lithiasis is only considered here under its etiology, physical characters, and pathogenesis, the remaining parts being dealt with by Professor Murphy under diseases of the gall bladder, but notwithstanding this arrangement there is still some overlapping. Diseases of the gall bladder and ducts are fully described, and fairly reflect the various advances that have been made in this field during recent years.

This volume maintains the high reputation of its predecessors, and constitutes undoubtedly a valuable work of reference.

LES ARTÉRITES ET LES SCLÉROSES. [Arteritis and Sclerosis.] Par A. BRAULT. Paris: Mason et Cie. 1897. (Cr. 8vo, pp. 167. F.3.)

THE relation of vascular disease to various morbid processes has been much discussed of recent times, and perhaps there has been a tendency to overrate the part played by arterial disease. In M. BRAULT'S work this subject is discussed lucidly and in considerable detail. In the first three chapters the question as to whether there is any relationship between acute inflammation, nodular inflammation, and chronic inflammation respectively on the one hand and arteritis on the other is investigated. The conclusion arrived at in all these cases is that no causative relationship exists between them. The last three chapters deal with the pathogenesis of sclerosis. The author altogether disbelieves the view than an arterio-sclerosis spreading, so to speak, from the larger arteries into the viscera (visceral arterio-sclerosis) is the cause of the sclerotic changes in these viscera. He maintains that where there is irritation either of a toxic or infective nature there sclerosis may be developed, and that sclerosis is never really primary in character, though the lesions in the parenchyma and interstitial tissue may develop alongside each other. Some undoubtedly will think that M. Brault pushes his conclusions at times too far; but, on the other hand, the justice of his criticisms can often not be denied. That there is in some inflammations of the spinal cord a remarkable limitation of the inflammatory process to a given vascular territory seems to be an established fact, and in these cases considerable and acute vascular changes are also present. This book contains much interesting information, and is well worth reading.

LEHRBUCH DER VERGLEICHENDEN PATHOLOGIE UND THERAPIE DES MENSCHEN UND DER HAUSTHIERE. [Textbook of the Comparative Pathology and Treatment in Man and Domestic Animals.] By Professor Dr. G. SCHNEIDEMÜHL. III Lieferung. Leipzig: W. Engelmann. 1897. (Roy. 8vo, pp. 449-688. M. 6.)

THIS volume constitutes the third part of this textbook, the fourth and last part being due towards the end of the present year. We have already noticed Parts I and II.

Part III deals with diseases of the digestive organs, respiratory and circulatory diseases, and a few diseases of the nervous system such as the circulatory disturbances in the brain and meningitis. The main differences in the digestive diseases in man and animals, due to anatomical peculiarities, are well brought out. Diseases which are much more common in or peculiar to animals receive a sufficient attention. Therapeutics in regard to animals are unfortunately not infrequently rather hopeless, and the treatment of diseases in man is only here outlined in the most summary manner. Part III maintains the efficiency already noted in the other two parts, and the work is a valuable one, especially for those wishing to compare disease as it affects man and animals.

CHIRURGIE DES CENTRES NERVEUX. Par le Dr. L. GLANTENAY. Paris: J. B. Baillière et Fils. 1897. (In 18-jésus, pp. 300. 5 frs.)

THIS is an excellent little guide to the surgery of the brain and the spinal cord. It does not give the details of operations, nor any cases, therefore it is not a book for emergencies. But he who wishes to know what is being done by surgery for the relief and cure of diseases of the brain and cord cannot do better than read Dr. GLANTENAY. Like most of the French surgeons, he has written in admirable style, simple and straightforward. Senior students and those preparing for examinations, and men hindered by the exigencies of practice from the study of longer and deeper books, will find in this work everything that they want of the principles that guide surgeons toward operation and toward success in treatment

of these diseases. The account of the inflammations of the brain that come of middle-ear disease is one of the best parts of the book. The few illustrations are well chosen.

NOTES ON BOOKS.

Medical and Surgical Reports of the Boston City Hospital. Eighth Series. Edited by Drs. G. B. Shattuck, W. T. Councilman, and H. L. Burrell. (Boston: Published by the Trustees. 1897. Roy. 8vo, pp. 391).—This volume of reports contains articles on diphtheria, by Drs. Collom, Curry, and Leary respectively; a paper on the morbid anatomy of acute and subacute nephritis, by Dr. Councilman; a study of 100 cases of pericarditis, by Dr. G. G. Sears; a paper on the later results of fracture of the skull, by Dr. W. N. Bullard; a bacteriological investigation into 312 cases of surgical infection, by Dr. J. J. Curry; a study of the blood in rickets, by Dr. J. L. Morse; and many other papers of interest. The classification of nephritis is still unsatisfactory, so that a careful contribution to the morbid anatomy of the different forms of the disease is of importance. An article on the *x*-rays, by Dr. F. H. Williams, contains an investigation into the applicability of this new method of diagnosis to some more or less obscure chest affections. Dr. Shattuck concludes that the serum test will probably prove itself a useful aid to the diagnosis of typhoid fever. These reports contain a great deal of information upon subjects demanding attention at the present time.

Jahresbericht ueber der Fortschritte der Diagnostik im Jahre 1896. [Annual Report on the Advances in Diagnosis in 1896.] By Oberstabsarzt E. Schill, in Dresden. Leipzig: B. Konegen. 1897. (Cr. 8vo, pp. 254. M. 5.60.)—In this book German literature is much more largely drawn upon than that of any other country, but French and English periodicals are also represented. If some of the prominent advances in diagnosis during 1896, such as the application of the Roentgen rays to this end, the serum diagnosis of enteric fever, etc., are looked up in this retrospect, the information about them is found to be adequate, and the material well selected. The abstracts are short but sufficient. The book certainly reflects the advances made during the past year.

Royat Medical Guide. By G. H. Brandt, M.D., and J. Gerton Brandt, M.D. Fourth edition. (Long form 8vo, p. 60, 10 photos, with map.)—This little work gives a short account of Royat, its climate and surroundings, and its mineral waters. The bathing establishments and arrangements for treatment are likewise described, and notes of different types of cases treated at the spa have been added. The authors divide the majority of cases benefited at Royat into two groups: (1) Those where there are any gouty manifestations; (2) patients with general debility, anæmia and chlorosis, for whom the iron and arsenic of the springs and the climate of Royat are specially likely to prove useful. An arrangement is mentioned by which patients with cardiac affections can be given baths of the Eugénie water, made to strongly effervesce by means of a finely perforated tube placed in the bottom of the bath, and connected with the reservoir of carbonic acid gas. Readers who have not had the opportunity of visiting Royat will be able to get some idea of its appearance and its buildings from the numerous heliotypes used for illustration.

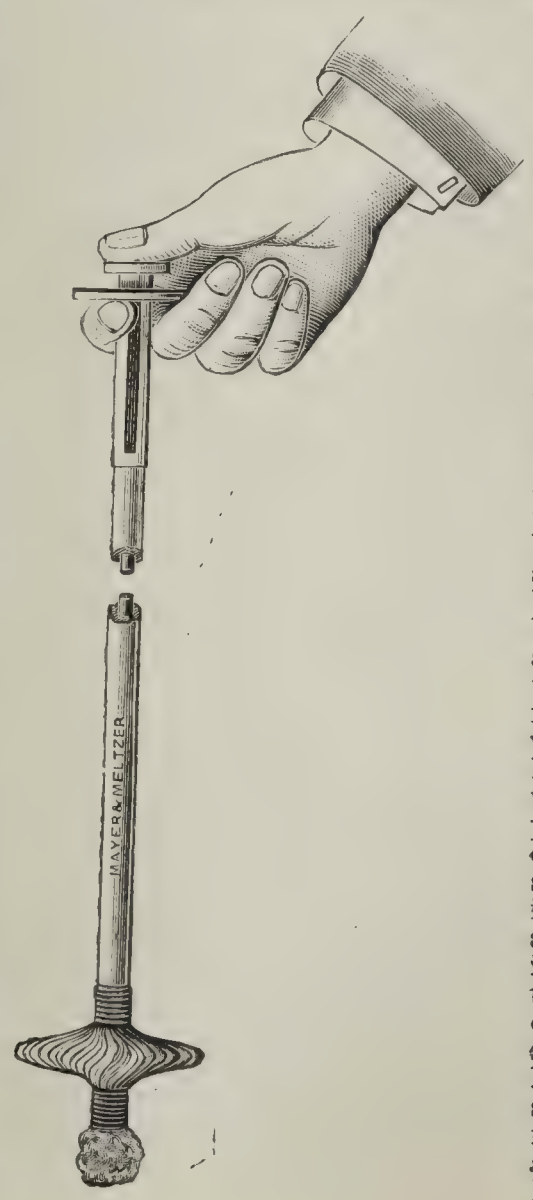
REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

CRADLE FOR HARE-LIP.

Mr. P. Clennell Fenwick, of Christchurch, New Zealand, forwards a clear photograph of a small cradle which he has devised for the after-treatment of hare-lip patients. It consists of an iron hoop from the arc of which hangs an elastic band, the free end of the latter being fixed to a bandage surrounding the child's head. The elastic is arranged to allow the head to rest quite comfortably on the pillow, but

prevents the child moving into any other position, and so from rubbing its lip against the pillows, etc. It will probably prove of use in cases where the nursing is deficient or amateurish.

AN IMPROVED ŒSOPHAGEAL PROBANG.



A modification of the umbrella probang has been devised by Mr. C. S. Mayhew, with the object of obviating the well-known difficulties experienced in the use of the ordinary pattern, namely, the premature opening during insertion and of opening and withdrawing which necessitates the use of both hands. The probang is constructed in the usual way, so far as the bristles, catheter, etc., are concerned, but the end which is held by the operator is so arranged that the whalebone does not protrude, but terminates about an inch from the end of the catheter, and is fixed to a disc by a pin which passes through lateral slits in the catheter. When inserting the probang it is held by the end beyond the disc, and so prevented from opening; it is then opened and withdrawn by pressing on the end with the thumb. By this means one hand is free to steady the patient's head, or to hold a tongue spatula or gag. It is made by Messrs. Mayer and Meltzer, of Great Portland Street.

THE WEST INDIES AS A HEALTH RESORT.

MEDICAL NOTES OF A SHORT CRUISE AMONG THE ISLANDS.

II.

Grenada.

Grenada is a beautiful British health resort, of which far too little knowledge is available. I will therefore endeavour to supply some data. When in the summer it grows too hot at Trinidad for life to be enjoyed, a trip to Grenada is often undertaken by the well-to-do inhabitants of Port-of-Spain. Lying two degrees further North, and one of the group of the Windward Islands, where sea breezes never cease to blow, the umbrageous and well-watered island of Grenada is a delightful resort to those on whom the summer heat of the tropics is beginning to tell. Here the mean average temperature is 79.5° in the shade; in five years the shade temperature has not risen at any time of the year above 93° nor fallen below 67°. From December to May, that is in the dry season, the climate is acknowledged to be delightful. The rainy period is not excessive for a tropical island, the annual average being about 79 inches. In the wooded uplands it is more, and in the neighbourhood of the Grand Etang it has risen in some years to nearly 200 inches. From the centre of the island rises Mount St. Catherine to the height of 2,749 feet, and its spurs form a series of romantic valleys, through which flow numerous streams. There are good driving roads and many well-kept by-ways through the island, so that it can be traversed in every direction. The island is volcanic, and on the summit of mountain ridges are found deep lakes filling up old craters. The most remarkable of these is the Grand Etang, situated at a height of 1,740 feet above the sea level; the harbour of St. George is also an old crater. Into this and the neighbouring bay sharks, however, do not enter, so that the most perfect sea bathing can be enjoyed. There is a plentiful supply of water of the purest quality; indeed, in this and every other respect Grenada may fairly lay claim to serious consideration as a winter health resort.

The island, which bears the attractive title of "the Spice Island of the West," is closely cultivated by its negro peasant proprietors. Among its leading products are cocoa, coffee, kola nut, cloves, vanilla, pepper, cardamoms, cocoa nuts, tropical fruits of every description, yams, sweet potatoes, tamas, kush-kush, pigeonpeas, plantains, Indian corn, cassava, bread fruit, etc. There is surely no chance of starving in the beautiful island of Grenada, but the meat-eating Briton need not fear being obliged to subsist on a vegetarian diet, for the green pastures of the well-watered valleys produce excellent beef and mutton; indeed, live stock is bred to such an extent by the intelligent cultivators of Grenada, that goats, sheep, pigs, and poultry are exported.

The picturesque little town of St. George is placed on the edge of a steep hill, descending on one side to the harbour, and on the other to the open sea. It has an air of peace and prosperity. Gay crotons and flowering shrubs are grown in the garden plots of the negroes, and as the women come streaming into town along the shady country roads, bearing the produce of their farms on their heads, they give the impression of being an intelligent, contented, and happy peasantry. Only 2 per cent. of the population are of European blood.

Grenada, which has a population of about 60,000, is well supplied with medical men and institutions. There are no fewer than four hospitals—the Colony, the Yaws, St. Andrew's, and Carriacou Hospitals, at which about 1,000 or 1,100 in-patients are treated annually. At the Colony Hospital pay-patients are taken. The principal diseases treated are malarial fever, ulcers, syphilis, anæmia, and tuberculosis. Yellow fever is unknown, and the drainage of well-known swamps—which is recommended by the Government medical officers—would probably do much to diminish malaria. There is also in Grenada a lunatic asylum for the Windward Islands, containing about 100 patients, and a poor asylum with 50 beds. In the service of the Government there are eleven medical officers, whose total salaries amount to £3,160. An enterprising hotel company, that would plant sanatoriums in its delectable spots, is required to develop Grenada as a health resort, and if this were done there is no reason why it should not become as valuable to the invalid and as much frequented as Madeira and Teneriffe. I commend this suggestion to the Government and the medical officers of Grenada.

Our sail between Grenada and St. Vincent was one to be remembered. The day was beautiful beyond description; the brilliant sun of the tropics shed its rays on a turquoise enamelled sea, slightly ruffled by the warm wind, which made a temperature of 80° give a sense of luxurious enjoyment. Lying idly on a long chair, while the *Lusitania* band discoursed music, one watched the islands of the Grenadines loom in sight through the sun mists, then grow large and clear as we passed under their steep and wooded heights. Surely such hours of unalloyed enjoyment, of genial warmth and sea breezes, are more agreeable, and often not less efficacious, prescriptions to the sick and convalescent than a thousand pills and potions.

St. Vincent.

St. Vincent is another fair island of the West, of stunted development and unused opportunities. Endowed by Nature with a charming winter climate, it is yet unknown as a health resort, and information concerning it is only accessible *de visu* or in Government returns difficult to obtain. The mean annual temperature is 79° in the shade; the highest reading in 1895 was only 87°, and all the year round the nights are said to be cool. The island is less steep than Grenada, and the wooded valleys culminate in two forest-clad volcanic peaks, the Soufrière and the Morne à Garou.

St. Lucia.

Another delightful day's sailing in the *Lusitania* brought us to St. Lucia. After passing the Pitons, two jungle-clad peaks of mountains rising 3,000 feet from the surface of the Atlantic, we steamed under the beautiful, mountainous, and verdant coast of St. Lucia till the harbour of Castries was reached. Here one is immediately struck by an unwonted appearance of business. Mountains of coal are heaped on the quay, negro and still more negress coolies are crowding the shore, large ships are lying at anchor. On the summit of the steep hill above the town extensive barracks are seen. This is indeed the explanation of the business of Castries, for St. Lucia has been chosen by the Government as the chief coaling station for the fleet in the West Indies. The verdant hill of the Morne is strongly fortified, and a large number of British and native troops with their medical staff occupy the barracks.

St. Lucia had at one time the evil reputation of an unhealthy climate, but it is earnestly contended that this reputation is undeserved. The death-rate is below 25 per 1,000, and "among white inhabitants consumption and other of the most fatal diseases of temperate climes are unknown." Malarial fevers are frequent, but generally of a mild type. Most of the illness, and the majority of the deaths among children, are attributed to intestinal parasites. "Water," to quote Dr. Dennehy, "is no doubt the vehicle of infection, and it is to be feared that all the streams of the island are infected with parasites, more especially with the ascaris lumbricoides."

Dr. Galgey carried out a most interesting and valuable investigation (recently published in these columns) into the cause of progressive pernicious anæmia,[1] which is very prevalent in the island, and a disease of extreme severity, particularly among the Indian coolies. After a careful *post-mortem* examination of a severe and typical case, he succeeded in isolating large numbers of the ankylostoma duodenale of Griesinger. Thymol was then tried on 23 patients suffering from ankylostomiasis with marked beneficial results. This disease is said to be caused by eating earth, the indulgence of a depraved appetite prevalent among coolies. This is, however, only one of the methods by which the parasite is introduced into the system; labourers working on a contaminated soil and eating with unwashed hands is a frequent cause of infection, but water is probably the principal medium through which the parasite infects man.

It is difficult to induce an ignorant coloured peasantry to care for the water they drink; but, considering there are six medical officers to supervise medically a population of only

[1] British Medical Journal, January 23rd, 1897.

46,000 inhabitants, and that St. Lucia has three hospitals and eight dispensaries, it should be possible to teach and preach from so many medical centres the "gospel of the teakettle," and to persuade the inhabitants to boil all drinking water, and thus free themselves and their children from a preventable disease. If this is impracticable, it might be possible to boil drinking water on a large scale at the dispensaries and to give to all who ask, or to purify it by means of the Pasteur filter. Patients suffering from fever, and lepers are treated at a small hospital on a contiguous island which was pointed out to me. It is strange to find that, in spite of the large number of patients who attend the dispensaries, the habit of consulting the "mesmerist" is still very common in Castries. So great is the faith of the people in the clairvoyant that, poor as they are, they are willing to pay for the indulgence of their superstition. Each so-called *séance* costs from 6s. to 8s., which fee is cheerfully paid, whereas the medical man thinks himself lucky if he gets half his fee when —the mesmerist having failed in his treatment—he is called in at the last moment, possibly to save an inquest.

St. Lucia offers a fine field to the emigrant or convalescent, agriculturist or horticulturist. Only one-third of its fertile lands is cultivated, and the Crown lands, capable of growing anything and everything, can be had at £1 an acre or less. The barracks are placed in a very healthy site on the summit of the steep hill called the Morne, from which are commanded fine views over sea, mountain, and valleys, while enjoying the hospitality of the medical officers. Dr. Dennehy, the colonial surgeon, took me with just pride over the Victoria Hospital, which is charmingly placed on a hill exposed to all the winds that blow; and to Dr. Otho Galgey I was indebted for great kindness and hospitality. Here, as elsewhere, the British Medical Journal is a bond which binds medical men of the most distant colonies to their brethren and fellow associates of the British Medical Association in the old country.

Yet another day of beauty and enjoyment was spent in sailing summer seas from St. Lucia, round the famous Diamond Rock, beneath the mountainous shores of Martinique to Dominica, forest clad, with its cliffs and peaks wreathed in clouds and mist.

Dominica.

Dominica is the fairest and the most fertile, perhaps, of all the West Indian Islands, and the most richly endowed by Nature, and yet it is uncultivated, abandoned by the English settlers, and in a state of bankruptcy. But an island which so nearly reaches perfection cannot long remain uncultivated and unvisited.

So healthy is Dominica that the death-rate is only 15 per 1,000; the climate is so good and equable that it is one of the comparatively few tropical places where Englishmen can permanently settle and labour. The mean temperature is about 80°, but on the hills the air is much colder and very bracing, so that Froude, who gave an enthusiastic account of this island, said the air is "as clear and exhilarating as champagne." The nights are always cool, and, as there are no noxious evening vapours, it is quite safe to sit out of doors in the evening. The soil is porous, the air salubriously affected by emanations from the sulphur springs; there is everywhere an abundance of pure water, and noisy torrents are heard brawling through every valley; mosquitos, ticks, and leeches are conspicuous by their absence, and there is not a poisonous snake in the whole island; the rivers abound with fish; the rich soil will produce almost any crop; but the plaintive song of the *siffleur des bois*, heard in the silent forests, above the soughing of the waving heads of the stately and abundant tree-ferns, rises like a wail over a bounteous and beautiful island neglected and forgotten.

Dr. Nicholls has shown by his plantations what can be done by intelligent cultivation of the soil; Sir Robert Hamilton, who went to Dominica in 1894 to report on the island, gave a most encouraging account of it as a field for emigration; Mr. Atwood speaks of the sulphur springs, which were much used by invalids in the days of the French occupation, when many rheumatic and paralytic patients resorted to them. The baths erected at the springs have been allowed, as everything else in Dominica, to fall into ruins. Mr. Chamberlain has promised help to Dominica. One of her earliest needs is an hotel or sanatorium, so that visitors and invalids may be able to stay and enjoy the perfect winter climate and the wonderful beauties of scenery and vegetation. Until Dominica has roads and hotels it remains as a health resort a *terra incognita*. What it might be even the most careless can see, but only those who have faith and imagination venture to predict the greatness of Dominica when her magnificent possibilities are recognised and developed.

We found friends here, settled in a bungalow on a cocoa estate, pitched about 600 feet up an umbrageous valley, over a brawling torrent. Hither they have come for four successive years from Toronto, in Canada, for health and the enjoyments of a perfect winter climate. They declared that after many far-travelled experiences, and in spite of the fact that there are but sixty white people in the island, that there are no roads, and no fashionable amusements, they were never so well, never so happy as in beautiful Dominica, and had nowhere found so perfect a winter climate.

NOTES ON HEALTH RESORTS AND SANATORIA.

RUSSIAN SPAS.[1]

Piatigorsk is the most important of the Caucasus spas, the largest town in the district, and the place of residence of the director and committee of management of the four chief groups of Caucasian waters, namely, Piatigorsk, Jeleznovodsk, Essentuki, and Kislovodsk, all of which are under a special State Department. Dr. Clemow's little pamphlet on Russian spas was published in time to be made use of by English members of the Moscow Congress who wish to take advantage of the special facilities afforded by the Government to visit the Caucasus spas, for which a great future as health resorts is predicted. According to him there is considerable annual rainfall at Piatigorsk, but this falls mostly in the early spring and late summer. The winter is often as cold as in St. Petersburg, and visitors begin to leave the town at the end of August, though the official season lasts to the middle of September. The town lies at an altitude of about 1,685 feet on the south-western slope of the Mashuka Hill, an outspur of the great Caucasian range. It is amidst beautiful scenery, and faces the snow-clad mountains with the peak of Elbruz, over 18,000 feet. The waters are thermal, muriated-sulphurous (85° to 116° F.), containing common salt, carbonate of lime, and 2 to 13.2 mg. of sulphuretted hydrogen in the litre. They are employed in chronic rheumatic affections, various kinds of neuralgia, syphilis, chronic metallic poisoning, and in some skin diseases, etc. At Karras, about five miles from Piatigorsk, is a sulphated aperient water called the Bitter Water of the Caucasus, resembling the various well-known Hungarian bitter waters. It contains 8 parts sulphate of sodium and $7\frac{1}{2}$ parts sulphate of magnesium in the thousand.

Jeleznovodsk, eight miles from Piatigorsk, lies amidst pine forests on the Jeleznui Hill (Iron Hill), and its elevation above sea level is 1,890 to 2,100 feet. The spring is a little later and the summer cooler and fresher than at Piatigorsk. In summer the rainfall is moderate, and there is a marked absence of dew. In each of the great cholera epidemics of the present century Jeleznovodsk has escaped free. The springs are thermal chalybeate, and may perhaps be compared to those of Lamalou, in France. None of them appear to be strongly ferruginous; the coldest spring, "Duke Michael" (68° F.), having only 0.0097 parts carbonate of iron in the 1,000, and the hot "Ivan" spring (156° F.) even less. The Bariatinski spring attains the amount of 0.01 parts carbonate of iron in the 1,000, which is, however, hardly more than some table waters of Europe possess. According to Dr. Sviatlovski the waters can be used for chlorosis and various kinds of anæmia, some cases of debility, functional nervous affections, etc.

Essentuki, the largest Cossack settlement in the Terek province, is about ten miles to the west of Piatigorsk, and has a similar altitude and climate to the latter place. The best-known of its muriated alkaline waters is the "No. 17"

[1] *The Medicinal Waters and Muds of Russia*, by Frank G. Clemow, M.D.Edin., St. Petersburg, 1897.

spring, which is cold, and according to Thomin's analysis of 1888 contains 4 3 parts of carbonate of sodium and 3.6 parts of common salt in the 1,000. There are likewise sulphurous waters at this place, but they are only used externally. From the No. 17 spring salts and tabloids are prepared, and are sold in various parts of Russia. The waters of Essentuki are employed in various forms of dyspepsia, chronic catarrh of the intestines, some cases of gout, glycosuria, gravel, hepatic affections, etc.

Kislovodsk is situated about fourteen miles to the south-east of Essentuki, and stands at a somewhat higher level (2,700 feet). Its climate is said to be "subalpine" in character, and similar to that of well-known health resorts in Bavaria, Tyrol, Switzerland, and the Italian Alps. The number of fine sunny days in winter is said to be large, but snow and fogs are to be occasionally expected, and the thermometer is on the average always below freezing point in December, January, and February. Nevertheless, the temperature, even during these months, may rise in the sun to 55° or 60° F. in the middle of the day. Some Russian medical men send consumptive patients to Kislovodsk, and the place is open throughout the year. Its weakly mineralised alkaline earthy spring, the source Narzan, is cold and contains a total solids of 1.7 parts in 1,000, including 0.8 carbonate of calcium.

Abbas-Tuman (3,505 feet) is beautifully situated in the central government of Tiflis, and has gained notoriety as the residence of the Grand Duke George Alexandrovitch. There are fine pine forests around it. The waters are said to be indifferent thermal.

Borjom, in the same province, and not far from the last spa, has simple alkaline springs, which have obtained for the place the name of the "Russian Vichy." They are situated on the estate of the Grand Duke Michael Nicolaievitch, at an altitude of 2,300 feet above sea-level. The Catherine Source (84° F.) contains 5 parts bicarbonate of sodium in 1,000, and 0.015 parts bicarbonate of iron.

Odessa, a town of over 400,000 inhabitants, has famous mud baths, which are about five or six miles from the town. The establishment at Kuialnitzki has the means of giving as many as 92 baths simultaneously. The mud used for the baths is taken from the bottom of the salt lakes, called "limans" in Russian, of the neighbourhood. Similar "limans" are found at intervals along the whole of the northern shore of the Black Sea. The most generally accepted view of the origin of these salt lakes is that they are the remains of a vast sea which once covered the whole of southern Russia, and which is now represented by the greatly diminished areas of the Black and Caspian Seas. The water of the lakes is intensely salt, but not so salt as to prevent the existence of certain forms of animal and vegetable life, amongst which may be mentioned infusoria, capable of causing the water to be phosphorescent at night. Analysis of the mud from the Hajji-Bey Lake and Kuialnitzki Lake, the two most important "limans" near Odessa, showed it to contain 42 to 50 per cent. solids and 2.8 to 3.5 per cent. dissolved solids (chiefly chlorides of potassium and sodium). According to Dr. Abel the density of the mud as usually employed in the Odessa baths is 153 to 156, whilst the Marienbad and Franzensbad "moor baths" only vary between 100 and 115 (taking water at 100). For use the mud is artificially heated by steam to 95°, 104° F., rarely to 110° F., but for local baths the temperature may be as high as 122° F. The patient lies in the bath during ten to thirty minutes, and the usual time for taking it is the early morning, either before eating anything or after a light breakfast. The mud baths are usually taken once in the day, and the course extends from six to eight weeks. Sometimes, instead of the immersion method, the mud is rubbed over the whole body and the patient then exposed to the sun's rays until the mud is quite dry. There are, however, various methods of employing the mud, and many little points of *régime*, on which doubtless much of the success of the treatment depends.

At *Saki*, *Mainaki*, and *Tchokraki*, the most frequented resorts of the Crimea, the mud baths are similar to those of Odessa. The mud is, however, heated to the required temperature by the sun's rays. There is a fairly strong popular prejudice in favour of baths which have been warmed in the sun, and it is contended by some that certain volatile substances are lost by heating the mud in cauldrons. The mud baths as obtained at Odessa are recommended in the chronic forms of parametritis and perimetritis, some chronic rheumatic affections, neuralgias, skin affections, and after-effects, such as contractures and ankyloses, which are left behind by injuries and former inflammations; they are likewise employed in some other conditions.

At *Lipetsk*, in the south-central government of Tambof, which possesses cold chalybeate water, turf baths, quite different from the mud baths of Odessa, are made use of. They may be compared to the ferruginous "moor baths" of Franzensbad in Bohemia.

LITERARY NOTES.

In a lecture on enteric fever published in the *St. Bartholomew's Hospital Journal* for July, Dr. Norman Moore points out that John Conrad Peyer, who first described the structure of the ileum and its glands (*De Glandulis Intestinorum*, published at Schaffhausen in 1677), associated these glands with enteric fever, and had evidently seen them enlarged. Dr. Moore thinks it probable that Peyer had examined cases of enteric fever *post mortem*. The following century added little to pathological knowledge about these groups of lymph follicles. Even Matthew Baillie in his *Morbid Anatomy of Diseases*, published in 1793, had nothing more to say about them than that "in the follicular glands which are gathered together in little oval groups, I think ulceration occurs more frequently than in other parts of the intestine," a remark which, in Dr. Moore's opinion, indicates that he had seen the characteristic ileum of enteric fever. Bretonneau in 1818 proposed to call a fever in which Peyer's glands were found diseased "dothienentérite," but the morbid anatomy of typhoid fever was not worked till many years later.

Dr. Francisco Morato, a Portuguese physician, who wrote a work entitled *Luz da Medicina* in the early part of the eighteenth century, seems to have been fond of the laborious trifles in the composition of which scholars of a bygone day were wont to waste so much time. In the prologue to the work above mentioned he gives several illustrations of the close similarity between Portuguese and Latin in the form of sundry pieces of prose and verse, the language of which is, in the words of the ingenious author, at once "legitimate Portuguese and pure Latin." As a literary curiosity, we give one of the utterances of Dr. Morato's bilingual Muse, an address to the "Holy City of Rome:"

Roma infinitos annos Sanctissima vive,
Pacifica gentes conciliando tuas.
Castiga indomitos, fortissima Roma, tyrannos,
Horrendos animos tu generosa doma;

Acquire illustres Turcâ de gente triumphos
Distantes terras imperiosa rege:
Tanto maiores palmas, Roma alta, celebra,
Quanto Otthomana maior es imperio.

This is Latin—of a kind; and we presume it is "legitimate" Portuguese. As for the meaning, "that's not much," as Othello says.

Messrs. P. Blakiston, Son, and Co. will shortly issue a new work, entitled *Diseases of the Stomach: Their Special Pathology, Diagnosis, and Treatment*, by Dr. John C. Hemmeter, Clinical Professor of Medicine at the Baltimore Medical College. The work will contain sections on anatomy, analysis of stomach contents, dietetics, the surgery of the stomach, etc., with many original illustrations, a number of them in colours.

Fortschritte auf dem Gebiete der Röntgenstrahlen is the title of a new periodical devoted to skiagraphy which will shortly appear at Hamburg, under the editorship of Drs. Deycke and Albers-Schönberg, with the following collaborators: Professors Bramann of Halle, von Bruns of Tübingen, Curschmann of Leipzig, Czerny of Heidelberg, Foster of Bern, Grunmach of Berlin, Heuschen of Upsala, Hoffa of Würzburg, Künnell of Hamburg, Oberst of Halle, Riedel of Jena, Rumpf of Hamburg, Schede of Bonn, and Drs. Slaly of Charlottenburg, Schjerning of Berlin, Stechow of Berlin, Voller of Hamburg, and Wolff of Berlin. The new periodical will be published by Lucas Gräfe and Sillens of Hamburg.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, SEPTEMBER 11TH, 1897.

THE ADDRESS IN PUBLIC MEDICINE.

The admirable address in Public Medicine delivered by Dr. Hermann M. Biggs at Montreal, containing as it does a striking array of facts as to the possibilities of paternal sanitation, even in a most democratic country, are worthy of the attention not only of medical men and sanitarians, but of all who are interested in sociology and in the internal politics of great communities. He shows what, indeed, we are all painfully aware of, that entire freedom of individual action cannot be permitted in crowded cities, and that if the ravages of disease are to be checked, liberty, so-called, must be infringed, and "rights" must be interfered with at many points; but he also expresses a confidence which to many on this side of the water may seem somewhat optimistic, as to the willingness of the people to submit to measures which he justly terms autocratic and paternal, and to accept restrictions which are, as he calls them, radical and arbitrary, even though plainly designed for the public good.

Commencing with a graceful tribute to the leading part taken by England in regard to matters pertaining to public health, Dr. Hermann Biggs points out some of the differences between the conditions prevailing in London and in New York. First is the fact that there is in the United States no national Board of Health, and there are no national regulations of general application, the sanitary administration in each of the several States of the Union being solely under the control of the State authorities. Again, the Health Department of New York City is organised under a special Act of the Legislature of New York State, and is an entirely independent sanitary organisation, not being subject even to the jurisdiction of the State Board of Health.

Great interest therefore attaches to the address we are now considering, in that it shows what can be done, and what is likely to be done, by an intelligent sanitary authority acting independently, unfettered by tradition, untrammelled by precedent, and guided "from month to month by what is believed to be for the best good of the inhabitants in view of the most recent knowledge and the latest developments in scientific medicine."

Three main points are dealt with—diphtheria, tuberculosis, and the medical inspection of schools. The name of Hermann Biggs has long been associated with the establishment of municipal bacteriological laboratories, and it is interesting to note the sort of work being done in those over which he now presides. During the year 1896 the number of cultures which were examined for diphtheria bacilli amounted to 25,049; 1,856 specimens of sputum from cases of suspected tuberculosis were examined for tubercle bacilli; 16,796 vials of diphtheria antitoxin were issued; 918 cases of diphtheria were treated with antitoxin at their own homes by the medical *attachés* of the laboratory, and 1,214 persons were immunised. Every case of contagious disease reported to the department is regularly inspected by the medical inspector assigned to the district in which it occurs. When necessary, removal to hospital is enforced, but a comparatively small proportion of the total cases are actually treated in the hospitals for contagious diseases.

Two points of detail are worthy of special notice. There is a class of medical officers called diagnosticians, two of whom are always on duty day and night, their function being to give expert assistance in the clinical diagnosis of contagious diseases. Again; there is a special corps of medical inspectors to whom is assigned the administration of diphtheria antitoxin, and on request one of them will visit a person suffering from diphtheria in any part of the city day or night, and administer antitoxin under the supervision of the attending physician. They will also supervise the removal of the patient to hospital, and are prepared if required to perform intubation. It is the custom, also, for these gentlemen, when they administer antitoxin, also to immunise the rest of the family.

Evidently the New York authorities do not tie themselves down to an attempt to limit diphtheria by isolation, but make serious efforts to deal with the disease where it occurs, and, in so doing, do not ignore the attending physician, but render to him every service and assistance possible in the management of his cases. Not only is antitoxin furnished free of charge to all public institutions, but it is kept on sale at a hundred depôts, where it may be obtained by physicians without fee for patients who are too poor to pay for it. All this is in addition to the free bacteriological diagnosis, the whole organisation for which is at the disposal of every physician.

The proceedings taken in regard to tuberculosis are of more recent date, and although it may with some truth be said that in dealing with so slowly progressive a disease as consumption it is too soon to speak with any positiveness as to results, the facts collected in regard to the prevalence and the localisation of the disease are of the greatest interest and importance.

In 1893 notification was required of all cases of pulmonary tuberculosis occurring in public institutions, and private physicians were requested to send in reports of cases occurring in their practices. The number of reports received has increased from 4,166 in 1894 to 8,334 in 1896. The premises occupied by all cases dying of phthisis—about 6,000 each year—have also been inspected, and thus during the three years more than 35,000 premises and cases have come under observation. Orders have, when required, been issued for the thorough renovation of apartments which had been occupied by consumptives and vacated by death or removal, and placards have been attached to doors to prevent the reoccupation of such apartments until the orders for renovation have been complied with.

There is a sweet simplicity in the methods adopted in

New York for preventing the distribution of tuberculous milk, which must excite the envy of many a puzzled sanitary authority in England. It is not there a case of allowing a dealer to go on until he does something wrong. The authorities commence by absolutely prohibiting the sale of milk within the city without a permit from the Health Department. Each wagon also must have its permit, and all these permits may be revoked at any time. All milch cows in the city of New York are now being subjected to the tuberculin test, and such as are found to be diseased are killed, and it is proposed as soon as this is done to require similar tests to be applied to all cows, even outside, whose milk is sent to the city.

Much justification for active measures against tuberculosis is to be found in the tables which are given showing the distribution of the disease. Taking Ward IV it is shown that 55.8 per cent. of the cases occurred in only 28.2 of the infected houses, and in only 10.5 per cent. of the total number of houses in the ward. The same thing is shown in regard to Ward VI, where 44.3 per cent. of the cases occurred in 11.9 per cent. of the infected houses, and in only 7.1 per cent. of the total houses of the ward. The special incidence of the disease on special houses is thus markedly brought out.

Medical inspection of school children is one of the most recent developments of hygiene in New York. Early in this year 150 medical men were appointed to examine daily at the opening of the public, parochial, and industrial schools, all the children who are set apart by the class-room teachers as not appearing to be entirely well, and during the three months that this system has been in operation they have examined 63,812 children, of whom 4,183 were after examination excluded from the school and further dealt with.

Space does not allow us to enter into further details concerning this most interesting paper. We must, however, point out that the Board of Health for the City of New York, with its population of 2,000,000, consists of but four members, and that when next year its jurisdiction is extended over that greater New York which will then contain 3,250,000 inhabitants, the autocratic powers wielded by the Health Department will even then lie in the hands of only five individuals. One more point is that all the administrative and executive work of the department is concentrated at the main offices.

We will not now institute comparisons, but when we think of our forty-three sanitary districts, each with its own machinery, of our central sanitary authority acting by persuasion rather than by force, of the intrusion of the clerical control of the Local Government Board into every corner of sanitary administration and of the entire removal out of the hands of our sanitary authorities of all control over vaccination on the one hand, and over the treatment of infectious diseases on the other, and when we think of the enormous waste, not only of money but of time and energy, involved in these complex arrangements, we cannot but see that, successful as London has been in dealing with sanitary problems in its own happy-go-lucky way, we have much to learn as to crispness of organisation from our cousins in New York.

PRESENTATION.—Dr. Rees Morgan was recently presented with an address and an oil painting of himself on the occasion of his leaving Llandilo for Bexhill-on-Sea. Mrs. Morgan was also presented with a tea service.

INFLUENCES THAT HAVE DETERMINED THE PROGRESS OF MEDICINE.

WE are taunted, says Dr. Stephen Mackenzie, in the interesting presidential address to the Section of Medicine at Montreal, which we publish to-day (p. 638), with the assertion that medicine is not a science; unfortunately another accusation—that medicine is all science and no art—is as often brought against us. His address will bring comfort to the unjustly accused, for he brings evidence in plenty to acquit us on both counts.

Natural sciences—those studies whose object is to understand what our senses tell us of the world—advance by observation and by experiment. In each direction they soon outstrip the powers of the unaided eye or ear, and their advance is marked—may, indeed, be measured—by the engines invented to magnify minute changes. The growth of medicine, the growth of any science, is dependent upon and keeps pace with the growth of the great ground-science of physics, and, as Dr. Mackenzie points out, the advance of medical science is tracked by the "scopes" and "graphs" with which men have aided their natural powers. It is curious that almost all fresh knowledge is gained through the eye. We register every possible change in some way that we can see; and so much has the habit grown, that even instruments to aid the ear—stethoscope or phonendoscope—have been named as if they were to see with. It may be expected that until we can render visible by some transmutation of energy the effect of smell, taste, and touch, we shall make little progress in the great tracts of Nature which they bring before us, and it may well be that in these lie hid truths of immense importance to us all.

Yet even for unaided sense the world is still a storehouse of countless unknown wealth. Every year we see something with our naked eyes which none had seen before. No complicated instruments were used by Jenner; and the great discoverers whom Dr. Mackenzie names in honour, and others still living, have worked as much with their eyes and hands as with instruments. There is a great field still for simple observation, for which each of us who has eyes and ears is adequately equipped. Opportunity remains, and the power to use it is not given by physics. Herein alone can we justly compare ourselves with our fathers, and so doing must own that though the wall on which we stand is higher by the bricks they laid, yet we do not build faster than they. Imagination, by which great men differ from small, is not in us stronger than in them. Truth is like a coral reef—it grows unceasingly, but the beasts that build it now are no different from its founders. We think science is our possession, and ourselves the greater for it, but it is a vast building outside, not within us, and the workers on the scaffolding are not a whit taller or stronger than those who dug the foundations.

Yet are we perhaps the happier and certainly the longer lived for what they did; for as we have learnt more accurately what happens, so have we also learnt to turn the knowledge to our seeming profit; medicine has advanced in art as well as in science. The treatment of fever, the acquisition of some drugs, vaccination and all the recent development of that great discovery, the use of thyroid extract for myxœdema, the extended usefulness of the surgeon, all represent, as Dr. Mackenzie points out, advantages which even

the public can appreciate. In two other departments, sanitary science and the nursing of the sick, we in England have still more cause for pride, since we have led, and still lead, the whole world.

Medicine, then, whether contemplative or bustling, whether dressed in her philosopher's gown or girded for practice, need not be ashamed to speak with her enemies in the gate. Humble as she is before her immense task, it refreshes her to look back now and again over what has been accomplished, and to hear the praise of great men proclaimed by one himself worthy to do them honour.

THE TEACHING OF SURGERY.

Mr. Christopher Heath's address at Montreal, which we publish this week, affords much food for thought. What he says of some recent advances of surgery is full of interest; and he did well to warn us of certain dangers, and to complain of certain defects, in our present scheme of medical education. Amid all the praise of modern surgery it is a good thing to be told of our faults, even though Mr. Heath, like Cassandra, should be unable to persuade men of the truth of his prophecies, or to avert the troubles that he sees coming. We may agree with him that the teaching of anatomy to students should be in close relation to their practical work; that they must not be overweighted with those things that are not surgery; that the rising generation of surgeons are some of them too ready to take the place of them that have risen. There is always a hearing for these venerable truths, but Mr. Heath will surely allow that they are not the whole truth. Thus, the good of our learning anatomy lies not so much in the accumulation of fact as in the discipline of our minds, in our subjection to the accuracy and inevitableness of science; it is the old story of the men who dug the field over to find hidden treasure, and found their reward in the improvement of the land. Again, Mr. Heath regrets that students give so much time to "the collateral sciences" that they do not get enough clinical work. But, setting aside the fact that the extent of their clinical experience depends on the quantity of material available for their instruction, the collateral sciences may be of inestimable value in deciding and elevating a man's practical work in after years. Sir William Bowman, whose good advice Mr. Heath quotes, was a perfect example how a surgeon may found his practice on the rock of the collateral sciences of physiology and minute anatomy. Mr. Heath is very severe on men in general practice who do great operations, and on those surgeons who blossom early, and bear the fruits of specialism, or flourish on "mutual admiration." It will be good news for the young surgeon that he may hope to blossom early: it is the operations done in general practice that nip these blossoms in the bud. But the work of surgery is now fourfold what it was twenty years ago, and there is some work, if not enough, for everybody. Finally, our medical societies have their faults; but mutual admiration is not one of them. Self-admiration may sometimes be seen at them, but it cannot be said that they encourage it.

Therefore we may take a very hopeful view of the position. The level of surgical work, both in the country and in the towns, is immeasurably higher than it used to be, especially in the country; the burden of the collateral sciences is a good discipline for the student, and may afterward bear fruit a hundredfold. The young surgeon who is only practical will never be the equal of the man who can follow both surgery and science together: and this gifted person does here and there exist, and is much to be envied.

THE BRITISH MEDICAL ASSOCIATION AND ITS WORK.

The *Times* of September 1st, in referring to the annual meeting of the British Medical Association, held last week at Montreal, dwells in a somewhat unkindly spirit on "the absence of power and influence," which it asserts to be "one of the most remarkable characteristics of the organisation." On the tone of the article we prefer to make no comment. In substance it is so inaccurate that we should not have thought it worth notice, had it not been that the fact of its appearing in the leading daily paper gives it a factitious importance to which on its own merits it has no claim. Evidently the writer has either been badly "coached" or has taken no trouble to get up his case. He has allowed himself to be misinformed even about so elementary a fact as the membership of the Association, which he puts at "nearly 13,000," whereas it is over 17,000. So gross an error on a matter of this kind is not calculated to engender confidence in statements of a less easily-verifiable nature made by the writer.

His indictment against the Association is briefly that it has done nothing "either for the benefit of the medical profession or for that of mankind at all adequate to the apparent possibilities of the case." He adds that "probably no statesman was ever influenced by its views with regard to any matter of legislation, whether purely medical or relating to some one of the many social questions upon which medicine is calculated to throw light." This statement shows an ignorance of the history of medical and sanitary legislation during the past half century which, in a newspaper generally so well informed as the *Times*, we can only characterise as astounding. It is the simple truth that there has been hardly any "matter of legislation" of the kind referred to since Queen Victoria came to the throne in which the Association has not been either the active motor power or an important modifying factor. In evidence of this we may point to the Medical Acts, the creation of the General Medical Council, the establishment of the *Medical Register*, and the unification of professional rights throughout all parts of the kingdom. In all this work of far-reaching reform the Association, represented by the late Dr. Waters, of Chester, Sir Walter Foster, and others, was prominent. The Public Health Act was the direct outcome of the Royal Commission in which the British Medical Association furnished the leading Commissioners, and supplied through Farr, Acland, A. P. Stewart, Rumsey, and many others the main body of the evidence on which the new law was based. The betterment in the position of medical officers in the army and navy, and the consequent greatly increased efficiency of these important services, are almost wholly due, as is fully acknowledged, to the continuous pressure brought to bear upon the responsible authorities by the Association and its Parliamentary Bills Committee.

If "no statesman was ever influenced" by the views of the Association, it is not altogether easy to understand how

Lord Ripon, at the annual meeting held at Leeds in 1889, confessed that he had found that body troublesome when he was at the War Office, the Admiralty, and President of the Privy Council. Going back almost to the infancy of the Association we find that it was a petition presented to the House of Lords by it in 1840 that directly led to the first legislation on vaccination. Two days after the petition was presented Lord Ellenborough introduced a Bill embodying its main suggestions. Coming to more recent times, the reform of workhouse infirmaries and the introduction of trained nursing; the Compulsory Notification of Diseases Act; the Infant Life Protection Act—to mention only a few of the more important "matters of legislation" in which we have had a hand—are essentially the work of the Association. The creation of medical officers of county councils in England and in Scotland is one of the most recent evidences of the power and influence of the Association. The appointment of the Departmental Committee of the Poor-law Board on Barrack Schools and the Care of Poor-law Children was the direct result of our intervention; and, quite recently, two influential committees—the State Children's Aid Association in England, and the Irish Poor-law Committee—have been formed to carry on the work which we initiated and for which the reports published in the British Medical Journal supplied the basis.

On the question of the grants made by the Association for scientific purposes, the writer of the *Times* article shows himself equally ill-informed. The Association has shown, and continues to show, itself liberal in the endowment of research to the full extent of its capacity. At present the amount allocated for this purpose in grants and scholarships is not much less than £1,000 a year, and whenever the funds have allowed a freer expenditure in this direction, the money has been voted by the Council without demur. A few years ago the amount given in scientific grants alone was £800. Moreover, a grant of £200 has recently been made to the British Institute of Preventive Medicine and one of £100 to the Jenner Society. In fact, nearly the whole surplus revenue of the Association which can be disposed of without going beyond the bounds of financial prudence is spent in the furtherance of scientific research. As regards the value of the work done, it need only be said that the investigators who have at one time or another been aided by the grants of the British Medical Association include most of the men who have advanced medical science in this country in the present generation. Moreover the Association spends a considerable sum annually on the maintenance and development of a Library which is steadily increasing in usefulness. The Association may therefore fairly claim that it does what it can to promote the "scientific work of the profession."

The "charitable work of the profession," and "the defence of the pecuniary interests of practitioners" do not lie within its scope. Its articles do not permit it to undertake either of these functions. At present, however, the question of the Association taking upon itself the duty of medical defence awaits settlement; it is for the members to decide what course shall be taken in the matter.

In his remarks on the constitution of the governing body of the Association the *Times* writer again displays the inaccuracy which would seem to be his "most remarkable characteristic." Speaking of what he considers to be the inertness of the Association, he says, "It is probable that one serious impediment to action is the existence of a Council which largely consists of irremovable life members, and which is said to disregard the resolutions and recommendations of Branches as completely as if they had never been brought under its notice." The Council at present consists of ninety-three members, of whom only twenty are life members. These life members, as past Presidents, Presidents of Council, and Treasurers of the Association, are men of note, who have all, at some period of their career, taken an active part in the work of the Association, and have helped in framing and guiding its policy, and therefore are specially fitted by their knowledge and experience to have a share in its government.

The fact is, however, that, for good or evil, they do not take much part in the management of the affairs of the Association, because of the whole number of them, small as it is, only some half a dozen on the average attend the meetings of the Council. Relatively to the elected representatives of Branches who attend, the proportion of life members present at any given meeting may be estimated as not much more than one in ten. If, therefore, the Association is an "inert mass," this can hardly be justly attributed to the paralysing influence of the life members. The allegation that the Council disregards the resolutions and recommendations of annual meetings and Branches as completely as if they had never been brought under its notice is absolutely contrary to fact; their recommendations are always most carefully considered and approached with a *primâ facie* desire to carry them into effect. But if the allegation were true, the members of Branches, who elect an overwhelming majority of the Councillors, have the remedy in their own hands.

If dissatisfaction with the existing order of things prevails within the ranks of the Association to anything like the extent that appears to be implied in the *Times* article, it is passing strange that the Association continues steadily to grow in numbers, to increase in prosperity, and to spread over the whole Empire, and that the proportion of persons who resign their membership—always small—is this year less than usual.

We may also be allowed to express a certain feeling of surprise that the *Times*, which in one column speaks so slightingly of the Association, should devote several other columns of its valuable space to reporting the proceedings of an "inert mass" which, as it would have people believe, does so little "either for the benefit of the medical profession or for that of mankind."

The total contributions to the Prince of Wales's Hospital Fund for London up to September 1st (excluding the proceeds of the sale of the hospital stamps) amount to £181,741 12s. 9d.

Mr. H. Beale Collins, M.R.C.S., contributes to the *Progressive Review* a very useful and sensible article in exposition of the benefits of vaccination, and in answer to the outcry of the faddists. Such articles are opportune and of value in helping to assist public opinion.

An Indian telegram announces that cholera has broken out amongst the men of the Northamptonshire Regiment on the frontier. We are not, however, aware that any official intimation has been received by the home authorities in reference to this notification.

THE SOBRIETY OF OUR SOLDIERS.

The latest report of the Army Temperance Association confirms the previous year's records of improved physical and moral health from the abstaining habits of one-third of our army in India. Court-martial convictions per 1,000 among the abstainers were, in 1896, only 5.21, against 38.88 among the non-abstainers. In 1895 the corresponding figures were 4.70 as against 42.27. The chief advantage from this propaganda of temperance falls to the 14,000 young soldiers, whose untried constitutions used to be so undermined by alcoholic indulgence while yet unaccustomed to the somewhat trying climatic environment. It is, from a health point of view, gratifying to learn that 600 Chitral bars were issued last year to the abstaining survivors of that campaign.

DR. RENTOUL AND THE GENERAL MEDICAL COUNCIL.

We understand that Dr. Robert Reid Rentoul has resigned his seat as one of the direct representatives for England on the General Medical Council. An election for the appointment of a successor will shortly be held. Nomination papers, stating the name, address, and registered qualification or qualifications of candidates signed by not fewer than twelve registered practitioners resident in England, and accompanied by a declaration in writing signed by the person nominated acknowledging that he consents to be nominated must be delivered by post or otherwise on or before September 27th addressed to Henry E. Allen, LL.B., at the Council Office, 299, Oxford Street, W.

THE SANITARY INSTITUTE.

Arrangements are rapidly being completed for the sixteenth congress of the Sanitary Institute, to be held at Leeds from September 14th to 18th. Some 700 delegates have been appointed to attend, and the Congress is expected to be one of the most successful on record. The inaugural address will be delivered in the chemistry class-room of the Yorkshire College, on September 14th, at 3 P.M., by Dr. Farquharson, M.P. The same evening a health exhibition will be opened in buildings in Camp Road, and on the following evening the Lord Mayor of Leeds will hold a *conversazione* and reception in the City Art Gallery. The remainder of the time will be devoted to the proper business of the Congress, which includes three sections, dealing with sanitary science and preventive medicine, engineering and architecture, and chemistry, meteorology, and geology; and to the holding of conferences on river pollution and domestic hygiene, and conferences of municipal representatives, medical officers of health, municipal and county engineers, and sanitary inspectors. These will be held in the Town Hall and the Board-room of the School Board offices. Mr. H. Percy Boulnois, M.Inst.C.E., the City Engineer of Liverpool, will deliver a lecture to the Congress on the evening of September 16th, in the Albert Hall. In the same hall on the following evening Dr. Philip Boobbyer (Medical Officer of Health for Nottingham) will deliver a popular lecture. The honorary secretaries are Dr. J. Spottiswoode Cameron, Mr. A. E. Pearson, and Mr. W. Spinks, Assoc.M.Inst.C.E.

THE DOVER CLIFF MYSTERY.

Under the above heading, the remarkable case of prolonged unconsciousness, details of which are given on p. 676, has aroused much interest in the lay press. It was at first thought that the girl was the victim of foul play, but Dr. Osborn's examination soon practically set that point at rest, and we must look elsewhere for the solution of the diagnostic problem presented to us. Dr. Osborn, whose views on the subject are, like his treatment of the case, eminently practical and sensible, sets aside the possibility of the patient having fallen over a 200-ft. cliff, and attributes the seizure to insolation. This is no doubt the most likely explanation, particularly as he has discovered that she had been wandering about for some days, and was much exhausted before she was struck down. This tallies with the well-known fact that insolation only attacks those who are fatigued as well as exposed; furthermore, Dr. Osborn states that the day was a sultry one, and that it was particularly hot on the beach beneath the white cliffs. In considering the case, one other possibility crosses the mind, for there is only one general disease which, as far as we know, can lead to unconsciousness lasting over four weeks. This is typhoid fever, and the temperature is certainly not unlike that of this affection. Although the insolation hypothesis is much the more probable of the two, this is just the sort of case in which Widal's reaction might possibly yield a conclusive result. In any case we can have nothing but praise for the treatment, and very little doubt that the systematic use of the ice pack (so much employed abroad in the treatment of typhoid) and the indefatigable attention to nutrition have thus far preserved the patient's life.

REPORTS OF THE ANNUAL MEETING.

In our next issue we hope to commence the publication of full reports of the proceedings in the various Sections of the annual meeting held last week at Montreal. The Journal will for this purpose be enlarged by thirty-two supplementary pages, an arrangement which will be continued till the papers and discussions in all the Sections have been published. In this way the reports of the scientific work of the annual meeting will be completed within a few weeks.

REPORTED OUTBREAK OF YELLOW FEVER IN THE UNITED STATES.

A cablegram from New York states that alarming reports of an epidemic of yellow fever come from the Southern States. At a place called Ocean Springs, a summer resort on the Gulf of Mexico, between New Orleans and Mobile, 600 persons became ill about a month ago, and the disease has recently become virulent. It is partly attributed to the pollution of the water of the bay fronting the city, where the oysters consumed by the city are imbedded. The public health authorities of Louisiana, Mississippi, and Alabama pronounce the outbreak to be one of yellow fever, but the Surgeon-General's Office, Washington, entertains doubt on the point, and awaits the report of the departmental expert who has been sent down to Ocean Springs. A *post-mortem* examination held on a boy from Ocean Springs who died at New Orleans, showed yellow fever to have been the cause of death.

THE VACCINATION COMMISSION.

When, upwards of thirteen months ago, the final report of the Royal Commission on Vaccination was issued, a considerable portion of the evidence which the Commissioners had taken between 1891 and 1893, both for and against vaccination, remained still unpublished. That evidence has now at last been issued, but without any explanation of the extraordinary delay which has occurred. This delay has robbed the present volume of much of its value and interest, seeing that almost all that is to be gathered from it has already been culled and digested in the published final report of the Commissioners. The present volume, however, will repay careful study. The exhaustive evidence which it includes of Dr. J. C. McVail would alone make it valuable, but it also contains the instructive evidence of Dr. S. Monckton Copeman as to his experiments in variolation of the calf and in vaccination and variolation of the monkey, and in connection with the admixture of glycerine with lymph. This latter important point has since been more fully investigated and reported on by Sir Richard Thorne Thorne and Dr. Copeman after visiting and carefully examining the Continental methods and systems of calf lymph vaccination. Glycerinated calf lymph is likely ere long to form the basis of our vaccination system in this country. There is also contained in the present volume an indictment by Mr. Alexander Wheeler of the accuracy and soundness of Dr. Barry's official report on the Sheffield epidemic of 1887-8, and the conclusions in favour

of vaccination based on the remarkable facts connected with that epidemic. Dr. Barry's exhaustive and conclusive reply to Mr. Wheeler's various criticisms is also given. Among the witnesses whose evidence is given in this volume are the few—very few—medical men who have doubts as to the efficacy of vaccination, and must therefore be numbered in the ranks of the antivaccinators. Amongst those we find Mr. P. M. Davidson, whose positions as medical officer of health of Congleton and public vaccinator in the Macclesfield Union must surely be somewhat anomalous.

THE X RAYS ON WAR SERVICE.

AN *x* rays apparatus was recently sent to Malakand. This is possibly the first time the apparatus has been used on field service with British troops.

INFECTIOUS DISEASES AT ALDERSHOT.

AT the meeting of the Aldershot District Council a discussion of considerable interest arose out of the report on diphtheria. The medical officer's report said that 17 infectious cases had been notified to him, namely, 15 diphtheria, 1 erysipelas, and 1 scarlatina. The *Aldershot News*, in commenting on the discussion, says: "The wonder is that there have not been 1,500 cases of diphtheria, seeing that a child who had diphtheria was running about freely amongst other children a whole fortnight before the officers of the Council had the house fumigated." It was with truth remarked that more disease is carried about from child to child in the streets than is caused by the most defective drainage. Someone in this case has been at fault.

MULTIPLICITY OF PROVIDENT DISPENSARIES.

WELL-CONDUCTED provident dispensaries may be, and doubtless are, a great boon to certain classes, and far be it from us to undervalue the good work they may occasionally do. But while treating them with justice, it must not be forgotten that there is another side that ought not to be overlooked. Every provident dispensary that is started must necessarily to some extent injure private practice, for it never happens that institutions of this kind are so well managed that no improper applicants get admitted to their benefits. As a matter of fact, in most cases many do, and the general multiplication of institutions claiming to belong to this class is among the growing evils that the profession has to contend against. Nearly every philanthropic undertaking now tries to get cheap medical attendance for its members, and it would appear that even Sunday Schools are not behind the times in this respect. At the opening of a new Sunday School by the Presbyterians of Newport, according to the *South Wales Argus* of August 27th, "the pastor stated that for some time he had been struck with the poverty of the people in the immediate district, and their helplessness in times of sickness. Medical gentlemen had kindly promised to meet patients in that room, and he believed arrangements could be made for a supply of medicines, etc., and perhaps sick nursing, for one penny a week." This may be very well for the Newport poor, but how about the Newport doctors? Does the local profession approve of turning Sunday Schools into provident dispensaries? Is it prepared to give it support?

COTTAGE HOSPITALS AND THEIR MEDICAL STAFF.

OUR attention has been called to an account in the *Aberdeen Free Press*, August 25th, of a dispute which has arisen between the Managing Committee of the Huntly Cottage Hospital and some of their medical officers relative to the right of the latter to admit patients into the hospital. It seems that the medical officers used to have this right, unfettered by any restrictions or instructions, until a question arose relative to the admission of four cases of typhoid fever from a neighbouring parish which does not subscribe to the institution. It was decided by the Managing Committee that such admissions were irregular; that the Cottage Hospital was a local charity for the benefit only of those resident in the districts or parishes by which it was founded and supported, and that residents outside such districts might only be admitted under exceptional circumstances; and they directed that admission should in future be "by cards." There is no explanation of what this expression means, but we conclude that it is equivalent to the "letter system" in our English hospitals—that is, that the candidate for admission is bound to produce a card from a subscriber, and the medical officer is bound to admit him if there is room and he is a fit case. The medical officers refused to submit to these rules, and the Managing Committee resigned. The general meeting supported their Committee, and would have re-elected them; but they declined, and a fresh Committee was appointed. The account leaves it, however, undecided whether the "card system" is to be maintained or no. We must say that it seems to us a pity that such a question should be fought out to its end, which could only be the break-up of a useful institution. The free system of admission seems to us much preferable to the "card system." On the other hand the hospital is no doubt intended primarily for the service of the district which has established it and supports it. Yet this consideration should not be too rigidly enforced. *Tua res agitur paries cum proximus ardet.* An outbreak of fever may be prevented spreading into the hospital district by the timely admission of patients from the outside area, and it would be cruel to refuse admission to a severe accident because the sufferer was an outsider; but such admissions of outsiders should be regarded as exceptional, and requiring explanation, which ought to be noted in the admission book. Surely this matter could be amicably settled between the new Committee and the medical staff. Cottage hospitals are excellent institutions, and, like the general hospitals, are intended for the service of the whole community. Nothing should be done which would unduly limit their usefulness.

THE BARCLAY MEMORIAL MEDAL.

THE Surgeon-General, I.M.S., having offered to the Asiatic Society of Bengal the Barclay Memorial Medal (founded in memory of Surgeon-Major Arthur Barclay, I.M.S.), together with the Rs. 500 odd belonging to the fund, the Society have, at the recommendation of a Subcommittee, decided to accept the offer. The medal, which is to be struck in bronze, will be given every third year for the most meritorious piece of work done in original research in biology, with special reference to India, with the condition that it must not be gained twice in succession by the same person.

BURIAL IRREGULARITIES AT OLDHAM.

THE disclosures made at an inquest held recently at Oldham in reference to the death of an infant illustrate the necessity for further legislation in the matter of certificates of death and registration. The story told was a shocking one—the child illegitimate, the father and mother being brother and sister, the age of the mother being under 15, and the father being a little older. The child was born on August 9th, and died on the 12th. Neither the birth nor the death was registered, and only accidentally did the registrar come to hear of the facts of the child being dead and buried. Information was given to the coroner, the body was found and exhumed, and an inquest held. The evidence disclosed an extraordinary state of things. It appeared that the child was buried as a stillborn infant, although it had lived at least three days, and that burial took place without any of the necessary legal formalities having been carried out. The medical practitioner in attendance upon the mother gave a certificate to the effect that the mother had been prematurely confined on the 9th and that the child had died on the 12th. In his evidence, according to the report in the *Oldham Chronicle*, in answer to the coroner, he stated that it used to be the practice, in cases where children were born prematurely and only lived a few hours, to give certificates to that effect, but that he had not given one lately. The sexton—a woman—

stated that the body of deceased was brought to her on August 12th. She was told the child had lived, and received the certificate signed by the doctor—5s. was paid at the time. The coroner, in summing up, pointed out the extreme danger to the public were such irregularities as disclosed in the case passed by. The woman sexton admitted that these babies, for which she received 5s., were represented to the vicar as stillborn children, and were buried as cases of stillbirth, for which only 2s. was the correct charge. The certificate as given by the doctor, the coroner pointed out, was irregular, and if it were the custom years ago to give such, he could only say that the law was broken then as it was now in this case. The jury returned a verdict of death from natural causes. It is quite clear that the matter should not rest here, but that the Registrar-General should cause proceedings to be taken for the breaches of the Registration Act disclosed. That children should be buried in this way—and it is impossible to imagine this to be an isolated case—is not only a scandal but a danger, and the sooner steps are taken to prevent any repetition of such an offence the better. Child-life is endangered under ordinary circumstances quite sufficiently, but additional protection is imperatively required if the facts illustrated above are of everyday occurrence.

THE LATE SPANISH PREMIER.

The Spanish papers give details of the *post-mortem* examination of the late Señor Canovas y Castillo, the Spanish Premier, who was assassinated by the anarchist Angiolillo. The murdered statesman was shot in the chest and in the head; the former wound was not necessarily mortal, but the latter traversed the brain diagonally, the bullet having entered just above the left ear and come out through the right temple. The doctors are said to have been amazed at the size and weight of the brain, and at the abundance of its convolutions; it was described by them as "a type of superior organisation." Señor Canovas had, it is stated, suffered for a number of years from a grave form of glycosuria, but he managed to keep the disease fairly under control by strict attention to the recommendations of his medical advisers, and by a hygienic mode of life carefully adapted to his condition. He had read all that had been written in these later years on the subject of diabetes, and submitted to all the diabetic restrictions which most sufferers from that disease find so irksome.

OUR WASTED HOSPITALS.

The editor of *Belgravia* has done well in drawing attention afresh to the subject of the London hospitals. The letter by which the Prince of Wales started his Hospital Fund pointed out in general terms the financial wants of these institutions; but, as is pointed out in *Belgravia*, the question of hospital support has hitherto been mostly discussed in the abstract, and, great as has been the interest which has thus been excited in the subject, the matter will bear to be approached from another point of view, and to be dealt with as it concerns each individual hospital. The multitude of these individual institutions has increased immensely during Her Majesty's reign. At the time of her accession there were 26 hospitals of various kinds established in London, whereas now there are about 110, not including the eleven hospitals of the Metropolitan Asylums Board and a great number of Poor-law dispensaries and infirmaries, which also have nearly all been founded since 1837. Needless to say, amid this great development of the system, or want of system, by which the hospital wants of the metropolis are supplied, the special hospital has taken a pre-eminent position, 48 out of the 80 hospitals established between the years 1837 and 1897 being devoted either to the treatment of special classes of disease or to the application of special lines of treatment. In some sense this is good, showing as it does the vitality of medicine and the readiness with which those who practise it cut themselves adrift from old traditions, and even from the trammels of old associations, so that they do but see an opportunity for increasing knowledge and extending the usefulness of their art. On the other hand, now that the necessity is past and the obstructive conservativeness which led to the establishment of many of the earlier of these special hospitals is gone—let us hope never to return—it is impossible to shut one's eyes to the deadly wastefulness which is involved in their continued existence as isolated and independent institutions. From an educational point of view the waste is appalling. Even in London the cases available for teaching purposes are not absolutely unlimited, and no one can doubt that as a teaching centre London would be much the better for an amalgamation of its special and its general hospitals. Scientifically, again, the waste is great. We should be the last to say a word against the work done at many of the special hospitals, but we are convinced that work done for self in the comparative isolation of a special institution is of a less high type, and leads to less useful scientific results than work done for the world under the ever critical eye of a medical school and under the spur of that *esprit de corps* which arises where many men of different mould are associated in one great work. It is even more obvious how wasteful is the present system from a money point of view. Little hospitals of from twenty to fifty beds apiece, each with their own secretaries and collectors, their own house-surgeons, and their own separate establishments of matrons, cooks, porters, etc., involve an intolerable waste of funds. To add to all else there is that strange product of the modern hospital system—competition in charity—which leads hospital managers not only to resort to curious and not always desirable devices for raising money, but also actually to adopt means for attracting patients! We venture to express the opinion that the money spent on hospitals in London would be ample for all purposes both of charity and science if properly applied, and that some form of grouping for educational and administrative purposes is as urgently wanted as are increased funds.

LEPROSY IN GREAT BRITAIN AND IRELAND.

Dr. Phineas S. Abraham, Secretary of the Leprosy Investigation Committee (National Leprosy Fund), has been requested by the authorities of the forthcoming International Leprosy Conference to obtain information regarding the number of cases of true leprosy which have come under medical observation during the past ten years or so in Great Britain and Ireland. Members of the profession practising in this country will materially assist the inquiry if they will inform Dr. Abraham whether any such patients have been under treatment in the institutions with which they are connected, or have otherwise come to their knowledge. In that event a short note would be greatly appreciated, giving initials of patient, sex, age, nationality, variety of the disease, length of time affected, in what country acquired, etc. Dr. Abraham adds that any facts, negative or positive, which they may be able to give will be duly acknowledged at the Conference.

THE REGULATION OF MEDICAL PRACTITIONERS IN NEW SOUTH WALES.

The Hon. Dr. Bowker has (according to the *Australasian Medical Gazette*) again introduced into the Legislative Council of New South Wales a "Bill for the Amendment of the Laws respecting the Medical Profession." The chief features of the measure are: (1) The appointment of a Medical Council (to supersede the present Medical Board), which is to consist of thirteen members, five to be appointed by the Governor, two to be appointed by the Senate of the University, and six to be elected by the medical profession of the Colony. The members of the present Medical Board are to become members of the new Council; the Council to elect its own President at the first meeting. (2) Registered practitioners are to be allowed certain privileges, such as

exemption from serving on juries and in the militia, and are to be allowed to recover in any Court reasonable charges for professional aid, advice, and visits, as well as the cost of any medicines or medical or surgical appliances. (3) A penalty can, upon conviction, be imposed upon any one falsely assuming any medical or surgical qualification. (4) Power is given to the Council to refuse to register anyone whose name has been removed from the list of his licensing body, and also to remove from the register the name of any one who has been struck off the list of his College for misconduct (after he has been registered), or who has been adjudged by the Council to be guilty of disgraceful conduct. (5) A registrar is to be appointed, who shall be secretary to the Council. Our Sydney contemporary adds, however, that it is so accustomed to a Medical Bill being before the Legislature which never reaches the Statute Book that it fears this one will have no better fate than its many predecessors.

NAPOLEON'S DOCTORS AT ST. HELENA.

In the speech which he recently delivered to the young officers on leaving the Army Medical School at Netley, General Butler, after recommending his hearers to cultivate "an open fearlessness of mind," thus referred to the way in which Dr. Barry O'Meara and his medical colleague at St. Helena protested against the "policy of exasperation" pursued by Sir Hudson Lowe towards his illustrious prisoner: "I will take as an illustration of my meaning an event which must be familiar to many among you, and which will probably remain in history as long as history remains in the world. I refer to the captivity of Napoleon in the island of St. Helena. In that record of blind official blundering two names stand out in striking contrast from the timid or time-serving actors of that unhappy drama. Both these bright exceptions belonged to your profession. The first stands immortalised in the poetry of Byron as

> The stiff surgeon who maintained his cause
> Hath lost his case and gained the world's applause.

I take the action of these two brave and honourable gentlemen of St. Helena to represent exactly what I mean by the phrase 'open fearlessness of mind.' Undeterred by the weight of official censure, fixed in the immutable traditions of honour, truth, and justice, these two comparatively humble men stood out in protest against the mean and stupid persecution to which the great dying soldier was subjected. They alone protested. It is true they lost everything; but they won more than 'the world's applause,' for in a measure they redeemed the national honour when the action of their official superiors had compromised it.

THE AGE INCIDENCE OF SMALL-POX MORTALITY.

The paper recently read by Mr. Alfred Milnes before the Royal Statistical Society has already been criticised in these columns. In the July number of *Public Health* a number of extracts from Mr. Milnes's paper were published, and in the August issue of the same journal appears a protest by Dr. William Ogle against the accuracy of one of Mr. Milnes's remarks thus quoted, which, we think, deserves wider publicity than it has hitherto secured. While Dr. Ogle ably filled the official position of Superintendent of Statistics at the General Register Office, not the least valuable of his services to the medical profession and to the public was the light which the official data at his service enabled him to throw upon small-pox mortality, especially in relation to the fundamentally important questions of the age incidence of this mortality and its supposed connection with improved sanitation. On these same points he gave valuable evidence before the Royal Commission on Vaccination, and this evidence Mr. Alfred Milnes recently attempted to traverse, and to prove the fallaciousness of the conclusions based upon it. In his paper Mr. Milnes gives a table, which he states "shows the fallacy of the argument adduced by Dr. Ogle in Question 351, that sanitation cannot have been the cause of a reduction in mortality from a given disease, unless that reduction has been shared by persons of all ages. In every one of the diseases contained in the table the children's share of the mortality is less in the healthy districts than in Liverpool, whilst in no case save that of small-pox alone is it even alleged that there is or can be any other cause beyond the greater healthiness of living in the one place than in the other. Wherefore not only does sanitation change the general mortality, but it changes the infant mortality to a vastly greater extent than it does the adult mortality; and this in practically all the zymotics, whether taken individually or collectively as a group, with the results totalled." On this argument Dr. Ogle makes the following pertinent remarks: "Mr. Milnes's proof of the fallaciousness of the argument adduced by me clearly depends on the utterly unwarranted assumption that I have maintained that sanitation affects all ages in the same degree; he has, in short, virtually interpolated the word 'equally' before the word 'shared' in his statement of my argument." Dr. Ogle continues: "I have never maintained anything of the kind. All the world knows, and I have myself had occasion more than once to insist on the fact, that sanitation affects those of tender age to a greater extent than those of riper years. But this fact in no way militates against the argument which I have based on the changed age incidence of fatal small-pox, which argument is as follows: Concomitantly with the stricter enforcement of vaccination there has been an increasing diminution in the mortality from small-pox. This diminution cannot be explained as due to mere sanitation, for were it so the diminution would be shared by all ages, whereas, as a matter of fact, it has been entirely confined to the earlier age periods, the mortality in later age periods having not only not fallen off, but having materially increased." We have given Dr. Ogle's remarks in full, as his argument is so frequently misstated, and as the lucidity of his statement of this argument cannot be improved. The attempts to discredit the recent report of the Royal Commission on Vaccination are so numerous and so persistent that it is most important that each erroneus statement and argument should be exposed as soon as it becomes public property. When Mr. Milnes can explain why, on the assumption that the change is due to "sanitation," small-pox mortality has increased at the higher ages, while it has declined so remarkably at the earlier ages, he will—and not until then—be able to upset Dr. Ogle's argument.

INSANITY AND CONSUMPTION AMONG NEGROES IN THE UNITED STATES.

At the recent meeting of the American Medical Association, Dr. Thomas J. Mays, of Philadelphia, presented a communication to the Section of Neurology and Medical Jurisprudence on the increase of insanity and consumption among the negro population of the South since the Civil War. He said that statistics gathered from the superintendents of Southern hospitals for the insane show that both insanity and pulmonary consumption have increased to a disproportionate extent among the negroes of the Southern States during the last thirty years. Thus, according to the United States census, there were in 1860 only 44 insane negroes in the State of Georgia; in 1870 there were 129; in 1880, 411; and in 1890, 910. In North Carolina there were among the coloured people in 1880, 91 lunatics; in 1885, 144; in 1890, 244; in 1895, 307; and in 1896, 370. In Virginia, before 1865, there were about 60 insane negroes in the asylums of that State; now there are over 1,000. In the Eastern Hospital for the Coloured Insane in North Carolina, consumption caused 14 per cent. of the total number of deaths in 1884, while in 1895 it caused 27 per cent. of all the deaths, and this in spite of a reduced mortality-rate. In the Mississippi Lunatic Asylum from 1892 to 1896, consumption caused 42 per cent. of the total number of deaths among the negroes, or an increase of 22 per cent. over the death-rate from this disease among the white population outside hos-

pitals for insane (it being, of course, well known that insanity predisposes to phthisis), if the latter be estimated at 20 per cent. In the Alabama Insane Hospital during 3 years and 9 months, beginning October 1st, 1890, there occurred 295 deaths among 1,700 white and negro patients. Of the 179 deaths among the white patients, 28 per cent. were due to tuberculosis, and, of the 116 deaths among the negroes, 42 per cent. were due to the same disease. From this and other evidence which he had gathered from various quarters, Dr. Mays concludes that both the diseases in question have increased to a disproportionate extent since the war. He holds that the cause of phthisis lies in a disintegrated nervous system, and he cites a number of authorities as well as clinical and pathological facts to prove his position. Among other conclusions he draws the following inferences: That both consumption and insanity are closely allied, both in personal and family history, to idiocy, hysteria, epilepsy, asthma, and to other diseases of the brain and spinal cord; that they are both produced by syphilis, alcohol, overwork, business vicissitudes, domestic trouble, mental anxiety, grief, disappointment, and excesses of all sorts—in fact, by any agent or influence which vitiates the brain or nervous system; and that those who are confronted by a new and higher civilisation, and who are compelled to adjust themselves to these new relations, are excessively liable to fall victims to insanity and pulmonary phthisis. Dr. Mays looks upon civilisation as an accumulation of force, and the older the civilisation the greater its momentum and the higher its plane; and when a lower civilisation is precipitated into the midst of a higher, as in the case of a negro, it is the throwing together of two forces which differ in power and in rate of motion. The lower, in order to preserve itself, must make an effort to adjust itself to the course and changes of the higher movement, and the strain which is occasioned by this effort of adaptation falls on and vitiates the brain and nervous system, and this in turn gives rise to insanity and phthisis. The vices of alcoholism and syphilis, which are readily acquired by these people, accelerate the advent of these diseases by destroying the integrity of the brain and nervous system. What is happening to the negro population of the South is a repetition of what happened and is still happening to the aborigines of America, Australia, and New Zealand, who in their unequal warfare with civilisation are being steadily exterminated by pulmonary phthisis.

THE POLICE AND THE PUBLICANS.

A Northern contemporary, commenting on the substantial increase of 3,244 police apprehensions for drunkenness and allied offences last year over the apprehensions at Glasgow during the previous twelve months, approves of the police executing the duty thrown upon them by the Public Houses Amendment Act. This obligation is to the effect that the chief officer of police shall report to the Fiscal the names of publicans from whose houses persons have been seen frequently to issne while intoxicated. Only three such cases had been reported. It is also suggested that there should be public-house inspectors to visit the houses to see that no intoxicated person was supplied with drink. There are two grave objections to such a procedure: In many cases the customer does not present any sign of intoxication till he has emerged into the outer air; the other is that the police force would have to be at least doubled.

The *Journal of the College of Science, Imperial University, Japan* (vol. x, Part II, 1897), just received, contains papers on the occurrence of iron bacteria in large masses in the hot springs of Ikao by Manabu Miyoshi, who also contributes a study of sulphur bacteria in the Yumoto hot springs at Nikko. The other papers are entirely of zoological interest. All of them are by Japanese scientists, and are written in German except one by S. Hatta, on the formation of the heart in Petromyzon, which is in English.

ARCHÆOLOGICA MEDICA.

XXXV.—ANCIENT CELTIC PHYSICIANS.

Dr. Macnamara, of London, at once avows in the preface to the *Story of an Irish Sept*[1] that he is the member of the Sept who tells the story, which is certainly one of much historical and archæological interest. Inasmuch as the complete comprehension of a part may lead to a better understanding of the whole, so Dr. Macnamara hopes that the study of a Sept, or group of families derived from a common ancestor, and settled on lands which they succeeded in holding for many centuries against all invaders, may throw much light on the character of the Irish people, and help to the better understanding of the hereditary qualities which have moulded the career and influenced the descendants of Celtic Irishmen as individuals, and collectively as a nation. This is doubtless true, and students of Irish history and Irish character owe Dr. Macnamara a debt of gratitude for the laborious and conscientious way he has told the story of his Sept, from the fifth century to the confiscation of their lands in 1654, and of the family up to the present time.

Some very curious facts are given about the provision of the poor and sick, and the status and work of a physician under the Brehon laws:

> The Celtic relieving officer had large powers, for he was entitled to levy a rate in kind on the landowners of the district in which he resided for the maintenance of the "wretched and wandering poor." This officer is described as a "pillar of endurance," a truly Celtic idea of a relieving officer; he was further to suffer "the reddening of his face without insult to his tribe;" in other words, he was not to consider himself disgraced because he was abused by beggars. Each tribe was chargeable for the maintenance of its own "sick men and women, and for the keep of those who were incurable." We learn also with "respect to sick maintenance" that it included the attendance of "a physician, and for providing food, bedding, and lodging, and in guarding the sick from things prohibited by the physician."

It is satisfactory to learn how highly physicians were thought of by the early Irish. Thus we read:

> The services of the doctor were in those times so much appreciated by the Celts that it was by no means uncommon for the tribe to make a grant of land to a physician, so that, in the words of the Brehon code, he might be preserved from "being disturbed by the cares and anxieties of life, and enabled to devote himself to the study and work of his profession." A distinction is drawn in the Brehon code between the "lawful" and "unlawful" physician; for instance, it is stated, "if an unlawful physician remove a joint or sinew without obtaining an indemnity against liability to damages, and with a notice that he was not a regular physician, he is subject to a penalty with compensation to the patient."

The laws against quacks were certainly more drastic among the early Irish than at the present day. The house of the doctor was the general hospital, and Dr. Macnamara gives some interesting information as to the responsibilities of the physician, the fees paid him, and the methods of treatment adopted:

> If a man was maliciously or accidentally wounded, he was removed to the house of a physician, who examined his wounds and gave certificates as to their character, upon which depended the legal liabilities of the person who had inflicted the wounds. If the doctor thought he could cure the wounded man, he gave security for his proper treatment, and in return received security for his fees; these varied with the rank of the patient. If a bishop, the doctor was entitled to forty-two cows, and so downwards through various grades; for the "houseless, homeless man, a houseboy, or a slave," the doctor's fee was two cows.
>
> The Celtic physicians appreciated the value of cleanliness, pure water, and free ventilation in the treatment of the sick and wounded. The doctor's house, under the provisions of the Brehon laws, was the appointed place where the sick were to be treated, and, as a matter of fact, until the fifteenth century, wounded men, including the chiefs of septs or tribes, were frequently taken to be healed of their wounds in the house of a physician. These houses were ordered to be built either on the bank of a running stream, or with such a stream passing through the precincts of the house. The building was to be provided with four doors, with the object of "allowing all that took place within it to be open to inspection, and further to permit one door being left open whichever way the wind blew." The hot-air bath was employed for the cure of rheumatism, and shampooing was largely extolled. There is much in the system of medicine as practised by the early Celts of Ireland which connects their ideas and practice with that contained in Sanskrit works on the healing art, and there can be little doubt that the Celts carried with them from their Aryan homes those notions of the practice of medicine and surgery which crop up in so curious a way in the Brehon law tracts.

The extreme interest of the above is an excuse for quoting at length. In many matters in which the truth is found in a compact of sentiment with logic the Irish have given us useful lessons, and in these extracts from the old Brehon laws the suppression of quacks, the aseptic treatment of wounds, and the public character of the doctor's work are foreshadowed.

[1] *The Story of an Irish Sept.* By a Member of the Sept. London: T. M. Dent and Co.

SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

MONTREAL.

[By Special Cablegram.]

Friday, September 3rd.

The Address in Public Medicine (published at p. 629) was delivered on Friday afternoon by Dr. Hermann M. Biggs, Director of the Health Department, New York City. The address, which dealt with the relation of tuberculosis and diphtheria with the social conditions of the population of New York, was illustrated by a large series of maps and diagrams. Loud applause was evoked by the closing passages of Dr. Biggs's address, in which he said that, notwithstanding the persistent efforts of the sensational press of America, the sentiments of the medical profession and of the people at large towards Great Britain were those of sincere respect for her institutions, profound admiration for her great achievements, and warm affection for her people.

A vote of thanks for the address was passed on the motion of Dr. Montizambert, of Quebec, seconded by Dr. Harvey Littlejohn, of Edinburgh.

A resolution was adopted recommending the Council to elect Lord Aberdeen and Lord Strathcona and Mount Royal honorary members of the Association in token of gratitude for the interest they had taken in the meeting.

Lady Aberdeen's proposal to establish a Victorian Order of Nurses was endorsed by the passage of a resolution declaring that the organisation of a system of district nursing throughout the various provinces of the Dominion would afford invaluable help in the treatment of disease, and be of great benefit to the sick poor of the colony.

A greeting was read from the American Public Health Association, inviting the members of the British Medical Association to attend the meeting in Philadelphia from October 26th to November 9th.

The meeting was brought to a close by the usual votes of thanks, Professor Roddick's services as President receiving special recognition.

Annual Dinner.

The annual dinner of the British Medical Association took place at the Windsor Hotel, Montreal, and was attended by members and guests to the number of 400.

The Governor-General, in proposing the toast of "that old and splendid Association," expressed his gratification at the success of the meeting.

Dr. Robert Saundby responded, sketching the objects of the Association, and its methods and work. He thanked the Canadians for their hospitality.

The toast of "The Colonial Branches" was given by Professor William Osler, and acknowledged by Professor Anderson Stuart, of Sydney, who also proposed the health of "The President of the Association."

Professor Roddick responded, thanking the profession throughout Canada for their help.

INTERNATIONAL MEDICAL CONGRESS, MOSCOW.

Our Special Correspondents write:

The Moscow Prize.

The rumour which has been circulating for some weeks past that the town of Moscow was about to devote a large sum of money for the foundation of a prize in connection with the International Medical Congress is now fully confirmed. The donation is of the amount of 10,000 roubles and the interest from this sum, estimated in round numbers at £200, is to be awarded at each Congress to the author of the most important discovery in medicine and its allied sciences or to the originator of the work producing the greatest good of humanity since the last Congress. The prize is to be known as the Moscow Prize; it is to be administered by a Committee composed of one delegate from every country represented at the Congress. Each Congress will appoint its own Committee. In addition to the above named sum the city has presented an extra £200 to be awarded this year as the prize for the first time. The Committee, whose President was Professor R. v. Virchow, and whose English representative was Professor A. R. Simpson (Edinburgh), has awarded it to M. Henri Dunant, the founder of the Red Cross movement.

Proceedings of Sections.

A Blood Test for Diabetes.—Among the more interesting communications this week that of Dr. Bremer (St. Louis, U.S.A.) on a blood test for diabetes takes a prominent place. A drop of blood spread on a glass slide is heated in an oven till the temperature rises to about 135° to 140° C. (within about six to ten minutes). The oven is allowed to cool and the preparation is stained for one and a-half to two minutes in congo red or methyl blue, 1 per cent. (not methylene blue); other aniline dyes may be used, but these are the best. Then rinse, and it will be found that whereas non-diabetic blood has stained, diabetic blood remains unstained. Biabrick scarlet stains diabetic blood, but not non-diabetic blood. Control preparations of normal blood must always be made. The temperature is the essential point.

Craniectomy for Microcephalus.—M. Doyen (Paris), at the combined sitting of the Surgical and Neurological Sections, reported some remarkable results on the result of craniectomy in microcephalus. In one case, complicated with goître, the goître disappeared, and the intelligence so improved that the patient, aged 15, was successfully taught to speak.

Chlorosis.—Dr. Warfvingl (Stockholm) believes that chlorosis is a specific disease, and that iron acts in it as mercury in syphilis or arsenic in pernicious anæmia. He gives it hypodermically in doses about one-fifth of those given by the mouth. The preparations, like hæmoglobin, he regards as less useful than the others, as they are not sufficiently readily acted on by the reducing agents.

A New Hæmatokrit.—Dr. Daland (Philadelphia) brought forward an improved hæmatokrit. The scale is improved, and a lens front is added. He points out that by this instrument the examination of the blood can be completed in three or four minutes. He also gave a method of calculation which brings the results of this instrument into accordance with the Thoma-Zeiss hæmocytometer.

Drunkenness and the Law.—Dr. Sutherland, Deputy Commissioner in Lunacy for Scotland, discussed the relation of the law to drunkenness, pointing out that while it rendered a person irresponsible for the commission of civil acts, it admitted his responsibility for criminal acts, and, indeed, rather considered the offence aggravated. Further, he drew attention to the fact that this anomaly is heightened in countries where no check is put upon the drunkard. He considers that drunkenness *per se* should be made a punishable offence against the law.

Tabes Dorsalis.—Dr. Grasset (Montpellier), in an admirable paper on the treatment of tabes dorsalis, sums up as follows: That tabes is curable clinically, but not anatomically. That the chief lines of treatment should be directed against the cause, against the sclerosis itself, and against its symptoms. Under the first head he emphasises the importance of antisyphilitic and antigouty treatment: in the treatment of the sclerosis iodides, salts of silver, ergot of rye, and

the antisclerous *régime*, by which he means the adoption of every possible means to prevent auto-intoxication. In his discussion of the treatment of the symptoms that of the ataxia is the most interesting. The adoption of Fraenkel's method of re-education he considers to be indicated where the progress is slow, and in the absence of acute or subacute crises. He explains the *rationale* of this treatment as being an education of the other tracts of the cord by the brain to undertake the work of those destroyed by the disease.

Hypertrophic Pulmonary Osteo-Arthropathy.—Dr. J. Lindsay Steven (Glasgow) read notes of a case of hypertrophic pulmonary osteo-arthropathy of Marie, without pulmonary disease, and exhibited water-colour drawings, photographs, skiagrams, charts, and diagrams in illustration of its salient features. The patient was a man, aged 48, employed as a packer. He had first noticed some enlargement of his hands and feet about nine months before his admission to the Glasgow Royal Infirmary, but it was not until eight or nine weeks before his admission that he had to give up work on account of inability to close the hands, and pain in the knees and ankles. On admission there was no sign of any thoracic disease, but he stated he had had a cough four months before, which did not lay him off his work, and which was quite away fully a month before he sought admission. The hands presented typically the thickened fingers and the extremely curved nails of the disease so named by Marie, and there was marked thickening and roughness of the surface of the distal ends of the forearm bones. Skiagraphs showed this to be due to subperiosteal new bone formation both in the forearm and hands. The ankles and feet presented a similar deformity. There was no kyphosis, no deformity of the face, and no retro-sternal dulness, but there was some deficiency of the temporal half of the visual field, and a distinctly excessive quantity of urine, without, however, any detectable abnormal ingredients. There was no deformity of the trunk. Dr. Lindsay Steven considered the relationship of the case to acromegaly, osteitis deformans of Paget, and pulmonary osteo-arthropathy. He considered that the clinical features corresponded most clearly to the latter affection, although it was remarkable that here there was no chronic pulmonary disease to support Marie's view as to the causation of the disease.

Hereditary Neuroses in Children.—In the Section of Mental and Nervous Diseases Dr. G. E. Shuttleworth read a paper on hereditary neuroses in children. He defined neurosis as an abnormal condition of the nervous system tending to disorder of function, not obviously connected with structural change, but often associated with trophic defect. He proceeded to show how hereditary neurosis implied abnormal irritability of nervous tissue and consequent instability of function, manifesting itself by sensory, motor, and psychic disturbances. In so-called nervous families were found mentally and morally defective children, children liable to eclampsic, convulsive, and choreic affections, and children who suffered from every form of "nerve storm." Neurotic inheritance varied in form of manifestation in different generations, and in members of the same generation; and this fact was illustrated by typical genealogical tables. The history of a degenerating family was passed in review in its downward course towards extinction. Statistics were given as to the hereditary influence of mental and nervous disease, of strumous and syphilitic taints, of alcoholism, of consanguinity, of senility, etc., in the parentage in determining neuroses in the offspring. The views of Richarz and others as to prepotentiality of one or other parent in the transmission of neurosis were considered, and the variety of form of inherited nervous disease in children discussed. From the sociological standpoint the necessity of educating public opinion as to the harmfulness of the intermarriage of neurotic persons was insisted on, and the paper closed with some remarks upon the precautions called for in the up-bringing and education of children of neurotic inheritance.

Notes from the Congress.

In addition to those previously appointed, Professor Simpson was elected Vice-President of the Section of Midwifery, Dr. Yellowlees Vice-President of the Section of Nervous and Mental Diseases, Dr. Philipps Vice-President of the Section of Therapeutics, Dr. Affleck Vice-President of the Section of Medicine, and Dr. Sutherland Honorary Secretary of the Section of Nervous and Mental Diseases.

On August 28th the members of the Congress were entertained at a splendid banquet given in their honour by the Municipality of Moscow.

Perhaps, however, the event most looked forward to among these festivities by those members who were lucky enough to possess invitations was the visit to the Imperial Palace at Peterhof, which took place on Sunday. In honour of their visit the grand fountains in front of the palace were playing, and even those who have seen some of the most famous ones in Europe were astonished at this extraordinary display. For extent, taste, variety, and brilliancy combined they certainly have no superiors. The greater portion of the palace was put at the disposal of the visitors, who sauntered through the noble apartments at their ease. A splendid luncheon was served in two grand saloons. After a stay of four or five hours the party returned to St. Petersburg, as they had come, in three Imperial yachts.

According to the *Daily Chronicle*, one of the English representatives had to be rescued from the hands of the police. Dr. Cooper Pattin, the medical officer of health for Norwich, is a bit of an antiquarian, and, having an hour or two to spare, strolled off to sketch certain objects of interest. He was promptly arrested as a German spy. Happily the Congress authorities were able to satisfy the police, and the doctor was released after a few hours in the lock-up.

Entertainments.

The business of the Congress having been wound up on Thursday, August 26th, twenty-four hours were allowed us to change our abode from Moscow to St. Petersburg.

On Saturday, August 28th, the energetic member of the Congress was invited to take part in an excursion on the Neva. This charming expedition, which was provided by the medical men of the town, consisted of a tour among the islands among which St. Petersburg is situated or which lie in its immediate neighbourhood. By its means an idea of the extent and general topography of the city is perhaps more quickly gained than by any other. The excursion, which lasted about three hours, was thoroughly appreciated, and enjoyed by all who took part in it.

The same evening a grand reception of the members by the Mayor took place in the Hôtel de Ville. Few among the other brilliant functions which have marked this Congress have exceeded this one in magnificence. The great majority of the armies of Europe, with the notable exception of our own, were represented by medical officers who were frequently men of high rank, and invariably in splendid uniforms and profusely decorated. Music was provided by the band of an infantry regiment. A few speeches were made during the evening, but their purport could not be more than guessed at, as no programme was forthcoming, and general conversation showed no inclination to diminish on their account. We are informed that it was not till the small hours that the latest revellers left the scene.

On Sunday an excursion to Peterhof had been arranged for, including a luncheon in the palace at this favourite summer resort of the Emperors of Russia. About 600 invitations were issued, and four Government steamers were placed at the disposal of invited members, Unfortunately the morning was very cloudy, and in the afternoon the rain poured down heavily, but this was the only unfortunate point in a very pleasant and well-planned excursion. The steamers reached Peterhof about midday, and the guests at once drove or walked to the palace, which is no great distance from the sea. Like most other things at Peterhof the palace dates from the time of Peter the Great. The exterior of the building is not very striking, but in the park immediately below the hill upon which the palace is built, and therefore overlooked by its windows, is the collection of fountains for which Peterhof has so long been famed. The biggest of these is named "Samson," as the water, which rises to a height of about 100 feet, gushes out of the mouth of a gilt lion, whose jaw is being rent asunder by a colossal Samson. From this down to the merest trickle of water there is every variety and form of fountain. All were playing on Sunday last, and the effect was a remarkable, and probably a unique one. At 1 o'clock a champagne luncheon was served in the ball room and

banquetting room of the palace. The afternoon was, as already stated, unfortunately wet, and a good many guests, after visiting Monplaisir and some of the other places of interest in and around Peterhof, preferred to take the train back to St. Petersburg, rather than wait for the steamers, which returned at 5 o'clock.

On the succeeding Monday the principal event was a visit to the Imperial Institute of Preventive Medicine. Opened in 1890 on a moderate scale, this institution has gradually grown till at the present time it is one of the largest of its kind. It comprises Sections of Biological Chemistry, Physiology and General Microbiology, Pathological Anatomy, General Pathology, and Bacteriology. A part of its practical work is the affording the Pasteur treatment of rabies to those who require it, the preparation of the various antitoxic serums, including the plague antitoxin of Yersin. The various laboratories appear to be exceedingly well appointed. There is an apparatus for photomicrography, but the only illuminant provided is daylight, which though concentrated through a fine series of condensers, must be considered inadequate and antiquated. This point is the more remarkable as the artificial lighting throughout is electric. In the Bacteriological Section we may refer to an invention of Mme. Schultz for preventing the accidental contamination of bacterial cultures. The test tubes are placed upright in cylindrical glass vessels, which are then covered by closely-fitting covers of cardboard. By this means the dust is perfectly excluded, while a sufficient supply of air is provided for those requiring it. Moreover, the covers are cheap and convenient to label. Unfortunately, the interest of the visit was somewhat diminished by the fact that some of our hosts were unable to speak any other language than Russian.

On Monday evening a reception was held by the members of the profession in St. Petersburg. It was called a "farewell rout," and was absolutely the last of the entertainments which our Russian colleagues and friends have so liberally provided for us. It was held in the Nobility Hall (Dvorianskoé Sobranié) the largest concert hall in St. Petersburg. The entertainment was characteristically Russian. The first part consisted of a concert of Russian songs and music by a Russian orchestra, in which the "balalaika," a three-stringed instrument, played a prominent part, and this was followed by performances, vocal and instrumental, by other Russian choirs, and songs and dances by a band of gypsies of both sexes. The evening ended in the hall being cleared and the guests themselves dancing the Polish mazurka and other dances.

Visit to Warsaw.

In Warsaw, the hospitality which has been so unsparingly displayed was as evident as elsewhere. Through the kind attentions of Dr. Alexander and his assistant committeeman, M. Cohn, we were able in a short time to see the special points of general and medical interest. Of the latter we have only space to refer to the military hospital which, recently reconstructed and redecorated, may stand as a pattern to others of its kind. Its operating room, splendidly illuminated and spotlessly pure in glazed and tiled walls, appeared lacking i n no essential, whether as regards the efficient sterilisation for the instruments, the sufficient heating of the chambers, or the comfort and convenience of the spectators.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, TORONTO.

Our Special Correspondent sends the following in continuation of the report published in the British Medical Journal of September 4th:

Section of Physiology.

Refractory Period in Nervous Centres.

Professor Charles Richet gave an account of experiments by which he has demonstrated and measured the refractory period in cerebral and medullary nervous centres (of the dog). When the animal is cooled to 30° C. and anæsthetised, it will react by muscular responses to isolated electrical stimulation of the cortex, if the stimulation be not too frequent. If the rhythm of these be 1 per second, the responses are equal; if the rhythm be 4 per second, there will be one large and one small; and if 10 per second, there will no longer be a response to each excitation, but one to two only. Half of the stimuli are ineffective, since they fall within the refractory period. Similar results are obtained by reflex mechanical stimulation. The duration of the refractory period is one-tenth of a second. It is possible to show that there is such a period in man, and the inference is that discrete cerebral excitation or volitional impulses cannot have a frequency of above 10 or 11 per second. The duration of the refractory period may in a certain sense express the psychological unit of time.

Action of Certain Reagents upon Electrotonic Currents.

Dr. Waller gave an account of the action of certain reagents upon electrotonic currents, and demonstrated some of his elegant experiments to the meeting. He dealt with the action of acids and alkalies, of carbonic acid, of certain anæsthetics, as well as of tetanisation and of temperature upon electrotonic currents. In the frog's nerve the anelectrotonic current (A) considerably exceeds the katelectrotonic current (K). Usually the magnitude of A. is to that of K. as 4 or 5 to 1. In consequence of a rise of temperature to 40° C. the A. current is diminished and the K. current increased. With moderate acidification similar effects are obtained, while the typical effect of moderate basification is diminution of the K. current. The effect of prolonged tetanisation upon the K. current is similar to that of acidification, namely, the K. current is increased. The effects upon the A. current is less uniform, but there is a close resemblance between the effects of carbonic acid and those of prolonged tetanisation upon both A. and K. currents. The author holds that this is strong evidence that the tetanisation of isolated nerve gives rise to a production of CO_2. Electrotonic currents are readily acted upon by anæsthetics, and this fact points strongly to their being largely, at any rate, physiological and not physical in nature. Electrotonic currents are temporarily diminished under the influence of ether (50 per cent. vapour in air), and permanently diminished under the influence of chloroform (about 10 per cent. in air).

Effects of Choline and Neurine on the Blood Pressure.

Dr. Mott gave an account of the effects upon blood pressure produced by the injection of choline and neurine and allied products. Normal cerebro-spinal fluid produced no effect, while that obtained *post mortem* from cases of general paralysis of the insane produced a fall of blood pressure. This is not due to a proteid body present; for after coagulation by boiling, or precipitation by alcohol, a similar effect is produced. Neurine hydrochloride in 0.1 per cent. solution gave a similar fall, but in most cases this was followed by a rise and then by a more persistent fall of blood pressure. Choline hydrochloride in 0.2 per cent. solution gave results identical with those obtained by the pathological cerebro-spinal fluids. Blood taken from patients suffering from pseudo-apoplectiform convulsions of general paralysis was precipitated with alcohol, and the filtrate, after evaporation to dryness and solution in saline, injected, and the effect produced corresponded entirely with that obtained with pathological cerebro-spinal fluids and with solution of choline. Normal blood gave a negative result. The fall of blood pressure produced by these various reagents is cardiac in origin. This was established by plethysmographic tracings and by experiments on the frog's and mammal's heart. This agrees very well with what is found in general paralysis, cardiac weakness, and enfeebled circulation.

Intestinal Absorption of Ferratin and Hæmoglobin.

Dr. Mackay gave an account of experiments on the intestinal absorption of ferratin and of hæmoglobin. By microchemical tests he found that the iron of ferratin is absorbed by the epithelial cells of the villi, and that it was passed inwards to the leucocytes. Deposits of iron could further be found in the liver, spleen, and lymph glands. The iron of hæmoglobin is absorbed by the epithelial cells as a compound, probably hæmatin. In this case deposits are also found in the organs of the portal system, and there is indication of some excretion of iron in the bile and in the urine.

The Chemistry and Structure of the Cell.

On August 24th, there was a combined meeting of the

Physiological and Botanical Sections to discuss the chemistry and structure of the cell. The discussion was opened by Professor Meldola, who spoke on the *rationale* of chemical synthesis of bodies formed by living organisms.

Professor Green, Professor Halliburton, Professor Remsen, Professor Marshall Ward, and Professor Armstrong took part in the discussion.

Miscellaneous Papers.

The following papers were also read: Professor Thompson on the Physiological Effects of Peptone.—Professor Graham Lusk: On the Gastric Inversion of Cane Sugar by Hydrochloric Acid.—Mr. J. J. Mackenzie: On the Microchemistry of Nerve Cells.—Dr. Warrington: On the Changes in the Ganglion Cells of the Cord after Section of the Posterior Nerve Roots.—Professor Carl Huber: On the Structure of the Cells of the Sympathetic System.—Miss Welby: On the Action of Anæsthetics on Cardiac Muscle.—Professor MacAllum: On the Significance of Intracellular Structures, and on the Distribution of Iron in Animal and Vegetable Cells.—Professor Sherrington showed some Experiments on Visual Contrast and on Flicker.—Mr. O. Grunbaum gave an account of Visual Reaction to Flicker.—There were other papers of less direct medical interest.

A MEMORABLE INCIDENT OF THE GLOUCESTER EPIDEMIC.

We have had occasion recently to refer to some criticisms which have been published on the statistical evidence contained in the report of the Royal Commission on Vaccination, and to show how entirely they fail to shake the conclusions at which the Commissioners have arrived. But there is another branch of the evidence in favour of vaccination which its opponents are very shy of attacking, and that is the evidence from individual experience of limited and compact communities in which small-pox has gained a foothold, but in which its progress has been effectively arrested by vaccination. It might appear at first sight rather singular that no reference should be made to this branch of the evidence in the report of the Commissioners, and that even the evidence on which the report is based contains much less of it than might have been expected. But the explanation is probably to be found in the facts that so much of the evidence was devoted to discredit rather than to support vaccination; that what was adduced in its favour was directed mainly to considerations of a larger kind, which could be treated statistically; and that it is with this branch of the evidence that the report almost exclusively deals. This is the more to be regretted because this class of evidence appeals more strongly to the "man in the street" than does that of a more collective character. He is often unable to appreciate, will even scarcely consider, averages, percentages, and other embodiments of numerical comparison. Like the "rule of three" in the old quatrain, they puzzle him, if they do not absolutely drive him mad. But he can see easily the force of a concrete illustration, in which all the probabilities lie on one side and all the improbabilities on the other. The history of vaccination teems with such illustrations, and it is much to be desired that they should be got together and published in a collected form. They would offer a very effective set-off to the cases of alleged injury from vaccination which are so assiduously paraded by its opponents, with the tag from the Commissioners' report, that they are "in the gross not inconsiderable," but without the qualification that when compared with the amount of work done they are "insignificant."

The Outbreak in Wotton Asylum.

An interesting contribution to this branch of vaccination literature is to be found in the report of the Gloucester Board of Guardians on the recent epidemic of small-pox in that city. Amongst the striking facts there recorded as to the protective influence of vaccination on various establishments and bodies of the citizens, the case of the Wotton Asylum is particularly noteworthy. We are enabled to gather the facts of this case somewhat more fully than they are given in the guardians' report from the annual report of the Medical Superintendent of the Asylum, Mr. F. Hurst Craddock, M.A., which has recently been issued. The Wotton Asylum is one of two belonging to the county of Gloucester. It is situated within the city of Gloucester, was built many years ago, and its sanitary and other arrangements are therefore not so perfect as they are in the Barnwood Asylum, which has been more recently erected. Mr. Craddock does not in his report state the precise number of patients and staff which it contained at the time of the outbreak, but it is incidentally referred to as nearly 800. At the outset of the epidemic the asylum is stated by Mr. Craddock to have been "crowded almost to its utmost capacity"; that "in some wards the patients were packed like herrings in a barrel"; and that "there was absolutely no possibility of further isolation than moving the affected persons to the engineer's cottage, about 100 yards from the main building." With reference to the general position of the asylum, it was, as has been already stated, situated within the boundary of the city, "in a district," as Mr. Craddock states, "where small-pox was absolutely raging; the air was full of it." Now here was a crucial opportunity for testing the value of vaccination. As Mr. Craddock well puts it: "Here is a large institution, packed to its utmost capacity with persons, many of low and enfeebled vital powers, where, moreover, the patients in different parts of the house are in constant and daily communication with each other. It is attacked by the most certainly infectious malady known to medical science, where it might reasonably have been expected to spread like a spark amongst tinder." The malady did gain a footing in the asylum.

On March 15th, when the disease broke out in its immediate neighbourhood, and when the superintendent was debating with himself whether he would have the whole of the patients vaccinated or not, the staff having already been revaccinated, a female patient, a deaf and dumb idiot, was attacked. No time was then lost in vaccinating the whole of the patients, both in this asylum and in that at Barnwood. Before the lapse of the period within which those who had been thus operated on could be considered safe two other patients were attacked, one a female the other a male. Both of these were very severe cases; one died, the other recovered and is badly marked. After that no other cases occurred amongst the patients, but on May 10th a nurse developed an undoubted variola rash. The case was, however, a mild one, and she was soon back again on duty. Mr. Craddock remarks, as a curious feature of this case, that the nurse's mother assured him that her daughter had had variola as an infant.

Such, then, are the facts of this remarkable outbreak. Four persons in an ordinarily well isolated community of nearly 800, mostly in a generally low state of health, and living under conditions which are certainly not consistent with our best sanitary ordeal, took small-pox. The rest did not. Mr. Craddock asks, as everyone naturally would, Why? "Because," he replies, "they were vaccinated. If vaccination did not protect them I am at a loss to explain the phenomenon. Neither can I see how any unprejudiced mind can come to any other conclusion; and I tremble to think what would have been the consequences had Jenner's discovery not been available to temper in all cases, and destroy in most, the poison of this dreadful disease. I cannot at this distance of time describe the absolute feeling of security that pervaded all alike when once the operation of vaccination had been performed." There is only one observation which is necessary to point the moral of the incident which Mr. Craddock has so graphically described. It is to ask what would have been done, in the face of the awful responsibility with which Mr. Craddock was confronted, by those, some few of them we regret to say, members of his own profession who glibly discourse about vaccination as a filthy and a useless "rite," had they been placed in his position. It is the sense of responsibility which so many members of the medical profession have had to bear in the face of actual experience of small-pox, and the opportunities which they have so largely enjoyed of sharing Mr. Craddock's feeling of confidence when armed with the protection which Jenner has bequeathed to us, that gives to their judgment in this matter the weight which the overwhelming majority of the community fortunately attach to it.

BRITISH MEDICAL JOURNAL REPORTS

REPORTS ON THE HYGIENIC CONDITION AND ADMINISTRATION OF METROPOLITAN DISTRICT AND SEPARATE SCHOOLS.

BASED ON THE EVIDENCE LAID BEFORE THE DEPARTMENTAL COMMITTEE.[1]

(By Our Own Commissioner.)

XII.—BOARDING OUT.

IN all England only 1,798 children are boarded out "without the union," which term expresses that their homes are chosen in villages beyond the area to which they are chargeable, but 3,712 are boarded out "within the union," making a total of 5,510, or about 10 per cent. of the 59,957 children who are fed, clothed, and housed by the Poor-law authorities. In London out of the 17,807 children dependent on metropolitan ratepayers, 968 are boarded out. These figures stand for less than 5 per cent. of the whole, a very small number compared to those dealt with in other countries by this simple method.

THE ADVANTAGES OF BOARDING OUT.

These are so many and so obvious that merely to summarise them will be sufficient, referring our readers to the evidence of Mrs. Fawkes, Miss Brodie Hall, and Miss Clifford for many of the reasons which support our statements.

(*a*) The child lives in and enjoys the interests of a natural home (11344).

(*b*) Its standard of health is higher than when one of a number aggregated together (9126).

(*c*) The individual character of each child is considered and moulded (11344).

(*d*) The orphan often obtains a permanent home with its foster-parents (11344).

(*e*) The Committee members offer friendship which not infrequently lasts beyond childhood (12000).

These are all undoubted advantages for the pauper child, and on the villagers' side there are also benefits, for they are glad not only of the company of the child but of the small payment received with it. The system, too, does something to weld the varied elements of village life into harmony, and keeps the foster mother in kindly touch with the great dames of the parish. Financially, also, the pauper child brings moderate wealth into the village shop, while at the same time boarding out serves the ratepayer well, each boarded-out child costing £13 a year instead of the £29 which is paid for it in a barrack school (11348). It is something also for the community to be saved the enormous sums which are now expended on the buildings for paupers—sums which can bring but inadequate return, as they can be of no use to subsequent generations.

HEALTH OF BOARDED-OUT CHILDREN.

Among the 73 witnesses heard by the Committee there is no one whose evidence is more convincing than that of Dr. Barnardo, whose institutions include barrack schools, a village community, emigration colonies, and who has therefore special means of comparing the different systems. Concerning boarding out, he says: "The health results from boarded-out children, including the physical development of the children as well as the enjoyment of health under all circumstances, are very much higher with the boarded-out children than with any children I have in my institution" (9126). Dr. Sandford notices the absence of ophthalmia among them, asserting that out of 100 boarded-out children he found only 2 cases, although in nearly all were visible the traces or scars of previous attacks (1116). Dr. Jane Walker reports that the result of putting the children into natural environment is that they improve physically, mentally, and morally (10852). We are not surprised at this testimony. Any student of child nature will be able out of his own experience to give illustrations of children thriving by the aid of their interests and developing in relation to the demands and varieties of their environment. The barrack-bred child, with his days and hours apportioned out for him by rules and regulations, with his food weighed and served with a uniformity that admits of none of the pleasures of surprise, has not the same stimulus to appetite as his happier boarded-out neighbour, who has raced home from school with the taller village lad to partake of the rough and perhaps limited fare, but which is eaten with the relish born of unexpectedness and the sauce of domestic interests and homelike society.

There can be no doubt that boarded-out children are less bountifully as well as less scientifically fed than the barrack-bred child, but the normal excitements of natural life are healthy stimuli, and less food eaten, digested, and enjoyed is more productive of growth and vigour than a larger quantity either eaten without appetite, or, as is too often the case, pecked about and then wasted (15778-80).

BOARDING OUT IN OTHER COUNTRIES.

Our national prejudice is frequently shown in indifference to the usages and experiences of other countries, but this charge cannot be laid against the Poor-law Schools Committee, which has gathered together much interesting knowledge concerning the practices of other countries.

Thus, to go no further than Scotland, we learn from Mr. McNeill, the Secretary of the Local Government Board of Scotland, and Mr. Peterkin, the late General Superintendent, that something like 84 per cent. of all the children chargeable to the parochial authorities were boarded out, the figures being 4,716 out of a total of 5,608 (12988). Besides these 16 per cent. were in the workhouses, but of these the larger number were of the unhappy class known as "ins and outs" (12991). Among the Colonies South Australia led the way in 1872, two years after the first boarding-out order was issued in England, Victoria 3,203, and Tasmania followed in 1873, New South Wales in 1879, New Zealand in 1882, and Queensland two years afterwards (3181). In all these countries the system has worked so well that it is now the chief method adopted for the rearing of dependent children, and the same experience is acknowledged in Italy, France, Holland, Russia, and Belgium (3079), and also in America. From all parts of the globe the same report is received of the healthy condition of the children, and the consequent advantage to the community, because in later life they are able to hold their own in the labour market, and to maintain themselves independently of State or philanthropic aid.

THE INSPECTION INEFFICIENT.

The whole success of the boarding-out system depends on efficient inspection, and so strongly do the Society for the Protection of Waifs and Strays and Dr. Barnardo feel this that they have both established methods of thorough, frequent, and organised inspection. The head inspector of Dr. Barnardo's boarded-out children is a fully qualified medical practitioner (10522), herself practising extensively among women and children (10528), and she has under her a sub-inspector. One of these ladies visits every child four times during the first year it is under their care (10537), and twice annually during subsequent years (10538). The Waifs and Strays Society is hardly less particular, but between their practices and those carried on by the lady inspector, and we presume sanctioned by the Local Government Board, there is a very wide difference, for, according to that lady's own evidence, she inspected 400 children (14354) out of the 1,798 entrusted to her care. When asked whether she considered that inspection sufficient she replied that she considered "it was no use inspecting too often or else the local committee would shift their responsibilities upon the inspector" (14355), her rendering of "too often" being explained by a previous admission that some committees were not visited for more than two or three years (14330), and that she considered "there could be nothing worse than for an inspector to inspect all the children under a committee twice a year" (14364).

SOME CONSEQUENCES OF INSUFFICIENT INSPECTION.

Such a method of inspection must meet with condemnation from every level-headed person who is at all acquainted with

[1] The previous articles appeared in the BRITISH MEDICAL JOURNAL of January 2nd, p. 39; 9th, p. 90; 16th, p. 163; 23rd, p. 214; February 6th, p. 340; March 13th, p. 667; March 27th, p. 812; April 10th, p. 935 May 1st, p. 1102; July 31st, p. 285; and August 14th, p. 413.

men and matters, and it has doubtless been largely to blame for the evils so graphically described by Mr. Crooks, L.C.C., who found that in one village "boarding-out was the staple industry" (12415), the Committee having been allowed to take more children than the neighbourhood warranted. The Committee itself, he says, is "mostly self-elected, and consists of one active worker, with others existing on paper in order to comply with the requirements of the Local Government Board" (12416).

The Delays of the Local Government Board.

The delays of the Local Government Board are largely to blame for the faults which have made boarding out in this country a matter of little else than an ineffectively-tried experiment. It is in theory the plan for the Local Government Board immediately to send copies of the inspector's reports both to the guardians and the boarding-out committees (14520-1); but delays, sometimes lasting as long as six months, frequently occur between the inspection and the receipt of these reports by the guardians and local committees. This is most unsatisfactory, and it is a strong argument for the recommendation made by the Committee that the duty of settling and carrying out the arrangements for boarding out should be transferred to the London central authority (when provided), and that that body should have also the responsibility of inspecting such children, organising the local committees, and maintaining them in a state of efficiency.

Boarding Out not always Applicable.

In Scotland boarding out has been made to serve the interests of four out of every five dependent children, but we do not see, much as we approve the system, that there is any likelihood of its meeting the needs of anything like that proportion of London children, many of whom by the very circumstances of city life require a discipline not compatible with the village traditions of freedom. We have no hesitation, however, in saying that had the official arrangements been more satisfactory there can be little doubt that a much larger number of children could have been provided for in this way, for of scarcity of suitable country homes there is none. On this point there is a consensus of opinion from Gloucestershire, Somerset, Warwick, Cambridge, Bedfordshire, Essex, Kent, Surrey, not to mention the more northern or western counties. Among much that is dry, official, and uninteresting in the Blue Book the evidence of the many ladies and gentlemen who give their experience on boarding stands out pre-eminently as being characterised by confidence in the system, personal interest in the individual children, sympathy with the foster parents, and appreciation of the many benefits which they receive as they gradually become absorbed into the industrial life of the neighbourhood.

IMPRISONMENT AND INSANITY.

The annual report of the Commissioners and Directors of Prisons for the year ended March 31st, 1897, contains some interesting figures on the relations of imprisonment and insanity. Dr. Herbert Smalley, the medical inspector, furnishes a table with full particulars of each case. Out of the total number of insane dealt with in local prisons during the year—namely, 380—it is shown that 216 were either remanded for observation, and therefore already of doubtful mental state on committal, or they were not convicted, or they were found insane on arraignment or on their trial. The medical inspector therefore very properly excludes these cases from the statistics of insanity in prison.

Of the 164 cases left, it is proved that 34 were recorded as having been previously insane, and 121 were found to be insane on reception, so that only 43 of the whole number developed symptoms of unsound mind subsequent to reception in prison.

An interesting analysis of the 43 cases shows further that 5 cases occurred within one week, 6 within two weeks, and 7 within a month, or in other words that 19 out of 43 cases occurred within a month of reception. It will be obvious to anyone who has even a superficial acquaintance with the development of mental diseases that imprisonment can have had but little to do with the causation of any of them. But it is further pointed out that in regard to the remaining 24 cases 13 occurred within three months, 6 within six months, and 5 cases only out of the whole local prison population occurred after the completion of six months' imprisonment.

Facts like these are entirely inconsistent with the view which has been reiterated from time to time in the daily press, that imprisonment gives rise to insanity. So far from this being so, it would seem from these figures that the longer the sentence the less the risk of insanity.

Dr. Smalley very conclusively shows that for purposes of comparison no proper analogy exists between the so-called "prison population"—that is to say, the daily average number of prisoners—and the general population outside. The prison population is a constantly shifting body, which changes in its entirety twelve or thirteen times a year, whereas the general population is permanent in by far its greatest portion during a year. Comparisons, therefore, which are made between the two are entirely fallacious and for practical purposes useless. We are frequently told that our prisons are "forcing beds of insanity," and that the low diet to which prisoners with short sentences are subjected is conducive to, if not productive of, insanity. Medical officers of prisons, on whom a very heavy responsibility rests in this connection, and who are quite alive to the dangers of the situation, do not subscribe to these opinions. They are given a very free hand by the rules of the Prison Service in dealing with all cases of physical and mental weakness, and there has been hitherto no well-founded imputation either on their humane motives or their technical skill in dealing with cases of mental aberration. We can commend to the public with confidence a study of this report as throwing a clear light on the work of the Medical Department of our prisons.

In investigating the relations of crime and insanity, it must be remembered that the prison population consists of the moral residuum of society. To expect that such material will not furnish a larger proportion of lunatics and cases of mental deficiency than the general community would seem about as reasonable as to expect an average death-rate in an unhealthy stock. Criminals as a class are both mentally and morally unhealthy. Hereditary taint, drink, irregular living, cranial injuries, and various other causes predispose them to mental and physical breakdown—factors which do not exist to anything like the same extent in the non-criminal classes. It is notorious that drink alone accounts for more than half the offences committed by local prisoners. It is also one of the commonest direct causes of insanity. We must not, therefore, expect a high mental standard or a high degree of stability among criminals any more than we look for it among drunkards. It is, indeed, more probable that a long sentence of imprisonment, under present conditions, with enforced abstention from drink, has a salutary effect on a prisoner with an ill-balanced mind than that it drives him into insanity.

Our prison system has been very minutely investigated lately by Mr. Herbert Gladstone's Committee in deference to various appeals in the press for inquiry. On this question of imprisonment as a cause of insanity, the conclusions of the Committee were decidedly adverse. Nothing, in fact, was elicited to disturb the public mind either in regard to the treatment of prisoners under our present system, or to shake confidence in those who are administering it.

BATTLE OF THE CLUBS.

Female Membership of Friendly Societies.

The *Western Gazette* of August 21st reports that a deadlock has ensued in connection with the Trowbridge Medical Institute on account of the medical staff objecting to a rule which states "that a female on marriage should not be re-examined by the surgeon." This in effect would mean, "Once a member, always a member," and the medical officers generally object to it as being unfair.

The matter has been referred for further consideration, but it is by no means clear what it is the local profession specially object to. We have always strongly dissented from accepting women as members of friendly societies, at least at anything like the same rate as that paid by men, and in the case of married women the rate ought to be proportionately higher. But where the surgeon has examined a female member and

passed her, it is not easy to see any valid reason why he should re-examine her on marriage, except for reasons which the public would never consent to. Doubtless the risks of married life would be greater in the case of some women than in others, but these must be estimated by the medical examiner at the time of the first examination, if at all, although it might be reasonably demanded that female members on marriage should pay an increased premium.

A CASE OF PROLONGED UNCONSCIOUSNESS.

Readers will doubtless remember a case of prolonged unconsciousness which has of late received considerable attention in the lay press. We are indebted to the courtesy of Dr. Ashby G. Osborn of Dover, under whose care the patient is, for a detailed account of the case, with charts, which may be summarised as follows:

M. A., a girl aged 17, was found unconscious on August 5th, and admitted into the Dover Hospital under Dr. Osborn the same evening. When discovered she was lying on the beach near St. Margaret's at the foot of a cliff 200 feet high. There was a severe bruise on the right side of the forehead and slighter contusions on the occiput and left ankle. She had been wandering about for two or three days before this, and when spoken to on the same afternoon seemed much exhausted. The nature of her injuries renders it most improbable that she had fallen over the cliff, and Dr. Osborn suggests that she swooned from sunstroke (the day being very sultry) and struck her forehead on the rocks in falling, the occipital bruise being possibly of earlier date.

When admitted she was perfectly unconscious, all reflexes except the conjunctival being lost. The temperature was 100.2°, but rapidly rose to 103.6°; the pulse was 156. For the first eight days the temperature was taken hourly, after that four-hourly. On the first and second days it touched 105.6°, but thenceforth it steadily declined under treatment, the maximum on the third day being 104.6°, on the fourth 103 8°, on the fifth 104 2°, on the sixth 104°, on the seventh 104.2°, on the eighth 102.4°, on the ninth 100.2°, on the tenth 100 2°, and on the eleventh 99.2°, since when it has been practically normal, the pulse-rate having also fallen to 100 or less. The pupils were at first contracted, equal and insensitive, the arms were rigidly extended, and the hands pronated; these have gradually relaxed and she now moves them, especially the left. After fifteen days the plantar reflex began to return faintly.

On September 2nd she was still unconscious and required feeding; the face had acquired more expression, and the eyes were widely opened and appeared to follow a moving object. The cardinal feature of the treatment was the employment of cold packing whenever the temperature rose above 102°. This was not only immediately effectual, but appears to have wrought persistent benefit, for the rises of temperature became daily less frequent, and the cold pack needed repetition less often. Bromide of ammonium and iodide of potassium were given internally, and mercurial ointment rubbed in while the arms were rigid. Blisters were also applied beneath the mastoid processes. The diet consisted of milk and beef tea, and an enema was administered when required. Dr. Osborn is convinced that the progress thus far made in the case is largely due to the assiduous attention of the house-surgeon, Mr. Fosberry, and the perseverance of the nurses in administering nourishment.

THE MEDICAL SICKNESS AND ACCIDENT SOCIETY AND CYCLING ACCIDENTS.

When some fourteen years ago the founders of the Medical Sickness and Accident Society determined to establish an institution to provide members of the profession with assistance when incapacitated by illness or accident, they carefully estimated the risk to be covered, using as a guide the experience of the greater of the friendly societies then in existence.

The result has been very satisfactory. The tables of premium adopted have been found sufficient to cover the ordinary sickness claims and to provide the necessary margin to secure the Society's working when an epidemic like that of influenza abnormally increased the claim account. When the tables were calculated it was recognised that the risk of incapacity from accident as well as from illness must be taken into account, as, although medical men were not much exposed to the risk of such accidents as those which usually produced claims in the ordinary working class friendly societies, they were exposed to special risks, some strictly professional, such as blood poisoning contracted in making *post-mortem* examinations, and others arising from their having, especially in country practices, to do a good deal of night travelling both on wheels and in the saddle.

Accidents from these causes have always been numerous, and the Medical Sickness and Accident Society has expended a large amount in assisting its members when incapacitated in this way. Such accidents used to be placed under two headings, "riding" and "driving," and the question whether wheels or the saddle was the more dangerous mode of travelling was of some interest. But during the last two years the accident claims have largely arisen from a method of travelling in which both wheels and saddle are used—namely, cycling—and in this way an entirely new risk has been introduced. Whether this new risk is really an addition to the old risks cannot yet be determined. So far it has certainly increased the accident claim account of the Medical Sickness and Accident Society.

The economy and convenience of bicycles to medical men, especially in the country, are so great that large numbers of them are employed, and in many cases by men who have reached an age at which any new gymnastic exercise must be accompanied by some risk. For a time, therefore, a considerable number of bicycle claims must be expected, while in the long run it may be hoped that the health-giving properties of the machine will more than compensate for these losses.

The alteration in the rule of the Society, made last May, under which all new members now come into benefit as soon as they pay the first premium, instead of waiting for six months as before, was made mainly to obviate the hardship of members being out of benefit in cases of accident during this probationary period. In the short time that has elapsed since this alteration was made several members have been paid sickness allowances who would not have been entitled to it under the old rule, and quite recently a new member sent his first premium with an intimation that he had been badly damaged in a bicycle accident the day before. No extra premium is charged by the Society to cover this risk, for it is hoped that in the long run this new practice of wheeling will not produce any diminution in the funds.

Prospectuses and all particulars on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, W.C.

DEATHS UNDER ANÆSTHETICS.

Chloroform.

On August 14th Mr. F. Llewelyn Jones, Deputy Coroner for Flintshire, held an inquest at Rhyl on the body of Mary Jane Kendrick, aged 29, who died on August 13th while having a number of teeth extracted under chloroform. Dr. W. Goodwin said that on that day Mr. Jenks, L.D.S., told him he had a patient requiring an anæsthetic, as she had to have a large number of teeth extracted. He informed him that her own doctor had told him that she was in a fit condition to undergo the anæsthetic. Dr. Goodwin went and saw the patient. He first examined the mouth, and found it was in a diseased condition, making it necessary that the teeth should be taken out. The patient said she was willing to take an anæsthetic, and as it was a case in which gas was useless he suggested chloroform. He examined her in the usual way, and in his opinion she was a fit subject to undergo the operation. He administered chloroform with a mask, and she took it without any hesitation or trouble. Just before the operation she struggled slightly, as was usual in such cases. When she was completely under the influence of chloroform, and after the lapse of about a quarter of an hour, he told Mr. Jenks that she was ready for the extraction, and he proceeded to extract the teeth. After three teeth had been taken out, he noticed that deceased became blue in the face and her breathing ceased. At that point they lifted her from the chair on to

the floor. They used the prescribed remedies in a case of this sort, but without avail. There was nothing in the condition of the patient to suggest any danger whatever. She was apparently a strong woman. Death was probably due in this case to failure of the heart's action. The jury returned a verdict of "Death from misadventure," and expressed the unanimous opinion that no blame was attached to the medical man who had administered the anæsthetic.

An inquest was held at Wolverhampton on August 14th on Mary Jane Feltell, aged 35, of Accrington, who died in the Women's Hospital while under chloroform, which had been administered for the purpose of an operation. Dr. Edge, Honorary Surgeon at the Women's Hospital, said he examined the deceased and considered that an operation was necessary. Dr. Joberns administered chloroform, and witness was about to perform the operation. In a minute, however, after the chloroform had been given the deceased became pale, her eyes dilated, and her pulse stopped. Artificial respiration was resorted to, but she died. Dr. A. McMunn, who made a *post-mortem* examination, said the heart was affected by fatty degeneration, and death was due to syncope caused by the action of chloroform vapour. Witness considered that the condition of the deceased was proper for an operation. A verdict in accordance with Dr. McMunn's evidence was returned.

An inquest was held at Chatham on August 14th on the body of Joseph Howie, aged 32, chief stoker on H.M.S. *Pembroke*, who died while under the influence of chloroform when undergoing an operation. The jury found that death was due to misadventure.

We are indebted to Mr. W. L. Garner, House-Surgeon to the Children's Hospital, Nottingham, for the following particulars of a case of death under chloroform which recently occurred in that institution:—On August 23rd, E. H., aged 3 years, was admitted to the Children's Hospital, Nottingham, under the care of Dr. Lewis Marshall, suffering from epiphysitis (probably tuberculous in nature) of the right femur. Fluctuation was easily obtainable above the internal condyle on the inner side of the thigh, and behind in the upper part of the popliteal space. Chloroform was administered the next day by the house-surgeon, the child taking it quietly and well. Dr. Marshall then proceeded to operate, and had almost finished when the child's breathing suddenly became shallow and quickly stopped, the pulse at the time being regular and of good volume, and the pupils not dilated. The operation was at once suspended and artificial respiration performed, strong ammonia being held to the nostrils. At first the means used seemed likely to be effectual, as the child made two natural respirations in about three minutes, but the improvement was only temporary. Hot sponges were then applied to the chest, an enema of hot brandy and water (2 ozs.) was given, and the patient inverted, but no further effort at respiration was made on the part of the child. The radial pulse was perceptible for quite half an hour after cessation of respiration, and only gradually failed. Artificial respiration was maintained for fifty minutes before hope was finally abandoned. The child had taken chloroform a month previously without any ill-effect. He was badly nourished, and was only just recovering from a prolonged attack of whooping-cough. No *post-mortem* examination was made. The chief point of interest in the case lies in the cessation of respiration so long before cardiac failure.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held in the Council Room of the Association, at No. 429, Strand (corner of Agar Street), London, on Wednesday the 20th day of October next, at 2 o'clock in the afternoon.

FRANCIS FOWKE, *General Secretary.*

September, 1897.

NOTICE OF QUARTERLY MEETING OF COUNCIL FOR 1897.

A MEETING of the Council will be held on October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the meeting—namely, September 30th.

ELECTION OF MEMBERS.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

FRANCIS FOWKE, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

EAST ANGLIAN BRANCH.—The autumnal meeting will be held at Aldeburgh on Thursday, September 16th, 1897. Programme: A discussion will be introduced on the subject of Consultations with the Officers of Medical Aid Associations. Luncheon by invitation of the President in the Jubilee Hall. After luncheon Mr. Walter D. Severn (West End Pathological Laboratory, London) will deliver a short lecture on Bacteriological Methods, Koch's Postulates, etc., illustrated by a limelight lantern with photomicrographic slides of bacteria, etc., and will demonstrate about 300 pure cultivations of bacteria, yeasts, moulds, and hair and skin fungi; and various preparations of bacteria mounted and stained will be shown under microscopes. Mrs. Marshall, M.D., will read a paper on a Case of Exfoliation of the Bladder. Mr. T. H. Morse, F.R.C.S., will read a paper on a Case of Cæsarean Section for Transversely Contracted Pelvis. After the meeting afternoon tea at Westhill, to which all members of the Branch and the ladies who may be with them will be welcomed by the President.—EDGAR G. BARNES, M.D., Eye, MICHAEL BEVERLEY, M.D., Norwich, THOMAS CARR, M.D., Braintree, Honorary Secretaries.

NORTH OF ENGLAND BRANCH.—The autumnal meeting will be held at Bishop Auckland on Thursday, October 7th, at 5.15 P.M. The dinner after the meeting is fixed for 6 P.M.; 6s. 6d. each, without wine. Notice of communications should be sent to the Honorary Secretary, G. E. WILLIAMSON, F.R.C.S., 8, Eldon Square, Newcastle-on-Tyne.

SHROPSHIRE AND MID-WALES BRANCH.—The annual general meeting will be held at the Salop Infirmary on Tuesday, October 12th, 1897, at 3 o'clock. Members wishing to bring forward any business, to read papers, or show cases or specimens, or to propose any new members are requested to communicate with the Honorary Secretary not later than Saturday, October 2nd.—H. WILLOUGHBY GARDNER, Honorary Secretary, Swan Hill, Shrewsbury.

SOUTH-EASTERN BRANCH: EAST SURREY DISTRICT.—The next meeting of this District will be held at the White Hart Hotel, Reigate, on Thursday, October 14th, at 4 P.M., C. E. Oldman, M.D., of Blechingly, in the chair. Dinner at 6 P.M.; charge 7s. exclusive of wine. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The following papers, etc., have been promised: Dr. Washbourn: The Present Position of Bacteriology in reference to Practical Medicine. Mr. W. Arbuthnot Lane: Adenoids. Dr. George Stoker: The Oxygen Treatment, with Exhibition of Apparatus, Lantern Demonstration of Cases, Bacteriology, Oxygen Cicatrices, Lantern Slides, etc. Members desirous of exhibiting specimens or reading notes of cases are invited to communicate at once with the Honorary Secretary, HENRY J. PRANGLEY, Tudor House, Anerley.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—The next meeting will be held at the Sackville Hotel, Bexhill, on Tuesday, September 28th, at 3.30 P.M., Dr. Wills in the chair. A paper on Syphilitic Diseases of the Eye will be read by Mr. H. E. Juler. Dinner at 5.30 P.M.; charge 6s., exclusive of wine. Notice of intended communications should be sent to the Honorary District Secretary, J. W. BATTERHAM, M.B., Grand Parade, St. Leonards.

NORTH WALES BRANCH.—The autumn intermediate meeting will be held at the Waterloo Hotel, Bettws-y-coed, on Thursday, September 30th, 1897.—SAMUEL GRIFFITH, M.D., Portmadoc.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The autumn clinical meeting will be held at the Cardiff Infirmary on Wednesday afternoon, September 29th. Notices of papers, cases, etc., to be sent in not later than Wednesday, September 22nd.—A. SHEEN, D. ARTHUR DAVIES, Honorary Secretaries.

PRESENTATION.—Mr. John Wood, M.A., M.B., on leaving the neighbourhood and resigning his position as Senior Physician to the Walsall and District Hospital, has been presented with an ebony and gold clock, accompanied by an illuminated address, by members of the Hospital Committee and a few other friends.

SPECIAL CORRESPONDENCE.

PARIS.

Rebuilding of Paris Hospitals.—A District Free from Tuberculosis.—Toxicity of the Sweat.—The Boucicaut Maternity.—General News.

The recent suicide of a patient at the Tenon Hospital has attracted attention to the organisation of the Public Assistance. It was rumoured some time ago that drastic reform of the Assistance was decided on; in three years every perfection needed would be carried out. Now the programme is more limited, and the administration is to content itself with building improvements. M. Peyron, in his report, keeps in view the pressing wants of hospitals and asylums, and quietly puts on one side the organisation for home medical relief, also the question of private helps organisations; and thus the word "reform" is thoroughly out of place, and the question is reduced to one of bricks and mortar. The building plans are as follows: New hospitals are to be built; others are to be improved and repaired; the site for one hospital is to be chosen on the *rive droite*. The Pitié Hospital, built during the reign of Louis XIII to receive the poor and indigent, but not the sick, is in a deplorable condition; it requires to be completely rebuilt; as also the Broussais Hospital, which was built in 1883, in as short a time as six weeks, and is constructed of wood and bricks. The Aubervilliers Hospital is built of wood, and therefore it is considered necessary that it should be pulled down and rebuilt in stone. A slight difficulty lies in the way; the hospital site belongs to the Army Administration, which will not allow stone to replace the wooden construction. This hospital is reserved for contagious diseases, and other communes will not allow a hospital for contagious diseases to be erected in their district. The Seine Department bought property at Moisselles, in the Seine and Oise Department, for the purpose of building a reformatory school for poor children; but the project has been abandoned. The Public Assistance Administration proposes to buy the property for the purpose of building a hospital for old people. The Seine Administration possesses property at Brétannes, close to the hospital, and proposes building on it isolated pavilions for the old and infirm. It is also intended to enlarge the Rochefoucauld Retreat, Avenue d'Orleans, where those who can pay a small sum towards their maintenance are received. This retreat is noted for its shortcomings. Two hospitals for children are being built to replace the accommodation provided by the Hôpital Trousseau. One is situated near the Avenue Dumesnil, the other behind the Montmartre Cemetery. It is possible that a second hospital for sick children will be added to the Hôpital de l'Enfant Jésus in the Rue de Sèvres. The sea coast hospital at Hendaye in the Lower Pyrenees is being built. The report states that there is not one single hospital or asylum under the jurisdiction of the Public Assistance Administration which does not need immediate alterations and repairs. "Most of them are falling to ruins" is the succinct judgment expressed in M. Peyron's official report. Furthermore, it is asked how it could be otherwise, as the sum allotted for repairs is insufficient. The sum required to carry out the building improvements indicated by M Peyron amounts to about 53,000,000 francs (£2,120,000); 16,000,000 francs may probably be provided by the Public Assistance Administration, there will remain a deficit of 37,000,000 francs. A loan is the only means of obtaining the sum: when will it be obtained is a question difficult to answer. Thus the reforms in hospital management so loudly demanded take the shape of building plans; these plans must be approved of by the overlooking committee, examined into by the Municipal Council, and ratified by a vote of that body, which will have to organise a loan to meet the deficit. Will all this be done and the buildings be finished by 1900? It is devoutly wished for, but doubts are as firm as the wishes.

M. Dubousquet and M. Duchesne, in a report on the health of Saint Ouen, a hamlet on the borders of Paris, state that 98 families, making up a total of 511 souls, have not since 1883 furnished a single case of death from tuberculosis. This immunity seems to have existed for years previously. Old people among this favoured community state that they have never seen nor heard of tuberculous patients. These families thus exempted are agricultural labourers, tillers of the earth, etc., and indigenous to the country, or inhabitants who were early settlers. In 1870, 72 young men from this community left St. Ouen to go to the army; 7 were male nurses. Not one of the 72 became tuberculous. This is all the more striking as the mortality from tuberculosis among the army male nurses is 11 per 1,000. Among the lay nurses the mortality is also very high. In ten years the deaths among the Paris hospital nurses have amounted to 599; 217 of these have been from tuberculosis. The immunity enjoyed by the St. Ouen inhabitants is attributed to their thoracic development, their natural vigour, their life in the open air, good food, and good dwellings. The mothers suckle their children. Marriages among blood relations are frequent, which would be a reason for deterioration if the stock were bad. There are no intermarriages between this section of inhabitants happily exempt from tuberculosis and the numerous immigrants who settle in the locality, and add to the death-rate of tuberculosis. This immunity from tuberculosis is observed among the bovine race at Limousin and Auvergne. Fifty years ago human tuberculosis was unknown at Limousin; since the emigration of the rural population to towns it has become the dominant malady. The same facts are observed in all civilised countries. The families at St. Ouen who form the subject of the report drawn up by M. Dubousquet and M. Duchesne have remained at home and not mixed with their neighbours. The authors of the report conclude that on the outskirts of Paris there exists a race refractory to contamination by tuberculosis.

The question of the toxic qualities of perspiration, though not quite a new one, inasmuch as M. Berthelot at a recent meeting of the Paris Medical Academy reminded his listeners that, if Africanus can be believed, the perspiration gathered from a horse was used in ancient times to render arrows poisonous, has recently formed the subject of research. Several experiments have proved that human perspiration is toxic. A series of guinea-pigs and rabbits were killed by inoculations of perspiration gathered from a flannel shirt worn by a healthy young man after dancing a cotillon. A glove worn by a lady who danced vigorously through a ball was utilised for inoculations with equally deadly results. M. Arloing's more recent experiments show that perspiration resulting from muscular exertion is more toxic than that consequent from a vapour bath.

The Maternity founded by Madame Boucicaut at Roubaix is now finished. It is destined to succour unmarried mothers after their first child. Two *crèches* are in existence close to the hospital, one of which has been rebuilt according to the directions given by hygienists and doctors. Fifty children can be tended in it, but only about twenty go to it; the inhabitants of Roubaix do not care to send them to it. The trouble of taking them to the *crèche*, and the necessity it entails of the mothers going to suckle their children are the great obstacles, and these are more considered by the parents than the penny per day required to be paid. The Socialist Municipality has increased by 25 per cent. the help accorded to the charity organisation at Roubaix. The aged are to be 60 instead of 70 years of age in the asylums. The hospital for incurables is to have 50 instead of 100 beds.

The President of the French Republic has left 5,000 roubles for the French hospital at Moscow, and 6,000 for different charitable societies in Russia succouring French people.

MELBOURNE.

Complimentary Dinner to Sir T. N. Fitzgerald.—Australian College of Dentistry.—Death of Dr. W. H. Cutts.—Experimental Inoculation of Tick Pest.—New Instruments.

There was a magnificent demonstration on the part of the medical profession of Victoria when 160 medical men gave a complimentary dinner to Sir T. N. Fitzgerald in recognition of the honour of knighthood which has recently been conferred upon him. Dr. Neild occupied the chair, and after the usual loyal toasts he proposed "Our Guest," and said the profession had assembled from all parts of the colony and from other colonies to offer congratulations to Sir Thomas for the honour conferred on him by Her Majesty the Queen. It

was an honour of an exceptional character, because it was the first time a medical man in Australia had received the honour for professional knowledge and eminence. Sir Thomas, on rising to reply, received a tremendous ovation, the whole assemblage rising to their feet and cheering vociferously. He said he wanted this honour for the benefit of the profession, for he wanted to do all he could to elevate it. He then gave a very interesting description of his past career—his struggles, his defeats, and his successes—and declared his readiness at any time to render all the assistance he was capable of to the younger members of the profession. This occasion was made use of to present addresses of congratulation on behalf of the medical staff of the Melbourne Hospital, the Ballarat District Medical Society, and the Bendigo Medical Society.

An Australian College of Dentistry has now been declared open, and its curriculum has been formulated and published. The staff, both special and medical, contains the names of leaders of both professions. The preliminary work has been largely undertaken by Mr. John Illiffe, the Vice-President of the institution, and Dr. A. P. Merrill the newly-appointed Dean. Already a large number of students have been enrolled.

Dr. W. H. Cutts, one of the founders of the Victorian Branch of the British Medical Association, died suddenly during Jubilee week in London. He was one of the best-known figures in the medical world of Victoria. He was President of the Medical Society of Victoria, and of the Victorian Branch of the British Medical Association; he was the founder of the Medical Benevolent Association, and was for seventeen years honorary consulting physician to the Melbourne Hospital. He filled many important positions of trust and responsibility, amongst which were those of trustee to the Government Savings Bank and the Melbourne Cemetery, Member of the Council and Senate of the Melbourne University, Commissioner of Education prior to the passing of the Education Act, and territorial magistrate. Dr. Cutts was born in Chesterfield in Derbyshire in 1828, and graduated as M.D. at Edinburgh in 1851.

Some successful experiments in inoculation with the tick pest have been recently conducted by Dr. Hunt, of Brisbane. He treated in all 26 head of cattle. Of these 10 were treated with arsenic, 8 by inoculation with the defibrinated blood of a beast which had recovered from the tick fever, and the remaining 8 were used as controls. After the treatment had been carried out, all the animals were put into a badly-infested paddock for five weeks with the following results:—They all became infected with ticks. Of the 10 animals treated with arsenic, 6 contracted fever and 3 died; of the 8 controls, 2 contracted fever but none died; of the 8 inoculated none contracted fever. Later on all the surviving bullocks were subjected to the further test of the injection of virulent blood from an acute case of tick fever, with the following results:—Of the 7 surviving bullocks treated with arsenic, 3 of which had already had disease from tick infection in the virulently-infected paddocks, 2 contracted fever, and both died; of the 8 controls, 2 of which already had had the disease, 4 contracted the disease, but none died: of the 8 inoculated, not 1 of which had suffered from tick infection, none had any rise of temperature whatever. As a result of both tests, of the 10 treated with arsenic, 80 per cent. suffered from fever; of the 8 controls, 75 per cent. suffered from fever, while none of the inoculated cattle suffered in any way.

Dr. Clendinnen, of Hawthorn, has invented two very ingenious instruments. One is an electrical coin catcher, which consists of a gum elastic catheter, through which two insulated wires pass down to the eye and are connected with two hooked terminals insulated by ivory or ebonite, each hook being connected with a pole of a battery (a galvanometer and bell in circuit). As soon as the two hooks come in contact with the coin the bell rings. The other instrument he calls the lithophone or macrophone. This consists of a spiral spring about 12 inches long, one end of which is connected by a spring clamp to the handle of the sound; the other is attached to an external terminal of a tin cylinder about 2 by $1\frac{1}{2}$ inch, united to the other external terminal by a fine spiral steel spring which is concealed in the cylinder. Both terminals are connected to the rubber tubes of a binaural stethoscope. On touching anything with the sound, one hears everything very much exaggerated.

CORRESPONDENCE.

VACCINATION STATISTICS.

SIR,—The analysis of Mr. Alexander Paul's pamphlet entitled *A Criticism on Vaccination Statistics*, published in the BRITISH MEDICAL JOURNAL of August 21st, constitutes an interesting and very useful contribution to the literature of this controversy. and having myself carefully studied Mr. Paul's pamphlet I venture to request permission to make a few supplementary remarks thereon.

When one finds three such able controversialists as Dr. Collins, Mr. Alford Milnes, and Mr. Alexander Paul, devoting their best endeavours to demolish the argument based upon the remarkable change in the age-incidence of fatal small-pox that has occurred concurrently with the more general adoption of infant vaccination, we may be sure that they at any rate fully appreciate the effectiveness of the argument. It becomes therefore the more important to consider carefully whether the foundations of the argument have been to any extent shaken by these attacks. In the dissent report of Dr. Collins and Mr. Picton, able as it is, the attack on this part of the pro-vaccination case is perhaps the least effective part of the report, and its conclusion that "vaccination cannot be accepted as an adequate explanation of the shifting of age-incidence of fatal small-pox, or at any rate as the sole explanation," practically confesses the failure of their attack. In Mr. Milnes's paper the assertion of the opponents of vaccination that other zymotic diseases besides small-pox showed a similar change of age-incidence was much laboured, but it remains unproved, the decrease in the proportion of deaths of children under five years of age attributed to typhus and typhoid fever being clearly due to improved diagnosis of the diseases of children.

The reference in Mr. Milnes's paper to the assistance he had received from his friend, Mr. Alexander Paul, added to the interest with which I read that gentleman's pamphlet. It is impossible not to recognise that this pamphlet contains the most carefully prepared attack on the proposition that the changed age-incidence of fatal small-pox is mainly due to vaccination. I fully endorse, however, the conclusion, arrived at in the article in the BRITISH MEDICAL JOURNAL of August 21st, that Mr. Paul claims, with unhesitating confidence, to have proved much that he does not appear to have proved at all. I will only venture to point out one or two of the grounds on which I have felt bound to come to this conclusion.

Mr. Paul early in his pamphlet objects to the use of the figures relating to the six recent local small-pox epidemics, and expressed preference for figures derived from the experience of a long series of years. He omits to notice, however, that the figures for the whole of England and Wales afford the strongest evidence of the influence of infant vaccination, and of its neglect, upon the age-incidence of fatal small-pox. During the seven years, 1848-54, the earliest years for which the information is available, of 1,000 deaths from small-pox, 677 occurred among children aged under 5 years, while in subsequent groups of five years the proportional number at this age-period steadily declined to 193 in 1885-89, and afterwards rose again to 283 per 1,000 in the five years, 1890-94, concurrently with the recent decline of infant vaccination. Unfortunately no satisfactory official vaccination statistics exist prior to 1872, but it is clear that between 1872 and 1887 the mean percentage of default of infant vaccination in England and Wales fluctuated, but only ranged between 4.3 and 6.4. Since 1887, however, this percentage of default has steadily and rapidly increased to 9.9 in 1889, 11.3 in 1890, 13.4 in 1891, 14.9 in 1892, and 16.1 in 1893. It seems impossible to avoid the conviction of an intimate connection between this rapid increase of vaccination default, and the increased incidence of small-pox mortality on young children during the five years, 1890-94, following as it does a steady decline in its proportional incidence during the preceding forty years in which infant vaccination was increasingly practised.

Not only has the proportion of deaths from small-pox of children under 5 to those at all ages declined, but the death-rate of children living in this age-period from small-pox, which was 1,514 per million in the seven years 1848-54, the

earliest for which this information is available, steadily declined in each of the four succeeding decennial periods, to 50 per million in 1885-94, or one-thirtieth of the rate in the seven years preceding the enactment of compulsory vaccination.

But, to return to Mr. Paul, it is very remarkable that so shrewd, so able, and so confident a controversialist should have fallen into so serious an error as to affirm that the percentages of age-incidence are fallacious, (1) because age-incidence of fatality depends on age-incidence of attack, which no one denies; and (2) because the proportional case-mortality varied so widely in Leicester and Gloucester, two towns in which the default of infant vaccination was equally great. The fact is that the proportional age-incidence of fatal cases and the proportional mortality of cases of attack are two distinct series of statistics, and that the attempt to reason from one to the other must lead to fallacious conclusions, such as those so confidently asserted in Mr. Paul's pamphlet.

There is something really grotesque in the assertion that, because the case-mortality in Gloucester was so much higher than in Leicester, the recent changed age-incidence of small-pox cannot be due to vaccination! It is true that the case-mortality in Leicester was 5.9 per cent., whereas it was 21.9 per cent. in Gloucester; but this has no bearing on the fact that in both these towns, in which the young children were practically unvaccinated, the fatal cases of small-pox included more than 60 per cent. of children under 5 years of age, whereas in Warrington and Sheffield, in which there was comparatively little default of infant vaccination, less than 26 per cent. of the fatal cases occurred among children at these ages. It should, moreover, be noted that default of infant vaccination, even if continued for ten years, does not affect the vaccinal condition of the population above the age of 10 years, and that therefore even in Gloucester the population above that age may have been at the recent epidemic in a similar condition as to vaccination as in Warrington or Sheffield.

In the final report of the Royal Commission on Vaccination reference is made to the fact that during the Leicester epidemic the proximity of a scarlet fever ward to the small-pox hospital caused an outbreak of small-pox among the scarlet fever patients, causing three deaths; these three deaths are, however, excluded from the table showing the comparative age-incidence in the six towns that have recently suffered from small-pox epidemics. This incident is, however, used by Mr. Paul as a weapon with which to attack these age-incidence statistics of the Commissioners: he asserts that a small-pox "outbreak may occur in the schools of one town and in the workshops of another;" and, with reference to Gloucester, states that "the disease was spread in schools near the hospital." The Leicester incident, appears, however, to stand alone, and was not allowed by the Commissioners to invalidate these age-incidence statistics. The fact is that the first cases in small-pox epidemics are almost invariably traced to tramps or vagrants in common lodging-houses, and outbreaks cannot be said to occur either in schools or in workshops. Infection, however, is undoubtedly often spread in schools, and this is the more probable in towns where the schools contain a large proportion of unvaccinated children, as in Leicester and Gloucester, although, perhaps, it would scarcely be reasonable to expect Mr. Paul to admit this.—Thanking you in anticipation for the opportunity to make these comments, I am, etc.,

Surbiton, Aug. 23rd. NOEL A. HUMPHREYS.

HOSPITAL REFORM ASSOCIATION.

SIR,—I have much pleasure in informing you that the Earl of Stamford has kindly consented to preside at our conference on October 21st next. This will prove a source of gratification to all who are interested in the subjects we propose to discuss, as it is well known that his lordship has devoted much time and attention to the administration of hospitals.

My Council would like to suggest that the subject of out-patient administration should be dealt with under the following heads: (1) From a consultant's point of view. (2) From a general practitioner's point of view. (3) From an administrative point of view. (4) From a patient's point of view.

In order that an expression of opinion may be obtained from as many gentlemen as possible, it has been decided to make a time limit for readers of papers and subsequent speakers; and fifteen minutes for the former and five minutes for the latter have been fixed. Priority will be given to those gentlemen and ladies who have announced beforehand their intention of speaking.—I am, etc.,

Cardiff, Sept. 7th. T. GARRETT HORDER, Hon. Sec.

"PRIVATE ASYLUMS ON THEIR TRIAL."

SIR,—I believe I am correct in assuming that the article headed as above, which appeared in the BRITISH MEDICAL JOURNAL of September 4th, has been written either *apropos* of a man's bone having been recently broken in a public asylum, or of an accident which occurred a short time back at one of the so-called hospitals for the insane. In either case, I consider that to place such a heading over an article is both unjust to the asylum proprietor and misleading to the public.

Private asylums are no longer on their trial. They have been tried and acquitted long ago of the unfounded charges which have been brought against them by a few egotistical and ignorant faddists. They enjoy the fullest confidence of the profession and the public, in proof of which I may state that many members of the House of Peers and of the House of Commons continue to place their relations in them, well knowing that in private asylums the patients are treated with every kindness, skill, and liberality.

The title of this article may have been conferred on it carelessly, and the article itself shows that the writer bears no malice towards private asylums. But surely, at a time when the most libellous attacks are being made on them in the daily papers, contributors to your widely-read JOURNAL ought to be careful not to in any way prejudice the minds of a public always eager for sensation and novelty against a class of institutions which are acknowledged to be both necessary for the insane and beneficial to the community.—I am, etc.,

FAIR PLAY.

*** The heading of the paragraph referred to by our correspondent should have been placed within quotation marks, as being taken from a newspaper. The object of the article was to show the unfounded nature of such charges.

THE ETIOLOGY OF BERI-BERI.

SIR,—As one of those referred to in Dr. Neil Macleod's contribution on the subject of beri-beri in the BRITISH MEDICAL JOURNAL of August 14th, I should like to add some remarks to your editorial comment on the same. His account is extremely interesting, but though the nature of the food seems to have a very marked influence in regard to beri-beri, as shown for instance in the Japanese navy experiments, yet the evidence at present existing can hardly show that the influence is any more than an indirect one. It seems to me that the assumption of a direct influence on the part of diet presents more difficulties than would appear from Dr. Macleod's paper.

In the case of rice much is exported from beri-beri countries for European use, and though mild cases would probably not be recognised, yet I should expect to find more frequent recognised outbreaks if it were directly infectious.

Dr. Macleod's explanation of the likelihood of a contaminated supply scattered among retail dealers becoming comparatively innocuous is rather hard to apply in the case of Sydney, for I have found that while there is a tendency for the disease to arise in one house, the tendency does not die out, but remains a continuous one. Moreover, as time goes on, the cases which develop seem rather to increase in intensity and seriousness than the reverse. The disease has, to my knowledge, adhered to single endemic foci for years.

I would here record the following case, as one of special interest: I was recently attending a child who lived with his parents in a hut in a market garden near Sydney. The child was suffering from middle-ear disease, but I went over his nervous system, according to custom, and was at once struck by the marvellous resemblance between mild beri-beri and existing symptoms. I had never recognised a case of beri-beri in a European, and could scarcely believe that the

child had that disease. The symptoms I found were slight tenderness of the calf muscles, tenderness of tendo Achillis, tenderness of sole when pressed, tender spot in first intermetatarsal space on dorsum of foot. I then made very cautious inquiries of the mother, and found that for some months past the boy had complained very much of tiredness and pains in the legs, and that this had been so bad that he was often unable to walk to school, a distance of two miles. This had been so bad that he had been sent to stay with his grandparents for some time, as they lived a mile nearer the school. The child had often had a sort of painful or uneasy sensation referred to the lower end of the sternum. No swelling of the legs had been noticed. I then made inquiries as to previous occupants, and unexpectedly found that they had been Chinese, who worked in the garden and lived in a shed next the present house. The child in question was in the constant habit of playing in this shed; also the child was known to have often paid visits to neighbouring Chinese huts. The Chinese had been gone some years, and I cannot say whether beri-beri existed among them. I know that it exists at present in other gardens not far off. No others of the present occupants had any subjective symptoms of beri-beri or peripheral neuritis. I was so impressed with the probability of this being really a mild case of beri-beri that I urged the advisability of sending the child away from the place. If really beri-beri, this would be the first recorded case arising in a European resident in Australia, and it would also provide some positive evidence in favour of a "local miasm" theory of infection.

I may here say, by the way, that after paying particular attention to the subject for some time, I have formed the opinion that at any rate in New South Wales mild forms of peripheral neuritis are vastly more common than seems to be usually supposed. Many of the various pains in the limbs among weakly people, especially among convalescents from acute diseases, really are manifestations of this kind. There is no reason whatever to suppose that these have any connection with beri-beri, and one must be cautious in forming conclusions. Yet the circumstances are extremely suspicious in the case of the child above-mentioned.—I am, etc..

London, Aug. 26th. CYRIL CORLETTE, M.D.Syd.

THE TREATMENT OF NON-NAVAL SURGEONS WHEN ATTACHED TO THE ROYAL NAVY.

SIR,—During the Benin City expedition I was sent down with the Protectorate force to Siri to look after the sanitary arrangements of the base a week before the naval force should occupy the same. I had to build latrines and look after the drinking water there. I was the advance surgeon with the force which took the enemy's first position at Ologbo, and was the advance surgeon of the flying column to Benin City. For five days' bush fighting most of the wounded, either naval or Protectorate men, passed through my hands first and were then passed on to the Protectorate's principal medical officer, who brought up the field cases and hospital.

On the way we took Benin City. I was again the advance surgeon, and was with the company of marines which suffered so severely from the sharpshooters of the Beni people when they were so well ambushed. About sixteen marines got bowled over, including Captain Byrne—three of them dying within the following twenty-four hours, not including the captain, who died at home. I crawled from one wounded man to another, and did the best I could; but that was not much, as one of my carriers had cleared with my ambulance bag. Anyhow, I got many of them under cover and into a place of safety.

No recognition of the services of the principal medical officer or of myself was made by the admiral in his despatches.

In 1894 I was surgeon to the Protectorate Force in the Benin River expedition. Several of the naval men were badly wounded. Five of the worst cases were left at the Benin Consulate under my charge, and I was obliged to look after them and nurse them too (we have no nurses out here) till I was able to take them to Forcados (about ten hours steaming from the Consulate), and put them on a homeward bound steamer.

I had already exceeded my time on the coast, and was due for leave, but was kept back nearly six weeks to look after these wounded naval men.

No recognition was taken of my services, either by the Admiral or the Admiralty.—I am, etc.,

Vice-Consulate, Warri, H.B.M.'s Niger Coast Protectorate, West Africa. FELIX ROTH.

*** We have made inquiries relative to the matter referred to in the above letter, and are informed by the naval authorities that Surgeon Fyfe and Staff-Surgeons Dimsey and Martin were at the taking of Benin City, and attended to all the wounded men of the naval service, including Captain Byrne. It is added that no naval men were landed without their complement of medical officers.

A DISPENSARY DOCTOR FOR TEN SHILLINGS A WEEK.

SIR,—In the issue of the BRITISH MEDICAL JOURNAL of September 4th a notice under the above heading appears, and an invitation is extended to me for the purpose of explaining my reasons ("not for lowering the status of the profession"), but for refusing to submit to tactics contemptible and mean, and which must appear obvious from a consideration of the enclosed account of proceedings, and of the Secretary's official report of minutes, which were published in the *Tyrone Courier* of August 26th, and all other papers in which the original notice appeared.

I may say that until I was informed that I had been elected "*locum*" on each occasion, there was not a word mentioned as to fee.

The Local Government Board has, as I anticipated, correctly recognised the situation, and refuses to permit me to be the victim of such tactics, by ordering that I be paid reasonable remuneration for my services.

Ballymagran Dispensary District has always, with the exception of a few years, been recognised only as a half district, and been attached to Caledon Dispensary District as a branch. As such the medical officer is now paid.—I am, etc.,

Caledon, Aug. 5th. R. D. PATTERSON.

*** The following is the Secretary's official report referred to by Dr. Patterson:

To the Editor of the Tyrone Courier.

[Copy.]

Ballymagran Dispensary Committee, 10th August, 1897.

SIR,—I beg to report that a full meeting of the above was held on Monday, the 2nd, when the sick leave of the medical officer was further extended till September the 6th. Dr. Patterson was appointed to *continue* discharging the duties. Dr. Kennedy having sent in an application to be appointed at £1 0s. 0d. a week, and on being asked, at the request of a member of the committee, whether he would do the duty for any sum less than £1 0s. 0d., replied he would do it for 15s. or less if the committee wished. The committee was *in consequence compelled* to name the remuneration at 10s. per week. The committee expressed their regret at the continued illness of the medical officer, and his inability to resume the duties of the district, and passed the following resolution: "That in the event of the medical officer not being able to resume the duties at the expiration of the leave now granted, he be asked to either resign the position or pay the substitute."—Yours truly,

HUGH CADOO, Secretary.

The Clerk of the Union, Dungannon.

THE REMUNERATION OF THE GENERAL PRACTITIONER.

SIR,—"S." in his letter of July 8th, under the above heading, speaks sound sense when he says, "undoubtedly he (the general practitioner) is chiefly to blame," etc.; especially do we find this to be the case in Leicester.

The Leicester Medical Union was formed here some two years ago, and, practically speaking, the whole local profession joined. Enthusiastic meetings were held, and some of us anticipated a sort of millennium, instead of which the following took place. The resolutions of the Subcommittee were negatived by the Committee, who decided that, instead of forming laws, delegates should be sent to each dispensary, medical aid, and club committee, to ask what they would kindly do for us. To crown all, some four or five of the dispensary staff, yet being members of the Medical Union, met at one of their own houses, and passed a resolution praying the manager of the Provident Dispensary (a partial charity boasting a membership of some 40,000, and 29 medical officers

including themselves) to ask those other medical officers who were dissatisfied to resign their posts.

This, of course, decided the fate of the Medical Union here—as all other societies, having challenged, in the first place, the Provident Dispensary for reform, could not hope to stem the tide against this powerful evil. Now, these medical officers claim that they have derived some advantages from the formation of the Medical Union, but it would require a powerful microscope to see them. Anyhow, they have obtained nothing that would enable any other club to alter existing rules.

Practically we may now say that four or five of the Dispensary medical staff here, backed up by an honorary surgeon to the Infirmary, can congratulate themselves upon their success in maintaining affairs in their existing state, besides ingratiating themselves with the Provident Dispensary manager (who is all-powerful in decreasing or increasing their list of members).—I am, etc.,

Leicester, July 19th. ERNEST W. HAYDON, M.B.

SIR,—I should have passed by Dr. Pullen-Burry's letter of last week had it not been for the unjust aspersion of the student and younger practitioner, and his proposal to educate them up to better things. There is, I boldly state, no member of the profession with higher hopes, a better feeling for his brethren, and more anxious to uphold the dignity of his calling than the student when receiving his all, the copy of the *Register* containing his name. It is subsequently when the necessity of living confronts him that he is apt to fall. Again, I venture to point out the spot where lies the cause of the poor remuneration; it is with the members of the profession who participate in and encourage the subsidy of charity. Subsidised labour is recognised in all callings as the greatest enemy to the due remuneration of honest toil, and it is so in ours. The practitioner who advertises confinements at half a guinea is reprimanded and shunned, not so the other who accepts 10s. 6d. for the patient and advertises in the parish magazine and sends round to collect from door to door the remaining 10s. 6d. In the same manner the medicine man who covers his surgery with the legend, "Advice and medicine 6d." is justly held up to execration as another case of shameful conduct in the profession; but the cottage hospital that advertises "Out-patients, Tuesdays and Fridays, medicine 6d.," is praised for the good work done, and receives its share of the Hospital Fund.

When those that can well afford to do without it aggregate to themselves in these and other ways all the work that ought and would go to their juniors, is it to be wondered at that these in their necessity stoop at times to doubtful courses which mayhap they are themselves heartily ashamed of?

Could we not add to our motto "Live and let live," or even substitute it for the "Do others," etc.—I am, etc.,

Sydenham, Aug. 18th. FRANK TAYLOR.

THE USE OF THE FORCEPS IN MIDWIFERY.

SIR,—Perhaps none of the presidential addresses at Montreal will appeal more to the general practitioner than that in the Section of Obstetrics by Dr. Sinclair. At the same time while the position taken up will, so far as it notes the great change which has taken place with regard to the use of the forceps be accepted, few I think who like myself can look back over more than forty years of active practice, will easily acquiesce in the author's pessimistic deductions.

I venture to question the fairness of giving at the outset the extreme cases of an unrecognised deep and wide laceration of the vaginal vault, and the terrible injuries inflicted only six hours from the commencement of labour as if these were normal results of everyday occurrence rather than the rare and lamentable results of ignorance. Surely the picture of the ignorant, bungling, and worse still, unscrupulous young practitioner who tears the vagina, lacerates the perineum, and dislocates the uterus to save time (!) is grotesquely exaggerated.

I further dispute the axiom that "the accoucheur provides material for the gynæcologist." Is it not often the want of proper skilled interference which produces dire results? Dr. Sinclair quotes Collins's statistics, but it should be remembered that although he only applied the forceps in 24 cases out of 16,414, at the same time he used the crotchet 79 times with 15 deaths of mothers and loss of all the children. Might not the early employment of the forceps have saved a large proportion of these?

I do not understand why Dr. Johnston's results at the Rotunda Hospital should be impugned. I believe injury to the soft parts of the mother ought seldom to occur; in my own experience I never had but one laceration (and that purely accidental through the mother suddenly springing up in the bed). Every mother has made good recovery, and only 12 per cent. of the children have been born dead. When I commenced practice I was haunted by the bugbear "Meddlesome midwifery," and in my first 500 cases employed the forceps only 6 times, but had 4 craniotomies; in my last 500 I have had 74 forceps cases, but no craniotomy. As I look through my old notes and see the frequent entries of "ergot" and "lingering," I regret the long hours of weariness to myself and suffering to my patients which might have been avoided had the ghost of fear been exorcised, and had I then possessed the knowledge and the confidence which experience brings. No doubt Dr. Sinclair does well to utter a warning note against recklessness, but I must decline to believe that a generation of practitioners is springing up devoid of the education, the skill, and the conscientiousness of the older school; and I feel that the latent accusation of this address ought not to go forth to a public ever ready to depreciate medical science without some word of protest.—I am, etc.,

Derby, Sept. 7th. WILLIAM LEGGE.

PROFESSOR KOCH'S RINDERPEST INOCULATION.

SIR,—In the BRITISH MEDICAL JOURNAL of July 10th, p. 98, I find a notice on Professor Koch's method of inoculation against rinderpest. The statements therein are so far from the truth that I trust you will publish this reply and give it as great publicity as the original notice.

In the first place, the herd of 149 cattle referred to inoculated by Dr. Kohlstock and myself was not free from infection at the time of inoculation. The operation had been planned as a test to show if the bile could give the disease, but eventually had to be performed as a last resort and in order to save as many as possible, because an animal was already attacked.

Both Dr. Kohlstock and I before operating protested against accepting the results as conclusive, and our protest was accepted. The statement that no herd has been inoculated with bile in which rinderpest has not followed is still more incorrect. This has been the case repeatedly. I inoculated one of 163 animals in July last, and none suffered. The returns made to the Agricultural Department show many instances such as these.

Forty animals inoculated, 2 sickened and 1 died of rinderpest. On the same day, with the same bile, the same man inoculated 44 animals, and none became infected. A herd of 60 animals inoculated, 4 sickened and 2 died. On the same day, with the same bile, the same operator inoculated 66 animals; none became sick and none died.

The fact is that the inoculations have been confined to herds situated near the infection, and no one was sure whether or not any of the animals were in the incubation stage. Then, whenever the disease followed inoculation, it was attributed to the gall, although the same gall might have been without effect elsewhere.

For months I have begged that I might inoculate a herd on Dassen Island or on Robben Island where an outbreak of the disease would be of no consequence, in order to show that the bile was harmless. But until last July, when Dr. Smartt, M.L.A., of Britstown, put his clean herd at my disposal, I was unable to do so. The result was in accordance with my previously-expressed opinion, though the 163 animals were very weak from the effects of drought, none had rinderpest.

Opinions differ as to the power of the bile to give the disease. Koch, Kohlstock, Kolle, Theiler, and I maintain it does not. Dr. Danysz is sure that it can do so occasionally; Dr. Bordet is not sure; and these gentlemen admit that they have inoculated about 1,200 cattle with only 2 deaths from rinderpest, and there is considerable doubt as to these 2 deaths having been caused by the bile. At any rate, they

voted at the Pretoria Congress, where it was unanimously decided that in "clean areas the Koch method only must be used."

It is quite possible to keep bile eight days; its immunising power is then stronger than if it had been mixed with glycerine. When the animals are properly prepared, and if the animals are killed before collapse occurs, green biles predominate (80 per cent.), and 3 or 4 animals will furnish enough to inoculate 100. But if the man in charge of the station is careless the result may be very different.

Dr. Edington has advocated the addition of 33 per cent. of glycerine to the gall, that is, 2 of gall to 1 of glycerine. Dr. Kolle and I have used this mixture in over 30 animals. The immunity conferred is very slight. Inoculated on the tenth day after the use of 15 c.cm. of the mixture with 0.2 c.cm. virulent blood all had the disease and more than half died. In fact we use this method to give only a slight degree of immunity so as to procure salted animals for serum. Even then we have often to use the serum to help the animal over the attack. Dr. Koch did not overlook the possibility that it might be possible to use glycerine; he tried it, but gave it up as useless; and our experiments confirm his opinion.

Dr. Edington claims that the mixture of glycerine and gall enables us to use all samples of bile, thus effecting an economy; but as, after seeing the result of our experiments, he has raised the dose from 15 c.cm., which is equivalent to 10 c.cm. of bile, to 24 c.cm., equal to 16 c.cm. of bile, an increase of 60 per cent., the economy has disappeared. Glycerine kills the modified organisms which gives to the fresh bile its immunising properties, and leaves only a small quantity of antitoxin or some chemical substance which confers a short passive immunity. Whether the use of a small quantity of virulent blood ten days after inoculation will prolong this passive immunity remains to be seen. It appears to do so in the case of the fresh bile.

Dr. Edington claims that his mixture will not convey the rinderpest; that is quite true, but he also implies that the bile does. This is a curious position to hold, because he maintains in opposition to Koch and others that glycerine does not kill the organism.

I will not take up your time now with any questions as to use of either the bile or serum methods. The Congress recently held at Pretoria, where I represented the Colonial Government, came to a unanimous decision, and I will send you the report as soon as it appears.—I am, etc.,

George Turner,
Medical Officer of Health for the Colony of the Cape of Good Hope; Chief of the Government Rinderpest Experimental Station, Kimberley.
Colonial Secretary's Office, Local Government and Health Branch, Cape Town, Cape of Good Hope, August 18th.

THE COLLATERAL CIRCULATION AFTER LIGATURE OF THE COMMON CAROTID.

Sir,—In the British Medical Journal of August 21st Mr. W. Thelwall Thomas publishes an extremely interesting account of the "conditions found in the head and neck two years and a quarter after ligature of all the carotid arteries, jugular veins, etc., of the left side."

In commenting on the case described Mr. Thomas says: "The specimen illustrates how little reliance can be placed on the theoretical collateral circulation so carefully enumerated in textbooks, etc."

Such cases as that which Mr. Thomas has published are of the greatest importance to surgeons as being records of actual fact as opposed to theory. I therefore venture to place another beside it.

Miss M., sent to me by Dr. Cullen, of Alexandria, N.B., suffering from carcinoma of tongue, tonsil, and fauces of right side. On August 27th I ligatured the right common carotid and the left lingual. On September 3rd (seven days later) I removed the tongue, right tonsil, and fauces of right side. During the operation of September 3rd the condition of the vessels of the right side of the neck was found to be as follows: Ligature secure on common carotid 1 inch below bifurcation. Common carotid firmly thrombosed from ligature to bifurcation. External carotid, and the first parts of its superior, thyroid, lingual, facial, occipital, and posterior auricular branches firmly thrombosed. Internal carotid from base of skull down to bifurcation fluid and pulsating.—I am, etc.,

Glasgow, Sept. 6th. Jas. H. Nicoll.

DISAPPEARANCE OF A CARDIAC MURMUR.

Sir,—In the British Medical Journal of August 21st, 1897, Dr. Whitby cites a case of supposed aortic insufficiency, in which a diastolic *bruit* at the base disappeared during an attack of influenza. Dr. Whitby suggests that the case was one of temporary dilatation of the aorta, giving rise to incompetent valves, resulting in regurgitation of blood into the ventricle, with a blowing diastolic *bruit* as mentioned above.

Now, with all due deference to Dr. Whitby's opinion, I should like to point out two features in his case which exclude the possibility of dilatation with aortic regurgitation: these are the condition of the pulse and the character of the second sound as heard at the apex of the heart. Dr. Whitby mentions the rate of the pulse as 65, and its tension as markedly high, but in the condition under consideration the column of blood shot into the aorta by ventricular contractions falls back upon the insufficient valves as on a sieve, with the result that we get a bounding low tension pulse known as Corrigan's pulse, or the pulse of unfilled arteries. Again, Dr. Whitby mentions that the second sound as heard at the apex of the heart is accentuated. This also is indicative of high arterial tension and smart closure of the sigmoid valves, and is, of itself, sufficient to show that the diastolic *bruit* could not arise from incomplete closure of these valves. The possibility of a functional murmur is also excluded by the age of the patient and the rhythm of the *bruit*.

The case is certainly one of considerable interest, and the consideration of the patient's sex and age, with the history of thoracic pain and discomfort, might suggest the possibility of a small sacculated aneurysm of the ascending aorta. The rhythm of the murmur is certainly somewhat against this hypothesis, as we should expect to hear either a systolic or a double murmur, yet, as is well known, aneurysmal murmurs vary much, and although a single diastolic murmur is very rare, yet it should be remembered that it may occur. In explanation of this, I should here offer the suggestion that in small sacculated aneurysms, near the base of the aorta, where the opening into the vessel is oblique towards the heart, the volume of blood shot into the sac would be greater during the recoil of the vessel, and the rebound of blood upon the semilunar valves, than during ventricular systole. The disappearance of the *bruit* is of interest, for were the case one of aneurysm, it would point to one of two things: (1) A modified condition of the current of blood entering the sac, as a result of the fall in blood pressure; (2) an attempt at spontaneous cure induced by rest in the horizontal position, and a tendency towards coagulation in the sac from rise in temperature. The presence of the thoracic pain, and the history of hæmoptysis subsequent to the disappearance of the *bruit*, are in favour of the first condition. The venous hæmorrhage from the lung points to passive congestion, possibly from pressure on the right pulmonary vein. The case, however, is certainly unique; and although not one of aortic regurgitation, yet it cannot be said to have many symptoms characteristic of aneurysm. Its subsequent history will, I have no doubt, be followed with interest.—I am, etc.,

Glasgow, Sept. 1st. H. Hyslop Thomson, M.B., M.C.

Sir,—In reference to the above subject, Dr. Charles D. Musgrove writes to me as follows:

"In the British Medical Journal of August 21st you have, in the record of a case of disappearing aortic murmur, asked 'if any of the readers of the Journal have observed cases in which what one must consider to be functional valvular failures have been relieved by pyrexia or the recumbent position.' I have under my care at present a woman, aged 32, who, during the last month has completely lost a well-marked aortic murmur under the influence of rest and diminished blood tension. There was no evidence of valvular disease in her case. In another case of mine—a girl of 10—an aortic regurgitant murmur, due to endocarditis, also disappeared. This is of course not so common as the

former class, but Sansom describes both it and the former as disappearing sometimes. 'We have seen that a diastolic murmur, due to inflammatory change involving the endocardium of the cusps, may occasionally pass away. There is good reason to believe also that a like *bruit*, due to imperfect coaptation of the segments from the dilatation of the aorta may be in like manner transitory.'[1]

"Your case interested me, as it seems to me to be such a beautifully typical case of the curable aortic regurgitation in a gouty heart, due to increase of tension and in elasticity of aorta, of which Balfour gives a very lucid description in his *Senile Heart*, p. 57, *ante et post*. In fact, your case is almost identical with the hypothetical one described there. The patient's age, the high tension of the pulse, and the absence of structural disease point to a gouty affection, whilst the relief following an attack which ended in the deposition of uric acid crystals does so still more markedly; and the return of the preliminary symptoms, and especially the noctural occurrence of the mediastinal pain, etc., further bear this out, in my opinion, at any rate.

"The 'iron band,' the high tension, the accentuated second sound, are all strongly in favour of your diagnosis of a dilated aorta.

"It would be most interesting to hear that the patient had gone through the theoretical stages again, increase of tension, accentuated aortic second, systolic aortic *bruit* with the latter, giving place to diastolic *bruit*."

Dr. Musgrove's letter seemed to me so interesting that I asked for and obtained his permission to forward it for publication. I only regret that I am unable at present to give any further particulars of the progress of my case, as the patient has not revisited this neighbourhood.—A am, etc.,

Limpley Stoke, Aug. 31st. C. J. WHITBY, M.D.

THE ADMINISTRATION OF ANÆSTHETICS: CHLOROFORM v. ETHER.

SIR,—The importance of this subject is admitted by all. Though I differ from Dr. Lawrie as to the *modus operandi* of death in chloroform anæsthesia, yet one cannot but feel amazed at his results, shown by the freedom from accidents. Leaving theoretical speculations, founded on imperfect knowledge of physiological effects, let us see if Dr. Lawrie's results can be reconciled with doubt or disbelief in this theory. I have already briefly given my reasons in the BRITISH MEDICAL JOURNAL for differing with his theoretical opinions. All will admit that there are three modes of death in chloroform narcosis. First, primary sudden heart failure (acute dilatation); Secondly, after prolonged administration, heart apparently stopping first. Thirdly, after prolonged administration, respiration stopping first. The second and third form give ample warning, and if necessary ether should be substituted. Now, it cannot be denied that in spite of the admitted dangers of chloroform nine out of ten medical men still continue to use it; and this I attribute to two reasons: first, it requires no troublesome apparatus; secondly, it is much pleasanter for the patient than ether; in fact, children cannot be induced without force to submit to the administration of ether. It practically excludes oxygen, owing to the large quantity necessary to produce anæsthesia, whereas 5 per cent. of chloroform is the maximum amount that can be given with safety.

I leave out of consideration gas and ether, or oxygen and gas, as being too complicated for use by the general practitioner.

It must be confessed that if we could get Surgeon-Colonel Lawrie's results without having to admit all his theories, it would be very desirable.

I notice that in his method (confining one's attention to the respirations, and omitting the chloroform on the first sign of embarrassed breathing), that as a result of this method of administration it is absolutely necessary that the chloroform be gradually and cautiously administered, if, as is usual, ℥i is placed on a towel and held close to the patient's face, he will struggle, and dyspnœa will be induced, and when he does take a long inspiration concentrated vapour is taken in, overdosing is caused, and primary acute dilitation is too often induced.

[1] Sansom, *Dis. of Heart and Thor. Aorta*, p. 262.

Now it will be found that the gradual administration by a regulating inhaler "shows method," will meet all the requirements of chloroform inhalation, and an overdose cannot be given, which is so likely to take place by the open method, and primary acute heart dilatation will be absolutely prevented. If after prolonged administration heart or respiration get weak, ether can be substituted.—I am, etc..

Cullompton, August 30th. JOHN HOPE POTTER.

SIR,—Dr. O'Neill, in his article on the Safe Administration of Anæsthetics in the BRITISH MEDICAL JOURNAL of June 12th, mentions the injection of liq. strychninæ, from 3 to 5 drops for an adult. Now this is an absurdly small dose, and could play no possible part in restoring animation. Be it remembered that your patient is carrying an antidote to your strychnine. I always charge my syringe with 15 minims, and on two occasions have had to inject that amount without producing the slightest symptoms of poisoning; both cases recovered. As to injecting ether it is irrational, the patient having too much of that or chloroform already in his blood. It is on the principle, as an American writer put it some years ago, of trying to make a man sober by giving him another dose of alcohol.—I am, etc.,

A. TEEVAN, M.R.C.S.Eng.

Ballarat, Victoria, Australia, July 15th.

CHLOROFORM STATISTICS IN PRIVATE PRACTICE.

SIR,—It would be extremely interesting if someone would obtain statistics of chloroform administration in private practice in England and Scotland severally, or rather by surgeons trained in Scotland and England severally. I have a strong impression that the results would surprise the ether advocates. In Edinburgh every student has to practise the open method of administering chloroform. I suppose I gave chloroform at least fifty times while still a student. How much practical training does a London student get before he blossoms out as "resident" somewhere?--I am, etc.,

August 21st. M.D.Edin.

EXTIRPATION OF THE OVARIES AS A CURE FOR CANCER.

SIR,—In answer to Dr. Malcolm's remarks in the BRITISH MEDICAL JOURNAL of August 14th, I beg to submit a few additional data, which, if not "indisputable," are nevertheless based on a remarkable solid foundation.

My analysis of 804 primary ovarian tumours, consecutively under treatment at four of the largest London hospitals, shows the following percentage distribution of the different varieties of neoplasms: Cancer, 3.36; sarcoma, 2.90; non-malignant tumours, 0.12; cystoma, 93.54.

Gurlt's analysis of 791 ovarian tumours under treatment at the chief Vienna hospitals shows 9.8 per cent. of malignant neoplasms, to 90.2 per cent. of cystomata. Thus of these 1,595 ovarian tumours, only about 8 per cent. are malignant. It is evident, therefore, that ovarian cystomata have no special proclivity to malignancy.

Estimates—like those cited by Dr. Malcolm—according to which from 13.3 to 22.4 per cent. of all ovarian tumours are malignant, are based on too narrow an experience to be really reliable.

I have found cancer of the ovary, secondary to uterine cancer, of common occurrence; of 78 uterine cancer necropsies—many of which were made by myself—the disease had disseminated in the ovaries in 13 cases.

The *ensemble* of the various considerations I have mentioned seems to indicate the futility of extirpating the ovaries as a cure for cancer.—I am, etc.,

Preston, Aug, 19th. W. ROGER WILLIAMS.

HYSTEROPEXY FOR PROLAPSE OF UTERUS.

SIR,—I have read with interest Dr. Swain's account in the BRITISH MEDICAL JOURNAL of August 14th of a case in which he performed hysteropexy for prolapse of the uterus. His latest report of the case dates from two months after the patient left the hospital. In my opinion this is hardly a sufficient length of time from which to judge of the results of the operation he performed.

A case of prolapse came under my care some time ago in

which no pessary could be retained and colporrhaphy had failed to do any good. I performed a precisely similar operation to the one described by Dr. Swain, passing three silkworm gut sutures deeply into the anterior wall of the uterus and through all the layers of the abdominal wall. The wound healed by first intention, and the immediate result of the operation seemed to be all that could be desired. At the end of two months the uterus still remained in contact with the abdominal wall, but later, as the woman resumed her work at a laundry, the prolapse gradually returned, and at the end of eight months was as bad as before the operation.

Dr. Swain does not state whether the patient had resumed her work and long hours of standing, and this, I think, is an important matter, as, if the adhesions formed will not resist the strain which the woman is obliged to put upon them in the course of her daily work, the operation can hardly be recommended, at all events in those patients who have to work hard for their living, and it is precisely in this class of women that the intractable cases of prolapse are met with.—I am, etc.,

Birmingham, Aug. 18th. C. E. Pursłow, M.D., M.R.C.P.

STAPHYLOCOCCUS HÆMORRHAGICUS.

Sir,—I was much interested in Dr. Klein's paper in the British Medical Journal of August 14th, as I had two cases in the autumn of 1893, which seem to have been of the same nature. They were both young men who had been engaged in killing healthy lambs just drafted from the moors. In one the vesicle was on the back of the first joint of the thumb, and in the other on the back of the second joint. The vesicle was rather larger than a sixpence, raised flat on the top, and divided into compartments by septa, some of which contained clear serum, others dark blood-stained serum. In one there was a slight areola without any surrounding swelling and redness, and no small vesicles; in the other there was more surrounding swelling, but not so much as is usual in anthrax, and not the very-well-marked crop of surrounding small vesicles usually seen in that disease. Nevertheless, the appearances so closely resembled anthrax that I at once excised the vesicles in both cases. One recovered without any constitutional symptoms, but the other had slight pyrexia and considerable swelling and œdema on the back of the hand, which, however, subsided in a few days. I regarded both as mild cases of anthrax. One of the vesicles was sent immediately on excision to the Pathological Laboratory, Owens College. The report sent was that there was no anthrax bacilli, but streptococci were present.

Dr. Klein's paper explains this, which had previously been to me inexplicable, the appearance of the vesicle being so like that of several cases of anthrax which I have seen that I believe it is impossible to distinguish them.

From the fact that these cases occurred in autumn, it is evident that whether the disease is actually associated with gargle and the lambing process or not it can also be had from healthy sheep. Probably these lambs had been herded on the moors in contact with sheep suffering from gargle, or it may be that the pathogenic organism is always present on the moors, whence it can be conveyed by healthy sheep and transmitted to man by inoculation.—I am, etc.,

James McNaught, M.D., M.R.C.S.

Waterfoot, near Manchester, Aug. 23rd.

THE AACHEN TREATMENT OF SYPHILIS.

Sir,—I should like with your permission to say a word about a very interesting paper[1] by Drs. Brandis and Thissen, which appeared in the British Medical Journal of August 7th. Whether the case there recorded was one of early or of late syphilis is a question which the scanty information given seems to leave an open one, but this does not materially affect what I now wish to say.

The case is obviously put forward as an example of what can be achieved at Aachen after failure elsewhere, and it is clear that in this instance one method of treatment at Aachen succeeded after another method in England had failed, but there is nothing to show that either success or failure depended on the place where the treatment was carried out. And when Drs. Brandis and Thissen proceed to state that "the inunction cure . . . . in combination with the use of the Aachen waters is well known to be one of the strongest, if not the most powerful, antidote to the syphilitic poison." I venture to submit that they go somewhat beyond what the available evidence seems to warrant. Certainly I believe it to be well known that mercury is the most powerful remedy for syphilis which has yet been discovered, but I do not know of any valid evidence which proves that the Aachen waters themselves have any important share in the good effects produced by the Aachen treatment; indeed, I know of no evidence that those waters have any specific influence over syphilis at all.

No one I imagine will deny that "the Aachen specific method" is an active form of treatment, at any rate as far as the use of mercury is concerned, and there can be no doubt that in cases such as the present one, where active treatment is of the first importance, the immediate results are often most satisfactory. But during the last twenty-five years I have seen a good many cases of syphilis that have been treated at Aachen as well as a considerable number that have not been treated there, and I have not yet learnt anything which leads me to believe that even the immediate results at Aachen are better than those to be obtained at other places, provided that the patient does as he is told, and that due attention be given to details both as regards his treatment and his mode of living generally. I may add further, as Drs. Brandis and Thissen describe their case as one of "complete cure," that I have not yet observed anything to indicate that those who have been treated at Aachen are in any way less liable to relapse than those who have been judiciously treated elsewhere.—I am, etc.,

Old Burlington Street, W., Aug. 13th. Arthur Cooper.

[1] Remarks on a Case of Non-Typical Syphilis (syphilis gravis) cured by the Aachen Specific Method Combined with Surgical Treatment.

OBITUARY.

Dr. James C. Howden, J.P., who for forty years was medical superintendent of Sunnyside Royal Asylum, Montrose, died at Sunnyside on August 17th, at the age of 67. Dr. Howden was born in Musselburgh, and after receiving his elementary education went to Edinburgh University, where he graduated in 1852. He was then appointed Medical Assistant in the Edinburgh Asylum, and in 1857, when only 27, was appointed to the responsible post of Medical Superintendent of Montrose Royal Asylum. Dr. Howden took the greatest interest in the erection of the present Asylum at Sunnyside, which owes much to his skilful arrangement of details and suggested improvements. He was a Justice of the Peace for the County, and had been for some time intimately associated with the Montrose Natural History and Antiquarian Society, for which he did some valuable work. Dr. Howden contributed several papers to the *Journal of Mental Science*, and he delivered the Presidential Address in the Psychological Section of the British Medical Association meeting of 1888.

We regret to have to announce the death of Dr. Alfred Hall, who practised in Brighton and Hove for a long period of years. Dr. Hall was born at Alfreton in 1812. He studied medicine at Guy's Hospital, Edinburgh, and Paris, taking the degree of M.D.Edin. in 1840, and becoming F.R.C.P.Lond. in 1872. He was a member of the British Medical Association, Vice-President of the Obstetrical Society, and late President of the Brighton and Sussex Medico-Chirurgical Society. Dr. Hall took an active part in the movement for the establishment of the perfect drainage system which Brighton now enjoys, and he worked very hard in the interests of the Brighton, Hove, and Preston Dispensary, of which he was the senior honorary physician. He retired from active practice some years ago owing to failing health, but to the last he took a keen interest in the medical charities of the town.

Mr. W. J. Pilcher, of Boston, Lincolnshire, who recently died, was born at Antigua in 1837. He studied his profession at the Royal College of Surgeons of Ireland, and obtained the qualification of Licentiate of the Apothecaries' Hall, Dublin,

in 1853, and the Licence in Midwifery of the Rotunda Hospital in 1859. In 1860 he was admitted a Member of the Royal College of Surgeons of England, becoming a Fellow in 1869. After serving as a surgeon on the Cunard Line, Mr. Pilcher settled in practice in Boston in 1863. He was one of the founders of the Boston Hospital, and he was throughout the rest of his life an enthusiastic worker in connection with that institution. He was President of the Midland Branch of the British Medical Association in 1890. Mr. Pilcher was made J.P. for the borough of Boston in 1873, and subsequently he was named J.P. for the county of Lincolnshire, but did not qualify. He was elected an Alderman in 1895, and took great interest in municipal affairs. Mr. Pilcher's loss is mourned by a large circle of friends and patients.

We regret to announce the death of Mr. James Cowie, M.B., C.M., of Edinburgh, which took place on September 1st from general tuberculosis, contracted, as he believed, by infection from a wound of the finger in the course of a *post-mortem* examination. Mr. Cowie took his medical degree in the University of Edinburgh in 1892. From the time of his graduation till the beginning of the present year he acted as assistant in various places, including a period of six months' residence in the Glasgow Royal Infirmary. Everywhere he gained the respect of his principals, his colleagues, and his patients by his gentleness and modesty.

Dr. José Thomaz de Sousa Martins, Professor of General Pathology in the Eschola Medico-Cirurgica of Lisbon, who died recently, was one of the foremost members of the medical profession in Portugal. He was a man of high character, popular with his colleagues, and beloved by his patients. He was the representative of Portugal and President of the Subcommittee at the Sanitary Conference recently held at Venice. The maintenance of stringent measures against the introduction of cholera and yellow fever into Portugal, involving the adoption of severe sanitary measures, was principally due to his influence. He was the author of several works on medical subjects.

We regret to announce the death of Mr. Henry Vincent Garman, M.R.C.S., which occurred on August 25th, at the age of 73. He was one of the oldest and best known practitioners in East London, and previous to his retirement about five years ago had held the appointment of police surgeon for Bow for the long period of forty-six years.

We regret to announce the death of Mr. Thomas William Harle, M.R.C.S.Eng., at the age of 77. Mr. Harle was one of the oldest practitioners of Islington, having been connected with that parish for about 45 years.

We regret to have to record the death of Mr. William Pyle Ross, of Horwich, Lancashire. He was the son of Mr. William Ross, of Aberdeen, and was educated at Aberdeen University, where he took the M.A., and subsequently the M.B. and C.M. degrees. On leaving Aberdeen he practised at Bury, and removed to Horwich ten years ago. Mr. Ross was only 41 years of age, and leaves a widow and four children.

Mr. Ernest Barber, L.R.C.P., L.R.C.S., died suddenly on August 27th, at Sheffield, at the age of 29. Mr. Barber was the son of Mr. John Barber, and studied medicine at the Sheffield Medical School and at Dublin.

Mr. Henry Hamilton, M.R.C.S.Eng., L.S.A., who died at Chilham, aged 80, was born in 1817 at Blackrock, co. Dublin. He took his medical degree at Trinity College in 1838, and in 1842 became M.R.C.S.Eng. After practising for a short time at Wheatley, in Oxfordshire, he went to Chilham, where he practised for 41 years.

We regret to have to announce the death of Thomas Moore Hodgson, M.B., C.M., of Darwen, on August 29th. Mr. Hodgson, who was a native of Aspatria, Carlisle, and a graduate of Edinburgh, went to Darwen about twelve years ago. He was only 36 years of age, and leaves a widow and one child.

NAVAL AND MILITARY MEDICAL SERVICES.

ARMY MEDICAL STAFF EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

Arrived in India, December, 1895. Would exchange this trooping season to England.—Address (with terms) Surg.-Lt.-Colonel W. H. Allen, A.M.S., Meiktila, Burma.

A Surgeon-Major, home end of last season, is open to an exchange to Bengal or Punjab. Apply to "Volantis," care of Messrs. Holt and Co., 17, Whitehall Place, London, S W.

A Surgeon-Major, who returned from foreign service in January, 1897, is open to an exchange to Bermuda, South Africa, Jamaica, or Mediterranean stations.—Address, 2,740, British Medical Journal Office.

A Surgeon-Captain under orders to sail for Malta on 25th inst. wishes to exchange either to go to India or to stay at home.—Apply Surgeon-Captain Wright, A.M S. Mess, Woolwich.

THE NAVY.

Deputy-Inspector-General Belgrave Ninnis, M.D., has been placed on the retired list, with the rank of Inspector-General, September 1st. He was appointed Surgeon, August 1st, 1861; Staff-Surgeon, December 21st, 1874; Fleet-Surgeon, November 3rd, 1876; and Deputy-Inspector-General, May 5th, 1883. From the *Royal Navy List* we learn that he served as Naturalist in the Imperial and Colonial surveying schooner *Beatrice*, in the northern territory of South Australia, 1864-66 (received the thanks of the Legislative Assembly, South Australia). Was Staff-Surgeon in H.M.S. *Discovery*, Captain Stephenson, in the Arctic expedition, 1875-76, under Captain (Sir George) Nares (Arctic medal). Awarded Sir Gilbert Blane's Gold Medal, 1879-80. Author of *Remarks on the Natural History, Meteorology, and Native Population of Northern Australia*; also, *Diseases Incidental to the Eskimo Dogs of Smith's Sound: Diagnosis and Treatment*; also, *Statistical and Nosological Report, with Remarks on the Sanitary Condition of the Welsh Colony of Chubut, South America.*

INDIAN MEDICAL SERVICE.

Surgeon-Lieutenant-Colonel A. S. Reid, M.D., Bengal Establishment, is promoted to be Brigade-Surgeon-Lieutenant-Colonel from June 1st. He entered the service as Assistant Surgeon, March 30th, 1872, becoming Surgeon-Lieutenant-Colonel twenty years therefrom. He was in the Afghan war in 1879-80 (mentioned in despatches, medal), and with the Chin-Lushai expedition in 1889-90 (medal with clasp).

Surgeon-Lieutenant-Colonel M. L. Bartholomeusz, M.B., Bombay Establishment, is also promoted to be Brigade-Surgeon-Lieutenant-Colonel from June 22nd. His first commission dates from September 30th, 1873; that of Surgeon-Lieutenant-Colonel by September 30th, 1893. He served in the Afghan war in 1880, and has the medal for that campaign.

Surgeon-Major-General Henry Cook, M.D., Surgeon-General with the Government of Bombay, died at Poona on August 15th, aged 56. He was appointed Assistant-Surgeon March 31st, 1865, and became Surgeon-Major-General March 2nd, 1896. He has no war record in the Army Lists.

Surgeon-Colonel D. E. Hughes, M.D., Bombay Establishment, has, it is stated, been offered the post of Surgeon-Major-General with the Government of Bombay, vacant by the death of Surgeon-Major-General Cook.

The undermentioned Surgeon-Lieutenants, having completed three years' full pay service, are promoted to be Surgeon-Captains from July 28th.—*Bengal:* G. Ramsay, D. W. Sutherland, M.B., W. Selby, T. A. Granger, M.B., H. J. K Barnfield, J. W. Grant, M B. A. H. Moorhead, M.B., W. D. Hayward, M.B., A. W. F. Russell, M.B., W. E. Scott-Moncrieff, M.B. *Madras:* C. R. Pearce, M.B. *Bombay:* V. B. Bennett, M.B., H. M. Moore, D. C. Johnston.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel J. F. Brodie, M.D., retires on retired pay, September 8th. He entered the service as Surgeon, August 5th, 1877, became Surgeon-Major, August 5th, 1889, and Surgeon-Lieutenant-Colonel, August 5th, 1897. He was in the Afghan war of 1878-80, and has the medal for that campaign.

Surgeon-Lieutenant F. S Brereton has been selected for appointment to the Scots Guards as an attached Medical Officer.

THE VOLUNTEERS.

Surgeon-Captain D. Macneilage, 7th Lancashire Artillery, has resigned his commission, September 8th.

THE INDIAN MEDICAL SERVICE.

A very important leading article, headed as above, appears in the *Times of India* weekly overland edition dated August 13th, and deserves the perusal of all medical officers. The following short extract from this lengthy article gives the pith of the comments which appear: "It takes a long time for prestige to die, especially when it has been achieved 6,000 miles away from England, but the value of the Indian Medical Service as a career has mainly depended on the privileges and savings from civil appointments. These have been dwindling in number and value from year to year, and the medical schools are beginning to perceive it. By last mail we learn that for eighteen vacancies in the Indian Medical Service only nineteen candidates presented themselves. This pheno-

menon, unprecedented for many a year, will doubtless eradicate whatever doubts Government may have had instilled into their minds as to whether their treatment of the Indian Medical Service has been consistent with their desire to maintain its efficiency. The deadlock that threatens to paralyse the sister staff of the army through unsympathetic treatment—though in the light of the revelations made by a correspondent yesterday that is a mild term—ought to be a lesson to the authorities in India not to disturb the comparative calm that as yet pervades the medical service of this country."

DRESS REGULATIONS, INDIA.

THE officers of the Army Medical Staff are to wear the letters A.M.S. on the shoulder straps of their uniform.

THE FRONTIER OPERATIONS IN INDIA.

THE operations of the various columns moving to Tochi, Malakand, and being concentrated at Kohat and Peshawar has necessitated the mobilisation of some eight British field hospitals, and double that number of native field hospitals. There are in addition two British and two native general hospitals and two field medical store depôts. With the Tochi Field Force there are nine Army Medical officers and twenty-three of the Indian Medical Service; with the Malakand Force sixteen Army Medical officers and thirty-seven Indian Medical Service; while with the reserve brigade at Bannu there are six Army Medical Staff and six Indian Medical Service officers—in all a total of ninety-three officers. A further large increase to the establishment may be hereafter needed owing to sickness and casualties. At Sheranni a large amount of diarrhœa and dysentery was prevalent in the early part of the month, and arrangements were in progress for passing on the sick to Miranshah. These expeditions have kept the medical authority at Simla busy. Brigade-Surgeon-Lieutenant-Colonel J. Ring, A.M.S., is in charge of the First Brigade and British Field Hospital at Murdan. Another Army Medical Staff officer (Thomsett) Principal Medical Officer of the Second Reserve Brigade; while an Indian Medical Service officer (Murphy) is Principal Medical Officer of the Third Reserve Brigade. It is expected that much fever will have to be grappled with in the Swat Valley, for which ample provision is made.

THE TOCHI VALLEY DISASTER.

THE *London Gazette* of Tuesday, September 7th, contains the official despatches referring to the recent reverse to the British troops in the Tochi Valley, on the North-West frontier of India. Beyond mentioning the fact that Surgeon-Captain C. C. Cassidy, and afterwards Surgeon-Captain F. R. Ozzard, were present, and referring to the wound received by the former, from which he afterwards died, no special reference is made to any medical officer.

THE NEW RATES OF PAY IN INDIA.

A CORRESPONDENT, who signs himself "Resignation," writes to the *Times of India* analysing the new and old rates of pay for the Army Medical Staff and Indian Medical Service, and ends by saying that the increase of pay to the Army Medical Service amounts to this, that the Government have with one hand added a little pay, and with the other have swept away all extra emoluments arising from extra appointments. It is plain that the Government instead of conceding anything to the already downtrodden Army Medical Service has given another turn to the screw, and has actually made a further saving at their expense. The letter is too long for insertion but is worth perusal. It appears in the *Homeward Mail* of August 31st.

MEDICO-LEGAL.

SHAM DOCTORS AND THEIR DUPES.

UNDER this title the *Islington Gazette* of August 28th publishes a warning against what it terms the "private dispensary system." It draws attention to two cases that have lately come before the North London Police Court in which death certificates had been forged by unqualified assistants. In one a doctor had left his practice entirely in charge of an unqualified man, and in the other it was the doctor's own son who took his position, and the latter confessed before the magistrate that he had had no medical education whatever. This is what our contemporary truly calls "dealing recklessly with human life," and we cordially endorse its opinion that "the poor should be certain when they apply to cheap dispensaries that they see the medical authority whose name appears on the doorplate." If qualified practitioners will lower themselves by offering their professional services for sixpence and even less the public may justly claim that they shall be held to their bargain, and not be permitted to palm off in their place those who have no right to practise at all. Such conduct is clearly dishonest, and fees obtained in this way by the employment of what our contemporary calls "the failures of the medical schools, or mere adventurers" is nothing more than obtaining money under false pretences.

PROFESSIONAL SECRETS AND THE LAW.

MR. BERTRAM THORNTON, J.P. (Margate), writes: May I ask you to express an opinion as to the duty of a medical man under the following circumstances? The dead body of a recently-born infant was found in a public plantation, presenting indications that it had had a separate existence, and had not been skilfully attended at its birth. A constable was deputed by the chief of police to call upon myself and other medical men to ascertain if we had recently been attending any woman whom we had reason to suspect was likely to have been guilty of the crime of concealment of birth or infanticide. In this instance, I had no knowledge of any such case. It is, however, possible that some medical man in this district might have been in a position to know of a woman who had been recently delivered, having been called in to attend her after her confinement. Under these circumstances would it be the duty of the medical man to inform the constable of his knowledge?

By the traditions of the profession the first impulse of a medical man would be to decline to reply to the constable's request. In the event of the case ultimately coming before the courts, would any doctor with guilty knowledge be liable to be proceeded against as an accessory to the crime? there might be ample evidence to show that the medical man was fully cognisant of all the facts. I am of course assuming that the doctor was not an accessory before the fact.

In the case of Kitson *v.* Playfair Sir Henry Hawkins, in the course of his judgment, alludes to an imaginary case of this sort, and expresses his personal view that it would "be a monstrous cruelty" for a medical man to divulge such a professional secret. With this learned judge's opinion the kindly sympathies of most people would agree. On the other hand, there are authorities who take their stand upon the existing laws of the country, and maintain that a medical man has no more right than any other citizen to defeat the ends of justice by concealing his knowledge of a crime.

The idiosyncrasies of judges and prosecuting authorities are well known, and it may easily happen that a medical man might be involved as an accessory in this or some similar crime. The question I would ask is, whether there is any law of the realm which places a medical man in a different position to an ordinary citizen. In cases such as the one which is the subject of this letter, it is not a question of privilege as in the propriety of answering questions in a witness-box, and being absolved from the consequences of any such answer.

Judging from the correspondence that took place in the columns of the BRITISH MEDICAL JOURNAL in April, 1896, there is clearly much doubt in the minds of both doctors and lawyers as to the duties of medical men as regards "professional secrecy." The case mentioned at the beginning of this letter is not an uncommon one, and it is not difficult to conceive instances of a similar nature. It is important that the profession should be clearly told what is the plain law of the country as to their duties in giving or withholding information gained in their professional capacity. To rely on a vague custom or tradition is not safe, as some of us may find to our cost when brought before some eccentric judge or jury.

If it is shown that the law makes no difference between medical witnesses and ordinary citizens, we can then choose our own course, and, if the dictates of humanity and a clear conscience suggest reticence, we can estimate the risks, and it will be our own fault or misfortune if we get into trouble. Let it, at any rate, be made abundantly clear whether medical men in criminal cases are to act as common informers or not.

The question as to our duty, if we suspect a crime is about to be committed, falls under a different category, and is less open to doubt. This letter is not written in any feeling of antagonism to the local police authorities. I am convinced that in the action they are in the habit of taking in these cases they consider they are doing their duty to the public. In conclusion, I would suggest that this subject is not unworthy of the consideration of the General Medical Council; any recommendation from this body would have due weight with the law officers of the Crown, and an extra clause to the Medical Acts would render the question clear both to the public and the medical profession.

*** The duties of the police and of a medical man in the circumstances referred to in the above letter appear to us to be quite distinct. It is the duty of the police to use every possible means to detect crime, and in doing so they necessarily have to be employed on a somewhat "roving commission," and to ask what may be termed very loose questions, such as the one they appear to have put to our correspondent. On the other hand it does not appear to us that a medical man is bound to answer such a question unless the proofs he possesses are those of absolute certainty derived from ocular demonstration and do not rest on belief, although such a belief may to his mind carry an overwhelming conviction. The remarks of Mr. Justice Hawkins quoted by our correspondent, though made in a civil case, are, it must be remembered, the remarks of a most experienced criminal judge, and justify a medical man in not volunteering any conclusion or inference he has arrived at, and which has been acquired solely in his professional capacity, and when perhaps called on to discharge an act of pure humanity. It is not his duty to instruct and prompt the police in a case such as our correspondent refers to, nor is it possible to conceive a magistrate committing for trial or (even if he did) a jury convicting a medica man in such circumstances as an accessory to the concealment. Our opinion in effect is, as the law at present stands, that information as to the possibility of a crime having been committed derived by a medical man as a professional secret should be given only under the compulsion of a magistrate or judge, who by compelling him to give the information will relieve him from any further responsibility.

FEES AT INQUESTS.

M.D. writes to ask what is the legal fee for two days' attendance at a coroner's inquest, and for making a bacteriological examination; and when should the fee be paid.

*** The fee as laid down by statute law is two guineas for attending to give evidence at the inquest, and making a *post-mortem* examination. No provision was made in the Act for adjournments, and whatever

number of adjournments there may be our correspondent cannot legally claim more than the sum mentioned. With regard to special chemical analyses and bacteriological examinations, medical men should obtain before doing so a special order from the coroner, and make an arrangement as to extra remuneration for such work; otherwise, if made without an order, they would probably be included as part of the *post-mortem* examination, and the statute fee only allowed. With regard to the payment of all fees in connection with inquests, the coroner is directed by law to advance and to pay the same, immediately upon the termination of the inquest.

BOOK DEBTS IN THE PURCHASE OF A PRACTICE.

M.B. asks for an opinion on the following point: A. purchases from B. "his share and interest in the goodwill" of a practice and business of medical practitioners carried on by —— and ——, "and in the assets and property of the said partnership, and in the profits thereof," as from a certain day. No separate mention is made of book debts. Is A. right in claiming as part of the assets debts which are owing at the time the practice is handed over?

*** Book debts are clearly included in the "assets and property o a partnership," so that if A. purchased B.'s share of "the assets and property of the said partnership," he would certainly seem entitled to B.'s share of the book debts.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,071 births and 4,632 deaths were registered during the week ending Saturday last, September 4th. The annual rate of mortality in these towns, which had declined from 29.5 to 24.6 per 1,000 in the three preceding weeks, further fell to 20.7 last week. The rates in the several towns ranged from 10.4 in Swansea, 15.0 in Plymouth, and 15.5 in Bristol to 30.8 in Salford, 33 5 in Wolverhampton, 37.5 in Hull, and 44.4 in Preston. In the thirty-two provincial towns the mean death-rate was 23.2 per 1,000, and exceeded by as much as 6.2 the rate recorded in London, which was 17.0 per 1,000. The zymotic death-rate in the thirty-three towns averaged 6.0 per 1,000; in London the rate was equal to 3.2 per 1,000, while it averaged 8.0 in the thirty-two provincial towns, among which the highest zymotic death-rates were 13.5 in Salford, 16.1 in Wolverhampton, 17.8 in Hull, and 24.9 in Preston. The high rates in the last-mentioned towns were principally due to the excessive fatality of summer diarrhœa. Measles caused a death-rate of 1.1 in Oldham, 2.4 in Blackburn, and 11.3 in Preston; scarlet fever of 1.0 in Salford; whooping-cough of 1.1 in Plymouth and 1.2 in Wolverhampton; "fever" of 1.1 in Sunderland and 1.5 in Burnley; and diarrhœa of 9.1 in Blackburn, 9.5 in Leicester, 11.5 in Salford, 11.9 in Wolverhampton, 13.6 in Preston, and 16.7 in Hull. The 57 deaths from diphtheria in the thirty-three towns included 35 in London, 5 in Liverpool, and 4 in Birmingham. No fatal case of small-pox was registered, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals during the week ending Saturday last, September 4th. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 3,448 at the end of the sixteen preceding weeks, had further risen to 3,528 on Saturday last; 371 new cases were admitted during last week, against 347, 340, and 356 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, September 4th, 881 births and 538 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 21.6 and 19.6 per 1,000 in the two preceding weeks, further declined to 18.1 last week, and was 2.6 per 1,000 below the mean rate during the same period in the thirty-three large English towns. The lowest rates in these eight towns were 6.8 in Perth and 15.1 in Edinburgh, and the highest rates 23.5 in Leith and 23.6 in Dundee. The zymotic death-rate in these towns averaged 4.3 per 1,000, the highest rates being recorded in Paisley and Leith. The 248 deaths registered in Glasgow included 38 from diarrhœa, 13 from whooping-cough, 2 from scarlet fever, 2 from "fever," and 1 from small-pox. Four fatal cases of scarlet fever were recorded in Edinburgh and 3 in Dundee, and 2 deaths were referred to diphtheria in Paisley.

UNIVERSITIES AND COLLEGES.

THE MIDDLESEX HOSPITAL MEDICAL SCHOOL.

As already announced the foundation stone of a new wing of the Middlesex Hospital, intended exclusively for the reception of female cancer patients, was laid recently by Her Royal Highness the Princess Christian of Schleswig-Holstein. A joint Committee, composed of members of the Weekly Board and honorary staff, has been appointed to consider how the space made available by the removal of the female patients from the present cancer wards may best be utilised. The Board has sanctioned the erection in the hospital garden of a temporary building to enable the school authorities to carry on the work of the anatomical and chemical departments while the proposed alterations and extensions to the medical school are being carried out. Mr. John Murray has been appointed surgical tutor in the medical school. The Board has approved with other hospitals a scheme for the formation of a Central Association of Representatives of London Hospitals with Medical Schools. This association will consist of representatives of nine of the large hospitals power being reserved to admit at any future time representatives of other hospitals on conditions to be hereinafter defined; each of the hospitals is to appoint three representatives, one of whom must retire annually. The object of the association is to consider any matter in which the hospitals have a common interest, and to promote joint action in regard thereto.

HOSPITAL AND DISPENSARY MANAGEMENT.

THE LONDON HOSPITAL.

AT the last quarterly general Court of Governors of the London Hospital, the Chairman, in moving the adoption of the report, said that there was no fear that those who wished to move the northern hospitals to the south, would attempt anything of the kind with the London Hospital. The report presented plainly showed whether that part of London was over-hospitalled. The report referred to the pressure in the receiving room. If this went on increasing as it had done for some long period, more adequate accommodation would have to be provided. In the meantime, everything possible in the way of increasing the efficiency of the hospital was done. Twenty beds had been allotted to the assistant surgeons, and it was believed that great benefit would result both to the hospital and to the medical school. The question of building a second operating theatre had engaged the attention of the committee for a long time. The committee had decided to allot a room in one of the wards and to fit it up as an operating room. It was hoped that in the near future they would be able to light a small portion of the hospital, especially the operating theatres, with the electric light. The new nursing home had been completed, and was a very great success. Referring to the question of a central hospital board, he was opposed to such an organisation. The Prince of Wales's Fund had not had the effect they had anticipated in the direction of a reduction of subscriptions, but, nevertheless, it had had some effect. Although their expenditure at the London Hospital was £60 000 per annum and their assured income was only £20,000, he was confident they would carry on their work with the same efficiency as in the past.

MEDICAL NEWS.

SUICIDE BY CARBOLIC ACID.—Liverpool has this week afforded a painful proof of the necessity of legislation in connection with the sale of carbolic acid. Quite an epidemic of suicides has taken place, and at the last inquest the coroner expressed his regret that there was no restriction on the sale of the acid. The jury, in returning the usual verdict, endorsed the coroner's remarks.

FRENCH CONGRESS OF INTERNAL MEDICINE.—The fourth French Congress of Internal Medicine will be held at Montpellier on April 12th, 1898, and following days. The questions proposed for discussion are the following: (1) Clinical Forms of Pulmonary Tuberculosis, to be introduced by MM. Bard (of Lyons), Vergely (of Bordeaux), and Revilliod (of Geneva); (2) Microbic Association and Mixed Infections, to be introduced by MM. Spillmann (of Nancy), Widal (of Paris), and Malvoy (of Liege); (3) The Therapeutic Utilisation of Organs with an Internal Secretion, to be introduced by MM. Lemoine (of Lille), Mosse (of Toulouse), and Cerenville (of Lausanne).

MEDICAL VACANCIES.

The following vacancies are announced:

BATH ROYAL UNITED HOSPITAL.—House-Surgeon; must be M.R.C.S. Eng. Appointment for one year. Salary, £60 per annum, with board, lodging, and washing. Applications to W. Stockwell, Secretary, by September 14th.

BETHLEM HOSPITAL.—Two Resident Clinical Assistants; doubly qualified. Appointment for six months. Apartments, board, and washing. Applications, endorsed "Clinical Assistantship," to the Treasurer, Bridewell Hospital, New Bridge Street, E.C., before October 4th.

BIRMINGHAM, GENERAL HOSPITAL.—Two Assistant House-Surgeons, Appointment for six months. No salary, board, residence, and washing provided; and also Anæsthetist. Salary, £40 per annum. Appointment for one year. Applications to Howard J. Collins, House-Governor, by September 25th.

BOURNEMOUTH ROYAL VICTORIA HOSPITAL.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Chairman by October 15th.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Appointment for six months. Conditional honorarium of £10. with board, lodging, and washing. Applications to the Secretary before September 21st.

BRITISH INSTITUTE OF PREVENTIVE MEDICINE.—Bacteriologist to the Antitoxin Department at Sudbury. Salary, £200 per annum, with dwelling accommodation on the premises. Applications to Allan Macfadyen, Honorary Secretary and Director, 101, Great Russell Street, London, W.C., by September 15th.

BELGRAVE HOSPITAL FOR CHILDREN, Gloucester Street, S.W.—House-Surgeon. Appointment for six months. Board, lodging, etc. Applications to the Secretary by September 18th.

CORNWALL ROYAL INFIRMARY, Truro.—House-Surgeon, doubly qualified and unmarried. Salary, £120 per annum, increasing by £10 per year to £150, with furnished apartments, fire, light, and attendance. Applications to the Secretary before September 21st.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Two Resident Physicians. Applications to Messrs. Henry and Scott, 20, St. Andrew's Square, Edinburgh, by September 15th.

GLASGOW EYE INFIRMARY. — Resident Assistant House-Surgeon. Salary, £50 per annum, with apartments and board. Applications to W. G. Black, Secretary, 88, West Regent Street, Glasgow, by September 15th.

GROVE HALL ASYLUM, Bow, London, E.—Junior Assistant Medical Officer. Salary at the rate of £120 per annum, with board, lodging, and washing. Applications, to be made personally, to the Medical Superintendent.

HOSPITAL FOR DISEASES OF THE THROAT, Golden Square, W.—Junior Resident Medical Officer. Salary, £50 per annum, with board. lodging, and washing. Applications to Wm. Holt, Secretary, by September 25th.

HOSPITAL FOR WOMEN, Soho Square, W.—Non-Resident House-Physician. Appointment for three months. Applications to David Cannon, Secretary, before September 15th.

HUDDERSFIELD INFIRMARY.—Junior House-Surgeon. Salary, £40 per annum, with board, lodging, and washing. Applications to Mr. Joseph Bate, Secretary.

ISLE OF MAN ASYLUM.—Assistant Medical Officer, doubly qualified. Salary, £100 per annum, with board, residence, and washing. Applications to Dr. Richardson, Lunatic Asylum, Isle of Man.

LINCOLN LUNATIC ASYLUM.—Assistant Medical Officer. Salary, £5 per month, with board, lodging, and washing. Applications to Medical Superintendent immediately.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL,—Resident House-Surgeon. Honorarium at the rate of £50 per annum, with board. Applications to G. W. Fox, Honorary Secretary, 53, Princess Street.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—House-Physician, House-Surgeon, Assistant House-Physician, and Assistant House-Surgeon; doubly qualified. Appointments tenable for six months. Salary of the House-Physician and House-Surgeon at the rate of £40 per annum; Assistant House-Physician and Assistant House-Surgeon at the rate of £20 per annum. Applications to C. H. Byers, Secretary, by September 18th.

SALOP INFIRMARY, Shrewsbury.—House-Surgeon; must be doubly qualified—M.R.C.S.Eng., Edin., or Dub. Salary, £100 per annum, with board and residence. Applications to Joseph Jenks, Secretary, by October 1st.

SOUTHPORT INFIRMARY.—Senior House Surgeon. Salary £80, tenable two years. Also Junior House and Visiting Surgeon. Salary, £30 tenable six months, and renewable. Doubly qualified and registered. Applications to J. Worrall, Secretary, Infirmary Office, before September 18th.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House-Surgeon. Salary, £30 per annum, with board, lodging, and washing. Applications to the House-Surgeon by September 20th.

TYNEMOUTH VICTORIA JUBILEE INFIRMARY, North Shields.—Resident House-Surgeon; doubly qualified. Salary, £120 per annum, of which £55 will be required for board, lodging, and washing. Applications to John W. Meadows, Secretary, 43, Howard Street, North Shields, by September 18th.

MEDICAL APPOINTMENTS.

ABINGTON, S. N., L.R.C.P., M.R.C.S., appointed House-Surgeon to St. Thomas's Hospital.

OSTOCK, E. Bernard, M.B., B.S.Lond., M.R.C.S., L.R.C.P., appointed House-Physician to the General Hospital, Birmingham.

OBB, E. H., L.R.C.P., M.R.C.S., appointed Clinical Assistant in the Special Department for Diseases of the Skin, St. Thomas's Hospital.

OCKILL, T. T., M.R.C.S., L.R.C.P., appointed Assistant Honorary Physician to the North Staffordshire Infirmary.

OLEMAN, J. G. B., M.R.C.S., L.R.C.P., appointed Medical Officer of the Sutton Bridge District of the Holbeach Union.

URLING-HAYWARD, W., M.R.C.S., L.R.C.P., appointed House-Physician to Charing Cross Hospital.

IXON, W., M.B., C.M., appointed Medical Officer of the No. 2 Hougham District of the Dover Union.

AIRBAIRN, J. S., B.A., M.B., B.Ch.Oxon., L.R.C.P., M.R.C.S., appointed Obstetric House-Physician to St. Thomas's Hospital.

RAZER, W. D., L.R.C.P., M.R.C.S., appointed Clinical Assistant in the Special Department for Diseases of the Ear at St. Thomas's Hospital (extension).

ILBERT, L., L.R.C.P., M.R.C.S., appointed House-Surgeon to St. Thomas's Hospital.

OODE, H. N., L.R.C.P., M.R.C.S., appointed House-Physician to St. Thomas's Hospital.

REEN, Reginald. M.D., B.Hy.(Dunelm), reappointed Medical Officer of Health and Medical Superintendent to the Fever Hospital to the County Borough of Gateshead.

ROSVENOR, W. Clayton, M.A., M.D., appointed Surgeon to the Royal Schools for the Deaf and Dumb, Old Trafford, Manchester.

ALL, J. S., L.R.C.P., M.R.C.S., appointed Assistant House-Surgeon to St. Thomas's Hospital.

HINDLEY, G. D., B.A.Oxon., L.R.C.P., M.R.C.S., appointed Obstetric House-Physician to St. Thomas's Hospital.

HOPKINSON, E., B.A.Oxon., L.R.C.P., M.R.C.S., appointed Ophthalmic House-Surgeon to St. Thomas's Hospital.

HUNTER, G., M.D.Edin., appointed Medical Officer of the Aberdeen Dispensary.

JONAS, H. C., L.R.C.P., M.R.C.S., appointed House-Physician to St. Thomas's Hospital.

LAWRENCE, G., M.B., C.M.Edin., appointed Resident Medical Assistant to the Dundee Infirmary.

LLOYD, D., L.R.C.P.&S.Edin., appointed Medical Officer of Health for the Newcastle Emlyn Rural District Council.

MCCLEAN, J. F., L.R.C.P., M.R.C.S., appointed Assistant House-Surgeon to St. Thomas's Hospital.

M'DOUGALL, A., M.B., Ch.B.Vict., M.R.C.S., appointed Resident Medical Officer at the Manchester Royal Infirmary.

MCDOUGALL, W., M.A., M.B., B.C.Camb., appointed House-Physician to St. Thomas's Hospital.

MARMION, E. J., M.B., L.F.P.S.Glasg., appointed Medical Officer of Health of the Milton Urban District Council.

MARRIAGE, H. J., L.R.C.P., M.R.C.S., appointed Assistant House-Surgeon to St. Thomas's Hospital.

MORGAN, Thos., L.R.C.P.I., L.R.C.S.I., appointed Medical Officer of Health to the Borough of Montgomery.

MORGAN, W. H., M.R.C.S., L.R.C.P., appointed House-Surgeon to Ch ring Cross Hospital.

MYERS, W., M.A., M.D., B.C.Camb., B.Sc.Lond., L.R.C.P., M.R.C.S., appointed Clinical Assistant in the Special Department for Diseases of the Throat of St. Thomas's Hospital.

O'CONNOR, J. E., M.B., B.Ch., appointed Medical Officer of Health r the Borough of Lowestoft.

OSBORN, E. C., L.R.C.P., appointed First Assistant Medical Officer to the Kensington Infirmary.

PATERSON, W. H. J., L.R.C.P., M.R.C.S., appointed House-Surgeon to St. Thomas's Hospital.

PEARSE, A. W., M.R.C.S., L.R.C.P., appointed Second Assistant Medical Officer to the Kensington Infirmary.

PHILLIPS, Harry Harding, L.R.C.P.Lond., M.R.C.S.Eng., appointed Divisional Surgeon to Police (P Division) stationed at Penge, *vice* W. J. Lory, deceased.

ROUILLARD, J. A. A., L.R.C.P., M.R.C.S., appointed Clinical Assistant to the Special Department for Diseases of the Throat of St. Thomas's Hospital.

SANGUINETTI, H. H., B.A., M.B, B.Ch.Oxon., L.R.C.P., M.R.C.S., appointed Assistant House-Surgeon to St. Thomas's Hospital.

SCOTT, H. Harold, M.R.C.S., L.R.C.P.Lond., appointed Resident House-Surgeon to the Teignmouth Hospital, South Devon,

SELIGMANN, C. G., L.R.C.P., M.R.C.S., appointed House-Physician to St. Thomas's Hospital.

STAINER, E., M.A., M.B., B.Ch.Oxon., appointed Clinical Assistant in the Special Department for Diseases of the Skin of St. Thomas's Hospital.

TUKE, A. W., L.R.C.P., M.R.C.S., appointed House-Surgeon to St. Thomas's Hospital.

TURNER, S. D., L.R.C.P., M.R.C.S., appointed Clinical Assistant in the Special Department for Diseases of the Ear of St. Thomas's Hospital.

TYRRELL, F. A. C., B.A., M.B., B.C.Camb., L.R.C.P., M.R.C.S., appointed Ophthalmic House-Surgeon to St. Thomas's Hospital.

WICKHAM, H. T., M.D.Edin., reappointed Medical Officer for the Second District of the Newport Pagnell Union.

WOOLLISCROFT, W. W., M.R.C.S., L.R.C.P., appointed House-Surgeon to Charing Cross Hospital.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

MARRIAGES.

FULLER—COCKS.—At St. Mathias Church, Richmond, John Reginald Fuller, M.B., B.S., M.R.C.S., etc., of Tollington Park, N., to Sarah Margaret (Daisie), second daughter of the late Robert Cocks, Esq., of Altrincham, Cheshire.

MILLS—HIRST.—On the 1st inst., at Stoke Bishop Church, by the Rev. S. N. Tebbs, B.D., assisted by the Rev. T. Clark, M.A., Yarnold Hubert Mills, M.B.(Lond.), F.R.C.S.(Eng.), youngest son of the late Thomas Reid Mills, to Mildred Venables, second daughter of the late John Henry Hirst, of Sneyd Park, Bristol.

SODEN—SMITH.—On 25th ultimo, at St. James's, Wednesbury, Thos. A. B. Soden, M.R.C.S.Eng., of Coventry, son of the late Rev. C. W. Soden, M.A., Vicar of Kirkwhelpington, to Louie, only daughter of Captain and Mrs. Edward H. Smith, of "Arundel House," Wednesbury.

YOUNG—STRANG.—On September 1st, at All Saints, Blackheath, by the Rev. Hamilton S. Cobb, M.A., of St. Mark's, Lewisham, assisted by the Rev. W. L. Groves, M.A., Hugh Corbett Taylor Young, M.B, C.M., of Sydney, N.S.W., to Annie Rankin, only surviving daughter of William Strang, of Blackheath, S.E. Australian and New Zealand papers please copy.

DEATH.

TURNBULL.—On the 6th September, at Tunbridge Wells, James Muter Turnbull, M.D., F.R.C.P., late of Liverpool, Consulting Physician to the Royal Infirmary, aged 79 years.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Tu., 9.30. *Operations.*—M. F. S., 12.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances* —M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations* —M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

DUNELM would be glad to know of any book on popular hygiene.

A. S. would be glad to know where he can procure the best and latest literature on purpura hæmorrhagica.

C. E. R. would be glad to be informed of any institution where a pauper child aged 6 years would be received on payment. The child is slightly deficient mentally, but has had only one fit within the last six months.

W. F. F. will be glad if any member can give him information about Davos Platz—how best to set about getting accommodation, and what is the usual cost per week of living there. Would it be a suitable place for a lung left contracted after pleurisy?

M.D. wishes to know whether there is a hospital where ladies can receive a short course of instruction in practical nursing, not to train them as certificated nurses, but to give them sufficient useful knowledge for ordinary home requirements.

C.B.C. wishes to know of a permanent home where he could send an idiot, aged 15½ years, with not much use in his lower limbs, whose mother (a widow entirely dependent on her own labours) could afford about £20 per annum as payment for his care.

N. S. P. would be glad to be informed of some simple effective antiseptic lubricant for catheters, and also of some simple effective antiseptic catheter wash. There is very little information given on these points generally in treatises on urinary affections, and what there is, is not always reliable.

F. W. S. would be glad to know of a suitable person to act as nurse and companion to an elderly lady in a weak mental condition. She would be required to take charge of the lady's house and look after servants. The residence is in Berkshire. The lady has no one residing with her but her bachelor son.

T. N. wants to know a bracing English watering place for winter residence in a case of chronic phthisis.

*** Bournemouth and Falmouth are suitable, and the climate is sufficiently fresh during winter. All cases, however, of chronic phthisis, need individual consideration.

CYCLIST would feel much obliged to any member who can recommend him where to procure a flannel shirt for riding in which will not shrink. He has tried many kinds of flannel shirts, including those made of what is called "circular webbing," but they have all shrunk after a few washings and have become too small. Perhaps someone can suggest a material with the virtues of flannel, but without its shrinking propensities; a white material preferred.

R. H. B. writes: Would any of your readers kindly inform me of the most suitable local application to employ to promote the healing and to lessen the dragging pains of a large cancerous ulceration of the breast in a woman aged 48? I have given opiates and used ointments composed of airol and vaseline and europhen, and I am now using ol. carbolic., but without much effect in promoting the healing process.

D. C. writes: I send you two flies which were brought to me by a patient who was stung by a similar fly. The back of the arm, which showed the seat of puncture, and hand were swollen, red, and painful, with absorbent inflammation extending up into the axilla. The patient came last year with his arm swollen, produced under similar conditions. His fellow workman this year was stung in the arm through his cotton and flannel shirts, that is, through two thicknesses, but his arm did not swell much. The man, a worker in the woods, says the fly is found in sunny, sheltered spots, where there is no wind, that it has a very sharp sting "in its head and not in its tail like the wasp."

*** The insects in question are mosquitos.

UNPROFESSIONAL CONDUCT.

A CORRESPONDENT asks advice on the following case: A. and B. are medical practitioners resident about nine miles apart. C. is a patient of B.'s, who was once attended by A., when he resided in the latter's neighbourhood. B. is in attendance on C., and a consultation is required, and A. is suggested as the consultant. A. is asked to meet B., and declines to make a definite appointment, but says "perhaps he will come down some day," and the next day he calls on C., without giving B. any notice of his intention. The same evening C. sends to B. for medicine, but the latter declines to give any of the ground that C. is now under the care of A. 1. Was B. justified in refusing further attendance? 2. What should be his line of action towards A. in the future with regard to meeting in consultation. 3. What should be his action, if again asked to attend C.'s family?

*** 1. B. was not justified in refusing further attendance, as C. was in no way responsible for A.'s unprofessional conduct. (2) A medical practitioner may rightly decline to meet in consultation a professional neighbour who acts in the way A. is reported to have done. (3) There is no reason why B. should not attend C.'s family if the latter see fit to ask him again.

ANSWERS.

W.C.D.—We know nothing of the ophthalmic refractometer referred to, and inquiries made of various well-known opticians have been fruitless.

MEDICAL WITNESSES AND THEIR FEES

G. R. L.—1. When a prisoner is committed for trial the witnesses are usually bound over to appear and give evidence. If a witness fail to

appear the recognisances may be—and usually are—estreated; and he then has to satisfy the Court that he had good reason for not appearing at the proper time. If he fails to do this payment of the amount named in the recognisances is enforced by distress. If no recognisance has been given the witness is practically free to stay away if he chooses to do so, the only penalty he would then incur would be loss of the amount allowable for attendance before the magistrates. 2. The fee allowable to a medical witness for attending before magistrates is 10s. 6d., and travelling expenses according to distance. It will be allowed after the trial is over, but cannot be recovered sooner. 3. The fee at quarter sessions is 1 guinea per diem, and mileage travelling expenses. Medical witnesses frequently find that this leaves them actually out of pocket, but the loss consequent on forfeited recognisances would be greater.

Hyperæsthesia of Nasal Mucous Membrane.

Dr. Percy Newell (Crowborough) writes: "J. J. J." might try for his patient a lotion of hydrastis canadensis if he has not done so. Two to five minims of tinct. hydrastis can. in half a wineglassful of water syringed (with a ball syringe not a douche), through the nostril night and morning; or painting the inside of the nose and throat with a glycerole of hydrastine. Internally arsenic in minute doses, say Fowler's sol. 1 minim, bis die, for a time.

Dr. Griffith (Ilford) writes in reply to the same query: I have used with great success, in a similar case of an old lady, inhalation of tincture benzoini co. by means of "The Globe Nebuliser," obtained from Oppenheimer and Son. This makes a fine smoke, which can be easily breathed in by the nose and out by the mouth, and seems to have a more rapid and permanent effect than lotions or sprays.

A Peculiar Eruption in Sportsmen.

Dr. Benjamin Walker (Kirkby Stephen) writes: Dr. Seagrave's (Milnthorpe) case, in the British Medical Journal, August 28th, p. 568, is probably due to the sportsman wearing breeches with "extensions," and thick shooting stockings doubled down and gartered at the knee. August 12th was a very showery day in most Northern moors, and the legs on these days becoming damp with pent-up perspiration and rain become irritated, and the tibialis anticus irritates the skin over it if one tramps a moor shooting over dogs. Could the eruption be due to the bites of the fly or louse one finds in grouse? I think not. These creatures crawl over the skin, but seldom bite.

NOTES, LETTERS, Etc.

Dr. Arthur A. Pim (Beaminster) writes: The following case of puerperal fever, caused by fright, may be of interest to readers of the British Medical Journal. A. B., aged 39, natural labour, twins, fifth confinement, made excellent progress for two days. On the second day one of her elder children narrowly escaped being burned in her room. Her temperature an hour after was 104°. After a three weeks' illness, which presented all the features of puerperal fever, she recovered. With the exception of the fright in question, I know of no possible cause for her illness.

An Appeal.

We are asked by a medical man who knows the facts to insert the following:

Will any medical man assist two ladies (doctor's daughters) living in Southport to keep their home together by sending patients (not mental)? Their home is well furnished; good cooking and cleanliness guaranteed. Unless they can make sufficient this winter to cover expenses, they will be absolutely penniless. References are permitted to many medical men. The ladies' address is Miss S., 9, Leicester Street, Southport.

Winchester Appeal Fund.

The following additions to this fund have been received:

	£	s.	d.
Dr. Joseph Bell, Edinburgh	2	2	0
Dr. James Neil, Oxford	1	1	0
R. A. C., Southampton	2	0	0
Dr. R. M. Fraser, Belfast	1	1	0
Dr. B. Jones, Leigh, Lancashire	1	0	0

Fehling's Test (Quantitative).

Dr. Thos. Carwardine, M.S., F.R.C.S. (Clifton, Bristol) writes: This may be rendered much more rapid by placing the test tube containing the suspended precipitate of red copper suboxide in a centrifugal machine. The precipitate is then thrown down at once, and the colour of the solution is obvious without delay. Costly apparatus is unnecessary; a piece of string tied to the test tube enables it to be twirled round in the air, when the precipitate will be all found at the bottom of the tube, and the colour of the liquid can then be seen at a glance. Possibly this little dodge may be of service to many engaged in the practice of medicine.

Neurasthenia.

Dr. Franklin Williams (Liverpool) writes: I do not know whether Dr. Cunningham, in his note in the British Medical Journal of August 21st, specially refers to my advice to "M.R.C.S.," which appeared in our issue of August 7th. Nevertheless, I am much indebted to him for drawing my attention to the line of treatment adopted by Charcot in his cases of neurasthenia. In my student days it was a common thing to hear such patients advised to stand up to their feet in a footbath containing water as warm as could be borne, and then to have someone to sponge the body with cold water downwards from head to foot, followed by a brisk rub down with a coarse towel. The benefit which followed was often pronounced. In these cases it was usual also to prescribe a tonic containing quinine, iron, strychnine, and sometimes arsenic. What influence the example of Charcot had in determining the above line of treatment I will not undertake to say. The application of cold followed by friction in these cases are ancient methods. As to the use of bromides my experience of them is not a satisfactory one. No doubt there are a class of cases in which they exert a material and beneficial influence; but as a rule their influence is only a temporary one. I think the rule that stimulants, narcotics, and anodynes are to be avoided is a sound and safe one, for, unless given under direct medical supervision, they tend frequently to be abused. The existence of cardiac dilatation in some of these cases I am not unaware of. However, I shall abstain from any further comment at present, as I purpose making some remarks on this important subject at a future date.

Income Tax.

The Income Tax Repayment Agency (6, Chichester Road, Paddington, London, W.) write: Will you allow us to call attention through the British Medical Journal to the fact that October 5th being near at hand, notice of claims for refunds of income tax where a loss has been incurred during the year ended previous to April 5th last must be lodged without delay? The date is the more important that, in many cases, district commissioners have also fixed upon October 5th as being the latest day upon which they will accept notices for refunds of income tax where the profits of the year have not reached the amount upon which the assessment was made. Claims for three years on abatement, exemption, and life insurance premiums can, however, be made for some time longer, and we are at all times glad to give gratuitous information as to the validity of such claims on receipt of full particulars and a stamped addressed envelope.

Why are General Practitioners deprived of Government Appointments in India?

A Practitioner (N.W. Provinces of India) writes: I am a member of the British Medical Association as well as a general practitioner in India, so the above question directly affects myself as well as those similarly situated. I would beg to direct the attention of this influential body to the above, and ask them to move the Indian Government in this matter. The general practitioners who are exempted from such posts have studied and passed their examinations in the United Kingdom, and are thus in every way qualified to hold these posts. Then why exclude them? It hardly seems fair that such practitioners should have to battle against frightful odds without receiving help or encouragement from Government. Many of them have not the requisite capital to battle against contending forces, and a Government appointment would just supply their wants.

Is it right that such individuals should not be recognised by the Indian Government—that their hard-won and expensive diplomas should go for naught—that they should be treated as though they held no qualifications? Is it right that their ardour should be damped, and cold water thrown on their efforts? I trust the Association, who are glad to right the wrongs of their members, will take up the cudgels on behalf of the general practitioners, who, in face of all disadvantages, have to, and do, fight their battles manfully.

Indian Hemp.

Dr. A. W. Stirling (Atlanta, U.S.) writes: In some recent personal experiments with Indian hemp, I have been struck by its power of increasing appetite, an observation which has been made before, and is noted in some writings on the subject. I am not aware whether advantage has been taken of this fact in diseases such as phthisis, in which some of its other properties also might perhaps be useful. I have more faith in cannabis indica when long continued than in any other drug for the cure of chronic headaches, especially migraine, and have seen no bad effects from it, except in the larger doses (one-half a grain). It sometimes produces diarrhœa.

Gastric Dilatation.

Dr. M. A. Boyd (Dublin) writes: I am much obliged to Dr. Gardiner for his incisive but fair criticism on some portions of my paper, A Clinical Lecture on Gastric Dilatation, which appeared in the British Medical Journal of July 31st, as it gives me an opportunity of more fully explaining the meaning of the passages to which he takes exception, as, on reading them over again, it occurs to me I did not make my meaning quite clear.

In alluding to the position of the stomach in pronounced or complete dilatation of its entire cavity, I stated: "The stomach may be dislocated downwards by the weight of its own fluid contents and the yielding of the gastro-hepatic ligaments;" and that: "It may be found occupying the entire of the lower portion of the abdominal cavity, extending from one iliac region to the other." Dr. Gardiner asks: "What proof have I for these statements, as such conditions are only due to organic stricture?" In describing the stomach as occupying such a position, I had in my mind only that produced by organic stricture of the pylorus, as no obstruction to its contents produced by pressure on the pylorus from without ever leads to such an extreme degree of downward dislocation. The expression, "extending from one iliac region to the other," I only used in an illustrative sense, as strictly speaking the dislocated stomach never lies transversely when so low (except in gastroptosis), but diagonally, as the gastro-splenic ligaments never yield so completely, if at all, as do the gastro-hepatic. In fact, the non-descent of the stomach in dilatation of the cardiac end only and its ballooning upwards is due to its more firm fixation from this cause. I make a clear distinction between distension of the stomach and dilatation. The excessive beer drinking of the Germans, to which Dr. Gardiner alludes, and excessive eating or drinking causes distension, but never dilatation, in a stomach with healthy walls, and I never said it did.

Under causes giving rise to obstruction and dilatation arising outside the stomach I mentioned "kinking of the duodenum when the stomach was dragged down when in a dilated condition by the weight of its fluid contents." I confess my meaning may seem a little ambiguous, and, as Dr. Gardiner says, like arguing in a circle, but I meant to convey that a partial or minor dilatation, with no obstruction, may become an aggravated one with it by the gradual dilatation of the lower portion retaining fluid, so long that its weight would produce kinking of duodenum ultimately. Dr. Gardiner, however, himself supplies, as I was about to do, an explanation how this may arise in the first in-

stance, where he states that "in the acquired form of displacement of the stomach downwards from tight lacing, the withdrawal of support produced by a gravid uterus, a tumour, etc., the stomach falls down. The displacement is soon followed by dilatation, and, unless the true cause be recognised, washing out the stomach will be of very temporary benefit, for the pain and vomiting are due to the food escaping with difficulty through the kink at the junction of the movable and immovable portion of the duodenum, the stomach dragging down the movable portion." In describing kinking of duodenum as an outside cause for obstruction and dilatation he and others may take exception to such classification, but I had no other head to include it under, as a kink in the duodenum is an outside cause as far as the stomach is concerned. If, however, "pylorus" be omitted from the context and "duodenum" only read my classification would, I think, be correct.

I can offer no explanation why a displaced kidney should produce a dilated stomach, except the mechanical one, when it presses directly on the duodenum or pylorus, and I have seen many such cases. In Glénard's disease a common cause for both may exist in the general dislocation downwards of all the abdominal organs, but as this affection has no special reference to the stomach itself I did not take cognisance of it. The expression "dislocated upwards" was used only in contradistinction to dislocated downwards, but I did not mean to convey there was an actual dislocation of the stomach in such a direction, as I qualified the expression by the words "by which I mean the yielding of the stomach wall of this portion causes it to press upwards against the diaphragm or upwards and to the left." I trust I have now made my meaning clear, and I have but to thank Dr. Gardiner for the compliment he pays me in criticising my paper.

FEES AT GUY'S HOSPITAL MEDICAL SCHOOL.

WE are requested to state that the composition fee in the Medical School, Guy's Hospital, is four instalments of 40 guineas each, not of 50 guineas, as stated in the Educational Number of the BRITISH MEDICAL JOURNAL.

PREVENTIVE MEDICAL PRACTITIONERS.

A CORRESPONDENT writes: The idea of feeing your medical man during health, and suspending the payment when sickness occurs, is by no means a new one, but of late the subject seems to have attracted a good deal of attention on the Continent, and several newspapers, notably *Le Temps* and *Cosmos*, have devoted space to its consideration. One of the recent advocates of the proposed innovation—Dr. G. Morice, editor of *La Gazette des Eaux*—writes in his journal to the following effect: "According to this system we pay to be kept well, and not while lying moaning on our beds, swallowing nauseous physic. It is in truth a most taking notion. The medical practitioner is converted into a *preventer* instead of a *curer* of disease; and we feel well-nigh tempted to foresee in the new departure a happy reconciliation between medicine and hygiene." No doubt the notion is a taking one theoretically, but although it may be said to have been, to a certain extent, adopted in clubs and societies, human nature will nevertheless have to alter considerably before "paying to be well" can enter into the domain of practical sociology. Even supposing that the average citizen could be educated up to relaxing his purse strings adequately while still in the enjoyment of health—a most improbable contingency—there are other well-founded objections to the scheme. A preventive practitioner or private medical officer of health would, for instance, be under the necessity of emulating the immortal Pedro Recio de Aguero (of Tirteafuera and the University of Ossuna), in laying down the law regarding his client's regimen and mode of life generally; but, unless the latter adhere to both the letter and the spirit of the ordinance, he could not with any show of reason suspend his payments on falling sick. Dr. Morice is apparently of opinion that there is need for conciliation between hygiene and medicine, but in this country, at all events, we are happy to think that the implied antagonism does not exist. It is the proud boast of members of the medical faculty in these islands that they alone persistently endeavour to destroy the means whereby they live. They have to gain their bread by treating disease, and yet without exception they do their utmost not only to extinguish existing disease, but also to bring about a condition of things which will render its recurrence impossible. The epithet "noble" is often bestowed upon the medical profession, but we question whether this view of the matter is always familiar to the bestowers.

THE USE OF GLOVES IN MEDICAL WORK.

MR. J. JACKSON CLARKE, M.B., F.R.C.S. (Old Cavendish Street, W.) writes: Since the publication of my small book on *Post Mortems* last year I have had from time to time inquiries as to exactly the kind of glove I recommend for *post-mortem* work. At my request Messrs. Mayer and Meltzer, 71, Great Portland Street, have laid in a stock of these gloves, so that medical men may be able to obtain them without delay. There is another use for gloves of this kind. Certain surgical cases—such as suppurative peritonitis, infective osteomyelitis, etc.—present dangers both to the operator and to his other patients. The kind of gloves referred to obviate both these dangers, and in my experience they do not interfere in the least with the skilful use of scalpel and forceps, and, after a little practice, but little with the use of needle and suture. Of course separate sets of gloves should be kept in separate bags for *post-mortem* and for septic surgical cases. With regard to aseptic surgical cases, I have not yet had evidence that there is any insuperable difficulty in rendering the hands aseptic.

HEBREW MIDWIVES.

A CORRESPONDENT, referring to Exodus i, 16, asks if there be any further record of the obstetric position amongst the ancient Hebrews. The obstetric stool was well known in antiquity, and stools and chairs are still employed by the peasantry in different parts of Europe. As the stool was once in general use in Germany, the learned came to the conclusion that it had been introduced by the Jews into that country. Professional commentators, of world-wide renown, have however shown that this opinion rests on an insecure foundation. The word "stool" is a translation of the word *ebnaim*, which properly means "stone." The Arab women, it appears, still sit on a stone during labour, but the commentators in question believe that *ebnaim* might mean an ordinary chair or might simply imply the recumbent position. Three authorities of weight suspect that it signified the presenting part of the fœtus, explored by the midwife in order to ascertain its sex. None find any warrant in the opinion that *ebnaim* was a special stool employed solely for women in childbirth. Our correspondent will find full information on Jewish midwifery and on obstetrical stools in Witkowski's *Histoire des Accouchements chez tous les Peuples* (Paris, Steinheil, 1887).

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BOOKS, ETC., RECEIVED.

The Relief and Cure of Spinal Curvatures. By P. G. Lewis. London: John Bale, Sons, and Danielsson. 1897. 7s. 6d.

The Student's Guide to Medical Diagnosis. By Samuel Fenwick, M.D., and Soltau Fenwick, M.D. Eighth Edition. London: J. and A. Churchill. 1897. 9s.

A Critical Period in the Development of the Horse. By J. C. Ewart, M.D., F.R.S. London: A. and C. Black. 1897.

Atlas der gerichtlichen Medicin. Von Professor E. R. von Hofman. Munich: J. F. Lehmann. 1898. M. 15.

Atlas und Grundriss der chirurgischen Operationslehre. Von Dr. O. Zuckerkandl. Munich: J. F. Lehmann. 1897. M. 10.

Archives of the Roentgen Ray. Edited by W. S. Hedley, M.D., and S. Rowland, M.A., M.R.C.S. No. 1, Vol. II. London: Rebman Publishing Company. 1897. 4s.

Elementary Physiology for Nurses. By C. F. Marshall, M.D., B.Sc., F.R.C.S. London: Scientific Press. 1897. 2s.

The Midwives' Pocket-book. By Honnor Morten. London: Scientific Press. 1897. 1s.

Lawson Tait's Perineal Operations, and an Essay on Curettage of the Uterus. By W. J. S. McKay, M.B., M.Ch., B.Sc. London: Baillière, Tindall, and Cox. 1897. 3s. 6d.

The New Psychology. By E. W. Scripture, Ph.D. London: Walter Scott. 1897. 6s.

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AN ADDRESS

ON

HE WORK OF PASTEUR AND THE MODERN CONCEPTION OF MEDICINE.

Delivered before the British Medical Association at Laval University, Montreal,

By Professor CHARLES RICHET,

Delegate of the French Government and of the Faculty of Medicine of Paris to the Sixty-fifth Annual Meeting of the British Medical Association.

R. President, Ladies, and Gentlemen,—It is not without notion that I rise to address this learned assembly. I know deed that I am addressing men who are not my fellow tizens, but among them are some, *enfants de notre vieille tion Gauloise*, who have the same mother tongue as we; they eak from childhood our beloved French language, they are us a little more than my fellow citizens, for they are my mpatriots, and I feel myself animated by a truly fraternal ection for them; and as to my English colleagues, they ve given evidence of so much good will and of a courtesy delicate that I need make no great effort to assure them of y gratitude. In one word, although a stranger I seem to be long friends.

I am somewhat troubled, also, because I am addressing edical men and am speaking before a medical congress. ow, although I belong in some small degree to the great edical family, since my father has conferred honour upon e profession of medicine by his labours and by his works; d although I have the great honour to be the delegate of e Faculty of Medicine of Paris, yet I am not a medical man, d a physiologist displays some temerity in venturing to eak before you on medical matters.

The Reconciliation of Medicine and Science.

Still I have an excuse. It is this, that I desire to attempt bring about a complete reconciliation between medicine d science. It may seem that this is a commonplace, and it any such attempt would be unnecessary. But it is not gentlemen. We might find perhaps, somewhere—not, I sure, in this assembly—medical men ready unhesitatingly assert that there is discord between medicine and science, d that all those sciences which are called ancillary—physics, mistry, physiology—are *impedimenta* with which the ician has nothing to do. Yes, there are to be found in world medical men, among them even men of high ainments, who are ready still to say: "What have I got do with your experimental science? Observation of the k and clinical study are worth more than all your clever eriments, and it is not from laboratories that the means curing disease can come." Such an opinion appears to to be erroneous, and I would with all the energy which I sess help to upset it. I hold that it is by experimental nce alone that medicine has made and can make progress. rill suffice to describe the work of Pasteur, my illustrious ster, in order to give you a convincing demonstration his.

shall not be contradicted when I say that the value of work is greater than all that the history of medicine has n us since the commencement of our era. Through his ours everything has been renewed, regenerated, and, nks to him, medicine has made more progress in twenty s than had been made previously in twenty centuries.

The Life-Work of Pasteur.

uis Pasteur was born at Dôle in the Jura in 1821, and at beginning of his career gave himself up to the study of mistry. He became deeply interested in a difficult and ortant problem—molecular dissymmetry. Here was a ques- in pure chemistry which would seem to take us very far n medical questions, but it was to lead Pasteur directly to study of fermentations. If a solution of tartaric acid (in form of tartrate) be left untouched, a change occurs after e time in the chemical constitution of the liquid, which re Pasteur's time had been overlooked. The original solution has no action on polarised light, but after fermentation this same solution has become capable of deflecting polarised light. Pasteur explained this phenomenon by showing that the original tartaric acid is a mixture of an acid deviating light to the right with an acid deviating it to the left, and that a process of partial decomposition takes place; one of the acids is destroyed and the other is not altered, so that the action upon polarised light, previously masked by the mixture of the two acids, becomes evident. Here we have a fundamental experiment. It is told how when the young Pasteur desired to show it to Biot, that great physicist, who had discovered the phenomena of polarisation, the old *savant* grasped the trembling hand of the young man, and, before beginning the optical examination of the crystals submitted to him by Pasteur, said to him with tears in his eyes, "*Mon cher enfant*, I have loved science so much, that in face of the beautiful experiment which you relate to me I cannot prevent myself from being deeply moved."

The explanation given of this phenomenon at that time was that the tartaric acid was decomposed by fermentation. Men were then content to use this magic word, which appeared to explain everything, but which in reality told nothing at all. Neither Lavoisier, nor Liebig, nor Frémy had been able to discover its meaning, and were reduced to the theory of half-organised matter—a childish conception worthy of Paracelsus.

One of Pasteur's experiments, perhaps the most beautiful which he ever made, demonstrated the nature of this mysterious phenomenon. If a sugary solution of carbonate of lime is left to itself, after a certain time it begins to effervesce, carbonic acid is evolved, and lactic acid is formed, which decomposes the carbonate of lime to form lactate of lime. This lactic acid is formed at the expense of the sugar, which disappears little by little. But what is the cause of this transformation of sugar into lactic acid? Well, Pasteur showed that the efficient cause of this chemical action was a thin layer of organic matter; that this layer of organic matter consisted of extremely small moving organisms, which increased in number as the fermentation went on. Their growth it is, then, which produces the phenomenon of the transformation of sugar of milk into lactic acid. If, for example, we take a sugary solution in which all pre-existing germs have been destroyed by heat, no lactic fermentation will take place. But if we introduce into this sterile liquid a small quantity of this layer of organic matter, such as can be obtained from any liquid in which normal lactic fermentation is taking place, we shall see the lactic acid again form rapidly in the new solution.

Let us dwell a little on this admirable experiment. Nowadays it seems to us so extremely simple that we can scarcely perceive its importance. It seems to us now, in 1897, that from all time we must have known that an organic solution when heated was sterile, and that a germ would suffice to render it capable of fermentation. But this is a mere delusion. No, a thousand times no! This great fact of the generation of germs was absolutely unknown before Pasteur, and the method of sterilising liquids, and of their inoculation with spores, was revealed to us by Pasteur. It is the nature of great discoveries that they become popularised in a short time, and thus very quickly become elementary. A first year's medical student knows perfectly that which neither Lavoisier, nor Liebig, nor Frémy, nor any one before Pasteur had been able to perceive. We are always tempted to be ungrateful to great creators, for their creations pass rapidly into the domain of common knowledge. They become so simple that they cease to surprise us. We do not think of being grateful, and we forget the efforts which genius has had to make to wrest the truth from jealous Nature. Gentlemen, let us not be ungrateful, let us remember that the recognition of the real cause of all fermentation (the development and germination of organised elements) dates from 1857, and from the celebrated memoir of Pasteur upon lactic fermentation. A new world was then opened to science.

Nevertheless, this memoir of Pasteur's, containing one of the fundamental discoveries of the century, was not welcomed as it ought to have been. At first its importance was not understood, and afterwards absurd contradictions were opposed to it. A whole series of beautiful and decisive experiments was necessary to prove that there was no such thing as spontaneous generation, and that sterile liquids

remained sterile indefinitely so long as no germs were introduced into them. Pasteur devoted six years (1857-1863) to the proof of the fundamental fact that "organic liquids do not alter until a living germ is introduced into them, and living germs exist everywhere."

THE MICROBIC THEORY OF DISEASE.

A great step yet remained to be taken. This was to determine the evolution of these germs, not merely *in vitro* but in the living organism. We to whom the idea of parasitism and microbic infection is now so familiar can scarcely conceive that it has not always been thus.

The microbic theory has become so ordinary, so popular, that we are tempted to believe that the part played by microbes was understood even in the times of Hippocrates, but I assure you that in truth this was not the case, and for long enough after Hippocrates the power of microbes was not known.

Pasteur, to whom, and to Sédillot and Littré, we owe the word "microbe," was the first also to explain to us in his essay on the silkworm disease, published in 1867, the part they played in the production of disease. He proved that the bright corpuscles found in the bodies of diseased silkworms are living germs—a distinct living species, a parasite which can multiply and reproduce itself and disseminate the contagion.

It was therefore with painful astonishment that I heard Prof. Marshall Ward recently say that the discovery of the part played by micro-organisms in disease was due to Koch, and dated from 1876. Now, ten years before this, Pasteur had published his experiments on *pébrine* and *flacherie*. Davaine had shown the part played by bacteria in anthrax infection, and the idea of infection and of contagion by microbes in the higher animals as well as in the lower had become a common place, not indeed in the medical world, but in all laboratories.

Thus, by successive steps, did the work of Pasteur develop in all its greatness and logic. In the first place, in order to elucidate a chemical problem, he studied tartaric fermentation; then he was led to study lactic fermentation, and he showed that they were biological phenomena. He then pursued the analysis of this phenomena with all its consequences, and was led to the conception that disease was due to the development of a parasite.

The normal living being follows out its course of growth without the development of any organic parasite in its tissues or in its humours. But if these humours or tissues happen to be inoculated with any organism capable of developing, then this small living thing multiplies, the higher organism is infected, and the whole body becomes, as it were, a culture fluid, in which the pathogenic microbe propagates itself, a centre of infection which scatters the disease by sowing the noxious germs wherever it goes. Thus arose the new conception, profoundly new not only for medicine but for hygiene — Disease is Parasitism. Thenceforth we understood the meaning of the words "infection" and "contagion," previously mysterious.

It is true that Pasteur did not discover all the microbes of all contagious diseases; but this is of small moment, since he was the first to discover that infection was a phenomenon of microbial parasitism. All those who after him have proved points of detail, however important or fundamental they may be, have but followed the path traced by the master. Whether they will or not, they are all the pupils of Pasteur, as those who follow the study of chemistry are pupils of Lavoisier.

The greatest of Pasteur's disciples, Robert Koch, although with some ingratitude he refuses to recognise his master, has only perfected certain points in technique and applied his ingenuity and his perspicacity to the solution of questions which, in spite of their practical importance, are still secondary. He has not, in fact, been able to do anything new except upon points of detail; all that is essential comes from Pasteur himself.

Need I say that this idea of the microbe, of the parasite, has become the basis of medicine. If we take up treatises on pathology written before this prodigious revolution, we shall be astonished by the insignificance and the nothingness of these very ancient books. Yet they are not really very old; they are dated 1875 or 1880; but as one reads them it seems as though several centuries must have intervened between these venerable writings and modern books. I know an excellent article on tuberculosis written in 1878, before the microbe of tuberculosis had been discovered. Well, this article belongs to another age; it belongs no longer to medicine, but to the history of medicine, for it swarms with mistakes and incredible errors with regard to pathological anatomy, etiology, prophylaxis, treatment—in fact, from every point of view.

In ten years medicine has been entirely overturned and remade. It is being remade every day. Every day brings some new discovery in matters of detail; but the great principle is always there, and it must always be attributed to the one initiator.

This is not all. Another new and great discovery was to be made by Pasteur himself, and to constitute the supreme development, the culminating point, as it were, of his life's work. This is the principle of vaccination. By a series of researches, admirable for their precision, Pasteur proved that the pathogenic microbe could be attenuated—that is to say, rendered incapable of causing death. But, though this microbe does not cause death, yet it can produce the disease, a disease sometimes so attenuated as to be almost imperceptible. Now the living being which has suffered from this attenuated disease is protected against its more serious forms, and, borrowing the word consecrated by the immortal discovery of Jenner, Pasteur said that we have here "vaccination."

Fermentation, infection, contagion, vaccination; here in four words we have the work of Pasteur. What more need I say? Do not these four words possess, in their simplicity, unequalled eloquence?

Can anyone longer maintain that the progress of medicine is not due to experimental science? Does not all this knowledge of microbes and of the part which they play in disease imply, immediately and necessarily, immense progress in therapeutics?

ANTISEPTIC SURGERY.

To take but one example, I will cite the application of microbial theories to surgery.

There was a time when erysipelas, purulent infection, and hospital gangrene decimated those upon whom operations had been performed, when puerperal infection claimed a terrible number of victims. It seems to us nowadays that the medical profession before 1868 were blindfolded, and that their blindness was almost criminal. These are now no more than historic memories. A sad history, doubtless, but one which we must look at coolly in order to understand what science can do for medicine. Left to their own resources, practitioners of medicine during long centuries could do nothing against erysipelas, against purulent infection, against puerperal infection; but, basing itself upon science, surgery has been able to triumph over these odious diseases, and to relegate them to the past.

Let me here introduce a reminiscence. When, on the occasion of his jubilee, a great celebration was prepared for Pasteur in the Sorbonne, in the presence of the leading men of science of the world, there was a moment when all hearts were softened—the moment when the great surgeon who was first to perceive how to apply to the practice of his art the theory of pathogenic parasites, when Lord Lister drew near to Pasteur and gave him a fraternal embrace. These two great benefactors of humanity, united in their common work, afforded a spectacle never to be forgotten, a striking reconciliation of medicine with science.

But the apogee of the glory of Pasteur was the discovery of the new treatment of hydrophobia. No one of his scientific conquests was more popular, and from France and from the whole world there arose a long cry of admiration. Perhaps in the eyes of biologists this discovery possesses less importance than his labours with reference to the fermentations and to vaccination, but for the public this was the the chief part of Pasteur's work. And men of science also were forced to admire the scientific courage of Pasteur, who, putting aside the precise methods which he had taught and discovered, knew how to devise new methods to meet the exigencies of the circumstances, and how to put them victoriously into practice.

Thus was finished the work of Pasteur. He was spared to take part in the triumph of his ideas, and to be a witness of his own glory. If, like so many creators, he had sometimes in his earlier days known conflicts and hatreds and petty quarrels and foolish objections, nevertheless he had not to deplore the ingratitude of mankind. He died full of honours, surrounded by admiration, respect, and love. For him posterity had already commenced when he died.

The Union of Medicine and Science.

And now let us turn back to consider the indisputable union of medicine and of science. This, in fact, is what ought to strike us in the work of Pasteur. It is not only in general biology and in the progress of our knowledge that his work is great, it is still more in its immediate practical applications. The great biologists of our century Lavoisier, Claude Bernard, Darwin, have, without doubt, left behind them work which by reason of its conquest of new truths is not inferior to the work of Pasteur, but these new truths do not lead to any such immediate application as antisepsis, the treatment of hydrophobia, anthrax-vaccination, or the prophylaxis of infectious diseases. Pasteur was not only a man of science, he was also a philanthropist, and there is scarcely one who can be compared with him as a benefactor of suffering humanity except Jenner, who found out how to preserve thousands and thousands of human beings from the most hideous of all diseases.

Further, Pasteur brought back medicine into the true way of science. Even after Magendie, Müller, Schwann, and Claude Bernard, it might still have been asked whether all these experiments establishing so many important truths had really been of any advantage for the relief of the sick. To discover, as did Schwann, that living beings are an aggregate of cells; to prove, as did Claude Bernard, that the liver forms sugar; to establish, as did Darwin, that living species can be transformed by the influence of long-accumulated variations in the environments—these are admirable pieces of work, but work in pure science which had not any immediate therapeutic results. Strictly speaking, then, it was possible to maintain that clinical medicine did not derive any benefit from such investigations. I do not for a moment believe that this opinion had a shadow of a foundation, but before the time of Pasteur it was not so absurd as it has become since Pasteur. Since Pasteur no man can, without incurring the charge of monstrous ineptitude, refuse the rights of citizenship in medicine to experiment and to biology.

And to speak the truth, men of science and biologists, as though their ardour had been redoubled by the renovation of medical ideas, have during these last ten years made discoveries which have introduced into medical science new elements which clinical observation alone had been absolutely incapable of discovering. I will cite a few examples—the action of the thyroid gland, the Roentgen rays, pancreatic diabetes, and serum therapeutics.

Thyroid in Therapeutics.

Physiologists had shown long ago that the ablation of the thyroid gland led to serious results. Schiff had proved this as long ago as 1857, but the explanation of the phenomenon did not become clear until Claude Bernard, but especially Brown-Séquard, had demonstrated the existence of internal secretions of glands pouring into the blood their products which probably neutralise certain toxic substances. This very naturally led Vassale and Gley to inject into animals from whom the thyroid gland had been removed the juice of the thyroid, and thus prolong their lives. The therapeutic conclusion to be drawn was obvious, namely, to treat the unfortunate subjects of cretinism or of diseases of the thyroid gland by injection of extracts of the thyroid body. You know that the result has been most happy.

This new treatment was a true experiment, and as is the case with so many experiments, the actual result has been a little different from that which was expected. The ingestion of thyroidin is not only a means of curing goître and cretinism, but is only a treatment, sometimes remarkably efficacious, for obesity.

The Roentgen Rays.

The discovery of the Roentgen rays excited general enthusiasm, and as a matter of fact it is one of the greatest conquests of contemporary physics. Most assuredly medicine had nothing to do with it. The research was made and the success was obtained in a physical laboratory. Now you are not unaware that these Roentgen rays have been called to play a part, if not in the treatment at least in the diagnosis of diseases—a part the importance of which goes on increasing from day to day. Physicists have discovered the principle, it is for medical men to follow up its application.

Pancreatic Diabetes.

The existence of pancreatic diabetes was suspected vaguely by a clinical physician, Lancereaux; but the means which clinical medicine and pathological anatomy placed at his disposal did not give him the power to solve the problem. In spite of his perspicacity, he could do no more than note a certain correspondence between diabetes and lesions of the pancreas. How could more have been learnt if we had not the resource of experiment? Two physiologists, Mering and Minkowski, have had the good fortune to show that ablation of the pancreas determines glycosuria, to show that there is a pancreatic diabetes, and they have studied its various conditions with great ability.

Serum Therapeutics.

I come now to serum therapeutics, a direct consequence of the labours of Pasteur. This is a mode of treatment born of the experimental method alone. Here, again, science has done for the art of medicine that which clinical observation, left to its own resources, could never have accomplished.

Permit me now to show how serum therapeutics is derived directly from physiology and experiment, and pardon me if I am forced to speak of my own work; I shall do so I hope without any vanity. I know very well that we always owe to our predecessors and to our rivals much more than our pride admits, and that the experiments and the ideas which succeed are not always those which have been conceived most methodically.

About 1887 M. Chauveau had shown that French sheep could contract anthrax, and that they are very easily infected by the bacillus anthracis, the microbe of anthrax, if small quantities of the bacillus be injected under the skin. But Algerian sheep seem to be safe from the disease. In vain is the bacillus anthracis injected into them; they do not contract anthrax. They are refractory to this disease and possess a remarkable immunity to it. Having reflected on this strange fact I framed the hypothesis that the cause of the immunity of the Algerian sheep, which are absolutely similar from the anatomical and zoological point of view to French sheep, depended upon chemical substances contained in the blood, and that in consequence we might hope to confer immunity on French sheep by transfusing into them the blood of the Algerian sheep. It is, however, difficult to make experiments on sheep. Therefore, with my friend Héricourt, who has been throughout these researches my tireless fellow worker, I took animals of two different species, the common victims physiologists—rabbits and dogs.

Just at that time we had been studying a microbe nearly related to the staphylococcus albus, the staphylococcus pyosepticus, which in rabbits produces enormous subcutaneous swellings when injected under the skin and causes death in twenty-four to thirty-six hours. The dog, on the other hand, seems to be almost refractory to inoculation with this microbe. We therefore attempted to transfuse the blood of the normal dog into rabbits by intravenous injection, but this operation did not succeed, for the transfusion of dog's blood into the veins of the rabbit even in a dose of only 10 g. rapidly causes death.

It then occurred to us to resort to peritoneal transfusion in place of intravenous transfusion. In this way we were able to introduce into the organism of the rabbit 50 or 60 g. of dog's blood, and had the good fortune to see the experiment succeed completely. Rabbits transfused with the blood of the normal dog survived the inoculation of the microbe for four or five days, and rabbits transfused with the blood of a dog vaccinated against the microbe did not die, and were in fact hardly ill at all.

This experiment, which was made on November 5th, 1888, is, as it seems to me, the very basis of serum therapeutics;

it in fact proves that the blood of animals refractory to a disease contains chemical bodies which counteract the effects of the specific pathogenic microbe of the disease. We understood its importance from the first, and having established the general pathological principle, we resolved to apply it to a disease of man.

For several days, then, Héricourt and I debated the question whether we should experiment with one or other of the three diseases—anthrax, diphtheria, or tuberculosis. Unfortunately we decided for tuberculosis. Its microbe is easily cultivated, and, as you know, it produces greater ravages among men and animals than any other disease. We set to work at once, but, as you will understand, time was required before we could obtain definite results. Still, in a year's time we were able to show that the injection of dog's blood into rabbits retarded enormously the development of tuberculosis. It was, nevertheless, necessary to pass from experimental physiology to human therapeutics. Taking advantage of an observation of Bouchard's to the effect that the serum of refractory animals is as active as the whole blood, we were able to inject the serum in tuberculous diseases. The first sero-therapeutic injection was made by us on December 6th, 1889.

At first we had for a space great hope. Yes, in truth, for several weeks we believed that we had discovered the heroic treatment of tuberculosis. For several weeks the various patients that we had under treatment found that their strength was renewed, that their appetite returned, that their weight increased, and that cough and expectoration disappeared almost completely. But, alas, it was no more than a transient improvement. A month or a month and a half later the pitiless disease resumed its course, and the sero-therapeutic treatment turned out to be inefficacious. Happily, while by the most diverse plans we were in vain searching for a method of treating tuberculosis by serum, a German experimenter, Behring, after studying the effects of the serum of refractory animals upon diphtheria, showed (in 1892) that this serum is wonderfully efficacious in the treatment of the disease. He applied the serum method of treatment not only to diphtheria, but also to tetanus, and, at first in animals and afterwards in man, he obtained results which were really marvellous. Gentlemen, you know the rest, and I need not tell you that this sero-therapeutic method, improved and popularised by Roux in 1894, is now a treatment without compare. The statistics on this head are absolutely conclusive. The mortality of diphtheria, which was 45 per cent., has fallen to 15 per cent. That means for the city of Paris alone an annual saving of about 1,000 human lives; for the whole of France, nearly 10,000 lives. We may take the same proportion for Italy, Germany, England, the United States, Canada, and Russia, and may estimate the number of infants which serum therapeutics snatch from death at about 50,000.

In other diseases the results of serum therapeutics have been much more open to criticism, and it would be necessary in order to arrive at a satisfactory conclusion to discuss them in detail. I cannot attempt to do this here, for it would be an abuse of your patience. I will content myself by venturing the opinion that serumtherapy has not said its last word. The organism is endowed with a marvellous power of resisting the poisons secreted by microbes. It sets to work in its turn to secrete counter poisons which neutralise the poisons secreted by the microbe. The antitoxins of the organism combat the toxins of the parasite, and in the future the art of serum therapeutics will be to seek in these resisting organisms the antitoxins fabricated by their cells.

Medicine and Experimental Science.

Thus on whatever side we turn we find that medicine has always been guided by experimental science. By experiment and by science it is compelled to march forward. This was true in the time of Harvey, for that immortal physiologist had to meet the opposition of physicians. This was true also in the time of Lavoisier, when by a few decisive experiments he proved the chemical nature of the phenomena of life. But how much more true is it at the present time since Pasteur has by experiment laid open a whole world, and has warranted us in conceiving the widest hopes for the future of medicine?

The parts of the man of science and of the physician are very different. The physician ought to be conservative, applying methodically the teaching and the precepts which he has received. He has no right to experiment upon his patients, or to permit human life or human suffering to be risked on fantastic theories. But the man of science ought to be a revolutionist. He ought not to be content with the doctrines which he has been taught. The opinion of the master ought to be but a light weight upon his mind. He ought to seek on every hand for facts which are new and even improbable. Darwin says somewhere that he had made the experiments of a fool, and often it is right to attempt that which appears contradictory to all the most received and classical opinions. Without this spirit of adventure, without this scientific daring which opens up new horizons there is no progress.

The task of the explorer or of the pioneer is not that of the physician. He ought to be careful to keep himself abreast of all scientific progress in order that his patients may have the benefit of it, but he cannot advance the progress of science, save within restricted limits. Having no right to experiment, he is almost powerless to solve the difficult problems which arise.

It is the duty of the chemists, the physicists, and above all the physiologists, to guide medicine into the new ways. They have not to take the heavy responsibility of a human life upon their shoulders, and nothing ought to check their audacity. You, gentlemen, have not the right thus to be audacious: you need prudence and moderation, and, convinced as I am of the power of experimental science, I still think that the applications which the chemists and the physiologists suggest to you should only be accepted with considerable caution. It costs us nothing, after a few experiments which have succeeded fairly well, to say to the physician, "Try that on your patients." You know very well that our responsibility is *nil*, and that the ancient axiom *primo non nocere*, an axiom which ought to be your strict rule of conduct, does not in any way apply to us. You see, therefore, that it would be unjust to make it a matter of reproach to physicians and surgeons that they have not made great scientific discoveries. This is not their mission. It is theirs to relieve human suffering, and to seek among new scientific truths that one which is most proper to relieve or to cure the sick.

Nor can I understand how anyone should have wished to create an antagonism between medicine and science. To suppose that they are in contradiction is to show that we understand nothing about either the one or the other. It is not reasonable to assert that the one is superior or inferior to the other; they are different in their means and in their ends. They are mutually complementary, and both are equally necessary.

If I were ill most assuredly I would not seek the assistance of a chemist, or of a physiologist, and medicine is not to be learned from the books of Claude Bernard or of Pasteur. Clinical instruction is necessary, such as long observation of patients alone can furnish. Prophylaxis, diagnosis, prognosis, therapeutics are not to be learned in scientific books. Something else is necessary—observation, long, patient observation, the old Hippocratic observation, without which there can be no good physician. Young students must be guided in the examination of patients by experienced practitioners, and no one, I presume, would be guilty of the folly of proposing to replace the clinical ward by the laboratory.

But without laboratories the clinical department must remain incapable of scientific advance, and this condition of stasis is assuredly undesirable; for in spite of all the progress which has been made, much yet remains to be done. Are not tuberculosis and cancer, for example, the disgrace of medicine? I appeal to all medical men here present. Is there any one of you, gentlemen, who in the presence of such painful modes of death does not feel himself humiliated to the bottom of his soul by his powerlessness?

Well, this feeling of our present powerlessness against disease ought to stimulate us to work. The work to be done is enormous, and we must none of us grow weary of our task. We physiologists must seek new facts, we must seek and seek again, seek always without being afraid of the boldest hypothesis, and without putting any limit to our audacity, with

out troubling our heads as to the practical consequences which may flow from our discoveries, having only truth—divine truth—for our object. As for you, gentlemen, it is your duty to follow with the warmest interest both the general effect and the detailed results of biological discoveries in order to attempt to find some practical application for them. From this unceasing collaboration progress will be born. But it is necessary that men of science and physicians should both be animated with these two governing sentiments—faith in science and love of man.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF DERMATOLOGY.

At the Annual Meeting of the British Medical Association at Montreal, September, 1897.

By MALCOLM MORRIS, F.R.C.S.Edin.,
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THE RISE AND PROGRESS OF DERMATOLOGY.

The present is a time of jubilees and centenaries—occasions which we, in common with toilers in other fields, celebrate by reviewing the progress that has been made, and giving thanks to God that we are not as our predecessors were a hundred or even fifty years ago. The custom might at first sight seem to have a tendency to engender a feeling of Pharisaic self-complacency. In reality, however, such retrospects have a chastening effect, as showing that, if we have any reason to look upon ourselves as just in a scientific sense, this is largely the result not of our own merits but of those of the men who prepared the way for us. They have the still greater advantage of enabling us to see exactly where we stand in knowledge of the things which form the object of our study by showing us what has been done and what yet remains to do. As embryology furnishes the key to the riddles of anatomy, so the history of the evolution of any branch of science throws light on many points that would otherwise be dark, explains the origin of terms and theories, rescues from oblivion truths overlooked or forgotten, and, showing the pitfalls which hindered those who have gone before, teaches us to walk more warily.

It is remarkable that in the journalistic pæans in which the triumphs of medicine in the glorious reign of Queen Victoria have lately been recounted, dermatology has had no part. Why should this branch of our art be thus unhonoured and unsung? It is a form of specialism, no doubt; but specialism is no longer looked upon as an unclean thing—except by some survivor of an antique world here and there. Dermatology, although its victories have perhaps been less showy than those won in some other special departments, has not lagged behind in the onward march of medicine. It has therefore seemed to me that I might on the present occasion fitly endeavour to supply the missing chord in the great *Jubilate* whose echoes are still ringing in our ears. A review of the progress that has been made in the knowledge of skin diseases is all the more appropriate at the present time, since what I take leave to call the centenary of the birth of scientific dermatology is not long past. In 1790 the Medical Society of London awarded the Fothergillian gold medal to Robert Willan, who had some time before submitted to it the outline of his plan for the arrangement and description of cutaneous diseases.[1] Willan may justly be called the creator of dermatology. Before him the skin was looked upon more as a mirror on whose face internal disease "glassed itself in tempest" than as an important organ subject to manifold disorders peculiar to itself. A review of the development of this branch of medicine during the past hundred years is therefore virtually a history of it from its beginning. This, of course, cannot be told in detail here, although a full record of the work of the makers of dermatology would certainly not be lacking either in interest or in usefulness. All that can be attempted in the time at my disposal is a rapid sketch of the principal changes in the conceptions of skin diseases and in the manner of treating them that have taken place since Willan reclaimed this waste land of pathology and brought it under scientific cultivation.

Forerunners of Willan.

Willan was not the first who wrote on skin disease. As our terminology bears witness, the Greeks gave a good deal of attention to the subject. Hippocrates speaks of "pityriasis," "lichen," "herpes," "pomphi," and many other forms of cutaneous lesion, and roughly classifies them. Later Celsus, Galen, Paul of Ægina, and after them the Arabians, described various affections of the integument. The mediæval writers might have said with Browning's Karshish,

> Scalp disease
> Confounds me, crossing so with leprosy.

Much of the skin disease they saw was leprosy, and they doubtless often imagined it where it did not exist. At a later period syphilis overshadowed everything.

The first treatise professedly devoted to diseases of the skin was that of Hieronymus Mercurialis, of Venice, which was published in 1572 under the title *De Morbis Cutaneis et de Omnibus Corporis Excrementis;* the author had, however, nothing to teach beyond what he found in the ancient writers. In the early part of the eighteenth century Daniel Turner produced *A Treatise of Diseases Incident to the Skin*, which appeared with the *imprimatur* of the President and Censors of the Royal College of Physicians of London, to whom it was offered in an "Epistle Dedicatory" in 1712. Turner's work, though it is described by Kaposi as "very important," is almost wholly a compilation from other writers, and treats not of the skin alone, but of all "distempers" affecting "the outward Parts or Confines, as may be said, of the Human Body." Thus, not only the eruptive fevers, the "green sickness" and the "yellow jaundice," but phimosis and paraphimosis, hæmorrhoids, "chaps on the fundament," imperforate conditions of the natural passages of the body, ulcerations of all kinds, burns, stings and bites of venomous creatures, hydrophobia and poisoned wounds, are looked upon by the author as falling within his province.

Later in the same century there appeared almost simultaneously two works, each of which in its own way marked a distinct advance towards a scientific dermatology. In a book entitled *Doctrina de Morbis Cutaneis*, which was published at Vienna in 1776, Joseph Jacob von Plenck for the first time attempted a complete classification of diseases of the skin. He arranged them, according to what appeared to him to be the most characteristic objective feature, in 14 groups with 120 varieties. In his *Tractatus de Morbis Cutaneis*, published in Paris in 1777, Lorry, besides giving good descriptions of clinical phenomena, discussed the pathology of cutaneous affections in the light of the knowledge of the structure of the skin and the morbid processes of which it might be the seat that existed in his day.

But these were voices of men crying in the wilderness, and neither Plenck nor Lorry—meritorious as were the works of both—did much to dissipate the darkness that was upon the face of this branch of medicine. At the beginning of the nineteenth century it could be said with perfect truth that little improvement had been made in the subject at large since the days of Avicenna.[2]

The Birth of Dermatology.

In 1808 there appeared the first volume of Willan's treatise *On Cutaneous Diseases*, a great work which its author did not live to complete. Ten years before he had given to the world a slender volume dealing with a particular class of lesions of the skin.[3] Willan set himself the task of reducing the chaos of skin diseases to something like a cosmos. The following are, in his own words, the objects at which he aimed in the execution of this design:

1. To fix the sense of the terms employed by proper definitions.

2. To constitute general divisions or orders of the diseases from leading and peculiar circumstances in their appearance; to arrange them into distinct genera; and to describe at large their specific forms or varieties.

3. To classify and give names to such as have not been hitherto sufficiently distinguished.

4. To specify the mode of treatment for each disease.

Like Plenck, Willan grouped skin diseases according to the

character of the predominant lesion; and indeed there can be little doubt that he took the groundwork of his classification from Plenck.[4] The English dermatologist, however, reduced the fourteen orders of his Austrian forerunner to seven, "to be characterised by the different appearances of papulæ, scales, rashes, vesicles, pustules, tubercles, and maculæ." To these another order, "bullæ," was afterwards added. This classification is of course very defective, inasmuch as it takes account only of the outward and visible signs and results of disordered action. As the skin has but a limited range of pathological expression, lesions identical in appearance and in structure are produced by widely different causes. Hence a classification based solely on objective appearances inevitably led to the formation of motley groups including conditions having no essential feature in common; wherein, for instance, variola was classed with scabies as being "pustular," and varicella with eczema as "vesicular," diseases. Moreover, as in the evolution of many affections of the skin, the lesions run through almost the whole gamut of differences in appearance which constitute the several "orders," it is unsafe to look only at them in seeking for the distinctive characters of such diseases. But Willan's classification, defective as it was, at least introduced a definite principle of arrangement into a region of pathology where before all was "most admired disorder." If he got the idea from Plenck, he must be allowed the credit of having greatly bettered the instruction which he received, and of having presented it to the medical world in such a manner as to impress on the mind of the profession.

It is not, however, Willan's classification that constitutes his chief title to be regarded as the founder of dermatology. His judicious selection and accurate definition of terms; his astonishingly faithful word pictures of the appearances of disease drawn directly from Nature, and made more vivid but scarcely more graphic by the coloured engravings with which he supplemented his descriptions, and his rational methods of treatment, were all his own. It was his teaching that transformed a confused jumble of folklore as to "tetters," wet and dry, and of figments of the medical imagination embodied in words of learned sound but little meaning, into a science, rudimentary indeed, but grounded on a solid foundation of observed fact. Willan's work is, therefore, rightly looked upon as the true starting point in the history of dermatology.

The English School.

Willan died before he could complete his work; but, fortunately, he left behind a disciple well worthy to wear his mantle. This was Thomas Bateman, who had been in constant intercourse with him for many years, and who was thoroughly acquainted not only with the teaching but with the spirit of his "learned preceptor." Bateman completed Willan's unfinished *Delineations of Cutaneous Diseases*, and published a *Practical Synopsis of Cutaneous Diseases*, which did far more to make his master's work known than Willan's own unwieldy and incomplete book. It is hardly too much to say that without Bateman Willan might have been forgotten. Bateman, however, was not a mere expositor; he was a man of truly scientific mind, and would doubtless have added largely to knowledge had not he, too, been cut off prematurely.

Bateman's *Synopsis* ran through several editions in his lifetime, and afterwards found an editor in Anthony Todd Thomson, who also published an *Atlas of Delineations of Cutaneous Eruptions* illustrative of the descriptions in Bateman's book. Thomson paid special attention to diseases of the skin for more than thirty years. He was an accurate observer, and was very successful in treatment. Towards the end of his life he embodied the fruits of his experience in a *Practical Treatise on Diseases Affecting the Skin*, which, however, he did not live to finish; it was completed by his nephew, Edmund Alexander Parkes, who was familiar with Thomson's opinions and methods of treatment in cutaneous diseases, and published in 1850. Thomson held that there could be "scarcely any difference of opinion respecting the necessity of arranging the tribe of those diseases . .... (of the skin) according to the physical characters of the eruptions," and in adopting this method he chose "as the least exceptionable the orders of Willan."[5] But although "forced," as he says, to adopt the arrangement, he was careful to guard himself against the supposition that he regarded "the knowledge of their physical characters as throwing any light upon the nature of the diseases which originate the eruptions."

Thomson was physician to University College Hospital, where he was the first of what may be called a dermatological succession, which, handed on in turn by Parkes, Hillier, and Tilbury Fox, is still worthily continued by Radcliffe Crocker.

Almost simultaneously with the treatise of Thomson and Parkes there appeared a work which is one of the landmarks in the history of the English school of dermatology. This was Erasmus Wilson's *Diseases of the Skin*, the preface to which is dated 1851. Wilson, who had commenced his scientific career as an anatomist, had already done a good deal of work in dermatology, particularly in the microscopic study of the cutaneous tissues. He made a new classification of skin affections, grouping them according to the structure in which the morbid process originated into four primary divisions: (1) Diseases of the derma; (2) diseases of the sudoriparous glands; (3) diseases of the sebiparous glands; (4) diseases of the hairs and hair follicles. Each of these included numerous secondary divisions, corresponding to the manner in which the structure was changed or the function disordered. Wilson's influence was for a long time predominant among his own countrymen, and by workers in other countries he was looked upon as the foremost representative of British dermatology. He had an eye for form and colour, and often found the right word to express them. His descriptions of diseased conditions are thus almost unrivalled in their picturesque and yet faithful rendering of appearances. He added little, however, to our knowledge of the pathology and therapeutics of skin diseases, and added not a little to the confusion which existed on the subject by his artificial classification and his ever-changing nomenclature.

On the work of the living leader of our British school of dermatology, Mr. Jonathan Hutchinson, it is not fitting to dwell here. It may, however, be permissible to say that he has brought to the study of the pathology of the skin a knowledge of disease in general such as probably no other dermatologist has ever possessed. This, together with a marked originality and independence of mind, and a singular power of seeing points of likeness in things to outward seeming most unlike, has enabled him to throw an unexpected light on many dark places of dermatology.

On the whole it may be said that the characteristics of the British school of dermatology are those commonly held to be distinctive of the British intellect in whatever sphere it is set to work. We are a practical people, loving facts and caring little for theories. Accordingly British dermatologists from Willan to Hutchinson have been first of all observers. They have striven to get at what Majendie called the *fait brut*, to see things as they really are, and to describe what they saw as faithfully as they could. They have been distrustful of generalisations and cautious—perhaps over-cautious—in deductions. But the facts gathered by them have endured while theories and systems have followed each other into nothingness; and dermatology as it exists to-day is largely the work of their hands.

The French School.

In France a school of dermatology arose independently in the early years of the century. In 1808 Alibert published his *Description des Maladies de la Peau observées à l'Hôpital Saint Louis*, which he followed up two years later by a *Traité Théorique et Pratique des Maladies de la Peau* and several other works. The most valuable part of his publications was the illustrations; his writings only added to the darkness in which the whole subject of diseases of the skin was then enshrouded. His terminology was to the last degree confusing, his classification arbitrary, his descriptions often fanciful. Yet he contributed to the advance of knowledge by directing the attention of more scientifically-minded workers to the subject. Among these was Biett, who adopted Willan's classification with some modifications and introduced it into France. Biett taught for many years at St. Louis, but the only record of his observations and experience is contained in the *Abrégé Pratique des Maladies de la Peau* of his pupils Cazenave and Schedel, which appeared in 1828. Yet, though he

published nothing in the ordinary way, his teaching had a much more far-reaching influence than that of Alibert. In 1831 Rayer sketched out a plan of classification of skin diseases on a basis of morbid anatomy, dividing them into: (1) Inflammations; (2) morbid secretions; (3) congestions and hæmorrhages; (4) anæmias; (5) neuroses; and (6) deformities—thus anticipating Hebra in principle and, to a considerable extent, in detail. Rayer's work is a mine of information as to the early literature of dermatology, and embodied the results of extensive clinical observations so accurate and so clearly recorded that much of it is of permanent value.

Among the leaders of the French school who followed Biett were, Cazenave, Gibert, Devergie, and Bazin, all of whom did something to advance the knowledge of skin diseases, though they were apt to let themselves be misled by a tendency to erect systems on unsound foundations. To them skin diseases were, for the most part, the expressions of some constitutional dyscrasia, which at best was an unnecessary hypothesis, and was sometimes, as in the case of the so-called "dartrous," "psoric," and "herpetic" diatheses, a myth. Indeed, it may be said that in France dermatology was the "last ditch" in which these mediæval notions still fought for life. In recent years the yoke of the diatheses has been shaken off, and the labours of Hardy, Vidal, Besnier, and Brocq have placed the French school in the forefront of scientific dermatology, a position which, with such men as Darier, Thibierge, Wickham to take the place of their seniors when they have to fall out of the ranks, it is in no danger of losing.

The German School.

The year 1844 marked the beginning of a new era in the study of diseases of the skin, for it witnessed the first appearance before the scientific world of Ferdinand Hebra. That remarkable man breathed a new life into the dry bones of dermatology, and set it on a path of progress which has already led to great results. Hebra applied to the investigation of skin diseases the pathological teaching of Rokitansky. He classified them not according to their objective appearances, or to the structures supposed to be primarily or mainly affected, but according to the nature of the pathological processes of which they were examples. He used the experimental method, producing various lesions on healthy skin by artificial means, and observing the changes which they underwent when allowed to run their own course, and when modified by treatment of different kinds. In this way Hebra rationalised dermatology, ridding it of the superstitions as to dyscrasiæ with which it had before been infested, and giving to the treatment of skin disease a directness of purpose and a simplicity of means undreamt of by his predecessors. Students of skin disease flocked from nearly every part of the world to sit at the feet of the Vienna Gamaliel, and the influence of his teaching was felt everywhere except in France, where, as has been said, the traditional belief in dyscrasiæ persisted till a comparatively recent period. Hebra's work has been carried on by Auspitz, Kaposi, and Neumann in Vienna, by Pick in Prague, Schwimmer in Buda-Pesth, Lewin and Lassar in Berlin, Neisser in Breslau, and many others.

If Willan was the creator, Hebra must be acknowledged as the greatest among the reformers of dermatology. This glory must be his in spite of the fact that his classification in its leading features had been anticipated by Rayer. Hebra, however, worked it out so fully as to make it his own; and his classification, though it has necessarily been modified as knowledge grew, notably by the influence of Virchow's "cellular pathology" and by the newer bacteriological doctrine, can never be superseded till an arrangement based on biology becomes possible. Such a classification has already been attempted by Auspitz and after him by Bronson, but the time for it is not yet.

The American School.

The history of dermatology in America has been written by Professor J. C. White of Harvard, and by Prof. Louis A. Duhring of Philadelphia, from whom all that can here be said on the subject is taken.[6] For the first thirty years or more of the century little or no interest was taken in cutaneous affections in America. A story is told which, whether true or not, serves to illustrate the state of things in these days. A student, asking for information as to a disease of the skin from a physician, was met with the reply: "Sir, I know nothing of skin diseases; you must go to a surgeon." On his applying to the surgeon, the answer was: "Sir, I must refer you to the physician." In fact, as Duhring tells us, a disposition existed to consign the whole of this branch of medicine to those outside the professional pale. No one seemed prepared to take up the matter. Still, even at that period, there was a demand for information on skin diseases which booksellers thought it worth while to supply. Bateman's *Synopsis* was republished at Philadelphia in 1818, a second edition being issued in 1824, and a translation of the work of Cazenave and Schedel appeared in the same city in 1829, a second edition being published in 1832. In 1845 appeared the first American work on dermatology. It was entitled *A Synopsis of the Symptoms, Diagnosis, and Treatment of the more Common and Important Diseases of the Skin*, and its author was N. Worcester, Professor of Physical Diagnosis and General Pathology in the Medical School of Cleveland. The book is described by Duhring as being little more than a compilation from the works of the French and English dermatologists of the day.

Meanwhile, other signs of a growing interest in the subject were not wanting. In 1836 an Infirmary for Diseases of the Skin was opened in New York, being the first institution of the kind established in the United States, and lectures on skin diseases were delivered there, and afterwards in some of the medical schools of New York between the years 1837 and 1854 by Dr. H. D. Bulkley, father of Dr. L. D. Bulkley, whose name is well known to all dermatologists.

At this time Paris was the centre of the dermatological world, and American students accordingly went there for instruction in the subject. Hence for many years American dermatology was the direct offspring of the French school, the influence of which was only slightly tempered by reprints of the works of Wilson and other English writers. At a later period Americans flocked to Vienna, and on returning home spread the doctrines of Hebra among their countrymen. As early as 1859 Hebra's teaching was made known in America by Prof. James C. White, who, two years later, gave the first course of lectures on diseases of the skin at Harvard. After the Civil War clinical lectureships on the subject were established in several important schools. In 1870 the foundation of the *American Journal of Syphilography and Dermatology* did something to promote the advancement of the knowledge of skin diseases in America, and the establishment of the American Dermatological Association in 1877 gave a powerful impulse in the same direction, which was further aided by the creation of the *Archives of Dermatology*. Yet in 1871 Prof. James C. White complained that as yet America had contributed little to dermatology, and that this branch of medicine had hardly then found a place among his countrymen as an acknowledged speciality. Now this reproach has been wiped away, and American dermatology, represented by Duhring, J. C. White, Nevins Hyde, Bulkley, and others, is recognised as being in the van of progress.

The Fusion of the Schools.

Each of the three great schools which helped to lay the foundations of modern dermatology had certain marked characteristics. The English was essentially clinical, using classification only as a practical help in diagnosis; it observed. The French systematised, striding somewhat impatiently over facts to get at general formulas, which, though plausible on paper, too often broke down in application. The German was pathological, giving attention mainly to the mechanism and occasionally taking too little heed of the causes setting it in motion. Each school had thus the defects of its qualities; but each played an important part in the development of dermatology, and much of what was good in each still survives in the cutaneous medicine of the present day.

Now dermatology is truly international, the different schools which were formerly as separate states having become fused into one scientific commonwealth. This has been accomplished by the translation of representative works of each school into the language of the others; by the multiplication of journals devoted to this special branch

of medical science in which everything of value that is published in any part of the world is gathered up and summarised; by the facilities of communication which make it easy for the scientific pilgrim to visit every dermatological shrine where his devotion is likely to be rewarded with the knowledge of some new thing; and by congresses, those marts for the exchange of scientific wares which have so powerfully aided in the diffusion of knowledge, in the extinction of national jealousies, and in the correction of provincial ways of thought. Dr. Johnson when at Oxford was overheard to say that he had a mind to see what was being done in foreign universities, "for an Athenian blockhead is the worst of blockheads." He thus vigorously expressed the truth that a man trained in a particular school is apt to be narrow if he knows nothing of any other. In the sphere of dermatology this kind of narrowness was especially exemplified in the French school, but neither of the others was entirely free from it. How could it be otherwise when they knew so little of each other? How slowly the work even of so brilliant a dermatologist as Hebra became known to the profession in other countries at a time comparatively recent is shown by the following passage which I quote from Prof. James C. White. Speaking of the middle of the Fifties he says: "It was not until the intelligence began to spread, slowly borne by word of mouth from country to country, that in an Imperial city of Austria there was a man teaching skin diseases as they had never been taught before, with unlimited means of clinical illustration, with the keenest eye for observation, with an unbounded amount of information drawn from many years of experience, with a self-restraint which no desire for premature fame could tempt into hasty publication, and with a sound and logical mind, that the German school of dermatology some fifteen years ago began to be known and to advance to that pre-eminent position it now holds."[7] Fame flies faster nowadays, but the very ease and rapidity with which the results of a man's work can be made known lead to the publication of much inaccurate observation and immature speculation.

Progress in Knowledge.

Turning now from the workers to the work that has been done, the most striking feature in the dermatology of to-day as compared with that of the beginning of the century is the knowlege of the nature and causes of skin diseases that has been gained. Willan and Bateman left little in the way of outward appearances for those who came after them to describe, but no real knowledge of pathological processes was possible till the microscope and other modern methods of research were applied to the study of diseases of the skin. This is the special achievement of the German School. The attention directed to processes has led us to recognise that many conditions which used to be looked upon as distinct affections are really different stages in the evolution of one and the same disease. In this way dermatology has been greatly simplified. Compare, for instance, the modern teaching as to eczema with that of Erasmus Wilson, with his six principal varieties—erythematosum, papulosum, vesiculosum, ichorosum, pustulosum, squamosum; and his ten subvarieties—marginatum, fissum, mucosum, scabidum seu crustaceum, œdematosum, tuberculosum, spargosiforme, sclerosum, verrucosum, neurosum. Then, according to the parts attacked, there was eczema capitis, faciei, auriculare, mamillare, umbilicale, perineale. The varieties of psoriasis were still more numerous—punctata, guttata, alphoides, nummularis, scutellata, orbicularis, annulata, circinata, vulgaris, gyrata, circumscripta, diffusa, confluens, discoidea, centrifuga, imbricata, figurata, inveterata; with the local forms—palpebrarum, labialis, præputii, scrotalis et pudendalis, palmaris, unguium: it is like the catalogue of the ships that bore the Danaans to Ilios. And for a long time nearly every writer on skin diseases thought it due to himself to show his inventiveness in like manner. It is no wonder that dermatology treated in this way was a terror to students and an affliction to practitioners.

Further simplification has resulted from our having learnt to distinguish between the primary lesions which are the notes of a particular disease and the lesions which result from secondary causes, such as injury from scratching or rubbing and the invasion of pyogenic micro-organisms. Much confusion and needless multiplication of types were caused in former days by mistaking the accidental for the essential in such affections as scabies, eczema, ringworm, impetigo, and other conditions liable to complication by suppurative processes.

Pathological research has done much to elucidate the nature of growths, benign and malignant, of the skin. The work of Thiersch, Jacob Warren, Hutchinson, Dubreuilh, and Norman Walker in regard to rodent ulcer; and that of Kaposi in regard to sarcoma of the skin and xerodermia pigmentosum, mark distinct advances.

Real progress in the science of medicine, however, is measured by the increase in our knowledge of the causes of disease. In this respect it may, I think, be said that as much has been done in dermatology as in any branch of medicine. The etiology of a very considerable proportion of skin diseases is now accurately known. Among the causes whose operation has been clearly traced, a prominent place is occupied by inoculable viruses which infect the system, such as syphilis, tuberculosis, leprosy—to mention only the more common. Ricord, Fournier, Sigmund, and Hutchinson, have shown how many and various are the cutaneous manifestations of syphilis, and with what versatile mimicry it assumes the form of other diseases of the skin. Tuberculosis has been proved to be accountable not only for lupus, but for affections formerly classed under the heads of lichen and erythema and for the other forms of skin disease included under the general term scrofulodermia. The sorting out of the cutaneous affections due to these two causes alone has greatly reduced the region of the unknown in the map of dermatology.

The Action of Parasites.

Another direction in which the etiology of skin diseases has made decided progress is the recognition of the action of parasites. The idea that scabies is due to the irritation set up in the tissues by an animalcule, and ringworm by the growth of a vegetable mould on the surface of the skin, is so familiar to us that it is not easy to realise how recently the truth of these doctrines has been definitively established, and with what incredulity the discoveries were for a long time received. The sarcoptes scabiei had been seen by Avenzoar in the twelfth century, and later by Guy de Chauliac, Ambroise Paré, and others; and in the seventeenth century it was distinctly indicated as being the cause of itch by Bonomo and Cestoni. It was rediscovered more than once afterwards, but it was not till 1834 that Renucci, in Alibert's clinic, was able to show how it could always be found.[8] Yet in 1850 Antony Todd Thomson is allowed to say, without a word of protest from his editor Parkes, that itch is certainly "the result of a morbid poison, and that the fluid of the vesicles or the pustules is the agent transmitting the disease"; and while awarding Wilson credit for his accurate description of the acarus, Thomson expresses his inability to "accord with him in attributing the disease to that insect."[9] Still later we find a dermatologist like Devergie[10] writing: "The acarus is a morbid product of the itch as the mycoderm is the morbid product of ringworm, as the insect of acne punctata is the morbid product of that disease, as the louse is the morbid product of pediculous prurigo (!). Ringworm is contagious through the medium of this mycoderm not only from child to child, but from the head of a child to the bark of certain trees, and the lousy evil[11] from person to person. Ringworm, acne punctata, and the lousy evil, do they originate the less spontaneously on that account? The means that we use to destroy the acarus, are they not also suitable for curing the eruption of itch?" The fact that only forty years ago a dermatologist of the first rank could thus in one sweeping anathema condemn root and branch the doctrine of parasitism in skin diseases is one of the most striking proofs of the youthfulness of scientific dermatology, and of the progress which it has made in its lusty childhood.

The discovery of the vegetable fungi which cause ringworm, favus, tinea versicolor, and erythrasma, unlike that of the itch mite, was not made in the Dark Ages, but almost in the full glare of the light of modern science; yet it was received with equally resolute disbelief by some of the leaders in dermatological Israel. In 1839 Schoenlein discovered the fungus which produces favus; in 1844 Gruby in Paris, and Malmssen in Stockholm, almost simultaneously and quite independently discovered that which causes ringworm. Here,

again, we find A. T. Thomson, in 1850, asserting in regard to favus that though the disease has been ascribed to a mycoderm, "there is no proof of that opinion;" and in regard to ringworm, that "the pustules constitute the disease, and the mycoderm merely finds its habitat on them."[12] In the same year Cazenave[13] could scarcely bring himself to admit the existence of the achorion Schoenleinii; and with regard to fungi in general in their relation to skin diseases he was emphatic in warning investigators against "the illusions of microphotography," and denied that these "mysterious atoms" possessed any pathogenic property. In 1863 Chausit, a pupil of Cazenave, argued strongly against the cryptogamic origin of ringworm, concluding that "in the present state of dermatology there is no disease of essentially parasitic nature, and there is no such theory as antiparasitic therapeusis.[14] Gibert, who had long been an obstinate recusant, gave in his adhesion to the parasitic doctrine in 1866, but Cazenave never recanted his heresy, and Erasmus Wilson, who, after Cazenave had passed away, stood alone in his refusal to accept the teachings of modern science on this subject, also died an unbeliever.

The brilliant researches of M. Sabouraud have recently proved that the disease hitherto known as ringworm includes two, and possibly more, distinct conditions caused by different species of fungi. It has also been shown that the disease may be transmitted from animals—particularly the horse—to human beings, a fact obviously of the greatest practical importance. Sabouraud and other observers in other countries have thrown light on the geographical distribution of the ringworm fungus, and the remarkable fact has been brought to light that the species which causes the most rebellious form of the disease is that which is most frequently met with in London, while it is unknown in Italy and very rare in Germany. This has an obvious bearing on the records of the results of treatment in those several countries. Another point which is suggested in recent investigations is that the boundary line between ringworm and favus is by no means so definite as has hitherto been believed. It is clear that there is yet much to be done in a subject which a short time ago was looked upon as worked out, and the mycology of the skin may be commended to young dermatologists as a field of study likely to be fertile in results.

Bacteria and Skin Diseases.

During the last few years our ideas as the action of parasites have undergone expansion. The influence of the great revolution in pathology brought about by the discoveries of Pasteur, Koch, and their disciples has been felt in the sphere of dermatology as in other departments of medicine, and we have learnt to look for the causes of many diseases in the world of the infinitely little which bacteriology has revealed to us. Already lupus, leprosy, carbuncle, glanders, sycosis, furuncle, impetigo contagiosa have been proved to be the result of the mischievous activity of specific micro-organisms. It is practically certain that syphilis has a like origin, but the particular microbe responsible for its production is still "wanted" by our scientific police. More than one has been arrested on suspicion, others are being closely shadowed, and there is every hope that the actual criminal will soon be found. Eczema is considered by Unna, who has done much for the advance of dermatology in these latter days, to be of microbic origin. A similar causation is assigned to psoriasis by some, and by others to alopecia areata, acne, and certain forms of erythema. Quite recently Sabouraud has brought forward evidence which he thinks sufficient to prove that seborrhœa and common baldness are of the bacterial family of diseases. These views are not yet accepted by all dermatologists, but there can be little doubt that as methods of research are perfected the "sphere of influence" of bacteriology in relation to skin diseases will become greatly enlarged. Already it extends far more widely than the brief list of diseases which have been definitely traced to microbic agency would seem to show. In almost every case of skin disease the primary and essential process is at some period of its course complicated, and it may be overshadowed, by secondary lesions. To bacteriology we owe the knowledge that these are due to the action of pyococci and streptococci, whose attacks the skin resists in health, but to which it falls an easy prey when diseased. The importance of this knowledge, both in relation to diagnosis and to treatment, can hardly be over-estimated.

Other Lines of Advance.

I can make only the briefest reference to other lines along which dermatology has advanced in recent years. Of these the most important has been the increased attention bestowed on the relations of various forms of cutaneous affections to disorders of the nervous system. In this field the most notable workers have been Bärensprung, Weir Mitchell, Morvan, Schwimmer, Radcliffe Crocker, and above all Leloir, whose untimely death was a grievous loss to dermatology. A large number of skin diseases presenting the greatest diversity in their objective features have been shown to be dependent on lesion or functional disorder of some part of the nervous system. Many diseases, such as zoster, erythema, pemphigus, sclerodermia, and various forms of cutaneous œdema, hæmorrhage, and ulceration which used to be called "idiopathic"—the medical equivalent for the "visitation of God" in the simple etiology of the British juryman—are now recognised to be consequences of vasomotor or trophic disturbance. We also know that defective innervation plays a considerable part as a predisposing cause, making the skin less able to resist harmful influences of any kind—injury, cold, heat, and irritants, whether chemical or parasitic. In this way nervous disorder comes into play as a definite factor in many cases of eczema, lichen, and other affections. The late Mr. John Marshall threw out the pregnant idea that cancer might be an "anarchy of cells" due to loss of control by the nervous system. The same cause might account for some diseases of the skin. The neuropathology of the skin is a field that will well repay further cultivation.

Another line along which we have advanced is the establishment of a definite relation between certain constitutional states and affections of the integument. The tendency of the French school to look to the general system for an explanation of every blotch and pimple led them away from the truth no doubt, even to the invention of a diathesis when one was wanted; but some dermatologists have perhaps now gone a little too far in the opposite direction. It is well that with the all-conquering bacillus on every side extending the boundaries of his empire, we should not forget that other agencies have still to be taken into account. Gout has not the far-reaching influence in the production of cutaneous affections that it used to be credited with; but it is sometimes a factor that must be reckoned with. The connection of certain forms of pruritus and herpes, of boils and carbuncles, and of a particular variety of xanthoma with glycosuria is well known.

The influence of auto-intoxication requires to be more thoroughly studied than it has yet been; the effects of ptomaines should also be fully investigated. The serum treatment which is now being tried in diphtheria and other diseases is making us familiar with toxin rashes; is it not possible that the prolonged operation of some similar cause might explain the origin of some skin diseases?

Progress in Power.

Bacon's aphorism that "knowledge is power" unfortunately does not always hold good in medicine. Yet we may fairly congratulate ourselves on a very decided gain in our power of dealing with skin diseases, especially in the last fifteen years. Progress has been made in three ways: (1) We have got rid of some superstitions: (2) we know better where to direct our attack; and (3) we have more effective weapons.

Among the superstitions that hindered progress one of the the most pernicious was the notion that skin disease was a natural issue for the escape of peccant humours—a safety-valve for the constitution. Hence in many forms of skin affection, and particularly in the case of eczema, it was believed to be dangerous to cure the cutaneous lesions, because the disease was thus "driven in" upon the internal organs. As a quaint illustration of this belief the following passage from our earliest English dermatologist, Daniel Turner, is interesting. Speaking of "Children's Scabs or Breakings-out," he quotes with implied approval the following admonition from "the most excellent Hildanus":

"Let Mothers have a Care how they set about the Cure of this Malady, unless it be so virulent as to hazard corrupting

the Parts it lies upon. My eldest Son (says he) till he was seven Years old had not a Speck upon his Body, wherefore I often foretold that some sudden and mortal disease would seize him; and, indeed, being taken with a Stoppage of Urine, he died the seventh Day of the Disease of a great Inflammations of the Kidnies and Parts adjoining which turned to a Gangrene: Nature, to wit, not being able to purge the Body of vitious Humours by the Itch, they in the seventh Year, as by a critical Expulsion fell suddenly from other Parts upon the Loins. In my practice I have met with several Diseases both internal and external in young Children in whom these Breakings out were either not naturally expell'd or violently dry'd up. Therefore, let the honest Physician abstain from Medicines; and if there be a Necessity, let the pain of this Itch in Children be only mitigated with Fresh Butter or with the same washed in Rosewater.[15]"

Willan and the older dermatologists had the fear of "repelling" diseases of the skin ever before them. Perhaps the most grotesque instance of the superstition is a case referred to by Duhring as being recorded by a Boston doctor. This enlightened practitioner finding two African children afflicted with body lice put them into a warm bath; on being suddenly freed by this means from their vermin, they incontinently "dropped down and expired immediately"! But the fear of "driving in" skin disease is not yet by any means extinct in the medical profession or even among dermatologists; it would be easy to quote passages in proof of this from living writers of authority.

Increased precision in the direction of attack naturally arises from increase of knowledge as to the nature, and especially as to the causation, of cutaneous affections. Nowadays we at least do not, as Archbishop Whately said of the common run of preachers, "aim at nothing and hit it." The polypharmacy in which the older school of dermatologists delighted is almost a thing of the past, and patients are not physicked in the wholesale and indiscriminate manner that used to be thought necessary for the correction of their constitutional depravity. Internal medication is used only in response to definite indications, and we work the "miracle of cure," to use a too celebrated phrase, with the help of a simpler, pleasanter, and more efficient pharmacy. The improvement in our weapons lies mainly in the methods of preparing and employing the old remedies, but newer ones are not wanting.

The administration of remedies by hypodermic injection may be mentioned as one of the most promising improvements in constitutional therapeusis; the use of mercury in this way in syphilis is becoming more and more common. The serum treatment has not yet established itself in dermatological practice, but good results from it have been reported in a few cases of syphilis, lupus, leprosy, and one or two other affections. Tuberculin as first prepared by Koch has in my own hands and in those of some other observers proved of distinct use as a preliminary to surgical treatment in lupus. The newer tuberculin lately "placed on the market"—I am sorry to have to use this commercial phrase, but it accurately expresses the fact—gives promise of much greater usefulness, but it is too soon yet to pronounce a definitive judgment as to its real efficacy. Thyroid extract has a powerful immediate effect on the integument, but my own experience does not lead me to attach much value to it as a remedy in skin disease, and that opinion is confirmed by the experience of several other dermatologists.

But it is in our means of local treatment that the improvement of our weapons is most marked. The application of the parasitic doctrine to skin diseases has led to the introduction of a large and constantly increasing of parasiticides; in carbolic acid, boric acid, salicylic acid, resorcin, creolin, thymol, salol, dermatol, ichthyol, chrysarobin—to mention only a few—we have powerful agents that the mid-century dermatologists knew not of. Then both the preparations and the methods of applying them are cleanlier and more effective. The pastes, plaster mulls, varnishes, soaps, sticks, and other devices for the application of remedies which we owe to the ingenuity of Pick, Unna, Lassar, Brooke, and others have revolutionised the local treatment of skin disease. Our surgical methods and appliances, our antiseptics, our cauteries, and so forth, are also immensely superior to those in use twenty years ago.

Do we cure more than our scientific forefathers did? I think we may unhesitatingly answer, "Yes." Parasitic diseases are certainly more under our control, and in nearly every form of skin disease we can treat symptoms more effectively, and give relief even where we fail to cure. We are altogether milder in our methods than the dermatologists of a former day; we soothe instead of irritating; we strengthen instead of depleting; we leave Nature to herself instead of thwarting and teasing her into active rebellion. But there is still a good deal of over-treatment, and I not infrequently see patients whose disease has been aggravated into frenzy, so to speak, by the continuous goading of injudicious treatment. The policy of "masterly inactivity" finds a large sphere of application in dermatology.

THE FUTURE OF DERMATOLOGY.

I have given a review of the past, very hasty and imperfect, but I can only, like swift Camilla, skim across the plain. I may be allowed to conclude with a peep into the future. Whether the newer medication with serums and organic extracts holds in it much promise for the treatment of skin disease it is of course impossible to say; I am, however, inclined to think that in this direction, and in that of increase of power of dealing with parasitic affections lies the path of development in dermatological therapeutics likely to lead to the best results. It will be long before a complete classification of diseases of the skin is possible, but this is of no great practical importance. A real stumbling block, however, is the confusion of terminology that still exists. It would be a very real help to progress if a nomenclature at once simple, precise and yet descriptive, and international could be devised.

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AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PHARMACOLOGY AND THERAPEUTICS,

At the Annual Meeting of the British Medical Association, held at Montreal, September, 1897.

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ON THE MODE OF ACTION OF MEDICINES.

THE Section of Pharmacology and Therapeutics, over which I have the honour to preside, is one of those which is not always constituted at the annual meeting of the British Medical Association. The fact that one side of its work—the therapeutical—can be dealt with in other Sections is doubtless the chief cause of this; a second may be a certain lack of interest in pharmacology. Comparatively little attention has been given in England in recent years to the cultivation of knowledge concerning the method in which remedial agents act. In most countries, however, a constantly increasing interest is being shown in determining not only the action of remedies but the mode of their action. The establishment on this side the water of that admirable periodical the *Journal of Experimental Medicine*, in which pharmacology takes its place

with physiology, pathology, and medicine, is a valuable sign of this interest, and my great pleasure at being honoured with the office of President of this Section is heightened by the feeling that by its constitution on this occasion evidence is given of the appreciation of the scientific as well as the practical side of therapeutics in this country.

The basis of therapeutic practice is, or ought to be, observation; but therapeutic observations are commonly made on experiments or trials which are the outcome of opinions held as to the nature of disease and cure, and these opinions are apt to bias judgment. Even when we give long-used drugs, we commonly make trial of them under new conditions; each trial is accompanied by some preconceived idea, and hence practical therapeutics always has been largely influenced by views as to the nature of disease and cure. Now amongst these views none have been more potent in their effects on practice than those relating to the methods in which remedial agents act; and since recent discoveries in the area common to physiology, pathology, and pharmacology bear in an important manner on these views, a few remarks on present and past opinions as to the methods in which medicines act, and the influence of these opinions on therapeutics, may, it seems to me, be a fitting introduction to the work of the Section. As regards past views, however, I will confine myself, as befits the year in which we meet, to the period of our Queen's reign.

Sixty years ago the main lines of the pharmacological views now prevailing had already been laid, though the chief postulate on which they rested was by no means universally granted.

One of the ablest pharmacologists of the day—Pereira—writing in 1836, set forth general views with regard to the actions of medicines which are for the most part accepted now. They act usually, he held, after absorption, and, being carried by the blood to the various parts of the body, influence the tissues and therefore the functions of organs which, from some unknown cause, have a special attraction for them. The exact methods in which they thus influence tissues he considered were involved in impenetrable mystery. But the very basis of this view as to the action of medicines, their absorption from the stomach prior to the production of their effects, was not accepted by many eminent observers. The discovery of the marked influence which may be produced owing to the conduction of impressions in a direct or reflex manner had greatly impressed men, and in the absence of knowledge we now have as to the nature of disease, there were difficulties in accepting the view with regard to absorption. Travers, for example, pointed out that a punctured wound causes tetanus as strychnine does, and he argued that as it was not likely that the effects were produced in different ways, and that as in the case of injury there could be no absorption, the influence of strychnine was not due to its absorption. Brodie and Todd Thomson held similar views; they did not indeed deny that absorption takes place sometimes, for the presence of active principles taken by the mouth in the secretions of distants parts of the body had long been shown; but they held it probable that the effects of medicines on the various organs were in many cases due to the influence conducted from the nerves of the stomach.

Pereira pointed out that medicines may act in other ways, as for example by reflex influence, by simply adding some substance to the blood which is wanting in it, or by producing chemical changes, but he did not think that the chemical constitution of a substance bore any important relation to its action.

The views which Pereira enunciated gradually gained ground; but Headland, writing on the action of medicines eighteen years later, still considered it necessary to prove at considerable length that drugs, when taken internally, act for the most part only when they have been absorbed. In his philosophical work he drew attention to the necessity for distinguishing between knowledge of the action of drugs in health and of their effects in diseased conditions. But he pointed out that the former is insufficient, inasmuch as the conditions of action are quite altered by disease: and whereas Pereira adopted a physiological classification, arranging medicines according to the method in which they influence organs and tissues, Headland classified drugs according to the manner in which they operate in diseased conditions, trying to indicate the exact methods in which they influence pathological conditions so as to combat the effects of disease.

The views Headland upheld as to the necessity for such knowledge have borne good fruit, though his hypotheses have for the most part not been sustained by further investigations. Let me here point out that the widening of research into drug action so as to include their influence in disease as well as health, has led in Great Britain to the introduction of a new word, or rather to the modification of an old one. The term "physiological action" can only be applied to the action of an agent on healthy tissues and organs. It cannot include the effect produced in diseased conditions. Yet investigations are constantly made concerning these effects entirely apart from any consideration of curative influence. To express that department of knowledge which deals with the general action of drugs, apart from their therapeutic use, the word "pharmacodynamics" existed, but it was felt to be in several ways unsatisfactory, so the word "pharmacology," which had been hitherto used as synonymous with materia medica was borrowed as a new name for the growing department, and made to include the action of remedial agents in health and disease, and this, too, in a wide sense, since it deals with the causes as well as the conditions of disease.

In the early part of the period of which I speak, the Brunonian doctrine, that all medicines really act as stimulants though in a varying degree, no longer held its ground, and faith in the Rassorian view that remedies are either stimulants or contra-stimulants, was waning fast. But, perhaps owing to the past prevalence of these doctrines, we find that the word "stimulant" was used in a somewhat different sense than at the present time. It was constantly employed in a vitalistic sense to indicate something which called forth the unknown vital force. Medicines were ranked as stimulants without any definite view that they increased activity of function in any particular part of the body. And many other words, as "sedatives" and "tonics," were used in a looser manner than at present.

The explanations given of the mechanism by which drugs act were in many instances founded on mere suppositions. Effects we now know to be the result of the direct action of an agent on glands, on nerve endings, etc., were then supposed to be due to impressions conveyed by nerves directly from the stomach wall. On the other hand, the important part really played by the conduction to peripheral parts of effects produced by drugs on nerve centres was little known.

Then again there was a widespread impression that the capillary system was the chief seat of action of most drugs. It was thought by some, for example, that the effects of mercury, iodine, as well as colchicum, bark, and antimony, were due chiefly to their action in contracting the capillaries; and to certain drugs, the exact effects of which were quite unknown, was attributed a power of stimulating the capillaries generally, so as to cause increased flow of blood through them. The real power which many medicines have of dilating or contracting vessels was unsuspected. In the absence of exact knowledge of the mechanism by which drugs produce their effects hypotheses were numerous.

The chemical theories of the day, especially the ingenious suggestions of Liebig for explaining the effects of certain agents, added to the diversity of views which existed as to the method in which medicines produce their curative effects, and the investigations into physiological action, though well commenced, had not advanced far enough to curb erratic theories.

The views taken as to the powers and uses of various drugs differed much. Mercury, for example, was regarded by some as acting directly as an absorbent, by some as dissolving fibrin and corpuscles, and thus combating inflammatory processes and promoting absorption, whilst it antagonised syphilitic poison if present. Another observer regarded mercury as a tonic exerting its influence by contracting the capillaries. Digitalis was regarded by some as a sedative to the nervous system, by others as acting chiefly through its depressing influence on the heart.

The practice of every time and in all places, though supposed to be the outcome of experience, is really dominated by the theories prevailing, and the diversity of views existing in the early Victorian period was well reflected in the diversity of practice we find prevailing.

The laborious work of many observers quickly added much to what was known when Pereira first wrote concerning the physiological action of drugs, and their effects in pathological conditions. It became evident that a drug may depress or excite the function of one part of the brain and not another; that by acting on one part we may inhibit the action of another part without acting directly on it, or remove the inhibitory action already existing; that in the heart a drug may act on the muscle and strengthen its action, and yet check its speed by influence exerted elsewhere; that a tonic acts by definitely increasing the nutritive changes in certain parts: and so the words "stimulant," "tonic," and many others of a similar kind, acquired more definite accepted meanings, and became associated with distinct effects on various parts of the body structures.

Then, again, the exact tissues in various organs on which drugs act was determined with constantly increasing certainty. It was shown, for example, that one drug might act on nerve endings in a gland—another on the gland structure itself. As a consequence, many old hypotheses founded on incorrect suppositions died out, and with them disappeared the practice to which they had led.

But the increasing exactness of knowledge concerning the action of drugs did much more than relieve from the incubus of groundless theories and the consequences thereof. It led to new and valuable knowledge as to the therapeutic uses of drugs, which simple observation had failed to discover. Strychnine, for example, had long been used, in paralysis and other ailments, on account of its known action on the spinal cord, discovered by Majendie. Yet for years it was not employed in cardiac and respiratory troubles. When, however, it was shown by P. Rokitansky that it stimulated the respiratory centre, it was tried in pulmonary diseases, and has since become one of the most largely used and important stimulants in serious lung disease.

The history of digitalis is very interesting as showing the bearing of pharmacology on the knowledge of the real therapeutic use of drugs. Withering, by careful observation obtained a good knowledge of the action of digitalis. He not only pointed out the conditions in which it is of service, but even indicated the nature of its cardiac action; for he pointed out that it is of special use (as a diuretic) when the pulse is feeble and intermitting, but seldom useful when tension is high, or, as he put it, "in those with a tight and cordy pulse." This was in 1785. Nevertheless, for more than fifty years it was regarded by almost all as a cardiac depressant, and in many books on medicine recommended under entirely wrong views as to the nature of its therapeutic effects. It was not until its real pharmacological action was discovered by experiments that its true therapeutic *rôle* became generally recognised and utilised. A well-observed therapeutic fact is often neglected until pharmacology points out its cause and bearing.

Then, again, the new department of pharmacology added largely to our agents for treating disease. It was the powerful physiological influence found by experiment to be exerted on animals by the active principles and drugs discovered in the early part of this century which led to the therapeutic trials of many and the introduction of some into the *Pharmacopœia*, and Brunton's discovery of the value of amyl nitrite, which was the outcome of the physiological examination of the nitrites by Gamgee, is a well-known instance of the value of pharmacological research. But it was to an advance of knowledge beyond that which Pereira thought possible—the recognition of a connection between the chemical constitution and physiological action—that we owe the discovery in recent years of a large number of substances having valuable therapeutic properties. The chemist and pharmacologist have worked together; it has been found possible to find out the influence of various chemical groups, and to join these groups together in various ways, so that the products should have, to some extent at least, the effects which might be anticipated from the influence of the groups, and most valuable additions have been made to our therapeutic agents in consequence. At one time it seemed that with increasing knowledge of the nature of disease and the action of drugs, and of the construction of remedies, pharmacology would march straight to victory, that we had only to accumulate information relating to antiseptics, and to determine more accurately the influence exercised on tissues and organs by groups and compounds to acquire the power of combating all forms of evil. There seemed ground for hope that, as the pathologist pointed out the causes of disease and the changes produced in the organs by it, the pharmacologist might be able to devise a drug which should remove the cause or antagonise the effects.

Our knowledge of the method in which drugs remove the cause of disease, and counteract its effects, did greatly increase also our power of lessening suffering, but something more was required. We could not combat the evils produced by disease at all points of attack, and so it came to pass that whilst in some cases we could bring about recovery, in many we failed. And no way was made in the discovery of substances capable of antagonising at all points the functional changes and pathological conditions characteristic of special forms of disease. We found no drugs which act as mercury does in syphilis, and the action of this, and also of some of the best known of our remedies, remained undetermined.

But in very recent times, owing to the investigations of pathologists and physiologists, light has come. The discoveries made concerning the curative influence of thyroid gland and the action of toxins and antitoxins, mark a new departure in therapeutics. How do they affect existing views concerning the action and use of drugs? On this point opinions differ.

Dr. Saundby, for example, is of opinion not only that the recent discoveries with regard to pathogenetic organisms and their products open up to us an altogether new prospect in therapeutics upon the threshold of which we are now standing, but that the system of pharmacology is about to pass into the limbo of the forgotten; and Professor Behring, of Marburg, thinks that in the light of serum treatment all our older views must vanish. Cellular pathology, he says, has become unfruitful for therapeutics. It is vain to treat the organs which are affected. Serum treatment, if we may judge from the summary of his paper which was read at the recent "Congress für innere Medicin," is alone efficient. If Behring's view as to its nature is correct, its study is almost outside the boundaries of pharmacology, for he holds that antitoxin is not a definite chemical compound, but a *quality*, inherent in certain albuminous substances as magnetism is in the magnetic oxide of iron. If antitoxins are powers, not substances, we are almost carried into the mystic world in which pharmacology has no place. There seems little probability that the view of this enthusiastic supporter of serum treatment has any real foundation, and as I do not know the reasoning which has led to its adoption I shall not attempt to controvert it. The general bearing, however, of treatment by animal substances on our views as to the methods in which medicines act is worthy of consideration. My contention is that the new discoveries, whilst extending the domain of pharmacology, are in no way opposed to its long-established teachings, that the various animal substances act on the same lines as the older remedies, though they possess certain properties which are wanting or less apparent in ordinary drugs, and that even if the most sanguine expectations of their powers are fully borne out, the utility of the pharmacological knowledge already acquired will not be lessened.

Concerning the action of thyroid and allied substances I need say but little. Physiological and pathological investigations indicate that the ductless glands, and even those which furnish excretions, supply some material which passes into the blood, and it is just possible that other tissues do the same. These internal secretions are probably necessary for the chemical transformation of other substances in various parts of the system, and if the supply be defective illness results. By giving thyroid gland we can certainly remove the effects due to an insufficient supply of its secretions, and reason has been given for believing that several other animal substances and their extracts yield, when given internally, material wanting in the blood, and thus prove of advantage in some diseases. But we have here no new pharmacological principle. The administration of a remedy for the purpose of adding something to the blood which it has not in sufficient quantity is not a departure from ordinary therapeutic proceedings. In the case of the thyroid, the substance which gives its power to the gland, or at least which contains the active material giv-

ing its power, has been separated, and we shall have an account of it from Dr. Hutchinson.

The action of toxins and antitoxins requires to be fully dealt with, but before comparing their action with that of other medicinal substances, let me point out opinions formed in late years with regard to the intimate action of the latter.

In the first place it has become clear that for the changes in functions or tissues we must chiefly look to the effects produced by drugs on the ultimate tissue elements, on cell protoplasm that is, and Schmiedeberg long ago pointed out that this influence was to some extent molecular. The presence of molecules of elements or compounds seems to produce some effect on those of the protoplasm which leads to change in function of the tissues into which the protoplasm enters. But this change only lasts usually as long as the molecules of the elements or compounds are in contact with the organic elements, which commonly work on in a normal manner after the excretion of the drug molecules. We can show this experimentally. If the gastrocnemius of a frog be soaked in a dilute solution of nitrite of sodium its function of contractility is powerfully altered, yet as soon as we wash out the nitrite the normal function of the muscle is restored. What the nature of the relation is between the molecules of the drug and the molecules of the protoplasm we do not know. Sometimes undoubtedly chemical changes occur. For example, the protoplasm may withdraw oxygen from the drug, and in this way its functions may be modified and the drug may be altered in composition. From what we know of the action of chemical compounds on protoplasm it is quite possible that a compound at times forms some kind of chemical union with the protoplasm, and perhaps even when there is no apparent chemical change as in the case of the nitrite, there is one in reality. But there is also reason for thinking that the molecules of a compound may influence the protoplasm in a catalytic manner. We know, for example, that if dilute hydrochloric acid be added to an aqueous solution of methyl acetate it leads to the decomposition of the acetate into alcohol and acid without itself undergoing any alteration. It is quite possible that pharmacological agents may likewise influence chemical processes in the protoplasm without themselves being changed; but however this may be, it seems clear that the primary effect of remedial agents are exerted through their influence on cell protoplasm, the nutritional processes of which are altered, with the result that the tissue into which protoplasm enters is altered in function.

In some instances their continued contact seems to give rise to further changes; something occurs which causes the drug molecules to lose their usual influence and immunity is produced. How far this immunising effect of tolerance on drugs extends we do not know. It seems to occur in certain people only in the case of arsenic. The alkaloid morphine is the best example of it, but it has been shown by Ehrlich to be produced by the two vegetable albuminoid substances, ricin and abrin. On the cause of immunisation we can only speculate. The cell protoplasm may, owing to some alterations in its functions, expel the drug with unwonted quickness or destroy it, but it seems more likely that some change takes place in the nutrition of the cell which renders it insusceptible to the influence which, under normal conditions, alters its functions.

Turning now to the toxins, it may be noted that they disturb the functions of the various organs like other pharmacological agents. They have a definite physiological action, and there is no reason for believing that they act on tissues in a fundamentally different manner from other medicinal agents. They have indeed a more marked power than most drugs in producing immunity. It is impossible to say whether in this matter they act like ordinary drugs, but it can hardly be doubted that they produce their effects in a similar if not in the same manner.

A third property which toxins have has not been shown to be common to the medicinal agents hitherto employed. They lead to the production of antitoxins, but how we know not. Protoplasm has the power of altering substances which come in contact with it, and it is possible to imagine that by some subtle chemical influence the toxin is converted into a substance directly antagonistic to it in physiological properties. But it seems far more probable that antitoxins are produced by the protoplasm itself under the influence which the toxin exerts upon it. It is known that in the serum of blood there is a bactericidal substance, and many years ago Hankin pointed out that the blood of certain animals normally contains what he calls a defensive proteid, to which Buchner subsequently gave the name of "alexin," and which practically is an antitoxin. If cell protoplasm has the property of thus normally producing such defensive material, it is not difficult to imagine that under the influence of certain toxins it may produce special antitoxins.

The difference between the effects of the chemical compounds which form the active principles of hitherto used drugs and the toxins, with regard to the production of antitoxin, is probably connected with the difference in chemical constitution. It is easy to understand that unstable albuminoid bodies related in composition to the protoplasm itself are likely to have special influences in producing those changes which lead to immunity, and in causing the formation of antitoxin, which substances of a simpler chemical composition have not. This is the more likely, because, although we have no proof as far as I am aware that any of the older used drugs lead to the production of antitoxin there is reason to believe that certain vegetable albuminoids are capable of doing so. Ehrlich states, for example, that the toxalbumin, ricin, derived from castor oil seed, not only causes immunity but also the formation of an antitoxin in the blood, which protects from the poisonous influence of ricin. The difference in the mode of action of antitoxin and ordinary drugs we cannot explain, for as yet antitoxins have not been separated, and we can only guess at the methods in which they produce their effects. They seem to have a wider power than the older drugs, since they appear to be able to antagonise the influence of toxins, not at one or two points only, but at all or almost all. How they do this, we do not know. There seems good reason for believing that they do not neutralise toxins as an acid neutralises an alkali. At least Calmette has shown that neutralisation does not obtain in the venins and antivenins, the action of which very closely resembles the toxins and antitoxins. For he finds that if a mixture of venin and antivenin, which is non-toxic because of the antagonistic influence of the two substances, be exposed to a temperature of 68°, the power of the antivenin is destroyed, but not that of the venin which now can exert its toxic influence. It seems probable that the antitoxin acts on the molecules of the protoplasm in some way, and prevents the toxin exerting its ordinary influence. There is no reason for believing that the effects of antitoxin are produced in a manner dissimilar in kind to those of other drugs. The action, then, of the new animal substances seems not dissimilar from that of our older remedies, but their powers widen our ideas of the methods in which medicines act. They point also to possible explanations of much which has hitherto been inscrutable. May it be, as has been suggested, that drugs do something more than influence molecular conditions, that they cause the production of something which is itself an active agent—that, for example, in the case of mercury, it is not the metal itself which antagonises the syphilitic poison, but something which it causes the protoplasm to produce and pour into the circulation? May it be, again, that what we call immunity is due, in the use of medicines as well as toxins, to the production of a kind of antitoxin? What may be the outcome of the new discoveries we cannot distinctly see; but of this we may be quite sure, that even if the sanguine anticipations concerning these are realised, the pharmacological information which has been acquired will in no way lose its therapeutic value. We shall want drugs even though we have serums, for symptoms will have to be met, and the very character of serums precludes the hope that they can be used to treat all forms of disease.

And of this we may also be certain—a large number of the observations which are the outcome of the enthusiasm excited by the new discoveries will be fallacious, for therapeutic observations, as I have said at the commencement, are biassed by preconceived ideas, and when the ideas are wrong the observations are often so too. The more full our knowledge of the mode of action of the new agents, the better our in-

formation about their effects on the organs and tissues, the less likely our judgments concerning their defects to go astray, and we must wait for a fuller knowledge of their action on the various organs before we can use them without constant fear of evil. Knowledge of the action of drugs must be combined with careful observation of their curative influence. It is the combination of pharmacology with therapeutics which gives the value to the work of this section, and we shall have several important discussions which will probably illustrate this. That on the treatment of syphilis will show the difficulties we labour under from defective knowledge of disease and drug action, but it will show, too, how patient observation, long continued, may, to some extent, make up for such defective knowledge. For nearly 300 years the use of mercury and other remedies in syphilis has been debated, but because the nature of syphilis and the action of mercury were quite unknown, the utmost divergence of opinion existed in earlier times as to its use. On both points some knowledge has been gained, and differences in view are not now so wide as heretofore, yet we shall probably find that on some points observations have led to very different results.

The discussion on the treatment of insomnia will illustrate our indebtedness to the combination of pharmacological and chemical knowledge, since for a large number of new hypnotics we are indebted to this conjoint working. Objection is sometimes taken, and with justice, to the multiplicity of similarly acting drugs brought before our notice, but it may well be that by careful observation of the exact properties of the many hypnotic agents we have now to choose from, it may be possible to fit each one into its own niche—to determine, that is, the exact conditions under which each one acts better than the rest.

The third subject for discussion, diuretics, has in recent years been illumined by pharmacological investigations, which, though they may not have cast fresh light on the effects and importance of increasing kidney secretion, have nevertheless made clear the manner in which diuresis may be brought about, and the tissues affected in the process.

By these discussions, and the information given in the many papers which are to be read, I think we may confidently hope that something will be added to the general stock of knowledge concerning the cure of disease and the relief of suffering which is the aim and end of medicine.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

FUNCTIONAL MONOPLEGIA SIMULATING EMBOLISM.

THE following case is of interest, because, occurring as it did in a young lad who had had rheumatic fever, and still has a cardiac murmur of indefinite significance, it closely simulated cerebral embolism.

E. A., aged 20, cabman, came into the out-patient room on May 20th with his left arm hanging apparently helpless by his side. He said that one week before, whilst cleaning his horse, his brush dropped from his hand, and his arm became powerless. In August, 1896, he had rheumatic fever, and was ill for four months. Since then he had had pain at times in the cardiac region, and palpitation on exertion. At the end of November, whilst still in bed, he suddenly lost power and sensation in the left arm in a similar manner, this condition lasting a month. He recovered power completely, and had been able to drive with both hands as usual up to the present time. He had had rheumatic fever previously twice.

On examination the left arm was hanging by the side, apparently helpless; the fingers were blue and swollen, and so cold that one almost instinctively felt the pulse, which was good; attempts by the patient to move the arm produced only a slight quiver. Sensation even to sharp pin pricks was lost all over the right arm and shoulders, and the postural sense was lost. No other form of motor or sensory paralysis. Heart: apex beat two-thirds of an inch outside the nipple line in fifth space; marked retraction of the third and fourth spaces with the impulse. Systolic murmur heard at the apex, not conducted, accompanying the first sound but apparently distinct; second sound at left base accentuated. The superficial reflexes of the left side exaggerated, and the left knee-jerk; hyperæsthesia of the left side below the costal margin; testing the abdominal reflexes caused contraction of the thigh extensors. Mr. Watson Griffin, who kindly examined the eyes for me, reported that there was no contraction of the fields of vision either for white or colour, and no other defect.

On May 29th the sensation had much improved, but there appeared to be some patchy anæsthesia; there was very slight improvement in motion. May 30th: Sensation and motion completely restored quite suddenly.

At first sight this seemed to be certainly a case of cerebral embolism, but on closer examination the lesions were clearly not to be accounted for on any theory of cerebral localisation. A monoplegia affecting motion and sensation, unaccompanied by any other symptoms, is, so far as we know, impossible. Moreover, the history of a previous attack, precisely similar so far as could be ascertained, and from which recovery was complete in a month, was decidedly against embolism (though repeated embolic attacks are not rare). On the other hand, the exaggeration of the left knee-jerk seemed at first to point to the leg being involved, but there was no other evidence of this. The diagnosis of functional paralysis was settled by the sudden and complete recovery. Bristowe records one case of sudden recovery from embolism,[1] but in this the symptoms had only lasted a few hours, and the brain substance was presumably uninjured; when the effects have lasted some days it is hardly conceivable that the recovery should be sudden, though it may be so complete as to leave no traces of the accident.

It is interesting to note that a brother of the patient, who has never had rheumatic fever, lost the use of his left arm four or five years ago, and has since repeatedly done so for short periods.

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INJECTION OF PILOCARPIN IN PUERPERAL ECLAMPSIA.

THE treatment of puerperal eclampsia due to albuminuria, accompanied with general œdema, by the subcutaneous injection of considerably large doses of pilocarpin nitrate (gr. $\frac{1}{3}$), a second injection sometimes being necessary at an interval of two hours from the first, has proved very successful in my obstetric practice during the past twelve years that I have used the drug, inasmuch as I have not had a fatal case.

Formerly I had recourse to the administration of chloroform and venesection in these cases, but have abandoned these for the more speedy and handy hypodermic remedy to be found in pilocarpin tabloids. The trial of this drug is deserving of wider favour at the hands of obstetricians, who must, at times, be at their wit's end, when face to face with a severe case of puerperal eclampsia, to adopt prompt and effective measures to avert a fatal result. During the period of utero-gestation if general œdema be present, 2 drachms of the acid tartrate of potash given at bedtime will act as a prophylactic, and will often avoid the supervention of eclampsia.

Devonport. GEO. A. RAE, L.R.C.P.E., L.R.C.S.E.

A CASE OF FOREIGN BODY IN THE BLADDER.

ON July 10th, 1897, B. N., a male Hindu, aged 30, came to the Sade Dispensary, Muttra, and stated that he was suffering from scalding during micturition, and that four days before, to relieve the pain, he had passed a thin, flexible, vegetable stem down his urethra, and that it had broken and more than half of it was left in the urethra. On admission he complained of pain during micturition, and his urine was tinged with blood. There was no discharge from the urethra, and no bulging could be seen or felt along the line of the urethra, but on introducing a sound, which was done with ease, a sort of "click" could be perceived as the point of the sound entered the bladder. Chloroform was therefore administered, and the usual operation for lateral lithotomy was performed. On introducing my forefinger through the wound into the bladder I could distinctly feel the foreign body, which was

[1] *Nervous Diseases*, p. 165.

partly in the bladder and partly in the urethra, and I was able to hook my finger round it and bring a loop of it down into the wound, where it was easily removed; it measured 7 inches long, and was about the thickness of a leather bootlace at its thick end, tapering away to a point at its thin end.

The patient made an uninterrupted recovery, and by the 20th of the month all urine was passed through the urethra, the wound in the perineum having completely filled up, and he was discharged cured on July 21st, after being only twelve days in hospital.

In spite of the foreign body in the bladder, there was no cystitis, which probably accounted for his speedy recovery.

This case, in many respects, resembles that reported by Surgeon-Major Phipps, A.M.S., in the BRITISH MEDICAL JOURNAL of July 17th.

J. M. CRAWFORD,
Surgeon-Captain I.M.S.

Muttra, N.W.P.

ANTIDIPHTHERIA SERUM RASHES.

IN the BRITISH MEDICAL JOURNAL of August 21st, 1897, there is mentioned an interesting case in which toxic symptoms followed the prophylactic injection of Behring's antitoxic serum, and in which case a scarlatinal rash appeared after the injection. In connection with this subject, the following notes on two cases out of a number in which the antitoxin was used are, I think, interesting:

(1) Mrs. W., aged 41, a nervous and somewhat emaciated patient, was taken ill on the morning of June 24th, 1897, feeling weak, out of sorts, and with a sore throat. On the 25th I was called, and found her with temperature 99°, and pulse 120. The right tonsil was covered with a greyish-white membrane, which covered the tonsil more or less wholly, and the submaxillary glands on the same side were slightly but distinctly enlarged and tender. The left tonsil appeared slightly injected, but the glands on that side were normal. A diagnosis of diphtheria was made (and the results of a bacteriological examination made at the "Wellcome" Laboratory subsequently corroborated this). At 7 P.M. that night 7 c.cm. of Burroughs, Wellcome, and Co.'s antidiphtheria serum was injected in the right iliac region, the temperature at the time of the injection being 99.8°, and the pulse 116. On the morning of June 26th her pulse was 88, temperature 99°, and her general condition much better. The membrane on the tonsil was in patches, and the glandular swelling had subsided, and there was no pain complained of. Her condition was the same in the evening of the same day. Next day (June 27th) her condition was very good, the membrane wholly away, the tonsil only injected, glands normal, pulse 88, and temperature 98.4°. She was up on the 29th, and I did not see her again until July 6th (eleven days after the injection), when I was called to see her, and found her complaining of a red rash on the front of both legs (from knees to ankles), the rash being intensely itchy, with sensation of burning. I have seen no rash like it, nor do I know any skin disease that could be said to resemble it, and the nearest description I can give is to call it an exaggerated measles eruption. The papular eruption was very much elevated above the surface of the skin, was very profuse, and had a tendency to form very definite circles and irregular segments of circles. It was of a distinct dusky-red colour, was accompanied by no rise of temperature nor acceleration of pulse-rate, and was only found on the front of both legs from immediately below the knee to the ankle-joint. Lead lotion allayed the itching and the rash disappeared in two or three days.

(2) A. W., a girl, aged 16, took ill on June 25th, 1897. On the morning of this day, though her general condition was fairly good, yet she had a temperature of 101.6° F. and pulse 132, and examination of the throat revealed yellow membranous patches on the right tonsil. The submaxillary glands on that side were enlarged and tender. Five grains $FeSO_4$ in solution ordered. That evening the temperature was 102.8° F. and pulse 128, and the condition of the tonsil being the same and my suspicion of diphtheria still remaining, I determined to inject antitoxin next morning. At 11 A.M. on the 26th 6 c.cm B. W. and Co.'s serum were injected into right iliac region. The temperature immediately before injection was 102.6° F., the pulse 132, and the examination of the throat revealed the patches coalesced and occupying a greater area. The submaxillary glands were still enlarged and tender. The respiration was noticed to be slightly quicker. That evening at 6 P.M. the temperature was 103.2° F. and pulse 120 and the throat the same. About 12 P.M. that night I was called for the third time (being out till then), owing to the alarm of the friends, who said the child showed signs of suffocation about 10 P.M. On my arrival I found the child sitting up in bed very flushed in the face, with eyes injected and watery, and excited. On questioning the child she said "she felt something fall from the roof of her mouth into her throat, and then she lost her breath and had to cough for some time until something came up, when she got relief." The parents were afraid of the child going off, and said, "She got blue in the face until she brought up some white matter, which they they threw in the fire." I then suspected this "white matter" to be a piece of diphtheritic membrane, which might have been growing at the post-nasal fossa, and, being loosened, fell into the larynx. Fearing that laryngeal infection might take place, I thereupon injected 7 c.cm. of serum into the right iliac region, the temperature at the time of this injection being 101.4°, and pulse 128. That morning (the 27th) in the forenoon I found the patient much better; the membrane had dwindled away to only a spot on the tonsil, and the glands were practically normal; pulse 100, and temperature 100 2°. That evening I did not manage to see the patient, but next morning (the 28th) the patient's condition was very good, with pulse 100, and temperature 99.8° F. The patient was in all respects the same that evening. On the 29th the patient's general condition was still very good, and the tonsils practically normal, except for some injection, with pulse 100, and temperature 98.4°. The next day the patient was allowed to sit up, and she made an uninterrupted recovery. On the tenth day from the first injection the girl was brought to me on account of a red rash on the front of both legs, which was very itchy. On examination the appearance of the rash at once brought to my mind the rash in the above case, to which it was identical. I at once told the mother it was due to the injection, and not to think anything of it, as it would go away in a few days of itself. In three days it was away without any treatment.

Both these cases, like most others, bear out the benefit of the serum treatment of diphtheria. The most interesting element which is common to the two cases is the development of a peculiar "exaggerated measles" rash (about the same interval after the injection of serum), intensely itchy, and in both cases on the fronts of both legs only. The only immediate cause for the development of this rash was the use of the antidiphtheria serum. A possible remote cause is a syphilitic taint in both these patients, and there is much in the character of the rash in favour of this: its dusky-red colour, its symmetrical distribution, its tendency to form circles. If this be so, then is serum injection going to light up latent syphilis, and will it diagnose a syphilitic dyscrasia? Whatever may be the remote cause of this, so much is true that after the use of antidiphtheria serum it is possible to have a localised measly rash. The appearance of a blush at the seat of injection, and the development of a scarlatinal rash more or less over the whole body, have been recorded, but what other varieties of eruption are possible after the use of antitoxin I do not know. Whatever may be the conditions necessary for the production of a rash of any kind, certain chemical changes in the state of the blood no doubt are essential. No doubt the antitoxin produces certain chemical changes in the blood plasma as a whole, or certain chemical products in it which, if in sufficient quantity, may result in a rash, and it is possible to conceive of the possibility of the aggregation of the chemical products in certain areas from some cause or other, such as stagnation of blood in dependent parts, etc. It is regrettable that physiological chemistry and therapeutical chemistry are so backward as to prevent us knowing the exact mode of action in serum therapeutics. At present we can only theorise or sigh for a State Research Laboratory.

A. G. NEWELL, M.B., C.M.Glasg., L.M.Dub.,
D.P.H.Cantab.

Glamorgan.

REPORTS
ON
MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

NEWCASTLE-UPON-TYNE ROYAL INFIRMARY.

POISONING CAUSED BY EATING THE HAIRY WILLOW HERB (EPILOBIUM HIRSUTUM).

(Under the care of Professor OLIVER, M.D.)

WE are not always familiar with the effects consequent upon eating some of our common wild plants, so that when poisoning occurs it is well that such should be recorded. W. E. P., aged 3 years, a well developed boy, was admitted under the care of Dr. Oliver on August 5th, 1897, in a state of complete coma and the subject of epileptiform convulsions following each other in rapid succession. He had been only a very short time ill. His temperature on admission was 100° F. It appears that immediately previous to his illness the boy, who had been quite well, had been playing with a little friend, and that they had in their possession a bunch of plants known as the hairy willow herb, some of the flowers of which the patient had eaten. Very shortly afterwards the mother found the child unconscious and in convulsions. In this condition she brought him to the infirmary. There was no history and no mark of any injury; no albumen was found in the urine, and there was no discharge from either ear. The abdomen was distended, the pupils contracted, and the patient was in a state of complete collapse.

Dr. Percival Davidson, the senior House-Physician, to whom Dr. Oliver is indebted for the notes of the case, admitted the patient, and at once washed out the stomach, bringing away remnants of food and a pink juice such as the flowers which the little fellow had in his hands gave on expression. An ounce of castor oil and 10 grains of potassium bromide were carried into the stomach by the tube, and within half an hour the fits ceased, and in about an hour the child regained consciousness. Next day, when seen by Dr. Oliver, the boy was heavy, and with difficulty roused. Some of the sleepiness was probably due to the bromide. Shortly after the bowels had been freely moved the patient became quite well.

In an old *Cyclopædia of Botany* it is stated that there are eight varieties of the willow herb natives of the British Islands, of which the epilobium angustifolium is generally taken as the type, since it is the tallest and most beautiful of the genus. Its stalk is thick, smooth, furrowed, and variegated with green and purple; its leaves stand very close, are 3 to 4 inches long, scarcely half an inch broad, small at the base, and terminate in a point; its flowers are large, bright red in colour, and stand on a pedicle in a regular order, so as to form a tall beautiful spike on the top of the stalk. As the plants with their flowers were pretty fresh which the boy had in his possession when he took ill they were submitted to two or three practical botanists, who all named them the hairy willow herb. In the neighbourhood of Newcastle the plant is frequently spoken of as "codlings and cream."

MISSION HOSPITAL, SIALKOTE, PUNJAB, INDIA.

A CASE OF FIBRO-CYST OF THE UTERUS: ABDOMINAL HYSTERECTOMY: RECOVERY.

(By Hester Dill Russell, M.B., B.Ch., Church of Scotland Mission, and Surgeon-Captain Smith, I.M.S., Jallundar.)

The patient was a Mohammedan woman, 50 years old. She had three children, the youngest being 25 years of age. For eleven years she had noticed a small abdominal swelling. There was then menorrhagia. During the past year the swelling had rapidly increased, and during this period there was complete amenorrhœa. A very large abdominal swelling was found on examination, much larger than a full-term pregnancy. A diagnosis of ovarian or possibly uterine fibro-cyst was made. The patient was in a fair state of health. She had been tapped two and a-half months previously by a native practitioner. She was prepared for operation in the ordinary way and the usual antiseptic precautions were taken.

The operation on December 12th, 1896, lasted 2½ hours. An incision was made from 1¼ inch below the umbilicus to within 1½ inch of the pubes. On opening the peritoneum a small quantity of pale ascitic fluid escaped.

On passing the hand into the abdominal cavity, adhesions were found in both iliac fossæ. The cyst was tapped with a trocar and cannula, and a large quantity of thick, blood-stained fluid escaped. The remaining contents being too thick to flow through the tube, and the tumour being too large and too adherent to get through the abdominal wound, the trocar puncture was clamped and the adhesions in the neighbourhood of the pelvis, which were very dense, were dealt with. The right broad ligament was included in a couple of silk ligatures and cut; on the left side the adhesions between the left ovary and the pelvic wall were treated in a similar way, the ovary being left attached to the cyst. The pedicle of the tumour was found to be the elongated and thickened cervix uteri. This was transfixed and tied with stout whipcord in two segments, the ligatures interlocking. The opening into the tumour was next enlarged, and the hand being inserted, a quantity of material like degenerated placenta was removed. The body of the tumour was still so large that the wound had to be extended up to the umbilicus. Adhesions to the great omentum were separated, and the mass turned out and cut off just above the ligatures previously inserted into the pedicle. The mucous membrane of the stump (cervix) was dissected out and by a few silk ligatures was drawn together like a fish mouth, so as to cover it with peritoneum. The peritoneal cavity was washed out by pouring in jugfuls of hot boiled water till it came out clear. The abdominal wound was united with silkworm gut stitches through all the layers of the abdominal wall, and a drainage tube was inserted. Both ovaries were removed, the left one being attached to the cyst. It was normal; the right was enlarged and cystic. The cyst was an enormous one, with walls varying from ¼ inch to 1½ inch in thickness.

The patient suffered very severely from shock for three days. Once or twice she seemed in a moribund condition, but rallied after hypodermic injections of brandy, strychnine, and morphine.

From the fourth day she made an uneventful recovery; her temperature never went higher than 99.2° F. The tube was removed at the end of forty-eight hours without disturbing the rest of the wound. The wound was dressed on the ninth day, and the stitches removed. It had healed by first intention, except for a small dry sinus where the tube had been. This was quite healed in a week's time. The patient was discharged well at the end of a month, and has continued so since.

Our thanks are due to Dr. Taylor, who gave chloroform for us, and to Miss Mackenzie, M.B., who assisted us at the operation.

Not many successful cases of abdominal hysterectomy have been recorded in the Punjab. The difficulties of the case, the size of the cyst, the adhesions, and the recovery of the patient seem to make the case worthy of being recorded.

REVIEWS.

A Handbook of Anatomy for Art Students. By Arthur Thomson, M.A., M.B., Professor of Anatomy at the University of Oxford, and Lecturer of Anatomy at South Kensington. Oxford: Clarendon Press. 1896. (Royal 8vo, pp. 434. 6s.)

The admirable illustrations in this work would alone make it valuable to those studying anatomy for the purposes of art. The pictures are almost in every instance from photographs of living models, and on the corresponding page is an anatomical dissection of the same figure, showing the muscles brought into play by the movement made, all of which are named on the plate. In this way the various movements of the whole body in the turning, bending, and stooping of the trunk are beautifully represented; the movements of the arm and trunk in raising the arm both in the male and female figure; the action of pronation and supination of the arm, and the clenching of the fist, and the various movements of the legs in walking, kneeling, etc. Some well-known athletes of the University of Oxford have stood as the models, and certainly no finer photographs of the living nude figure have ever been produced. There are also numerous descriptive and explanatory cuts intercalated in the text.

In the letterpress, which is extremely clear and concise, the bones, joints, and muscles are described, in so far as they have reference to the moulding of the surface forms. Mr. Thompson has handled an interesting subject in a most interesting way.

Uncle Bernac. By A. Conan Doyle. London: Smith, Elder and Co. (Demy 8vo, pp. 310. 6s.)

It is to his education as a doctor that Dr. Conan Doyle ascribes his acute powers of observation and his ability to recognise and diagnose characters by small and passing indications. His remarkable power of delineation, of placing before his readers in a few masterly strokes a complex personality, was never better shown than in the book under review. The story is one full of romance and adventure, but the impression left on the mind afterwards is not made by the adventures and hair-breadth escapes of the hero, but by the striking figure of the great Napoleon, of whom Conan Doyle has given in his strong, slight sketch, a more lifelike presentment than many a laboured portrait. The fierce masterful nature of the man, the terror and the devotion he inspired in his followers, his grasp of great things and his attention to small details, his inordinate vanity and boundless ambition, his love of and

infidelities to his wife, his rudeness to ladies and his tyranny over men, his varying temper from moroseness to levity, his relentless memory and his immense capacity for work, are all portrayed in recounting the incidents of a story, and by means of conversation and a series of almost trivial events, in a way which shows the skill of the author.

A ruffian of great physical power, who murders without compunction, is described as dispatching his victims by twisting their necks, so that their faces look out from between their shoulders. It would be interesting to know something of the anatomical mechanism of this remarkable feat.

Das Wesen der Rhachitis und Skrophulose und deren Bekämpfung [The Nature of Rickets and Scrofula and their Treatment]. Von Dr. K. Elze. Berlin: Bornträger Brothers. 1897. (Demy 8vo, pp. 96. M.2.40.)

The connection between rickets and scrofula has often been suggested by other writers, but the author of this work goes further, and considers that rickets is the cause of scrofula, and quotes a series of 105 scrofulous children, 86 of which showed definite signs of rickets. The first part of the book is devoted to the consideration of rickets, and Dr. Elze advances the view that the dyspepsia so commonly present in this disease and manifested by the large abdomen is not merely a concomitant symptom, but the actual cause of the disease, the other manifestations being secondary to it. The dyspepsia he regards as due to an insufficient quantity of proteid food. The blood is rendered poor in proteid bodies, the glands suffer thereby, and deficient power of digestion results, with a still further diminished absorption of proteids. The deficiency of proteids in the blood, by affecting the hæmatopoietic tissues, produces the various changes which he describes in the blood, bone marrow, and lymphatic glands. He considers the irregular calcification in cartilage as due rather to a defective condition of the ground substance than to a deficient supply of lime salts. Scrofula he regards as a direct complication of rickets, and as due to a reduced immunising power of the blood serum.

The best part of the book is that devoted to the examination of the blood of scrofulous children, and the author gives in tabular form the results of careful investigations of the corpuscles. Special stress is laid, in the section on treatment, on the value and mode of action of brine baths. The work, as a whole, shows considerable originality, and contains many interesting histological observations. We do not, however, consider that the author has clearly established one of his main points, namely, that the proteids of the blood are diminished in rickets, or that rickets, more than any other condition in which there is impaired nutrition, can be regarded as the actively predisposing cause of scrofula.

The Cruciform Mark: the Strange Story of Richard Tregenna, Bachelor of Medicine, Univ. Edin. By Ricardo Stephens, M.B. London: Chatto and Windus. 1896. (Demy 8vo, pp. 348. 6s.)

The incidents of the life of a medical student and matters of medical interest cannot easily be successfully treated in a novel. A romance which begins and ends with a *post-mortem* examination, and which contains no fewer than two death-bed scenes, two murders, two suicides, and one death from apoplexy, can hardly fail to be gruesome and unattractive to the general public. At the same time the theories put forward and the incidents described are so fanciful and unscientific that the medical mind is repelled. A lady, who flits through the story like a banshee, is proved at the end to be at the bottom of all the unaccountable murders and suicides, for she exercises a strange fascination over her victims, and by "suggestion" causes a small cruciform mark to appear on their necks. When this comes out they lose self-control, and are bound to commit the murder or suicide to which she has doomed them. She is, however, unaware of the crimes committed under her influence, for she leads a double existence, passing from the normal state of a beautiful young lady courted in society to that of a designing and relentless murderess. The author shows great power of description of both scenes and scenery, but there is so much that is trivial and commonplace in the conversations and events that the reader grows weary while waiting for the *denouement*, which is delayed till the very last pages. Students' life in Edinburgh is depicted with the picturesqueness and insight of one who knows it intimately. The following amusing story is redolent of the "funking" room on an examination day:

> A languid conversation was going on at my elbow, between a man who swung his legs by me on the table, and another who seemed afraid to sit down lest he should spoil the fit of his new trousers. He was surveying his friend carefully, and was not pleased.
>
> "I say, old chappie, you haven't the ghost of a chance, going up like that. Why, you look as if you'd been up all night."
>
> "So I have. I've got an oral on at twelve and another at two. I'm dog-tired and sick of it all. I don't care if they do spin me; it's not worth it."
>
> "Well, you might have dressed decently," persisted the other, pulling down his cuffs. "I tell you, it pays with him. Now, with Downer, it's all the other way. I went up to him as if I'd fought through the whins to get there, and he said: 'Eh, ma mannie, this'll no dae; ye canna last, ye ken!' I had a dashed easy time. But I told that fool Urquhart how to treat the two of 'em; and what do think he did? Mixed 'em, by Gad! Went down on his knees pretty well to his tailor for a new suit—he owes him thirty quid—and then marches up to Downer in it. Downer gave him two questions and a pickle to examine—out of the jar, you know. Urquhart was afraid to touch it for fear of dirtying his coat sleeve, and Downer says, 'Laddie, this is no place for the like o' you; ye'll soil yer claes. Come back in another suit—in a twalmonth, ye ken!'"

If Dr. Stephens will study the art of story telling, and would allow his medical knowledge to be subservient to his dramatic instincts, a really good novel may yet come from his pen.

The Insane in Private Dwellings and Licensed Houses. By J. F. Sutherland, M.D., F.R.S.Edin., Deputy Commissioner in Lunacy for Scotland. Second Edition. Edinburgh: E. and S. Livingstone. Glasgow: N. Adshead and Son. 1897. (Demy 8vo, pp. 60. 1s.)

This work chiefly deals with the so-called "boarding-out system" in Scotland, although brief reference is made to the similar provisions in several other countries. In relation to the provisions for the insane in private dwellings and licensed houses, the space of time since the passing of the Lunacy Act for Scotland, 40 years ago, is divided by the author into four "epochs," namely, 1857-62, 1862-75, 1875-92, 1892-97. The beginning of these "epochs" is marked, respectively, by the passing of the Act of 1857; the Act of 1862; the Parliamentary grant-in-aid, of 4s. per week; the establishment of parish councils.

It is shown that 23 per cent. of the total pauper insane in Scotland resided in "private dwellings and licensed houses" in 1896; and a tinted map shows approximately the different percentages, the counties being differently tinted according as the percentage thus dealt with was under 10 per cent., or from 10 to 19, from 20 to 29, from 30 to 39, or over 40 per cent. On the whole, the percentage is greatest in the Highland regions.

The author dwells upon the great saving to the public funds that would result from a more extensive adoption of this plan of dealing with pauper insane, as, for example, in England, where only about 6 per cent. of the pauper insane are boarded out, or less than one-fourth of the percentage in Scotland.

Those who desire to learn what a strong advocate of the system has to say will do well to read this pamphlet.

Unser Irrenwesen: Studien und Vorschläge zu seinen Reorganisation. Von Dr. Albrecht Erlenmeyer, in Bendorf. Wiesbaden: J. F. Bergmann. 1896. (Roy. 8vo, pp. 132. M.2.80.)

This work deals with various subjects concerning the care of the insane and the control necessary to exercise over them; also the placing and housing of the insane; the administrative details necessary with regard to institutions for the insane; lunacy laws; the relations of the State to all these various subjects. Moreover, we find in it full discussion on the erection of asylums, on the inspection of the same, and of the insane, both those who are inmates of asylums and those who are not. The rules and regulations of institutions for the insane, the subject of voluntary boarders in these insti-

tutions, and the question of obtaining and training more suitable attendants and nurses—all these things, and many more, are duly considered, and suggestions are made for promoting improvement with regard to the various matters dealt with. Within the space at command it would be impossible to give a synopsis of the contents of this work. The author has evidently devoted much thought to the subject, and has exercised much care in placing it clearly before his readers. It might be thought that in parts there is a redundancy of details, and that the message to be delivered might have been conveyed more briefly. But the work is so arranged that those specially interested in this or that subject relating to asylums and care of the insane, to lunacy law, or official control and inspection, can easily pick out what bears on the subjects they particularly affect, and can do so without being compelled to view every aspect of each subject within the scope of the work.

The work is a valuable expression of German thought on these subjects.

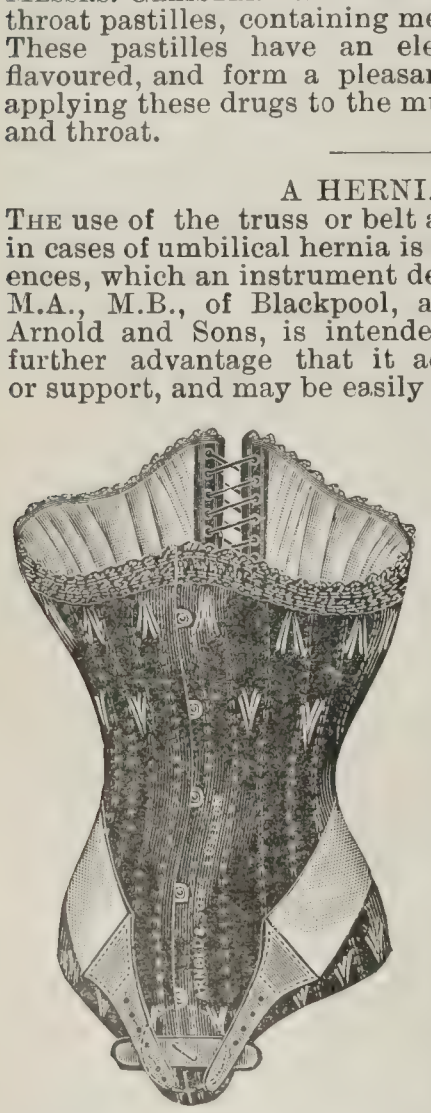
REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

PASTILL. MENTHOL CO.

MESSRS. GLAISYER AND KEMP (North Street, Brighton) make throat pastilles, containing menthol, cocaine, and red gum. These pastilles have an elegant appearance, are nicely flavoured, and form a pleasant and convenient method of applying these drugs to the mucous membrane of the mouth and throat.

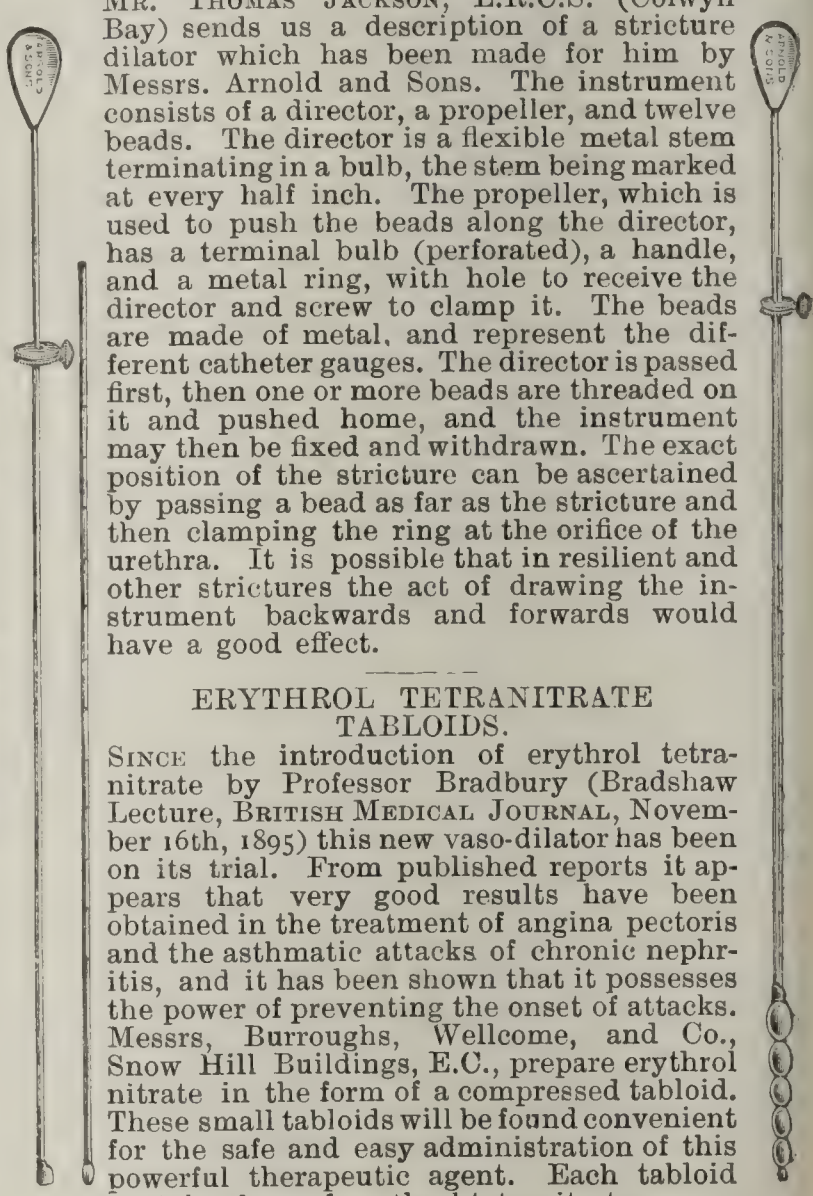
A HERNIA CORSET.

THE use of the truss or belt at present commonly employed in cases of umbilical hernia is attended with some inconveniences, which an instrument designed by Mr. F. W. A. Stott, M.A., M.B., of Blackpool, and made for him by Messrs. Arnold and Sons, is intended to obviate. It also has the further advantage that it acts as an abdominal bandage or support, and may be easily and readily applied and worn without discomfort. It is employed in combination with a corset, and consists of a spring, preferably constructed of a band or strip of sheet steel, and curved. The centre of the spring is attached to the lower end of one of the corset busks, or to the lower end of an auxiliary busk or support such as is sometimes worn with corsets, with the concavity of the curvature outside. To the outer ends of the spring there are attached studs, buckles, buttons or the like to which straps may be secured. The straps which are used each have one end attached to the corset at a point about midway between the front and the back, or nearer to the front or back, and near the lower edge. At about the point of attachment of the spring to the busk, a pad is secured so as to come upon the umbilical region when in use. This pad may resemble the pads used with umbilical trusses and will vary in construction to suit the particular hernia for which it is intended. In use, after the corset is in place, with the pad over the hernia, the straps from each side of the corset are connected with the ends of the springs and are adjusted until the proper degree of pressure is produced by the consequent flattening of the curvature of the spring. In removing the corset it will be found necessary to detach only one of the straps from the spring. Gussets of elastic web may be inserted in the lower edge of the corset, and the straps or a portion of them may be made of elastic web, or of coiled springs or the like.



A STRICTURE DILATOR.

MR. THOMAS JACKSON, L.R.C.S. (Colwyn Bay) sends us a description of a stricture dilator which has been made for him by Messrs. Arnold and Sons. The instrument consists of a director, a propeller, and twelve beads. The director is a flexible metal stem terminating in a bulb, the stem being marked at every half inch. The propeller, which is used to push the beads along the director, has a terminal bulb (perforated), a handle, and a metal ring, with hole to receive the director and screw to clamp it. The beads are made of metal, and represent the different catheter gauges. The director is passed first, then one or more beads are threaded on it and pushed home, and the instrument may then be fixed and withdrawn. The exact position of the stricture can be ascertained by passing a bead as far as the stricture and then clamping the ring at the orifice of the urethra. It is possible that in resilient and other strictures the act of drawing the instrument backwards and forwards would have a good effect.



ERYTHROL TETRANITRATE TABLOIDS.

SINCE the introduction of erythrol tetranitrate by Professor Bradbury (Bradshaw Lecture, BRITISH MEDICAL JOURNAL, November 16th, 1895) this new vaso-dilator has been on its trial. From published reports it appears that very good results have been obtained in the treatment of angina pectoris and the asthmatic attacks of chronic nephritis, and it has been shown that it possesses the power of preventing the onset of attacks. Messrs, Burroughs, Wellcome, and Co., Snow Hill Buildings, E.C., prepare erythrol nitrate in the form of a compressed tabloid. These small tabloids will be found convenient for the safe and easy administration of this powerful therapeutic agent. Each tabloid contains $\frac{1}{2}$ gr. of erythrol tetranitrate.

PHARMACEUTICAL SPECIALITIES.

WE have received a number of samples of pharmaceutical preparations, made by W. R. Warner and Co., of Philadelphia, and sent by their agents in London, Messrs. F. Newbery and Sons (King Edward Street, Newgate Street, E.C.). These specimens illustrate the progress made in pharmacy as regards the administration of drugs. The various kinds of pills are sugar-coated, of different colours, and are readily soluble. We especially note that pil. chalybeate contains the iron as unchanged ferrous carbonate. The elixir of cascara is a very palatable preparation; the bitterness of the bark has been removed without impairing its purgative properties. Salicylic acid elixir is an agreeable form for the administration of this remedy. "Tono sumbul cordial" contains sumbul, cinchona bark, iron, and phosphoric acid. Its pleasant aromatic flavour will certainly recommend it. The effervescent granular hydrobromate of caffeine is a well-made preparation; the administration of caffeine in this effervescent form is a very suitable and pleasant one.

SUCCESSFUL VACCINATION.—Mr. W. H. Kerbey, M.R.C.S., L.S.A., Public Vaccinator, has received for the sixth time in succession the Government grant for successful and efficient vaccination in the No. 5 and Charmouth Districts of the Bridport Union.

SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in MONTREAL, August-September, 1897.

NOTES FROM MONTREAL.

DURING the fortnight before the opening of the annual meeting in Montreal members coming from England, Scotland, and Ireland arrived in rapid succession and at once found that the arrangements made for their comfort and convenience were complete and admirable. From the first they experienced a courtesy and hospitality which all have since learnt to know are characteristic of Canada. Most of them took advantage of the interval to visit some of the more readily accessible points of interest—Niagara, Toronto (where the meeting of the British Association was a centre of attraction), the Muskoka district, Quebec, Lake St. John and the Saguenay River, the Thousand Islands, the great rapids of the St. Lawrence—not forgetting the beautiful environs of Montreal itself. Monday saw the greater number of these wanderers returned and reinforced by others—not only by the British members, who only found it possible to leave Great Britain at the latest moment, but also by a great influx of guests from the United States and a large number of members of the Association resident in Canada, among whom are to be counted some hundred members from the French-speaking districts. The reception room was thronged by those anxious to register their names, but the arrangements in the registration office established in the campus of McGill College have been so excellent that the work has been accomplished smoothly and rapidly.

DINNER AT THE ST. JAMES'S CLUB.

On Monday evening Dr. Roddick (the President) brought together a large number of those having an official connection with the Committee and Sections of the Annual Meeting and of distinguished guests at a private dinner which he gave at the St. James's Club. Dr. Roddick was supported on this occasion by the Governor-General of Canada (the Earl of Aberdeen), by the Lieutenant-Governor of the Province of Quebec (Sir Adolphe Chapleau), and among his other guests were Lord Strathcona and Mount Royal, Professor Charles Richet (the delegate of the French Government and of the Faculty of Medicine of Paris), the Solicitor-General of the Dominion, the Mayor of Montreal, Sir William Hingston, Sir William Van Horne, Sir Walter Foster, Dr. Osler, Dr. Lachapelle, Mr. Justice Wurtele, Mr. Justice Davidson, Dr. Shrady (New York), Mr. C. G. Wheelhouse, Dr. Shattuck (Boston), Dr. W. W. Keen (Philadelphia), Dr. Welch (Baltimore), Dr. Stephen Mackenzie, Dr. D. J. Leech, and Dr. Saundby (the President of Council), and Dr. Parsons (the Treasurer), and Dr. Barnes (the retiring President of the British Medical Association), together with guests numbering over 100. The occasion was of an informal character, but amply fulfilled the object which the host had in view, by affording an opportunity to those most intimately associated with the success of the annual meeting of making or renewing acquaintance with each other, and with many of the most distinguished guests of the Association. It would be out of place to give any formal report of the brief speeches which were delivered; suffice it to say that, after proposing in a few appropriate words the toast of "The Queen," Dr. RODDICK gave "The Health of the Governor-General," to which the EARL OF ABERDEEN made a cordial response. The LIEUTENANT-GOVERNOR was also toasted, and made a suitable acknowledgment of the compliment. The occasion was seized to congratulate the High Commissioner of Canada in London upon the honour which the Queen had conferred upon him upon the occasion of her Jubilee; and Sir DONALD SMITH, whose name is a household word in Canada, had for the first time to respond to the toast of "The Health of Lord Strathcona and Mount Royal," which was given in a speech of manly eloquence by the Rev. Dr. BARCLAY. Before the guests separated, the EARL OF ABERDEEN, in a few hearty words sincerely and warmly applauded, proposed the health of Dr. RODDICK, who made a brief response, expressing the pleasure which he felt in finding himself surrounded by so many friends, old and new.

OPENING OF THE ANNUAL MUSEUM.

The annual museum of food, drugs, surgical appliances, medical books, etc., was opened by the Mayor of Montreal on Monday afternoon. The Victoria Skating Rink—a large building immediately behind the Windsor Hall—is well lighted, and affords ample space for the large number of exhibits which have been brought together. The mayor was received by Dr. Roddick, President of the Association, Dr. Perrigo, President, and Dr. Jack, Secretary of the Museum Committee, Dr. Barnes, ex-President of the Association, and Drs. Adami and Springle, Honorary Local Secretaries.

The MAYOR, in addressing the large company present, which included, in addition to members of the Association, many ladies and gentlemen resident in Montreal, said that he had been assured on good authority that the Association had never had a larger or more interesting exhibition. He said that Canada was proud to welcome the British Medical Association, and, after wishing success to the meeting, he formally declared the museum opened.

Dr. BARNES, the retiring President of the Association, in a brief speech concurred in the opinion as to the excellence of the exhibition, and congratulated Dr. Perrigo, Dr. Jack, and the other members of the Museum Committee on the excellence of their arrangements.

THE CANADIAN MEDICAL ASSOCIATION.

The thirtieth annual meeting of the Canadian Medical Association was held in the Synod Hall, Montreal, on August 31st, when Dr. JAMES THORBURN (of Toronto) resigned the chair to the newly-elected President, Dr. V. H. MOORE (of Brockville).

Dr. RODDICK, Chairman of the Local Committee, having welcomed the visitors to Montreal, Dr. MOORE delivered his presidential address. He referred to the formation of the Association just one hundred days after the formation of the Dominion, and to the election of Dr. Tupper, now Sir Charles Tupper, as the first president. He sketched the objects of the Association, which was established to promote the science of medicine, to unite the members of the medical profession in the Dominion of Canada, and to secure a uniform standard for medical education and for the licence to practise in the Dominion. While the Association had been successful in attaining the two objects first named, the third had not yet been reached. Under the British North America Act educational matters were placed under the control of the Legislature of the Provinces, which passed Acts providing for the formation and election of a medical council in each province. In these Councils were vested the control of medical education, and the right to grant licences to practice. Diversities in the requirements of the councils in the different provinces thus arose, and at the present day there was nothing of more importance to the medical profession in Canada than the establishment of uniformity in medical legislation. The medical profession in Canada was now very nearly of one mind on this subject, and was divided only upon points of minor importance. He hoped that a united effort would be made, and that the medical Acts of the various provinces would be brought into harmony one with another. Inter-provincial registration would then be easy of attainment, and Canada might then return to the Mother Country and seek reciprocity with her with every prospect that it would be obtained. Then any person who obtained a licence to practise in any Canadian province would be free to practise his profession in any land over which floated the Union Jack. As it was, Canadian medical institutions required as high, and in some instances a higher, standard of preliminary education than was demanded in Great Britain. A four years' course, and in Ontario a five years' course, was already required, and in two years' time the fifth year, which was to be spent in clinical and technical work, would be obligatory. Finally the examinations for graduation and for the licence to practise were well calculated to test the knowledge of candidates. Canadian medical colleges were well equipped, the teaching they gave

was of the best, the practical instructions excellent, and the clinical opportunities plentiful. There were between sixty and seventy hospitals in Canada and over forty in Ontario alone, while there were a dozen well-equipped universities and a large number of collegiate institutes and well-provided schools. In concluding his address Dr. Moore extended to the members of the British Medical Association a most cordial and sincere welcome. He trusted that they would not only derive advantage from the scientific discussions which would take place and carry away a warm memory of the hospitality of Montreal and of Canada at large, but would also gain a knowledge of the resources of Canada and would learn to appreciate its free institutions and the enterprise and industry of its people.

The President received a warm vote of thanks for his address, and after the transaction of some formal business the Association proceeded to the consideration of a scheme of inter-provincial registration.

Dr. Walker for New Brunswick, Dr. Beausoleil for Quebec, Dr. Thornton for Manitoba, and Dr. McLeod for Prince Edward Island were able to announce that the scheme had been accepted by the Provinces which they severally represented.

Smoking Concert.

On Monday evening the Canadian Medical Association gave a smoking concert to the members of the British Medical Association. A full programme had been arranged, and was highly appreciated by the large number of guests present, who testified their gratitude to the gentlemen who had been at such pains to provide a most agreeable evening by the applause which they accorded to the songs and recitations.

The Pathological Museum.

The annual pathological museum was of unusual interest. It contained a very large variety of specimens and photographs of interesting anatomical and pathological conditions from various parts of the world. The collection was shown in the McGill College Medical Building, where it occupies a large room of the pathological laboratory. Conditions of special prevalence locally were very largely represented. Among the finest features of the exhibition were a series of one hundred or more paintings by Dr. Glynn, illustrating various cardiac lesions from Professor Boyce's laboratory in Liverpool, while the photographs and microphotographs of pathological conditions and clinical cases by Mr. F. T. Paul and Mr. Thelwall Thomas, from the same source, were most beautifully executed.

Mr. Malcolm Morris and Dr. Galloway of London each contributed a series of most realistic paintings of the rarer forms of skin diseases, as well as microscopic sections.

Dr. Fox of New York, Dr. Corlett, and Professor Shepherd of Montreal exhibited a very large series of photographs and plates illustrating dermatological cases of unusual character met with in their several clinics.

From Dr. Shepherd the museum also received a fine collection of anatomical preparations, characteristic skulls of aboriginal Americans, and a series of photographs showing the successful result of operation upon a large number of cases of goître.

Dr. Wyatt Johnston exhibited specimens showing how readily colour effects may be preserved by means of the new methods adopted by Jore and Kaiserling.

Mention must also be made of a collection of brain models by Dr. Fuller, of casts and sections from Drs. Peters and Primrose of Toronto, and moist preparations from Drs. Anderson and Dwyer of Toronto, and Connell of Kingston.

The Army Medical Museum kindly lent, through Dr. Lamb, a remarkable set of specimens to illustrate congenital and other anomalies, mainly of anatomical interest.

The Royal Victoria and Montreal General Hospitals were well represented by photographs and specimens prepared from cases of interest obtained within the past few years.

The collection was indeed well worthy of a prolonged visit and the specimens deserving of careful examination.

Dinner to Lord Lister.

On Tuesday evening, August 31st, the Montreal Medico-Chirurgical Society entertained Lord Lister at dinner. The chair was taken by Dr. G. W. Wilkins (President), who, after giving the toast of "The Queen," proposed the health of the Governor-General. Lord Aberdeen, in responding, expressed the pleasure which it gave him to share in the compliment paid by the Society to Lord Lister, who had so well earned the honour conferred upon him by the Queen. Dr. Wilkins also gave the toast of "Lord Lister," and presented to him an illuminated address signed by the officers in the name of the Society. The address was as follows:

My Lord,—The members of the Montreal Medico-Chirurgical Society rejoice in the opportunity afforded them of congratulating your lordship on having been selected by the best sovereign that ever graced a throne for the high distinction of the peerage. No one in the medical profession was more worthy. Through a long period of years you have, through methods well-nigh perfect, sought after truth with an intelligence and a discernment given to few, with a patience and an assiduity, and, above all, with a truthfulness and modesty that cannot but exert a salutary influence on all searchers for scientific truth, and with a success unsurpassed in the history of modern medicine. These purely scientific researches of your earlier years were the foundation on which at a later period you built the magnificent structure of antisepsis which placed you on the scroll of fame with Harvey, Hunter, Jenner, Simpson, and Pasteur. In advancing scientific and practical surgery you have advanced every branch of the healing art, and by investigations which have led you to the detection of the causes of disease you have brought us to a knowledge of the hindrances to the healing process. Henceforth present and future generations may point to your lordship with pride as the man who has brought relief from suffering in every quarter of the globe. May your years be many, and may they be filled to repletion with the happiness which is born of having done nobly and well.

Lord Lister, who on rising was received with loud cheers, said that he need hardly assure them that the words of their Chairman and the manner in which they had been received impressed him in the most profound manner. He felt an emotion which he could not express of gratitude for their unspeakable kindness. At the meeting of the British Association in Liverpool last year a banquet was given in his honour which was largely attended by members of the British Association, who were not members of the medical profession, and although he was profoundly grateful to the members of the medical profession in Liverpool for their extreme kindness in promoting that banquet, he frankly confessed that the present one, the company at which with the exclusion of his Excellency, was solely composed of members of his own profession, gratified him incomparably more. Others who from the very nature of things could not appreciate professional matters in their true light might through a sort of fashion or glamour welcome someone really not perhaps very deserving. But a company such as he saw there, a company composed exclusively of medical men, and in the great majority of cases medical men whom he did not know in the flesh before, that really made him think that his life's work had not been altogether in vain. The address which the Chairman had read, and which he had presented to him in that beautiful illuminated volume, he would cherish as long as life remained in this world, and cherish it as one of his chief treasures. He could not sit down without saying how profoundly grateful he was to his Excellency the Governor-General for being present on that occasion as the representative of Her Most Gracious Majesty the Queen. His Excellency had thus again shown his interest in medicine and his genial kindness and his desire to promote all that he deemed to be best in Canada and elsewhere. He thanked those present from the bottom of his heart for their great kindness.

ADJOURNED GENERAL MEETING.

Tuesday, August 31st.

The adjourned general meeting of members was held in Windsor Hall, Montreal, on Tuesday, August 31st. The chair was taken by Dr. Saundby, President of Council. Among those present on the platform, in addition to the members of the Council of the Association, were the Governor-General of Canada (the Earl of Aberdeen), the Lieutenant-Governor of the Province of Quebec, Sir Adolphe Chapleau, the Mayor of Montreal, the Right Hon. Lord Lister, and the Right Hon. Lord Strathcona and Mount Royal.

Dr. Saundby said that that meeting of the British Medical Association occurred under somewhat unusual circumstances. It was the first time that a meeting of the Association had ever been held outside the British Islands, and in order to comply with the obligations imposed upon the Association by

statute and by its by-laws, it had been necessary to hold the first part of the annual meeting for that year in London. At that meeting the late President of the Association, Dr. Barnes, of Carlisle, had ceased to be the President, and on his retirement a vote of thanks had been passed to him, and he had been elected a Vice-President of the Association. The usual business of the Association had then been taken, and in the absence of the President, Dr. Roddick, he (Dr. Saundby) had been called upon to take the chair. It was now his duty to retire from that chair in favour of a distinguished fellow citizen, Dr. Roddick.

Dr. Roddick, in introducing the Mayor of Montreal, said that he would ask him to receive the Association into the city and give them some words of welcome to the city of Montreal.

The Mayor of Montreal, who was received with great enthusiasm, said that it was a source of gratification and pleasure to him to welcome, on behalf of the city of Montreal, the British Medical Association. He could assure them that of all the important associations which had met in that city none were more welcome. It seemed very appropriate that the British Medical Association should hold its first meeting outside the British Islands in the metropolitan city of the Dominion. It also seemed quite in keeping that it should be held in a British Colony under a Colonial President, for it showed the Association belonged not only to Great Britain but to Greater Britain. They had in that city a people who he might say were unique, and it afforded him considerable gratification to be able to say that he believed that nowhere in the Sovereign's vast dominions or vast empire had the Diamond Jubilee been celebrated with more loyalty or more enthusiasm than in the city of Montreal. All of their people, French Canadians, Irish, Scotch, English, and other nationalities and varying creeds, joined together to vie with one another to do honour to themselves in honouring that Sovereign who was honoured by all the world. They had there a beautiful city, beautiful also as to situation. They were proud of their city, and more proud still of their educational establishments; they were proud of McGill College, which he thought would compare favourably with most similar institutions in the old land or elsewhere. It contained living monuments to the names of such men as Lord Mount Stephen, McDonald, Redpath, Morris, Galt, and others. They had, in addition, Laval and Bishop's Colleges, and those noble institutions which the Association had seen in that city—the hospitals: they had the noble edifice erected by two Canadians—the Royal Victoria Hospital, standing at the foot of Mount Royal—a title so well chosen by Sir Donald Smith. That hospital was erected, he need not tell them, by the munificence of Sir Donald Smith (now Lord Strathcona and Mount Royal) and of Lord Mount-Stephen. They had the oldest hospital in the Dominion—the Montreal General Hospital—which, he could assure them, was doing a great and noble work. They had Nôtre Dame Hospital, the Western, and several other institutions. He thought they would agree with them that they did not take a second place in proportion to their population and size so far as concerned their institutions. As he had said, they were a loyal people, a free people—free in their own country to make their own laws and free to enforce them. They had the protection of Great Britain for their lives and property; they had built their railways and canals with British gold, and it was no wonder that they should show gratitude to the motherland. As had been well said by the representative whom the Dominion sent across the seas to represent them on the occasion of the Diamond Jubilee—Sir Wilfrid Laurier—they had a land rich in minerals, forests, fisheries, and agriculture; they had a land waiting for more population. They were strong in their young manhood, and their country had a great future before it. Would the guests of Montreal, after visiting that country, tell it abroad that Canada had a vast territory; that their people were loyal to the core; that they lacked population, and wanted people to be sent out to their country—some of the teeming millions which the Association had left at home; that they wanted agriculturists in their country—sound men to grow wheat and to develop the country, which would redound, not only to the benefit of the motherland, but of the Dominion also? He had been warned that time was precious on the present occasion, and he scarcely thought it necessary for him to say any more. He would simply reiterate that they were proud to welcome the British Medical Association to the city of Montreal. He hoped the visit would be a pleasant and profitable one, and that they would carry away with them good words, not only for that city, but for the whole Dominion. He hoped also that their stay would be a pleasant one, and that the members of the Association would go back and tell their people on the other side that Canada was not the land of ice and snow, but that it was a land of sunshine and rain. They had a country of which they had reason to be proud. In conclusion, he again hoped that the Association would have a very pleasant visit, not only to Montreal, but to the Dominion.

Sir Adolphe Chapleau said that before he received a notice from the Secretary of the Association that he would be called upon to speak, he had, through the newspaper to which he subscribed, received notice that he would have that day to deliver—he did not know whether it ought to have been said to read—an address of welcome on behalf of the province of Quebec. If he had to thank the paper for a notice of twenty-four hours, he had to thank the Association for the permission which had been given to present this address of welcome. Than the Mayor of Montreal, the chief magistrate of the city, knowing the ins and outs of Montreal, they could have no better Mentor. The august representative of Her Majesty, according to rule of precedence in speaking imposed by the Courts, was to speak after him, would make good his shortcomings and correct him for any inaccuracies. He knew very well what he felt and what were his own sentiments. He did not know whether he should have attempted to express them in French or in English, but he was a Britisher at heart; he would not say British to the core, because people would think he was imitating a more eloquent speaker, but he was a Britisher at heart. It did not follow necessarily that words were always adequate to express feelings. The provincial ground upon which he had to take his stand for his address appeared to be rather limited. The city of Montreal occupied the largest portion (he might say in importance at least) of the province of Quebec and the Dominion absorbed it all, so his ground between the large portion and the complete unity was a pretty narrow one. Fortunately, the province of Quebec was known all over the world for its hospitality. The two great races which composed this province, and the qualities which distinguished these two great races when blended together, gave a special flavour to the known urbanity of their population. He would not try at this moment to make an elaborate address of welcome. All had heard of the old province of Quebec, and many of them, he was sure, knew it thoroughly. In that province they all appreciated the mission that the Association had undertaken in coming amongst them, and their visit was made under the most auspicious conditions. In this jubilee year (he was not going to make any jubilee speech, because Her Majesty's ears would begin to tingle after the beautiful demonstration the whole world had given), but their visit in this auspicious year of jubilee was a good omen for the closer and stronger bond that must unite Great Britain, their mother country, and this great colony of Canada, which was one portion, and would be one of the great portions of that Greater Britain. Under these circumstances, could he do otherwise than let the words of his address of welcome be very short? He would content himself with giving them a hearty welcome with such a shake of the hand as was exchanged between brothers, relatives, and friends. He left to others better qualified than himself to tell them of the importance of their Association, of the eminence of the members composing this Association, of the objects of their society, of the fruitful results that must flow from their visit to this part of the British Empire. He left it to others to say the good that might result from the scientific labours of the Association. He spoke from his heart; he had come to give them welcome, and to express the hope that they would remain as long as they chose. They might be sure the population of Quebec would receive them with pleasure and gratitude. He only wished to say this: that if he could without the advice and assistance of his constitutional advisers give them the freedom of the province of Quebec, he would do it, as his predecessors the old Governors of the province of Quebec had done; but he had no need to

do that—every citizen of their province had already given them the freedom of the country. It had been said in England by the most authorised representative of Canada that Canada was a nation, and that liberty was its nationality. Yes, they were free, and they owed it to the generosity of their beloved Queen; they owed it to the generosity of the British Parliament, but they owed it still more to the generosity and to the liberty of the British people themselves. There in their province their loyalty was free, their affections free, their national preference free, and that loyalty was as solid and everlasting as truth was truth and heart was heart in man.

The Governor-General of Canada (the Earl of Aberdeen) said that as his was the third speech of welcome on that occasion, he trusted that their visitors would believe and thoroughly realise that they were indeed thrice welcome. Canadians, who were ever ready to welcome every man, if he were not an idler, to their country, could not fail to welcome with both hands and with every feeling of cordiality a gathering so representative, so distinguished, so beneficial in its aims, as was that of the great Association they now welcomed. The two admirable speeches to which they had just listened had each possessed its own distinctive character. Very appropriately the primary welcome had been offered by the Mayor of the beautiful city of Montreal, whose guests they were. Then next the fine old historic province of Quebec had been represented, as it always was most admirably represented, by his distinguished friend Sir Adolphe Chapleau. But as had been already observed, the whole included the part, and just as the great city of Montreal was included in the province of Quebec, so not only the city of Montreal but the whole province of Quebec was included in the Dominion of Canada. Under these circumstances, speaking for the Dominion of Canada, he felt that as he knew he could not exceed the quality of the speeches which had already been delivered, there would be nothing left for him but to make up that deficiency by quantity. Sir Lewis Davis, the Minister of Marine, in a most interesting address delivered a few days earlier to the Chamber of Commerce of the city of London, had, in the course of some remarks on the features of Canada, reminded his audience that one particular part of the Dominion which was now attracting a great deal of attention was some 6,000 miles from Montreal. He had been surprised to learn that the distance was so great, but as in duty bound he accepted the statement of his Minister, and it would give some idea of the length, to say nothing of the breadth, of that glorious country of Canada. Again he might remind his hearers that Canada was composed of seven provinces, and these seven provinces might very naturally have provided him with the seven heads of which, together with his conclusion, his address might have consisted; but though there would have been a certain appropriateness if he, as a Scotchman, had delivered such a lengthy address, there were reasons, with which his audience would sympathise, which had led him to consider it to be desirable to defer the delivery of that address till some more convenient season. He would content himself with what he believed a Scottish minister would call a skeleton of his discourse, and would only say that the presence in their midst of so many eminent representatives of the great and noble profession of the healing art appealed to their deepest feelings. They were glad to welcome so many distinguished members of that great profession and that representative Association comprising so many individuals, whom they wished not only to honour, but, as the Mayor had very judiciously said, to impress with the resources of their country. Lastly, the fact that it was the British Medical Association appealed to their public spirit, and they gave a British welcome to those who were their brethren and their own kith and kin. These were some of the reasons which rendered the welcome hearty, for the feeling of gratification was deep however inadequately it had been expressed. As the representative, he might say perhaps as the deputed representative, of the people of Canada he heartily bid them welcome to the Dominion.

Invitation to Winnipeg.

Dr. J. G. Adami, the honorary Local Secretary, then called over the roll of delegates of foreign countries and medical societies, and of the representatives of the Branches of the British Medical Association, and those in attendance were formally presented to the President and to the Earl of Aberdeen, the first thus called upon being Professor Richet, the representative of the French Republic and of the Faculty of Medicine of Paris.

When the name of Dr. O'Donnell, the delegate of the Government of Manitoba was called he was invited by the President to address the meeting.

Dr. O'Donnell said that when he was leaving Winnipeg to attend the meeting of the Association a letter from the Premier of Manitoba was placed in his hands, and he was authorised on behalf of the Premier of Manitoba to invite the British Medical Association to hold its next meeting, or some meeting in the very near future, in Winnipeg. He had been strongly impressed by the fact that this was the first meeting of the Association which had ever been held outside of the United Kingdom, and he was well aware that his request might seem to be presumptuous. But it must be remembered that his city of Winnipeg was young. Thirty years ago it was but an outpost of civilisation; fifteen years ago the stream of emigration began to turn in that direction, and out of the wilderness had been formed the Province of Manitoba, with a population of 300,000, and the city of Winnipeg had grown up containing between 40,000 and 50,000 souls. That city was beautifully placed, precisely in the centre of British North America, at the junction of the Red River and the Assiniboine River, and within sound of the bells of St. Boniface, made somewhat famous by the Quaker poet Whittier. He would ask that the letter might be referred to the Executive of the British Medical Assocfation, assuring them that the Government of Manitoba would be very glad to welcome that Association—the largest and most influential assemblage of scientific men in the world.

Dr. Roddick called upon the President of Council (Dr. Saundby) who said that that very pleasing invitation could not, of course, be received at that moment. It must, with Dr. O'Donnell's permission, be referred to the meeting of the Council in London. The Council would be very glad to give it due consideration, and in the meantime he begged to thank the Premier of Manitoba on behalf of the Association for the honour which he had done them.

President's Address.

Dr. Roddick then delivered his presidential address, which was published in the British Medical Journal of September 4th.

Lord Lister moved a vote of thanks to Dr. Roddick for his valuable and eloquent address. He could testify from personal experience to the value of one of the health resorts to which Dr. Roddick had referred, having just returned from three days in the Muskoka region. He had never seen a more lovely country, and he could not conceive of a more healthy district. One felt some doubts whether special health resorts were necessary for Canada, for the whole population struck him as being remarkably healthy as compared with that of the Mother Country. Dr. Roddick had also spoken of the medical schools, and it was very pleasing to hear of the progress Canada was making in the character of her medical education. He had had some opportunity of seeing both the hospitals and educational institutions in Canada, and from what he had seen he could quite bear out all that Dr. Roddick had said. There was another matter which helped to confirm him in this opinion. When he used to teach surgery long ago, a considerable number of his students were from Canada. These students from Canada studying in England and Scotland had become more and more rare, implying not that the young men of Canada undervalued a good education or would not go far to get it, but that they had at home what they required. With regard to medical legislation Dr. Roddick had touched upon a subject which seemed to Lord Lister one of extreme difficulty. Dr. Roddick had spoken of a central examining Board. The great objection to such a central examining Board was that the examinations must be conducted more or less by men who were ignorant of the courses of the individual students in the various schools. His own impression was that the system which prevailed in England would be a better one, namely, that there should be a central body corresponding to the English General Medical Council, which would appoint

visitors to the various bodies entrusted with the power of giving licences, and that these visitors should report to the General Medical Council. If any of the institutions were found after warning to be distinctly behind what was required, the General Medical Council would report to the Privy Council and the Privy Council would deprive this recalcitrant body of the power of granting licences, or at least suspend it. In his opinion this would be a more simple manner of attaining the object, and at the same time would not interfere with what seemed to him a matter of vital importance, namely, that the students should be encouraged in their career, and have justice done to them in their examinations by knowing that their teachers would take some share in those examinations. He felt that it would be ungracious not to express his thanks to Dr. Roddick for the exceedingly generous terms of the reference to himself in the Presidential address, and for the equally generous response that the reference met with in that great assembly. As there was no other speaker to follow him except the seconder of the resolution who would be a Canadian, he wished to express the gratitude of the British Medical Association for the cordial welcome extended to them by the entire Dominion of Canada though his Excellency the Governor-General, from the province of Quebec through the Lieutenant-Governor, and from the city of Montreal through the Mayor. It was no surprise to him, for he had just been attending the meeting of the British Association in Toronto, and this was merely a repetition of that magnificent hospitality. There was, however, one thing which was new which had pleased him exceedingly. He had read of the loyalty of the French Canadians to the British Crown, of their fellow feeling with their fellow subjects of British origin, but it had given him the greatest gratification to hear those sentiments from the lips of a French Canadian, and expressed so nobly and in such splendid language as that to which Sir Adolphe Chapleau had given utterance.

Sir James Grant, in seconding the resolution, expressed the pride and gratification which all Canadians felt at the visit of the Association to the Dominion. They were also pleased to see the visitors from the other side of the line. They were one people, the only difference being that the progenitors of their American friends landed on Plymouth Rock while the progenitors of the Canadians paddled up the St. Lawrence in order that they might enjoy under the British flag the principles of civil and religious liberties. He made a graceful allusion to the presence of Professor Richet, and congratulated Dr. Roddick on his address. With respect to the question of interprovincial registration or a central examining Board, he was sure the time was not far distant when an agreement would be arrived at.

Dr. Saundby briefly expressed the obligations of the Association to the Governor-General, Lieutenant-Governor Chapleau, and the Mayor for their presence.

This closed the proceedings.

Wednesday, September 1st.

The chair was taken by the President.

The Address in Medicine.

Dr. Roddick said that, as there was no business to precede the address, he would call upon Professor Osler to deliver the Address in Medicine before the Association.

Dr. Osler then delivered the Address in Medicine, which was published in the British Medical Journal of September 4th.

Dr. Stephen Mackenzie said that he had accepted the duty of proposing a vote of thanks to Dr. Osler for the address which he had just given with peculiar pleasure, for the reason that he claimed a very old acquaintance and friendship with him. They studied together twenty-five years ago in Germany, and he had watched his progress with great and continuous interest. He did not know anybody who would have been better qualified in any place to have given the Address in Medicine which had been delivered that day, nor could there have been anybody more fit, both by his general qualifications and by local circumstances, than Dr. Osler to do so. It was quite unnecessary to say anything concerning Dr. Osler in Montreal. He was trained in McGill College; after that he studied in London; from thence he went to Germany and to France, and from that time until now he had frequently revisited all the great seats of learning. He knew nobody in the profession in any part of the world who had such a wide and intimate acquaintance, from practical knowledge, of the varied teachings and phases of thought in all parts of the world. Hence they would not be surprised that he had given an address which showed not only his wide knowledge of medicine but his immense learning and reading. Dr. Mackenzie said that it required a master to deal with the field which he had chosen, and they would all agree that they had the work of a master in the address which Dr. Osler has just delivered. Receiving his education in the city of Montreal, enlarging his experience on the European continent, he had taught and disseminated the wide knowledge he had gained by experience and observation in all parts of the land. His services for a time were in America, and he (Dr. Mackenzie) would endorse the hope expressed by the President on the previous day, when he said that Dr. Osler was only in bond in America, and that the time would come when he would return to his native city. He had a career before him of unique usefulness in the teaching of a subject for which he had prepared himself so carefully, and all those assembled would, he felt sure, give a vote of thanks to Dr. Osler for his able and interesting address.

Dr. Jacobi, in seconding the vote of thanks, said that Dr. Osler had not surpassed himself but had simply done himself justice. By so doing he had done justice to the British Medical Association, for from him they looked only for the best contributions to science. His books and papers were respected and looked forward to wherever learning was. He was not only a citizen of their Republic, but a citizen of the whole of the world. Canada had once possessed him, now the country which he represented had him and meant to hold him; his knowledge of medicine was historical and philosophical and humanistic. For the sake of science and mankind he wished that if he could not have peers he might at least have many followers.

Dr. Roddick said that those assembled had heard the motion moved by Dr. Stephen Mackenzie and seconded by Dr. Jacobi, that a vote of thanks be tendered to Dr. Osler, for his admirable address. He would simply ask the meeting to give their assent.

The motion was carried by acclamation, and Dr. Osler returned thanks for the vote and for the way in which the audience had received his address.

Honorary Degrees.

Dr. Roddick said the meeting would now be converted into a convocation of McGill University for the conferring of degrees on certain distinguished members of the medical profession.

Lord Strathcona and Mount Royal called upon Dr. Clark Murray to deliver a prayer.

Dr. Clark Murray having delivered the prayer,

Lord Strathcona and Mount Royal said that his was a pleasant task or duty and one easy of accomplishment. On the part of McGill University he extended the happiest welcome that could be given to the members of that great, that noble profession, in his view the noblest of all the professions, and which, as they would already have learned, was well represented in the University of Montreal. McGill University looked upon it, not as a pleasure only, though it was a very great pleasure, but as a privilege and high honour to have among them the distinguished body of medical men now assembled. They were also very proud indeed to have the privilege of bestowing on the gentlemen about to receive it the honorary degree of Doctor of Laws. They were proud that those gentlemen were ready to accept from McGill that highest honour that it could confer on those who were considered to be the most distinguished in the profession. He had now only with these words to pass to the business of the meeting. His Excellency the Governor-General would, he was sure, be good enough, after the honours had been conferred, to address to the meeting a few words of welcome, not alone on the part of McGill, but on the part of the citizens of the whole of Canada.

Dr. Craik, Dean of the Medical Faculty, McGill College, said that it was his pleasing duty to assist in endeavouring

to confer honour where honour was richly due by presenting for the honorary degree of LL.D. a distinguished list of gentlemen, men whose names would add lustre to any roll of honour in this or in any other country; and in doing so he trusted that he might be pardoned if he called attention to the fact that the University had never been lavish in the distribution of such honours, but had endeavoured to reserve them for men of such conspicuous merit that the University itself felt honoured by their acceptance of a place upon its modest list; and in offering the honorary degree of LL.D. to the gentlemen who were to be presented, he desired to say that though they had all doubtless received honours from better known Universities, from none could they be accompanied by more hearty good wishes nor by more cordial appreciation of merit. Dr. Craik then presented the recipients of the degres in the following terms:

The Right Hon. Lord Lister: Before all things famous for the introduction of antiseptic surgery; formerly Professor of Surgery both in Glasgow and Edinburgh; created Baronet in 1883, elevated to the Peerage in 1897; President of the Royal Society, and lately of the British Association.

M. Charles Richet: Professor of Physiology in the University of Paris, official delegate to this meeting from the Government of the French Republic and from the University of Paris; a man who has made his mark in very many domains; as the pure physiologist in connection with the working of the heart and of the nervous system; as a pathologist and bacteriologist by his studies along with Héricourt into the subject of serum therapeutics, in which line he was the first to make those studies which nowadays are so widely known in connection with the treatment of diphtheria and other diseases; in scientific journalism as the editor of one of the greatest French scientific journals, and as a student of psychology, in which, with Crookes, Sidgwick, and other eminent scientists, he has soared into transcendental realms.

Sir Walter Foster: Honoured by Her Majesty in the same year as Sir William Turner, he has gained recognition from his career of public usefulness. Not only has he for years occupied important posts in connection with this Association, but he has represented the practitioners of Great Britain in the General Medical Council, and he has represented his country in Parliament, where he has been, we can truly say, the direct representative of the whole profession, sending its wishes and working steadily for its benefit. Just as Lord Lister was the first of our profession to be elevated to the peerage, so was Sir Walter Foster the first member of our profession to become a member of the Government, for from 1895 to 1896 he occupied the position of Parliamentary Secretary of the Local Government Board. But apart from all these public duties, he has worked well at his profession; he has been professor of medicine at the Queen's College, Birmingham, and has contributed much to medical literature.

Sir William Turner: Known to all English-speaking men as the great Professor of Anatomy in the University of Edinburgh, the University which has been the type from which so many colonial schools have gained their inspiration. Like Lord Lister, Sir William Turner is an Englishman, who, invading Scotland, has there gained name and fame. Upon so many branches of his subject has he written that, master of all of them, it is difficult to call attention to any special work. We can but say that the *Journal of Anatomy and Physiology* is his living monument.

Dr. Henry Barnes is an example of the best type of learned and public-spirited English provincial physician, and as we all know here thoroughly well, deserved the honour which came to him last year of being elected President of this great Association. It is a pleasure to us to bring over to this country one who in his hours of leisure has in previous years devoted himself to past times, to Roman antiquities, and the history of medicine in England, and to draw him from his contemplation of the very old to appreciate the very new.

Professor Michael Foster: We are proud to have with us and to honour the representative English physiologist, a man indeed who has made physiology a living science in Great Britain, and who through his pupil, Newell Martin, the late Professor of Physiology at Johns Hopkins University, may be truly said to have brought a living physiology to this continent. He has been honoured by very many universities, and we are rejoiced that he has given us the opportunity to show our appreciation.

Dr. W. H. Gaskell: Another physiologist is with us; one of Foster's most celebrated pupils, whose name is known wherever studies are made into the physiology of the nerves and the muscular system, and whose recent theory of the origin of the nervous system of vertebrata and the origin of vertebrates from a crustacean or like ancestor, has gained for him at first a heap of obloquy, but now a steady growing acceptance.

Mr. Christopher Heath: Surgeons and students throughout the English-speaking world know Christopher Heath and his writings, and no words of mine are necessary to advertise him to you. In honouring the late President of the Royal College of Surgeons of England we do ourselves honour.

Dr. Alexander Macalister: The late professor of anatomy at Dublin, and present professor of anatomy at Cambridge, is also well known to all of us; a man who excels not only in anatomy, but in almost everything which has to do with man; a great geologist, a great Egyptologist, a great and good Scotch theologian.

Dr. R. Saundby: As President of the Council of the British Medical Association, we delight to honour Dr. Robert Saundby, a man known to us not only from his position, but from his admirable Bradshaw lecture upon renal disorders and diabetes, and many other valuable contributions to the literature of the profession.

Mr. C. G. Wheelhouse: In Mr. Wheelhouse we have the best representative of English provincial surgeons. The medical school of Leeds has been known and celebrated throughout all the century for its Teales and Braithwaites and Wheelhouses, the staff of Leeds General Infirmary being celebrated as Wheelhouse's own staff. He has been more than a surgeon; he has been one of the representatives of his profession in the General Medical Council; he has been one of the strongest and firmest supporters of this Association for long years. With Sir Walter Foster this year he has been awarded the gold medal of this Association for distinguished services.

Lord LISTER said that he had to express his profound sense of gratitude to them for conferring upon him the degree in that the greatest university in the great Dominion of Canada. Before the meeting of the British Association, he, in common with many other members of the Association, was a partaker of their splendid hospitality, and had the opportunity of inspecting their magnificent new University buildings and their splendid equipment, which was due in no small measure to the Chancellor and other munificent donors and citizens of Montreal. He was astonished at the splendour of their new buildings and their equipments. He had seen their laboratories (for example, the Physical Laboratory, the Mechanical Laboratory, and others), and they were second to none in the world. Having visited Canada twenty-one years ago, to see the immense change which had come over Montreal as a whole, and, above all, their university filled him with amazement and admiration. His words, he knew, ought to be very few, and he would only venture to add that it seemed to him to remain now for their teachers and their students to avail themselves to the full of their splendid opportunities, so that practical instruction and research in the various departments of science might be carried on in a manner which their noble institution seemed fitted to ensure.

Professor RICHET said he had the honour of belonging to a University which had existed when Canada was almost unknown, and which, in the midst of general discord and darkness, had carried on the torch of learning. While proud to belong to such a seat of learning, he was very proud to belong also to the University of the New World, which was doing such splendid educational work. He referred to the cordiality and good feeling which existed between all universities, and expressed his high gratification at the honour which had been conferred upon him.

Professor MICHAEL FOSTER said that the only words he wished to say would be those which he might offer on behalf of those who had that day with him received that great honour. They were that their University, to which they now belonged, might have a long future of increasing usefulness and greatness. They were all filled with admiration not un-

mixed with envy for their magnificent new buildings and their apparatus. They had seen with sorrow that, with wise prevision, they had taken away from the Mother Country many of her brilliant young men to be their professors. But though these were much they were not all in the University; they were the salt, but there remained for the salt the savour. The University was the means of teaching, but it could not teach without the spirit of research, without the support of the love of inquiry. He belonged to an old university which in the midst of many vicissitudes had proved that it was equal to the changes of time. He thought he might venture to say that in the many changes of the present century it had, so to speak, taken the bottom out of the scriptural argument and shown that new wine might be put into old bottles without hurting the bottles or the wine. And he also ventured to think that that had been the case, not because of the beauty of its old buildings, not because of the great wealth of the University to which he belonged, for that did not exist, but because even in the darkest time it was felt that the great function of the university was to encourage learning and research and give it ample leisure. Although it was true that necessity brought invention, it was also true that leisure was the mother of discovery. He did not know what might be in the minds of the great benefactors here, nor of benefactors unknown on his side of the water, but he trusted that in future they would keep in mind the needs of the universities, and the advisability of providing laboratories and adequate endowments for scientific research.

Lord Strathcona and Mount Royal said that the Premier, the Right Hon. Sir Wilfrid Laurier, had intended to have been present at the meeting, but had been prevented. Sir Wilfrid Laurier wished him to express his regret that, as he had to leave for Ottawa that afternoon at 4.30, it would be impossible for him to be present at that time. One word with reference to what was said by Professor Foster. He had alluded to those very talented members of the University, those professors who had left England to do a good work for and with them in Canada. He was delighted to remind Professor Foster that those gentlemen who came from the Mother Country to Canada had really done no more than go from one part of the United Kingdom to the other. They came to Canada where they were equally still in England and equally Englishmen as all their comrades would be if they were in the United Kingdom. They were all proud to feel and to know that they were citizens of that great empire and were loyal to the core, dutiful subjects of that Sovereign who was regarded by all with affectionate admiration.

The Governor-General (Lord Aberdeen) said he felt more than ordinary diffidence in addressing that audience, and would like to remind them—he need not remind his noble friend the Chancellor—how much he felt the privilege of being there as Visitor of the University of McGill. He thought it would be admitted that one of the primary duties on such an occasion of a visitor was not so much that he should make observations, but should take observations, and occupy a vigilant attitude of watchfulness in noticing all that occurred. It would have been very appropriate if it had been possible for the students of the University to have been present, but owing to the recess that was impossible. In conclusion he would say that they much appreciated the manner in which the Dean of the Faculty had succeeded in presenting all the illustrious names in such terse and effective language. He had certainly a wealth of material, but he had not allowed himself to be drawn away. He knew they were all rejoicing to see once more their beloved and esteemed Chancellor, Lord Strathcona and Mount Royal, a most appropriate title, because Montreal represented the national life of Canada, that national life with which Sir Donald Smith was so splendidly associated.

The proceedings closed with the Benediction.

THE SECTIONS.

Brief Summary of Proceedings.

Wednesday, September 1st.

In the following pages we present a series of brief notes indicating the general character of the proceedings in the Sections. These have been furnished to us by our reporters in the various Sections, with the kind co-operation of the Honorary Secretaries of the Sections. Fuller reports of the proceedings will be published in later issues of the British Medical Journal.

Medicine.

The proceedings of this Section commenced with an interesting address by the President, Dr. Stephen Mackenzie, which was published on September 11th. From the commencement the attendance of members was large, and great interest was taken in the subjects selected for discussion. Dr. James Stewart opened the discussion on The Relation of Rheumatoid Arthritis to Diseases of the Nervous System, Tuberculosis, and Rheumatism. From a study of 40 cases in the last three and a half years he concluded as follows: Rheumatoid arthritis is a disease prone to occur in people of a rheumatic tendency and who have suffered from subacute rheumatic attacks. The presence of infectious diseases of any kind tends to increase this tendency, as does the operation of all causes having a depressing influence on the resisting power of the nervous system (worry, exposure to cold, traumatism). There is no sharp dividing line between certain cases of chronic rheumatism and the earlier stages of rheumatoid arthritis. There is not sufficient evidence to support the views commonly held as to nervous origin of rheumatoid arthritis. There is no direct relationship between tuberculosis and rheumatoid arthritis. The polyarticular forms of rheumatoid arthritis have clinically the features of an infectious disease. The results of recent investigations point very strongly to its infectious nature. The most successful method of treatment in these cases was by baths of various kinds. In the discussion which followed, Dr. Shingleton Smith (Bristol) claimed that the disease was not a rheumatism but an arthritis, and that it was due to some infective agent. Dr. Lindsay (Belfast) claimed a relationship between rheumatoid arthritis and nervous disease, and thought that there was a close connection between rheumatoid arthritis and chronic articular rheumatism. Dr. Osler (Baltimore) drew attention to the presence of trophic changes in rheumatoid arthritis—for example, onychia. Dr. Jacobi (New York) supported the views of Dr. Osler, but asked Dr. Stewart to define rheumatoid arthritis. Dr. J. C. Wilson (Philadelphia) noted the fact that in rheumatoid arthritis there were frequent attacks of acute arthritis, but unlike rheumatic fever these left the joint damaged. Drs. Shattuck, Moorehouse, Graham, Griffith, Gibney, Tyson, and the President having spoken, Dr. Stewart replied briefly. Dr. Tyson (Philadelphia) then read his paper on the Proper Use of Terms to Denote Myocardial Changes. Drs. Whittaker and Davis discussed the question. Dr. Fussell read a paper on Two Cases of Hæmophilia, which was discussed by Dr. Jones (Buffalo) and the President. This was followed by a paper on Atony of the Rectum, by Dr. Acheson (Galt, Ont.).

Surgery.

The work of this Section, which met under the presidency of Mr. Christopher Heath, commenced with an address on the Teaching of Surgery by the President, which was published in the British Medical Journal of September 11th. Dr. Geo. E. Armstrong (Montreal) then opened the discussion on Appendicitis. He touched on the etiology of the affection, stating generally that anything which damages the mucous membrane is likely to produce it. He quoted the statistics of the Montreal General Hospital for the different classes of cases. In the majority of cases he advocated early operation, and pointed out the dangers of purgatives and opium. He then asked for an expression of opinion on the advantages of washing out and drainage of the abdomen in septic peritonitis. His second point was the treatment of the abscess wall; he recommended removal of this wall as thoroughly as possible in most cases. His own method of drainage was to use two or three very large rubber tubes, one into the pelvis, one into the loin, and the third across the abdomen or down to the stump of the appendix as the case might be. Dr. J. Ward Cousins (Southsea) said that in his experience the pain was an early symptom, to disappear in cases in which the progress was satisfactory, while in the opposite class of cases the pain continued. He advocated operation if there was no improve-

ment in two or three days. He preferred the oblique incision, and used silk ligatures instead of retractors, thus avoiding bruising of the tissues. The abscess should be thoroughly cleaned by gauze swabs, and drained, but he did not interfere too much with the wall. He preferred not to use too large a drainage tube, nor too many tubes. Prof. C. B. Ball (Dublin) divided the acute cases into three classes—the fulminating, those with abscess formation, and those in which the symptoms were such that how the disease was progressing could not be exactly ascertained. It was in this latter form that the question of operation was very difficult to decide. Mr. Jordan Lloyd (Birmingham) divided the cases for practical purposes into those in which the disease was confined within the appendix, and those in which there was more or less inflammation outside the appendix, the situation of the tumour depending on the natural situation of the point of the appendix. He would not interfere with the wall of an abscess, but relied on cleansing and drainage. Sir William Hingston (Montreal) said that while it was easy to keep statistics in a hospital, it was the reverse outside such institutions, and it should be from these latter cases that the history should be written. He had only operated on one in ten of the cases brought into the hospital. He considered that the operation was to blame for many deaths. Dr. Van der Veer (Albany) emphasised the fact that the location of the appendix might vary within considerable limits. He would operate after the second attack, and not subject the patient to recurrent attacks. He would remove as much affected tissue as possible, as Dr. Armstrong had advocated. He would not advise the family physician to wait until he could demonstrate McBurney's point, while quite admitting the value of this symptom when present. Early operation was the important point. Dr. Alex. H. Ferguson (Chicago) recommended operation in all cases in which the diagnosis was clear and the disease uncomplicated. Then the operation was easy and the results excellent. Then the McBurney operation of separating the muscles in the lines of their fibres could be made use of. He would not search for the appendix where it was difficult to find. He preferred to flush out the abscess cavity. Dr. Gordon (Portland, Me.) strongly recommended the saline treatment for appendicitis, as carrying 90 per cent. of the cases through the attack. He would operate after the attack. If vomiting was present, the saline might be given by enema. Abscesses were treated by simple incision. For the pain he relied on hot saline solutions by the mouth and enemata. Opium was to be avoided. The President agreed as to the treatment of the chronic cases. He would not operate in all the acute cases. To relieve the pain he applied belladonna over the region of the cæcum and over this a good hot linseed poultice. Rest in bed and careful diet were very important. Dr. Armstrong, in reply, said that he had never had any satisfaction in the use of gauze for the drainage of pus. Poultices were of great use to control pain. Dr. A. E. Garrow (Montreal) reported an interesting and rare case in which there was an umbilical and ventral hernia in the same patient, each having a separate sac, and described the treatment he pursued. Mr. Alexis Thomson (Edinburgh) took up the subject of stricture of the intestine as a sequel of strangulated hernia. He noted the various causes of this condition, as peritoneal bands, adhesions, etc., and reported illustrative cases and their treatment. Dr. H. O. Marcy (Boston) explained his views on the best method of suturing wounds. Mr. Langley Browne (West Bromwich) showed photographs of a case of Traumatic Aneurysm of the Internal Maxillary Artery for which he had tied the common carotid. Mr. Jordan Lloyd mentioned a similar case which had been caused by a hay fork running into the cheek. He had ligatured the external carotid. Dr. Ashhurst (Philadelphia) said that it was very difficult to determine which branch of the artery was wounded. In his experience cerebral symptoms were rarely produced by ligature of the carotid. In this latter statement the President concurred. Mr. Browne had chosen the common carotid in preference to the external carotid on account of the field of operation being limited by the incisions of the previous operation. Dr. Theodore McGraw (Detroit) described a case of invagination of the cæcum and appendix. The principal symptom had been intense pain. It was treated by excision of the intussusceptum and suture of the cut edges.

Public Medicine.

To a large and attentive audience the President, Dr. E. P. Lachapelle, gave an interesting opening address on The Progress of Sanitation in Canada. A discussion followed on How Far should Mandatory Measures go in dealing with (*a*) Measles, (*b*) Whooping cough, (*c*) Tuberculosis, (*d*) Leprosy. Dr. P. H. Bryce (Ontario Board of Health) read the first paper, dealing chiefly with whooping-cough and measles. He advised the following measures: 1. Notification daily by the school authorities of every absentee. 2. Immediate investigation of every absentee reported sick. 3. Notification by the teacher of any further cases of disease occurring in the school, and their immediate removal. 4. Compulsory notification by the householders. 5. Home isolation by means of placards. 6. Disinfection of the house. 7. Closing of the schools as a last resort. Dr. Probst (Secretary State Board of Health of Ohio) advocated similar measures. With regard to tuberculosis, he was in favour of notification, disinfection, isolation of patients in hospitals and public institutions, and inspection of dairy cattle by means of the tuberculin test. More air space in houses and workshops should also be required. Dr. H. Handford (M.O.H. to the County of Nottingham) was not in favour of mandatory measures. He advocated education and persuasion, and thought the general practitioner could do more in this respect than the medical officer of health. He was, however, in favour of mandatory measures with regard to milk. Dr. Oldwright (Toronto) agreed with the last speaker to some extent, but thought education and persuasion must be supplemented by compulsion. With regard to tuberculosis, rooms at health resorts frequented by tuberculous patients should be more carefully disinfected, and the rugs in sleeping cars ought to be washed oftener. Dr. Duncan (Glasgow) did not think it was possible to carry out effective mandatory measures with regard to measles and whooping-cough, but with respect to tuberculosis there were certain measures which were perfectly practicable—an ample supply of pure air and notification in case of death. Dr. Carr (M.O.H. Braintree) urged the necessity of disinfection of the sputa in tuberculosis. Drs. Johnston (Glasgow), Nelson (New York), Lee (Philadelphia), and Formento (New Orleans) continued the discussion. Dr. James T. Neech (M.O.H. Atherton) read a paper On the Duration of the Period of Infectiousness in Scarlet Fever. He was convinced that the period of six weeks usually adopted was too short, and advised a minimum of eight and a maximum of thirteen weeks. Drs. Johnston (Glasgow) and Malcolmson (Middlesbrough) confirmed Dr. Neech's conclusions from their own experiences. Sir James Grant (Ottawa) and Dr. Mickle (New Zealand) also took part in the discussion. Papers were read by Dr. Hough (New Bradford, Mass.) on Cadaveric Fauna, and by Dr. Molton (Washington) on Underground Zoology and Legal Medicine.

Obstetrics and Gynæcology.

After a few introductory remarks by Dr. Wm. Gardner, who announced that it had been decided to ask the President to postpone his address till the following day, a discussion on Hyperemesis Gravidarum was introduced by Dr. J. Algernon Temple, of Toronto. He observed that in looking up the literature of the subject he had found many theories, but very little that shed any important light upon the true nature and cause of hyperemesis. He believed the condition was more often fatal than some writers implied, and whilst the ordinary sickness of pregnancy might be regarded as physiological, he believed that the pernicious form was invariably accompanied by some pathological condition. Opinions as to its frequency varied widely, as did also the lines of treatment recommended. Race, social conditions, and temperament undoubtedly exercised a powerful predisposition. Dr. Arthur Giles (London, England) said that he had analysed the causation of ordinary vomiting of pregnancy to get some light on the pernicious form. He regarded both conditions as due to the exaggeration of one or other of three factors which were present, namely: 1. The exalted nervous tension of pregnancy. 2. A source of peripheral irritation, the expanding uterus. 3. An easy channel of outlet for nervous disturbance, the vagus. Treatment should be directed primarily to the parts concerned. Dr. W. Gardner (Montreal) observed that

in some cases young women in perfect health conceived and sometimes immediately or in others in a few weeks presented symptoms which rapidly became serious. As soon as the uterus was emptied the patient recovered completely. He thought there was a tendency to delay the operation too long. Dr. R. B. Maury (Memphis) had seen a number of cases, but had not succeeded in finding pathological conditions in the pelvis which would explain the vomiting. If the pulse gave signs of a grave condition he induced abortion: he advised clearing out the uterus under an anæsthetic. Dr. Skene (Brooklyn) regarded the vomiting as not serious so long as it remained functional; many cases presented pathological conditions. The treatment should be based on the complication present. Dr. Horace Tracy Hanks (New York) thought the two main indications were to quiet the nervous irritability, by rest in bed and sedatives, and feed the patient judiciously by mouth or rectum, while any abnormal local condition should be rectified. Dr. Charles Jewett (Brooklyn, N. Y.) had found rectal injections of chloral of good service, and cocaine locally both to the vaginal portion and applied freely in the canal. Dr. J. Chalmers Cameron (Montreal) said that centric irritability required nerve sedatives; peripheral irritants should be counteracted, but perhaps sufficient attention had not been paid to local treatment for making the discharge channel less facile. Kaltenbach classed the condition with hysteria, and used hypnotism. Before interfering with pregnancy it should be established that the disease was uncontrollable and not merely uncontrolled; but it was better to operate too early than too late. After a few remarks by the President and by Dr. J. T. Macdonald (Hopewell, N. Y.), Dr. Temple replied. Dr. Giles showed for Dr. Robert Barnes (London) a drawing to illustrate Barnes's Boundary Line in Placenta Prævia, and Dr. Berry Hart (Edinburgh) and Dr. Wright (Toronto) discussed the matter. Dr. John Campbell (Belfast) read a paper on Labour Complicated by Abnormalities of the Cervix Uteri and Vagina, and the subject was continued by Dr. Murray (New York), Dr. Howard Kelly (Baltimore), and Dr. Jewett (Brooklyn). Dr. W. C. Lusk (New York) gave a contribution to the study of the first stage of labour from a frozen section, illustrated by drawings, photographs, and plaster casts. Dr. Berry Hart complimented Dr. Lusk on his excellent piece of work. Dr. W. Gardner showed a specimen of Vesical Calculi removed from the bladder in a case of Procidentia.

Pharmacology and Therapeutics.

Dr. D. J. Leech, as President of the Section, delivered an address on Past and Present Views as to the Actions of Medicines, which is published at p. 702. A discussion on the Treatment of Insomnia was then opened by Dr. C. K. Clarke (Kingston, Ont.), who spoke on general treatment. After dealing with the physiology of sleep and Howell's recent researches in particular, he proceeded to discuss the treatment of insomnia in various conditions. Drug treatment in general was deprecated. In acute mania the warm bath (104° F.), with cold applications to the head, and in neurasthenia massage, frictions, etc , were advocated. Stress was laid on McFarlane's view of sleeplessness as a bad habit, and regularity in the time of going to bed was recommended. Hot milk and beer were advised as adjuncts. In conclusion, the insomnia of toxæmias and that accompanying surgical disorders was considered. Dr. R. W. Wilcox (New York) then dealt with the mode of action of hypnotics. The views of Howell, Ramon y Cajal, and others as to the physiology of sleep were treated of in detail, and the action of alcoholic radicles, chlorine in organic combination, etc., was alluded to. The treatment of insomnia by drugs was then considered. Of vegetable narcotics, pellotine was regarded with favour; his experience with amylene hydrate, methylal, paraldehyde, chloral, chloralamide, sulphonal, trional, tetronal and urethrane was given, and the paper closed with a comparison of paraldehyde, chloralamide, pellotine, and trional as regards potency, rapidity and duration of action, habituation, and safety. The ill-effects of and contraindications to the use of hypnotics were then considered by Dr. A. McPhedran. The physiology and etiology of sleeplessness were first summarised, and the ill-effects of individual drugs subsequently dealt with. Hypnotism was recommended to be used rarely, and only when other means had failed. Dr. Edis (Jamaica Plains) contributed a paper on this subject, and dwelt on the value of gentle fatigue. Professor Richet (Paris) gave an excellent description of the pharmacology of chloralose, and the discussion was continued by Drs. D. MacAlister, Saundby, Cushny, Barnes, MacCallum, Learned, Campbell, Muir, Brookhouse, Whitla, Rayner, Smith, Atkinson, and the President. There was a consensus of opinion that hypnotics should only be used as a last resource. Chloral was deprecated by the majority, and sulphonal also received some strictures. Dr. Donald MacAlister confined his remarks to the insomnia occurring in otherwise healthy students, and strongly recommended what he termed the air bath, the wet sack, and, as drugs, strychnine in coffee and magnesium sulphate. Dr. Saundby believed the older hypnotics were the best, and Dr. Learned dealt in detail with a physical mode of treatment he had found beneficial. Dr. Whitla regarded the use of digitalis, with chloral, etc., as useless, and strongly recommended chloral as a hypnotic. Dr. Leech closed the debate by a few pregnant remarks on the treatment of sleeplessness in the old and the middle aged. During the meeting a collection of specimens of cannabis indica and its preparations were laid out for inspection. These also remained on view during the discussion on Thursday.

Pathology and Bacteriology.

The work of this Section was opened by an address by Mr. W. Watson Cheyne on the Progress and Results of Pathological work, which was published on September 4th. A vote of thanks to the President was carried by acclamation. The Section then proceeded to read the papers submitted to it. Dr. Alexis Thomson, in his paper on Epithelioma of the Penis, referred to the commonest sites of the disease, the dorsum of the glans being the most frequent. The richness of the blood supply offered considerable resistance to deep extension. Extension took place by continuous infection, by outlying or secondary nodules, or by the lymphatics along the dorsum. This last point was important in regard to amputation by the dorsal flap. Fortunately the disease was generally confined to the region near the origin of disease. With a lantern he showed sections of epithelioma, mostly of the squamous variety. Professor Boyce asked if endothelioma had been seen in the same locality. Mr. Thompson could not say that it had. The President presented Professor Goldman's paper on Early Infection of the Blood Vessels in Carcinoma and Sarcoma. Eosin was used in staining the vessel walls. Sections were shown of infection of the vessel wall with elevation of the endothelium by cancer cells, going on to rupture through the vessel wall and extension. The President said that he had seen similar appearances in sarcomata. Dr. Kanthack's paper on Cancer of the Testicle was presented by Dr. Hunter; the drawings had been made by Sir James Paget. Dr. Hunter showed sections of Carcinoma of the Testicle, also carcinomatous masses attached to the inferior vena cava, and also carcinomatous masses in the lung. The tumour had been taken for enchondroma, but was shown to be columnar-celled epithelioma. The case is accepted by Virchow in the literature as malignant enchondroma, but had now been proved to be epithelioma with cartilaginous growth about the cancer, a form recognised by Ziegler and others. Dr. Barker asked if it could not be a teratoma, and Professor Boyce whether cartilage or cancer predominated. Dr. Hunter remarked that the main value of the specimen and paper was historical, and that he could not, in the absence of the author, answer the questions. The President read a paper by Mr. H. J. Stiles on the Evolution of Cancer, which sought to prove that the well-known bodies were nothing but degeneration forms of cancer cells, especially of the nucleus. Discussions had been numerous on this question. Those holding that these bodies were parasitic claim that they stained quite differently to cancer cells, and therefore were probably not cancerous. He claimed to have seen closely allied transitional forms, from the ordinary cancer cells to the cancer bodies. Sections of cancer cells were shown with a nucleus swelling and losing its chromatin. The capsule of the so-called parasite was mainly perinuclear protoplasm. The nucleolus persisting formed the nucleus of

the parasite so called. The bodies were not endogenous cell forms. Ruffer's bodies have been seen in meningitis, and proved to be degenerated leucocytes. The sections were all from carcinoma of the breast. Dr. Welch had always thought that the resemblance between cancer bodies and genuine parasites was very slight, and he had come to the same conclusion as Mr. Stiles. Besides, there was always the difficulty of explaining the dissimilarity between primary and secondary nodules. Dr. S. E. Hodenpyle read a paper on the Occurrence of Typhoid Fever without Lesions of the Small Intestine. Cases were cited of death from typhoid fever without lesion in the small intestine or only swelling of Peyer's patches. Others with lesions in the colon only, and cases with no intestinal lesion whatsoever, the diagnosis being made by the presence of bacilli in the spleen. Dr. Welch mentioned a case of typhoid fever without any intestinal lesions, but the bile revealed typhoid bacilli. The bacilli could probably exist in the bile for months. Dr. Hunter observed that it was interesting to learn that the bacilli had been found in the gall bladder; a number of such cases were on record. Dr. Martin mentioned a case in the Royal Victoria Hospital, Montreal, with exceedingly slight lesions in the intestine, but bacilli in the bile. Professor Boyce read Dr. Patrick Manson's paper on Filaria Sanguinis Hominis Nocturna, a new species seen in Demerara. Dr. H. B. Anderson read a paper on Multiple Cysts of Stomach and intestine. Professor Van Giessen read a paper on Hæmatomyelopore in connection with Syringomyelia. He reported several cases of trauma to the spinal cord, followed by the production of tubular canals starting at the site of the trauma. These he explained as a result of hæmorrhage into the cord. He recorded also one case of spontaneous hæmorrhage. This was often mistaken for syringomyelia and described as a case of sudden onset. Professor Boyce questioned the hæmorrhagic origin. Dr. Barker read a paper on Changes in the Nerve Cells in Epidemic Cerebro-spinal Meningitis. Degenerative changes were shown (in sections) in the anterior horn cells in cerebro-spinal meningitis very similar to cell changes seen after section of the facial nerve. Dr. Van Giessen and Professor Boyce expressed great interest in the paper, which Professor Boyce confirmed in some points.

PSYCHOLOGY.

DR. R. M. BUCKE delivered at the opening of this Section an address on Mental Evolution in Man, which was published in the BRITISH MEDICAL JOURNAL of September 11th. Dr. J. A. Campbell, Medical Superintendent of the Carlisle Asylum, England, proposed a hearty vote of thanks to the President for his interesting address. The motion, which was seconded by Dr. Brush, Superintendent of Sheppard Asylum, Maryland, and put to the meeting by Dr. Daniel Clark, of Toronto, Vice-President of the Section, was carried by acclamation. The Section then proceeded to the consideration of the subject of the Etiological Relation of Pelvic Disease to Insanity in Women. This was introduced by Dr. G. H. Rohé. The subject was continued by Dr. A. T. Hobbs, Superintendent of the Asylum, London, Ontario, who contributed a paper on Surgical Gynæcology in Insanity. Dr. J. Russell, Superintendent of the Asylum of Hamilton, Ontario, read a paper on the After-effects of Surgical Procedure of the Generative Organs of Women for the Relief of Insanity. The discussion of the general subject was continued by Dr. Richard Dewey, Dr. D. Clarke, Dr. J. W. Burgess, Dr. E. N. Brush, Dr. Urquhart, Dr. Alexander, Dr. Spitzka, Dr. Meek, and Dr. Turner, and so much more interest was exhibited in the many questions which arose, that it was decided to adjourn the debate until Thursday morning, at 10 A.M.

OPHTHALMOLOGY.

THE President, Mr. Edward Nettleship, took the chair, and after a few remarks called upon Dr. Buller, who exhibited a patient on whom he had recently performed Mules's operation. Dr. Noyes (New York) then introduced the subject of Antisepsis in Eye Surgery. A full and interesting discussion ensued, in which some twenty members and visitors took part. Dr. Buller then read a paper on Mules's operation (insertion of a glass globe into the scleral cavity in place of enucleating the eyeball). Remarks were made by Drs. Reeve, Noyes, Ayres, and the President. An interesting and exhaustive paper was then read by Dr. Gould (Philadelphia) on cases of Atypical Retinitis Pigmentosa, which elicited remarks from Dr. Lucien Howe. An important case of Metastatic Carcinoma of the Choroid (primary disease in the thyroid) was communicated by Dr. Mathewson (Montreal); and the President showed a specimen of a similar condition which had been sent from the Moorfields Museum by Mr. Devereux Marshall. The meeting concluded with the reading of a report of a case of unusual tumour of the orbit, supposed to be malignant, but ending in complete recovery, communicated by Mr. C. G. Lee (Liverpool). Dr. Holt and the President alluded to cases more or less similar in character.

LARYNGOLOGY AND OTOLOGY.

THE proceedings of this Section opened in the presence of a number of distinguished American, Canadian, and English laryngologists and otologists. Following the practice of recent years, the President delivered no formal address, but after a few words of welcome to the guests of the Association proceeded at once to the business of the Section. What proved to be a most interesting discussion on Turbinotomy was opened by the President, Dr. Greville MacDonald, and was continued by Dr. Delavan, Mr. Carmalt Jones, Dr. J. N. Mackenzie, Dr. Lincoln, and others. The discussion showed that the general feeling on both sides of the Atlantic is that too much has been done of recent years in the direction of severe operations on the turbinate bodies, and that, except in rare cases, good results can be secured by a milder and less destructive method of treatment. The complete removal, in fact, of the inferior turbinated bodies is not practised to the same extent in America as by some practitioners in England. The discussion was followed by some papers of the highest interest on rhinological subjects. Dr. Bryson (Washington) read a paper on the Anatomy of the Fronto-Ethmoidal Region, containing most valuable results of observations on the anatomy of the infundibulum, which cannot fail to be of great use to surgeons operating in that region. Dr. Fletcher Ingals read a paper on the Relation of Nasal Disease to Pulmonary Tuberculosis, in which he suggested that there was in some degree an antagonism between pulmonary tuberculosis and nasal catarrh. The paper was a valuable example of the application of the statistical method to the investigation of this question, but the results were not entirely accepted by speakers who discussed the paper. Several papers were not reached owing to the prolonged discussion of those read.

ANATOMY AND PHYSIOLOGY.

THE officers of the Section had arranged to devote the first day of the meeting of the Section to anatomy, but, as Professor Alexander Macalister humorously remarked, the younger sister, physiology, is regarded by the majority as the more attractive. It was for this reason, perhaps, that the gathering at the opening of the Section was somewhat small, but as the forenoon wore on the room filled up, and there was soon a considerable attendance. Dr. Waller made only a few remarks in opening the proceedings, his formal address being postponed till the next day in order to fit in with the discussion on Anæsthetics. The first part of the business, therefore, was a discussion on the Teachings of Anatomy, which was opened by Professor Alexander Macalister (Cambridge) at considerable length. He was followed by Dr. Shepherd (Montreal) and several other Canadian and American speakers. The general feeling of the meeting seemed to be decidedly in favour of lightening the anatomical burdens of the over-driven student by cutting out matter which was only of theoretical interest. The only dissentient from this view was Professor Michael Foster, who was of opinion that a man might be taught too much physiology, but could never be overloaded with anatomy. As regards the methods of teaching, there was more divergence of opinion, and different views were expressed as to the value and scope of demonstrations, lectures, examinations, etc., as methods of teaching, all, however, being agreed as to the fundamental importance of practical work in the dissecting room. The discussion was

prolonged till 12 o'clock, when the reading of papers commenced. These were of purely anatomical interest and evoked little discussion. During the course of the meeting capital lantern demonstrations were given by Professor Primrose (Toronto) on the method of teaching by means of frozen sections, and by Professor W. H. Thompson (Belfast) on the degenerations resulting from lesions of the sensory cortex. A beautiful series of microscopical specimens illustrating the histology of the para-thyroid gland, which were sent by Dr. D. A. Walsh (Edinburgh), and laid out in an adjoining room, received less attention than it deserved.

Dermatology.

The President of the Section of Dermatology delivered an address on The Rise and Progress of Dermatology, which is published at page 697. At the conclusion of this address, Dr. Thomas George Jackson (of New York) read a paper on a case of multiple idiopathic angio-sarcoma lasting 21 years. The patient was a man, a native of Nova Scotia, aged 47, and the lesions were widely distributed. Involution had taken place under arsenic. The pathological report by Dr. G. P. Elliott (of New York) showed that the lesions were of the type of spindle-celled angio-sarcoma. Dr. Nevins Hyde (of Chicago) said that a similar improvement under arsenic had taken place in a similar case under his treatment. The clinical characters removed these cases from the category of sarcoma. Dr. James Galloway referred to a case under the care of Dr. Stephen Mackenzie which he had observed for nine or ten years. Histologically the cells were degenerate in character, and resembled those produced by chronic irritation of connective tissue. He agreed that the cases belonged to a category distinct from sarcoma. A paper on The Non-surgical treatment of Boils, Carbuncles, and Felons was read by Dr. L. Duncan Bulkley (of New York). He treated all the minor forms of these lesions by internal medication, consisting mainly of sulphate of magnesia and iron, with large doses of freshly prepared sulphide of calcium. Externally he applied carbolic acid and ergot in the form of ointment. The President expressed the opinion that Dr. Bulkley's views were retrograde in tendency. He was convinced that he would be supported in the view that the best treatment in such cases was to remove the suppurating and necrosed tissue, and to use antiseptic methods. An animated discussion took place on this subject, and subsequently Dr. W. T. Corlett (of Cleveland, Ohio), read a paper on The General Management of Skin Diseases, in which he urged the importance of general treatment, dietetic and hygienic. The President entered a protest against indiscriminate medication and exaggerated precautions in diet. Dr. G. H. Fox (of New York) expressed similar opinions, and said that in many cases the advice and care given by trainers to those preparing for athletic exercises was of more real value than the prescriptions of the physician. Dr. Nevins Hyde also protested against over-medication, but desired to defend American dermatologists from any imputation of the kind.

Thursday, September 2nd.

Medicine.

Dr. Robert Saundby (Birmingham) opened the discussion on the dietetic treatment of diabetes. Glycosuria was an abnormal phenomenon, but occurred when the amount of carbohydrates ingested exceeds the utilising capacity of the body. This capacity varied in different individuals, and perhaps in the same individual at different times. Those who became easily glycosuric from slight excess stood in close relation to the milder forms of diabetes. In severe diabetes glycosuria persisted even on flesh diet—a fact explained by the formation of a carbohydrate molecule when albumen was converted into urea. Hence in severe diabetes there was no physiological ground for persisting with strict diet in the hope of thereby removing the glycosuria. Instead of following a blind routine we should give each case as much carbohydrate as experience showed he could assimilate. Of carbohydrates it was best to give 1½ pint of milk, 6 ounces of baked potato, 1½ ounce of levulose, and, in mild cases, 4½ ounces of dry toast. Fat bacon should, if possible, form one meal, but diabetics appeared to absorb fat badly. Alcohol, in the absence of albuminuria, might be allowed up to 4 ounces daily well diluted with mineral water, or in mild cases, a bottle of light Moselle or Bordeaux wine, or even a pint of bitter ale. It was of great importance to prescribe definite quantities, and to test the effect of the diet by weekly body weighing, urine measurement, and sugar estimation. In the discussion which followed, Dr. Sidney Coupland (London) said that each individual case should be dieted as the condition of the patient indicated, but often diet could not have the desired effect. Dr. Shingleton Smith (Bristol) pleaded for greater indulgence in the use of carbohydrates. Dr. Duncan (Glasgow) said the amount of sugar was not the chief factor in determining whether a case was mild or severe. When restricted diet was not followed by increasing weakness it should be continued. Dr. Tyson (Philadelphia) divided cases of diabetes into two classes, the mild and severe. In the mild cases the sugar could be eliminated by diet alone, while in the severe cases no diet seemed to be effectual. In any case, when the sugar could be kept under 2 per cent. by a limited use of carbohydrates, it was advisable to estimate the quantity excreted once each month. Pure proteid diet he believed to be harmful owing to its tendency to produce toxic substance, but this was obviated by the latitude taken by the patient. Drs. Jacobi, Murray Lindsay, Wright, and the President continued the discussion, the general opinion being that heretofore a blind routine diet had been followed too much. Dr. Saundby briefly replied. Dr. Duncan (Glasgow) then read a paper on the Treatment of Diabetes by Uranium Nitrate. He illustrated his remarks by charts, and selected five cases which had been much benefited by the use of the drug, although he did not claim for it a specific action. Drs. Tyson and Saundby discussed the subject, and Dr. Duncan replied. Dr. Graham (Toronto) read a report of a case of Crossed Hemiplegia, the result of injury to the pons Varolii, and showed the patient. Dr. Graham had been unable to find another similar case in the literature. The President and Dr. Angell (Rochester) remarked on the occurrence of paresis as the result of inflammation or hæmorrhage in the case. Dr. Henry Koplik (New York) read a paper on the Bacteriology of Pertussis, in which he claimed to have isolated a bacillus which was the specific cause. He described the morphological characters, methods of growth, etc. In the 16 cases of pertussis he found the bacillus in 13. Sir James Grant and Dr. Graham discussed the question, and Dr. Koplik replied and expressed the hope that he would be in a position to make further contributions to the subject at an early date. Dr. J. H. Musser (Philadelphia) read a paper on the Disappearance of Endocardial Murmurs, presumably organic, in which he mentioned particularly mitral obstruction, aortic regurgitant and mitral regurgitant murmurs as disappearing occasionally. His conclusion from a study of the literature and his own experience was that mitral obstructive murmurs appeared and disappeared from time to time; that aortic regurgitant murmurs rarely disappeared, and when they did it was due to some organic pathological change; that mitral regurgitant murmurs might be due to dilatation with incompetence, and were subject to change from time to time. Dr. Whittaker (Cincinnati) then related six years' experience with tuberculin. He had used it in 1,000 cases without any evil result beyond its characteristic reaction. He found that as soon as it became tolerated it lost its effect; it had no effect as a curative agent when there was secondary infection from pus organisms; it was contra-indicated only in miliary tuberculosis. He urged strongly its use as a diagnostic agent.

Surgery.

A discussion on the treatment of Cancer of the Rectum by Kraske's Operation was opened by Dr. James Bell (Montreal), who referred to the difficulty of early diagnosis owing to the indefinite nature of the early symptoms. The first grave symptom might be a general peritonitis due to rupture and escape of contents into the peritoneal cavity. After discussing various methods, he recommended Kraske's operation by the sacral route. He preferred to make a preliminary inguinal colotomy to define the upper limit of the growth and to clear out the gut. It was more convenient, also, if a permanent opening turned out to be necessary. He believed the high

operation would be practised increasingly, and advised late closure of the colotomy wound. Professor Ball (Dublin) gave a lantern demonstration illustrating trans-sacral resection of the rectum. He dwelt on the ease and safety of the sacral route. The illustrations were from frozen sections, and showed the course of the operation from the first incision to its conclusion. He stated that in 17 consecutive cases in his own practice there had been only 1 death. A hearty vote of thanks was accorded to Professor Ball for his demonstration. Dr. W. W. Keen (Philadelphia) then gave a short history of the operative treatment of cancer of the rectum. In his own series of 23 cases operated upon by Kraske's method there had been no recurrence after four years in 4 cases. He agreed as to the advisability of performing preliminary colotomy. Dr. J. Ashhurst (Philadelphia) expressed the opinion that, except in the hands of a few selected surgeons, the operation should be regarded as of the gravest character. The President briefly reviewed Kraske's statistics, and, after brief replies from Dr. Bell and Professor Ball, called upon Mr. Bernard Roth, who gave an analysis of 1,000 consecutive cases of scoliosis treated by posture and exercise without mechanical support. He believed that general muscular weakness accounted for 50 per cent. of the cases, and explained the method of treatment which he adopted. Dr. R. Tait McKenzie read a paper on the accurate measurement of curvatures of the spine, and described a new instrument for the purpose which recorded curvature by means of a pantograph arrangement. The President spoke of the value of Mr. Roth's methods, and of the irrational nature of most spinal supports. Dr. Gibney (New York) also endorsed Mr. Roth's system, and commended Dr. McKenzie's instrument. Dr. Ketch (New York) expressed the opinion that there should be some regular and systematic examination of school children. While retention apparatus were sometimes useful, the mainstay must be exercise; he referred to the abuses which had arisen through sending patients to instrument makers. Dr. Peters (Toronto) read a paper on Gunshot Wounds of the Spinal Cord. Dr. Ward Cousins read a paper on the Operative Treatment of Organic Stricture of the Urethra, for which he recommended rapid dilatation. Mr. W. D. Spanton (Hanley) described two cases of Meningocele treated successfully by Drainage, Ligature, and Closure of the Wound. Dr. B. Farquhar Curtis (New York) read a paper on a case of Bilharzia Hæmatobia, and the Section then adjourned.

Public or State Medicine.

Before opening the business of the Section, the President, Dr. E. P. Lachapelle, warned the members against attaching too much importance to the unnecessarily alarming reports of some of the newspapers with respect to the outbreak of small-pox in the city. He had just received the last report of the Provincial Board of Health, of which he was President, showing the exact state of affairs. In Montreal, since the outbreak on July 2nd, there had been 13 cases, 5 of which had died, leaving 8 patients sick. They were all in the small-pox hospital, and there was not a single case known in the city outside of the hospital. In Westmount, a town adjacent to Montreal, there were only 5 cases, all in the same family except one, the chief of police, who caught the disease while having the house disinfected. There were now in Westmount 4 patients and 8 in Montreal, making 12 in all. There was one other case in St. Cunegonde, another suburb of Montreal. He had made this statement because he understood that some of the visitors were under the impression that it was not safe for them to go about the city. It would be seen that the outbreak was not serious, and there was no danger. Dr. James MacLeod (Prince Edward Island) read a paper describing the Drainage System of Charlottetown, with some observations on the pollution of ground air. An important discussion on the Utility of Quarantine as now conducted (Inspection, Disinfection, and Isolation Stations) in certain countries at least, was opened by Dr. F. Montizambert, General Superintendent of the Canadian Quarantine Service. He reviewed the Canadian system, and pointed out that, owing to the different conditions prevailing, it differed from the British system in the following respects: 1. Canada accepted fully the conclusion of the Dresden Sanitary Convention without the reservation made by Great Britain that healthy persons landing from infected ships should not be detained. 2. In Canada disinfection of the mails was sometimes considered necessary, especially when arriving from China for the "Chinatown" of the Pacific Coast. 3. Under the Canadian regulations actual cases of any infectious disease were removable to quarantine. Dr. Wyman (Supervising Surgeon-General, Marine Hospital and Quarantine Service) described the system in force in the United States and the relations of the Federal to the State authorities. Dr. J. A. Duncan (Secretary to the Provincial Board of Health of British Columbia) contributed a paper on The Utility of Quarantine on the Pacific Coast. He recommended that Chinese immigrants should be disinfected, together with their baggage, and kept in quarantine fourteen days before going on board ship at any Chinese port. Dr. J. R. Kaye (M.O.H. to the Council of the West Riding of Yorkshire) said that in England they did not trust to quarantine, but to compulsory notification and the vigilance of the inland authorities. Sir James Grant pointed out the importance of this matter in connection with the export of Canadian food products, and assured the visitors that Canadians were fully alive to modern ideas on the subject. Dr. Monckton Copeman (Medical Inspector to the Local Government Board of England) described the survey of the coast made by the Board in 1893, when quarantine was absolutely abandoned. This step had been amply justified by the results. Dr. Littlejohn said the difference between the English and Canadian systems was fully accounted for by the difference in circumstances. Dr. Formento (New Orleans) described how quarantine had stamped out yellow fever in that city. Dr. W. Nelson (New York) spoke to the same effect. Dr. March (St. John, N.B.) commented on the differences often observable between United States and English bills of health for the same ship. Dr. Monckton Copeman read a paper on Some Alleged Dangers of Vaccination and their Prevention. The main practical danger arose from the uncleanly habits of the patients. Microbes could be excluded by the use of glycerinised lymph. Dr. Wyatt Johnston (Bacteriologist to the Board of Health of the Province of Quebec) contributed some notes on room disinfection by formaldehyde, the use of the apparatus being explained by Dr. McTaggart. Dr. Kaye read a paper on The Relationship of the Health Officer to the Registration and Certification of Deaths. He advocated that all returns should be made to the health officer for transmission to the Registrar-General. Dr. Boyce said a similar system had worked very well in Ontario.

Obstetrics and Gynæcology.

Dr. Franklin H. Martin (Chicago) read a further report on the Treatment of Uterine Fibroids by Vaginal Ligature of the Broad Ligament, in which he discussed the method first devised and practised by him, and gave a summary of its advantages, indications, and results. The paper was discussed by Dr. Vineberg (New York); Dr. Jones (Rochester); and Dr. Skene (Brooklyn); and Dr. Martin replied. The President, Professor Japp Sinclair, delivered the Presidential Address on the Injuries of Parturition: the Old and the New, which was published in the British Medical Journal of September 4th. A cordial vote of thanks was accorded to the President for his very important and interesting address, on the motion of Dr. Skene (Brooklyn), seconded by Dr. Howard Kelly (Baltimore), and supported by Dr. Lapthorn Smith (Montreal). A discussion on the Vaginal *versus* the Abdominal Route in dealing with Inflammatory Conditions and Tumours of the Pelvis, was introduced by Dr. E. W. Cushing (Boston, Mass.), and continued by Dr. Skene (Brooklyn); Dr. John Campbell (Belfast); Dr. H. T. Hanks (New York); Dr. Ross (Toronto); Dr. Lapthorn Smith (Montreal); Dr. Berry Hart (Edinburgh); Dr. Currier (New York); and the President. Afterwards the meeting adjourned to the Royal Victoria Hospital, to attend Dr. Howard Kelly's demonstration on the Examination of the Bladder and Ureters.

Pharmacology and Therapeutics.

A combined meeting of this Section and that of Dermatology was held to discuss the Treatment of Syphilis. The chair

was taken by Professor D. J. Leech. The subject was introduced by Professor Whitla, who said that two drugs alone need be considered—mercury and the iodides. He regarded it as proved that mercury had a specific or curative effect on syphilis, and thought it best to limit his remarks to the following points: (1) How mercury and the iodides were supposed to act; (2) when should mercurial treatment be started, especially should it be given in the primary stage? (3) the various methods for its routine administration, its dosage, and the length of time necessary for mercurial treatment; (4) the treatment of tertiary symptoms and congenital syphilis. The pharmacology of mercury—the mode of absorption, especially when administered by inunction, elimination, etc., was considered. Mercury he regarded as a vital antidote to the syphilitic poison, and so long as the virus of syphilis remained in the organism mercury, he believed, would expend its force upon it without injury to the patient. This, he thought, gave a working hypothesis as regards dosage. The question of the bactericidal power of iodides in connection with Binz's view was dealt with, and their inutility in the first and early second stages emphasised. The continuous and interrupted methods of administering mercury were treated at length, although it was stated that these could not be rigidly separated. The continuous method was favoured by the speaker. He prescribed small doses as early as possible. Routine treatment was deprecated. As a guide determining the effect of the mercury, the weight chart was strongly recommended. Of the various modes of administration the method of inunction was most generally useful, although this possessed many disadvantages. Under ordinary circumstances small doses of mercurious iodides, Plummer's pill, etc., were sufficient. In the tertiary stage, Dr. Whitla advised pushing the iodides until the symptoms abated. Dr. Nevins Hyde (Chicago) laid particular stress on the constitution of the individual. He believed that there were mild cases needing little or no treatment, and severe cases (mainly inherited) which seemed insusceptible to all treatment. Between these was the mass of cases giving the most satisfactory results. The best effects were obtained where iodides were not used; they were the remedies for the complications. Mr. Malcolm Morris divided syphilitics into those who took alcohol and those who did not. He had not seen good results from intramuscular injections. The mercurial air bath in certain conditions (extensive ulcerations) was strongly to be recommended, and to this treatment inunction, warm baths, especially those of a stimulating character, were useful adjuncts. The combination of ammonia and sarsaparilla with iodides was beneficial. Dr. Hervieux spoke of the necessity of a more definite pathology, a view not shared by some subsequent speakers. Intramuscular injections of soluble mercurial preparations were praised by Dr. Allan (New York), who also spoke of the virulence of secondary symptoms following extragenital chancres. Dr. Bulkley (New York) thought large doses of iodides unnecessary in the third stage if these drugs were combined with a small amount of mercury. The President (Dr. Leech) then closed the discussion by referring to the inutility of other drugs than mercury and iodine, and he agreed with Dr. Whitla in believing it often necessary to push iodides in the third stage of this disease. Combination of the iodides with ammonia was useful. Dr. Whitla, in reply, said that the whole secret of success in the treatment of syphilis was to get as much mercury into the system as possible without producing ill effects. He had not seen one case of harm resulting from the use of mercury in syphilis in his own practice. He criticised Dr. Allan's theory of the virulence of secondary symptoms in cases of extragenital chancre (the absence of lymph glands in the neighbourhood), and the discussion closed. Dr. Cushing (Ann Arbor) then read a paper on the Pharmacology of the Mammalian Heart. He demonstrated his method of experimenting, and showed tracings of the effect of aconite, digitalis, chloroform, alcohol, nitro-glycerine, etc. Dr. M. P. Jacobi (New York) spoke on this subject. Mr. Marshall (Cambridge) afterwards read a paper on Heart Failure with Thickened Arteries, the outcome of some experiments on the antagonistic action of digitalis and the members of the nitrite series. Dr. H. A. Macallum spoke, and the proceedings terminated. The attendance was good throughout.

Pathology and Bacteriology.

Professor Adami (Montreal) introduced the discussion on Serum Diagnosis and the Agglutinating Action of the Serums, referred to the work done by Welch and Wyatt Johnston. He said that Gruber, in April, 1896, showed that the reaction could be got on the eleventh day of typhoid fever, but Widal emphasised the clinical value of it. Rouget and Metchnikoff had done work on the subject earlier. Dr. Grünbaum spoke of the various ways of making the test, and alluded to the application of serum diagnosis in other diseases. Dr. C. P. Martin presented a paper by Dr. Wyatt Johnston, explaining methods for quantitative work and emphasising the importance of making sure that the culture was alkaline. Dr. J J. McKenzie added some experience gained in Ontario. Professor Musser related his clinical experience of the test, and said that the reaction had been obtained on the seventh day; blood from a case occurring ten years previously had given the reaction; cold baths had not influenced the test. Dr. E. B. Block entered in detail into the technique, insisting on the importance of the most scrupulous care in making the test. Dr. Adami then gave a summary of a paper by Widal, and Professor Boyce stated that in Liverpool the distinction between typhus and typhoid fever had been made by the serum method. He preferred using fluid serum rather than dried blood. Professor Gilman Thompson summarised clinical experience in five of the largest New York hospitals. He stated that the reaction had been seen on the fourth day of typhoid fever. Attempts to distinguish between typhus and typhoid fevers by this method had failed; of cases of typhoid fever 75 cent. were readily diagnosed without this test, 23 per cent. of cases could not be certainly diagnosed by serum methods, and misleading results had been obtained; he therefore claimed that this test, like the diazo-reaction, was not of great clinical value. Dr. Park read a paper on Isolation and Identification of Bacillus Typhosus, showing cultures of bacillus typhosus and of bacillus coli communis. He summarised the methods of obtaining serum in New York, the moist method being preferred. He attached no value to negative results. Professor Wesbrook referred to the methods adopted in Minneapolis. Dr. Wilson went more into details of the experience in Minneapolis, stating that acute mania and puerperal septicæmia had each given genuine positive results, malaria gave negative results. Cases of typhoid fever had given positive results, but on later examinations repeatedly lost or regained their power to give positive results. Dr. Richardson read a paper on Isolation and Identification of Bacillus Typhosus.

Psychology.

The adjourned discussion on Gynæcology in Relation to Insanity was resumed by Dr. Rohé, and Drs. Hobbs and Russell replied on the discussion. Dr. H. P. Stearns (Medical Superintendent of the Retreat for the Insane, Hartford, Conn.) read a paper on Heredity as an Etiological Factor in Insanity. Dr. Urquhart (Perth, Scotland) congratulated Dr. Stearns on the way in which he had handled the difficult question of the Weismann theory. The President, after a few remarks upon Dr. Stearns's paper, called upon Dr. Brush (Sheppard Asylum), who read a paper on the Analysis of 100 Cases of Melancholia. Dr. Bucke, Dr. Dewey, Dr. Wharton Sinkler, Dr. Burgiss, Dr. Haslett, Dr. Brush, and Dr. Rohé took part in the discussion which ensued. Several speakers directed their remarks to the thyroid treatment of melancholia. Dr. D. Clarke then read a paper upon Reflexes in Psychiatry. Dr. Haslett (Medical Superintendent of Sunbury Asylum, England) followed with a paper on the Influence of Physical on Mental Disease. Dr. Campbell (Carlisle), Dr. Dewey, and the President joined in the discussion. A discussion followed on the Relation between Pelvic Diseases and Insanity, and the Value of Gynæcological Operations in the Relief of Mental Symptoms. The subject was introduced in three papers, which were first heard before the subject was discussed. Dr. G. A. Rohé (Superintendent of the Maryland Hospital for the Insane) first dealt with the etiological relation of pelvic diseases to insanity in women, and was followed by Dr. A. D. Hobbs, London (Ontario) Asylum, who cited cases to show the benefits of surgical interference in such cases. Dr. J. Russell (Superintendent of Hamilton

Asylum) then read a paper on the After-effects of Surgical Procedure on the Generative Organs of Woman for the Relief of Insanity, in which he opposed the views of the readers of the first two papers, claiming that uterine disorders were not a common cause of insanity, and that when they were found to exist in the mentally afflicted, operation was rather detrimental than otherwise. The discussion that ensued was participated in by the following: Dr. Daniel Clark, Dr. Richard Dewey, Dr. T. J. W. Burgess, Dr. E. N. Brush, Dr. Urquhart, Dr. Alexander, and others. The view that found most favour was that surgical interference with the genital organs of insane women should be practised only when the same indications were present which demanded operative procedure in the sane. The discussion was adjourned till Friday morning.

Ophthalmology.

An interesting discussion arose after the reading of Dr. F. Buller's paper on Abnomalities in the Function of Extrinsic Ocular Muscles. Dr. G. T. Stevens (New York) took part in the discussion, but the general tendency displayed by those who joined in it was a desire for a more definite standard for the classification of these muscular abnormalities, more especially with regard to the methods to be employed for determining the mode of estimating the amount of muscular insufficiency. Dr. G. T. Stevens read a paper propounding a theory of the Etiology of Trachoma. Founding himself upon the fact that trachoma is more prevalent in certain races presenting a special cranial conformation which he believed to involve a tendency to imperfect equilibrium of the ocular muscles, he maintained that the eye was thus rendered more susceptible to infection. The discussion which ensued did not lend much support to this novel theory, the speakers being far more disposed to attach importance to the infective agent itself. In connection with the meeting of this Section, a large collection of interesting specimens is exhibited in the room in which the Section meets.

Laryngology and Otology.

The discussion upon the Significance of Laryngeal Paralysis was opened by Dr. W. H. Daly (Pittsburg, Pa.), who dealt chiefly with the subject of etiology. Dr. E. L. Shurly (Detroit) treated of prognosis, specially insisting that structural lesions would be found more frequently in cases of hysterical paralysis if looked for. Mr. L. Browne (London) held that aphonia from singing was attributable more to improper use of the voice than to its over-exercise. Dr. D. Bryson Delavan (New York) pointed out the need of more investigations into right-sided laryngeal paralysis, and referred to two unusually persistent cases of diphtherial paralysis. One case had lasted for three years, the other for sixteen years, with no return of the vocal powers. Dr. W. Permewan (Liverpool) referred to certain observations made by himself upon the condition of the larynx in general paralysis of the insane; in this disease paralysis was very common (that is, abductor or whole-cord paralysis). He held that a very constant diagnostic sign of hysterical paralysis was the absence of all abductor paralysis, and concluded by relating a case of bilateral abductor paralysis, due to the pressure upon both recurrent nerves (aneurysm). Dr. J. N. MacKenzie's paper upon the Physiological and Pathological Relations between the Nose and Sexual Apparatus was then read, and remarks were made by Drs. Clarence J. Blake, Bryson Delavan, C. R. Walker, and Mr. L. Browne. Dr. J. E. Roe (Rochester) then read his paper, the Correction of Nasal Deformities by Subcutaneous Operations. Drs. Shurly and Daly congratulated the reader of the paper upon the value of this work. Dr. D. Bryson Delavan read a paper upon Surgical Treatment of Malignant Diseases of the Larynx, bringing out many practical points as a result of personal experience. Dr. J. N. MacKenzie, who hoped for a brighter future for this branch of surgery, impressed upon his hearers the necessity of early radical measures.

Anatomy and Physiology.

The chief business of this Section was the discussion on Anæsthetics. The discussion was opened before a large attendance by Dr. Waller, Professor MacCullum being in the chair. Dr. Waller's remarks were illustrated by experiments and lantern slides. The chief point was that chloroform acted upon nerve seven times more powerfully than ether, the clinical inference being that chloroform was not a safe anæsthetic. The paper was discussed by Professor Richet (of Paris) who was strongly of opinion that deaths under chloroform were due to cardiac and not to respiratory failure, and that therefore the heart was the thing to watch. Surgeon-Colonel Lawrie (Hyderabad) followed, and stated his well-known views as to the inferences to be drawn from the experiments at Hyderabad, arguing that overdosage was alone to be feared, that such overdosage commonly resulted from irregular and gasping respiration. Dr. Shore then described the results of experiments by himself and Dr. Gaskell, which went to show that chloroform had a direct and primary depressing influence upon the heart. Dr. Gaskell corroborated the views of Dr. Shore, and an animated discussion arose between Surgeon-Colonel Lawrie and Dr. Shore, which was cut short by the President, who called on Professor S. N. Stewart to speak. The latter took a middle position on the question, but inclined to side with those who were in favour of ether. He thought, however, that many of the classical experiments should be repeated. Dr. Waller then replied on the whole discussion, and described some more of his results, contending that the views of the majority concurred with the conclusions he had drawn from his experiments. Owing to the time occupied by the discussion, it being one o'clock, the remaining papers were postponed, and the meeting adjourned.

Dermatology.

This Section joined with that of Pharmacology and Therapeutics in the discussion on the Treatment of Syphilis, which is mentioned above. Subsequently a series of clinical cases were shown by Dr. F. J. Shepherd (of Montreal), Dr. Philp (of Picton, Ontario), and Dr. Gordon Campbell (of Montreal).

Bequest.—The late Mr. George England, of Freethorpe, has bequeathed substantial sums, amounting in the aggregate to several thousand pounds, to the following institutions in the Eastern counties: Norfolk and Norwich Eye Infirmary, Norfolk and Norwich Hospital, Norwich Asylum for the Blind, Norwich Jenny Lind Infirmary, Children's Convalescent Home at Yarmouth, Lowestoft Convalescent Home, Norwich Bethel Hospital, and Yarmouth Hospital and Dispensary. There is also a legacy for the Bridgwater Infirmary, Somerset.

New Asylums Board Offices.—At a special meeting of the Metropolitan Asylums Board held last week at Norfolk House, a letter was read from the Local Government Board authorising the Board to purchase a site on the Embankment in Carmelite Street, at a cost not exceeding £53,000, for the purpose of building offices thereon. The clerk moved that the letter be referred to the Works Committee, with instructions to bring up the name of an architect who should prepare plans. Mr. Wells moved, as an amendment, "That the committee should present to the Board the names of three architects," and this amendment was, after some discussion, carried.

Royal Infirmary, Aberdeen.—The post of Superintendent at the Royal Infirmary, Aberdeen, which was rendered vacant by the resignation of Miss Lumsden, has been filled by the appointment of Dr. Charles Angus, late Assistant Medical Officer at the Royal Asylum, Aberdeen. The superintendent will be resident in the infirmary. Dr. Angus graduated M.B., C.M. in the University of Aberdeen in 1887. After graduation he was for some time Senior Demonstrator of Anatomy at Aberdeen. In 1888 he was appointed Junior Resident Medical Assistant in the Royal Asylum, Aberdeen, and in 1896 was promoted to the office of Senior Resident Medical Assistant in the Asylum. Dr. Angus has had altogether about ten years' experience in the working of the various departments of the asylum. He has made a number of contributions upon anatomical subjects to the *Proceedings* of the Anatomical Society of Great Britain and Ireland, and also contributed a monograph entitled "Clinical Observations on Recently Introduced Hypnotics on those Mentally Afflicted" to the Therapeutic Committee of the British Medical Association.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

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THE ADDRESS IN THE SECTION OF PHARMACOLOGY AND THERAPEUTICS.

Professor Leech's address at Montreal is an admirable example of the interest and even charm with which a graceful touch and a well-balanced judgment can invest a subject usually considered dull. Although he cannot refrain from the temptation to give a retrospect of his theme during the last sixty years, he enriches its bald facts with a wealth of illustrative detail which renders them palatable, and so adds greatly to their instructiveness. These sixty years have done even more for therapeutics than for other branches of medicine, for they have based it upon a new science—that of pharmacology. Before the method of experimental inquiry was applied to the action of drugs, the current views were always uncertain and often ludicrous. It is true that Pereira, the Linnæus of materia medica, was far nearer the truth than his fellows; but, while giving him every credit for his great powers of observation, we cannot but feel that many of his correct opinions were only clever guesses. With the growth of the new science, systematic guessing has come to an end; in fact, the action of many new remedies can be approximately stated before they are tried or even manufactured. A certain wise empiricism is necessary to the advance of science, but even this is governed by laws and kept within well-defined boundaries.

Professor Leech lays appropriate stress on the strides in therapeutics which have resulted from a recognition of the relation between chemical constitution and medicinal action. This relation was to some extent realised by Paracelsus, but his views, being carried to excess by his followers, retarded instead of advancing the progress of the healing art. Not until the second quarter of this century was any attempt made at the scientific correlation of the facts observed and their establishment upon an experimental basis. Traube's confirmation and extension of Withering's clinical observations upon digitalis form an excellent example of this, and many others may readily be recalled to mind. A further step has been the introduction of synthetic compounds into practical therapeutics, partly as substitutes for drugs already in use, and partly as entirely new remedies. It is true that this has not been a wholly unmixed advantage, for of making many specifics there is no end, and the market is well nigh flooded with what a distinguished surgeon was wont to call "those filthy coal-tar products." Still, many of them have come to stay, and Professor Leech wisely suggests that as our knowledge progresses we may be able to assign to each its proper and individual niche in the therapeutic temple.

But all other advances appear insignificant when compared with the introduction into practical medicine of products of the animal body such as gland extracts and antitoxic serums. The empirical use of the former, mainly as aphrodisiacs, is recorded from time immemorial; one of them is said to have driven Lucretius to madness, while learned disquisitions as to their employment and the terrible effects of an overdose will be found in the works of the Portuguese physicians, Abarbanel and Amatus Lusitanus. Brown-Séquard's unfortunate essay in opotherapy will also be fresh in the minds of all, and it is well known that many savages eat the brains of their slaughtered foes in order to acquire their cunning, and their hearts to acquire their courage. The futility of these efforts offers a suggestive contrast to the brilliant results which have followed the first use of the thyroid gland on scientific grounds. No less notable, and, indeed, of even wider applicability, are the effects of antitoxic serum, effects which were predicted by scientific reasoning before the introduction of the remedies.

Standing, as we do, on the verge of a new era in treatment, it would be rash indeed to attempt to predict the future of therapeutics. Professor Leech wisely refrains from the endeavour, but contents himself with, on the one hand, protesting, albeit mildly, against the hazardous generalisations of those who have been carried away by the new ideas; and on the other pleading for a more careful and complete study of the actions of drugs both customary and recent. He justly emphasises Schmiedeberg's view that the first study of pharmacology must be the action of drugs upon undifferentiated protoplasm, the knowledge of which will form its sole accurate basis when complete. We must confess, however, that we cannot follow Professor Leech in regarding "catalysis" as an explanation of the action of chemical substances upon protoplasm. As a matter of fact, the example he gives is not one of catalytic action at all, as manganese dioxide is converted into the chloride in the process of manufacturing chlorine. Furthermore, McLeod has shown that in the preparation of oxygen from potassium chlorate with the aid of manganese dioxide, although the latter is unchanged at the conclusion of the process, it forms a succession of compounds during its continuance. Here we have a glimpse of the true nature of catalysis, a series of changes ending in the reproduction of the original substance, over which they have passed like a wave. We have emphasised this point because it seems to us that the future of all physiology, and therefore alike of pathology and pharmacology, must depend upon the wider knowledge which we are bound to gain regarding catalysis, from which we can pass to the question of ferment action and the ultimate problem of all, the properties of protoplasm, or, in other words, the nature of life itself.

Reverting to the special subject of Professor Leech's address, it must be admitted that the limitations of opotherapy, or treatment by animal juices and extracts, are already becoming apparent. The unqualified success of the thyroid gland in the treatment of myxœdema has not been followed by any commensurate results from the use of the pituitary in acromegaly, of the suprarenal in Addison's disease, or of

bone marrow in pernicious anæmia. The fact that the administration of these extracts has in some cases been usefully extended to affections not obviously connected with the glands employed, as, for instance, thyroid extract to psoriasis, tends to obscure rather than elucidate the whole subject. Serum therapeutics would seem to touch a wider horizon, for theoretically it should be possible to antagonise the poison of every disease known to be produced by a micro-organism. Nevertheless, this is not always the case, even with the limited number of affections already investigated. Thus, for instance, in tetanus it appears that a lethal dose of the toxin is as a rule present in the system by the time that symptoms appear, so that the proportion of cures wrought by its antitoxin compares very unfavourably with that in diphtheria. Thus we must freely affirm the justice of Professor Leech's criticism upon Behring's somewhat rash generalisations regarding the serotherapeutic millennium. Still even here we must be cautious, for serum diagnosis may greatly widen the scope of serum treatment. The battle of the schools rages as fierce as ever, and only the future can decide between them; but it is well that someone, speaking as Professor Leech does with authority, should temperately and dispassionately set forth the opposing views in order that those for whose sakes the fight is raging may see the goal of the combatants unobscured by the dust of the conflict.

THE ADDRESS IN THE SECTION OF OBSTETRICS AND GYNÆCOLOGY.

Thanks to the labour and merit of Smellie, Hunter, Ramsbotham, and other obstetricians of the past, the "man-midwife" has developed into a man of science, and has attained the intellectual and social level of the physician and surgeon. Unfortunately it was not long after obstetrics had gained the place it deserved that a new abuse appeared. The "accoucheur" was once held as rather less than a doctor; now he often claims to be rather more than a surgeon. Professor Japp Sinclair declaims against the most prominent result of this new idea. The palm of the obstetrician itches for the forceps, and is not relieved till it can grasp the handles of that instrument.

Dr. Sinclair is quite aware of the difficulties that meet the individual practitioner. We all know how the average woman is more anxious than ever when her labour lingers, how patients' friends are more than ever suspicious when there is anything like delay in treatment, and how a prompt and brilliant ending of a labour through the action of the practitioner is certain to bring him credit if mother and child are saved. Every practitioner, on the other hand, is well aware of the dangers of a lingering second stage. The anxiety of a patient and her friends, however, is a dangerous guide to treatment. The fortunate termination of a forceps case is not always due to the use of that instrument, and obstetricians tend to be a little too nervous about a lingering first stage. Dr. Sinclair's special arguments against the abuse of the forceps can only be understood by a careful study of his address, which we declare without flattery to be a most important oration. Every practitioner will read it with profit, but it is yet more important that the teachers at medical schools should bestow their attention upon it. Nowhere will they find better obstetric doctrines to instil into the minds of their pupils.

Let the teacher remember that the great difficulty in the way either of prevention or reform of abuses in the practice of midwifery is the want of systematic practical instruction in our maternity hospitals, the absence of the precept and example of the best available men at the bedside. We are using Dr. Sinclair's very words. In other language, medical students do not see enough labours. They have to "conduct" a few, but we know that such duties may be evaded. An industrious student may accompany an idle youth and do all the work, and, worse still, all the observation for him; or a willing tiro may be unlucky in getting too many difficult cases, which he is very properly obliged to commit to the care of his superior officer. He is not bound by the regulations of examining bodies to attend patiently the practice of an obstetric teacher at a lying-in hospital; in fact, he is not taught practical midwifery so well as he is taught surgery as a dresser or medicine as a clinical clerk.

These evils are chiefly the result of the total abolition of apprenticeship and the influence of the modern medical schools. These institutions need no apologists. They bring the student at once into association with the aristocracy of the profession, who can instruct him in all that can be taught in a hospital. Physicians and surgeons teach the principles of medicine and surgery in the lecture room and the practice of those sciences in the wards. The obstetric lecturers and tutors can also undertake the former duty, which we know they discharge most ably, but it is not within their power to afford their pupils a sound practical training. The students can only study in the wards allotted to the obstetric physician that branch of medicine which is known as gynæcology. True, they can gain great experience in the sequelæ of labour, but that does not teach them how to conduct a labour. The main evil of a medical school has become especially prominent in the special women's wards. That evil is the tendency to glorify major operations in the mind of the student. Instead of trying to learn midwifery—an impossibility under the circumstances—he yearns to be an ovariotomist, to do the brilliant operations which he sees done in the special wards. So when he tries to earn his bread, having, as Dr. Sinclair puts it, learnt surgery which he will never practise, he naturally practises on surgical lines midwifery which he has never learnt. No wonder if he puts too much trust in the forceps. Is not one first principle in surgery "remove the exciting cause?" No wonder, then, if he acts on this principle, forgetting that the processes of labour are different from the processes of pathology, and that up to a certain extent it is Nature and not art which must expel the fœtus.

It is imperative that, for the benefit of the community, either lying-in hospitals be thrown open to students or lying-in wards be established in hospitals attached to medical schools. The latter alternative is probably the easier. Our great special maternities are established on definite principles; their governors dread innovations, and their prejudices are encouraged by certain well-meaning persons. Thanks to asepsis, women in labour would be fairly safe in these days in a general hospital. No doubt, as Dr. Cullingworth has shown, there is yet a great deal too much childbed mortality, but the relative dangers of hospital and outdoor maternity work are becoming reversed. In a hospital the

patient and her child would be well cared for, whilst the student could learn what was necessary for him. Yet a flaw would still remain in obstetric education. As Dr. Sinclair's statistics prove, forceps cases will always be relatively most frequent in hospital wards. Beds are rightly retained for cases of difficulty and danger, and a large proportion of such cases have a history of difficult or operative labour in the past; hence the teacher, the medical officer to the lying-in ward, must not fail to impress this fact on his class. He must remind his pupils that the majority of labours outside a hospital are normal. He must warn them never to be eager to use instruments, for, as Dr. Clarke said a century since, he who uses them unnecessarily, and solely with the intention of saving his own time, has much to answer for, both to society and to his own conscience.

THE RISE AND PROGRESS OF DERMATOLOGY.

It is not a little remarkable that long after physicians had learnt to explore the innermost recesses of the living body, its outer covering was still pathologically almost an unsurveyed territory. It would seem as if the skin, though *oculis subjecta fidelibus*, was somehow less stimulating to the mind of the investigator than the *demissa per aurem* which speak to him of trouble in parts beyond sight and touch. Now the cutaneous surface has been not only surveyed and mapped out, but brought under scientific cultivation; and dermatology has taken its place among the departments of medicine recognised as worthy of special study, and, to use the French official phrase, as "of public utility." Progress was for a long time hindered by the abuse of the scientific imagination, by fanciful classifications, by barbarous and misleading terminologies, by pathological theories which are mostly fitly described in Carlylese language as "phantasms" and "chimæras." But since the study of skin disease got on the right path, since workers have studied not only appearances but processes, not only the course of an affection but its cause, it has made steady headway.

The evolution of dermatology has not indeed been marked by any sensational incidents such as have occurred in some other provinces, such as laryngology, ophthalmology, or gynæcology, but it has been none the less satisfactory. The history of it is lucidly set forth by Mr. Malcolm Morris in the interesting address which he delivered as President of the Section of Dermatology at Montreal, and which is published elsewhere.

Mr. Morris traces the rise and progress of dermatology from its beginnings at the close of last century. As far as its origin is concerned, we may claim it as of English birth, for its "onlie true begetter" was Robert Willan, to whom the Medical Society of London awarded its Fothergillian medal for the work which was the first fruit of his study of skin diseases. Others, indeed, had written on the subject before Willan, and their works made a brave show in catalogues and bibliographies, but scientifically they are naught. Willan, though his classification was partly "conveyed" from Plenck and was faulty besides, is entitled to this solid praise, that he introduced a definite principle of arrangement into a region of pathology which before him was wrapt in chaos and Old Night. Willan's work was continued by his disciple Thomas Bateman, who was in turn followed by a succession of distinguished men who established an English school of dermatology which for a long time dominated the scientific world. The character of the British intellect is reflected in British dermatology. As Mr. Morris says: "British dermatologists from Willan to Hutchinson have been first of all observers. . . . . They have been distrustful of generalisations and cautious—perhaps over-cautious—in deductions. But the facts gathered by them have endured while theories and systems have followed each other into nothingness; and dermatology as it exists to-day is largely the work of their hands."

To the clearness and love of symmetry and accuracy characteristic of the French mind dermatology also owes much, and Mr. Morris fully recognises the services rendered by such men as Cazenave, Rayer, Hardy, and Bazin, not to mention living workers. But the *justesse d'esprit*, on which our French neighbours with reason pride themselves, was to a large extent made ineffective in the study of skin diseases by the fatal fascination of the theory of diathetic influences as purely imaginary as the quiddities of the schoolmen. Dermatology found a Luther in Hebra, who applied pathology to the investigation of cutaneous affections, and who in the words of Mr. Morris, "rationalised dermatology, ridding it of the superstitions as to dyscrasiæ with which it had before been infested, and giving to the treatment of skin disease a directness of purpose and a simplicity of means undreamt of by his predecessors."

In America the study of skin disease was hardly recognised as coming within the pale of orthodox medicine till the century was nearing its middle. At first American dermatology was almost wholly of French origin, then it passed under German influence. Now, thanks to the work of J. C. White, Bulkley, Robinson, and others, America is in the forefront of this, as of other departments of medicine.

The most striking feature in the dermatology of to-day as compared with that of the beginning of the century is, as Mr. Morris points out, the knowledge that has been gained as to the nature and causes of skin diseases. To this the microscope has contributed much; still more has been done by bacteriology. The recognition of the parasitic origin of many affections alone marks an immense step in advance. That this field is still very far from being worked out is shown by the brilliant researches made within the last two or three years on ringworm, favus, and seborrhœa by Sabouraud.

Another line along which advance has taken place is in the re-establishment of a definite relation between certain forms of cutaneous affection and certain disorders of the nervous system. Not only do vasomotor, trophic, and other disturbances of the nervous system give rise to corresponding disturbances of the cutaneous surface, but defective innervation predisposes to diseases of the skin by decreasing its power of resisting hurtful influences of any kind. Mr. Morris suggests as promising fields of research the influence of auto-intoxication in the production of skin affections, and the effects of ptomaines. We hope some Alexander of pathology, sighing for fresh worlds to conquer, will act on the hint.

In respect of treatment Mr. Morris holds that progress has been made in three ways. We have rid ourselves of grave superstitions—notably, as to the danger of "driving in" eruptions. We know better where to direct our attack—hence the wholesale and indiscriminate physicking which used to be thought necessary is happily almost a thing of the

past. Mr. Morris does not think much of the thyroid treatment in skin disease; but, nevertheless, he sees promise in the "New Medicine" of serums and organic extracts, whose day is just beginning. Local treatment is at once more efficient and more elegant than it was even a few years ago, and on the whole Mr. Morris has no hesitation in saying that at the present day dermatologists cure more than their scientific forefathers did.

This is a good hearing. But though Mr. Morris prophesies smooth things of his speciality, he is by no means blind to the fact that while much has been done, far more yet remains to be done. He has not himself been an unprofitable labourer in the field, and with workers of his ability and energy giving their whole time, and strength, and skill to its cultivation, there is hope of a plentiful harvest.

Dr. Lovell Drage asks us to state that since writing the letter printed at page 740 he has heard with regret that Dr. Woodcock has refused nomination, but at the same time he understands that as bo h Dr. Woodcock and he have refused, Mr. Victor Horsley has consented to come forward as a candidate. Dr. Lovell Drage believes that this decision of Mr. Horsley will be more than welcome to those who have the interests of reform in the profession at heart.

A COUNTY LABORATORY FOR GLAMORGANSHIRE.

At a meeting of the Glamorganshire Sanitary Committee at Cardiff, on September 10th, the Subcommittee appointed to consider the question of establishing a department of public health and the salary of the county medical officer submitted a report. Despite the fact that the Cardiff Corporation does not see its way to supply funds for the purpose of contributing to the establishment and maintenance of a department of public health, the Subcommittee recommended the institution of a county laboratory for which funds have already been voted by the Council, the work of which would include chemical and bacteriological analysis of water, sewage effluents, diseased tissues, and sputa or ejecta of patients supposed to be suffering from infectious diseases.

THE SIEGE OF THE MALAKAND: DEVOTION OF A DOCTOR.

The *Times of India*, in an interesting account of the attack on the Malakand, speaking of the fight on July 28th, gives the following description of the devotion of a medical officer: "The casualties in the 31st Punjab Infantry were very heavy, two killed and twenty-one wounded, including Lieutenant Ford and Lieutenant Swinley, the former very severely. In fact, it was entirely due to Surgeon-Lieutenant Hugo's perseverance that Ford's life was saved; with the greatest difficulty the bleeding was stopped, Hugo holding on to the arteries with his fingers for some hours." Surgeon-Captain Edward Victor Hugo, of the Indian Medical Service, who is M.D. of London University, had a distinguished career both at St. Bartholomew's and at Netley, where he won the Montefiore Medal in Military Surgery, the Martin Memorial Gold Medal, and the Maclean Prize in Medicine in 1892.

SCIENTIFIC TEMPERANCE TEACHING IN SCHOOLS.

The progress of legislative enactments for the compulsory teaching of the nature and properties of alcoholic intoxicants has made rapid progress in the Legislatures of the United States. Initiated in Vermont in 1882, within four years thereafter the Federal Government passed this provision for all the schools in national territory over which the Government exercised control. Now 41 States have been conquered, only 4 remaining without such legislation, with every prospect of these latter following the suit of the other 41 Legislatures. In Illinois, where this law was approved on June 9th last, the provision is to the effect that "the nature of alcoholic drinks and other narcotics, and their effects on the human system," must be taught, in the course of physiology and hygiene, "in all schools supported wholly or in part by public money." There must be a minimum number of four lessons a week for ten weeks in the year for the higher grades, and of three lessons a week for the lower grades. There must also be textbooks graded to each class of scholars. If the teachers fail to obey this instruction, a penalty of £1 is incurred. Before the amount of the State's contribution is handed over to the local commissioners, an affidavit has to be made by a responsible official that the law has been duly carried out.

THE CONTROL OF ICE-CREAM VENDORS.

At the recent meeting of the Sanitary Association of Scotland, Mr. John Lindsay read an interesting paper on the control of ice-cream vendors. It seems that some three years ago the authorities at Glasgow, alarmed at a serious outbreak of typhoid traced to the consumption of ice cream, attempted to obtain control over its sale on the ground that it was frozen milk, and therefore came under the dairy regulations. The matter was tested in court, and the sheriff upheld this view of the matter. Unfortunately, however, his decision was reversed by a higher court. The Glasgow authorities, however, took special powers, the effect of which was to bring ice-cream vendors into the category of dairy keepers, with the result that Glasgow, now alone among cities, has the most absolute control over ice-cream shops. This surely is an example to be followed, and we wish success to the resolution passed by the Sanitary Association in Scotland, that businesses dealing with ice cream be placed under the Dairies Orders and the regulations following thereon.

THE LATE SIR JOSEPH THOLOZAN.

The rumour which we quoted from a French source some time ago to the effect that Sir Joseph Tholozan, the physician to the late Shah of Persia, had not died a natural death, but had been poisoned for political reasons, is categorically denied by M. Pesce, civil engineer, a son-in-law of Sir Joseph. That gentleman has written to the *Eclair*, the newspaper which first gave currency to the rumour, as follows: "With regard to the recent death of my father-in-law, Dr. Tholozan, you give an account which I ask leave to rectify. My father-in-law died of the consequences of a disease of the bladder, from which he had suffered for many years, and for which he underwent an operation on the occasion of one of his last visits to Paris. Dr. Guyon was the operator. The thirty-nine years which Dr. Tholozan passed in Persia as chief physician first to His Majesty Nasser-Eddin-Shah, and afterwards to His Majesty Mozaffer-Eddin-Shah, positively negative the hypothesis of a violent death propounded by your esteemed journal. As regards his predecessor, Dr. Cloquet, it is a well-known fact that his poisoning was due to an accidental circumstance, to simple negligence on his part."

"EXPERIMENTS ON LUNATICS."

The *Daily Chronicle* last week published a letter from Dr. Berdoe, headed "Experiments on Lunatics," giving some account of the observations made by Dr. Berkley at the City Asylum, Baltimore, on the use of thyroid extract in certain cases of insanity. We submit the following facts to our readers that they may see for themselves that Dr. Berdoe's statements are not accurate. In the first place, he must know that the use of thyroid extract in these cases is not an "experiment." We quote from the *American Year-Book of Medicine and Surgery* for this year:

> Bruce reports a second series of 60 cases. There were several most gratifying results in the shape of recoveries where patients threatened to pass into confirmed dementia, or had remained stuporous for long periods, as in one case of two years' standing.
>
> Babcock gives a record of the results reached by him in the treatment of 13 cases in the St. Lawrence State Hospital for the Insane of New York. Two recovered, a case each of melancholia and mania; 7 improved, of

whom 2 will probably recover, 5 cases of melancholia and 2 of mania; 4 underwent no change.

Hedlicka, at the Middletown State Hospital of New York, used thyroid in twelve cases (different forms of insanity). Regarding the mental symptoms, there was noted, under moderate dosage, pronounced general psychical improvement, the mind became clearer, more active, and the manner livelier. Sleep was improved.

But there is not a word in Dr. Berdoe's letter to show that thyroid extract has any place in the treatment of insanity. He writes as though it had been used without relation to the nature of the cases, as a poison might be tested on an animal. Next, he quotes Dr. Berkley's words that one of the patients died before the excitement produced by the drug had subsided; but he does not mention the fact that the patient died of acute miliary tuberculosis seven weeks after the drug had been left off. Nor does he say a word about the first of Dr. Berkley's cases: "On the fourteenth day the first signs of improvement were noticed. Patient became brighter, ate food without compulsion, and volunteered to do work about the ward, and conversed rationally. The thyroid extract was discontinued on the twenty-second day, and patient was discharged one week later, six months after her admission, and did not relapse." We have quoted from the *American Year-Book* only those reports that are most favourable to the use of thyroid extract in cases of insanity. We admit that its action is not wholly free from risk, and we must regret that Dr. Berkley made use of one or two phrases in his paper which gave some sort of excuse for Dr. Berdoe. But no member of the profession can read the paper and then Dr. Berdoe's letter without seeing that he has given a very unfair version of the facts.

MIXED BOARDS.

We learn that at Bellary, Madras, the recent warrant on mixed Boards is deliberately set aside by the colonel on the staff commanding by ordering the senior medical officer to "attend" at a sanitary Board. We said from the first the warrant would be flouted so long as the Army Order directing medical officers to attend Boards as witnesses remained uncancelled. If it continues in existence up to the meeting of Parliament, the Secretary of State for War will be promptly interrogated on the subject.

THE TRADES UNION CONGRESS AND SANITARY LEGISLATION.

The deliberations of the Trades Union Congress have not usually very much bearing upon sanitary laws, but this year at Birmingham there has been a new departure. It came in the form of a debate on the employment of childbearing women in factories, and was certainly useful as indicating the views of labour leaders upon subjects relating to public health. It is not much more than a generation ago since the doctor was as much disliked by the average workman as was the clergyman. But prejudices against the medical profession are gradually dying away, and in the brief debate of Thursday on the subject referred to they did not show themselves in any way. A resolution was moved by Mr. Frederick Rogers, of the Vellum Binders' Trade Society, to amend Clause 13 of the Factory Act and to make it read, "No employer shall employ any woman eight weeks before or six months after she has given birth to a child." The facts and figures used by Mr. Rogers are familiar to readers of the British Medical Journal. He had gone to the best authorities, and was evidently familiar with what Dr. Reid, Dr. Hope, and Dr. Hugh Jones had said on this subject. But his audience was not, and what he said was listened to with the deepest attention. "The woman," said Mr. Rogers, "with the pains of motherhood before her, or the duties of motherhood upon her, was in the wrong place when she was in the toil and bustle of the factory," words which were received with loud applause. Passing in review the statistics of Dr. Farr and the statements of Dr. Reid and Dr. Hugh Jones, and quoting the infantile death-rate of the counties of Dorset and Lancashire, the first of which he put at 83 per 1,000, the second at 179 per 1,000, a statement which evidently made a profound impression on the audience, he said, "These facts have but one significance. They are Nature's testimony to the selfishness of modern life. They are not the results of a "system," they are not half so often as is supposed the result of necessity; they are the outcome of a general laxity of public opinion which is shared by workmen and employers alike. But they bring weakness to our class, for children born of a mother whose body is weakened by excessive work are handicapped in the race of life at the very starting point, and it is from them that the feeble men and women of our class come. The ideas were new to the mind of the labour debater, though they are of course commonplace to every medical man. But he readily saw their force, and took them up quickly, though rather from their sentimental than their scientific side. The prosperous workers of the textile trades owe much of their prosperity to the fact that the wife works in the cotton mill as well as the husband. The home life suffers, but the family exchequer grows. The delegates of these trades, however, heartily supported the resolution, and, as Lancashire has a great infantile death-rate, this may mean that workmen there are really going to consider hygiene as well as wages. The revolutionary element in the Congress, chiefly represented by the gas workers and general labourers, also readily supported it. The result of such a debate must be useful. Much of the sanitary legislation that is for the benefit of the working classes fails because they have never studied hygiene even in its most elementary form. If the Congress at Birmingham leads them to do so, it will have done good work.

THE CHOLERA.

A telegram from St. Petersburg, dated September 9th, states that according to official reports which have reached the Russian Medical Department, cases of Asiatic cholera which soon assumed an epidemic character have recently occurred at Bombay where during the week ending August 25th, it caused the death of 220 persons. It is also announced that on August 28th 3 cholera cases, 1 ending fatally four hours after seizure, were discovered at Suez on the *Britannia*, a vessel which had come from Bombay.

THE ANNUAL MEETING: AMERICAN OPINION.

From the references to the annual meeting which have appeared in several of the American medical journals it is evident that our brethren from the United States who were invited to take part in the proceedings at Montreal were well satisfied with their reception and with the way in which things were managed at Montreal. The New York *Medical Record*, in its issue of September 4th, has a leading article on the meeting, from which we extract the following passages: "The sixty-fifth annual meeting of the British Medical Association at Montreal during the present week, a special report of the first part of which will be found in another column, was an event in the medical history of Canada which will be long and pleasantly remembered by our neighbours across the border. The fact that it was the first time in the history of the Association that the annual meeting was held outside the British Isles gave rise to some forebodings as to its success. While the number of members registered was, as might naturally be expected, smaller than is usual, those who proposed bringing the Association to this side of the Atlantic have reason to be highly gratified. . . . Everything possible was done to make the meeting memorable. All the most interesting features of the city, with its crowning glory, Mount Royal, were made attractive to the visitors. The thoroughness and care which marked all the arrangements for the convenience and comfort of the members were a pleasing and notable feature of the gathering. The extensive list of entertainments left nothing to be desired from a social point of view. In the President-elect, Sir Thomas Grainger Stewart, of Edinburgh, the Association will have a presiding officer whose fame is world wide. Edinburgh was selected as the

next place of meeting, and the scientific position of the city, to say nothing of its proverbial Scottish hospitality, indicates the wisdom of the selection. Although the constitution of the Association prevents any but British subjects from enjoying the privileges of membership, the American profession was well represented among the guests, and those who were thus honoured expressed themselves as well pleased with the reception they received." We feel assured that Professor Roddick, Professor Adami, and their energetic coadjutors will be gratified by this testimony to the success of their efforts.

THE REPORTED OUTBREAK OF YELLOW FEVER IN THE UNITED STATES.

THE spread of yellow fever throughout the Southern States is said to be causing widespread alarm. The Army Medical Staff Surgeon who was sent down to Ocean Springs on special duty, telegraphed on September 10th that he estimated there were then 38 cases of undoubted yellow fever in the town. The town has been completely surrounded by an effective sanitary cordon. which will be maintained until the disease is quite stamped out. Two cases were on September 10th reported to have occurred at Scranton in Mississippi, and new cases are reported in New Orleans. The railroads are refusing tickets to points in the State of Texas, and travellers are seriously blocked in three States.

THE PROVING OF THE YELLOW FEVER BACILLUS IN THE HUMAN SUBJECT.

IT is stated by some American journal that a physician of Uruguay, Dr. Antonio Quesada, has offered himself as a subject for experimental inoculation with Sanarelli's bacillus icteroides in order to test its power of causing yellow fever. All attempts (says the *Medical Record*) to turn Dr. Quesada from his purpose by pointing out its dangers have been unavailing, so that with every precaution the experiment will be conducted in the presence of a few selected physicians, who will carefully note the progress of the case. Dr. Quesada is a robust man, 42 years of age, who was formerly a surgeon in the Spanish army, serving in the Philippines and in Cuba. He made a deep study of the yellow fever while in Cuba, and asserts that he has never had the disease. He professes absolute confidence that the experiment will prove the value of Sanarelli's researches.

INFECTED MILK RECEPTACLES.

A PAPER read by Professor Shuttleworth, at the Convention of the Executive Health Officers of Ontario, at Toronto, last month, on the Relation between Scarlet Fever and Milk, makes reference to a growing danger in Toronto in the shape milk bottles delivered at houses and used in sick rooms. Dr. Shuttleworth says that the bottles are wide mouthed, and contain a quart of milk, and are often used in infected chambers until empty, and frequently are only very imperfectly cleansed, or even left in a dirty condition, with part of their contents as a convenient breeding ground for germs of disease conveyed atmospherically, or by the patient or his attendant. Unsatisfactory, too, we are told, are the methods of dealing with these bottles on the part of dairymen, who refill them again and again on their return by customers, the treatment at times being such as not even to remove traces of former use. We are quite in agreement with Dr. Shuttleworth as to the danger to be feared from the use of such bottles in the way and after the treatment described; but we do not gather that any actual occurrence of disease has been traced to the agency of these receptacles. True, the writer of the paper deems it within the limits of possibility that an epidemic of scarlet fever in Toronto last spring, which was apparently associated with a particular milk service, may have been due to the use of these bottles; but he himself tells us that a visit was paid to the cowsheds by himself and the city health officer, only many days after suspicion attached to the milk; that even then one of the milch cows was in an emaciated condition, and apparently sick, while many had "warty" teats. These facts, even though backed by the health certificates of a "competent veterinary inspector," by no means convince us that the cattle were not the source of infection of the milk. Granted that the bottles were imperfectly cleansed, and that no known source of infection could at the time of visitation of farm premises be definitely traced, we yet find no proof of the bottle theory of spread of disease to be forthcoming. But the danger is one to be guarded against.

INAUGURATION OF A MONUMENT TO MALPIGHI.

ON September 8th the inauguration of a monument to Francesco Malpighi took place at Crevalcore, a small town near Bologna, where the great anatomist was born in the year 1628. The unveiling was performed in the presence of the Under-Secretary of State for Public Instruction (representing the Italian Government), the provincial authorities, the representatives of the Italian Universities, deputies, and others. The monument is a bronze statue by the sculptor Enrico Barberi, and is considered to be a splendid work of art. Addresses were delivered by the Mayor, the Under-Secretary of State, and Senator Todaro, Professor of Human Anatomy in the University of Rome, who gave an interesting account of the life and scientific work of Malpighi. After the unveiling a banquet was held, and in the afternoon the Commemoration Oration to Malpighi was delivered in the Communal theatre by Dr. Romiti, Professor of Anatomy at the University of Pisa, in the course of which he mentioned that the announcement of the monument to Malpighi was received with great applause at the International Medical Congress of Moscow; and he read the following letter addressed to him by Virchow in honour of Malpighi:

Muscoviæ Russ XVI m. Augusti 1897.

Sindico et civibus Crevalcorensibus salutem et congratulationes quam maximas dico. Ante paucos dies in consessu medicorum universi orbis laudes enunciavi Marcelli Malpighii cujus vestigia sequimur quasi ducis certissimi et observatoris felicissimi. Medicina hodierna constuitur in solo culto et præparato hujus viri industria et sagacitate: omnes medici præsentes consentierunt. Mihi tempus deest hoc tempore in Italiam recta hora venire; anima mea festivitati vestræ non deerit.

RUDOLPHUS VIRCHOW.

In the evening the town was illuminated, there was a second banquet, and a gala spectacle at the theatre, and thus ended an important day for Crevalcore and medical science in Italy. Great praise is due to Dr. Pizzoli, the indefatigable Secretary of the Committee for the erection of the monument, who has also edited a work entitled *Marcello Malpighi e l'Opera Sua*, to which papers have been contributed not only by many of the leading Italian scientists, but also by several of the most distinguished scientists in Europe, including Virchow, Haeckel, and Michael Foster.

ARE ATHLETES HEALTHY?

A QUESTION which has lately been much discussed in the daily papers, namely, Are athletes healthy? is one of considerable importance. Not that athletes are themselves particularly interesting people. Training of muscle, displays of bodily strength, and violent competitions for prizes and applause certainly do not tend to the development of the highest type of man, any more than do the moral surroundings of the average athlete. But the glory and notoriety which attend success in athletic sports have tickled the vanity of our youth, who see therein a short cut to fame. Fashion also drifts in the same direction; a cult has arisen, and thus it happens that both schools and colleges are now often chosen for the athletic rather than for the academic possibilities which they offer. Sports have, in fact taken so large a place in the thoughts and ambitions of the rising generation that it becomes an anxious matter to determine whether the life of the athlete is conducive to health. We do not here refer to people who merely "go in" for exercise and games, but to men who "train." We have very little hesitation in answering this question in the negative. We quite admit that

many athletes are extraordinarily healthy fellows, but that does not touch the question. None but strong and healthy men are likely to enter on, or at any rate to persevere in, athletic pursuits, and the question really is not, Do some of them remain healthy? but, Do they remain as healthy when they devote themselves to the one object of developing muscle as they, the same people, would if they led an ordinary outdoor life, eating ordinary food, and taking a reasonable amount of exercise, without any attempt at interfering with their weight or increasing their muscles? The key to the answer lies in the fact that health depends on the integrity of the digestive and assimilative organs, and that perfection of muscle is quite a secondary consideration. Many perfectly healthy men are certainly anything but muscular, while many labourers who do an amount of muscular work which, measured in foot-pounds per day, would astonish some of our cricketers, are far from healthy, and indeed the same is true of many athletes themselves. In the discussions which have taken place the athlete is defined, and has been defined, as the "trained" man. But this training aims merely at developing the muscular strength, often at the expense of serious strain of the more important organs. The natural athlete, the one whose muscular power reaches its maximum with the minimum of training, may suffer but little from the process, but in proportion as a man has to train hard, to restrict his natural appetite, and to undergo severe toil before he can get his muscles into order, so does the probability of injury increase. It is not, however, in what one may call the dietetic training, but in the violent and prolonged muscular efforts which modern athleticism demands of its votaries—we had almost said of its victims—that danger to health arises. The wear and tear of the muscular system is considerable, that everyone acknowledges and expects; but the wear and tear of the nervous system is far greater than is at all generally recognised, while the strain of the vascular system is very great indeed, not perhaps entailing immediate danger to the young, but placing those in serious peril who carry on their athletic feats too long in life, or who, in consequence, perhaps, of some intercurrent illness, age too soon. Notwithstanding, then, the array of vigorous and hearty middle-aged, and even elderly, men who have survived the ordeal, we cannot shut our eyes to the fact that the record-breaking which is now the aim of every self-respecting athlete, is productive of such an amount of strain, especially to the vascular system, as when often repeated must do harm. The athlete is often healthy, but this is in spite of rather than by virtue of his athleticism.

THE SANITARY INSTITUTE.

In the very interesting, and, if we may be allowed to say so, the very humorous address with which he opened the proceedings of the Congress of the Sanitary Institute at Leeds, Dr. Robert Farquharson took his hearers over the whole range of sanitary science, and showed them how wide is the range and how exceedingly varied are the interests of a branch of knowledge which but a few years ago was the object of scorn and ridicule. The progress which has been made not only in sanitary knowledge but in the interest taken by the public in sanitary affairs is indeed remarkable. Many influences, however, tended to retard advance in early days, "Poets and novelists have cast a halo of chivalry and romance around conditions of dirt and discomfort which must have made the lives even of knights and barons barely worth living two centuries ago. Old prejudices die hard, and old-fashioned people do not like being disturbed in their belief in the old order of things," and the "dear old midden, whose unsavoury fumes unlock a storehouse of cherished associations, cannot be cleared away without a struggle." Things, however, now are different. "Ventilators are no longer stuffed up; the working classes, no less than than their employers, are beginning to be connoisseurs in the quality of their atmospheric conditions, enjoy a good wash as much as a university graduate, and are fully prepared to appreciate the advantages of hygienic house accommodation at other people's expense." We have reached the stage of universal approval, and "the sanitary reformer is as much petted and caressed as he was formerly scouted and despised." Dr. Farquharson entered a vigorous protest against the tendency of modern conditions of labour to reduce man to the position of a mere machine. He protested, first, against the monotony of modern labour; and, secondly, against the doctrine—for which he thought the Bible was primarily responsible, which was further elaborated by Ruskin, and which was now, he understood, accepted by certain sections of "labourists," to use a clumsy but convenient term—that the workman must be paid the same wage whether he works ill or well, whether he be clever or stupid, industrious or lazy. This dogma he thought was hopelessly at variance with common-sense laws of health, tending as it did to make a man a mere machine. On the question of the housing of the working classes he strongly urged the necessity of rendering it possible, by means of quick and cheap railway travelling, for city workmen to live in the surrounding country; and finally he urged the appointment of a Minister of Health, who should be at the head of a department of the State, admission to the office of which would, he thought, be an object of honourable ambition to the best scientific talent of the day.

VACCINATION CERTIFICATES.

Mr. Timothy Scannell, an apothecary practising in Cork, has been sent for trial by the magistrate on a charge of having issued false certificates of vaccination in two cases. The evidence went to show that the vaccination was performed by the defendant's assistant compounder, but he saw both the cases and signed the certificates declaring that the results were satisfactory. It was contended that the practice here followed was in accordance with usage, that it was not necessary that the defendant should himself perform the operation; and that supervision justified the signing of the certificates. The defendant was allowed to stand out on his own recognisances.

THE INTERNATIONAL ANTI-ALCOHOL CONGRESS.

The International Congress against the Abuse of Alcoholic Drinks was held at Brussels from August 30th to September 2nd, under the presidency of the Minister of State, M. Lejeune. A number of members of the medical profession, and of clergymen, teachers, and representatives of Belgian and foreign temperance societies, took part in the proceedings. Dr. Motet, of the Paris Academy of Medicine, in an address on Alcohol, the Family, and the Working Classes, pointed out that the loss to the exchequer which it was said would result from the general prevalence of temperance principles was largely imaginary, inasmuch as the bulk of the revenue derived from the sale of intoxicating liquors had to be expended by the State in the discharge of burdens imposed upon it by the consequences of alcoholism. Dr. Destrée dwelt on the unfavourable influence of alcohol on work, whether of body or mind. Dr. De Boeck related experiments on students, which went to show that alcohol, even in small doses, tends to paralyse the higher cerebral centres. M. Roubinovitch gave an account of a systematic effort to check intemperance by teaching in schools; the experience of a three years' propaganda of this kind had convinced him of its efficacy. Mr. J. Whyte, of Manchester, gave statistics from the Rechabite Societies showing the greater longevity of total abstainers, which have already been quoted in the British Medical Journal (September 4th, p. 614). In dealing with the causes of alcoholism, M. Van den Corput said it was the direct outcome of the storm and stress of life under the conditions created by modern progress. Neuropathy was a sign of the times, and the remedy for this was intelligent feeding, with the use of beverages such as "sound and generous beer," milk, tea, coffee, etc. Drs. Romiée and

Bienfait urged that it was the duty of the medical profession to co-operate strenuously in the struggle against the abuse of alcohol. "Doctors," said one of the speakers, "should not only preach but practise abstinence," at least as far as brandy, gin, rum, etc., were concerned. Dr. Forel, of Zurich, insisted on total abstinence as the only cure, and spoke well of hypnotic suggestion as an auxiliary means of treatment in alcoholism. Dr. Legrain proposed an international organisation for the propagation of temperance principles. The discussion of this question was referred to the next meeting of the Congress, which it was decided should be held in Paris in 1899.

AN INTERVIEW WITH PROFESSOR SANARELLI.

THE interview has not as yet become a part of medical journalism, and it is therefore with something of a shock that one comes upon an article with the title which stands at the head of this paragraph on the front page of the *Gazzetta degli Ospedali* of September 12th. Dr. G. Molcioni gives an account of an interview which he had with Professor Sanarelli at Monte Video in August. Dr. Sanarelli told him that, of the large audience of medical men who came from all parts of Argentina and Brazil to hear him report the results of his researches on yellow fever, the great majority were utterly sceptical as to the truth or value of the discovery. What they saw in the laboratory of the Institute of Hygiene, however, convinced them that the problem had at last been solved. For his own part, Professor Sanarelli was jubilant, not only as a man of science but as a patriot, for after this he thought the Italian would be looked upon in South America as something better than a mere *bestia da emigrazione*. Professor Lacerda, of the National Museum of Rio Janeiro, has quite recently succeeded in producing the lesions typical of yellow fever in various animals, and particularly in goats, by inoculations of virus supplied to him by Dr. Sanarelli. Dr. Wernicke, Professor of General Pathology in the Medical Faculty of Buenos Aires, has reported similar results in a communication lately made by him to the Circolo Argentino Medico, of which he is President. The only European investigator to whom the virus has so far been sent is Professor Perroncito, of Turin, whose report on the subject Dr. Sanarelli expects to receive shortly. Asked as to the serum-therapy of yellow fever, Dr. Sanarelli replied that he has various animals now in course of vaccination; he has, however, been driven to the conclusion that the process is long and difficult. It will be some months before he is able to test the serum on human patients. Dr. Molcioni gives an interesting account of Professor Sanarelli's laboratory. The Institute of Hygiene was opened on March 16th, 1896, and combines in itself "all the elements of a great modern laboratory," and is amply furnished with instruments and material for research. The sum allocated for its maintenance by the Government is £2,080 a year.

SEWER VENTILATORS AND TYPHOID FEVER.

AT a recent meeting of the York City Council, "in view of the continuing occurrence of deaths from typhoid fever attributable to the foul gases emanating from the surface ventilators of the city sewers," a resolution was proposed to the effect that upcast ventilators should replace the street surface ventilators with greater expedition than had hitherto been considered necessary. The resolution assumed that the sewer ventilators at the street level were the cause of the recent cases of typhoid fever. It would be interesting to know what may be the opinion of the city medical officer of health on this point, after a careful investigation of the facts connected with each case of typhoid fever. In the meantime we are not prepared uncritically to endorse in its entirety the assumption that the sewer grids are the *causa causans* of any recent cases of this disease that may have occurred in the city. In the discussion at the meeting of the city council Dr. Petch appears to have contended that no case of typhoid fever ever arose from people inhaling sewer air in the open air. Perhaps this statement, as given in the newspaper report, is not sufficiently guarded, but there is reason to believe that the fears under this head are apt to be grossly exaggerated. Mr. Parry Lawes and Dr. Andrewes, in their series of bacteriological investigations on behalf of the London County Council, found that sewer air had fewer micro-organisms in it than the outside air, and they never detected either the Klebs-Loeffler or the Eberth bacillus in the air of metropolitan sewers. But there are sewers and sewers; furthermore, it is not safe to base arguments and still less practical action on negative results obtained by laboratory experiments in connection with a science which is still in its infancy. Sewers occasionally give out emanations of a most offensive character; and there is little doubt that such emanations must lower the general standard of health, even though they may not often be the medium for conveying the contagia of specific febrile diseases. When we come to speak of remedies, the problem still presents difficulties. Given offensive emanations from sewers, it is questionable whether the mere substitution of upshafts for grids at the road level forms a sufficient remedy. The upper end of the shafts may be near bedroom windows, and may then cause much more mischief than grids at the street level. Some cities have boldly adopted a system of unventilated sewers. Bristol is conspicuous among these, and, if one is to judge by results, its death-rate from diarrhœa, from typhoid fever, and from diphtheria, which is very much below the average for the thirty-three great towns, amply justifies the experiment. It does not follow, however, that the adoption of the same system by another city like York would be equally successful. One must first ascertain that other conditions are equal. If sewers are old and defective, if they are improperly laid and with defective gradients, if they are leaky and allow the deposit and accumulation of offensive material, it is not likely that "bottling up" the sewers will enhance the salubrity of the town in which this experiment is attempted. We are not acquainted with the condition of the main sewerage of the city of York, and cannot therefore express an opinion on this point. We venture, however, to state our opinion that if the sewers of a town are of the best construction as to gradient, size, smoothness, and water-tightness, it is of minor importance whether these sewers are ventilated by means of street grids or by upshafts, though we confess to favouring the system of freely ventilating sewers rather than to the Bristol plan.

PROFESSOR VIRCHOW AND THE LADY DOCTORS.

AFTER the scientific proceedings of the International Medical Congress at Moscow had been brought to a close, a deputation of Russian lady doctors waited on Professor Rudolf Virchow, who received them in the apartments assigned to him by the Czar in the Kremlin. The spokeswoman of the deputation thanked the great pathologist in the name of her professional sisters for his championship of the cause of the medical education of women. Professor Virchow, in returning thanks, spoke highly of the ability shown by Russian female students of medicine, and expressed the opinion that the Medical Institute for Women, recently opened in St. Petersburg, had a future of usefulness before it. He invited the Russian lady doctors to make free use of his Anatomico-Pathological Institute if they ever had occasion to visit Berlin.

A CASE OF DOUBLE PENIS.—A double penis is one of the rarest of deformities. In the *Riforma Medica* of September 3rd Dr. Emilio Cioffi, of Sala Cousilina, records a case. A child born at Sala on August 9th of the present year is the subject of this deformity as well as atresia of the anus. Each penis is well formed, with urethra, corpora cavernosa, glans, and prepuce; connected with one of them is a testicle, with the other a simple scrotal fold. From both urethral orifices fæces and urine are discharged. The family has so far refused to allow any kind of operative interference.

JUBILEE MEMORIAL NURSES' HOME IN MONTREAL.

On September 2nd many members of the Association attended the laying of the foundation stone of the Nurses Home, erected as a jubilee memorial in connection with the Montreal General Hospital. The ceremony was performed by Lord Lister after the close of the Thursday afternoon session, in the presence of a large and distinguished company, which included his Excellency the Governor-General, Lord Aberdeen, Lord Strathcona and Mount Royal, High Commissioner for Canada in England and Chancellor of McGill University, Dr. Roddick, President of the Association; the Bishop of Niagara, the Mayor of the city, and a great number of ladies. Mr. Wolferstan Thomas, President of the hospital, occupied the chair. Seats were provided for the visitors on a large platform erected on the site of the Home, the first story of which has already been built. In front of this platform was a stage occupied by the medical and nursing staffs of the institution.

After prayer by the Rev. Dr. Barclay, the President of the hospital read a sketch of the progress of the institution since its foundation in 1822. He drew attention to the close relations which existed from the beginning between the hospital and McGill University. To the merging in 1828 of the school of medicine established in connection with the hospital with the medical faculty of McGill, the university was indebted to the bequest of £10,000 and 46 acres of land by the Hon. James McGill, which would have been forfeited but for the action of the hospital's medical school. He hoped this notable fact in the early history of the two institutions would have its influence in preserving unimpaired the cordiality which had prevailed between them for the last 70 years. After referring to the discovery and use of antiseptic surgery in its beneficent bearing upon suffering humanity and all animal life, he went on to say that no avocation was more elevating or fraught with so much good as that of the physician, if embraced not for its wealth-earning possibilities but for its opportunities of usefulness. He enlarged on the invaluable aid given to the medical man by the trained nurse, and spoke of the work done by Florence Nightingale in this regard. In the Montreal General Hospital as well as in the Victoria Hospital there were admirable trained nursing schools in active operation. The purpose of the Home to be inaugurated that day was to add to the efficiency of the nursing staff and extend its usefulness. The possession of a new residential house had become an imperative and a recognised necessity; but it was also intended, by means of this institution, to give the poor in their own homes the blessings which the rich enjoyed in the services of a thoroughly-trained hospital nurse. Plans were prepared, contracts given, and a liability of $30,000 incurred with no provision for its payment; but $17,500 had already been contributed, and the Committee of Management entertained no fear of the balance ($12,500) being forthcoming in good time.

Lord Aberdeen said it was a very apt and auspicious circumstance that the inauguration of that important and beneficent addition to the already large and valuable work of the hospital should take place in the midst of the gathering of what represented in so eminent a manner the great and glorious profession and science of medicine and surgery. Referring to Lord Lister, he said it was gratifying that one whose name was so gloriously associated with all involved in the science of medicine and its beneficent effects should be present to perform the ceremony of laying the foundation stone. After rebutting an aspersion cast upon some Canadian nurses at Buffalo by a newspaper paragraph, his Excellency spoke of the disinterested and noble character of the nurses' work, and drew attention to the fact that while that home was intended, primarily to afford proper provision, not only for the body, but for the mind of the nurses ministering in the hospital, it would also provide nurses who would be available for ministering to the poor of the city. Those who were concerned in promoting any branch of hospital work or nursing ought to be the first to recognise and offer congratulations regarding establishments on the same lines but in other directions. He referred to another scheme that had been spoken of, and which, no doubt, after careful consideration and deliberation, would take definite shape to the great benefit of the country, namely, the Victorian Order of Nurses, in which Lady Aberdeen was so much interested. Those interested in that project would naturally be the first to offer the right hand of fellowship and co-operation to those who had, perhaps for long years, been engaged earnestly and successfully in similar work.

Lord Lister then laid the stone with a silver trowel of purely Canadian manufacture. He said he had been greatly interested in the remarks of the President concerning the intimate relations that had existed between the General Hospital and the Medical School. Some people imagined that a hospital should be simply for the curing of disease, and that the teaching element was of small importance. There could not be a greater mistake, not only because the teaching of the practice of medicine was of vital importance to the community, but because in direct proportion to the eminence and efficiency of a medical school associated with a hospital was the efficiency of the hospital. Where a hospital existed unconnected with a medical school the tendency too often was that the medical officers, unstimulated by public criticism, were apt to lapse into a condition of carelessness and indifference, in spite of their consciousness of the importance of their noble calling. But where a great medical school was associated with a hospital there was perpetually upon those working in it the eye of public criticism and the stimulus of emulation. Under those circumstances it was certain that everything would be done to the best advantage by the medical officers. He had the pleasure on the previous day of going through the hospital. Some parts of the old portions, no doubt, had lower ceilings than would be thought suitable at the present day; but, as regarded the condition of the atmosphere, what was wanted was not so much a very lofty ceiling as ample space between the beds. There might be an atmosphere extending to the sky, but if the beds were put close together there would be insalubrity. In those wards of the hospital which had the lowest ceilings, the arrangements of the beds was such that there had been ensured ample provision of cubic space for the patients. He had been told that excellent as the hospital was and had shown itself to be in the treatment of disease, there was not satisfactory accommodation for the nursing staff. Undoubtedly it was of the utmost importance that there should be such accommodation as the home would provide. Things now were exceedingly different from the state of things when he was a student, when the trained nurse of the present day did not exist. He was bound to say that, so far as head nurses of wards were concerned, he was always faithfully and ably served by women who devoted themselves with the utmost zeal and energy to their noble calling. But the rank and file of the nurses in those days were very unsatisfactory, and an immense improvement had taken place in that respect, thanks to the noble example of Florence Nightingale and the efforts of many others. So far as he could judge, the nurses of the Montreal General Hospital were a healthy, able, amiable, and loyal staff, and he was sure in their new home they would have accommodation commensurate with their value. Addressing himself more particularly to the nurses, he spoke of the extreme gratification that he experienced last year, when being shown over one of the largest hospitals in Liverpool, by the nurses presenting him with an address, stating what his humble endeavours had done in the way of alleviating the work of nurses. He was pleased to think he had been in any way instrumental in this direction. He had been informed that the nursing staff did not confine their operations to the hospital, but that there was a liberal arrangement made by the hospital authorities by which the nurses might be sent out in the town generally; and where the circumstances of the family were such that they could not pay the nurse properly, the funds were contributed by the hospital to aid in the payment of the nurses. That seemed to him a most noble idea, and he could not but think that, if it could be extended, not only to all parts of the city, but to the remoter outlying parts of the country, it would be a most valuable thing for Canada. Her Excellency Lady Aberdeen had this matter much at heart: and he was sure that if her idea of the Victorian Order of Nurses could be carried out, with due regard to the efficient training of the nurses, and also to

the efficiency of their supervision, the matter would commend itself to all medical men.

Lord STRATHCONA AND MOUNT ROYAL, after congratulating the Hospital Committees on the improvements they had effected in the institution, said he knew that they had not only a most capable medical staff, but also a most efficient body of nurses. No one who had himself suffered from sickness, or had seen those loved by him suffer, would not say that a blessing should rest upon those who, in such an institution as this or otherwise, were fitted to bring the beneficent effects of their training upon the sick and suffering, not only in Canada, but throughout the whole British Empire. For there were no bounds to the profession of medicine; it was without limit in space; it was without limit in time. It commenced with our first father and mother; they began medicine, for no doubt they were helpful each to each to the best of their ability. It was not the life of an individual; it was the life of a profession, of a body that never died. It went on progressing and increasing in usefulness. It had been from the beginning of mankind, and it would be to the end of the world. For we believe that in the order of Providence we should have sickness and trouble, and what help it was to us that we should have those who intelligently could minister to the ills that might fall upon us, who would sympathise with and bring to us the sweetness of their presence in the sick room. Was it not incumbent upon us that we should do all we possibly could to increase the usefulness of those nursing bodies, and that we should at the same time have a care for their convenience and for their comforts? He was exceedingly pleased to have with them Lord Lister, with regard to whom the highest opinion was held all over the empire, not only for his medical work, but for his personal character. It was most fitting that by the honour conferred upon him, Her Majesty should have shown that there was no profession more honourable and elevated than the medical profession—the greatest of all the professions—and that there was no honour to which medical men could not aspire. He expressed sympathy with Lady Aberdeen's Victorian Order of Nurses, and emphasised what Lord Lister had said as to the necessity of efficient training and supervision. There should be no second rate or inferior order, but they should give to the poorest as well as the richest the benefit of everything that could be given in the way of medical science and medical assistance.

Dr. RODDICK expressed regret that owing to the pressure of the duties which had recently devolved upon him as President of the British Medical Association, he had not been able to prepare a speech for the occasion. Nothing could be more appropriate than the laying of this foundation stone by Lord Lister. He thought the citizens of Montreal and the governors of the Montreal General Hospital might possibly thank the profession in this city for having, indirectly at any rate, been instrumental in bringing him here. Lord Lister came to this country primarily to preside at the meeting of the British Association in Toronto, and they were informed that he could not be persuaded to spend any time with them in Montreal during the meeting of the Association, but through the meeting of the British Medical Association they had succeeded in trapping him, and managed, after some little time, to induce him to spend two or three days here during their meeting. Dr. Roddick went on to speak of his own connection with the Montreal General Hospital as house-surgeon from 1868 to 1874. He remembered very well the conditions of nursing in those old days. They had had some characters connected with the nursing staff whose acquaintance he was sure Dickens would have been delighted to make, for they possessed some most decided characteristics of the Sairey Gamp type. He remembered very well how the late Dr. Ross and himself used to occasionally have their attention directed to these characteristics. He had seen nurses starting into a ward with the medicines to be administered internally in the right hand and those to be rubbed in externally in the other, and if an accident had occurred on the way, and the bottles had got mixed, he had no doubt that some very extraordinary cases of sudden death would have taken place. These were actual facts, and he noted with particular pleasure the magnificent strides taken in the education of nurses in the General Hospital, which he looked upon as an old home of his own. There was another thing in which it was most appropriate that Lord Lister should have officiated at this auspicious function in connection with the General Hospital, and that was that in that institution had been first introduced his antiseptic methods in this country. In the Montreal General Hospital that treatment was first introduced in Canada; in fact, he did not think that that method was begun anywhere on this continent very much earlier than it was adopted in that hospital after his return from spending six or eight months with Lord Lister in Edinburgh in 1867. Dr. Roddick concluded by expressing his approval of the Victorian Order of Nurses as suggested by Lady Aberdeen. He thought such a system would not interfere in any way with a training school of the kind in contemplation in the present work, but would greatly help it.

After a few words of congratulation from the MAYOR, "God save the Queen" was sung by the resident medical staff and nurses. Cheers were then given for Her Majesty, the Governor-General, Lord Lister, and Lord Strathcona and Mount Royal.

The BISHOP OF NIAGARA brought the proceedings to a close by pronouncing the Benediction.

IODOFORM SUBSTITUTES.

IODOFORM contains about 29 parts of pure iodine in 30. Its antiseptic and deodorising effect is therefore due to this element; the carbon and hydrogen with which it is associated render the iodine non-irritant, either when taken by the mouth or applied topically. A great disadvantage attending the use of iodoform is its disagreeable odour. It is impossible to mask entirely this odour, although it may be covered to a great extent by mixing with it various aromatic substances, such as balsam of Peru, Tonquin bean, coumarin, menthol, thymol, oil of sassafras, otto of rose, oil of peppermint, oil of anise, oil of eucalyptus, carbolic acid, etc. A number of odourless iodoform substitutes have been introduced, some containing iodine, and hence supposed to act like iodoform; and others with no iodine in their composition, but which have a similar action to iodoform. Many of these substitutes are proprietary articles of German origin. The result of inquiries made at hospitals, of pharmacists and wholesale chemists and druggists, show that these iodoform substitutes have in no way diminished the use of iodoform, and that, in fact, they are in very small demand.

Iodol (tetra-iodo-pyrrol) stands at the head of the list of iodoform substitutes as regards the amount of iodine present. It contains about 27 parts in 30. Iodol is obtained by precipitating pyrrol with iodo-iodate of potassium. It is a micro-crystalline brownish-white powder, having a faint thyme-like smell, and is soluble in six parts of absolute alcohol, but nearly insoluble in water. It is said to produce no toxic action like iodoform when wounds are dressed with it, and its application is painless. Iodol has been used with good results in granular and chronic conjunctivitis, hard and soft chancres, and various ulcers much improve under its use. It possesses some anæsthetic action, and acts as an astringent when discharge is copious.

Losophan (meta-tri-iodo-cresol) contains 24 parts of pure iodine in 30. It is a greyish crystalline powder, soluble in alcohol, chloroform, oils and fats. It has been found to be useful in parasitic skin affections, but not of general value, and it is apt to cause irritation.

Iodo-Salicylic Acid and *Di-Iodo-Salicylic Acid* are iodine compounds of salicylic acid in which one or two atoms of hydrogen respectively are replaced by iodine. Di-iodo-salicylic acid contains 20 parts of iodine in 30, iodo-salicylic acid 15 in 30. These compounds are powerful antiseptics. They possess the combined action of iodine and salicylic acid, and have been successful in the treatment of acute polyarticular rheumatism where salicylates have failed. These acids are in the form of white micro-crystalline powders, slightly soluble in water, soluble in alcohol, ether, fixed oils, and, like salicylic acid, also in collodion.

Sozoiodol (di-iodo-para-phenolsulphonic acid) is composed of 54 per cent. iodine, 7 per cent. sulphur, and 20 per cent. phenol. It has been combined with sodium, potassium, ammonium, lead, mercury, and zinc, which have been suggested as odourless substitutes for iodoform. The sodium

salt which has been used is in colourless shining acicular crystals soluble in water. The salt is well tolerated as an external application. It has been given internally in doses of 20 grains three times a day. Sozoiodol has been found useful in the treatment of whooping-cough—3 grains blown into each nostril once daily. A solution of sozoiodol-mercury with iodide of sodium has been recommended for intramuscular injection in syphilis.

Aristol (di-thymol-iodide) is a reddish-brown powder containing 45.8 per cent. of iodine. It is insoluble in water, glycerine, or alcohol, but soluble in ether or oils. It has been used successfully in various skin affections, psoriasis, eczema, rhinitis, ozæna, and lupus, but has proved unsatisfactory in lichen rubra, soft chancre, and gonorrhœa. Aristol has a certain effect on venereal ulcers, but acts very slowly; the only advantage it possesses over iodoform is absence of smell—its activity is inferior. It has been found to be of service in the first and second stages of pulmonary tuberculosis, when no cavities exist. It also lessens cough and night sweats. Burns and scalds have been successfully treated with aristol, and the application of the powder to the cornea has given good results in keratitis, and an ointment in corneal ulcers. It is of great value in nasal affections, it lessens the discharge, relieves pain, and stops bleeding when used as an insufflation in cancer of cervix uteri.

Europhen (iso-butyl-ortho-cresyl-iodide) occurs as a pale orange non-crystalline powder, containing 28 per cent. of iodine. It possesses powerful antiseptic properties, and, being resinous to the touch, it adheres well to mucous membrane and wound surface, and does not easily cake. A given weight as compared with iodoform will cover a surface five times the area of the latter. It is non-poisonous, and acts only when brought into contact with secreting surfaces, which decompose it and liberate iodine. Its lightness and freedom from odour make it specially useful in dentistry. The general opinion of europhen is that it may be used with advantage in all cases where iodoform has been used. Improvement has followed its use by inunction and subcutaneous injection in tubercular leprosy, and it has been found serviceable in eye diseases, otitis, and ozæna. Europhen has failed in eczema, psoriasis, and gonorrhœa, but has given satisfactory results in simple and venereal ulcers, and in oily solution injected daily for syphilis.

Loretin (meta-iodo-ortho-oxy-chinolin-ana-sulphonic acid) is a bright yellow crystalline powder, odourless, similar in appearance to iodoform. It is very slightly soluble in water or alcohol, and insoluble in ether, but forms soluble salts with alkalies, except with lime. It is non-poisonous and unirritating, and has been used with marked curative effect on burns, ulcers, and other wounds.

Airol, a gallate of bismuth subiodide, is a light greyish-green powder, stable in dry air, but when left in contact with moisture, iodine is gradually liberated. It is insoluble in water, alcohol, and ether. Airol is astringent and desiccative, as well as being antiseptic.

Di-iodoform (ethylene periodide) in yellow crystals almost inodorous, insoluble in water, soluble in chloroform and slightly in alcohol and ether. It is partly decomposed by light. It has been recommended as an antiseptic in place of iodoform.

Antiseptol (iodosulphate of cinchonine). An odourless brown powder, which has been recommended as a substitute for iodoform. It contains half its weight of iodine, and is soluble in alcohol and chloroform, insoluble in water.

The chief non-iodine compounds which have been introduced to compete with iodoform as an antiseptic are dermatol, thioform, and thioresorcin.

Dermatol is a basic gallate of bismuth recommended as a powerful non-irritant antiseptic and desiccant. Applied to wounds it induces rapid cicatrisation, does not irritate nor give rise to toxic effects. It is less suited to septic wounds and insufficiently stimulating in chronic indolent ulcers. It is a quicker microbicide than iodoform. Its use in the treatment of venereal ulcers has been successful, and also in pustular and diphtherial conjunctivitis, corneal ulcers and pannus, but of little use in blepharitis. Dermatol is a yellow powder, odourless and insoluble in water.

Thioform, a basic bismuth salt of di-thio-salicylic acid, is a yellowish-brown powder, odourless, and insoluble in water. Its claim to supplant iodoform is based upon its freedom both from odour and from toxic properties, its greater antiseptic strength, and its desiccative action. It freely absorbs secretions from wounds without forming a crust. As a desiccant antiseptic, especially for eye cases, it has been recommended.

Thioresorcin is a combination of sulphur with resorcin. It is a yellowish-white, inodorous, and non-toxic powder, insoluble in water, slightly so in alcohol and ether. As a dusting powder it has been used instead of iodoform, and a 10 to 20 per cent. ointment for eczema, psoriasis, and other skin diseases.

NOTES ON HEALTH RESORTS AND SANATORIA.

Dr. Charles Gibson (Fellow of the Royal Metereological Society, and Physician to the Royal Bath Hospital and Rawson Convalescent Home, Harrogate, etc.) sends us the following notes on Harrogate:

Harrogate is picturesquely scattered over a lofty piece of tableland, commanding extensive views in the midst of delightful scenery, 400 feet above the level of the sea, on the western verge of the great plain of York, and protected on the north and west by the Hambleton hills and the Pennine range. It is midway between the German Ocean and the Irish Sea, and equidistant from London, Edinburgh, and Dublin.

The ground on which it is situated, before Sir William Slingsby in 1576 first discovered its mineral springs, was a neglected piece of heath and bog in the wide waste of the royal forest of Knaresborough, and Tobias Smollett, in 1771, in his *Humphrey Clinker*, described the place as a "wild common, bare and bleak, without tree or shrub, or the least signs of cultivation." Since that time it has developed slowly but surely, till its reputation is now almost world-wide.

It formerly consisted of two scattered villages, High and Low Harrogate, but they have now become connected by continuous ranges of handsome houses, but preserving at the same time the freshness and charm of village life, with all the advantages of the most complete watering place. Its buildings are principally of stone, airy, elegant yet substantial, with almost in the centre "The Stray," a natural park intersected with numerous asphalted footpaths, dotted with trees and shady seats, comprising 215 acres of land, from the ancient forest of Knaresborough, devoted by Act of Parliament to the exercise and recreation of residents and visitors for ever.

Its position is such that we may recognise two distinct climates, one being nearly 150 feet higher than the other, for example, asthmatics who are unable to live amid the bracing breezes of High Harrogate are comfortable in the comparatively mild atmosphere of Low Harrogate.

The roads are splendidly kept, making it thus possible for invalids to have the maximum of pure air amid picturesque surroundings, either on foot or in bath or cycle chair or other vehicles, which are so abundant and of almost every description. The hotels are numerous and excellent; several hydros and good lodging and boarding houses. To the tourist it is a splendid centre for the large number of delightful excursions and places of historic interest in the vicinity. Its population (1891) was 13,917, but there are about 60,000 visitors annually, who come for health or pleasure. The inhabitants are generally long lived and healthy, and it is remarkably free from epidemics. The death-rate is 13.5.

The irrigation system was adopted some years ago by the authorities, and Harrogate is looked upon as one of the best drained and sewered towns in the kingdom. The water supply is abundant, pure and very soft. The air is pure, dry, and bracing, and the roads are dry almost immediately after the heaviest rain, the soil being shale and gravel on a subsoil of millstone grit, thus absorbing moisture rapidly. Dryness is one of the most important considerations of a health resort. The mean average of days on which rain has fallen during the

last nine years is 190 (1887-95), but the rainfall is only 27.95 inches during that period.

Harrogate is generally considered a cold place, but it is due to the breezy freshness of its clear smokeless atmosphere, which is both grateful and invigorating, and its openness to the sunshine, with its gardens and green fields. A clear sky is not without its influence on all the bodily functions, for humidity intercepts light and heat and produces a depressing effect upon the system.

The season is from May till October, but the waters and baths may be had recourse to in a large number of cases, with almost as much success in the depth of winter as in the more genial periods of the year. The later periods of the spring and autumn, however, offer advantages to the more robust, who at those times find the baths and hotels less crowded, and can receive more attention. Moreover, those unable to bear hot weather have, in the earlier and later parts of the season, the benefit of cooler air, which is to some a material advantage as well as comfort.

Its reputation rests upon a solid foundation, for nowhere will one find so many, so rich, and so varied springs within so small a space. The bogfield alone contains 34, while there are over 80 altogether, no two being exactly alike. From an attentive consideration of its position, its soil and geological configuration, and the beauty of the surrounding country, apart from the remarkable character of its mineral springs, it would take a first place among health resorts. The large amount of sunshine even in the winter months is a great point in its favour. If there is any breeze there will be some at Harrogate; the air is always fresh, pure, and bracing.

The Continental watering-places have heretofore taken the cream of our patients and reaped a golden harvest, but fortunately fashion has turned her fickle face to the formerly despised and neglected home health resorts, and many of our eminent *confrères* are now sending their patients to Harrogate, Bath, and Buxton, etc., which are easily accessible, and have possibly greater facilities for recovery, having home comforts, able physicians, and good sanitation.

We have no *Kurtax*, but our corporate authorities have built a magnificent suite of baths upon the most modern and up-to-date ideas. Many people seem to have the idea that sulphur water taken after their own individual fashion is a sure and sovereign remedy for all diseases of the skin, etc.; and some learn by bitter experience that what will cure one may kill another, and that those potent waters to be effectual should be taken under skilled advice.

INTERNATIONAL MEDICAL CONGRESS, MOSCOW.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

A SPECIAL CORRESPONDENT writes:

The activity of the Section for Obstetrics and Gynæcology was, like that probably of some other Sections, quickly exhausted by the tropical heat. It needed exceptional scientific ardour to listen to and discuss papers in strange languages with the thermometer at 90° in the shade. This cause did not of course affect the quality of the papers, but only the length of the discussions, and the number of papers that were taken as read.

The Section was in the beginning fully attended. Drs. A. R. Simpson, Herman, Herbert Spencer, and Murdoch Cameron were elected, as representatives of English obstetric medicine, Honorary Presidents of the Section. The discussions were interesting chiefly as an interchange of opinion; it cannot be said that anything was brought forward which was both important and new nor that the debates were so exhaustive as to clearly display a trend of opinion towards any new path in which the way was not already clear.

Professor SNEGUIREFF, in an opening address, admirable in its expression of good feeling, spoke of himself and his colleagues as disciples of those who had come to visit them—as a young people whose clinics were hardly eight years old. On the first day a table and chart constructed from it was handed round, showing the results as to morbidity and mortality of the patients in the Moscow Maternity during the last twenty-seven years. The mortality during that period has diminished from 3.5 to 0.64 per cent., and the amount of puerperal septic disease from 2.9-3.3 to 0.27-0.1 per cent. On the average, rather more than 5,000 women are yearly delivered in the institution. Besides free beds, there are the maternity secret wards, for the use of which patients pay. No questions are asked; the patient hands the director a sealed envelope containing her name and address, and this is opened only in case of death. If the patient gets safely over childbed, the envelope is handed back to her unopened when she leaves.

Professor PINARD (Paris) read a paper on External Exploration of the Abdomen, a method which he said had only begun to be used at the beginning of this century, and has only been methodically applied during the last twenty years. He urged the necessity of its employment in every pregnancy, and enumerated the advantages gained by it; but his address did not add anything to the knowledge that the English student can gain from the textbooks, although as a succinct exposition it was excellent.

HENNIG (Leipzig) also contributed a learned historical sketch and an exhaustive catalogue of the Things that might be done by External Palpation; but his paper contained no novelty.

VARNIER opened a discussion on Symphysiotomy, and he went far beyond our English teaching; whether wisely or not, time will show. According to him, symphysiotomy is attended with no danger, is followed by perfect recovery, can be practised any number of times in the same patient. It is the proper treatment when the pelvis is normal but the child too large. In contracted pelves symphysiotomy ought to replace premature labour, forceps, version, and craniotomy, excepting in cases of oblique deformity of the pelvis. The only contra-indications that Varnier recognises are certainty that the child is dead, and a febrile condition of the mother. The serum therapeutics of puerperal infection was the subject of a lively discussion, the inference from which was that as yet this method has not proved a great addition to our resources. Wallick, after referring to the benefits expected from it, formulated the following conclusions: "The figures of morbidity and mortality have not been materially modified by the methodical use of the serum prepared by Marmorek of the Pasteur Institute." Varnier showed some beautiful plates drawn from frozen sections of a case of placenta prævia, and Leopold some showing the early development of the decidua. These will doubtless be soon available for use in our English libraries.

One of the most important subjects discussed was the Surgical Treatment of Acute Peritonitis. WINCKEL read a systematic paper on the subject. He recapitulated what we know already, namely, that in tuberculous disease opening the peritoneum cures, and that in large abscesses it is good to let out pus; and his paper contained little beyond very excellent instructions as to the best methods of fulfilling this generally recognised indication. His paper contained no mention of abdominal section for peritonitis in which a collection of pus was not appreciable. CHOLMAGOROFF, of Moscow, raised a question important to general practitioners, namely, immediate secondary perineorrhaphy. He urged that while ruptures of the perineum ought to be sewn up at once, yet that when this had not been done, or had been done but union had not resulted, a second operation should be done without any delay; the granulation tissue should be scraped off with a sharp spoon, and the sides of the wound brought together with sutures. This he said he had successfully done at dates from the second to the twentieth day of childbed. There was no necessity to wait until involution was complete. MARGARITO, of Barcelona, strongly urged that abdominal hysterectomy is the only proper treatment for hæmatometra of long existence. When this condition has lasted long it is not possible for the uterus, if it be emptied by the vagina, to regain its natural properties, for it is always thickened, and generally adherent. The best method of abdominal hysterectomy was the subject of animated discussion between DOYEN, of Rheims, who ably illustrated his method on the black board, and MARTIN, of Berlin. But the question is not one to be settled by interchange of opinions in a room, nor by the publication of batches of half-a-dozen cases.

If the Congress has not brought to birth any great dis-

coveries in pathology, diagnosis, or treatment, it has well fulfilled its main object in making workers in different countries know one another better and in enabling doctors of Western Europe to realise the amazing progress that Russia has made.

Notes from the Congress.

The next meeting of the International Medical Congress will take place in Paris, in 1900, under the presidency of Professor Lannelongue.

It should have been stated in a previous issue that Dr. C. Theodore Williams who attended the Congress as delegate for the University of Oxford was elected an Honorary President of the Section of General Therapeutics.

We are informed by Dr. Cooper Pattin, Medical Officer of Health for Norwich, that the account which we quoted from the *Daily Chronicle* of his arrest in Warsaw is inaccurate. The "plain unvarnished tale" as told in his own words, is as follows: "I was walking about Warsaw in the company of Professor Richter, and guiding myself with a German plan of the Polish capital. I suppose the gendarmes mistook my using and marking the map for sketching, for they—without offering any personal indignity—arrested me and my companion, took our plan, and marched us through a few streets to the police-station. There the superior officer—a most courteous gentleman—offered the handsomest apologies for the blunder, and at once liberated us. I was not detained five minutes, and wasn't indignant either—was, indeed, too interested and amused for that—and laughed heartily as I shook hands on parting with the aforesaid courteous officer. I rather think I owed some subsequent special and gratifying civilities which were shown to me to this entertaining experience at Warsaw." We are sorry that we helped to give currency to an inaccurate statement, but we must at the same time congratulate Dr. Cooper Pattin on having been able so easily to free himself from the clutches of the Russian police, whose attentions are apt to be more pressing than pleasant to the object of them.

On the Congress generally an eminent member of the profession in this country who was at Moscow writes:

"The Russian Government was liberal in the way of railway passes, and the University of Moscow authorities meant well, and gave several evening entertainments, but there was a great want of organisation for the distribution of tickets, and there was a great lack of private hospitality. But what can be expected when the numbers are so great, for about 7,000 members attended.

"The President of the Congress, Professor Skliffosowski (N.B.—It took many of us some days to pronounce the name) told me at a fine concert given in the Salle des Nobles, which held more than 3,000, that he had to arrange for another concert to take place simultaneously in another building holding 4,000. It seems to me that when congresses assume these dimensions they ought to be reduced by limitations of numbers, possibly issuing only a certain number of invitations. Many of our *confrères* suffered from want of accommodation and food, but most from ignorance of the Russian language, for nothing else is spoken in Moscow."

BATTLE OF THE CLUBS.

Great Yarmouth.

Mr. W. E. Wyllys writes from Great Yarmouth that the District Committee of the Incorporated Medical Practitioners Association have sent a memorial to every licensing body in the United Kingdom, calling attention to the evils and abuses at present existing in connection with the administration of many clubs and medical aid societies. The licensing bodies are requested to give an expression of opinion in the matter, and to answer the following questions:

(*a*) Is the holding of appointments such as herein described compatible with the conditions under which your degree or diploma is granted or held?

(*b*) If the holding of such appointments by your graduates or diplomates does not contravene the existing regulations, does not your Senate or Council consider that, in the interests of the medical profession and of the public, by-laws forbidding such practice should be adopted?

(*c*) Is not your Senate or Council of opinion that for a medical man to hold such appointments should be declared by the General Medical Council to be conduct infamous in a professional respect, and, if so, will your Senate or Council instruct its representative on the General Medical Council to support such a declaration?

The principal abuses referred to by the memorialists are:

1. The admission of persons not needing such assistance to medical benefits intended primarily for the relief of the poorer classes.
2. The admission of women and children to those benefits at entirely inadequate rates of payment for the medical officer.
3. Specially in the case of industrial assurance and similar societies, a system of indiscriminate canvassing, whereby the private patients of other medical men are solicited—directly for the company, indirectly for its medical officer.
4. The conduct of medical practice by lay organisations purely as a commercial speculation, this being most flagrant, where, as in some cases, the medical officer receives a fixed salary, and beyond this amount the fees accruing from his work are appropriated as the profits of his non-medical employers.

The importance of some of the points of this memorial, as affecting the deepest interests of the profession, cannot be overestimated; but it is to be feared the answers of the licensing bodies will be hardly satisfactory to the memorialists.

The profession at Norwich have only recently adopted a similar line of action; but the licensing bodies appealed to have not afforded much assistance, so that it is to be feared our brethren of Great Yarmouth are scarcely likely to meet with greater success.

It is, however, satisfactory to learn that all the registered practitioners of Great Yarmouth, with but one exception, have joined the Medical Union. If the same unanimity could be found in the profession throughout the country there would be little necessity of appealing to outside bodies, as the matter would be more or less in our own hands.

Coventry Provident Dispensary.

The *Coventry Herald* of September 4th reports that the Committee of the Provident Dispensary have refused to comply with the terms of the memorial presented to it a short time ago by the medical staff. The chief requirements of the latter were: (1) That a wage limit should be fixed; (2) that the whole of the medical staff should sit on the Management Committee; (3) that the rate of subscription for children should be raised. Our contemporary says:

The general feeling of the Committee on the whole question is that if the medical staff are not satisfied with their position the dispensary would be quite prepared to get a medical staff exclusively for the institution, as is being done in some other towns, notably at Yarmouth.

It is a pity the profession at Coventry cannot see their way to united action as at Great Yarmouth. It is the duty of the dispensary staff to stand by the terms of their memorial, and they should accept nothing less. Their demands are moderate enough, and ought to be persisted in in spite of the threat to introduce from outside other medical men to take their place.

THE VITAL AND SOCIAL STATISTICS OF THE UNITED STATES.

The volumes of the eleventh census, 1890, of the United States are being gradually issued, and three bulky volumes (Parts II, III, and IV), dealing more particularly with the statistics of American cities having a population of 100,000 and upwards, are now before us. These cities on June 1st, 1890, were twenty-eight in number, and they lend themselves, therefore, to comparison with the corresponding number of great towns in England and Wales at the same period. In the different States the returns varied in completeness; but as regards death returns, although many were defective, others gave much fuller information than is derivable from death certificates in this country, as, for instance, race and birthplace of parents or of person.

The death-rate of the twenty-eight cities in 1890 was 22 per 1,000 of the enumerated population, varying from 9.4 in Omaha, and 13.5 in Minneapolis to 23.4 in Boston, 26.4 in New York, and 27.4 in Newark. These rates compare with an average death-rate in the twenty-eight great towns of England and Wales in the same year of 21.3 per 1,000, ranging from 30.6 in Manchester to 16.5 in Nottingham.

Density of Population.

The density of population in the American cities varied from 58.87 persons per acre of total area in New York, to 8 96 in Omaha and 4.05 in St. Paul. The proportion living in tenements and common lodging houses, including flats and

hotels, is roughly indicated by the number of persons to each dwelling. These varied from 18.52 in New York, 8.52 in Boston to 4.99 in Indianopolis.

Open Spaces.

The acreage of each city embraced in public parks throws an interesting light on the health conditions in American cities. This acreage was largest in New York, being 19.82 per cent of the entire city area. In Chicago it was only 1.95 per cent., whilst Jersey city had the smallest percentage of park area—0.06.

Public Houses.

The number of public houses in proportion to population varies remarkably. San Francisco heads the list with 9.70 saloons for each 1,000 persons, New York has 5.0, Chicago 4.73, New Orleans 2.58, while Philadelphia and Pittsburg are lowest on the list with onlv 1.15 and 0.41 per 1,000 of the population respectively.

Influence of Age Distribution.

The United States statistics present marked complexities caused by immigration and by racial peculiarities. Some of the statistics given in the census report throw light on these questions. Thus in New York, in the census year, the aggregate death-rate, excluding still births, was 26.4 per 1,000. Among the total white population the death-rate was 26.3, among the native-born white population 28.4, while among the coloured population it was 34.6 per 1,000. The data given in the Census Report do not enable us to say how far these differences were fundamental and how far due to differences of age and sex distribution, though, as will be shortly seen, some contributions to the problem are given. The method of correction for age and sex distribution adopted by the English Registrar-General since 1883 is well known. By factors of correction the death-rates for the English great towns can be stated in terms of a population having the same distribution as to age and sex as that of England as a whole. The International Institute of Statistics at its meeting in Berne, 1895, passed a resolution in favour of taking as the standard distribution of population that of Sweden, using five age groups—namely, under 1 (2.55 per cent.), 1 to 19 (39.80 per cent.), 20 to 39 (26.96 per cent.), 40 to 59 (19.23 per cent.), and 60 and over (11.46 per cent.). Unfortunately no international consensus has been reached, and, the "standard population" which is adopted not being the same in different countries, strictly accurate international comparisons of death-rates are impossible. In the American census report the Swedish standard is adopted. The amount of correction thus produced is remarkable. Thus, near one end of the scale the gross death-rate of 28.63 for New York becomes a corrected death-rate of 33.91; at the other end of the scale for Omaha 9.95 becomes 14.66. The least correction required is that for Cincinatti, 0.98 per 1,000; the greatest that for Denver, 6.82 per 1,000.

Infantile Mortality.

It is unfortunate that owing to the fact that none of the cities of the United States have a complete and accurate registration of births, the number of deaths of children under 1 year of age per 1,000 births—a most important test of healthiness of different groups of population—cannot be given with accuracy. For the census year the number of infants was estimated (but under-estimated) by adding together the number reported as "born and died during the census year." For the same year the average number of deaths of children under 1 year per 1,000 of the children born within the year for the 28 American cities was 207, as compared with 172 in the 28 largest English towns.

Race.

The data given in the census report of death-rates according to race are vitiated by the absence of corrections for age distribution. In the 28 cities the death-rate for the white was 22.78, for the coloured population 33.64 per 1,000. Among the native-born white population the death-rate was higher among those having one or both parents of foreign birth than it was among those whose parents were native. In only three cities—namely, Rochester, Omaha, and Denver—was the death-rate of the white higher than that of the coloured population. In these exceptional cases the data were on a small scale, and it is probable that the great majority of these coloured people were adults of ages having a low death-rate. In the majority of the cities the death-rate of the native whites was greater than that of the foreign whites. This is obviously due, in part at least, to the fact that the native whites included a much larger proportion of young children than the foreign whites, including as they do the children of immigrants who have arrived within the last 15 years. The death-rate of those having mothers born in Italy was as high as 33.35, of those having mothers born in Ireland 26.74, of those having mothers born in the United States 20.87, in Scandinavia 19.04, in France 19.00, in Scotland 19.16, in England and Wales 19.38, in Germany 19.87 per 1,000.

Marriage Conditions.

Some interesting figures illustrate the influence of the marital condition on vitality, so far as it can be determined by statistics. Above the age of 25 the death-rates of males were uniformly greater among the single than among the married. In females the death-rates of the married were greater than those of the single under 35 years of age; above that age were lower at each group of ages. The death-rates of the widowed were, at all ages, much greater than those of the married or of the single.

Season.

The highest death-rate among the entire population was in January, among children under 5 in July, the lowest death-rate in both instances in November.

Occupation.

Phthisis caused 24 per cent. of all the deaths among males having specified occupations, the proportion being greatest among compositors, printers, and pressmen; marble and stone cutters; accountants, bookkeepers, clerks, etc.; and servants; and least among physicians and surgeons, lawyers, and farmers, planters, and overseers.

Causes of Death.

Scarlet Fever caused an average death-rate of 0.17 as compared with 0.31 per 1,000 in the English towns.

The average death-rate from *enteric fever* was 0.53, as compared with 0.19 in the English towns, with 0.49 in 28 of the largest French towns, and with 0.13 in 28 of the largest German towns. The typhoid mortality was higher among the coloured (0.64) than among the white population (0.53).

Diphtheria caused an average death-rate in the 28 cities of 1.17 per 1,000, as compared with 0.24 in the 28 largest English towns, and with 0.92 in the 28 largest German towns.

Diarrhœal Diseases caused an average death-rate of 2.15 per 1,000, as compared with 0.77 in the English towns. How far errors of classification creep in here it is difficult to say. In the 28 German towns the death-rate from acute intestinal disease in 1890 was 2.33 and from cholera morbus 1.56 per 1,000.

Phthisis killed 2.69 per 1,000 of the population, as compared with 2.99 in the German towns. The phthisical death-rate was more than twice as high in the census year in New York, San Francisco, Boston, Washington, and New Orleans, as it was in Omaha, St. Paul, Alleghany, Pittsburg, and Minneapolis. As a rule, it was highest in the seaboard and lowest in the western towns, and was above the average in the southern towns and below the average in the towns on the great lakes.

It is impossible to follow the distribution of the mortality from individual diseases in further detail. Our readers must be referred to the original report for particulars. Each census report increases in value. We hope that the time is not far distant when each State will possess a complete system of registration of births and deaths, thus rendering possible an accurate and detailed study of the profoundly interesting racial, social, and vital problems associated with the population of the United States.

The treasurer of Guy's Hospital has received a donation of £1,000 from the Committee of the American Victoria Jubilee Fund to endow in perpetuity a "Queen Victoria bed."

Dr. Granville Bantock has been elected an Honorary Fellow of the Obstetrical Society of Edinburgh.

LITERARY NOTES.

Under the title of *The Queen's London* Messrs. Cassell and Co., Limited, are publishing a "pictorial and descriptive record of the Great Metropolis in the year of Her Majesty's Jubilee." The first number, which is now before us, contains 32 admirably executed photographic views of the Jubilee procession taken from various coigns of vantage in the streets. To those who were not so fortunate as to see that pretty piece of pageantry these views will give a good notion of what it was; to those who saw it they will form an interesting reminder of a fine spectacle. The work is dedicated by permission to Her Majesty.

Messrs. J. and A. Churchill have ready for publication the following: *The Means by which the Temperature of the Body is Maintained in Health and Disease*, being the Croonian Lectures for 1897, by Dr. Hale White, Physician to Guy's Hospital; a small volume of practical hints entitled *Economics, Anæsthetics, and Antiseptics in the Practice of Midwifery*, by Dr. Haydn Brown; and a second and much enlarged edition of *Psilosis or "Sprue": its Nature and Treatment*, by Dr. George Thin.

The *Revue Scientifique* of September 11th contains a most interesting account of Hermann von Helmholtz and his work, by du Bois-Reymond. Helmholtz, had he been free to choose his way of life, would doubtless have given up to mathematics that which was meant for science at large. The *res angusta domi*, however, compelled him to enter the Friedrich-Wilhelm Medico-Chirurgical Institute at Berlin, a school for the training of medical officers for the army, from which, among others, have come men like Meyer, Reichert, and Rudolf Virchow. The students of the Friedrich-Wilhelm Institute follow the courses in the University of Berlin, and are afterwards attached for a certain time to the Charité. The medical training there received was looked upon by Helmholtz as having been of the greatest use to his intellectual development. When he was at the height of his scientific fame he said: "I consider that the study of medicine impressed on my brain, in a manner more penetrating and more complete than any other study whatever could have done, the unchangeable principles of all scientific work, principles so simple and at the same time constantly overlooked, so clear and nevertheless so often masked by deceptive veils.....Medicine is my intellectual fatherland, and it is thus that the emigrant can feel that he is better understood in his own country." Helmholtz could not afford to buy a microscope till, falling sick of typhoid fever and being treated gratuitously in the Charité, he was able to save a small sum of money, which on his recovery he devoted to the purchase of a microscope. The instrument was, we are told, far from being a first class one, but Helmholtz made good use of it. Du Bois-Reymond relates that soon after Helmholtz gave to the scientific world the paper on the conservation of force which showed him to be a mathematician of the first order, he was warmly congratulated by the military authorities on the practical character of his investigations. The distinguished warriors were under a slight misapprehension as to the nature of the "force" which Helmholtz had shown to be conserved.

In reference to an article entitled "Robert Fludd, the Mystical Physician," which appeared under the heading of "Archæologica Medica," in the British Medical Journal of August 14th, the writer wishes to make the following correction: Robert Fludd was born at Bearstead, and not at Brasted as stated in the article. Bearstead is a small parish three miles from Maidstone, in Kent, on the Ashford Road, and about fourteen miles from Folkestone, Harvey's birthplace. Fludd is buried in Bearstead Church, which contains a very good bust with a long memorial inscription, both by his nephew, Thomas Flood, of Gore Court. The church also contains a tablet to the memory of Fludd's mother, with an inscription from the pen of her son.

In the *St. Bartholomew's Hospital Journal* for August Mr. D'Arcy Power begins what promises to be an interesting series of "Contributions towards a History of the Surgical Teaching at St. Bartholomew's Hospital during the Nineteenth Century." Referring to Abernethy, he quotes an account of him given by Sir Robert Christison, who was a pupil of his in 1820. Christison describes Abernethy as a very little man, but in figure and countenance uncommonly handsome. He adds:

> He had not strength enough to become a great operator, and the diagnosis and constitutional treatment of surgical diseases were his favourite field of practice, and in these branches of consulting practice he was at this time *facile princeps* among London surgeons. He was an early cultivator of what is now aptly called "conservative surgery," but I do not remember that term as in use at the period in question, and the surgical tendency certainly was to fly too precipitately to the knife and saw. That never was Abernethy's fault. He was a good operator when driven to operate, but he disliked it. Cullen, who was his anatomical assistant, told me he had seen him in his retiring room, after a severe operation, with the big tears in his eyes, lamenting the possible failure of what he had just been compelled to do by dire necessity and surgical rule.

Mr. Power also quotes Macilwain's account of Abernethy's method of lecturing; but, curiously enough, he does not refer to Dr. P. M. Latham's description, which we think brings out the secret of Abernethy's fascination as a lecturer better than any other. We make no excuse for quoting it:

> You who never knew Mr. Abernethy have no conception of his powers as a lecturer. He so eloquently expounded some of the highest truths; he so nicely disentangled the perplexities of many abtruse subjects; he made that so easy which was before so difficult, that every man who heard him feels, perhaps to this day, that for some important portion of his knowledge he is indebted to Mr. Abernethy. But he reserved all his enthusiasm for his peculiar doctrine; he so reasoned it, so acted it, and so dramatised it—those who have heard him will know what I mean—and then in his own droll way so disparaged the more laborious searchers after truth, calling them contemptuously "the doctors," and so disported himself with ridicule of every system but his own that we accepted the doctrine in all its fulness. We should have been ashamed to do otherwise. We accepted it with acclamation, and voted ourselves by acclamation the profoundest of medical philosophers at the easy rate of one half-hour's instruction. The great Lord Chatham, it is said, had such power of inspiring self-complacency into the minds of other men that no one was ever a quarter of an hour in his company without believing that Lord Chatham was the first man in the world, and himself the second; and so it was with us poor pupils and Mr. Abernethy. We never left his lecture room without thinking him the prince of pathologists, and ourselves only just one degree below him.

DIRECT REPRESENTATION ON THE GENERAL MEDICAL COUNCIL.

The gentlemen who have so far come forward as candidates for the seat on the General Medical Council, made vacant by the resignation of Dr. Robert Reid Rentoul, are Ebenezer Diver, of Kenley, Surrey, M.D. St. Andrews (1862), M.R.C.S. (1863); and George Jackson, of Plymouth, F.R.C.S.Eng. (Exam., 1876), L.R.C.P.Lond. (1866). The addresses of these gentlemen to the constituency are printed below. We understand that Mr. Victor Horsley, F.R.S., M.B., B.S.Lond. (1881), F.R.C.S.Eng. (1883), also proposes to offer himself as a candidate. We may remind readers of the Journal that the last day on which nominations can be received is September 27th.

Nomination papers, stating the name, address, and registered qualification or qualifications of candidates signed by not fewer than twelve registered practitioners resident in England, and accompanied by a declaration in writing signed by the person nominated, acknowledging that he consents to be nominated, must be delivered by post or otherwise on or before the date mentioned, addressed to Henry E. Allen, LL.B., at the Council Office, 299, Oxford Street, W.

Mr. George Jackson's Address to the Registered Medical Practitioners of England and Wales.

Ladies and Gentlemen,—I beg to offer myself as a candidate for the present vacancy amongst the Direct Representatives on the General Medical Council. I am encouraged to take this step by the fact that at the election last November I polled 4,082 votes, and was therefore at the head of the unsuccessful candidates, and that I have now received the assurance of the support of the Incorporated Medical Practitioners' Association, and of other medical bodies. It is my duty once more briefly to state my views on the crucial questions of the day, in their relations to the General Medical Council.

I venture to traverse the opinion which has been influentially expressed, that the Midwives Bill does not concern the Council. To my mind, the fact that the Government have sought the opinion of the Council on the matter proves that the question is one of vital importance to the medical profession, and therefore deserves the most careful attention of its governing body. From this it follows that the opinions of the

great body of the profession, which is strongly opposed to midwives legislation, should be represented on the General Medical Council.

If elected I should also advocate—

1. Reform of the Medical Acts, so that the Council should be, at any rate in a larger proportion than at present, elected by and representative of the profession generally.

2. The assimilation of the Acts governing the profession more nearly to those which govern the legal profession. By this means more power would be given to the General Medical Council to protect the public against quacks and unqualified practitioners.

3. The raising of the standard of entrance examinations, and the establishment of one conjoint compulsory examination for each division of the United Kingdom.

Finally, if you do me the honour to elect me as one of your direct representatives, I would devote my whole energies to fulfil the trust reposed in me.

I have the honour to be, ladies and gentlemen, your obedient servant,

Geo. Jackson, F.R.C.S.Eng.,

Vice-President and ex-President of the Incorporated Medical Practitioners' Association; Vice-President and ex-President of the Devon and Cornwall Branch of the Incorporated Medical Practitioners' Association.

Dr. E. Diver's Address to the Registered Medical Practitioners of England and Wales.

Gentlemen,—By the resignation of Dr. Rentoul a seat on the General Medical Council has quickly become vacant, and is to be filled as the will of the electorate may determine. I beg leave, therefore, to represent to you my readiness to stand as a candidate for the honour of your suffrages, and to state that the principles I ventured to lay before you previous to the last election are those which I would now submit as mine. They are to be found in my address published in the British Medical Journal of October 31st last, page 1344. And with reference to these I may add that the direct representative should act with the other members of the Council, in full confidence that with sincerity all are engaged in seeking the welfare of the profession. But, at the same time, he should watch the special business which is his as the representative of the general practitioner, and be ready to act, according to the dictates of common sense, as opportunities arise. He should also bear in mind that the Council, having been established by Act of Parliament, is bound by that Act, both in its deliberations and in its power of action.

The number of gentlemen who availed themselves at the last election of their privilege as voters was unusually small, and this fact gave opportunity to those who are not friendly to the representation of the general practitioner upon the General Medical Council to comment adversely to our interests in this particular. It will be a pity if those comments should appear justified on the present occasion, for while the whole profession of medicine has greatly advanced as a science and an art, to the benefit of the individual, so now it is surely moving by the force of its intrinsic national importance towards that dignified position in the State which far-seeing men have in the past predicted for it. And who are they that should show interest in this movement of our common profession if the bulk of us who practise it do not? The answer should be given in the poll next month.

The gentlemen who stood so well by me last November may see fit again to support my candidature. To them, therefore, as well as to those others who will do me the like honour, I would submit that anything approaching an active candidature, otherwise than through the medical press, is entirely beyond my power. Hence I would respectfully ask them to acquit me of any discourtesy in not communicating with them directly, and to generously use their influence for securing votes in favour of the principles I have enunciated. Because, if each voter will, in his goodness, consider himself a centre for influencing others, success is to that extent rendered—if not absolutely certain, at all events more likely.

In conclusion, I beg to state that if I be elected your representative the tone of my influence at the Council Board will be the tone of this address. But, if I be not elected, in whatever place my name may appear I shall be ready to believe that the choice of the electorate has fallen upon a man whose sentiments are not less worthy than those which I myself hold. In this assumed case, however, I should add that his capacity and his willingness to serve your interests would probably be in no way greater than my own.—I am, your faithiul servant,

Devonshire Street, W., Sept. 13th. E. Diver.

P.S.—I may state that I have been for 33 years engaged in wide country practice, which I have now relinquished.

The Choice of a Representative.

Sir,—There can be little doubt in the minds of those who are most heartily in favour of the principle of direct representation that recent occurrences have tended somewhat to discredit it, and it therefore seems to be of the utmost importance that the profession, in choosing a successor to Dr. Rentoul, should assure itself as far as possible that there will be no likelihood of a repetition of the mistakes which have lately occurred; but that whomsoever we may elect, he should be one who is prepared in the first place to assist in carrying on the general work of the Council, as imposed upon it by the several Acts of Parliament of which it is constituted.

One principal object, however, of having direct representatives on the Council at all, appears to be that they may from time to time, as opportunity occurs, place before the Council in a temperate manner the views of their constituents on the various questions of professional interest which come before it; on such subjects, for instance, as the Midwives' Bill, the increase of direct representation, and the Medical Aid Association question, to take but a few of the many important subjects discussed during the ten years that our late representatives, Sir Walter Foster, Dr. Glover, and Mr. Wheelhouse served us and the Council so well.

The time is short before nomination closes to ascertain the opinions of new candidates on these questions, and I am therefore very strongly of opinion that an effort should be made by the Council of our Association to secure the consent of Sir Walter Foster, whose actions on these subjects speak for themselves, to his nomination as a candidate, and that if he consents the whole strength of the Association should then be used to secure his return. This would be best way of showing that our Association is not that "inert mass" which a writer in the *Times* has recently proclaimed it to be.—I am, etc.,

Dulwich, S.E., Sept. 14th. H. Nelson Hardy.

Sir,—Having been asked to allow myself to be nominated for the seat just vacated by Dr. Robert Rentoul as direct representative upon the General Medical Council, after consideration I have decided not to do so on this occasion. The vacancy should, in my opinion, be filled up a northern representative, and should Dr. Samuel Woodcock, J.P., again come forward as a candidate, I trust that all those members of the profession who accorded to me their votes at the last election will bestow them upon him at the present time.

Dr. Woodcock is too well known by his works to require any introduction to the medical profession, and would make an admirable representative, the fact that he is President of the Lancashire and Cheshire Branch of the British Medical Association should secure him the suffrages of at least the members of the Association, and ensure his election. On another occasion arising, however, I shall, I hope, find myself in a position to accept the invitation to nomination should it be offered me.—I am, etc.,

Hatfield, Sept. 15th. Lovell Drage.

Mr. Jackson's Candidature.

A special meeting of the Central Council of the Incorporated Medical Practitioners' Association was held on Monday, September 13th, at 4.30 p.m., which was largely attended.

The following resolution was unanimously passed:

The Central Council of the Incorporated Medical Practitioners' Association feels compelled to express its surprise and regret that Dr. R. R. Rentoul should have relinquished the trust confided in him by his profession as a direct representative on the General Medical Council, without offering any explanation or reason for his resignation of that position.

It was then unanimously resolved:

That this Council promises the active support and assistance of the Association to Mr. George Jackson in his candidature for the vacant position of direct representative on the General Medical Council.

A guarantee fund for Mr. Jackson's election expenses was at once opened and liberal subscriptions were promised.

An Election Committee was formed with power to add to their number, and it was decided to ask every member of the Association to join Mr. Jackson's Committee, and to canvass their friends and neighbours for their votes, as they did on the last occasion for the candidates then supported by the Association.

CONGRESS OF THE SANITARY INSTITUTE.

The sixteenth annual Congress of the Sanitary Institute was opened at Leeds on Tuesday, September 14th. The proceedings commenced with a reception by the Lord Mayor, Sir James Kitson, M.P. in the City Council Chamber.

President's Address.

The President, Dr. Farquharson, M.P., delivered his inaugural address in the Chemistry Theatre of the Yorkshire College. In the course of it he said that the work of the Institute was at last being appreciated at its true value, but this had only happened after many years of opposition. Having at first been ridiculed and afterwards opposed, it had finally come to be accepted by public opinion. The sanitary reformer, from being despised, had risen to a position of universal approval. Herbert Spencer had said that "the first requisite of life is to be a good animal, and to be a nation of good animals is the first condition of national prosperity." The monotony of modern labour had much to account for in the interference with proper bodily development. During the last twenty-five years the death-rate in England had fallen from 22 to 18 per annum. This had been accomplished by the joint labours of sanitarians and doctors—the one in preventing disease, the other in curing it. It was probable that no further reduction in the death-rate was possible, as a death-rate of 10 per 1,000 would mean that everybody born would reach the age of 100. Even if the most favourable hygienic conditions imaginable could be realised, the death-rate could not be brought lower than 14 or 15. The work already done by the Local Government Board, then, received its share of approbation. It had been accomplished under the direction of Sir John Simon, Sir George Buchanan, and Sir Richard Thorne-Thorne, as well as by the writings of Mr. Pridgin Teale and Professor Corfield. There seemed no doubt that we are in the midst of a neurotic age. The question was, Why? The answer to this (said Dr. Farquharson) would require a course of lectures rather than one address, and all I can do is to indicate one or two suggestive considerations which perhaps some of my successors, or some of you sitting before me, may work up. About the time I began my medical studies a furious controversy raged in Edinburgh concerning the treatment of acute inflammation, one side affirming that there had been a change in the type of disease, whilst the other affirmed, and to my mind more successfully, that the change had rather taken place in the constitution of the patient. At all events the bleedings, and blisterings and purgings, amid a succession of which the Squire Western of former days passed peacefully out of existence, have given place to careful nursing and feeding, and moderate stimulation—results which enable the medical man to rank along with the sanitarian as the prolonger of human life. But why this change of constitution? Some ascribe it to the stress and push, the *Sturm und Drang* of this competing age, when berths are few and men are many, and when the margin of subsistence trenches too closely on the means of support. This sort of reason has always seemed to me both feeble and unsatisfactory as well as non-convincing, for is it not those who are removed by fortune from the whirling maelstrom of life into quiet backwaters who suffer most from nervous affections? Who is it who have the neuralgias, and the hysterias, and the heart failures which send them to Schott and Nauheim, and the nervous prostrations which attack both sexes alike, and which sometimes seem to me to come from blue rather than red blood? Not the strenuous workers in the hive, but the drones who, more by chance than design, and from lack of opportunity rather than deliberate idleness, lose the healthy stimulus of occupation, and spend their time in that most wearisome of human occupations—trying to kill it. And now I think I have a clue. This is also essentially an anæmic age. How many young girls in any rank of life escape passing through a bloodless stage which suggests a strike or a lock-out among their red corpuscles, and a consequent stagnation of those vital processes which depend on their active functioning? Some one has described neuralgia as the cry of starved nerve roots for a healthier blood, and may not modern nerve derangement be due to this deficiency of the most vital element of our blood stream? Let us take another glance at the Registrar-General's report, and we shall see that deaths from anæmia, chlorosis, and leucocythæmia have advanced from 576 in 1876 to 1,883 in 1895, and a glance at the cheeks of the rising generation must convince you that this increase of pallor is only too real. Then why is it? Ask your medical friends, for on this occasion I am only a sanitarian, and put before them these special points. Has anæmia anything to do with too much meat eating, and too little milk and oatmeal, and fruit and vegetables? Is it connected in any way with over-pressure at schools, or has our old friend tight-lacing anything to do with it; in other words, what is the explanation of the undoubted fact? And when you have received the information from your medical adviser, I hope you will come and tell me all about it. So much then for civilisation and its defects. Have I anything to suggest for the improvement of the human race? Evolution is still going on, and I have some suggestions to make towards the formation of a Sanitary Utopia, the capital of which shall be our lamented friend Sir B. Richardson's City of Hygeia, where we should all like to live and move and have our being if we could get the chance. After briefly considering the question of the supervision of meat supplies, of slaughterhouses, and the provision of extra urban dwellings for the working classes, Dr. Farquharson said he had a very poor opinion of the House of Commons in its dealings with public health. Both sides (he said) are bad, but that to which I belong is, I think, the worst, for a suspicion of scientific methods and of progressive sanitation is deep-rooted in certain Radical quarters, and abstract views of personal liberty and distrust of the so-called tyranny of doctors sway a kind of plausible sentiment which is usually irresistible in its paralysing effects on hygienic legislation. As a member lately remarked with refreshing frankness when we were considering the Public Health (Scotland) Bill, "When I see the doctors on both sides of the House agreeing, my instinct tells me that something is wrong, and I will vote against the amendment." Under such conditions the private member can hope to do nothing, but he may be still usefully employed in stimulating public opinion in and outside the House, until particular problems reach the acute stage and are taken under Government protection. The President concluded by expressing a strong wish in favour of the establishment of a Ministry of Health, a department of State which will collect and co-ordinate into one harmonious whole the scattered threads of sanitary legislation.

Sectional proceedings commenced on Wednesday, all the six Sections sitting.

River Polution.

Major L. Flower, who presided at the conference on river pollution, said that year's experience had confirmed the opinions he held in 1876 that if we were to have our rivers purified the whole country should be mapped out into districts, each under a competent sanitary officer, who should have large powers under Conservancy Boards formed to legalise his acts. Chemical science was sure to find some means of purifying or clearing effluents from factories which would be effective and remunerative: and if manufacturers ceased to discharge refuse into the sewers, the treatment of sewage at the outfall would be rendered less difficult. What the country required was a firm and sound Act of Parliament having compulsory powers administered in each watershed by a man who by his personal influence could induce pollutors to abate their nuisance. The thing which lay at the root of the matter was waste, and he advocated that the sewage of a country should

be returned to the land to produce a fresh supply of food. Why should they not combine in a guild and endeavour to bring co-operative principles to their aid? Let the members of the League act upon the principles which had governed the Fisheries Preservation Association.

Dr. G. Sims Woodhead followed with an interesting address on the Various Processes taking place in Tidal Estuaries.

Mr. R. E. Middleton, in a paper on River Pollution from an Engineer's Point of View, said no chemical treatment of sewage was sufficient to produce an effluent of satisfactory purity. All sewage matter might be efficiently treated by filtration through sand and gravel in the same way as water was filtered, though at a slower rate and with more frequent periods of intermission.

Sanitation in the Victorian Era.

In the Section of Medical Officers of Health Dr. Edward Seaton presided, and in his opening address said that among the chief glories of the Victorian era it might be claimed that enormous advance had been made in sanitation, and yet he contended that populations of England were not protected, especially in the matter of house sanitation. There was much to be accomplished, and the remedy would mainly be found in endowing representatives of wide areas with greatly increased powers of control.

Poisoning from Canned Foods.

In this Section an interesting paper was read by Dr. J. Brown on Poisoning from Canned Foods, in which it was urged that in view of the number of deaths from the use of these foods some immediate legislation was absolutely necessary.

A resolution was passed recommending the Council of the Institute to urge upon the Government the necessity of inquiring into the prevalence of cases of illness due to the use of canned foods, and adopting such action as the evidence would justify.

Ventilation of Workshops.

The Sanitary Inspectors Section was presided over by Mr. T. Fyfe, Chief Sanitary Inspector of Glasgow, and in his address he dealt more particularly with the ventilation of workshops and factories. He argued that at the present time there were three outstanding needs so far as sanitary inspectors were concerned. The first was systematic and high-class instruction and examinations recognised by the laws of the three kingdoms. The second, an equitable scheme of union, close and indissoluble, between every sanitary inspectors' association. The third, a legalised basis upon which every inspector might feel absolutely secure both as to the tenure of his office and the comfort of his old age.

The Health Work of Women.

A novel feature in the day's proceedings was a conference of ladies upon the health work of women. Mrs. Fawkes, who presided, congratulated women upon the official recognition they had received from public sanitary authorities. The first woman inspector was appointed by the Nottingham Corporation in 1892. Since that date eighteen others had been appointed in various localities.

A resolution calling attention to the good work that has been done in Manchester and other large cities by women inspectors, and urging the desirability of one or more women being appointed in Leeds, was passed.

Congress for the Study of Tuberculosis.—The fourth Congress for the Study of Tuberculosis will be held in Paris in the last week of July, 1898, under the presidency of Professor Nocard, of Alfort. The following are the questions to be discussed: 1. Sanatoria as Means of Prophylaxis and Treatment of Tuberculosis (to be introduced by MM. Le Gendre, Netter, and Thoinot); 2. Serums and Toxins in the Treatment of Tuberculosis (to be introduced by MM. Landouzy and Maragliano); 3. The X Rays in the Diagnosis of Tuberculosis (to be introduced by Professors Lortet, of Lyons, and Bergonié, of Bordeaux); 4. The Struggle against Animal Tuberculosis by Prophylaxis (to be introduced by MM. Nocard and Banc).

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A meeting of the Council will be held in the Council Room of the Association, at No. 429, Strand (corner of Agar Street), London, on Wednesday the 20th day of October next, at 2 o'clock in the afternoon.

Francis Fowke, *General Secretary*.

September, 1897.

NOTICE OF QUARTERLY MEETING OF COUNCIL FOR 1897.

A meeting of the Council will be held on October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the meeting—namely, September 30th.

Election of Members.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

Francis Fowke, *General Secretary*.

BRANCH MEETINGS TO BE HELD.

South-Eastern Branch: East Kent District.—The next meeting of this District will be held at the Victoria Hospital, Folkestone, on September 23rd, at 3 P.M., Dr. Henry Lewis in the chair. Agenda:—Dr. Colville: Cholecystotomy for Obstructive Jaundice: Duodenal Ulcers. Dr. Percy Lewis: The Means of Cure in Lateral Curvative. Mr. Sidney Wacher: The Radical Cure of Hernia. The Chairman kindly invites members to luncheon at the Wampach Hotel, at 1.30 P.M. Members intending to avail themselves of Dr. Lewis's hospitality are requested to send acceptances by Tuesday, September 21st, or they will not be expected. Tea and coffee will be served after the meeting. All members of the South-Eastern Branch are entitled to attend these meetings, and to introduce professional friends.—Thomas F. Raven, Honorary District Secretary, Barfield House, Broadstairs.

South-Eastern Branch: East Surrey District.—The next meeting of this District will be held at the White Hart Hotel, Reigate, on Thursday, October 14th, at 4 P.M., C. E. Oldman, M.D., of Blechingly, in the chair. Dinner at 6 P.M.; charge 7s. exclusive of wine. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The following papers, etc., have been promised: Dr. Washbourn: The Present Position of Bacteriology in reference to Practical Medicine. Mr. W. Arbuthnot Lane: Adenoids. Dr. George Stoker: The Oxygen Treatment, with Exhibition of Apparatus, Lantern Demonstration of Cases, Bacteriology, Oxygen Cicatrices, Lantern Slides, etc. Members desirous of exhibiting specimens or reading notes of cases are invited to communicate at once with the Honorary Secretary, Henry J. Prangley, Tudor House, Anerley.

South-Eastern Branch: East Sussex District.—The next meeting will be held at the Sackville Hotel, Bexhill, on Tuesday, September 28th, at 3.30 P.M., Dr. Wills in the chair. A paper on Syphilitic Diseases of the Eye will be read by Mr. H. E. Juler. Dinner at 5.30 P.M.; charge 6s., exclusive of wine. Notice of intended communications should be sent to the Honorary District Secretary, J. W. Batterham, M.B., Grand Parade, St. Leonards.

North Wales Branch.—The autumn intermediate meeting will be held at the Waterloo Hotel, Bettws-y-coed, on Thursday, September 30th, 1897.—Samuel Griffith, M.D., Portmadoc.

South Wales and Monmouthshire Branch.—The autumn clinical meeting will be held at the Cardiff Infirmary on Wednesday afternoon, September 29th. Notices of papers, cases, etc., to be sent in not later than Wednesday, September 22nd.—A. Sheen, D. Arthur Davies, Honorary Secretaries.

Shropshire and Mid-Wales Branch.—The annual general meeting will be held at the Salop Infirmary on Tuesday, October 12th, 1897, at 3 o'clock. Members wishing to bring forward any business, to read papers, or show cases or specimens, or to propose any new members are

requested to communicate with the Honorary Secretary not later than Saturday, October 2nd.—H. WILLOUGHBY GARDNER, Honorary Secretary, Swan Hill, Shrewsbury.

SOUTH MIDLAND BRANCH.—The autumnal meeting will be held at the Northampton Infirmary on Thursday, October 7th, 1897. Gentlemen wishing to bring forward papers, cases, etc., are requested to communicate at once with the undersigned, CHARLES J. EVANS, Honorary Secretary, Northampton.

NORTH OF ENGLAND BRANCH.—The autumnal meeting will be held at Bishop Auckland on Thursday, October 7th, at 5.15 P.M. The dinner after the meeting is fixed for 6 P.M.; 6s. 6d. each, without wine. Notice of communications should be sent to the Honorary Secretary, G. E. WILLIAMSON, F.R.C.S., 8, Eldon Square, Newcastle-on-Tyne.

SYDNEY AND NEW SOUTH WALES BRANCH.

THE usual monthly meeting of the Branch was held at the Royal Society's Room, Sydney, June 25th; Dr. C. B. P. CLUBBE, President, in the chair. There were 41 members present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

New Members.—The PRESIDENT announced the election of the following members: Dr. F. H. Cox, Goodoga; Dr. C. F. Warren, Wagga; Dr. W. A. Conlon, Children's Hospital.

The late Dr. E. M. G. Eddy.—The PRESIDENT announced that the Council had passed the following resolution:

That the New South Wales Branch of the British Medical Association desires to convey to Mrs. Eddy an expression of deep sympathy with her in the great loss which she and the colony have sustained in the death of the late Mr. E. M. G. Eddy.

Dr. MACDONALD GILL proposed and Dr. MCALLISTER seconded:

That the action of the Council in passing the resolution be approved.

Carried.

Resolution.—The PRESIDENT read the following resolution, which had been passed by the Council:

That the Council is of opinion that the members of the Association should act according to the feeling of the members as expressed by the ballot, and that this decision be announced at the next ordinary meeting of the Branch, and published in the *Australasian Medical Gazette*.

Communications.—Dr. HINDER read a paper on Pseudo-ileus and Intestinal Obstruction. A discussion ensued in which Drs. WORRALL, CHISHOLM, CLUBBE, and MACSWINNEY took part. Dr. HINDER replied.—Dr. MCALLISTER read notes on six consecutive cases of Urinary Calculi, and exhibited specimens. Drs. WORRALL, THRING, CLUBBE, HINDER, SYDNEY JONES, and CHISHOLM discussed the paper. Dr. MCALLISTER replied.

The Treatment of Poor Consumptive Patients.—Dr. WILKINSON moved the following resolutions:

1. That this Association entirely approves of the appeal to the loyalty of citizens for means to carry out a scheme for the relief and treatment of those among our poorer brethren who are afflicted with consumption.
2. That such a scheme should, as far as possible, embrace:
   (*a*) The establishment of a small hospital, or receiving house, containing not more than 20 beds, for the reception and discrimination of cases, and for the treatment of special cases.
   (*b*) A hospital in the country for suitable cases.
   (*c*) The erection of a special hospital, containing 50 to 100 beds for advanced cases.
   (*d*) A scheme for instructing the public upon the nature of consumption and common channels of infection, with a view to rational prophylaxis.

Dr. QUAIFE seconded the resolutions (*pro formâ.*) Dr. SYDNEY JONES proposed the adjournment of the discussion until the next meeting of the Branch. Seconded by Dr. KNAGGS and carried. Dr. POPE suggested that a special meeting of the Branch be called.

MALAYA BRANCH.

AN ordinary meeting of the Branch was held in the Raffles Museum on August 7th, Dr. MIDDLETON (President) in the chair.

Election of Officers.—The following officers were appointed for the year:—*President:* Dr. Middleton. *Vice-President:* Dr. Mugliston. *Hon. Treasurer:* Surgeon-Captain Lane, A.M.S. *Hon. Secretary:* Dr. W. H. Fry. *Members of Council:* Drs. Galloway, Ellis, Simon.

Paper.—Dr. LIM BOOM KENG read a paper entitled Diseases among the Chinese in Singapore. After briefly alluding to the psychological and ethnographical peculiarities of the Chinese, the author referred to the frequency of phthisis and the absence of other forms of tuberculosis. Enterica and beri-beri, together with malaria, formed the majority of diseases common in Singapore. He remarked on the extreme rarity of pneumonia crouposa and tabes dorsalis, and the absence of scarlet fever, rickets, gastric ulcer, typical hysteria, and epithelioma, and pointed out that almost all the fatal diseases which accounted for the high mortality among the Chinese were due to micro-organisms. Gout and rheumatism were rare, and parturient women bore shock well, and the men survived multiple injuries in a wonderful way. The different forms of diseases among the Chinese were to be accounted for partly by different social and psychological states, and partly to the dietetic habits of the people. Dr. MUGLISTON drew attention to the custom of giving Chinese children rice and starchy food from infancy, and the absence of ill results therefrom. Tetanus, one of the chief causes of death, he attributed to washing the cord with dirty water, and gave experiences of the Pauper Hospital on some of the ailments there. Dr. ELLIS said that in his experience the commonest form of insanity in the colony was a low form of acute mania, general paralysis of the insane being unknown. An interesting discussion ensued.

SPECIAL CORRESPONDENCE.

PARIS.

Gratuitous Medical Assistance.—French Feeling as to the Moscow Congress.—The Altitude Cure.—Provincial Medical Schools.—Physical Development in Schools.—General News.

ALL the General Councils have in the August session been occupied in studying and discussing the budget which the new law as to gratuitous medical assistance involves. This inevitable budget proves to be an unsurmountable difficulty to a great many communes. They protested with energy against the voting of the additional centimes which the new law imposes on them. The most striking result of the application of the new law is the increase in the number of patients asking for gratuitous medical assistance. The *Journal de Médecine* calls attention to this fact, and states that it is all the more inexplicable from the fact that there is no increase of paupers in these rural districts, that sanitary conditions are improved, and that there is notable decrease in disease. The following is the solution of the question suggested: The communes have reasoned that as they are obliged to pay additional taxes for gratuitous medical care, they would lessen the burden of the tax by demanding gratis medical treatment. The country doctors, in return for the small additional salary, are overworked by attending taxpayers, and thus lose all their private practice. The medical journal already quoted fears that it is the first step towards medical socialism gloomily predicted by it some time ago, and foresees that in a few years every commune will be provided with a medical officer appointed by Government, like the *curé* and the schoolmaster, to tend their bodies instead of their souls and minds. The political press also lifts up its voice against "this State socialism and mutualism." An important daily paper says: "There is an idea, much too generally adopted, that there are professions whose services, though indispensable, should not be paid, or at the best are grudgingly remunerated. With what difficulty medical men and barristers obtain their fees, though to one their clients owe their health, and to the other the security of their property! Who reflects that these doctors acquire their knowledge by incessant and painful labour, and that many lose their life by transmitted contagion?"

Faith in the advantage of medical congresses has not been strengthened by the one lately held at Moscow. Those who took a pessimist view of the question have not been won over to the other side. It is observed that in all the congresses the speakers are the same; they were met with at Rome, Berlin, and Copenhagen—erudite men undoubtedly, but constant repetition does not make science progress. From this point of view the Moscow Medical Congress has hardly differed from

other international congresses. It is the political aspect which furnishes the variety. According to the statistics the French nation at the Congress mustered the strongest. Four hundred citizens of the Republic are said to have been present at the Moscow gathering. This is not reliable, as many inscribed to go relinquished the idea as the time for departure drew near. It has been noted with regret that German medical science preponderates in Russia. Dr. Van Coler spoke in German, and the Japanese delegate likewise; it was in that language that he invited the Congress to hold the next meeting at Tokyo. This state of things inevitably strikes a disagreeable note in the chorus of enthusiasm about the Franco-Russian "alliance" which goes up in both countries.

M. Regnard, subdirector of the Physiological Laboratory of the Sorbonne and Professor of Physiology at the Institut Agronomique, gives in a work published by Masson the results of a study of the altitude cure. In the first part the author gives a critical summary of laboratory work carried on by himself and an army of other scientists to test and demonstrate the part played by the treatment of lung diseases in high altitudes. Further on the clinical aspect of the question is set forth; the indications for this treatment, with counter-indications, are carefully and fully given. The different localities where this cure can be carried on in all seasons are conscientiously described.

The provincial medical schools are giving signs of coming vigour. The director of the Nantes Medical School appeals to the General Council of the Department of the Loire Inférieure for a subsidy to enable him to purchase instruments indispensable for the laboratory which has just been created; £800 has been voted.

The Congrès Olympique recently held at Havre has passed the following resolutions, which it is devoutly to be wished will bear fruit in this land of France, where so many wise things are said and so few done: Every three months parents are to be informed of the physical development of their children being educated in schools and colleges. That hygiene, physical training, and athletic sports should be introduced in all schools, *lycées*, and colleges. In all schools, colleges, and *lycées* a service of hydrotherapy should be in working order. That a diploma for gymnastics be created, requiring a practical and oral examination.

The Lyons University has voted £1,680 for the purpose of completing the construction of the Tamaris biological laboratory near Toulon. There remains now to find the funds to carry it on. It is rumoured that the General Council will vote the sum necessary.

Dr. Récamier has received from M. Darlau, the Keeper of the Seals, one of the silver medals sent by the Czar to be distributed among those who distinguished themselves at the charity bazaar fire by saving others from perishing in the flames.

CORRESPONDENCE.

THE MEDICAL EXAMINATION OF ARMY CANDIDATES.

SIR,—I notice a leaderette in the BRITISH MEDICAL JOURNAL of September 4th on this most important subject, and while your remarks are just and to the point, they do not quite indicate where the shoe pinches.

A large experience of this examination has made it clear to me beyond all question that its present condition is most unfair to candidates, whereas all the difficulties incidental to the medical examination could be met by the exercise of a little common sense.

The candidates at present offer themselves for examination and mentally satisfy the examiners, and the result is made known to them, and their position in the examination. The elation of spirits incidental to such success is too often crushed by rejection at the physical examination, not necessarily from medical or surgical defects, but from physical incapacity which takes place subsequently.

Now, the physical fitness of a soldier is a *sine quâ non*, and the remedy for the injustice which army candidates at present suffer is this: That all the candidates should undergo their physical examination at the same time as their mental examination, and a suitable number of marks—say 2,000—should be assigned for this examination irrespective of the mental examination, and the total number of marks allotted for the two coincident examinations should secure the candidate his appointment, and no candidate should be informed of his place except as the final result of both examinations—in fact the language examiners, the mathematical examiners, and the medical examiners should be on a par. Such an arrangement as that a candidate secures his appointment by his mental examination, provided he satisfies the medical examiners, should be done away with.

Did parents fully understand that 2,000 marks were awarded for the physical examination, every candidate would be prepared for this as thoroughly as he is for his examination in languages and mathematics, and all heart-burnings would cease.

Further, the required items of the physical examination should be as clearly stated in the syllabus, as is the case with the other subjects of the examination, so that there could be no misunderstanding.—I am, etc.,

Rugby, Sept. 8th. CLEMENT DUKES, M.D.Lond.

ARMY MEDICAL REFORM.

SIR,—The letter of a "Captain on the Reserve of Officers," in the BRITISH MEDICAL JOURNAL of July 3rd, is to the point. Medical officers in the armies of Italy, Switzerland, and some other European stations are invariably addressed and spoken of officially and socially by their military titles pure and simple, just as in the United States of America, whence your correspondent writes. Accordingly, in my travels in the former countries as a retired medical officer of the British army, I am accustomed to be addressed socially by the natives, and as a matter of courtesy, by the military title of my rank, just as they would address one of their own army medical officers, not as a matter of courtesy only, but of right. I find also that my English friends who know anything of military life in Italy or Switzerland readily fall into the custom, until some prejudiced combatant of the British army of their acquaintance turns up to proclaim to them their wrongdoing, and at the same time misrepresents the functions and duties of the Army Medical Staff by hiding the shame and injustice attending on the denial of definite military rank and titles to its members.

By this means I have found myself on several occasions addressed one day by my civilian fellow countrymen abroad by my military title *tout court*, and on the next the custom has been dropped for that of "Doctor" or plain "Mister." In such cases I have been in the habit of pursuing the course recommended by your correspondent of taking the earliest opportunity of enlightening my friends on all matters connected with the duties and functions of the Army Medical Staff, and the claims of army medical officers for due army status and title. I find them, when thus enlightened, fully convinced of the "miserable jealousy, injustice, and want of generosity" which deny military rank and titles to medical officers while there are no objections to give them to pure non-combatants, such as paymasters, quartermasters, etc.—I am, etc.,

September 1st. MILITARY MEDICAL OFFICER, RETIRED.

"OPEN FEARLESSNESS OF MIND" FOR ARMY MEDICAL OFFICERS.

SIR,—May I ask for a small space to call attention to General Butler's advice to army doctors, as it is desirable that those who follow it should be well aware of what it entails? For, although General Butler says that Dr. Barry O'Meara and his colleague at St. Helena "lost everything" for their pains, he leaves it to be inferred that nowadays official military superiors would be rather pleased than otherwise at finding army doctors showing "an open fearlessness of mind" when duty dictated any particular course, even if contrary to military wishes. But it is not so.

Two medical officers at Aldershot, not so very many years ago, displayed what we may call "an open fearlessness of mind" by condemning unwholesome meat tendered by the commissariat contractor for issue to the troops. They were at once ordered off to undesirable stations. One of them was a C.B. The commissariat officers and the General occupied

in that instance the position that Sir Hudson Lowe occupied at St. Helena. I could give many examples of this kind of thing. No doubt it was a high compliment for General Butler to pay to the newly-commissioned officers at Netley to suggest that "open fearlessness of mind" well befits members of the medical profession. But every army doctor knows, and those entering the army are entitled to know, that if a man wants to "get on" his attitude of mind must not be that of Dr. Barry O'Meara and his colleague.

If, however, army doctors want more than "the world's applause," and to come to the rescue of "the national honour when the action of their official superiors has compromised it," and can afford to retire, then by all means let them be "stiff" staff-"surgeons," and take General Butler's advice. All who know him will know he gave it in good faith.

Self-sacrifice is an admirable thing. Captains and majors, however, in the matter of their service prospects, are not expected to practise it, although there is no dead set against them, and they have the advantage that their useful word "discipline" can take duty for "kow-tow." And if doctors are to practise it as a part of their "noble" profession, let them, at least, know beforehand what they may expect.—I am, etc.,

NOUS CHANGERONS TOUT CELA—MAIS, QUAND?

September 11th.

HOSPITAL ABUSE.

SIR,—There is one thing about the hospital abuse question which puzzles me much from an economic or business point of view. Children are brought up to the out-patient room for some small operation—circumcision or adenoids. There is no question about the easiness of the proceeding. The mother says: "My doctor says he wants to be circumcised" or "have his nose put right." The surgeon remarks: "Why doesn't your doctor do it?" "Oh," says the mother, "I can't afford his fee" (a guinea).

Now, either this is true or false. If it is true, why not take less—or, if the general practitioner is very busy, refer the case to a less flourishing brother? but not to the hospital. If it is false, the public are being cheated by both hospital managers and hospital patients—the former from ignorance, the latter from meanness; and if the public is told the truth it will soon find out what to do.

The fact that many of these well-to-do people are sent up—or say they are—by general practitioners must be familiar to many clinical assistants. The fact that they wait whole mornings for treatment—grumbling much at waiting, yet admitting that we cannot get on any faster—is evident to even the porters. Some of them say their time is valuable; I have heard others say what their railway fare has been; and I am more puzzled than ever how it is that more and more is spent every year on the education of the general practitioner, with the result that more and more patients prefer to spend their money on trains and trams, and lunch, etc., to get away from him, and wait in the cold or heat in overcrowded rooms for many hours, instead of being seen in a few minutes by a man close by.—I am, etc.,

September 12th. CLINICAL ASSISTANT.

SUPERFŒTATION (?).

SIR,—In the BRITISH MEDICAL JOURNAL of September 4th Dr. Eddowes records a case under the above designation. I have seen four cases where a live child was born at full time along with a premature dead fœtus. These were not cases of superfœtation, but cases of twins in which one of the twins had perished some months before. In three of them the patients were under my care about midterm threatened with miscarriages. In each case the fœtus had probably died about that time.

Dr. Eddowes's case was, I have little doubt, one of triple impregnation, in which the single ovum was blighted by the pressure of the twins. The fact that the fœtus was shrivelled goes to prove that it had been dead and retained *in utero* for some time. It is just the kind of case in which one would expect such a thing to occur.

Has superfœtation ever been definitely proved? I have never seen the records of a case which seem to me satisfactory proof. Cases of children born within a few weeks or months of each other have undoubtedly been observed, but in some of these double uteri were present in the mothers; and until it is distinctly shown that the uterus is single, such a case cannot be accepted as proof.

There is no doubt that superfecundation can occur, but the act of impregnation by the two different males must occur within a very short time of each other. In more than one case of the birth of a white and a half-caste twin, the mother has confessed to having had intercourse with a white and a black man the same night. That a second impregnation can occur two or more months after a first is, I believe, impossible.—I am, etc.,

Glasgow, Sept. 11th. ROBERT JARDINE, M.D., etc., Physician to the Glasgow Maternity Hospital.

THE NURSING EXAMINATION OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

SIR,—Would you kindly allow me the opportunity of replying to the somewhat scathing letter which appeared in the BRITISH MEDICAL JOURNAL of August 21st under the above heading?

Your correspondent "M. P. C." strives to make his first point by a very unworthy sneer at the educational attainments of asylum nurses. Let it be granted at once that the majority of our nurses have not had the same opportunities in life as their sisters of the hospital; but, on the other hand, you will find but few women, well educated and of good social status, who would be willing to undertake the arduous, and oft-times very unpleasant and depressing, duties that form the daily lot of attendants upon the insane. We have to obtain our raw material from those who will undertake these duties, and in very many cases the result justifies the choice. In the case of the examination in question I have often found that those who did best in, at any rate, the written part of the examination, were just those who were possessed of a better education than others, and who could, therefore, express their ideas more accurately. At the same time, these candidates cannot in many instances be compared in general practical knowledge and efficiency with those others "who can only write and spell imperfectly."

As to the method of examination, I would simply point out that the system, which has undoubtedly its disadvantages, is precisely analogous to that which is in vogue in most if not all of our English and Scotch teaching universities; and, I would add, for the special benefit of "M. P. C.," that the examiners for the Medico-Psychological nursing certificate, are every whit as likely to be strictly impartial as those who grant the diplomas of our several universities. When all is said and done, the fact remains that the examination in question requires a higher standard of knowledge and efficiency than any other nursing certificate in Great Britain; and in proof of this I would point your correspondent to the questions which are set, and which are published regularly in the *Journal of Mental Science*.

I have had some experience of the St. John Ambulance examination to which your correspondent refers, and I would say that, by the very nature of the problem, the amount required from candidates is infinitely less than that required from our candidates. There is a very wide difference between training those whose knowledge will only be called into requisition at long intervals, and those from whom it is required almost every day of their lives. The number of those who have passed the Medico-Psychological, and failed in the St. John Ambulance examinations must be very limited. Our candidates, like "policemen and railway porters," are possessed of quite "average intelligence."

One point I will yield to "M. P. C." If asylum nurses and attendants can pass through the stringent course of training imposed upon them without gaining very valuable information, then, indeed, they are not worthy of being mentioned in the same breath with "policemen and railway porters."

Your correspondent, having only given his initials, I cannot decide in what capacity he has trained candidates for our examinations. I must, therefore, presume that he is an assistant medical officer. But whether this be so or not, I cannot but think that his mental vision must be very much restricted if he has not yet learnt to appreciate the great

amount of good work involved in training candidates for the Medico-Psychological nursing certificate.—I am, etc.,

HERBERT BARRACLOUGH, M.B.

Wilts County Asylum, Devizes, Sept. 14th.

THE USE OF THE FORCEPS IN MIDWIFERY.

SIR,—I have read Dr. Japp Sinclair's opening address to the Section of Obstetrics and Gynæcology of the British Medical Association at Montreal with great interest. I believe the statements he makes with regard to the excessively early and frequent use of the forceps to be only too true, and to be well worthy of the attention of those whose duty it is to instruct students. I cannot, however, agree in all respects with the methods which he adopts to prove his case. Would it not have been of more value to have stated that the late and the present masters of the Rotunda Hospital teach that forceps should be applied, with rare exceptions, only when the os is fully dilated, the largest diameter of the head through the brim, and the membranes ruptured, than to condemn Dr. Johnston's teaching of twenty-two years ago? And, again, would he not have farther advanced his point by stating that during the last seven years it has only been found necessary to apply the forceps in 3 per cent. of cases at the Rotunda Hospital than by condemning Dr. Johnston for applying them in 11 per cent. in 1875?

One statement of Dr. Sinclair's I cannot let pass uncorrected. He says: "Death in childbed from 'fretting' appears to be a speciality of the Dublin Medical School." I know that I am correct in stating that no death has been attributed to "fretting" at the Rotunda Hospital for at least fifteen years; that, on the contrary, it has been taught that "fretting" is a most important symptom of commencing septicæmia.

I hope that Dr. Sinclair will not accuse me of purposeless criticism. I trust, on the contrary, that he will agree with me in thinking that, if his views concerning the application of forceps are correct and of importance, as I hold they are, it is better for them to be positively supported by the modern statistics of a large institution than to be negatively upheld by those of ancient date. This support could have been his if he had consulted the reports of the hospital for the years 1889-96 instead of those for the years 1868-75.—I am, etc.,

HENRY JELLETT, M.D.,

September 14th. Assistant Master, Rotunda Hospital, Dublin.

THE NEW YORK EXPERIMENT IN THE PREVENTION OF PHTHISIS PULMONALIS.

SIR,—It was with great satisfaction that I read, in the BRITISH MEDICAL JOURNAL of September 11th, that, owing as it seems to the enlightened zeal of Dr. H. Biggs, the authorities of New York are engaged in an earnestly conducted experiment for lessening the spread of phthisis pulmonalis. I have long been persuaded of the contagiousness of that disease; indeed, ever since 1867, when, in Paris, I heard of the experiments of Dr. Villemin.

The discovery by Dr. Koch of the bacillus of tubercle, followed by the laborious researches of Dr. Cornet, have made it abundantly clear that if we are in earnest in our desire to lessen the amount of that melancholy disease, we can only accomplish that end if we treat phthisis as if it were one of the contagions.

In London, in 1896, with 4,421,000 inhabitants, there were 7,567 deaths from phthisis; or 171 per 100,000 inhabitants; whilst, according to Dr. Biggs, in the population of New York, consisting of 2,000,000 inhabitants, there were, last year, 6,000 deaths from that disease; or 300 per 100,000 inhabitants. That high mortality of New York shows that overcrowding, one of the conditions of contagion, exists to a high degree in that city; and in London we find that, whilst the rich districts of Hampstead, Lee, and Lewisham had death-rates from phthisis of 113, 103, and 106 per 100,000, the crowded districts of St. Saviour Southwark and St. Luke had death-rates of 320 and 285 per 100,000. So that crowded localities seem to have nearly thrice the death-rate from consumption that wealthier districts show. Vienna and Paris have high phthisis mortality.

Facts like these should, I maintain, tend to convince the most sceptical that phthisis, however difficult it may be to cure, is a comparatively preventable disease. Like Dr. Biggs, I have long felt convinced "that no factor is so potent in perpetuating the ominous death-rate from pulmonary tuberculosis as the lack of proper facilities for the adequate care of the poor stricken with this malady." It is pleasant to hear that most beneficial results have already been obtained in New York in the lessening of the mortality from phthisis by the system of notification of all cases of the disease, and the carrying out of simple methods for the destruction of the sputum of consumptives; and that this attempt has been met by the public of that city in an admirable way, as being simply a most humane attempt to lessen the spread of the greatest pest of civilisation.

I would suggest that a meeting of the medical profession of London should be called to consider whether the example given by New York could be at once carried out here. Many of us believe that phthisis could be proved to be more amenable to prevention than measles or scarlet fever are.—I am, etc.,

CHARLES R. DRYSDALE, M.D.,

Consulting Physician to the Metropolitan Hospital.

London, Sept. 14th.

VENTRIFIXATION FOR PROLAPSED UTERUS.

SIR,—Dr. Purslow, in the BRITISH MEDICAL JOURNAL of September 11th, raises the question of the lasting value of ventrifixation for prolapse.

I published a series of five cases in the *Northumberland and Durham Medical Journal* in July, 1896, in response to the remarks of Mr. Knowsley Thornton in his Hunterian lecture, and the results obtained in those cases up to the present date answer Dr. Purslow's question. They are as follows, with an additional case added. In all the procedure was the same, several sutures going through the abdominal wall, and including the anterior wall of the uterus, with a suspensory suture through each cornu in addition.

No.	Occupation.	Date of Operation.	Condition on September 13th.
1	Miner's wife	Aug., 1894	Uterus at normal height.
2	Lodging-house keeper	May, 1895	,, ,, ,,
3	Saddler's wife	July, 1895	Partial prolapse contained within the vagina.
4	Charwoman	Sept., 1895	Uterus at normal height.
5	Field labourer	May, 1896	,, ,, ,,
6	Artisan's wife	Oct., 1896	,, ,, ,,

As the table shows, the uterus has remained well sustained in the normal position, except in Case 3, in which it has partially prolapsed. This is without doubt due to the fact that only one suture could be placed through the uterine wall owing to the impossibility of lifting the uterus high enough to admit more, and also to the operation having to be greatly hurried on account of the patient having valvular disease, and taking the anæsthetic very badly. They are all hard-working women who have carried on their usual daily work since being operated upon. There can therefore be no doubt as to the permanent character of the result obtained.—I am, etc.,

Bishop Auckland, Sept. 13th. MARK WARDLE.

CHLOROFORM STATISTICS IN PRIVATE PRACTICE.

SIR,—In the BRITISH MEDICAL JOURNAL of September 11th I note a letter under the above heading in which "M.D. Edin." says that it would be interesting to obtain statistics of chloroform administration in Scotland as compared with England, and seems to imply that the methods taught there are infinitely superior to those of London. Now, Sir, it is my belief that if these statistics were published they would somewhat stagger "M.D."

In Scotland there is no coroner's inquest to be dreaded, and deaths under chloroform are merely reported to the Procurator-Fiscal, who may or may not make a few inquiries, and then nothing more is heard about them. This is decidedly convenient for the upholders of chloroform, but is apt to breed a false sense of security in the minds of practitioners in Scotland. To my knowledge, in one of the largest infirmaries of Scotland, some seven deaths during the

administration of chloroform have taken place in the course of the last few months. Unfortunately any man who advocates ether in Scotland is too often looked upon as one only desirous of pushing his own claims to be regarded as an anæsthetist who gives an anæsthetic the method of administration of which the majority of practitioners are totally ignorant of. For my own part, from considerable experience in the giving of both, I have never had an ether case which has given me a moment's anxiety, whereas formerly with chloroform I do not like to think of the repeated occasions when my heart was in my mouth.—I am, etc.,

September 12th. F.F.P.S.G.

DISAPPEARANCE OF A CARDIAC MURMUR.

Sir,—I must ask for space to reply very briefly to Dr. Hyslop Thomson's criticism of my diagnosis of temporary dilatation of the ascending aorta. That gentleman goes too far when he asserts *a priori* that the absence of a typical collapsing pulse negatives the possibility of sigmoid incompetency. A very slight degree of regurgitation (insufficient, we may suppose, to noticeably affect the pulse tension in the way in which it is affected by permanent valvular lesions) might cause a distinct, even loud *bruit*.

As regards the second sound, its accentuation is probably due rather to the sharp rebound than the exact apposition of the cusps, and is therefore compatible with some degree of incompetency.

Dr. Thomson's hypothesis of a sacculated aneurysm, opening obliquely towards the heart, is ingenious, but I do not think it will appear to the majority of your readers so probable as my own, especially in view of the theoretical considerations adduced by Dr. Musgrove, and quoted in my last letter.—I am, etc.,

Limpley Stoke, Sept. 11th. C. J. Whitby, M.D.

BERI-BERI A "PLACE" DISEASE, NOT A FOOD DISEASE.

Sir,—I was much interested in reading in the British Medical Journal of August 14th, 1897, Dr. Macleod's account of the outbreak of beri-beri amongst the officers of the ss. *Ancona*.

At first sight he certainly seemed to make out a strong case in favour of the food theory of the causation of beri-beri, thus following the views of Takaki and others, who attribute their success in stamping out the disease in the Japanese navy to the altered dietary which was instituted. This view, however, ignores the fact that, besides the improved dietary, very important hygienic improvements were introduced at the same time. As Dr. Manson points out, the disappearance of beri-beri from the Japanese navy proved nothing more than that effective prophylaxis had been established.

Our thanks are due to Dr. Macleod for so carefully recording the details of the outbreak. Everything is welcome that tends to throw light on the *vera causa* of this, perhaps, most interesting of all tropical diseases; for though we know something of the predisposing etiological factors, we know nothing, unless we are willing to accept Pekelharing and Winkler's bacillus as the *fons et origo* of the disease.

One of the weak points in the line of argument enunciated by Dr. Macleod, in addition to those already mentioned in your criticism on his communication, namely (1) that the ship had already made a voyage to Australia, an acknowledged beri-beri country; and (2) that two Chinese were on board, so that he is relying on a single outbreak. If it be the case, as he suggests, that beri-beri depends on a contaminated food supply, surely considering the many hundreds of ships entering the Port of London and coming from beri-beri countries, the disease ought to be infinitely more common and more widespread among their crews.

As regards this hospital, so favourably situated for observing the diseases of seamen, I do not think that the comparative rarity of beri-beri can be attributed to its being overlooked, for it is always present to our minds, and one soon becomes familiar with the varying phases which it presents, and diagnostic points.

I have carefully looked through our registers, both at this hospital and at the Seamen's Hospital, Greenwich, to ascertain if the history of the outbreaks of beri-beri disclose any facts which might lead us to determine definitely the origin of the ship epidemics. I selected one line of steamers trading with the East and went back for a period of six years (that is, August, 1890, to August, 1897). I found that during that time 157 cases were admitted from this company's ships, namely, 100 at the Albert Dock Hospital, 57 at Greenwich Hospitals. I ascertained that the whole of this number were drawn from one half only of the total number of the Company's fleet. I found also that many of the affected ships are sending us cases year after year, thus:—1 ship had 6 outbreaks; 2 ships had 5 each; 5 ships had 4 each; 7 ships had 3 each; 13 ships had 2 each; 13 ships had 1 each, or by tabulating the outbreaks which occurred in 6 ships, the facts come out more clearly. Letters are used to represent the names of the ships.

Table indicating the Years in which Cases of Beri-beri were admitted to the Seamen's Hospital from Ships A, B, C, D, E, and F.

1890	1891	1892	1893	1894	1895	1896	1897
—	A (2)	A (2)	A	A	—	—	—
B	—	—	B	B	B	B	—
—	C	C	—	C (2)	—	C	—
—	D	D	D	—	—	—	D
—	E	E	E	—	—	E	—
—	F	F	F	F	—	—	—

I think these figures and table afford evidence that the beri-beri has a predilection for particular ships. Some of the single outbreaks are explained by the fact that in a few instances they occurred in new ships which as yet have not had time to furnish further outbreaks; that some of the older ships have not been to London in recent years, and by the facts that occasionally we get sporadic cases. Thus a sailor joins his ship with the disease in the early stage; becoming seriously ill on the voyage, he is admitted to hospital on arrival here. It may happen that though at this particular time the conditions are not favourable in the ship for the spread of the disease, nevertheless he may have infected the ship in some way, and have sown the seed of some future outbreak.

One fact which seems strongly to negative the possibility of the food contamination theory is this, that on more than one occasion an affected ship ("beri-beri ships" we call them) makes a voyage home without any sign of beri-beri on board. She is then laid up in dock for, say, three or four months. The native crew will now be receiving a part of their rations from shore, consisting of fresh meat and bread, although probably they will still to some extent be drawing on the ship's stores. At the end of this period an outbreak of beri-beri suddenly occurs. Is not this outbreak more easily explained by supposing that the beri-beri germs have been lying dormant in the forecastle of this ship, and that the predisposing conditions have become favourable for their growth and for the emanation of their toxins, than by supposing that it is due to the ship's food supplies, which for a considerable time had been but sparingly drawn on by the crew, and which, though solely used during the voyage, nevertheless had proved then quite harmless? Our last epidemic exemplified this point very well.

The steamer in question arrived in London on April 8th, 1897, and cases of beri-beri were admitted to hospital on the following dates: July 13th, July 16th, July 31st, August 21st, August 29th, the total number of cases being 6. One case was fatal, and the *post-mortem* examination showed the usual signs of the disease. The vessel left London September 10th. In this instance, therefore, beri-beri broke out after the ship had been in dock for three months and five days.

In looking through the cases of beri-beri, many other interesting features were revealed, such, for instance, as the marked predominance of the number of outbreaks that occur in the wet and cold months of the year, when, presumably, the native sailors will remain huddled up in their stuffy forecastle. Out of the 157 cases recorded above, 96

occurred between October 1st and February 28th, the remaining 61 occurred between March 1st and September 30th. And, again, how almost invariably deaths, when they occur, take place within two or three days of admission, and how rapidly they improve after their admission to hospital and removal from the source of infection.

The exact number of fatal cases and the days on which they died are as follows:—On the day of admission, 7, 3 of which died within six hours; on the first, 1; second, 1; fifth, 1; tenth, 2 (one of these was complicated by active phthisis); 13th, 1: total number, 13.

In conclusion, therefore, it has been shown that in a certain group of vessels, all drawing their food supply presumably from the same source, in only one-half of their number did beri-beri occur; and, further, that one epidemic undoubtedly renders a ship liable to future outbreaks. The fact that cases improve so remarkably when removed to hospital does not prove much, because at the same time their food supply is altered. It would, however, be interesting to feed some of these cases while in hospital with food taken from their ships, and to notice if in these circumstances any real retardation in their recovery occurred.

The history of the outbreaks at the Richmond Asylum tend to prove that beri-beri is a "place" disease and not a "food" disease. It is highly improbable that the same food supply was used in this asylum during the epidemics of 1894, 1896, and 1897. With all these facts before us, I think we are justified in adhering to the belief that an outbreak of beri-beri depends on "place" infection *plus* favourable predisposing conditions.

I am, etc.,

D. C. REES,
House-Surgeon to the Seamen's Society's Hospital,
Royal Albert Docks, London.

September 14th.

OBITUARY.

ALARIK FRITHIOF HOLMGREN, M.D.,

Professor of Physiology, University of Upsala.

BY the death of Professor Frithiof Holmgren, Sweden has lost one of her best-known scientific men, and one of her most gifted sons. Holmgren was born at Asen, in Linköpings Stift, on October 22nd, 1831, so that at his death he was almost 66 years of age. He studied at Upsala, and then became a teacher of natural science in a school. Later he practised as a physician, and saw a good deal of cholera, and probably for that as well as other reasons he represented his Government in connection with various International Cholera Commissions. He graduated as M.D. in Upsala in 1861, and in the same year he was appointed Assistant in Theoretical and Practical Medicine in that University. About this time there was a marked awakening as to the need for the foundation of better laboratories in Sweden, so that in 1862 Holmgren was commissioned to spend some years abroad to study physiology as it was taught by the great European masters. To this end he went to Vienna in 1862, where he studied under Ludwig, who was then professor in the now abolished Josephinum. The warmest friendship subsisted throughout life between master and pupil. The outcome of his studies under Ludwig was one of the earliest of that long series of papers on respiratory exchanges, a theme which Ludwig pursued incessantly through his pupils. It was entitled "Mechanismus des Gasanstauches bei der Respiration" (*Wiener Akademie*, 1862). Until 1864 he studied under Brücke, du Bois Reymond, and Helmholtz; while he also visited the schools of Paris, London, and Italy. In 1864 he was elected Professor of Physiology in Upsala, and built there the first Physiological Institute in Sweden.

His scientific work ranges over a wide field, including his researches on the Negative Variation of the Muscle Current (1862), a similar condition in the active heart (1864); the action of poisons, calabar bean, chloroform, and atropine; the use of the ophthalmometer, and studies in colour sensation. Perhaps his best known works are those on Retinal Currents (*Centralblatt*, 1865, and Heidelberg, 1873). He showed the electrical currents of the retina, and how they are influenced by light, not only white light, but also the action of the various parts of the spectrum, in this anticipating the researches of McKendrick and Dewar on the same subject. He also showed that the electrical variation caused by light depends upon the retina only, and is not due to changes in the pigment, nor to the action of light on other constituents of the eyeball. He also showed that the choroidal surface is negative to the internal surface of the retina.

His attention was in the early Seventies directed to colour blindness, and in 1878 he published his well-known work on *Colour Blindness in relation to Railways and the Navy*, thus bringing to a practical issue the work long before begun by George Wilson of Edinburgh (1855). This led him to the invention of his now well-known "worsted test" for colour vision. This work was also published in German and French. The writer of this notice well remembers Holmgren writing to him for the loan of George Wilson's memoir, as he could not find a copy of that work in Upsala.

In 1889 he founded and became the editor of the *Skandanavisches Archiv für Physiologie*, as he says in the preface "not only to unite our scattered forces under one flag," but to gain a powerful impulse for the advancement of the science in the north of Europe. He elected to publish all papers in German rather than Swedish for obvious reasons. To the last optical studies were his favourite pursuit, and in 1891-92 we have a long paper in his *Archiv* "On Elementary Colour Sensation."

All who were present at the Liége and Berne meetings of the Physiological Congress will remember Holmgren's genial presence, his stately eloquence, and his *bonhomie*. By universal consent he was perennial President of the Congress, and few who saw him two years ago would have thought that he would be so soon removed from his sphere of activity.

But Holmgren amongst his compatriots had other claims to fame. His literary talents were great, and he was well known as a gifted poet. His speeches always had something of the poetic vein in them, thus lending a particular charm to his utterances on public occasions.

JAMES MUTER TURNBULL, M.D.EDIN., F.R.C.P.LOND.,

Formerly of Liverpool.

WE have to record the death of Dr. James Muter Turnbull, which took place on September 6th at Tunbridge Wells, where he had resided for some time past.

Dr. Turnbull was a native of Galloway, and was born in the year 1818 in the parish of Anworth-on-the-Solway, of which his father was minister. His maternal grandfather was the Rev. W. Muter, D.D., who was Dean of the Chapel Royal at Holyrood. His professional studies were begun in Edinburgh, where he obtained the qualification of Licentiate of the Royal College of Surgeons in 1838, and graduated M.D. of the University in 1839. He subsequently studied in Paris. He began to practise in Wolverhampton, and although he remained there only two years he laid the foundation of a reputation which clung to him when he removed to the wider sphere in which his life-work lay. In 1844 he settled in Liverpool, and was the same year appointed Physician to the South Dispensary, and shortly afterwards Physician to the Northern Hospital. The latter office he resigned on his election as Physician to the Royal Infirmary in 1849. His promotion to the highest professional position in Liverpool within five years of his settling in the town in itself indicates that his ability was of no ordinary kind. He continued to hold the appointment of Physician to the Infirmary until his resignation in 1876, since which time he has been one of the Consulting Physicians.

Dr. Turnbull acquired a large and high-class practice, and was well known in the North of England and Wales as a consulting physician, especially as an authority on diseases of the chest. He was also largely engaged in life insurance work. His contributions to the literature of his profession were numerous, and of a nature to enhance his reputation. Among the more important of them were *An Inquiry as to How Far Consumption is Curable* (1850), *A Practical Treatise on Disorders of the Stomach with Fermentation* (1856), and *Recent Advances in the Prevention and Treatment of Pulmonary Consumption* (1870). He was one of the earliest to recognise the value of bromide of potassium in certain diseases of the nervous system. He was President of the Medical Institution for the years 1876-77, and was elected a Fellow of the College

of Physicians in 1873, his Membership dating from 1859. He married in 1869 the daughter of the late Mr. Thomas Maxwell, late of Drumpark and Auchenfranco, Kirkcudbrightshire. He leaves a widow, but no children.

In the severe winter of 1880-81 his health began to fail, and the following year, acting on the advice of his medical friends, he gave up his practice and retired for some months to Cannes. There he developed a severe attack of rheumatoid arthritis, which seemed to be relieved for a time; but other attacks occurred, and in subsequent winters he visited the Canaries and Algiers, spending the summers for the most part at Buxton. Unfortunately, no permanent relief followed. His malady assumed a most distressing form, and gradually completely crippled him. Since 1886 he has lived in retirement at Tunbridge Wells, being often the subject of sufferings which medical skill was powerless to relieve, but which he bore with heroic fortitude and resignation. During the whole of his illness he was most assiduously attended by various medical friends, and his sufferings were soothed by the most careful ministrations of a devoted wife.

WE regret to announce the sudden death of Dr. STARKEY SMITH, one of the leading medical men in Warrington, which took place last week under almost tragic circumstances. Dr. Smith had been called to a confinement, and it appears that when attending to his professional duties he suddenly fell forward and expired. Dr. Smith was an M.B.Lond. (1862), and a F.R.C.S. (1865). He held the post of Consulting Surgeon to the Warrington Infirmary, and other public appointments. Dr. Smith was well known both in Warrington and Manchester, and his sudden death has been a source of great grief to his numerous friends, for he had those gifts and qualities which made at once a much respected citizen and a much esteemed and loved friend.

WE regret to announce the death of Mr. ARTHUR BRISLEY RYE, F.R.C.S., which took place on September 1st, at his home in Caterham Valley. Mr. Rye was born in 1812, at Rochester, where his father practised many years. He received his medical education at St. Bartholomew's, and after obtaining the licence of the Apothecaries' Society in 1836, was admitted a Member of the Royal College of Surgeons of England in the following year. He became a Fellow of the College in 1852. After qualifying, Mr. Rye acted for a time as assistant to Mr. Harrison, of Greenwich. He then settled at Banbury, in Oxfordshire, where he practised for over thirty years. For some years after his retirement he resided at Leckhampton, and took much interest in the building and opening of the Delancey Fever Hospital, acting as Hon. Superintendent for some time. He continued to the last to take a keen interest in his profession, and was never happier than when he could oblige a friend by taking charge of his practice while he took a holiday. He was a man of the the brightest and most genial disposition, and an excellent and resourceful practitioner. He was beloved by his patients and respected by all who knew him. Mr. Rye was twice married, and leaves a widow and one son and one daughter to mourn his loss.

DR. ADAM FLETCHER, of Bury, Lancashire, who died on September 4th, after several months' illness, commenced to practise in Bury over 50 years ago, and for more than 40 years was one of the honorary medical officers of the Bury Dispensary and Hospital. He was appointed a magistrate of the Borough of Bury in 1888, and a county magistrate in 1890, and for eight years was Surgeon-Captain of the 1st V.B.L.F., Bury, and established ambulance classes in connection with the corps.

YET another victim added to the terrible list of bicycle accidents. On the way towards Preston proceeding from Hoghton is a hill, which was the scene of a sad bicycle accident on September 11th. Mr. R. J. Stephens, of Whittingham, along with three medical friends, were returning to Preston, and while passing down the hill above mentioned, one of the four, Dr. Dudley, noticed a stone fly from under Mr. Stephens's front wheel. The wheel wavered, and Mr. Stephens was thrown violently to the ground, falling with terrible force upon his head and shoulders. When picked up Mr. Stephens was unconscious. He was conveyed to the Preston Infirmary, but he died the same evening from hæmorrhage, following concussion of the brain. Mr. Stephens studied at King's College, London, where he had a brilliant career, having gained various scholarships, exhibitions, and prizes, including those of the Warneford, Sambrooke, and Leathes. He took his L.S.A. in 1887, and became M.R.C.S. in 1888. For two years he was House-Surgeon at the Blackburn Infirmary, and during the last five years he was Assistant Medical Officer at the Whittingham Asylum. His loss will be deeply felt at the latter institution, for he enjoyed the friendship and esteem of his colleagues on account of his high professional attainments and the charm of his personal character.

MR. CHARLES ALEXANDER BARCLAY LAING, M.A., M.B., C.M., whose death is announced, was educated at Aberdeen Grammar School, and subsequently at Aberdeen University. On obtaining his diploma he was appointed Resident Physician to the Aberdeen Hospital for Sick Children. This appointment he was compelled to resign on account of ill-health, and he took an engagement on board one of the Cape Liners. His health, however, did not improve, and he died at Fraserburgh on September 11th, in his thirty-second year.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

FLEET-SURGEON R. S. P. GRIFFITHS is promoted to be Deputy-Inspector-General, September 1st. He entered the Royal Navy as Surgeon, November 12th, 1867; became Staff-Surgeon, March 14th, 1879; and Fleet-Surgeon, August 10th, 1888. He was Staff-Surgeon of the *Orontes* during the Egyptian war in 1882, and has the medal and Khedive's bronze star granted for that campaign.

Surgeon F. W. COLLINGWOOD has been placed on the retired list of his rank, August 6th. His commission as Surgeon bears date February 22nd, 1888.

The following appointments have been made at the Admiralty: PAUL H. M. STAR, Surgeon, to the *Pheasant*, September 9th; GEORGE HEWLETT, Surgeon, to the *Hearty*, September 9th; ARTHUR S. NANCE, Staff-Surgeon, to the *Pearl*, September 30th; JOHN J. DINNIS, M.D., Staff-Surgeon, to the *Collingwood*, September 30th; JOHN MOORE, M.D., Staff-Surgeon, to the *Mohawk*, September 30th.

ARMY MEDICAL STAFF.

SURGEON-CAPTAIN HORATIO R. O. CROSS, from the 1st Life Guards, is promoted to be Surgeon-Major Royal Horse Guards, *vice* H. Mitchell, retired, August 11th. He entered the service as Surgeon-Captain, August 4th, 1878; was appointed to the Grenadier Guards, December 17th, 1884; transferred to the Scots Guards as Surgeon-Major, May 4th, 1892; which promotion was cancelled on his appointment to the 1st Life Guards, September 25th, 1894. He served in the Zulu war in 1879 with the Mounted Infantry of the Flying Column and with the Cavalry Patrol until the capture of King Cetewayo (medal with clasp); and in the Boer war of 1881 with the Mounted Infantry of the Natal Field Force.

Surgeon-Major CHARLES R. KILKELLY, M.B., is appointed Surgeon-Major Grenadier Guards, *vice* W. C. Beevor, M.B., who exchanges, September 15th.

Surgeon-Major W. C. BEEVOR, M.B., who exchanges with Surgeon-Major Kilkelly, was appointed to the Army Medical Staff, August 2nd, 1884, and joined the Scots Guards, November 28th, 1885; whence he was transferred to the Grenadier Guards in June last.

Surgeon-Lieutenant-Colonel AYLMER E. HAYES, D.S.O., retires on retired pay, September 15th. His commissions are thus dated: Surgeon, February 4th, 1877; Surgeon-Major, February 4th, 1889; and Surgeon-Lieutenant-Colonel, February 4th, 1897. He was in the Afghan war of 1878-80 (medal); in the operations near Suakin in December, 1888, including the engagement at Gemaizah (mentioned in despatches, medal with clasp, 3rd Class of the Medjidie, and Khedive's star); and in the operations on the Soudan frontier in 1889, including the engagement at Toski (mentioned in despatches, D.S.O., and clasp).

Surgeon-Major ROBERT C. GUNNING is promoted to be Surgeon-Lieutenant-Colonel, August 4th. His previous commissions are—Surgeon, February 4th, 1877; Surgeon-Major, February 4th, 1889.

INDIAN MEDICAL SERVICE.

SURGEON-LIEUTENANT-COLONEL S. L. DOBIE, Madras Establishment, is permitted to retire from the service, from July 6th. He was appointed Assistant-Surgeon, March 30th, 1872, and Surgeon-Lieutenant-Colonel, March 30th, 1892. He was in the Afghan war in 1878-80 in medical charge of the 1st Madras Cavalry (medal); and in Suakin in 1885-6 with the Indian Contingent in medical charge of No. 2 Field Hospital.

Surgeon-Lieutenant-Colonel W. K. HATCH, M.B., Bombay Establishment, is appointed Principal of Grant Medical College, Bombay, *vice* Brigade-Surgeon-Lieutenant-Colonel G. A. MACONACHIE, M.D., retired.

ARMY MEDICAL RESERVE.

SURGEON-MAJOR JOHN J. A. V. C. RAYE resigns his commission, September 15th.

Surgeon-Lieutenants H. W. JOYCE and W. A. WETWAN, having resigned

their Volunteer appointments, cease to belong to the Army Medical Reserve, September 15th.

MILITIA MEDICAL STAFF CORPS.

Surgeon-Lieutenant L. W. A. Keiffenheim-Trubridge, M.D., from the 3rd Kent Volunteer Artillery, to be Surgeon-Lieutenant, September 15th.

THE YEOMANRY AND VOLUNTEER ENGINEERS.

Surgeon-Lieutenant-Colonel G. W. Daniell, Dorset (Queen's Own) Yeomanry, has resigned his commission with permission to retain his rank and uniform, September 15th.

Surgeon-Lieutenant W. Rendall, of the same corps, is promoted to be Surgeon-Captain, September 15th.

Surgeon-Lieutenant T. C. Bailey, 2nd Cheshire (Railway) Engineers, is also promoted to be Surgeon-Captain, September 15th.

CHANGES OF STATION.

The following changes of Station amongst the officers of the Army Medical Staff have been officially notified to have taken place during last month:

	From.	To.
Brig.-Surg.-Lt.-Col. F. Lyons, M.D.	Malta	Colchester.
Surg.-Lt.-Col. A. E. Hayes, D.S.O.	Hong Kong	Weedon.
Surg.-Major L. W. Swabey	York	Malta.
,, G. Wilson, M.B.	Sheerness	Chatham.
,, A. P. H. Griffiths	Chester	Hulme.
Surg.-Capt. H. W. Austin	—	Tregantle.
,, A. L. Borradaile, M.B	Bombay	Eastern Dist.
,, M. L. Hughes	—	Aldershot.
,, W. W. O. Beveridge, M.B.	Bombay	Western Dist.
,, C. E. P. Fowler	Strensall	York.
Surg.-Lieut. F. S. Brereton	Asht'n-u'r.-Lyne	Chester.
Quartermastr. E. Thowless	Cape Town	Portsmouth.

The recently appointed Surgeon-Lieutenants—namely, S. L. Cummins, M.D., J. M'Ardle, M.B., C. H. Hopkins, L. J. C. Hearn, M.B., P. McKessack, M.B., J. McD. McCarthy, E. Brodribb, J. Poe, M.B., H. L. W. Norrington, H. G. F. Stallard, R. D. Jephson, and A. W. N. Bowen, are stationed at Aldershot.

Surgeon-Lieutenant-Colonel F. E. Barrow, retired pay, has been posted to Woolwich.

THE INDIAN FRONTIER: WOUNDED OFFICERS.

All the wounded officers have been sent down from the Malakand, and are now scattered in various stations. Major Herbert, who was shot in the first night's fighting, is in Simla. Lieutenant Higginson, wounded at Maizar, died of enteric at Sherain.

CHOLERA AMONG THE TROOPS.

The *Pioneer Mail* of August 26th says that a case of cholera is reported to have occurred in the Northamptonshire Regiment as well as amongst the Dorsetshire. The regiment has been halted at a station some short distance from Rawul Pindi. This confirms the former rumour reported in the British Medical Journal of September 11th.

LEAVE AND THE I.M.S.

The *Indian Medical Gazette* for August devotes a leading article to Leave and the Indian Medical Service. It shows that much dissatisfaction is felt in the Indian Medical Service owing to the continued stoppage of leave, and points out clearly the inadequacy of the staff of the Indian Medical Service as it at present stands for the duties which it has to perform. The suggestion is offered that Government should look into facts and increase the number of medical officers in proportion to the needs of our Indian possessions, as the Establishment should be large enough to meet the various wants of the civil and military authorities, while at the same time it should provide a reserve of officers to replace those on leave.

THE PAY OF THE A.M.S.

An article appears in the *Madras Mail* of August 14th confirming the views expressed by a correspondent ("Resignation") of the *Times of India*, to whose letter we alluded last week. The *Madras Mail* concludes its article by stating that, "no matter how they are looked at, the pay regulations as at present framed, instead of conferring any benefit on the Army Medical Service as a whole, are distinctly detrimental to their interests," and suggests a revision of the regulations. The *Madras Mail* goes thoroughly into the various items and figures of the Army Circular of May 1st regulating the rates of pay.

THE SURGEON-GENERAL WITH THE BOMBAY GOVERNMENT.

The post of Surgeon-General with the Government of Bombay, rendered vacant by Surgeon-General Cook's death, has, we understand, been offered to Surgeon-Colonel D. E. Hughes, now on leave in England.

THE FRONTIER EXPEDITION.

Five nursing sisters have been added temporarily to the Punjab Command from among those who were lately employed on plague duty in the Bombay Presidency to admit of a similar number being attached to the general hospitals with the frontier forces. No effort has been spared to provide every comfort possible for the troops. Quinine is being issued as a prophylactic to the troops in the Malakand, Tochi, and Peshawar valleys. Since the Chitral campaign the field medical regulations have been completely revised, and there are now no fewer than sixty-six field hospitals available for immediate service. When the mail left India on August 24th the following was the distribution of the British and native field hospitals: At Malakand:—British: No. 1; Sec. C and D, No. 3; Sec. A and B, No. 13; Sec. A, B, and C, No. 14. At Tochi:—British: No. 2; Sec. A and B, No. 3. At Peshawur:—British: No. 5; Sec. A, No. 6; Sec. C, No. 14. At Kohat: Sec. A and B, No. 8. The reserve brigade had Nos. 25 and 26 British field hospitals. The native field hospitals were distributed as follows:—At Tochi: Nos. 28, 29, 30, Sec. C and D No. 32; at Malakand: Nos. 34, 37, 50, 51, Sec. A and B No. 35; Sec. B, C, and D, No. 45; Sec. B, No. 46. At Peshawar: Nos. 31, 44, Sec. A No. 45. At Kohat: No. 42. With the reserve brigades: Nos. 62 and 65. Of British general hospitals: No. 1, Nowshera; native general: No. 1 also at Nowshera. At Edwardesabad and the hills: No. 2 British general, and at Bannu No. 2 native general; No. 1 Field Medical Depôt at Malakand, and No. 2 Reserve at Mian Mir.

SCARLET FEVER IN THE CHANNEL SQUADRON.

A letter from the Channel Squadron, dated from Malaga September 6th, states that scarlet fever has broken out on board the *Prince George*, and that the ship has been ordered to proceed to Gibraltar to land the patients for treatment at the naval hospital there and obtain a clean bill of health.

THE ARMY MEDICAL RESERVE.

Fair Play writes: It is laid down that the officer shall take duty with troops at contract rates; and such duty may occupy an officer from 8 A.M. to 1 P.M. in the station hospital; but he cannot be forced to do orderly duty. What are the rates? £10 per annum for every twenty-five, or portion of twenty-five, men, women, or children; accounts rendered and paid quarterly in arrear. There is often the utmost difficulty in getting the monthly return from corps of the numbers upon which remuneration is based. The pay is miserably inadequate; and I hold that if the Reserve is to be used when Government likes, being officers holding Her Majesty's commission, then why should they be treated and looked upon as private practitioners when paid for doing duty? They ought, when called up to do duty, be treated and paid in the same manner as their brethren of the Medical Staff—according to their rank. I think I am right in saying the Government think they can flout the Army Medical Staff on the strength of the Reserve, by employing it when they like at home stations.

*** We sympathise with our correspondent; contract rate is a shabby dole quite unworthy of any honest professional service. But we cannot hold the War Office to blame; why do so many medical men hold their services so cheap in volunteering for such work? To serve in the Reserve may be patriotic, but it does not pay; the Government have by far the best of the bargain, and would be foolish not to enforce it when men voluntarily put themselves in its power. Of one thing he may be sure: "contract" or other "rates" will not be increased so long as medical men can be found to accept them. It is a matter something like the "clubs." We clearly foresaw the object of the Reserve from the very time of its institution, and looked upon it in the light of a medical betrayal of the regular army medical staff. If our correspondent will consult the British Medical Journal of October 6th, 1888, he will find "Our Poet" hit off the very points now complained of with amusing prescience in his "Lay of the Medical Reserve."

> "But we've another little job for you—
> 'Bove all you must observe,
> 'Twas the object chief we had in view
> In framing the 'Reserve;'
> At contract rates you'll service give
> In your kind charity,
> To troops who near you chance to live,
> In any 'emergency.'
>
> "Send in your names, time never waits,
> Secure the 'prior claim;'
> To be employed at 'contract rates'
> Should be your highest aim.
> Save! save! the State, surgeon-volunteers
> From impending bankruptcy,
> And help us to dish your proud *confrères*
> In 'great emergency!'"

TICKETING.

A correspondent writes: The last straw! Medical officers are to wear the letters "A.M.S." Who is responsible?

*** We are well aware of the invincible repugnance of the British officer to be in any way "ticketed." Soldiers, of course, bear their corps on their shoulder straps; we do not know whether any class of commissioned officers bear letters such as are now directed to be worn by the Medical Staff. Let the matter be threshed out.

OFFICERS AND GENTLEMEN.

A Correspondent writes: You hit off the crux of the army medical question in the sentence in an editorial: "The army will be avoided by all the best medical men until the War Office authorities and military officers condescend to treat them as *educated gentlemen*." The italics are mine. Most assuredly the highest class of medical men will continue to shun the army; military officers may resent the intrusion of a second class, but they have themselves to thank for the wide berth the best men give the army.

FOREIGN SERVICE TOURS.

Despair writes: The reduction of the term of tours in the East has been countered by their extension in the West Indies. Up to 1889 the tour

in Jamaica, Barbadoes, etc., was three years, and then extended to four, and has now been made five. If there were or are sufficient reasons for a three years' tour, it must be absolutely wrong to make it five; both cannot be right. This is how matters stand:

Officers.	Tour in Jamaica.	Home Leave.
European Regiments	2 years	Regular.
Royal Engineers	2 and 3 years	,,
Royal Artillery	3 years	,,
A.S.C. and A.P.D.	4 ,,	,,
Medical Staff	5 ,,	None.

Without leave three years is long enough, but five is positively cruel. This is the latest concession to the Army Medical Service.

MEDICO-LEGAL.

POLICE FEES AND THE MEDICAL PROFESSION.

The Portsmouth Medical Union are endeavouring to obtain an increase in the fees paid by the police for medical services. In that town they have been fixed at 3s. 6d. for a day, and 7s. 6d. for a night call; and this would appear the highest rate paid by any public authority, except by the Corporation of Bradford, which pays 7s. 6d. both for day and night calls.

Dr. Frederick Pearse writes that the Portsmouth Medical Union are demanding 5s. for a call between 8 A.M. and 8 P.M., 7s. 6d. between 8 P.M. and midnight, and 10s. between midnight and 8 A.M.

The profession at Portsmouth has set an admirable example by the way they have combined to uphold the general interest, and the Medical Union is to be congratulated on having done excellent work. The enterprise, however, it has now undertaken is possibly not one of the most pressing character. Few complaints reach us of the inadequacy of the present rate of payment by the police in different parts of the country. Doubtless here, as in most of the questions relating to medical fees, local considerations must be taken count of, and the authorities might reasonably be expected to pay more in some places than in others. This may be the case at Portsmouth; and, if so, the interests of the local profession could not be in better hands than those of the Portsmouth Medical Union.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF DURHAM.

First Examination for the Degree of Bachelor in Medicine (Old Regulations).—The following candidate has satisfied the Examiners:

Chemistry with Chemical Physics.—L. H. Walsh, M.R.C.S., L.R.C.P., L.S.A., King's College Hospital.

First Examination for the Degree of Bachelor in Medicine (New Regulations).—The following candidates have satisfied the Examiners:

Elementary Anatomy and Biology, Chemistry and Physics.—Honours—First Class.—R. S. Hindmarch, College of Medicine, Newcastle-upon-Tyne. Honours—Second Class.—T. S. Coates, College of Medicine, Newcastle-upon-Tyne; A. Parkin, College of Medicine, Newcastle-upon-Tyne; A. H. Proctor, College of Medicine, Newcastle-upon-Tyne; W. R. D. Daglish, College of Medicine, Newcastle-upon-Tyne. Pass List.—C. C. Adeniyi-Jones, College of Medicine, Newcastle-upon-Tyne; Mary Evelyn De Rusett, College of Medicine, Newcastle-upon-Tyne; J. H. Graham, College of Medicine, Newcastle-upon-Tyne; G. Mack, College of Medicine, Newcastle-upon-Tyne; W. A. Murray, College of Medicine, Newcastle-upon-Tyne; H. Reah, College of Medicine, Newcastle-upon-Tyne; H. H. Ruffmann, College of Medicine, Newcastle-upon-Tyne; F. R. Scott, College of Medicine, Newcastle-upon-Tyne; T. Y. Simpson, Cooke's School of Anatomy.

Chemistry and Physics.—A. H. Bunting, College of Medicine, Newcastle-upon-Tyne; A. J. S. Brandan, St. Thomas's Hospital; W. S. Batten, College of Medicine, Newcastle-upon-Tyne; Lætitia Nora Ede, College of Medicine, Newcastle-upon-Tyne; J. Farrage, College of Medicine, Newcastle-upon.Tyne; Chella Mary Hankin, London School of Medicine for Women; M. Haver, College of Medicine, Newcastle-upon-Tyne; G. H. Kirby, Mason College, Birmingham; E. J. L. Kendle, B.A., College of Medicine, Newcastle-upon-Tyne; E. E. Norman, College of Medicine, Newcastle-upon-Tyne; M. J. Quirke, Mason College, Birmingham; Monica Lucien Mary Robertson, London School of Medicine for Women; F. Rowland, Mason College, Birmingham; F. W. Sime, Guy's Hospital.

Elementary Anatomy and Biology.—Annie Tombleson Brunyate, London School of Medicine for Women; H. W. Furnivall, University College Hospital, London; J. A. Giles, College of Medicine, Newcastle-upon-Tyne; A. E. Hodge, College of Medicine, Newcastle-upon-Tyne; E. L. Jenkins, Cooke's School of Anatomy: A. C. Ney, College of Medicine, Newcastle-upon-Tyne; W. W. Stainthorpe, College of Medicine, Newcastle-upon-Tyue; F. G. Wilson, College of Medicine, Newcastle-upon-Tyne.

The Middlesex Hospital has received a further sum of £2,000 being part of a one-sixth share of the residuary estate of the late Mr. David Brandon.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 6,795 births and 4,089 deaths were registered during the week ending Saturday last, September 11th. The annual rate of mortality in these towns, which had declined from 29.5 to 20 7 per 1,000 in the four preceding weeks, further fell to 19.4 last week. The rates in the several towns ranged from 8.2 in Halifax, 9.5 in Croydon, 11.3 in Cardiff, and 11.4 in Swansea to 26.9 in Liverpool, 28.5 in Hull, 31.1 in Wolverhampton, and 35 3 in Preston. In the thirty-two provincial towns the mean death-rate was 21.5 per 1,000, and exceeded by 5.2 the rate recorded in London, which was 16.3 per 1,000. The zymotic death-rate in the thirty-three towns averaged 4.5 per 1,000; in London the rate was equal to 2.6 per 1.000, while it averaged 5.8 in the thirty-two provincial towns, among which the highest zymotic death-rates were 7 9 in Sheffield, 9.5 in Leicester and in Salford, 10.0 in Hull, and 17.7 in Preston. Measles caused a death-rate of 1.0 in West Ham and in Manchester, 1.4 in Oldham, and 3.6 in Preston; scarlet fever of 1.3 in Bolton; whooping-cough of 1.1 in Liverpool and 1.4 in Oldham; "fever" of 1.1 in Sunderland; and diarrhœa of 7.7 in Leicester, 8.3 in Salford, 9 3 in Hull, and 13.6 in Preston. The 48 deaths from diphtheria in the thirty-three towns included 25 in London, 4 in Birmingham, 4 in Leicester, and 3 in Liverpool. No fatal case of small-pox was registered last week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 3,528 at the end of the seventeen preceding weeks, had further risen to 3,579 on Saturday last; 376 new cases were admitted during the week, against 340, 356, and 371 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday, September 11th, 848 births and 545 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had declined from 21.6 to 18.1 per 1,000 in the three preceding weeks, rose again to 18.3 last week, but was 1.1 per 1,000 below the mean rate during the same period in the thirty-three large English towns. Among these large towns the death-rates ranged from 13.3 in Paisley and 15.3 in Perth to 19.9 in Edinburgh and 22.0 in Greenock. The zymotic death-rate in these towns averaged 3.3 per 1,000, the highest rates being recorded in Edinburgh and Leith. The 261 deaths registered in Glasgow included 29 from diarrhœa, 9 from whooping-cough, 3 from diphtheria, 3 from "fever," and 2 from scarlet fever. Fourteen fatal cases of diarrhœa, 2 of diphtheria, and 2 of scarlet fever were recorded in Edinburgh, and 2 of diphtheria in Aberdeen.

NOTIFICATION CERTIFICATES.

A London correspondent writes suggesting an addition to the certificate of notification in the shape of a space for insertion of the facts as to the school attendance of children ill themselves, or, we assume, living in invaded dwellings. This is just one of these points that need not be considered in connection with the much-required Amendment Act as to compulsory notification. But, as has already been pointed out in the British Medical Journal, there are districts in which much desirable information is sought in a series of optional questions printed at the foot of the form of certificate. Medical practitioners know that the head of the form is all that the law compels them to fill up, though as matter of common practice we believe that the optional data are forthcoming also. Hence, we would like to see the form of certificate improved in more than one vital respect in its obligatory phases, and for the rest left to the voice of the local authority subject to the sanction of the central health department. The form might vary for certain of the notifiable diseases, milk, water, and school services finding places in the set form in addition to the present data, plus age and sex of patient, and other desired facts being either requested locally, or desire for their optional insertion expressed, as district and central authorities deem best.

CERTIFICATION OF PAUPER LUNATICS.

Referring to the annotation on page 623 of the British Medical Journal of September 4th, we notice that at the last meeting of the Sunderland Board of Guardians the report was sent back of the Special Committee appointed to consider the subject of fees paid to the district medical officers for certifying cases of lunacy. The report was to the effect that the present arrangement is the best that can be adopted. Pending further consideration of the report, we may add that there appears to be a condition of affairs in that union of which we were not previously aware—namely, that the medical men called in by the justice to examine pauper cases alleged to be insane are not paid unless certificates of insanity are signed. But as we read the Act, the justice who directs or calls in a medical man to examine such alleged lunatic has the power of ordering the guardians to pay a fee—a "reasonable remuneration"—as an expense attending the examination of the alleged lunatic, whether a certificate be signed or not.

J. T. (M.D.).—As a matter of professional etiquette and official courtesy, the medical officer of health ought not, except in case of emergency, to visit and examine a patient without prior intimation to the practitioner in attendance.

THE ETHICS OF NOTIFICATION.

T. W. N. G.—We know of no pamphlet which deals with the etiquette of notification from the point of view of the private medical practitioner. The rules of courtesy which govern the relations of one medical man

to another will cover all that is needed. Medical officers of health have often a delicate duty to perform in regard of notified cases of infectious disease, more especially if themselves in private practice, and all assistance that can be rendered to these officers with a view of maintaining harmonious relations will be of value to both parties. The medical officer of health is seldom in difficulties where a medical practitioner bent on action of a *bonâ fide* and helpful nature is concerned.

SUPERANNUATION ALLOWANCES.

C. Q.—There is no mention of public vaccinators in the Poor-law Officers Superannuation Act Amendment Act. Clause 4 of the main Act of 1896 states that the services of an officer or servant, whether continuous or not, and even though under multiple authorities, are to be aggregated and reckoned for the purposes of superannuation, whether whole or part time service be in question.

POOR-LAW SUPERANNUATION.

Subscriber.—Any officer or servant within the terms of the Poor-law Officers Superannuation Act can, under Section 2, claim pension at the age of 60 years if he has served for forty years. We do not know of any proof other than that of age and certified records of service being requisite. Failing an aggregate of forty years' service, the age of 65 must be reached before plea of old age alone can be sustained.

DISTRICT MEDICAL OFFICER AND ATTENDANCE ON INMATES OF ALMSHOUSES.

G. O., who is a district medical officer, with a fixed salary, writes to say that he has recently had additional work thrown upon him by the guardians having decided that he is to attend as paupers the inmates of some almshouses (twelve) in his district, he having been hitherto paid for his attendance by the trustees of the charity, who, having been informed by the Charity Commissioners that they are not compelled to provide medical attendance for the alms people, now decline to do so. "G. O." asks our opinion, and whether it would be of any use for him to apply to the Local Government Board.

*** We fear our correspondent will have to give his attendance on all these alms people whenever he receives a proper medical order for him to do so. A resolution of the Board that he is to do this does not dispense with the usual formalities. The making these people paupers for medical relief only is, in our opinion, an error, as it is evident that the trustees of the charity are empowered to provide medical attendance for them, but decline because they are not compelled to provide it. We do not apprehend that the Local Government Board would prevent medical orders being issued for attendance on these people if guardians so direct.

INDIA AND THE COLONIES.

INDIA.

Excessive Fever Prevalence in Madras.—The extraordinary increase of fever-rate has caused the Government to call for a special report on it from the Sanitary Commissioner, Surgeon-Lieutenant-Colonel King. The fever-rate in April, 1890, was 16 per mille per annum. In the following year the maximum reached 24.5, and, though this level has not since been reached, the rate has been much higher than at any time during the previous decade, ranging from $15\frac{1}{2}$ in 1896 to 19 in 1895. The Sanitary Commissioner had many facts and theories to deal with. Madras has a soil saturated with filth. Surgeon-Lieutenant-Colonel King finds, in the relation between the fever returns during the past six years and the extent of rainfall the proof of a relation between subsoil water and the prevalence of fever. Dr. King says the increased introduction of house connections with the public water supply in imperfectly drained premises, and in an imperfectly drained town, has favoured moisture of the superficial soil and consequent growth of the malarial germ. The remedy suggested by the Sanitary Commissioner is to starve the malarial germ by depriving it of its pabulum of organic matter and of moisture, which is to be effected by a more efficient conservancy and by combining a system of subsoil drainage with pipe sewerage. This is all well and good, but the point is, Will the Government carry out the suggestions of its Sanitary Commissioner?

Prevention of Plague.—We are favoured by a printed report of the measures put in force by the authorities at the Hardwár fair in the North-West Provinces, India. Hardwár, although adjacent to such plague-stricken centres as Kumaon and Gurwal, and open to pilgrims from the plague area of the Bombay Presidency, has been protected against an epidemic of plague: nor has the holding of the fair been prevented. The sanitary work was under the able direction of Surgeon-Major S. J. Thomson, and the principles involved were medical inspection, segregation camps—in other words, rational quarantine. Some eighteen cases of imported plague occurred amongst the pilgrims to the fair, but by active interference an epidemic was prevented. This is a most hopeful statement, and the more so as all inoculations, whether for preventive or curative purposes, have not proved to be reliable.

Medical Registration in India.—Intermittently a cry arises from qualified medical men in India for State registration on the lines on which that useful proceeding has been laid in this country. A measure of the sort serves to benefit and protect both the profession and the public, for reasons which it is unnecessary to explain. The need of some means of placing the hall-stamp of Government recognition on those who, having undergone a sufficient preliminary and professional education, have obtained, after proper testing, the right to practise medicine, surgery, and midwifery, is specially indicated at the present time, when India is threatened with a growth of mushroom medical schools, granting of their own motion and authority bogus diplomas. The Government of India has never taken up the question seriously, being apparently deterred by a fear—an unfounded fear—of damaging the interests of persons practising according to the old Hindu and Arabian systems. This discredited and dwindling class would not be materially injured by a system of registration which would serve to signalise men who have expended labour, time, and money on qualifying themselves to practise on rational and scientific principles.

MEDICAL NEWS.

The total contributions to the Prince of Wales's Hospital Fund for London up to September 15th (excluding the proceeds of the sale of the hospital stamps) amount to £183,688 11s. 1d.

Medico-Psychological Association of Great Britain and Ireland.—The next examination for the Certificate in Nursing and Attending on the Insane will be held on Monday, November 1st. Particulars may be obtained from the Registrar, Dr. Spence, Burntwood Asylum, near Lichfield. October 4th is the last day on which the names of candidates for examination will be received.

Rabies at Hastings.—The muzzling order is to be put in force at Hastings. It appears that a dog belonging to a resident was bitten by a dog belonging to a travelling theatrical company. The animal developed symptoms of rabies, and was shot by a veterinary surgeon. Before this, however, the retriever had bitten five other dogs. Four have been traced and destroyed, but the whereabouts of the fifth is at present unknown. Quite a scare is being caused amongst dog owners of the town.

Influenza at Merv.—A telegram from St. Petersburg states that the fever, apparently an extreme form of influenza, which has been raging for many months in the district of Merv, is claiming fewer victims at the present time, but its virulence has increased rather than lessened. It leaves behind it the most serious maladies, such as affections of the heart, with dropsy, paralysis, and contraction of the limbs.

University College Hospital.—In spite of the liberal way in which the public have this year responded to appeals for hospital charity, there is still urgent need in important instances for further help. The Committee of University College Hospital find themselves in the position of having to consider the possibility of closing fifty beds unless help from some unexpected quarter arrives soon. About £3,000 is needed to carry on the hospital to the end of the year.

The Sanitary Institute.—The twenty-fourth London course of lectures and demonstrations for sanitary officers, 1897, will be given in the Parkes Museum, Margaret Street, W., on Mondays and Thursdays, at 8 P.M., commencing September 27th. The lectures will be given by well-known authorities, and will comprise the following subjects: Introductory lecture (admission free); Sanitary Law, English, Scotch and Irish; General Enactments Public Health Act, 1875; Model By-laws, etc. The Law Relating to the Supervision of Food Supply. Sanitary Laws and Regulations Governing the Metropolis. Objects and Methods of Inspection, Nuisances, etc. Factories, Workshops, and Offensive Trades. Diseases of Animals in Relation to Meat Supply; Characteristics of Vegetables, Fish, etc., Unfit for Food. Demonstration of Diseases in Meat. Infectious Diseases and Methods of Disinfection. Water Supply, Drinking Water, Pollution of Water. Ventilation, Warming, and Lighting. Principles of Calculating Areas, Cubic Space, etc.; Interpretation of Plans and Sections to Scale. Sanitary Building Construction. Sanitary Appliances. Details of Plumbers Work. House Drainage. Sewerage and Sewage Disposal. Scavenging, Disposal of House Refuse. In addition to the above lectures the course will include a number of practical inspections and demonstrations illustrating the matters with which a sanitary officer may have to deal in the course of his duties. Particulars of these are given in the syllabus. Full particulars can be obtained on application to the Secretary of the Institute, Parkes Museum, Margaret Street, W.

BEQUESTS.—Under the will of the late Mr. James Toleman, of 110, Haverstock Hill, and 17, Goswell Road, £1,000 has been bequeathed to the Royal Hospital for Diseases of the Chest, City Road; £1,000 to the Cancer Hospital, Brompton; £1,000 to the Fever Hospital, Liverpool Road, Islington; £1,000 to the Royal Free Hospital, Gray's Inn Road; £1,000 to the British Home for Incurables; and "to the Asylum for Idiots, whose offices are at 36, King William Street, in the City of London, £1,000."

WIGAN MEDICAL SOCIETY.—A meeting of the Society was held on September 9th, 1897, Mr. C. T. Street, President, in the chair. Mr. W. J. Orsman, F.C.S., analyst for the county borough of Wigan, gave a lecture on and demonstration of Roentgen rays. The lecture and demonstration were highly appreciated, and a cordial vote of thanks was passed to Mr. Orsman. A paper on Empyema and its Treatment was read by Mr. W. Cunningham Milroy, M.A., M.D.Edin. A discussion followed in which the President, Mr. Monks, Mr. Brady, Dr. White, and Mr. France took part. Dr. Milroy replied.

MEDICAL VACANCIES.

The following vacancies are announced:

ABERDEEN CITY HOSPITAL.—Resident Physician. Salary, £50 per annum, with board and residence at the Hospital. Applications to W. Gordon, Town Clerk, Town House, Aberdeen, by September 24th.

BETHLEM HOSPITAL.—Two Resident Clinical Assistants; doubly qualified. Appointment for six months. Apartments, board, and washing. Applications, endorsed "Clinical Assistantship," to the Treasurer, Bridewell Hospital, New Bridge Street, E.C., before October 4th.

BIRMINGHAM GENERAL HOSPITAL.—Two Assistant House-Surgeons. Appointment for six months. No salary; board, residence, and washing provided; and also Anæsthetist. Salary, £40 per annum. Appointment for one year. Applications to Howard J. Collins, House-Governor, by September 25th.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon; doubly qualified. Salary, £150 per annum (with an allowance of £30 per annum for cab hire) and furnished rooms, fire, lights, and attendance, Applications to E. W. Forrest, Secretary, by October 18th.

BOURNEMOUTH ROYAL VICTORIA HOSPITAL.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Chairman by October 15th.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Appointment for six months. Conditional honorarium of £10, with board, lodging, and washing. Applications to the Secretary before September 21st.

CORNWALL ROYAL INFIRMARY, Truro.—House-Surgeon, doubly qualified and unmarried. Salary, £120 per annum, increasing by £10 per year to £150, with furnished apartments, fire, light, and attendance. Applications to the Secretary before September 21st.

GROVE HALL ASYLUM, Bow, London, E.—Junior Assistant Medical Officer. Salary at the rate of £120 per annum, with board, lodging, and washing. Applications, to be made personally, to the Medical Superintendent.

GUEST HOSPITAL, Dudley.—Resident Assistant House-Surgeon. Appointment for six months. Board, lodging, and washing provided. No salary. Applications to the Secretary by September 23rd.

HOSPITAL FOR DISEASES OF THE THROAT, Golden Square, W.—Junior Resident Medical Officer. Salary, £50 per annum, with board. lodging, and washing. Applications to Wm. Holt, Secretary, by September 25th.

HUDDERSFIELD INFIRMARY.—Junior House-Surgeon. Salary, £40 per annum, with board, lodging, and washing. Applications to Mr. Joseph Bate, Secretary.

KIDDERMINSTER INFIRMARY AND CHILDREN'S HOSPITAL.—House-Surgeon, unmarried. Salary, £140, increasing by £10 per annum to £170, with rooms in the Infirmary, and attendance. Applications to the Secretary before September 24th.

LINCOLN LUNATIC ASYLUM.—Assistant Medical Officer. Salary, £5 per month, with board, lodging, and washing. Applications to Medical Superintendent immediately.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Assistant Resident Medical Officer. Appointment for six months. Doubly qualified. Residence, board, and washing provided, and an honorarium given at termination of appointment. Applications to A. W. Bodger.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL,—Resident House-Surgeon. Honorarium at the rate of £50 per annum, with board. Applications to G. W. Fox, Honorary Secretary, 53, Princess Street.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, N.E.—Junior House-Physician; doubly qualified. Appointment for six months. Salary, £15, with full board, and residence. Applications to T. Glenton-Kerr, Secretary, 27, Clement's Lane, E.C., by October 11th.

OLDHAM INFIRMARY,—Junior House Surgeon; doubly qualified. Salary, £50 per annum, with board and residence. Applications to Rev. Philip Lancashire, Honorary Secretary, by September 23rd.

ROYAL SOUTHERN HOSPITAL, Liverpool.—Junior House-Surgeon; doubly qualified. Salary, 60 guineas per annum, with board, etc. Applications to the Chairman of the Medical Board by September 27th.

SALOP INFIRMARY, Shrewsbury.—House-Surgeon; must be doubly qualified—M.R.C.S.Eng., Edin., or Dub. Salary, £100 per annum, with board and residence. Applications to Joseph Jenks, Secretary, by October 1st.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—Assistant House-Surgeon. Salary, £30 per annum, with board, lodging, and washing. Applications to the House-Surgeon by September 20th.

STOCKTON AND THORNABY HOSPITAL.—Non-Resident House-Surgeon; doubly qualified. Age not to exceed 30. Salary, £200 per annum. Applications to H. G. Sanderson, Secretary, by September 30th.

SWANSEA GENERAL HOSPITAL.—House-Physician. Salary, £50 per annum, with board, apartments, lanndress, and attendance. Applications to J. W. Morris, Secretary, 9, Castle Street, Swansea, by October 4th.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon. Appointment for one year, but candidates are eligible to the post of Senior House-Surgeon for a further year. Salary £35 per annum, with board, residence, etc., the salary of the senior post being £75. Applications to L. D. Rea, Secretary, by September 21st.

MEDICAL APPOINTMENTS.

BAILEY, John George, M.B., C.M.Edin., appointed Senior Assistant House-Surgeon to the Huddersfield Infirmary, *vice* T. Hill Jamieson, M.B., C.M.Edin., resigned.

CLOTHIER, H., M.D.Lond., M.B., reappointed Medical Officer of Health for Hornsey.

FACEY, S. H., M.R.C.S., L.R.C.P.Lond., appointed Resident Clinical Assistant to the St. Marylebone Infirmary.

FREMLIN, H. S., L.R.C.P., M.R.C.S., appointed Medical Officer of Health to the Tiverton Rural District Council.

GILCRIEST, T., L.R.C.P., L.R.C.S.I., appointed Assistant Medical Officer to the Sligo District Asylum, *vice* G. R. Lawless, F.R.C.P.

GORNALL, John Guest, M.A., M.B.Cantab, M.R.C.S., L.R.C.P., appointed Visiting Medical Officer to Lancashire County Idiot Asylum at Winwick, near Warrington.

HAWTHORN, F., M.D.Durham, B.S., M.R.C.S., L.R.C.P., appointed Medical Officer of the No. 4 District of the Newcastle Union.

LAWLESS, G. R., F.R.C.S.I., appointed Resident Medical Superintendent to the Armagh Asylum.

LLOYD, Edward J., M.D., C.M.Aberd., M.R.C.S.Eng., appointed Medical Officer to the *Clio* Industrial Training Ship, off Bangor.

LYS, H. G., M.D.Lond., reappointed Medical Officer of the Almer District.

MILLER, C. A., M.D.Edin., appointed Medical Officer for the Lochaber District of Kilmonivaig, *vice* D. G. Campbell, M.B.Edin., resigned.

STEELE, R. S., M.B., C.M.Glasg., appointed Medical Officer of Health of the Gnosall Urban District Council.

STOTT, Hugh, M.R.C.S., L.R.C.P., appointed Medical Officer of Health to the Burgess Hill Urban District Council.

WADDELOW, J. J., F.R.C.S., L.R.C.P., appointed Medical Officer of Health to the Whittlesey Rural District Council.

WILLIAMS, J. T. C., M.R.C.S, L.R.C.P., reappointed Medical Officer of Health to the Whitland District Council.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTH.

MCDOWALL.—On September 12th, at Menston, near Leeds, the wife of J. G. McDowall, M.D., of a daughter.

MARRIAGES.

THOMAS—WATKINS.—At Rehoboth Chapel, Brynmawr, on Tuesday, the 7th inst., by the Rev. J. P. Millward, brother-in-law of the bridegroom, assisted by the Rev. David Thomas, Brynmawr, John Lewis Thomas, M.R.C.S.Eng., etc., Blaengarw, son of John Thomas, Esq., C.C., Brynmawr, to Mary Jane Watkins, Glen View, Brynmawr, daughter of the late Thomas Watkins, Esq., of Brynmawr.

THORPE—RODHAM—On the 10th September, at Yateley, Hants, by the Rev. R. Oscar T. Thorpe, M.A., Rector of Anstey, Herts, father of the bridegroom, assisted by the Rev. C. D. Stooks, M.A., Vicar of the Parish, Surgeon V. Gunson Thorpe, R.N., M.R.C.S., to Maude, daughter of the late Fleet-Paymaster C. R. Rodham, R.N.

WILSON—SOUTAR.—At the Parish Church, Crieff, on the 25th ult., by the Rev. Andrew Campbell, Minister of the Parish, Robert Wilson, Mayfield, Falkirk, to Elizabeth Annie. second daughter of the late R. K. Soutar, M.D., Golspie, Sutherland.

DEATHS.

LEIGH.—On September 1st, at Brynllefrith, Llanfabon, Glamorganshire, Harriet, only daughter of the late Rev. W. Watkins, Rector of Bedwas, Mon., and widow of John Leigh, F.R.C.S., J.P., aged 79 years.

STEPHENS.—On the 11th inst., in consequence of a bicycle acciden at Preston, Richard John Stephens, M.R.C.S.Eng., L.S.A., Assistant Medical Officer, County Asylum, Whittingham, Lancashire, in his 34th year.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 2.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Tu. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are devoted will be found under their respective headings.*

QUERIES.

J. H. B. asks for the names of any homes where young ladies are treated for severe forms of hysteria. Terms from £1 1s. per week.

E. S. asks for information as to the results following a prolonged use of sulphonal. Does it in time upset the whole digestive system?

INQUIRER asks: Would anyone recommend from personal knowledge a good home for a lady inebriate where only ladies are received?

M B would be glad to hear of any references in medical works, journals, etc., bearing upon the subject of hæmoptysis, the result of strain in the non-tuberculous subject.

TOO STOUT would feel much obliged to any member who could give him particulars of Mr. Banting's system of dieting, or any other system that would have the same effect.

MEDICAL OFFICER (M.B.M.A) will be glad to be informed if there be any course of lectures for workhouse hospital probationers published; and, if so, where obtainable?

VELOX would like to know the best way of disguising the taste of cod-liver oil. Which of the many preparations now in the market is the best for this purpose?

HOMER would like suggestions as to treatment of an obstinate case of neuralgia all over the body. The patient is about 70 years of age, and there are no symptoms of brain or spinal disease. All the usual remedies, including phenacetin, antipyrin, bromides, quinine, strychnine, iodide of potassium, belladonna, gelsemium, arsenic, sodium salicylate, galvanism, and faradism have been tried without effect. The only remedy which relieves for a time is morphine hypodermically.

A QUESTION OF FEES.

A CORRESPONDENT desires to know what fees to charge for the following: (1) Attendance before magistrate and giving evidence. (2) Organic analysis of a pessary. (3) Microscopic examination of chemise of plaintiff; all the above work being done at the instance of the chief constable. A policeman tendered 10s. 6d. to our correspondent, which he refused.

*** Two guineas would be a fair charge to make both for analysis of pessary and for microscopic examination, but it is not certain that the payment of this amount could be enforced. It was unwise to refuse the tender of the half guinea, as its acceptance would not have invalidated a further claim, and no more than this is usually allowed for giving evidence before a magistrate.

MANCUNIAN writes to know what would be a fair charge for performing paracentesis abdominis in the case of a small hotel proprietor, who is also chairman of the district council.

*** Our correspondent ought to be the best judge of this, as the fees paid by patients for professional services vary greatly according to local conditions. A guinea might be a fair charge, but circumstances can easily be imagined which would justify a larger demand.

PRINCIPALS AND ASSISTANTS.

A CORRESPONDENT asks the following questions: (1) In the case of fully qualified assistants managing a practice is it usual for them to get a percentage of the inquest and court fees? (2) What is the custom with regard to relaxation from work; are they entitled each week to a day off, or any time? (3) What is the usual salary and percentage of midwifery fees given to a man of several years' experience?

*** (1) This is entirely a matter of arrangement between principal and assistant, and it cannot be said there is any custom. (2) This also will be a matter of arrangement; assistants residing with their principals very generally get an occasional evening in the week, and sometimes a Sunday off, but in the case of assistants in charge of branches it might not be easy for the principal to grant this. (3) Indoor assistants are usually paid from £70 to £80 per annum, outdoor from £120 to £150 per annum, but it is not the rule for the principal to give a percentage of the midwifery fees.

ANSWERS.

A CASE OF IDIOCY.

C.S.S.—The best place to which the patient referred to by our correspondent can be sent is the Royal Albert Asylum for Idiots and Imbeciles, Lancaster. Garstang being in Lancashire, the child is eligible for admission there. Our correspondent should write to the superintendent and ask for the terms of admission.

INTRALARYNGEAL INJECTIONS IN PHTHISIS PULMONALIS.

E.C.H.—1. In general 1 per cent. of guaiacol, and with it from 5 to 10 per cent. of menthol in olive oil, is the type of intralaryngeal injection in pulmonary phthisis or syphilis, or in fœtid bronchiectasis. Dr. Chappell, of New York, has "worked out" the two following formulæ by experimental trial in cases of phthisis—a mild and a strong. The mild is as follows: Beechwood creasote, 5j; oil of wintergreen, 3iij; hydrocarbon oil (liquid vaseline and paroleine), 5j; castor oil, 3iij; menthol, grains x.

In the strong there is double the quantity of creasote. The simplest and most easily cleaned intratracheal syringe is that devised by Dr. Adolph Bronner.

2. McBride's *Textbook of Diseases of the Throat, Nose, and Ear*, is the best all-round one.

SHIRTS FOR CYCLISTS.

IN reply to "Cyclist" A. G. would suggest the use of "cellular" cotton clothing, manufactured by the Cellular Clothing Company, 72, Fore Street, E.C., and now kept by most outfitters. The writer has worn these shirts without an undervest throughout the summer, and though doing a fair amount of cycling (about eighty miles a week on an average) has rarely found it necessary to change the shirt on coming in, as, owing to its open texture, it dries very rapidly and without causing chill. It does not shrink after repeated washing. The "all wool" crusade has been carried on so vigorously the last few years that to advocate cotton seems almost like heresy, but the writer would be interested to learn the experience of others who have given the cellular clothing a fair trial, as it appears to him that the objection to cotton is not supported by valid argument, but savours of dogmatism.

DR. W. VINCENT MORGAN writes: If "Cyclist" will write to Messrs. Humphries and Co., Dryffryn Mills, Narbeth, Pembrokeshire, I think they can furnish him with a flannel such as he desires. I have used their flannel made into cycling shirts to order for over twelve months, at times perspiring profusely into them, and find they fit as well as ever. They should be made a little full, and washed in cold water with Hudson's soap. He should write for patterns.

SEVERAL correspondents strongly recommend Jaeger flannel as the best material for shirts for cyclists. We are also informed that cotton shirts are now much used in the cricket field.

NOTES, LETTERS, Etc.

MR. WILLIAM GEORGE BLACK (Secretary Glasgow Eye Infirmary) writes: Referring to p. 544 of the BRITISH MEDICAL JOURNAL of August 28th I may point out that the information given as to this infirmary is not in all respects accurate. (1) The infirmary is situated at 174, Berkeley Street (*not* 170), and at 80, Charlotte Street (*not* 76). (1) The figures as to patients treated relate to *1894*. I have pleasure in sending copy of report for 1896, which shows a great increase in number of patients and operations. I think a copy of this report was sent you at the time of issue, namely, February, 1897.

DE VAL.—We have referred the paragraph to which our correspondent draws our attention to the surgeon named therein, and have received his assurance that it was inserted in the local paper entirely without his knowledge. Further, he points out that the paragraph is inaccurate in more than one particular. His name is misspelt, a wrong title is prefixed to it, and it is implied that he has a private hospital, which is not, and never has been, the fact.

CYCLE SADDLES.

MR. J. E. WRIGHT, L.R.C.P. (Overton, Flints) writes: In the BRITISH MEDICAL JOURNAL of June 5th, p. 1418, you reported on a bicycle saddle—the "St. Crispin." I wrote for one and find it most comfortable, and the trouble of perineal pressure is entirely absent. I advised a lady, who despaired of ever finding comfort on an ordinary saddle, to try one; and she is delighted with it, and has not had an uncomfortable ride since.

"EFFECTS OF CHOLINE AND NEURINE ON THE BLOOD PRESSURE."

WE are asked to state that the paper (an abstract of which appeared under the above heading in the report of the Section of Physiology of the British Association in the BRITISH MEDICAL JOURNAL of September 11th, p. 672) was read not as there stated by Dr. Mott, who was not present at the meeting at Toronto, but by Professor Halliburton. The work which forms the subject of the communication was done by Drs. Mott and Halliburton conjointly.

MEDICAL ASSISTANTS.

L. S. A. writes: Now that the General Medical Council have forbidden the use of unqualified assistants, I think something should be done to provide the general practitioner with some useful aid in his work. The time was when a good practical man could be obtained who could dispense well, attend an ordinary confinement, visit less serious cases alternately with his principal, keep his books, and be of great assistance about the surgery, for the salary of about £45 or £50 a year indoors. And as a rule they were men desirous of keeping their character good, and for that reason they tried their best to keep their situations and do their utmost in the interest of their employers. Now that the general practitioner is obliged to keep a qualified assistant, he—not without difficulty—manages to get a recently qualified man who literally knows nothing, and who expects from £80 to £90 a year indoors, and who has to be taught his duties, and as soon as he knows them, which is a matter of months, he expects a rise of salary, or he goes, and the same thing has to be gone over again. Now I speak from a long experience. Newly qualified men come to me who consider their work consists in lounging about in a chair and smoking a cigarette, who would not think of answering the surgery door, and who treat your patients with an abrupt hospital out-patient style. This in itself is damaging to any practice. Then again, they know nothing of dispensing, and cannot decently wrap up a bottle of medicine to save their life; as to folding a powder decently that is out of the question. Some hardly know rhubarb from jalap, and one man I had who possessed University qualifications considered tr. chlorof. co. to be chlorodyne; and on being sent to a confinement came back very agitated, as he considered it a case for turning, and which proved nothing but an ordinary breech presentation. Then, again, these men have no despatch: it takes them a long time to dispense a bottle of medicine, when at the same time a dozen patients are anxiously waiting; and as for keeping one's books, pauper and otherwise, why it is simply out of the question. In the old days most of these things I mention were taught during the apprenticeship; then a youth was taught to dispense, and to know how to make most drugs, how to treat his master's patients courteously, how to keep books neatly and manage the routine work of a practice, and in my own case how to vaccinate well and attend midwifery, and then when qualified he started well. If a surgeon advertises now for a qualified assistant, unless he offers a big salary, which means a lot of the gilt off the gingerbread, he will get probably one or two replies from these useless men, and then they consider it a condescension to accept his berth at a salary of £80 indoors; and if there is any mention of colliery or union work, ten to one they decline the appointment altogether. I have no doubt there are scores of medical men who can support my statements, and who will tell you that the young medical man is useless as an assistant until he has had eight or nine months training in a good surgery. I will not trespass further on your space, but shall anxiously wait to see if anyone can suggest a way out of these difficulties.

THE SAFE ADMINISTRATION OF CHLOROFORM.

MR. C. W. KROHNE (London) writes: Mr. Teevan's estimate of the quantity of strychnine, in the BRITISH MEDICAL JOURNAL of September 11th, may or may not be correct. So may be Dr. O'Neill's, that the injection of liq. strychninæ from 3 to 5 drops is sufficient to resuscitate an adult, as the quantity of strychnine required must be evidently not only in due proportion to the amount of the overdose of chloroform (the antidote), but also whether its effect was rapidly induced on commencing administration, or slower from a less rapid accumulation of a series of smaller overdoses, which had had time to exert their influence throughout the whole system.

It seems that Dr. O'Neill mentioned the various means and measures for resuscitation not to benefit those who, like himself, employ Krohne's regulating inhaler, but to those who still persist in giving chloroform in the "usual way," commencing administration with one, two, or three drachms, or unmeasured doses, in which, as Snow maintained from first to last, accidental overdosing cannot always be prevented. Dr. O'Neill found, like others of Snow's followers have found, that the dose required to be given at each inspiration is exceedingly small. The quantity of chloroform given, on an average, in his 600 cases, the ages varying from one hour to 80 years, was in every five minutes about 40 minims to an adult, for inducing complete anæsthesia in from five to ten minutes, and about half this quantity was required to keep up the anæsthesia. This gives for the first two-fifths of a minim, and for the latter one-fifth of a minim for each inspiration, or 1.84 per cent. of vapour of pure chloroform in the air breathed for inducing anæsthesia in five minutes, and 0.92 per cent. of vapour for inducing anæsthesia in ten minutes, and for sustaining the anæsthesia. That the small percentage of vapour, which, when properly administered on Snow's method, and uniformly diffused in the blood, though quite sufficient for inducing perfect anæsthesia, is much too small to cause symptoms of danger, necessitating the employment of means or measures for resuscitation, is too plain a fact to be disproved. But more can be learned from analysing each case singly, or when a large number of similar cases are grouped together according to like ages and time used in administration. More chloroform is necessarily used proportionately in short than in prolonged operations, and there is reason to believe that the former might have formed a large proportion in Dr. O'Neill's 600 cases, as may be presumed by results from long operations obtained in London on Snow's method by a means of a like regulating inhaler,[1]

No.	Sex, Age.	Nature of the Operation.	Time Used in Administration.	Whole Quantity of Chloroform Used.		Average of Chloroform Used per Minute.	Percentage of Chloroform Vapour in Air Breathed.	Average Dose given at Each Inspiration.
	Yrs.		Minutes.	3	m	m		m
1	F., 28	Goître	44½	3	45	5.0	1.15	0.25
2	F., 31	,,	40	3	—	4.4	1.00	0.22
3	F., 25	,,	48	3	—	3.7	0.85	0.18
4	F., 32	,,	74	3	50	3.1	0.71	0.16
5	F., 35	,,	58	3	30	3.9	0.89	0.19
6	M., 50	Laryngotomy	77	6	15	4.8	1.10	0.24
7	F., 34	Opening frontal sinus	72	3	45	3.1	0.71	0.15
8	M., 58	Excision of tongue	69	3	15	2.8	0.64	0.14
9	M., 42	Opening and curetting maxillary antrum	55	2	35	2.8	0 64	0.14
10	M., 50	,,	72	4	30	3.7	0 85	0.18
11	M., 51	,,	42	3	—	4.3	0.98	0.21
12	F., 60	Scirrhus of mamma	72	3	20	4.7	1 00	0.23
		Total.....	723½	43	45			

The largest dose given (lost out of the bottle) on an average for each inspiration (Case 1) is ¼ minim; the smallest (Cases 8 and 9) is ⅓ minim. The average amount of chloroform used in 12 cases is 3.7 minims per

[1] *Medical Magazine*, June, 1896.

minute, equal to 0.85 per cent. of vapour in the air breathed, or 0.18 minim for each inspiration.

These results evidently prove that even junior house-surgeons administering pure chloroform strictly on Snow's method by means of the regulating inhaler will never require the time-honoured tongue forceps, nor any other means found so necessary to be at hand for resuscitation under the "usual way" of chloroform administration, as they are honestly assured that no occasion can possibly arise for their use.

Globe Sick and Benefit Society.

The annual report of this Society for 1896-97 now before us says: "The directors have much pleasure in stating that the society has prospered financially during the past year," and that, after defraying the sick pay, the surgeons' fees, and the general working expenses, they are "enabled to distribute a bonus at the following rates, which is equivalent to a return of 40 per cent. on the weekly subscriptions." The subscriptions of members for a sick allowance of 10s. per week, medical attendance, etc., are as follows:

For members between the ages of				16-30	years,	6d. per week.
,,	,,	,,	,,	30-35	,,	7d. ,,
,,	,,	,,	,,	35-40	,,	8d. ,,
,,	,,	,,	,,	40-45	,,	9d. ,,
,,	children	,,	,,	5-15	,,	3d. ,,

There is no attempt to enrol only poor people. The report declares frankly that "any healthy person, male or female, between the age of 16-40, will be eligible for membership." And "in order to encourage present members to make the advantages of the society known to their friends the directors have decided to offer a prize of two guineas to the member in each branch who shall introduce the greatest number of members during the coming year." It is a marvel how any medical practitioner can be so wanting in self-respect as to allow himself to be associated with such an undertaking.

"Superfœtation."

Dr. Ernest E. King (Ludlow, Salop) writes: May I be allowed to refer to the case mentioned in the issue of the British Medical Journal of September 4th under the above heading? This condition, which is and always has been problematical, is certainly not strengthened by the account therein given. The case appears to have been simply a triple impregnation, one of the triplets dying at the third month of gestation, its death being probably due to pressure exerted by the large amount of liquor amnii surrounding the survivors, and which excess led to the ultimate premature labour. Thus you had two miniature children and a "shrivelled" or blighted fœtus expelled, the blighted fœtus having been retained for some months in the uterus. This condition, though perhaps not particularly common, is far from rare, and I have myself seen it twice this year in pregnant women and once in a cow, one calf being born at full term, and immediately after its expulsion a dead fœtus about the fifth month, and, with regard to the cow, there was no possible means of a second impregnation. I certainly do not think, therefore, that the case mentioned in the Journal was one of superfœtation at all.

Menstruation in Newborn Baby.

J. Hamilton, M.D. Q.U.I. (Chelsea) writes: It seems a strange coincidence that last week I had a case exactly corresponding to Dr. Jardine's reported in the British Medical Journal of September 11th. It is the first I have seen during twenty-one years of active midwifery practice. The mother, a Swiss, aged over 30, the father, an Italian, aged 22. She was delivered of an ordinary-sized baby on August 28th, after a rather lingering confinement. On September 7th the nurse told me there was a discharge of blood from the privates since the previous evening. On examination I found the vulva and vagina covered with liquid blood—no sign of coagulation. The child had been cross all night. Next day discharge had all ceased. The child is doing well.

A Chinese Lady Doctor.

A Chinese lady, Miss Hu King Eng, has taken the degree of M.D. "in America." She is now in charge of a hospital at Foochow, and is said to be a good operator.

Winchester Fund.

The following additional subscriptions have been received:

	£	s.	d.
A. B.	1	1	0
Dr. J. W. Norris Mackay, Elgin	1	1	0
Lancet Relief Fund	10	0	0

LETTERS, COMMUNICATIONS, Etc., have been received from:

(A) Dr. R. Abraham, Belfast; Dr. F. H. Alderson, London. **(B)** Mr. J. H. Blackeney, Birmingham; Mr. Clark Bell, New York; Dr. Bond, Gloucester; Dr. W. L. Bright, Cardiff; H. Barraclough, M.B., Devizes; Dr. J. P. Boyd, Glasgow; J. G. Bailey, M.B., Huddersfield; Mr. G. B. Browne, London. **(C)** Dr. D. Colquhoun, Dunedin, N.Z.; C. B. C.; Dr. J. W. Cook, Colchester; Mr. R. Chicken, Nottingham; C. H. B.; Lord Connemara, London; Clinical Assistant; Messrs. J. and A. Churchill, London. **(D)** Dr. C. Dukes, Rugby; Dr. T. J. H. Davies, Leicester; De Fal; Mr. S. Davies, Plumstead; Dr. C. R. Drysdale, London; Messrs. Dale, Reynolds, and Co., London. **(E)** E. S.; Enquirer. **(F)** W. H. Fosbery, M.B., Bournemouth; Mr. F. E. Freemantle, London; Sir J. Fayrer, Skye. **(G)** Dr. W. Gordon, Exeter; Mr. J. Gay, London; Dr. C. Gibson, Harrogate; Dr. W. H. Gregory, Beverley; Mr. A. Greenwood, London; Mr. H. R. Greene, Woking; Mr. R. B. Graham, Leven. **(H)** F. P. Hearder, M.B., Wakefield; Mr. A. W. Harding, London; Hygienic Appliances Co., Glasgow; Dr. J. Hamilton, London; L. Hill, M.B., London; Dr. A. J. Hubbard, Hemel Hempstead; Dr. R. Hutchison, Montreal; Mr. L. L. Hanham, Devonport; Dr. W. E. Hadden, Portadown; Mr. H. Humphries, London. **(J)** D. Johnston, M.B., London; Dr. R. Jardine, Glasgow; W. D. Johns, M.B., Bournemouth; Mr. G. Jackson, Plymouth; Dr. J. W. Jellett, Heavitree; Dr. H. Jellett, Dublin. **(K)** Mr. E. E. King, Ludlow; Mr. C. W. Krohne, London; Mr. W. H. Kerbey, Charmouth. **(L)** Mr. A. L. Lancaster, Swansea; Rev. F. Lawrence, London; L.S.A.; Mrs. F. E. Lemon, Redhill; Dr. E. J. Lloyd, Bangor. **(M)** Dr. C. Mercier, Bournemouth; Medical Officer; Dr. R. Mackinlay, Santa Barbara; Mr. C. Murphy, Dover; Dr. R. Martin, Gilford; Mr. W. J. Meharry, Belfast; Member of the B.M.A.; M.B. **(N)** Dr. A. Newsholme, Brighton; Sydney and New South Wales Branch of the B.M.A., Secretary of the, Sydney; Nous Changerons tout cela—Mais quand? **(P)** Mr. H. J. Pickering, York; H. C. Pattin, M.B., Norwich; Dr. J. B. Pettigrew, St. Andrews; Dr. Pye-Smith, Grasmere. **(Q)** Mr. R. H. Quine, Manchester. **(R)** Mr. A. Reade, London; Mr. F. Ritter, London; Mr. F. Rogers, Birmingham; Messrs. Rowntree and Co., York; Mr. T. F. Raven, Broadstairs; R F. W.; G. A. Reid, M.B., Southsea. **(S)** Dr. L. E. Shaw, London; Surgeon-Lieutenant-Colonel, Retired; A. Shaw, M.B., St. Austell; Santonian; L. E. Stevenson, M.B., Temple Sowerby; Mr. A. Sheen, Buxton; Surgeon-Major Retired H.P.; W. Snodgrass, M.B., Glasgow. **(T)** F. Taylor, M.B., Seaton; T. M.; Mr. J. B. Thornton, Derby. **(V)** G. H. Vos, M.B., London. **(W)** Dr. F. Waldo, London; Mr. B. J. E. Wright, Ellesmere; Mr. W. E. Wyllys, Great Yarmouth; Mr. T. Wilson, Stirling; Dr. C. J. Whitby, Limpley Stoke; Dr. M. Ward, London. **(Y)** Young Practitioner; etc.

BOOKS, Etc., RECEIVED.

Practical Domestic Hygiene. By J. Lane Notter, M.A., M.D., and R. H. Firth, F.R.C.S. London: Longmans, Green, and Co. 1897.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections. Edited by J. J. Pringle, M.B., F.R.C.P. Parts IX and X. London: Rebman Publishing Company. 1897. 10s. 6d. each part.

Atlas der Syphilis und syphilisähnlichen Hautkrankheiten. Von Dr. M. Chotzen. Heft I und II. Hamburg und Leipzig: Leopold Voss. 1897.

Dr. Mendini's Hygienic Guide to Rome. Translated and edited by J. J. Eyre, M.R.C.S. London: Scientific Press. 1897. 2s. 6d.

The Mystery and Romance of Alchemy and Pharmacy. By C. J. S. Thompson. London: Scientific Press. 1897. 5s.

International Clinics. Seventh Series, 1897-98. Vol. I. London: Thomas Lewin and Co. 1897. 12s. 6d.

Notes on the Special Hygiene (Physical and Mental) of Childhood and Youth. By T. M. Madden, M.D., F.R.C.S.E. Dublin: Fannin and Co. 1897.

Mother, Baby, and Nursery. By G. Tucker, M.D., F.R.C.P. London: J. and A. Churchill. 1897. 3s. 6d.

Praxis der Harnanalyse. Anleitung zur chemischen Untersuchung des Harns nebst einem Anhang Analyse des Mageninhalts. Von Dr. Lassar-Cohn. Hamburg und Leipzig: Leopold Voss. 1897. M.1.

Atlas and Essentials of Gynæcology. By Dr. O. Schaeffer. London: Baillière, Tindall, and Cox. 1897. 15s.

Traité de Chirurgie, Clinique et Opératoire. Publié sous la direction de Prof. A. Le Dentu et Prof. P. Delbet. Tome cinquième. Paris: J. B. Baillière et Fils. 1897. Fr. 12.

Atlas and Essentials of Bacteriology. By Prof. K. B. Lehmann and Dr. R. Neumann. London: Baillière, Tindall, and Cox. 1897. 12s. 6d.

Anatomical Atlas of Obstetric Diagnosis and Treatment. By Dr. O. Schaeffer. London: Baillière, Tindall, and Cox. 1897. 12s. 6d.

Über die Augenerkrankungen in der Frühperiode der Syphilis. Von Dr. H. Wilbrand und Dr. A. Staelin. Hamburg und Leipzig: Leopold Voss. 1897. M.3.

***** In forwarding books the publishers are requested to state the selling prices.**

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SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF PUBLIC MEDICINE.

At the Annual Meeting of the British Medical Association at Montreal, September, 1897.

BY E. P. LACHAPELLE, M.D.,
President of the Board of Health of the Province of Quebec.

THE PROGRESS OF SANITATION IN CANADA.

IT is with the utmost pleasure that I offer you a warm greeting to Montreal, the metropolis of Canada, and the seat of the Board of Health of the Province of Quebec. By accepting the general invitation tendered you by the Montreal Branch of your Association, you have, in this year 1897, that stands out in golden figures in the annals of the reign of Queen Victoria, wished to judge *de visu* of the progress made in sanitary matters by the foremost of England's colonies. The hearty readiness and cordial grace with which you have have responded to our call honours us most highly and receives our sincere gratitude. Be assured that the presence among us of such learned and distinguished men as those we see assembled here in this hall this morning fills us with legitimate pride, and will be a powerful motive of encouragement to us in the pursuance of our labours in the cause of humanity. Here you must be at home, and it is with enthusiasm that in the name of the sanitary authorities of our country, I wish you heartfelt welcome.

I shall not detain you long, and so not protract the eagerness you feel to broach the subjects on to-day's programme. I shall, therefore, in the few minutes allowed me by the rules of the Association, briefly and rapidly expose to you the progress of sanitation in Canada, presuming that on your arrival here, it would be interesting to you to be made familiar with the sanitary organisation of this country. The present sketch is but a concise synopsis of a work which the patient and fertile investigations of Dr. E. Pelletier, the Secretary of the Board of Health of this province, have permitted me to undertake, and which will shortly appear in a *Cyclopædia* to be published in Toronto. I therefore beg you to grant me the first moments of this meeting, during which I will rapidly analyse, trying to be clear and precise, all the sanitary legislating done in Canada, from Louis XIV of glorious memory, up to the sixtieth year of the reign of Her illustrious and most Gracious Majesty, Queen Victoria.

HYGIENIC MEASURES UNDER THE FRENCH RÉGIME, 1603-1763.

One can hardly expect, at such a remote period and in a new country, to see hygienic measures occupy an important place in public administration. In its early days Canada was, we may say, under the control of the "Peltry Trade," or the fur companies who leased the country from the King of France as one would now rent a hunting ground, and who had, naturally enough, but one thought—that of deriving from the fur trade with the Indians the most advantageous results.

Nevertheless, it is surprising to see with what precision and practical good sense certain sanitary questions were looked upon and dealt with during the reign of Louis XIV. Thus, in 1667, we find that the King of France, in one of those ordinances that were for so long the Civil Code of Canada, establishes for the Civil State a system of registration which is still in force in the Province of Quebec. It is the clergy who keep the registers of baptisms, marriages, and burials, and they furnish the civil authorities with a copy of such. The King's ordinance reads:

"There shall be kept in each parish two registers in which to inscribe the baptisms, marriages, and burials; one shall remain in the hands of the parish priest, and be considered as the original; the other shall be turned over to the judge royal and recognised as the copy."

This was taking in the early days an efficient means of following up the development of the colony, and of realising its firm civil standing. As stated before, even to-day in this province the same simple system is thought still sufficient.

A few years later the Superior Council of Quebec busies itself in a very enlightened manner with the question of foods. Thus, in 1677 it convenes a general meeting of the inhabitants to decide upon the inspection and price of bread. Again, in 1707, desiring to provide the inhabitants with meat of good quality, it passed inspection regulations equivalent to our modern stamping. No butcher could, under penalty of confiscation and fine, slaughter an animal without previously notifying the *Procureur* of the King, or his representative, so that the latter might ascertain whether the animals were or were not in a fit condition to be distributed to the public. No farmer could bring into or sell in the city without first presenting to the *Procureur* of the King, or his representative, a certificate from a judge, if there was one in the place he inhabited, or from the seigneur (or lord of the manor), the parish priest, or the officer of the militia, the said certificate to testify that the animals brought in were not diseased before they were slaughtered, and that they had not died of any such accidents as drowning or poisoning. It would be hard to do better even nowadays.

All the other regulations sanctioned at this period relate exclusively to the cleanliness of the streets and dwellings; some ordinances, however, refer to public morality. The King takes charge of foundlings, and allows nurses 45 livres for the first three months of nursing for each child, and 10 livres a month thenceforth, till the child has attained the age of 18 months. The children are then bound over to honest citizens and countrymen, till they are 18 to 20 years old. (1748.)

SANITATION UNDER THE BRITISH RULE: BEFORE THE CONFEDERATION, 1763-1867.

Under the English domination, hygiene falls into oblivion for several years. After the cession of Canada to England, the greater part of the Canadian nobility returned to Europe. On the other hand, the British element increased and acquired more authority, thus forcibly causing for some time pronounced social perturbation. Next came the epoch of martial agitation, and the war with the United States, which engrossed public attention almost entirely.

The first preventive sanitary measures that spring forth are those necessitated by a new threatening danger—typhus fever. The typhus fever epidemic of 1795, in Ireland, demanded the urgent protection of the colony, so vessels coming from infected ports were obliged to submit to an inspection, and if found necessary were quarantined. The captain was bound to hide nothing from the inspector, under the penalty of losing his head, and suspected vessels were liable to be fired upon. However vigorous those measures may in appearance seem, they had the great fault, as to organisation, of being but temporary, incessant renewal being thus required.

From 1815 to 1821 the Government appoints medical vaccinators, grants prizes for a memoir on the advantageousness of vaccination, and encourages the practice as much as it can; without, however, rendering it compulsory.

Again, in 1832, a new stimulus in favour of hygienic measures is generated by the appearance of cholera in the country; a delegation is sent to New York in order to examine the measures there employed: health Boards are formed; a quarantine station is organised at Grosse Isle, the declaration of the disease is required, etc. Unluckily all this valuable organisation ceases with the disappearance of the epidemic. In 1849, a second incursion of the disease does not seem to have made the legislation any the wiser, or to have induced more permanent organisations. But, withal, the law passed in that year is a statutory law, very precise,

meeting the needs of the public in case of epidemics, and destined to remain in force; this law, in 1885, during the epidemic of variola, in this province, was appealed to with the most desirable results. Nevertheless, all organisations established by this law of 1849 must, in accordance with this same law, vanish with the cessation of the epidemic.

We must recognise, then, that, if we except quarantines, nothing stable, no permanent sanitary organisation had been established under the British domination up to the Confederation.

Since the Confederation, 1867-1897.

With the advent of Confederation, we enter a period of positive systematisation. The British North America Act defines the respective rights and powers of the Federal Government, as well as those of the Provincial Governments, and those bodies are not slow in adapting all measures to ensure public safety. We will now review in a detailed abstract the laws successively enacted at Ottawa and in the different provinces, in order that you may conceive their sphere of action and the extent of their effectiveness.

I.—Federal Sanitation.

All matters relating to foreign countries and to commerce are of federal jurisdiction, and, accordingly, sanitary laws were passed at Ottawa in reference to immigration and quarantine, the prevention of contagious diseases in animals, the suppression of food adulteration, and the compilation of statistics. Aside from the decennial census, however, this latter work is left almost exclusively to the initiative of the provincial authorities, who may be called upon to furnish Ottawa with a copy of their collations.

Ere the first year of the Confederation (1868) the Federal Government enacted an "Immigration Act" destined to be completed later (1871) by the Quarantine Act, and rendered most effective by the laws of 1893. Actually, our ports are protected by eight well-organised quarantine stations—Grosse Isle, Quebec; Halifax, Nova Scotia; St. John, New Brunswick; Sydney, Cape Breton; Hawkesbury, Nova Scotia; Chatham, New Brunswick; Charlottetown, Prince Edward Island; and William Head, British Columbia.

The staffs of these stations see to the inspection and disinfection of vessels, to the vaccination of passengers, to the detention in quarantine when required, etc. The frontier custom officers, especially those along the United States borderline, are, when necessary, required to act as quarantine officers.

With regard to contagious diseases in animals, the Federal statute (1884-1896) provides for the quarantining of exported animals, and for the repression of epidemics among animals. In no way, however, does it consider the transmissibility of disease from beast to man.

The "Adulteration Act" appoints food analysts to whom any person may submit samples; it also has some provisions respecting milk supplies and other foods (1884-1889).

Any trader offering for sale food that is adulterated or otherwise unfit for consumption is liable to be prosecuted according to the law.

To sum up, if we except the quarantine organisation, which is under Ottawa's exclusive control, it is easy to see that on other questions (vital statistics, contagious diseases in animals, food adulterations) the provinces have a concomitant jurisdiction which may, as a legal constitutional right, be looked upon as somewhat doubtful, but which, as a fact, they do exercise, thus completing Federal legislation by provincial statutes.

II.—Provincial Sanitation.

Moreover, the sanitary organisation of Canada could not be at all complete without the intervention of the provincial authorities, because Ottawa can act only on questions of commercial interest, or in order to protect the country from outside dangers. The prophylactic treatment of local contagious ailments, the sanitation of public and industrial establishments, of dwelling houses and of schools, the routine food inspection; in a word, every means that refer to the preservation and protection of private and public health; and we may add, the compilation of vital statistics, must necessarily be based on the interference and activity of the provincial authorities, who, n their turn, must secure the co-operation of the municipal Boards.

In most of the provinces of the Dominion of Canada the local Legislature has, by a statutory law, delegated its powers to a Provincial Board, charged with enforcing sanitary measures, and in whom, consequently, lies the authority. At the same time, the municipal authority, preserving their own independence, may make municipal regulations, and in most cases need the provincial interference only in a measure requisite to insure the exercise of their powers to the desired extent.

The law, however, varies on this matter in different provinces, as we shall see in a few moments when speaking of Quebec and Ontario. It is to be noticed, also, that the Lieutenant-Governor-in-Council, both in the province of New Brunswick and in that of Nova Scotia, possesses a joint action with the Provincial Board, and he may also in certain cases (Nova Scotia) veto any measures taken by the municipalities. Certain provinces, such as Manitoba and British Columbia, possess special organisations. Finally, the North-West Territories and Prince Edward Island have no Provincial Boards of health, although there exist sanitary laws investing extended powers in the Lieutenant-Governor-in-Council and in the municipal authorities.

Ontario and Quebec are, perhaps, the best managed provinces; in any case, they are the ones in which the organisation is the oldest. We will examine them conjointly.

The Provincial Board of Ontario was founded in 1882, that of Quebec in 1886. It is those two Boards that have enabled public hygiene to make the greatest progress in Canada.

In Ontario compulsory vaccination of all children over 4 months of age has been provided for by the statute, and school teachers may require a certificate of vaccination from intended pupils. The Provincial Government has the entire control of vital statistics; the Act of 1869 established the office of the Registrar-General and a division registrar for every municipality. Finally, the Food Act, very explicit in regard to cities, renders more definite the Federal laws on food adulterations and specifies their bearing.

In the province of Quebec vaccination is obligatory by statute in four cities, but any other municipality may render it compulsory. The keeping of the registers of the civil state is still, as in the days of Louis XIV, confided to the care of the clergy of whatsoever denomination, and it is from those gentlemen that each month the Provincial Board of Health receives the certificates establishing the causes of death and those reporting the marriages and births. From these reports the Board compiles its statistics. Regarding the adulteration of foods, the Provincial Board has power to make regulations to supplement, in a certain measure, the Federal laws. In relation to the prevention of contagious diseases, hygiene in factories, sanitation in general, and the suppression of nuisances, the Quebec Provincial Board has issued permanent and very precise regulations, and has formulated in them a standard of effectiveness that must be attained by the municipal boards. Apart from these permament regulations, it has besides the eventual powers of making special regulations during the prevalence of epidemics. It can, moreover, compel the local municipal Boards to enforce the powers with which the Municipal Code invests them concerning sanitary matters. Although the Provincial Board centralises all the sanitary authority in the Province of Quebec, it does not restrict to its regulations municipalities which desire to improve on them. In both Ontario and Quebec the Provincial Boards may exercise the powers conferred upon the local Boards if such local Boards neglect or refuse to perform their duties.

In Ontario, the interpretation and the enforcing of the Factory Act are left entirely to the inspectors.

In Quebec, the Provincial Board expounds the law in lucid details: not only does it specify the hygienic measures to be obtained, but it clearly explains how they should be put into practice; consequently, all that is left for the local sanitary authorities to do is to perform them as directed by the Provincial Board.

The approval of plans of aqueducts and drainage devolves on the Provincial Board in the provinces of Quebec and Ontario. In Quebec the law regulates the disposal of the dead, and enacts that the sites of cemeteries shall be chosen by the Provincial Board.

To keep within the time limit I must necessarily be brief in speaking of the other provinces.

New Brunswick (1887) and Nova Scotia (1893) possess somewhat identical organisations; thus, the Lieutenant-Governor-in-Council having the right to legislate on sanitary matters. The municipal Boards in both these provinces enjoy similar powers; only, in Nova Scotia the Lieutenant-Governor can put his veto. The sanitary laws of New Brunswick (1887-88-89) very much resembled those of the province of Quebec, as they confer on the Provincial Board the power to make regulations respecting the prevention of contagion, the inspection of food and of unwholesome industries, drainage, and the repression of nuisances. The Registration Law (1887) provides for the publication of vital statistics. In Nova Scotia the authority of the Provincial Board with regard to contagious disease is simply advisory; it may, however, during an epidemic substitute itself for inefficient municipal Boards.

Manitoba (1893) admits of a special organisation which seems to suit the needs of a country whose population is disseminated over a vast extent of territory. Its Provincial Board is composed of five members—a veterinary surgeon and four physicians. For the needs of local administration the four physicians are entitled inspectors, and the province is divided into four districts. In each of those districts the authority of the inspector is supreme; he may, if he believes it necessary, set aside all orders and by-laws enacted by local authorities.

British Columbia has (1895) a Provincial Board which, according to the statute, seems to be only advisory, but which, nevertheless, has established very complete and very effective regulations. We will even point out a measure that surpasses those of any other provinces: it is the prohibition of discharging sewage into any river.

Prince Edward Island has no Provincial Board. It has a good law respecting vaccination, and, by its Health Act, local Boards are appointed in two cities, and the Lieutenant-Governor in Council is empowered to appoint a Board of Health in each county.

In the North-West Territories a law relating to hygiene was passed in 1882. Its means are only preventive. The Lieutenant-Governor can hinder any person within the territories from leaving a locality in which there exists a contagious disease. He can only delay at the frontiers any suspicious outsider. He can divide up the territories into sanitary districts, and appoint medical health officers if he judge such measures expedient.

As you may nevertheless see, gentlemen, by this short and altogether inadequate synopsis of our sanitary legislation. Canada, with regard to hygienic matters, is making rapid strides in the path of progress. If we recall the fact that it is only since 1880 that the different Provinces of the Dominion have really appropriated the powers that the constitution gives them by allowing the formation of Provincial Boards having the necessary authority to protect public health, we have the right to hope that in the near future Canada will not be inferior in sanitation to other countries.

Gentlemen, I cordially thank you for your close and considerate attention, and, before retiring, renew our wishes of welcome to Montreal and Canada.

HOW FAR MANDATORY MEASURES ARE OF VALUE AND PRACTICAL IN MEASLES AND WHOOPING-COUGH.

I.—P. H. Bryce, M.A., M.D.,
Secretary of the Board of Health of the Province of Ontario.

While it is true that, as officials appointed to carry out the laws of the country, whether provincial or municipal, it is a plain duty to give to them such effect as the powers and duties at our command render practicable, nevertheless, it is evident to all physicians to-day, as the causation, methods of communication, and progress of the different contagious diseases are becoming better known, that a differentiation must be made in the several classes of diseases as regards our methods of dealing with them, this differentiation being based upon several important considerations, amongst these the chief being

1. The rate of mortality.
2. The methods of communication and the contagiousness of the disease under ordinary local conditions.
3. The duration of the disease and its contagiousness.
4. The public opinion which exists with regard to any particular disease.

Dr. Clifford Allbutt, Regius Professor of Physic in the University of Cambridge, in the 1897 edition of his *System of Medicine*, very well illustrates several of these points in his classification of infectious diseases. He has

1. Infectious diseases of chronic course, including tuberculosis, leprosy, actinomycosis.
2. Diseases of uncertain bacteriology (not endemic), including measles, rubella, scarlet fever, chicken-pox, small-pox, mumps, whooping-cough.
3. Infective diseases communicable from animals to man (*a*) of certain bacteriology—glanders, anthrax; (*b*) of uncertain bacteriology—rabies, vaccinia, foot and mouth disease, glandular fever.

From this classification as well as from the practical experience of every medical health officer, it is apparent that no hard and fast line can be laid down for practically dealing with these several diseases, and it has been found in practice both in Ontario and elsewhere, as in England, that even in Class 2, including most of the so-called eruptive diseases, we must again draw distinctions as to our methods of dealing with the several diseases. Thus in Ontario, and indeed in Canada, there is no divergence of views as to the thoroughness with which vaccination and isolation should be carried out in dealing with small-pox. To a large degree this may be said with regard to diphtheria and scarlet fever; but the case is different with regard to measles, whooping-cough, and chicken-pox. While it is true that both measles and whooping-cough require notification under the Ontario Health Act, I think I am stating a fact of common experience when I say that in practice the law is a dead letter. There are two principal reasons for this:

1. The generally mild character of the disease *per se*.
2. The inadequacy of the means ordinarily at the disposal of the health officers for obtaining such practical success as shall commend itself to the public and to their representatives who supply the funds for carrying on public health work.

Judging from experience in England, where practical sanitation has reached its highest evolution, the fact that both measles and whooping-cough cause there annually many more deaths than any of the other diseases of the class has not had such an influence as to make health authorities generally recommend or the public submit to the measures in general operation regarding small-pox and scarlet fever. Thus in the table given by Dr. Henry Kenwood, Medical Officer of Health, Stoke Newington, in a paper before the Sanitary Institute, April 7th, 1897, the following mortality per 1,000 population is given:

	1851-60.	1861-70.	1871-80.	1881-90.	1891-95.
Small-pox	0.22	0 16	0.23	0.04	0.02
Scarlet fever	0.88	0.97	0 72	0.33	0.18
Whooping-cough	0.50	0.53	0.51	0.45	0.39
Diphtheria	0.11	0.18	0.12	0.16	0.25
Measles	0.41	0 44	0.38	0.44	0.41

A glance at the table makes the point at once plain that while small-pox and scarlatina have shown an enormous and steady decrease comparing the five decades, whooping-cough has shown but 10 per cent. of a decrease, and measles has stood practically constant, and has a total mortality equal to 50 per cent. of all the other diseases put together.

The statistics for Ontario show a similar state of things. Wherein, then, lies the explanation of the inability, in practice of health authorities in England or here, to deal with measles?

Primarily it would seem to be due to the early stage of the

contagiousness of measles. Allbutt states: "The mode of contagion is generally personal intercourse. The infection is perhaps greatest in the earliest stage. It is present at the onset of the prodromal symptoms, possibly a little earlier, and persists down to the time the rash fades. Thereafter it declines rapidly. It is rare that infection can be traced to a convalescent later than three weeks from the commencement of the attack." It seems quite apparent, therefore, that if a child has been inoculated, the inoculation of every susceptible member of his family is inevitable, and to a less extent those school children or others with whom he mingles. The point is illustrated by Dr. Kenwood in referring to those urban districts where notification exists, wherein it is shown "that a population which is very free from measles sickness in one week or month furnishes a very large number of cases in the next." Thus: "In Edinburgh during 1884 to 1893 there were instances where the number of cases notified in one month rose to the extent of 800 in the next, and where one-half and one-third of the total notifications in one year came to hand in one month." While without vaccination it is probable that small-pox infection would show the incidence, it is quite plain that given a single case of measles of school age, a localised epidemic of some extent is almost inevitable.

The question, therefore, arises with us, which is discussed by Dr. Kenwood, namely: Is the notification of measles of any practical value, and if so under what circumstances?

In answer to this question for ourselves several other points must be remembered: (1) The low mortality of measles amongst the better classes; (2) the very general practice among the poorer classes of treating the disease, at any rate during the earlier stages, until some complication supervenes, with "home remedies." With the first fact of its low mortality in mind, it is at once apparent that public sentiment is not prepared to submit to quarantine of the family for from three to six weeks, and notification would not result if such were attempted. Regarding the second point, the mischief is generally done before any official can be aware of the outbreak. Assuming that a municipality is, however, prepared to supply the hospital facilities for isolation as the complement of notification, it would mean, taking Kenwood's calculation of cases for London from an assumed mortality of 5 per cent., there would be 53,600 cases as in 1892; and even if but 30 per cent. were isolated in hospital, as much accommodation would be required in a year as for all other contagious diseases together; and since in many instances the cases run up to over 3,000 in a week, the hospital accommodation would have to be proportionate. In the article of Dr. Kenwood, the various recommendations of the medical officer of the Local Government Board are mentioned to be taken by the local authorities, and are as follows:

A. Sources where information may be obtained as regards occurrences of measles.
1. Compulsory notification by physician and householder.
2. Careful inquiry in every case as to source of infection and house-to-house visitation in vicinity of cases.
3. Notification by school authorities of cases and absentees.
4. Information from public officers and institutions.
5. Prompt registration of all deaths from measles.

B. Preventive measures in all invaded dwellings.
6. Every case promptly visited by health officer to advise measures of isolation with verbal and printed instructions. Those who cannot be isolated at home to be removed to hospitals.
7. House and articles to be thoroughly disinfected.
8. Continued observation of inmates till fourteen days after disinfection.

C. Preventive measures to be taken in the invaded district.
9. Notification of health authorities by school authorities.
10. Exclusion of all members of infected families from schools.
11. Exclusion of children from infected houses.
12. Early closure of public, elementary, Sunday, and private schools.
13. Precautions regarding library books.
14. Preventing members of infected households from carrying on their occupation, where such appears necessary.
15. Instruction of the public concerning gravity of measles.
16. Temporary addition to sanitary staff in epidemics.

In these recommendations, called by Dr. Kenwood a "counsel of perfection," the whole ground is covered applicable to almost any communicable disease, but it appears to me, for the reasons stated, that the task to be performed is greater than the means ordinarily at command makes possible. Recognising, however, the gravity of the disease in its totality, judged from mortality statistics in extended epidemics, the following measures are of practical utility, and are arranged in their order of seeming practical importance:

1. Notification daily by the school authorities by messenger or telephone to the health officer of every absentee.
2. Immediate investigation by a competent medical health official during the day of every absentee reported sick by the inspector or truant officer. By such measures the great majority of first centres of an outbreak of any contagious disease would be known at the earliest possible moment.
3. Notification by the teacher of any further cases of disease where a pupil develops any of the symptoms, and their immediate removal from the school.
4. The compulsory notification by the householder, under severe penalty for neglect, of every case occurring in the house. While it may further be useful to have notification by the physician, yet, from the nature of the disease (measles, whooping-cough, and even scarlatina), and the absence of a physician in many cases, the compulsory notification by the householder is of primest importance. We are aware that in practice in Ontario notification by the householder is not carried out or greatly insisted upon. By this measure, developed by very general distribution of leaflets, the disease would become "corralled" in a comparatively small number of houses at the beginning of the outbreak.
5. In view of what has already been stated with regard to the possibly great cost of isolation hospitals for measles, the most practical measure of isolation would seem to be in the home, the public being warned by placard. By this means the health officers are assisted by the neighbours, who will commonly give information if the children from an infected house are seen on the street. If in a poor district, hospital isolation would alone prove probably an adequate measure of isolation.
6. The disinfection of the house, articles, books, etc., after the disease in a house is ended is a natural and routine method, wholly within the powers of the health authorities to carry out.
7. The closure of schools is a measure of some importance, as a last resource, but it need not in practice be early resorted to, except in the room whence the sick child has been removed.

If, during the period of the incubation of the disease, the teachers, where the schools are closed, were utilised as inspectors to visit the homes of their pupils, I can imagine no better or as practical a means of assisting the health department in ferreting out cases of the disease. In Ontario municipalities the teachers are the employees of the municipality, receive pay during the closure of the schools, and might fairly have this missionary duty laid upon them. Their visits to many homes might in other ways exert a most salutary influence.

WHOOPING-COUGH.

What has been said with regard to measles might be repeated almost word for word concerning whooping-cough. It is certainly communicable from the beginning of the earliest symptoms, and indeed it is most so during the non-spasmodic stage. Afterwards the power to communicate the disease declines, but is still present for at least six weeks from the beginning of the attack. These facts make the danger of an outbreak spreading rapidly in schools very great indeed, especially as the spasmodic cough, which appears commonly at first at night, does not occur for several days, often for several weeks, from the onset of the disease. With regard to the duty of the teacher in such circumstances, the most that can be said is that they should be kept very well informed by literature as to these facts, and be required when the disease has appeared in any municipality to send any child from school which has developed a cough, until the true nature of the disease has been ascertained. Of course, notification of the health authorities of the action taken would naturally follow. The isolation by a placard of the children of a household for six weeks would appear to many a hardship, and would prove difficult in practice, but it must be apparent that unless this be carried out the spread of the disease in a district is inevitable. It cannot be expected, except under surroundings especially bad, that isolation facilities in hospitals will be provided in this disease under our present social methods. I am, however, firmly convinced that just as we have seen isolation hospitals developing in London—where the highest number of admissions in 1872 was 20 in a single month, while this was increased to 1,850 in a single

month in 1892, or over 60 per cent. of all the notified cases during the year were treated in metropolitan hospitals—public opinion will gradually support the authorities even in extending hospital facilities to these diseases.

While it may fairly be said that the low mortality from these diseases, as indicated in the mortality statistics, may not seem to indicate the same necessity for such measures in Ontario as would seem to be demanded in England, yet it may well be that these statistics do not give by any means an accurate idea of the mortality dependent upon these two diseases, since in many instances, doubtless, the deaths registered as due to pneumonia and bronchitis in children might more properly be set down as due either to measles or whooping-cough. Further, as illustrated by the fact that the deaths from measles in 1895 occurred almost wholly in Toronto and Ottawa, it is apparent that all that is demanded is to make conditions in this province similar to those of the densely populated centres of England in order to have the mortality from these two diseases increased to a similar degree.

TUBERCULOSIS.

With regard to the extent to which mandatory measures should be exercised regarding tuberculosis I cannot do better in expressing my views than by reading the resolution moved by Dr. C. O. Probst (Ohio), seconded by Dr. Ruggles (California), and adopted by the Section on Climatology, Hygiene, and Demography of the Pan-American Congress, held in Washington in 1894.

That in the belief of the Section of the Association on Climatology, Demography, and Hygiene, owing to the facts—

(1) That tuberculosis causes more deaths than any other disease.

(2) That it is now known to be communicable especially to persons living in houses and shops with consumptives, that the attention of national, State, and municipal authorities be directed to the necessity for controlling the dissemination of the disease.

(1) By insisting on compulsory notification by physicians and householders.

(2) By regulating the residence of the tuberculosed.

(3) By controlling as far as necessary their movements.

(4) By establishing hospitals and homes for the infected poor.

The various points in the resolution were fully discussed, and its conclusions were generally accepted as expressing the views of that body of representative physicians of this continent. They seem to me to express exactly what ought to be done and what can be done the very moment that "homes for consumptives" be recognised as the first great step in the limitation of this widespread disease.

With regard to leprosy it need only be said that the disease is not present in Ontario, but that provision exists under the Dominion statutes whereby all lepers are to be removed to the lazaretto in Tracadie in New Brunswick.

II.—C. O. PROBST, M.D.,

Secretary, State Board of Health of Ohio.

ALTHOUGH we are still in the dark as to the cause of two of these diseases, measles and whooping-cough, none will dispute, I think, the first proposition, that all of them are preventable. Given control of conditions, we can take a case of measles, whooping-cough, leprosy, or tuberculosis, and absolutely prevent spread of the disease. Do these diseases occupy a sufficiently prominent place in the death-rates to warrant putting into operation mandatory measures for their prevention? No one will question this as to tuberculosis, but it is quite different, at least in the popular mind, as regards measles and whooping-cough. We are, unfortunately, unable to say for the United States, with the same degree of certainty as for England and Wales, what tribute these diseases exact annually. Still, we are not without light upon this question.

According to statistics collected at the eleventh census, there were in the United States during the year ended May 31st, 1890, 9,256 deaths from measles, 8,432 from whooping-cough, 15 from leprosy, and 102,199 from consumption. This represents for each 100,000 living inhabitants 14.6 for measles, 13.4 for whooping-cough, and 163.2 for pulmonary tuberculosis. This is undoubtedly considerably less than the actual number, as the returns for nearly two-thirds of the population were made by census enumerators, whose reports gave a total number of deaths of but a little over 10 per 1,000 population, whereas the true death-rate was in the neighbourhood of 18 per 1,000. For the same year (1890) in England and Wales, the death-rate per 100,000 living population was 43.9 for measles, 47.8 for whooping-cough, and 168 for phthisis. A fairer comparison may be made by taking the large cities of the United States, where accurate records are kept. In twenty-eight cities of over 100,000 inhabitants, with an aggregate population of 9,697,960, the deaths per 100,000 living inhabitants were 17.81 for measles, 17.23 for whooping-cough, and 268.81 for consumption. In the twenty-eight largest English cities, the death-rate per 100,000 living population was for 1890, according to the United States Census Reports, 63 for measles and 59 for whooping-cough. These figures leave out of account those left with weakened bodies and impaired organs, which render them an easy prey for other diseases. Taken at their face value, they indicate that measles and whooping-cough are much less prevalent, or much less fatal, in the United States than in England. But they certainly show, even for the United States, that measles and whooping-cough are far from being trivial affections; and few realise that they destroy each year more children than does scarlet fever, of which the public has a very considerable dread.

It is difficult to prescribe mandatory rules for dealing with measles, whooping-cough, or tuberculosis. In the first place, the two former are highly contagious before diagnostic symptoms are present. Further, a large number of the cases are never seen by a physician; and while our laws make it the duty of parents and householders to give notification, we must show that they were aware of the nature of the disease, and that is usually impossible. For these reasons it is not possible to obtain full reports of cases.

In tuberculosis we have a centre of infection lasting years instead of days, and a moving centre; for we cannot expect to isolate tuberculous patients. In addition, this is a disease transmissible from the lower animals; and the mandatory control of tuberculous animals and their food products is necessary in its prevention. We have also the weight of public opinion against us in attempting to enforce mandatory measures in dealing with these diseases, except, possibly, leprosy; and one engaged in practical sanitary work well knows what a load this is to carry.

Approaching the question more nearly, and considering first measles and whooping-cough, shall we require notification? I say, Yes. All measures of a mandatory nature must hang on this; for, like the receipt for cooking a hare, we must first catch our cases. It is true that in some of the English towns where notification of measles has been tried and abandoned, it has seemed of little value, or at least not worth the cost. But in the United States physicians are not feed for reporting cases, so that for us the expense objection largely disappears.

It has been contended that without isolation hospitals notification is of no value. If this be true for measles it should be true for scarlet fever, and perhaps diphtheria. Isolation hospitals, except for small-pox cases, are almost unknown in the United States, and yet we have had a fair measure of success in limiting the spread of scarlet fever without the aid of isolation hospitals.

Notification of measles and whooping-cough, with the isolation and disinfection, which should, of course, follow, is of undoubted value for small villages and rural districts. Here they appear only at intervals; and if the authorities are on the alert, and receive prompt notice of the introduction of a case of either disease, it is often possible to confine it to one, or at most to a few households.

Closing the public schools, and prohibiting other large gatherings of children, are mandatory measures which are of value in contending against these diseases. This is not of so much importance for the school children themselves as for the younger children at home. Two-thirds of the deaths from measles reported in the United States during the last census year, and over nine-tenths of the deaths from whooping cough, were of children under school age. More than half the deaths from whooping-cough were of children under one year. In looking for preventive measures we should keep in mind these tenderlings who so readily succumb when attacked. By closing the schools during the prevalence of

measles or whooping-cough, we may hope to protect at least some of these from infection carried to them by children attending school.

Perhaps the chief cause for the prevalence of measles and whooping-cough is the slight regard in which these diseases are held by the public; and so long as health officials ignore them in schemes for prevention of disease, we may expect this same public to remain in the belief that they are of little consequence.

For measles and whooping-cough, then, I would advocate notification, placarding, domiciliary restraint of the patient and of all susceptible children in the family, with official supervision of disinfection. Where isolation hospitals are accessible the early removal of the patient is undoubtedly much safer than to leave him at home. Schools should be closed for a time in any district where either disease threatens to become epidemic, and the school buildings disinfected before they are reopened.

Leprosy is alarming from its history rather than from any present prevalence of the disease. For the census year of 1880 16 deaths were reported in the United States from leprosy; during the census year of 1890 there were but 15. It has not been considered necessary to enforce strict isolation in leprosy, as there has been practically no extension of the disease to the American born. But, admitting its contagiousness, and considering its loathsome character and invariably fatal termination, it appears plain that some provision should be made for the segregation of all lepers. As our lepers in the United States are largely aliens, and are now few in number, I am in favour of having the National Government establish a suitable place where all lepers may be confined.

Little has been done in the United States in a mandatory way for the prevention of tuberculosis. In very few places notification is required, and disinfection of houses in which tuberculous patients have lived has been offered but not made compulsory. There is still some opposition from the medical profession to the notification of cases. The great mass of the laity scarcely regard it as a contagious disease. It is, indeed, only within comparatively recent years that health authorities have even attempted to mould public opinion to this view. Mandatory measures for controlling tuberculosis must, therefore, necessarily be of the mildest character at first. Notification, as in measles and whooping-cough, must precede other measures. Isolation of the patient is impracticable, and, fortunately, not nearly so necessary as in most of the other infectious diseases.

Health authorities should assume responsibility for the proper disinfection of houses which have been occupied by tuberculous persons. We know that tubercle bacilli, under conditions liable to be met with in such houses, may live for years. Flick has shown us that in Philadelphia infected houses have played an important *rôle* in propagating tuberculosis. Disinfection of such places by public authority, besides rendering them safe for future occupancy, would teach a much needed lesson to the public, namely, that tuberculosis is a contagious disease, and must be handled with care. The people well know its terrible ravages, and if they can only be made fully to realise that it is spread by contagion and infection, we shall have much less difficulty in dealing with it.

In hospitals, prisons, and like places, supported by public funds, we should require much more than this to be done. Here we should be able to secure practically complete separation of tuberculous patients, and to have the most careful attention paid to disinfection of the sputa. The same should be largely true of our army and navy. I would advocate for the United States the building of a hospital by the National Government, located in a favourable place as regards climatic conditions, where all tuberculous members of the army and navy could be sent. With sufficient land for cultivation, and the early recognition of those who should be sent there, such a place could be made practically self-sustaining.

While not a mandatory measure, and therefore outside the present discussion, I must urge, in passing, that the State and Provincial Governments should no longer delay coming to the relief of the health authorities by providing hospitals for such cases of this disease as cannot be properly cared for in their homes.

Any plan for the prevention of tuberculosis must take into consideration tuberculosis of animals, and more especially of milch cows. The danger from tuberculous meat does not appear to be very great, and is certainly nothing like that of tuberculous milk. Here it would seem that health authorities have their best opportunity for commencing the enforcement of mandatory measures against tuberculosis. Boards of Health are already at work in this direction. The City Council of Minneapolis, Minnesota, adopted an ordinance that only milk from cows free from tuberculosis, as shown by the tuberculin test, should be sold in that city. The ordinance was contested on the ground that the Council had no jurisdiction outside the city limits, and that the tuberculin test was uncertain and unreasonable. The Supreme Court of Minnesota decided both points in favour of the city.

Bang, of Denmark, has shown us that it is not necessary that all tuberculous animals should be slaughtered to eradicate the disease from any particular herd. By simply separating the sound from the unsound, slaughtering animals far advanced in the disease, and feeding calves born of tuberculous cows with milk from healthy cows or milk that had been boiled, in three years' time he completely eradicated tuberculosis from a herd in which, at the beginning, 80 per cent. of the milch cows were affected. Others have reported successes nearly as good. This is very encouraging, and, if borne out by wider experience, will make it much easier to deal with this question of tuberculosis in cattle.

For the present I would recommend that the local authorities be given powers—and be urged to use them—to provide that all animals furnishing milk to their respective towns or cities shall be shown by a satisfactory examination to be free from tuberculosis. The central authorities should be able to prescribe regulations for the housing and keeping of milch animals; and these the local authorities should be required to enforce. The filthy condition and bad ventilation of cow stables is undoubtedly a potent factor in the spread of tuberculosis amongst cattle.

It will be admitted that it requires something more than the bacillus tuberculosis to produce consumption. The soil must be prepared for its growth, and there are many conditions favourable to this which should, and I believe could, be dealt with by mandatory measures. Certain of the occupations—especially those in which workmen must be exposed to certain forms of dust—are a most prolific cause of consumption. Our factory and workshop inspectors have already done much towards bettering these conditions, but a great deal remains to be done which could be better done by the sanitary authorities.

There is undoubtedly a close connection between the breathing of impure air and the production of phthisis pulmonalis. It has been said that consumption is the penalty the race is paying for changing its habit of living out of doors. Mandatory measures should be applied for the amelioration of this evil. Our building laws already take note of this, but do not go far enough, and are not properly enforced. There should be a limit to the number of persons that may be crowded into a tenement house, and sufficient yard area should be one of the conditions of securing a permit to build.

We are told that education must precede legislation. This does not mean that we must wait in enforcing mandatory laws for the protection of life, health, or property until all the people are educated. Intelligence rules the world, and it is intelligent opinion that is to be guided. The masses have been scourged for ages by small-pox, cholera, and the plague. Yet we still find it necessary to use mandatory measures in dealing with these diseases. If the entire race could be lifted to the plane of present sanitary knowledge we should still find, unless human nature should be changed, that people must be made to do their duty.

Summing up my conclusions I would say that, with a full realisation of the many difficulties executive officers will have in attempting to employ mandatory measures against the diseases under consideration; with the certainty that such measures can have at first but a limited success, my belief is that those in authority will some day be held responsible for a grave neglect of duty if they do not make a serious effort to carry mandatory measures to the farthest possible limits in the prevention of this quartette of diseases, for which at the present time so little is being done.

III.—H. Handford, M.D.,
M.O.H. to the County of Nottingham.

My chief object in coming here was to learn rather than to teach. Such a question must be treated from one's own experience to a large extent, and the conditions of life seem so different in England from those prevailing on this large Continent, that a discussion must be rather an interchange of ideas than an argument from a common basis. Our great want in England is not so much any fresh legislation—we have plenty of legislation already, and some people think we have too much. Our great want is a Minister of Public Health to enforce the application of the laws already on the statute book. If our present legislation were put into practice, I think we should be capable of making advances in hygiene and public health, with which those who have not had occasion to devote attention especially to that branch of preventive medicine would be quite astounded.

With respect to the subject of this discussion I take exception to the word "mandatory." In England to a very large extent compulsion has completely failed in public health legislation. The advances that have been made have been achieved by winning the confidence of the people who are to be benefited, and by showing them the advantages to be gained by notification and other preventive measures. Therefore I am not an advocate of further compulsory legislation with regard to public health, at any rate until this education of the people in such matters has advanced very far beyond its present stage. When I speak of education, I wish it to be understood that the wealthy and otherwise well-educated classes require education in this particular respect as much as, if not more than the poor.

As an example of the truth of what I have said as to the influences of education and persuasion, I may take the case of the town of Nottingham, and I can speak with a greater freedom because I am not officially connected with the municipality. With respect to scarlet fever the municipality has obtained power to remove cases, which are not sufficiently accommodated at home, to a hospital under a magistrate's order. I do not think that in Nottingham during the last ten or fifteen years the law has been enforced in a single case—that is, not a single case has ever been removed compulsorily to a hospital by a magistrate's order. We have a large infectious hospital there which has been in constant work for nearly ten years. At first there was a good deal of opposition on the part of the public to having their children removed from home, and a good deal of pressure had to be applied in a great many instances to secure the removal, but it was always moral and not legal pressure. The result of eight or ten years' work has been that notification with regard to scarlet fever is admirably carried out, and at the present time all the cases of scarlet fever are notified. Only the very indefinite cases escape notification, and over 90 per cent. of the notified cases are voluntarily removed to the hospital. I do not think any compulsory legislation could arrive at such results.

With that illustration constantly before me I am certainly adverse to any further compulsory legislation for any of the diseases mentioned in the subject of this discussion till the public mind is far better informed than at present. I think, moreover, that this work of education should be undertaken by the general practitioner as well as by the health officer. The health officer is naturally looked upon by the public as apt to be too officious and over-zealous in the discharge of his duties, and his advice is not always so well received as that of the private medical attendant. I should like to urge that it is the duty of the medical profession as a whole, rather than of health officers, to educate the people in this respect. With regard to one of the four diseases mentioned, leprosy is practically a clinical curiosity in England, and has really no bearing on legislative measures. In some parts of the British Empire, as in India, it is an important question, but this cannot be said of the United Kingdom.

The question of tuberculosis is exceedingly interesting, and is quite sufficient for a debate by itself. The only observation I would make on that point is with regard to milk. I feel quite convinced, no doubt with a great number of my colleagues, that a great deal of tuberculosis is attributable to the milk supply, and we have an opportunity of checking the spread of the disease by inspection of the dairies and cattle. In England our existing laws would enable us to do that to a large extent, but public opinion is not sufficiently advanced to allow us to put the legislation into effect. Still, public opinion is advancing in this respect, and will probably advance sufficiently to enable us to carry out the legislation in a very few years. It seems to me that the actual spread of the disease by means of food is a very different matter from that of personal contagion, and in such cases compulsion can be applied much more justly than where the liberty of the subject is interfered with. The supply of milk from tuberculous cattle practically means the scattering of disease, just as distinctly as the sale of poisoned wheat would do.

I shall say nothing with regard to whooping-cough, because what applies to measles applies to a very large extent to whooping-cough, except that at present we are not prepared in England to apply the same measures with respect to whooping-cough that we are with respect to measles. Still, if it is found by experience that the measures recommended are satisfactory with respect to measles, there is little doubt that the same measures will be applied to whooping-cough afterwards. The mortality from measles varies very greatly in the town and country districts. Our statistics show that in the country districts the mortality is about 0.35 per 1,000, and in the town districts about 0.6. In some of the towns it goes as high as 0.95. We know very little about the case mortality of measles, but in the few towns where notification is carried out we have an opportunity of judging. From what I have seen, it would appear that in the second year of age the case mortality reaches 20 per cent. If we can bring that home to the minds of the people, the greater part of our battle in dealing with measles as an infectious disease will be won.

With regard to notification it is compulsory in England, and the double system is adopted. The law requires the householder to notify, but practically that is a dead letter with us. Notification practically depends on the goodwill of the medical practitioner.

IV.—Wm. Oldwright, M.D.,
Toronto.

Dr. Wm. Oldwright agreed with the last speaker with regard to the value of educational and persuasive methods, but he thought Dr. Handford went too far in deprecating compulsion. His experience was that while a mother thoroughly understood how dangerous it was to have children from a house where there was scarlet fever running with her children, she did not understand, or rather did not fully appreciate, the danger of her children running with others when she had scarlet fever in the house. With regard to whooping-cough he differed from at least two of the previous speakers as to the way in which they seemed to regard it relatively with measles. He believed that in England measles was a great deal more serious than in Canada, but in Canada whooping-cough was very much more to be dreaded. He had known of several instances where death had occurred from children being allowed to go into a house where whooping-cough existed. The moral sentiment of the people certainly needed cultivation with respect to this disease. Children with whooping-cough were allowed to go on boats and street cars by their parents, who were apparently regardless of the danger of their infecting other children.

With regard to tuberculosis he thought something should be done to secure the disinfection of rooms at health resorts, and especially at hotels. People went for the good of their health, and were often put into rooms from which the infection, caused by their being previously occupied by tuberculous patients, had not been removed. Then again, railroad cars were not properly attended to. The sheets were changed, but the rugs or blankets were left from week to week without any attempt being made to disinfect them, although they came closely in contact with the mouths of tuberculous patients. With respect to milk, the Ontario Legislature passed an Act enabling cities to have the tuberculin test applied to the cattle of all milk vendors coming into the city, but the milk dealers came down in force and had the operation of the law suspended. The medical officer of the city had, however, adopted a very strong persuasive measure which had been applied with considerable success. He gave certificates to the milk dealers that their cattle had undergone the tuberculin test. This was placarded on the waggon and

shop windows, and acted as an inducement to the public to buy and to other dealers to have the test applied to their cattle. With regard to isolation hospitals for several diseases the danger of patients coming with one disease and contracting another must be borne in mind. He did not think placarding for whooping-cough should be begun unless it could be continued. He had known a case where it was discontinued in two weeks, and this had a bad effect. With regard to leprosy he should be glad to hear from gentlemen who had had experience of the disease.

V.—Ebenezer Duncan, M.D.,
Glasgow.

Dr. Duncan did not think it was possible to carry out any effective mandatory measures with regard to measles and whooping-cough. He thought tuberculosis was the most important subject in this discussion, and he was convinced that mandatory measures could not be carried out on account of the long duration of the disease, which sometimes extended over years. It was utterly impossible to carry out complete mandatory measures, and yet there were some things which were perfectly practicable. It was exceedingly important that the cubic air space of dwelling houses should be increased, and that the ventilation of workshops and the emission of smoke and other impurities into the atmosphere should be effectively dealt with. It also appeared reasonable to him that the house in which death had taken place should be thoroughly disinfected, and that every death from tuberculosis should be notified. This would enable the origin of the disease to be inquired into; it frequently arose from overcrowded houses or workshops. It was absolutely necessary to remove cases of tuberculosis from overcrowded dwellings. He had carefully inquired into the origin of every case which came under his notice in the hospital with which he was connected, and into those with which he had come in contact during a practice extending over thirty years. He was perfectly satisfied that in the overcrowded houses of the poor consumption bred like typhus fever, but where there was thorough ventilation and sufficient cubic air space there was little or almost no chance of infection. In the overcrowded houses of the poor such cases were constantly occurring, but he had not come across a single case of infection amongst the better classes under good sanitary surroundings.

VI.—Thomas Carr, M.D.,
M.O.H. Braintree.

Dr. Thomas Carr said the great point was the necessity of educating public opinion, in which he included medical opinion as well as lay. Some medical men would not insist on the necessary measures with regard to tuberculosis. A very important point in this connection was the disinfection of sputa. General practitioners ought to see that sputa were disinfected. These measures were possible, and were all that public opinion was ripe for at present. As regards the question of milk, it seemed to him that in England they had sufficient legislation if they were able to carry it out. Their rights of inspection of cowsheds and dairies were pretty complete, but public opinion was too strong to permit them to do what they would in that direction. Personally, he was of opinion that if the public generally were awakened as to the necessity of sterilising, if not boiling, the milk they gave their young children, a great number of cases of consumption would be prevented. Dr. Bryce's suggestion, that in the event of a measles epidemic, every case of indisposition reported from the schools should be visited by the medical officer of health, seemed to him impracticable. In the old country they were not yet ready for the isolation of measles in hospitals, and notification had not yet received the unanimous consent of the medical officers. About 80 per cent. of the towns which had tried it had abandoned it because they found benefits if they existed were not to be observed.

VII.—Alexander Johnston, M.D.,
Glasgow.

Dr. Johnston said that in the large towns of Great Britain hardly anything had yet been done for the purpose of stamping out measles and whooping-cough, or even alleviating the distress caused by these diseases. Hitherto the drawback chiefly lay in the lack of public interest and appreciation of the important part these diseases played in raising the death rate. In the second place, he was of opinion that without sufficient supervision and isolation hospitals, which would be a source of great expense, any measures taken would fall short of what might be desired. The public were sufficiently alive to the importance of isolating small-pox, typhus, and scarlet fever, and in taking measures to prevent the spread of these diseases; a public health officer had public opinion on his side. But measles and whooping-cough were looked upon by so many people as trifling diseases which children must necessarily go through, that it was impossible to isolate them except at immense cost to the citizen. Under the School Board system of compulsory education children were crowded together, especially in the infant department, and the cubic air space was insufficient. To him it seemed very desirable that the supervision in a general hygienic way and the recognition of infectious cases should be carried out by a medical officer appointed by the School Board, whose duty it should be to look after the health of the school children, more especially those in the infant department. By such means the extent of the prevalence of the diseases referred to might be established, and the importance of the subject brought home to the parents, who might thus be induced to incur the expense of isolation. With regard to the clinical observation of measles, his experience was hardly in accord with what had been assumed to be the case. His own experience was that measles was very infectious during the pre-eruptive stage, but that it was scarcely at all infectious after the eruption had appeared. But with whooping-cough he found that there was a very much better chance of stamping it out and preventing the spread of the disease even when cases could be readily diagnosed by the characteristic whoop. When the pyrexia was most pronounced and the expectoration most profuse the disease was most infectious, and by getting hold of it before this stage was reached there was a much better chance of stamping it out than in a case of measles.

VIII.—W. Nelson, M.D.,
New York.

Dr. W. Nelson, in answer to the inquiry as to leprosy, said he had had some experience of the disease and that it was in no way contagious. When he was in the island of Trinidad, he visited the lepers' asylum there, which was in charge of the French Sisters of Charity. One of the sisters told him that they had been there twenty-six years, and not a single case had developed itself among them, although they had lived within the walls of the asylum, did the washing of the lepers, and came constantly in contact with them. When he was in New Orleans there were fifteen cases, and the disease was by no means rare in the Southern States. As to mandatory measures, it seemed a pity to him to add anything to the burden of these unfortunate creatures; they were a source of absolutely no danger to the community.

IX.—Benjamin Lee, M.D.,
Philadelphia.

Dr. Lee would like to know how leprosy was contracted if not by contagion. Those who had studied the subject had decided that it was not conveyed by heredity. If it was not contracted by heredity, it must be either by contagion or inoculation. Was Dr. Nelson's point that it was inoculation?—Dr. Nelson said he was not prepared to answer this question. He would simply leave the facts he had stated to the intelligence of the meeting.—Dr. Formento (New Orleans) said he was acquainted with the twelve or fifteen cases in New Orleans. They were not aliens, but belonged to a small number of families. He had in his practice two cases, one a priest who had been spending his life in the Charity Hospital, New Orleans, and there contracted the disease. In one family there were two children affected, one several years after the other. Both cases were clearly traced to contagion.—Dr. Lee said there was a curious tendency in some minds to allow negative testimony to outweigh positive evidence. The health authorities of Cape Colony had published a most exhaustive report on the subject of leprosy in that province, and they stated most distinctly that it was contagious. It was

impossible to read that report and not be convinced that, as a rule, leprosy was propagated by contagion and infection.

ON THE DURATION OF THE PERIOD OF INFECTIOUSNESS IN SCARLET FEVER.

By JAMES T. NEECH, L.R.C.P.Edin., D.S.Sc.Vict.,

Medical Officer of Health, Atherton; Physician to Leigh Joint Fever Hospital.

THE period when a convalescent from scarlet fever ceases to be infective and becomes safe for discharge must at times be a source of anxiety to every physician who has charge of a fever hospital; and it appears to me that this uncertainty is likely to continue more or less until the specific microbe of the disease has been definitely isolated, its life-history studied, and the extreme limit of its retention within the human body experimentally proved. Not till then, and until we have at our disposal reliable methods for detecting the microbe shall we be enabled to pronounce with certainty that a given patient is free from infection and incapable of conveying the disease. Until we arrive at exact methods we must be guided in dismissing patients from hospital by the result of close observation, accurate records, and carefully prepared statistics in connection with cases while in hospital and the relation which their discharge therefrom bears to the occurrence of fresh cases in the district to which they belong. By this means it would be possible in time, I think, to acquire fairly accurate information with regard to the probable period during which scarlet fever continues to be infectious.

That the period of infectiousness varies in different cases is true, and the severer the case the longer is it likely to remain infectious. Hitherto the generally recognised period during which isolation should be maintained in mild and ordinary cases is six weeks, provided desquamation is complete. In my opinion that period is too short, even in milder cases, and although I admit that the desquamating cuticle is infectious I am not certain that the completion of desquamation is a safe and reliable guide as to when a given patient ceases to be infective even in cases where no complication arises.

That a purulent discharge from the nose, ear, or a running sore, the usual sequelæ and complications which necessitate a prolonged period of isolation, is infectious has been proved beyond a doubt. But what is the source of the specific poison contained in these discharges? Do these discharging surfaces afford conditions in which the specific microbe can increase and multiply? The discharge itself comes from the blood vessels, and if the blood has been rendered immune to the disease, are not these discharges in consequence inimical to the growth of the microbe? In my opinion the source of the specific poison is not the mucous membrane of the nose or ear, or the surface of the sore, but the blood stream, and the mere existence of such discharging surfaces is not in itself capable of prolonging the infective period; they only serve as exits by means of which a portion of the virus finds its way out of the circulation and the body.

It has not yet been shown that the cessation of the period of infectiousness and the healing of a discharging surface are coincident, and I do not think that such is always the case. Sometimes possibly the healing precedes, while at others I feel sure that the power of infection ceases before healing takes place. A discharge in some cases continues through a very protracted period, but it is obvious that infected material cannot be retained within the body indefinitely. Although the infective period varies in different cases, is there not a time limit to the retention of the virus in the body beyond which no complication whatever can prolong the period of infectiousness?

In cases of infectious disease where the fluids of the body are more or less laden with specific poison a certain time must elapse under the most favourable circumstances before that poison can be completely eliminated, and in scarlet fever it appears that conditions exist, at any rate in some cases, which considerably prolong the period of complete elimination. In this respect scarlatina seems to differ from many of the other fevers; consequently the idea has suggested itself that a storing up of infective material takes place somewhere in the body, and this perhaps in the condition of spores.

I have noticed in scarlet fever that not only the glands of the neck but also the lymphatic glands in the axilla, groin, and other parts become enlarged during the earlier stages of the disease, and that the enlargement is more general and marked in the severer forms of the disease. Therefore I incline to the opinion that the specific poison accumulates in these glands causing irritation and enlargement. As the irritation ceases and the enlargement becomes absorbed, the virus passes again into the blood stream, and is eliminated during convalescence by the different emunctory organs.

In typhoid fever great care is bestowed upon the disinfection of the discharges from the bowels and kidneys, and especially the former, but in scarlet fever little attention is usually paid to these excretions. When the fluids of the body contain a specific poison, is it not capable of being discharged therefrom by every organ whose function is to separate effete materials from the blood stream? According to Crookshank the microbe of anthrax has been found in the discharges from affected animals. I think the desquamating cuticle in scarlet fever, especially in the later stages, owes its infectiousness very much to the excretion of the glands of the skin.

With a view of obtaining information as to the usual length of hospital isolation in scarlatina I issued a circular to a number of fever hospitals situated in different parts of England asking for the minimum, maximum, and average period of isolation that obtained in each place during the two previous years, and also the number of return cases which occurred within seven days of the discharge from hospital. From the replies received I find the minimum period varied between 4 and 8 weeks, while the maximum in some cases extended to 6 months. The average period, the most useful for the purpose of comparison, varied between 39 and 65 days. In many hospitals information regarding the number of return cases did not appear to be available, but I have been enabled to secure pretty accurate records of some 15,000 patients, and I find that where the average period of isolation was 49 days and under, the return cases averaged 1.86 per cent., where the average period varied between 50 and 56 days, the average percentage of return cases was 1.12, and where isolation extended to between 57 and 65 days the average percentage was 1.0.

Although I would not like to lay too much stress upon these figures yet they seem to point to the conclusion that the average period of retention in hospital bears a relation to the number of return cases of the disease.

The question of return cases of scarlet fever is an important and very difficult one. Of course a patient might become infected in the ordinary way, or might contract the disease from some source with which we are ill acquainted, and in each case this might be coincident with the return from hospital. The stowing away of infected articles belonging to a patient has been shown to be a cause of return cases, but with improved apparatus, and more perfect and thorough methods of disinfection, this probably does not play so important a part in the matter as formerly.

Allowing that a certain number of return cases contract the disease from other sources, yet there is little doubt that discharged patients in a certain percentage of cases are the direct vehicles of infection.

Several eminent authorities are of opinion that patients through breathing the actively infected air of a hospital during convalescence store up infective material in the cavities of the nose and lungs, and by that means convey the poison outside the institution. This may possibly occur, but were it the chief cause, would not the number of return cases be even greater than it is? Moreover it appears to me in that case the percentage would not be affected by prolonged hospital isolation in the way the figures just quoted seem to show.

The lymphatic glands, I think, store up infective material. This has been previously referred to, and should any enlargement be found when a patient is examined for discharge it is my practice to prolong the stay in hospital in consequence thereof.

Systematic disinfection of the nasal cavities before discharge has been advocated, which no doubt is a useful and necessary procedure; also a convalescent ward in which

patients may be prepared for a week before dismissal. I think there should be two such wards in connection with large hospitals, so that they can be used a week each alternately, and disinfected when not in use. This would ensure for the patient a purer atmosphere which would aid in freeing him from infection.

In view of the points raised and the facts referred to, it is doubtful whether a minimum period of retention in hospital of less than eight weeks is sufficient, as I think it safer to increase and maintain the average rather by extending the minimum than by prolonging the maximum period of isolation.

From returns received I find that several authorities consider 13 weeks of isolation sufficient even in cases where complications supervene, and irrespective of the healing of discharging surfaces. I incline to agree with this, and think that a minimum of 8 and a maximum of 13 weeks may be considered safe until the contrary be shown by the result of accurate records based upon careful observation, or they be proved to be incorrect or inadequate by exact bacteriological methods.

Dr. JOHNSTON (Glasgow) said this was a very important subject to those who had charge of fever hospitals. Having charge of such an institution in the city of Glasgow, it was a source of continual anxiety and worry to him that patients discharged might carry home the infection and communicate the disease to other members of the family. Yet the precautions taken were as complete as human knowledge could make them. The patient's clothes were sterilised by steam, and the patient had a final disinfection before being discharged after a minimum detention of 8 weeks. The percentage of return cases infected from dismissal was 2 per cent. Within the last few months he had seen one or two cases which for complications, such as suppurating ears, were kept in hospital for three months, and were apparently absolutely free from infection on their dismissal, but in each case after going home infected a younger member of the family, and perpetuated the spread of the disease. He could not quite concur in the glandular pathology of the paper. Bacteriological methods with respect to scarlet fever were by no means perfect, but everyone agreed that the infection, whatever it was, was very insidious and very tenacious of life. He verily believed that the healthy mucous secretion about the mouth and pharynx might retain sufficient infective matter to spread the disease in the household, especially if the patient, the night after being dismissed, were put to bed to sleep with a younger brother or sister. In such cases he often found it necessary to caution patients that children just discharged from hospital should sleep alone for two or three nights in a room by themselves, quite separate from any other member of the family. He believed there were at present a number of such cases, and it was very difficult, indeed almost hopeless, to entirely prevent them.

Sir JAMES GRANT (Ottawa) said he had distinctly traced the origin of scarlet fever to defective sanitary precautions. Forty years ago, when the drainage of the city of Ottawa was in a very primitive condition, the disease was very prevalent, and he traced its origin undoubtedly to this cause; now that the drainage was improved, they had very few cases, and those of an extremely mild character. The question of the duration of the period of infection was an extremely difficult one, and of the gravest importance. Young members of the profession, in their eagerness for work, did not take sufficient account of the danger of their attending a case of scarlet fever and one of gynæcology at the same time. He believed that no man who had been attending a case of scarlet fever should take a case of obstetrics within six weeks. If he did so and death resulted from puerperal fever, he ought to be held responsible. As to the infection of the glands, he believed the trouble arose from the difficulty of eliminating the *materies morbi* from the glands itself. The removal of secondary deposits from the glands was often a matter of great difficulty. What gave him the most trouble, outside of ear suppuration, was the condition of the kidney. This occurred in cases of the mildest character, where the friends of the patient did not succeed in recognising it as scarlet fever at all. The first thing the doctor came across was albuminuria, or possibly hæmorrhage from the kidney and bowels.

Dr. MALCOLMSON (Middlesboro') said that not very long ago damages were given against a health authority because the claimant had a recurrent case of scarlet fever in his house, and it was proved to the satisfaction of the Court that it was due to a case sent home from the hospital. If this responsibility were to be attached to every case removed it would be a very serious matter, and he did not see how medical officers were to get their hands clear of such cases. Last year they had an outbreak of scarlet fever, and the question arose whether patients should be left to be treated at their own homes, or discharged after a shorter period of detention at the hospital in order to make room for others. They were compelled to discharge them after four or five weeks, and he believed they doubled their recurrent cases. It was a question whether a period could be established which would make them guiltless before the law; but in view of the case he had referred to, something would have to be done, or the question would arise whether any medical officer could accept the responsibility of receiving scarlet fever cases. He thought the danger of attending scarlet fever and gynæcological cases at the same time had been unduly emphasised. If Sir James Grant's rule were to be carried out, the only way would be to leave gynæcological cases to special midwives. For twenty years he had been attending scarlet fever cases, and during a great part of that time he took gynæcological work, and he never had a case of septicæmic poisoning.

Dr. MICKLE (New Zealand) urged the wisdom of removing convalescent children recovering from scarlet fever to homes in the country, where the pure air would enable them to throw off the infection and be able to return home in a shorter time. It must be remembered that there was a limit to the time during which people would submit to having their children isolated. It was his misfortune to have to treat a very severe epidemic of scarlet fever in a small town in Stirlingshire about twenty years ago. It was one of the worst that had ever been seen. The children were taken ill in the morning and they were dead at night. In a large number of cases there was no time for the rash to appear, and it was difficult to see what had to be dealt with. It went through the place just like the plague. The epidemic lasted about nine months, and during that time he was actively engaged in attending midwifery cases, but he had not a single case of puerperal fever or anything that could be ascribed to the scarlet fever infection coming through him. The people lived in small rooms, and it was not unusual for him to attend a case of midwifery and one of scarlet fever in the same family and in the same house. One case was very peculiar. In a family of six, a boy of 6 remained exempt. Six months after he was sent to Edinburgh Infirmary for some operative treatment, and whilst there he contracted scarlet fever. The boy's mother was confined during the epidemic, and went through the period very safely.

SECTION OF PSYCHOLOGY.

R. M. BUCKE, M.D., President.

THE PRESIDENT delivered an address on Mental Evolution, which was published in the BRITISH MEDICAL JOURNAL on September 11th, p. 643.

THE ETIOLOGICAL RELATION OF PELVIC DISEASE IN WOMEN TO INSANITY.

By GEORGE H. ROHÉ, M.D.,
Superintendent Second Hospital for the Insane, Sykesville, Md., U.S.A.

THE agency of pelvic disease in the causation of insanity in women has often been discussed—unhappily not always in scientific temper. Gynæcologists have accused their psychiatric brethren of crass ignorance or neglect of the physical condition of their patients, while on the other hand the asylum physician has charged the gynæcologist with being an untruthful meddler, or one smitten by the *furor operativus*. Doubtless both these extreme views are in general false, although isolated instances may have given them a semblance of truth. I have been told, in one of the most celebrated institutions for the insane in England, that certain of the women patients could not possibly have any pelvic disease because they had not made any complaints of pelvic trouble.

I may say that in the same institution the spastic walk of a probable case of multiple sclerosis was attributed to a delusion. In an American State institution, objection was made to my examination of a patient, because the medical officer in charge was convinced (subjectively—he had made no personal examination) that the patient could not have any disease of the pelvic viscera. I was enabled after an objective examination to confirm his opinion, but his method, nevertheless, does not commend itself to my judgment.

As if they had not sufficient "troubles of their own," the alienists and gynæcologists are both subjected to the sarcasms of the neurologists, who are the salt of the earth and the tomb of wisdom. To the neurologist the suggestion that a mental state may be a reflex of a morbid bodily condition has somewhat the traditional effect of shaking a red rag before the eyes of a bull or sprinkling his Satanic Majesty with the consecrated water of the Church. The neurologist pursues a strictly scientific method. He is entirely objective in his examination, is non-committal in his diagnosis, pessimistic in prognosis, and nihilistic in treatment. He is the ultimate product *du fin de siècle* in medicine.

In the suggestions I desire to submit to the Section I shall endeavour to be definite in statement and conservative in inference. Notified by your distinguished President that my time would be limited, I have decided to confine myself entirely to my personal experience, stating facts, drawing conclusions only where they seem justified, and endeavouring to answer objections to my course of action. In previous publications upon this subject I have examined the legal aspects of operations upon insane persons. The question has been raised in England as well as in America in how far a lunatic is competent to consent to an operation upon the latter. Manifestly the character of the operation *per se* can have no influence upon the validity of the consent. In the absence of any specific enactment the general principle that no one can *invite* be touched by another obtains. Applied to surgical operations it, of course, requires the same quality of consent to open an abscess as to amputate a limb, operate for hernia, or remove the uterine appendages. The law must, so far as the technical assault upon the individual is concerned, deal with principles. The Court, interpreting and applying the law, deals with the concrete example. How English judges have decided these questions I have not been able to ascertain, but in the United States decisions are upon record which cover a number of these questions. I have summarised them in the following paragraphs:

1. The act of a lunatic during a sane interval has in law the validity of a sane person; therefore a lunatic in a sane or lucid interval is as competent to consent to a surgical operation of any kind as is any person.

2. The State, acting through courts of equity, is the guardian of all insane persons. The equity court appoints a committee as its agent for the discharge of this duty. Such committee is the legal guardian of the person, and has the power to consent to such measures as may be for the lunatic's benefit. The committee of a lunatic has, therefore, the power to give consent for the performance of an operation upon the lunatic if it should be for the latter's benefit.

3. The lunatic may, even if there is no absolutely lucid interval, be competent to give consent to the performance of an operation if he understands its object and consequences. It is the central principle of the modern law of insanity that the validity of any act of a lunatic depends upon his capacity to perform the particular act in question. Thus it has been decided that a lunatic is capable of being a witness, although not capable of entering into a contract. The law would probably not exact so high a capacity in a lunatic to consent to a surgical operation as it would to enter into a contract. In these cases, however, the physician or surgeon must assume the responsibility of determining whether the lunatic has that degree of capacity requisite to consent. Manifestly the surgeon is here placed in a delicate position, but one from which, in emergencies, he has no right to shrink. In all cases of doubt, where practicable, the authority of the equity court or of the properly appointed committee should be obtained. The law, therefore, so far as it is applicable here, indicates the nature and sources of consent to a surgical operation in an insane person.

In a recent number of a prominent English journal[1] exception was taken to these views, and some of them were characterised in terms the reverse of complimentary to the writer's intelligence. Now, as a matter of fact, these opinions are really taken in almost exact terms from the works of acknowledged legal authority, or from the published decisions of courts before whom the questions came for adjudication. If this is "illogical and perilous reasoning," as the *Journal of Mental Science* says, then the lawyers must take the responsibility for it.

Although the practitioners, often contemptuously referred to as "asylum physicians," recognise the important relations of what are known as somatic diseases to mental disturbances, it is probable that too many "reckon with the cortex" too exclusively in diagnosis and treatment. I do not undervalue the cortex as the field of action in which the exciting cause of the mental disturbance manifests its activity. But, to be logical in treatment, it is necessary to seek below the cortex for the morbific cause. If the cortex is starved, whether from impoverished blood or an insufficient supply due to vascular or cardiac lesions, no amount of attention to the cortex alone, without improving the quality or quantity of the circulating fluid, will avail in relieving the mental depression. Similarly, if the cortex is irritated by toxic agents circulating in the blood, whether from alcoholic or drug poisons, plumbism or auto-intoxication (a term more frequently used than understood), we likewise find our efforts unavailing until the poison has been eliminated from the blood, and the normal nutrition of the brain cells has been re-established.

That derangements of function or structural alterations in extracranial organs may reflexly irritate or depress the cortical functions I venture to believe, in spite of the objections urged by the neurologists. On the other hand, I regard it as probable that the absorption of toxic materials from the intestinal canal, or defective excretion of the products of retrogressive metabolism, are frequently causes of nervous and mental diseases, generally regarded as due to reflex irritation. However, the discussion of these questions would lead us too far afield, and I shall endeavour to restrict my remarks to the subject directly under discussion.

The first question bearing upon the etiological relation of pelvic disease to insanity is this: Do insane women show a larger proportion of morbid conditions of the pelvic organs than sane women? This question can be answered only by extended clinical observation. A hospital in which systematic examination of all women admitted is neglected can manifestly furnish no trustworthy statistics bearing upon this point. Furthermore, the examinations must be made by an observer qualified for the duty. I deny the validity of any criticism of the observations recorded in this paper unless based upon observations of a similar character. Some years ago, when engaged in collecting statistical material from my *confrères* in charge of institutions for the insane, I was asked by one superintendent, who had no facts to communicate: "Why don't you ask for arguments *in re* pelvic disease and insanity?" I replied that just at that time facts were more to the purpose than arguments. Now systematic observations seem to show that insane women do suffer in a larger proportion from pelvic diseases than sane women do. In my own examinations, 60 per cent. of the women had some abnormal condition of the pelvic organs; not always grave; often not calling for treatment; nevertheless distinct pathological conditions, easily recognised.

Other observers, following out similar systematic examination, have found a still larger proportion of local lesions. Thus, Dr. Isabel M. Davenport, at the Illinois Eastern Hospital at Kankakee, found 80 per cent.[2] of the women admitted had local pelvic disease calling for treatment. In the institution directed by the distinguished President of this Section, the proportion of women with local disease of the pelvic organs is also large. I submit that no one has a right to question the accuracy of these observations without personal experience.

Theoretically there seems to be pretty general agreement among alienists that an insane person has the same right to be treated for physical disorders, medically and surgically, that a sane person has. In practice, however, it cannot be denied that surgery among the insane is rather infrequent. Not only do we find that such surgical diseases as tumours, both benign and malignant, are allowed to run their course

without interference, but affections directly imperilling life receive inadequate attention. One reason for this neglect is doubtless that above referred to—that is, the difficulty of deciding what constitutes valid consent to an operation upon a lunatic. Unfortunately the extended employment of gynæcological surgery has been limited by the question of the curative influence of such operative measures upon the mental condition of the patient. However desirable the restoration of the normal mental condition may be, it should primarily not be the determining motive for the operation. The character and extent of the local disease alone should determine the local treatment. A hopeless dement, suffering from an ovarian or uterine tumour, purulent collections in the pelvis, an exhausting endometritis, painful hæmorrhoids or a nerve-racking cystitis, should have as prompt and effective treatment as an acutely maniacal or melancholic case, where the prompt removal of the local sources of irritation may be expected to benefit the mental disturbance. Those of us who believe, and think that experience justifies us in believing, that pelvic disease in women has an etiological relation to mental disease, urge the importance of gynæcology in hospitals for the insane, primarily upon the ground that the insane women has the same right to be treated for bodily disease of any kind as her sane sister has. If, in addition, such treatment benefits her mental condition, shortening its duration, or perhaps permitting recovery where otherwise this would not take place, then, it seems to me, we are derelict in our duty to our patients if we fail to give them this additional chance. May I not hope that in this discussion the charge that the gynæcologist wants to invade the insane asylum, merely because the operative material outside is becoming exhausted, shall not be heard? The unmanly accusation that the removal of the diseased appendages in insane women is simply experimental human vivisection should not be given utterance to in a scientific discussion.

The following is a brief abstract of all the cases I have operated upon since 1891. Two exploratory abdominal sections are not included. One case of curettage with trachelorrhaphy was done so recently that I am not yet prepared to report upon it, although decided mental improvement has resulted.

CASE I.—A. T., married, 33. Puerperal insanity; five years in hospital. Lacerated cervix, ruptured perineum, adherent ovaries. Removal of uterine appendages; restoration of perineum. Decided mental and physical improvement. Died of tuberculosis four years after operation.

CASE II.—L. A. B, married, 32. Melancholia attonita. Eighteen months in hospital. Lacerated cervix; endometritis. Removal of uterine appendages. Physical improvement; no mental change. Died in hospital five years after operation.

CASE III.—H. V. McN., single, 39. Hysterical insanity (exaltation, depression, hallucinations, and delusions, often delusions of persecution). Anteflexion of uterus; firm adhesion of right ovary and tube. Twenty months in hospital; bedfast all the time. Removal of uterine appendages, October 21st, 1891. Decided physical and mental improvement. Relapse with hallucinations of hearing and delusions of persecution about middle of February, 1892. On February 1st, 1894, abdominal section done and some adhesions broken up; some discharge from uterus, sometimes bloody and purulent. No benefit following this operation, and the pain and uterine discharge continuing, the uterus was removed July 12th, 1894, by the vaginal route. On May 3rd, 1897, she was discharged apparently recovered, and is now earning her living by her occupation, that of seamstress.

CASE IV.—M. T., single, 31. Melancholia, onomatomania. Nine months in hospital. Enlarged and tender ovaries. Removal of uterine appendages. Entire physical and mental recovery. Discharged from hospital October 11th, 1892, and remains well at date of writing, August, 1897.

CASE V.—H. M. S., married, 30. Melancholia; repeated suicidal attempts. One month in hospital. Removal of uterine appendages. Complete physical and mental recovery. Patient discharged from hospital October 10th, 1893. Was run over and killed by railroad train while on a visit to relatives in the country. Possibly suicide, but evidence inconclusive.

CASE VI.—M. S., single, 29. Simple mania, with destructive tendencies. Retroversion of uterus and adherent ovaries. Removal of uterine appendages. Slight mental improvement. Patient was removed by friends July 31st, 1895, and remains about the same.

CASE VII.—M. L. B., married, 37. Puerperal insanity, second attack. In hospital eighteen months. Lacerated cervix, adherent ovaries. Removal of uterine appendages, November 25th, 1891. Complete physical and mental recovery. Discharged from hospital, August 21st, 1892, and remains well at time of writing.

CASE VIII.—M. H., married, 23. Hystero-epilepsy, with violent maniacal outbreaks at menstrual periods. Nearly seven years in hospital without improvement. Cystic ovaries. Removal of uterine appendages, December 10th, 1891. Discharged entirely recovered, May 12th, 1892. In 1893 had two hysterical attacks followed sudden death of relative. Under observation three weeks in hospital without any evidences of insanity. No subsequent return of mental disturbance.

CASE IX.—C. A., married, 39. Puerperal insanity. Violent, dirty, obscene, and destructive, especially at menstrual periods. Over four years in hospital. Lacerated cervix and adherent ovaries. Removal of uterine appendages, December 15th, 1891. Discharged completely recovered, November 28th, 1893, and remains well at time of writing.

CASE X.—M. B., single, 25. Epileptic dementia; one year and a-half in hospital. Duration of epilepsy before admission, ten years. Ligamentary cyst on lest side. Removal of cyst and uterine appendages. Patient died in *status epilepticus* on fourth day.

CASE XI.—M. K., single, 24. Melancholia; suicidal attempts previous to admission in hospital. In hospital four years. Cystic ovaries and tortuous tubes. Removal of uterine appendages. No mental improvement.

CASE XII.—L. LcN., single, 23. Epilepsy seven years before admission. Eight months in hospital. Eight months in hospital. Double pyosalpinx and large ovarian abscesses. Removal of uterine appendages. Death from septicæmia on fourth day.

CASE XIII.—F. L. C., married, 28. Puerperal insanity, third attack. Three months in hospital without improvement. Ruptured perineum and enlarged and prolapsed ovaries. Removal of uterine appendages, March 9th, 1892. Discharged entirely recovered, May 8th, 1892. Patient had two outbreaks of mental disturbance since the operation, and is now in an institution for the insane.

CASE XIV.—E. W., single, 43. Melancholia one year. Cirrhotic ovaries. Removal of uterine appendages. Physical and mental improvement. Died of tuberculosis three years after operation.

CASE XV.—M.S., single, 24. Epileptic dementia. Epilepsy nine years before admission. Cystic ovaries. Removal of uterine appendages. No decided change. Died in *status epilepticus* five years after operation.

CASE XVI.—N. B., single, 30. Periodic mania, at times violent. In hospital ten years. Cystic ovaries. Removal of uterine appendages. Mental improvement.

CASE XVII.—S. G., widow, 29. Paranoia. Cystic ovaries. Removal of uterine appendages. Patient improved considerably after operation, but was removed from the hospital against my advice, and taken to another institution, where she is reported to have become much worse. Until this patient was removed from the hospital, her progress had been very encouraging.

CASE XVIII.—L. A. S., married, 30. Periodic mania five years before admission. Lacerated cervix, retroflexion of the uterus and cystic ovaries. Removal of uterine appendages. Some mental improvement.

CASE XIX.—L. C., single, 30. Hysterical insanity. Enlarged ovaries. Removal of uterine appendages; subsequently vaginal hysterectomy. No improvement.

CASE XX.—A. T., married, 23. Melancholia lasting two years before admission. Retroversion of the uterus, lacerated cervix and cystic ovaries. Removal of uterine appendages, January 19th, 1893. Patient discharged entirely recovered, April 1st, 1893. Remains well at time of writing.

CASE XXI.—A. H., single, 17. Periodic mania, sexual tendencies. Two years in hospital. Insane one year before admission. Enlarged ovaries. Removal of uterine appendages. Subsequent secondary abdominal section for removal of hæmatoma, and vaginal hysterectomy. Patient is much better, but she has not sufficient mental stability to justify her discharge.

CASE XXII.—L. B., married, 28. Melancholia, suicidal attempts. Ruptured perineum, lacerated cervix, and probably adherent ovaries. Removal of appendages was recommended, but not permitted. Trachelorrhaphy was done on January 9th, 1893, and patient discharged recovered January 21st, 1893. She was readmitted, suffering from a second attack, about two years later, but consent for the performance of the more radical operation could not be obtained.

CASE XXIII.—C. K., married, 40. Hystero-epilepsy, with maniacal attacks. Abdominal section had been done five years before admission with the view of removing the appendages, but the operation had not been completed. A large ventral hernia had remained as a sequel. Much induration in the pelvis. Operation for removal of appendages, and radical cure of hernia done by writer October 26th, 1893. The convulsions became less frequent, and on September 27th, 1895, she was transferred to a county almshouse, much improved.

CASE XXIV.—C. D., married, 43. Recurrent mania, third attack. Deeply lacerated cervix, endometritis, prolapsed ovaries. Removal of uterine appendages. At first the patient seemed to be made worse mentally, but later she improved, and now seems to be recovering.

CASE XXV.—E. L., single, 21. Hysterical mania, exacerbations at menstrual periods. Ovarian hæmatoma, bilateral, with adhesions. Removal of uterine appendages January 25th, 1894. Complete physical and mental recovery. Patient discharged March 15th, 1894, and remains well.

CASE XXVI.—D. T., single, 42. Recurrent mania, third attack. Endometritis, and enlarged ovaries. Removal of uterine appendages. March 22nd, 1894. Discharged on probation, May 15th, 1894, but readmitted November 27th, 1894, much excited. She has recovered from this attack, and is now again able to be at home.

CASE XXVII.—J. H., single, 25. Dementia. Had an attack of insanity (character not known) ten years previously. Was admitted from a county asylum. Very large uterine fibroid. Myomectomy. Patient died from shock.

CASE XXVIII.—S. A. C., single, 32. Mania of four years' duration. Lacerated cervix, and enlarged adherent cystic ovary on right side. Patient passed into dementia.

CASE XXIX.—L. M., single, 36. Melancholia, second attack. Retroverted uterus; left ovary enlarged, containing hæmatoma. Removal of uterine appendages, March 5th, 1895. Remained well at last report.

CASE XXX.—F. B. G., married, 26. Puerperal insanity, ruptured perineum, lacerated cervix, enlarged uterus, endometritis. Vaginal hysterectomy. October 2nd, 1894. Discharged entirely recovered, May 1st, 1895, and remains well.

CASE XXXI.—M. B., single, 26. Mania, endometritis, retroverted and adherent uterus, enlarged ovaries. Vaginal hysterectomy. No improvement in mental condition.

CASE XXXII.—L. W., single, 18. Melancholia with persecutory delusions. Masturbator. Retroverted and adherent uterus. Ovaries cystic. Removal of uterine appendages. No improvement.

CASE XXXIII.—M. H., single, 18. Degenerate; four members out of five in her family insane. Sexual tendencies. Has outbreaks of violence. Defective development of external organs. Removal of uterine appendages. Decided mental improvement.

CASE XXXIV.—R. M., married, 34. Melancholia, third attack. Lacerated cervix. Trachelorrhaphy, November 9th, 1893. Discharged March 4th, 1894. Readmitted March 5th, 1896, and still remains in hospital.

A summary of these cases shows 11 complete recoveries, mental and physical; 9 cases improved, some very decidedly; 11 unimproved in mental condition; and 3 deaths consequent upon the operation. Several of the cases noted as improved and unimproved had apparently recovered, but afterwards relapsed. The total recovery-rate is 32 per cent.

REFERENCES.
[1] *Journal of Mental Science*, July, 1897. [2] *American Journal of Insanity*, April, 1897.

SURGICAL GYNÆCOLOGY IN INSANITY.

By A. T. HOBBS,
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TWO AND A HALF years ago surgical gynæcology was introduced as a rational method of treatment in the Asylum for the Insane at London, Ontario, which has a female population of nearly six hundred patients. A systematic examination of these patients for gynæcic disease was made, aided in nearly every case by anæsthesia; and if disease necessitating surgical procedure for its removal or relief was diagnosed, such operation was performed after thorough preparation on modern aseptic principles. The results following operative treatment have exceeded expectations. Not only have the majority of the cases treated been restored to physical health, but as a sequence in a large percentage the mental condition has been brought up to par.

The gynæcological examination of a hundred insane women pointed to the existence of pelvic disease in ninety-three patients; and in eighty-nine of the hundred cases operative treatment was undoubtedly needed for the improvement of their physical condition. The diseases diagnosed in the ninety three cases were as follows:—

Endometritis	61 times.
Subinvolution	55 ,,
Cervix, lacerated	27 ,,
Cervix, hypertrophied	19 ,,
Cervix, eroded	10 ,,
Cervix, cystic	15 ,,
Cervix, polypi	2 ,,
Uterine, fibroids	6 ,,
Uterine, epithelioma	1 ,,
Uterine, sarcoma	1 ,,
Uterine, retroversion	21 ,,
Uterine, procidentia complete	4 ,,
Dysmenorrhœa	6 ,,
Menorrhagia	2 ,,
Perineal lacerations	17 ,,
Vaginal lacerations	1 ,,
Ovarian cystic tumours	9 ,,
Prolapsed adherent ovaries and tubes	7 ,,
Remains of an old inflammatory mass in broad ligament	1 ,,
Tuberculous peritonitis with uterus, ovaries, and tubes agglutinated to intestines	1 ,,
Superinvolution of all the pelvic organs in patient aged 27	1 ,,
Cysts of labia	1 ,,
Recto-vaginal fistula	1 ,,
Anal fissure	1 ,,
Complete laceration of urethra	1 ,,
Urethral caruncles	3 ,,
Elongated and hypertrophied clitoris	1 ,,
Hæmorrhoids	9 ,,

The diagnosis of diseases as above enumerated and the designation of operation were invariably referred to our consulting gynæcologist, Dr. Meek, who participated in the examination and the subsequent surgical treatment in every case.

In works on psychology very little attention has been given to the subject of utero-ovarian disease in insanity. Regis, in his *Manual of Mental Medicine*, second edition, p. 350, quotes Dr. Wiglesworth as having made 109 necropsies on insane women in reference to the presence of pelvic disease, and in only 42, or 38 per cent. were the sexual organs found healthy. He also asserts that in 45 of these cases the utero-ovarian disease had some connection with the insanity, and that fibroid tumours and displacement of the womb, together with alteration of the ovaries, seemed to be the lesions having the most influence on mental disorders. Our experience at the London Asylum confirmed the results of Wiglesworth's examinations as to the existence, to a large extent, of pelvic disease among the insane. The prevalence of such disease is apt to be overlooked in routine treatment of the insane.

Symptomatology of disease in lunatics is usually misleading. Their delusional reasoning and analgesic condition no doubt account for this. Methodical physical examination with the assistance of anæsthesia is indispensable to a correct diagnosis.

The normal mental status is continually influenced by other conditions than that of the brain alone. The closer the intimacy of the brain centres with any other organ the more easily is the mind affected by the derangement of the functions of that organ. Those organs concerned in the reproduction of the species are more closely related to the great nerve centres than any other part of the organism.

If the physiological development, working, and decadence of these organs have a marked influence on a woman's mind, is it not likely that pathological lesions would often produce mental disquietude and become potential factors in the causation of insanity in one who is predisposed to mental sickness? Of 2,000 women admitted into the London Asylum the puerperium has been cited as the exciting cause of insanity in over 200, or 10 per cent. Less than half of the latter have returned to their homes restored or improved, as the result of general treatment. Nearly all of these cases had some form of minor or major pelvic disease. Many of those who recovered without special treatment would doubtless have been restored to their mental equilibrium much sooner under appropriate gynæcological treatment. I desire to emphasise the statement that a number of puerperal cases who drifted into chronic insanity would have been restored to health, not only bodily but mentally, if the requisite surgical, in addition to the medical, treatment had been employed before mental deterioration, produced by constant irritation of the nerve centres reflexly induced by the pelvic disease, had taken place.

The primary object of surgical gynæcology in the insane is the eradication of pathological tissues on physical grounds in organs pertaining to the cycle of reproduction. The immediate result of such procedure is the promotion of bodily health and the removal of a source of discomfort to the patient. Almost invariably, as a sequence, there is a gain in weight and in physical well-being, and if no organic disease of the brain is present, the mental condition of the majority of these patients will improve with the restoration of physical health. A number of our asylum cases, some of which were apparently hopeless, recovered their reason as well as their bodily health, as a result of the eradication of diseased tissues. In a number of confirmed lunatics, subject daily to fits of irritability and excitement, and in whom upon examination there was found gross pelvic disease, the effect of surgical treatment was to allay and remove the tendency to fits of passion and excitement, and to render their lives more comfortable and tolerant to themselves and others.

Having some 80 cases to report, in some of which more than one operation was performed, a minute detail of each one would not be possible within the limits of this paper, and I shall therefore confine myself to a brief reference to the cases, as classified under their respective diseases.

In some 14 cases divulsion and curettage were indicated for endometrites and subinvoluted uteri. In all these cases physical benefit was soon apparent, and 8, or 57 per cent. recovered mentally; 1 improved, and as yet, the mental condition in the 5 others remains unaffected.

The cervix, as well as the body and endometrium of the uterus, was found diseased in 27 patients. Besides curettage of the uterine cavity, repair or amputation of the diseased cervix were the operations performed. In every one of these cases uninterrupted convalescence ensued, with marked increase in bodily health. Subsequently 11, or 42 per cent., regained their normal mental condition, and in only 8, or 30 per cent., has there been observed no mental change.

Malposition of the uterus with or without complications was the principal lesion diagnosed in 11 patients, 8 of whom were operated upon by the method as devised by Alexander for replacing the uterus, and the remaining 3 by ventri-suspension of that organ. In all these the displacement was corrected, and rapid physical recovery ensued. Mental

recovery followed in 3 of the 11 cases, or 27 per cent. Some improvement occurred in 4, but the remainder showed no signs of return to mental health.

Hysterectomy was the operation indicated in 12 cases, 7 being done by the vaginal route and 5 by the abdominal method. The diseased conditions determining the operations were as follows:

Six had fibroid tumours, with more or less adhesions and diseased adnexa, 4 had complete procidentia uteri, 1 had epithelioma, and one sarcoma. Two of the 12 cases of hysterectomy died subsequent to operation—1 on the third day from exhaustion following operation, and the other on the seventeenth day from secondary hæmorrhage which was induced by the patient herself. She got hold of the ligatures in the vagina and tore them forcibly from the stumps of the broad ligament. The hæmorrhage was checked, but she gradually sank and died in forty-eight hours after onset of the hæmorrhage. She was 65 years old at the time of the operation. The results up to date in these 12 cases are as follows:

Two, or 17 per cent. regained their former mental health, 3, or 25 per cent., improved, 5, or 41 per cent., remained unchanged, and 2, or 16 per cent., died.

In 10 patients who had diseased ovaries and tubes, cœliotomy and removal of the affected organs was done with the additional operation of ventri-suspension of the uterus in 3 of them. One death succeeded operation on the twelfth day from pneumonia, the patient being quite old. The remaining 9 made good physical recovery. The mental results in these cases were admirable, 6, or 60 per cent., of them recovered their reason, and 1 only has shown no improvement in this respect.

Cœliotomy was done in one case of tuberculous peritonitis that had prolapse of all the pelvic organs, which were agglutinated to the intestines. After flushing out the abdominal cavity with a normal salt solution, the wound was closed up without any attempt being made to disturb the mass, as it was considered impossible to preserve life if the operation was proceeded with. She subsequently improved mentally and is now at home with her friends.

Perineorrhaphy for the prolapse of the vaginal walls was the indication for surgical interference in five cases, with no resulting mental change from the operation, one only showing a slight improvement. One subsequently died of exhaustion caused by general syphilitic ulceration.

A summary of these 80 cases points to the fact that there were 30, or 37½ per cent. mental recoveries, 18, or 22½ per cent., improved considerably, and in 28, or 35 per cent. there was no change mentally. Death followed operation in 4, or 5 per cent. of all cases done. It is but fair to state that owing to the improvement in aseptic technique and the accumulated experience in the management of insane patients operated upon, no death has resulted from operation since May 19th, 1896, which was the thirty-fourth of the 80 cases cited.

Of the 30 patients who recovered, 11 had been insane less than a year, 7 between one and two years, 4 between two and three years, 4 between three and four years, 1 between four and five years, and 3 over five years.

I desire to draw your attention to the fact that the best mental results obtained followed the removal of diseased ovaries. The recovery rate, 60 per cent., was considerably higher than in the cases for eradication of uterine disease, notwithstanding the noteworthy fact that the average duration of insanity in those who recovered from ovarian disease was over four years, which was greater than the average period of insanity in the uterine cases.

The results obtained in the prosecution of this work at the London Asylum for Insane would seem to justify the means employed for the relief of this class of unfortunates. If only bodily health be regained, it is surely due to the insane that the same attention be paid to their physical restoration as is devoted to their sane fellow-beings. If it is a fact that physical disease is often the basis of their mental affliction, it is surely imperative upon humane grounds that the discoveries of science be placed at their disposal, and that no undue conservatism should stand in the way of their being permitted to regain, at least, a measure of bodily comfort, and it may be, in many cases, a full restoration of their mental faculties.

Surgical gynæcology among the insane has already passed the experimental stage, and the practical results obtained, claim for the subject the recognition and encouragement which its importance demands.

THE AFTER-EFFECTS OF SURGICAL PROCEDURE ON THE GENERATIVE ORGANS OF FEMALES FOR THE RELIEF OF INSANITY.

By Dr. James Russell,
Medical Superintendent of the Asylum for Insane, Hamilton, Ontario, Canada.

In the domain of Psychology no branch of the subject has occupied greater attention in recent years than the interrelation between mental and physical phenomena. No general law has yet been formulated which conclusively proves the exact relation of mind to matter. From the days of Plato to Descartes, and from Descartes to Spencer, all sorts of speculative theories have been advanced, but no rational basis or theory has been established which explains this mysterious alliance.

The subject of this paper brings us more within the realm of physiological psychology or the science which investigates the correlations that exist between functional activity of the various organs of the body and the phenomena of mind. Some hold that mind is a distinct entity entirely independent of matter. Others contend that the brain secretes thought as the liver secretes bile, and that mind can only express itself through the operation of living brain matter. As psychologists we are pretty generally agreed that the perfect Ego is the sum of the combined functional activity of every organ in the body at its best estate, and that any departure therefrom or loss of function in any organ, either by disease or surgical extirpation, must impair the Ego in direct ratio to the status of that organ in the human economy.

That the brain is the organ of mind, and through its nerve distribution presides over and regulates the whole process of nutrition, secretion, excretion, and reproduction is a well-attested physiological fact. Its anatomico-physiological mechanism is duplex, so that in case of injury or destruction of function on one side, the other side takes on compensatory action. In the case of dual organs such as the lungs, kidneys, and ovaries, if one is diseased or removed, the other takes on compensatory action, and the physiological process, though impaired, goes on. In the case of the ductless glands, which were so long considered as functionless, recent investigation has proven that each one has a distinctive function of its own which is essential to the vital economy. In short, experience proves that while Nature has richly provided for compensation in duplex organs where one is diseased, the removal of both destroys a function which is essential to the integrity of the whole organism. Nature indulges in no superfluities either of structure or function; and while she possesses ample power of repair in case of disease or partial loss of structure, yet when total destruction of organic function takes place, no other organ can assume vicarious substitution to repair the loss, and the whole Ego must suffer.

These preliminary remarks on the general law which governs the relation of the mental to the physical prepare the way for the discussion of the subject of my paper—namely, the After-effects of Surgical Procedure upon the Generative Organs of Women for the Relief of Insanity.

The relation of gynæcology to psychiatry has been pretty thoroughly discussed in late years, and the general consensus of opinion gathered from alienists and neurologists alike is that, while it has a place among the insane just as it has among the sane for the relief of physical distress, yet to extol it as a great curative method in the treatment of insanity is nothing short of absurdity. There can be little doubt that the extravagant claims made by its enthusiastic advocates have done much to discredit the practice among sober-minded conservative thinkers.

It is the general opinion among the laity—and that opinion is prevalent among the medical profession as well—that pelvic disorders are the chief cause of insanity among women. In fact, diseases and disorders of the generative organs in women occupy far too prominent a

place in the mind of both the laity and profession as causative agents in the production of both mental and physical disease. From pubescence to the climacteric, and even to old age, nearly all the ills that women are subject to are attributed in some way or other to diseases or disorders of the generative track. Prior to the dawn of aseptic surgery the uterus was mercilessly treated to all sorts of local applications, including dilatation, curettement, cauterisation, douches, and the application of pessaries of all shapes and sizes. Since the introduction of asepsis the abdominal cavity has become the happy hunting ground of the surgeon, and the very impunity with which it may be eviscerated or mutilated is a strong incentive to the specialist in search of surgical glorification to ply his art. The danger of all specialism is to warp the judgment and contract the mental horizon within the range of its own narrow field of operation. The ophthalmologist versed in the science of optics sees in every departure from health errors in refraction, and by various tenotomies professes to cure epilepsy, locomotor ataxia, and other neuroses.

The specialist in psychology sees in every criminal a lunatic, and would treat them all as irresponsible beings instead of punishing them with the rigors of the law. He would abolish capital punishment as a crime and treat the murderer as a subject for commiseration and humane treatment in an asylum. In the vaulting ambitions of kings and emperors and others high in authority he sees only evidence of mental degeneration, and would have them deposed and confined for treatment. All the vagaries of mankind, moral and social, he treats as evidence of mental alienation, and in even his nearest and dearest friend he notices some mental obliquity for which he is irresponsible.

The specialist in surgical gynæcology believes that insanity in women is largely if not altogether due to pelvic disorders, and he proceeds to restore to reason the unhappy victim by unsheathing his scalpel and removing the offending organ. He never fails in his diagnosis, for he always finds exactly what he searches for, and if he finds no gross, there are at least microscopic, lesions to justify the operation. He wages his most relentless surgical fury on the ovaries, for in them he believes reside the chief demoniacal spirits that torture the unhappy lunatic. Other spirits dwell in the uterus, and he proceeds to the operation of hysterectomy, ventral fixation and tracheolorrhaphy, etc. He calls up other minor spirits from the vasty deep of the abdominal cavity in the form of cystoceles, rectoceles, fibroids and polypi, all of which are removed. Following down the genital track he performs clitoridectomy and perineorrhaphy, and the last citadel he storms is the removal of hæmorrhoids. He is a strong believer in the theory of reflex nervous irritation, but all his abnormal reflexes centre in the reproductive organs.

I have nothing but words of praise for the splendid achievements of surgical science in the field of laparotomy, and the relief of physical distress and prolongation of life which has resulted from the use of the knife. It is against the wholesale surgical mutilation of helpless lunatics that I raise my voice, and the exaggerated claims that are made for it as a remedy for insanity. I am free to admit that there may exist pathological conditions in the pelvic organs of lunatics which tend to intensify the mental disorder, and in that case the lunatic has the same right as the sane person to surgical aid for its relief. It may be said that the operation is never performed without the consent of the friends, provided they have any, but we all know how indifferent the friends often are, and how eagerly they grasp at any nostrum or operation which has a hope of relieving the poor unfortunates of their malady or relieving them of existence, which to the friends often means the removal of a burden.

Common sense as well as statistics prove that sexual disorders in women cannot be such a prolific cause of mental disease as the psycho-surgical gynæcologist would make us believe. Statistics prove that the ratio of insanity between men and women is about equal; if there is a difference there are more male than female lunatics. Why is it that men do not enjoy greater immunity from insanity than women? His genital organs are not subject to the same disorders as women. Happy, thrice happy should man be because of the simplicity of his genital outfit, and its meagre attraction for the operation of surgical science. Had Nature decreed him to wear his genitals within the abdominal cavity, he too might have been compelled to suffer surgical martyrdom for the sake of restoring his reason.

If the testicle in man is the analogue of the ovary in woman, why should the latter be such a constant and persistent offender in provoking mental disturbance, while the former is comparatively harmless; and why is there not greater disproportion between the sexes in the ratio of insanity?

The erotic tendencies in both sexes have their origin in central brain causes, and all attempts at cutting off branches or treating symptoms to cure the evil will be futile. The axe must be laid at the root of the tree or not at all. The whole blunder lies in mistaking symptoms for causes, and *vice versâ*.

In a large proportion of women, especially those who have borne children, it is common to find a variety of lesion, abnormality, or displacement in the generative organs, often the result of accident in childbirth, from which they suffer little or no discomfort, and are likely to pass on through life in blissful ignorance of anything wrong, unless they have the misfortune to fall into the hands of some meddlesome gynæcologist who magnifies the danger and usually recommends surgical treatment or some mechanical appliance. I am convinced there are too many charlatans in our profession who educate and develop in women a morbid apprehension of the dangers to which their health is subject through trifling disorders of the generative organs. The mind of the laity is surcharged with this idea, wholly out of proportion to normal discretion and necessary anxiety. Is it any wonder when women become insane that delusions in regard to their sexual organs are so common? Whatever the mind is most strongly focussed upon in mental health is apt to become the predominant subject of delusion in mental alienation.

It is high time for the profession to call a halt in its mad career of pelvic mutilation in order to extol the triumphs of surgery, and build up a reputation for surgical skill by imposing on the ignorance and credulity of the public. While we strongly condemn flagrant surgical abuses practised upon sane women who are capable of appreciating all the risks to life incident to such operations, what shall we say of the practice upon those who are incapable of such appreciation? Is it anything sort of criminal to impose such a risk upon an irresponsible being in the enjoyment of average physical health for the purpose of relieving a mental condition, which is entirely problematical and experimental at best?

I am aware that the most flattering statistics can be furnished of successful results, but in order to appraise these results at their proper value all the circumstances and conditions must be considered. The specialist goes very methodically about his work, for he knows that unless he can show at least temporary good results his work will be discredited, and his name and fame will suffer. The results are usually published and widely distributed before they get cold, so to speak, and the unwary are apt to be misled by the success with which they are heralded. I consider that all such statistics which are published prior to a two years' test of their efficacy are comparatively worthless. All who have had experience in the treatment of the insane know that a sudden shock to the system, a change of environment, or an acute attack of some intercurrent disease, will often break up the insane habit in chronic cases at least temporarily. We have all seen cases of acute mania recover after an attack of erysipelas of the head, or after a carbuncle on the back of the neck. In cases of acute mania due to a hyperæmic condition of the brain the recovery may be explained on the rational ground of local counter-irritation. In the surgery of the pelvic cavity for the cure of insanity the patient is placed under the best possible hygienic and clinical conditions, and if no operation at all were performed the results in many cases would be at least temporarily good, and it would have the great advantage over operative procedure in that there would be no risk to life. If all our asylums were equipped with a sufficient staff of trained nurses to enable us to treat all our patients on this principle, I am satisfied the percentage of recoveries would be largely increased, and while we denounce the psycho-gynæcologist in unmeasured terms for his presumptuous and unscientific pretensions to restore brain function by way of the pelvic cavity, yet we are willing to credit him with hav-

ing impressed us more strongly than ever with the necessity of special and individualised care in the treatment of the insane.

The following clinical records are taken from the casebook notes of three cases at present in the Hamilton Asylum, which fairly illustrate the after-effects of surgical interference for the relief of insanity:

E. M. P., age at admission 28, single, school teacher, born in the United States, well educated; had enjoyed good health up to a few months before admission to the asylum. Her father's sister was insane and confined in Toronto Asylum for twenty years. While teaching school she became morose and irritable, and had to retire from the profession.

An eminent Canadian surgeon was consulted, who recommended the removal of both ovaries in the hope of relieving the nervous symptoms, which were considered to be due to reflex influence. No improvement followed, and a few months afterwards she was admitted to Hamilton Asylum.

The family physician, in making application for her admission, stated that the exciting cause of her insanity was uterine and ovarian trouble, disappointment at the result of the operation, etc. She was admitted to the asylum June 2nd, 1891, and was at the time of her admission dull and listless mentally and very frail physically. Her mother, who accompanied her, stated that the operation instead of relieving her insanity had left her frailer in body and quite unimproved mentally. She has now been six years in the asylum, and her history since admission has been one of gradual mental degeneration. At times she is mentally excited and tears her clothing and breaks windows; when this subsides she again relapses back into a condition of quiet imbecility, from which there is no hope of recovery.

A. M., admitted to asylum April 1st, 1895, age at admission 22, single, born in Canada, was a bright girl at school. Her general health was good, except that she occasionally had attacks of hysteria, followed by what was called nervous prostration. She became quite violent at times, and was evidently suffering from acute mania. During one of the attacks a gynæcologist made the diagnosis of inflammation of the ovaries, and an operation for their removal was suggested. The parents consented in the hope that her insanity might be cured, and their only daughter spared the necessity of going to the asylum. The operation was performed at the patient's home, and the assurance was given by the surgeon that both ovaries were extensively diseased, and they were consequently removed. The patient made a good recovery, but the after-effects were very disappointing. Instead of improving mentally she became violent, and unbecoming in her actions and speech. She would sit for hours at a time with her eyes closed, and refuse to speak. Her mental condition gradually grew worse, and she was admitted to the Hamilton Asylum nine months after the first symptoms insanity appeared, and three months after the operation. She has now been two and a half years under observation. When first admitted she was in fairly good bodily health, but very excited mentally, and hard to manage; refused to eat, and had to be fed with a stomach tube for six weeks. She gradually degenerated into a condition of quiet dementia. Her friends, mistaking this for recovery, insisted on taking her home on probation, December 4th, 1896; she was returned to the asylum January 2nd, 1897, having been home one month and twenty-two days, her friends reporting that she was quite unmanageable while at home.

During her asylum residence she has given no evidence to justify the hope that she will ever recover, and though she gave early promise of a bright and useful life, she is now doomed to spend the remainder of her days in an asylum, with terminal dementia to wind up the scene.

M. C., admitted to the Hamilton Asylum December 2nd, 1895, aged 20, single, Canadian, a farmer's daughter. Habits of life have always been good; had a good common school education. Her physical condition on admission was fairly good, but her mental stupor was most pronounced; did not know her own name. Her mental condition was bright up to the age of 18, when she became dull and stupid and had marked delusions of persecution, and was a confirmed masturbator. Her father's brother was insane and confined in Toronto Asylum. Her life at home had been the quiet, uneventful one incident to the farm. A surgeon in an adjoining town advised the removal of the ovaries for the relief of masturbation and dysmenorrhœa, with the promise that it would also relieve the mental condition. The confiding parents consented to the operation, but instead of proving beneficial, her mental condition became more pronounced, and in a melancholy mood she wandered from home and lived in the woods for several days. After this she was brought to the asylum, and her life since admission has been that of a quiet but hopeless dement. This young woman without her ovaries, and minus her clitoris which the enthusiastic spayer could not leave, is to all appearance doomed to a life hopeless of recovery. Her face still bears evidence of a bright, happy, and intelligent youth, but now marred and saddened by a gloomy outlook of despair.

It is to be noted that all these cases were young, intelligent, well educated, and of good mental inheritance. Under ordinary circumstances they were cases that should have recovered. The after-effects of the operation are very much the same in each case: the acute symptoms abated, followed by a condition of mental stupor, with progressive imbecility. Their whole appearance and symptoms impress one that they are suffering from a common cause. They are alike dull, listless, and unimpressionable, and might be classified as of the non-ovarian type. There is no mistaking these cases, and the practised eye can at once distinguish them without being told.

Opinions of Various Alienists.

In order to secure something like a consensus of opinion in regard to the relation of gynæcology to psychiatry, I submitted a list of questions to 120 of the principal alienists in Great Britain and America, with the following result:—

Question 1. What percentage of female cases admitted to your institution is due to disease of the genital organs?

Answers. With the exception of three superintendents, the percentage is said by all to be less than 5, and several assert that in not more than 2 per cent. could disease of the uterus or its appendages be considered a factor in the causation of insanity.

Question 2. Have you any experience of surgical procedure for the relief of this condition as a curative agent in insanity, and what are the results?

Answers. The large majority of those having had any experience do not claim that any permanent benefit has resulted from operation as a curative agent. In some cases there was temporary arrest of insanity, but this was followed in nearly every instance by a recurrence of the nervous phenomena, so that the mental condition of the patient was unimproved.

Question 3. In what proportion of cases operated upon could recovery be attributed to the operation?

Answers. Only six assert that recovery could be attributed to the operation. Several claim that the mental condition was made worse.

Question 4. Do you advocate surgical interference in these cases for the relief of insanity?

Answers. In nearly every instance the gist of the replies to this inquiry is that surgical interference should be resorted to with the insane as with the sane, only where there is evident physical indication for operation, but seldom or never as an experimental procedure for the relief of insanity.

Question 5. In cases where temporary or permanent relief is secured, what proportion of the success is due in your judgment to extra nursing and special individual attention?

Answers. The answers to this inquiry indicate that the opinion is almost unanimous that more is due to the special nursing, rest, etc., than to the operation.

Dr. P. M. Wise, Chairman of the State Commission in Lunacy for the State of New York, concludes his answers to my inquiries in these words: "In general I may say that I do not believe that gynæcology has added to the recovery ratio except in a very slight degree."

Dr. Charles W. Page, Superintendent of Danvers, Massachusetts, Lunatic Hospital, says: "We have a resident gynæcologist who makes a special examination of each woman admitted, and yet we fail to find in a total yearly admission of 225 women more than a fraction of 1 per cent. in which surgical interference was justifiable."

Dr. C. P. Bannoft, Concord, N. H., says: "A few cases have come to my notice but the results were entirely negative."

Dr. H. M. Quinby, Superintendent, Worcester, Mass., Lunatic Hospital, says: "Investigations made in this hospital lead me to the opinion that of our female patients there are only exceedingly few whose insanity can be attributed to disease of the genital organs."

Dr. B. F. Sanborn, Superintendent, Main Insane Hospital, says: "I think that successful results obtained are dependent very largely upon careful nursing and special individual attention."

Dr. F. C. Hoyt, Superintendent of Iowa Hospital for the Insane, says: "Our operations have only been such as were demanded by the physical condition of the patient, and were never made on theoretical grounds for the relief of insanity. In my opinion, the benefit is derived from the extra and individual care and nursing rather than the operation itself. I have found that patients are almost invariably better mentally after a severe illness or injury, and attribute it to the above reasons. However, these patients usually resume their former mental condition in a short time."

Dr. William Noyes, Boston, Mass , Insane Hospital, says: "I do not know of any case of insanity due to disease of the genital organs."

Dr. H. A. Gilman, Superintendent of the Iowa Hospital for the Insane at Mount Pleasant, says: "We have operated in a number of cases where the disorder seemed to be attributed to the pelvic organs, and have brought on menopause, but without any apparent good result. The patients have been about as much disordered thereafter as they were before the operation."

Dr. Arthur F. Kilborne, Medical Superintendent State Hospital, Rochester, Minnesota, says: "We would have it understood that we operate for the relief of diseased organs, and not for insanity. We do not consider that uterine disease holds any more important place than diseases of any other organ of the body."

Dr. F. W. Drewry, Superintendent, Central State Hospital, Petersburg, Virginia, says: "More of the success claimed is due to the special nursing than to the operation itself."

Dr. J. T. Seavey, Superintendent, Tuscaloosa, Alabama, in regard to surgical interference for the relief of insanity, replies: "Only when there is some evident indication for it, with generally very unfavourable prognosis."

Dr. Charles G. Hill, Medical Superintendent, Mount Hope Retreat, Baltimore, Md., says: "The majority of the females who come to us here have been treated or operated upon without avail. There are at present several in this asylum who became insane after laparotomies."

Dr. George H. Rohé, Sykesville, Md., says: "In between 30 and 35 per cent. of all cases I operated upon mental recovery followed. I advocate surgical interference whenever indicated by the local disease. The relief of the mental disturbance is perhaps incidental."

Dr. M. Campbell, Superintendent, Knoxville, Tennessee, says: "In many cases treated surgically for relief of disease of the organs of generation, the result was that the physical condition was cured and the insanity became markedly worse."

Dr. E. H. Howard, Superintendent, Rochester, N. Y. State Hospital, says: "I know of no case where recovery could be attributed directly to an operation."

Dr. Charles G. Wagner, Superintendent, Binghamton, New York State Hospital, says: "I have never had much faith in the theory that mental disturbance was especially closely allied to abnormal uterine conditions in women."

Dr. Frederick Peterson, New York, says: "It must be a very rare and exceptional case in which I should advise such treatment."

Dr. W. W. Godding, Superintendent, Government Hospital for Insane, Washington, D.C., says: "The results are always questionable."

Dr. C. H. Hughes, St. Louis, says: "I have known both ovaries removed and insanity to continue in several instances, and insanity to result from oöphorectomy where no mental disease has previously existed. In some instances temporary arrest, followed by recurrence of the nervous symptoms, was observed after the operation."

Dr. W. A. Gorton, Superintendent, Butler Hospital for Insane, Providence, R.I., says: "Our patients, all coming from the higher rank of society, have passed through the hands of a gynæcologist, neurologist, and every other 'ologist before we see them."

Dr. H. A. Tomlinson, Superintendent, St. Peter, Minn., State Hospital, says: "Surgical procedure in these cases has always been ineffectual, and those apparently cured have always relapsed."

Dr. G. H. Hill, Superintendent of the Hospital for Insane, Independence, Iowa, says: "As many—yes, more—cases are benefited by vaginal injections given by a trained nurse as by any gynæcological operation."

The opinions of Canadian alienists seem strongly opposed to experimental gynæcological surgery.

Dr. James F. W. Ross, Toronto, says: "I am very much opposed to the appointment of gynæcologists in connection with insane asylums, unless very much restricted in their work by medical superintendents. Surgeons supposed to be sane, dealing with sane women, go much too far in dealing surgically with the female sexual organs, and when dealing with insane women they are certainly liable to go much further. I operated on one insane woman only, and did so contrary to my advice. Patient was as bad as ever after operation."

Dr. Daniel Clark, Medical Superintendent, Asylum for Insane, Toronto, says: "The mania for removing the ovaries is a crying evil. To unsex a female does harm in a majority of cases. A large number of cases have disease in the great nerve centres which produces abnormality in organs. To expect cure by cutting and carving of such an organ as the uterus and its appendages, when it is evident that the nerve supply is affected, is like to expecting cure of a tree in cutting off a limb when the disease is in the roots or trunk."

Dr. C. K. Clarke, Medical Superintendent, Rockwood Hospital for Insane, Kingston, says in regard to gynæcological surgery in mental disease: "There is no room for such a fad. Where uterine disease is suspected a proper examination is invariably made, generally with decided mental harm as a result, to say nothing of negative results as far as uterine troubles are concerned. These examinations, taken in conjunction with very extensive *post-mortem* investigations, convince me that uterine disease is not any more common among the insane than among the sane, and as a factor in the production of mental disease may be considered as trivial and unimportant."

Dr. T. W. Burgess, Superintendent, Protestant Hospital for Insane, Montreal, says: "Four cases sent to hospital for operation; all recovered mentally." "Insane patients should be dealt with the same as those not insane, and where examination points to the advisability for operation, I would operate in hope of benefiting the mental trouble, failing which the patient's life would be more comfortable."

Dr. S. Vallee, Medical Superintendent, Quebec Lunatic Asylum, says: "The cases we have operated upon show no benefit to the mental trouble."

Dr. G. L. Sinclair, Superintendent, Hospital for Insane, Halifax, Nova Scotia, says, "We have no gynæcologist connected with this hospital; if we did we would certainly have more cases of disease of the female genitals. We endeavour to discover whether such diseases exist, and when we find them treat them; but I am not prone to consider slight derangements, affecting those organs in the female, any more capable of causing mental disease than would departure from health in the male organs cause insanity in our sex."

Dr. D. Yellowlees, Medical Superintendent, Royal Asylum, Glasgow, says: "I have not had great experience in surgical interference in these cases, and think the reckless way in which the ovaries are removed on your side of the Atlantic quite wrong, if the operation be done without any proof of disease in the ovaries. Certainly, if one can trust to testimony from patients, sexual feeling is not destroyed by removal of the ovaries or of the external parts."

Dr. R. C. Stewart, Medical Superintendent, County Asylum, Leicester, England, says: "The percentage of female cases admitted to that institution was only about 1 per cent. We hardly have any serious disease of genital organs. We have had no operation for the last 11 years."

Dr. Charles W. Pilgrim, Medical Superintendent, Hudson River State Hospital, Poughkeepsie, N.Y., says he handed my questions to Dr. Putnam, the woman physician of that

institution. She says the percentage of female cases admitted whose insanity was due to disease of the genital organs was very small, only 42 cases in 3,646 admissions. There was no improvement in the mental condition of four women who were admitted after operation (two pelvic, two abdominal) for the relief and care of mental disease.

Dr. D. Clark (Toronto) said he would like to see a comparison between the recovery rates of 100 similar cases not operated upon and 100 after operation if such were practicable. He thought many would be found to recover if left alone.

Dr. Richard Dewey thought the indications for operation among sane and insane were alike. He would like to ascertain the relative incidence of pelvic disease in sane and insane.

Dr. Burgiss (Superintendent of the Protestant Hospital for Insane, Verdon, Montreal) said that Dr. Lockhart, who examined his cases, had told him that his impression was that the incidence was about the same.

Dr. Brush (Sheppard Asylum, Maryland) pointed out that on this question of relative incidence the evidence of a gynæcologist must be taken with reserve; in the nature of things a large proportion of his private patients would be gynæcological, otherwise they would not consult him. He was of opinion that, if operation was necessary either for health or comfort, then it was justifiable.

Dr. Urquhart (Perth, Scotland) said Dr. Rohé had opened with a complaint against the *Journal of Mental Science;* in his opinion the *Journal* had handled him very leniently. On the other side any operation was regarded as an assault, and it was one of the risks of the profession that one might have to justify an operation before judge and jury. The speaker alluded to a case in point, and went on to deprecate such wholesale examination of patients. He held the indiscriminate use of anæsthetics to be quite unnecessary. He would be the last to discourage research, but he would urge that these examinations should be conducted only when there was reason to believe that some definite disease existed. He recalled the time when the operation of clitoridectomy flourished as a cure for epilepsy. For every one pessary he had introduced he had withdrawn a dozen. Not the least danger was the risk of attracting the patient's attention to her genital apparatus. When a woman became conscious of her uterus, it became the centre of her thoughts by day and night—her whole life revolved round that pivot. Beaconsfield asked, "Is anyone quite well?" He would suggest that such a question was sometimes best left unanswered.

Dr. Alexander (Hanwell, England) said in his experience diseases of the generative organs have a very insignificant share in the production of mental disorders. In only a very small percentage of the thousands of *post-mortem* examinations he had seen or made had he seen evidences of disease. Their experience at Hanwell was that operations on the generative organs were not followed by any benefit. He was in agreement with the majority of those whose opinion Dr. Russell quoted in his paper.

Dr. Meek (London, Ontario) quoted a case of epilepsy with prolapsed ovaries and uterus; this case was much relieved by operation. He was accustomed to deal with his cases from the gynæcological side alone. He should not think of advising operation for the relief of mental symptoms alone. He was of opinion that it was the "borderland" cases which were most benefited by operation.

Dr. Philip Zenner demurred to the theory that the same rules applied to sane and insane. He questioned if the variations in sensibility did not enter as a factor. Normal pelvic organs were rare in all married women, sane or insane. He had seen ill effects follow operations for nervous or mental disease.

Dr. Rohé, in reply, said he was afraid that he had been misunderstood by some of his audience; he did not object to operations for the relief of gynæcological symptoms alone. As regards the risk of setting up delusions by examination, he thought the danger overrated. Members had spoken somewhat derisively of the "temporary cure" afforded by operations. He could recall cases where the patient had remained well for over three years; this he thought deserved a better epithet than temporary. He was convinced that insanity, as the result of operation, was extremely rare; although statistics might lie, he thought they lied less than general impressions.

Dr. Hobbs, in reply, repudiated the idea that he ever approved of operative interference unless there was actual disease. If a mental improvement in addition to physical improvement followed, obviously there was so much the more gained.

Dr. Russell was glad to hear Dr. Rohé and Dr. Hobbs repudiate the idea of operating for the cure of insanity alone.

HEREDITY A FACTOR IN THE ETIOLOGY OF INSANITY.

By H. P. Stearns, M.D.,
"Retreat for Insane," Hartford, Conn.

Du Bois-Reymond says that "The hereditary transmission of acquired characters remains an unintelligible hypothesis which is only deduced from the facts which it attempts to explain."[1] Weismann[2] says "It is impossible to imagine any way in which the transmission of changes produced by the direct action of external forces upon the somatic cells can be brought about."

The views implied in these statements appear to differ from those which physicians have long entertained. Indeed, it would not be easy to quote an authority in medicine who does not refer in some form to the transmission of characters which have resulted from external accidental influences upon the organism. Clouston[3] traces a hereditary influence in insanity in from 30 to 40 per cent. of cases in hospital, and adds that there is a probability of a much higher percentage. He says, "Certainly the tendency to suicide is very hereditary." Mr. J. F. Briscoe,[4] in a paper read before the Medico-Psychological Association, London, 1896, gave as his opinion, after a careful study of the subject, that 90 per cent. of the insane have a heredity of insanity.

All are familiar with the fact that Darwin made liberal use of the doctrine of hereditary transmission of acquired characters in his work on the *Evolution of Species.*

In view of such an apparent difference of opinion, it may be of interest to examine the subject from the standpoint of a physician, with special reference to that change in the character of the brain activities which is the basis of insanity, and as Weismann appears as one of the foremost representatives of the more recent views, I venture to present in a brief way some points of his argument, so far as they relate directly to the question at issue.

Heredity, he argues, is a great biological law. Its action covers all forms of life, and its roots reach down into the elements of all living structures. Its effects are therefore coeval with the growth of organisms, and should be studied in conjunction with the laws of growth.

All organisms are either unicellar or multicellular. Those embraced in the first class grow to a condition of maturity, and are propagated by a division into two parts. The child cell inherits the characters of the parent cell so perfectly that it cannot be determined which is the older, and this process of division may continue indefinitely. Each organism is a full and completed body, and is endowed with the powers of assimilation, growth, and, in turn, of propagation. Such organisms attain to a degree of immortality. Heredity becomes absolute through the method of formation and growth, and its mode of action is not difficult to understand.

But when we pass into the study of multicellular organisms, the problem of heredity becomes more complicated. This is especially the case in the different classes and orders of the vertebrates, where the individual organs and parts have become numerous, highly organised, and the cells of which they are composed have attained great diversity of character. Simple cell division becomes inadequate to even suggest any explanation of the process of hereditary transmission in such organisms; and Nature has provided other means through which its laws can operate. This is in nearly all cases by sexual reproduction.

Such an arrangement necessitates the provision of a special order of cell, and also the assumption that at some period in the process of evolution there occurred a division of cells into two varieties: the reproductive or germ cell and the somat

cell. The first form of cell is concerned with the preservation of the species, and the second with the preservation of the organism and the discharge of its functions.

The nature of its function would seem to indicate that it is through the germ cell that the force of heredity operates. Besides, this is the primordial cell, and from it the others originated; it therefore contains the potentiality of a development, under certain conditions, into a complete organism, with parental and inherited characters. That is to say, it contains an almost infinite number of infinitesimal elements, each one of which contains a capacity of becoming one of the various kinds of cells, or colonies of cells, which by multiplication become members or organs of a complicated organism.

These views do not appear unreasonable, and may be accepted in a general way without argument; but an assumption is further made about which there may be room for doubt. That is, that while the germ cell thus primarily determines the character of the various colonies of the somatic cells by means of its potentiality and continuity of character, the somatic cell has very little influence over the germ cell, and, therefore, that such changes of character as may occur in it from the effects of its environments and experiences, cannot be transmitted by the germ cell to a future organism. Weismann says: "Nothing can arise in an organism unless the predisposition to it is pre-existent."[5] That is, the germ cell is independent in its formation and continuous character of those influences which may produce changes and modify the characters of the somatic cells, except possibly in a "very slight" degree.

In trying to test the value of this assumption it becomes necessary to inquire in what way characters of the somatic cells may become modified and changed by influences acting upon them from without the organism.

Acquired characters represent two forms: First, those that depend upon an increase in the normal function of an organ or colony of cells; and, secondly, those which result from a diminution of function, or a modification in its form of activity. The function itself depends upon and has its representative in an original or inherited organ or member of the general system, and both the quality and quantity of the function will depend upon the character of this physical basis; but with a given quantity of physical basis, the quality of it will determine both the amount and perfectness of the functional product.

For example, a man of very great intellectual capacity, such as a Shakespeare or a Napoleon, may not have a brain of greater weight than the average man, but the inference that certain parts of it are more highly developed, that the cells are more sensitive to impressions and the recording of them, that the connection between the different groups of cells throughout the cortex is more perfect in functioning, thereby giving rise to wider generalisations, would be legitimate. In a great painter and musician those portions of the brain which are the centres of vision and hearing would be composed of a more highly organised structure than the corresponding parts in the average man. In an inverse order the feeble-minded and idiotic have imperfectly developed physical representatives of their mental faculties either in quantity or in quality, or in both.

Increase in size and in the amount of function of any part or organ of the system arises from the transmission to it of larger measures of organic energy than have before been supplied, and which act upon its elements in the form of stimuli. The effects of such stimuli may become so continuous and powerful in some cases as to result in the development of a greater capacity of function, or, in other words, an acquired character.

On the other hand, when the measure of such stimulus to any organ or part is lessened from the effects of exhaustion or from any other cause, there must of necessity result a diminution in the physical elements and also in the function of that organ. In process of time a secondary character may result from such physiological or pathological changes.

The scope of this paper restricts us mainly to a consideration of that form of acquired character which arises from a diminution or modification of normal mental function.

It is not possible accurately to determine how perfectly the elements of the cortex, in the fronto-parietal segment of the brain, recover from the effects of the impairing and destructive processes which occur during an attack of acute insanity. It doubtless varies to some extent in different cases, and depends upon the original recuperative capacity of the brain tissue and the severity and length of time during which the disorder exists. It is, however, a well-established fact that after the brain has once experienced the continuous excitement or depression incident to acute mania or melancholia, there ever afterwards remains, at the least, a tendency which may, from the experience of trouble, worry, and grief, result in one or more additional attacks of disease. Habit of action in a normal condition of the brain becomes a sort of "second nature" with most persons; and much more does a habit in the character of activity, which has become established in a disordered state of the brain, tend to become permanent. In some cases, under a favourable environment, this tendency may not become converted into a reality; in others it does so at the grand climacteric, or in old age. In others, still, there is a frequently changing character in the mental functions characterised by attacks of excitement which may continue for longer or shorter periods, alternating with states of depression. Such persons may live many years with the functions of the general system not greatly impaired.

In the first class of cases the cells of the cortex may have regained their anatomical condition to a large extent, and yet still retain a memory or echo of the morbid experience which will impair to some extent their stability of function, and which will never wholly pass away.

In the second class of cases the impairment is more pronounced, and the normal relation of cell to cell has become so far destroyed that the regenerative process never becomes complete. In other words, a secondary and permanent character of functioning has become engrafted on certain elements of the cortex as the result of external accidental causes which may continue indefinitely.

In such cases the cortical function may become partially restored by means of an increase in the anatomy and capacity of those cells which have remained unimpaired. The process may be compared to that which occurs in the circulation of a limb, when one of the larger arteries has been ligated or otherwise destroyed. The circulation becomes re-established, and is carried on through anastomosing arteries, the calibre of which becomes larger in process of time from the continued increase of pressure from the general circulation. The original anatomical character of the cortex, however, so far as it relates to the cells, never becomes restored; and its functions remain more or less impaired.

Now the assumption of Weismann implies that this secondary or acquired character of activity of the cells of the cortex will have no appreciable influence upon the ovaries, because these have been so thoroughly isolated during both embryonic and the mature life of the organism during innumerable generations, and are so far removed from the direct influence of the somatic cells. In the present supposed case this means that they are so far removed from the cells of the cortex which have become impaired from the effects of external causes, that they will continue to functionate independently of such influence, so far as relates to the product of their function, or, if influenced at all, the effects must be, to use his own words, "very slight."

Now, if we regard heredity as equivalent to organic memory, and take into consideration the fact that the ovary has been discharging its function from generation to generation during long ages, it seems not unreasonable to conclude that its character of activity and that of its product, are not likely to become greatly changed by those influences which may act upon it temporarily from accidental causes. In other words, those tendencies which have been incorporated in its texture during indefinitely long periods of time must be much more potent than any which may arise from such causes as continue in operation only during the single life, or part of a life, of an organism. This may undoubtedly be true so far as concerns the general character of the function of the ovary; but the statement does not cover all the physiological factors or activities which properly relate to it.

The error appears to consist in the assumption that the stored-up organic energy of the ovary is the only form of energy which can influence the product of its function; but while this does determine the general character of the unction, it is not the only form of energy which i essentiall

to the complete and perfect elaboration of the product. This is true in relation to all functioning organs of the general system.

From the physician's standpoint it is hardly necessary to recall the fact of the very intimate anatomical connection existing between the brain centres and all the organs of the body, nor that other no less important fact that those organs are absolutely dependent on such connection in discharging their function. The efferent system of nerves present continuous lines of communication along which stimuli of an organic character may be radiated from the brain.

Cope[6] suggests that it is not necessary to assume, as Darwin did, that there exist throughout the body infinitesimal lines or threads by means of which gemmules are conveyed from the different colonies of somatic cells to the germ plasm in order to produce such representative modifications as may have occurred from external causes acting on themselves. Such modifications can be produced by currents or waves of nerve force or energy which are constantly passing to the ovaries from the brain centres.

As illustrating this point, I may refer to the fact that all physicians of long experience have had more or less opportunity of observing cases in which certain functional disorders, and even profound emotional experiences existing for short periods only, arrest the progress of menstruation, and it may not again appear for some months. An attack of acute insanity produces such an effect in the majority of cases after the first one or two months; and the functional activities of the ovaries may become partially arrested from other less pronounced disturbances of the nervous system.

Now, if the functions of these organs can be thus affected by influences such as cold, shock, overwork, long-continued exhaustion, imperfect nutrition, etc., which have their effects primarily and directly upon certain elements of the brain, why may we not argue, from the greater to the less, that there is still more reason to anticipate some effect upon the product of that function?

The assumption which provides the basis of heredity, and which seems to be a reasonable one in the light furnished by microscopical studies, is that the germ plasm contains in its highly organised structure a vast number of elements which constitute the representatives of the future organism, not only in its physical parts, such as the contour of the face, the size and colour of the eye, etc., but also some of the characteristics of its organic movements, as well as the qualities of the mind. The considerations above formulated seem to indicate an arrangement by means of which the influence of external causes acting upon the brain may be radiated to these elements of the germ plasm. But there are some others of an anatomical character which tend to confirm the view that these potential elements of the germ plasm not only may, but must be influenced by such causes.

1. It may be affirmed that all acquired characters and changes in the physiological activities of the system, whether physical or mental, are affected primarily and essentially through influences acting on the nervous system. This is the medium through which the personality comes into relation with the external world. Irritations and influences from the environment act primarily upon it; and this in turn reacts upon the different organs and members of the general system. But the nervous system, comprising the brain, spinal cord, and nerves, is essentially a unit. The functions of its different parts, however, are of diverse character, and it is accordingly arranged with special reference to the functions to be performed.

Flechsig calls attention to a distinction between that part of the sensory system of nerves which receives impressions from the external world, and that which is concerned with the functional operations of the body. It is by means of the first kind of sensations, that is, those which come through the special organs of sense and general sensation, that we first become conscious of that which is not ourselves, and enter into relations with the world without. The second group of sensory nerves comprises those whose function relates to the physical instincts, such as hunger, thirst, and sexual desire. The fibres of the latter group are found to be the first to become medullated, having connections with the nerves of the cord, medulla, and probably with the internal capsule.

Whether this view is correct, and will be verified in detail in the future, is immaterial. The particular point to which I desire to call attention is that that portion of the sensory system of nerves which has a distinct relation to the ovaries and their product is among the earliest in development, and is related to the primary instincts and profoundest activities of the organism. Provision is therefore early made in embryonic life for the future conveyance of radiations of organic energy from the brain to influence them.

2. In the line of this thought Hering, as quoted by Cope, observes: "We notice further on that the process of development of the germs which are destined to attain an independent existence exercises a powerful reaction both on the conscious and unconscious life of the organism. And this is a hint that the organ of germination is in closer and more momentous relations to the other parts, especially to the nervous system, than any other organ. In an inverse ratio the conscious destinies of the whole organism, it is most probable, find a stronger echo in the germinal vesicles than elsewhere."

3. I have, in another connection,[7] called attention to the fact that the anatomy and physiological activities of the cortical cells differ from those of other somatic cells. Each one arises in an independent isolated form, and not from another cell, in the ordinary manner of somatic cell multiplication. "The cortical cell has an individual character and anatomy of its own; that its renewals do not occur by accretion or absorption from the surrounding tissues or blood vessels directly, but from the influence of forces which act from within the cell itself; that the protoplasmic material of the interior of the cell is constantly elaborating nucleoli which in turn become nuclei, and these afterwards become cells proper, so that the cell never dies except from the effects of disease. Its characteristic form, its angles, projections, and dendrites appear to be renewed from time to time, while its individual anatomy remains unchanged."

These are the cells upon which the influences of experience and environment, of whatever nature they may be, act primarily and directly, and no secondary character can arise in connection with any part or organ of the system, except from such influences as have first affected them, and have also been radiated by them to such part or organ.

It follows that when the energising capacity of these cells has become much impaired from the effects of any cause whatever, there must result some corresponding effects in those organs and the product of their function, which are under their influence, and are also dependent upon it when in a normal state of activity.

Weismann, however, claims that this influence must be "very slight," indeed, so slight that it cannot essentially modify the potential characters of the germ plasm. "Very slight" is a very indefinite expression when used in such a connection. But be that influence little or much, it appears to be sufficient in certain states of the cortex arising from the effects of external causes to arrest the progress of menstruation, and to hold this function in a state of suspension continuously for months. If it may produce such an effect, it surely may modify the very highly organised infinitesimal elements of the germ plasm which are the representatives of the cortex of the future organism.

That the organic connection between the cortex and the ovaries should be more perfect in some persons, families, and races than in others is highly probable; and, if this is the case, the fact would explain why some persons and families appear to be endowed with unusual ability in transmitting characteristics of family and race. It may also furnish an explanation of the way in which the tendency towards disease and other undesirable acquired characters, and also characters of an opposite nature which may pertain to one of the parents, may become eliminated or partially overcome. From the microscopical studies of Weismann and others it appears to be certain that some portion of the elements of the two forms of germ plasm coalesce in the formation of the future organism, and this would ensure the larger measure of influence from the more vigorous element.

Possibly it may be inferred that if the effects of a diminution in the function of the cortex may in a negative way have an effect on the ovaries and their product, the same may be rue in a positive way in relation to an increase in the function of it.

There certainly exist some reasons for such an inference. Use and a favourable environment tend to attract larger measures of organic and functional energy to the brain. We constantly witness improvement in the quality of mental function from use and discipline, and if the product of function is improved, the inference is legitimate that the physical basis of it has become more highly developed and more finely organised. Indeed we can judge of the quality of the structure only by the character of its product.

It is true that such acquired characters do not always appear in offspring, and with reason. Both parents rarely possess like acquired characters, and those of one parent may often wholly neutralise those of the other. Again, everyone represents characters of the nervous system which are of diverse tendencies, which reach back through many generations in two families. The influence of atavistic tendencies is always operative, and leads to variety and not uniformity of characters in offspring.

Dr. Urquhart (Perth) congratulated Dr. Stearns on the way he had treated the subject, and agreed with him in the difficulty that the Weismann theory presented to the alienist.

The President regretted very much that no representative biologist of the Weismann school was present to discuss the paper from the opposite standpoint.

References.

[1] *Ueber die Uebung*, Berlin, 1881. [2] *Essays on Heredity*, vol. i. [3] *Lectures on Mental Diseases*. [4] *Journal of Mental Disease*, New Series, 143. [5] *Essays on Heredity*, vol. i, p. 172, [6] *Primary Factors in Organic Evolution*, p. 450. [7] The Physical Basis of Thought, *Lectures on Mental Diseases*.

AN ANALYSIS OF ONE HUNDRED CASES OF ACUTE MELANCHOLIA.

By Edward N. Brush, M.D.

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It is not intended in this record of clinical observations in melancholia to attempt to present anything new or to draw any deductions at variance with the views now held by those who are privileged to study similar cases. These cases are taken in the order of their admission to the Sheppard Asylum, and represent the cases of this form of mental disturbance admitted to the institution in the first five years and one-half of its history. During this period 354 cases of insanity have been received, so that the cases of acute melancholia represent 28 per cent. of our admissions. This ratio is a higher one than writers usually assign to melancholia, but it will, I think, be found to approximate very closely to the true proportion between melancholia and all other forms of insanity admitted to institutions. In general practice it is probable that the proportion of cases seen by consultants is about 40 to 100.

Of 2,828 cases admitted to the hospitals for the insane of New York State for the fiscal year 1895[1] 808, or a trifle over 28 per cent., were cases of acute and subacute melancholia. The average proportion of all forms of melancholia admitted to the English asylums for five years as compared with other forms of insanity was 26½ per cent.[2]

Of the 100 cases under consideration, 59 were men, and 41 were women. Of the men, 28 were married, 23 were single, and 8 were widowed. Of the women 15 were married, 16 single, and 10 were widowed. The average duration of the attack previous to admission was for the men three months and for the women six months. The average time under care of the cases discharged or died was for the men six months and twenty-eight days, for the women eight months and twenty-two days. In the cases discharged recovered the average duration of the attack before admission was, for men two months, the time under treatment, five months and eleven days; for women, the average duration of the attack before admission was four months and a half, the time under care eight months and three days.

It is interesting, and worthy of comment, that the men, who were brought under care earlier in the history of the attack, were discharged after a much shorter stay in the institution. Hospital physicians are persistently urging the necessity of prompt treatment in all cases of insanity and these figures but confirm what more extended observation has repeatedly taught: that not only is the prospect of recovery seriously jeopardised by delay, but that the period necessary to treatment is much prolonged.

Of the 100 cases here examined, 80, 48 men and 32 women, had simple acute melancholia, complicated as will be seen, in certain instances, by suicidal tendencies and by refusal of food, and the usual type of delusions observed in melancholia. Nine, 1 man and 8 women, were of the confusional or stuporose type, and 11, 10 men and 1 woman, had decided hypochondriacal tendencies.

Of the 80 cases of pure melancholia, the average age was for the men, forty-two years and two months, for the women, forty-one years and eleven months. The one man with confusional melancholia was thirty-four years of age, while the average age of the 8 women was thirty-five years. The average age of the 10 men with hypochondriacal manifestations was forty-eight years and nine months, the one woman was fifty-one years old.

These cases are too few to establish any rule, but the ages here given correspond with statistical observations, in that the cases of uncomplicated melancholia and of confusional melancholia occurred in persons who were on the average from thirty-four to forty-two years of age, the active period of middle life when the forces of ill health and mental and physical stress are most active, and most commonly result in mental or physical break-down. In the hypochondriacal cases, on the other hand, the age is more advanced. Already the wheels of the physiological machine have commenced to work irregularly and hard, and self-examination and worry at this period, or as would probably be shown by a larger series of cases, in the decade between fifty and sixty, beget, with the failing physical powers a tendency to hypochondria, which here has passed still further into true insanity.

A careful study of these cases, reviewed always at the close of each fiscal year, at which time a final record was made of the probable exciting cause of the attack, reveals but a confirmation of the dictum so well set forth by Mercier[3] that the two great factors in the causation of insanity are "stress and heredity."

Ill-health alone is assigned as a cause in 36 cases, 21 men and 15 women. Ill-health, grief, and worry is the assigned cause in 16 cases, 11 men and 5 women. To ill-health and heredity, with, in 4 cases, the additional element of overwork, 17 cases, 7 men and 10 women, are attributed, and to ill-health and over-work, 11 cases, 5 men and 6 women. The remaining causes enumerated are intemperance, syphilis, syphilis and heredity, influenza (*la grippe*), neuritis (traumatic), diabetes, puerperal scepticæmia, cerebral abscess, uterine cancer and shock, this last cause being assigned in one case of melancholia following upon the sudden death, in her presence, of the patient's husband.

In a recent article upon melancholia[4] Dr. John B. Chapin, of the Pennsylvania Hospital for the Insane, who was requested by the author to comment upon the material brought together, states, in referring to the alleged causes, that "it is usual to enter in the case book the assigned cause of insanity furnished by the friends as part of the history of the case."

Much as I dislike to differ from my friend and teacher I am compelled in this instance to believe that he has given a wrong impression of the common practice, and that indeed, of his own hospital. If the causes assigned by friends were entered in our case books and made part of our statistical tables there would be found therein much that we should feel very far from accepting or publishing.

It has been my own habit always to listen carefully to the history given by the friends and relatives of patients and often to find therein much of value, but it is the common experience of all of us, I believe, to find that intelligent questioning often brings out much that the friends have overlooked or forgotten, and that we not only have to place the commencement of the attack in our record often long anterior to that given by the friends, but to attribute it to causes which are discovered only after careful inquiry and prolonged study of the case.

For this reason I believe that the blank space in records for

the date of attack as well as for the cause cannot, and frequently should not, be filled out until the patient has been for some time under care. It is often then of course impossible to give more than the probable cause of the attack, and it must always be borne in mind that only the more prominent of several causative factors can be mentioned.

In the group of causes which I have given in these cases it will be observed that ill-health, either alone or in conjunction with other elements, is the assigned cause in 80 per cent. of the cases. This is exclusive of those cases in which the specific form of ill-health was noted. It is impossible in the majority of these to be specific as to the form of ill-health. In the greater number of cases it was learned that prior to the onset of the earliest discoverable symptoms of mental depression there had been a progressive failure of bodily vigour, loss of weight, insomnia, and what in the light of recent investigations seems of greater importance, impairment of digestive functions.

While I am by no means one of those who see in what we call auto-intoxication the cause of nearly all mental disturbance, as well as of many of the general diseases which afflict mankind, it has seemed to me very evident from a study of these cases, as well as from observation in many other extending now over several years, that various conditions of gastric and intestinal indigestion play a very prominent *rôle* in the production of insanity.

It certainly follows that when conditions of hyperacidity of the gastric secretions, what Sée called hyperchlorhydria, are corrected we are often able to induce sleep in some most obstinate forms of insomnia, that when we subdue a wave of uric acid which has swept over our patient excitement or depression is relieved, and more often probably, when processes of fermentation in the intestinal tract are stopped, we observe rapid amelioration of all of the mental symptoms.

This has been true in my observation in many of the cases of stuporose or confusional type as well as in certain forms of acute maniacal excitement. Some two years ago I published[5] the notes of four cases of insanity associated with and apparently following upon peripheral neuritis, in which I drew attention to the close resemblance clinically between these cases and forms of insanity of toxic origin, for example, alcoholic. We know, however, too little of the processes of auto-intoxication and of the substances formed during the processes of digestion, assimilation, secretion, and excretion to speak as yet with any confidence of the conditions, antecedent or subsequent to presumed auto-intoxication.

It is quite within the range of possibilities that conditions which we attribute to auto-intoxication are due to absence of certain substances from the circulation, and hence deprivation of the nutrition of the brain, or to changes in its tissue and cell metabolism, resulting from those substances, due to internal secretion of certain of the glands of the body. Studies in myxœdema and myxœdematous insanity, and the results which have followed the use of the thyroid gland in forms of insanity not associated with myxœdema, may justly lead to this conclusion, and to the hypothesis that there are many elements which enter into the nutrition of the brain, or which influences its physiological functions, of which we are yet totally ignorant.

The physiological chemist has here a rich field, and I have long held that much as we owe to the cerebral anatomist and to the students of brain and nerve pathology, we are yet to be in greater debt to the student of brain physiology and to the chemical and physical processes which are associated with organic life and physiological function.

The warning which Sachs gives[6] in regard to attributing too much to auto-intoxication is one which should be heeded, especially, until we know something definite concerning these alleged toxic elements and their action. The same warning may be said to apply with possibly equal force to the teachings of Haig and his school, who see in uric acid "the direful spring of woes unnumbered."

In 40 men and 34 women, the attack treated was the first; in 13 men and 7 women it was the second; in 2 men the third, and in 1 man the fourth.

Careful examinations of the urine were systematically made in all of these cases to determine the condition of the kidneys, and in about 53 per cent. a more extended examination was conducted. The average percentage of urea was 1.19, phosphates 11.7, chloride 28.16, sulphates 1.13; specific gravity averaged 1019.8. The phosphates, chlorides, and sulphates were determined by Purdy's centrifugal method, which probably has a margin of error.

Albumen and other decided evidences of renal insufficiency were found in 2 cases only. Two cases of diabetes are included in the series, and in two others traces of sugar were found. A determination of the condition of the blood was made in 25 cases. The average of red blood corpuscles was 4,666,718, white 13,734, of hæmoglobin 75.3 per cent. The Thoma-Zeiss and Fleischle instruments were employed. A differential count was wholly negative.

Presumed hereditary predisposition in these cases is shown in 32 per cent. of the cases, namely, in 19 men and 13 women. Those whose relatives were or had been insane, and the degree of relationship, were as follows: father insane, 2 men and 1 woman; father and others, 2 women; mother, 1 man and 1 woman; mother or others, 2 men and 1 woman; brothers, 2 men and 2 women; sisters, 3 men and 2 women; brothers and sisters, 1 woman; paternal collateral branches, 5 men and 1 woman; maternal collateral branches, 3 men and 2 women; paternal and maternal branches, 1 woman.

Thirteen men and 8 women attempted suicide—these were all of the simple acute class. Of the same class 23 men and 15 women meditated suicide, or threatened it, while 2 women of the confusional class and 4 men and 1 woman of the hypochondriacal class threatened or spoke of suicide. It will thus be seen that 66 per cent. of the cases were suicidal, One man, of the hypochondriacal cases, removed to another institution, committed suicide; one man removed against advice, after warning his family of his tendencies, committed suicide the day following, and 1 man at home on a visit was taken out of the care of the nurse who accompanied him and committed suicide. Two patients—1 man and 1 woman—committed the act while in the institution.

Concerning the treatment of these cases, nothing can be offered which is not already known to the members of this Section. The objects sought were to secure sleep, improve nutrition, remove causes of disturbed health. None of the modern hypnotics were employed as a routine measure. Sulphonal at bedtime, or about an hour before that period, in hot milk; hyoscine, always by the mouth, and chloral hydrate, were all employed and in the order mentioned. In many of the cases complicated by intestinal indigestion and fermentation sulphonal was found to add to the difficulty, and its use discontinued. In numerous cases it was found that massage, hot baths, hot sponging to the spine, with at the same time the administration of hot liquid food, took the place of hypnotic drugs, and produced more satisfactory results.

In one case, reported elsewhere,[7] the use of thyroid extract was followed by recovery. In this case there was a small goître.

Iron and strychnine served as our main dependence as tonics. All of these measures were of course supplemented by a liberal diet and a large amount of out-of-door exercise. The opium treatment of melancholia was not found to possess any superior advantages, and in many cases seemed clearly contra-indicated. For over three years careful weekly records have been kept of changes in body weight of all the patients at Sheppard, and we have found that these changes afforded us by no means the least valuable of the factors which entered into the question of prognosis in any given case, and that they occasionally gave warning of changes in our patients which might otherwise have been overlooked until more pronounced. Of 25 men in this series recorded, 21 gained in weight, 3 lost, and 1 remained stationary. The greatest gain was twenty-five pounds, the least one. The average gain was eleven and six-tenths pounds. For the 3 who lost, the total loss was forty-five pounds; one of these patients—diabetic—lost forty pounds. These 3 patients are still under care.

The weights of 27 women in this series are recorded; 22 gained and 5 lost weight. The greatest gain was fifty pounds, the least three-quarters of a pound. The average gain was twelve and eight-tenths pounds. Five lost weight, the average loss being six and two-tenths pounds. One of those who lost is still under care, and 1 is well mentally; but the

loss of flesh was apparently one of the early indications of tuberculosis. The others were removed by their friends in all but one instance before any improvement had been manifest. These data show that impaired nutrition is one of the most common conditions found, and form in some degree a measure of that impairment.

As to results—38—20 men and 18 women were discharged recovered, 12 men and 4 women much improved, 11 men and 9 women improved, 5 men and 3 women died, and 6 men and 3 women remain under care. Of those who recovered 6 relapsed: of these 2 made subsequent recoveries, 2 are now under care, 1 had an attack of acute mania, from which he recovered. Of those discharged much improved, 5 are now well, 5 have still further improved, but do not appear to be fully recovered; 1 relapsed, and the remainder have not been absent long enough to permit any judgment being formed of their progress—2 have not been heard from. Those discharged and subsequently readmitted are not included in the 9 cases of the original 100 remaining under care.

I cannot conclude this paper without expressing my obligations to my assistant, Dr. Wm. Rush Dunton, jun., who has patiently worked out the statistical details of these cases, and who did most of the laboratory work.

Dr. Wharton Sinkler quoted a case of melancholia following operation with complete recovery. He spoke also of the seasonal variation observed in cases of melancholia. As regards the treatment of melancholia, he was not satisfied with the thyroid treatment. In melancholia there was a reduction of weight, which was intensified by thyroid. Dr. Sinkler thought, as regards treatment, that opium and strontium bromide were the two most valuable drugs.

Dr. Burgiss (Montreal) had had good results with thyroid, especially in stuporose cases. Although there was an initial loss of weight, this was counterbalanced by the subsequent gain. He was of opinion that it shortened the duration of the disease.

Dr. Handford Haslett (Sunbury, England), referring to cases of obdurate gastric irritability, said he had found lately very great improvement by washing out the stomach with strong boracic acid. He was anxious to know if Dr. Brush agreed with him that growth of facial hair and constant picking of the skin were symptoms of grave import. He deprecated the idea, so prevalent in the lay mind, that travel was always beneficial to the melancholic. He thought it often harmful.

Dr. Dewey had not had favourable results with opium. He would like to know if Dr. Brush thought hypochondriasis a discouraging sign.

Dr. Rohé (Maryland) thought opium, to be of use, should be pushed till some symptoms, either good or bad, were produced. He had seen occasional good effects with thyroid. He was convinced that rest in bed was essential for melancholia.

Dr. Brush, in reply, said he could not at the present moment recall more than four recoveries in cases complicated with hypochondriasis. As regards travel, he thought it desirable in certain chronic cases; in acute cases he thought it aggravated the general neurasthenic condition. Dr. Brush did not believe in seasonal melancholia, and believed he was in accord with Dr. Weir Mitchell. He agreed with Dr. Haslett that picking of the skin was of unfavourable import.

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REFLEXES IN PSYCHIATRY.

By Daniel Clark, M.D.,

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Within the last quarter of a century a large number of the medical profession have taken to so-called specialities. It is doubtful if these subdivisions of practical medicine and surgery are as a whole an unmixed good. These specialists are, as a rule, located in cities and towns, for of necessity the village medical practitioner must yet have a general knowledge of all branches of medicine. As far as diagnosis and surgical operations are concerned in special lines of abnormal conditions, the specialist has that knowledge and these modern appliances necessary to successful treatment. As far as these are concerned, specialists are advantageous to the patient.

The result, however, is rivalries and controversy in respect to the merits of the different special branches in relation to general health. Nothing now seems to be left to the general practitioner except the os calcis and the umbilical region.

Anyone who takes the trouble to read the reports and monographs of these alienists, gynæcologists, ophthalmologists, neurologists, laryngologists, otologists, rectum and bladderologists, and so on *ad infinitum*, will notice with what assurance many of these circumscribed practitioners claim successful treatment of the diseased organ of which they know the most, as being the one thing necessary to ensure generally bodily and mental health. Unconsciously such of necessity become one-sided men. The personal equation becomes paramount, and the one domain of their investigation is the all-important object of research and treatment. This is especially true of the young enthusiast, and usually he at last develops into a fanatic and faddist. There are a number of foundation errors which lead to this lopsidedness. The first of these is the forgetting that a speciality to be successful must be based on a thorough knowledge of the whole human organism in health and disease.

Someone has well said that those deficient in the general knowledge of medicine, although thorough in one particular line of medical research, are like men who would study comets only and ignore all the planets in the sky, and call themselves astronomers. Their occupation would amount to nothing in the end, however learnedly they might discourse of comets.

The second error is that such people attach altogether too much importance to reflex action in disease. The moment a practitioner has drilled into his own head that the locality he cultivates is a cause of a legion of bodily diseases in distant parts he is apt to overlook the real causes of many diseases, and by omission in knowing is apt to do more harm than by commission. Such do not storm the fortress, but are sputtering away their time at one of the outworks. They are applying remedies to the branch of a tree while the morbid disease may be in the trunk or roots. Allied to this is a third error, which lies in a misunderstanding, or rather a misapplication, of the term "reflex action." Descartes, the French philosopher, was possibly the first to use the term "reflex," and gave as an example the involuntary closing of the eyelids when approached by an object. A more extensive study of reflexes was made by such as Marshall Hall, Grainger, Johannes Müller, and others.

The fundamental law is well known, which consists of the effect of stimuli to certain sensorial parts, which is responded to by muscular contraction in circumscribed areas because of this nerve excitation. We see its operation in certain spasmodic affections and various motor disturbances. A true reflex circle must have three distinct neural structures—an afferent nerve, a focal nerve cell or cells, and an efferent nerve. These form a reflex arc and act along physiological lines. It is these physiological facts which have led so many specialists into errors in studying diseases, because many have nothing to do with that law of reflexes. In many diseases we have instead what the Germans call "associated sensations" or "co-sensations," but not "neurotic reflexes" so called. The influence, which may begin *ab extra*, may end, and mostly does end, in some part of the great nerve centres with no direct outward stimulation, and so cannot in any sense be called reflex; or it may begin in one or other of the great nerve centres and show its malign influence in some particular local organ as a result, not as a cause.

In fact, as pathological investigation goes on many diseases found in organs were only made manifest in these parts, and the nerve centres with their ramifications were found to be the real seats of abnormal conditions. The list of such diseases would be very extensive if recited, such as atonic dyspepsia, ovarian neuralgia, the various convulsions, epilepsy, exophthalmic goître, angina pectoris, asthma, diabetes, Addison's disease, pseudo-hypertrophic muscular paralysis,

diphtheritic paralysis, and so-called inflammatory rheumatism, and such like.

It is evident that much disease has been treated locally, not only without benefit, but to the injury of the nerve centres in which lie the primary cause. We know how many women have been unsexed to their moral and mental undoing by unwarranted extirpation of the ovaries when no disease existed beyond neuralgic conditions. An intermittent heart was often diagnosed as having organic disease when the sympathetic nerve supply to the stomach was the root of the trouble. So-called inflammatory rheumatism in the joints is still classed as such, when we know that the heat, swelling, pain, and redness will in a few hours depart to some distant joints and repeat the trouble, and this fugitive or metastatic trouble will fly from joint to joint. No rational explanation can be given of these migrations, unless we take into account the nerve influence on the blood circulation. The sympathetic control of the calibre of the blood vessels and the action of the trophic centres are never taken into account, and yet we know how much these vaso-controlling ganglia influence the human system in health and disease. The sympathetic system is almost everywhere in the body, and not only in intimate relation with the cerebro-spinal system, but controls and stimulates the glandular, visceral, and vascular systems. These facts are largely lost sight of in medical and surgical practice. This is strikingly seen in gynæcological treatment, especially when it is claimed that uterine disease nearly always controls to some extent mental conditions in women. The minor abnormalities are magnified into important factors in producing insanity, and thus effects are said to antedate causes.

The mistake lies in the supposition that these minor influences can be causally or adequately sympathetic. A slight tenderness of the groin at periodic times is unduly magnified; a tilting backward or forward or laterally, or a scarcely perceptible prolapsus are solemnly entered in the history of such cases as exciting and primary causes of serious brain lesion.

Maiden and married pass through the ordeal of the manipulation of these raiders of feminine reserve and modesty. They seem after a time to become possessed with a dominant idea that these organs are the malign influences which excite and incite half of the diseases which female flesh is heir to. Such spoilers are not charged with pruriency; it is not presumed that fees enter into their motives, yet the results are the same, and morally as well as socially are deplorable if not immoral. No man of fine feeling can think of these invaders in respect to his mother or wife or sister or daughter without having a chill of repulsion.

The many honourable physicians at the head of this speciality who would readily endorse these words of mine could do much in checking this indecent tendency which so generally exists. They have only to minimise the exaggerated diagnosis and relegate the magnified portents to the quack prophets of the day.

A righteous revulsion of professional feeling, not to speak of public indignation, is setting in against a needed and special work when kept within reasonable bounds. Our mothers and our grandmothers knew little of these matters, and it would be well for the present generation were less professional officiousness exercised in the direction indicated. Surgical gynæcology has an important function to discharge when imperatively demanded, but the knife deftly used in guillotine or extirpation based upon hypothesis is bad practice.

A large number of our insane women come to our asylum duly certified as having become afflicted because of ovarian or uterine diseases. Subsequent events show that no such cause exists, or that the disease is in such an innocuous form as to give no good reason for the extirpation: the caustics applied to tumefactions or merely reflex conditions; the wonderful mechanical appliances with which small abnormalities are punished startle us with their frequency and variety. The day of reaction is coming as clinical knowledge is beginning to make manifest that many so-called local diseases are merely the fruits of pathological changes in some of the great distal nerve centres.

Why, then, use our therapeutics and our mechanical ingenuity on the branches of the tree when it is the roots which are in distress? My experiences show that not more than 3½ per cent. of female patients are afflicted in this way in any serious kind or form of derangement, yet at least 40 per cent. are certified as having become insane through this cause. It need scarcely be said this is a most extraordinary statement.

These statements of mine are in accordance with our experience, as also is the fact that when insanity sets in many subacute diseases of the uterus disappear, such as dysmenorrhœa, the various forms of metritis, subacute ovaritis, and catarrhal conditions. Insanity seems to be antagonistic to their active existence. These alternatives are also true in respect to other diseases—especially those of the lungs—of the insane. In this connection it may not be out of place to show the inconsistency of removing ovaries which are only functionally affected. Extirpation means a premature menopause, yet the time of the natural menopause is always understood to be a critical epoch in a woman's life. How much more intense must such a change be when brought about by the surgeon's knife in the young or in middle life? No wonder that such a radical interference partially lowers bodily and mental activity, and is a prolific cause of insanity instead of a cure. Our institution has a number of such cases.

To produce a condition artificially which is naturally said to be conducive to insanity is certainly a strange procedure to bring about relief or to act as a prophylactic if the usually-accepted opinions are correct. The fact is, the change of life as well as puerperal crises have no special danger in the production of mental disorders unless there exists a predisposition thereto, either through hereditary tendency or because of general asthenia, in which condition the uterus is only one factor, and consequently not the cause but an occasion of the outbreak.

No one denies that some uterine diseases need surgical treatment such as uterine fibromata. Some are painful and some are burdensome. We adopt relief by treatment at the earliest possible time. Those thus afflicted are few. We object, however, to the wholesale conclusion that at least 50 or 60 per cent. of our female insane need gynæcological treatment. This shows, doubtless, a speculomania which should not be found outside an insane asylum. No wonder eminent gynæcologists such as Skene, the late Goodell, Lusk, and even Tait raise a warning voice against such extravagant statements and wholesale manipulations.

Such meddlesomeness has also a moral side. These raids upon the genitals of wives and maidens, spinsters and widows are unwarranted unless there are serious symptoms to lead to suspicion of much mischief in these parts. The present race of women are as hardy as a whole as were those of previous generations, yet the womanhood of the past had little trouble with the child-bearing organs. Except as mothers bearing children they knew little about them; now, as the French say, "the uterus is the woman." This mania has spread to such an extent that women not manipulated are in the minority; and in some of the United States, law has stepped in between the physician and patient to protect the latter.

I cannot better conclude than by quoting the wise sayings of Dr. L. Bremer, of St. Louis. His opportunities have been very extensive, especially among the insane, yet he vigorously attacks the uteromania which afflicts so many of the medical profession to the hurt of their unfortunate victims. His statements are: "Without denying the possibility of nervous and even mental derangements arising in women from comparatively trivial diseased conditions of the genital organs, such as catarrh, cervical laceration or stenosis, uterine displacements or ovarian disorders, I agree with those who believe that the frequency of such causes are vastly overestimated. The prevailing practice of treating slight local affections with a view of bettering or curing such morbid conditions as hysteria, neurasthenia, and allied diseases of the nervous system are generally injurious.

"I go the length of saying that gynæcological treatment, unless imperatively demanded of the unmarried female, is a crime. Its effect upon the mind of the chaste young woman is that of defloration. Her moral tone, her manner of judging things are altered and lowered with the consciousness of there being even a shadow of a flaw on her virginity. These subtle qualities disappear which constitute the charm of

girlish innocency. Her mind is polluted; she is unfit for marriage, and all this because the doctor happens to hold the opinion that by manipulating the uterus he can cure neuroses."

The eminent Dr. Allbutt well says: "How intimately this organ or this system is associated with the nervous system is well known; but unfortunately the weight of our knowledge all leans one way—it leans to a curious and busy search for every local ill which may arise in the female pelvis, while blind oblivion scatters the poppy over every outer evil which in its turn might hurt the uterus; nay, more, a resolute prejudice would deny that in the woman any distress can arise which owes not its origin to these mischievous parts.

"The uterus has its maladies of local causation, and its maladies of mixed causation as other organs have; and to assume, as is constantly assumed, that all uterine neuroses or even all general neuroses in women are due to coarse changes in the womb itself, is as dull as to suppose that the stomach can never be the seat of pain, except it be the seat of some local affection, or that the face can never be the seat of tic douloureux unless there be decayed teeth in the jaw. All mucous membranes, indeed, seem readily to betray nervous suffering by relaxation or changed secretion: and I make no doubt whatever that a very large number of uterine disorders which are elevated to the place and name of diseases of the uterine system are but manifestations of neurosis. All neuroses are commoner in women than in men. Facial neuralgia is commoner in them, migraine is commoner, so is gastralgia and the pseudo-angina. Not only so, but in the uterus they possess one organ the more, with its own rich nervous connections, and its own chapter of added diseases and neuroses, but to say that all these maladies are due primarily to uterine vagaries is to talk wide of all analogies.

"A neuralgic woman seems to be pecularly unfortunate. However bitter and repeated may be her visceral neuralgias, she is either told she is hysterical or that it is all uterus. In the first place she is comparatively fortunate, for she is only slighted; in the second case she is entangled in the net of the gynæcologists, who find her uterus, like her nose, is a little on one side, or, again, like that organ, is running a little, or it is as flabby as her biceps, so that the unhappy viscus is impaled upon a stem, or perched upon a prop, or is painted with carbolic acid every week in the year except the long vacation when the gynæcologist is grouse shooting or salmon catching, or leading the fashion of the Upper Engadine. Her mind thus fastened to a more or less nasty mystery becomes newly apprehensive and physically introspective, and the morbid chains are riveted more strongly than ever. Arraign the uterus and you fix in the woman the arrow of hypochondria, it may be for life." (*Visceral Neuroses.*)

The distinguished gynæcologist Skene says "The diseases of the sexual organs in women do not by any means cause insanity so often as gynæcologists have believed and taught in their writings. Diseases of the sexual organs rarely cause insanity unless there is a predisposition to insanity. That diseases of the sexual organs are occasionally found in emotionally deranged women is true, and they are often, indeed, supposed to be the cause of the mental disturbance, but a careful investigation of such causes has satisfied me that it is not the rule." Again, Skene says, "In this age of aggressive surgery, operators have been led to remove the ovaries in the hope of relieving a variety of mental and nervous afflictions. It is evident, however, that about as many women go mad because of the ovaries having been removed as there are who are cured of reflex mental and nervous diseases by their removal." The writer agrees with these views, and might have quoted dozens of such held by gynæcologists of good repute. The statistics of these operators are of no value unless there are deducted from the list of "recovered" and "improved" those who belong to this class, and who are benefited by other means than local treatment. The statistics of those asylums which parade this mode of treatment show no list of recoveries greater, and in some not so great, as those in which conservative treatment prevails. The death-rate of those who have perished because of surgical interference is doubtless correct.

Dr. Campbell (Carlisle Asylum, England) desired to thank Dr. Clark for his lucid, definite, and sensible paper. In his asylum, although they did not pay such minute attention to the state of the uterus, yet their recovery rate was not diminished. Even asylum physicians were occasionally affected by waves of treatment.

THE INFLUENCE OF PHYSICAL UPON MENTAL DISEASE.

By W. J. Handfield Haslett, M.R.C.S., L.R.C.P.,
Resident Medical Superintendent, Halliford House Asylum, Sunbury-on-Thames.

The subject which I have ventured to bring before the Association is an obscure and difficult one, and I do not pretend to throw much fresh light upon it, but, conscious that it possesses great possibilities for investigation, and that if properly understood it will prove a powerful factor in the amelioration if not in the cure of mental disease, I have hoped to draw some expression of opinion from Canadian psychologists, and to kindle their interest in this subject. Most observers from the days of Pinel have remarked upon the curious relationship which exists between physical and mental diseases, but no one, as far as I can discover, has attempted to construct any explanatory theory. Indeed, in regard to this subject the usual conditions of authorship are reversed, and we have here a dearth of theory and a profusion of fact.

My own experience has not been sufficiently wide to warrant me in attempting any comprehensive classification, but having had the care of some exceedingly instructive cases my interest was aroused, and I have taken many opportunities of gleaning facts from the experience of others, as well as of consulting some of the older works.

Professor Griesinger, of Berlin, nearly half a century ago recorded the effects of some epidemic diseases on the insane, particularly of typhus, cholera, and dysentery. He found that in an extensive outbreak of typhus among the insane at Schleswig there was a permanent beneficial influence in a large number of cases, and in mania and melancholia to an equal extent. On the other hand, cholera had an almost invariably unfavourable effect, and dysentery, which was common among the insane, was found to have no influence, beneficial or otherwise. It did not even shorten or interrupt the attacks of periodical insanity.

Köster, of Siegburg, studied the effect of intermittent fever on the insane, and found that out of 24 patients attacked, 7 completely recovered from their insanity, 7 improved very much, and 10 cases of advanced dementia remained unchanged. I have seen only 4 cases of intermittent fever among the insane, and in only 1 did it produce any improvement, a case of early general paralysis in which complete remission of symptoms occurred when there was a recurrence of fever.

It is known that in cases of fatal illness among the insane there is often a clearing up of intellect before death, a re-establishment of judgment and memory. This I have observed in some delusional and stuporose patients; but Hoffman goes so far as to assert that it often occurs in cases of advanced dementia. This is entirely inconsistent with the changes which are known to have taken place in the cells of the central nervous system, cells which are functionally dead in confirmed dementia.

Savage says that diseases which produce temporary or permanent cure of insanity are either febrile or painful, and this may be taken so far as it goes as fairly correct, for the reason that most physical diseases are either the one or the other or both. There are, however, notable exceptions to this rule; for instance, such a common febrile disease as influenza, and such a well-known painful one as cancer, have never been known to benefit or cure types of mental disease which are frequently influenced for good by other physical diseases. With regard to the effect of influenza on the insane, the best account is by the physicians of the Royal Edinburgh Asylum, where there was an epidemic during 1889-90.

The following is a summary of their conclusions derived from careful records of a large number of cases:

First, there was frequently an aggravation of the mental symptoms.

Secondly, in no recorded instance did influenza produce any mental improvement in the patient.

Lastly, insanity as a sequela to influenza in the sane was of an evanescent and curable nature. Schmitz also says that influenza in the insane renders the prognosis unfavourable, while insanity the result of influenza is always curable. My own experience is that insanity in which influenza is the predisposing or exciting cause is often most intractable, and much less curable than some other types of mental disease, notably the puerperal and other acutely maniacal states.

As is known, boils, carbuncles, and suppurating wounds frequently cause mental improvement in the insane. I had under care a case of recurrent mania in which the insanity automatically cured itself on several occasions. The patient when maniacal was of dirty habits, and constantly picked his scalp, and rubbed earth and other matter into it. The consequence was that in a period of several years he got three crops of follicular abscesses which on each occasion cut short a maniacal attack. Again, there is no more remarkable thing appertaining to this subject than the extraordinary effect of carbuncles on general paralytics. I dare say most of you have noticed it; it has been my fortune to see many cases. It is marvellous to me how in the second stage of general paralysis, not only are the purely mental reductions abolished, but such physical symptoms as muscular tremor, affection of speech, and ataxic gait will pass away with the large slough of a dorsal carbuncle. I have noticed the temporary abolition of such visual anomalies as spastic myosis and the return of sympathetic reflex and consensual movement. These are symptoms which indicate the deep and intimate implication of minute nerve structures even more than the grosser ataxic symptoms show how profound must be the influence of the sloughing sore. Other severe suppurating wounds have the same effect, but to a lesser extent. No other class of physical illness has the same effect in producing temporary remission of symptoms in general paralysis.

Whether the inflammatory process introduces into the blood toxæmic substances which affect the nerve centres, or whether the sloughing and discharge remove morbid products from the blood, or whether the counter-irritation of a large and painful sore gives rise to new afferent impulses which neutralise the morbid energising of the central cells, the benefit is obvious and undoubted.

There is one large class of nervous diseases which I believe suffers no amelioration from intercurrent physical disease: I refer to the convulsive neuroses. I have never heard that the insane epileptic receives any benefit from attacks of febrile inflammatory, suppurating, or painful disease.

The same applies to impulsive insanity: I mean that variety where there is a motiveless, uncontrollable impulse to homicide or suicide, unaccompanied by any intellectual or moral impairment. As Maudsley has insisted, this is "a convulsive idea springing from a morbid condition of nerve element, and comparable with a convulsive movement," so that, classing psychic and motor convulsions together, one may say that they are rarely if ever cured or benefited by attacks of intercurrent disease. I have known two cases of pure homicidal impulse for many years, who have had several attacks of erysipelas and various inflammatory and painful diseases without receiving any mental benefit.

It would appear that beneficial influence is greatest in stuporose cases, and this would give rise to the idea that afferent impulses caused by peripheral irritations may stimulate the central cells, which suffer from an arrest of function and not generally from interstitial changes. On the other hand, it is noticeable that in cases of phlegmonous inflammation and deep-seated abscesses the mental improvement does not occur till after the abscess has burst, which points to a different explanation of the phenomena.

I am convinced that the class of diseases which never produce any mental benefit, but often the reverse, in the insane, are the debilitating and wasting diseases. Any disease producing anæmia such as chronic renal and pulmonary ailments, aggravate instead of ameliorating mental trouble, and loss of blood such as will occur in the insane through accident or injury almost invariably aggravates the mental condition.

Of such injuries as fractures I have not much information, except that they sometimes produce sudden benefit in stuporose cases. Indeed it may be taken, as a rule, that sudden injuries, unaccompanied by loss of blood, are frequently of benefit.

Lastly, the chances of permanent benefit from intercurrent physical disease are much greater during the second stage of mental trouble. At the onset of acute mental attacks the beneficial influence is rarely seen, and at the other end of the course, when pronounced degenerative changes have occurred, it is little likely that anything but the slightest temporary improvement can occur.

The conclusions may be formulated as follows:

That febrile, suppurating, painful, and sudden diseases are most likely to produce benefit, particularly boils, carbuncles, erysipelas, and some of the specific fevers.

That protracted and debilitating and wasting diseases, producing anæmia and loss of blood, rarely produce any mental improvement.

That the purely convulsive neuroses are rarely capable of any amelioration in this way.

That stuporose mental states and the second stage of acute attacks are most readily influenced for good.

Lastly: That the evidence chiefly points to the influence being produced by unwonted afferent impulses produced by the abnormal peripheral irritation.

The President said his experience was opposed to the theory that operations were followed by recovery. He had once quoted a case in support of the theory, but that case had now relapsed.

Dr. Spitzka said that in Dr. Israel's clinic he once saw a case where an incision only skin deep had been made, the patient believing a serious operation had been performed. The result was complete recovery.

SOME NEW CLINICAL STUDIES OF INEBRIETY.

By T. D. Crothers, M.D.,
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When the histories of a number of cases of inebriety are grouped and studied the following are some of the facts which seem to be supported by very conclusive evidence.

From 60 to 70 per cent. of all these cases are traceable to heredity. That is, in this percentage of cases the ancestors have been inebriates, insane epileptics, and neurotics. This term, "neurotics," should include degenerates, idiots, feeble minded persons, and neuropathics generally. In these cases there has been transmitted from the parents in a certain number of persons a morbid impulse for alcohol direct; in a larger number a strong predisposition for drugs of any kind which would relieve some condition of pain and exhaustion. In a still large number a mental instability and feebleness, with low powers of restoration and resistance, have come down from the parents. In another class, retarded and defective growth of brain and body, with unbalanced organism, are the entailments of parents. These conditions may be combined or exist separately, and may appear in an almost infinite number of types, one condition being exactly reproduced in the next generation, or concealed by some other symptoms, and appear in another form. Often these defects are manifested externally, in deformities of contour and growth and mental manifestations. The use of alcohol is often a symptom of cerebral degeneration in these cases. Beyond heredity, injury and disease are traceable as causes, both exciting and predisposing, and the demand for spirits is only the symptom. In a certain number of cases a long prodromic stage of moderate drinking precedes the excessive use of spirits; in others, the excessive use begins at once. Intoxication and poisoning is a starting point. This may be accidental, apparently, and often literally explode a train of degenerations, or develop them into a progressive disease.

The forms of inebriety are practically the same as those noted in insanities. The periodical, convulsive, epileptiform, and the delusional and confusional manias, and dementias are most common. Paretic delusions of an exalted nature, of vigour, strength, health, and full restoration, also full power never to use spirits again, are common to nearly all cases. These delusions resemble those of general paralysis, only less prominent. Supreme confidence in the ability and power to abstain totally from all use of spirits, and to carry out any

line of temperate conduct suggested, with a capacity to resist any conditions of surroundings and any form of strain that may come, appears with the subsidence of the drink craze. Associated with this is a reckless disregard of all precautions and natural care, also fear of danger. All experience is ignored, and this delusion continues as an unmistakable symptom of profound mental impairment. In many cases this delusion of power and strength is the clearest proof of mental disease. Another common symptom exists of trying to use spirits moderately, and is the same paretic delusion which, notwithstanding the continually repeated effort and failure, is never diminished and never checked. Experience makes no impression, but rather increases the faith that success will follow such efforts. In most of these cases the delusion remains during life. Probably the example of persons who for some physical reasons unknown are able to use spirits in small quantities for a lifetime keeps alive this faith, and the popular errors of the value of alcohol as a beverage assist in the same way.

Nearly all these cases develop degrees of moral palsy, which may be described as a deficient sense of right and wrong, of duty and obligation to others, and illustrated in untruthfulness, immorality, dishonesty, and intrigue. The higher brain centres which control and form character are broken up; and this, together with delusions of grandeur, are very significant of profound impairment of the brain. An examination of the inebriate with instruments of precision shows that all sensation is impaired. Sight, hearing, taste, smell, touch, and sensation of heat and cold are lowered and palsied. Memory, ideation, attention, time reaction, and perception are diminished and enfeebled.

The faulty delusional reasoning follows naturally from the operation of the faulty senses. The heart and other organs show similar derangement. These palsies can be measured and studied with instruments, and their teachings are exact facts not opinions. The inebriate may continue for a long time with these palsies unrecognised, except by his intimate friends. I have found inebriates who for years have done business and passed as sane, competent men, with profound palsy of the senses and brain activities, who were literally automatons, doing what they were accustomed to, following familiar lines of thought and conduct without the slightest mental effort. A slight change and variation and their condition would have been apparent. A comparison of the histories of inebriates reveals a great uniformity of causes and lines of development, progress, and termination.

The popular opinion of so-called moral causes finds no support from the clinical facts. Contagion and environment are minor elements, and the use of spirits is not always a cause of inebriety. It may explode, concentrate, and give direction to degenerations, latent or apparent in the organism, but previous favouring soils and conditions must exist or the use of alcohol will seldom develop into inebriety. In a number of cases degenerations dating from typhoid and other fevers, and, recently, from severe attacks of influenza, have preceded the inebriety. A period of invalidism following disease merges into the excessive or moderate use of spirits. The latter sooner or later becomes chronic and excessive, and spirits are often used at first as a medicine. In the former distinct paroxysms of drink excesses are more common. Many of these cases are preceded by nutrient and digestive disorders; others by neurotic and psychical disturbances. Another class are clearly referable to injury, particularly when associated with shock and profound exhaustion. Railroad accidents, where the psychical element of fear, alarm, and sudden profound emotional disturbances are present, are often followed by inebriety. Great mental and physical strains and drains, long periods of overwork or underwork, with nutrient excesses and general physical neglect of the care of the body precede the outbreak of inebriety.

There are cases of inebriety which break out suddenly, following some prolonged strain, and are clearly insanities. The subsidence of the drink craze brings into prominence manias and dementias. In some cases the continuous use of alcohol marks these acute symptoms; and in some cases where alcohol is used continuously it seems to prevent the outbreaks of violent manias. In some instances the removal of alcohol is followed by epileptic attacks, and the return to spirits breaks them up. The subsidence of the drink symptom brings out many unexpected phases of disease. In the treatment, remedies directed to the drink symptom alone are not curative. The subsidence of this symptom by chemical restraint is the same as checking pain by opium. This drink symptom is in many cases self-limited, and disappears. Public opinion attributes this to the last pledge or prayer, or conversion, or counsel, or drug, or specific. In reality, some physiological change has taken place, and the drink craze has died out. Restoration has not occurred, only a change of symptoms.

Familiar illustrations are seen in cases of delirious reformers, wild agitators, unusual criminals, strange erratic paranoiacs, and many others who have an early history of severe inebriety and sudden so-called cures. The specifics and prescriptions which destroy the craze for drink in one day, or four weeks, are empirical. Hospital treatment extending over long periods, where the causes may be studied and the rational means applied for their removal, is the only scientific method of cure.

Statistics show that from hospital care and study the causes and the progress of the case and present condition can be known, and suitable means used to remove and restore the person to health again, in from 20 to 30 per cent. of all cases. These figures describe the present condition of cases which have been treated from twelve to eighteen years ago, and approximate the possible final cures of such cases. Statistics show that inebriety is often a symptom of some reflex condition or exhaustive irritation, which, when discovered and removed, constitutes a cure. The following are some instances:

An army chaplain had a wound in his head. He drank to stupor at intervals for eight years, then went to a hospital; a section of the skull was removed by the trephine, and he recovered and remained temperate until death ten years later. I have seen a number of cases where antisyphilitic treatment broke up the inebriety, and ever after mercury in large doses was practically a specific for the drink symptom.

Change of life in women and breaking down from age and overwork in men are marked by inebriety, which yields readily to the quiet and exact hospital care and treatment. A bright editor of eminence recovered from inebriety after a residence in a hospital, with change of conditions of living and proper sleep at night. A large number of cases recover by the use of the Turkish bath, which seems to eliminate auto-intoxications, and in this way remove the exciting causes of the drink craze. While the use of alcohol may both intensify and produce morbid states, clinical studies show that the removal of spirits is not always the removal of the cause. Other and more profound disturbances must be treated.

Finally, statistics and clinical studies of cases make it clear beyond all doubt that inebriety is insanity, obscure and masked, starting from the same range of physical causes, following the same lines of progress, and curable in substantially the same way.

Into this present realm of theories and empiricism, where moral causes and moral remedies, with specifics and superstitions, supported by ignorant dogmatism, science has only recently entered. But already the facts observed show that inebriety is a disease, following exact lines of cause and effect, controlled by laws which may be known and followed and neutralised and prevented.

The great drink problem will be solved from a medical point of view, not far away, and its present mystery disappear.

Dr. Clark (Toronto) thought that the motion of a latent explosive taint which was fired by alcohol very possible.

The President recalled cases where a man suddenly took to drink, and as suddenly gave it up. Such cases finally became chronic drunkards.

THE RELATION OF INSANITY TO THE STATE.

By James Russell, M.D.,
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If a traveller from the planet Mars were to visit this earth armed with passports to visit the different courts of Christendom, many vast and striking objects would at once arrest his

attention. He would be overawed at the stupendous advance of our modern civilisation, our large centres of population, the busy hum of industry, the intense struggle for existence, the conflict between capital and labour, the rapid transportation between all parts of the earth, the mighty works of mechanism, the wealth of our art and literature, the extremes of wealth and poverty, the multitude of churches, schools, colleges and universities, and reformatories, and last but not least the vast provision made by the State for the care and comfort of the defective classes of our race.

This son of Mars in travelling to and fro over the earth would not fail to note that on the confines of all our large centres of population are erected large and stately buildings, the purpose of which he is anxious to know. His terrestrial escort will at once inform him that one is for the blind, another for the deaf and dumb, another for the feeble-minded and idiots, another for the sick and afflicted with bodily disease, but by far the amplest provision of all is made for those of unsound mind. His escort will further tell him that all these buildings are erected and maintained at the expense of the State in some countries and partially so in others, and he will at once jot this down in his notebook and report it at the nearest telegraph office to the *Mars Gazette* as the most splendid evidence of our Christian civilisation.

Official Returns.

From the official reports of the Commissioners in Lunacy in Great Britain and Ireland, and the census returns of the United States, as well as the census and lunacy returns of Canada, the evidence is irresistible that there is an immense increase in the number of registered lunatics during the last 40 years. This alarming increase in England and Wales and consequent burden of taxation suggested to the Lord Chancellor the necessity of a special report from the Commissioners in Lunacy as to whether this increase was due to real or apparent causes. The result of their researches, as submitted to the Lord Chancellor in a special report, went to show that, whereas in 1859 the number of lunatics, idiots, and persons of unsound mind in England and Wales reported to their department as resident in asylums and workhouses, or with their relatives or others, was 36,762. The number had increased in 1896 to 96,446, showing a ratio to every 10,000 of the population of 31.38, as compared with 18.67 at the previous period. The next question they had to determine was whether this increase was due to insanity-producing causes, or to the ampler accommodation provided, and consequent increased registration. The Commissioners soon found that the task they had set before them was a very difficult and perplexing one. They started out with the assumption that the keen and restless energy of the age had made such enormous drafts upon the mental resources of the people that it would be easy to formulate a theory which would account for the rapidly increasing ratio of mental disorder. The result of the investigation completely negatived this assumption as the following figures show:

The increase in pauper lunatics from 1859 to 1896 was from 31,401 to 87,417, while the increase in the private class has only been from 4,679 to 8,265, the ratios having risen from 15.95 to 28.44 for paupers, and from 2.38 to 2.69 for private patients per 10,000 of the population. Or making another calculation, the population of England and Wales has increased 56 per cent. from 1859 to 1896, while private lunatics have increased 76 per cent., criminal lunatics 12 per cent., pauper lunatics 178 per cent., making a total increase of lunatics of 162 per cent. The Commissioners draw a marked distinction of the ratio of increase between private and pauper lunatics, and report that the number of private lunatics is actually lower in 1896 than in 1879, and is still undergoing an annual diminution.

The Commissioners in Scotland report from 1859 to 1896 an increase of 37 per cent. in population, and an increase of private lunatics of 97 per cent., criminal 96 per cent., and of pauper 139 per cent., making a total increase of 132 per cent.

The Commissioners in Ireland only furnish returns from 1880 to 1895, which show a decrease in population of 12 per cent., while private lunatics increased 20 per cent., criminal decreased 8 per cent., pauper increased 43 per cent., total increase 41 per cent.

In the United States the only returns available are the census from 1880 to 1890, which show an increase in population of 24 per cent., while the increase of the insane of all classes is 19 per cent.

In Canada the census returns of 1891 give the population at 4,833,239, and the number of lunatics of all classes at 13,355, or 1 to every 361 of the population. There are no comparative returns available.

In the province of Ontario the census and provincial returns show an increase of population from 1871 to 1895 of 36 per cent., while the increase of insane for the same period is 245 per cent.

Causes of the Rapid Increase of Insanity.

The English Commissioners in their special report, while admitting the vast increase of the pauper insane, endeavour to explain it on the ground of greater accuracy of registration. They say there are fewer lunatics in workhouses and more of that class in asylums; that the low recovery and death-rates tend to perpetuate their lives, and thus form an ever increasing residue of population; that asylums are now more popular among the people, and that there are more cases of senile mania sent to asylums than formerly. No doubt there is truth in all the reasons set forth to at least partially account for the vast increase, but to my mind there are other deeper and more potent causes than any set forth which I shall refer to later on.

Take the history of lunacy in Canada, but more especially in the province of Ontario, the most populous province in Canada, and what do we find? Since 1871 the increase of lunacy has been at the rate of 245 per cent. We are a com-

Table showing the Increase of Lunatics, Idiots, and Persons of Unsound Mind from 1859 to 1896, with their Relative Proportion to the Total Population.

Country.	Year.	Population.	Number of Lunatics, Etc.				Proportion of Insane to Total Population.
			Private.	Pauper.	Criminal.	Total.	
England and Wales (Commissioners)	1859	19,686,700	4,679	31,401	682	36,762	1 to 536
	1896	30,731,992	8,265	87,417	764	96,446	1 to 319
		56.10 % increase	76.64 % increase	178.38 % increase	12.02 % increase	162.35 % increase	
Scotland (Commissioners)... ...	1859	3,041,812	1,035	5,008	29	6,072	1 to 501
	1896	4,186,849	2,046	11,990	57	14,093	1 to 290
		37.64 % increase	97.68 % increase	139 41 % increase	96.55 % increase	132,09 % increase	
Ireland (Commissioners)	1880	5,202,648	622	12,180	180	12,982	1 to 400
	1895	4,574,764	749	17,444	164	18,357	1 to 249
		12.06 % decrease	20.41 % increase	43.21 % increase	8.88 % decrease	41.40 % increase	
United States (Census)	1880	50,462,326	—	—	—	168,854	1 to 299
	1890	62,979,766	—	—	—	202,094	1 to 312
		24.80 % increase				19.62 % increase	
Canada (Census)...	1891	4,833,239	—	—	—	13,355	1 to 361
Ontario (Municipal Returns and Inspector's Reports)	1871	1,621,851	—	—	—	1,366	1 to 1,187
	1896	2,211,101	—	—	—	4,723	1 to 468
		36.60 % increase				245.74 % increase	

paratively young and virile country, with no workhouses containing a large residue of unregistered lunatics to draw from, our registration system has been perfect from the beginning. We have no very large centres of population to act as breeding grounds of vice and pauperism; the predominant interest is agriculture; the natural resources are unbounded; our educational system is second to none in the world; our climate is healthful and invigorating; all the conditions are here for the development of a hardy, vigorous, and intellectual race, both mentally and physically. Then why should there be such a phenomenal increase of insanity during the past twenty-five years? That there has been a demand for the accommodation of this large increase no one will deny. The public press, the grand juries, all representative bodies have been alike urgent in demanding that further provision should be made for this unfortunate class.

Since 1871 there have been practically four new asylums erected in different parts of the province with a capacity of 2,700, not to speak of additions that have been made to the two older asylums, all erected and maintained at the expense of the province. No nobler tribute could be paid to the wisdom, the generosity, and the beneficence of the Government than the ample and splendid provision which has been made for the defective classes in this province.

There is little doubt that the recognition of the principle that the insane are the wards of the State has had much to do with the large influx of lunatics seeking admission to our asylums. Many cases that were formerly cared for by friends at home, who had not the means to provide for their care and treatment in public institutions, are now transferred to the care of the State, and that there is a desire everywhere on the part of the public to abuse this privilege every medical superintendent has abundant evidence. The evidence accumulates, however, that there are other deep-seated and far-reaching causes at work to account for this rapid increase of mental wreckage.

The latter half of the present century has witnessed such a tremendous revolution in moral, social, and physical dynamics, that it may be truly said, "old things have passed away and all things have become new," and that a large section of the public have not yet adjusted themselves to this transitional condition of affairs is not to be wondered at. The invention of labour-saving machinery has thrown millions of people out of employment and left them hopelessly stranded in the struggle for a living.

A new king has arisen who knows not the common people, the king of mechanical force. Steam and electricity, with the multiplicity of purposes to which they are applied, have so usurped the ranks of labour that multitudes are thrown out of employment, and many of them, unable to adjust themselves to the altered conditions of the labour market, become a charge on the various charity organisations, which is the first stage of physical and mental degeneration. It cannot be denied that a large percentage of the human family is born into the world so weakly endowed mentally as to be wholly unfit for anything but the most primitive form of citizenship. With quiet and uneventful surroundings which do not overtax their mental energies they manage to pass through life in the undisturbed possession of their meagre mental outfit with comparative ease and comfort, but the moment they are subjected to complex conditions of life which require greater mental and physical activity to gain a subsistence, they weaken and falter by the way and gravitate into the vagrant and pauper ranks, which are the great recruiting camps from which we draw the great army of pauper insane. There was a time not very remote when the man who could handle a pick and shovel or trundle a wheelbarrow was fairly sure of a humble subsistence, even if he had only the prospect of spending his old age in the poorhouse. In agriculture a boy with a team of horses and a self-binding reaper will go into the harvest field and do as much work in a day as it formerly took fifteen men to do, and so it is in every branch of industry.

Machinery has everywhere driven the working man to the wall, and the labourer who is not possessed of some technical knowledge is so handicapped in the race of life that the struggle for existence becomes more and more precarious.

The common people stand appalled at the tremendous upheaval of modern times, the whole social and economic fabric of the past has been overturned, and new conditions have arisen to which they are as yet strangers. Theories venerable with age are toppling down about their ears in prodigal profusion, the scientific iconoclast is abroad in the land, and scarcely anything has escaped his destructive mandate. Is it any wonder that many weakly vitalised brains should fail to adjust themselves to such an altered environment, and succumb to circumstances which they are powerless to control?

The rise of plutocracy, with its power of concentrating wealth, has increased the ever-widening breach between capital and labour, and aroused mutterings of discontent among the masses which are loud, deep, and long for the amelioration of their condition, and which seem to justify the couplet:

> Ill fares the land to hastening ills a prey,
> Where wealth accumulates and men decay.

The popular opinion of the day is that the vast increase of insanity is due to the restless spirit of the age, the intense competition in business, and the break-neck struggle for wealth, place, and power. It is believed that the consequent exhaustion resulting from this overtax on the brain is the cause of widespread mental disorder. That there is an element of truth in this opinion no one will deny, but to rank it as the great predisposing or exciting cause of insanity is nothing short of a popular fallacy.

The statistical information furnished by the Commissioners in Lunacy for England and Wales proves that while there is an enormous increase of insanity among the pauper classes, there is an actual decline among the private classes. I am aware it is hinted that there is a considerable number of the latter class at large who ought to be in asylums, because medical men do not care to accept the risk of defending themselves in the courts on the charge of wrongful certification.

Experience, however, proves that the educated classes, the busy men of affairs who propel forward at such a rapid pace the great industrial, commercial and social forces in the world do not figure prominently in our asylum statistics; but that the mass of registered lunatics come from the uneducated lower strata of the people—the raw material, as it were, of society, is abundantly evident.

The highly organised human brain is a many functioned organ with a wide range of complex centres and susceptible of almost unlimited development along physiological lines. The evolution of highly energised brain power among the educated classes, as exemplified in the tremendous impetus given to every department of science, is the greatest phenomenon of the age.

In rapid succession a great mind shoots away from its ordinary environment meteor-like to further illuminate the pathway of science and transform the whole conditions of social and economic life. The veil of ignorance and superstition is being pulled aside, and the hidden mysteries of Nature and science are being unfolded in such profuse abundance as to make the ordinary unsophisticated mind stand awe-stricken and bewildered. What limit there may be to this development (if there be a limit) no human being can divine. That its influence will percolate and ramify down through every grade of the social structure, and result in a general uplifting of the masses to a higher moral and social plane, no one will attempt to deny.

In this lies the hope of the future, and the arrest of those degenerative conditions which are populating our asylums, gaols, and reformatories, and of removing the heavy burden of taxation upon the productive capacity of the people for the support of the degenerative classes.

Heredity and vice account for a large proportion of the mental alienation of the present day. The human race of to-day is the expressed sum of all the good, bad, and indifferent that have ever existed in the world from the beginning. We cannot ignore the great laws which govern the propagation of species: degenerates beget degenerates, and criminals beget criminals with inexorable exactness—"the sins of the fathers descend upon the children"—"the fathers have eaten sour grapes and the children's teeth are set on edge." The laws of evolution and devolution are ever imminent in our race. In the struggle for existence the weak and degene-

rate go to the wall and the strong survive. As the ages roll on we may hope to ascend to higher and higher types of manhood, with an ever-increasing richness of experience and a progressive knowledge of the great laws which govern the universe, until we may be privileged to sit at the very foot of the throne of God himself.

The curse of drunkenness has done much to demoralise the human race mentally, morally, and physically. Its debasing and degenerating influence has been especially marked among the lower classes, and has had much to do with their moral degradation. The children of drunken parents are born into the world with a defective nervous organisation and such weak inhibitory will power as to make them an easy prey to the trials and temptations which beset them on every hand. With a weakly mental endowment they easily gravitate into the many highways and byways of sin, and early become a charge in one or other of the public institutions.

The scourge of syphilis has been the most deadly enemy to the upward progress of the human race the world has ever seen. Its disintegrating power in destroying human life has been greater than even pestilence or the sword. Millions upon millions of the human family who have never seen the light of day have been sacrificed *in utero* by embryonic infection to gratify this insatiate Moloch of death. Acquired in one generation, it insidiously propagates itself to future generations, until who can tell where its baneful influence begins or ends? It masquerades under so many assumed names and in so many unexpected guises that it often baffles and eludes the skill of the most careful diagnostician to locate it. Its peculiar affinity for attacking the brain and nervous system is one of the marked features of its history, and yet it was long before neurologists discovered its potency as a factor in producing insanity. That fatal form of insanity known as general paresis, or as it is now called general paralysis of the insane, is now recognised by high authority as in every case due to this virulent poison. All authorities are agreed that it is the most common cause in producing this and other kindred diseases affecting the brain and nervous system.

Fortunately for us we do not see so much of its disintegrating power in Canada as in the larger centres of population in other lands. We are painfully apprised often of its dwarfing influence mentally, morally, and physically among the pauper children which are sent to our shores from various charitable organisations in the Motherland. We think it high time that the Government took active steps to prohibit this class of immigration.

Remedies.

I have no panacea to offer to stem the tide of ever-increasing mental degeneration except in the operation of the broad general laws for the uplifting of the masses which I have already indicated. There is a lamentable amount of ignorance in the world yet as to the laws which govern health and the propagation of the race, and all agencies at work for the dissemination of correct knowledge on these subjects among the masses should command our best consideration and support. Many theories have been advanced by sociologists with this end in view, some of them by a peaceful and constitutional process, others by the destruction of law and the reign of anarchy and force. The moralists say that man can only be regenerated and uplifted through the spiritualising force of Christianity. Another school advocates the interference of the State and the enactment of stringent laws for the regulation of marriage, they would prohibit under legal penalty those close of kin and the whole class of mental degenerates from marrying. Others go still further and advocate the asexualisation and emasculation of the mentally weak and of the incorrigible criminal as well. The last and most humane school of all advocates the erection by the State of sufficient buildings to accommodate the whole of the defective classes and make their admission compulsory and last during the term of their natural lives. This plan is advocated not only on humane and social grounds, but for economic reasons as well; they claim that it will not only elevate the race mentally and physically, but that it will be ultimately a paying investment for the State by drying up the perennial stream at the fountain, and in time lessen the burden of taxation on the people.

While there is a certain amount of reason as well as novelty in some of the theories advocated by the different schools of thought mentioned, I have to confess that I am not enamoured of any theory based on legislative enactment or radical surgery as a remedy for the weaknesses and burdens under consideration. Experience proves that there is a strong repugnance against all coercive or repressive legislation affecting the social customs and habits of society, which is shown by the constant desire to evade it.

I am convinced that the further elevation of the human race must be on the same lines and through the operation of the same natural laws that have governed the universe in the past. We must not forget that our present boasted civilisation is but of yesterday, and that we have attained it by a gradual process of evolution, reaching back through the long vista of the past. We are constantly reminded of our savage ancestry and Nature's tendency of reversion to ancient types, by the human degenerates born into the world in spite of the best breeding and most careful training. We are so recently removed (comparatively speaking) from barbarism that Nature is still unstable in transmitting her more recently acquired types of character; and it is no wonder that once in every two or three hundred births a lunatic, an idiot, or a criminal is born into the world. As time rolls on and the present rate of progress continues Nature will show greater stability in transmitting improved types, and thus the race will tend to reach a higher plane of mental, moral, and physical excellence. Of course this gradual ascent of the human race will be greatly accelerated or retarded in proportion to the constancy or inconstancy with which these great natural laws are applied or subverted as the case may be.

There are two great forces in operation which regulate the universe, moral and physical, and neither one of them can be violated with impunity. The closer we follow the teachings of both these great laws the more rapid will be our ascent towards higher ideals of character as well as material progress in life.

The discovery of the art of printing witnessed the renaissance of art and literature and the extinction of mediæval civilisation in Europe. It has done more to elevate the masses and extend the rights of the people than all other agencies combined, and may well be called the palladium of our liberties. It has rung the death-knell of special privilege for the few, and ushered in the reign of Democracy with equal rights for all.

Education by the State is the corner-stone upon which the social edifice must be built, and should be adapted to meet the wants and requirements of all classes of the people. Its special and distinctive mission should be the development of mind power by a process of mental discipline which will prepare every person for the highest duties of citizenship. Technical schools in all the large centres of population should be established for training in the various kinds of handicraft which will help the common people to rise to the measure of their opportunities.

The large hereditary estates in the old lands should be denationalised and subdivided among the people at a fair valuation. Liberal grants of land should be offered in the new land, and every inducement given to leave the overcrowded centres where health and opportunity are at a minimum, for the quiet pastoral pursuits of rural life where health of body and vigour of mind are at a maximum.

> Princes and lords may flourish or may fade,
> A breath can make them as a breath has made;
> But a bold peasantry their country's pride,
> When once destroyed can never be supplied.

There can be no such thing as social equality so long as men are born into the world with unequal mental gifts. The highly organised brain is born to lead, to dictate, and to govern, while the more weakly endowed is born to a life of servitude and submission. The enormous concentration of wealth in the hands of a few is the rock upon which society will yet be split. Wealth flaunts itself in extravagant display, while grim clouds of discontent are everywhere apparent among the masses. No man is born of such transcendent gifts as to possess sufficient earning power to become a millionaire. It is opposed to both natural and economic law, and can only be done by a monopoly of opportunity in levying tribute upon his fellow-men. How to level up and level down

so that the masses shall enjoy a larger share of the wealth-producing power of the world is one of the greatest problems of the age. It is the unequal distribution of wealth and the stern struggle with poverty which is the millstone about the neck of the masses that is dragging them down to mental, moral, and social degradation.

The rapid fluctuation of industrial methods, the shrinkage in values, the depression in trade, is each reflected in the ever-increasing demand for charity and the destruction of true manhood. It blights ambition, destroys aspiration, and petrifies all the higher and nobler feelings of humanity, and leaves the hapless victim a candidate for either the asylum, the poorhouse, or the prison.

We turn with pleasure from this pessimistic view of the social situation to the development of that splendid altruistic spirit among the classes which is doing so much to ease the burdens and succour the distresses of the masses. Wherever the cry of the needy and distressed is heard, whether at home or abroad, the purse strings of the well-to-do are open, and money is poured out in rich abundance for its relief. No better evidence can be found of our advancing Christian civilisation than in the many agencies, individual and corporate, for the relief of the poor. Unfortunately it only relieves the symptom, while it intensifies the cause. If the money spent in indiscriminate and organised charity, and in the maintenance of public institutions, were expended in adding to the earning power of the poor, it would not only add to the productive capacity of the nation, and a more equal diffusion of wealth, but it would also tend more than anything else to uplift the social condition of the masses by developing a spirit of self-reliance instead of a spirit of helpless dependence which submerges them deeper and deeper into the slough of despond, and into a condition of hopeless mental and physical inertia.

As Britons we rightly boast of our free institutions and equal rights to every citizen, of government by the people and for the people, but we sigh for the dawn of a richer inheritance yet, namely, equality of opportunity. May we hope to see inaugurated that mythical period in the history of ancient Rome, so graphically described by Macaulay:

> Then none was for a party.
> Then all were for the State;
> Then the rich man helped the poor,
> And the poor man loved the great;
> Then lands were fairly portioned,
> Then spoils were fairly sold,
> The Romans were like brothers,
> In the brave days of old.

Dr. Campbell quoted the case of a woman who, in four generations had some 500 descendants, who had cost the State of New York some 100 million dollars, every one being either criminal, prostitute, or insane.

Dr. Clark (Toronto) alluded to the position held by syphilis in the causation of insanity. He thought its influence over-exaggerated.

Dr. Urquhart (Perth, Scotland) spoke of the Scottish tradition that once all epileptics were castrated, with the result that there are extremely few epileptics now in Scotland.

LOCOMOTOR ATAXIA AS A FORM OF CHRONIC PARENCHYMATOUS DEGENERATION OF THE PARANEURAL SYSTEM.

By Professor Van Giessen, M.D.

Professor Van Giessen gave a most interesting address on parenchymatous degeneration of the nervous system in locomotor ataxia. He commenced by tracing analogy between stroma and parenchyma in organs of the body. He showed how the cells may be regarded as working units, their expression of function varying with their health. He showed how, under suitable hardening reagents, an intercellular structure could be demonstrated; and how this structure was interfered with by poisons, especially alcohol. The rate of this cytoclosis, as he called it, depended on (1) the intensity and (2) duration of poison. This was the probable cause of temporary improvement in locomotor ataxia. Finally, he showed that similar changes took place in mental disorders.

Dr. Urquhart (Perth) begged to thank Dr. Van Giessen for the admirable demonstration which he had favoured them with, and welcomed the aid to be given by investigations outside asylums. He considered the work done by Dr. Van Giessen, and put forward with every modesty, was most important to them. Dr. Urquhart referred to the establishment of a conjoint pathological laboratory by the Scottish asylums, on similar lines to that conducted by Dr. Van Giessen, and expressed the hope that time would approve what had been done on these lines. He asked if they could have Dr. Van Giessen's opinion as to the research of Dr. Hutchinson, who had found vacuolation of the cells in the brains of the sane. He (the speaker) did not feel surprised that such degeneration should take place in chronic exhausting diseases.

ON "TOUCH PARALYSIS," OR THE INABILITY TO RECOGNISE THE NATURE OF OBJECTS BY TACTILE IMPRESSIONS.

By R. T. Williamson, M.D.Lond., M.R.C.P.,
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In all cases in which there is marked anæsthesia of the hands the patient is, of course, unable to recognise the nature of objects placed in the hand when the eyes are closed. But when anæsthesia is less marked or slight, often the nature of objects can be made out readily by tactile impressions alone. Cases of cerebral disease are occasionally met with, however, in which there is either no tactile anæsthesia whatsoever in the fingers or hands, or, if present, the impairment of tactile sensibility is exceedingly slight, and yet the patient is quite unable to tell the nature of objects placed in the hand when the eyes are closed. For example, a coin placed in the hand is felt at once, but the patient cannot tell what it is. The following are brief notes of two well-marked examples of this condition, which has been described as "touch paralysis" by some writers:

Case I.—A. B., aged 26, came under my care at the Pendleton Dispensary in January, 1896, having been sent to me by Dr. Edward Roberts, of the Manchester Eye Hospital. She complained of headache and impairment of vision. In June, 1895, the patient had a fit, in which she lost consciousness and fell. After the fit there was loss of power in the left thumb. For a time she had at least one fit every week. On one occasion she had seven fits in one day. The fits always commenced with a sensation of numbness in the left thumb; this was followed by twitching in the left thumb; then the arm became affected by the twitchings, and the patient lost consciousness. Altogether, she had about fifty fits up to the end of August, 1895; since that date she has only had a few slight attacks of "faintness" accompanied by twitching of the left thumb. For three months previous to coming under observation she had suffered from headache, occasional vomiting, and impaired vision; the headache was worse at night. A history of syphilis was obtained; there was no history of ear disease.

On examination in January, 1896, the patient was well nourished and healthy in appearance; there was no affection of the first, third, fourth, fifth, sixth, seventh, eighth, and twelfth cranial nerves. Vision was much impaired, and she was unable to count fingers held in front of the eyes. Ophthalmoscopic examination revealed intense double optic neuritis. There was no hemianopsia of the right field of vision. On the left side, vision was so much impaired that the field could not be taken. There was a tender spot on percussion of the skull in the right parietal region; no definite paresis of the limbs was detected; there was no ataxia; the heart, lungs, and urine were normal.

On March 18th, it was noticed that when the patient was told to show the teeth, the left naso-labial fold was not so well marked as the right; that the left angle of the mouth was not retracted so much as the right, and that the left side of the upper lip was not elevated so much as the right. The grasp of the left hand was weaker than that of the right, but the difference was scarcely more than exists in most healthy persons. Though there was no anæsthesia in the left hand, it was noticed that she was unable to tell the nature of objects placed in the hand when the eyes were closed. She could do so quite readily with the right hand. During the next three weeks the patient was examined repeatedly, but the condition of the left hand remained unaltered. The following is a more exact description:

Left Arm.—Patient could perform all the movements quite well, including those of the small muscles of the hand. Grasp of the left hand good. Power of the right hand registered by the dynamometer = 40; left hand = 30. She could pick up a pin (placed on a book) with the right hand, but could not succeed in doing so with the left hand. She was able to touch the top of the nose, the chin, and the ears, with the index finger of each hand (the eyes being closed) without exhibiting any unsteadiness in the movements When the eyes were closed, she could tell the exact position in which the left arm, wrist, fingers, and thumb were placed, and she was also able to put the right arm, wrist, fingers, and thumb in exactly the same position.

Sensation.—The patient had no pain and no feeling of numbnesss or tingling in the left hand.

Tactile Impression.—A touch with a pin's head was felt and localised

quite well on the left hand and on the fingers thereof, apparently as well as on the right hand. A touch with a hair was not felt on the palmar surface of the left fingers and hand, but it was also not felt on the right hand and fingers. The points of a pair of compasses, separated at a distance of $\frac{5}{16}$ of an inch, were felt as one point only on the palmar surface of the index finger of the left hand, whilst at a corresponding part of the right hand they were recognised as two points.

Painful Sensations.—The prick of a pin gave the usual painful sensation on the fingers and hand of each side; the patient stated, however, that the pin prick was not quite so sharp on the left hand as on the right. There was no delay in the conduction of the sensation of the pin prick on either side. The weakest current of a faradic battery was felt on both hands.

Sense of Temperature.—The patient was able to feel and distinguish between a hot and a cold test tube applied to the hands and fingers equally well on each side.

Sense of Pressure.—The patient was able to estimate correctly the weight of objects placed in the left hand.

Though the examination of the above-mentioned forms of sensation gave almost negative results, there was nevertheless marked inability to tell the nature of objects by tactile impressions alone. Objects placed in the left hand were felt distinctly; the patient could feel at once when they were placed in the hand or on the fingers, however light and small the object might be. She could also feel at once when the hand was very lightly touched with the object; but she was quite unable to tell the nature of objects placed in the left hand, even when she grasped them tightly and handled them most carefully (the eyes of course being closed). With the right hand the nature of the same object was recognised at once (the eyes also being closed). The following were some of the objects used in examination: Penny, halfpenny, sixpence, shilling, half-sovereign, latch key, penknife, pencil, pen, small book, small piece of paper, watch, watch chain, card case, pin. All these objects were recognised exceedingly readily with the right hand and fingers (the eyes being closed), but were not recognised at all with the left hand and fingers. The patient knew that there was something in the left hand, but was quite unable to say what it was. If when examining the patient two or three fingers were placed in the palm of her left hand, she felt the tactile sensation at once, but even on tightly squeezing the fingers she was unable to say what they were. With the right hand she recognised them at once, and was able to tell readily how many fingers she was grasping.

In the right parietal region of the skull there was a small area which was tender on deep percussion with the finger. There was no superficial tenderness, and no other part of the skull was tender on percussion. This spot was situated near the parietal eminence and behind the position of the fissure of Rolando. The distance over the vertex, between the bridge of the nose and the occipital protuberance, was 12 inches; therefore a point $6\frac{1}{2}$ inches from the bridge of the nose would indicate the upper end of the fissure of Rolando. A line drawn from this point, at an angle of 33°, with a line drawn in the position of the fissure of Rolando, or at an angle of 100°, with a median line from the nose to the occiput, passed through the tender area. The distance between the median line and the tender spot was 2 inches.

Potassium iodide in 10-grain doses three times a day, and mercurial inunctions were prescribed. The headache and the tenderness of the skull on percussion disappeared. She had no recurrence of the fits, but the vision remained impaired, and the optic neuritis was followed by partial optic atrophy.

In June, 1896, no sign of facial paresis could be detected; the grasp was not impaired. She could feel, localise and differentiate the head and point of a pin quite well on both hands, but she was still unable to recognise the nature of objects placed in the left hand when the eyes were closed. In November, 1896, the condition as regards sensation in the left hand continued unaltered.

Case II.—E. R., aged 37, admitted as an in-patient at the Manchester Royal Infirmary, under the care of Dr. Leech, to whom I am indebted for permission to refer to the case. Well-marked symptoms of cardiac failure were present. The left ventricle of the heart was much dilated, and there was a loud systolic murmur heard at the apex. Twelve months previously she had suffered from an attack of right-sided hemiplegia of sudden onset. The paralysis had gradually disappeared, and the only sign thereof which remained was the slightest impairment of the grasp of the right hand. A touch with the head of a pin was felt and localised readily on the fingers and palm of the right hand; the point of a pin was also felt distinctly (as a painful impression) on the same parts. Nevertheless the nature of objects placed in the right hand could not be recognised when the eyes were closed. Thus, when a key, watch, penknife, shilling, or other coin was placed in the right hand, the patient knew at once that some object was in the hand, but, even after carefully feeling at the object, she was quite unable to tell what it was. With the left hand she could detect the nature of objects at once. The patient died suddenly three days after admission, and no necropsy was obtained.

In the first case recorded, it appears probable that there was a small gumma or other syphilitic lesion implicating the cortex of the brain on the right side, near the arm centre, and beneath the part of the skull which was tender on percussion. This tender area corresponded to the region of the supramarginal convolution and the middle of the ascending parietal convolution.

In the second case, it appears probable from the history that there had been embolism of the left middle cerebral artery, and, as a result, hemiplegia of sudden onset. All the signs of hemiplegia had passed away with the exception of the slightest impairment of the grasp of the right hand, and the symptom above described.

In both cases tactile and painful sensation, when tested in the ordinary manner with the head and point of a pin, appeared quite normal; but though the patients were able to feel very light tactile impressions on the fingers and hand quite well, and were able to feel objects placed in the hand readily, they were quite unable to tell what these objects were if the eyes were closed. Now, this peculiar inability to recognise the nature of objects by tactile impression alone is not due to paralysis or paresis of the muscles of the hand. I have often placed objects in the hands of hemiplegic patients who have not been able to perform any movement of the fingers, and yet they have been able to recognise the nature of the object at once from the tactile impressions alone (the eyes being closed). Neither is the inability to recognise the nature of the objects, in the cases above recorded due to a diminution of ordinary tactile sensibility. In both cases the patient could feel and localise very slight tactile and painful sensations. On the other hand, I have found that patients suffering from hemianæsthesia have been able to distinguish the nature of objects placed in the hand readily when the anæsthesia to tactile impressions has been well marked but not complete. Thus, in a case of partial hemianæsthesia and hemiplegia the patient was quite unable to feel the touch of a pin's head on the right hand and fingers thereof; notwithstanding this considerable degree of anæsthesia, he was able to tell the nature of various objects placed in the hand quite readily when the eyes were closed. Again, in the first case recorded, no change in the muscular sense could be made out by the usual methods of examination.

In a case of Friedrich's disease which I examined some time ago there was considerable inco-ordination in the movements of the hands, yet the patient was able to recognise quite well the nature of objects placed in the hands when the eyes were closed. The symptom does not appear to be due simply to loss of muscular sense.

The appreciation of the nature of objects placed in the hands (when the eyes are closed) has been termed the power of "active touch." Tactile sensation, associative processes, and often the muscular sense are thought to be brought into play. "Active touch," according to Dana, is dependent on motor and tactile memories, each associated with the special cortical cerebral motor centre for the particular part.

The peculiar sensory condition, in the two cases above recorded, appears to me to be analogous to that of word blindness and word deafness. In the former variety of aphasia printed and written characters are seen, and in the latter words spoken are heard, but in each case the meaning thereof is not appreciated. So in the cases in which there is inability to recognise the nature of objects by tactile impressions, the patient is able to feel the tactile impressions produced by these objects readily, but, probably owing to some cortical lesion, he is not able to tell the nature of the object from touch impressions alone. I have recorded these two cases because I believe that the peculiar symptom which they presented is comparatively little known, though I find that a few similar cases have been previously recorded.

In the systematic examination of cerebral cases it is necessary, before stating that sensation is normal, not only to test the sensation for ordinary tactile and painful impressions, but also to ascertain whether the patient can tell the nature of object placed in the hand. The cases above recorded show that, though the patient may be able to feel and localise tactile and painful impressions quite well, he may be unable to tell the nature of object placed in the hand when the eyes are closed.

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New Convalescent Home at Ramsgate.—A gentleman, who at present does not wish his name known, and who has already been a most liberal benefactor of the Victorian Convalescent Home for Women, Surrey—the county memorial of the Queen's long reign—has intimated to the Lord Lieutenant of Surrey that he will be ready to build at his own cost (estimated at £3,000) a home upon the Ramsgate site given by Mr. Maurice Beddington, provided the Committee can assure him that an income of £800 is provided by the endowment fund and the annual subscriptions. The Committee are likely soon to appeal to the county to make this guaranteed income good. In the meantime the temporary home at Bognor is full, and there are sufficient applications to keep it so for a considerable period.

REMARKS
ON
THE CLINICAL EXAMINATION OF CASES OF APHASIA.

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Introduction.

The examination of cases of aphasia is in many cases attended with great difficulty, and the results obtained, unless the observer should happen to have directed special attention to the subject, are often very unsatisfactory. This is much to be deplored, for there is no subject in the whole range of cerebral physiology and pathology which is of greater interest and scientific importance. Indeed, I am personally disposed to go farther than this, and to say that, from a scientific point of view, there is no subject in the whole range of cerebral physiology and pathology which is so important; for by the examination of the speech defects to which the term "aphasia" is applied we are able to get some idea—though our knowledge is as yet very rudimentary and imperfect—of the manner in which some of the higher parts of the cerebral mechanism work than by any other means with which we are as yet acquainted. It is very desirable, therefore, that cases of aphasia should be exhaustively studied during life and thoroughly examined after death. Fortunately, cases of aphasia are, comparatively speaking, common—far more common than is usually supposed—and it cannot, I think, be doubted, notwithstanding the great complexity of the subject and the rarity of simple and uncomplicated cases, that with the increased attention which is now being given to the subject, our knowledge of the pathology of aphasia, and consequently—for the two subjects are very intimately connected—of some of the more obscure and debatable points in cerebral physiology and pathology, will, before long, be considerably increased.

Provided that a thoroughly well-considered plan of examination is carefully followed, the clinical observation of cases of aphasia is by no means so difficult as it at first sight appears. The great difficulty which the practitioner who has not directed special attention to the subject of aphasia and to the investigation of cerebral disease experiences is due to his want of knowledge as to how to go about the clinical examination, and as to the points which should be specially investigated—in other words, as to what he should look for and what he should expect.

The pathological examination can be thoroughly and satisfactorily carried out only by one who has had a special training in the modern methods of examining the brain after death, and by a pathologist who is intimately acquainted with the morbid anatomy and pathology of aphasia. It is desirable, therefore, that the *post-mortem* examination of cases of aphasia, and in particular the more minute examination of the brain after its removal from the body, should, if possible, be undertaken by a specialist—a skilled pathologist who has devoted special attention to the examination of the morbid brain. When the services of a skilled pathologist cannot be obtained, the brain should be carefully removed in the ordinary way by the medical attendant, and at once sent packed in a sufficient quantity of preservative fluid,[1] to a specialist[2] for further and more minute examination.

Several different plans of case-taking for cases of aphasia have from time to time been published. The following is based upon the difficulties encountered and the experience gained in the observation of the cases which have from time to time come under my own notice.

Method of Case-taking and Plan of the Examination.

Preliminary Points.—It is well to ascertain and note at the commencement of the examination:

1. Whether the patient is right-handed, left-handed, or ambidexterous; and, if left-handed or ambidexterous, whether he has been accustomed to write with the right hand, with the left hand, or with both hands.

2. Whether he has learned to read and write: and, if so, whether he was in the habit of reading or writing much—that is, with facility.

3. Whether, prior to the onset of the aphasic attack, he was intelligent, mentally active, highly educated, etc.

4. Whether there is any motor paralysis or anæsthesia, especially in the right hand, face, or tongue; and whether there is any inco-ordination or impairment of the muscular sense, especially in the right hand and arm (I refer more particularly to right-handed persons).

5. The condition of the mental, intellectual, and emotional faculties, so far as this can be determined at this stage of the examination. But it must be remembered that in many cases it is only after the aphasic symptoms have been thoroughly studied that a reliable opinion can be formed as to the mental condition of the patient. It is especially important to ascertain whether any marked or obvious alterations have occurred in the mental, intellectual, and emotional condition of the patient since the onset of the aphasic symptoms or of the brain lesion which is the cause of the aphasic condition.[3]

The functional condition of the different speech centres and of the connecting fibres and commissural tracts passing between the different speech centres must then be examined.

In testing the speech faculties, it must be remembered that in many cases of aphasia the brain power is easily exhausted; consequently it is in many cases impossible to complete the examination at a single sitting. Time, care, patience, and accuracy in regard to the investigation of each detail are absolutely essential in order to obtain a full record and reliable clinical result.

Further, it must be remembered that in many cases the aphasic symptoms or speech defects are (for the time) markedly increased by the nervous perturbation produced by the examination. In many cases of aphasia, the efforts which the patient makes, in order to answer the different questions which are put to him, and in order to perform the different tests applied with the object of determining the exact character of the aphasic and other symptoms, are attended with flushing of the face and other indications of mental strain and effort (probably with some local elevation of temperature, though I am not aware that as yet any detailed observations have been published on this point).

Again, it must be remembered, on the one hand, that in many cases it is very difficult or impossible to form a reliable opinion as to the exact nature of the aphasic symptoms and speech alterations which are the direct results of a destructive lesion of one of the speech centres or its connecting fibres, until the temporary disturbances (due to shock, œdema, pressure, irritation, inhibition, etc.) have passed off; and on the other, that after these initial disturbances of a temporary kind have passed off—and this applies more particularly to those cases in which the lesion is of some standing—the aphasic symptoms due to a destructive lesion of one of the speech centres or its connecting fibres may be much less marked than one would expect, or the aphasic symptoms which were very marked in the earlier stages of the case may become much less apparent or may even entirely disappear in consequence of the production of compensation. In contrasting the nature and severity of the aphasic symptoms which were present during life with the extent of the lesion (the amount of damage in a speech centre or its connecting fibres) which is found in the brain after death, one must remember the great possibilities in the direction of the restoration of the speech functions which this process of compensation affords.

Main Headings of the Examination.—In investigating the condition of the speech centres and of the connecting fibres and commissural tracts which pass between the different speech centres, the following points in particular have to be noted:

1. The condition of the auditory speech centre—the patient's ability to understand spoken language.

2. The condition of the motor vocal speech centre—the patient's ability to express himself in spoken language.

3. The condition of the visual speech centre—the patient's ability to understand written speech (manuscript, print, shorthand, etc.).

4. The condition of the motor writing centre—the patient's ability to express himself in writing.[4]

5. The condition of the connecting fibres and commissural tracts passing between these different centres.

The Points which should be specially investigated.—In testing the speech functions of aphasic patients, the following points in particular should be observed :[5]

1. Ability to understand broken language, and, if impaired, the degree of such impairment and the exact form of the defect.
2. Ability to speak spontaneously, and, if impaired, the degree of such impairment and the exact form of the defect (paraphasia, etc.).
3. Ability to sing and to articulate speech sounds (words, etc.) in singing.
4. Ability to repeat spoken language.
5. The presence of emotional and reflex expressions (unintellectual language) and of recurrent utterances, and, if present, their exact nature, etc.
6. Ability to understand written language (manuscript, print, shorthand, etc.), and, if impaired, the degree of such impairment and the exact form of the defect.
7. Ability to read aloud.
8. Ability to spell, and, if impaired, the exact form of the defects.
9. Ability to name objects at sight.
10. Ability to point out objects named to him.
11. Ability to write spontaneously (manuscript, print, shorthand) and, if impaired, the degree of such impairment and the exact form of the defect.
12. Ability, after a short interval, to read what he has just written.
13. Ability to write from dictation.
14. Ability to copy print, manuscript, and shorthand intelligently; to transcribe print into manuscript and manuscript into print; to arrange separate (block) letters in the form of words, and to write on the typewriter.

The patient's ability to write spontaneously from dictation, and to copy manuscript, print, shorthand, etc., intelligently with the left as well as with the right hand, must be tested.

15. Ability to copy mechanically.
16. Ability to draw intelligently and mechanically.

THE CONDITION OF THE AUDITORY SPEECH CENTRE.

The object is to test the patient's capability of intelligently understanding speech sounds (auditory speech symbols) which pass to the cerebrum by the ear.

As a preliminary test it is necessary to ascertain whether the patient can hear and understand the meaning of ordinary sounds and noises other than speech sounds (spoken language).

In testing the condition of the auditory speech centre, a question or questions should first be put to the patient. If he answers correctly and intelligently, it is obvious that he is not only able to hear sounds and noises, but that he is able to intelligently understand speech sounds. In other words, it is obvious that both the lower auditory centre and the higher auditory centre (the auditory speech centre) are functionally active; there is no word deafness (or at all events no marked or obvious degree of word deafness).

And, further, as I will presently point out, if the patient correctly answers spoken questions by vocal speech, it is obvious not only that the auditory speech centre is functionally active, but that the motor vocal speech centre is functionally active, and that the connecting fibres passing between these speech centres are functionally active.

If the patient does not answer spoken questions put to him, the fact that he does not answer may be due to a variety of different causes—namely:

1. He may be deaf to all sounds. This may, of course, be due to a lesion of: (*a*) the end organ of hearing (ear); (*b*) the auditory nerve trunk, its central terminations in the medulla oblongata, etc., or the conducting tracts passing from the auditory nerve nuclei to the auditory perceptive centres in the cerebral cortex; or (*c*) the lower auditory perceptive centres in the cerebral cortex; destruction of both lower auditory centres in the cerebral cortex—a very rare condition—would produce deafness to all sounds, and would necessarily entail subcortical word deafness.

The acuity of hearing in each ear must therefore in the first place be tested. Even in cases of complete word-deafness there is, of course, no difficulty in ascertaining the exact condition of hearing, provided that the patient is able to understand written language (that is to read) and to express himself either by means of vocal speech or in writing.

2. He may be able to hear noises, and he may be able to hear speech sounds as noises, but he may be unable to understand speech sounds. He may not be deaf, but he may be word deaf. His auditory speech centre (higher auditory centre) may be functionally inactive or paralysed.

In testing the condition of the auditory speech centre by means of spoken questions, it is very important to avoid giving the patient information in any other way than by vocal speech. The physician should take care to avoid giving the patient any information by gesture or pantomime. When asking the patient to put out his tongue, for example, care should be taken not to look at the patient's mouth.[6] Further, it must be remembered that some intelligent patients are quick at reading lip language (just as deaf mutes who have been taught lip reading are). In testing the condition of the auditory speech centre, therefore, in cases of word deafness, it is farther advisable, if every precaution is to be taken, not to let the patient see the movements of the lips while the question is being asked. The patient's eyes may be bandaged, or the physician may stand behind, or at the side of, the patient. This procedure may perhaps appear to be an over-refinement, but it is a necessary refinement if absolute accuracy is to be attained.

If the patient is word deaf, the degree of the word deafness must be carefully ascertained, and the form or variety of the word deafness (whether cortical or subcortical) determined. In all cases of aphasia, whether the auditory speech centre appears to be directly implicated by the lesion or not, but especially, of course, in cases in which there is reason to suspect a slight but not marked degree of word deafness, the patient's power of understanding complicated spoken questions must be carefully tested. It is not enough to ascertain whether he understands a simple question containing some word or words which he recognises; but the form of the sentence should be varied so as to see whether he intelligently comprehends the different meanings conveyed by slight variations of language, when similar words are used.[7] Thus he may be asked in the first instance, Are you married? Then, When were you married? How long have you been married? Where were you married? What age were you when you were married? How old was your wife when she was married? Have you enjoyed good health since you were married? Where have you lived since you were married? What did your wife wear when she was married? etc.

In those cases in which, prior to the onset of the aphasic symptoms the patient could understand several languages, it should be noted whether he retains the power of understanding each of these languages or not, and whether he retains the power of understanding his native language better than other languages subsequently acquired.

3. He may be able to hear speech sounds, and his auditory speech centre may be (for him) unimpaired—as functionally active as it ever was in his individual case; but he may be unable to answer the spoken questions put to him, or he may answer incorrectly or may not answer at all, because:

(*a*) His expressive (motor speech) mechanisms are inactive or defective, that is, owing to the presence of motor aphasia or agraphia, or both.

In complete word deafness with motor vocal aphasia and agraphia, word blindness is usually also present; in short, there is usually a condition of total aphasia; in such cases there is usually also paralysis (right hemiplegia).

In those cases in which the patient is suffering from complete motor aphasia and agraphia, that is, is unable to express himself in spoken or written language, one must judge of his capability of understanding spoken language by observing (*a*) whether he answers spoken questions intelligently by means of pantomime, and (*b*) whether he reacts intelligently by emotional expression to the spoken questions which are put to him. He should, for example, (*a*) be told to perform some simple act, put out his tongue, close his eyes, touch the tip of his nose, etc.; or (*b*) some absurd or insulting question, for example, Are you a fool? Do you dye your hair? etc., should be put to him with the object of observing whether there is any emotional reaction.

If there is paraphasia or jargon aphasia, the fact whether the patient is conscious or not of using wrong words should be noted.

If there is a marked degree of word deafness, the patient's ability to recognise his own name should be noted. Many patients who are almost totally word deaf can recognise their own names and a few other words which by frequent repetition have become so familiar as to be, as it were, part and parcel of themselves. I am disposed to think that in such cases the name or other familiar words (spoken speech) are probably recognised and understood in consequence of the auditory speech centre in the right hemisphere being functionally active.

The patient's ability to recognise words spelt aloud should also be noted. In recognising a word spelt aloud it is probable, in some persons at all events, that not only the auditory speech centre, but also the visual speech centre, and consequently the connecting fibres passing between these two centres, are brought into play. In most persons there is, I think, every reason to suppose that, for the purpose of spelling, the action of the auditory speech centre is by far the more important of the two. Possibly in rare cases the action of the visual speech centre is the more important. Now it is conceivable that in a case of word deafness due to defective action, but not to complete destruction, of the auditory speech centre, the additional information derived from stimulation of the visual speech centre might enable the patient who was unable to recognise a word when merely spoken to recognise it when it is slowly spelt aloud.

(*b*) He is addressed in a language which he does not understand. (The nationality of the patient and his ability to answer questions in his own language at once show the reason why he does not answer in this case.)

(*c*) His intelligence is defective. When the inability to answer is due to defective intelligence, the history of the case, the mental condition of the patient prior to and subsequent to the onset of the aphasic condition, the general conduct and associated actions of the patient are usually quite distinctive and conclusive. In cases in which there was not, prior to the onset of the present attack, any mental impairment, there is usually no difficulty in determining by observing the facial expression, conduct, and whole mode of action of the patient, and the manner in which he reacts by pantomime and emotional expression to spoken and written questions, to ordinary stimuli (pinching, pricking, etc.), and to gestures, whether his inability to answer spoken questions is due to word deafness or to a more general intellectual defect.

Inability to understand the full meaning of a word may of course be due to defective education or defective intelligence. It may not be the result of an aphasic defect, a defect in the auditory speech centre or its connections. It is unnecessary to point out that the same word conveys very different meanings to different individuals in accordance with their degree of intelligence and the extent of their education and knowledge. Hence in trying to form an estimate of the degree of functional activity of the auditory speech centre and of its connections, one must take into account the degree of functional activity which it possessed prior to the onset of the aphasic symptoms; in other words, one must adapt one's test questions to the normal intelligence and mental acquirements of the individual.

(*d*) He does not choose to answer, or because he wishes to deceive and wilfully makes erroneous or peculiar answers.

In the case of shamming (unless the patient should happen to be a medical man, but I know of no recorded case in which a medical man or a person acquainted with the physiology and pathology of aphasia has feigned word deafness), the malingerer does not feign to be word deaf, but to be totally deaf. These cases need not, therefore, detain us.

In some cases of hysteria there is considerable difficulty in forming an opinion, but a correct diagnosis can usually be made by a careful study of the associated symptoms and whole facts of the case (age, sex, mode of onset, etc.), and especially by watching the course and progress of the case.

The points of distinction between the subcortical and cortical varieties of word deafness are considered in detail in my lectures on aphasia.[8]

The Condition of the Motor Vocal Speech Centre.

The patient's ability to express himself in spoken speech must next be tested. The observer should note:

The Condition of Spontaneous Speech. — Whether the patient speaks spontaneously, that is, whether the patient is able voluntarily to call up by an act of recollection and to express in spoken language the words which represent his ideas; and, if so, whether he makes use of appropriate language; whether there is any defect of articulation, etc.

If the patient can understand spoken language (that is, if there is no word deafness), he should be asked questions and encouraged to talk, with the object of further testing the condition of the motor vocal speech centre. He may be asked, for example, to give a detailed account of his illness, his feelings, his complaints, etc.

If the patient cannot understand spoken language (is word deaf), written questions should be put to him.

If he is word blind as well as word deaf, one has to observe whether he speaks spontaneously, and whether he makes use of language when irritated or stimulated (pricked, pinched, etc.) and in response to signs (gestures, pantomime).

In those cases in which motor vocal aphasia is present, the degree of the impairment must next be carefully noted—whether the patient uses wrong words, substitutes roundabout phrases for nouns (paraphasia); whether he speaks in jargon, in mirror speech, etc.[9]

In those cases in which there is paraphasia or jargon aphasia, the fact whether the patient is conscious or not of using wrong words should be noted.

(*a*) In those cases in which the patient's vocabulary is very limited, in which, for example, he can only say "Yes" and "No," the observer should carefully ascertain whether the words which he uses are used intelligently and appropriately, that is, in a propositional sense, or merely as emotional, reflex, or recurrent utterances.

(*b*) In those cases in which the patient makes use of emotional expressions, their exact nature should be stated.

(*c*) In those cases in which the patient makes use of recurring utterances, their nature should be stated; and it should if possible be ascertained whether they were words which were about to be uttered, or which were last uttered, or whether they were appropriate for the conditions, circumstances, and surroundings of the patient when he was attacked with the aphasia.

(*d*) Further, if, prior to the onset of the aphasic symptoms, the patient could sing, it should be noted whether he retains the ability to sing; and, if so, whether in singing he can pronounce words which he is unable to make use of in ordinary vocal speech (in voluntary speaking).

(*e*) If prior to the onset of his aphasic symptoms the patient could speak several languages, it should be noted whether his ability to express himself in these different languages is retained or not.

The Condition of the Connecting Fibres Passing Between the Auditory Speech Centre and the Motor Vocal Speech Centre.

Ability to Answer Questions.—The condition of the connecting fibres passing between the auditory speech centre and the motor vocal speech centre is tested by observing whether the patient can answer in spoken language spoken questions which are put to him. If he answers such questions correctly in spoken language it is obvious that, not only are the auditory and the motor vocal speech centres functionating satisfactorily, but that the connecting fibres passing between the auditory speech centre and the motor vocal speech centre are intact.[10]

But it must be remembered that the ability to answer questions correctly and intelligently implies much more than the mere integrity of the auditory speech centre, the motor vocal speech centre and the connecting fibres passing between the auditory and motor vocal speech centres. It implies, not only that the auditory speech centre and the motor vocal speech centres are functionally active, but that the intellectual faculties (so far as they can be tested by the particular question which is asked) are unimpaired; in other words, that the other associated and higher cerebral centres and the connecting fibres passing between the auditory

speech centre and the other (associated and higher) cerebral centres through which the question has, as it were, to pass before an intelligent judgment on it can be arrived at and an appropriate answer mentally determined upon are also functionally active.

In almost all cases the answer necessarily involves an act of memory and of recollection—the voluntary recall of a past mental impression; consequently even in those cases in which the question is quite simple, that is, does not involve much intellectual ability, thought, judgment, etc., inability to answer correctly may be due to mental defect or impairment rather than to a defect in the cerebral speech mechanisms properly so called.

Repeated Speech.—This is tested by observing whether the patient can repeat speech sounds (words and sentences) which he is told to repeat. If the patient can hear ordinary sounds, but is word deaf, and yet can repeat words and sentences which he is told to repeat, it is, I think, reasonable to conclude (provided that there is no defect of general intelligence) that the nervous impulses which pass in by the ear and out by the motor vocal speech centre probably make their way to the motor vocal speech centre through some other channel than through the left auditory speech centre. (*a*) They possibly pass directly from the lower auditory centre to the motor vocal speech centre; or (*b*) perhaps from the lower auditory centres to, and through, the right auditory speech centre (which in popular language is insufficiently educated to enable the patient to decipher the meaning of the spoken words while it is sufficiently educated to enable the reflex repetition to take place), and thence to the left motor vocal speech centre (Broca's convolution).[11]

If such a condition as supracortical aphasia actually occurs, it would of course satisfactorily account for the patient's inability to understand the spoken words which he is able to repeat. In this case the nervous impulses concerned in repeated speech would pass from the auditory speech centre to the motor vocal speech centre, without reaching, as it were, and exciting the associated and higher centres in the cerebral cortex.

The condition of a patient who can repeat spoken language, but who is word deaf—that is, does not understand the words which he is able to repeat—corresponds to that of a healthy person who is able to repeat (pronounce) words of a foreign language which he does not understand. This parrot-like speech is also frequently practised by the young child in the process of learning to talk. In such cases the patient repeats words or sentences, as the husband of one of my word-deaf patients explained it, and expressed it "by sound and not by sense." It is interesting to note that this patient, who could not understand a sentence addressed to her, was in many instances able to understand it after she had repeated it in this parrot-like way (by sound and not by sense); possibly, as I have suggested in commenting upon the case, she was able to understand the sentence by the aid of the additional information (stimulation) afforded by the kinæsthetic impressions associated with the act of vocalisation.

THE CONDITION OF THE VISUAL SPEECH CENTRE.

The object is to test the patient's power of understanding speech symbols which pass to the cerebrum (visual speech centre) through the eye. As a preliminary test, it is necessary to ascertain if the patient can see ordinary objects (that is, if central vision, the acuity of vision, is intact), irrespective of his power of appreciating and understanding the special objects (visual speech symbols) which are represented in the visual speech centre—that is, that part of the higher centre for vision in which visual speech symbols are brought into connection with other parts of the cerebral cortex. In testing the acuity of vision, errors of refraction must of course be corrected and allowed for. Objects (drawings, pictures, etc.) of different sizes should be shown to the patient, and his power of recognising them at different distances must be tested.

If central vision is intact, the condition of the fields of vision should next be investigated, for in many cases of word blindness there is right-sided lateral homonymous hemianopsia. When hemianopsia is present, the fields of vision should be carefully mapped out by means of a self-registering perimeter, special care being taken to ascertain whether the divisional line passes through or round the fixing point, and whether there is any constriction of the unaffected (left) halves of the fields of vision. But it must be remembered that the presence of right-sided lateral homonymous hemianopsia and the exact relationship of the divisional line to the sound and blind sides of the field and to the "fixing" point are of no consequence so far as the aphasic defect—the word blindness—is concerned; though they may be of considerable importance from a localising point of view, that is, they may enable the physician to determine more accurately than he could otherwise do the exact position of the lesion. Hemianopsia is an associated symptom, and when associated with word blindness is usually due to a lesion which involves the optic radiations of Gratiolet.

The condition of the fields of vision for colours should also be tested, though this (for the purpose of interpretation of the aphasic symptoms) is a matter of no importance. In those cases in which the hemianopsia is due to a lesion of the optic radiations of Gratiolet, hemiachromatopsia is (? always) associated with the hemianopsia.

After these preliminary points (the acuity and fields of vision) have been noted, the condition of the visual speech centre must next be investigated.

There is, of course, no difficulty in testing the condition of the visual speech centre in those cases in which the patient is able to express himself by means of vocal speech or in writing.

A question in writing should first be put to the patient. If he answers correctly in vocal speech, he is not only (*a*) able to see, but (*b*) he is able intelligently to comprehend written speech symbols, that is, there is no marked word blindness, (that is, no word blindness for the particular written characters which have been placed before him); and (*c*) the connecting fibres passing between the visual speech centre and the motor vocal speech centre (which in ordinary circumstances seem to pass through the auditory speech centre) are also intact.

If the patient is able to understand simple written sentences, a complicated written sentence should then be placed before him, and he should be asked to explain its meaning; in other words, the condition of the visual speech centre and of the efferent fibres passing from it to the auditory and motor vocal speech centres should be more fully investigated.

If the patient does not answer the written question which is put to him, the fact that he does not answer may be due to a variety of different causes:

(*a*) He may be blind to all objects; both his lower and his higher visual centres may be inactive. The preliminary test (acuity of vision) has, however, eliminated his error.

(*b*) He may be able to see ordinary objects; he may be able to see visual speech symbols (letters and words) as ordinary objects, but may be unable intelligently to understand their meaning as speech symbols, that is, he may be word blind. This may be due to the fact:

(1) That he has never learned to read.

(2) That the visual impressions received in the half vision centres and perceived as ordinary visual images are unable to reach the visual speech centre (which is itself intact) in consequence of a block in the connecting fibres passing from the lower (half vision) centres to the visual speech centre. In these cases (subcortical word blindness) the patient is usually (? always) able to write spontaneously and from dictation, to write with his eyes closed, to arrange separate (block) letters in the form of words, and to write on the typewriter (there is no agraphia); but he is unable, after a short interval, to read what he has written. Further, in many (? all) of these cases he can decipher the meaning of written speech (the letters and words which he has just written, but is unable to read in the ordinary way) by the aid of the muscular sense and ingoing (kinæsthetic) impressions which attend the act of writing, that is, he can read by tracing the letters and words over with his index finger, by tracing the letters which he has just written, but which he cannot read by the sense of sight, over with a pencil, or when he is helped to trace over the letters with a pencil or on the blackboard with a piece of chalk, the movements of his hand being guided by the physician. In these cases, too (cases of subcortical word blindness), it is probable that there will be

little or no defect in the patient's ability to spell. Further, his mental conception of the form of the letters (which he is unable to read) will be retained. He will be able to describe the form of the letter *a*, for example (an *o* with a hook, as one of my patients expressed it), but he will not be able to read it, that is, to name it when he is asked to read it.

All of these points (inability to write spontaneously, from dictation, with the eyes closed, on the typewriter, to arrange separate block letters in the form of words, to decipher the meaning of written speech by tracing the letters over with the finger, etc.), must be carefully investigated.

(3) That the visual speech centre is itself inactive or destroyed. In these cases (cortical word blindness) the patient is not only unable to read, but he is also unable to write, either spontaneously or from dictation (there is agraphia); he is unable to read (decipher) letters and words by tracing them over with his finger; his visual spelling will be impaired or destroyed; he will have lost the mental conception of the form of the letters; he will not be able to describe (in words) the form of the letter *a* for example; and he will not be able to arrange separate (block) letters in the form of words or to write on the typewriter. If the patient was, prior to the onset of the aphasic symptoms (word blindness), able to read and write shorthand, his ability to read and write shorthand should be tested.

(4) He may be able to see and understand speech characters (his visual speech centre may be functionally active), but he may be unable to answer the written questions which are put to him, or he may answer incorrectly or in some abnormal way:

(*a*) Because his expressive (motor speech) mechanisms are inactive or defective. He may be unable to answer a written question in spoken language, because the motor vocal speech centre or the connecting fibres passing between the visual speech centre and the motor vocal speech centre are destroyed; and since the nerve impulses necessary for the production of a spoken answer to a written question seem, under ordinary circumstances, to pass through the auditory speech centre, in order to reach the motor vocal speech centre, a lesion which interrupts the connections between the visual speech centre and the auditory speech centre will, under ordinary circumstances, interfere with the patient's ability to answer a written question in spoken language. Again, the patient may be unable to write (to answer a written question in writing) because the motor writing centre or the connecting fibres passing between the visual speech centre and the writing centre are destroyed.

(*b*) Because his intelligence is defective.

(*c*) Because he does not choose to answer, or because he wishes to deceive and wilfully makes erroneous or peculiar answers.

In order to determine which of these conditions is present, some of the same points which have already been enumerated in connection with the testing of the auditory and the motor vocal speech centres must be investigated.

In those cases in which the patient is suffering from motor aphasia and agraphia, one must judge of his capability of understanding written speech by: (*a*) asking him in writing to perform some simple act (put out the tongue, close the eyes, touch the tip of the nose, etc.); and (*b*) by observing whether there is any emotional reaction to some absurd or insulting question which is put to him in writing.

In those cases in which the patient is word blind, the degree of the word blindness must be ascertained, and the form or variety of the word blindness (whether cortical or subcortical) determined.

In order to determine the degree of the word blindness, the patient's power of naming and understanding—(*a*) individual letters, syllables, short words, sentences, and complicated passages; (*b*) individual numbers and combination of numbers—must be carefully tested.

The patient's ability to tell the time on a watch should be noted. If the patient can correctly read and tell the time on a watch, it is obvious that there is no defect (*a*) in the visual centre (though there may be in the visual speech centre); (*b*) in the intellectual faculties concerned in appreciating and forming a judgment on the visual impression generated by the object watch, the position of the hands of the watch, etc.; (*c*) in the connecting fibres passing between the visual centre and the auditory speech centre, and in the connecting fibres passing between the auditory speech centre and the motor vocal speech centre.

The points of distinction between the cortical and subcortical varieties of word blindness are set forth in my lectures on aphasia.[12]

Having noted the condition of the visual speech centre, the condition of the connecting fibres which pass between the visual speech centre and the other speech centres and the motor writing centre must then be examined.

(a) The Condition of the Connecting Fibres passing between the Visual Speech Centre and the Motor Vocal Speech Centre.—This is tested by observing whether the patient can read aloud. If the patient can read aloud, the connection is obviously intact and the motor vocal speech centre is also intact.[13] If the patient can read aloud and understand what he reads, it is obvious (*a*) that the visual speech centre and the afferent fibres which pass to it from the half vision centres are intact; (*b*) that the motor vocal speech centre is intact; and (*c*) that the connecting fibres which pass between the visual speech centre and motor vocal speech centre are intact.

In the act of reading aloud the visual speech centre is first called into play, and then under ordinary circumstances the nervous impulses pass from the visual speech centre to the motor vocal speech centre *viâ* the auditory speech centre. Hence, if the patient can read aloud it may further be concluded—under ordinary circumstances at all events—that the auditory speech centre is intact, and that the connecting fibres passing between the visual and the auditory speech centres, and the connecting fibres passing between the auditory and the motor vocal speech centres are intact.

But it is highly probable, I think, that in some persons (strong visuals) and in certain cases of disease (deaf-mutes and some cases of aphasia—word deafness) the nervous impulses concerned in the act of reading aloud pass directly from the visual speech centre to the motor vocal speech centre and not through the auditory speech centre. Hence the fact that the patient can read aloud does not necessarily prove that the auditory speech centre (through which the nervous impulses concerned in the act of reading aloud usually pass) is intact.

(b) The Condition of the Connecting Fibres passing between the Visual Speech Centre and the Auditory Speech Centre.—This is tested by observing whether the patient is able to name letters and words which are shown to him, and also, as has just been stated (in most healthy persons), by noting whether he can read aloud.

If the patient is able to name letters and words which are shown to him and to read aloud, the connecting fibres passing between the visual speech centre and the auditory speech centre are intact. Under such circumstances it may also be concluded that the connecting fibres passing between the auditory speech centre and the motor vocal speech centre are intact; for in naming aloud a written letter or word the auditory memory of the word must (under ordinary circumstances at least) be recalled in order that the motor equivalent may be emitted; in other words, it would appear that in most normal individuals the nerve vibrations excited by the visual speech symbols (letters and words) flow over from the visual speech centre to the auditory speech centre, from which they finally pass to the motor vocal speech centre. After the cell group in the visual speech centre which corresponds to the visual speech symbol (the letter or word) is stimulated, the associated cell group in the auditory speech centre in which the auditory symbol of that letter or word is stored is stimulated, and finally the associated cell group in the motor vocal speech centre in which the motor equivalent (symbol) of that letter or word is represented is stimulated.

Hence it follows that in those cases in which a patient can name a given visual speech symbol (written or printed letter or word) the cell groups in the visual speech centre, the auditory speech centre and the motor vocal speech centre which represent the visual, auditory, and motor vocal speech equivalents of that letter or word are intact, and the connecting fibres which pass between these cell groups in the visual speech centre, the auditory speech centre and the motor vocal speech centre, are intact.

This does not of course imply that the visual speech centre, the auditory speech centre, the motor vocal speech centre, and the connecting tracts passing between these speech centres are as a whole intact, but merely that the individual cell and fibre mechanisms comprised in these centres which represent the visual, auditory, and motor equivalents (symbols) of the particular letter or word which is correctly named are intact. But if the patient is able to read aloud all letters and words (which he has been trained or taught to read aloud), it may then be concluded that the visual, auditory, and motor vocal speech centres are as a whole intact.

(c) The Condition of the Connecting Fibres passing between the Auditory Speech Centre and the Visual Speech Centre.—This is tested by naming a letter or word, and seeing whether the patient is able to pick it out from a number of other letters and words which are placed before him.

(d) The Condition of the Connecting Fibres passing between the Ordinary (Lower) Visual Centres and the Auditory Speech Centre.—This is tested in the same way—namely, by showing the patient an ordinary object (not a visual speech symbol—a letter or word), such as a knife, etc., and telling him to name it. Some patients seem to be able to name pieces of money when they cannot name other objects, possibly because the knowledge of money has become so thoroughly organised that the names of pieces of money are represented in the right as well as in the left auditory speech centre.

(e) The Condition of the Connecting Fibres passing between the Auditory Speech Centre and the Lower Visual Centre.—This is tested by naming an object to the patient, and asking him to pick it out from a number of objects placed before him.[14]

THE CONDITION OF THE MOTOR WRITING CENTRE.

In all cases of aphasia, the presence or absence of agraphia must be carefully noted; and the condition of the motor writing centre and of the connecting fibres passing between the visual speech centre and the writing centre must be tested. The patient's ability to write spontaneously, to write from dictation, to copy intelligently (transfer manuscript into print and *vice versâ*), both with the right and with the left hand, must be tested.

At the commencement of the examination the physician must ascertain whether the patient is right, left-handed, or ambidexterous; in other work, whether he has been accustomed to write with the right or with the left hand; and it must be remembered that most persons who are left-handed for all ordinary purposes have been trained to write, and many of them can only write with facility with the right hand.

In right-handed persons, inability to write (agraphia) may be due to:

1. The fact that the patient has never learned to write.
2. Paralysis or inco-ordination of the right hand.
3. A lesion of the auditory speech centre.
4. A lesion of the connecting fibres passing between the auditory speech centre and the visual speech centre.

Complete destruction of the auditory speech centre (or, to speak more accurately, of both auditory speech centres) and of the connecting fibres which pass between the auditory and the visual speech centres may, and in most persons probably will, produce agraphia (inability to write spontaneously), since in spontaneous writing internal speech or thought first takes concrete shape (in most individuals and under ordinary circumstances, at all events, and more especially so far as nouns are concerned) in the auditory speech centre, from which the nervous impulses pass to the visual speech centre, and thence to the motor writing centre. Possibly in some cases (strong visuals) the agraphia produced in this way is only temporary.

5. A lesion o fthe visual speech centre.
6. A lesion of the connecting fibres passing between the visual speech centre and the motor writing centre.
7. A lesion of the motor writing centre; and
8. (?) A lesion of the motor vocal speech centre.

This is a disputed point. Most authorities think that destruction of the motor vocal speech centre (Broca's convolution) produces agraphia; in other words, they believe that the nervous impulses which put the writing centre into action pass through the motor vocal speech centre. Together with Bastian, I differ from this opinion, and think (*a*) that the nervous impulses which put the motor writing centre into action in all probability pass directly from the visual speech centre to the writing centre, and (*b*) that destruction of Broca's convolution does not necessarily, and presumably, therefore, does not usually, produce agraphia.

Spontaneous Writing.—The patient's ability to write spontaneously (that is, to express his thoughts in writing) may be tested by asking him to write a description of the mode of onset of his illness, the symptoms and sensations of which he complains, etc. If this test is satisfactorily performed, it is obvious that the cerebral mechanisms concerned with thought and internal speech, and the way out for thought and internal speech through the motor writing centre are intact; and since it would appear that in most healthy individuals and under ordinary (normal) circumstances, in the act of spontaneous writing (in the act of voluntarily expressing thought and internal speech in writing) the auditory speech centre is first set into action, the visual speech centre is then set into action, and finally the motor writing centre is set into action, it (usually) may be concluded (in those cases in which the patient is able to express his thoughts spontaneously in writing) that the auditory speech centre, the visual speech centre, the motor writing centre, and the connecting fibres passing between these different centres are intact.

The patient's ability to write spontaneously may also be tested by seeing whether:

(*a*) He is able to answer in writing questions which are put to him in spoken language.

If the patient is able to answer correctly in writing a spoken question or request, it may be concluded that: the auditory speech and visual speech centres are intact; the connecting fibres passing between the auditory and visual speech centres are intact; the motor writing centre is intact; and the connecting fibres passing between the visual speech centre and the motor writing centre are intact.

(*b*) He is able to answer in writing written questions. If this test is satisfactorily performed, it is obvious that there is neither word blindness nor agraphia; in other words, that the afferent fibres proceeding to the visual speech centre (from both half-vision centres), the visual speech centre itself, and the way out for internal speech (auditory speech centre, visual speech centre, motor writing centre, and the connecting fibres passing between these centres) are intact.

In those cases in which the patient is able to write spontaneously or in answer to spoken questions, his ability to read what he has written after a short interval of time has elapsed must next be noted. If he is able to read what he has written (or, what amounts to the same thing, to answer written questions in writing), it is obvious that there is neither word blindness nor agraphia.

In those cases in which the patient is able to write spontaneously or to answer spoken questions in writing, but is unable, after a short interval has been allowed to elapse, to read what he has written (or, what amounts to the same thing, is unable to answer written questions in writing), it may be concluded that the visual speech centre itself is intact, the motor writing centre is intact, and that the connecting fibres passing between these two centres are intact, and (provided, of course, that the patient can see ordinary objects—that is, that he is merely word blind but not blind) that the lesion involves the afferent fibres passing to the visual speech centre from both half-vision centres in the occipital lobe; in other words, that the case is one of subcortical word blindness.

In those cases in which the patient is able to write spontaneously or to answer spoken questions in writings, but is unable to read what he has written, the physician should next note whether he can decipher what he has written by tracing over the letters and words with his forefinger, that is, by the aid of the muscular sense and other ingoing (kinæsthetic) impressions which attend the act of writing.

The Degree and Form of the Agraphia.—In all cases in which agraphia is present, the degree of the agraphia and the exact form of the defect (the mode in which the patient expresses himself in writing, the spelling of the words, the form of the sentences, the kind of mistakes which he makes, the presence or absence of paragraphia, etc., the way in which the letters are formed) must be noted.

Paragraphia and defects in spelling should not, properly

speaking, be included under agraphia. They are the result, not of a lesion of the motor writing centre, but of the sensory speech centres which are situated behind, as it were, and above (on a higher level than) the motor writing centre. They are speech defects; whereas the defects in writing which are due to a lesion of the writing centre itself are merely manipulative or executive defects. Such speech defects are, so to speak, defects of a higher order (level) than mere motor (executive or manipulative) defects. Many patients who are unable to write anything else can sign their own names. Possibly in this case the nervous impulses which set the motor writing centre into action originate in the right hemisphere.

If agraphia is present, the physician should next note whether the inability to write is due to paralysis or inco-ordination in the right hand; whether the patient can hold a pen or pencil firmly and securely in the right hand; whether he can form the individual letters; whether he can copy, draw, etc.

In those cases in which inability to write is associated with right-sided lateral homonymous hemianopsia, the observer should endeavour to determine whether the inability to write is merely the result of the visual defect (hemianopsia) and of the inco-ordination which is often associated with hemianopsia, or whether it is the result of agraphia properly so-called. Further, it is important in cases of this description to determine whether the inco-ordination of movement merely involves the act of writing, or whether it involves the other fine and delicate movements of the right hand. In my lectures on aphasia I have discussed this question in detail.[15]

In those (rare) cases in which the patient is unable to write, but in which he can read (in which the visual speech centre and the afferent tracts passing to the visual speech centre are intact), in which there is no word deafness and no motor vocal aphasia, and in which there is no paralysis of the hand, it may be concluded that the lesion is situated in the connecting fibres passing between the visual speech centre and the writing centre, or (if the motor writing centre is separate and distinct from the ordinary motor centre for the right hand and upper extremity; but this is, I think unlikely) in the motor writing centre itself.

Writing from Dictation.—If the patient can write from dictation it may be concluded that the auditory speech centre is intact, the motor writing speech centre is intact, and the connecting fibres passing between these two centres are intact. And since in most persons, under normal circumstances at least, the nervous impulses concerned in the act of writing from dictation, which enter the cerebral speech mechanism, so to speak, by the auditory speech centre, probably pass out through (*viâ*) the visual speech centre in order to reach the motor writing centre, it may further be concluded (if the patient can write from dictation) that the visual speech centre is intact, the connecting fibres passing between the auditory and the visual speech centres are intact, and the connecting fibres passing between the visual speech centre and the writing centre are intact.

In those rare cases in which the patient is able to write from dictation but is unable to read and to write spontaneously, it may be concluded (since, when the patient is suffering from word blindness, inability to write spontaneously shows that the visual speech centre is the seat of the lesion) that the nervous impulses concerned in the act of writing from dictation pass directly from the auditory speech centre to the writing centre; in other words, in the rare cases of cortical word blindness in which the patient is able to write from dictation, it may be concluded that the auditory speech centre is intact, the motor writing speech centre is intact, and the connecting fibres passing between these centres are intact, for it must be remembered that the nervous impulses concerned in the act of writing from dictation do not necessarily in all cases pass through the visual speech centre in order to reach the writing centre. Under certain circumstances they may probably pass directly from the auditory speech centre or the tactile centre to the writing centre. Hence the fact that the patient can write from dictation does not necessarily, though it does usually, show that the visual speech centre is intact. Hence it follows that in order to form a definite opinion as to the condition of the visual speech centre, the patient's ability to read and to write spontaneously must be noted, in addition to his ability to write from dictation.

In those cases in which the inability to write with the right hand is due to motor paralysis or to inco-ordination rather than to agraphia properly so called (that is, in cases in which other movements than the act of writing are inco-ordinate), the patient's ability (*a*) to arrange separate, printed, or block letters in the form of words, to write on the typewriter, and (*b*) to write with the left hand, must be tested.

If the patient can write with the left hand, it should further be noted whether he writes in mirror writing; whether, if he writes in mirror writing, he is conscious that he is writing backwards; and whether he can read what he has written in mirror writing.

Copying.—The patient's ability to copy manuscript and print, and his ability to transcribe manuscript into print and print into manuscript should next be noted. It is very important to draw a distinction between mechanical and intelligent copying. To my mind the words "the patient was unable to copy written characters" mean that he was unable mechanically to copy written characters. But this is not apparently the idea conveyed by the same words to some other men's minds. In recording cases of aphasia and agraphia it is not, therefore, sufficient to state whether the patient is able to copy or not; but it should be stated whether the copying is mechanical or intelligent copying. In addition to stating whether a patient can mechanically or intelligently copy written speech, it is therefore advisable to state whether he can transcribe type into manuscript and *vice versâ*, for this can only be done by a patient who can copy intelligently.

In some cases of agraphia in which the patient is unable to write either spontaneously or from dictation, he can mechanically copy written characters (type or manuscript); but in such cases he always makes an exact and literal copy; he copies the written characters stroke for stroke, as he would copy a drawing or design; in such cases he is unable to transcribe manuscript into type or type characters into manuscript, and if the copy is removed he at once stops, and is unable to finish the sentence; in these cases, too, the patient is unable to arrange separate (block) letters in the form of words, and is unable to write on the typewriter. Whereas a person who understands what he reads, who is able to copy intelligently, to comprehend the speech value of the written characters, is able to transcribe manuscript into type, or *vice versâ*, and has no difficulty in finishing the sentence which he is copying after the copy is removed; he is able, too, to arrange separate (block) letters in the form of words, and to write on the typewriter.

Ability to Draw.—In cases of agraphia the patient's ability (*a*) to spontaneously draw ordinary objects (other than visual speech symbols), such as a dog, man, house, etc., when asked to do so, and (*b*) to copy drawings of ordinary objects should also be noted.

Mind Blindness.—The presence or absence of mind blindness must be noted.

The condition of the mental, intellectual, and emotional faculties must in all cases be carefully tested.

Notes and References.

[1] Methylated spirit is probably on the whole the best preservative fluid for the purpose, for Müller's fluid is not always obtainable and, unless injected into the vessels, does not penetrate and preserve the internal parts of the brain. In any case the jar in which the brain is placed should be sufficiently large to permit of the whole brain being surrounded by an ample quantity of fluid. A thick pad of cotton wool, which has been thoroughly soaked in spirit, should surround the whole brain. [2] I look forward to the time when the Clinical Research Society will. for a sufficient fee, undertake to examine and report on specimens of this description. [3] In addition to the special points enumerated in this scheme, the condition of the whole nervous apparatus must, of course, be exhaustively examined; and the condition of the other systems and organs (more especially of the heart and kidneys) noted. [4] Although we test the condition of the auditory, visual and motor vocal speech centres, and of the writing centre by observing the ability of the patient to understand spoken and written language, and to express himself in vocal speech and in writing, it must be remembered that the patient's ability to understand spoken and written language, and to express himself in vocal and written speech, implies far more than the mere integrity and normal functional activity of these centres, and of the connecting fibres passing between these centres respectively. It implies that the associated centres throughout the cerebral cortex and the connecting fibres which pass between the speech

centres and these associated centres, which for the sake of convenience may (inclusive with the speech centres) be termed the seat of consciousness, intelligence, memory, judgment, and the will, are functionally active. [5] The points of detail which are to be noted in connection with each of these headings are elaborated in the text. [6] I have actually seen a house-surgeon, in a case of aphasia in which the condition of the auditory speech centre was being tested (by requesting the patient to put out his tongue), touch the patient's lips, and in one case put out his own tongue, so as to aid the patient to comprehend what he was being told to do. This gentleman did not seem to understand that the object was not to make the patient put out his tongue, but to see whether he understood the spoken request (the language) addressed to him by the physician. [7] Thomas, Roux, and Mirallié have directed attention to this point. [8] *Edinburgh Medical Journal*, July, 1897, pp. 9 and 10. [9] With the object of preserving and recording the utterances of aphasic patients, shorthand, or, better still, the phonograph, should if possible be employed. [10] After the answer has been mentally determined upon, it in all probability (under normal circumstances at least) first takes concrete shape, so far at all events as some parts of speech (nouns) are concerned, in the auditory speech centre and then passes over through the connecting fibres passing between the auditory and motor vocal speech centres to the motor vocal speech centre from which the motor discharge necessary for the production of the spoken answer is emitted. [11] The function of the auditory speech centre, the cell and fibre mechanisms which correspond to the auditory nerve impulses representing spoken words (auditory speech symbols), is, I take it, to bring into connection the cell and fibre mechanisms of which it (the auditory speech centre) is composed with other associated cerebral centres (cell and fibre mechanisms in other cerebral centres, other parts of the cerebral cortex). The popular statement—the auditory speech centre is imperfectly educated—is, I take it, synonymous with the scientific statement that these associated connections have not been opened up and developed. [12] *Edinburgh Medical Journal*, August, 1897. [13] Possibly some patients, affected with word deafness and motor aphasia, who cannot speak spontaneously may be able to read aloud by means of the motor vocal speech centre in the right hemisphere—that is, to read aloud in a reflex or automatic manner, the nervous impulses passing directly from the left visual speech centre to the right motor speech centre. [14] The condition of the connecting fibres passing between the tactile, gustatory, olfactory centres, and the auditory and visual speech centres. This is tested in the same way—namely, by making the patient touch, taste, smell, etc., some object, and then name or write down the name of the object touched, tasted, smelt, etc., or describe in vocal or written speech the nature of the tactile, gustatory, and olfactory sensations which he experiences. [15] *Edinburgh Medical Journal*, September, 1897.

TWO CASES OF OBSTRUCTION OF THE SMALL INTESTINE BY GALL STONES.*

By J. B. BRADBURY, M.D., F.R.C.P.,
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In the last two years two cases of impaction of the small intestine by gall stones, giving rise to symptoms of obstruction, have occurred in my private practice, and as they have proved very instructive to me, I thought it might interest members of the Branches if I related the cases, and made a few remarks upon them, at this meeting.

Case I was that of a married clergyman, aged 60, whom I first saw on February 25th, 1895, for slight eczema and an enlarged prostate, which had first manifested itself in the previous November. He had never had jaundice nor passed gall stones, but was of a gouty habit. During the spring and early summer of 1895 he was less vigorous than usual. Walking was more difficult, and he was easily tired. The urine was normal. I saw him again on June 24th, just before he started for the neighbourhood of Whitby for his summer holiday. Soon after his arrival there he began to be troubled with indigestion and constipation, which he attributed to drinking the peaty water of the place. His bladder did not give him serious trouble till after a long drive in a springless trap, which set up an attack of prostatitis. He was for days in great pain, and afterwards had continuous discomfort, nervous irritation, and sleepless nights. After some time a medical man was called in, who at first attributed the enlargement of the abdomen to constipation, but later on, by using a catheter, he found the bladder considerably distended, and drew off an enormous quantity of water. Cystitis followed, and an attack of phlebitis of the legs (from which he had suffered in previous years), and the ankles became swollen, so that he had to lie up. At the beginning of August he decided to return home, his legs being carefully bandaged. I saw him the evening of his arrival, and found him with a foul tongue, anorexia, and the urine containing pus. He was very weak. The bladder was washed out (Dr. Griffiths seeing him with me), and he improved, though very slowly.

Even at this time with the plainest invalid food there were, once or twice, little disturbances of digestion, which it was not easy to account for. But his mouth and tongue, which had been terribly dry for weeks, got better at last, and he began to enjoy his food. He was up for the greater part of the day; all seemed to be going on well, and I left him with Dr. Griffiths, starting for my holiday on September 9th, 1895.

On September 12th he took his first turn round the garden, had dinner downstairs, and seemed particularly bright and well. When he got into bed he had a most terrible rigor, the only one he ever had. At the same time when using the catheter much pus came away, as if an abscess had broken. Dr. Griffiths was afraid another abscess might form, but this did not occur. The temperature went down, and more food and quinine were given. This treatment, however, failed; he was suddenly sick; and on September 24th felt pressure and pain below the liver, where Dr. Griffiths felt a localised enlargement, which afterwards disappeared. The pain gradually moved higher up, and with poulticing became concentrated more and more in one place, which was extremely tender to the slightest touch. The temperature kept at from 101° to 102°, and he had profuse sweats.

In this condition I found him on returning from my holiday on September 27th. The liver was enlarged, but there was no lump to be felt. He was so terribly weak that I at once ordered him champagne, though he had not, in consequence of his bladder trouble, had any stimulants for months. He revived astonishingly; so much so that when on the following day four of us—Sir George Humphry, the patient's son-in-law (who is a medical man), Dr. Griffiths, and myself—saw him in consultation to decide if an operation were advisable the swelling and pain were gone and the temperature was down to 96.8° F. More food and stimulants were now given, and with better success; but on October 9th, without any apparent reason, the liver again swelled, and the temperature went up to 100.8°. This condition soon passed off, and the temperature now kept closer to normal than it had done all along. On two occasions, however, it suddenly went up and as suddenly fell again, but, as in other respects he seemed to be going on well, we ceased to trouble about it.

He was thoroughly enjoying his recovery, was downstairs again, and even taking little walks. On Monday, November 11th, he extended his walk before luncheon a little; in the afternoon saw some callers, said good-bye to them in the hall, and was going down a step or two into his study, when he felt a sudden weakness come over him. (Probably at this moment the gall stone slipped into the bowel.) Later in the day he felt better again, tried to eat his food, and to go downstairs next day. But violent pain drove him to bed, terrible sickness came on, the vomit being almost pure bile, and this continued till his death on November 21st. No medicines seemed to have any effect. On the Sunday afternoon the vomit altered slightly in colour; on the Monday it was decidedly dark, and the smell very bad, slightly fæculent. Dr. MacAlister saw him with me that evening, and it was decided to wash out his stomach. This, however, was not done, as the patient became so very weak. Opium pills were prescribed by Sir George Humphry, who saw him again, and these quieted him, but the sickness did not stop, and on Thursday, November 21st, failure of the heart ended his sufferings.

At the *post-mortem* examination a gall stone was found impacted in the jejunum, which had escaped from the gall bladder through a large opening—about one inch in diameter—into the first portion of the duodenum. No abscess was found in the liver, nor any pus in the neighbourhood of the gall bladder. The stone was about $1\frac{1}{2}$ inch in diameter and nearly spherical. The prostate was enlarged and the urinary bladder inflamed and sacculated. The heart was thin and flabby, and the kidneys were cirrhotic.

Case II.—The second case was that of a widow lady aged 60 of a gouty habit, but who had never passed gall stones nor had jaundice, and who was in her usual health on Saturday, May 1st, of this year, and dined out that evening.

On the following day (Sunday) she had a feeling of weight in the chest all day, as if of something having disagreed with her. This feeling increased throughout the day, with a sense of general *malaise*. A draught of hot water followed by a little neat whisky seemed to move the feeling of weight lower down. Throughout Sunday night she was wakeful and uncomfortable.

On Monday, May 3rd—the day I first saw her—she had increased feeling of lassitude and discomfort. A copious draught of hot water was followed by violent vomiting of green matter. This brought some relief, but the distressing sickness soon returned. The feeling at the pit of the stomach had become pain, severe and overmastering, but not amounting at any time to agony. There was a lull of some long intervals in the pain and sickness during the night of Monday, whilst taking some calomel powders ($\frac{1}{8}$ gr. each). Before this, after the violent sickness there were great coldness and a sense of collapse.

On Tuesday, May 4th, the sickness throughout the day was more severe than ever, and increasingly so till I injected $\frac{1}{4}$ gr. of morphine subcutaneously at 5.30 P.M. The vomit looked like pure bile. After the morphine injection there was little or no sickness and no pain. Before going to bed I injected another $\frac{1}{4}$ gr. of morphine, and she had beautiful sleep for some hours. She had no food to speak of from Monday morning till 6 A.M. on Wednesday, when she had a nutritive enema of milk and brandy, which sensibly removed the feeling of extreme prostration.

The sleep after this was extremely trying, not, she thought, due to the effect of the morphine. There was very little tendency to sleep, but any dozing immediately produced a distempered condition, and more than dozing a hideous feeling on waking of being surrounded with the most overpowering smell—not taste—of poisonous plants, such as laurel, etc. This occurred severely twice, creating a perfect terror of falling asleep. The next stage was more like vivid nightmare dreams. After that there was no more of the smell and very little disposition for sleep. The nights of Wednesday and Thursday were the two bad ones in this respect. At times a loud report seemed to go off in the top of the head, which caused wakening, and pictures or things near were visually altered. Gradually this condition passed away, and power of sleep slowly returned. There was little or no tenderness left in the abdomen by the attack, and by degrees the patient was able to take more and more food. The bowels did not act till 11 A.M. on Friday (May 6th), when, as the result of an enema, the gall stone which I show you was passed. Its weight is 13.72 grammes (nearly $\frac{1}{2}$ oz.): length, $1\frac{3}{16}$ inch, or 4.35 cm.; diameter, $1\frac{1}{16}$ inch, or 2.8 cm.; circumference, $3\frac{1}{8}$ inches.

Remarks.

Cases of intestinal obstruction from gall stones are so rare (only one having occurred in the Manchester Royal Infirmary between the years 1883 and 1896, during which time 50,000 in-patients had been treated, and only four during twelve

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months in some of the largest hospitals in this country, representing 80,000 in-patients and several hundred thousand out-patients, Mayo Robson) that I have ventured to relate these two cases to you. Both of them are interesting, the first in being complicated with cystitis and a general debilitated condition which rendered diagnosis almost impossible; the second in the absence of symptoms until obstruction occurred, and in the rapid and favourable termination of the case. In neither case was there a history of jaundice or colic, and no attack of a similar nature had previously occurred. In the majority of the cases collected by Naunyn undoubted symptoms of cholelithiasis had been present at an earlier period, and of these colic seems to have been the most common. The unfacetted condition of the stones in my cases shows them to have been single, and their size, in my opinion, quite precluded their being passed by the cystic and common ducts, although one the size of a hen's egg has been reported by Rokitansky as having escaped by this route.

In the second case no indication whatever of any hepatic disturbance existed, and until symptoms of obstruction occurred the patient was quite well. In the first case, however, the indigestion, tenderness, and enlargement of the liver, rigor, and rise of temperature with profuse sweating, suggested liver disturbance, but in the presence of severe cystitis and the absence of more definite symptoms and history, this was thrown out of court. While under Dr. Griffiths's care a localised swelling in the right hypochondrium was felt, but this completely disappeared. Neither hæmorrhage nor tympanites was present in either case at any time.

From the size of the stones in these cases it is evident that they must have ulcerated into the bowel and produced a gastro-intestinal fistula. As you will see from the table before you, which is taken from Naunyn's *Treatise on Cholelithiasis*,[1] gastro-duodenal fistulæ are the most common, and both of my cases were of this kind. The first was proved to be so by *post-mortem* examination, and the sudden onset of the symptoms and the character of the vomit leave me in little doubt about the second. The probable explanation of this increased liability of the duodenum to be affected in this way is its close proximity to the body of the gall bladder, and its comparative immobility.

As in other cases of a similar kind, the character of the vomit was a striking feature. Indeed, in the second case this was the main diagnostic symptom. In both instances it was copious and almost like pure bile, but towards the end in the first case it became slightly stercoraceous. This is quite in accord with the position in which the calculus was found after death. In the cases in which the stone is impacted in the duodenum, the vomit is not fæculent, and the symptoms come on rapidly. This seems to have been what occurred in the second case. On the other hand, when impaction occurs lower down in the gut, vomiting appears late, and almost from the first assumes a fæculent character. In Case II the shape of the gall stone is well adapted for its rapid passage along the intestinal canal, and this in reality occurred. In Case I, on the other hand, the stone is of a more rounded form, and its smallest diameter is greater than in the second case, and consequently liability to impaction is increased. In contradistinction to the seat of biliary intestinal fistulæ, the place of impaction of gall stones in the bowel is mainly the ileum. This is probably due to the fact that the small intestine gradually narrows as it passes downwards, and the tendency to obstruction therefore increases.

In neither of the two cases was the pain of exceptionally severe character. In the first case the patient felt a peculiar weakness come over him, probably about the time the calculus entered the duodenum. Other points of interest in these cases are the duration of the obstruction, the sex, and the age of the patients. Both patients were 60, a time of life at which gall stones are relatively common. According to Schüller's table intestinal obstruction from this cause is most frequent between the ages of 50 and 70, but when one calculates the number of cases at any age relative to the number of persons living at that age one finds that the frequency of impaction gradually increases with the age of the patient. As regards sex, women are much more frequently affected than men. In Schüller's[2] 139 cases only 25.9 per cent. occurred in men. My own cases were equally divided; one was a man, the other a woman. The symptoms of obstruction also lasted the usual length of time. From the table I show you, also taken from Naunyn, you will see that in nearly all the cases the duration of the symptoms was from two to ten days. In my fatal case the symptoms lasted ten days, in the one which recovered two days, although, on account of the constipation (perhaps in part due to the morphine), the stone was not voided until three days later.

The mortality in these cases is considerable. In Schüller's and Dufort's cases it was 56 per cent., in Courvoisier's 44 per cent—in all 50 per cent. Even operation has not reduced the fatalities. Out of 23 cases collected by Naunyn 16 died, and he states that surgical procedures are not to be generally recommended. Treated medicinally 50 per cent. recover, but doubtless the high mortality after operation is due to this having been undertaken with the patient in a very weak condition. Each case should be treated on its merits. Recovery may occur after the symptoms have existed a week or longer (in one case, Dr. Omond's,[3] after stercoraceous vomiting had lasted upwards of three weeks) but it is doubtful whether it is wise to wait longer than a week, as usually the patient rapidly gets weaker, and his power of recovery from operative measures less.

As regards the recurrence of attacks in cases terminating favourably, authorities differ. Naunyn says that true relapses are extremely rare, and he has only been able to find one undoubted case of this kind. Brockbank, on the other hand, states that "patients occasionally recover from one attack of intestinal obstruction only to undergo another, or even two or three more attacks, each brought on by the passage of large gall stones through the small intestine and the ileo-cæcal valve." My own case has remained perfectly well since her recovery from the attack, and it is probable that the fistula has healed.

With regard to gall-bladder colon fistulæ, Mr. Mayo Robson[4] could only find two specimens in the London museums. I believe Dr. Griffiths will show you one from our museum.

References.

[1] New Sydenham Society, 1896, p. 143. [2] Schüller, Gallensteine als Ursache der Darmobstruction, *Doctor-Dissertation, Strassburg*, 1891. [3] Quoted by Murchison, *Diseases of the Liver*, 2nd edition, p. 494. [3] British Medical Journal, vol. i, 1897.

NOTE ON THE TREATMENT OF RELAPSING ACNE.

By LESLIE PHILLIPS, M.D.,

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It may be postulated that all cases of acne are curable, but an indispensable factor in the cure of many cases is perseverance. The disease may be so inveterate, so disfiguring, so relapsing, so intractable, that cure can only be effected by continuous treatment, extending, it may be, over a year or more. So long as a case continues to improve there is no difficulty in getting the patient to persevere. In chronic cases (I mean chronic in the sense that the papules are indolent, for cases may be chronic in the sense of long-lasting, although the individual lesions are acute or subacute), the results of ordinary treatment are such as to induce continuance. The difficulty lies with the subacute or relapsing cases, and in these the almost invariable reason for the want of the necessary perseverance is the discouragement of both medical man and patient which results if, notwithstanding the faithful observance of directions, fresh acne lesions constantly continue to erupt. Here it is not unlikely that most attempts to use radically curative local applications (containing, for example, sulphur) only aggravate the disease and exhaust the patience which it is a needful part of the scheme of treatment to cultivate.

As is well known in such circumstances, the indication is to subdue this tendency to fresh eruption by soothing the skin and diminishing hyperæmia. The routine method of doing this is by the calamine or zinc lotion of the hospital pharmacopœias, but the tendency of fresh spots to erupt is often so marked that disappointment not infrequently results, and I have known an instance in which such a lotion containing a drachm of glycerine to the ounce acted as an irri-

tant, while when the quantity of this ingredient was reduced to 10 minims the desired soothing effect was obtained. This example will show the scrupulous care which may be needful in directing the treatment of obstinately relapsing examples of acne, a care which needs to be exercised not only with regard to prescribed remedies, but also with regard to local *régime*.

There is more need for emphasising this principle of subduing irritation at the present day when so much attention is rivetted upon the microbic origin of dermatoses (including acne), for the effect of such views is to exaggerate the importance of bactericidal medication, which too often means the employment of irritating substances. The practical impossibility of sterilising large tracts of skin, especially when its sebaceous glands are distended with deep-lying cultures, ought to warn us that treatment having such an object has but a slender scientific basis to rest upon. More trust should be reposed in the resisting power of normal uninflamed skin to render bacteria impotent.

I have at present under my care a skin case which forcibly illustrates the practical value of the indication to subdue inflammation. A young woman has an inflamed patch occupying a considerable area on and around the leg, which is the seat of constantly recurring, large, deep, painful, phlyzaceous pustulation. The difficulty of dealing with this case will be understood when it is stated that in spite of confinement to bed extending over months, and in spite of the most diverse treatment in which I have had the advantage of the views of my colleagues, the disease remained unbenefited and unsubdued until repeated leeching and high elevation of the limb gradually reduced the chronic inflammation of the derma. Then pustules diminished and ceased to appear. It is not that pus-forming cocci ceased to be present in the glands, follicles, and lymph spaces of the skin, but that they are comparatively impotent for mischief when this approximates the normal; while their power is great in the presence of stasis. The attempt to antisepticise the skin by the application of even such a mild antiseptic as a boric acid fomentation aggravated the condition when congestion was present, while directly the congestion was relieved by mechanical means alone the skin asserted its power to deal with the mischief unassisted by any such agent as would comply with the view that it was necessary to employ chemical agents for the destruction of pathogenic cocci.

The method which I find of value in securing the necessary calmative action in the type of acne referred to is as follows: First and foremost no soap is to be used, no matter of what kind, how "pure," or how highly recommended by the medical profession for the complexion. It does not matter that soap appears to be indicated by the greasy appearance of the skin often present in cases of acne; the greasiness is better dealt with by other means. Soap is a skin stimulant or irritant, and its use is entirely out of harmony with a sedative treatment. The use or omission of soap will often determine bad or good results in the treatment of acutely erupting or inflamed acne. The "vigorous scrubbing with soap and flannel," the "frequent and energetic washing with soft soap and flannel" recommended by some writers on acne, if necessary at all, which I very much doubt, are entirely out of place in dealing with anything but the most indolent examples of the disease.

The second item in my method of locally dealing with such cases is entirely to discard lotions, ointments, and pastes and to substitute a dusting powder. The temptation here is not small to depart somewhat from the immediate subject of the paper to point out arguments defending the common use of face powders in a climate like ours, and to ridicule much of what is written in reprobation of the practice, but this parenthetic reference to the matter must suffice.

With regard to the composition of the dusting powder, any of the usual formulæ may be employed. Recently I have used Southall's dimatos as a basis. This earth is a *Kieselguhr*, consisting of almost pure silica, and is extraordinarily absorbent. Unless much diluted with starch it is, however, better gently rubbed into the skin than dusted on, for owing to its flocculent character it adheres better to the surface when smoothly rubbed on. Equal parts of pusol and dimatos form a powder of considerable curative value in the kind of acne cases under consideration, and for most cases is the proper strength to use, although occasionally a case is met with in which the skin is so delicate and sensitive that less pusol must be used. The use of powders has the advantage that treatment may be continued through the day as well as by night; for a little powder, the excess of which has been lightly brushed off, is practically invisible. This particular formula effectively removes greasiness from the skin, and improves its general sheen and appearance, while the influence exerted by it on relapsing acne is distinct. In a week or two the disease will be sufficiently quiescent to justify more stimulative therapeutic measures. Here any of the usual sulphur ointments may be employed, but the application should be at first cautious and at intervals only. In most cases a nightly rubbing with a strong sulphur ointment is undesirable, twice a week is better. I now use almost exclusively an ointment containing pusol ℥jss, paraf. mol. ℥j. This is rubbed in at night, while the face is dressed with the above-mentioned powder in the day time. Together these two prescriptions constitute a cleanly way of treating relapsing acne, and unless the treatment ordered is agreeable to use we may be sure that it will not be continued by the patient with that persistence which is essential to success in dealing with a chronic affection like acne.

SOME EXPERIMENTS ON THE SOLUBILITY OF GALL STONES IN OILS.

By LINDLEY SCOTT, M.A., M.D.,
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IT would seem advisable to place on record the following experiments respecting the solvent power of various oils on gall stones. Beakers containing from 20 to 50 c.cm. of oil, the quantity varying according to the size of the stone used in the experiment, were kept in a warm chamber at 98.4° F. The stones were immersed in the oils, removed from time to time, gently dried with filter paper, and weighed. The oils employed were pure olive oil, pure almond oil, and the odourless and tasteless purified petroleum oil known as paroleine.

The stones used in the first experiment were passed by a patient in whom the olive-oil treatment had been tried with some success. They were about the size of a dried green pea, facetted, friable, and dark greenish-brown in colour. As they dissolved they showed a thin outer brownish layer of pigment, a thick middle layer light yellow in colour, consisting largely of cholesterine, and a small dark nucleus of pigment. They dissolved with about equal readiness in the different oils, losing approximately one quarter of their weight in twelve hours, one-half in twenty-four hours, and three-quarters in forty-eight hours. After thirty-six hours' immersion little was left but the nucleus.

EXPERIMENT I.

Time of Immersion in Oil.	Olive Oil. Weight of Stone, 0.855 g.			Almond Oil. Weight of Stone, 0.08 g.			Paroleine. Weight of Stone, 0.072 g.		
	Weight of Stone in g.	Loss of Weight in g.	Loss of Weight per cent.	Weight of Stone in g.	Loss of Weight in g.	Loss of Weight per cent.	Weight of Stone in g.	Loss of Weight in g.	Loss of Weight per cent.
1½ hours	0.0850	0.0005	0 58	0.078	0.002	2.5	0.071	0.001	1.5
3½ ,,	0.0810	0.0045	5.26	0.074	0.006	7.5	0.068	0.004	5.5
6½ ,,	0.0759	0.0105	12.20	0.068	0.012	15 0	0 063	0.009	12.5
12 ,,	0.0633	0.0220	25 90	0.056	0 024	24 0	0.054	0.018	24.9
24 ,,	0.0460	0 0395	53.70	0.037	0.043	53.7	0.038	0.034	47.2
36 ,,	0.0310	0 0540	67.50	0 026	0.054	67.5	0.025	0.047	65.2
48 ,,	0.0230	0.0625	75.00	0.020	0 060	75.0	0.019	0.053	73.6

The stones used in Experiment II were removed from the gall bladder by operation. They were considerably greater in bulk than those of the previous experiment being somewhat larger than cherry stones. They were hard in substance, and appeared to dissolve uniformly, maintaining their original brownish-yellow colour. As they went into solution they showed no well-defined layers such as were

traceable in Experiment I. They seemed to contain a larger proportion of pigment and salts, and lost a much smaller percentage of their weight during corresponding periods of immersion in the oils.

EXPERIMENT II.

Time of Immersion in Oil.	Olive Oil. Weight of Stone, 0.252 g.			Almond Oil. Weight of Stone, 0.251 g.			Paroleine. Weight of Stone, 0.256 g.		
	Weight of Stone in g.	Loss of Weight in g.	Loss of Weight per cent.	Weight of Stone in g.	Loss of Weight in g.	Loss of Weight per cent.	Weight of Stone in g.	Loss of Weight in g.	Loss of Weight per cent.
2 hours	0.2475	0.022	1.7	0.2515	0.0045	1.7	0.251	0.0055	2.1
12 ,,	0.2190	0.025	10.1	0.2300	0.0211	8.3	0.241	0.0150	5.9
24 ,,	0.2040	0.048	19.0	0.2100	0.0410	16.5	0 230	0.0260	10.3
36 ,,	0.1970	0.055	21.8	0.2020	0.0490	19.7	0.225	0.0310	12.3
48 ,,	0.1730	0.079	31.3	0.1810	0.1700	28.0	0.212	0.0440	17.3
3 days	0.1450	0.107	42.4	0.1540	0.0970	38.8	0.193	0.0630	24.8
4 ,,	0.1200	0.131	52.1	0.1260	0.1250	50.0	0.176	0.0804	31.4

The gall stones of the last experiment were obtained from the same case as those of Experiment II, and presented similar characters. They were of enormous size, being as large as filberts. Although they commenced to dissolve within one hour, the loss of weight per cent. as time went on was not nearly so great as the previous cases. Their size was probably sufficient to account for this. It was noticeable that the paroleine was not so successful as with the smaller stones.

EXPERIMENT III.

Time of Immersion in Oil.	Olive Oil. Weight of Stone, 3.592 g.			Paroleine. Weight of Stone, 3.366 g.		
	Weight of Stone in g.	Loss of Weight in g.	Loss of Weight per cent.	Weight of Stone in g.	Loss of Weight in g.	Loss of Weight per cent.
1 hour ...	3.587	0.005	0.13	3.358	0.008	0.23
3 hours ...	3.558	0.034	0.94	3.356	0 010	0.30
24 hours ...	3.355	0.237	6.50	3.220	0.146	4 30
48 hours ...	3.131	0.461	12.80	3.100	0.216	7.39
3 days ...	2.898	0.694	19.30	2.933	0.433	12 80
5 days ...	2.285	1.307	36.30	2.600	0.766	22.70
7 days ...	2.079	1.513	42.10	2.585	0.781	23.20
15 days ...	1.667	1.925	53.50	2.419	0.947	28.10

These experiments show that gall stones are freely soluble in olive, almond, and purified petroleum oils at the temperature of the body, the rate of solubility being inversely proportional to the size of the stone, that is, the large stones take much longer to dissolve, in proportion to their size, than small stones.

It is difficult to explain the action of oil in the elimination of gall stones, whether dependent on solvent power or on a purely mechanical effect on the digestive tract.

In cases in which the oil treatment seems worthy of a trial one of the purified, odourless, and tasteless petroleum oils can with advantage be used when the olive oil proves nauseating for internal administration.

TWO CASES OF STRANGULATED HERNIA WITH CONTINUANCE OF SYMPTOMS AFTER APPARENT REDUCTION BY TAXIS: HERNIOTOMY: CURE.

BY GEORGE HEATON, M.A., M.B.OXON., F.R.C.S.,
Surgeon to the General Hospital, Birmingham.

THE following two cases of strangulated hernia were lately admitted under my care at the General Hospital, Birmingham, within a few days of one another. Each patient was suffering from symptoms of acute intestinal obstruction unrelieved by apparent reduction of a strangulated hernia. In the one case it was found that a small knuckle of intestine (too small to be felt through the abdominal parietes) remained still unreduced. The other was a typical example of the somewhat rare accident of reduction *en masse*. As they illustrate well two of the commonest causes of this complication after the apparent reduction of a strangulated hernia I have ventured to publish them together.

CASE I. *Strangulated Right Inguinal Hernia: Taxis and Apparent Reduction: Continuance of Symptoms: Herniotomy: Cure.*—J. B., aged 28, a cooper, was admitted into the General Hospital on June 18th suffering from acute intestinal obstruction. His history was as follows: For five years he has had a rupture in the right groin, which when unsupported filled the "purse" on that side. As a rule he wears a truss; but occasionally leaves it off for a day or two. Three days before admission in the early morning, whilst lifting a heavy cask, the rupture suddenly descended, and he had violent pain across the navel. He went to bed at once, and a medical man applied taxis to the hernia, and was apparently successful in reducing it. The pain became much less, but never entirely disappeared. During the next two days the pain continued as before, with vomiting and complete constipation. On the day before admission he had a frequent desire to pass water, but was unable to do so. The bowels were opened before he went to work on the morning of his seizure, but have not been opened since.

On admission, the patient complained of much epigastric pain, coming on in paroxysms, which completely prostated him. He had much irritability of the bladder but total inability to pass any urine. The face was pinched, the tongue furred and becoming dry. A careful examination of both groins failed to detect any hernia. There was much tenderness along the right inguinal canal, and the external abdominal ring on that side was larger than on the left. The vomiting continued after admission, and there was no action of the bowels in spite of repeated purgative enemata.

On the following day, as he was decidedly worse, he was anæsthetised, and the inguinal canal explored on the right side. An oblique incision was made along the whole length of the canal, and the external oblique aponeurosis divided. After careful dissection the sac of a congenital inguinal hernia was exposed. This was opened, and gave vent to several drachms of bloody fluid. No intestine could be seen in the sac, which was apparently empty; but on passing the finger up towards the internal abdominal ring, a small knuckle of intestine was discovered tightly nipped at the internal ring. After some little difficulty this was exposed, the ring divided, and the intestine reduced. The upper part of the sac was then dissected up from the other constituents of the cord and ligatured at the inner ring. The fundus of the sac was stitched round the testicle and the intervening portion excised. The external oblique was sutured by a running suture and the external wound closed.

He made a rapid recovery. The vesical irritability ceased at once. The bowels were opened after an enema on June 24th. Primary union of the wound took place, and he left the hospital wearing a light truss on July 12th.

CASE II. *Strangulated Left Inguinal Hernia: Reduction en masse of the Strangulated Hernia: Herniotomy: Cure.*—W. M., aged 49, a mechanic, was admitted into the General Hospital on June 21st with symptoms of acute intestinal obstruction of four days' duration. Seven years ago the patient had a strangulated right femoral hernia, for which herniotomy was performed by Mr. Heaton. Since then he has worn a truss at times, with a femoral pad on the right side and an inguinal one on the left. A fortnight ago this truss broke, and since then he has been at work without one. Four days ago, whilst at work, the inguinal rupture on the left side came suddenly down into the scrotum. He vomited immediately, and has continued to vomit since up to admission. The next day he and his son attempted to push the rupture back. They continued their efforts for six hours, when suddenly the rupture entirely disappeared. The vomiting and acute colicky abdominal pains still continued, however, and constipation has been absolute since the beginning of the illness.

On admission, the patient was extremely weak and ill. Abdominal facies well marked. There was a reducible femoral hernia on the right side, with the scar of the old

operation over it. The left side of the scrotum was apparently normal; the external abdominal ring was considerably larger on that side than on the right, and the inguinal canal seemed large to the examining finger. No tumour could be felt in the inguinal region, and there was no appearance of a hernia on attempts at coughing. The rectum was empty; the abdomen slightly distended and tender all over.

From the history of the patient's symptoms a diagnosis of a strangulated inguinal hernia was made, and from the appearance of the parts it was thought probable that the hernia had been reduced *en masse* by the patient and his son.

Herniotomy was at once performed. A long oblique incision was made over the left inguinal canal. The external oblique aponeurosis was laid open along the full length of the wound. The spermatic cord and the tissues around appeared bruised and infiltrated with blood. Situated high up the inguinal canal, and covered by the internal oblique and transversalis muscles lay a dark-coloured sac, which on opening proved to be the old hernial sac full of very darkly-congested intestine. The intestine was almost black in colour, but after division of the neck of the sac it improved somewhat in colour, and so it was decided to return it. The empty sac was ligatured at its neck and excised. The aponeurosis and skin wound was treated in exactly the same way as in the first case.

The patient's recovery was slow but uninterrupted. The bowels were open naturally on the third day, and all stitches removed on the eighth day. On July 5th it was found that the lower rectum had become distended with hardened masses of fæces, which copious enemata completely failed to dislodge. These had to be removed mechanically, after which the bowels acted regularly. He was discharged well on July 15th.

A CASE OF OPERATION FOR ABSCESS OF THE LUNG DUE TO LOCALISED NECROSIS.

BY

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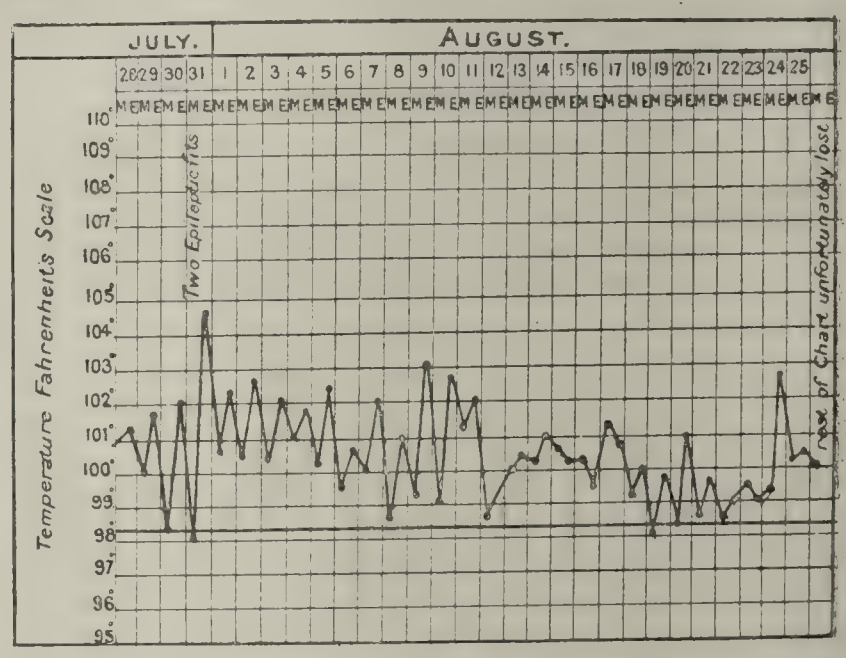
and CHARLES A. MORTON, F.R.C.S., Surgeon to the Bristol General Hospital; Professor of Surgery, University College, Bristol.

THE patient, a labourer, aged 45, was admitted into the hospital at the end of July, 1896, during my absence from home, and I saw him first on my return on August 20th. His family history was good, and there was no history of any family tendency to tuberculous or other lung disease. He had always been subject to epileptic fits, but had no other illness of any kind, and had never suffered from bronchitis or winter cough. There was no history of syphilis. He denied alcoholism, but had probably drunk freely at times.

He had been engaged in working at the sewers, and stated that "he got the sewer gas into his stomach" at the beginning of June, 1896, and to this he attributed his illness. The illness began with nausea on returning home at night from work. After some days he began to have attacks of vomiting, with the ejection of a quantity of "heavy phlegm." He also suffered from violent paroxysms of cough, coughing until he was black in the face. The expectoration, little at first, rapidly increased in quantity and became very offensive. The cough was especially apt to come on at meal times, causing him to vomit. He was unable to go on eating afterwards on account of the nausea produced by the smell of the vomit and of the eructated gas. He went on with his work for a week after the vomiting began, and was then obliged to desist. He had then dyspnœa on any exertion. The breath soon became offensive apart from the attacks of cough. There had been no hæmoptysis. He had lost flesh from the first week of the illness, and suffered from profuse perspirations, and probably from slight fever towards night. In other respects he felt well. The onset of the illness was thus subacute, not sudden in character, but clearly defined from a period of previous good health.

On examination July 29th the patient was thin and rather dusky in colour; his face was somewhat puffy. Pulse 96, regular; respiration rate 30. Skin perspiring freely. Breath very offensive. The chest in front showed evidence of some emphysema, moving rather as a whole, and only 1 inch on deep inspiration, the percussion note being hyperresonant, and the heart overlaid with lung. The breath sounds were harsh. The apex beat could not be felt, and the heart sounds, though feeble, were normal. Posteriorly on the right side there was dulness over an area corresponding to the two intercostal spaces above the angle of the scapula, and between its posterior border and the dorsal spines; from the level of the spine of the scapula downwards, the breath sounds were tubular over the above dull area, harsh and attended with rhonchi elsewhere; over the base of the lung there were scattered moist crepitant *râles*. The vocal resonance was increased over this area. The suprascapular region and the left side of the chest gave normal physical signs. He brought up a quantity of fœtid, frothy, rather watery sputum. The abdominal organs were normal. Urine acid, specific gravity 1010, it contained no albumen or sugar. He was treated with stimulant and expectorant mixtures, with creasote in a dose of ♏iij every four hours, and with various antiseptic and deodorant inhalations.

On July 31st the patient had two epileptic fits, and the temperature rose in the evening to 104.4°. During the next three weeks of his stay in the hospital the patient made no progress. He suffered from violent paroxysms of cough, with the expectoration of a quantity of fœtid sputum, from frequent attacks of vomiting, together with dyspnœa, profuse sweats, loss of flesh, and moderate pyrexia of irregular type, as shown in the accompanying chart. He took his food well.

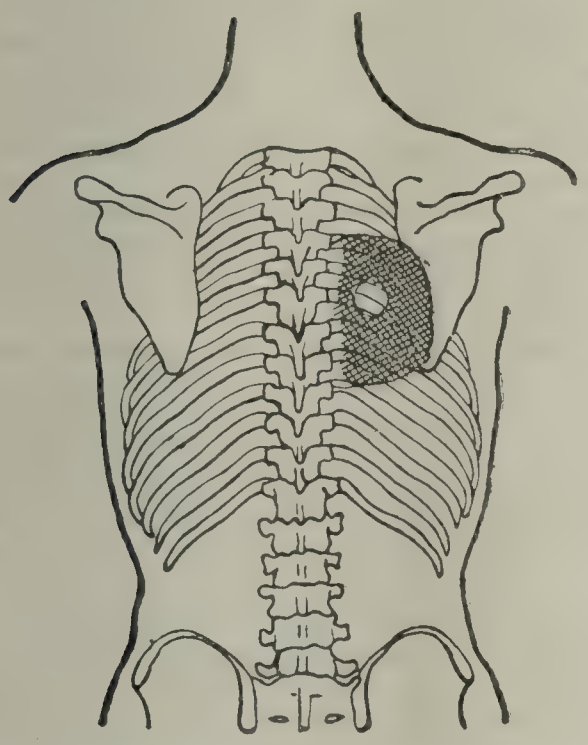


On August 25th the patient was no better, but expressed himself as feeling fairly well except for the constant attacks of cough and the offensive expectoration. He was decidedly dusky and dyspnœic, being unable to lie down comfortably. He sweated very profusely, and the breath was very offensive, having a faintly gangrenous odour. He was bringing up a quantity of most offensive sputum, about 12 to 16 ounces in the twenty-four hours; placed in a glass it separated into three layers, the uppermost frothy, the next a thick purulent layer, and the lowermost watery with muco-purulent masses floating in it. No tubercle bacilli were found in the sputum on several examinations. He complained of a sharp, "catching" pain in the interscapular region opposite the spine of the right scapula. Pulse 112, small but regular. Respiration 30, fairly easy. Tongue moist and clean. Skin rather greasy to the touch.

The left lung was normal. In front the resonance over the right side of the chest was higher in pitch than on the left side. Posteriorly on the right side dulness began at the level of the fourth dorsal spine, and extended to a little below the lower angle of the scapula and outwards to midway between the scapula and posterior axillary lines. Over this area the breath sounds were everywhere more or less tubular, accompanied by occasional moist crepitant *râles*,

and the vocal resonance was increased. Over a portion of this area, about the size of a crown piece, opposite to the interval between the fifth and sixth dorsal spines, and internal to the posterior border of the scapula, the breath sounds were loud, tubular, and hollow, or almost cavernous in character; and there was here marked bronchophony. There were some deficient resonance and coarse moist crepitations over the base of the lung at this date, but by September 1st there was much less crepitus at the base, and the percussion note was more resonant there.

As the signs opposite the interval between the fifth and sixth dorsal spines pointed to the presence of a cavity, possibly containing fœtid pus, my surgical colleague, Mr. C. A. Morton, kindly saw the patient, and on September 4th opened and drained a cavity in this situation..



Over shaded area dulness, tubular breathing, and scattered small moist crepitations. At O signs of excavation.

Account of the Operation by Mr. C. A. Morton.

The operation was performed on September 4th. The patient was placed on his right side, on which the physical signs of abscess were present, so that pus might not drain into the trachea and bronchus of the sound lung while he was under the anæsthetic. Chloroform was very carefully administered by Mr. Druitt, who told me at the end of the operation that a slight conjunctival reflex had been present throughout. He took the anæsthetic remarkably well. His right arm was drawn to the front, and the scapula thus displaced outwards. I first explored at the spot which Dr. Clarke selected, 3 inches external to the interval between the fifth and sixth spines, using an exploring syringe with a needle 4 inches long and with a lumen of considerable size, but got no pus. I then explored at a spot 3 inches outside the ninth spine, or just where the angle of the scapula would have been had it not been displaced outwards by the position of the arm. This also was unsuccessful. I then tried again in the first area, and at a depth of 2 inches withdrew half a drachm of stinking pus. I left in the needle of the exploring syringe as a guide, and then turned inwards a flap of skin, $2\frac{1}{2}$ inches in diameter, of which the needle formed the centre, splitting the flap so as to allow it to be turned inwards without disturbing the needle. A corresponding flap of muscle (which was of considerable thickness) was turned inwards in a similar manner, so as to expose the two ribs lying on either side of the needle. I then resected 2 inches of each rib, from their angles forward, and dissected up the periosteum and intervening intercostal muscles, thus exposing an area of lung 2 inches square. My object in exposing an area of lung of this size was that I might have sufficient room for suturing the two layers of pleura together if they were found non-adherent. They were, however, found firmly adherent and considerably thickened. I made an incision with the scalpel through the lung, along the track of the needle, to the depth of half an inch, and there was very little bleeding. I then passed sinus forceps along the needle track, and on expanding them a little pus escaped, and I passed my finger into a cavity which was just large enough to hold the tip, but soft septa around seemed to break down on gentle manipulation, and thus enlarge it. While my finger was in the cavity he coughed up some offensive pus, and became a little cyanosed. The cavity was not flushed out or scraped, but was stuffed with iodoform gauze, and the flaps united, the muscular one with catgut, the skin one with fishing gut sutures, leaving an opening in the centre through which the end of the gauze in the abscess cavity was brought out. The actual cavity discovered was very small indeed, but as shown by the *post-mortem* examination the area of breaking down lung around was of considerable size. On the day after the operation pus was found to have drained from the lung, and the gauze plug when removed was very offensive. An india-rubber drainage tube was substituted for it. At first the pus thus drained away was offensive, but it quickly lost this character. The flaps readily united. He was in no way the worse for the operation; indeed he was beginning very greatly to improve after it, when he died from a condition which was not associated in any way with the disease in his lung. The chief points of surgical interest in the case are: (1) The discovery of so small a cavity; (2) the value of repeated punctures, even in the same area, if pus is not at once discovered; and (3) the trifling amount of hæmorrhage which occurred on incising the lung with a sharp scalpel, in its superficial portion. I cannot help thinking that if I had flushed the cavity with an antiseptic solution, some of the fluid would have passed through the patent bronchial tube, which was discovered at the *post-mortem* examination opening into the abscess cavity, into the bronchial tubes of both lungs; and that by attempting to scrape away the wall of the abscess cavity with a sharp spoon severe hæmorrhage might have been set up, though no doubt such hæmorrhage could be readily dealt with by firmly plugging the cavity with gauze.

On September 5th the patient expressed himself as feeling better; he breathed more easily, the cough was less, and the temperature rather lower, but he still brought up over half a pint daily of sputum of the same character. On September 10th he appeared better; the cough was less, the expectoration smaller in quantity, though still considerable, but much less offensive. On examination of the lung signs of excavation were still distinct at the position above mentioned, but the surrounding area of dulness and tubular breathing was reduced in size, indicating a partial clearing up of the consolidation. The base of the lung was now resonant, and the crepitations were no longer heard there. During the next few days his condition remained much the same, the improvement being maintained; he still brought up a quantity of frothy rather watery sputum, with muco purulent masses, but it was no longer so offensive as before the operation. At 11.30 A.M., on September 16th, the patient had a series of epileptic fits; these fits were all of the same character; they began with slight twitching of one or other side of the body, rapidly passing into general convulsions, attended with loss of consciousness and profound cyanosis. The convulsions lasted about a minute, the breathing was then stertorous, and the patient remained unconscious, and after an interval of five or six minutes the convulsions came on again. There were six fits in all, the duration of the whole being forty-five minutes, when the patient died in coma, never having recovered consciousness from the onset of the first fit. There was nothing to indicate any change in the patient's condition previous to the occurrence of the fits.

Necropsy.

The *post-mortem* examination was made twenty-six hours after death. The body was rather emaciated. Rigor mortis was present. On opening the chest the thoracic viscera were in their normal position. On the right side the pleura was thickened and adherent all over the lower lobe of the lung posteriorly. The right lung weighed 2 lbs.; the upper lobe was normal. The

upper part of the lower lobe over an area about 3 inches in each diameter was solid, in part indurated, and non-crepitant. The lung tissue here was in the main dark in colour, smooth on section, and traversed by thickened bands of fibrous tissue along the bronchi, vessels, and interlobular connective tissue, and was also studded over with small rounded areas or nodules, some of which were composed of shreddy granular material, others had become purulent. In this consolidated portion of lung, about 1½ inch below the apex of the lobe, was a cavity about 1 inch in diameter, containing broken-down lung tissue and shreds of flaky pus. This cavity communicated directly with a dilated bronchus, the walls of which were thickened, and its mucous membrane ulcerated. Into this cavity the opening made at the operation passed. The necrosed portions of the lung had only a slightly gangrenous odour. The bronchi throughout the lower lobe contained mucus, and their mucous membrane was thickened and deeply congested; but the striæ were visible, and they were not dilated. There were some recent adhesions over the left pleura. The left lung, which weighed 1 lb. 6 oz., was normal. There was slight atheroma at the commencement of the aorta. The liver showed a moderate degree of fatty change. The kidneys were deeply injected, especially the vessels of the cortex, boundary zone, and the Malpighian capsules. The spleen was very soft, almost diffluent. The brain weighed 54 oz. The cerebral cortex and grey matter throughout were deeply injected; the other parts of the brain and the meninges appeared healthy. The vessels of the brain were normal and free from clot.

REMARKS.

From the point of view of clinical diagnosis the physical signs indicated consolidation of the upper part of the lower lobe of the right lung, with excavation proceeding in one part of the consolidated area. A most important symptom was the pronounced fœtor of the breath and expectoration. The quantity of the latter was also large. With regard to the fœtid breath and expectoration, it was in the first place obviously due to affection of the lungs, and did not arise from the alimentary canal. Of the pulmonary affections in which this symptom occurs, general bronchiectasis with retained bronchial secretions is perhaps the most frequent, but bronchiectasis could be practically excluded by the history of good health and absence of any disease of the bronchi or lungs before the present illness, the onset of which was very very definite and sharply marked off from previous good health; there was, further, no evidence of aneurysm or tumour pressing upon a bronchus; the history and physical signs also excluded another possible cause—the rupture into a bronchus of an empyema with decomposition of the retained pus. There remained necrosis of the lung. Diffuse gangrene of the lung was negatived by the length of the illness, and the general condition of the patient. Putting all the features of the case together, the diagnosis made was that of localised necrosis with suppuration in the lung communicating with a bronchus. As to the direct cause of this necrosis, the history gave no evidence of lobar pneumonia, nor of inhalation of a foreign body, particle of food, etc., and consequent ulceration of a bronchus, so that it seemed probable that the cause assigned by the patient himself—the inhalation of sewer gas—was the correct one, and the inhalation of poisonous gases is known occasionally to give rise to necrosis of the lung.

The limited character of the disease rendered the case eminently suitable for surgical exploration, and the patient's death in the unexpected manner above related was very disappointing, for there was good reason to hope, as the area of necrosis and excavation had been successfully reached and free drainage established, and as his strength was well maintained and his general condition improving after the operation, that in time the necrosed tissue would have been eliminated and replaced by fibrous tissue, and that the patient would have made a good recovery. In favour of such a termination was the decrease during life in the extent of the consolidated (inflamed) lung around the diseased focus which followed the operation, and the *post-mortem* appearances, showing a limited area of disease confined to one portion of the lung, and the formation of fibrous tissue in and around it, pointed in the same direction.

THE METHOD OF DR. DE BACKER IN THE CURE OF TUBERCLE AND CANCER.

BY HORACE MANDERS, F.R.C.S.ENG.,
London.

THIS method is founded upon the discovery that certain of the lower forms of vegetable life, whose sole entity consists of a single cell, the saccharomyces, sugar fungi, or yeasts, possess under certain conditions the same phagocytic power as the leucocytes of the blood.

It was in 1892 that M. Bruhat, an analytical chemist at Paris, noticed, during a microscopical examination of some wine that had gone wrong, sent to him for analysis, that certain of the cells of the ferment (saccharomyces Pastorianus) contained englobed within them the bacillus aceti. He mentioned this curious fact to Dr. de Backer, and the two instituted a series of experiments with other bacteria, the result being that it was found that young vigorous cells of most species of saccharomyces were energetic phagocytes to all shapes and kinds of bacteria; and that the bacteria so englobed were killed by the nuclein within the cell, and finally digested by it.

It occurred to Dr. de Backer that if Metchnikoff's theory of immunity were the true one, what a splendid auxiliary to leucocytes these cells would be, if injected into the blood of animals, provided that these cells could exist in the blood and were themselves innocuous.

This was tried on guinea-pigs, but the earlier experiments were not encouraging; abscesses resulted, and the experiments were very nearly being abandoned. Fortunately, however, M. de Backer remembered that, up to that time, he had only employed the yeasts of commerce, which when subjected to analysis showed great impurities, upon which he then set to work to breed up a pure strain of one particular kind of yeast. The saccharomyces cerevisiæ was chosen for many reasons. A pure culture of this was injected, with aseptic precautions, into a healthy guinea-pig: this produced little or no effect. The next step was to inject a healthy animal with the pure culture mixed with a proportion of fermentable matter, previously sterilised, to see if the yeast cells would be able to multiply and carry out the function of fermentation within the system of the animal. The experiment was carried out in the following manner: An apparatus was constructed in the shape of a box, large enough to hold a guinea-pig or rabbit comfortably, but hermetically sealed except at two points, at each of which a glass tube, provided with a double bulb, was fixed; each bulb was half filled with chromo-sulphuric acid in such a manner that all air passing through the tubes must of necessity pass through the fluid in the bulbs. To one of these tubes a suction apparatus was applied; an animal was introduced into the apparatus and kept there several hours without food; no results were obtained. The animal was then injected with a dose of pure culture of saccharomyces cerevisiæ mingled with fermentable matter, and replaced; still without being fed. After some hours the bulbs at the outlet or suction tube showed the characteristic greenish colour of alcoholic reaction, whilst the bulbs of the inlet retained its original golden orange colour, showing plainly that the alcohol did not get in that way; hence the alcohol must have emanated from the animal, by its breath and perspiration, proving that alcohol had been generated by the action of the ferments within the animal economy. The animal itself seemed well after the experiment.

The next experiment that suggested itself was that of trying the injection of such a preparation (this combination of the pure ferment with sterilised fermentable matter soon acquired the name of "Backérine" in the laboratory, and now we generally use the term) into an animal, experimentally infected with a bacterial disease. Accordingly, a guinea-pig was inoculated in the ear with diphtheria, and an injection of Backérine administered subsequently. The results were astonishing—the little animal making a most perfect recovery. In the next experiment a longer time was allowed to elapse before the Backérine was administered; the animal was exceedingly ill, but eventually recovered. A long series of experiments were then made upon guinea-pigs rendered

artificially tuberculous, and here the results were so encouraging that Dr. de Backer determined to try the cure in the human subject.

In order to ascertain the effect of Backérine upon a healthy man, M. Bruhat offered himself for inoculation, and was injected in the flank by Dr. de Backer. At the end of five hours there was marked coldness or rigor, followed by abundant sweating. M. Bruhat went through all the stages of a mild intoxication, owing to the presence of alcohol and carbonic acid in the blood. At the end of three days all reaction had quite ceased, and no harm resulted.

After this, phthisical patients were treated by inoculation, with the result that in early stages the disease has been nearly always arrested. In phthisis of the second stage, with signs of softening, the cure or permanent improvement has been nearly 75 per cent.; in the later stages, the result much depends upon the amount of lung tissue remaining, and the vitality of the patient.

The question naturally arises: How do these ferments act? Are they specifics against tuberculosis? The reply to this is negative. These cells come to the support and aid of the leucocytes (the natural phagocytes) and fight side by side with them in destroying the invading bacteria, and to quote M. de Backer's own words, "substitute a healthy, natural fermentation for one that is pathological."

It is not sufficient that the bacillus be only destroyed, for its dead body and its toxins have the power of dissolving the tissues and poisoning the system. The great point is to eliminate the microbe from the system before the bacillary intoxication becomes too much for it. The same principle is seen at work in the industry of wine making. It may happen that many thousand gallons of wine wort have turned sour, owing to the presence of bacilli (acetic, butyric, or lactic) yet all that is necessary to effect a remedy is to introduce a certain quantity of pure ferments into the wort: acetic fermentation is arrested, and the wort brought back to its normal fermentation. In this manner we may conceive the blood to be the wort, "the human must" as M. de Backer calls it, which is disturbed in its functions by Koch's bacillus just as the wine wort is disturbed by the bacillus aceti, and can be restored to its normal condition by a certain quantity of pure ferments.

Against the pathological fermentation in the body by Koch's bacillus no means of arrest has been known until now, but arrest has been effected again and again by means of these pure ferments furnished with proper nutriment.

The great condition of success is that they be absolutely *pure*, cultivated step by step from single cell, from culture to culture, shielded with all care from possible contact with any other organism, even that of a variety of its own species, carefully oxygenated before its final fermentation, as it will have to live an anaërobic existence in the body. Only young and vigorous cells are selected for the work, and these are furnished with their food supply and stored in specially prepared tubes.

Even if Metchnikoff's doctrine of immunity by phagocytosis be not entirely correct there can be no doubt that it plays a very considerable part, the other part being probably played by the nuclein of the cells. Here again we get an additional reinforcement from the yeast cell whose nuclein yields the same results to analysis as the nucleins of the animal cells.

In regard to cancer, that other terrible scourge of humanity, for which no cure is known, the treatment by pure ferments has given some astonishing results. To quote again from de Backer, "Out of a total of sixty tumours, we have seen eighteen cures lasting over some years. Of these four had been operated on, with rapid recurrence. Twelve cases of very rapid growth also had been very markedly retarded."

It may be asked, In what way do we explain and account for this curative action of pure ferments, there being as yet no evidence to prove that cancer is due to the action of any bacillus? The answer to this may be found in looking at the reasons that led Dr. de Backer to apply this method to such a disease. He found that the guinea-pigs used in a long course of experiments, and which lived together in full liberty during the time that injections of Backérine were being administered to them, by way of testing its innocuity, got fat, but were generally sterile. In cases where impregnation occurred the fœtus did not develop. In some animals that were killed, blighted embryos were found. He then conceived the idea that the sterility was due to "the lessened glycogenous material in the uterus," (a possible cause of sterility in the human being hitherto unsuspected).

It was known that cancer contains a very large proportion of glycogen in its chemical composition, and that this disease occurs in localities in which glycogen is normally present in large quantities (breast, liver, uterus, etc.). Hence the deduction was easy, that if ferments could materially lessen the natural glycogen of the body, they would probably have the power of checking the pathological increase of the same substance, and that the cancer cells which revel and luxuriate in its presence would starve, and the whole tumour shrink. The researches of M. Brault have recently proved that the rapidity of growth in a tumour is in direct proportion to the amount of glycogen contained in it; probably from the fact that the cells are enclosed in a medium too rich in glycogen, and so proliferate luxuriantly without order, symmetry, or selection, and this constitutes a neoplasm.

The whole account of the method, and its application to diseases due to the action of bacteria, may be found in a work by Dr. de Backer in collaboration with M. Bruhat and Dr. Charlier entitled, *Les Ferments Thérapeutiques*, published by the Société des Editions Scientifiques, Paris. A further account of cancer, with cases, is given in a pamphlet by Dr. de Backer, *De la Cancérose et de son Traitement par les Ferments purs*, Imprimerie Daix Frères, Clermont (Oise).

WANDERING ŒDEMA.

By W. C. BROWN, M.D.,
Penang.

The case described by Mr. Masterman, of Damascus, in the British Medical Journal of April 3rd, is an interesting and typical instance of an affection which, though by no means rare, in the tropics at all events, has attracted comparatively little attention. It cannot, however, be called "a new disease," for several previous observers appear to have noticed this malady, to have assigned to it different positions in nosology, and to have described it under different names. They have generally taken it to be a variety of urticaria: but, in the absence of more evidence as to its causation and pathology, the term "wandering œdema"—descriptive of the principal and characteristic symptom—is a good one, and none of its previous titles appear to fit it so accurately. Owing to the peculiarity of the œdema, the uncertainty as to its progress, and the anxiety as to its suddenly attacking dangerous and vital organs, the malady is an important one, and merits more attention than it has received.

Four cases have come under my own observation, and in all of them the symptoms were practically the same. The onset of wandering œdema is characterised by pain in one or both feet, which is generally referred to the plantar fascia, and the ligamentous structures about the metacarpo-phalangeal joints. The pain is described as being of a heavy, dull, burning character, and at first simulates very closely the onset of an attack of gout. After an hour or two, however, the pain subsides, and it is noticed that the foot is swelling round the parts where it has been most severe. Relief is, in fact, afforded by effusion. The œdema is sometimes excessive, but is always, at first, local. Later it shows a tendency to spread up the limb, and, coincidentally with its change of position, the lower swelling subsides. By the time the knee is reached the foot is free from œdema. The skin of the parts that have been affected retains a peculiar boggy feeling, with numbness and loss of sensation for some days afterwards. About twelve hours after the feet have been attacked the knuckles and wrists become painful, and the same train of symptoms occurs in the upper limbs. The œdema is, however, generally less marked, and does not appear to reach the elbow so frequently as it extends to the knee in the lower limb. As this, in its turn, subsides, pains are felt in different parts of the body, which are, in the same way, followed by localised œdemas. The scalp, the cheeks, the lips, the skin, and subcutaneous tissue of the abdominal

wall, pendulous parts of the genitalia, seem to be invariably affected. The abdominal viscera and intestinal canal also are prone to attack. Internal pain is followed by indigestion, sometimes by vomiting, and diarrhœa is frequent. This latter, indeed, seems generally to act as a curative agency, and to occur at a period of crisis. In one case that came under my notice there was deep perineal effusion into the perirectal tissue, which was followed by sharp dysentery. The hard and soft palates, the fauces, and pharynx are usually affected, but though the œdema comes so dangerously near the glottis, I have not known an instance of the larynx being attacked. Rapin, in describing what was doubtless a case of this malady as a localised cutaneous disease,[1] pointed out that there was no itchiness. This absence of itchiness in wandering œdema is peculiar, but appears to be invariable; it differentiates the malady widely from urticarial affections, and may be taken as a characteristic symptom.

The duration of the illness is generally about three days, but it is often protracted to a week or even longer. Diarrhœa and copious perspiration are frequently associated with its subsidence, and have doubtless a curative effect, but these symptoms are by no means constant concomitants of the malady.

During the attack the condition of the patient is not characteristic of severe illness. The temperature is but slightly increased, the pulse and heart maintain their normal condition, and there is no albumen in the urine. There is generally gastro-intestinal disturbance from the first—indigestion, and occasionally vomiting. Headache is often severe.

The tendency is always to recovery, though it is obvious that, in view of the danger of œdema attacking the air passages, there must ever be considerable anxiety as to the progress of even the mildest cases. It is probable that a tendency to recurrence is a characteristic of wandering œdema, but the cases which have been recorded are too few to justify a conclusion, and more information on this point is desirable. Sufficient data are not yet before us to justify the acceptation of theories as to the causation of wandering œdema, and ascertained facts are too rare and isolated to establish its pathology.

In a case in which I was able to make a cover-glass preparation of the œdematous fluid a short round-ended bacillus was found. It has a tendency to bipolar staining, but refuses to grow on glycerine agar, blood serum, or potato. It is apparently, like the bacillus of malignant œdema, an anaërobe, but an opportunity for further cultivation experiments has not occurred, and, in the absence of definite knowledge, it would be premature to claim for it a pathogenic power. Microscopic examination of the blood does not reveal the presence of a malarial or other parasite. Localised œdemas are always difficult of explanation. No theory has as yet been accepted as accounting for the localised œdema that follows the bite of a centipede or the sting of a scorpion, though it appears now to be probable that in the œdematous fluid which is secreted there is an antitoxin and curative agency to the poisons.

Two conditions suggest themselves at first sight as being likely factors in the causation of wandering œdema—gout and urticaria; but, as the symptoms develop, it will be seen that neither of them satisfactorily accounts for the various phases of the malady. In none of the cases that are reported or that have come under my own observation has there been a history of gout or have the sequelæ justified the supposition of a gouty diathesis. Urticaria also seems to be ruled out of court by the absence of itchiness, the character of the swelling, and the progress of the symptoms.

In three of the four cases that came under my notice there was a history of mushroom poisoning. Discomfort was felt after eating tinned French mushrooms, and the attack came on within forty-eight hours in one case, and in another in seventy-two hours. In a third case, which was milder, edible mushrooms, grown in the Straits Settlements from English spawn had been eaten a week before; and in the fourth case—that of a Malay lad—though there was no definite evidence as to the mushrooms having been eaten, herbs that had been gathered for the family curry where fungi grow plentifully, had been freely partaken of. These facts would seem to afford presumptive evidence that wandering œdema is the result of fungus poison, though they are scarcely sufficient in number to be conclusive. In any case, it is apparent that it is to a poison that the symptoms must be attributed, but whether the poison is one which has been introduced from without or has been within the body—a product of perverted metabolism—it is difficult to say. The symptoms are as far removed from the ordinary manifestations of agaricin poisoning as they are from gout.

If it is true that wandering œdema has a tendency to recur, the theory that it is due to a poison formed within the body would be considerably strengthened, while the theory of ingestion would be correspondingly weakened. But the cases that have been reported as recurrent appear doubtful instances of the disease, with the probable exception of Kruger's case,[2] in which the patient had repeated attacks of œdema, and died suddenly from œdema of the glottis. Some of the cases (at least of those described by Dr. Allan Jamieson in the chapter on Urticaria in his *Diseases of the Skin*, and quoted from Strübing, Quincke, and others as acute circumscribed cutaneous œdema) are doubtless identical with wandering œdema and have nothing in common with urticarial affections. But further reports of cases are necessary before the causation and affinities of this malady can be considered as at all settled; and it is to be hoped, now that attention is being directed to the subject, that these will be forthcoming.

References.

[1] *Revue Médicale de la Suisse Romande*, xii, 1886. [2] *Lancet*, February 9th, 1890.

SKIN ERUPTIONS OCCURRING IN PATIENTS ALREADY SUFFERING FROM INFECTED WOUNDS.

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In the British Medical Journal for 1892, vol. i, p. 861, I published a case of dermatitis of the eczema type beginning in a septic axillary wound, which ran an acute course, and was attended by universal exfoliation. During the last two years I have kept a record of cases in my private and hospital work which I believe originated in a similar way, namely, by the absorption of some morbific matter into the circulation.

Case I. *Pemphigus Foliaceus.*—Hospital patient: Referred to me by Dr. Shaw, of the South Dispensary, on July 3rd, 1895. It appeared that the patient, a girl, aged 9 years, had sustained an injury to her skull by falling from a swing. On admission to hospital the whole cutaneous surface was intensely red and peeling in large dry flakes, for the most part leaving large circular areas of various sizes. In a few days her mouth became affected, the epithelium wrinkling and peeling off, exposing a raw and bleeding mucosa. On July 15th, distinct but flaccid bullæ appeared on the trunk and extremities. In spite of treatment the child succumbed on July 24th, and a *post-mortem* examination revealed an old superficial injury of the scalp in the left suboccipital region with the remains of extravasated blood beneath it.

Case II. *Acute Pemphigus.*—Hospital patient: This eruption followed an injury to the hand from a steel hook in a strong, healthy young butcher. The eruption was universal, and consisted of large and small bullæ with serous contents. When admitted the wound had nearly healed. The patient was discharged cured in about six weeks.

Case III. *Pemphigoid Eruption.*—Private patient: Seen with Dr. Moyles, of Walton. A bullous eruption of both hands, forearms, and face in a lady who was suffering from a whitlow of the right thumb. The contents of the bullæ were serous, sero-purulent, and in a few instances sanguinolent. Dr. Moyles informed me that the patient made a good recovery.

Case IV. *Impetigo.*—Hospital patient: Developed an impetiginous eruption on the left side of the face and neck and posterior auricular region, also a pustular folliculitis of extensor surface of left arm while suffering from an onychia of the right forefinger.

Case V. *Acute Dermatitis.*—Private patient referred by Dr. Leask, of Birkenhead: Acute dermatitis of the eczema type of left hand and forearm after a severely-lacerated wound of palm. The scrotum was also inflamed and irritable. Dr. Leask informed me that there was no further extension of the disease, and the patient made a good recovery.

Case VI. *Erythematous Dermatitis.*—Hospital patient: A workman presented himself with an eruption of an erythematous and scaly character on the trunk, more particularly on the anterior surface. The penis and scrotum were œdematous and scaling. A few papules were present on the left forearm, and the corresponding axillary glands were enlarged and swollen. He was also suffering from a whitlow of the middle finger of left hand and suppuration of the palm, for which he had been under treatment at a general hospital, and during which the eruption appeared.

Case VII. *Papular Eczema.*—Hospital patient: While under treatment for a varicose ulcer of the leg, developed a papular eczema on the inside of both legs, thighs, and flexor surface of forearms and elbows

Case VIII. *Erythema Multiforme.*—Hospital patient: While suffering from an extensive impetigo of the face, developed an erythema multiforme on the trunk and extremities.

Case ix. *Eczema.*—Hospital patient: While under treatment for tinea barbæ, developed a papular and erythematous eczema of flexor surface of both upper arms. Worse on the right, and involving bend of elbow.

Case x. *Eczema.*—Hospital patient: While under treatment for a bulla of right forefinger, the cause of which it was impossible to ascertain, developed an attack of eczema of the left arm and left side of face.

Case xi. *Vesicular Eruption.*—Private patient: A lady showed me a small "blister" on the right ring-finger, for which a mild boracic ointment was ordered. In a few days she developed a large vesicular eruption on both hands, attended with *malaise*, headache, and gastro-intestinal catarrh.

Case xii. *Erythema Multiforme.*—Hospital patient: A girl, aged 12, six or seven weeks before coming under observation, had pediculi capitis and "sores" on the scalp. On January 4th "blisters" first formed round the mouth and nostrils, became purulent and confluent, and now presented the appearance of an ordinary impetiginous eruption. On January 11th a multiform erythema, very extensive and well marked, appeared on both arms; at the same time a bullous erythema appeared on the face and front of neck.

Remarks.

These twelve cases may be divided into two classes: First, those in which the eruption followed the infliction of an injury; and, secondly, those in which a pre-existing inflammatory condition of the skin, presumably of a non-traumatic origin, being in evidence. A condition common to both was the formation of pus and sepsis. It is interesting to observe the different types of the eruptions and the preponderating number of cases classed as eczematous, six being of this class, three pemphigus or pemphigoid, two erythematous, and one impetiginous.

What are these different pathological conditions due to? Are they caused by one poison or many generated in the process of sepsis? Is it possible that the same poison will induce one type of eruption in one individual and a different one in another. I venture to think that one toxin is capable of causing them all, the difference in type being due to the susceptibility of the tissues of the patients attacked with this modified form of septicæmia. The eruptions were all acute or subacute, and as far as can be ascertained were attended with more or less systemic disturbance.

Do not the foregoing cases suggest to us that many skin affections which have been attributed to vasomotor disturbance and reflex irritation are due to the absorption of micro-organisms or their products either by the skin or alimentary tract? It behoves us, therefore, to pay more attention to wounds of the integument, however trifling, in endeavouring to explain the cause of certain skin diseases.

ANTISTREPTOCOCCUS SERUM IN SEPTIC ABSORPTION.

By G. SCOTT MACGREGOR, M.D.,
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Recently much has been said and written concerning serum-therapy. Having read of several successful results following the use of the antistreptococcus serum, I was led to employ it in the treatment of the following case:

L. M., aged 30, admitted to the Glasgow Hospital for Diseases of Women on May 28th, 1897. She was suffering from a bleeding fibroid, and on June 2nd the operation of oöphorectomy was performed. For the week succeeding the operation the temperature never rose above 100° F., the pulse was full and regular, and from 80 to 90 per minute.

On June 10th the temperature was above 100° F., and phenacetin in doses of 10 gr. thrice daily was ordered. In spite of this the temperature stood at 102° F. on June 15th. In addition to the phenacetin, 2 gr. of quinine every two hours were now ordered. This treatment was continued until June 18th, the temperature in the meantime ranging between 101° and 102.4°.

On June 20th, as the temperature showed no signs of rising higher, and as the pulse during the whole course of this increase in temperature never exceeded 95, and the patient looked somewhat better, it was deemed advisable to curtail the antipyretic remedies; accordingly the quinine was reduced to 6 gr. a day.

On the evening of June 21st the temperature was 102.2°; 10 gr. of phenacetin and 5 gr. of quinine were administered. The temperature in the morning was 102.8°, and the pulse for the first time was over 100. The antipyretic remedies were now pushed, but by the afternoon the temperature had reached 103.8°, and pulse 110. In the evening the temperature was 104.6° and the pulse 120.

On June 23rd the temperature in the morning was 102° F., the pulse 120, small and wiry; the tongue was very foul, the lips quite anæmic; the countenance presented a pale and pinched expression, and the patient, although conscious, lay in a kind of torpor, hardly answering the questions addressed to her. At 1.30 P.M. 5 c.cm. of the antistreptococcus serum was injected into her left arm. At 6 P.M. her temperature was 104.6° F.; after she had had 10 gr. of phenacetin it fell to 101.4° F. in the course of an hour.

On June 24th, in the arm where she had received the injection the patient complained of pain and swelling; the temperature was 104.6° F., the pulse 112. She again had 5 c.cm. of the serum injected into the right arm; in the afternoon the temperature was 100° F., the pulse 90, but in the evening the temperature was 103.4° F. and the pulse 95.

On June 25th she suffered much from the pain and swelling in both her arms; she was, however, brighter, and answered questions readily; her tongue had begun to clean at the tip and round the edges; the temperature was 100° F., while the pulse was 80.

From this time onwards the patient ceased to give us any concern, and, although the temperature for some days longer went up in the evening to 101° F.—only once to 102° F.—the exhibition of phenacetin in one dose of 10 gr. had the effect of again bringing it down. Ultimately it came down to normal, where it remained, and the patient was dismissed on July 13th, 1897.

Remarks.

Had I given a larger injection as recommended, a more rapidly favourable issue might have resulted; but the 5 c.cm. *plus* the 10 gr. of phenacetin had the remarkable effect of controlling the temperature. It was not, however, until another 5 c.cm. of the serum had been injected that a marked change for the better ensued. I am inclined to believe that the recovery which resulted in this case, and with the small quantity of serum used, was due in a great measure to the prompt use of the serum at an early stage of danger.

CHOREA IN RELATION TO SCARLET FEVER.

By JAMES PRIESTLEY, M.D.R.U.I.,
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It would seem doubtful whether chorea should be considered a sequela of scarlet fever or not. Thus, Henoch says: "I have only twice seen chorea during the acute stage of scarlet fever. I have never seen it as a sequela. Considering the very large number of choreic children whom I have had the opportunity of observing this fact seems remarkable, for other authors say they have often seen chorea after scarlet fever." Nor is it mentioned by Goodall and Washbourn,[1] nor by Caiger.[2] But in the Collective Investigation Committee's report[3] scarlet fever is given as the sole antecedent in 6 per cent. Cheadle also recognises it as a sequela, but qualifies the opinion by adding that "scarlet fever chorea is almost certainly a rheumatic chorea." Osler[4] gives 3 cases in 533.

Frequency.

During the years 1894, 1895, and 1896, 8,360 cases of scarlet fever were under treatment at the North-Eastern Hospital of the Metropolitan Asylums Board, and of these 5,355 were completed there. Thirteen cases of chorea were observed, which gives a proportion of 1 in 412 completed cases. Osler found 1 case of chorea to every 180 patients treated at his infirmary; hence it would appear that chorea is less frequent among scarlet fever patients than among patients in general.

Rheumatism.

Five of the 13 cases tabulated on the next page had rheumatic manifestations—that is, 39 per cent. or 9 times the percentage of rheumatism in scarlet fever.[5] The rheumatism in each instance immediately preceded, or presented itself simultaneously with, the chorea. As is well known, the rheumatism or joint affection which occurs as a complication of scarlet fever sets in towards the end of the first week; but in these cases it was considerably later, indicating a difference in

Thirteen Cases of Chorea following Scarlet Fever.

No.	Initials.	Age.	Sex.	Date of Onset of Scarlet Fever.	Date of Onset of Chorea.	Date of Discharge.	Manifestations of Rheumatism.	Cardiac Complications.	Remarks.
1	A. B.	13	F.	Nov. 13, 1893. Relapse, Dec. 14	Dec. 16	Feb. 13	Joint pains from Dec. 16 to Dec. 24	Systolic apical murmur on Dec. 16, and remained	Had been 5 weeks in bed with rheumatic fever, and only up 2 weeks when attacked with scarlet fever
2	H. B.	7	M.	Jan. 5, 1894	Mar. 5	Mar. 5	None	None	Chorea slight, and only noticed on day of discharge from hospital
3	R. R.	6	F.	Jan. 3, 1894	Jan. 20	Mar. 15	Joint pains with swelling, Jan. 13	Systolic apical murmur, Jan. 20, and remained	—
4	W. F.	8	M.	Mar. 28, 1894	May 11	June 2	Erythematous rash, April 24. Inflammation of ankle-joint, May 10. Erythema nodosum, May 15. Rheumatic nodules, from May 28	Systolic apical murmur, May 11, remained	—
5	R. L.	9	F.	July 27, 1895	Sept. 4	Nov. 4	None	Systolic apical murmur, Sept. 19, which disappeared Oct. 19	—
6	C. S.	8	F.	Sept. 1, 1895	Oct. 28	Dec. 9	None	Systoiic apical murmur, Oct. 28, remained	—
7	J. P.	8	M.	Mar. 2, 1896	Mar. 30	May 2	Pain, swelling, and tenderness of joints on Mar. 6 and Mar. 17	Heart sounds normal	—
8	E. S.	11	F.	Desquamating on admission, October 19, 1895	Nov. 7	Jan. 13	None	Systolic pulmonary murmur on admission. Systolic apical murmur, Nov. 17; remained	[illegible]
9	M. B.	8	F.	Mar. 7, 1896	April 12	May 29	None	Systolic apical murmur, April 15, and remained	—
10	E. M.	11	F.	Mar. 30, 1896	April 13	May 29	None	Systolic apical murmur on admission, and remained	Had chorea a year previously
11	A. K.	9	M.	June 7, 1896	Aug. 7	Aug. 16	None	Systolic apical murmur, Aug. 7; disappeared	
12	W. T.	6½	M.	July 25, 1896	Sept. 2	Sept. 30	None	None	Very mild case of chorea
13	A. W.	10	M.	Sept. 3, 1896	Oct. 19	Dec. 22 (died)	Arthritis of wrists, elbow, shoulder, Oct. 14. Arthritis of knee and elbow, Nov. 3	Systolic apical murmur, Oct. 14; the necropsy revealed heart normal	Chorea very severe until Nov. 3. Diphtheria on Nov. 24; tracheotomy, Nov. 27. Death on Dec. 22. His brother was reported to have died from chorea.

the nature of the joint affections which go with chorea ("the choreic arthropathies") and those which go with scarlet fever, though both are classed in statistics under the expansile term "rheumatism."

Cardiac Implication.

The proportion of heart affection in first attacks of chorea is given as 30 per cent.[6] It will be seen that 7 out of the 13 developed murmurs which remained till the date of discharge. If we leave out of consideration cases (2) and (10) as evidently not valid, this gives 7 in 11, or over 60 per cent., which is in harmony with the statement in the Collective Investigation report that "scarlet fever would seem to predispose to the occurrence of heart affection in chorea." The average interval between the scarlet fever onset and that of the chorea was over 35 days.

References.

[1] *Manual of Infectious Diseases.* [2] *System of Medicine* (Allbutt), vol. ii. [3] British Medical Journal, 1887, vol i. [4] *Chorea* (published 1896). [5] See Report of Statistical Committee of Metropolitan Asylums Board, 1896, p. 156. [6] Collective Investigation Committee's Report; Osler *On Chorea.*

A CASE OF RAYNAUD'S DISEASE.

By ALBERT MOUILLOT, M.D.,
Harrogate.

Miss N. H. consulted me in March, when she told me that she was 15 years of age, and up to November, 1896, had enjoyed fair health, though always a sufferer from cold hands and feet. This coldness of the extremities became worse, and in November her left hand began to swell, became painful, and looked quite black. The hand got extremely tender—so tender, indeed, that she could not bear even to have her nails cut. This swelling, pain, and tenderness rendered the hand so useless that she was unable to pick anything up with it. This state of things continued in spite of care until her visit to Harrogate in March, but, except that menstruation had ceased, there was no sign of impairment of the general health.

When I saw Miss H. her condition was very striking. The hands and feet were deadly cold, as also was the tip of the nose; the ears were quite warm. The extremities were of a bluish-black colour when cold and of a deep red when warm. The left hand was greatly swollen and the fingers were kept fully extended; she was quite unable to flex them herself, and any attempt to do so caused extreme pain. The coldness and black colour extended half way up the left forearm. The condition of the nails was very peculiar; they were snow-white in colour, and very long owing to the pain on cutting them. Miss H. said that sometimes her hands and feet got hot, and when they did the pain was much worse. There was no albuminuria nor any history of hæmoglobinuria.

Miss H. was in this condition when she accompanied me to the meeting of the Leeds Medico-Chirurgical Society on March 19th, at which she was carefully examined by many of the leading Leeds physicians, who concurred in the diagnosis, though one physician suggested that the case came nearer to the disease known as erythromelalgia than to what is usually called Raynaud's disease. It seems safer, however, to retain the more general name.

It appeared to me that the only chance of improving a condition like that described was to keep the patient in an equable temperature and endeavour to improve the nutrition of the body by frequent feeding with nutritious food, at the same time treating the local and general conditions by careful and skilful massage. The Weir-Mitchell treatment, the great value of which I have so often proved, met all the indications, and accordingly I sent my patient to the Victoria Nursing Home, Harrogate, on March 24th.

The improvement under this treatment was uninterrupted. At first the manipulations had to be very gentle, but gradually more and more could be borne, so that at the end of seven weeks my patient left the home practically well. All

the extremities were warm and of good colour; the useless left hand had become so well that Miss H. could play scales on the piano with it; the white nails had become pink, and menstruation had twice taken place. A fortnight after all treatment had ceased I introduced my patient to the members attending the meeting of the Yorkshire Branch of the British Medical Association.

The foregoing brief notes of a very interesting case suggest that the line separating what is commonly known as a "bad circulation" from the more severe forms of angio-spastic and angio-paralytic disease is a narrow one. One frequently sees cases which are habitually blue and cold without there being any other symptom of ill-health. These patients generally tell one that they are suffering from that very common disease (with the laity), a weak heart, though as a rule there is no indication of weakness in that organ. May not many of these cases be mild examples of the disease usually called by Raynaud's name?

The excellent result of treatment in this case would also suggest that in similar conditions the Weir-Mitchell treatment in its entirety should be tried, as whatever theory one may have as to the exact pathology of such cases, the rest cure, combining as it does good feeding, bodily and mental rest, warmth and massage, meets all the symptomatic indications.

THE PREVALENCE OF THROAT AFFECTIONS AMONG FEMALE ELEMENTARY SCHOOL TEACHERS IN MANCHESTER.

By EUGENE S. YONGE, M.D.Edin.,
Assistant Medical Officer, Manchester Hospital for Consumption and Diseases of the Throat.

Observation of the fact that large numbers of female teachers present themselves at hospital on account of various pathological conditions of the pharynx or larynx led me to believe that throat disease in certain forms was common in these individuals. With the object of clearing up this question and of ascertaining what causative factors were in operation to produce the state of things referred to, I selected at haphazard 100 female teachers who were pursuing their occupation in elementary schools. I was enabled to carry out this investigation through the courtesy of the Manchester School Board and of the authorities of various voluntary schools.

The teachers were drawn from eight Board and eight Voluntary schools; the institutions were visited, and the general surroundings of the female instructors noted. After interviewing the total number of teachers, 70 of them were submitted to laryngeal and pharyngeal examination; the remaining 30 were not so treated, either on account of the brevity of their tutorial experience, or because they were obviously in such a state of health as to render the presence of any throat affection unlikely; they have therefore, in calculating percentages, been considered normal. The following table shows the lesions discovered in the laryngeal and pharyngeal cavities of the 70 teachers examined.

Laryngeal (35) cases	Catarrhal inflammation of true cords*	14 cases.
	Chronic laryngitis associated with nodular thickenings—not true "teacher's nodes"	2 ,,
	Paresis of certain laryngeal muscles, especially the internal tensors	11 ,,
	"Teacher's nodes"	7 ,,
	Fibro-papilloma of left cord, a node on right ...	1 case.
Pharyngeal (30) cases	Simple chronic pharyngitis with dilated veins ...	12 cases
	Granular pharyngitis	18 ,,
	Note:—In certain cases a pharyngeal and laryngeal lesion coexisted.	
"Laryngeal strain" present in		30 ,,
In 26 of these there was some definite lesion of the larynx or pharynx.		
A markedly hoarse voice present in		5 ,,
Of these,		
Marked granular pharyngitis was present in ...		2 ,,
Fibro-papilloma		1 case.
Chronic laryngitis with nodular thickenings ...		2 cases.

*One of these has since developed a laryngeal growth.

It should be noted that the above statistics were gathered from a number of individuals who were presumably healthy, and an examination of the surroundings of these persons revealed a collection of causes acting with more or less potency to produce the various pathological conditions enumerated. My own experience leads me to believe that the most powerful factor in producing vocal defects in teachers is the practice of conducting more than one "noisy" or "oral" lesson in the same room at the same time; for, in addition to being forced to convey the sound of her own voice to a somewhat inattentive audience, the individual who is conducting a class has to endeavour to drown the sounds emanating from other teachers and pupils close at hand. In a few schools I noticed that at least three "noisy" lessons were going on at the same time, and it was a matter of some difficulty to make oneself heard by a teacher at a few yards' distance. The two following hospital cases appear to demonstrate the deleterious effect on the vocal organs of "noisy" lessons simultaneously held:

Case I.—Miss B. had been teaching for twelve years. She had been hoarse for one month before she presented herself at the Throat Department of the Manchester Consumption Hospital, when she was discovered to be suffering from laryngeal nodes. She had taught for several years in a room by herself without any appreciable vocal trouble, but a year ago she was drafted into a large and usually noisy chamber, and by the end of three months had developed nodes.

Case II.—Miss T. had been teaching for six years. She began to be hoarse two months before coming to the hospital, and the majority of her singing voice quickly became lost. The patient had taught for several years in a small quiet school without suffering in any degree from her throat. Eventually she became one of the teaching staff in a poor and populous district of Manchester. Sometimes as many as three "noisy" lessons were in progress in the same room—more often two only. The school possessed a classroom, but patient's class rarely went into it. The street, not a main thoroughfare, was quiet. By the end of her first two months "teacher's nodes" had developed, as proved by laryngeal examination.

In the foregoing cases there are, I think, sufficient grounds for assuming that laryngeal disease was not present before the hoarseness and other vocal disabilities commenced, and these seem to have been determined by a specific change in the teachers' surroundings. Other influences tending to the production of throat disease in teachers appeared to be the noise of traffic in the streets; the employment of boards for flooring instead of wooden bricks (which appreciably deaden the sound produced when classes are moving about); the presence of suspended particles of chalk in the air (Ellis[1]), and the conduction of classes in large lofty rooms with bad acoustic properties.

In addition to the above, other injurious agents, such as classes which are too large (that is, exceeding 40 to 60 pupils); ignorance of the elements of voice production (a want of knowledge which frequently leads to unnecessary shouting); the commencing of duties at too early an age, 13 to 16, when, as Milligan[2] has pointed out, the vocal organs are not in a position to stand any undue strain, and when the first great tax is being put upon the female economy; all these have been suggested as probable factors in the production of throat disease in teachers, or in the predisposition thereto.

The following is a brief analysis of the cases collected, and the conclusions derived therefrom:

1. Forty-five per cent. of the total number of teachers were suffering from some definite lesion of the larynx or pharynx—the term "definite lesion" excluding mere temporary congestion of those structures—leading to the supposition that throat disease in certain forms is common among female teachers in elementary schools.

2. The commonest condition was some laryngeal anomaly (35 cases); pharyngeal lesions were present in 30 cases.

3. The laryngeal lesions occurred in the following order of frequency—catarrhal inflammation, 16 cases; paresis of certain laryngeal muscles, 11 cases; "teacher's nodes," 7 cases; and fibro-papilloma, 1 case.

4. A definite history of "laryngeal strain," a tired aching feeling usually referred to the region of the larynx, was present in 30 cases, and as all but 4 of these showed some lesion of the larynx or pharynx, it appears to be a symptom of some importance.

5. A markedly hoarse voice was noted in 5 cases. In 2 of these marked granular pharyngitis alone was present; in 1 there was a fibro-papilloma, and in 2 irregular congested and thickened cords.

6. By far the most potent factor concerned in the production of throat affections appeared to be the absence or paucity of class rooms, leading to the necessity of holding two or more "noisy" or "oral" lessons simultaneously in the same room. This conclusion was arrived at (*a*) from the preponder-

ance of throat disease in teachers working under such conditions, and the comparative immunity of those not so circumstanced; (*b*) the history of certain cases in which the inception of the throat lesion could be traced; and (*c*) the statements of experienced teachers themselves. It seemed probable, also, that the other influences mentioned above co-operated to produce laryngeal or pharyngeal disease.

REFERENCES.
[1] Watson Williams, *Diseases of the Upper Respiratory Tract*, 1895, p. 86.
[2] Milligan, BRITISH MEDICAL JOURNAL, November 2nd, 1895.

EMPYEMA OF THE ANTRUM IN A CHILD AGED 8 WEEKS.

BY D'ARCY POWER, F.R.C.S.ENG.,
Surgeon to the Victoria Hospital for Children, Chelsea.

A WASTING boy, aged 8 weeks, was admitted under my care at the Victoria Hospital for Children on July 30th, 1897, on account of an abscess, which had pointed and was discharging at the lower part of the right lower eyelid. The right side of the face was somewhat fuller than the left, and the skin of the lower eyelid and cheek was red and hot. A considerable quantity of pus could be squeezed out by pressing upon the cheek, and on looking into the mouth a small quantity of pus could be seen exuding from the alveolar border of the upper jaw. A probe passed along the sinus in the cheek showed that the upper part of the superior maxilla was bare. I enlarged this sinus, scraped away some granulation tissue, and made an opening through the floor of the antrum, so that a drainage tube could be passed from the eyelid into the mouth. About a drachm of thick pus came away at the time of the operation, but the child died ten days after the operation.

The child's attendant said that forceps had been used at its birth, and that after delivery both sides of the face were badly bruised, the right more than the left. When the baby was a month old he seemed to have some difficulty in closing his mouth, and he refused the bottle. About the same time the redness and swelling appeared below the right eye, and eventually an abscess was opened by the medical man in attendance. The discharge of pus continued until the child was brought to the hospital. There had not been any case of infectious disease in the house.

Cases of antral empyema in young children are extremely rare. Indeed, I can only find one similar case recorded in detail. It occurred in the practice of Dr. Rees.[1] The patient was a child, aged 2 weeks, in whom the abscess pointed upwards immediately below the eye and downwards on the left side of the palate. In this case, as well as in another of which Dr. Rees gives no further account, the child was born with the face towards the pubes, and he attributes the abscess to the pressure exercised by the arch of the pubes on the face during parturition. Mr. Spencer Watson in his work on diseases of the nose,[2] also says that he has seen two cases of abscess of the antrum in very young children in whom he had reason to suppose that the mischief was connected with injuries received during parturition. I am indebted for the notes of the case to my house-surgeon, Mr. H. B. Muir, M.B.

The specimen will be exhibited before the Pathological Society of London in the course of the ensuing session.

REFERENCES.
[1] *London Medical Gazette*, 1847, vol. iv., N.S., p. 860. [2] *Diseases of the Nose*, 1890, p. 164.

CANCER OF THE BREAST TREATED BY INJECTION OF ALCOHOL.

BY WILLIAM YEATS, M.D.,
Consulting Surgeon, Ancoats Hospital, Manchester.

WITH the idea that such a line of treatment might be further pushed in other and similar cases with success, I consider the following so remarkable that it should be recorded.

A. B., aged 58, widow, the mother of three children, middle sized, fairly nourished, rather sallow, and looking older than she is, presented herself in my room on February 17th complaining of a growth in her left breast. In the family history there was nothing particular to note either in regard to the direct or collateral members of her family, except that one sister, whom also I attended, died of cancer originating in the anterior mediastinum, developing outwards and involving the sternum and the anterior extremities of the second, third, and fourth ribs. As to the personal history of the patient: she had very little to complain about; her health had always been considered satisfactory, her position very comfortable indeed for her, and her habits had been good.

The history of the growth in the left breast was as follows: She stated that in June, 1896, she accidentally noticed, in the course of her toilet, a hard lump; that this steadily enlarged, but it was only in January of this year when the skin gave way, an offensive discharge was set up, and the pain became considerable, that she resolved to seek advice. She knew no cause. On examination the left breast was fully twice as large as the right, and very much heavier, the nipple was much retracted, the skin was ulcerated under and to the left of the nipple for about an inch, considerably indurated around, and adherent to the underlying parts. On palpation there was found at once a large tumour, hardy and knobby. There were several smaller masses along the lower edge of the pectoralis major, and the glands in the axilla were a good deal enlarged. She complained, too, of the characteristic pains, which were aggravated by handling. There was no doubt about the diagnosis. The right breast was very well developed and healthy. On being informed of the nature of the disease—which she had surmised—and advised that complete and immediate removal of all the parts was, perhaps, the best procedure, she refused to submit to the operation.

Bearing in mind a form of treatment by injection of a mixture of absolute alcohol and distilled water used by Dr. O. Hasse, and published in the *Archiv für path. Anat.*, B. 146, Hft. 2, S. 209, November 4th, 1896, Zur Krebsheilung, which had been brought to my notice by Mr. Thomas Windsor, I at once suggested and recommended the plan, and to this she readily acceded. Accordingly on February 20th, with a mixture of 40 parts absolute alcohol and 60 parts distilled water, 23 syringefuls, each of 20 minims, were injected deeply into the tissues all round the tumour, and into the axilla in the neighbourhood of the enlarged glands. The injections, averaging from 22 to 25 syringefuls each time, were repeated on February 27th, March 3rd, 8th, 13th, 17th, 20th, 24th, 27th, 31st, April 3rd, 8th, 11th, 14th, 18th, 25th, and May 2nd. Each sitting occupied about three quarters of an hour, and as the injected fluid had a great tendency to run back again, to obviate this I found a smear of collodion over the needle pricks the best preventive. The patient experienced considerable immediate pain from the injections, lasting from half to one hour. After the second series of injections, the patient declared that the sensations in the breast were altered, the shooting pains were no more felt, and the itching on the surface of the breast which she had complained of disappeared and never recurred. After the subsidence of the immediate painful effects of all the other injections, the patient felt more comfortable in every way. When the process had been continued for five weeks, the parts around the tumour began to be œdematous, but still the injections were continued into and beyond the œdematous parts. During the sixth week the patient and her nurse stated that they considered that the growth was less, and certainly at the beginning of the eighth week (April 11th) the whole breast, including the tumour, had diminished in size.

After this date all the parts, breast and tumour, rapidly shrunk, until in May there was actually nothing left of the mamma to be felt by the hand, and practically nothing left of the tumour but the nipple and slight thickening under it. There was still œdema in the injected area. The glands in the axilla could not be detected. At this time I asked Mr. Windsor to examine the case, which he did on May 12th, and he stated "that whilst the right was a fairly large hanging breast, the other—the left breast—had practically disappeared, the nipple only remaining; that he did not find any thickening under the pectoralis nor enlarged glands in the axilla." After these seventeen injections, a complete structural change to all appearance having taken place, it was intended to continue the injections at longer intervals for

a considerable time, but unfortunately the patient became ill otherwise. She lost her appetite, she became slightly jaundiced, and on examining her in bed on May 16th it was found she was suffering from cancer of the liver with ascites. This being the case nothing further was done; the patient rapidly got worse, and died on June 10th.

After death, the breast and all the surrounding structures were removed as well as a part of the liver: and these I submitted for examination to Dr. Delépine, Professor of Pathology, Owens College, and subjoined are his report and remarks, dated July 22nd, 1897:

"The mamma is replaced by a dense fibrous-looking mass with several processes extending into the surrounding fat. It is firmly connected with the subjacent pectoral muscles. The skin is rough, superficially ulcerated at one place, and adherent to the subjacent tissue round the nipple. The nipple is depressed but not considerably retracted.

"*Microscopically.*—The cutis vera, subcutaneous tissue, and fat surrounding the mamma show distinct signs of proliferative inflammation of the connective tissue elements, and little infiltration with leucocytes.

"The tumour itself presents, in most places, the appearance of an atrophied scirrhous carcinoma—that is, the epithelial cells are small, they do not fill the alveoli containing them, and the stroma is, generally speaking, abundant, and shows signs of great proliferative activity, the periacinous connective tissue shows in a marked degree the metamorphosis described as elastic degeneration. These signs of atrophy of epithelial elements and increase of connective tissue stroma are not absolutely general, and in some parts the tumour still presents the appearances of a typical scirrhous carcinoma.

"The section of liver shows several confluent nodules of scirrhous carcinoma, very cellular, epithelial cells of the same type as those found in the mammary tumour, extensive tracts of necrosis, biliary pigmentation, and capsular hepatitis.

"In conclusion, I would suggest that the mammary tumour shows signs of marked irritation of the connective tissue elements, and atrophy of the epithelial cells, and that this may be fairly attributed in part to the action of the alcoholic injections, the similarity existing between the hepatic secondary growth and the primary mammary tumour throwing a certain amount of doubt over this conclusion.

"(Signed) SHERIDAN DELÉPINE."

The clinical history showed clearly an enormous diminution of the cancer of the breast and complete disappearance of the glands in the axilla; and it may be concluded that had not the cancer in the liver developed, there was every prospect of a complete cure of the breast.

The action of the alcoholic injections would seem to be that the injected tissues, more especially the cellular, become indurated and contracted, that the blood vessels become sealed up and the nerves compressed, and hence the strangling of the nutrition supply and the shrivelling and atrophy of the tumour.

The cases in which this plan would seem most likely to be suggested are those where operation is absolutely refused or impracticable, those which have recurred and are unfit for further operation, and perhaps certain cases after operation with the view of preventing recurrence.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

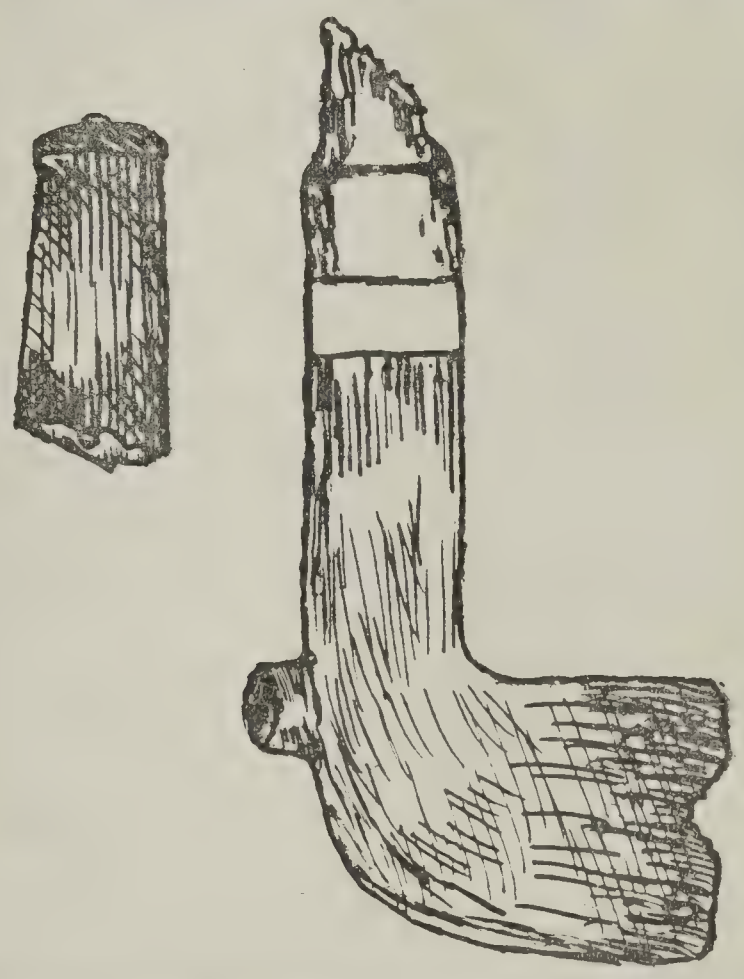
A PIPE STEM IMPACTED IN ONE OF THE BRONCHI FOR A PERIOD OF THREE MONTHS.

Two months ago J. W., an army pensioner, sent for me, and gave the following history. About a month previous, while he was standing quietly in the street smoking a briar pipe with a vulcanite stem he was seized with a fainting fit and fell. He was raised from the ground by the bystanders, and recovering consciousness he looked about for his pipe, but found that the shank was broken about an inch from the mouthpiece; the broken fragment could not be found, and the man proceeded home himself feeling little the worse for his tumble; but from this date until the time I saw him he complained of a pain more or less severe in the left breast, with dyspnœa on exertion and a profuse muco-purulent expectoration, being, however, able to go on with his work. For the above symptoms he applied to me, chiefly with the object of getting on the sick list of a society to which he belonged.

On examination I detected no other symptoms than a slight systolic mitral murmur and loud rhonchi heard all over the chest, which was hyperresonant, the man being the subject of chronic bronchitis.

I applied belladonna plaster over the region of the heart, and gave him a stimulating expectorant mixture, not connecting the episode of the broken pipe with his then condition.

I saw him on two subsequent occasions, and on the last he declared himself to feel so much better that he wished to go off the sick-list and resume his work, which consisted in lifting and carrying various heavy articles.



Exact size of pipe and the fragment of stem impacted in the bronchus.

From that time until August 30th I saw nothing of him, when he walked into my consulting room with the missing piece of pipe stem in his hand, and explained that he had on the previous day, while carrying a heavy weight about 100 yards in a stooping posture, suddenly felt something move inside his chest, followed by a fit of coughing, and to his astonishment the long lost pipe shank dropped out of his mouth on to the ground surrounded by a little coagulated blood and inspissated mucus, he immediately experiencing a sense of relief in his previously embarrassed breathing.

The piece of pipe shank measures $1\frac{1}{4}$ inch by $\frac{1}{3}$ inch, and must have been lodged low down in the left bronchus.

The case, I think, must be almost unparalleled, considering the size of the foreign body and the length of time (three months) it had remained impacted in the bronchus without producing any other symptoms than occasional attacks of pain, dyspnœa, and profuse expectoration. The explanation of the mildness of the symptoms I attribute to the fact that

evidently air could freely enter the lung through the bore in the pipe stem.

If any member has met with a case at all similar I shall be very glad to know the particulars.

Arthur Bailie Francis, L.R.C.S., L.R.C.P.Edin.

Carrickfergus.

A (FOREIGN BODY) TOOTH IN THE EAR REQUIRING REFLECTION OF THE AURICLE, ETC., FOR ITS REMOVAL.

I saw this case in consultation with Dr. Glen, of South Bank, and the following are the chief points concerning it:

A. K., aged 10, complained to his mother on May 2nd of feeling something hard in his left ear. Dr. Glen saw him the same day, and, with the aid of a speculum, made out a pearly-white body deep in the meatus. As ordinary measures were useless he was placed under chloroform next day, and an unsuccessful attempt made to remove it. Three weeks after this I saw him with Dr. Glen, and failed also to remove it. There was some discharge present, and the wall of the meatus bled readily when touched. Syringing with boric lotion was ordered to be continued, and glycerine and spirit drops used twice daily. Five weeks later another attempt failed, and as the father withheld his consent to further procedure, the previous treatment was continued. However, on July 7th an incision was made close behind the auricle, the soft parts stripped off posterior wall of bony meatus with a Macewen's "searcher," and cut through close to the foreign body. Then a few shavings were taken from the posterior bony wall with chisel and mallet, which allowed of a "searcher" being slipped behind the foreign body, and at the same time removing it quite easily. It proved to be an upper incisor tooth, with a broken fang having a very sharp edge. The patient made a rapid recovery. Three weeks after the operation I removed a polypus from the meatus, and there was a good deal of discharge at this time.

I again examined him on September 4th and found the discharge much less; no granulations; has a slit-like perforation at upper and back part of drum membrane, which will probably heal. The hearing is much improved. At no period had the patient any acute symptoms. He denies having put the tooth in his ear, though he says that some three weeks prior to making the complaint, he pulled out a tooth one night in bed; thus, in some unaccountable way, it got into his ear.

With regard to foreign bodies in the ear, three rules should be remembered:

1. The surgeon should ascertain by inspection that a foreign body is really there.
2. Other than syringing, no attempt at removal should be made unless aided by mirror and speculum.
3. That a foreign body may remain in the ear for an indefinite period, and cause no symptoms other than deafness.

Stockton-on-Tees. G. Victor Miller.

THE CHLORIDE OF SODIUM TREATMENT OF TINEA TONSURANS AND TINEA CIRCINATA.

The treatment of ringworm by common salt was first introduced in the British Medical Journal, November, 1895, but since then has been little noticed in the medical press. The results I am about to show will be sufficient excuse for entering first into a recapitulation of this simple process.

All scabs having been removed by soaking with olive oil, or poulticing, and, if on the head, the hair cut short, the diseased area is well rubbed with a saturated solution on a small piece of sponge. The medical man should do this himself once a day if possible, and the relatives once a day. It is a clean and painless application, but, like so many seemingly simple processes, yields its best results when the whole treatment is carried out by the medical man himself. In each of my cases I have made a microscopical examination before and after the treatment.

The following list contains brief notes of a series of 25 cases, which, on analysis, present the following results:

The average duration of treatment was 16 days, the longest duration 7 weeks (this case was an adult who would not persist in the treatment), the most rapid case 7 days.

1. S. G., aged 11. Tinea tonsurans: Two large patches on the scalp The crusts were removed by soaking with olive oil, and the diseased area was well rubbed with the saturated solution of chloride of sodium twice daily. Case steadily improved, and was quite well in three weeks.
2. L. G., aged 14. Tinea circinata: Large circular patch over manubrium sterni treated by solution of chloride of sodium, and was completely cured in ten days.
3. M. H., aged 9. Tinea tonsurans: A small patch over occipital bone. The hair was cut short, and the patch treated with chloride of sodium solution. Quite cured in one week.
4. G. S., aged 15. Tinea tonsurans: The whole scalp was one mass of crusts, which were removed by poulticing and soaking with olive oil. The diseased area was treated with the chloride of sodium solution, and the case was cured in four weeks.
5. E. V., aged 8; 6. J. V., aged 10; and 7. H. V., aged 13. Two sisters and one brother, all suffering from tinea circinata. Each case had three or four patches, which I rubbed diligently with the saturated solution. All of them were quite well in ten days.
8. J. L., aged 14. Tinea tonsurans. Treatment, chloride of sodium. Cured in fourteen days.
9. M. S., aged 8. Tinea tonsurans. Treatment, chloride of sodium. Cured in ten days.
10. F. M., aged 7. Tinea tonsurans. Treatment, chloride of sodium. Cured in three weeks.
11. M. C., aged 15. Tinea tonsurans. Treatment, chloride of sodium. Cured in three weeks
12. E. V., aged 17. Tinea tonsurans. Treatment, chloride of sodium. Cured in five weeks.
13. M. S., aged 25. Tinea tonsurans. Treatment, chloride of sodium. Cured in seven weeks.
14. E. P., aged 9. Tinea tonsurans. Treatment, chloride of sodium. Cured in ten days.
15. F. G., aged 7. Tinea tonsurans. Treatment, chloride of sodium. Cured in fourteen days.
16. M. T., aged 10. Tinea tonsurans. Treatment, chloride of sodium. Cured in ten days.
17. E. L., aged 12. Tinea tonsurans. Treatment, chloride of sodium. Cured in three weeks.
18. C. P., aged 14. Tinea circinata. Treatment, chloride of sodium. Cured in ten days.
19. E. F., aged 13. Tinea circinata. Treatment, chloride of sodium. Cured in ten days.
20. J. S., aged 9. Tinea circinata. Treatment, chloride of sodium. Cured in two weeks.
21. E. G., aged 8. Tinea circinata. Treatment, chloride of sodium. Cured in two weeks.
22. M. W., aged 7. Tinea circinata. Treatment, chloride of sodium. Cured in ten days
23. L. E., aged 9. Tinea tonsurans. Treatment, chloride of sodium. Cured in fourteen days.
24. G. B., aged 12. Tinea tonsurans. Treatment, chloride of sodium. Cured in eighteen days.
25. M. M., aged 6. Tinea tonsurans. Treatment, chloride of sodium. Cured in sixteen days.

Case 13, which took seven weeks in recovering, hardly gave the treatment a fair chance, as she sometimes let three days elapse before coming to my house to have the treatment pursued.

It will be noticed that the younger the patient the more easily this treatment seems to cure. The reason, I should say, being that adults, especially women, have thicker hair, and object to much being cut away.

Dover. Charles E. Murphy, L.R.C.P., L.R.C.S.Ire.

CASE OF DIPHTHERIA TREATED WITH ANTIDIPHTHERIA SERUM.

The success of the serum treatment of diphtheria is now so fully established that to continue to publish notes of isolated cases in which it has been used would seem to be little better than a waste of time. As showing, however, the remarkable power of the remedy in severe cases, and the importance of its early application, the following particulars are of interest:

On July 26th last a delicate girl of 4 years was brought into my surgery with a history of having been taken ill with vomiting two days previously, followed the next day by sore throat, swelling of the neck, difficulty in swallowing, and general *malaise*. There was a large patch of membrane upon the right tonsil, and extending across the arch of the palate to the right side of the uvula, with considerable swelling of the adjacent structures. Except for the marked prostration, other constitutional symptoms were but slight. During the succeeding forty-eight hours the membrane continued to spread, until both tonsils, uvula and the posterior half of the palate, were covered. The tissues of the neck became swollen and hard at both sides, and a general redness of the skin occurred in this situation. An acrid offensive discharge came from the nostrils, there was inability to swallow, a

tendency to stupor, and although the temperature did not rise above 99° F. and the pulse and breathing were not much disturbed, the child's condition was evidently becoming critical. At 10 P.M. on the 28th, 1,500 units of antidiphtheria serum, obtained from the British Institute of Preventive Medicine, were injected under the skin of the abdomen. On the following morning the condition of the patient was unaltered, except that the cellular inflammation had extended from the neck over the front of the chest to midway down the sternum, but there was thought to be a slight yielding of tension in the immediate neighbourhood of the tonsils. The urine was at this time found to be highly albuminous. On the evening of the 29th another dose of 1,500 units of serum was injected as before. The child was now extremely prostrate, and almost comatose. The following morning there was decided subsidence of the swelling about the neck and chest. An attempt was being made to support the child with nutrient enemata, but all along we were sadly handicapped by the want of a good nurse. On the 31st I called expecting to find the window blinds of the house all down, but, instead, I found a marked improvement in the child's condition. She had passed a fairly good night, looked bright, and drank some milk from a mug which she held in her own hand. The swelling and redness of the neck and chest had almost entirely disappeared, the pulse, however, was excessively weak and slow (66 per minute) and the general prostration was very great. On August 1st and 2nd the conditions remained the same, extreme prostration, and great difficulty in getting nourishment swallowed; enemata could not be retained. On the afternoon of the 2nd the child died, apparently from heart paralysis.

Although the termination of this case was disappointing, no discredit is due to the serum treatment. Four days had elapsed from the onset before the first injection could be given, and, as it has been shown that after three days the chances of success in a severe case are but slight, a fatal issue was rather to be expected. Nothing could have been plainer than that the antitoxin completely arrested and destroyed the power of the bacilli for further mischief, but unfortunately the time allowed them had been sufficient for the completion of their baneful work. The absence of anything like intelligent nursing, also, greatly reduced the child's chances of recovery. I have only to add that the diagnosis in this case was confirmed by bacteriological examination.

Epping. Trevor Fowler, L.R.C.P.I., D.P.H.Camb., etc.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

SWANSEA GENERAL HOSPITAL.

A CASE OF HYDATIDS SIMULATING TYPHLITIS: OPERATION: RECOVERY.

(By R. C. Elsworth, M.B.Edin., F.R.C.S.Eng., Surgeon to the Hospital.)

G. H., aged 29, a schoolmaster, was admitted suffering from what appeared to be typhlitis on October 5th, 1896.

History.—About nine years ago he began to suffer from frequent attacks of pain in the right side of the lower part of the abdomen, with much tenderness and occasional swelling in the same region. The pain was always more severe after taking a heavy meal. For months he would be quite well, and then suddenly he would be seized with paroxysmal pain, tenderness, and some swelling in the region above named. The attacks were of varying duration, from a few minutes to a whole day; but at no time was he confined to bed. There does not appear to have been any vomiting during the attacks, and the urinary functions and bowels do not seem to have been obviously affected.

Early in July, 1896, the patient had an acute attack. It began suddenly with pain in the lower part of the right side of the abdomen so severe as to "double him up." There was no vomiting, but the bowels, notwithstanding aperients, were confined. During the day the acute character of the pain somewhat abated, but it continued so bad that he was obliged to remain in bed and to see his medical attendant, who diagnosed the case as typhlitis. He was put under treatment and remained in bed for three weeks; at the end of six weeks he was able to move about, although still in pain.

Condition on Admission.—A sparely-built man, about middle height. He said that he was unable to stand erect on account of pain in the abdomen, and he walked with his right leg on guard, and stood with it a little in advance of the other. On examination there was great tenderness over the whole of the right half of the abdomen, and a lobulated, hard, movable swelling occupied the cæcal region. The lobulations were smooth, rounded, well defined, and more marked towards the middle line than laterally. *Per rectum* a mass could be felt to the right side, which bimanually appeared continuous with the mass above mentioned. It was rounded, firm, and apparently attached to the pelvic brim. Fluctuation could not be made out. The tongue was furred, the bowels confined. Temperature normal, pulse 90. He was placed under observation, and ordered a mild saline.

October 12th. Seven days after admission the mass in the cæcal region appeared somewhat diminished in size, and the tenderness was much less.

October 13th. The patient was anæsthetised, and I opened the abdomen by an oblique incision on the right side, midway between the umbilicus and the anterior superior iliac spine. The peritoneum around and in front of the cæcum was thickened and adherent by soft fibrous bands to the surrounding structures. The appendix could not be found, but several round, hard bodies could be felt in the region it would normally occupy. One of these was brought into view, and on stripping off the adhesions it was seen to be a hydatid cyst. It was removed along with several others by stripping off the adhesions.

In all ten cysts were enucleated, varying in size from a hazel nut to a small orange. All these cysts were situated on the inner side of the cæcum, and some had extended over the brim into the pelvis. One cyst, about the size of a hen's egg, which lay to the left of the middle line near the pubes, could not be brought into the wound on account of the adhesions, and as the patient's condition suddenly became critical it was thought advisable to leave it for a future occasion. The peritoneum was carefully cleansed, and the abdomen closed with sutures of silkworm gut, but no drainage tube was used. After the patient was put to bed he quickly rallied, and from that time his case presented no features of special interest. He was up in a fortnight and discharged in a month, and since January of this year has been attending to his ordinary duties.

Remarks.—The interesting point about this case is the attack of what appeared to be typhlitis of the ordinary type coming on suddenly and leaving behind a tumour, which was generally considered as inside the bowel. The probable explanation of the condition is that prior to the attack in July he had a cyst which ruptured, setting free a number of daughter cysts, and lighting up peritonitis around the cæcum, the daughter cysts becoming embedded in the exuded lymph. This view is the more probable, as during the operation, while searching for the cysts, a mass of inflamed tissue, with ragged cavity, was exposed near to and in front of the hepatic flexure of the colon. This I am inclined to look upon as the site of the original cyst which had ruptured. The pressure here of the cyst would explain the swelling of that side of the abdomen which the patient complained of, since by pressing upon the upper part of the ascending colon the cæcum would first become distended.

ROYAL INFIRMARY, SHEFFIELD.

A CASE OF STRANGULATED HERNIA IN AN INFANT 5 MONTHS OLD.

(By Archibald Cuff, B.A., M.B., B.C., F.R.C.S., Resident Medical Officer.)

Strangulated hernia in young infants, though not unknown, is of such rare occurrence that the record of the following case may be not uninteresting:

E. B., a badly nourished and weakly child, was admitted with the history of having vomited continually for thirty-six

hours, with complete constipation and with a large rupture on the left side. The baby had had a small rupture from birth, but the mother had noticed that it had greatly increased in size the day before admission. The child suffered from a cough, and it was under the influence of this that the rupture was supposed to have got bigger. On examination a large tense mass which filled the left side of the scrotum was seen, this side being about four times its normal size, resonant on percussion, without impulse from the crying of the child, and irreducible into the abdomen.

The child looked extremely ill, kept up a continual cry, had a rapid small pulse, vomited intermittently. The legs were kept drawn up on to the abdomen. The vomit was a thin yellowish fluid, but not of fæcal odour. The temperature was subnormal.

The child's pelvis was elevated on pillows and taxis tried, but unavailingly. A small icebag was then applied, the child still being kept with its lower extremities elevated. At the end of two hours taxis was again tried in vain, but, the symptoms remaining the same, and the tenseness of the hernia being still present, the child was prepared for operation. The child's legs were bandaged up to the groin with wool and flannel bandages, and the upper part of its body swathed in a blanket, only the scrotum and lower part of the abdomen being left exposed. Having been placed upon a water pillow filled with hot water, chloroform was administered, and the skin of the scrotum and hernia region prepared in the usual way. When fully under the anæsthetic manipulation was again tried for a few seconds. but, no impression being made on the hernia, the usual operation of herniotomy was commenced. The incision, about 1½ inch long, was made well away from the scrotum, above and parallel to Poupart's ligament. The sac was easily found, and when opened contained a quantity of clear fluid, and 7 or 8 inches of congested gut, which was tightly held at the neck of the sac at the internal ring. After incision of the ring and inspection of the gut it was returned into the abdomen. though not without great difficulty, even after considerable enlargement of the constricting orifice. The upper part of the sac was then rapidly dissected off the elements of the cord, a small portion left attached to the testicle, and the upper part twisted up to the internal ring, its end then being brought through the internal pillar, and attached there with a catgut suture. The wound having been thoroughly dried, a silk continuous suture was applied, and the wound then sealed with collodion and powdered iodoform. A slight dressing was applied, and the child put back to bed.

The after-treatment consisted in keeping the child lying flat in bed, by means of a roller towel passed over its abdomen and legs, and secured by sandbags. It was fed on small quantities of warm diluted milk at short intervals, and the bandage and wool were changed whenever they got soiled by the fæces or urine. The wound healed *per primam* under the scab of iodoform. The stitches were removed on the tenth day, and the baby sent home on the twenty-second day. The temperature remained normal throughout.

REMARKS.—I would call attention to the necessity of keeping these small children warm during an operation of whatever nature, and not exposing more of their body than is absolutely necessary for the due performance of the operation and the certainty of keeping the wound aseptic. With regard to this latter point it is very advisable in all operations upon scrotal contents in children to make the incision as far away from the urethra and scrotum as possible. And in all wounds about the thighs and scrotum, the advantage, after thorough drying of the wound, of applying an impermeable dressing like collodion and iodoform, will be readily appreciated when the great difficulty of keeping the ordinary dressings clean in young children is considered. I have pursued this method of treating the wound in a considerable number of cases, such as hernias, hydrocele, retained testicle, etc., and have always been well satisfied with the result.

I am indebted to Mr. G. H. Shaw, Senior Surgeon to this institution, for having kindly handed this case over into my

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BEQUEST.—Under the will of Mr. Samuel Camm, of Messrs. Harrison and Camm, of Rotherham, £500 has been bequeathed to the Rotherham Hospital.

REVIEWS.

HALLUCINATIONS AND ILLUSIONS: A STUDY OF THE FALLACIES OF PERCEPTION. By EDMUND PARISH. London: Walter Scott. 1897. (Demy 8vo, pp. 406. 6s.)

THIS book is a translation. The author lets us know that critics of the German edition have sometimes mistaken his meaning. We have heard a German, master of our language, say that he generally got a clearer understanding of a book from an English translation than from the German original. In spite of such assistance, we have in several places found a difficulty in reaching the meaning. The book as a whole is a complete summary and review of researches of hallucinations old and new, and is full of curious illustrations and anecdotes. The author makes much use of the publications of the Psychical Research Society, and similar inquiries which have recently been made in America, France, and Germany. He examines the question of hallucinations occurring in people of ordinary health. He rejects the theory of a centrifugal propagation or transformation of mental images into sensory hallucinations; but the instances of hallucinations originating through ideas or suggestions, especially in insanity and hypnotism, cannot be set aside by mere authority or slight arguments. We think he too readily admits the correctness of the observations of Binet and others, that perceptions clearly subjective may be doubled, coloured or reflected by optical instruments. We believe such delusive perceptions to be simply the result of suggestions often undesigned. He omits to explain on what theory of optics glasses held before the eye could possibly affect images which at any rate reach no further than the posterior chamber of the eye. Anyone can ascertain by simple experiment that ordinary after-images left in the retina cannot be doubled or otherwise affected by prisms or lenses. The author's readiness to believe the stories about gazing in crystals form a contrast to his wariness against admitting telepathy. By the calculation of the Psychical Research Society, the probability of a coincidence between the assumed warning of the death of an absent person and the real event is 1 in 19,000, but the authors of "Phantasms of the Living" have found the proportion of coincidences to the actual warnings received as 67 to 372. Here Mr. PARISH pertinently observes that people rarely take the trouble to publish such warnings unless they are in some way verified by the event and are also apt to shape their narrations in an accommodating way. We cannot know the proportion of hits unless we know the number of misses, "and to compare the number of coincidental and non-coincidental hallucinations is to compare the incomparable." The author at some length exposes his theory that what most favours the production of hallucinations is a disturbed state of the ordinary association of ideas.

PRACTICAL DOMESTIC HYGIENE. By J. LANE NOTTER, M.A., M.D., and R. H. FIRTH, F.R.C.S. London: Longmans, Green, and Co. 1897. (Cr. 8vo, pp. 320, 83 illustrations. 2s. 6d.)

THIS book is intended for those who, without any previous knowledge of the subject, desire to acquire a knowledge of elementary hygiene, and it is judiciously prefaced by a few chapters furnishing a simple and concise statement of the essential facts connected with human anatomy and physiology. A couple of chapters dealing with first aid and sick nursing are appended.

The book is admirably written, the style being singularly lucid and concise. The typography is excellent, and the illustrations are clear and distinct, and sufficiently numerous. A considerable—but, bearing in mind that the subject is domestic hygiene, perhaps not an unduly large—portion of the text is devoted to the question of food. The underlying principles of dietetics are expounded, the relative values of the common articles of diet are analysed. A chapter is devoted to the principles of cooking and another to beverages. Water and water supplies are dealt with in a somewhat restricted fashion, in four chapters, in the course of which one of the few lapses from lucidity which are discoverable in the book occurs.

With regard to filtration, it is said, that "all that is really necessary is that mechanical filtration shall be perfect." The observation is subsequently qualified by an exposition of the vital action of filters, but it would have been better if it had been omitted. In dealing with "the habitation," the common conception of the staircase as a ventilating shaft is accepted, regardless of the consideration that when the staircase is so employed, the ventilation of the bedrooms through the aspirating action of the chimneys is interfered with. In dealing with the question of ventilation no reference is made to the generally-accepted principle that, for efficiency, heating and ventilation must, in our climate, be combined; nor in dealing with "radiators" is there any mention of the modern system of ventilating radiators. Modern sanitary engineers will hardly acquiesce in the dictum that soil pipes should be 4 inches in diameter, or that they should generally be "led into intercepting traps a few yards from the house." The chapter dealing with sewage disposal might have been expanded so as to include a reference to Mr. Dibdin's experiments with coke breeze filters. These, however, are but trivial defects. The book, as a whole, is one of the best, most lucid, and most scientific popular manuals of the day.

Crime and Criminals. By J. Sanderson Christison, M.D., formerly of the New York City Asylums for the Insane, Blackwell's Island and Ward's Island. Chicago: W. T. Keena Co. (Cr. 8vo, pp. 116. 1.00 dollar.)

This little book is composed of articles and reports of cases previously published, and except as a kind of pilot for a larger and more scientific book which is promised, it would hardly deserve notice. The photographs of prisoners are as a rule very good, and are well reproduced, but we fail to recognise absolute mental and physical perfection as represented by "Ian Maclaren" or definite types of evil represented by the various photographs of criminals. Fairly good examples are given of criminal histories pointing out the contributing causes of the crime, such as bad heredity and evil surroundings, both being considered; and at the end of each case a summary is given. We find nothing new in the book, and a good deal of writing which seems to be meant to appeal to the emotional classes. We should be unjust if we did not point out that our author is very earnest in insisting on the cruelty of studying and punishing the crime rather than striving to treat the criminal and his conditions.

We think the author would have been well advised to have waited till his material was ready for a fuller elucidation of his subject.

The Suppression and Prevention of Leprosy. By Albert S. Ashmead, M.D. Morristown, Pa.: Herald Printing Rooms. 1897. (Roy. 8vo, pp. 110.)

In this pamphlet Dr. Ashmead reprints a considerable number of his numerous writings upon the leprosy question, as well as some really valuable extracts from other recent writers referring to leprosy in Columbia, Brazil, Hawaii, and other places. He also reproduces an interesting and important note on mosquitos by L. O. Howard, entomologist to the United States Department of Agriculture.

The author lays down certain propositions: (1) that leprosy is incurable, and (2) that absolute isolation is the only way to abolish it. Among the rules which he states as "absolutely indispensable for the suppression and prevention of leprosy" are: (1) "Compulsory isolation by Government edict:" and (4) "at the death of the leper, whose family have lived with him, a second separation of the family to a station of observation for seven years, at the end of which time, if nothing has happened, that family may be considered clean, and be again adopted by the nation."

Yet it is generally admitted by those who have given special attention to the question that for various reasons, physical as well as political, anything like complete segregation and isolation has never been found practicable, and that it is really impossible. Some of the theories, or "facts" as he calls them, upon which Dr. Ashmead bases his views are rather curious; for example, that the Egyptian custom of mummification kept alive for ages the germ of leprosy. His evidence on these points is, however, very shadowy. Again, he charges the Arabs and Jews with having dispersed the germs all over the world. Of his general accuracy of statement, indeed, the reader can form a judgment from the following extract:

> As an instance of British misrule in India let me cite again the fact that propositions for the compulsory isolation of lepers made to Parliament had to be withdrawn recently on account of the opposition of Mr. Jonathan Hutchinson, Sir James Paget, and Sir Joseph Fayrer. And I mention again that Mr. Hutchinson added that this happened "much to the annoyance and disappointment of some non-professional advocates." There are 200,000 lepers in India, and it is the pest place of the whole Orient for this and several other diseases—cholera, plague, etc. As long as such medical misrule is permitted to exist by the civilised world, just so long will efforts to prevent the spread of such diseases be comparatively futile. The non-segregation of 200,000 lepers in a country ruled by Great Britain is, in my opinion, the most terrible instance of misrule in the great British Indian Empire.

The last census, 1891, gave 126,361 for the number of lepers in India and the dependencies, and the evidence at present to hand, so far as it goes, tends to show that the disease is probably decreasing in that country. Dr. Ashmead no doubt, however, thinks he knows better; and of course he quietly ignores the fact that the leprosy question has been under the anxious consideration of the Government of India for many years, and that they have taken steps in the matter.

It would perhaps have been hardly worth while to notice this *brochure* were it not that there seems to be an attempt in some quarters to revive the "leprosy scare," and that persons unacquainted with the subject might form erroneous notions from the perusal of such a work.

Über puerperale Psychosen. [Puerperal Psychoses.] Von Dr. Oswald Knauer. Berlin: S. Karger. London: Williams and Norgate. 1897. (Roy. 8vo, pp. 54. M. 1.80.)

"Puerperal" is a term sometimes applied to mental disease in a very wide sense, as including not only those occurring in the puerperium proper, but also those arising during, and as an outcome of, pregnancy or lactation, or even by some as also including the transient aberration which may occur during the agony of childbirth. We observe with pleasure that the writer of the pamphlet under review has abandoned such division of puerperal mental disease, although he deals with it in this wider sense. Not that the division he adopts from Olshausen is by any means free from objection—namely, the division of puerperal psychoses into three groups: 1. Psychoses of infection (directly dependent on a febrile puerperal disease). 2. Idiopathic psychoses (without bodily febrile disease). 3. Psychoses of intoxication after eclampsia (or, in exceptional cases, in uræmia without eclampsia).

In Knauer's statistics, one-eighth of the insane females were examples of puerperal psychoses; and of the total number (82) thus affected, 9 belonged to the first group, 71 to the second, and only 2 to the third, of the three groups mentioned above.

Particulars of each case are given, and a number of tables place the statistical aspects succinctly before us. Of the 82, recovery is stated to have occurred in 21, improvement in 35 leaving 26 no better, or dead. Of the three groups, the idiopathic was found to be the most curable.

The work will be of interest to those engaged in the study of gynæcology, of obstetrics, or of psychiatry.

Der chronische Gelenk-rheumatismus und seine Behandlung. [Chronic Articular Rheumatism and its Treatment.] By Professor Dr. C. Baümler. Wiesbaden: J. F. Bergmann. 1897. (Imp. 8vo, pp. 37.)

Professor Baümler and Dr. Ott opened the discussion on this subject at the recent Congress of Internal Medicine in Berlin, the former dealing chiefly with the etiology of the disease. The first question which naturally arises is as to what diseases should be included under the head of chronic articular rheumatism. The author would restrict the term "rheumatism" to acute articular rheumatism, including its variations. He is disposed to admit that there are some cases of genuine chronic rheumatism which are thus grouped under the variations of the acute disease; they only constitute, however, a very small percentage of the cases of so-called chronic articular rheumatism, as by far the largest number should fall into the category of arthritis or poly-

arthritis deformans. There cannot be a doubt that cases are at times seen of chronic and relapsing joint affections, accompanied by practically no fever and no deformity, and complicated by valvular lesions even without a previous attack of acute rheumatism.

The etiology of the disease is discussed at considerable length and with much clearness, but our want of knowledge here becomes only too manifest. Bannatyne and Wohlmann's discovery of a bacillus in the articular fluid still lacks adequate confirmation; and, indeed, there are some strong *a priori* reasons against rheumatoid arthritis being an infective process.

This introductory address contains an excellent summary of the subject under discussion, but we should like to have heard Professor Baümler on the treatment of this very important disease.

L'HYGIÈNE DU CYCLISTE. By Dr. O. LAURENT. Bruxelles: Alfred Castaigne. 1897. (Pp. 126. Cr. 8vo. 23 Illustrations.)

THIS is a very excellent and practical little book treating of the exercise of cycling from a medical and hygienic point of view, and is evidently written by one who is thoroughly conversant with his subject. After a general and instructive introduction, the author treats in the first place of the *action générale* of the use of the cycle upon individuals, and discusses the effects of over-exertion, so-called vibration, and fatigue fever; and also points out the benefits which the stout, dyspeptics, and those inclined to "nervous crises" may obtain from a proper and regulated course of cycling exercise. He then goes on to deal in particular with the respiratory functions, and gives hints as to the management of the breathing while riding, and discourses on the skin and its functions, and ends this chapter with some sound advice on the question of clothing generally. The heart is next taken, with the circulatory system and the effect thereon of moderate and immoderate exertion fully gone into. Afterwards the stomach and digestive organs receive attention, and sound advice as to food and drinks is given. Next follows an excellent chapter on age and sex, in which the moderate and cautious use of the cycle is recommended to female riders, and the evils which over-exertion may entail on young women and girls clearly pointed out. This section ends with some hints as to the dress a woman should wear when riding. The muscular and nervous systems also receive attention, and there is a section on training, and also one on the various forms of accidents which may be met with, and the best methods for their prompt treatment.

The points which should be noticed in choosing a machine and tyres are dealt with, and the position which a cyclist should assume when in the saddle is well shown by diagram, while the ills due to a vicious attitude are made plain. The important question of the saddle is discussed in a general manner, and certain broad rules as to its shape and adjustment are laid down, but the author evidently knows that the saddle must be adapted to the individual, and refrains from any particular recommendation.

The book winds up with a summary and some general conclusions, and with references to the works of many authorities. The advice given throughout is sound, and the great necessity of moderation, and gradual quiet attainment of condition properly insisted on. The book will well repay perusal by anyone interested in the subject.

CHIRURGIE DES VOIES URINAIRES: ETUDES CLINIQUES. Par le Dr. E. LOUMEAU. 2me Volume. Bordeaux: Feret et Fils. 1897. (Roy. 8vo, pp. 287. 6 frs.)

THIS is the second volume of Dr. LOUMEAU'S clinical studies of diseases of the genito-urinary tract. As clinical teacher of this subject in the University of Bordeaux he has had good opportunities for the study of these diseases. The book is carefully written, and some of the cases are of great interest. There is this one fault: that he has over-written his work; some of the points that he makes are unduly emphasised. The book, however, has much in it that will well repay perusal, and it is good clinical work from beginning to end.

NOTES ON BOOKS.

The Spas of Mid Wales. By A. FOXWELL, M.A., M.D., F.R.C.P. (Birmingham: Cornish Bros. 1897. Cr. 8vo, pp. 16. 6d.) This is an account of the group of spas comprising Llandrindod, Llangammarch, Llanwrtyd, and Builth. It is written entirely from the medical point of view, and therefore has the advantage, as far as doctors are concerned, over more elaborate tourists' and visitors' guide books. On page 14 Dr. Foxwell has drawn up a table comparing the waters and climates of the different sulphur spas of Great Britain, amongst which Llanwrtyd and Llandrindod should occupy important places.

Rheumatism and its Treatment by the Use of the Percusso-Punctator. By J. BRINDLEY JAMES, M.R.C.S., etc. Second edition. (London: Rebman Publishing Company. 1897. Cr. 8vo, pp. 39. 2s.) This little book contains, besides the actual treatment of rheumatism by the percusso-punctator, chapters on the treatment of sciatica and lumbago by the injection of sulphuric ether, on diet in rheumatism, and on "névrose" and acupuncture. Of the value of acupuncture in certain common and perhaps not altogether satisfactorily explained ailments, such as certain forms of lumbago, or pain in the course of the sciatic nerve, etc., nobody with any experience will doubt; but many may think it of little moment whether the acupuncture is applied in the usual way or by a special instrument such as the author's percusso-punctator. We doubt whether anything in the nature of genuine rheumatism, unless perhaps the stiffness of a joint remaining after an attack, is really amenable to acupuncture. Sciatica due to a sciatic neuritis can hardly be cured in the hey presto! fashion so vividly described by the author. In drawing attention to the value of acupuncture, Dr. Brindley James renders a valuable service, but the style of his book leaves much to be desired.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

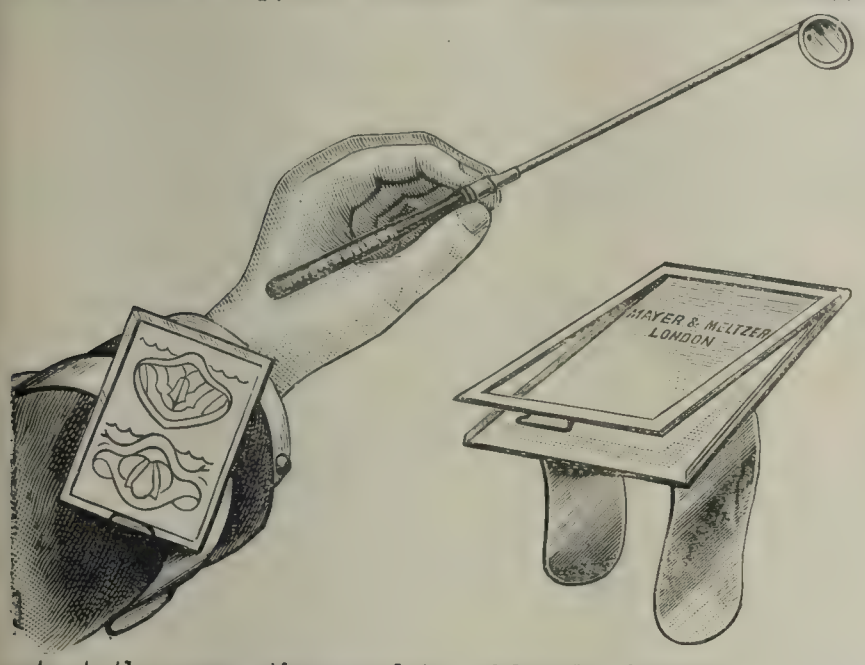
KRYOFINE.

KRYOFINE, a sample of which has been sent by D. Misell, 65, Basinghall Street, E.C., is the very latest antipyretic and antineuralgic remedy. It is in white, tasteless, and odourless crystals, very sparingly soluble in cold water, but much more so in boiling. Kryofine is chemically methoxacetparaphenetidin; it is, like phenacetin, a paraphenetidin derivative, and is the condensation product from phenetidin and methoxyacetic acid. This remedy is said to have a certain antipyretic action even in small doses, and unpleasant collateral effects are said to be wanting. A reliably active dose of kryofine is $7\frac{1}{2}$ grains.

A "WRIST EASEL."

DR. DUNDAS GRANT forwards us a description of a "wrist easel" which he has designed, with tracing tablets, specially adapted for facilitating the drawing of the appearances found in cases of disease of the throat, nose, and ear. The "easel" or plate of thin metal, measuring $2\frac{1}{4}$ inches in height by 3 inches in width, is fixed on to the "wrist-clip," a somewhat omega-shaped strip of metal, which can be readily clipped on to the left arm and as readily removed. The easel plate is attached to this strip of metal by means of a flattened loop of metal, which slips on to a hook. In order that the plate may be in the most favourable position for drawing while the left hand manipulates the laryngeal mirror or the nasal or aural speculum, this hook is placed obliquely on the "wrist clip." The drawing card is held firmly in position on this easel by means of spring catches or of a frame hinged to its top and fixed down over it. The "tracing tablets" consist of layers of tracing paper under the uppermost of which is

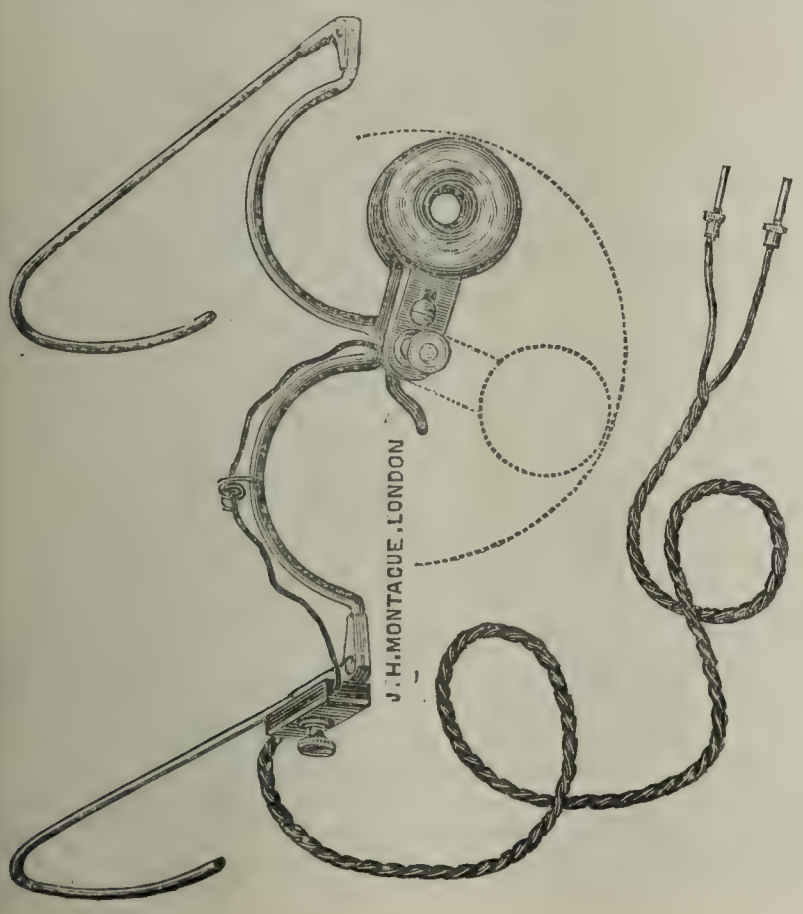
placed a card bearing the conventional outline of the normal appearance of the part under examination—membrana tympani, larynx, etc. The observer can rapidly sketch over this the abnormal appearance even if not endowed with skill in draughtmanship, and the rest of the outline can be traced



out at the same time or later either by himself or by an assistant. The "outline cards" used by the deviser of the instrument represent the normal larynx during phonation and inspiration (on one card), the fauces, the post-rhinal image, the interior nares, the transverse vertical section of the nasal cavities, the membrana tympani of each ear with (on the same card) the inner wall of each tympanum. The ordinary india-rubber stamp outlines may of course be used on pieces of paper of suitable size fitted into the "wrist easel," but the "tracing tablets" present the great advantage that the sketches made, while traced as far as possible on the given outline, are not confused by the retention of these along with the new ones. The apparatus is made by Messrs. Mayer and Meltzer.

A SURGICAL LAMP.

Mr. H. R. Belcher Hickman sends us a description of a new form of electric lamp which has been made for him by Mr. J. H. Montague, of 101, New Bond Street. The lamp, which is 1 inch in diameter, is circular, flattened from before backwards, and perforated by a central aperture about ¼ inch in diameter; the filament completely encircles this aperture. The back of the lamp is silvered and blackened round the the central hole behind, and, to avoid any unpleasant radiation of heat to the eye, the back is further protected with non-conducting asbestos material. A small transformer is required for use with the alternating current, the lamp working best at about 23 volts. At present this lamp has been tried in two forms: (1) attached to a handle provided with a switch, and (2) fitted to a laryngoscope frame (as illustrated), in which it is hinged to the bridge so as to be readily adjustable for either eye. A switch is fixed to the right side of the frame which can be turned on or off by the slight movement of a small milled head.

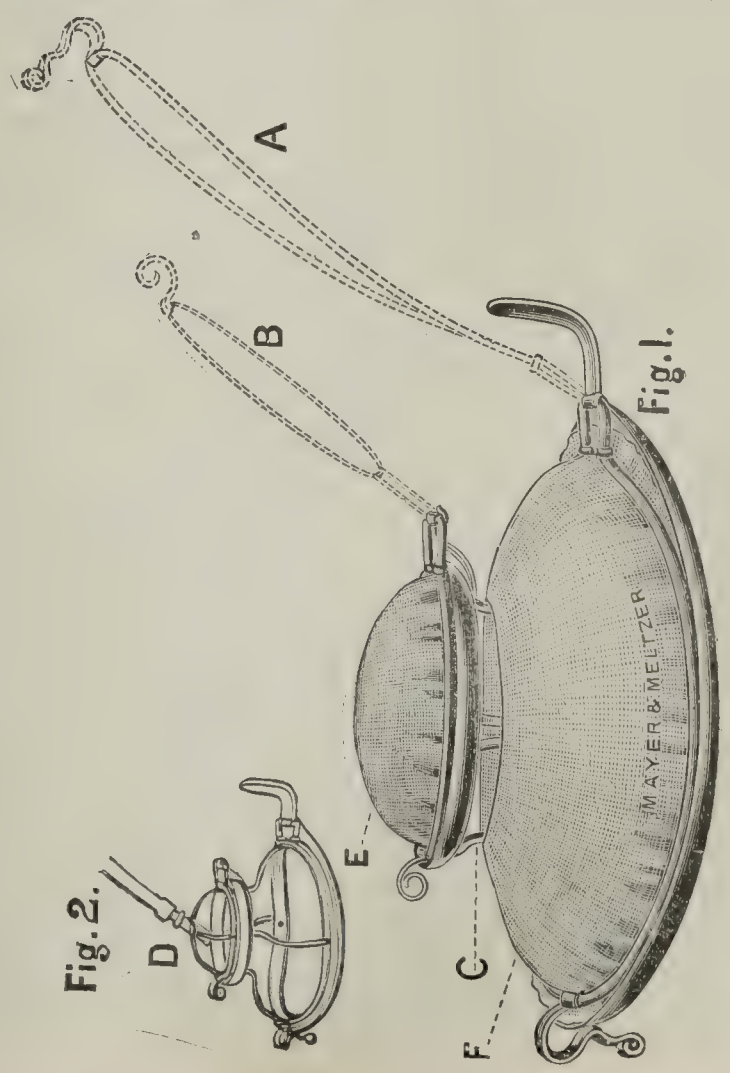


The advantages of this lamp consist in its lightness as compared with a laryngoscope mirror, of which it takes the place, and more especially in its rendering the usual bracket lamp unnecessary, thus obviating the frequent adjustment of this and of the mirror which is generally required, for the lamp once fixed satisfactorily in the line of vision needs no further alteration, whatever the movements of the observer or patient.

The uses to which this lamp can be put are many: the most important are for indirect ophthalmoscopic examination (here the laryngoscope frame is very convenient, for it leaves the hands free), for laryngoscopy and for examination of the ear and nose. It is also applicable to the urethroscope.

A NEW ANÆSTHETIC MASK.

Mr. William E. Burton, L.R.C.S.I., Lic.Med.T.C.D., has devised a new anæsthetic mask. The following is a description of the apparatus: The mask consists of a metal frame, with upper and lower rims, the latter being channelled so as to prevent condensation moisture or anæsthetic fluid reaching the patient's face; A and B (Fig. 1) represent the open position of two rings, which, when closed (as in figure) keep in place two pieces of flannel. At C there is an airway whose lumen is quite double that of the adult trachea. At D (Fig. 2)



there is an opening for the tube of a Junker, which can be attached to a vulcanite plug filling the opening. This tube is supplied with the mask. Also, to the flannel at E, a sponge can be affixed if it be desired to give ether, in which case a single piece of flannel large enough to cover the mask from E to F should be used. The advantages of the mask are: (1) It allows a free intake of air at all times during anæsthetisation, so that, with ordinary care, coughing and swallowing, struggling, asphyxia, etc., are noticeably absent. (2) The position and dimension of the airway, which, while permitting absolutely unimpeded respiration, is so placed that, with each inspiration, the vapour is inhaled in amounts varying with the quantity of anæsthetic used. (3) The ease with which the anæsthetic can be dropped on the mask without risk of touching patient's face. (4) Its cleanliness. The covers for the upper and lower parts consist of flannel cut to shape. These can be put on or removed in a few seconds, and both frame and flannel can be completely sterilised—a matter of considerable importance in the case of operations on the head, neck, thorax, etc. (5) A chloroform administration can, if desirable, be commenced by using with this mask a drop bottle (such as Thomas's, etc.) until the patient is well into the second stage, when the remainder of the anæsthetisation can be continued with a Junker (attached to the mask in the first instance). The anæsthetist who knows the difficulty of getting a nervous or alcoholic patient comfortably under within a short period possesses in this apparatus the means of accomplishing that end with safety and satisfaction. The patient also hears nothing of the bellows and the bubbling of the Junker. This latter consideration is by no means unimportant when one bears in mind how desirable it is to avoid adding to the natural fears of a child or neurotic patient. The mask has been made for Mr. Burton by Messrs. Mayer and Meltzer.

SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in MONTREAL, August-September, 1897.

NOTES FROM MONTREAL.

IN previous years the annual meeting of the Association has always been held within the borders of Great Britain and Ireland, and it has thus been possible to bring the BRITISH MEDICAL JOURNAL of the current week to the city in which the meeting was being held. This issue of the BRITISH MEDICAL JOURNAL has contained some of the general addresses and brief notes on the work of the Sections during the first two days. In this way members attending the meeting were afforded the opportunity of perusing the addresses of the Presidents of the various Sections, and of gaining some idea of the scope of the discussions which had taken place, at all of which they could not, of course, have been present. On the present occasion this was obviously impossible, and in its place an enlarged Daily Journal was presented to members and guests attending the meeting. It contained reports of the proceedings at the general meetings, and short reports indicating the general scope of the discussions held and the papers read in the various Sections on the previous day. This it was found possible to do only through the ready co-operation with the Assistant Editor of the BRITISH MEDICAL JOURNAL present at the meeting of the officers of the Sections and other helpers, who have been at no small pains to supply the reports in time for publication. It is believed that these numbers of the Daily Journal will afford an interesting memorial of a meeting which has been in many respects memorable. The publication of the full report of the papers read and of the discussions which have taken place is commenced in this issue of the BRITISH MEDICAL JOURNAL, and special supplements will be published in rapid succession, so that it is hoped that the publication of the full report of the Sectional proceedings will be completed at an early date.

GARDEN PARTY AT THE ROYAL VICTORIA HOSPITAL.

On Wednesday afternoon, September 1st, a garden party was given in the grounds of the Royal Victoria Hospital, which was attended by a large number of members of the Association and ladies. The Governor-General, who was accompanied by Lord Lister and Miss Lister, and the President of the Association were met on their arrival, and a basket of flowers was presented to Miss Lister by Lord Strathcona and Mount Royal. On the evening of the same day Lord Strathcona and Mount Royal received a very large number of guests at his private residence. The picture gallery and conservatories were thrown open and the gardens as well as the mansion were brilliantly illuminated.

LADIES' RECEPTION COMMITTEE.

The hospitality extended to the members of the British Medical Association and its guests in Montreal was not confined to them, but overflowed to lady members of their families. Of the Ladies' Reception Committee, Mrs. Gardner was President, Miss Birkett was Secretary, and Mrs. Rottot, Mrs. James Bell, and Miss Macallum were active members. This Committee received ladies accompanying members in the beautiful Redpath Library of McGill College, made every arrangement for their convenience, and took the greatest pains to show them points of interest in and about Montreal. They specially devoted their energies to providing occupation during the morning when the discussions in the Sections were absorbing the interest of members.

On Wednesday morning, September 1st, a party of ladies visited the Convent of Hochelaga at the invitation of the Mother Superior. On reaching the convent, to which the party was conveyed in carriages provided by the kindness of Mrs. James Ross, the ladies were received by the Mother Superior and the staff of teachers, and were conducted over the convent and buildings.

On Thursday, September 2nd, another party visited this convent while others visited the hospital and different public institutions.

On Tuesday afternoon, August 31st, Miss Roddick gave an afternoon tea in the Art Gallery, which was attended by over 3,000 ladies and gentlemen. The opportunity thus afforded by the sister of the President for members and guests of making acquaintance, or renewing acquaintance, with each other was highly appreciated, and contributed not a little to the success of the social function side of the meeting.

LUNCH UPON THE MOUNTAIN.

On Thursday, September 2nd, the Mayor of Montreal entertained a large party of members of the Association and its guests at lunch upon the Mountain. Lunch was served in the observatory, from which the Mayor's guests commanded a splendid view of the city and across the valley of the St. Lawrence to the hills beyond. The Mayor, after lunch, gave the toast of the Queen, and then proposed the health of the Guests in a happy and genial speech, in which he expressed the pleasure with which he welcomed them to Montreal. Lord Lister responded, expressing on behalf of the members of the British Medical Association their acknowledgments of the Mayor's hospitality, which was enhanced by the beauty of the scene spread out before their eyes. He rejoiced to witness the love which Canadians had for the mother country, and concluded by moving a vote of thanks to the Mayor. This was seconded by Mr. C. G. Wheelhouse, who also expressed the gratification which all the British visitors felt in the patriotism of the Canadians and the bond of relationship which existed between these two parts of the British empire. Dr. Le Marché, speaking in French, dwelt on the pleasure which the people of Montreal had in receiving the members of the British Medical Association. Alderman Prefontaine also spoke in the same sense. The Mayor then proposed the health of Lord Strathcona and Mount Royal, so well known throughout Canada and England. Lord Strathcona and Mount Royal responded in a hearty speech, expressing his gratitude for the affection and honour shown him. The medical profession was, in his judgment, the most honourable of all human professions, and he was glad that the Queen had at last seen fit to recognise the position of the profession in the person of Lord Lister. A vote of thanks to

the Mayor, proposed by Lord Lister and briefly acknowledged, brought the proceedings to a close.

International Golf Match.

A golf match was played on Thursday, September 2nd, on the links of the Royal Montreal Golf Club at Dixie, between medical members of the above club and members of the British Medical Association.

The result of the games was as follows:—

Canadian.	Score.	English.	Score.
Dr. H. Grant	0	Dr. T. R. Donaldson	10
Dr. J. A. Grant	0	Dr. J. F. Carruthers	8
Dr. F. Le N. Grasset	0	Dr. W. Hunter	6
Dr. J. A. MacDonald	5	Dr. Alexis Thomson	0
Dr. R. Tait Mackenzie	1	Dr. Langley Browne	0
Dr. Andrew Macphail	0	Dr. Noel Paton	5
Dr. G. A. Peters	3	Dr. R. B. Mahon	0
Dr. R. W. Powell	0	Dr. H. Littlejohn	2
Dr. R. F. Ruttan	0	Dr. Hall	7
Dr. C. F. Wylde	5	Dr. Jordan Lloyd	0
Dr. Primrose	0	Dr. Livesay	7
	14		47

Conversazione at McGill University.

On Friday evening, September 3rd, a very successful *conversazione* was given in McGill University by the Governors of McGill University. The gardens were brilliantly illuminated, thousands of coloured incandescent lights were distributed among the trees, and festoons of Chinese lanterns lined the main avenue and the walks connected with the different buildings. The Chancellor of the University (Lord Strathcona and Mount Royal), Dr. Craik, Dean of the Medical Faculty, and many of the Governors of the University, received the guests in the Redpath Museum. During the evening Professor Alexander Macalister (Cambridge) gave an address upon an Egyptian mummy recently presented to McGill University by Dr. Roddick. A skiagraph was taken of the mummy, and the bones could be clearly seen with the arms crossed over the body. Professor Macalister removed some of the wrapping, explaining the signification of the Egyptian mode of mummification and of the disposal of the body, and translated some of the inscriptions found. In spite of the very large number who attended the reception there was not, owing to the fineness of the evening which permitted the guests to stroll about the illuminated garden, at any time an inconvenient crowding.

ANNUAL GENERAL MEETING.

Thursday, September 2nd.

The second general meeting of members was held in the Windsor Hall, Montreal, on Thursday, September 2nd; Dr. Roddick, the President, in the chair.

The Address in Surgery.

Mr. Mitchell Banks delivered the address in surgery, which was published in the British Medical Journal of September 4th.

At the conclusion of his address, Mr. Mitchell Banks exhibited by the lantern a series of pictures illustrating many of the historical points raised during his address. These were taken from such authors as Della Croce, Albucasis, Marcus Aurelius, Jerome of Brunswick, Hildanus, Woodall and others. Portraits of Paré, Peter Lowe, and Wiseman were shown, and representations of ancient surgical instruments. The reduction of dislocations and the putting up of fractures were also illustrated. Then came pictures which showed how amputations were performed and cauterisations and trephinings done. Finally, the two last pictures represented the military surgeon of the middle of the sixteenth century actually engaged in the treatment of wounds on the battle field. The photographs were from plates in books belonging to Mr. Banks, and illustrated the costumes of the period from about 1530 to 1570.

Sir William Hingston said that he had been honoured with a request to say a word in the name of the Association to thank the distinguished lecturer for his address. Neither their distinguished President, nor their very efficient Secretary, had told him what form those remarks should assume, whether to criticise or approve, but he was reminded of the address which he had given some years ago before an audience such as that. He recollected the charity, the kindness, and the generosity which he then received. This memory he held in delightful remembrance, and he would do towards the distinguished lecturer as he was done by. He therefore would merely tender his thanks in his own name and in the name of the Association to Mr. Mitchell Banks for the able and very admirable address to which they had listened, and for the beautiful illustrations which he had shown for their instruction and pleasure.

The resolution was seconded by Dr. W. W. Keen (Philadelphia).

Dr. Roddick said they had heard the resolution moved by Sir William Hingston and seconded by Dr. Keen (Philadelphia), that the best thanks of the meeting be given to Mr. Mitchell Banks for his able and interesting address. He would ask them to be kind enough to show assent to the motion in the usual manner.

The motion was carried by acclamation.

Mr. Mitchell Banks said he was afraid he had already kept the meeting an intolerably long time, and would merely thank them for their most patient and considerate hearing. If it had been his good fortune in any way to give them a little pleasure, he was the person who was most happy.

Friday, September 3rd.

Dr. Roddick, President, in the Chair.

The concluding general meeting was held in the Windsor Hall, Montreal, on Friday, September 3rd.

The Address in Public Medicine.

Dr. Herman M. Biggs delivered his Address in Public Medicine, which was printed in the British Medical Journal of September 11th.

Dr. Montizambert, in moving a vote of thanks to Dr. Biggs, said he was honoured in being entrusted with the very pleasant duty of moving that the thanks of the Association be given to Dr. Hermann Biggs for his admirable address. The subject of public medicine, the various fields which were covered by that somewhat comprehensive title, were becoming greater and greater in prominence and importance, and in no branch of it had the results achieved been of more marked benefit to humanity than in that of bacteriology, in connection with which the name of Dr. Biggs was so favourably and widely known. The work done in the City of New York extended in so many directions that time would prevent him from saying more than that what had struck him more especially in what they had heard that day had been in connection with the opportunities given to physicians in that city to secure accurate diagnosis of infectious diseases by bacteriological investigation. The work which was being done in New York reflected the highest credit upon the Health Board of that city, and its bacteriologist, Dr. Biggs.

Dr. Littlejohn, in seconding the vote of thanks, said he had great pleasure in doing so. Dr. Biggs might have had some difficulty in choosing a subject, and he thought he spoke the feelings of the meeting when he said he could not have chosen a subject to which they could have listened with greater interest to themselves, but he thought few of them had any idea of the magnitude, of the thoroughness, and of the results of the work which had been carried on by the Board of Health in New York. He had never heard such a full and clear account as that afternoon. Dr. Biggs had referred to the public health work which had been done in England, and he rightly observed that it formed an example for other countries, but he could assure them, that they on the other side of the Atlantic had a very great deal to learn from the work which was carried on in the city of New York.

The President put the resolution, which was carried by acclamation.

Election of Honorary Members.

The President of Council (Dr. Saundby) said they had to express their appreciation to the Dominion and to the city of Montreal, which had received them so hospitably

and magnificently, and he would be sorry for the meeting to break up ere that could be done. He therefore moved:

That this meeting recommends His Excellency the Earl of Aberdeen K.P., G.C.M.G., for election as an honorary member of the British Medica Association.

He also, at the same time, had to propose a similar resolution as to their very distinguished citizen, Lord Strathcona and Mount Royal. He had, at a great age, crossed the Atlantic in order to be present at their meeting, and had taken a very active part in their proceedings, and had given them a splendid reception. He was sure, as he said of Lord Aberdeen, that the Association would be extremely pleased to tender him that mark of their appreciation for his noble kindness and hospitality to them.

Dr. Parsons (the Treasurer) said he had nothing to add except that he agreed most cordially with everything that had fallen from Dr. Saundby, and had no doubt that the Council would sanction the recommendation.

Organisation of District Nursing in the Dominion.

Dr. Roddick moved the following resolution:

That in the opinion of this meeting the organisation of a system of District Nursing throughout the various Provinces of the Dominion would afford invaluable help in the treatment of disease, and be a benefit to the sick poor of this colony.

Dr. Henry Barnes said he had much pleasure in seconding the resolution, as he was rather surprised to hear that they had no system of nursing.

After some remarks by Dr. H. Wright, the resolution, on being put to the meeting, was carried.

Invitation from American Public Health Association.

Dr. Roddick read a communication from Dr. Benjamin Lee, Chairman of the American Public Health Association, inviting the members of the British Medical Association to be present at the 25th anniversary of the American Public Health Association, which was to take place in the City of Philadelphia on October 26th next.

Dr. Saundby moved that the best thanks of the British Medical Association be given to the American Public Health Association for their courteous invitation, and that it be recommended that a copy of this invitation be published in the Journal of the Association.

Dr. Barnes seconded the resolution, which was carried.

Vote of Thanks to the President.

Dr. Saundby, in moving a vote of thanks to Dr. Roddick, said he had been an ideal President from the first. He had taken the trouble to cross the Atlantic in the middle of the winter in order to facilitate their arrangements, and although they had been under some little difficulty in arranging the business owing to the distance, these difficulties had been smoothed over mainly by his courtesy and ability; he could say nothing too great in praise of the way in which he had presided over the meeting.

Dr. Parsons (the Treasurer) said it gave him the most profound satisfaction to be able thoroughly to endorse everything that had fallen from the lips of Dr. Saundby.

Dr. Roddick, in reply, said it had certainly been a source of great satisfaction to him to find that men like those who had spoken and knew the Association, should tell them that they had seen nothing very much better. He must not have all the credit, as a great deal of it was due to the Honorary Secretaries, Professor Adami and Drs. Springle and Benoit, and to the chairman and secretaries and members of the various Committees.

The Annual Dinner of the Association.

The annual dinner of the British Medical Association was held in the Windsor Hotel on Thursday, September 2nd.

At the conclusion of dinner the President, Dr. Roddick, gave the toast of the Queen, which was duly honoured.

The President then proposed the health of the Governor-General, and said that he felt sure that he expressed the sentiment of everyone present when he said that a deep debt of gratitude was owing to His Excellency, who, at no little personal sacrifice, had taken so active an interest at the annual meeting in Montreal. When he went to Toronto to invite His Excellency personally to be present at that meeting he was at once met by a very cordial acceptance, notwithstanding the fact that his two little sons had come recently from England to spend two or three weeks with their parents and would consequently miss His Excellency's companionship for so many days. Had it not been for that fact Lady Aberdeen would also have been present in Montreal during the meeting. He further went on to say that little was known unfortunately of the greatheartedness of His Excellency. He had only to instance the fact that after the tragic death of the late lamented Sir John Thompson, one of the Premiers of Canada, Lord Aberdeen took charge of the sons of poor Thompson, and had given them the best education that that country could afford. One of the sons had recently passed a brilliant examination at Osgood Hall, and at once entered the legal profession. The other was still a college student at one of the universities in Ontario. He thought it was only right that those facts should be known as an illustration of the many acts of kindness which their Excellencies were constantly performing to and for Canadians. The President went on to refer to Lord Aberdeen as an ideal Governor-General, and to the fact that he was not satisfied with receiving information second-hand, but made personal observations by travelling over the Dominion repeatedly from ocean to ocean. Altogether he thought the people of Canada would begin to realise what they had lost only when their Excellencies ceased their official connection with Canada.

In reply to the toast of "The Governor-General," His Excellency Lord Aberdeen said: Mr. President, Mr. Mayor, My Lords, Ladies and Gentlemen,—Having, unlike the rest of the company, remained absolutely still and silent during the last few moments, paying close attention to what was going on, I can respectfully offer my testimony to the fact that the toast of "The Governor-General" has been proposed and received in a manner characteristic of the loyalty and the cordiality of Canadians, heartily supported, it would seem, by the genial visitors who, to our great satisfaction, are at present with us. I thank you, gentlemen, for this manifestation. To express my acknowledgments in appropriate terms is not altogether easy, especially when one reflects upon the vast amount of discriminating, analysing, dissecting talent represented in this hall to-night. I might, perhaps, reassure myself by the reflection that I may now claim to be myself, in a sense, a member of the medical profession, but this is only in embryo. True, I have been a medical student since Monday last, but my researches have mainly been conducted on the social side of the science. Besides that, however, I have had a special experience of an interesting kind. Two evenings ago I found myself at a most agreeable dinner party, given in honour of our distinguished friend, Lord Lister. It was towards its close that Lord Lister informed me that the company consisted almost absolutely and only of physicians and surgeons. I was a good deal impressed, and under the circumstances of so new an experience I naturally fell to analysing my subsequent condition. The result, I can truly say, might be expressed in the words of an old Scotchman, who confided to a friend that, contrary to his regular practice, he had gone to bed one night without a dram, or, as he expressed it, perfectly sober. But what struck him more, as he explained to his friend, was that the next morning he was not one grain the worse. On the other hand, to be serious, I have the prospect of becoming associated with you before long in a definite, though honorary, and certainly for me a very honourable way, for Dr. Saundby, President of the Council, has informed me that I may expect shortly to see my name enrolled as an honorary member of the Association. But it is not from considerations of this sort that I would take confidence in addressing you—it is rather from a knowledge that though the physician may be specially well qualified to form a critical and therefore perhaps unfavourable opinion, he is also accustomed more than ordinary men to abstain from expressing such opinions. He knows that to give audible expression to an unfavourable view of a case might only make matters worse. A judicious and tactful reserve is adopted. I need scarcely remind you that it was not a medical man, but a layman, who uttered a rather unfortunate remark on a certain occasion. The occasion to which I refer was that on which a gentleman was paying a visit to a sick friend. On his enter-

ing the room the invalid remarked to him, "Two doctors have just been here." "Yes, I saw them in the hall as I came in," replied the visitor. "Indeed?" said the invalid; "and did they mention anything to you about my case?" "Oh, yes; they said that they thought it was a rather complicated, difficult case. However, they also went on to say that they have no doubt at all that everything would be quite clear and plain at the *post mortem*." That, I suppose, was a tolerably fair specimen of "how not to do it." The period of your visit is drawing to a close. I hope that your recollections of Montreal and of Canada will be of a kindly sort. Certainly, we who have in any sense had a share in receiving you will have pleasant memories regarding the occasion. We are, I hope, at all fitting times ready to show hospitality, but we have also desired on this occasion to utilise the opportunity of showing on a somewhat comprehensive scale our respect and appreciation regarding the great sciences and professions of medicine and surgery. This is not the time or the place for an attempt to enumerate, even in outline, the leading features of your calling which excite admiration and esteem; but I would like, before sitting down, to allude incidentally to one particular aspect and element thereof. I refer to the far-reaching character of the influence which may be, and so often is, exercised by the physician. Many a man who would never think of confiding certain things to a clergyman—even if that clergyman were a near friend—would make a confidant of his physician. [His Excellency here narrated a brief anecdote, illustrating in a sad but forcible manner the relations of correct habits of life to health of body, and continued:] But I have not in view merely the direct revelations of trouble and ailments. Obviously a person is a fool who would expect a physician to provide treatment effectively without an absolute unfolding of all facts bearing upon the case. Many an anxious mother wishes to consult the family physician with regard to the young boy going for the first time to school—for perhaps it is not always wrong, though it cannot always be right, that a father should depute these things to the mother, even though he may feel with good reason that she is the wiser as well as the better half. What an opportunity, what a scope, for wise fatherly advice and instruction! You will not suspect me of rant or cant in alluding to these topics. It is not for me to suggest; hardly, perhaps, even to remind; but I may be permitted to offer my individual tribute to the value, the importance of this aspect of the medical man's influence, for which, without any departure from his proper sphere of action, there must so often be occasion. We were reminded by the Bishop of the frequently close contiguity of the clerical and medical professions. But whether regarded from this or any other point of view, reflection and experience will make us more and more appreciate that the responsibilities of the physician are often not only of a scientific and practical, but, in a very real sense, of a sacred sort. The physician of the body must often find himself called upon, if he is to fulfil his part as a friend and as a man, to act as the physician of the soul. The thought will surely increase the earnestness of our good wishes for the welfare, in their fullest sense, of the medical calling.

The Hon. Dr. Farrell said his only excuse, and he was sure in that assembly it would be considered a good excuse, for breaking in on the order of proceedings was that he had the honour of being the bearer of an address to their honoured friend, Lord Lister. The address came from the extreme Atlantic seaboard of that great Dominion, from the Faculty of the Dalhousie College of Halifax, and it was but an indication that among those on the Atlantic seaboard, or in that great city of Montreal, or on the prairie of the golden province of British Columbia, there was one feeling in the profession throughout the whole of Canada, of regard for their esteemed friend.

The address was as follows:

Congratulations to Lord Lister, President of the Royal Society, etc., from the Dalhousie College and University, Halifax, Nova Scotia.

Dear Lord Lister,—The Medical Faculty of Dalhousie University take this opportunity, on their first meeting since your elevation to the peerage, to offer you their congratulations. Some of us have had the privilege of being your students, many of us have followed with interest and admiration that development of the healing art which must for ever be associated with your name, and we all feel that it is an especially happy circumstance that our Gracious Sovereign in offering this high honour has selected one who not only has distinguished himself by brilliant and original research, and who holds the high position science can offer, but who has devoted his life to the service of humanity in applying the principles of physiology and pathology to the healing of disease, and it is our prayer that you may be long spared to enjoy the favour of our Sovereign and love and gratitude of your fellow-men, and still further to search out the secrets of nature, and to apply them to the healing of man. In these congratulations and in this prayer we are joined by the members of the sister faculties and the entire body of graduates.

Lord Lister, in reply, said that he had been absolutely astonished by the kindness shown to him by his Canadian and American friends during the meeting. He had long ago expressed the belief that the principle of antiseptic surgery would continue to spread until it permeated and dominated the profession, but he had not anticipated such rapid progress as had actually taken place. He deeply regretted the absence, owing to domestic calamity, of his old house surgeon, John Stuart, one of the signatories of that address, a man for whom he had a great respect, and even reverence. He thanked the deputation for the address which had been presented to him.

Lord Strathcona and Mount Royal proposed the toast of the neighbouring republics, whose representatives they had the pleasure of entertaining in Montreal.

This toast was acknowledged by Professor Charles Richet (Paris). Professor Richet, speaking in French, said: Gentlemen, Members of the British Medical Association,—I salute you in the name of the French Government and of the Faculty of Medicine of Paris. Physicians, or men of science, from all countries of the world, we are all striving towards the same end, we all belong to one great family, we all, in a word, seek to aid mankind; the same spirit directs our efforts, the same love animates us, and in this Canadian land in which my ancestors have performed prodigies of valour, to which they have carried civilisation, that land in which still beats the French heart, I am peculiarly happy to say to you, "Physicians of old France, she does not forget you; do not forget her!"

Surgeon-General Wyman also acknowledged the toast, and spoke for the United States.

Sir William Hingston then gave the toast of "The Army, Navy, and Auxiliary Forces," which was acknowledged by Surgeon-Colonel Lawrie (Indian Medical Service) who said he appreciated the honour done him in calling upon him to reply to the toast of the army, and he begged to thank them in the name of the army for the complimentary terms in which the toast had been proposed, and for the well-merited tribute of enthusiasm with which it had been received. He felt sure that the thoughts of many there to-night had been for the last few days with the force which was fighting, as every portion of the British army was at all times ready to fight, against odds in the shape of enemies and of sickness on the North-West Frontier of India. Especially were their thoughts with the distinguished and devoted band of officers of the sister medical services—the Medical Staff and the Indian Medical Service—which always played an important part in the army in the field. The Indian Medical Service, with a Director-General of the stamp of Surgeon-General Cleghorn, which produced physicians like Bomford and surgeons like Freyer, might safely be left to speak for itself. From a very intimate acquaintance he could say that the Medical Staff of the British army contained as fine a body of professional men as was to be found in any army or service in the world. In times of peace they were thoroughly good all-round sportsmen—one of the best polo teams in India was composed of army doctors. In war time they had not only to combat diseases such as cholera and sunstroke, and to carry out antiseptic surgery under conditions of immense difficulty, but, in addition to this, they were exposed to hardships and dangers of precisely the same kind as all the other officers of the army were. The heroic way in which they performed their duty was testified to by the number of Victoria Crosses which had been won in recent campaigns by their brethren in the Medical Staff of the army.—The Rev. Dr. Barclay also responded.

The toast of "The Houses of Parliament" was given by Professor Michael Foster, who paid a warm tribute to Lord Lister, and spoke in terms of high appreciation of Sir Wilfrid Laurier.

Lord Lister, on rising to reply, received an ovation. He spoke of the services which the House of Lords was able to

render, and said that the warmth of the reception which had been met with in the Dominion would never be forgotten.

Sir WALTER FOSTER, M.P., returned thanks for the British House of Commons, and expressed the hope that a scheme of interprovincial registration would shortly be passed into law in Canada.

Sir JAMES GRANT (Ottawa) also replied, and in the course of his remarks referred to the important results which might be expected to flow from the meeting of the Association in Canada.

Dr. CRAIK, Dean of the Medical Faculty of McGill College, proposed the toast of "The Mayor and Corporation of Montreal"; and the MAYOR, in reply, said that he was proud to think that the Association had held its first annual meeting outside of the British isles in the commercial capital of the Dominion.

The GOVERNOR-GENERAL then gave the toast of "The British Medical Association." He regretted that he had been called upon unexpectedly to undertake a duty so important. Fortunately it was the case that almost every speaker that evening had in one sense or another proposed the toast of the British Medical Association. He would therefore be brief. One of the most pleasant and important features of that meeting, of that most successful gathering, had been the presence of a large number of friends, and he would say advisedly relations from the other side of the frontier. It was true that sometimes expressions were banded backwards and forwards, not always of the most friendly kind. But he believed that the best way to avoid misunderstanding in the future was that every individual of the great nation of the United States should pay a visit to Canada. He had had many opportunities of meeting and conversing with citizens of the United States, who had convinced him that they entertained a friendly feeling towards the British people. He would assure them that all rejoiced at the presence of Americans at that meeting. The toast of the British Medical Association had practically already been proposed many times, and he would, in accordance with the request of the Chairman, be extremely brief, and would do no more than give them one more opportunity of celebrating that old and splendid Association by formally proposing prosperity to it, and would couple with it the name of Dr. Robert Saundby, the President of Council. He was confident that it would be gratifying alike to his old and to his new friends to join with him in pledging that toast.

Dr. SAUNDBY, President of Council, replied. He desired to express the deep and grateful thanks which he and all present wished to offer for the splendid and magnificent hospitality which the Association had received from all classes of society, from His Excellency the Governor-General downwards. This sentiment would be shared by the members of the Association in all parts of the world. It had been a great pleasure to see the splendid medical and educational institutions of Montreal. The Association, originally provincial, grew to be national, and had now become Imperial, with Branches in all parts of the British Empire. The Association sought to bring about union within the profession, and to advance the science and art of medicine. In the BRITISH MEDICAL JOURNAL the Association had an organ, ably edited by Mr. Ernest Hart, which reached members in all parts of the Empire. In the Parliamentary Bills Committee the Association had an organisation which watched over measures affecting the interest of the profession and hygienic matters; through the Scientific Grants Committee it expended some £700 a year in promoting scientific research. Through other Committees, such as the Committee on Therapeutics, that on Anæsthetics, and that on the Vision of Mariners and Railway Servants, the Association did useful work in elucidating matters affecting the interest of the profession and public. It did not, however, under any circumstances intend to become a mere trade union.

In proposing the toast of "The Colonial Branches," Dr. WILLIAM OSLER (Baltimore) said that if any justification were required for the establishment of the Colonial Branches, it was to be found in the magnificent meeting which had taken place in Montreal.

Professor ANDERSON STUART (Sydney, N.S.W.) responded, and said that the usefulness of the Association's Branches in the Colonies had been recently exemplified in the help which had been extended to the South Australian Branch in a moment of difficulty. He went on to propose the health of the President. He did it not as a duty merely, but because the urbanity of manner, the kindliness of disposition, and the efficiency of management shown by Dr. Roddick during that meeting of the Association in Montreal had demonstrated that he was the right man in the right place.

Dr. RODDICK said he felt very deeply the kind manner in which they had received the toast. Little was due to him for the success of the meeting. He could explain the cause of the great, of the almost unparalleled, success of that great gathering. In the first place, to have an opportunity of welcoming their brothers from the other side of the water and from the far-distant countries of their grand empire, was certainly a great pleasure and satisfaction; but he questioned whether they could have succeeded had it not been for the co-operation of the officials of the Association, and he took that opportunity of saying how much they were indebted to the President of Council, Dr. Saundby, Mr. Francis Fowke, the General Manager and Secretary, and the individual members of the Council. He could not forget the great kindness shown him when he went across the water in January of the present year in order to make arrangements. He had to thank, as President of the British Medical Association, the profession in Canada for having assisted Montreal so well. Not only the profession in the city of Montreal, but the profession of the whole Dominion of Canada had co-operated, and he could not refrain from specifying some members of the profession in that city. Had it not been for the assistance he obtained from the Honorary Local Secretaries, he was sure they could not have done nearly so well, and without hesitation he would take the opportunity of naming Drs. Adami, Springle, and Benoit. He wished also to thank the various Chairmen of Committees and the various Committees for the work they had done. They could not have entertained the meeting as they were doing had it not been for the great kindness of the Premier of the Colony, Sir Wilfrid Laurier. He had at once without hesitation granted the handsome sum of 5,000 dollars towards the expense. Besides that the Provincial Parliament saw the necessity for giving assistance. He felt strongly that in giving 2,000 dollars they had done a handsome thing. He was very happy to have there a gentleman who had assisted on more than one occasion, and who had helped very markedly in obtaining the sum of 3,000 dollars—he referred to His Worship the Mayor. He took the opportunity of saying how much the profession in Montreal was indebted to him. They were delighted to welcome the Association, and delighted to have their American friends there, and delighted beyond everything to have a representative from France there. All that they asked from those present was that they would remember them, and think of them again; and some of those days when they were getting tired of wandering about in their own country they would come back to pay another visit to Canada.

Dr. J. G. ADAMI, in proposing the toast of "Our Guests," said that, as a Father of Medicine had remarked, "Our art is long," but that dinner appeared to be still longer. There were those present whom he would like to enumerate. They had with them, first and foremost, one who filled their heart with thankfulness on that occasion—His Excellency the Governor-General. Next they had the members of other learned professions. First there was Mr. Justice Lacoste, Judge Wurtele and other members of the judicial bench; they were delighted to have among them also the Rev. Dr. Barclay, Canon Norton, to whom they were indebted for the service in Christ Church Cathedral, and Dr. Shaw, and others who had lent the College for the meeting. He desired also to say that they had found great pleasure in having among them their American guests. How much their presence had contributed to the success of the meeting it was difficult to say.

Dr. KEEN said that when he was asked to respond to the toast he felt very much like the Irishman belonging to one of their regiments in the Civil War, who was intercepted by his colonel when he was running away. "Where are you going, you cowardly scoundrel?" said the officer. "Begorra, Colonel," said he "I'd rather be a coward for five minutes than be a corpse all the rest of my life." He felt very much like running away like a coward, but

he concluded to be a corpse instead. In the absence of his colleague, Professor Bowditch, he now found himself called upon to make two speeches and at very near 2 o'clock in the morning. He would promise them, however, that the two speeches should be short. The organisation of that meeting did credit to the profession of Canada, and above all to the profession of Montreal. He only hoped that in Moscow they had a Roddick, an Adami, a Bell, an Armstrong, a Shepherd and so on; he might go through the whole list of officers. They had also admired the learning gathered in the Association, which met not for the purpose of hoarding trade secrets, but of casting them broadcast over the whole world. They had found in Montreal a most unbounded hospitality, a hospitality as royal as their Mountain that had given its name to their city, a name which now graced their first citizen. They had found in Montreal a friendship as spontaneous as the clear crystal springs that flowed from their mountains, as broad as the acres of their great wheat fields, the granaries of a nation. He was sure he was the spokesman of every guest—nay, of every host also—when he said that the hardest tie to break would be that which bound them to one who was peerless as a benefactor to mankind, under every sun and in every clime, not only in the last years of a waning century, but in all centuries to come—around whose modest head the gathering years were weaving a chaplet of honours intertwined with reverent love—Mr.—Sir Joseph—Lord Lister. Nor did they forget the land to which their departing friends would go. It was historic ground—the land of Hampden, of Pym, and Harry Vane and John Milton—hallowed by the blood of Roundheads and of Puritans, hallowed by the fires of Smithfield and of Oxford in the glorious struggle for liberty; and as in this jubilee year of a glorious reign some of them would rest by Canadian firesides and others go to dear old England, their cousins across the border, Britons only by one or two removes—for did not U.S. spell not *you* nor *me* by US—as they waved a last farewell, would join with all their hearts in singing "God save your noble Queen."

Dr. Roddick said he had reserved to himself some concluding remarks regarding two gentlemen present, to whom they were very much indebted. He referred to Lord Strathcona and Mount Royal and Sir William Van Horne. It might not be known to the assemblage that Lord Strathcona and Mount Royal had at very considerable inconvenience crossed the broad Atlantic in order to be present at the meeting that week. From the very first day that the invitation of Montreal was accepted Lord Strathcona had been really as much interested as any of them in the success of the meeting. He had offered his assistance not only in a social but in a substantial way. The other name was that of Sir William Van Horne. Sir William also from the very first had taken a great interest in their meeting in Montreal. He said that he was prepared to do more for the British Medical Association than he had ever done for any association in his experience, and he had done it well. It was only the other day that he suggested that they might send the names of any number of distinguished guests at the meeting and he would see that they were not charged very much in going across their great country. He (Dr. Roddick) had a letter from him in which he stated he would not allow Lord Lister and his party to spend a single cent in going to the Pacific Ocean, and that Lord Lister and his party were to have the private car of Sir William Van Horne in crossing to the Pacific. He would ask those present to give their thanks to those gentlemen for all they had done.

Sir William Van Horne, in reply, said that it gave him great pleasure to do anything which he had been able to do for the comfort and pleasure of the visitors; and he thanked Dr. Roddick for the way in which he had proposed the toast and for the manner in which it had been received.

The proceedings were brought to a close by the singing of the National Anthem.

Presentation.—Dr. John Robertson, who has recently vacated the office of medical officer of St. Helens and taken up the position of medical officer to the city of Sheffield, was on September 7th entertained at a banquet at the Town Hall, St. Helens, by the St. Helens Medical Society and several friends; after which he was presented with a pair of silver candlesticks and a silver bowl.

THE SECTIONS.

Brief Summary of Proceedings.

Friday, September 3rd.

Medicine.

Dr. William Hunter (London) opened the discussion on Cholelithiasis in an admirable paper, in which he considered chiefly the etiology and treatment. He showed that in the intrahepatic ducts the only concretion is bilirubin calcium; in the hepatic duct there is bilirubin calcium with cholesterin; in the gall bladder bilirubin calcium, cholesterine, and an albuminous product produced by catarrhal inflammation of this viscus. Cholesterine was formed from degenerative changes in epithelial structures, lining the gall bladder chiefly; the albuminous body above mentioned precipitated the bilirubin calcium, so leading to the formation of gall stones. Micro-organisms—for example, those of enteric fever and the bacillus coli communis—had frequently been found in the gall bladder, and these, by their irritant action, set up a catarrhal inflammation. Experimentally he had produced catarrh of the intrahepatic and common bile ducts and of the duodenum by the injections of toluenendiamine into the blood. The production of gall stones he attributed to infection of the bile passages with micro-organisms and the action of some irritant excreted in the bile. Regarding the class of cases amenable to treatment medicinally, he mentioned particularly the second group. The medication was to flush the liver cells with water, and for this purpose he had great faith in Carlsbad or Vichy water. To dissolve the formed stone olive oil would be of use, but it was not certain that it passed down the bile passages. Dr. Graham (Toronto) followed with a paper in which he reviewed the whole subject from a clinical and practical standpoint. He described briefly the course of the disease, the symptoms and sequelæ, and discussed the differential diagnosis between biliary colic, spasm of the pylorus, hepatic abscess, and carcinoma of the gall bladder. Difficulty in diagnosis was often due to want of care in ascertaining the previous history, and sometimes to want of care in observing the present condition of the patient. He emphasised strongly the necessity of careful examination of the urine for bile pigment in all cases in which there was a difficulty in arriving at a diagnosis. He discussed briefly distension of the gall bladder and various forms of kidney troubles, in which there was a liability to confusion. Dr. Osler (Baltimore) briefly referred to the relation between the bacillus of enteric fever and cholelithiasis. He had seen four cases in two years and believed it to be much more common than it was heretofore supposed. He pointed out that in ordinary cases of gall stone, colic indicated an acute infection in many cases, as evidenced by the fever, enlarged spleen, and albumen in the urine. In cases in which punctures had been made, pathogenic organisms were found in the spleen and in the gall bladder. Furthermore, in the association of fever with cholelithiasis, he separated four groups of cases: (1) Fever with a chill, not necessarily an indication of infection; (2) Fever associated with acute cholecystitis, in which the fever was remittent, but not associated with chills, and the symptoms passed into those of suppuration; (3) Hepatic intermittent fever limited to cases resembling malarial fever with no symptoms whatever between the attacks. (4) Fever with suppurative processes either in the gall bladder or liver. He paid a tribute to the surgeons for their assistance in advancing our knowledge of the disease in question. The discussion was subsequently well sustained, and at its conclusion Dr. Williams (Boston) illustrated some of the uses of the Roentgen rays in medicine. Diagrams were shown in which the changes in the outline of the thorax produced by pneumonia, emphysema, pneumothorax and pleurisy were seen. He considered the fluoroscope more valuable in many cases than the stethoscope, but pleaded for a combined use of the two in making a definite diagnosis in obscure cases. Drs. Cadman, Jones, Stewart, and the President discussed the subject.

Other papers having been read, Dr. Jones (Buffalo) moved a vote of thanks to the President for the very admirable way in which he had conducted the meetings, and a vote of thanks was also tendered the secretaries for their painstaking labours on behalf of the Section.

SURGERY.

DR. F. J. SHEPHERD (Montreal) reported a case in which he had removed a large tumour of the mesentery. To do this it was necessary to resect nearly 8 feet of the small intestine. The patient was shown to the meeting. Dr. Nuñez (City of Mexico) read a paper on the Diagnosis and Treatment of Penetrating Wounds of the Abdominal Cavity. Dr. Alexander H. Ferguson (Chicago) related several cases of surgery of the gall bladder, and Dr. Marcy spoke on the splendid results attained in late years in this department of abdominal surgery. Mr. Jordan Lloyd (Birmingham) spoke on stone in the ureter and its treatment. Percussion in the loin usually produced the characteristic pain in stone in the kidney. The stone might be near the bladder, or above the pelvic brim. The symptoms simulated those of stone in the kidney. As a consequence of the blocking of the ureter, dilatation and atrophy of the kidney, and finally an ascending suppurative pyelitis occurred. The treatment depended on the situation of the stone. If close to the bladder a suprapubic lithotomy was the best method. If higher up it might be removed through an incision as for ligature of the common iliac artery, this being safer than operating through the peritoneum. If near the kidney the lumbar incision was made, the ureter opened, and after removal of the stone a rubber drainage tube was passed in. The paper was discussed by Dr. Keen, Dr. Shepherd, and the President. A vote of thanks to the Chairman, proposed by Dr. Keen and seconded by Dr. Nuñez, for the courteous and efficient manner in which he had conducted the business of the meeting, brought the proceedings of the Section to a close.

PUBLIC OR STATE MEDICINE.

MR. GEO. JANIN, C.E. (formerly of the Corps des Ponts et Chaussées of France and now of Montreal), presented a paper on processes for the treatment of sewage. He divided them into processes of separation, mechanical processes, and chemical processes, and stated the objections in each case. The method he recommended was that of soil purification under the following conditions: (1) Select ground porous enough to allow water to permeate easily and give free access for sufficient air for combustion. (2) Regulate the time of pouring and the quantity of sewage water to ensure thorough purification. (3) Under-drain if necessary. A discussion followed in which several gentlemen took part, and general agreement was expressed with Mr. Janin's conclusions, except where the price of land made soil purification impossible. Dr. Bryce (Ontario Provincial Board of Health) described the successful application of this system at the Provincial Asylum at London, Ont. The question of how far this system could be applied under the conditions of the Canadian winter was raised, and it was pointed out that it was employed with satisfactory results at Dantzig. Dr. Bryce said that at London the winter had caused no difficulty. Dr. Neech (M.O.H. Atherton, Lancashire) said he had found their sewage works less efficient in the winter. Dr. J. J. Mackenzie (Bacteriologist, Provincial Board of Health of Ontario) read a paper on The Results of Mechanical Filtration Plants in Ontario, which also provoked considerable discussion. The cost of alum in mechanical filtration was alluded to by several speakers, and the value of the slimy mucoid layer on the surfaces as a disinfecting agent was pointed out by Dr. Bryce and Dr. Carr (Braintree). Dr. Probst (Ohio) gave statistics with reference to the use of a mechanical filtration plant at the town of Loraine, showing that its bacterial efficiency rose in proportion to the amount of alum used. Dr. Lee (Philadelphia) said that the city of Wilkesbarre had found it impossible to use one of the largest mechanical filtration plants in the United States on account of the cost of the alum required. Dr. Wesbrook (Director of the Bacteriological Laboratory of the Minnesota State Board of Health) reported the results of investigations conducted by himself and Drs. Wilson, MacDaniel, and Adair into the conditions of a State institution where diphtheria was endemic. Children in perfect health gave typical cultures of bacillus diphtheriæ, and the bacillus was found in several cases for months after apparent recovery, in one case for six months. The conclusion was arrived at that the usual length of quarantine was entirely too short, and the following suggestions were offered "if deemed desirable, and if desirable practicable": 1. That the throats of people brought in contact with diphtheria patients be examined, and if bacillus diphtheriæ be found that they be quarantined until free of the bacilli. 2. That freedom of the throats of diphtheria patients, or those brought in contact with them, from bacillus diphtheriæ or its variants, be determined by at least two successive examinations. 3. That diphtheria patients, particularly when convalescent, be quarantined by placing, when possible, one patient in each room. In the discussion which followed the difficulty of giving practical effect to these recommendations was pointed out by Dr. Oldwright (Toronto), Dr. Littlejohn (Edinburgh) and others. Dr. Wesbrook, in reply, said the bacteriologist had his own difficulties, and must not be expected to solve those of the medical men whose duty it was to give effect to his conclusions. The bacteriological test for diphtheria, while in some cases it lengthened the time of detention as compared with the old clinical methods, in other cases allowed people to go after eight or ten days. Dr. Gardiner (London) asked if Dr. Wesbrook had succeeded in tracing the source of diphtheria. Dr. Wesbrook said they had conducted all kinds of investigations with respect to the institution referred to in his paper without succeeding in locating the source of the disease. Among the lower animals they had found diphtheria only once in a pug dog. The following papers were also presented: Observations on the Etiology of Diphtheria, by Dr. E. B. Shuttleworth (Bacteriologist to the City Board of Health of Toronto); the Future of Public Health, judged by Quarter of a Century's Experience of its Past, by Dr. C. N. Hewitt (Red Wing, Minnesota); a note upon an Experience of more than Forty Years with Leprosy in Minnesota, by Charles N. Hewitt (Professor of Public Health in the University of Minnesota).

The proceedings of the Sections were concluded by a vote thanks to the President, moved by Dr. Wyman (Superintendent-General of United States Quarantines), seconded by Dr. Carr.

OBSTETRICS AND GYNÆCOLOGY.

DR. J. F. W. Ross (Toronto) read a paper on the Diagnosis and Treatment of Intrapelvic Tuberculous Disease, followed by a paper by Dr. T. More Madden (Dublin) on the Conservative Treatment of Fallopian Tube Disease. These two papers were discussed together by Dr. A. Palmer Dudley (New York), Dr. D. Berry Hart (Edinburgh), Dr. Gordon (Portland, U.S.), Dr. James Perrigo (Montreal), Dr. Jenks (Detroit), Dr. A. E. Giles (London, England), and Dr. W. Gardner (Montreal). Dr. Palmer Dudley and Dr. Ross replied. Dr. D. Berry Hart read a paper on the Morphology of the Vagina. This was illustrated by drawings, numerous microphotographs, and a number of microscopic slides. His researches led him to believe that the lower third part of the vagina was derived, not from the fused Müllerian ducts, as was generally supposed, but from the fused Wolffian ducts and urogenital sinus. He had examined the vagina of the kangaroo, and found his views supported by finding that the adult condition there corresponded to the embryonic condition in the human subject. Dr. J. Clarence Webster referred to the long and brilliant work associated with the name of Dr. Berry Hart, and congratulated the meeting on having placed before it a paper of such high scientific value. A discussion on the Palliative and Radical Treatment of Uterine Flexions and Displacement was introduced by two papers, the one by Dr. Lapthorn Smith, under the title of Diagnosis and Treatment of Retroversion of the Uterus with Fixation; the other by Dr. J. Inglis Parsons (London, England) on a New Method of Treatment for the Prolapse of the Uterus. The discussion was continued by Dr. J. Riddle Goffe (New York), Dr. Murray (New York), Dr. W. Gardner (Montreal), after which Dr. Lapthorn Smith replied.

PHARMACOLOGY AND THERAPEUTICS.

A DISCUSSION on Diuretics was opened by Dr. Barr (Liverpool), who dwelt at length on the physics of the circulation, especially in pathological conditions. He then proceeded to deal with the treatment of diseases in which diuretics were indicated. The flushing process was based on the principle of washing out waste products, ptomaines, etc., and natural

springs were no better than similar artificial products for this purpose. In granular kidney the best treatment, he thought, was to cut off nitrogenous foods, to take a purely vegetable diet, to drink whey and mild alkaline waters, and regulate the intestinal secretions by calomel. Benzoate of ammonium in uræmia was recommended. In heart disease cardiac tonics, combined in some cases with vaso-dilators, were regarded as most efficacious. In obstructive lung disease, ammonia, senega, and the saline diuretics; in cirrhosis of the liver, vasomotor and cardiac tonics with mild saline purgatives; in hysteria with anuria, water and whey freely, vasomotor tonics and saline diuretics were recommended. Local and general venesection and antimony were regarded as the most effectual agents in the dropsy of acute Bright's disease. In conclusion, the speaker said that diuretics were simply adjuncts to treatment; that no disease or process of disease should be solely treated by them. Mr. Marshall (Cambridge) next dealt with the action of diuretics. As this subject could not be separated from the physiology of renal secretion, this was first considered. Various recent views were mentioned and criticised, and the possibility of explaining urinary excretion on a purely physical basis dealt with. Special stress was laid upon the metabolism of the renal cells as factors in accounting for the composition of the urine. The definition, classification, etc., of diuretics was next considered, and an illustration of so-called "tachyuretics" was given. Munk's, Sobieranski's, and Raphael's work was specially considered, and the action of certain types of diuretics described. Dr. Atkinson (Newcastle) spoke on the absence of increased diuresis after the administration of nitrites and nitro-glycerine, and Dr. Shingleton Smith (Bristol) referred to the effect of digitalis and diuretics in certain conditions, and commented on the fact that apocynum cannabinum had not been mentioned. This was little known in England, but in some cases it was a useful diuretic. As many papers remained to be read, the President closed the discussion with a few remarks. Dr. H. A. McCallum (London, Ont.) then read a paper on the action of Behring's serum in diseases not caused by the Klebs-Loeffler bacillus. The effect on consumption, cancer, pelvic inflammation, lupus, etc., was discussed. In one case of tuberculosis 25,000 units were given in three months, apparently with benefit. A favourable action was reported in a case of lupus. The theory suggested was that the serum increased the internal secretions. In connection with this paper, Dr. Bazin's on Diphtheria Antitoxin was read. He regarded it as important that the strength, date of production, etc., should be stated on the label. He believed that a "clinical suspicion" afforded sufficient grounds for the use of the serum; bacterial examination should follow this. Immunisation should be more generally employed. The President asked if cardiac failure did not sometimes follow the injections, but Dr. Bazin believed this was a coincidence and not a result of the antitoxin. He corroborated Dr. McCallum's observations on the hypnotic effect of the serum, and stated that slight turbidity, or rather fluorescence, was not prohibitive of its use.

Pathology and Bacteriology.

Dr. V. Moore made a communication on the Nature and Differentiation of Infective Swine Diseases in the United States. He spoke also of swine diseases in Europe, seeking to group the diseases. Dr. Welch maintained that Metchnikoff's bacillus of hog cholera was not that of American hog cholera. He referred to the extreme difficulty of differentiating the pathogenic organisms in hog disease. Dr. Adami read a paper on Pictou Cattle Disease, speaking of the methods of extension of the disease, the predisposing causes, the symptomatology, and the morbid anatomy. The liver and the lymphatic glands were the organs affected primarily. He described the micro-organism and showed cultures. Professor McEachran said the disease had existed at Pictou for forty years. Professor Boyce read a paper on the tubercle bacillus in milk, and discussed the communicability of tuberculosis from lower animals to man. Tubercle bacilli had been found in milk of cows with and without disease of the udder. Milk from tuberculous cows had been proved to be infectious. Of 111 milks examined at Liverpool only four showed tubercle bacilli. Dr. Abbott and Dr. McEachran dwelt on the extreme difficulty of making a thorough microscopic examination of the udder. A discussion on Pleuro-pneumonia in Cattle was opened by Dr. Adami, who claimed that it had been well proved by experts that Canada is and had long been free from the disease; but the Imperial Government still declined to recognise this. The Imperial veterinarians, with the exception of one man who reserved his opinion, were not men who had done work of the highest class, and were not capable of judging thoroughly of the question. Canada's experts had agreed with the experts from England and the United States in stating that Canada was free from the disease. Canada felt that in giving superiority to the opinions of her Government veterinarians the Imperial Government was unjust to Canada and to scientific men. Dr. Welch confirmed Dr. Adami's remarks. Dr. McEachran spoke as a representative of the Canadian Government, and the discussion was closed by the President. Dr. Welch expressed hearty thanks for the reception given to guests from the United States, and moved a vote of thanks to the President for his able conduct of the meetings. Professor Boyce, in seconding the motion, said that the President had won the thanks and affection of all. The motion was carried with enthusiasm. The President acknowledged the kindness shown him, and the meeting came to an end.

Psychology.

The proceedings commenced with a paper on Some New Phases of Inebriety, contributed by Dr. T. D. Crothers. Dr. D. Clarke (Toronto) commended Dr. Crothers's thesis that in certain cases of alcoholism there was a latent explosive tendency, which alcohol, as it were, fired. Dr. J. Russell (Toronto) then read a paper on Insanity in Relation to State, and Dr. Van Giesen described microscopic appearances in chronic parenchymatous degeneration of the paraneural system.

Laryngology and Otology.

Professor Anderson Stuart (Sydney, Australia) demonstrated an Artificial Larynx which he had devised, with unusually happy results, for a patient who had been operated upon by removing the larynx. The discussion for the day—The Ultimate Results of Operations upon the Mastoid in Suppurative Ear Disease—was opened by Dr. Frank Buller, who directed his remarks towards affections of the more internal parts, disregarding conditions on the surface. Two classes were made for the sake of clearness—namely (1) Cases unattended by caries; (2) Cases attended by caries. Of the former, the results of operation could be generally considered good, while the carious cases (which were so often found in strumous children) did not give such satisfaction. Dr. Albert H. Buck (New York) gave his introductory remarks in a clear and concise manner, dividing the subject into acute cases, which were attended by micro-organisms, and chronic cases attended by more malignant bacteria, but giving good results also, when taken in time and treated thoroughly. Stress was laid upon the object of operations upon this region—namely, good drainage, which has the effect of relieving the pressure upon the pneumatic cells of the mastoid process, and so preventing the action of the micro-organisms. Bad signs in these operations were—a soft bone and a purplish red colour when cut. A mastoid process might seem free from tenderness and signs of trouble in the central part of the surface, and yet the tip and base might be diseased. The discussion on the Operative Treatment of Mastoid Disease was opened by Dr. H. Lee Morse, and continued by Dr. A. H. Buck, Dr. F. Buller, Dr. Gorham Bacon (New York), Dr. Ward Cousins, and Dr. C. J. Blake. On the motion of Dr. H. S. Birkett, seconded by Dr. Jno. N. Mackenzie, a vote of thanks to Dr. Greville MacDonald, the President, was passed for the able and courteous manner in which he had conducted the meetings and completed the large amount of work upon the programme. On the motion of Dr. Price Brown, seconded by Dr. Delavan, a vote of thanks was passed to the Secretaries for the manner in which the work of the Section had been carried out.

Anatomy and Physiology.

Dr. Gaskell opened the discussion on the Heart Beat. He

gave a very lucid account of the history of the investigation of the subject, and said that he had seen no reason to alter the views which he had published fourteen years ago, which attributed no power of rhythmical stimulation to the ganglionic cells in the heart. The discussion was continued by Professor Porter (Boston) and Professor Howell (Baltimore), who agreed with the views of Dr. Gaskell. Dr. Meltzer (New York) then stated a theory he had formed as to the cause of the heart beat, and was followed by Dr. MacCallum (Toronto) and Professor Huber (Ann Arbor). Professor Mills (Montreal) criticised some of the views of previous speakers, and was surprised that reference to nerves had been so much left out of the discussion. He was inclined to regard some of Dr. Gaskell's views as rather "poetical." He was disposed to attribute the heart beat to the co-operation of various factors which differed quantitatively in different animals. Dr. Gaskell replied, and emphasised the fact to which Professor Mills had drawn attention, namely, the variability of different hearts. The meeting closed with a demonstration of Hill and Barnardo's new sphygmometer by Dr. Hutchison.

Dermatology.

Dr. Coley (New York) read a paper describing his experiences in treatment of several cases of melanotic growth which had passed on to a malignant state, and Dr. Galloway a paper on a Rare Form of Pigmentation of the Skin in some respects resembling the melanotic whitlow described by Mr. Hutchinson. The President entered a strong protest against undue interference with moles or other melanotic deposits, and said that when their removal was finally decided on the operation should be conducted with the greatest freedom, and that particular care should be taken to avoid all irritation of the pigmented area, either by incision or by subsequent suppuration. Dr. Galloway demonstrated for Dr. Colcott Fox (London) a number of beautiful preparations showing the distinctive microscopical and cultural characteristics by means of which it was possible to distinguish different species of the fungi causing ordinary ringworm.

OBITUARY.

We regret to have to announce the death on September 17th of Mr. Thomas William Gregson, M.B., C.M., at the age of 43. Mr. Gregson was a native of Blackburn, and had practised there for some seventeen years. He held the post of Medical Officer and Public Vaccinator to the No. 1 District of the Blackburn Union. Dr. Gregson leaves a widow and one son.

Dr. Richard Youl, who for forty-four years had filled the post of City Coroner of Melbourne, died at his residence on August 7th, in his 71st year. He had been discharging his duties as coroner within a few days of his death. An attack of bronchitis from which he was suffering developed rapidly under the exceptionally cold weather which prevailed. For some years past Dr. Youl had been suffering from gout and heart disease, and five years ago his life was despaired of, but he weathered the storm, and was able to resume his duties. His personality was one of the most familiar in Melbourne, and no official in Victoria was so long and so prominently before the public. The gloomy monotony of the inquests of the morgue he frequently relieved by quaint sayings and interpolated reminiscences; and his summing up to the jury was always lucid, precise, and understandable. He had conducted no fewer than 12,000 inquests. Early in the evening of his death he chatted cheerfully with his friends, and expressed his intention of holding an inquest soon upon a press reporter who had a day or two before rung him up in the dead of night for information. Dr. Youl was born in Tasmania in 1824. He shortly after went to Great Britain, where he received his education. He took his degree at the University of Glasgow. At the age of 26 he returned to Melbourne, and started practice, and in 1853 he was appointed Coroner. He was President of the Medical Board of Victoria, and for some time he held the position of President of the Board of Health. He was highly esteemed in private life, and was always ready to give his services freely in the interests of charity.

Mr. Robert Rhodes Reed, M.R.C.S., died at King's Lynn on September 13th, aged 75. He had been in ill health for about a month, and the immediate cause of death was heart disease.

Mr. Edward Meacham, of Manchester, who has just died, was born in London in 1824. He went to Manchester in 1846 as Labour Master for the Chorlton Union. He then studied medicine, and qualified as M.R.C.S.Eng. in 1857, and L.S.A. in 1862. He was afterwards appointed Medical Officer, and became Medical Superintendent of the Manchester Medical Mission Dispensary, and Surgeon to the General Hospital for Sick Children, Manchester.

INDIA AND THE COLONIES.

INDIA.

The Sanitation of Poona.—In view of the prevalence of plague and cholera in Poona much interest attaches to the report of Surgeon-Major Barry on Poona sanitation, a long summary of which, occupying three columns and a half, appears in the *Times of India* of August 24th. The following is an epitome of the matters dealt with in the report: (1) In respect of the removal of night soil by carts, Dr. Barry reports that he went round every depôt and found "not a single cart in working order;" either the barrel was in holes or the top valve did not fit, or the outflow fittings did not work. To those conversant with Indian sanitation this means escape of effluvia, and probably dripping of soil and pollution of the ground. (2) The next matter taken up by Dr. Barry is "sullage." He says there is no such thing in Poona as "sullage;" what goes by that name is liquid ordure Cesspools are always a greater public nuisance in Poona than even privies. The objectionable practice of employing "pakhali" bhisties to remove sullage is alluded to; leakage and effluvia arise respectively from sodden and sweating leather and the absence of any valvular arrangement in the pakhals. Dr. Barry reports that, "From generations of neglect Poona lies on a bed of sewage." In respect of dustbins, it was a common occurrence to find them overflowing and surrounded with a rampart of filth which had not been removed for four or five days together. The equipment of dry rubbish carts was unequal to the work to be done. The slums and gullies of the town had all the appearance of consistent and absolute neglect. (3) Under the heading "Municipal Staff," strong comments appear on the health officer and engineer. In short, the report exposes chaos, incompetence, inefficiency, and general neglect in sanitary matters. At a special meeting of the Committee of the Poona City Municipality a draft reply to Surgeon-Major Barry's report was approved; the Committee meet the various paragraphs of Surgeon-Major Barry's report mostly with unqualified assent. The appointment of a European executive officer, as in Bombay, is reported to be necessary to improve the present state of things.

Sequelæ of Plague in Bombay.—Although Bombay is not yet able (August 25th) to congratulate itself upon freedom from plague, the general health is not being markedly affected by that disease, but by a plethora of troubles the most fatal of which is fever. Cholera, although prevalent, cannot be said to be epidemic, but not for forty years has so severe a visitation of cholera been met with in Bombay. Fever, according to the mortality returns, has been present for some six weeks in an epidemic form unparallelled even in the famine years, 1877-78. From the week ending July 13th to the week ending August 17th, that is six weeks, the total deaths from the three scourges mentioned above were as follows:

Fevers	1,405
Cholera	687
Dysentery	253

—in all, 2,345; which must be taken as the excess of mortality over the normal. With what truth these may be considered as true sequelæ of plague is doubtful. Cholera cannot be so regarded; but many cases ascribed to fever, and even to dysentery, may not be sequelæ at all, but true cases of plague, no longer bubonic, but of an "abdominal type" of plague.

Hospital Assistants in India.—Hospital assistants in India continue to clamour, and, we regret to say, to clamour in vain, for better position and increased pay. As compared with native subordinates in other departments of Government service, their emoluments are decidedly inferior, and no account is taken of the special training which they have to undergo at the cost of much time and labour, and of the very responsible duties which they are required to perform.

The Outbreak of Plague at Hurdwár.—A serious contingency, which menaced gravely the health of Upper India, was averted by the adoption of the principles of segregation, disinfection, and improved sanitation which have been adopted with so much success in the Bombay Presidency. The town was placed in charge of medical and other officers, who appear to have done their work with thoroughness and circumspection. Arrangements were made for the medical inspection of pilgrims on arrival by rail and road, for the temporary segregation of persons arriving from infected districts, and for the systematic cleansing of every quarter of the town. The utmost care was taken—as in Bombay and Poona—to respect the religious feelings of the people, and full facilities were afforded to the pilgrims to practise their observances. The organisation was so complete, that the few stray cases of plague which did occur were promptly detected and isolated.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, SEPTEMBER 25TH, 1897.

THE MONTREAL MEETING.

The annual meeting in Montreal will always remain an event memorable in the annals of the British Medical Association. Founded as a provincial organisation, the first stage of the Association's development was its growth into a national institution. The sound basis upon which it had been formed, and the energy thrown into the conduct of its affairs led to rapid extension throughout, and finally beyond, the confines of the British Isles. The formation of Colonial Branches marked an era in the history of the Association. The first annual meeting of the Association in one of the Colonies marks another era, and proves to all the world that the Association is one of the influences which is working to bind together the scattered peoples of the British Empire into one great nation.

The reports which we have published and others which will appear in due course will have been sufficient to show to those not present that the Montreal meeting has been an unqualified success, but it is difficult to convey in words a just impression of the measure of this success. Individual effort and the ready co-operation of a united profession have combined with the loyalty of a young, buoyant, and energetic people to render the meeting brilliant. Canadians of all professions and all classes have welcomed the Association with a genuine warmth, which has graven deep and ineradicable impressions in the heart of every one from the Mother Country who was fortunate enough to partake of that welcome. But the appeal was not only to the heart but also to the intellect and the judgment. The Canadians were able to show not only that they had warm hearts, generous hands, and an enthusiastic loyalty, but that they had already ensured that they shall take a large share in the intellectual and scientific life, not less than in the commercial enterprise of the empire to which they are proud to belong.

In Dr. T. G. Roddick the meeting had a President who brought to its service unbounded energy and a personal charm to which all who attended the meeting—members and guests alike—were quickly and gladly subjected. His political and social influence ensured for the meeting a degree of official recognition which is a measure of the honour in which the profession is held in Canada, and of the wise estimation which its statesmen have of the place which medicine is called upon to fill in the State.

The Governor-General, the Earl of Aberdeen, sacrificed a large part of a brief holiday in order to be present at all the public functions of the meeting, and to give to it the official recognition of the representative of the Queen in Canada. The Lieutenant-Governor of the province of Quebec, Sir Adolphe Chapleau, a statesman who can be eloquent in two languages, was not less ready to testify by his presence and by his words that the old French province of Canada welcomed the Association and took a deep interest in its objects and in its work. The Mayor of Montreal extended to the Association a hearty welcome in the name of that beautiful and enterprising city. Other cities of Canada did not fail to show their interest in the Association by sending representatives, while from every quarter of Canada came members of the Association resident in even the more distant provinces, from some of which the journey to Montreal was almost as lengthy as from the Mother Country.

The presence of Lord Lister throughout the meeting was a source of much gratification to the Canadian members, since it afforded them opportunities—of which they were not slow to take advantage—of personally assuring him of the esteem which they felt for his character and achievements, and of their gratification at the honour recently conferred upon him by the Queen.

On this occasion the Association, through the Montreal Branch, has had an opportunity of welcoming a large number number of guests. Professor Richet, the delegate of the French Government and of the Faculty of Medicine of Paris, delivered before the Association an address, well conceived and admirably delivered, which will have been perused with interest by all our readers. He took every opportunity, moreover, of bearing witness to the good feeling which ought to exist between the British and the French nations, as it does exist between the descendants of British and French stock living side by side in Canada.

The profession of the United States sent many of its most representative members. Dr. Herman Biggs, the Director of the Bacteriological Laboratory of the State of New York, delivered the address in Public Medicine, and Canada reclaimed for the moment Dr. William Osler to delight his audience by his scholarly address in Medicine.

Although the hospitality shown by the medical profession in Montreal and many of its distinguished citizens, and although the brilliancy and the success of the social functions must occupy a large space in the chronicles of the Montreal meeting, the more serious work of the Association meeting was by no means neglected. On the contrary, the work done in the Sections was of a high order of merit. The numbers who gathered at the sectional meetings, especially in the Sections of Medicine, Surgery, Obstetric Medicine, and Pathology, were very large, and indeed were in excess of those which we have been accustomed to see at previous annual meetings. The brief summary of proceedings in the Sections which we are now publishing will give a general idea of the varied character of the discussions which took place, and the fuller reports, which will shortly appear, will afford an opportunity for a more deliberate judgment. It is unnecessary, therefore, here to recapitulate the discussions which took place, but we may particularly refer to the discussions on diabetes and cholelithiasis in the Section of Medicine, to that on the high operation for cancer of the rectum in he Section of Surgery, to that on quarantine in the Section of Public Medicine, to

that on the vomiting of pregnancy in the Section of Obstetrics and Gynæcology, to that on diuretics in the Section of Pharmacology and Therapeutics, to that on serum diagnosis in the Section of Pathology and Bacteriology, and to that on anæsthetics in the Section of Anatomy and Physiology. Nor must we omit to call attention to the success of the combined discussion of the Sections of Pharmacology and Therapeutics and Dermatology on the treatment of syphilis.

The arrangements made for the comfort and convenience of members by the Reception Committee, of which Sir William Hingston was President and Dr. R. F. Ruttan Secretary, were most excellent. The Reception Room was thoroughly well organised, and members experienced no difficulty in getting information or in obtaining accommodation in the city. Dr. J. Perrigo, the Chairman, and Dr. J. M. Jack, the Secretary, of the Museum Committee, and Dr. C. F. Martin, who was more particularly charged with the management of the Pathological Museum, were fully rewarded for their laborious task by the success of the various departments of the Annual Museum. The Printing and Publishing Committee, which met under the chairmanship of Dr. A. D. Blackader, and of which Dr. J. A. Macphail was Secretary, had an unusually heavy task, but the publications which they issued were admirable, both by reason of the useful matter they contained and of the elegant form in which they were issued. On this occasion, also, great calls were made upon the Excursion Committee, but under the chairmanship of Dr. G. E. Armstrong, with Dr. H. S. Birkett as Secretary, it responded to every demand, and we hope in a future number to give some account of the extremely interesting expeditions which members were enabled to take after the meeting.

No member of the Executive, however, deserves warmer thanks than Dr. J. G. Adami, who has worked with untiring energy both in Montreal itself and during a lengthy visit which he paid to England earlier in the year, to render the meeting a success. His efforts, most efficiently aided by his co-secretaries, Dr. J. Anderson Springle and Dr. E. P. Benoit, met with complete success, and we are glad to recognise that from all sides they have received the recognition which they so well earned.

THE SANITARY CONGRESS AT LEEDS.

True as it is that so-called public health is but a department of medical science, and that sanitation in the broad sense of the term is but the application to the public good of knowledge gained by practitioners of medicine, there is a great and striking difference in the scope and in the proceedings of those great gatherings which have of late years become so important and effective a machinery for the intercommunication of ideas in regard to these two branches of knowledge. The difference is this, that a sanitary congress is largely missionary in character, is part of a great propaganda, having for its aim the promulgation and the enforcement on public attention of certain broad principles; and that with this object it must appeal primarily to the great outside public, while the work of a medical congress consists, or should consist chiefly, in advancing science by that intercommunication of ideas, and that comparison of experiences between practitioner and practitioner, which can only take place in comparative privacy. After our great annual meetings the thought of how little we give for what we receive must sometimes occur to us, and lead to a feeling of additional gratitude to our courteous hosts; for much of the benefit which results from such congresses does not fall upon the locality alone, but by aid of the British Medical Journal is quickly shared in by all the world.

With a sanitary congress things are different. The townspeople can participate and feel interest in its proceedings, a seed is sown which bears fruit locally for a long time, new recruits are drawn to sanitary work, the necessity of attention to matters of hygiene is impressed on the minds of the people, all of which conduces to healthy living, and thus, quite irrespective of the novelty of the communications or the scientific importance of the addresses, a very definite benefit is conferred on the place in which a sanitary congress holds its meetings.

Hence all praise is due to the meeting of the Sanitary Institute which has just taken place at Leeds. The communications may not have been deep, but at least they have been various, and the interest shown in them by the public has been unmistakable.

Prominent among the communications was a group of papers dealing on the one hand with the treatment of sewage, and on the other with the pollution of rivers, practically two different sides of the same question.

Major Flower urged the advantage of the country being mapped out and administered in accordance with the area of the various watersheds, and in this he will receive the support of all who have had occasion to study the contradictory and conflicting claims of the many authorities through whose districts a stream may pass, and the disputes which arise between all these local bodies and the Conservancy Board when a river attains the dignity of possessing such an organisation. Yet we hardly dare to hope that such a consummation will take place in our time, although the sanitary authorities on certain rivers do already possess a power of amalgamation for river purposes which is working very usefully.

Whatever arrangement may ultimately be made, it is clear that the prevention of the pollution of the rivers must be the first thing aimed at; hence the question of the scientific treatment of sewage with the object of producing a pure and innocuous effluent is of much more practical urgency than any such theoretical strivings after administrative perfection. Great interest then attaches to the efforts now being made for the production of the best system for the disposal of the sewage of towns. Hitherto sewage farms have held the field, being largely helped therein no doubt by the ægis of official sanction.

Sanitarians, chemists, and engineers have, however, of late years been studying bacteriology; they have inquired into the manner in which sewage farms act for good, with the result that the race for municipal patronage seems now to lie between two systems, each of which depends on the activity of our good old friend the microbe. Mr. Dibdin and Mr. Thudichum described their method of Biological Filtration, while Mr. Donald Cameron, of Exeter, descanted on the advantages of the Septic Tank. In the one process the microbes are lodged in the substance of the filter, where they are fed with air and sewage in proper proportions, the result being that they "eat up" the decomposable materials it contains, and pass on their elements in the form of a stable salt.

In the other process, the sewage is left for a time to stew in its own juice in a "septic tank," a chamber in which a special set of microbes work their sweet will upon it, and bring it into a condition most suitable for application to the filters. In both plans the microbes do the work, the skill lies in tempting them to do it, and we cannot doubt that whoever succeeds in this will well deserve such honour as he may receive. The race is interesting, and, besides the honour, the "added money" is not small.

Disinfectants were discussed at considerable length, their faults and their advantages being pointed out by various speakers. Professor Delépine advocated the use of hyperchlorates, and Mr. Henry Kenwood gave useful information concerning the practical application of the vapour of formic aldehyde, but we still seem far from finality in this matter of disinfection. Means adapted to lessen the amount of dirt are quite as important as those which aim at its disinfection. Cleanliness still retains its proverbial position next to godliness, although the proverb fails to state on which side it stands, and soap and water still remain predominant in the sanitary armamentarium.

We should, however, show but small appreciation of the width and scope of sanitary science as expounded at this great meeting of the Sanitary Institute if we confined our attention to such humble means to health as those we have so far mentioned.

Man has a mind as well as a body, and the ills which prey upon the one are surely as important as those that disturb the other. Whatever produces mental instability and encourages morbid tendencies is then an object of interest to the mental sanitarian, and it was no doubt fitting, although clearly to many a cause of some surprise, to find the modern "poster" pilloried at a sanitary congress. Dr. Marsden protested against the "worst forms of vice, violence, murder, and torture" being graphically depicted on our beauteous hoardings to the detriment of "ill-developed natures" and the encouragement of crime; and no doubt there is much to be said against these efforts at mural decoration, as against many other things that we have to see every day.

The Leeds meeting has clearly interested many people in many subjects, and has served to show how widely the wings of science may be spread.

MENTAL EVOLUTION IN MAN.

In the study of Nature, the first step is to describe, the next to classify, the third to explain. Each depends upon the other. An order which at first seems final gives way to a fresh one when more forms are discovered and described. The theory of creation which satisfied one generation fails when the next has arranged Nature more formally and examined it more exactly. Each research will in turn occupy the first place. In biology, for example, the first stage was the description of man and other animals, human and animal anatomy; then followed their comparison and classification, the age of Owen; and then the theory of their origin, the age of Darwin.

Psychology is both of later growth than anatomy, and of much greater difficulty. For long it was confined to the description of the normal human mind, quite recently the normal animal mind and the abnormal human have been observed, and the third stage of research, inquiry into its origin and development, has been attempted. It is a natural inference that the law of growth which has been accepted for the body should apply to the mind also. Heredity and variability, the two great powers of life, are as plain here as in anatomy. It is agreed, also, that these have acted by differentiation or specialisation on the mental as well as on the bodily side of Nature. But to go, like Dr. Bucke, in his Address to the Section of Psychology at Montreal, beyond these broad and simple conclusions at once awakens interest, for it opens a fair field for fight, and happily for men, to whom strife is pleasure, psychology is so obscure and so difficult that the fight will be very long.

The only evidence of mental states which approaches exactness is speech, and with infants and animals which have it not our conclusions are little more than guesses. Pleasure and pain, for instance, are inferred in lower animals almost entirely from their movements, but when we conclude that a worm wriggles because the hook hurts it, we are going far beyond safe ground. It is not till we get to the highest forms of life, whose actions are regular and show purpose, that movements become sufficiently organised to supply, though imperfectly, the place of speech, and afford us evidence of the mental conditions. In them we find, or think we find, knowing, feeling, and willing already plain, and though Dr. Bucke denies their self-consciousness, many people would say that dogs could not so ape the vanity and pride of man without it.

The colour sense is said to be peculiar to man, but the variation of cuckoo's eggs, according to the nests in which they are found, is difficult to explain, unless either the cuckoo knows which eggs are like hers, or the foster parents recognise and destroy those which are unlike their own.

Thus, even in the highest animals, interpretation is difficult, while the immense majority of living beings are altogether beyond our powers of observation. Owing to this imperfection of its premisses comparative psychology is unable to trace the beginning of mind, and from such evidence as it offers of its development only the broadest and simplest conclusions are possible.

Morbid psychology, the study of insanity, is at first sight more promising. But upon examination we find two facts which limit its powers. First, insanity is very irregular. Not only do insane states vary from day to day, but no insane state can be predicted even with probability from a given cause. This might in past times have been said as truly of bodily disease, and it is probable that in the distant future patient observation of insanity will bring us to as good a knowledge of the diseases of mind as we now have of those of the body. But for this we have long to wait. In the second place, though insanity and similar states do indeed warrant us in drawing some conclusions as to the growth of mind, these refer but to its highest and, as we suppose, its latest powers. Under Hughlings Jackson's guidance we have learnt that speaking physically inhibition, or speaking psychologically control, is the function that is highest, and that is earliest lost in disease, and we conclude that this is the latest to develop. But though disease takes off first the latest covering, we cannot yet trace the removal of successive layers, nor say that pride is of later growth than remorse, or sorrow than joy. Yet control is not all of a piece; the control of a saint is not that of an Indian. Nor is it confined to man. Whyte Melville tells of his mare who stopped to let him

mount after a fall, "though she loved hunting in her heart," and dogs will keep quiet in a sick room, and behave gently to children.

Dr. Bucke supposes that all forms of idiocy and of insanity are cases of atavism. But when such an idea is presented we naturally turn to the diseases of the body for analogy. Can all malformations be so explained? Certainly all diseases cannot. Since then comparative psychology is so weak, and morbid psychology so young, we must still rely chiefly on the study of the natural mind of man at an age when it can explain itself by speech, and as Dr. Bucke points out there are many variations of its powers which we more often deny than patiently observe.

The development of bodies leads us to believe that the growth of mind is from the simple to the complex by differentiation or specialisation of an originally homogenous mass. That it should grow "by additions," as Dr. Bucke claims, is not what we should expect. If we may reason upon so obscure a subject, we should say that for self-preservation moral functions are variously developed in various species; fear in those that are fleet, courage in those that are strong, cunning in those that are neither; but each from an original substratum in which they were all implicit. That any faculties spring into evidence except in this way does not seem likely. And we fail to see how, if this be true, it can be said that "the human moral nature (whatever this may mean).... cannot have existed in the race more than 10,000 years at most." We feel tempted to copy Dr. Johnson's definition of muffins, and to say that dates—especially preserved dates—are a means of conveying sugar to the human mind.

For similar reasons we should expect various faculties (we use Dr. Bucke's terms without cavil to avoid confusion) to be variously developed in the races of man. He thinks telepathy and clairvoyance to be nascent. To begin with, they have only recently been observed by scientific methods, so that there is no evidence that they are growing; and in the second place they are claimed in a much higher measure for other races which we should not call more developed than our own. And we should also be prepared to find that some powers had been developed in other species which we had lost. Our tails have atrophied, and so we think has the sense of direction which enables dogs and cats to travel many hundred miles home.

We said at the outset that Dr. Bucke's address was of great interest, and our objections are the best evidence we can offer of the interest with which we read it.

THE HEALTH OF MR. ERNEST HART.

We regret to make an announcement, which will be received with sympathy by every member of the British Medical Association. The health of Mr. Ernest Hart has been for some time impaired. Three weeks ago (September 2nd) he was unable, owing to acute physical suffering, to attend the meeting of the Reference Committee. Some necrosis of the bones of the foot had supervened upon an ulceration, doubtless associated with glycosuria. The symptoms became more urgent, and Mr. Hart was seen by Mr. Lockwood, who, after consultation with Mr. Bryant and Mr. Mitchell Bruce, performed amputation of the leg. This severe trial was borne with great courage and fortitude, and Mr. Hart's friends will now be happy to learn that he has made safe and steady progress towards recovery, and is convalescent. We need not say how deep is our sympathy with Mr. Hart in his misfortune, and we express a universal and heartfelt wish in saying that we hope that Mr. Hart's health and strength may soon be completely restored.

SIR WALTER FOSTER AND THE GENERAL MEDICAL COUNCIL.

As we go to press we learn that Sir Walter Foster has just returned from Canada, and has expressed his willingness to stand as a candidate for the vacancy on the General Medical Council created by Dr. Rentoul's resignation. An influential Committee will at once be formed to promote his candidature.

DINNER TO SIR SAMUEL WILKS.

We are requested to say that any old friends or pupils of Sir Samuel Wilks, Bart., who wish to be present at the dinner at the Hôtel Métropole on Wednesday, October 6th, at which it is proposed to entertain him, are requested, if they have not already done so, to apply at once to the Secretary (Dr. G. Newton Pitt, 15, Portland Place, W.), at the same time enclosing 22s., the price of a dinner ticket, including wine.

A MEDICAL CIVIL COMMISSIONER.

Colonel O. T. Duke, who has been appointed by Earl Grey to the post of Civil Commissioner and Resident Magistrate for Victoria, Mashonaland, was not many years since a working member of the medical profession. He was educated at Guy's Hospital, became M.B.Lond in 1867, and after a distinguished career at Netley passed into the Indian Medical Service. He subsequently, in India, entered the Civil Service, and held high office at Kelat in Beluchistan. During his recent residence in this country he has devoted himself to politics, and was the Unionist candidate for the Luton division of Bedfordshire at the last general election.

THE ELECTION TO THE GENERAL MEDICAL COUNCIL.

The situation regarding the vacancy which has recently occurred in the General Medical Council having become somewhat complicated, it may be well to state here the exact position of affairs at the present time. On September 9th we received information that Dr. Robert Reid Rentoul had resigned his seat on the Council as one of the direct representatives of the profession for England, and this fact, after official verification, we announced in the British Medical Journal of September 11th. In the same number of the Journal a notice of election under the Medical Act (1886) duly signed by Sir Richard Quain, President of the General Medical Council, as Returning Officer, was published in the advertisement columns. A similar notice appeared in the *Lancet* of the same date, and in the *Times* of September 10th. In the British Medical Journal of September 18th it was announced that Dr. Diver, Mr. George Jackson, and Mr. Victor Horsley had come forward as candidates for the seat vacated by Dr. Rentoul's resignation, and addresses by the two first-named gentlemen to the registered practitioners of England and Wales were published. On September 20th an announcement to the following effect appeared in the *Standard*: "We are requested to state that Dr. Rintoul (*sic*), of Liverpool, has withdrawn the resignation of his seat upon the General Medical Council, and has written to this effect to Sir R. Quain, President of the Council." A copy of this letter has since been forwarded to us for publication by Dr. Rentoul, and is printed on p. 835 of this day's issue. The

question of the validity of this withdrawal having been referred by the President of the General Medical Council to its legal advisers, it has been declared by them to be inoperative, as will be seen from the official letter from the Registrar, printed on p. 835. The election will therefore proceed. In addition to the candidates announced in the British Medical Journal of September 18th, Dr. James Arthur Rigby (M.D.Lond. 1877, M.R.C.S. and L.S.A. 1873) has now come forward; his address is printed at p. 837. The position of Dr. Thomas M. Dolan, of Halifax, may be gathered from his letter printed on p. 839. As already stated, the last day on which nominations can be received is Monday, September 27th. Nomination papers, stating the name, address, and registered qualification or qualifications of candidates signed by not fewer than twelve registered practitioners resident in England, and accompanied by a declaration in writing signed by the person nominated, acknowledging that he consents to be nominated, must be delivered by post or otherwise on or before the date mentioned, addressed to Henry E. Allen, LL.B., at the Council Office, 299, Oxford Street, W.

PASTEUR INTERNATIONAL MEMORIAL.

On the formation of the British Section of the Pasteur International Memorial, the Secretary, Professor Percy Frankland forwarded a circular to India, inviting admirers of the great scientist in that country to form an Indian section for the collection of subscriptions. Accordingly a section was formed in India with Surgeon-Major-General Cleghorn as Secretary. The fact that some £442 odd has been transmitted from India for the purpose shows how widely appreciated the services to scientific medicine of Pasteur are in our Indian Empire.

LANDLORDS AND DRAINS.

Questions relating to drains have lately claimed a considerable share of attention from the newspaper-reading public. Complaint is made that the very laying of the drain is at fault, even when the surveyor certifies that all is right. A correspondent in a morning paper broadly asserts that in the district where he lives most of the houses built since 1891 "are not in accordance with the London County Council bylaws as to the sanitary arrangements, nor with the deposited plans of the drainage." We need hardly point out that if this be so it is a distinct fraud, and that if the surveyor has certified to a new house being fit for occupation when he has not exercised due diligence to ascertain that it has been built in accordance with the plans deposited with the vestry, he runs perilously near being implicated as a participator in the fraud. There is no doubt that the practical separation between the surveyor's department and the health department of the vestries is a great evil, leading to plans being passed and buildings being erected which are soon condemned by the health officers. A case occurred, however, a few days ago which shows what power the sanitary inspector possesses, and how well supported he is by the courts in enforcing good sanitary work. In this case a man had taken a house subject to certain repairs and alterations being made. The plaintiff, a builder, was engaged by the agent to make these alterations, and during the progress of the work one of the city sanitary inspectors insisted on certain other work being carried out beyond that which appeared in the specification. The inspector spoke to the agent about it, and the work was done according to his directions. The landlord, however, refused to pay more than was in the contract. It was admitted that the inspector did not serve a written notice requiring the extra work to be done. But Mr. Commissioner Kerr, before whom the case was tried, held that this was not necessary. It was, he said, no use opposing sanitary inspectors when they wanted necessary work done. There is another way out of such difficulties, however, which is sometimes adopted by landlords of the more wily sort, which has led a correspondent of one of the papers to feel serious qualms of conscience, and to entertain grave doubts in regard to his duty towards his possible neighbour. He was in treaty for a house; he had, in fact, taken it subject to the report of his surveyor that the drains were in good order. The landlord had stated that they were in perfect condition. The surveyor, however, found them to be as bad as they could well be. On reporting this to the landlord, and asking if he would put them right, an answer was received to the effect that he would not consider the applicant any further as a possible tenant. "So far I am safe," says this correspondent, "but what of the tenant who does not adopt my precaution, and takes the house, as most people would, upon the assurance of the owner or his agent?" What, indeed? and what course should this conscientious correspondent take to warn prospective tenants? Clearly there is a death trap waiting for someone. Shall he stand idly by and see the innocents walk in, or what shall he do? The ethical side of the great drainage question threatens to be as complicated as the legal.

THE SIEGE OF THE MALAKAND: DEVOTION OF A DOCTOR.

We are asked to state that the "Surgeon-Lieutenant Hugo" referred to in the *Times of India* is James Henry Hugo, and not "Surgeon-Captain Edward Victor Hugo, M.D.," as given in the British Medical Journal of September 18th, p. 728. These officers are brothers, and both of St. Bartholomew's Hospital. J. H. Hugo is M.B., B.S., of the London University, and at Netley, in January, 1897, gained the Second Montefiore Prize for Surgery. Surgeon-Captain E. V. Hugo, M.D., is stationed at Chakdara Fort in medical charge of the military and civil duties there, and was present in the fort throughout the recent siege, Chakdara being ten miles distant from the Malakand.

THE RAGLAN BARRACKS.

In connection with the condemnation on sanitary grounds of the Raglan barracks some months ago, it is now stated that there is a prospect of a portion of these barracks being again occupied before the end of the year. The War Office have directed that the drainage work is to be facilitated, so that one half of the barracks may be ready for a battalion by the end of November. It was feared that the barracks would remain unoccupied during the winter, but the hastening forward of the work is received with general satisfaction. It is to be hoped the "hastening forward" does not mean scamped or imperfect work.

DIPHTHERIA IN THE METROPOLITAN AREA.

A curve showing week by week of the present year the notifications of diphtheria in the metropolis shows two peaks separated by a long valley; the first of the peaks, moderate in elevation, coincides with the last week in February and the first and second weeks in March; the valley represents sixteen weeks during which diphtheria was below the average, while the second peak of considerable height indicates a burst incident about July 5th or 6th, and subsiding about the middle of August. Some districts have been affected more than others, but the increase during July and August was fairly general and simultaneous. While accepting fully the infectiousness of the malady and the doctrine that it mainly spreads from throat to throat, the facts seem to suggest proliferation of the micro-organism external to and apart from human agency. This view will receive considerable confirmation if future research shows that the epidemic influence has been felt simultaneously over other parts in this country and in Europe; the researches of Newsholme have recently shown how, even with such diseases as rheumatic fever, epidemics occur almost simultaneously over wide tracts of the inhabited world, and that the local study of incidence should in all cases be supplemented by a larger and more comprehensive survey. The

immediate practical question is however, the breakdown of the Asylums Board arrangements for isolation. It appears that whenever the notifications approach 200 per week the beds are filled, and cases are received only as vacancies occur. The consequences are that a vast number of children remain at home under deficient hygienic conditions and destitute of the most efficient nursing and attendance. It may be truly said that the malady favoured by the obscure "epidemic influence" is scarcely at all controlled notwithstanding the lavish sums of money which have been spent by the London ratepayers for this purpose. There seems, therefore, no alternative but to double the present accommodation; every case of diphtheria which either ought to go to hospital or is desirous of being treated in hospital should be received. The Asylums Board recognise that the demand exceeds the supply, and if allowed a freer hand may be able to make the necessary arrangements. Any scheme of a reasonable nature for this purpose should receive public encouragement and support.

THE INDIAN PASTEUR INSTITUTE.

THE *Civil and Military Gazette*, published at Lahore, says that the Maharaja of Dholepore's visit to Simla is believed to be in connection with the Institute. The difficulty with regard to the site has been removed, as His Highness the Maharaja of Patiala will present one. A sum of upwards of 3 lakhs of rupees will be required for the erection of the building, 2 lakhs for the equipment, and 20 lakhs will be invested, so as to yield a monthly income of 6,000 to 7,000 rupees for maintaining the establishment.

SANITARY AUTHORITIES AND DIPHTHERIA ANTITOXIN.

REFERRING to Dr. Biggs's account, published in the BRITISH MEDICAL JOURNAL of September 11th, of the provision made by the authorities in New York City for the diagnosis and treatment of diphtheria, and for the supply of antitoxin, a correspondent writes: In this, as in its method of dealing with tuberculosis and in its system of school inspection, the action of the New York Board of Health presents such a remarkable contrast to our procedure in this country that it is well that we should appreciate the enormous stride which the City of New York has taken beyond the high-water mark which we have yet reached, A concrete instance will serve to illustrate the extent by which we have been distanced. Whilst the pathology of diphtheria owes comparatively little to the researches of the British school of bacteriology, and whilst our resources for practically applying the discoveries of Loeffler, Roux, Yersin, and other foreign bacteriologists are still extremely limited, we have, with the enthusiasm for utility which is our national boast, appreciated readily the value of diphtheria antitoxin for curative purposes. At the instigation of medical officers of health in various parts of the country, district, and county councils have undertaken to provide this antitoxin for the treatment of those who could not afford to pay for it themselves. It must be confessed that these bodies, in thus undertaking to provide for the treatment of disease instead of for its prevention only, took a step which could only be considered within their powers by a benevolent interpretation of the Public Health Act. In matters of this kind the effective control lies with the auditor. It is he who checks the enthusiasm for sanitary progress in local bodies, for he soon brings them to a sense of their legal restrictions by surcharging them if they incur expenses for which they have no authority. It was presumably under the fear of what the auditor might say to their proceedings that the East Dean Rural District Council, who a short time ago resolved to provide diphtheria antitoxin for the use of the medical practitioners of their district in treating cases of that disease amongst those who could not afford to pay for it themselves, resolved to write to the Local Government Board, and inquire whether they could legally do so or not. At the last meeting of the Council a reply from the Central Board was read containing this information, that "so far as the use of the antitoxin is intended to have concern with the cure of disease, the district council have no power to supply any such remedial agent except for administration by the medical superintendent for the treatment of patients in any isolation hospital which may have been provided by them." The distinction here drawn between treatment in a hospital and treatment outside of it is eminently worthy of the casuistical powers of the legal department of the Board. What a district council may do inside the four walls of a hospital is one thing; what they can do outside them, or when they do not happen to have a hospital, is evidently something very different. This distinction is the more remarkable in view of the powers which the Local Government Board possesses under Section CXXXIV of the Public Health Act for the prevention of epidemic diseases. Amongst other things which it may under this section authorise is "the provision of medical aid." This provision it could only make through the medium of local authorities; but then this power is only operative when "any part of England appears to be threatened with, or is affected by, any formidable epidemic, endemic, or infectious disease," and the occasions on which it has had to be invoked are so few that we doubt whether 1 per cent. of the medical officers of health of the kingdom have any personal experience of it. It might, perhaps, be thought that the Board would have been glad to avail itself of the important power thus conferred on it, and to have interpreted it in a sense which would allow of its giving a free hand to local authorities to cope with infectious disease in the best way they could. But, for some reason which does not appear very evident, the Board does not see its way to do so. Its action in this matter is the more extraordinary, for what the East Dean Rural District Council cannot do, the Westbury-on-Severn Board of Guardians, which consists mainly of members of the Council, can do. They can supply antitoxin or any other remedy which their district medical officers may advise them is calculated to be beneficial in the treatment of sick paupers. So that, while the Board of Guardians can supply antitoxin for the cure of diphtheria under any conditions, the same body as the local sanitary authority can only do so for patients in a hospital. It is open to doubt whether they could even do so for preventive purposes. Verily Dr. Biggs is right when he tells us we must look well to our laurels. The United States may be prepared, as he asserts, to adopt without hesitation the best that England produces in the field of public medicine, but we feel pretty confident that our Transatlantic cousins will never copy an organisation which bristles with such absurdities as this.

PORTABLE HOSPITALS.

IT has long been a settled point in the minds of sanitarians that hospital accommodation for the isolation of cases of infectious disease, to attain its maximum of good for the individual and the community, should be in absolute readiness for the reception of the first cases of disease that arise. In fact, such accommodation should be permanent, and adequate to the needs of the particular locality to be served. Hence, local authorities that intend to rest satisfied with some more or less makeshift arrangement, whereby the occurrences of disease are to be catered for only as circumstances shall admit at the time and place, are foolish in the extreme, and are not unlikely thereby to incur much expense where economy was the first and great intention. We note that the Andover Rural District Council have made trial of a Berthon hut, which, seemingly, is to be carted about like an itinerant circus, except that it will doubtless receive much more scant courtesy in respect of a site than is usually accorded to a moving caravan show. No provision is made, of course, for meeting occasions when disease appears in two separate places, or when two diseases in two sexes vex the minds of the sanitary officials; but dependence is placed on

the ability to secure a suitable plot of ground for the erection of the hut where and when required, a plot that must meet all the several requisites of a hospital site, just when emergent conditions render the speed of erection and completion of all external and internal details of paramount importance. Added to these facts, we learn that the Council have, as matter of present experience, knowledge of the impossibility of obtaining a site for a permanent hospital building. Surely this in itself points to the danger of opposition from local centres when the hut is wanted. Once erected, always erected, will be the opinion; and any opposition at a critical moment might be fraught with unpleasant consequences. We await the further experience of the district in this matter of disease isolation with interest.

A MUNICIPAL FAIRY GODMOTHER.

The municipality of Lyons has, it is announced, arrived at a decision which, even in these days, when, according to Sir William Harcourt, "we are all socialists," is somewhat startling. It proposes, so it is stated, to lend to young men on leaving the University the funds necessary "for their first needs," on their simple word of honour to repay the sum advanced as soon as their pecuniary position allows them to do so. This, so far as we are aware, is an entirely "new departure" for a city corporation. A similar humane principle has indeed long been acted upon by the Union des Anciens Étudiants de l' Université Libre of Brussels, which not only provides bursaries for deserving poor students, but in case of need procures employment for them after graduation, and in some cases a loan to start them in a profession. But this is the work of a private body, and the help that can be given is on a much smaller scale than the Lyons municipality proposes to give. The German Government, in certain cases, allows students to go through the University curriculum without payment of fees on their undertaking to discharge the liability when they are able to do so, and the old University of Paris was sometimes equally accommodating. It is often, however, even more difficult to find a market for academic and professional knowledge than to acquire that knowledge, and it is to such cases that the Lyons municipality proposes to lend the needed helping hand. The Fellowships of the older universities of this country have a distinct use for the same purpose, but they are for the few, and not always for those who most need them, nor perhaps for those who would make the best use of them. The Companies of the City of London seem not infrequently to find it difficult to dispose of their unearned increment in a really useful way. We venture to commend to them the example of the City of Lyons. We also congratulate the University of Lyons on its connection with a Corporation so enlightened and so anxious to further its interests.

TYPHOID FEVER AND THE DISPOSAL OF EXCRETA.

We have on several occasions of late touched on one or other aspect of the disposal of excreta in villages, deprecating the tendency of some rural authorities to construct sewers in places where the water supply is inadequate to the removal of the solids, and in those where the whole of the excreta and the slop waters might easily be utilised in the gardens attached to every dwelling, large or small, instead of being recklessly discharged into small streams which may be used for drinking by the cottagers living near them, or feed larger rivers from which public water companies draw their supplies. Still more strongly have we denounced the almost universal practice of sinking cesspits in pervious soils to a depth where nitrifying bacteria are no longer present, thus polluting the ground water, and especially the adjacent well, maintaining that shallow wells are the natural source of the water supply for detached cottages in the country, and would be perfectly free from danger if there were no dunghills in their vicinity, and the cesspits were superseded by the pail privy or earth closet, the contents of which were at least once or twice a week applied to the garden or allotment, which nearly all the agricultural labourers do, or should, possess. Quite recently we noticed the observation of Dr. Sinnuher, that the addition of 10 per cent. of quicklime to the dry earth is fatal to the bacilli of enteric fever and cholera, so that even the occurrence of such diseases need not interfere with the utilisation of excreta, although it would under such circumstances be far rarer than is at present the case in rural districts. But it is quite otherwise with towns where the houses are not surrounded by gardens; and the retention of cesspits and middens, and the pail system in any of its forms, so general in many of our northern and manufacturing towns, is a practice which ought not to be longer tolerated. Several attempts have been made of late to ascertain the relation between the several systems of the disposal of excreta and the prevalence of enteric fever and diarrhœa in different towns. Dr. Scurfield, for example, has analysed these in the case of 33 towns in which from 5 to 23 per cent. of the houses have privies or middens, and 24 in which waterclosets only are used; but, owing to the dissimilarity of the other conditions of the population, especially among those in the former group, has not been able to arrive at any very definite or satisfactory conclusions. Far more successful is the report by Dr. Boobbyer on the relative incidence of enteric fever in the three classes of houses in his town of Nottingham from 1887 to 1896, the conditions being more uniform or the differences so distributed as to be mutually corrective of the errors to which they might give rise. In these ten years the houses with midden privies diminished in number from 1,598 to 440, those with pail closets increased from 35,786 to 40,225, and those with waterclosets from 6,000 to 7,200. There was on the mean of the ten years 1 case of enteric fever per annum to every 37 of the midden houses, 1 in 120 in those where pails were used, and 1 in 558 of those provided with waterclosets. Many of the first group are, Dr. Boobbyer adds, houses of a good class, while the waterclosets are "by no means confined to superior neighbourhoods." The annual incidence on the total number of houses in which pails are used is very uniform, but the distribution of the cases in groups shows the tendency of the disease to spread through the retention of the infectious excreta in the dwelling in a more concentrated form than in the midden.

THE ALLEGED HEREDITY OF CONSUMPTION.

There is no doctrine more firmly impressed on the mind of the average director of a life assurance company than the hereditary transmission of consumption. Yet like other cherished beliefs this doctrine is being attacked on all sides, and if it is to remain as one of the fundamental principles of life assurance, fresh statistics must be collected so as to confute the statements confidently made by its opponents. The discovery of the tubercle bacillus and the confirmation of the infectious nature of consumption has thrown quite a new light on some of the questions connected with the transmission of this disease. The old statistics, which simply stated the number of consumptive persons who came of a consumptive parentage, will not now suffice to convince any thoughtful physician that the disease is transmitted by inheritance. There can be little doubt that in many of the so-called cases of transmitted phthisis the patient acquired the disease by contagion, his powers of resistance to the bacillus being enfeebled by the same conditions of environment as led to his father or mother being affected. In order, therefore, to prove that consumption is inherited, it will be necessary to show that the children of consumptive parents when removed from the influence of the parental environment succumb to the disease to a greater extent than do the general population. Dr. T. O. Edwards, of Hartford, Conn., Assistant Medical Director of the National Life Association, has treated this question with much force and lucidity in a paper, entitled, Facts, not Theories, in regard to Consumption from an Insurance Standpoint. He says emphatically: "It is more important

to inquire strictly into the environment and personal condition of the applicant than it is to reject or accept wholly on the now believed false theory of heredity and predisposition, remembering that there is no tangible evidence of heredity, and that predisposition is environment and proximity to the risks of personal infection."

THE MOSCOW CONGRESS.

Many of the British members being desirous of expressing their thanks (through the British Ambassador) to His Imperial Majesty the Czar for the very gracious hospitality shown to them by His Majesty, and also to the President and Committees for their great kindness, we are requested to state that any member wishing to have his signature added to letters of thanks should forward his name to Dr. Caton, of Liverpool, or to Dr. John Lowe, 4, Gloucester Place, Portman Square, W., who have consented to act as secretaries.

HALFPENNY IN THE SLOT HOT WATER.

The most ingenious and latest development of the coin in the slot system of delivery is embodied in the Pluto hot water machine. The point of the invention is that the water is heated for nothing—a most desirable one as far as the directors are concerned. The heat is obtained by utilising the waste heat of ordinary street gas lamps—heat which at present is not only wasted, but is possibly injurious in heating the surrounding air and leading to fogs and mists. The apparatus is stated to be perfectly automatic, and when once fixed to require no further attention. At the Crystal Palace a machine has been in operation for months with the most satisfactory results. As the water heated is obtained direct from the street mains, and as the whole heating operations are carried out while it is under pressure, there is no fear of contamination, and the water delivered from the machine may be relied upon as being as pure as that in the mains—a point of no small importance from a sanitary point of view if the apparatus is to come into general use, as appears likely, especially among the poorer classes. The same system can be fixed in houses and tenements, and the waste heat from lighting the house be usefully employed in heating water. In principle it differs radically from the old circulation system that has been so long in use. The water does not continually pass and repass through a system of pipes, the heating being carried out by a subsidiary heating coil in connection with a similar coil surmounting the gas flame. The advantage of this to all who have suffered from encrusted pipes is obvious.

CYCLING RECORDS.

Some marvellous performances by cyclists have been recorded during the past week. The Dutchman, Cordang, rode for 24 hours at the Crystal Palace, and beat all records after 4 hours. He was in the saddle for 12 hours without dismounting, his distance for that time being 317 miles, 600 yards. After resting 8 minutes he rode as strongly as ever, and accomplished 500 miles in 19 h. 17 min. 28⅕ sec. He travelled at a great pace during the last hour, getting through mile after mile in less than 2 minutes each; and at the end of 24 hours had covered 616 miles, 340 yards, or 51 miles, 590 yards more than the previous best record by the Frenchman, C. Huret. After this performance Cordang continued his journey a few miles, so as to gain the 1,000 kilometres record, which he did in 24 h. 12 min. 21⅘ sec., the previous best being 40 h. 36 min. 56 sec. Two days later, Michael, at Boston, U.S.A., broke all records from 3 to 25 miles inclusive. His time for the 25 miles was 45 min. 58⅘ sec., or an average of no more than 1 min. 50⅗ sec. for each mile. Riders who accomplish these great feats are necessarily examples of that perfection to which training may be conducted. But it is also evident that cycling as a trial of endurance is less exhausting than many other forms of athletic exercise, particularly those in which, as in rowing, the arms rather than the legs are engaged. The boat race, for example, lasting only about 20 minutes, not rarely causes one or more of the competitors to be quite "used up." In cycling the strain upon heart and lungs is moderate, and even if the highest pace be continued for hours the strain upon the circulatory and respiratory systems appears to be less than that entailed by rowing for a much shorter time at racing speed.

THE REPORTED OUTBREAK OF YELLOW FEVER IN THE UNITED STATES.

Telegrams from New York state that yellow fever is increasing in the lower Mississippi Valley, and that much alarm prevails among the people owing to the occurrence of several cases of the disease in the adjacent country, a number of fresh cases being announced at Edwards. The towns which still enjoy immunity from the epidemic continue to maintain a strict quarantine against the infected districts. The returns from New Orleans show a total since the outbreak of 29 cases and 2 deaths. The epidemic is now said to be spreading to Illinois, 2 mild cases having occurred at Cairo. It is stated that the Queen Regent of Spain, and in France the Minister of the Interior, have given orders that special surveillance should be exercised over vessels coming from the United States in consequence of the outbreak of yellow fever.

THE MICROSCOPIC EXAMINATION OF MILK.

A recent publication from the Health Department, Baltimore, draws attention to the danger which may arise from the consumption of the milk of cows suffering from garget, a purulent non-tuberculous affection of the milk ducts. Microscopic examination of the milk shows the presence of pus cells and of streptococci, and instances are recorded where its use has been followed by epidemic outbreaks of gastro-intestinal irritation. Streptococcus enteritis has been described by various authors; it is especially common in children and young infants, and there can be no doubt that many of the fatal cases of so-called cholera infantum are attributable to this cause. The method of examination consists of first centrifugalising the milk and then examining the sediment with an oil immersion lens, after fixing and staining with methylene blue. Most samples of milk mixed from a large herd will contain a few pus cells, but if they are present in considerable numbers, the sample should be condemned and the herd inspected with a view to eliminating the diseased animal. It is suggested that the standard for exclusion should be fixed at an average of more than five pus cells to the field of a one-twelfth oil immersion lens. Garget is most frequently met with amongst cattle kept in dirty, ill-ventilated stables with insufficient space, light, and pasturage.

Small-pox in Cyprus.—A serious epidemic of small-pox has, according to a telegram from Reuter's agent at Larnaca, broken out there, and a great panic prevails among the inhabitants, many of whom are leaving the town. Dissatisfaction is expressed with the measures taken to check the spread of the disease.

Messrs. J. and A. Churchill will on October 1st publish the third edition of Dr. Ernest H. Starling's *Elements of Human Physiology*, with some new illustrations; and the eleventh edition of Mr. Christopher Heath's *Manual of Minor Surgery and Bandaging*. Messrs. Churchill have in the press a work entitled, *Maternal Syphilis, including the Presence and Recognition of Syphilitic Diseases in Women*, by Dr. John A. Shaw Mackenzie.

The Scientific Press will shortly issue *A Manual of Hygiene for Students and Nurses*, by Dr. John Glaister, Professor of Forensic Medicine and Public Health in St. Mungo's College, Glasgow; and a work entitled, *Fevers and Infectious Diseases: their Nursing and Practical Management*, by Dr. Wm. Harding, being No. 4 of the "Burdett Series."

CONGRESS OF THE SANITARY INSTITUTE AT LEEDS.

(Concluded from page 742.)

The business of the Congress proper commenced on September 17th. Three Sections sat dealing with questions relating to Sanitary Science and Preventive Medicine, to Engineering and Architecture, and to Chemistry, Meteorology, and Geology. The proceedings for the most part excited keen interest.

Section of Sanitary Science and Preventive Medicine: President's Address.

Mr. T. Pridgin Teale, M.A., F.R.C.S., F.R.S., presided over this Section, which met in the Crown Court.

The President, who was cordially received, said it was 26 years since there was in Leeds a general public discussion of sanitary science, in its broadest sense, when in the Section of Health, presided over by Mr. Godwin, the editor of the *Builder*, the Social Science Congress had gathered together the comparatively small band of sanitary pioneers. These men were urging upon the attention of the country, not too ready to listen, the critical importance of sanitary work, and the dangerous position into which we had drifted. Such were Rawlinson, Edwin Chadwick, Acland, Fergus, and others. What was then almost sanitary chaos was now, as far as legislative plan was concerned, bit by bit being reduced to order, and the possibility had been established of such order reaching every corner of the country. The very title of their Section marked advance. The corresponding title used by the Social Science Association was "Health." The title used by the British Medical Association was "Public Health." The younger society adopted the significant title "Preventive Medicine," coupled with "Sanitary Science." Medicine was concerning itself more and more in tracking out to their source the origins of disease with a view to "prevention," and was no longer content merely to repair the ravages of disease which ought to have been prevented. "Sanitary science" worked as the handmaid of medicine in devising the methods and the mechanism by which evils could be averted, and health could be made more secure. When they contemplated the immense organisation of the preventive medicine service of the kingdom, in which they might include not only sanitary authorities, medical officers of health, and sanitary inspectors, but also nearly every practising medical man in the kingdom, it was interesting to look back but eighteen years, when the first edition of *Dangers to Health* was published. In the preface to that edition he stated that many of his friends and professional brethren had told him with pride of their sanitary discoveries, feeling that they were conferring a favour by telling him of some new fault in the book. In the same edition (1881), there was the following amongst the sanitary maxims which might be taken as marking a great contrast with the state of public opinion at the present day:—No. 3, "As a rule the soundness of the sanitary arrangements of a house is taken for granted, and never questioned until 'drain-begotten' illness has broken out. In other words, we employ illness and death as our drain detectives. About twenty-five years ago the Legislature for the first time provided that there should be medical officers of health throughout the whole kingdom. When that Act came into force medical officers had to be appointed, the majority of them having had no previous training whatever in sanitary work, and sanitary inspectors had to be appointed in the same manner. But it had worked in this way, that the work had trained and developed both medical officers and sanitary inspectors, and now the nation required for the position of medical officer a man very highly trained, and who had given proof of the training he had undergone. In the same way sanitary inspectors almost entirely—there were some exceptions—must give proof of a very considerable amount of training. All this was progress, and it was progress based upon public opinion supporting and sanctioning it. Public opinion, as had been aptly and significantly remarked, grew slowly and surely.

Compulsory Vaccination.

Dr. F. T. Bond, Medical Officer of Health for Gloucester, read a paper on the Report of the Royal Commission on Vaccination. The two questions on which alone the Commissioners had arrived at a unanimous conclusion were as to the undesirability of inflicting repeated penalties on vaccination defaulters, and of attempting to enforce vaccination by any penalty in cases in which parents are obstinately opposed to its adoption. Dr. Bond advocated the abolition of the practice of imposing repeated penalties in cases where sufficient ground existed for exemption: a larger exercise and an extension of magisterial discretion and provision for distinguishing defaulters from objectors, with the addition in regard to the latter that a competent inquiry should be made where it was alleged that danger was feared to the child. He also suggested that the Commissioners' recommendation for the extension of the vaccination age of infants should be accepted—the age might be extended to twelve months without serious risk, and with advantages which would do much to compensate for such risk, but it would not be desirable that vaccination of a child should be suspended for a longer period than four years from its birth; that revaccination should be systematically offered to all children at school at the age of 12; that there should be greater effort to convince the public of the efficacy of vaccination, and to inquire locally into allegations of mischief produced by vaccination; that there should be as little distinction as possible between rich and poor, and that, in the words of the Commissioners: "No consideration of cost ought to be allowed to stand in the way of any improvement which would render the operation less burdensome or diminish its risk. It is only fair to demand this if vaccination is to remain compulsory." The order of procedure involved would be as follows: (*a*) The parents of all infants would be required to have them vaccinated, and would be formally notified to that effect, as at present, but the period within which this would be required to be done should be extended to twelve months, or even, as in Germany, to the first calendar year after that in which the child had been born, for the reasons previously given. (*b*) Any parent who might wish to be relieved from this requirement should be at liberty to make an application to a court of petty sessions at some time before the expiration of the statutory period, accompanied by a formal statement of the grounds of his objection, and should be granted an order suspending the vaccination of the child until 4 years of age.

Scientific Treatment of Sewage.

The Scientific Basis of Sewage Treatment was the subject of a paper prepared by Mr. W. J. Dibdin, F.C.S., and Mr. G. Thudichum, F.C.S., and read by the former. In all methods of sewage purification which had been previously employed final oxidation had been effected, although this had failed to be generally recognised. The best and most natural system hitherto tried, namely, the application of sewage to land, depended for its success entirely upon the fostering and increase of micro-organisms. But the use of crude sewage upon land led to great difficulties, and, in consequence, previous chemical precipitation had been resorted to. It had not been seen that the same agencies which destroyed the dissolved impurities could, if given the necessary conditions, equally deal with those in suspension; hence came all the numerous chemical schemes, with their inevitable accompaniment, sludge. With the clear effluent it was possible to deal, although the process, being dependent so much upon local conditions and climatic influences, was always uncertain; but the sludge always remained the *bête noire* of all those concerned in sewage disposal. In the recognition of the fact that all processes of sewage purification must be made subservient to the requirements of the various micro-organisms lay the whole secret of success. All sterilising or antiseptic agents must be strictly excluded; a condition of neutrality or slight alkalinity must be maintained; oxygen, anyhow in the final stages, must be freely supplied; the temperature must be kept above the freezing point of water, and the amount of food must be proportioned to the powers of the organisms. As far as the results of working on these principles were concerned, the authors could confidently state, of their own practical knowledge, that, first, no previous chemical treatment was required; secondly, no sludge was produced, thereby removing the chief difficulty hitherto met with; and, thirdly, the quality of the final effluent could be controlled, admitting as it did of being brought to any required degree of purity. The method indicated, the authors

were of opinion, was the present position of the disposal of the foul matters which rendered sewage offensive, repugnant to the senses, and dangerous to health, and the authors were confident that it would only be by careful and continuous study of the question on these lines that advance will be made. The moment that the neutral agencies around them were interfered with, and force attempted to be used in the shape of antiseptics, heaping vast masses of putrefying sludge together, etc., failure would inevitably dog their footsteps as it had done for so many years past in place after place.

Septic Tank Experiences at Exeter.

Mr. Donald Cameron, the City Surveyor of Exeter, read a paper on a Year's Experience of the Septic Tank System of Sewage Disposal at Exeter. After describing in minute detail the construction and working of the plant, Mr. Cameron concluded by saying that the Exeter installation, during its twelve months' work, had been subjected to the severest conditions that sewage works had to contend with, and had proved thoroughly reliable in all respects. It had been shown that sewage-disposal works could be designed so as practically to take care of themselves, requiring no more attention than a visit two or three days a week to change or alternate the filters, the work of a few minutes, and a day's work every month or six weeks in tidying the filters. Once a year it might be desirable to remove the deposit from the tank—by proper arrangements this could be done by the one man who acted as caretaker. To local authorities the saving in annual expenditure thus effected was even more important than a corresponding reduction in the first cost of works. At the same time the initial cost of such works as he had described was very moderate, being less than was often spent in laying out a sewage farm to serve an equal population.

Disinfection and Disinfectants.

Dr. Spottiswoode Cameron, Medical Officer of Health, Leeds, opened a discussion on Disinfectants. Infectious diseases might be divided into two classes. There were diseases like small-pox and typhus where the infection went from person to person in an epidemic form, and there were diseases, such as typhoid and probably cholera, where the germs were more localised, and were contained more or less in the secretions or excretions of the body. In diseases like typhus and small-pox it had always seemed to them there that the most important thing to attack was the clothing of the patient, and the same was the case with scarlet fever. Fortunately there was an agent which was capable of absolutely destroying bacterial organisms. That agent was heat, and in the form of steam it could be conveniently employed. One or two difficulties in the application of heat by means of steam, they were in danger of overlooking. If they put the garment saturated with the poison of fever or small-pox into a chamber in which steam, developed from water, at a pressure of ten to fifteen pounds, was allowed freely to escape there was no doubt that in, say, fifteen minutes the bacteria would be destroyed. But if they tock the water away, and had only the steam, and if then, in order to be doubly secure, they superheated the steam, they ran the danger of producing no result whatever.

Professor Delépine, describing experiments on tuberculosis organisms, said the bacteria resisted exposure to sulphurous acid for a very considerable length of time, and without showing any loss of vitality. Even chlorine produced very little more effect on them. The use of a hyperchlorate was then suggested. No doubt chlorine in itself was a very powerful disinfectant, but it required the presence of moisture by combination. He advised the use of hyperchloride of lime for the purposes of the experiments. As it was, however, no use obtaining it in its pure state, they employed simple bleaching powder, and it was found that when it was kept in contact with a certain amount of water for a few hours an active hyperchlorate was generated. On a weak solution being applied to walls impregnated with the tuberculosis germs, thorough disinfection was obtained in a few hours. An exposure of a few minutes was generally sufficient. These experiments led him to try the action of hyperchlorates on other germs, and in every case it was effectual, a weak solution destroying the vitality of anthrax spores in a very brief period.

Mr. Henry Kenwood, Assistant Professor of Public Health, University College, London, and medical officer of health at Stoke Newington, read a paper on the Disinfection of Rooms by Formic Aldehyde Vapours.

The Sanitary Aspects of Advertisements.

Dr. R. Sydney Marsden, Medical Officer of Health for Birkenhead, read a paper on this subject. He conceived, he said, the duty of that Institute to be a larger one than the mere consideration of systems of drainage and water supply, or a warfare against infectious disease, infant mortality, and the like. Anything which acted deleteriously on the mental well-being of the community was a matter which called distinctly for the attention of the medical officer of health. They should take into consideration more of the great social problems which were untouched. There was a certain class of obnoxious advertisement which consisted of pictorial illustrations of the worst forms of vice, violence, murder, and torture, which were at present resorted to so largely by theatrical companies for the purpose of appealing by excitement to the lowest component part of our natures, and which evidently from its extensive use appealed strongly and effectively to a large section of the populace, whose ill-developed natures were further deteriorated by the desire produced in them to see performed the blood-curdling acts so graphically depicted. To any well-conditioned mind these advertisements must be most disgusting, painful, and objectionable, but his experience led him to believe that they were a source of temptation and evil to certain ignorant and emotional classes of the people beyond what would easily or at first sight be believed. He produced placards of well-known and popular plays, which were regularly distributed broadcast over our large towns for the purpose of drawing a house. The artists who devised them seemed to vie with each other in inventing, for the benefit of the public and the lower orders of society, a suggestiveness for crime which it would be difficult to imagine could well be excelled. He felt certain that if they could trace cases to their first cause, many of the dreadful acts which stained our criminal annals would be found to have primarily originated in the suggestion to action given by these degrading advertisements. The control of such influences should be put under the sanitary authorities, who ought to have power to prohibit their being placarded about their districts. Every properly balanced mind must regard such direct incentives to crime as distinctly unfit for publication on the walls of our great cities. No phase of preventive medicine was more important to the well-being of the individual amongst the lower orders of society. The evil still went on, and at present they had no means of preventing it, whilst in the meantime the public disregarded it; but the evils caused thereby were material, and in many ways were undermining the morality and strength of the people.

Section of Engineering and Architecture: Fever Hospitals,

The only paper read was one by Mr. E. T. Hall on Fever Hospital Construction. Mr. Hall was the architect, under the Metropolitan Asylums Board, of the Park Hospital, London; and, taking this as the basis of his address, he offered many practical suggestions as to the erection and fitting of pavilions for the treatment of small-pox and fever patients. An interesting discussion followed.

Section of Chemistry, Meteorology, and Geology: The Rocks of Yorkshire as a Source of Water Supply.

Mr. Kendall, of the Yorkshire College, read a paper on this subject. It was gratifying to learn that there is sufficient water stored in the chalk of the East Riding to supply several of our great manufacturing centres. Other speakers on the subject mentioned what should make such a supply all the more acceptable—namely, that water obtained from the chalk beds is seldom the cause of lead poisoning.

Bequest.—Under the will of Mr. Joseph Ruston, of Monk's Manor, Lincoln, £1,000 has been bequeathed to the Lincoln County Hospital, and £1,000 to the Lincoln General Dispensary.

DIRECT REPRESENTATION ON THE GENERAL MEDICAL COUNCIL.

We have received the following communication from the Registrar to the General Medical Council:

Sir,—It may be for your convenience and that of the profession generally that I should inform you at the earliest opportunity that the President of this Council having referred to its legal advisers a communication he received from Dr. Rentoul on the 18th instant, the opinion has been definitely given that the withdrawal of his resignation therein intimated is inoperative, and that there must be an election as already arranged.

Yours faithfully,
H. E. Allen, Registrar.

The Editor of the British Medical Journal.
General Medical Council Office, 229, Oxford Street,
London, W., Sept. 22nd.

We are requested by Dr. Rentoul to publish the following copy of a letter which he has forwarded to Sir R. Quain, Bart.:

"78, Hartington Road, Liverpool,
"September 18, '97.

"Sir R. Quain, Bart.,
"President General Medical Council.

"Dear Sir,—I beg to withdraw the resignation of my seat upon the General Medical Council. I have been impressed with the strong feeling that I, working almost alone, can do very little indeed to aid in carrying into effect those medico-political and medico-ethical questions which I have had at heart for a good number of years, and more especially as practitioners appear to be so very slow to back up those who are working on their behalf.

"Since the announcement of my resignation I have, however, received pressing requests to remain upon the Council, and I agree to do so for the present. Moreover, it has been pointed out by the *Lancet* that my resigning now may not only deal a severe blow to a question which I have repeatedly brought up since 1890 (I refer to the question of increased direct representation of practitioners upon the Council), but that it would cause the Council to spend some hundreds of pounds upon a new election. I sincerely hope that in the immediate future practitioners will see it to be their plain duty to take a deeper and truer interest in medico-political and medico-ethical questions, and that those few who have tried to fight their battles and to improve our position generally will receive not only greater sympathy, but more practical help.

"I am, Sir, yours truly,
"Robert R. Rentoul."

Mr. Victor Horsley's Address to the Registered Medical Practitioners of England and Wales.

Ladies and Gentlemen,—Having agreed to present myself as a candidate for election to the General Medical Council, I feel it is perhaps necessary to explain why, having declined to be nominated at the election in November last, I have now reconsidered the position.

I believed then that it was desirable that the three seats of direct representatives should be occupied by general practitioners, but since that date I have, in the light of full knowledge of the unfortunate result of that election, and especially of its adverse influence on the important question of increased direct representation, been driven to the conclusion that the prospect of advancing medical reform depends more upon the previous training of the representatives than upon the fact of their belonging to one particular section of the profession.

Further, a careful study of the situation shows that the Medical Acts have conferred so much power upon the General Medical Council as to render it certain that the most expeditious method of obtaining reform is to influence the Government through the Council, but to accomplish this it is obvious that an intimate personal acquaintance with the methods, laws, and procedures of the Council should be combined with a knowledge of the many pressing needs of the profession and the increasing encroachments on the legal rights, liberties, and, indeed, income of the practitioner.

I may say I think, without exaggeration, that my work of the last four and a-half years as President of the Medical Defence Union has furnished me with a training of the kind required.

Thus, as regards the official and especially the legal work of the General Medical Council, the conduct of the numerous and important cases placed by the Union before the Council has brought to my notice many points in medical legislation and in the procedure of the Council amendment of which is urgently necessary. Having a detailed experience of these hindrances and deficiencies, I believe I could be of service to the profession in securing the removal of some of these obstructions to immediate progress.

As regards a requisite knowledge of the needs and exigencies of general practice, my official work in the Union has brought me into daily contact with applications from all branches of the profession in different parts of the country, made under the most varying circumstances, thus rendering me intimately acquainted with the difficulties and perplexities of my colleagues.

Of the questions immediately affecting the medical profession, I consider the following to be the most pressing, and to require not only attentive consideration but also decisive treatment by the Council:

1. The amendment of the Medical Acts, specially including:
   (*a*) The representative constitution of the Council.
   (*b*) The securing of a one-portal system of admission to the profession.
   (*c*) The suppression of irregular practice by confining practice for gain to registered persons.
2. The regulation of medical aid societies.
3. The registration of obstetric nurses.

As regards the two latter questions, the Council has reopened both by the appointment of Committees to report thereon; but definite conclusions must be arrived at as soon as possible, and it would be my aim to secure prohibition in the former case of the holding of medical aid and like appointments, as being a contravention of Section xxix of the Medical Act, 1853; and in the latter to prevent any legislative measure receiving approval unless containing ample safeguards both for the profession and the public.

In conclusion, I wish to state that had either of my friends, Dr. Woodcock and Dr. Lovell Drage, consented to be nominated, I would have done all in my power to further his election. As, however, for various reasons they have both declined to come forward, I have decided to do so myself, in the hope of being able to continue and extend that work in which I have always felt the deepest interest, and which I believe I could more efficiently help forward if elected to the membership of the General Medical Council.

Victor Horsley, F.R.S., F.R.C.S.

Cavendish Square. Sept. 18th.

Candidature of Mr. Victor Horsley: Meeting at Manchester.

On Tuesday evening, September 21st, a well-attended meeting of members of the medical profession of Manchester and the district was held in the Memorial Hall, Albert Square, to promote the candidature of Mr. Victor Horsley, F.R.S., etc., for a seat on the General Medical Council.

The Manchester Committee, in their address, stated that, owing to the unexpected resignation of his seat by Dr. Robert R. Rentoul, a vacancy had occurred amongst the direct representatives of the profession on the General Medical Council. Failing Dr. Woodcock, who, despite a strong and influentially signed request, found himself unable to allow himself to be nominated, Professor Victor Horsley had consented to stand as a candidate for the vacant seat. They believed that Professor Horsley's past work in securing the success of the Medical Defence Union, and, as Chairman, in inducing the General Medical Council to take action against irregular and unqualified practitioners, would alone secure him the cordial support of every member of the profession. Besides its influence on the General Medical Council, the Medical Defence

Union had singlehanded successfully prosecuted and obtained convictions against some of the most notorious quacks in the country. Briefly stated, Mr. Horsley's idea of reforms most urgently needed was: (1) amendment of the Medical Act; (2) complete reconstruction of the General Medical Council, alteration in its office, methods, and its modes of legal procedure; (3) regulation of medical aid societies; (4) registration of obstetric nurses under absolute medical control. The Committee expressed the belief that Mr. Horsley was one of the strongest candidates the profession could have, and they confidently appealed for the help of their fellow practitioners to secure his return. In conclusion they asked co-operation in the endeavour to prevent the charge of apathy so constantly, and, they feared, justly, made against the profession in matters concerning its own progress and welfare. The address was signed by Mr. Walter Whitehead (Chairman), Dr. James Brassey Brierley and Dr. Sawers Scott (Honorary Secretaries).

Mr. Walter Whitehead presided over the meeting, and amongst those present were Dr. Woodcock, Dr. Dreschfeld, Dr. Lorimer (Buxton), Dr. Colin Campbell (Uppermill), Dr. Flitcroft (Bolton), Dr. Gardner, Dr. Lloyd Roberts, Dr. Hill Griffith, Dr. Gledhill, Dr. Ashby, Dr. Leslie Jones, Dr. Jeffries (Bolton), Mr. G. H. Broadbent, Mr. Wilson, Dr. Brown Ritchie, Mr. Collier, Dr. J. Brassey Brierley and Dr. W. Sawers Scott (Secretaries).

Dr. Brierley said he had received letters by every post from gentlemen who expressed their satisfaction with Mr. Horsley as the candidate, and promising to support him in every way by not only voting but by working for him. He had a sheaf of telegrams from all parts of the country commending the candidature of Mr. Horsley. The last he received was from Mr. Jonathan Hutchinson, expressing the greatest satisfaction, and saying that he should both vote and work for him.

The Chairman, in opening the meeting, said it was perfectly superfluous for him to introduce Mr. Victor Horsley to the meeting. As a brilliant surgeon and a brilliant writer they had had ample opportunities of becoming acquainted with him for the last ten or fifteen years. He now came before them that evening in quite a different capacity. He had, as he had said, been before them for a number of years as a prominent member of the profession, but also as the champion of the wrongs of the profession. For somewhere about sixty-five years the profession had been crying for redress, and to have the numerous abuses from which it suffered done away with, and commenced by no less a man than Sir Charles Hastings. Those who had read the history of the British Medical Association, and read the accounts of the various meetings, would find that year after year efforts had been made to obtain reforms, and all these efforts had ended in nothing. The reason, as far as he had been able to gather, why these efforts had not been successful had been that they had always wanted a man of distinguished calibre to lead their forces. All great reforms had been as a rule, as they were aware, originated in one mind, and as a rule carried by the energy and perseverance of a single individual. They had had an example in Dr. Rentoul, who had mysteriously resigned his position on the General Medical Council. Dr. Rentoul was a man for whose ability he had always had the greatest admiration, and his energy, as they knew, was extraordinary; but his excessive zeal had made it impossible for him to achieve any success. He imagined he could revolutionise the whole Medical Council in the twinkling of an eye. Mr. Victor Horsley had commenced in a very leisurely but a very determined manner to endeavour to get some reform in their profession, and if he was true to the principles he professed, as he was perfectly sure he would be, he thought they could not have a better representative. He hoped the meeting would give him such assistance as would enable him to secure a substantial and decisive victory.

Mr. Victor Horsley, who was cordially welcomed, said by way of preface with reference to what had fallen from the Chairman that the solicitor of the General Medical Council had advised the President that Dr. Rentoul's withdrawal of his resignation was illegal, a conclusion which was obviously in accordance with the Medical Act of 1886. Mr. Horsley proceeded to deal with the subjects mentioned in his address, the first of which was the all-important reform of the Medical Acts. He pointed out that the preamble of the Act of 1858 was clear. It defined the position of the profession as contrasted with uneducated persons professing to have a knowledge of medicine. In the construction of the Act the *Register* was the only qualification to practise, the qualified practitioner being defined by Section xxxiv to be a person registered under the Act. Unfortunately the Council had been badly advised legally on that important question, and in consequence of that error it had not put the law into effect in controlling the practice of medicine by (*a*) unqualified persons, and (*b*) persons who had been struck off the *Register* for infamous conduct, or because they had been convicted in a court of law. In fact, the legal assessor of the Council, Mr. Muir Mackenzie, had given adverse opinions in writing on that very point as recently as last year, but in the present year the Medical Defence Union had secured a great victory at the Council and established the position once for all that registration was alone the qualification. Mr. Horsley then dealt with Clauses 31, 32, 34, and 40 of the Acts, which confer certain privileges on registered practitioners, and pointed out that these clauses had been allowed to fall practically entirely into abeyance, whereas if they had been properly acted upon all unregistered persons would have been brought under the Act. Of those protecting clauses, Clause 40 was the most important. Unfortunately the law courts ever since the passing of the Act had delivered the most contrary judgments on one and the same clause. A striking instance of that they found in the cases of the persons Ferdinand and Bridgwater. In the former case the Union successfully prosecuted under Clause 40. The defendant alleged that he possessed a M.D.U.S.A., and subsequently the Union were the means of his being convicted of forgery. However, when the Union proceeded against a person who possessed a similar degree, named Bridgwater, the magistrate refused to convict, and, on the case being carried to a higher court, Mr. Justice Grantham actually said that the man had a degree—although of course, as was well known, there was no such degree in existence, and so the case was lost. Mr. Horsley then dealt in detail with Clause 40, and pointed out that the two fundamental errors in it were, first, that it dealt with title only and not practice, and, further, that it referred only to an individual person, whereas a good deal of quackery now was conducted by bogus one-man companies, who could not be reached either under the Companies Act or, practically, under the Medical Act. The next point requiring amendment was the cost of the administration of the Act. By really culpable negligence the Council had allowed in the metropolitan area penalties gained under the Act to pass away from the profession, and that had very greatly added to the cost of putting the Act into operation. Various borough and county Acts had also endeavoured to encroach in that particular, but by the action of the Union, through the Council, they had been successfully resisted. Any amendment of the Act must make the prosecution of unqualified persons easier, because they were usually either men of straw, or they escaped by going to another part of the country. The next point in the Act requiring amendment, and also associated with the question of procedure within the Council, was that of procedure within the Council itself under its by-laws. Therefore, the two sets of regulations must be taken together. Mr. Horsley referred to the question of the appointment of unqualified practitioners as medical officers of friendly societies, and pointed out that while it had been held that the Defence Union could not interfere because it had no *locus standi*, the General Medical Council could do so because the Act placed it in the position of administering the Act. The point was one of vital interest to the general practitioner, and if he were returned it would be one of the first points he would bring before the Council. With regard to Clause 40, they needed a reform so that they could get at one person or a body of persons practising for gain, and they would, if possible, get the support of those legislators in the House of Commons who were at the present moment exercised in amending the Companies Act so as to meet difficulties in the matter of commerce. The Union had already taken steps to influence these legislators. The prosecution of quacks was a costly proceeding, and the profession should not be taxed for obtaining justice, and one of the amendments of the Medical

Acts which must follow the amendment of Clause 40 would be one dealing with quacks. Coming to sundry matters in which not only an amendment of the Medical Act was called for, but also an amendment of the procedure of the Council itself, Mr. Horsley said there was the question of penalties. Up to July, 1876, the by-laws of the General Medical Council gave, as he said at Carlisle, incredibly arbitrary powers to the President, and, in fact, allowed him to manipulate the Council as he thought fit. He was glad to report that, chiefly owing to the exertions of Dr. Bruce, the Scottish representative, that was now entirely altered, and the Council had adopted a new by-law which took that arbitrary power entirely out of the hands of the President, and placed it where it should be—in the hands of the Committee. The profession could now rest assured that after about three years' hard work that matter had received reform within the Council itself. In speaking of the procedure within the Council, it was quite clear there must be a very substantial reform within a legal procedure. The Defence Union had many documents in its office which showed that the legal advisers of the Council were not sufficiently instructed in the terms of the Medical Act as they required to be for the good of the medical profession, and that in spite of the fact that the legal profession itself was so extremely well protected. It seemed to him that the reason they had been so badly served in the past was due primarily to the fact that for some reason the legal profession was not in sympathy with the medical profession in its just aspirations for the protection of honest work. He was quite conscious that there were members of the Council who were honestly anxious for reform, but they were entirely outweighed by the legal advisers of the Council. A radical cure for the state of things which at present existed was an alteration in the constitution of the Council. It was rather interesting to observe that a reform of the constitution of the Council—that was to say, the making it a more directly representative body—was inextricably bound up with the corporate question, because it was clear that the members who represented corporate bodies could not divest themselves of the idea that they were the representatives of that body. In pointing to the means of carrying out reform in this matter, Mr. Horsley said they were entitled to twice the number on the Council. That would give them a very considerable addition to their voting strength, and would perhaps enable them to get in the thin end of the wedge for the one-portal system.

At the close of his address Mr. Horsley answered a number of questions. In reply to Dr. Broadbent, he said he had been informed that he was perfectly justified in making the statement as to the position of Dr. Rentoul. He had already stated that there were sufficient consultants in the General Medical Council, and that there should be more representatives of the general practitioners, but, as he had stated in his address, his reason for standing was that he had special knowledge of the reforms required in the work of the Council. In answer to the question as to what he understood by midwifery nurses being under the direct supervision of medical men, he said he thought the proposition put forward by that district was the best—namely, that every woman who was confined should be visited within 24 hours by a medical man; that would meet the case. He did not believe in any system which would entitle registered nurses to practise midwifery otherwise than under medical supervision. The question of medical aid societies was a most important one, and required attention and reform. The question of prescribing chemists was one which also required attention.

Dr. Woodcock proposed:

That this meeting has heard with much pleasure the speech of the candidate Mr. Victor Horsley, and expresses its complete confidence in him, and pledges itself to do its utmost to secure his success at the election.

He said there was no man whose advent was so much dreaded by the reactionaries upon it; and there was no man who would be able more effectually to shake up its dry bones.

Dr. Dreschfeld seconded the motion, and said that after the admirable address they had heard there could be but one opinion as to Mr. Horsley's qualifications for the office. He hoped he would be successful in the election.

The resolution was passed with one dissentient, and Mr. Horsley briefly replied.

Dr. Brassey Brierley proposed:

That the thanks of the meeting be tendered to Mr. Horsley for his acceptance of the nomination and for his address.

He urged gentlemen to go away from the meeting with the determination to do all they could to induce their neighbours to support him by their votes as soon as the papers arrived.

Dr. Flitcroft seconded the motion, which was passed.

A vote of thanks to the Chairman, proposed by Mr. Horsley, seconded by Dr. Lloyd Roberts, and supported by Mr. Broadbent, closed a very successful meeting.

Sir,—In the *Manchester Guardian* of September 22nd a report appears of Mr. Horsley's meeting on the previous evening, and the final sentence might convey the impression that I am one of his supporters. The fact of the matter is that to be in order in speaking at all I supported the vote of thanks to Mr. Walter Whitehead as Chairman, and said that I was not satisfied with Mr. Horsley's reply to my question: "Will you state clearly what you understand by midwifery nurses being under direct supervision of medical men, and what are your suggestions for effecting the same?" I shall be glad if you will insert this in this week's British Medical Journal.—I am, etc.,

Manchester, Sept. 22nd. G. H. Broadbent.

Dr. James A. Rigby's Address to the Registered Medical Practitioners of England and Wales.

Ladies and Gentlemen,—At the request of a number of my fellow medical practitioners, I have decided to become a candidate for the seat on the Council rendered vacant by the resignation of Dr. Rentoul.

My medical experience extends over a period of thirty-one years; at the outset I was for three years a pupil in a large club, union, and general practice, followed by the usual hospital course, and subsequently I have been engaged in general practice for the last ten years with a hospital appointment. I can thus fairly claim to have had exceptional opportunities for becoming acquainted with the needs and wants of a general practitioner. Vast changes have occurred during that time—the old apprenticeship system, with all its faults and advantages, has been practically extinguished; the old-fashioned consulting physician is rapidly becoming a thing of the past, and is being superseded by the modern specialist. The Ambulance Association has sprung up into vigorous existence—nobody can predict where it will lead to in the future; our newspapers are being flooded with medical advertisements of all sorts, many of them of a most subtle nature, appealing to the fears and hopes of the people, abounding in the most delusive statements, although supported by apparently unimpeachable testimony.

I am fully aware that what I am about to say will be subject to severe criticism, but my position as an applicant for your suffrages compels me to touch on what I consider as the most pressing medical questions of the day, one of the chief of which is the advent, advance, and abuse of specialism. A medical practitioner with no special qualifications, merely in consequence of a more or less temporary or permanent connection with a special hospital, or a special department in a hospital, becomes in his own eyes and that of the public a specialist, and thus frequently at once becomes elevated into a practitioner on quite another plane, commands enormous fees, takes away from the general practitioner cases he is or ought to be quite competent to treat, and thus by a continuation and amplification of this evil is gradually reducing the general practitioner to the position of one who has perforce to attend only on the most ordinary and everyday and unremunerative class of cases, or those whom want of means prevents from visiting these so-called specialists. An illustration will prove my meaning. A family practitioner was called to a child the other day which broke its thigh, a consulting surgeon was called in to set the fracture; while laid up in bed scarlet fever developed itself, and a specialist in fevers was sent for; as one sequelæ of the scarlet fever suppuration of the middle ear occurred, and an aural surgeon was requested to visit the child. The child's parents were by no means well off, and the cost was a serious drain on their resources. My contention is that a well-educated practitioner should have been

quite competent to attend the child in each and all of the above complaints.

If we have to have specialists, the present slipshod method of attaining the distinction is absolutely indefensible and unfair. Instead of having to tout for, and hustle and push oneself into some special hospital or other appointment, let there be a system of fair yet stringent tests, open to every qualified medical practitioner alike, who feels the desire, capacity, and opportunity for a certain special line of practice, which tests shall confer the right to use a certain distinctive appellation, such as ophthalmic or aural surgeon, or diplomate in obstetrics or gynæcology, much as now one can get the F.R.C.S. in surgery, the dental diploma, or the diploma in public health. If some such alternative be not adopted, and the use of the term specialists by unqualified persons be not suppressed, dire mischief is bound to result to the best interests of the medical profession; for a certain section of the outside public, ever on the alert, and unscrupulous in their methods of making money, have now seized on the term specialist, which is not interdicted and not illegal, and are now, as you all know, extensively advertising themselves as specialists in the eye, ear, hernia specialists for the cure of rupture without operation, masseurs, masseuses, medical and other electricians, specialists in fits, in diseases of women, and, more or less, for every disease under the sun. These are all more or less parasites, originated and fostered by ourselves.

Another thing that has struck me most forcibly is the reckless way in which of recent years we have taken to giving free instruction in what is called first aid in surgery, with the granting of different graded certificates to candidates after examination. This movement originated, I believe, in a class of persons quite outside of the profession; the scheme was never seriously thought out by the profession at large, was chiefly engineered by a number of the youngest and most inexperienced practitioners; and, as a result, we are now faced with the fact that a body of men has sprung into existence, certificated, uniformed, drilled, decorated (for there are a number of coveted distinctions distributed amongst them), and of a quasi-medical, quasi-military status, which I fear in the future will become a prolific breeding ground for irregular practitioners. This would not matter much, but I find that now, in the case of any emergency arising, that the service of a medical man is not immediately sought, but one of these nondescript individuals is sent for, who uses his own judgment as to the primary treatment of the case, and decides whether he feels fully competent to tackle it or not, failing which he at last condescends to send for a qualified doctor, usually, I may say, one who so kindly gratuitously instructed him in the aforesaid duties. Truly our foes have been chiefly of our own household. Another grievance of the ordinary practitioners is the introduction of many what are denominated elegant pharmaceutical preparations, by means of which a person, instead of consulting his usual medical attendant, calls in at the chemist's and gets supplied with one of the multitudinous drugs or combinations of drugs (many of which are suggested by the best prescriptions of our best physicians) mentioned, and so counter prescribing becomes rife, and again the qualified practitioner is defrauded of his legitimate patients.

Medical men, again, I find are increasingly prone on all occasions, by a sort of vicarious almsgiving, to give their technical advice and services to charitable, and often semi-charitable institutions without any adequate remuneration; this is much to be deprecated, and should as far as possible be discouraged. With regard to the question of qualified midwives, my views are briefly as follows: We must approach this question from a common-sense and humanitarian point of view, and not altogether from the standpoint of what is or what is not the best for the medical profession. The great bulk of confinements are attended by women; in the army, in the workhouses all the ordinary confinements are, I believe, attended by midwives, the medical officers only being called upon in difficult cases, and the term midwife is used in the army to denote those women who attend the confinements. The term midwife is an ancient one, it is descriptive and accurate, it is firmly embedded in the minds of the people and in my opinion it is quite futile to attempt to supersede it by the term midwifery nurse which is inaccurate, complex, meaningless, and modern. It is quite as inaccurate as it would be to call a surgical operator a surgical nurse. On these grounds then, I object to the term, and would retain the old-fashioned and well-established term of midwife. Labour often comes on suddenly and unexpectedly, and from sheer force of circumstances some woman with a better nerve than common, combined with a little knowledge, is forced to act as midwife. Thus these women become known as being able to act in an emergency, and are gradually forced into the position of midwives, for which ultimately they demand and receive remuneration. No amount of legislation will ever, in my opinion, do away with this class of midwives; it is made by process of natural selection; then, if that be so, surely there can be no objection to the instruction and differentiation, if I may so speak, of a rather better and higher class of midwives, who would be calculated to supersede, or at any rate supplement, the first-mentioned class. Of course a fully qualified medical man is essential for all cases of difficult and instrumental labour.

I may say, generally, that I am bitterly opposed to any society, whatever its name may be, that trades upon the services of medical men, using them as salaried servants and making profits out of their earnings.

To summarise, I shall if elected, and as far as I am empowered to do by the constitution and regulations of the General Medical Council, which powers I hope to see extended:

1. Try and suppress all mischievous, lying, suggestive, and filthy advertisements which disfigure what should be a respectable press.

2. Try and bring the subject of specialism into a rational, fair, and equitable system, open to all qualified medical practitioners alike, and eliminated as far as possible from all taint of advertising.

3. As I consider it absolutely necessary that not a few only, but everybody should have a knowledge of what to do in a surgical emergency, I would supersede the Ambulance Association by the enforced teaching in all schools of elementary rules to be observed in emergencies for arrest of hæmorrhage, the resuscitation of the apparently drowned, the first aid of severe injuries, and such cognate subjects.

4. I should rigorously repress and discountenance all forms of unqualified practice.

5. I should, as far as consistently could be done, reprehend the practice of gratuitous attendance upon institutions; and, in lieu thereof, encourage direct money benefactions to worthy institutions.

6. I would establish, as far as practicable and duly safeguarded, an order of midwives who should be instructed and examined by an appropriate body of medical men, but restricted to the practice of midwifery alone, and to call in a qualified practitioner in all cases of difficult or operative labour.

7. I object to the principle of medical aid societies.

Finally, I am an efficient Volunteer and an officer in the Army Medical Reserve: all questions connected with the services would receive my most careful and impartial attention. I have no wish to dictate to the general practitioners of this country, on whom devolves the election of a suitable candidate, but I do feel that if they depart from their own ranks in their search for an eligible representative they will deliver the most crushing argument against themselves that can possibly be imagined if they now, or at any future time, seek to augment their number of representatives on the General Medical Council. The fact that this is my only chance of communicating my views to my fellow practitioners must be my apology for this very lengthy and, I fear, discursive address.

If elected I can safely say that all matters pertaining to the welfare of the medical profession shall have my earnest and unbiassed attention.—I am, etc.,

James A. Rigby, M.D.Lond.,
Surgeon-Captain 5th L. V. A.,
and Army Medical Reserve.

Preston, Sept 18th.

The Candidature of Dr Rigby.

Sir,—I beg to inform you that, at an "emergency" meeting of the Preston Medico-Ethical Society held last night, there

were present 16 members out of a total membership of 55. A resolution in favour of the candidature of Dr. J. A. Rigby as a "fit and proper person to be elected as a direct representative on the General Medical Council," was passed by a majority.—I am, etc.,

Preston, Sept. 21st. W. H. Irvin Sellers, Hon. Sec.

The Choice of a Representative.

Sir,—The heavy expense and trouble to which the resignation of Dr. Rentoul has put the profession and the General Medical Council must cause the electorate to wonder by whom he was nominated at the last election in November. It may be well to remember that one of his chief supports was an association which is called the Incorporated Society of Medical Practitioners. I note that this Society is again on the warpath, and that it now condemns its former *protégé* as forcibly as it blessed him in the past. What confidence, therefore, can be placed in this Society's nomination, and what guarantee have we that other of its candidates may not leave us in the lurch as did Dr. Rentoul?

It will behove the profession to take care that in this election its representative should be a man of dignity and position, a man who not only shall have the confidence of practitioners, but shall carry weight and influence into the Council chamber itself. Such a representative is fortunately to be found in the person of Mr. Victor Horsley, who has kindly permitted himself to be nominated. Mr. Horsley is not only a man of world-renowned fame, but he is perfectly conversant with the reforms required by the profession at large, and with the means by which these can be obtained. As President of the Medical Defence Union for several years, Mr. Horsley has had unique experience of the difficulties and dangers which are met with by general practitioners and others in daily practice. He has presided over the Union with well-marked success, and at the deliberations of the Council has aided its decisions by his valuable advice and judicial mind. To have such a man to represent us practitioners at the General Medical Council would be honourable to ourselves, and his election should be secured by such a majority as would assure him of our appreciation of his consent to so represent us.

To be represented by a man of either mediocre talents or none at all, is not only detrimental to our professional interests, but puts back the hands of Progress to an uncertain time. Let us unite to send up at this election as our representative to the Council one of whom we may be proud: one who knows our wants and requirements: one who will be listened to, when speaking on our behalf at the Council, with the respect to which his assured position justly entitles him.—I am, etc.,

Devonshire Street, W., Sept. 18th. A. G. Bateman.

Sir,—All other things being equal, I think there is no doubt we should give the preference to a general practitioner as our representative on the General Medical Council. The candidature of Mr. Victor Horsley must not, however, be considered by the profession from a consultant's point of view.

Although it is well known to some practitioners, yet it is hardly universal knowledge that the good work done during the past few years by the Medical Defence Union has been mainly due to the zeal and application of its President, Mr. Horsley.

To those who are not fully acquainted with the routine work of the Union, I would explain that its officers are brought into close contact with all sections of the profession throughout the United Kingdom, They become intimately acquainted with the various difficulties and dangers of a general practitioner's life; they possess full knowledge of the ever-recurring disputes that arise between the profession and public bodies; they become fully conversant with the various forms of quackery, and moreover, they know the difficulties of suppressing it. Bearing all this in mind, I for one unhesitatingly assert that there is no general practitioner in the country who possesses a fuller knowledge of, or has a greater sympathy with, the lot of the family doctor than the present President of the Medical Defence Union.

That Mr Horsley has studied the Medical Acts; that he has kept himself *au courant* with the proceedings of the General Medical Council, is common knowledge. That he has by his persistency succeeded in getting the Council to take up certain cases of "infamous conduct" is, however, not so well known.—I am, etc.,

Cardiff, Sept. 18th. T. Garrett Horder.

Sir,—The auspicious advent of Mr. Victor Horsley, F.R.S., M.B., B.S.Lond., and F.R.C.S.Eng., as the candidate to fill the vacancy caused by the felicitous retirement therefrom of Dr. R. R. Rentoul, should be a subject of much satisfaction to the profession at large, and it offers an opportunity of retrieving in some measure the humiliating result of last year's election. In Mr. Victor Horsley we have a star of the proper magnitude, a young, brilliant, and eminent surgeon of high social position, and of means which guarantee the quality of "stay," so desirable in one who aspires to the responsible office he has expressed his willingness to fill. I trust that all the other candidates will at once—though of course at much personal sacrifice—magnanimously withdraw in his favour, and thereby prove the sincerity of their expressed regard for the honour and dignity of the profession.

The renewed attempt to confuse the election by dragging in the name of either of the deeply respected and lately retired members—deservedly rewarded by the Gold Medal of the British Medical Association and the LL.D.ship of the leading Canadian University—is, in my opinion, deserving only of our strongest reprobation. Mr. Victor Horsley surely is the right man, and now is the hour to secure his triumphant election.—I am, etc.,

Swanley, Sept. 20th. John Ince, M.D.

Sir,—In view of the forthcoming election for the vacant seat on the General Medical Council, I would recall to mind the old views of Mr. Nelson Hardy, as printed in a letter in the *Provincial Medical Journal* of August 2nd, 1886. I do not bring it forward to emphasise his change of view, but because he has so well expressed the general feeling of general practitioners and my own views.

He then said:

I trust no one will suppose that I wish to dictate to others if I express my belief that it will be unfortunate indeed if the general practitioners of England cannot find men of their own class to represent them in the Council, men of sterling honesty and straightforwardness, men not to be moved from their purpose by the presence at the same Council table of those who, while in regard to practice they are justly regarded as leaders in medicine and surgery, in matters of medical politics have too generally contributed to make the General Medical Council the failure which it has been in the past.

I would also recall to mind the words of the late Sir Andrew Clark, who wrote in the same year as follows:

Now that the interests of consultants and of teachers, of corporations and of universities, of the Crown and of the people are already more than adequately represented in the General Medical Council, now that the right of direct representation therein has been conceded to the repeatedly renewed claims of the general practitioners, it seems both natural and proper that they should themselves exercise the suffrage in their own behalf, that they should elect as their own representative genuine working members of their own body. If this principle of election is disregarded, and if the representatives are chosen from outside the body of general practitioners, it will seem, at least to me, that the fight has been fought and the battle won in vain.

Nothing that has occurred justifies, in my opinion, any change in our representation; there are 14,000 general practitioners in England and Wales, and surely they ought to be able to find one suitable candidate amongst them.

I have been nominated, as you will see by the enclosed paper, by nearly all the medical men in Wigan, and I have received letters from influential medical men in different parts of the country promising votes and active support. I have been asked to retire in favour of Mr. Victor Horsley by a few of his friends. I do not desire a contest, I am quite willing to withdraw in favour of a suitable candidate who is a general practitioner if we can agree upon one, but I certainly must decline to in any way favour the candidature of Mr. Horsley for the reasons mentioned. I think most consulting surgeons will recognise the equity of my contention.—I am, etc.,

Thomas M. Dolan, M.D., J.P.,
Member of Council and President-elect of Yorkshire Branch, British Medical Association.

Nomination Paper.

Medical Act, 1886. 49 and 50 Vic., ch. 48.

We the undersigned, being registered medical practitioners resident in

England, hereby nominate Thomas Michael Dolan, of Horton House, Halifax, England, M.D.Univ.Durham, Fellow of the Royal College Surgeons Edin., L.R.C.P.Edin., L.S A.Lond., a registered medical practitioner, as a proper person to be elected to the General Council of Medical Education and Registration of the United Kingdom by the registered medical practitioners resident in England:

Name.	Address.	Qualifications.
Berry, William	Wigan	F.R.C.S.I.
Roocroft, W. Mitchell	Wigan	M.R.C.S., L.R.C.P.
Brady, Chas. M.	Wigan	L.R.C.S.I.
Benson, M.	Wigan	M.D.Brux., M.R.C.S.
Traner, Charles F.	Wigan	M.R.C.S.Eng., L.R.C.P.Lond.
Angior, Thos. M.	Wigan	M.R.C.S.Eng., L.R.C.P.Lond.
White, R.	Wigan	M.D.Edin.
Monks, E. Hodkinson	Wigan	L.R.C.P., L.R.C.S., L.M.Edin.
Bradbury, John Augustus	Wigan	M.R.C.S.Eng., L.S.A.Lond.
Blair, Jonas	Wigan	M.D.Queen'sUniv.Irel.
Cowan, Rich. H.	Wigan	M.R.C.S., L.S.A.
Hunter, James	Wigan	M.B., C.M.Glasg.
Rees, Ferd.	Wigan	M.D.Glasg.
Wright, Chas. H.	Wigan	M.R.C.S.Eng., L.R.C.P.Lond.
Mitchell, H. M.	Wigan	M.B., C.M.
Kenyon, Hy.	Wigan	M.B., C.M.Edin.

ERRATUM.—In the letter from Mr. Nelson Hardy, published in the BRITISH MEDICAL JOURNAL of September 18th, p. 740, the concluding words of the first paragraph, "the general work of the Council, as imposed upon it, by the several Acts of Parliament, of which it is constituted," should read "*under* which it is constituted."

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held in the Council Room of the Association, at No. 429, Strand (corner of Agar Street), London, on Wednesday the 20th day of October next, at 2 o'clock in the afternoon.

FRANCIS FOWKE, *General Secretary*.

September, 1897.

NOTICE OF QUARTERLY MEETING OF COUNCIL FOR 1897.

A MEETING of the Council will be held on October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the meeting—namely, September 30th.

ELECTION OF MEMBERS.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

FRANCIS FOWKE, *General Secretary*.

BRANCH MEETINGS TO BE HELD.

SOUTH-EASTERN BRANCH: NORTH KENT DISTRICT.—The next meeting of the above District will be held at the Hall of the Science and Art Schools, Bromley, on Thursday, October 14th, at 3.45 P.M., Dr. Beely in the chair. Dinner at 6 P.M.; charge 6s., exclusive of wines. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The following papers, etc., have been promised: Dr. Biss (Middlesex Hospital): Chlorosis, its Complications and Treatment Mr. Keetley (West London Hospital): The Diagnosis and Treatment of Fractures into or near Joints. Dr. Lang: Trichorrhexis Nodosa. Members desirous of exhibiting specimens or of reading notes of cases are invited to communicate at once with the Honorary Secretary, A. TENNYSON-SMITH, The Birches, Orpington.

SOUTH-EASTERN BRANCH: EAST SURREY DISTRICT.—The next meeting of this District will be held at the White Hart Hotel, Reigate, on Thursday, October 14th, at 4 P.M., C. E. Oldman, M.D., of Blechingley, in the chair. Dinner at 6 P.M.; charge 7s. exclusive of wine. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The following papers, etc., have been promised: Dr. Washbourn: The Present Position of Bacteriology in reference to Practical Medicine. Mr. W. Arbuthnot Lane: Adenoids. Dr. George Stoker: The Oxygen Treatment, with Exhibition of Apparatus, Lantern Demonstration of Cases, Bacteriology, Oxygen Cicatrices, Lantern Slides, etc. Members desirous of exhibiting specimens or reading notes of cases are invited to communicate at once with the Honorary Secretary, HENRY J. PRANGLEY, Tudor House, Anerley.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—The next meeting will be held at the Sackville Hotel, Bexhill, on Tuesday, September 28th, at 3.30 P.M., Dr. Wills in the chair. A paper on Syphilitic Diseases of the Eye will be read by Mr. H. E. Juler. Dinner at 5.30 P.M.; charge 6s., exclusive of wine. Notice of intended communications should be sent to the Honorary District Secretary, J. W. BATTERHAM, M.B., Grand Parade, St. Leonards.

SOUTH MIDLAND BRANCH.—The autumnal meeting of this Branch will be held at the Northampton Infirmary on Thursday, October 7th, 1897, at 2 P.M. Gentlemen wishing to bring forward papers, cases, etc., are requested to communicate at once with the Honorary Secretary. The President, Mr. R. A. Milligan, invites the members to luncheon at the same place at 1 P.M., and requests the favour of a reply not later than Monday, October 4th. Preliminary Programme: The President: Introductory Address. Election of New Members. Mr. G. H. De'Ath will propose a resolution on the question of the dinner at the annual meetings. Dr. T. S. Maguire: A Phenomenal Gestation. Dr. J. Allison: A Paper. Dr. W. Newman will exhibit some X Ray Pictures. Further contributions are invited.—C. J. EVANS, Honorary Secretary, Northampton.

NORTH WALES BRANCH.—The autumn intermediate meeting will be held at the Waterloo Hotel, Bettws-y-coed, on Thursday, September 30th, 1897.—SAMUEL GRIFFITH, M.D., Portmadoc.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The autumn clinical meeting will be held at the Cardiff Infirmary on Wednesday afternoon, September 29th. Notices of papers, cases, etc., to be sent in not later than Wednesday, September 22nd.—A. SHEEN, D. ARTHUR DAVIES, Honorary Secretaries.

SHROPSHIRE AND MID-WALES BRANCH.—The annual general meeting will be held at the Salop Infirmary on Tuesday, October 12th, 1897, at 3 o'clock. Members wishing to bring forward any business, to read papers, or show cases or specimens, or to propose any new members are requested to communicate with the Honorary Secretary not later than Saturday, October 2nd.—H. WILLOUGHBY GARDNER, Honorary Secretary, Swan Hill, Shrewsbury.

NORTH OF ENGLAND BRANCH.—The autumnal meeting will be held at Bishop Auckland on Thursday, October 7th, at 5.15 P.M. The dinner after the meeting is fixed for 6 P.M.; 6s. 6d. each, without wine. Notice of communications should be sent to the Honorary Secretary, G. E. WILLIAMSON, F.R.C.S., 8, Eldon Square, Newcastle-on-Tyne.

EAST ANGLIAN BRANCH.

A GENERAL meeting of the East Anglian Branch was held at Aldeburgh on Thursday, September 16th, the President, Mrs. GARRETT ANDERSON, M.D., in the chair.

Confirmation of Minutes.—The minutes of the meeting at Ipswich and Cambridge were read and confirmed.

Medical Aid Societies.—A discussion on medical aid societies was introduced by Dr. BEVERLEY, and was continued by Dr. ELLISTON, Dr. BARNES, Dr. CASLEY, the PRESIDENT, and Dr. BROGDEN. The following resolutions were unanimously passed:

That in future no medical men belonging to medical aid associations b elected members of the East Anglian Branch of the British Medica Association.

That the above resolution be forwarded to the Council of the British Medical Association, with a request that the Council should take similar action, and that copies of these resolutions be sent to the secretaries each Branch of the British Medical Association in Great Britain and Ireland.

Luncheon.—The members present and other friends to the number of 97 were entertained at luncheon in the Jubilee Hall by the President, Mrs. Garrett Anderson, M.D.

Communications.—After luncheon the business of the meeting was resumed, when Mrs. MARSHALL, M.D., read a paper on a case of Exfoliation of the Bladder.—Mr. T. H. MORSE, F.R.C.S., read a paper on a case of Cæsarean Section for Transversely Contracted Pelvis. Mr. MAYO, Mr. KING, and Dr. BARNES took part in the discussion which followed.—Mr. WALTER D. SEVERN gave a lecture on Bacteriology illustrated by a limelight lantern with photomicrographic slides of Bacteria, etc., and showed about 300 pure cultivations of bacteria, yeast, moulds, and hair and skin fungi, and various

preparations of bacteria, mounted and stained, were shown under the microscope.

New Members.—The following gentlemen were elected members of the Association and Branch: Thomas Makin Draper, L.R.C.P., M.R.C.S., Watlington, Norfolk; George Melmoth Scott, M.B., B.C., Witham, Essex. The following members of the Association were elected members of the Branch: Hamilton A. Ballance, M.D., F.R.C.S., Norfolk and Norwich Hospital, Norwich; Thomas Warner, M.D., F.R.C.S., 12, Museum Street, Ipswich.

Spring Meeting.—It was proposed by Mr. ADDISON, seconded by Dr. BEVERLEY, and unanimously resolved, that the spring meeting be held at Witham on a date to be arranged by the president and secretaries.

Afternoon Tea.—After the meeting the President received members and ladies at afternoon tea at her residence, Westhill.

SPECIAL CORRESPONDENCE.

PARIS.

Anthrax.—Skin Affections caused by the X Rays.—Pure Milk for Poor Children.—The Prophylaxis of Ophthalmia Neonatorum.—A Hospital Patients' Clothing Fund.

M. LE ROY DES BARRES has met with 72 cases of anthrax in a factory at Saint Denis where skins are tanned and wool prepared. It has been ascertained that the skins of French animals are never infectious, the result, it is believed, of anthrax being almost stamped out among the French flocks by the practice of Pasteurian inoculation. The skins and fleeces coming from Turkey, Russia, Bulgaria, and the Argentine Republic are infectious. Of the 72 cases, 62 were cured, giving a death-rate of 14 per 100. Among the hands employed in treating skins there were 57 cases among 560, 15 among 160 workers engaged in preparing wool and tails. Thus prophylactic measures are of the greatest importance. It is very difficult to sterilise skins and fleeces without injuring them. Formol vapour does not penetrate them sufficiently to disinfect thoroughly. The only safeguard against anthrax infection is the Pasteurian inoculation.

M. Oudin, M. Barthélemy, and M. Darier have met with 50 cases of skin affection following the application of the *x* rays. Two distinct kinds have been observed. One slow, gradual, and chronic, which attacks the skin of the fingers and hands, which become red, thick, and excessively sensitive; it becomes less elastic, œdema comes on, and desquamation follows; the nails change, thicken, split, and show signs of loosening, but rarely fall off. With precautions and ceasing to apply the *x* rays all symptoms disappear. But the lesion quickly returns and more easily than the first time. The second kind is acute, and the lesion appears without any warning. This form attacks the patients examined. It ranges from a slight redness of the skin to desquamation, vesicles, and eschars.

Dr. Pierre Budin, accoucheur to the Maternity Hospital and member of the Superintending Council of the Public Assistance, has published a condensed report of the work of the Commission appointed December 7th, 1896, by the Municipal Council to study the question of milk nourishment. The conclusions of this Commission are as follows: Milk containing less than 30 grammes of butter must not be considered wholesome, and ought not to be sold under the name of milk. Milk is quickly deteriorated, germs increase, sterilisation is necessary. Ebullition and heating during three-quarters of an hour in a hot-water receptacle is sufficient for milk which is to be consumed within twenty-four hours. Heating up to or below 110° C. destroys microbes present, and renders the milk innocuous. For unboiled milk minute precautions must be observed in milking and delivering the milk for sale, otherwise it becomes a dangerous article of food. The *Assistance Publique*, owing to the strict control which it exercises, procures good milk. It is necessary, the Commission considers, that mothers among the poor should be provided with sterilised milk, and in some instances with sterilising apparatus. Medical men attached to the charity offices should have the right to prescribe milk to be obtained as easily as medicine. Milk, continues the report, is such a necessary article of food that it ought to be sold as cheap as possible. In order to achieve this, the means of its transport must be considerably improved, and rendered lower in price.

The Public Sanitary Consulting French Committee has published the following prophylactic instructions concerning ophthalmia neonatorum. The affection appears between the first and tenth day after death. It is compulsory on midwives to notify this affection. A medical man should be immediately called in. Whilst waiting for the visit of the medical man, the child's eyes should be cleansed every hour. Clean linen and a weak solution of boric should be used, which should be kept in contact with the eye or eyes attacked. Two drops of nitrate of silver solution, 2 per 100, dropped into the eyes between the eyelids is a certain preventive of ophthalmia in newborn children. Washing the eyes immediately after birth with a solution containing 5 grammes of citric acid to 100 grammes of water is also effectual. These precautions are recommended when the mother during the earlier months of pregnancy is subject to uterine discharge; when children previously born have presented ophthalmia; when children are prematurely born, and are weakly. How to perceive the symptoms of ophthalmia are clearly given in this sheet of instructions, which is signed by De Proust and Professor Brouardel, Dean of the Paris Medical Faculty.

The Félix Faure Vestiary is now in working order. The President of the Republic recently visited the Nanterre Hospital, and before leaving left a donation of £40 for the purpose of founding a vestiary to provide the poor who leave the hospital with decent clothes. Those which they are wearing on admission being always dirty and dilapidated, nevertheless they are carefully put by during their stay in the hospital, and restored to them on leaving it. Clad in such dirty rags and without a penny in their pocket, the poor creatures are unable to find employment. The fund provided by the President of the Republic is intended to remedy this distressing state of things. Some tradespeople associate themselves with the project by providing clothing at a reduced rate. On September 15th the first distribution of clothing took place. Women were entirely clothed for 15 shillings, and men for 24 shillings. The foundation sums have been exhausted, but it is confidently expected that others will be given in order to carry on this much needed organisation.

BERLIN.

Medical Congresses in Germany.—German Red Cross Societies.—The Berlin Police and the "Volta Cross."—Formation of a Berlin Ambulance Society.—Sanatoria for Tuberculosis.

AUTUMN is the season *par excellence* for medical congresses, and within the last fortnight no fewer than three have been held in Germany. The Society of German Alienists held their annual meeting in Hanover; the German Society for Public Hygiene held theirs in Carlsrühe in Baden; and in Eisenach the so-called "*Deutscher Aerzte-tag*" assembled a meeting of doctors and State medical officers for the discussion of matters connected with the profession. One of the subjects treated by the alienists was Lombroso's much-talked-of theory of the hereditary transmissibility of crime, which was unanimously voted unscientific and fantastically exaggerated. The "*Deutscher Aerzte-tag*" devoted one of its sittings to the subject of "school hygiene, and the medical supervision of school children," and another to the burning question of quackery. A series of proposed legal measures against quacks were discussed and finally accepted by the meeting, though it was clear from the tone of the debate that much improvement was not hoped from legislation.

On October 1st the German Red Cross Nursing Societies will hold their annual meeting in Darmstadt. Dr. Eigenbrodt (Darmstadt) will introduce the first subject of discussion: United Help in Time of War and in Epidemics; and further themes are to be (*a*) the position as regards the so-called "wild" sick nurses; (*b*) protection of nurses against infection; (*c*) war equipment; and (*d*) stations for Red Cross sisters. Shortly after this meeting, on October 19th, an International Conference of Red Cross Societies will meet in Vienna. Amongst the German delegates expected are Herr von dem Knesenbeck, Chamberlain to the German Empress, as Presi-

dent of the German Red Cross Central Committee; and Herr Dr. Koch, Director of the German Imperial Bank (Richsbank) as its Vice-President; and Professor v. Bergmann.

An example of the activity of Red Cross Societies, even in times of peace, may be observed just now close to Berlin. At New Babelsberg (near Potsdam) large sheds are being erected for the reception of war material of all sorts, including field hospitals (15 metres by 5 metres), all in parts, of course, and packed in cases, but ready for immediate erection, and complete in every detail. These stores will be connected with the railway when completed.

The so-called "Volta Cross," a magnetic humbug much puffed lately in German newspapers, and sold even in chemists' shops and dispensaries, has called forth the energetic intervention of the Berlin Chief of the Police. A rescript has been issued, and addressed to a large number of Berlin chemists, containing the following words:

> You have undertaken the sale of Professor Heskier's "Volta Cross." As this remedy is manufactured solely for purposes of deception, and its sale is contrary to the public regulations for dispensaries, as well as to your professional duties as a chemist, I hereby, by reason of.....[here follow the legal paragraphs in question].....forbid you to offer for sale or sell this remedy, and give you notice that every case of contravention will be punished by a fine of 300 marks" (£15).

The "Volta Cross," however, must be a lucrative article; for, in spite of this explicit police threat, one or two chemists have continued to sell it. The fine has thereupon been rigidly enforced.

With Professor von Bergmann as president, a Berlin Ambulance Society (*Rettungs-gesellschaft*) has been formed. Under certain conditions every medical man will be able to take part in its work. From October 1st the Society will have stations connected with each of the Berlin municipal hospitals, a contract having been signed with the City Hospital Committee.

An agitation for new tuberculosis sanatoria comes from the Berlin Socialist party. They have laid a Bill before the magistrates, demanding (1) two new summer homes for phthisis patients, similar to those already in existence at Malchon and Blankenfelde, and (2) the erection of a municipal sanatorium for consumptives of both sexes.

BRISTOL.

Greig Smith Memorial.—Proposed Convalescent Home.

THE proposed memorial to the late Mr. Greig Smith has resulted in promises amounting to about £400, but it is expected that this sum will be considerably augmented before the subscription list, which is still open, is finally closed. It is proposed that the fund should be divided between a bust, assisting in the reconstruction of the operating theatre at the Royal Infirmary, and in a medallion. After Mr. Greig Smith's death a cast was taken of his features, from which, and by the help of photographs, Mr. Fabian, a local artist, has produced a bust which meets with the approval of the Committee appointed to carry the matter through. The plaster model has been forwarded to the founder for casting, and it is hoped that when received leave will be obtained from the Museum Committee to place the bust in the lobby of that building. It was thought better to have it in some public institution such as the museum, where it could be seen by all, rather than in the medical school, as many of the subscribers were not medical men, and hence would not be able to see it when once placed in the medical library. The refitting of the operating theatre in the most modern and approved style it is known Mr. Greig Smith was much interested in, so that this will be an appropriate and useful memorial in the institution with which he was so long connected, and on which his ability and skill shed so much lustre. It is further proposed to place the medallion in the theatre, suitably protected by glass if thought advisable. The treasurer of the fund, Mr. F. Girdlestone, will be glad to acknowledge any donations.

The convalescent home scheme, though supported in a most generous way by many of the wealthier citizens, has not recommended itself to many persons, and in the hope of obtaining small donations, the daily papers have, at the request of the Mayor, started a shilling subscription list. This has been fairly well responded to. The present state of the fund is as follows: About £44,000 have been given or promised on certain conditions, and if £50,000 is reached, the promises of Messrs. Fry and Wills of £10,000 each will be available. Where the home is to be, whether in the outskirts of the city, whether any present existing building is to be used or a new one built, is not at present settled; nor does it appear to be known who are to have the management or sending of patients. The subscription list will probably remain open till the end of the year, when these points will have to be settled; but it is certain that some have withheld subscriptions because it is not announced by whom the home will be managed, or who will have the power of admitting patients.

CORRESPONDENCE.

"EXPERIMENTS ON LUNATICS."

SIR,—I cannot think you would intentionally misrepresent my statements in the *Daily Chronicle;* but those of your readers who have had the opportunity of seeing Dr. Berkley's paper in the *Bulletin of the Johns Hopkins Hospital* for July, 1897, entitled, "Study VII. Poisoning with Preparations of the Thyroid Gland," would gather from your criticism that I had been guilty of a very serious falsification of Dr. Berkley's article. Dr. Berkley says: "It was therefore directly for the purpose of ascertaining the toxicity of one of the best known varieties of the thyroid extract that the following series of experiments was undertaken. The first portion of the investigation was made upon eight patients at the City Asylum, who, with one exception (No. 1), had either passed or were about to pass the limit of time in which recovery could be confidently expected." These were experiments in poisoning incurable lunatics, if we can trust Dr. Berkley's own words. After detailing the serious consequences of the administration, he says (p. 138): "Two patients became frenzied, and of these one died before the excitement had subsided, the immediate cause of the exitus being an acute disseminated tuberculosis." On p. 139 the author says: "The above experiment upon eight human subjects points out conclusively that the administration of even the very best and purest of the commercial desiccated thyroid tablets is not unattended by danger to the health and life of the patient."

I submit, with all respect, Sir, that these "experiments" were undertaken not with a view to cure the patients, as they were declared to be incurable, but for the purpose of testing the toxic action of the thyroid extract when pushed to a dangerous point. As I read the report, it appears to me that it was a study of poisoning "as a poison might be tested on an animal," to use your own expression. In proof thereof I notice that Dr. Berkley says: "These results obtained, we then decided to further pursue our experiments upon the lower animals."—I am, etc.,

EDWARD BERDOE, L.R.C.P.Edin., M.R.C.S.

Victoria Park Gate, N.E., Sept. 17th.

*** We gladly acknowledge the courtesy and fairness of Dr. Berdoe's letter; and we will go so far with him as to admit that Dr. Berkley's paper in the *Bulletin of the Johns Hopkins Hospital* (July, 1897) seems to us to need some explanation. But we would again say that the use of thyroid extract is recognised as valuable in certain cases of insanity; that one of Dr. Berkley's patients appears to have been cured by it; and that the patient who died suffered from acute tuberculosis, and died from this disease seven weeks after the use of thyroid extract had been discontinued. Dr. Berdoe ought to have mentioned these facts in his letter to the *Daily Chronicle.*

HOSPITAL ABUSE.

SIR,—I fear your correspondent "Clinical Assistant" has failed to grasp the question of the performance of small operations by general practitioners in all its bearings. There are many medical men who, like myself, are willing and anxious to do all the operating we can get to do; but two difficulties stare us in the face: First, the necessity for assistance, for even a small operation on a child requires an anæsthetic, and therefore a second medical man; if by arrangement we get over this there is the question of fee; a guinea divided between two medical men is little enough in all conscience for, say, a circumcision, but many patients declare

their inability to pay this sum, and will continue to do so as long as they find that the hospitals welcome all operation cases and make no inquiry as to the means of the patient.

Only a few weeks ago I did a small operation on a child of one of my own tradespeople; it had been taken to a neighbouring hospital and arrangements made there for the admission of the case on the next day, and except for the mother's dislike to the child's detention in the wards, it would have been taken there as arranged. No inquiry whatever was made, though the father is a well-known tradesman within a stone's throw of the aforesaid hospital.—I am, etc.,

Vincent Square, S.W., Sept. 17th. LAUNCELOT ARCHER.

HIGH AND LOW DEATH-RATES IN LONDON DISTRICTS IN 1896.

SIR,—The admirably clear report on the vital statistics of London districts, which is published in the BRITISH MEDICAL JOURNAL, shows how far the practice of hygienic art has advanced in modern London among the 4,421,000 inhabitants residing in the forty-three sanitary districts. The death-rate in Whitechapel, for instance (20.6 per 1000 in 1896) was lower than that of all New York at its best (22 per 1,000, as cited by Dr. Biggs in the JOURNAL of September 11th). There is one district in London which has, I think, reached the possible limit of low death-rates, that is, Hampstead, which in 1896 had the quite minimum death-rate of 11.9 per 1,000 inhabitants. But, as Sir Edwin Chadwick once said to me, the general death-rate of any district is most misleading, since there are slums in Kensington and in other localities, where the death-rate rises to far more than 30 per 1,000 annually. Poverty and overcrowding go together.

St. Luke is an example of a district with a heavy death-rate (25.1 per 1,000 in 1896), and St. George-in-the-East had a similar death-rate of 24.5 per 1,000 last year. It would, I submit, be a very instructive discussion, if some of your correspondents would suggest why the death-rate of Hampstead is just about half that of St. Luke or St. George Southwark. If I might be allowed to give my opinion on the matter, it would be that Hampstead is peopled by educated and rather well-to-do inhabitants; and that, on the contrary, St. Luke is peopled by less educated and far poorer folks.

There is another and, perhaps, a more fundamental cause of the difference of the death-rates of our poorer and richer districts in London. Hampstead had last year a modest birth-rate of 19 per 1,000 inhabitants; St. Luke had an enormous birth-rate of 46.7. Well, it seems to me that, in London at least, death-rates are high when birth-rates are high; and that, if the mortality is to be lowered in St. Luke, births must be reduced. Phthisis, also, is about thrice as prevalent in St. Luke as it is in Hampstead.—I am, etc.,

CHARLES R. DRYSDALE, M.D.,
September 20th. Consulting Physician, Metropolitan Hospital.

THE ADMINISTRATION OF CHLOROFORM IN PRIVATE PRACTICE.

SIR,—I have read with great interest in the BRITISH MEDICAL JOURNAL of September 11th the letter of "M.D.Edin." relative to the administration of chloroform in private practice. My own experience entirely corroborates that of "M.D." so far as the safety of chloroform as an anæsthetic is concerned.

Both the late Professor Spence and the present Professor John Chiene have given precise and lucid instructions to their students concerning the administration of chloroform; and following their instructions, I can say that I have administered chloroform many hundreds of times during the last fifteen years without a death. In one case (as assistant) I administered chloroform while my principal performed paracentesis abdominis in the case of a child with feeble pulse and cyanotic, from embarrassment of the circulation. The child took the chloroform well, and the operation was successfully performed. Furthermore, I may say that nearly all those administrations of chloroform were made in English practice, where (as "F.F.P.S.G." points out)[1] the coroner is ubiquitous, although there is no Procurator Fiscal; but I cannot say with "F.F.P.S.G."—and using his figurative language—that my heart has ever been "in my mouth"[2] whilst administering chloroform, because I have always felt confident that if only Professor Chiene's teaching were conscientiously carried out, chloroform could be as safely administered as any other substance so potent as to entirely annul consciousness.

I should add that I have more than once in private practice seen ether (administered by a skilled anæsthetist) not only fail to produce complete anæsthesia, but even to give rise to alarming symptoms, after which the operation had to be completed under chloroform.—I am, etc.,

Bedford Road, S.W., Sept. 18th. JOHN BARRIE, M.D.Edin.

[1] BRITISH MEDICAL JOURNAL, September 18th, 1897. p. 746.
[2] *Ibid.*, p. 747.

MCGILL UNIVERSITY, MONTREAL.

SIR,—In the very able and interesting address delivered by Professor Roddick at the annual meeting of the Association held in Montreal he arranges his remarks under several headings—Climate, Health Resorts, Spas, Medical Education, etc. A paragraph under the last heading appears to be very applicable to one of our home institutions connected with medical education.

At page 574 of the BRITISH MEDICAL JOURNAL for September 4th, 1897, in the second paragraph of the left-hand column occur these words: "But can we not make a new departure? Can we not urge that a special scientific education be arranged by the universities for those who desire to enter the medical profession? Such a course would embrace elementary Latin and Greek, French and German, physics, chemistry, biology, psychology, elementary mechanics, a practical laboratory course on electricity and drawing. After two years' study this might entitle the successful candidate to the degree of Licentiate in Science."

The scheme here formulated by Professor Roddick seems to be carried out in the regulations laid down by the Senate of the University of London as applicable to students seeking their medical degrees. They have to pass the Matriculation Examination and the Preliminary Scientific Examination before commencing the study of medicine. This means a considerable amount of time, labour, and expense, and in order to pass the latter severe scientific examination residence for some considerable time at a college where science is specially taught must be kept. Could not the authorities at Burlington House be induced, by the aid of their medical graduates, to take a hint from the leading Canadian University and give their successful students at this examination the title of Licentiate in Science?—I am, etc.,

Lincoln, Sept. 20th. A. CARTER.

BERI-BERI A "PLACE" DISEASE, NOT A FOOD DISEASE.

SIR,—The letters of Drs. Macleod and Rees on the above subject bring to my recollection some notes I made in the annual report of the Hong-Kong Medical Department in 1894, and, without presuming to give an opinion on the whole subject, would briefly mention them.

In the China Navigation ss. *Chingtu* in 1894, I investigated an outbreak of beri-beri on board, attention being called to it more on account of the severity of the type of the disease than on account of its mere occurrence. It was found that for at least three voyages previously fresh crews had been shipped in Japan, these being carefully examined before being signed on, and no history of previous beri-beri attacks obtained.

On approaching Sydney on each trip cases of beri-beri developed, some of them dying in Sydney or Melbourne hospitals. On this particular trip the ship had become very shorthanded from deaths and cases of beri-beri amongst the crew. The very slight possibility of the men going on board with latent disease is admitted, but as we know that removal from infected districts generally brings about amelioration, it is extremely improbable that a regular severe outbreak should occur at the same period on each trip after shipping a fresh crew.

Most careful disinfection with carbolic acid solution, 1 in 5, was advised and carried out, certainly with good results, as at least on the succeeding two trips no cases developed.

An almost similar experience occurred on the Canadian Pacific ss. *Abyssinia* when I was surgeon on board. Some cases developed on an outward trip, and disinfection with 1 in

1,000 solution of corrosive sublimate was carried out, but proved ineffectual, as new men shipped at Hong Kong developed the disease on the succeeding trip. These men, be it noted, occupied the same bunks as those attacked on the previous voyage. The forecastle was then disinfected with 1 in 200 solution of corrosive sublimate solution, and so far as I know no further cases developed. The further instructions left on that occasion were to gut out the woodwork if the disease reappeared, and replace it with new material if the company desired to have their ship's crew kept at full working strength, a measure which in old beri-beri ships I am convinced is the best method for the shipmaster to pursue.

These facts I think show that "place infection" must be admitted in these cases, as it is unreasonable to suppose that the food shipped on four successive occasions on the *Chingtu* should be infected, whilst in the *Abyssinia* it seems peculiar that only two men should be infected where all ate the same food; and the disease occurring on the latter ship in men who occupied the bunks of men previously infected points more to place infection than to food infection.—I am, etc.,

London, Sept. 18th. JAMES A. LOWSON.

ALLEGED BLUNDERING OF ASYLUM OFFICIALS.

SIR,—I wish to draw attention to an uncalled-for attack on our branch of the profession published by the *Standard* on the 2nd of this month, in the form of a leading article and a short paragraph. Paragraphs in connection with the same matter have appeared in many other papers. The offence, committed at an asylum in the south, was the answering of a letter of inquiry about a patient who had died over thirteen months previously by a statement as to the condition of another patient of the same name then resident. The leading article commenting on this says: "If this story is confirmed it may account for, though it could not excuse, the grevious blunder of the officials. If two inmates bore the same name, there was the more reason for exercising care to discriminate between the two cases."

Quite so; but is a patient who has been dead for over thirteen months to be still considered an inmate of the asylum, and as such kept in mind by the medical officers when attending to the daily correspondence?

People unconnected with asylum work have little idea of the difficulties asylum officials have in dealing with the relations of the insane. I shall give two instances out of many:

1. A verbatim copy of a letter:

Dear Sir,—I write you these few lines to you hoping you will let me know how my husbant is going on, because I am very uneasy over him, and if he is any better would you be so kind as to tell him that me and the children is well at present.

You will notice that this letter of inquiry is unsigned, does not give the name of the husband, and that there is no address. Examination of the postmark enabled me to discover that it came from Dewsbury, a town of about 30,000 inhabitants, with 126 male cases in this asylum chargeable to that union.

2. A woman who persists, in spite of remonstrance, in inquiring about "her husband," signing herself "Mrs. A. H." he being a patient here under the name of J. McC. She has repeatedly been asked to mention the patient's *alias*, but never does so.

Much harm is undoubtedly done when a responsible journal makes such a charge, by keeping up the prejudice, in the lay mind, against lunatic asylums, that we hoped was dying.—I am etc.,

FREDERIC P. HEARDER, M.D.Edin.,
Assistant Medical Officer, West Riding Asylum.

Wakefield, Sept. 7th.

THE NURSING EXAMINATION OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION OF GREAT BRITAIN AND IRELAND.

SIR,—Would you kindly grant me the opportunity of replying to the few criticisms which have been passed upon my letter in the BRITISH MEDICAL JOURNAL of August 21st?

In the first place the answers to my letter show the wisdom of concealing one's identity when daring to criticise adversely the doings of the Medico-Psychological Association, as most of them have savoured much more of personality than real defence.

I wish to point out that my letter was in no sense derogatory to asylum attendants or their training, but to the system of training and diplomas which is being followed by the Medico-Psychological Association.

I have had some years' experience in public asylums, and I again assert that the large majority of attendants are drawn from the classes of domestic servants; this is well known to every superintendent of every borough and county asylum, and notwithstanding the assertion of Dr. Harding, the supply of daughters of "farmers and professional men" is too small to provide more than an insignificant sprinkling amongst the great number of asylum attendants in the country. Because I am stating a fact about the class of attendants with which we have to start, I do not wish to be either despising or scathing, as many of them become extremely capable and valuable attendants, and in their particular sphere would put to shame their more highly educated sisters at the hospitals.

The tone of Dr. Mercier's letter indicates the amount of consideration which would be meted out to any individual who might be bold enough to send suggestions to either the Handbook or Educational Committee, and as he practically says that the handbook is drawn up by competent judges, their competency, however, being self-constituted, it would be waste of time for anyone outside the charmed circle to suggest any amendment.

Dr. Greene's system at Berrywood is an excellent step in the right direction of training asylum attendants, and is one worthy of being copied by other asylums. It ensures more extended and complete teaching, the value of the certificate as an indication of proficiency would be greater, and there would be more supervision and control over the holders of such certificates, so that there would be less chance of attendants being dismissed for incapacity or misconduct from one asylum and obtaining employment in another merely on the strength of their paper qualification.

Mr. Barraclough's analogy is entirely false, as the value of a university degree depends upon the university at which it is obtained. A true analogy would be, if the British Medical Association issued a general diploma of efficiency to medical men, examined at any university by irresponsible examiners, who may be unconnected with the Association. It is futile to gauge the standard of any examination by the questions set, as the late correspondence in the BRITISH MEDICAL JOURNAL, concerning the physiology paper set for the L.L.A. examination at the University of St. Andrews, shows.

Whilst on the subject of the nursing examination of the Medico-Psychological Association, I believe it is a fact that up to the year 1892 no candidate was rejected for the certificate granted to medical men for special knowledge in mental disease; it would be interesting to know if this high percentage of successful candidates still continues.—I am, etc.,

September 19th. M. P. C.

*** This correspondence must now cease.

THE AACHEN TREATMENT OF SYPHILIS.

SIR,—In the BRITISH MEDICAL JOURNAL of September 11th, 1897, appears a letter from Mr. Arthur Cooper on the above subject. In the Army Medical Report for 1891 there was published a paper by me on the Hypodermic Administration of Mercury, etc., in the course of which, alluding to Aachen and its treatment, the following remarks occur:

"At Aix I saw patients of all nationalities, the great majority being English. Class was well represented—from the peer to the prize fighter and professional strong man. Most of the English cases I met were of at least a year's standing, and had been during that time under treatment at home; but the disease recurring over and over again, and being sick of taking medicine internally, they at last found their way to Aix. This was the history of at least two out of every three of these cases. They were all loud in their praises of Aix and its treatment, and regrets that they had not gone there earlier." What was true then is, I have little doubt, so now.

In the same paper I went on to show that the surgeons at Aachen, including Dr. Brandis, made no attempt to conceal the fact that the main factor in their treatment was the "systematic daily inunction of mercury," and I think they

very rightly claimed that immersion in the warm sulphur baths greatly aided the absorption of the mercury. In my military practice I carried out as far as possible, and with the greatest success, the method employed at Aachen until, for reasons which it is unnecessary to mention here, I finally adopted the hypodermic administration of mercury in cases of syphilis.

As regards the Aachen treatment, this I will say, that to my mind it is far and away superior to any of the internal methods of giving mercury which are so general in England, and it stands second only to the hypodermic method.

Finally, Aachen and its teachers have taught us that the skin is the true channel for the administration of mercury.—I am, etc.,

F. J. Lambkin,
Surgeon-Major, A.M.S.

Hilsea, Sept. 15th.

REGISTRATION IN BRITISH COLUMBIA.

Sir,—I observe that in the Educational Number of the British Medical Journal of August 28th, p. 560, under the heading "Dominion of Canada, British Columbia," it is stated that "all persons entitled to be registered under the Medical Act, 1858, can claim registration here after legal proof and payment of a fee not exceeding 100 dollars." There is no mention of any examination being required of an English registered practitioner before commencing practice in British Columbia.

But I think I have before seen it stated in the British Medical Journal that such an examination is required, and in the report of Dr. Roddick's address at Montreal[1] the following occurs: "In the provinces of Ontario and British Columbia an examination is exacted; in the others the licence is given . . . . on presentation of the degree."

From all this I cannot gather whether or no an English practitioner, registered under the Act of 1858, is at liberty to practise in British Columbia without further examination.

I should really be very grateful if you would be so kind as to clear up my uncertainty by a few words in your answers to correspondents. With many apologies for troubling you, I am, etc.,

M.D.Durham.

September 12th.

*** We quoted from the local Act in our possession, apparently of the latest date. We are not aware that this has been either repealed or amended; and by it, as stated, all persons registered in England under the Medical Act, 1858, after legal proof and identification, could claim registration in the colony.

ENDEMIC GOITRE.

Sir,—In a paper I read recently before the Border Counties Branch of the British Medical Association I endeavoured to show that the only two theories of causation of endemic goître, which now hold the field are (1) the bacillary, (2) the mineral, giving it as my present opinion that a nascent ferrous sulphate was the probable cause. I was very glad to see Surgeon-Lieutenant Waters's paper in the British Medical Journal of September 11th. I have recently perused the original paper by Lustig and Carle, Sull Etiologia del Gozzo Endemico in the July-August (1890) number of *Journal* of Royal (Italian) Academy of Medicine. The conclusions arrived at by these observers may, for the benefit of those interested in this question, be stated thus:

1. All the different waters examined which were used for drinking or domestic purposes by the inhabitants of the regions afflicted with endemic goître were exceedingly rich in bacteria, and were exposed to constant contamination.

2. Qualitative examination of the bacteria contained in these waters showed the constant presence, though in variable quantity, of a bacillus which liquefies gelatine, and which has specific morphological and biological characteristics.

3. Drinking experiments with the suspected goîtrigenous water carried out (with all the usual cautions in a country free from the disease) on animals (horses, dogs), natives of goîtreless countries, showed that the water alone had the power of producing an unquestionable enlargement of the thyroid gland.

4. It was not sufficiently proved that the elimination of the microbes took away from the water its goître-producing property.

Now, the bacillus here indicated must, I think, belong to the category of the soil bacteria, an interesting account of which will be found in the *Veterinary Journal and Annals of Comparative Pathology*, of February, 1897, from the pen of R. Stewart MacDougall, where it will be seen that from ammonia, for instance, formed by the action of putrefactive bacteria on albuminous organic matter, nitrous and nitric acids are successively formed by the action of nitrifying organisms, the latter acid again uniting with bases to form the nitrates so essential to the well-being of plant life. That this possible goîtrigenous bacillus is born of the soil and not borne in the air, is, I think, evidenced by the fact that in places where only rain water is drank—for example, Venice, parts of Holland, Belgium, etc.—goître is unknown. At the same time it is probable that the geological formation may have a considerable influence, chemically, on the growth of soil bacteria, and it is possible that the ultimate cause of endemic goître will be found to lie in a blending of the bacillary with the geological theory. It is a curious fact that endemic goître in this country seems most frequent on the carboniferous limestone rocks, especially on the Yoredale series. This may mean that the surface water runs rapidly through the fissures and joints of the limestones, carrying soil bacteria and goître in its train, but there is another side to the question. Why is goître very rarely found on the Jurassic limestone series? The Yoredale series contains a considerable amount of iron pyrites replacing fossils in many instances. The sandstones of the series also are spotted, and the spots result from the decomposition of iron bisulphide. Jurassic limestones, on the other, very rarely contain pyrites. The goîtrigenous waters mentioned by Surgeon-Lieutenant Waters all contain iron, whether as sulphate or not is not stated; at the same time, the presence of nitrates might indicate bacterial life. With regard to other causes mentioned in the above paper, lime is certainly not a cause, and the carrying of loads is a long-exploded theory. A theory which has been laboriously worked out by Bircher[1] is that goître is due to a miasma developing in certain geological formations.

I quite agree with Surgeon-Lieutenant Waters's remarks about the thyroid enlargement. Undoubtedly in the first instance it is a true hypertrophy evidenced by the fact that a patient with a recently-enlarged thyroid rapidly recovers if removed to a healthy district. Later on comes degeneration, and in the ultimate expression of endemic goître—cretinism—we have in many cases complete atrophy. It is curious that there is no cretinism in North-East Bengal, as goître and cretinism generally go hand in hand. Surgeon-Lieutenant Waters does not say if there be any deaf-mutism, another almost invariable companion of endemic goître. I hope other medical men will make as careful observations as Surgeon-Lieutenant Waters has done. It is hardly right, when so many diseases have been of late years traced to their ultimate source, that endemic goître, with its train of disasters, should remain a mystery in the world of medicine.—I am, etc.,

Louis E. Stevenson, M.B.Cantab.

Temple Sowerby, Penrith, Sept. 13th.

VENTRIFIXATION FOR PROLAPSED UTERUS.

Sir,—The value of this operation is clearly shown by Dr. Wardle's letter in the British Medical Journal of September 18th; but, after Dr. Purslow's kindly criticism of my paper of August 14th, I wrote to the patient referred to and received a letter on September 19th—more than a year since the operation—stating that she "has not felt the slightest falling of the womb since." I have recently had an opportunity of examining two other cases in which ventrifixation was performed more than a year before, and in each case the uterus was still found attached to the abdominal parietes.—I am, etc.,

James Swain.

Clifton, Sept. 21st.

[1] British Medical Journal, September 4th, 1897, p. 575.

[1] *Der endemische Kropf*, 1883.

Six lady students figure in the pass lists of the Newcastle College of Medicine's first examination for the degree of Bachelor of Medicine.

NAVAL AND MILITARY MEDICAL SERVICES.

ARMY MEDICAL STAFF EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

ARRIVED in India, December, 1895. Would exchange this trooping season to England.—Address (with terms) Surg.-Lt.-Colonel W. H. ALLEN, A.M.S., Meiktila, Burma.

A SURGEON-CAPTAIN, who does not expect to go abroad before the end of the trooping season, is willing to exchange with an officer ordered to Bengal about October or November.—Address Surgeon-Captain HORE, Aldershot.

THE NAVY.

THE following appointments have been made at the Admiralty: CHARLES C. GODDING, Fleet-Surgeon, to Haulbowline Hospital, September 15th; FRANCIS J. BARTER, Surgeon, to the *Heron*, September 29th; OSWALD REES, M.D., Surgeon, to the *Jackdaw*, September 29th.

ARMY MEDICAL STAFF.

SURGEON-LIEUTENANT RUPERT FAWSSETT has been elected for appointment to the 2nd Life Guards as an attached medical officer.

Surgeon-Lieutenant-Colonel J. F. BRODIE, M.D., retired pay, has been appointed to the medical charge at Seaforth, Liverpool.

The undermentioned officers, whose tour of foreign service will expire during the trooping season of 1897-98, will proceed to England, and will be detailed for duty with the troops on the homeward voyages:—Punjab Command: Brigade-Surgeon-Lieutenant-Colonel O. G. Wood; Surgeon-Majors M. D. O'Connell, G. Coutts, S. Townsend, T. J. O'Donnell, H. J. Peard, G. W. Brazier-Creagh, H. J. Barratt, W. Kelly, W. Turner, W. T. T. Swan, and R. G. Hanley; Surgeon-Captains L. P. Mumby, J. J. O'Donnell, R. J. W. Mawhinny, H. E. Dowse, C. Dalton, and J. E. Brogden. Bengal Command: Surgeon-Lieutenant-Colonel J. L. Peyton, Surgeon-Majors J. Gibson, A. M. Davies, L. Haywood, E. V. A. Phipps, T. W. O'H. Hamilton, A. E. Tate, and C. Birt; Surgeon-Captains A. F. Smithson, T. B. Beach, E. E. Powell, C. W. R. Healey, E. McK. Williams, A. Pearse, and T. J. Lenehan. Madras Command: Brigade-Surgeon-Lieutenant-Colonel A. L. Brown; Surgeon-Majors O. E. P. Lloyd, P. M. Carleton, J. H. Nicholas, G. H. Younge, F. P. Nichols, B. F. Zimmerman, and C. W. Johnson; Surgeon-Captains H. C. Thurston, J. C. Connor, D. D. Shanahan, and C. W. H. Whitestone. Bombay Command: Brigade-Surgeon-Lieutenant-Colonels J. H Moore and J. D. Edge; Surgeon-Majors J. Armstrong, G. T. Goggin, M. O'C. Drury, C. J. Addison, J. R. Yourdi, H. J. Wyatt, A. T. I. Lilly, W. E. Berryman, and F. W. C. Jones; Surgeon-Captains J. B. W. Buchanan and H. D. Mason.

Surgeon-Captain WHITLEY B. STOKES, M.B., F.R.C.S.I., half pay, resigns his commission. September 22nd. He was appointed Surgeon-Captain, January 30th, 1886, and was placed on half-pay on account of ill-health, March 1st, 1893.

INDIAN MEDICAL SERVICE.

SURGEON-LIEUTENANT-COLONEL W. K. HATCH, M.B., Bombay Establishment, has been appointed Principal of Grant Medical College, Bombay, *vice* Brigade-Surgeon-Lieutenant-Colonel G. A. Maconachie, M.D., retired.

Brigade-Surgeon-Lieutenant-Colonel G. W. R. HAY, M.D., Bombay Establishment, is granted the rank of Surgeon-Colonel while officiating as Principal Medical Officer Bombay and Aden Districts, and is placed in charge of the current duties of the office of Surgeon-General with the Government of Bombay.

THE VOLUNTEERS.

SURGEON-LIEUTENANT R. GRANT, 2nd (Angus) Volunteer Battalion the Black Watch (Royal Highlanders), is promoted to be Surgeon-Captain, September 22nd.

Surgeon-Lieutenant W. H. H. BENNETT, M.B., 1st Volunteer Battalion the King's Own Yorkshire Light Infantry, resigns his commission, and is appointed Second Lieutenant, September 22nd. Mr. SAMUEL LEE POTTER is appointed Surgeon-Lieutenant in the same corps, September 22nd.

Surgeon-Lieutenant A. EDDOWES, M.D., 24th Middlesex Rifles, is promoted to be Surgeon-Captain, September 22nd.

THE TIRAH EXPEDITION.

THE staff of the Tirah Expedition, which has been formed to operate against the Afridis, on the North-West Frontier of India, and which will be commanded by Sir William Lockhart, has been published, and will include the following: Surgeon-Colonel G. Thomson, M.B., C.B., as Principal Medical Officer of the expedition, with Surgeon-Major W. A. Morris as Secretary; Surgeon-Colonel G. McB. Davis, M.D., D.S.O., as Principal Medical Officer of the Second Division, under the command of General Yeatman Biggs; Surgeon-Colonel R. G. Thomsett, as Principal Medical Officer of the Peshawar column, commanded by Colonel Hammond; and Surgeon-Colonel W. R. Murphy, as Principal Medical Officer of the Kuram movable column, under Brigadier-General Symons.

MEDICAL OFFICERS WITH THE MALAKAND RESERVE BRIGADES.

THE undermentioned officers are detailed for duty with Field Hospitals proceeding to Rawal Pindi with 2nd and 3rd Malakand Reserve Brigades:

No. 23 British Field Hospital—Surgeon-Major C. J. Addison, Surgeon-Captain H. W. K. Read, Surgeon-Captain E. W. Slayter, Surgeon-Captain R. C. Lewis.

No. 24 British Field Hospital—Surgeon-Major J. R. Yourdi, Surgeon-Major W. E. Berryman, Surgeon-Captain E. F. R. Austin, Surgeon-Captain N. Marder.

No. 62 Native Field Hospital—Surgeon-Major C. F. Willis, 9th Bombay Infantry; Surgeon-Captain C. T. Hudson, 2nd Bombay Grenadiers: Surgeon-Captain H. Bennett, 4th Bombay Rifles; Surgeon-Lieutenant R. H. Price, Poona District.

No. 68 Native Field Hospital—Surgeon-Lieutenant-Colonel W. A. Barren, Bombay Sappers and Miners; Surgeon-Captain V. B. Bennett, 13th Bombay Infantry; Surgeon-Lieutenant A. Hooton, Poona District; Surgeon-Lieutenant H. A. Knapton, officiating 23rd Bombay Rifles.

No. 46B Native Field Hospital—Surgeon-Captain H. F. Cleveland, 3rd Bombay Light Cavalry.

REVISED REGULATIONS FOR THE ARMY MEDICAL SERVICES.

THE revised regulations recently issued for the Army Medical Services have been simplified by avoiding any unnecessary repetition of instructions already contained in other volumes of army regulations. Alterations or additions have been made with regard to annual inspections by principal medical officers of the sanitary conditions and water supply in all camps, barracks, hospitals, or other War Department buildings within their districts; also of the cubic air space allowed for each bed in the wards of the various types of military hospitals at home stations. Arrangements have been made to meet the special circumstances under which it may be advisable to recommend the admission of soldiers and their wives or families to civil hospitals at the public expense. The admission to military hospitals of pensioners or other persons employed in an army department is allowed in cases of contagious or infectious disease, and when they have been injured in the performance of their duties or attacked by illness distinctly traceable to the nature of their work. New directions have also been added providing for the fumigation of rooms and mortuaries by the employment of compressed sulphur dioxide or of chlorine gas.

COMBINED EXAMINATIONS FOR FIRST COMMISSIONS.

IN the combined examinations for first commissions in the Army Medical Staff and Indian Medical Service, the successful candidates will, without the necessity of previously recording their names for either establishment, be allowed in future to exercise their choice as to which service they prefer, in the order of precedence that they may have obtained upon the list. Their selection will, however, in the case of the Army Medical Staff, be subject to the special regulations already applicable to entry for that service.

THE CASUALTIES AT THE FRONT IN INDIA.

THE following return, culled from *The Times of India*, will give an idea of the serious losses we have suffered recently:

The number of British officers killed or wounded in the various fights on the frontier is regrettably large. In the attack at Maizar three officers were killed and three wounded; one of the latter died a few days later; one officer was shot dead by one of his men during the advance of the punitive force. In the first attack at the Malakand 2 officers were killed and 4 wounded, while 5 more were wounded in the later attacks. One officer was slightly wounded during the siege of Chakdara: then came the fight with the Mohmunds outside Shabkadar, when 4 officers were hurt more or less seriously. In the attack on the Swatis at Landikai 2 more officers were killed and 2 wounded; 1 officer died of the wounds he received at Malakand. This gives a total loss of 10 officers killed and 17 wounded—a large percentage of the total number at the front. The losses among the rank and file have been equally serious. At Maizar 24 were killed and 24 wounded. The total number of casualties during the first seven days fighting at the Malakand, including the defence of Chakdara, is set down at 237 killed and wounded. At Shabkadar we lost 4 British soldiers killed and 11 wounded, and 12 killed and 48 wounded among the native troops. To these must be added the casualties during the recent fight at Landikai, and a considerable number of deaths from sunstroke and fever. The losses sustained by the enemy may be roughly estimated at nearly 3,000.

CLOSURE OF LEAVE TO MEDICAL OFFICERS.

IN commenting on a paragraph in the Indian papers regarding the above subject, the *Army and Navy Gazette* very pertinently remarks: "If this is the case with only a frontier campaign before us, how should we stand in case of military operations on a more extended scale?" The reply is clear. We should stand in a most unenviable position, and the medical arrangements would probably collapse!

RECENT INCREASE OF PAY IN INDIA.

THE *Madras Mail* of August 14th has a telling leading article on this subject. It would seem the late supposed increases of pay are, whether intentionally or from sheer official blundering, of the nature of frauds. This is worked out by considering the emoluments appertaining to first- and second-class staff surgeoncies; for the new rates had added the following separate paragraph: "The rates of pay laid down for officers of the I.M.S. will be drawn by all medical officers, whether of the A.M.S. or I.M.S., when in receipt of staff salaries." There are two classes of such salaries, first and second, and they must be drawn by somebody, or the duty would not be done. Suppose, states the article, a Surgeon-Major A.M.S. on the pay of Rs. 759, holds a second-class staff-surgeoncy—there are many such throughout India—with a pay of Rs. 50 attached thereto; under the provision of the paragraph in question he must go down to the Indian grade pay of his rank, namely, Rs. 640. Therefore he draws Rs. 640 + Rs. 50, or Rs. 690, instead of Rs. 789; that is, he loses Rs. 99 for the pleasure of doing the extra work of the staff. In the case of a first-class staff-surgeoncy, he would only lose Rs. 49, but the absurdity of the thing remains. Either the A.M.S. must lose the few appointments open to them, or be mulct in their pay proper. Who is to take them up?

Well may our contemporary reflect; surely such absurdities cannot be

meant, but must be the result of blundering in the pay department. The sooner these mad regulations are brought into harmony with common sanity the better.

NEW MILITARY HOSPITAL, PORTSMOUTH.

A NEW site has been selected by the Army Sanitary Committee, the Director-General A.M.S., and the Quarter-Master-General for a new military hospital on the Portsdown Hills for the Portsmouth garrison. The scheme is in connection with the proposed removal of the military hospital at Portsea, to afford space for barracks about to be constructed by the Admiralty in place of the arrangements now existing for housing seamen and marines in the old battleships in Portsmouth Dockyard.

ENTERIC FEVER IN RICHMOND BARRACKS, DUBLIN.

IN alluding to five cases in a half battalion at the above barracks, and the Court of Inquiry on the occurrence thereof, the *Army and Navy Gazette* says, "The cause of sickness undoubtedly lies within the barracks, and no expense or trouble should be spared until it is removed." These Courts of inquiry have assembled in other Irish garrisons, but with no results.

SANITARIUM FOR HONG KONG.

THE military authorities seem to have recognised the fact that a change for troops stationed in Hong Kong is needed. They have therefore purchased, to be used as a sanitarium, the Hotel Mount Austin, situated at the Peak, about 1,800 feet above sea level. To this the men of the different corps will be able to resort to recruit health. The temperature at this elevation is many degrees lower than in Hong Kong city.

THE INDIAN PRESS ON THE A.M.S.

AN article on "Army Medical Discontent" appears in the *Times of India* weekly edition of August 20th, supporting the cause of the Medical Service. It says: "The very men at the Horse Guards who are the first to obstruct the medical claims would also be the first to raise a clamour if they saw the results of the bungling of bad doctors in the field.....With men retiring in disgust at one end, and at the other recruitment being wholly inefficient to keep up the mere numbers, let alone the quality, up to an irreducible minimum, this progressive depletion, without the intervention of Parliament, can have but one issue—the extinction of the Medical Department of the Army. When that undesirable consummation is about to be realised, the usual rebound will be effected, and where everything was once refused, everything will be effusively granted,

MIXED BOARDS.

AT Bangalore, on August 13th, a Board was ordered to assemble to "report upon additional accommodation required at the Station Hospital," with a Lieutenant-Colonel, R.A., as President: the Principal Medical Officer, who is a Surgeon-Colonel senior to the President and Members, was ordered "to attend." The spirit and even letter of the late Mixed Board Regulation is here deliberately set aside upon the strength of an old Horse Guards military order originally.

We hear, further, of two Sanitary Boards lately at Cape Town, in which, while ordinary subalterns were detailed as members, the medical department was directed to "attend" in terms of an old Horse Guards order; as our correspondent comments, "Queen's Regulations again set aside!"

RESEARCH IN THE MEDICAL SERVICES IN INDIA.

THE *Pioneer* of August 29th devotes short leaders to this subject. It says: "In the whole of India there is no official arrangement for giving medical officers thorough and practical instruction in the newest developments of their science, or for renewing the knowledge of those who, for lack of practice, have forgotten much of their early training." Again: "To speak plainly, smart men are not likely to enter a service which can have such things said about it as the writer in the *United Service Magazine* gives expression to, while medical officers feel aggrieved that measures for giving professional instruction are not adopted."

THE NURSING OF SICK SOLDIERS IN INDIA.

THE *Madras Weekly Mail*, in a long and able article on this subject, contends that the arrangements for nursing European soldiers in military hospitals are inadequate and unsatisfactory; that nurses are too few in number; the men of the Army Hospital Corps unfitted (by race. and want of capacity and training) for the work; and the system of soldier attendants objectionable from various points of view. The remedy proposed is the permanent allotment of a small section of the Medical Staff Corps to each hospital.

THE RANK QUESTION.

A SUGGESTION comes to us from a retired and very distinguished medical officer, who has most strenuously advocated fully recognised army rank for medical officers, that the latter might, without prejudice, accept "honorary rank" in a medical, and if possible, Royal Medical Corps. He says such would be in the nature of a "compromise," and he has reason to believe would, as such, be favourably entertained in high quarters.

On the other hand, "Surgeon-Lieutenant-Colonel, Retired," writes: The lessons of the past teach that no compromise should be accepted, and that a corps organisation with substantive rank and title, but with limited command, must be granted, or—nothing. The composite title was a compromise, and was forthwith made sport of; there can, indeed, be no compromise with men who will not loyally accept it. The question is, Is the army to suffer indefinitely for lack of good medical officers because a handful of military advisers choose to kill an important branch of the service?

MR. GEORGE HANBURY, the Treasurer of the Paddington Green Children's Hospital, has given a donation of £100 towards paying off a debt of £1,900 due to the hospital bankers.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF DURHAM.

SECOND EXAMINATION FOR THE DEGREE OF BACHELOR IN MEDICINE.—The following candidates have satisfied the Examiners:

Anatomy, Physiology, and Materia Medica.—Honours—First Class.—R. H. Dix, College of Medicine, Newcastle-upon-Tyne. Honours—Second Class.—R. Alderson, College of Medicine, Newcastle-upon-Tyne; P. M. Perkins, St. Bartholomew's Hospital; D. M. Johnston, College of Medicine, Newcastle-upon-Tyne; J. T. Jupp, Mason College, Birmingham; F. W. Lambelle, College of Medicine, Newcastle-upon-Tyne; G. Burton-Brown, L.S.A., Guy's Hospital; J. R. Burn, College of Medicine, Newcastle-upon-Tyne; E. F. W. Bywater, Mason College, Birmingham. Pass List.—H. Braund, Guy's Hospital; B. E. G. Bailey, St. Bartholomew's Hospital; R. T. Brown, M.R.C.S., L.R.C.P., Guy's Hospital; R. H. Garbutt, College of Medicine, Newcastle-upon-Tyne; A. Hines, College of Medicine, Newcastle-upon-Tyne; J. Macfadyen, College of Medicine, Newcastle-upon-Tyne; R. Peart, College of Medicine, Newcastle-upon-Tyne; T. S. P. Parkinson, College of Medicine, Newcastle-upon-Tyne; G. W. Proctor, College of Medicine, Newcastle-upon-Tyne; R. P. Richardson, Westminster Hospital; Eleanor Shepheard, London School of Medicine for Women; L. S. Smith, Mason College, Birmingham; J. E. Sidgwick, College of Medicine, Newcastle-upon-Tyne; A. M. Thomas, Guy's Hospital; J. H. Tripe, London Hospital; R. Thorne-Thorne, St. Bartholomew's Hospital; T. J. A. Tulk-Hart, M.R.C.S., L.R.C.P., Guy's Hospital; P. E. Turner, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; J. C. Velenski, College of Medicine, Newcastle-upon-Tyne.

CONJOINT BOARD IN ENGLAND.

The following gentlemen having passed the necessary examinations have, been admitted diplomates in Public Health:

H. H. Briud, L.R.C.P.Lond., M.R.C.S.Eng.; H J. Edwards, L.R.C.P.&S. Edin.; R. Erskine. M.D., M.Ch.R.U.I.; W. E Grandy, M.B.Trin. Coll.Dub., L.R C.S.I.; H. L. P. Hardy, L.R.C.P.Lond , M.R.C.S.Eng., M.D.Brux.; E. S. Hoare, L.R.C.P.Lond., M.R.C.S.Eng.; G. Home, M.D., M.B., C.M.Edin.; H. Horrocks, L.R.C.P.Lond., M.R.C.S.Eng., M.B.Vict., M.D.Lond.; S, C. Lawrence, L.R.C.P.Lond., M.R.C.S. Eng.; C. V. McCormack, L.R.C.P.Lond., M.R.C.S.Eng.; G. J. K. Martyn, M.A., M.B., B.C.Camb,; A. Salter, L.R.C.P.Lond., M.R.C.S. Eng., M.D. & B.S.Lond.; W. G. Savage, L.R.C.P.Lond., M.R.C.S. Eng., B.Sc., M.B.Lond.; A. Stanley, L.R.C.P.Lond., M.R.C.S.Eng., M.D., B.S.Lond.; D. L. Thomas, L.R.C.P.Lond., M.R.C.S.Eng. & L.S.A.Lond.

Six gentlemen were referred back to their studies for six months.

SOCIETY OF APOTHECARIES OF LONDON.

PASS LIST. September, 1897.—The following candidates passed in:

Surgery.—J. B. Cautley (Section II), St. Bartholomew's Hospital; F. M. Cooper (Section II), Royal Free Hospital; J. F. Fox, Cork and Westminster Hospital; F. R. Greenwood, St. Bartholomew's Hospital; H. Munro, Guy's Hospital.

Medicine.—E. C. Bailey, King's College Hospital; F. M. Cooper (Section II), Royal Free Hospital; R. H. Hill, New York and Middlesex Hospital; A. H. Turner, London Hospital.

Forensic Medicine.—E. C. Bailey, King's College Hospital; R. H. Hill, New York and Middlesex Hospital.

Midwifery.—E. C. Bailey, King's College Hospital; F. M. Cooper, Royal Free Hospital; C. G. L. Dähne, St. Bartholomew's Hospital; A. J. Hayes, Middlesex Hospital; R. H. Hill, New York and Middlesex Hospital; A. H. Turner, London Hospital; R. L. G. Worsley, St. George's Hospital.

The diploma of the Society was granted to Messrs. E. C. Bailey, C. G. L. Dähne, J. F. Fox, A. J. Hayes, and Miss F. M. Cooper.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,615 births and 3,909 deaths were registered during the week ending Saturday last, September 18th. The annual rate of mortality in these towns, which had declined from 29.5 to 19.4 per 1,000 in the five preceding weeks, further fell to 18.5 last week. The rates in the several towns ranged from 10.7 in Cardiff, 10.9 in Swansea, 12.0 in Croydon, and 13.1 in Halifax to 25.8 in Preston, 26.1 in Sunderland, 28.4 in Norwich, and 29.8 in Salford. In the thirty-two provincial towns the mean death-rate was 20.2 per 1,000, and exceeded by 4.1 the rate recorded in London, which was 16.1 per 1,000. The zymotic death-rate in the thirty-three towns averaged 3.4 per 1,000; in London the rate was equal to 2.3 per 1,000, while it averaged 4.2 in the thirty-two provincial towns. among which the highest zymotic death-rates were 7.6 in Salford, 8.6 in Hull, 9.0 in Wolverhampton, and 13.0 in Preston. Measles caused a death-rate of 2.4 in Wolverhampton and 3.6 in Preston; "fever" of 2.6 in Norwich; and diarrhœa of 4.8 in Wolverhampton and in Sunderland, 5.1 in Salford, 6.2 in Gateshead, 7.4 in Hull, and 9.5 in Preston. The mortality from scarlet fever and from whooping-cough showed no marked excess in any of the large towns. The 49 deaths from diphtheria in the thirty-three towns included 35 in London, 2 in West Ham, 2 in Wolverhampton, and 2 in Liverpool. No fatal case of small-pox was registered last week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients

were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 3,579 at the end of the eighteen preceding weeks, had further risen to 3,652 on Saturday last, September 18th; 376 new cases were admitted during the week, against 356, 371, and 376 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, September 18th, 874 births and 579 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 18.1 and 18.3 per 1,000 in the two preceding weeks, further increased to 19.4 last week, and exceeded by 0.9 per 1,000 the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 15.3 in Perth and 18.1 in Aberdeen to 21.7 in Paisley and 22.8 in Greenock. The zymotic death-rate in these towns averaged 3.4 per 1,000, the highest rates being recorded in Dundee, Leith, and Greenock. The 270 deaths registered in Glasgow included 22 from diarrhœa, 8 from "fever," 7 from whooping-cough, 2 from diphtheria, and 2 from small-pox. Three fatal cases of diphtheria were recorded in Edinburgh and 2 in Dundee.

MEDICAL OFFICERS OF HEALTH AND THEIR REPORTS.

SOME little time ago a difficulty arose between the Vestry of St. George-the-Martyr and their medical officer in regard to his annual report. We believe that objection was raised to the voluminous nature of this document, and to the inclusion in it of material which, in the opinion of the authority, was superfluous, and a proposal was made that it should be referred back to the Health Committee. To this course Dr. Waldo, the medical officer, very strongly objected, maintaining, if we recollect aright, that both the Local Government Board and the ratepayers had a statutory right of access to his original unabreviated report In the end the vestry had to give way, but they passed the following resolution, which was forwarded to the Local Government Board:

"That, in the opinion of this Committee (Public Health and Sewers), the appendix to the medical officer of health's report contains a large quantity of unnecessary matter, and that the vestry clerk communicate with the Local Government Board, directing that reports, papers, and regulations which have not previously been submitted to the authority, or issued for the first time during the year, be excluded from future report."

To this the following answer was received:

"Sir,—I am directed by the Local Government Board to advert to your letter of the 13th ult. enclosing a copy of a resolution passed by the vestry of the parish of St. George-the-Martyr, Southwark, expressing their opinion that the appendix to the annual report for 1896 of the medical officer of health for the parish contains a large quantity of unnecessary matter.

"I am to state that it rests with the vestry to decide what documents shall be reprinted as an appendix to the annual report of the medical officer of health, but I am to observe that in the present case there are matters contained in the appendix which, in the opinion of the Board, are of more importance in connection with the report, and some of which might properly have been included in the report itself.

"I am, Sir, your obedient servant,

"(Signed) H. C. MOWAN, Assistant Secretary."

As a result it would appear that a medical officer is given free scope to put anything into his annual report so long as it is in accordance with the instructions issued by the Local Government Board for the preparation of such reports. The appendix, however, is at the mercy of the authority to be printed or not as they think best.

SMALL-POX IN GLASGOW.

THE corporation of Glasgow have taken a wise step by issuing to all the medical practitioners in the city invitations to attend clinical demonstrations of small-pox in the hospital. During the last two months there has been a succession of cases of small-pox admitted to hospital chiefly from the eastern district of the city, and the present opportunity of seeing the disease in all its stages is somewhat exceptional for Glasgow. No fewer than 18 patients were admitted during the first fortnight of this month, and the number now in hospital is 18. Recognising the public advantage that might result, the corporation have arranged that the visiting physician will give clinical demonstrations of the disease to medical practitioners at an hour that should be found convenient by many. "Medical gentlemen who present their cards and satisfy the physician that they have been revaccinated, and who otherwise adopt such precautions as he may prescribe, will be taken round the cases."

ILLEGAL LOCAL OPTION.

IN circumstances covered by regulations and orders which have practically the force of law, and which have been laid down by central Government authorities, it seems absurd to suppose that local bodies are to be permitted to set the general verdict of the central power at defiance and act on their own initiative. Such, however, seems at least to have been the intention and hope of the Board of Guardians of the Preston Union, so far as we can understand their recent procedures. A vacancy having arisen in one of the relief districts of the union, two candidates came forward, both apparently fully qualified for the post of Poor-law district medical officer, save that one of them is non-resident in the district in question. But residence within the area to be served is a *sine qud non*, except when there is no fully qualified medical man to be obtained without going outside the area. In the instance in question, however, the guardians, by a majority of five, elected the non-resident candidate, and this, too, as being the better fitted for the post, a serious reflection, one would imagine, on his colleague and fellow candidate. These facts having come to the knowledge of the Local Government Board, a letter has been received from Whitehall asking what special reason has led to the choice made; and forthwith a guardian considers the special letter to be "inspired," forgetful, apparently, of the breach of the regulations committed by his Board The inquiry of the Board led to heated discussion of the matter at the meeting at which it was considered. In the end a Special Committee of the Board of Guardians was appointed to draw up a reply to the Local Government Board, giving the reason for their action in withholding the post from the resident practitioner. We can only hope, without expressing any opinion as to the respective merits of the candidates, that the Board at Whitehall will let the guardians see that regulations have been made for other purposes than to be broken. On the other hand, if some cogent reason, which has not been disclosed, have decided the choice made, we may leave the matter in the expectation of justice being done.

EDENDERRY WORKHOUSE.

WE regret to find that Dr. Duigenan, the medical officer of this workhouse, whose case we referred to in a recent issue, having declined to tender his resignation when called upon to do so by the Local Government Board, has been dismissed by sealed order, and it is rumoured that he intends to take an action against the Local Government Board for wrongful dismissal.

TYPHOID FEVER IN CORNWALL.

THE Chairman of the Sanitary Committee of the County Council for Cornwall has some hard things to say of the St. Columb Rural District Council in his report for the month of August, but all that he says is more than called for by the facts that have drawn forth his expressions of disapproval. It appears that typhoid fever has prevailed in and around Wadebridge, due, according to the medical officer of health, to defective sanitary conditions, including polluted water supplies. At least twenty-two cases have been heard of in the district, and attacks which had their source of infection at Wadebridge have been notified in Bodmin, Camelford, St. Austell, Devonport, and Padstow. Thus the invaded district seems to be both breeding and disseminating disease. The local health officer speaks of the epidemic as being "permitted" to spread; and it seems that not only are the rural council without public means of isolating cases of infectious disease, but that they have in addition neglected to adopt a system of compulsory notification, and are stated by the Chairman of the County Council Sanitary Committee to have been guilty of "persistent refusal to adopt any of the Preventive Acts." These matters are pressing and important, and dictates of humanity and wise economy demand that the sanitary deficiencies thus so long permitted to persist be remedied and supplied.

TRALEE WORKHOUSE.

A SWORN inquiry was held in this workhouse recently into certain charges preferred by the medical officer against the master. The gist of the evidence given by Dr. Falvey, the medical officer, was (as reported in the *Kerry Reporter*) that because he had declined to certify for extra rations for inmates employed in the master's office, the master had retaliated by putting patients admitted seriously ill in the casual wards instead of sending them to the infirmary. That when the medical officer on June 22nd, finding a patient in the casual ward, too ill to be moved, directed the master to get a woman to look after the patient during the night, the master stated he would take no directions from the medical officer. That a woman named Callaghan having to be removed to the fever hospital some miles distant, Dr. Falvey found the master and matron both absent, the former having taken the workhouse horse and driver with him, and he, Dr. Falvey, had to get a car for the purpose. On another occasion, when the medical officer ordered the master to give a patient in the casual ward some brandy, the latter declined because the nuns who have charge of the infirmary had brandy in their store; but, as the master admitted subsequently, they had left the infirmary for the night, taking the keys with them—a most extraordinary system of night nursing.

We hold that in all these cases the master was acting within his legal rights under the absurd existing regulations. The master's counsel, Mr. Moriarty, hit the nail upon the head when he said, "If anyone was at fault, it was the Local Government Board, who had made rules and could now revise the rules. His client was perfectly justified in what he had done, as he had merely followed the rules." In this we quite agree. New and extended powers and responsibilities have been placed upon the medical officers which must conflict with the authority given to the master and the matron in the "Poor-law Bible." Dr. Falvey was endeavouring to do his best for his patients, and the master was determined to stand upon his rights. We cannot regret the occurrence of these cases, for though such exposures of the internal management of Irish workhouses as Newry, Edenderry, and Tralee fall hard upon individual officers, they all make for a thorough reorganisation of the obsolete system, and the sooner the better.

MEDICO-LEGAL.

LUNACY CERTIFICATES.

MEDICAL EXAMINER.—(1) The Act does not prescribe the method; it indirectly implies that the medical certificates should be given to the petitioner, at least this would follow in most cases. (2) The Bill was withdrawn.

NEW MEDICAL DEFENCE ASSOCIATION, LIMITED.

AT a meeting of the directors held on September 17th, it was resolved to assist a member in an action brought against him, the cause of action arising from the fact that he had certified an infant's death as being due to "hereditary syphilis." Dr. Leslie Phillips reported that the books were in the hands of the auditors, and that the report and accounts for the past year would be issued in the course of a few weeks. The accounts would again show a substantial increase to credit, and the cash position of the Association, he believed, would allow the reduction of future annual subscriptions to 5s., instead of 10s. as at present.

MEDICAL NEWS.

We are requested to state that the Rev. A. M. Fairbairn, D.D., Principal of Mansfield College, Oxford, will distribute the prizes to the successful students of St. Thomas's Hospital on Saturday, October 2nd, at 3 P.M., in the Governor's Hall.

French Urological Association.—The French Urological Association will hold its second annual meeting in Paris on October 21st, 22nd, and 23rd, under the presidency of Professor Guyon. The questions proposed for discussion are: 1. The Operations performed on the Testicle and its Adnexa for the relief of Prostatic Hypertrophy (to be introduced by Drs. Albarran and Carlier); 2. Non-gonococcic Urethritis (to be introduced by Drs. Eraud and Noguès).

The Claybury Pathological Laboratory.—The first report of the pathologist in charge of the Claybury Pathological Laboratory is published in the *County Council Red Book*. It will be remembered that the laboratory was opened last year, since when Dr. Mott's report shows the amount of valuable work that has been done. The Board of Technical Education has granted a Scholarship in Neuro-pathology, and Dr. Wakelin Barrett is the recently appointed scholar.

The Beaney Institute, Canterbury.—The foundation stone of this building was laid on Thursday, September 16th, by the Mayor of Canterbury, in the presence of Dean Farrar and a large concourse of citizens. The Hon. J. G. Beaney, M.D., was a native of that city, where he began life as an errand boy at the dispensary; but by his energy he raised himself to the position of one of the leading physicians of Melbourne and a member of the Legislative Council of Victoria, where he died some six years ago. He munificently bequeathed to the Mayor and Corporation of Canterbury £10,000 for the purpose of purchasing a site and building thereon a free library and institute for the benefit of the citizens of the city. During his life, too, he was constantly sending home sums for the benefit of the working men of Canterbury, and gave at one time and another £1,070 to the Kent and Canterbury Hospital. The institute will comprise a free reading room, a lending library, and a museum.

Memorial to the late Dr. Ward, of Blyth.—On September 16th a memorial bust of the late Dr. Gilbert Ward, F.R.C.S., of Blyth, was unveiled by the Right Hon. Sir Matthew White Ridley, Bart., M.P., in the hall of the Thomas Knight Memorial Hospital at Blyth. The bust, which is of white marble, and stands upon a pedestal of green marble, is by Antonio Frilli, of Venice. Dr. Ward was a native of Newcastle, where he was born on March 3rd, 1805. He took up his residence in Blyth when 27 years of age, and died there in his 90th year. During his 60 years' connection with the seaport he held a considerable number of public appointments, and his great philanthropy, his disinterested labour for the cause of the poor, and the welfare of the town generally, rendered his name a revered word in every household in the town and district. The erection of the Knight Hospital was entirely due to the zealous application with which Dr. Ward undertook to raise the necessary amount of money stipulated under the terms of the will of the late Mr. Thomas Knight, whose name the institution bears.

Report of the Inspector of Retreats.—The seventeenth report of the Inspector of Retreats, licensed under the Inebriates Acts, records substantial advance. The number of patients treated, which was 130 in 1895, rose to 166 in 1896. The inspector paid forty visits to retreats during 1896, nearly all the visits having been without previous warning. The general health of the patients was excellent, though there had been two deaths. The number of retreats will remain at ten, though two additional establishments had been licensed during the twelvemonths, owing to the lapsing of two licences. No reason is assigned for the non-renewal of these licences, one of which was licensed to Lady Henry Somerset and a co-licensee only a year before, and the other to the Messrs. Gray, both for females only. It is unfortunate that the Dalrymple Retreat is the only home which presents full particulars of the ages, length of addiction, classification, length of residence, causation, heredity, after-history, and other important details of the cases. If the other retreats furnished similar tables the value of the report would be greatly enhanced. The licensees all seem of one opinion as to the need for a less complicated and deterrent mode of admission of patients, and as to the need for power of compulsory reception to be vested in some constituted authority. The licensee of the Manchester Retreat for Women says that among females of all classes drunkenness is on the increase. In the Rickmansworth Retreat there was a family history of inebriety or insanity in 55 per cent. of the patients. It is to be hoped that the Government, in their promised Bill, will take the strong representations of the licensees into serious consideration.

MEDICAL VACANCIES.

The following vacancies are announced:

BETHLEM HOSPITAL.—Two Resident Clinical Assistants; doubly qualified. Appointment for six months. Apartments, board, and washing. Applications, endorsed "Clinical Assistantship," to the Treasurer, Bridewell Hospital, New Bridge Street, E.C., before October 4th.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon; doubly qualified. Salary, £150 per annum (with an allowance of £30 per annum for cab hire) and furnished rooms, fire, lights, and attendance. Applications to E. W. Forrest, Secretary, by October 18th.

BRIGHTON AND HOVE LYING-IN INSTITUTION AND HOSPITAL FOR WOMEN.—Honorary Surgeon. Appointment for ten years. Applications to be sent in by September 30th.

BRISTOL DISPENSARY.—Two Surgeons to the Districts of the Institution, doubly qualified. Particulars of Mr. Harold M. Silcock, Small Street Court, Bristol, to whom applications must be sent by October 11th.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Out-patient Physician, engaged in consulting practice. Clinical Assistant. Post tenable for three months on payment of fee of £5 5s. Applications to the Secretary for the former by October 2nd.

CHICHESTER INFIRMARY.—House-Surgeon. Salary, £80 per annum, with board, lodging, and washing. Applications to Eugene E. Street, Secretary, the Infirmary, Chichester, by October 11th.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Resident Medical Officer, doubly qualified, unmarried, and under 25 years of age. Also Resident House-Physicians. Applications to W. H Theobald, Secretary, by October 13th.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, N.E.—Junior House-Physician; doubly qualified Appointment for six months. Salary, £15, with full board, and residence. Applications to T. Glenton-Kerr, Secretary, 27, Clement's Lane, E.C., by October 11th.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House-Physician and Assistant House-Surgeon. Appointment for twelve months. Salaries, £50 per annum, with board, lodging, and washing in the hospital. Applications to E. M. Keely, Secretary, by October 2nd.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House-Physician, House-Surgeon. Appointment for six months. Salary at the rate of £50 per annum, with board and residence. Applications to the Secretary at the Hospital by October 11th.

ROYAL SOUTHERN HOSPITAL, Liverpool.—Junior House-Surgeon; doubly qualified. Salary, 60 guineas per annum, with board, etc. Applications to the Chairman of the Medical Board by September 27th.

ROYAL VICTORIA HOSPITAL, Bournemouth.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Chairman by October 15th.

ROYAL VICTORIA HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Resident Medical Officer. Appointment for six months, when re-election is required. Salary, £100 per annum, with furnished apartments, board, and washing. House-Physician. Appointment for six months. Salary at the rate of £40 per annum, with board, lodging, and washing. Applications to the Secretary at the Hospital by October 5th.

ST. MARY, ISLINGTON, GUARDIANS OF.—Resident Second Assistant Medical Officer at the Workhouse and Infirmary, St. John's Road, Upper Holloway. Remuneration, £80 per annum and rations, apartments, and washing. Applications, on forms to be obtained at the Guardians' Offices, to be sent to Edwin Davey, Clerk, Guardians' Offices, 131, St. John's Road, Upper Holloway, N., by October 5th.

SALOP INFIRMARY, Shrewsbury.—House-Surgeon; must be doubly qualified—M.R.C.S.Eng., Edin., or Dub. Salary, £100 per annum, with board and residence. Applications to Joseph Jenks, Secretary, by October 1st.

SCHOOL BOARD FOR LONDON.—Medical Officer for the Gordon House Girls' Home, at Richmond Road, Isleworth. Salary, £40 per annum. Applications to A. E. Garland, Clerk to the Managers, School Board Offices, Victoria Embankment, W.C.

STOCKTON AND THORNABY HOSPITAL.—Non-Resident House-Surgeon; doubly qualified. Age not to exceed 30. Salary, £200 per annum. Applications to H. G. Sanderson, Secretary, by September 30th.

SUSSEX COUNTY HOSPITAL, Brighton.—Assistant House-Surgeon, doubly qualified, unmarried, and when elected under 30 years of age. Salary not exceeding £30 per annum, with board, washing, and residence. Applications to the Secretary at the Hospital by October 13th.

SWANSEA GENERAL HOSPITAL.—House-Physician. Salary, £50 per annum, with board, apartments, laundress, and attendance. Applications to J. W. Morris, Secretary, 9, Castle Street, Swansea, by October 4th.

WHITTINGHAM COUNTY ASYLUM, Lancashire.—Assistant Medical Officer, unmarried, and not over 30 years of age. Salary commencing at £100 per annum, with prospect of further increase, together with furnished apartments, board, attendance, and washing. Applications to the Superintendent.

MEDICAL APPOINTMENTS.

ARMITAGE, E., L.R.C.P., L.R.C.S.Edin., reappointed Medical Officer of Health to the Grimsby Rural District Council.

BETHELL, Alfred, M.R.C.S.Eng., L.S.A., appointed Medical Officer of Health to the Bridgnorth Rural District Council.

BUCHANAN, J. H., M.D.St.And., L.F.P.S.Glasg., reappointed Medical Officer to the Thirsk Rural District Council.

CHITTENDEN, T. Hillier, M.D., M.R.C.P., appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham Road.

COATES, B. O., M.D., appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham Road.

DAMAN, Thomas W. A., B.A.Cantab., M.B. and C.M.Edin., appointed Assistant House-Surgeon to the County Hospital, Lincoln, *vice* J. T. Vulliamy, M.R.C.S., L.R.C.P., resigned.

FRASER, Hugh Ernest, M.D.Edin., appointed Medical Superintendent to the Dundee Royal Infirmary, *vice* N. Raw, M.D., resigned.

GRANT, Francis William, M.D.Edin., B.Sc., C.M., appointed Medical Officer of Health for Lossiemouth and Branderburgh.

GRAVELY, W. H., M.R.C.S.Eng., L.R.C.P.Edin., appointed Medical Officer for the Cowfold District of the Horsham Union.

HART, A. E., M.B., appointed Medical Officer for the Drypool District of the Sculcoates Union.

HARTLEY, Reginald, M.D., F.R.C.S., appointed Clinical Assistant to the Chelsea Hospital for Women, Fulham Road.

HODGES, Dr. C. H., appointed Medical Officer and Public Vaccinator for the Ditton Priors District of the Bridgnorth Union.

MOSS, Enoch, M.D.Lond., appointed Medical Officer to the Wrexham Union Workhouse.

O'CONNOR, John E., M.B., appointed Medical Officer of Health for the Port of Lowestoft.

SMITH, W. H., M.R.C.S., L.S.A., appointed Surgeon to the Boston Hospital.

STANLEY, Douglas, M.D.Edin., M.R.C.P.Lond., appointed Pathologist to the Queen's Hospital, Birmingham, *vice* Dr. Kauffmann.

VAUGHAN, Ethel M., M.B.Lond., appointed Assistant Medical Officer at the Infirmary of the Parish of St. Giles, Camberwell, *vice* Miss Cruikshank.

WALL, C. P. B., M.B.Edin., Ch.B., appointed Assistant Medical Officer to the District Asylum, Inverness, *vice* R. B. Campbell, M.B., C.M.Edin., resigned.

WIGHAM, W. H., M.B.Durh., M.R.C.S.Eng., appointed Medical Officer for the Tenth District of the Barnstaple Union, *vice* A. Hind, L.R.C.S., resigned.

WILSON, A. R., M.B.Lond., L.S.A., appointed Surgeon to the Boston Hospital.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

BARCLAY-SMITH.—On the 16th inst., at 57, Bateman Street, Cambridge, the wife of E. Barclay-Smith, M.D., of a son.

HOSSACK.—At "The Pentlands," 126, Woodbridge Road, Ipswich, the wife of James Hossack, F.R.C.S.Edin., of a daughter.

MOULD.—On September 19th, at Grafton House, Sandgate, the wife of Surg.-Capt. W. T. Mould, A.M.S., of a son.

STEER.—On September 17th, at Fulham Infirmary, Hammersmith, the wife of William Steer, M.R.C.S., Medical Superintendent, of a son.

MARRIAGES.

BARNES—HOLLIST.—On August 26th, at St. Peter's Church, Lodsworth, by Rev. C. S. Chilver, Vicar of the parish, assisted by Rev. L. Brooke-Barnett, Curate of Compton, Herbert Cooper Barnes, M.R.C.S., L.R.C.P.Lond., of Petworth, Sussex, youngest son of James Barnes, Esq., of Tiverton, N. Devon, to Lilian Capron, younger daughter of Lieut.-Col. E. O. Hollist, of Lodsworth House.

BROWN—EVANS.—On September 16th, at St. Margaret's, Westminster, by the Rev. G. B. Riddell, Dr. F. L Brown, son of the Rev. George Brown, of Pau, France, to Rosalie, daughter of the late Manlius G. Evans, of Philadelphia, U.S.A.

MORETON—SCHINTZ.—On the 15th inst., at St. George's, Hanover Square, London, by Rev. E. S. Richardson, Vicar of St. Matthew's, Bolton, Lancashire, John S. Moreton, M.R.C.S., Kelsall, near Chester, to Lucy, daughter of Hans G. Schintz, Childwall Hall, Liverpool.

MORISON—BENTLEY.—On the 15th inst., at East Barnet Church, by the Rev. — Hadow, Dr. Henry Bannerman Morison, of Parkwood House, Boscombe, Bournemouth, to Daisy, second daughter of the late John Bentley, Esq., of The Clock House, East Barnet.

DEATH.

MUSHET.—On September 18th, Mary Ann Boyd Mushet, eldest daughter of the late John Mushet, of Scarborough, sister of the late William Boyd Mushet, M.B., M.R.C.P.Lond., and niece of the late Lady (Robert) Craufurd-Pollok. Dearly loved and deeply mourned.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 2.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations.*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

QUERIES.

MEDICUS asks: What is the best treatment for painful chronic ulcer just above the inner ankle in a woman aged 62?

M.D. would like to know if any reader could recommend a home for a case of paraplegia, a man weighing 14 st. He could pay from 2 to 4 guineas a week.

M.D.CANTAB. writes: Can anyone tell me of any institution which will take in an idiot boy, aged 10, on payment of 6s. or 7s. a week; the boy is only deficient mentally, is very obedient and clean, and practically no trouble?

A. W. N. writes: Can any member kindly recommend a private school where only a few gentlemanly boys are taken, for a feeble-minded lad of 19, who has had epilepsy but no attack for over two years? I shall be very grateful for any assistance.

E. R. L. asks for information as to any good institutions abroad where a lady, the victim of spirit drinking, could be detained for treatment. She has been to an asylum near London, but would not stay in longer than a couple of months. Age about 30. The habit has been going on for years. Is there anything else that can be done?

R. F. W. writes: Can you recommend a small, up-to-date, manual of skin diseases, suitable for a general practitioner?

*** Malcolm Morris's *Diseases of the Skin* (Cassell and Co., 10s. 6d.) would doubtless meet our correspondent's requirements.

DR. J. BOVELL JOHNSON (Lavenham, Suffolk) writes: Can any member of the British Medical Association give a corresponding case to the following:—Mr. Richard G. consulted me on September 11th, having driven seven miles.

His age is	77	years
The cart he came in	50	years of age
Horse in the cart	25	,,
Harness on the horse	10	,,
Dog in the cart with the old man ...	14	,,
Total	176	

J. C. S. will be grateful for advice in the treatment of the following case: A lady, aged 30, enjoying good health, lungs perfectly sound, and family history good, has suffered more or less during the past two years from a most irritating laryngeal cough. The throat is a difficult one to examine, due to spasmodic contraction of the pharyngeal muscles, etc., and the fact that vomiting is very easily induced; but neither by a throat specialist nor by our correspondent can anything be made out except a generalised congestive condition of pharynx and larynx. Gargles, sprays, intralaryngeal injections (menthol and guaiacol), inhalations, fomentations, blisters, nerve tonics, and removal of uvula, have been tried, but beyond temporarily relieving the cough, little benefit has resulted.

MEMBER B.M.A. writes: Can you kindly advise me as to the best material for the floor of the operating room in a small hospital?

*** We can have very little doubt that the best material for the floor of an operating room is what is called "marble mosaic." This should not be laid, as has been done in some cases, sloping towards a drain situated under the operating table, as this involves the drain being laid under the floor. The whole floor should slope, very slightly indeed, towards an opening which can be carried straight through the wall and communicate with a drain outside, much as is done in modern stables. The difficulty about all these cement floors is that they require to be laid upon an absolutely rigid base, or they will crack. Where there are only wooden beams beneath probably the best floor is either oak or teak, well waxed and polished after each time of being used, which, however, is a great labour; or good oilcloth or linoleum in one sheet, carefully cemented down and renewed pretty frequently. By the free use of disinfecting washes this makes a fairly safe floor, but nothing that we know of equals the marble mosaic when it is well laid.

ANSWERS.

DR. H. B. (Dresden).—(1) You cannot be registered as a medical practitioner on the foreign degree which you hold. (2) Full information as to British medical degrees and qualifications, and the conditions on which they are to be obtained, was given in the Educational Number of the BRITISH MEDICAL JOURNAL, published on August 28th.

C. H. H.—The most generally-read textbook of the nature referred to is perhaps that of Professor Adolf Strümpell, published at Leipzig, but this is accessible in an English translation. A work that can be thoroughly recommended is the *Compendium der praktischen Medizin*, by Dr. C. F. Kunze, of Halle. The eleventh edition is just out; it is published by Fred. Enke, of Stuttgart, and is rather smaller than Dr. Roberts's book. Other excellent but somewhat larger works are those of Dr. Richard Fleischer, of Erlangen, and Professor Hermann Eichhorst, of Zürich. The best German periodical devoted to children's diseases is the *Jahrbuch für Kinderheilkunde*, edited by Heubner, Steffen, and v. Wiederhofer. About eight numbers of this appear each year; it is issued by B. G. Trubner, of Leipzig.

THE ADMINISTRATION OF COD-LIVER OIL.

R. F. C. writes: The following is a good way of giving cod-liver oil in a pleasant and effectual form:—℞ Acid. phos. dil. ʒiv, tinct. capsici, ʒj, syr. aurantii ʒiv, inf. gentian co. conc. (1-7), ol. morrhuæ āā ʒj, aq. ad ʒviij, Sig., shake the bottle well; ʒss post cibum. The phosphoric acid and bitters entirely conceal the taste of the oil. On shaking, the oil becomes equally diffused through the mixture for the time being. The acid and bitters promote digestion and absorption. The dose of the oil of course can be increased if advisable.

W. H. D., in reply to "Velox," would suggest mattol as being the best preparation he requires now in the market. It is prepared by Kond and Co., Stafford Street, Birmingham. It is rather expensive.

HOSPITAL FOR TRAINING LADIES IN NURSING.

IN reply to "M D.," a correspondent states that the Medical Mission Hospital, 520, Barking Road, Plaistow, will meet the requirements indicated.

LUBRICANT FOR CATHETERS.

DR. BARRETT ROUÉ (Bristol) writes: In reply to "N. S. P.," by far the most reliable antiseptic lubricant for catheters is a 3 per cent. preparation of carbolic acid and vaseline. It is put up in very portable collapsible tubes by the Cheesborough Manufacturing Company.

NOTES, LETTERS, Etc.

SURGEON and the writer of a note on Ruptured Perineum have not enclosed their cards.

THE PUFF PARAGRAPHIC.

THE following amusing recommendatory notice of a new medical officer to a medical society appeared in a local journal. After stating that Dr. —— would commence his duties on a certain day on a certain place, the unsigned communication adds these words: "Dr. —— has the double qualification of physician and surgeon, and possesses excellent testimonials of his skill in the treatment of diseases of the throat, and also of his ability in maternity matters." The stage of maternity is not accurately defined.

LOCALISATION OF PUNCTURE IN A BICYCLE TYRE.

GEO. HARDYMAN, M.B., F.R.C.S.Ed. (Bath), sends the following description of "an easy way to locate a small puncture in the tyre of a bicycle": Instead of putting the inner tube of a pneumatic tyre under water to find out the puncture, all that is necessary is to do as follows: Take out the inner tube in the usual way from the outer cover, and, having made the hand wet with clean water, pass it over the tube, which is fairly inflated—it need not be tightly so. When you thus wet the punctured part there will be a distinct sensation felt by the hand when passing over it of a bubbling nature. The hand must be very wet, and no difficulty will be experienced. I have found this so useful that I desire all my professional brethren who use a bicycle to know this simple method.

MEDICAL ASSISTANTS.

UN-DONE writes: The letter in the issue of the BRITISH MEDICAL JOURNAL of September 18th I think concerns medical assistants, both registered and unregistered. I doubt not many of the former can and will speak valiantly for themselves; as one of the latter may I have my say?

To take "L.S.A.'s" letter item for item would indeed take too long and too much of your space, but as he is anxiously waiting for a way out of his difficulties I will assist him—in the only sense I should care to. When he is willing to pay an assistant and a dispenser each to do his duty, instead of degrading the one to a surgery boy or sweating the other unfortunate, then will come the emancipation of all three. But no, such men as he, with say a practice of from £1,000 to £1,500 a year, expect a gentleman, and one with a qualification (I think we all know what that means nowadays in exams. whatever it did in the days of apprentices), "To answer the surgery bell!" Does he keep no servant? "To wrap up a bottle" like a grocer's assistant. What does the patient care about the extreme accuracy of wrapping and red wax? "To dispense" like a windmill four or five hours a day stock mixtures of rhubarb and jalap powders for his club patients. "To visit" the major part of his poorer *clientèle*, except where he is obliged to do so himself, to keep up appearances, forsooth! "To do his night work, keep his day book, ledger, and parish list"—everything but his cash book. Not that for prying eyes! And *enfin* this highly respectable practitioner, who drives in his brougham, attends his little dinner parties and occasional *soirée*, objects to his junior sitting down for half an hour and smoking his cigarette. "His hospital style" is another sore point to this bear with so sore a head and such a love for the honey. "Curt but not courteous" is his dictum. When will patients learn to value an accurate diagnosis, and to prefer men who are not possessed of the manners of a shopwalker, but can bring to bear upon their individual cases a calm intellect, modified by a sympathy that is above considering the gilt on this man's gingerbread? Certainly, I can quite imagine it!

He would like to return to the old apprenticeship days, obtaining a premium of a hundred or two, with the privilege of grinding out in the mortar of his general practice and with his pestilential system—*excusez moi*—all the hopes and keen aspirations of youth. Youth is noble; so should be the doctor's life, but not that of such a sycophant as he. *Esperanza!* The Council are on his track—a slow pack, but sure; disdaining "a bagman," though they should nip him *en passant*—a scratch only, but fatal in such a depraved system as his. Arise, ye qualified juniors, and oust such mangy curs from your preserves; 'tis they that make your ways hard, your patients scarce, and give you a birthright that is befouled; men who from their high pedestal look down with pitying smile and kill with faint praise the young doctor who has the assumption to set up his plate in their neighbourhood; speak of him as demeaning himself with cheap practice, while they neglect their club patients at 3s. 6d. per annum; men who after years of practice grasp all they can, only because it runs in with the rest and finds occupation, for whom? An underpaid, overworked assistant, and at the same time robs the younger man of a legitimate means of starting in practice on his own account.

"Battle of the Clubs"—the words absolutely stink in one's nostrils, when we know the fault lies all at home and not with "the people." No; let "L.S.A." and men of his ilk pay a non-resident dispenser 25s. or 30s. a week, and keep a junior qualified man to do their stopgap visiting and midwifery if they will, but pay him adequately; and when

by experience his services are rendered more valuable, they must not object to paying more for them, since he only accepted the berth at the lower figure because of his inexperience. Let them treat him as a gentleman, if they should know how, and then they will have no cause for grumbling; but as long as they expect to work a practice on the principle of "L.S.A." and his *confrères*, there will be no principle in practice, nor any practice, except for the principal. Live and let live. Not the cut-throat unprofessional methods of to-day, or we shall soon *tous les trois* be undone.

M.B. writes: If "L.S.A." has so much work to do that he requires an assistant, and is so badly served, why does he not try a new method? Suppose "L.S.A." diminished his work by raising his fees? He would then have fewer visits, and less dispensing and book-keeping, with more time at his disposal, most likely a larger income, and be independent of the qualified man who knows nothing. Besides, he would give the qualified man an opportunity of beginning practice for himself, and of getting "L.S.A.'s" poorer patients. Then the younger man, knowing nothing, would frequently have to call "L.S.A." in consultation, and so "L.S.A." would further increase his income. There are too many men of old standing who cling to their club and pauper appointments, the duties of which they are quite unable to undertake because of their private practice, and who, rather than give younger men an opportunity of gaining a livelihood, would employ anything as an assistant if he could get him cheap enough and willing to slave. Surely "L.S.A." does not expect a medical paragon for £80 a year? Although writing this I was qualified eleven years ago, and have acted up to my preaching, and find it work well. In defence of the newly-qualified man, I have to engage one annually as a *locum tenens*, and have not a word of complaint against anyone. I have always found them most attentive to their duties and willing to do any work, and found pleasure in hearing of them smoking a cigarette and lounging on an easy chair. Perhaps "L.S.A." has been unfortunate in his choice of assistants.

Menstruation in a Newborn Infant.

Miss Lily Leney (Clinical Assistant New Hospital for Women, late Assistant Resident Medical Officer, Medical Mission Hospital, Plaistow) writes: In February of this year I was asked by the obstetric nurse of our hospital to look at a newborn infant. I examined the child, which was a healthy female, 3 days old, and found a bright red discharge coming from the vagina. The mother was a healthy primipara, the confinement was normal, the child small and not quite full term. The discharge continued for four days, and seemed to cause no discomfort.

Dr. Jardine, in his memorandum of a similar occurrence, says "it will be interesting to know if it recurs." In my case I had the opportunity of watching for six months, during which time there was no further menstruation.

J. Barr Stevens, M.B., C.M. (Renfrew, N.B.) writes: This week I have met with a case of the above in my practice, similar to that recorded in the British Medical Journal of September 11th by Dr. Jardine. The labour in this case was easy and the child of large size. The child was born on September 11th, and on the 16th three successive napkins were stained with a bright red spot, and I satisfied myself that the blood was coming from the vagina. The discharge ceased yesterday, having lasted less than twenty-four hours. The mother described the child as having been straining and pressing, but I saw nothing of this.

The Employment of Hyoscine Hypodermically.

Dr. J. M. Morris (Neath) writes: The most interesting case recorded by Dr. Shaw in the British Medical Journal of September 11th recalls to my mind one in which hyoscine seemed to act in a manner similar to that in his case.

A female patient, aged 50, who had had a previous attack, was seized with chorea, which developed into a most aggravated form. The movements in the middle of the third week were unceasing, she had had no sleep for several nights in succession, and nutrient suppositories were being administered, as deglutition was impossible. Bromide, chloral, morphine, and even the wonderful arsenic—the drug that never fails in this or any other disease inside or outside the textbooks—had been tried. The patient was manifestly dying. A hypodermic injection of hyoscine (two and a-half of B. and W.'s $\frac{1}{200}$ gr. tabloids) was administered. Within half an hour she had gone to sleep, and when she woke, five hours later, the movements had absolutely ceased, nor did they recur. There was no suggestion of hysteria in the case.

In delirium tremens I have tried this treatment with varying results.

A Strange Conceit of Chemists.

Dr. William Hardman (Blackpool) writes to complain of "a most provoking conceit of chemists." These enterprising tradesmen favour him very frequently with pamphlets setting forth the wondrous virtues of new remedies. They give all possible details except the price. Dr. Hardman's experience of the enormous prices asked for many new remedies, which on trial turn out worse than useless, has made him shy of ordering them. He suggests that chemists should always send a price list with their pamphlets.

LETTERS, COMMUNICATIONS, Etc., have been received from:

(**A**) Dr. Atkinson, Hong Kong; Mr. F. W. Alexander, Bromley; Mr. T. Ash, Cardiff; Mr. L. Archer, London; A. W. M.; Alpha; Dr. R. Abraham, Belfast; Another Reservist; An Anxious One. (**B**) Dr. T. Barr, Glasgow; Mr. T. H. Bickerton, Liverpool; Dr. R. O. Beard, Quebec; Dr. J. L. Bolton, London; Dr. J. Barrie, London; Mr. W. M. Beaumont, Bath; Mr. Bloomfield, Manchester; Mr. G. C. Belcher, Birmingham; Sir J. Crichton Browne, London; Mr. W. Buchanan, London; Mr. J. F. Bhore, Brighton; Dr. J. W. Ballantyne, Edinburgh; Mr. W. E. Black, Glasgow; H. L. Barnard, M.B., London; Dr. Bond, Gloucester; Mr. G. A. H. Barton, Morchard Bishop. (**C**) W. A. Campbell, M.B., Carlisle; Professor Corfield, London; Mr. A. Carter, Lincoln; Messrs. J. and A. Churchill, London. (**D**) Dr. E. Diver, London; Mr. T. W. Doman, Lincoln; Dr. C. R. Drysdale, London; Dr. T. M. Dolan, Halifax; D. M.; Mr. J. N. D'Esterre, Eastbourne. (**E**) Dr. G. Elder, Edinburgh; Enquirer; A. Edington, M.B., Grahamstown; Mr. G. W. Emtage, Holsworthy; E. R. L. (**F**) Fleam; Dr. M. Fletcher, London; Dr. S. Federn, Vienna; W. E. Finny, M.B., Kingston Hill; Forward; Dr. G. E. Fuller, Market Drayton. (**G**) Dr. J. W. Grant, Elgin; Dr. W. H. Gregory, Beverley; Dr. P. N. Grant, Lenzie. (**H**) G. Hardyman, M.B., Bath; Mr. W. Henry, London; Mr. F. Haydon, London; H. R. B. Hickman, M.B., London; Dr. J. B. Hurry, Reading; J. H. Hugo, M.B., London; Mr. J. Hope, Woking; T. R. Henderson, M.B., London; Dr. L. Henry, Melbourne; Mr. W. Habgood, Marple. (**I**) Dr. J. Ince, Swanley; Messrs. J. G. Ingram and Sons, London; An Isolated G. P. (**J**) Dr. J. B. Johnson, Lavenham; J. C.; Mr. H. Jefferies, Bolton; Mr. H. H. Jennings, London. (**L**) Miss L. Leney, Chester; Mr. J. A. Lawson, London; Dr. E. Leward, Zastron; Rev. F. Lawrence, London; Dr. J. Lowe, London; L.R.C.P. (**M**) J. M. Morris, M.B., Neath; Member; Medical Examiner; Dr. J. M. Moir, Inverness; Mercury; Mr. G. Merger, Brighton; M.R.C.S.; A. L. Mathieson, M.B., Sheffield; Mr. F. Morrissy, Dungarvan; M.B.; Mr. C. H. Maskew, Wednesbury; Dr. Moorhead, Cootehill; M.D.; Dr. C. E. Morris, Holywell; M.O.H.; Medical Defence Association, Limited, Secretary, Birmingham; Mr. H. Marsh, Macclesfield. (**N**) Mr. P. Newell, Crowborough. (**O**) Mr. E. A. Onyon, Eye; Mr. J. O'Conor, Buenos Ayres. (**P**) Mr. R. A. Packwood, Bermuda; Public Vaccinator; Pluto Hot Water Syndicate Company, Limited; Dr. Peypers, Amsterdam; Miss C. M. Prideaux, London; W. H. Pollard, M.B., Smethwick; E. Phillips, M.B., Coventry; F. L. Pochin, M.B., London; Dr. G. N. Pitt, London; Dr. P. H. Pye-Smith, Sheffield. (**Q**) Qualified Assistant. (**R**) Mr. M. Russell, London; Dr. B. Rouè, Bristol; R. F. C.; Dr. R. Rentoul, Liverpool; Dr. J. A. Rigby, Preston. (**S**) Dr. J. O. Symes, Clifton; Dr. J. B. Spence, Lichfield; Surgeon; Scot; Surgeon-Lieutenant-Colonel; Mr. J. H. Sproat, M.B., Exeter; Mr. N. Smith, London: Dr. J. C. Syson, Glasgow; J. B. Stevens, M.B., Renfrew; Dr. E. M. Sympson, Lincoln; Dr. T. W. Smith, Boston (Lincs.); Mr. H H. J. Sellers, Preston; Dr. E. Seaton, London. (**U**) Mr. M. T. Valentine, New York. (**W**) Mr. W. Wallis, London; Messrs. Witty and Wyatt, London; Dr. J. Wheatley, Blackburn; Dr. G. W. Wells, New York; Mr. E. Wright, London; Mr. E. S. Wood, Cambridge; W. H. D.; W. L.; Mr. C. C. Weeks, Pinchbeck.

BOOKS, Etc., RECEIVED.

Die Geschwülste des Nervensystems. Von Dr. L. Bruns. Berlin: S. Karger; and Glasgow: F. Bauermeister. 1897. 12s.

Mittheilungen aus der gynäkologischen Klinik. Von Dr. O. Engström. Band i, Heft II. Berlin: S. Karger; and Glasgow: F. Bauermeister. 1897. 4s.

The Transactions of the Hunterian Society, 1896-97. Seventy-eighth Session. London: Headley Brothers. 1897.

Ringworm and Alopecia Areata; their Pathology, Diagnosis, and Treatment. By H. Aldersmith, M.B., F.R.C.S. London: H. K. Lewis. 1897. 10s. 6d.

A Manual of Obstetric Practice. By Professor A. Dührssen. Translated and Edited by J. W. Taylor, F.R.C.S., and F. Edge, M.D., F.R.C.S. London: H. K. Lewis. 1897. 6s.

Economics, Anæsthetics, and Antiseptics in the Practice of Midwifery. By Hadyn Brown, L.R.C.P., L.R.C.S.Edin. London: J. and A. Churchill. 1897. 2s. 6d.

Psilosis or "Sprue;" its Nature and Treatment. By George Thin, M.D. Second Edition. London: J. and A. Churchill. 1897.

Die Anatomie und Behandlung der Geburtsstörungen nach Antefixirung des Uterus, Berlin: S. Karger; and Glasgow: F. Bauermeister. 1897. 2s. 3d.

*** **In forwarding books the publishers are requested to state the selling prices.**

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SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF PHARMACOLOGY AND THERAPEUTICS.

D. J. Leech, M.D., F.R.C.P., President.

A DISCUSSION ON THE TREATMENT OF INSOMNIA.

I.—C. K. Clarke, M.D.,

Medical Superintendent Rockwood Hospital, Kingston; Professor Mental Diseases Queen's University.

The term insomnia includes such a variety of the disorders of sleep that it is difficult to cover the general question of treatment in a brief paper. Possibly the only fair way to approach the subject is by first considering the physiology of sleep, as without this, all treatment is apt to become empirical, and indeed much of the routine treatment by drugs in the past has been open to this objection, and even to-day we cannot say that we understand the complex physiology of sleep as we hope to understand it later on. At the same time something has been done, and we can fairly claim that in some of the disorders of sleep we have rational treatment, quite in harmony with the most recent physiological discoveries.

The majority of physiological writers seem to agree that during normal sleep there is vascular dilatation of the skin, as a result of which there is a fall of blood pressure in the arteries at the base of the brain, and a lessened blood supply in the cortex. Elaborate theories have been propounded to account for this condition, in which the vasomotor centre controlling the vessels of the skin plays such an important part.

Howell, of Johns Hopkins, has been one of the most recent to advance a new theory, and in the *Journal of Experimental Medicine*, vol. ii, No. 3, 1897, says "This condition of anæmia, in connection with the withdrawal of external stimuli, causes a depression of the psychical processes in the brain cells, below the threshold of consciousness. The fall of blood pressure is due, in the first place, to a relaxation of tone in that portion of the vasomotor centre controlling the skin vessels. The immediate cause of normal awaking, on the contrary, is found in the augmented flow of blood to the brain that follows upon the gradual constriction of the skin vessels as the vasomotor centre recovers its tone. The periodicity of sleep is therefore directly connected with a rhythmic loss and resumption of tone in the vasomotor centre, etc.

"Throughout the waking period the vasomotor is under continual stimulation, and is therefore in continual activity. Sensory impulses, especially from the skin and the cutaneous sense organs, are at all times falling into the central nervous system in greater or less quantities, and through a reflex pressor action on the vasomotor centre these sensory impulses keep up a constant activity of the centre, particularly of that part controlling the skin vessels, as is indicated by the striking effect of such stimuli upon the volume of a limb when measured plethysmographically. Mental activity in all its forms is accompanied by a similar pressor effect upon the vasomotor centre, which is likewise known to affect the skin circulation. During the waking hours, therefore, the vasomotor centre is in uninterrupted activity, and the result must be the production of a condition of fatigue in this centre proportionate to the amount of stimulation. If the fatigue is sufficiently pronounced, the centre will relax and sleep ensue in spite of even strong sensory or mental stimuli. If the fatigue is less marked, as is normally the case at the end of a waking period, adequate relaxation takes place only after the withdrawal of sensory and mental stimuli, and our voluntary preparations for sleep consist essentially in devices to minimise these stimuli. That the vasomotor centre is susceptible to fatigue the author has shown to his own satisfaction by experiments consisting in the continuous stimulation of sensory nerves (sciatic) in curarised and narcotised animals. The great rise of blood pressure that results from such stimulation soon passes off more or less completely, and that this result is owing to fatigue of the centre rather than to fatigue of the muscles in the walls of the blood vessels is indicated by the fact that the blood vessels in the ear of a rabbit may be kept in a condition of strong contraction for a long period (over an hour at least) by constant tetanic stimulation of the peripheral end of the cervical sympathetic nerve."

Whatever the exact cause of sleep is, at all events it seems to be proved beyond doubt by Mosso and others, that during normal sleep there is cerebral anæmia with corresponding vascular dilatation of the skin, and in directing our treatment in many of the forms of insomnia we should take cognisance of the fact, and whether we agree with Bayliss and Hill, that the brain vessels themselves possess no vasomotor fibres and that the volume of circulation through them is regulated by the variations of arterial pressure in other parts of the body, or believe with others, that vaso-motor fibres exist in these brain vessels, it makes no difference in the way of treatment. Germain Sée's classification of insomnia seems to be very generally adopted, and for those who are not familiar with this I might say that it is as follows:—

1, Dolorous; 2, digestive; 3, cardiac and dyspnœal; 4, cerebro-spinal and neurotic (general paralysis, acute and chronic mania-hysteria-hypochrondiasis); 5, psychic insomnia; 6, insomnia of physical fatigue; 7, genito-urinary; 8, febrile and autotoxic; 9, toxic.

It is beyond the scope of this paper to discuss the diagnosis of insomnia in general, but it is with the cases coming under the heading cerebro-spinal and neurotic we are chiefly concerned; and in regard to these there is the greatest difference of opinion as to treatment. Long ago, when a student under the revered Dr. Joseph Workman, it was pointed out to me that in the so-called cases of cerebro-spinal and neurotic insomnia there was little to hope from the protracted administration of hypnotics, sedatives, and narcotics, but, on the contrary, we might look for results the opposite of satisfactory. In those days chloral and bromides were the fashionable remedies, and chloral claimed its victims by the hundreds, and nearly every case of acute mania admitted to the wards of the hospital had been given chloral to excess, with most harmful results. In a general way the conclusions reached by Dr. Workman were quite correct, although capable of certain modification, and possibly, as pointed out by Brush, of Shepherd Asylum, the great danger in all of these cases is the routine practice of giving hypnotics in insomnia. Those of us who have been in the habit of receiving large numbers of acute cases of insanity for treatment have had ample opportunity to form well-defined opinions on this subject, as the general practitioner seems forced, when there is delay in obtaining admission for a patient to an institution for the care and treatment of such cases, to adopt the routine administration of hypnotics, not only with the hope of cure, but also as a means of keeping a restless patient quiet. We are all alive to the fact that in a sense loss of sleep is more quickly fatal than loss of food. This point has been well illustrated by Dr. Manassein, who has shown that while dogs could be saved after twenty or twenty-five days' starvation, absolute loss of sleep for 96 to 120 hours was certainly fatal. While in the former case the brain was almost normal, in death from loss of sleep it was the predilection spot of severe and irreparable lesions. Sée noted also rapid fall of temperature (6° to 8° C.) below normal, slowing and weakening of reflexes, disease of red blood corpuscles, stagnation of white corpuscles in lymph channels, capillary hæmorrhage in brain, and an abnormally dry and anæmic state of the spinal cord. Whatever may be the cause, the disorders of sleep play an important part in the genesis of nearly all cases of acute mania, and every alienist is sufficiently alive to the fact that a few hours of normal sleep are of more importance to his patient than anything else. These few hours of normal sleep generally mark the first step towards recovery, and it is

during these hours that the over-wrought nerve cells make their first effort at repair. Cytothetic changes commence, and very frequently go on, under judicious management, until complete cytothesis is established. Now, how shall we secure normal sleep, or even an approach to normal sleep, in such patients? In private practice, without the aid of skilled and capable nurses, the question is oftentimes unanswerable, and we are perforce driven to the adoption of methods we should be quite willing to avoid under more favourable circumstances. We have our choice of a long list of drugs, ancient and modern, and in this day of chemical marvels very few months pass without a new claim for the discovery of a perfect hypnotic. It is interesting to turn up the back numbers of medical journals and read of the discovery of the numberless hypnotics, each just a little better than the one previously added to the list, and each with its band of enthusiastic admirers, willing to add testimony to the virtues of the drug. I am afraid that I cannot claim to have gone thus far in life without little enthusiasms of my own for promising drugs, enthusiasms developed by some favourable results; but in the end there has been disappointment in the search for the hypnotic panacea—chiefly, I fancy, because it is difficult to find any particular drug likely to meet all the physiological requirements. If, as is claimed by Maurice de Fleury, attacks of insomnia are generally caused by either increase or decrease of arterial pressure, the failure of one particular drug to meet all cases can easily be understood.

In the sleeplessness associated with acute mania, drug treatment is at times extremely valuable in the early stages, but my experience has been that, if marked beneficial results do not occur almost at once, they will not appear at all, and harm will result from the drug treatment. It is doubtless true that some of the modern hypnotics are better than others, and the value of these in particular cases will no doubt be brought out clearly by those who follow me in this discussion; but I am strongly impressed with the advisability of substituting other treatment when possible, such as effusions easy of application, massage, etc. Without drugs and by simple physical means it is easy in many cases to restore normal arterial tension and cause sleep. In the insomnia of acute mania the warm bath is oftentimes of the greatest value. Our custom is to use water at a temperature not exceeding 104° F., and this is continued for twenty minutes or more while cold applications are made to the head. The bath at 104° F. is certainly much safer than one at 110° F. as advised by some authors, and there is less danger of inducing collapse, a danger never absent in a case of mania. Of course the warm bath is contraindicated where heart failure is threatened or where organic heart trouble is present. Those who have seen excited patients actually fall asleep in the warm bath can easily believe in its advantages. Its good effects can be understood when we study the physiology of sleep, and the whole procedure is devoid of the objection which so frequently applies to drugs, namely, that the bodily functions, particularly the assimilative powers, are impaired. That this frequently occurs with the continued administration of hypnotics has been proved time and again.

The danger of collapse during or after the administration of hot baths has been referred to; but certainly it is greater than to be feared from even such apparently innocent drugs as trional and sulphonal. Van Schaik states that trional has no inhibitory action upon the secretions, seems to possess a stimulating effect, is well borne by the stomach, is easily absorbed by the rectum, and does not produce unpleasant after-effects. It certainly possesses many virtues, but at times is borne very badly, and a case of poisoning recently reported would go to show that even trional is not always safe. In this case 20 grs. had been given daily, and as a result there were hebetude, ataxia, tremor, transposition of words, psychic depression, and weakness and incontinence of urine. In my own experience I have seen unpleasant results follow the administration of even small doses of trional. Perhaps I have laid too much stress on sleeplessness in acute mania, but to my mind it is a very important subject and so frequently defies routine treatment. Sometimes, too, it is surprising how quickly the sleeplessness yields. Within the last few weeks I have seen persistent insomnia in a maniacal case in which there was extreme restlessness give way before nothing more complicated than rest in a hammock slung under shady trees all day long.

Sometimes the time-honoured cup of hot milk at bedtime induces the sleep habit, and where a stimulant is indicated a hot toddy is oftentimes worth a dozen doses of choral or its equivalent.

Insomnia occurring in neurasthenia is possibly one of the most difficult and unsatisfactory forms to deal with, but a study of the arterial pressure at the radial pulse will almost invariably show that in this condition the pressure is lowered. In many cases, as suggested by De Fleury, where the patient with asystole cannot sleep, it is because the arterial tension is low. If his feeble heart is strengthened with digitalis sleep is possible. In many cases one can substitute the dynamic agents, massage, frictions, douches, and transfusions, and at the same time caffeine and digitalis can be employed as heart tonics. It is with the neurasthenic cases the amateur doctors who exist in every community have their most satisfactory experiences in the way of suggestive lines of treatment as unique as they are absurd. In the British Medical Journal, September 29th, 1894, we find a clipping from the *Glasgow Herald* in which one of these cures for sleeplessness is recommended. It is as follows:—"Soap your head with ordinary yellow soap; rub it into the roots of the brain until it is lather all over; tie it up in a napkin, go to bed, and wash it out in the morning. Do this for a fortnight. Take no tea after 6 p.m." The Journal advises following the directions about the tea and leaving the instructions regarding the soap as a last resource. Insomnia is one of the diseases of civilised life and exceedingly common among the highly intellectual and brain workers. It is a condition which may be cultivated and sometimes may certainly be called a bad habit, for after all, as pointed out by A. W. McFarlane, of Glasgow, habit plays a very important part in the development of some forms of insomnia. Sleeplessness, he suggests, may arise in persons in health from bad habit alone. Nurses often suffer in this way. They sometimes curtail their sleep unduly to find, when their services are no longer needed, they cannot sleep. Their brain cells have acquired the bad habit of maintaining the activity when they ought to be reposing.

It is a simple matter to give advice to those who have acquired the sleepless habit; it is difficult for them to follow it, for sometimes the very attention that is directed to the bad habit makes it worse. We are told that a good sleep habit should be sedulously cultivated by falling asleep without delay immediately after retiring. We cannot sleep if we continue to think, we are told. The tossing restless one says, "Tell me how to avoid thinking when in bed, and I will follow your advice." Some men are so harassed during the day that they are driven to do their thinking in bed, but it undoubtedly means burning the candle at both ends. For these over-wrought and oftentimes nervous people I have found a glass of hot milk on retiring useful in some cases, in others half a pint of bitter ale answers every purpose. Oftentimes, too, it is necessary to arrange the patient's diet on a physiological basis. I agree with Dr. McFarlane that regularity in the habit of retiring is of more importance than going early to bed, and certainly when one who has suffered from insomnia has succeeded in overcoming the bad sleep habit he should be slow to endanger his health and happiness by doing anything likely to induce insomnia again.

Change of air is extremely valuable, and for most people of nervous type an outing under canvas in the northern woods of Canada is a sleep producer of the most remarkable kind. I have seen men haunted for years by the demon insomnia go to these woods, and while there develop a sound sleep habit which added years to their life. After the first night at camp sleeplessness is almost unknown. Personally I prefer advising almost anything rather than drug treatment in the common forms of insomnia, and feel satisfied that we are playing with fire when we resort to the use of hypnotics, except as a temporary expedient. Of course, we should not forget in these different forms of insomnia that sleeplessness is frequently something more than a bad habit: it is a symptom of other trouble, and it is necessary to discover and treat the underlying cause.

If neurasthenia is to be regarded as one of the autotoxic diseases—and there is abundant evidence to support this view—in all probability the effect will disappear with the

removal of the cause. The same remarks apply to all of the cases of insomnia resulting from toxæmia; and when we get clearer light on autotoxis than we have at present no doubt it will be a simple matter to improve our methods of treatment. In neurasthenia autotoxis will admirably explain the etiology of the disease, as has been pointed out by Van Giessen and others. With insomnia accompanying surgical operations I have had little experience, but the subject has been deemed worthy of a good deal of attention by those who have had ample opportunity to observe.

G. G. Van Schaick concludes that insomnia, from whatever cause, is an important complication of surgical disorders. Its relief is necessary for the comfort of the patients, improves the prognosis, and naturally assists recovery after operations. Where pain is the chief factor morphine is the only drug that will relieve with certainty, although there is a strong feeling in favour of the use of trional.

In a general way, then, I may say that many writers are impressed with the belief that in the majority of cases of insomnia drug treatment is to be avoided, if other more simple methods of inducing normal sleep are found successful. Certainly the simple methods should be tried before drug treatment, and in any case the condition of the arterial pressure should be carefully studied and noted before any line of treatment is decided on.

II.—Reynold Webb Wilcox, M.A., M.D., LL.D.,

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The treatment of insomnia is the treatment of a symptom; an important symptom, it is true, but still it is a symptom. I am in thorough accord with Patrick[1] when he says: "Insomnia is the result, not the cause, of cerebral affections, and it does not give rise to organic disease. It may be the earliest manifestation of otherwise latent brain disease, and the conscientious physician will search this out and treat it; not attempt to avert some indefinite and vaguely threatened disaster by attacking the insomnia." As for its relationship to other pathological conditions we know that it is a symptom of various habits, for example, alcohol, coffee, tobacco. Here prevention is essential, and hypnotics are only temporarily necessary. If study or business are taken into the hours of sleep, this insomnia, truly a simple insomnia, is to be treated antipathically—the habit of sleeping must replace the habit of sleeplessness. Measures other than drugs are required. If sleeplessness is the result of pain, another symptom, the cause of the latter must be sought out and relieved, either by the cause being removed, or if this is impossible, a narcotic, not a hypnotic, is indicated. If there are circulatory disturbances the condition of the heart and blood vessels needs investigation and hypnotics have but a temporary use. Should the patient be afflicted with goutiness—and Ewart deserves our thanks for coining a useful term—quite likely sodium phosphate, sodium salicylate, piperazine, or uricedine in this instance will prove to be a valuable hypnotic. Again, if we are dealing with kidneys in which arterial degeneration has taken place, systemic blood vessels are contracted and the wall of the left ventricle is thickened, the nitrites may relieve the insomnia. In the anæmia, or rather hydræmia, of the young woman, iron in organic preparation will be a true soporific. Instances might be multiplied.

It is essential that we have at our disposal safe, reliable, and pleasantly acting hypnotics. Sleep is as essential as food; the organism cannot dispense with either. They are of nearly equal importance. There is scarcely a morbid condition of which the prognosis does not become markedly worse if insomnia supervenes. Just so far as impaired nutrition militates against cure so far sleeplessness becomes an important factor.

Drugs alone are not sufficient; the cause of the symptoms having been ascertained and, if possible, removed, physical therapeutics should be employed. That portion of the subject has been entrusted to one thoroughly competent, both by education and experience, to present it. When all has been accomplished that is possible from hygienic and physical measures there yet remains an important place which drugs, and drugs alone, can occupy. The drug treatment of insomnia is well worth our careful study. Routine prescribing is utterly indefensible; equally so is the reckless administration of drugs. Insensibility is not sleep. The question is not "how large a dose can the patient survive?" but "how little of the drug will produce a sleep closely approximating the normal, and what remedy will give rise to the fewest and most insignificant after-effects?" We desire sleep-persuading not sleep-compelling drugs.

The Mode of Action of Hypnotics.

To possess an accurate knowledge of the action of hypnotics it is evident that we should have at our disposal a complete theory of the sleep phenomena. A very cursory reading of the existing works upon physiology demonstrates that this is not the case. If they treat of this subject at all—and some do not in any satisfactory way—it is dismissed after a brief reference to the theory of cerebral anæmia as a causative factor. That anæmia alone is entirely inadequate to explain the phenomena of sleep is evident after even a superficial consideration. With few and unimportant exceptions, the fact that during sleep the brain is anæmic is admitted; the relation of anæmia to sleep is a problem which has occupied the minds of many investigators. As we come nearer to this relation we are likely to reach a clearer understanding of the sleep phenomena. That cerebral anæmia is not caused by constricted blood vessels is evident, else we should have somatic evidence of such constriction as would be shown by pallor.[2] Besides, the probability that cerebral blood vessels are deficient in motor nerves is also evidence against this theory. That cerebral anæmia alone cannot cause sleep is evident when we consider what happens after a severe hæmorrhage, producing a true cerebral anæmia, when wakefulness, not sleep, is a marked symptom.[3] That there is a definite relationship between the circulation in the brain and general arterial pressure is evident from the work which had been done since 1887 by Gaertner and Wagner,[4] Roy and Sherrington,[5] Bayliss and Hill,[6] and finally by Renier and Schnitzler,[7] and that there is an enlargement of the limbs during sleep was shown by Mosso,[8] as early as 1881 by his plethysmographic experiments. When we consider, as was mentioned above, that it is probable that the blood vessels in the brain possess no motor fibres, the importance of these observations becomes evident. The recent conclusive experiments of Howell[9] making use of the plethysmograph must be interpreted as indicating dilatation of the blood vessels of the arm, and this probably due to relaxation of the tone of the cutaneous vessels. This appears to be convincing, despite the objection of Meltzer that this dilatation might be due in part to relaxation in the tonicity of the skeletal muscles during sleep. The observations of Howell have been conducted with such care that his theory of the immediate cause of sleep merits quoting at some length. It lies in a vascular dilatation (of the skin) that causes a fall of blood pressure in the arteries at the base of the brain, and thereby produces an anæmic condition of the cortex cerebri. This condition of anæmia, in connection with the withdrawal of external stimuli, causes a depression of the psychical processes of the brain cells below the threshold of consciousness. In addition to the effect of the cerebral anæmia, an accessory favouring condition may be found in a certain degree of fatigue of the parts of the brain mediating psychical processes. Portions of the sensory and association areas of the cortex must be active during the greater part of the waking period, and probably therefore lose their irritability to a greater or less extent. Upon the withdrawal of the normal blood supply their irritability will tend to fall more quickly below the threshold of consciousness in consequence of this fatigue. According to Howell, then, the three factors which combine to produce normal sleep are: (1) A diminution of irritability, caused by fatigue, of large portions of the cortical area; (2) voluntary withdrawal of sensory and mental stimuli involved in the preparations for sleep; (3) the above described diminished blood supply to the brain. Substantially the same theory is advanced by Hill,[10] save that, for him, the cerebral anæmia is brought about by relaxation of the tone of the splanchnic area which reduces general arterial pressure and correspondingly reduces the venous; the latter factor tends to retard the flow of blood through the brain. As Howell very properly remarks, it is possible that there is a lessened volume of blood

in the vessels of the viscera, but this requires experimental evidence before we accept it as a fact. So much for the circulatory theories. It will be admitted, I think, that various general measures based upon these theories, notably the use of baths, may tend toward the relief of insomnia; that they do not materially aid us in assigning the mode of action of drugs is true.

The chemical theory of sleep, whether we take into consideration that of oxygen as advanced by Sommer,[11] or of the lactic acid of Preyer,[12] or of the catabolism which results in combined oxygen and carbon (CO_2) of Pflüger,[13] and in advance but a step to Cappie,[14] who believed that there was (1) diminished molecular activity of the cerebral cells coincidently with capillary anæmia of the brain, and consequently (2) that the brain occupied less space. These statements, taken in connection with the studies of Hodge,[15] twenty years later, which demonstrated that cell volume and contents diminish after fatigue, bring us nearer a working hypothesis for the action of hypnotics.

The theory of the neuron, as advanced by Rabl-Rückhard[16] in 1890, in a far too brief paper, opened up great possibilities in neurological theory and practice. These Lépine[17] and Duval[18] embraced apparently independent of each other, and Azoulay[19] added a short contribution. Due honour should be accorded to Ramon y Cajal,[20] who demonstrated motility in nervous structures, and although Dercum[3] traverses some of his conclusions, yet he leaves the matter in a very satisactory condition. Whatever may the ultimate fate of this theory, it explains far better than any previous one many physiological phenomena. For him sleep is explained in a very simple manner: "The cortical cells in the motor area have processes extending toward the surface—dendrites—and a protoplasmic process extending downward through the white matter of the brain, the internal capsule, the crus, the pons, the medulla, and into the spinal cord, where it terminates in a brush-like extremity—the end tuft. Here it has a certain relation with the motor cells in the anterior horn of the cord—probably one of contact, though that is not definitely known. If the nerve cells retract this contact is broken; if the abnormal contraction of the nerve-process is relieved for the time being, contact once more takes place." Evidently, if the neurons are functionally active, their dendritic processes must be in contact; without this, consciousness is impossible. When the nerve cells are exhausted by fatigue, there is every reason to believe that their volume shrinks, and it is, therefore, more and more difficult for them to remain in contact. When relaxation comes, the processes retract and unconsciousnoss, that is sleep, supervenes.

From this hasty sketch of the various theories of the sleep phenomena it seems fair to conclude that from the direct action of substances introduced into the circulation, the neurons retract their processes, and, for a shorter or longer time, sever their relations one with another, and that during this severance consciousness is abolished and sleep supervenes. In starting from this point we should not underestimate the value of the labours of those quoted in this paper, but give them due credit, because it is only through them that we have come to a working theory. The question now arises as to what drugs influence the protoplasm of nerve cells so that this retraction may take place.

As was pointed out by Leech,[21] the alcoholic radicles (alkyls, C_nH_{2n+1}), of which methyl ($C H_3$) and ethyl ($C_2 H_5$) are familiar examples, depress the functions of the higher cerebral centres, and that chlorine, among other elements, tends more than the alcoholic radicles to depress the functions of the lower centres. It is very probable that the true explanation of their action is that it is upon the protoplasm in the way of causing the dendrites of the neuron to contract, and as a result sleep is induced. That anæsthetics are protoplasmic poisons chloroform ($C H Cl_3$), a chlorine compound, furnishes evidence. Binz[22] many years ago demonstrated that morphine produced alterations in nerve cells which reminded him of those caused by the action of quinine on the white blood corpuscles. Besides, according to Ehrlich, such changes produced in nerve cells would tend to lessen functional activity, and a diminution of alkalinity by the products of tissue waste would also lessen oxidation in the brain cells by contracting the protoplasm at the same time that the changed reaction lessened their affinity for oxygen. According to Binz, chlorine, amongst other elements, is a hypnotic because it tends to increase the formation of acid (diminishes alkalinity) in the nerve cells. Since it is admitted that a combination of the alcohol radicles with chlorine increases the hypnotic action of the former, it seems fair to conclude that not to one factor but to both should be attributed the fatal effect of a drug; that each has a share in producing the end result. Experience has shown that the particular combination of alcohol radicle and chlorine gives increased hypnotic power, but as well presents the disadvantage of seriously depressing the circulatory and respiratory centres in the medulla. Inasmuch as King has demonstrated that the amide radicle ($N H_2$) stimulates just when this combination depresses, we have a leading suggestion as to what should be the composition of a chemical hypnotic.

Since the possibilities of carbon combinations are practically limitless, we may justly expect that a synthetic compound shall be produced which shall be a protoplasmic irritant without being a poison, which shall act upon the most highly developed tissue—the nervons—and upon the higher centres to a greater extent than upon the lower centres at the base of the brain, and that it shall be of sufficient molecular weight that its effects shall be fairly durable.

The Value of Individual Drugs, especially the Newer Hypnotics.

It is not, I think, profitable to go over the familiar ground of the somnifacient powers of opium and its alkaloids—morphine, narceine, and cadeine. Undoubtedly it is of all drugs the most certainly hypnotic, but we should hesitate before we employ a remedy possessing such varied powers for good or evil in order to obtain a single physiological effect. The dangers of habituation are too great, the untoward effects too numerous to permit of this save as a last resort. Even if these facts were not sufficient, the use of morphine in the last decade of the nineteenth century as a hypnotic seems to be a confession of paucity of resource not to be expected in these days of drug-plenty. Of the salanaceæ the alkaloids hyoscyamine, hyoscine, and scopolamine seem to possess a peculiar usefulness in the treatment of the insomnia of the insane, especially of those conditions characterised by excitement. All present various disadvantages, require rapid increase of dose, and are by no means ideal hypnotics. Of the urticaceæ the constituents of Indian hemp, cannabinin and cannabinon, are rather narcotic than hypnotic, and this is also true of piscidin, from Jamaica dogwood or the leguminosæ.

There is, however, one drug of vegetable origin which should occupy our attention for a moment. This is an alkaloid by name pellotin, which is obtained from the Anhalonium Williamsii, commonly known as pellote, a cactus found in Mexico. The alkaloid, which is isolated from the crude drug to the amount of 0.74 per cent.,[23] occurs as a colourless, amorphous, intensely bitter powder, of slight solubility in water, but readily in alcohol, ether, and chloroform. Its chemical formula is $C_{13}H_{21}NO_3$. The chloride crystallises readily, is extremely soluble in water, and, since it does not produce local irritation, can be administered hypodermically. Heffher,[24] in his experiments upon frogs, found that slight narcosis followed its injection in from ten to fifteen minutes. The reflexes were somewhat diminished, and strong irritation was necessary to obtain response. After twenty or thirty minutes there came a distinct increase of reflex irritability, followed by spasms, recalling those of strychnine tetanus. This period of increased excitability of the reflexes may continue with undiminished intensity for several days. If large doses are now administered this condition sooner or later passes into one of complete paralysis. The irritability of motor nerves is destroyed only after long periods of spasm, and it is likely that there is induced an increased excitability of the spinal cord. A personal experiment demonstrated that the pulse-rate is diminished for about an hour, drowsiness is marked, and sleep supervenes about two hours after its administration, preceded by a feeling of weariness, weight of the limbs and eyelids, and disinclination to bodily and mental exertion. The drug is probably excreted by the kidneys; at least, a small quantity

of it can be detected in the urine. Pilcz[25] has employed this remedy in fifty-eight cases, generally in the dose of one-third of a grain, although it is best to use one-half of this quantity on first trial. He deemed the result to be satisfactory if the patient fell asleep in from one-half to one and one-half hour after injection, which was made at nine in the evening, and remained asleep during the entire night. In one-half of these cases the result was satisfactory, in over 29 per cent. the result was moderate, and in nearly 21 per cent. failure ensued. Jolly,[26] in an experience covering forty cases, found in one-half of these that when given during the day one-third of a grain caused languour and sleepiness in quiet patients, but usually this was obtained only after three-fifths to grain doses, which caused several hours' sleep within one-half to one hour after their administration. In excitable and delirious patients these doses were insufficient, and even two grains would not produce sleep, but merely calmed the patient for several hours. In the second half of his cases, when administered in somewhat larger doses in the evening obtained very satisfactory results. Save some slowing of the pulse, giddiness, and restlessness before sleep in a few instances, and rarely similar results upon awakening, there were no untoward symptoms produced by the drug. Pilcz, however, reported that heaviness of the head and nausea had been sometimes observed. Jolly found that patients suffering from painful affections (tabes dorsalis) slept, but that their pains returned on awakening. Quite recently Hutchings[27] reports four cases in detail among the eleven who received over 100 administrations with rather favourable results, although in several instances it seemed to have no effect in moderate doses. The sleep produced was singularly calm and natural, and the patients could be readily aroused. No unpleasant after-effects—as headache, nausea, or coated tongue—was observed, and the patient awakened calm and refreshed. If the drug is given in the morning two or three hours' sleep may be obtained, but when administered at bedtime it is much longer, and may last during the entire night. It does not affect the appetite nor influence the secretions. When the drug was given in full doses it had a tendency to cause vertigo, but this was only noticed when the patient was not in a recumbent position. In no instance, however, was this symptom severe enough to call for treatment. Jolly seems to believe that one grain is the proper dose, and one not likely to be followed by any ill-effects. Should further observation confirm the results of these observations I am of the opinion that we have in pellotin an addition to our therapeutic resources which is of real value.

We need not delay to consider those substances of inorganic chemistry of reputed hypnotic properties, as for instance the bromides. At times they are useful, it is true, but as it has always seemed to me by their soothing action upon the general nervous system, by shutting out external sources of irritation, as does a door, which closed, keeps out disturbing sounds. We come now to the carbon compounds which will be separated into series the members of which closely resemble each other.

I.—Oxygen Derivatives of the Hydrocarbons.

(1) *Alcohols.*—The only alcohol which interests us as a hypnotic is amylene hydrate (di-methyl-ethyl-carbinol) which was introduced by Von Mering in 1887. From this drug of low specific gravity (815 to 820) we should expect speedy and not very lasting effects, and this is the result of experience. In drachm doses dissolved in an ounce of water (it will float upon water if there is an insufficient quantity of the vehicle) or, better, given in a glass of Burgundy, its administration is not difficult. Sleep is likely to follow in from one-half to one hour, and last from six to eight hours. It is rather more efficient than paraldehyde, acts more quickly, and in ordinary doses produces none or trifling ill-effects, but patients readily become habituated to it, and no results can be obtained. In several instances of failing heart muscle I have succeeded in giving the patients needed rest, but in all it became necessary to seek for another remedy.

(2) *Ethers.*—Methylal (methylene-di-methyl-ether) has been in use since 1868 for various purposes. It was chiefly through Persovali that it became known as an hypnotic. This is also of low specific gravity (855) and like amylene hydrate it acts quickly but does not yield so many hours of sleep and even more rapidly establishes an habituation. From one-half to one drachm doses in water or syrup I have seen some brilliant results follow its use in delirium tremens, but quite as frequently failure follows.

(3) *Aldehydes.*—(*a*) Probably paraldehyde, introduced by Cervello in 1882, is the most reliable of this group which includes some derivatives. This is of higher specific gravity (.998) and its effects are more durable. It is best given in from one-half to one drachm doses dissolved in glycerine, or nine parts of water. Its first taste is not unpleasant, but it produces a most disagreeable and lasting odour in the breath. It does not cause much circulatory depression, but like all aldehydes it irritates the intestinal and respiratory mucous membranes. In fact it is "wonderfully innocuous" as Aitkin[28] puts it, but if it fails to produce sleep it acts as an excitant. And further dangerous symptoms have followed its use as Whitaker[29] and others have shown. On account of its disagreeable after-effects we should not expect a habit to be formed, yet quite recently several instances have been reported of delirium tremens resulting from the habitual use of this drug. While this remedy may be useful in simple insomnia or as a temporary help toward forming a sleep habit my own experience leads me to make use of it with comparative infrequency.

(*b*) Undoubtedly the most popular hypnotic is chloral (chloral hydrate), and it is one of the oldest, having been introduced by Liebreich in 1869. It is the one in respect to which a habit is most frequently formed and from my observation this is prevalent among the clergy. From its high specific gravity (1502) we have a comparatively durable action, and from its ready solubility in water (less than its own weight) early effects (ten to fifteen minutes). On the other hand while in from ten to twenty-grain doses it is an efficient and ordinarily safe hypnotic, the large number of instances of poisoning, accidental or not, warn us that this drug should have a limited use. The great danger arises from its depressant action upon the circulatory apparatus, which frequently cannot be properly estimated and what is greater, the danger of the formation of the habit, which should always be borne in mind. Personally I feel that with the exception of an insomnia occurring in an individual whose heart is hypertrophied and upon whose arteries its vaso-dilator effects are important, and whose kidneys present the condition commonly known as chronic interstitial nephritis, none other demands the use of chloral.

Of substitutes for chloral, butyl-chloral and chloral-ammonium have been so infrequently employed that they need not detain us. The depressing effect of this drug upon the heart has led to the insertion of various radicles which would obviate this difficulty.

(*c*) The most successful result is seen in chloral foramide (chloralamide), when the amide radicle (NH_2) evidently lessens the dangerous effect of chloral upon the heart. Introduced by von Mering in 1889, this remedy has received attention from Sympson,[30] Egbert,[31] Marcus,[32], Reichmann[33] and others. It is rather slowly soluble in cold water, but quite readily in alcohol; heat and alkalies, however, decompose it. Its slightly bitterish taste is best disguised by the use of brandy and elixir of orange or tincture of cardamom as a vehicle. A safe dose is 30 grs. given as above, and single doses of double this quantity are not excessive. Sleep does not appear so quickly as with chloral, but it is quite as certain and lasting; the awakening is calm and without headache. Its dangers are insignificant. After it has been used for a month the dose must be increased; the nutrition does not suffer. I believe that a habit is acquired with difficulty; but one instance has come under my observation, and the cure was readily secured within a month. We can assuredly state that this remedy has long passed the experimental stage, and to-day it should be classified among our safest and most satisfactory hypnotics. It is particularly useful in the insomnia resulting from excessive mental activity (Collins[34]), and, I believe, the safest of the hypnotics for the insomnia of patients suffering from cardiac disease.

Of chloralose (anhydro-gluco-chloral), introduced by Henriot and Richet[35] in 1893, I can record little but disappointment. It was that in a small dose, 3 to 8 grs., given in capsules on account of its insolubility and bitter taste, we

would find a valuable substitute for chloral. Schnirer[36] and Fleming[37] added to our knowledge of the drug, but the adverse reports of Williams,[38] Bardet,[39] and Touvenaint[40] left no doubt but that it was too dangerous for ordinary use. In a few instances collapse followed the exhibition of a large dose.

(*d*) Another drug of very doubtful utility is hypnol (monochloral antipyrin), in all probability a mixture which was introduced by Bordet. This was proposed by Filehne as an hypnotic in from 15- to 30-gr. doses dissolved in water, which gives a tasteless solution. It seems to possess very feeble hypnotic power, and in the few instances in which I have employed it failures were the rule.

(*e*) The last aldehyde to be mentioned is hypnone (acetophenone), introduced by Dujardin-Beaumetz in 1885. When liquid it is colourless or slightly yellow, of a specific gravity of 1032, and has a decidedly unpleasant taste. It should be given in from 2 to 4-drop doses in capsules. It is likely to disorder digestion and impart an offensive odour to the breath. I have administered this drug but rarely, and never successfully.

II.—Sulphur Derivatives of the Hydrocarbons.

Sulphones.—Sulphur alcohols and ethers differ from the corresponding oxygen derivatives in their being able to combine.

(*a*) Sulphonal (di-ethyl-sulphon-di-methyl-methane) was introduced by Kast in 1888. This occurs as colourless, odourless, nearly tasteless prismatic crystals, which are soluble in about 500 parts of cold water. After a dose of from 7 to 30 grs. sleep, lasting several hours, follows in two or three hours. After large (drachm) doses mental hebetude and symptoms resembling paralysis supervene. Its marked insolubility would lead us to anticipate a slow action, and in practice the time above stated is generally prolonged so that frequently sleep does not take place until the following day. To obviate this the drug should be finely powdered and administered in hot bouillon or milk three or more hours before sleep is desired. The reports of Johnston[41] and Fürst[42] are generably favourable, while the fact that exanthemata appear after its use has been noted by Walters[43] and Taylor,[44] among others. Of much more importance is the occurrence of hæmatoporphyrin in the urine after its use. This has been noted by Garrod and Hopkins[45] as a normal constituent, in traces, but found in much larger quantities after continued use of the drug. Abdominal pain and vomiting are the usual symptoms ending in fatal collapse. Harris, Anderson, and Nolan have furnished histories of three fatal cases in women who had taken this drug for long periods. Hot fluids are said to diminish the tendency to hæmatoporphyrinuria. Or the drug may be given only every second day. Even its careful administration may result in heavy and dull feelings, unsteady gait, headaches, nausea, and vomiting. In view of the uncertainty as to the dose or length of time required to produce serious symptoms, and the prevalence of the sulphonal habit among the laity, it is the duty of the careful physician to discourage as much as is possible the use of this drug.

(*b*) Trional (di-methyl-sulpho-methyl-ethyl-methane) was introduced by Barth and Rumpel[46] in 1890. This occurs as colourless and odourless crystals which dissolve in about 320 parts of cold water, forming an almost tasteless solution. The remedy is effective in doses of from 7 to 30 grs. given one to two hours before sleep is desired. It gives rise to but few after-effects, and these of less importance than those of sulphonal. Vertigo and nausea, as well as *malaise* and formication in the limbs, have been noted by Spieglitz.[47] The reports of Collatz,[48] Vogt,[49] Goldmann,[50] Hewitt,[51] Mattison,[52] Randa,[53] Mabon,[54] Brie,[55] and Boettiger,[56] are representative. This remedy is more prompt in its action than sulphonal; although its solution is slightly bitter it is more readily taken; the resulting sleep is of shorter duration, although with this we may obtain better sleep upon the second night the same dose being given. Habit is formed with considerable difficulty, although it is not unknown. Increase of dose is not so necessary as with many other hypnotics. On account of its readier solubility there is less likelihood of cumulative effects, and the danger of hæmatoporphyrinuria is not great. Yet experience has shown that in addition to the nausea and vertigo, mentioned above, headaches, slight inco-ordination, tinnitus aurium, unpleasant diaphoresis, and disturbed nutrition have been observed. Some of these may be lessened or obviated if the remedy is frequently (every five to seven days) omitted, a daily movement of the bowels insisted upon, and an alkaline water or seltzer be freely administered during the day. Instances of exanthemata and chronic poisoning are by no means rare according to my own observation and that of Hecker[57] and Young,[58] so that prolonged administration is to be avoided.

(*c*) Tetronal (di-ethyl-sulphon-di-ethyl-methane) occurs as colourless, odourless shining plates, and is somewhat less soluble than trional. In solution it is tasteless, and is administered in the same dose. Theoretically, this should be of more powerful hypnotic action because of the increased number of ethyl radicles and of slower effects. A limited experience demonstrates that it presents no particular advantages over its congener, trional.

III.—Urethanes and their Derivatives.

But two examples of this series are introduced, and but one of these, the first, is important.

(*a*) Ethyl urethane, commonly known as urethane, was introduced by von Jaksch in 1885. This occurs as colourless, odourless crystals, which are soluble in an equal part of water, but are decomposed on warming with either acids or alkalies. In dose of from 15 to 45 grs. it is a mild hypnotic and devoid of danger. Its ready solubility would lead us to expect rapid action, transient effects and easily acquired habituation, and these in practice have been found to exist. The remedy is useful when a change of hypnotics is desirable, and even then it should be considered as unreliable.

(*b*) Chloral urethane, also known as ural and uraline, is probably not a chemical combination. It is a solid which is insoluble in cold, but decomposed by hot, water. Dissolved in alcohol, it can be administered in the same dose as urethane. Poppi[59] found that it but slightly affected the blood pressure, although it quickened the pulse rate. As somnal is known an alcoholic solution of chloral urethane, which is given in dose of thirty drops. A representative report is that of Myers.[60] Both ural and its solution are intestinal irritants, are feebly hypnotic, and so far as I can learn present all of the disadvantages and none of the advantages of the substances of which it is composed.

IV.—The Amido Derivatives.

But two examples of these are known to be hypnotics, and our information concerning them is meagre.

(*a*) Methyl phenacetine occurs as colourless crystals, but slightly soluble in water.

(*b*) Ethyl phenacetine, a yellow oil, soluble with difficulty in water, but easily in alcohol, is said to be a weaker hypnotic than the preceding. The dose of neither is given by Sayre[61] and Coblentz.[62] These are merely noticed for the sake of completeness.

In this paper those drugs which have been used in recent years as hypnotics have been taken up not because all are available, but in order that we should learn what are our resources. In spite of the considerable number of drugs at our command, I cannot but feel that in all cases it is better for a patient to lose sleep for several nights, if need be, than to be forced into unconsciousness. On the other hand, in properly selected instances, we can certainly be of very material assistance to our patients by discreetly making use of hypnotics. For all practical purposes, always keeping in mind that insomnia is a symptom, after omitting the dangerous, unreliable, and objectionable drugs, we have remaining four which are amply sufficient for ordinary conditions.

Following the plan which Leech[21] employed in his most admirable paper read before the Leeds meeting of this Association, I would classify them as follows:—

1. Potency: Paraldehyde, chloralamide, pellotin, trional.
2. Rapidity: Pellotin, paraldehyde, chloralamide, trional.
3. Duration: Trional (longest), chloralamide, pellotin, paraldehyde.
4. Habituation: Pellotin (slight), trional, chloralamide, paraldehyde (considerable).
5. Safety: Choralamide, pellotin, paraldehyde, trional.

Using these drugs judiciously, I believe that in no depart-

ment of therapeutics as in this can we add so much to the comfort and well-being of the patient. On the other hand, in scarcely another can we so readily lay the foundations for temporary inconvenience and lasting detriment. Through our skill the patient can secure "tired Nature's sweet restorer," and peaceful sleep will lend assistance towards the permanent recovery of health.

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Hypnotics: Their Contra-indications and Ill-effects.

We have so little exact knowledge of the essential nature of sleep and of the precise effects of the various medicines that induce it or a somnolent state resembling it, that little more can be made than a general statement of the contra-indications to, and the ill-effects of hypnotics.

As to the nature of sleep, some believe that it is an arrest of all the functions of the central nervous system except those essential to life; others that sleep itself is a function. In either case its occurrence is probably largely due to the accumulation of fatigue products—neurotoxin—in the central nervous system. How these fatigue products act is uncertain, but probably by interfering with metabolism. The accumulation of waste products may have a paralysing effect on the protoplasm of the neuron, lessening its affinity for the oxygen of the blood, possibly by diminishing its alkalinity. As a consequence contraction of the neuron or its processes takes place. There is loss of contact of the neurons as a result of such contraction and consequently loss of function in the higher nerve centres causing loss of consciousness. In the lower centres resistance is greater, and there is only a diminution of the vital function, as shown by the slower breathing and pulse-rate, and loss of the reflexes.

Of the physiological disturbances causing sleeplessness, our knowledge is no less imperfect than that of the cause of sleep. If sleep be due to the fatigue products, sleeplessness can scarcely be due to their absence, because they must be present in increased quantities in conditions of wakefulness. In insomnia there is always disturbance of metabolism with inadequate excretion of waste products, and, therefore also, of inadequacy of nutrition. It is possible that on this account there is a loss of stability in the neurons leading to irregularity in the action of many of them in response to the stimulus of the fatigue products. That there is derangement of the functions of the neurons in sleeplessness the loss of mental power and of general physical well-being amply proves.

The loss of power of compensation in any part can be restored only by lessening the labour and improving the nutrition of the part. The treatment of failure of compensation in the nervous system is no exception to the rule. In insomnia the neurons fail to compensate for the overstrain to which they have been subjected and in their restoration all agencies which may interfere with the removal of waste products and increase of nutrition, or lessen their stability, should as far as possible be eschewed.

On theoretical grounds, then, it follows that hypnotic drugs are always contra-indicated, but in practice it is often best "to do a little wrong to do a great right."

In a general way it may be said that hypnotics should not be used in those in whom the cause of insomnia is palpable and removable. These causes may be briefly summarised as follows:—

1. Digestive derangements, whether from improper food and drink, insanitary surroundings, or from whatever cause.

In this class are to be included nearly all cases of disturbance of sleep in children in whom faults of digestion form the bulk of all their ailments.

In the adult, however, these same causes play a very, if not the most, important part in the production of insomnia, much greater than they are usually credited with. In the adult the insomnia is, however, less often due directly to the disturbance of the stomach and bowels, that is, due to a reflex cause, than it is in children whose nerve centres lack the stability of the adult, but is more often the result of the absorption of toxic agents produced by the ill-digested food in the digestive track.

2. Local irritations, such as dentition, irritable diseases of the skin, disturbance of the urinary tract. These are also most common in children. To these may be added reflex disturbances from disease of the uterus and its appendages. Eyestrain is credited with being a frequent cause of insomnia as well as other reflex disturbances.

3. Overwork and the neurasthenic condition resulting therefrom. In the majority of these cases, nutrition and excretion play the most effective part, as, with a good state of nutrition and due observance of the laws of sleep, overwork is almost impossible.

4. Anxiety and worry. These should be really included with overwork, as they disturb the stability of the cerebral cells in the same manner.

5. Toxic causes are common. Many of them result from derangements of digestion, and are included under that head. Others result from chronic disease—as gout, lithæmia, chronic constipation, and Bright's disease. With these may also be included toxæmia produced by excessive indulgence in tea, coffee, tobacco, alcohol, and the habitual use or abuse of such drugs as morphine, chloral hydrate, cocaine, etc.

6. A very important group of cases of insomnia is formed by those suffering from disturbed cerebral circulation, whether due to cardiac, renal, or pulmonary disease, or to disease of the cerebral vessels themselves. The blood supply may be excessive and vascular tension high, as in arterio-sclerosis before cardiac compensation fails; or defective and irregular, as in dilatation of the heart. While in some of these conditions the stronger hypnotics are the potent means at our disposal of giving relief, not only to the insomnia, but also to the causes of it, yet in many of them their use would be unwise, and might be disastrous.

7. In not a few sleeplessness is the result of long indulgence in pernicious habits, mental and physical, in regard to sleep, such as irregular hours, various dissipations, the conning over after retiring of the difficulties and reverses, and perhaps, the successes of the day. Such people are loth to believe how much can be done to recover the power of going to sleep at will. It is vain to retail to them the facts of Napoleon, Wellington, and Grant being able to lie down on the field of battle at any time and take a short sleep if needed. They should be encouraged in the effort, and every cause of disturbance removed and such conditions sought as will bring most composure of mind.

In the treatment of insomnia, then, our first duty is to seek out diligently and treat intelligently such obvious causes as may exist, as, to remedy digestive derangements

whether of stomach or intestines; to stop the ingestion of unsuitable food and drink; to relieve constipation; to stimulate the free elimination of fatigue products; to relieve local irritations and reflex disturbances; to stop overwork and bring the daily duty within the capacity of the worker; to relieve anxiety; to correct as far as possible all disturbances of circulation; to relieve anæmic and debilitated conditions; to secure due regard to sanitary requirements; to cultivate good habits of sleep.

In all this our aim is to remove all sources of irritation, direct or reflex, from the cerebral cells, to supply them with ample nutrition, and to cultivate healthy habits in them.

Not until these indications are met is the resort to hypnotics legitimate, unless it be to overcome a temporary difficulty; the further use of them is injudicious, if not injurious.

Unfortunately, there is a large class in whom the cause is not easily discovered nor easily removed; or it may be quite apparent and yet impossible of removal. Of such are many cases of neurasthenia, hysteria, aud hypochondria. Many of these have a neuropathic temperament, inherited or acquired. In them slight causes, mental or physical, may induce insomnia. Astigmatism may give rise to eyestrain that, though not noticed in health, causes headache or wakefulness in the debilitated condition. Or it may be some slight derangement of the digestive system that is sufficient to prevent sleep in the abnormal state of health. Whatever the cause, though it may be very trivial, judged by the standard of health, in the debilitated condition of the nerve centres it is often sufficient to produce disastrous effects. In the mental habit that has developed, its importance may be greatly magnified. There is a weakness of will power and a ready acquiescence in whatever brings temporary relief, so that the drug or other habit is easily formed and may be difficult to avoid, and, once formed, always difficult to overcome.

When, then, should hypnotics be used? In acute diseases sleep is often a necessity in order to secure such a restoration of the vital powers as to render recovery of health, or even continuance of life, possible. In sleep, general excitability of the nervous system is quieted, the action of the heart is reduced, and tissue waste is diminished, while more waste products are excreted. All this contributes to improved metabolism and renewed vitality. So that in the conditions occurring in acute disease hypnotics may be essential: the sleep obtained, although not characterised by benefit to an equal degree to that of natural sleep, yet is often invaluable. In chronic diseases the same temporary need may arise, but the use of hypnotics in the ordinary conditions of chronic disease is rarely attended by anything but evil. Of the injurious effects of hypnotics on the cells of the central nervous system practically nothing is known. Changes in the nuclei of the cells have been described; they become smaller and more homogeneous, and colour more deeply; but we know not what interpretation to put on this. While we know nothing of the histo-pathologic changes, of the physiological effects there is much known in a general way. I need not stop to detail the injurious effect of morphine, chloral, cocaine, and alcohol.

Of the continued use of the bromides, it might be pointed out that in addition to the general cachexia with loss of appetite, disturbed digestion, anæmia, loss of memory, mental apathy, and commencing paralysis and trembling of the extremities that may be developed by their immoderate use, there may occur also marked mental aberration and alarming homicidal tendencies.

Chloralose in three-grain doses has produced alarming collapse in a woman within an hour. Recovery was slow.

Sulphonal.—The administration of this drug is, even in moderate doses, occasionally followed by fatal results. The symptoms set in with abdominal pain and vomiting, scant and usually dark urine, owing to hæmatoporphyrinuria. Collapse results, soon followed by death. These symptoms may appear suddenly after the patient has been under treatment for some time, and has been benefited by the drug.

These effects have been most frequently met with in women with marked constipation. Owing to the constipation there is probably retention of the sulphonal in the system. But serious results have occurred without the existence of constipation to cause retention of the drug. Eighteen grains daily for three days has caused collapse with pallor, weak rapid pulse, anæmia, diplopia, meiosis, hyperæsthesia, and paresis, the patient being only able to walk with difficulty two weeks later.

In a woman 28 years old, the subject of melancholia and hysteria, 30 grs. given in two doses one and a quarter hours apart caused sleep for twelve hours; then she was aroused. But the somnolence increased, pupils contracted, and in forty hours death occurred suddenly.

Hæmatoporphyrinuria is supposed to be due to gastro-intestinal hemorrhage. In dogs killed with sulphonal active and passive congestion of the meninges have been found, with, in some cases, hemorrhages at the floor of the fourth ventricle.[2]

Marked congestion of the spinal cord and degeneration of the nerve cells of the anterior horns of its lower portion have also been found.[3]

It is evident that greater care is necessary in the administration of this drug than has generally been observed. The laity are coming to look upon it as a safe hypnotic, and many use it without restriction.

Trional.—Its continued use tends to give rise to various disturbances of consciousness, of speech, of hearing, and of vision, to loss of memory and to ataxia of movements in general. There may be involuntarily excretions of urine and fæces. To prevent these untoward symptoms its use should be intermitted from time to time.[4]

Paraldehyde.—This is a comparatively safe hypnotic, yet large doses of it have been followed by serious effects. Great dyspnœa and collapse have resulted in a case of chronic bronchitis from one drachm.[5] Somewhat larger doses have caused marked delirium with paresis of the functions generally, resembling delirium tremens of alcohol.[6]

The proneness to the formation of a confirmed habit is a strong reason why any hypnotic should be used carefully and with due appreciation of the needs of each individual case. And this propensity to form the drug habit is especially marked in neurasthenics, the very classes from which the cases of insomnia are most largely drawn.

In neurasthenia and in conditions of unstable nervous or psychical equilibrium, whatever develops or creates self-discipline and self-control in the patient is of great value. Such self-discipline is interfered with by hypnotics.

In some conditions the amount of narcotics necessary to induce sleep is so great that it is better to let the patient lie awake for two or three nights even than to give such large quantities.

If power of compensation be lost, it cannot be restored by any means other than by lessening the labour and improving the nutrition of the parts that have failed. It would seem eminently unfitting in such a condition to resort to medication that interferes with digestion and assimilation and retards the processes of elimination, when the hope of cure must rest on restoration to a healthy metabolism.

It is wise practice to give hypnotics rarely, and only when other means have failed; then only in the smallest dose necessary to give sleep, being satisfied with the least amount of sleep that is safe.

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IV.—R. Ferguson, M.D.,

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When I received the polite invitation of your secretary to present a paper to a section of this Society I felt that, although I should not be able to prepare an elaborate essay upon the subject, I could not do less than acknowledge the courtesy by an attempt at least to contribute something upon a subject which in our present conditions of civilisation and of work is constantly forcing itself upon the attention of practitioners, and which unless this is a very exceptionally fortunate body among brainworkers, must have not only a professional but a personal interest among a certain proportion of this gathering. Although I have been obliged for nearly six years to take into serious consideration many times almost every day the treatment of insomnia, I may as well confess at the outset that I

have not formed any peculiar theory or settled down upon any one pet plan for its treatment.

I do not think that there is any one theory of sleep or the want of it which stands the test of therapeutics, and in fact it would be as absurd to expect such as it would be to look for exactly the same pathological condition in all cases of paralysis or neuralgia. I can do but little more than give you, in perhaps a somewhat disjointed way, the results of my experience.

Of course the various theories based upon the blood supply of the brain are those which seem to offer the most secure basis for a rational system of therapeutics in this affection, especially the more chronic forms, but I do not know of any one of them all which is thoroughly satisfactory and adequate to explain all the phenomena. That the surface of the cerebral hemispheres is usually in a condition of relative anæmia in normal sleep, and also, as a natural consequence, that other parts of the body and in particular the skin, are apt to contain more than the usual amount of blood, are tolerably well-established facts. But congestion of the brain, although certainly not a condition of normal sleep, produces symptoms not very different from it, and on the other hand, cerebral anæmia, whether as a part of a general anæmia or simply local, gives rise to symptoms just as far from normal sleep as those dependent upon the opposite condition of the blood supply. It is probably just as true in insomnia as in many other visceral states, that the demands of the nervous centres regulate the supply rather than the reverse. In the treatment of insomnia, in the first place a normal and sufficient general nutrition is to be looked out for, as the basis for normal cerebral action, and, secondly, the distribution of the blood should be equalised, with the balance, however, tending rather to anæmia than the reverse, although by no means to the extreme.

The derivation of blood may be accomplished by hot baths to the feet, or the lower half or even the whole body, emphasized if need be by the addition of a little mustard. The well known expedient of a small amount of easily digestible food just on going to bed or on waking up in the course of the night, probably acts, to a considerable extent at least, by withdrawing superfluous blood from the brain to the stomach. Massage in the evening is a valuable agency in the same direction.

Another illustration of the same influence is to be found in the intense drowsiness that comes over one who has been exposed to the cold for a considerable time and sits down in a warm room in front of a cheerful fire. Cold feet are often an accompaniment of insomnia, and it is better to promote the circulation in them by alternations of hot and cold water and friction than to simply attempt to warm them by hot external applications.

There seems to be a certain medium degree of activity in the cerebral circulation necessary for normal sleep, and indeed it might be expected that this would be so. On the one hand, the activity and discharge of nerve force could hardly be prevented, while the neurons are being bathed by a rushing current of highly arterialised blood. On the other, sleep is not simply and solely a condition of exhaustion. It should be a preparation for waking activity and the occasion on which the storage of potential energy for future must for the most part take place, and of course this cannot be accomplished without a supply of nutriment to the cells.

The promotion of the general nutrition is of great value in the treatment of insomnia, especially of the more chronic forms. Sometimes it is sufficient without the introduction of any more specific measures in restoring the normal function. But people lie awake when the extremities, the skin, the viscera, so far as anyone can judge, are properly supplied with blood, and when everything seems conducive to its proper distribution; everything, that is, except the condition of the brain itself. Either an excitement which cannot be banished or an excitability which makes slight disturbances into great ones drives away repose, and an active congestion is the result of the too long continued demand upon the brain.

Cases where sleeplessness results from adequate causes—pain or extreme sensory irritations, bright lights, loud noises—are hardly to be reckoned as insomnia at all, but the line which separates the adequate from the trivial varies greatly, according to the individual and in the same person at different times. The psychical element is very distinctly shown in the great diversity of effect produced by disturbances according to the mental attitude of the would-be sleeper. A noise which he considers perfectly legitimate or for which he feels no responsibility is much less likely to keep him awake than those of another origin, though perhaps the same in quality, like the dog, who to no purpose bays the moon, or the cough for which the doctor has ineffectually prescribed, and which is constantly reproaching him for his failure. Some cases have been observed where, several of the senses being wanting, stopping up temporarily the channels of the remainder has resulted in sleep within a few minutes, but it is well known that noises to which one has become accustomed and for which one no longer waits cease to have any effect in awakening a sound sleeper. In fact, it is their cessation, and not their continuance, which acts as an irritant. It is necessary to bring the attention to rest.

It is probable that the sensible fatigue of mental labour consists not so much in the actual cerebration, the bringing together of ideas, as in forcing the work to continue in certain definite directions without regard to outside distractions.

After a time this becomes more and more difficult, and stronger and stronger irritants are necessary to retain the attention. Thus we have under normal conditions the soothing effect of monotonous repetitions, as of music or a prosy speaker. In normally going to sleep the attention, either because too much fatigued to act longer or failing to receive stimuli from without, ceases to exercise its control in co-ordinating the intelligence received from the special senses and the various departments of the brain. Cerebration dissociates itself from the recent memory and from the data of sight and hearing and feeling as they are rapidly becoming blunted. Definite thinking becomes dreaming. True insomnia, as distinguished from an interruption of sleep determined by special causes, seems to consist largely in the attention refusing more or less obstinately to surrender its directing and controlling power over the action of the brain. Perhaps the associational centres of Flechsig may, by too long continued and intense activity without rest, get into a condition analogous to that of the motor centres in chorea or writer's cramp.

The products of a partially exhausted cerebral activity, which should be allowed to float vague and purposeless, calling for an expenditure of energy much less than the nervous tissue is capable of reacquiring during the same time, are still more or less held together and intensified so that the potential energy of the nerve centres is drained away as rapidly as it can accumulate; the output exceeds the income, the patient gets little rest, and arises unrefreshed.

It may be remarked, however, that the effect of two or three nights of this form of insomnia is less absolutely and thoroughly exhausting than the same period of enforced wakefulness under great pressure, as, for instance, that of a sentry, a nurse, or an engine driver working overtime, although the latter may occasionally pass into the former, as an acute disease may pass into a chronic.

A purely experimental want of sleep produced by constantly waking the persons experimented on, although to be sure assisted as far as possible by themselves, seems to have produced singularly little disturbance in nervous or cerebral function, and to have been recovered from with an amount of sleep much less than that lost, varying from 16 to 35 per cent. In these cases, however, the mental strain in the form of anxiety or responsibility was almost *nil*, and it is not difficult to understand how the effect upon the reserve supply of nervous force might be correspondingly less. Dogs usually die after four days of wakefulness.

A plan sometimes resorted to in desperation by victims of insomnia of producing great bodily fatigue, as for instance by a walk much beyond the usual habit or ability is an extremely bad one, and usually fails entirely of its object. As with the circulation, a certain medium degree of fatigue is required for the best kind of sleep, and if increasing the burden is to be of value, it must be shifted so as to fatigue new portions of the brain and not deepen the old ruts from which it is already too difficult to dislodge the current of the thoughts.

Reading one's self to sleep, with the very important proviso that the book shall be a suitable one, not too interesting and not in the same direction with the day's anxiety, is a common and commendable device. Probably nothing could be more valuable and efficient, were it generally available, than music, which would, however, require a delicacy of adaptation to the individual case that would considerably interfere with its practical applicability. Many might yield to this influence, but many different tunes (and I use the word advisedly) would be required, from the monotonous, crooning acceptable by the restless and uncritical infant to the Träumerei of the accomplished artist, or those mysterious airs played by Volker with his sword fiddle-bow as he kept watch before the resting place of the doomed Nibelungen:

> Then sounded his strings till all the house rang; softer and sweeter he began to fiddle till flitted forth from him into sleep full many a careworn soul.

The prescription most frequently made for chronic insomnia and undoubtedly in most cases the best, is that of rest or a vacation. Unfortunately both of these recommendations are usually more easily given than taken. Absolute vacancy of mind is talked about but never attained, and relief from mental activity means in reality relief from the habitual current of anxious thought, from care and responsibility, matters which in such cases are apt to be beyond the control of the physician. It is specially difficult to obtain them at home or in the midst of familiar surroundings. A vacation in the country, real country, if it can be realised, is by far the best method of getting the necessary diversion, but here also there is a choice. It is to be remembered that the disturbances of sleep which are the most difficult to manage come from within, and the occupation of the vacation must be such as will displace morbid activities by healthy ones, not intense but sufficient to predominate. If the patient has nothing else to think about he will be sure to think of his troubles. Of course there will be cases where this train of thought is so firmly established that nothing can displace it, but a life in the woods with adventure enough to command the attention of the invalid in an entirely different direction from the habitual one, is as likely to do so as anything. A well founded doubt as to whether he is going to find any place to sleep at all is a very useful corrigent to the harrowing anxiety as to whether he shall be able to sleep if he gets there too easily.

In cases not insane, the haunting idea which is likely to stand in the way of satisfactory sleep, is the dread that it will not come or the feeling of doubt and expectation when it is awaited. Insomnia and the dread of it react upon each other to heighten their intensity. Under ordinary circumstances it is better that all ideas in regard to sleep, even the expectation of it, should be banished from the mind, unless, of course, it be so firmly believed in that the element of doubt no longer exists. "Sleep, like the other gods, comes when we least expect him." When this idea can be banished a great step has been taken. Suggestion, as it is mildly called, not dependent upon hypnotism and varying from the gentlest of hints to the most vigorous asseverations, is by no means certain of ridding the patient of this dread, and it must very often be backed up with a dose of something.

Patients, when they are strongly suspicious, or even when it is acknowledged that the medicine ordered will not be a powerful one, are reluctant to be abandoned to their own resources. They catch at straws like drowning men.

A placebo or half placebo, as some of the mild hypnotics and even some of the others when given in very small doses, may be called, ought always to have a reputation, whether deserved or not, if there is any chance of the name becoming known, lest a highly intelligent patient, as such patients are apt to be, or an officious nurse should look it up in a medical dictionary, which for practical purposes, whatever it may do from a scientific point of view, should give out no uncertain sound.

Hence a part at least of the value of lactucarium, lupulin and hop pillow, and the knowledge that a powder is lying on the chimney piece or that a note has been made in the order book has a tranquillising effect often highly desirable.

A graduated series of powders, with sugar of milk to maintain the bulk and quinine to maintain the taste, beginning with a full dose of sulphonal and ending with none of it, is a convenient method of ridding the patient of the drug habit without the disturbing thought involved in the information that he must get on as best he can without it.

Hypnotics may be roughly divided into two classes: those which permit and those which produce sleep, those which diminish nervous excitability which keeps the patient awake, and those which distinctly, though perhaps not profoundly, narcotise the nervous centres.

The most typical of the first class are the bromides, of which I have personally never abandoned my preference for bromide of potassium as decidedly the most powerful, believing that the fear of any depressing effect of the potassium element therein is purely imaginary in any doses likely to be used in the treatment of insomnia.

The bromides are better given in two or three doses during the evening, and, in many chronic cases, through the day, than in a single large one, although in my own person the latter plan works well also.

The bromide of potassium, under circumstances demanding mental activity, even in considerable doses, is not a distinct hypnotic, although when given in the way I have suggested it will frequently allow a patient to sleep if it does not make him do so; and I think the same is true of its corrigent action when given with narcotics that are liable by themselves to exercise an excitant effect, as opium or cannabis indica, which it converts from excitants to sedatives. I have taken a single dose of more than 100 grs. of bromide of potassium for the purpose of having the condition of the retinal circulation examined by one of my ophthalmic colleagues, and then made my hospital visit without any perception of anything unusual in my mental condition or any remarkable degree of somnolence perceptible, so far as I was aware, to others. Yet such a dose in the evening would have given me a very quiet night if undisturbed, and I have no doubt, if I had yielded to it, would have done the same in the daytime.

Opium, the first of narcotics, notwithstanding its undoubted power and the fact that sleep, or something resembling it, usually follows a sufficient dose, is not a trustworthy hypnotic, although Molière attributes to it the mysterious *virtus dormitiva*.

It is in small doses uncertain, in many persons having the reverse of the desired effect, and in large ones its disadvantages far outweigh its benefits. I can hardly think of circumstances which would justify its use in a case of pure insomnia.

Cannabis indica is hardly a hypnotic at all when alone, but often acts very well in combination with the bromide. I have used it also with good effects in cases where the dreams were troublesome, with the result, or coincidence, of their changing their character for the better. Chloral, I think, has to a considerable extent gone out of use. I have ceased to use it myself except very rarely in cases where patients believe that a very small dose is sufficient, or where it is necessary to produce a decided effect promptly and surely. I judge from the catalogues of drugs given me by patients that the fear of it is not peculiar to myself.

Of the immense number of the other hypnotics, mostly of coal tar origin, each of which has in turn been brought forward as agreeable, sure and free from danger or disagreeable after-effects, I will only mention two. I do not believe that the hypnotic is yet discovered, or ever will be, which is at once trustworthy as to producing the result desired, and incapable of producing any unpleasant after-effects. Sulphonal, it seems to me, comes as near to this standard as any drug of which I know anything, and, used with care, is little likely to do harm except that which attaches to any habit of the kind and dependence upon artificial aid to sleep. The tardiness and permanency of its action is undoubtedly a consequence of its difficult solubility and slow absorption, and cannot be looked upon as a disadvantage if properly allowed for, since a second good night without a repetition of the dose is by no means an unusual occurrence. I have found it to fail but rarely when given in the dose of 1 gramme.

I have rarely, if ever, repeated this dose on the same night. In doses of less than 30 centigrammes it may properly be considered a semi-placebo. It should not be given continuously, that is on successive nights, for any length of time, and, if its use has to be continued, the intervals should be even longer than two days.

Trional is more soluble and rapid in its action, but seems to enjoy most of the advantages of sulphonal, except that of acting for two nights.

The peculiarities of each may be best utilised by reserving sulphonal for a patient who has not slept for several nights, and who, it is pretty clear, is not going to get a good night unassisted, so that the medicine may be given early, namely, 6 or 7 P.M., in order that its effect may be developed at about the regular time for going to sleep.

Trional, on the other hand, may be kept for a case where sleep is likely to be well begun, but where it is likely to be broken off very early in the night, and not renewed without a hypnotic. The dose may be given at any time in the night necessary.

All hypnotics are of course to be looked upon as makeshifts, and only for temporary reliance; but they, and more especially the recent introductions, make possible the relief of sleeplessness, and as I believe, if judiciously used, without harmful after-effects, or materially postponing the day of the restoration of the normal action.

They enable us to abolish that feeling of dread with which the patient watches for the coming of night, and to promise, with as near an approach to certainty as is ever possible in therapeutics, that he shall sleep.

V.—Professor Charles Richet,
University of Paris.

Professor Charles Richet, speaking in French, said that chloralose (C^6 H^{10} $CHCl^3$ O) studied physiologically had the special effect of benumbing the brain and stimulating the spinal cord. In a dose of 10 or at most 50 centigrammes it induced sleep and made the cardiac circulation regular and strong. It was therefore distinctly indicated in diseases of the heart, and also, as it did not in any way disorder the digestion, in diseases of the stomach. It raised arterial pressure, so that it could not be said that insomnia was due to a cerebral anæmia.

VI.—Donald MacAlister, M.D., F.R.C.P.,
Physician to Addenbrooke Hospital; Lecturer in Medicine, University of Cambridge.

Dr. D. MacAlister, after an appreciative reference to the general surveys contributed by the openers, thought it might be well if each subsequent speaker would give something of his own practical experience for the instruction of his colleagues. He himself had to deal at Cambridge with large numbers of students, many of whom were hardworking, while some worked too hard; and in their case, when examinations were approaching, the addition of anxiety to mental overstrain led to insomnia. The treatment was conditioned by the necessity that nothing should be done which would interfere with mental acuity or memory. He had been driven by this condition to abandon all hypnotic drugs in the regular management of these cases. All tended to confuse the mind; all were liable to be taken habitually. Simple means, such as Benjamin Franklin's airbath—mere walking about the room naked for a few minutes and then slipping between the warm blankets—or lying in a hammock with nothing but an overcovering, or wearing a nightshirt wrung out of cold water closely wrapped round with a flannel "blazer" or pyjamas, were in the majority of cases adequate. But there were cases where these failed; the patient was literally over-fatigued, too tired to sleep, as Dr. Brunton had said. It was needful not to depress but to stimulate, until what we might call the level of normal fatigue was attained. Dr. Richet's remarks on the peculiar strychnine-like action of chloralose on the cord were of special interest to Dr. MacAlister in this connection, for it bore suggestively on the fact that in these overtired patients strychnine itself was often of striking value. One-fortieth to one-twentieth of a grain of the hydrochloride at night was followed first by a sense of cheerfulness, and then by normal sleep. A small cup of strong coffee now and then serves the same end. In women students, who were very prone to ante-examinational insomnia, the same general means were generally efficient. The only other drug he regularly used in their case was magnesium sulphate, and an excellent one it was. Of course instances occurred in which the evil lay deeper, cases in which even the examination must be sacrificed that the insomnia might be relieved. He used then one or other of the hypnotics that had already been discussed, preferring the bromides and chloralamide to the rest: but he made it a rule never to *prescribe* them; he gave them to the patient out of his own stock, and the name of the medicine was never mentioned.

VII.—Robert Saundby, M.D., F.R.C.P.,
Physician to the General Hospital, Birmingham.

Dr. Saundby wished to express his agreement with the views expressed by so many speakers in favour of abstinence as far as possible from the use of hypnotic drugs. The treatment of disease should be based upon its etiology, and yet it was when this knowledge failed that the the use of hypnotic drugs seemed to begin. Yet, assuming that there are occasions upon which the use of such drugs is necessary, it is better to give drugs of which we know something, and it is difficult, if not impossible, to keep pace with all the novelties introduced into our *Pharmacopœia*. The most certain hypnotic drugs are chloral and sulphonal, and their danger has been exaggerated. Could it be that some preparations of chloral were impure? Chloral should be combined with tincture of digitalis in equal quantities. It is valuable in the insomnia of enteric fever and in delirium tremens. In the insomnia of dyspepsia, which supervenes two or three hours after retiring to rest, a little bicarbonate of soda and peppermint water to take on waking gives sleep. In his own case the insomnia of overwork had been readily amenable to small doses of bromide at bedtime.

VIII.—Professor A. R. Cushing, M.D.

Professor Cushing mentioned that the chlorine compounds of the fatty series—chloroform, chloral, and chloralamide—have been shown to produce fatty degeneration in various organs when given habitually to animals, and asked for information regarding any such effects following the administration of chloralamide and chloralose in man. He thought it not unlikely that the small dose of the latter which was necessary to produce sleep might be given with impunity. The pharmacological effects of pellotin and chloralose resemble those of morphine closely. Animals are thrown into a state of excitement, and even into convulsions by all three, while in man narcosis follows their administration. It would therefore be of interest to find whether these newer hypnotics resemble morphine in its specific effects on pain.

IX.—Henry Barnes, M.D.,
Ex-President, British Medical Association.

In considering the treatment of insomnia the first question which we should decide for ourselves is this: "Is the patient really suffering from the want of sleep?" I am accustomed, when importuned for sleeping draughts, to tell patients that an hour of natural sleep is worth four or five that amount of drug sleep. The absence of sleep is sometimes very distressing and very trying to the patient and to his friends; and patients are very apt to have delusions as to the amount of sleep which they actually obtain. They are also very apt to fall into the habit of taking sleeping draughts without due necessity. It has happened to me on several occasions to have my attention called to the frequency with which patients were indulging themselves in sleeping draughts or powders. The morphine habit, the chloral habit, the sulphonal habit is easily set up. In England, where patent medicines containing opium are easily obtained, I have found patients indulging themselves in chlorodyne in extraordinary quantities. I had one patient who informed me that her usual dose of chlorodyne when she could afford it was a 4s. 6d. bottle. This contains 2 ounces and 2 drachms of chlorodyne. I think therefore we should be chary in prescribing hypnotics. Some people require more sleep than others. No general rule can be laid down. Nature must decide. Time spent in real sleep cannot be said to be wasted, as sleep is a wonderful restorer of nervous energy. The division of the day by a celebrated English jurist, Sir E. Coke, may be quoted:

> Six hours in sleep, in law's grave study six,
> Four spend in prayer, the rest on nature fix.

In procuring natural sleep the first thing is to remove all sources of anxiety. The want of sleep is certainly most depressing. Little difficulties, which at other times

it would be a pleasure to surmount, appear insuperable, but patients should not despair. Sleep may be induced in two ways. We may lessen the flow of blood to the brain, or we may lessen the functional activity of the brain cells. The former object may be accomplished by removing anything which tends to force the blood to flow forcibly through the brain, by ensuring a sufficient degree of warmth and bodily comfort, by a warm bath at bedtime, and by a strict attention to the general health. Insomnia is very common in gouty subjects. We all know how sleep is sometimes suddenly interrupted in the earlier morning hours by the acute gouty paroxysm. A simpler form of sleeplessness is often dependent on acid or fermentative dyspepsia. According to Duckworth, Cullen was the first to call attention to this. Cullen said, "Persons who labour under a weakness of the stomach, as I have done for a number of years past, know that certain foods, without their being conscious of it, prevent their sleeping. So, I have been awaked a hundred times at two o'clock in the morning when I did not feel any particular impression, but I knew that I had been awakened by an irregular operation of that organ, and I have then recollected what I took at dinner, which was the cause of it." Murchison has described this form of sleeplessness, and attributed it to hepatic derangement, which induced lithæmia and other forms of gout. The insomnia in these cases comes on suddenly. The patient goes to bed apparently quite well, and goes to sleep as usual. Suddenly sleep is interrupted, and there is sometimes nausea and stomach discomfort lasting for two or three hours. I am inclined to think that insomnia has a gouty origin in a larger number of cases than is generally supposed. In these cases simply draughts of hot water, or potash water with sal volatile, give some relief, but attention to diet is very necessary to prevent recurrence, and rhubarb and soda or Gregory's powder at bedtime. Insomnia also sometimes depends, especially in elderly people, on atheroma of the arteries, whereby they lose their contractile power, and they are unable to regulate the flow of blood to the brain. In these cases iodide of potassium is useful and the addition of bromide helps to quiet the brain cells. Of the newer hypnotics I rely mainly upon paraldehyde, sulphonal, and trional. Paraldehyde I consider mainly useful in cardiac cases, and in acute inflammatory conditions of the lungs, also in delirium tremens, in doses of ℥j to ℥iss; sulphonal up to 30-gr. doses and trional in 20-gr. doses. Sometimes I use hyoscin, but the best advice I can give patients is to use drugs as little as possible, to be as little in the house and as much out of doors, to take things as easily as possible, and the blessing of sleep will soon return.

X.—A. A. McCallum, M.D.

Dr. McCallum referred to the action of Behring's serum in the non-diphtheric in producing sleep. He mentioned the fact that patients treated by antistreptococcic serum fell into sound sleep. He does not know whether patients sleep from excretory inadequacy or an internal secretion or an arrest of nternal secretion.

XI.—Dr. Learned,

Northampton, Mass.

Dr. Learned referred to a method he had found of inducing sleep in the following words. He said: A violent collision with frozen earth, the result of my first ride after a newly purchased horse in 1883, took me out of the busy life of the every day and night practitioners. For many years, instead of experimenting upon a willing and paying class of the laity, I was experimenting upon an unwilling and non-paying member of the profession. I did not sample all the remedies of the dispensatory, if I remember correctly, but I sampled many remedies outside the dispensatory. Hot water, cold water, inside and out; lack of food and surplus of food; gymnastics n my room, and gymnastics with the wood saw in the basement, in the night time; brisk walking in the halls and around the square before retiring; friction direct and indirect; long deep respirations with and without the numberless mental occupations, as varied as the physical—all these I tried faithfully.

I read about insomnia, its causes and remedies. From my hammock under the tree I looked out upon the doctor's swiftly passing phaeton, and read reports of his marvellous achievements, medical and surgical, in the evening papers. It was during this blank interval, while I waited for power to return to me, that I raised the inquiry: Can we devise any means to turn off the belts from this little fragment of brain that insists upon its automatic excursions day and night? This perpetual motion of a few cells of grey matter, that obstructs rest, and prevents repair of the great whole? Can we by counteraction set up a motion elsewhere after retiring that will bring an equilibrium of arterial and vital current so that sleep pure and undefiled will come to our relief?

During this frame of mind I experimented and practised with muscle and will in many and divers ways after retiring. I had the whole bed, length and breadth. I directed various contractions and relaxations, and finally reached the conclusion that a systematised and well-ordered method of muscular and mental activity would soon bring the conditions required—a sense of fatigue that precedes and invites sleep. The recumbent position furnished the best opportunity. Once asleep the point is gained. Who has not been dull and almost asleep before retiring, but wide awake immediately after disrobing and experiencing the gentle shock of the fresh sheets and changed posture?

Is it necessary to recite here the advantages of proper conditions of atmosphere and temperature of the sleeping room? I will assume that it is not; but say that open windows, at all seasons, heat never turned on in my sleeping room, and moderate bed covering have come to be a necessity with me. This is my method.

Lying upon the back, with or without pillow, I reach for the footboard and headboard at the same time. This brings into use many muscles that have not been on active duty during the day. I now raise the head half an inch, enough to realise it has more weight than I had before supposed. At the same time, by will power, I direct the respiratory process to a slower and deeper movement. I order about six or eight inspirations, deep and full, in place of sixteen per minute. Every inspiration is recorded, counted. Thus the process begins of inviting two forces into new channels, and relieving the old. At the expiration of ten to twenty inspirations the head has become so heavy you want to drop it. This you do. Immediately the right foot is raised a half inch from its resting-place. The reach for the footboard and headboard continues; the count of slow, deep inspirations continues; the sense of fatigue of muscles engaged in lifting the foot and holding up the coverings continues. Here as before, the foot, like the head, has become a dead weight, and must go down. Now, immediately the left foot is elevated with all the previous conditions remaining. The reach downward and upward of foot and head is kept up, so far as power will permit without exhaustion. This foot remains up for the same length of time, the respirations being the clock work. It goes down. You may now relieve the reach for foot and headboard and use the muscles to elevate the trunk, holding it by resting upon heels and head and shoulders. This elevation of the central part of the body and rest upon the two extremes will call for change, as all the former positions have done. By the same clock you have the time marked off and the body is again flat upon the back, waiting new orders.

Turn now to the right side, reaching for head and footboard as before, and elevate the head half an inch by use of lateral muscles of neck and chest. At the expiration of time the head goes down and foot goes up, by use of lateral muscles. Change now to left side, and repeat what has just been accomplished by the muscles of the opposite side.

You have now assumed eight positions, and used a large majority of the whole number of muscles in carrying out your dictations. If you have not fallen asleep before this cycle is completed, you may begin again and go over the same ground. If you have already gone to sleep, you will not be required to.

Other methods of procedure would answer the same purpose undoubtedly, with the respirations guarded and uniformity observed, mind and muscle constantly occupied. There should be no periods of rest, no vacations. Thus fatigue comes inevitably, and sleep follows. I know of no means so ready, so much at command, any time and anywhere, so inex-

pensive and so absolutely certain as this routine of mental and muscular exercise to induce sleep. It involves a principle. Following it sleep appears to be inevitable. There is but one drawback: it requires some exertion—continuous mental and muscular exertion. The indolent will find it unattractive.

Some conditions of heart or nerve centre may contra-indicate altogether this method. The length of time employed in the several positions will vary according to the make-up of the individual. No one rule can apply to the robust and the exhausted as to the time spent in a given exercise, only that which measures the power of endurance. It is the sense of general weariness following persistent effort that brings the desired result.

Lying supinely upon your back on a bed of comfort it is not surprising that some part of the brain should take a little spin over its accustomed playground. Gentle means of coaxing will not suffice to call it away. Turn off the belt, however, here and put it on at another point, you inevitably control the situation.

XII.—J. A. Campbell, M.D.,

Medical Superintendent, Garlands Asylum, Carlisle.

I shall condense my remarks as far as possible, and shall speak first of insomnia in the insane, second in the nominally sane. I have naturally been interested in this subject, as insomnia is a distressing feature in several forms of insanity. In the *Journal of Mental Science*, 1873, I contributed an article giving the results of observations I made with the tincture of hyoscyamus, potassium bromide, and chloral in maniacal excitement and insomnia. I found as all now know, that chloral was the most certain sleep producer, and that potassium bromide was not a powerful enough hypnotic to compel sleep when great insomnia exists. In the *Lancet*, August 2nd, 1879, I published a summary of the results of my practice for the five years ending 1878. I found that during that period I gave a sleep producer in 101 cases, and had a note made of when the patient became quiet and slept. I almost entirely used chloral, and at that time thought highly of its certainty of action and harmlessness when given for short periods. When first introduced chloral was given in too large doses and for too long periods. In summing up my results I said "that in acutely excited cases where exercise does not cause sleep at night, it is well to induce it artificially so as to prevent injury to health from exhaustion, but this form of treatment should only be used for short periods, even in the distressing insomnia so often persistent in melancholia." In the *Lancet* of March, 1883, I gave a summary of four years' treatment at Garlands. In 1879 I only treated 210 patients for insomnia, in 1880, 11, in 1881, 8, and in 1890, only 3. In this period, for a limited number of nights, sleep was artificially produced and in all but two cases chloral was the drug used. Of late years I have not found it so necessary to use drugs as sleep producers and for a considerable time paraldehyde has mainly been the sleep producer used at Garlands. This diminution in the calls for medicinal sleep production I attribute to increased outdoor exercise and greater attention to the suitable dieting of patients.

If architects would devote more attention to deafening asylums, fewer sleep producers would be used. One noisy patient often keeps many awake, and in asylums hypnotics have at times to be given to one patient for the good of others, but a few days' exercise in the open air soon does away with much necessity for drug-produced sleep.

Now just a line or two about insomnia in the sane. I believe that with those sufficiently well off to bear the cost of change of location, occupation, and usual habits, and who are not in feeble health, in search of a lost power of sleeping, insomnia can be speedily and surely treated without the exhibition of drugs. Rising early, diminishing consumption of animal food, spending the day in the open air in suitable sports, trying the effect of mountain air or sea air, taking one's principal meals in the early part of the day, never having a loaded intestine, and carefully avoiding having snatches of sleep during the day will in a very short time make most people sleep, and sleep soundly. Though not of a sleepy nature, sea air or mountain air combined with exercise makes me sleep nearly the round of the clock.

XIII.—Dr. W. S. Muir.

Dr. Muir deplored the multiplicity of literature and drugs that are thrust upon the younger practitioners, as the older practitioners soon learn that the medicines and drugs simmer down to a few. He thought every medical man who practises conscientiously will before prescribing for his patient make a thorough investigation of his case, particularly examining into the condition of the stomach and kidneys. Many cases of insomnia do not find their first resting-place in the asylum, but are in a manner due to a want of careful study of the case and an appropriate treatment thereof; every case requires its own special treatment, and for a doctor to say that he uses this or that drug in insomnia is absurd. He stated that hydrate of chloral was by far in his hands the surest, but not by any means the safest, hypnotic. Many accidents occur from its use, but in many instances are traceable to negligence. He did not think that we should prescribe it in larger quantities than in two doses of 20 gr. each, that is, when the doctor leaves his medicines and trusts to an uneducated nurse. In the treatment of delirium tremens especially it should be combined with digitalis. Bromide of potassium still is by far the surest and safest hypnotic. Paraldehyde in the insomnia of typhoid has in his hands been the safest and surest hypnotic, as it has a double action; its only objection, so far as he has personally observed, is its abominable odour. Urethane, hypnone, and chloralamide still have their places among the fashionable drugs. Sulphonal and trional are by far the most commonly used drugs in the treatment of insomnia at the present hour. Still, it should be remembered that they are both not devoid of danger. Cases where the untoward effects of both have shown themselves are not infrequent. The speakers preceding him, he said, must remember that the toleration of drugs in the insane is much greater, and that one cannot in private practice use hypnotics, especially with such a free hand. Bromide of hyoscyine is one of the best and surest hypnotics used hypodermically; still, it must be remembered that it has its idiosyncrasies. He had lately had much benefit from the sulphate of duboisin. Its action is very similar to that of hyoscin, dilating the pupils and producing dryness of the throat. Still he thinks it the safer of the two, and he has yet to learn of any accidents following its use. In conclusion, he said that every conscientious practitioner should, before resorting to the use of hypnotics for the cure of insomnia, tax his own resources to the utmost and abstain from the use of drugs until he is actually compelled to do so.

XIV.—J. O. Brookhouse, M.D.,

Physician to the General Hospital, Nottingham.

Dr. Brookhouse was glad to find from the discussion that the treatment of insomnia was not to be dissociated from its etiology. Treatment of disease is not an abstract thing, it is closely relative. Take a patient with chronic Bright's disease: his blood is drained of its most important constituent; his vessels, the larger ones, are atheromatous; his capillaries undergoing a fibroid change becomes anæmic; his brain is anæmic, and as the outcome of these conditions he is sleepless. Another patient comes before you having so far as you can discern no organic disease, but he has suffered anxiety, business cares and worries, grief, or other depressing emotions, and as the outcome he is sleepless. The contrast here is sharply defined, and treatment suitable and proper in the latter case would be positively harmful in the former. Before referring to the case of drugs, he would say that in many cases they are not indicated and much better not employed. We may advance any theory we please as to the causes of sleep on the one hand or insomnia on the other, but inasmuch as we have no definite basis we are in the safe position of running little risk of contradiction which has its advantages. He was glad to find the tendency of medical thought is not to treat insomnia by drugs, but rather by change of scene, fresh air (mountain air if possible), moral help, regulated exercise, and a suitable diet, not forgetting in this latter relationship that those who cannot sleep cannot properly digest. He called this the natural treatment of disease, and believed it to be the best. If, however, recourse be had to drugs he thought a combination of morphine, chloral, and sodium bromide the best. Of the newer remedies he would not speak

in detail, but as to their use in general he was not favourably impressed.

XV.—W. WHITLA, M.D.,
Professor of Materia Medica, Queen's College, Belfast.

PROFESSOR WHITLA expressed the very great pleasure which he had experienced in listening to the discussion. A discussion conducted upon such lines would have been an impossibility twenty-five years ago. The total absence of the old empiric spirit was a most marked feature in the debate, and the absolute unanimity of all the speakers upon the main question that hypnotics should only be resorted to when all other measures failed. He went into the relative merits of various hypnotics, and emphasised the dangers of chloral as above the dangers of all the rest put together. He dwelt upon the importance of remembering the habit danger as well as the life danger, and chloral stood at the top of the list in both respects. He reviewed the qualities of alcohol, praising its certainty and freedom from immediate danger to life, but emphasing its habit danger; but for the latter he thought it the best of all hypnotics. The dangers of chloral were greatly exaggerated, and it should not be forgotten that it had been used many millions of times, and it was fallacious to compare the published results of the drug with those of rarely employed hypnotics. He described a peculiar form of insomnia which occurred in patients who went to bed, fell asleep in a few moments, and awoke again in a few seconds. These patients he had noticed were broad shouldered men, and the symptoms were caused by the pillow difficulty. He recommended the German wedge-shaped pillow as a specific in that form.

XVI.—ANDREW H. SMITH, M.D.,
New York.

DR. A. H. SMITH stated that 20 grs. of powdered capsicum given in one dose in the form of a bolus will very generally produce sleep very promptly in cases of delirium tremens. This is a practice handed down by the medical officers of the old United States army. It has no disagreeable after-effect until the next defæcation, when there is apt to be a momentary check in the patient's enthusiasm over the otherwise admirable action of the drug. He has introduced this method into his hospital practice, and the results are very satisfactory.

XVII.—G. A. ATKINSON, M.D.,
Newcastle-on-Tyne.

DR. ATKINSON pointed out how errors of refraction, especially in neurasthenic patients, cause mental irritation and headache when reading at night, and so lead to insomnia. Further, in aged persons to whom opium or its preparations have been given, and in whom there is defective arterial supply to the brain, preparations of beef-tea, or tea or coffee, will act well and largely if not entirely replace the drug.

XVIII.—D. J. LEECH, M.D., F.R.C.P.,
Professor of Materia Medica and Therapeutics, Victoria University, Manchester; President of the Section.

DR. LEECH said that a marked feature in the discussion which had taken place was the agreement of all the speakers as to the necessity for avoiding, as far as possible, the use of drugs in the treatment of insomnia and of trying to produce sleep by removing the causes of wakefulness, and the adoption of what might be called general treatment. Whilst fully agreeing with these views, he nevertheless thought that in a considerable number of cases the use of drugs could not be avoided. In young adults, as Dr. MacAlister had pointed out, drugs were rarely necessary for simple insomnia. But in a class of people coming under the care of the speaker, he looked upon hypnotics as an important aid to treatment. He alluded to middle-aged people with gouty and neurotic tendencies, immersed in business more or less, and overworked. Here, of course, it was always necessary to attend to the secretions in the first place, and remove, as far as possible, the causes of insomnia. People of this class nearly always had a bad habit of carrying with them to bed the cares of the day, and they usually suffered from a special form of sleeplessness. The mind continued active, but in a useless kind of way—thoughts being often somewhat disconnected and useless, notwithstanding they led to restlessness. Sometimes, instead of this seeming mental activity there was simple wakefulness, and not actual restlessness. Now in the wakefulness of the first kind, bromides in 20-gr. doses each night, or oftener, were advantageously combined with general treatment. In simple wakefulness, sulphonal in 10-gr. doses, or chloral in 15 to 20-gr. doses might be taken with advantage for a week or two. In restless wakefulness the bromides, in doses of 20 grs. were most beneficial. He did not believe that he had seen any harm from such use of bromides, although from the large doses mentioned by one of the speakers grave evils might arise. With regard to chloral it did not seem that harm was done in properly selected cases, and it seemed to him that the dangers of the careful administration of hypnotics had been somewhat exaggerated. In a second class the highly nervous evils might more easily arise, and chloral was a drug which should, if possible, be avoided, and which should not be prescribed so that the patient could get the medicine renewed and thus take it to excess. Even in these cases a soporific was at times required, and paraldehyde was perhaps the best. It is true a paraldehyde habit might be acquired, but then it could not be acquired secretly; a paraldehyde taken could be scented from afar. Sulphonal was only objectionable from the ease with which it might be continuously taken without the fact being known. In a third and most trying class of cases soporifics were rarely of more than temporary benefit, and often a grave evil. Many men—and medical men with especial frequency—suffered from almost continuous insomnia, without any special cause, such as disordered secretion or overwork, being present. In not a few the sleeplessness had commenced with overwork, but continued even when this had been given up. Such insomnia often lasted years, and was a source of extreme suffering. All soporifics in turn gave relief temporarily, and in these cases not infrequently a bad habit of taking soporifics to excess was acquired. Chloral, sulphonal, and even trional might thus be used in excess, to the detriment of the patient's health. In such cases a long change of surroundings was the only cure—a life for some time under new conditions, as, for example, in the backwoods, was desirable. Soporifics were dangerous unless in the case of patients gifted with more than usual control. A voyage was sometimes prescribed, but this had one danger—if the sleeplessness was at all associated with melancholic tendency—the temptation to suicide, if the proposed relief from the voyage were not quickly obtained. Dr. Leech concluded by congratulating the Section on the success which had attended the first day's discussion.

SECTION OF DERMATOLOGY.

MALCOLM MORRIS, F.R.C.S.Edin., President.

THE President delivered his address on "The Rise and Progress of Dermatology," which was published in the BRITISH MEDICAL JOURNAL of September 18th.

A CASE OF IDIOPATHIC MULTIPLE PIGMENTED SARCOMA (KAPOSI TYPE).

By GEORGE THOMAS JACKSON, M.D.,
Professor of Dermatology in the Woman's Medical College of the New York Infirmary, and in the Medical Department of the University of Vermont.

CASES of this disease are sufficiently rare to warrant their being placed on record. Of course it will be understood by you that this disease is not the usual melanotic sarcoma, but that form of pigmentary sarcoma first described by Kaposi in 1879. Since then a number of cases have been reported by various observers. J. A. Fordyce has given an excellent summary of the subject in *Morrow's System of Genito-Urinary Diseases, Syphilology, and Dermatology*, vol. iii.

The patient whose case I now report was first seen by me in December, 1895. He is a man 47 years of age, a native of Nova Scotia, of French descent. He used to be a mill hand, and at the time his disease appeared he was driving a wagon. He is a large well-built man of more than usual intelligence. I mention this because I found that I could accept his statements as to the course of the disease, as he

Fig. 1.—Section through sarcoma nodule.

showed that he had most carefully noticed the progress of his case.

Previous History.—He gives nothing that would point to any venereal disease. He has been married for years, and his wife and children are all well. Up till twenty-one years ago he was in perfect health. At that time he was caught with his team on an ice floe and was out all night in piercing cold weather, and was nearly frozen to death. Shortly after this exposure he first noted the appearance of some of the little tumours on his fingers and toes. The little finger of the right hand was the one first affected. Since then the disease has been steadily spreading. During all these years his general health has been unimpaired, excepting that he has of late had attacks of dyspnœa. On account of crippling of his hands and feet by the disease he has been compelled to give up working in the mill, and now keeps a shoe store, but he attends to his business regularly. He has been seen by many doctors, who have given many diagnoses and prescribed many treatments.

Present Condition, December 19th, 1895.—The patient states that his health is good, his appetite hearty, and his bowels regular. His colour is good, and he is well nourished. Were it not for his skin disease he would be considered a man in good physical condition, notwithstanding his twenty-one years of sarcomatous infection.

Examination.—The eruption is located entirely on his extremities, all four being involved. At one time he had lesions on his face and ears, but these disappeared of themselves some years since. On the upper extremities the hands and forearms only are involved. The hands are so dark in colour as to be almost black. The backs of them are covered with large pea-sized nodules, which in places are so thickly crowded together as to form a continuous patch. Here and there are some dark blue elevated lesions that feel soft and fluctuating. Some of these are an inch or more in length and a half-inch or more in height. The ends of the fingers are much thickened, and all the fingers are flexed upon the palms so that they cannot be extended. This condition has existed for about seven years, and gives to the hands an appearance similar to that seen in some cases of leprosy. On the palmar surface of the fingers are warty growths. There are the same nodules on the palmar surface of the hands as on the backs of the same, but they are not so numerous. There is also a sharply defined, dark, thickened patch on each palm. Both forearms are strewn over with the same lesions as are seen on the backs of the hands. Only a few lesions are found above the elbows.

The legs and feet are strewn over thickly with the same dark blue, almost black, nodules and tumours as are found on the hands and arms. The large fluctuating tumours look as if they contained blood. The patient says that he has cut into them and that only a little blood escapes, the contents being mostly watery. They heal readily after this rude surgery. A line of the small tumours runs up on the inside of both thighs for a short distance. On the legs there are a number of whitish raised nodules and ridges apparently left by the absorption and cicatrisation of old lesions. The skin between the tumours is rough, of dark colour, and covered by yellowish branny scales, giving the legs the appearance of having been dressed with some ointment that had dried on. These scales lie in all the furrows between the tumours. On the outside of the left heel, the plantar surface of left foot, and the outside of right foot the skin is warty. The left foot is swollen, and looks and feels like a hard œdematous cushion.

The tumours begin as pea-sized lesions deep down in the skin that at first can be better felt than seen. In course of time they become larger, blue-black, and elevated. Some of the tumours are blue-black, and evidently vascular. When the tumours reach the size of a marrow fat pea, standing high

above the level of the skin, they flatten on top, become scaly, and slowly sink to the level of the skin. The patient states that it takes about nine months for a tumour to run its course. They leave for a time a purplish stain, but this colour gradually fades. There is neither pain nor tenderness at any time, and the sensation is normal. The tumours show no tendency to break down. There is a little ulceration about the toes of the left foot, but it is superficial, and evidently due to traumatism from his shoe.

At this time I had the pleasure of showing him to Dr. G. H. Fox, who took the photographs that I have shown you (Figs. 1 and 2), and to Dr. G. T. Elliot, who cut out one of the tumours for examination, and was so kind as to give me the pathological report I shall shortly read.

On the 22nd of January, 1897, I had the opportunity of seeing this patient again, and of presenting him to the New York Dermatological Society. I found that he had greatly improved. The backs of his hands were now quite smooth, and had lost much of their black colour. He had a great deal more control of his fingers on account of a great decrease in the thickening of the whole hand. The legs were not so much improved as the hands, but were better. The ulceration about the toes healed soon after I last saw him. The place from which the tumour was cut for examination has healed with a smooth white cicatrix. He thinks that no new lesions have appeared. He told me that he kept up the arsenic I prescribed for him for some four months after he was here, and with some benefit. For the last four months he has been taking some secret herb remedy given him by a man in his neighbourhood, who promises to have him well in two years. Since taking this remedy he thinks he has felt better and has seen a great improvement in his skin disease.

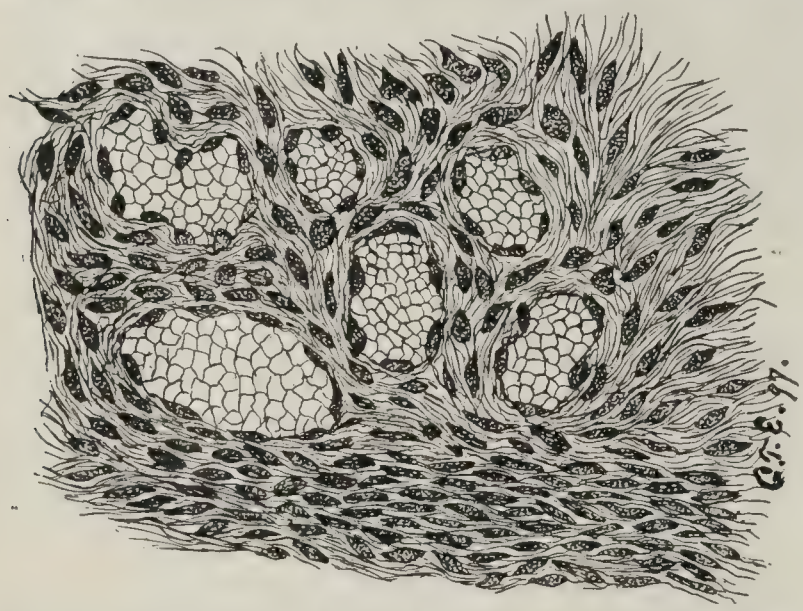

Fig. 2.—A small portion of section showing blood vessels and sarcomatous stroma.

Pathological Report by Dr. George T. Elliot.

A small nodule was excised from the outer aspect of the leg, and hardened in absolute alcohol. After being cut into sections, various staining methods were used, polychrome (Unna) with glycerine ether, or tannic acid decolorisation, or with neutral orcin. Some sections were also treated with acid orcin.

On examination with ordinary powers the horny layer and the rete were found apparently normal, and the tissue changes were seen to be limited to the corium, extending nearly to the hypoderm. The changes consisted in a closely-interlaced mass of spindle-shaped cells, while here and there were interspersed cavities of variable shape and size. The entire cellular mass was quite sharply defined and stood out clearly, no round-celled infiltration being seen except in the upper papillary portion. The cells composing the growth were small, spindle-shaped, and arranged in closely packed bundles running in every direction, many apparently round owing to the plane of section, but even on close examination no other cells, except the spindle-shaped ones, could be found composing the growth.

The cavities referred to, when examined with high powers, were found to contain red blood corpuscles—in other words, were large and small blood sinuses penetrating the growth in every direction. Their walls were excessively thin—in many instances they could not be made out with absolute distinctness—the surrounding portions of the new growth seeming alone to constitute them.

Throughout the tissue a large amount of pigment was deposited. It varied from a dark yellow to a dark brown, or almost black colour. It was found especially in the vicinity of the sinuses already described, but also throughout the tissues between the cells, not in them.

The elastic fibres were unchanged, though the network was pushed apart in various ways by the cell infiltration. No degenerative changes were seen.

From the general characteristics presented by the new growth in the corium the diagnosis of small spindle-celled sarcoma could be made, but owing to the excessive angiomatous development and the pigmentary deposits, the case should properly be called pigmentary angio-sarcoma.

Dr. James Nevins Hyde, of Chicago, reported a case of multiple pigmented sarcoma so-called, at present under the care of himself and his colleague, Dr. Montgomery, where the tumours, pigmentation, and marble-like induration of the skin of the hands, feet, and scrotum had almost entirely disappeared during the administration of arsenic in large doses. The speaker referred to an exceedingly interesting case exhibited to the International Congress of Dermatology in London in 1896 by Dr. Stephen Mackenzie. In the last-named case the disappearance of the lesions, also under the administration of arsenic, had been conspicuously demonstrated by contrast of the smooth hand of the patient, with a cell showing the disease when in full evolution. In view of these and similar cases, the speaker believed that the disease was to be set aside in a category, apart from the sarcomata, inasmuch as in the latter class of disorders these therapeutic results were very rarely obtained.

Dr. Galloway (London) stated that he had had the opportunity of seeing the case referred to by Dr. Hyde under Dr. Mackenzie's care, while house physician at the London Hospital, and had seen the patient from time to time since. The tumours had now vanished, and, excepting the loss of a leg on account of suppuration of certain of the lesions, and slighter deformities as the result of scars, the patient was at present in good health. Improvement had occurred while under treatment by large doses of arsenic. He agreed with Dr. Nevins Hyde that it was not right to include such cases in the same category as sarcoma. It was noteworthy that the cells forming the tumour showed remarkable tendencies to degeneration of the myxomatous type, and he felt inclined to think that many of the cells were really embryonic cells of connective tissue, originally given rise to by irritation, and that the irritant may probably be an abnormal deposit of pigment, which was so striking a feature in these cases.

Dr. Corlett (Cleveland) said: Three cases of this disease have come under my observation. They occurred in the same family in Indianapolis, and were under the care of Dr. Brayton of that city. The eruption appeared principally on the face, hands, and feet, and in character conformed to the illustrations shown by Dr. Jackson. The course of the disease extended over several years, gradually increasing in severity, and had been unaffected by treatment. The youngest was a child about 2 years of age, the oldest a girl about 20. Dr. Brayton also gave me the photograph of a case seen in Southern Ohio, the fifteenth published case on record, and on exhibition in the pathological museum of the Association.

ON THE NON-SURGICAL TREATMENT OF BOILS, CARBUNCLES, AND FELONS.

By L. Duncan Bulkley, A.M., M.D.,
Physician to the New York Skin and Cancer Hospital; Consulting Physician to the New York Hospital, etc.

The knife has long been associated in the minds both of the profession and laity with the treatment of boils, carbuncles, and felons, and incision is the recognised method of treatment on all sides. Poultices are also commonly employed, although perhaps somewhat less frequently than formerly. The object of the present paper is to detail the treatment of

the writer, who for ten years and more has avoided both the poultice and the knife, and in a large series of cases has had results which seem to warrant bringing the matter forward. I am aware that the views advocated will be open to criticism, but having for so long a time followed the plan of treatment to be outlined, I feel confident that others will observe the same results if all the details are carefully and intelligently carried out.

It is needless to discuss in this assembly the modern views in regard to the causes of the formation of pus. It will be granted by all, I think, that the pyogenic organisms, principally the staphylococci (aureus and albus) are essential features of suppuration. But opinions are beginning to divide in regard to the true pathogenesis of many conditions which were regarded as understood some years ago. It is now recognised that the micro-organisms of disease are almost universally present, and those associated with the production of pus are spoken of by one writer as "normally present on the skin" even when there is no suppurative disease present.

Attention is thus being turned again to the underlying causes which predispose or prepare the tissues for the operation of the pyogenic elements. Bouchard[1] puts it so strongly that I cannot forbear quoting:

"The physician," says he, "ought not to allow himself to be absorbed alone in the search after a microbe. He ought to occupy himself with the infectious agent; but he ought also to retain a good deal of his anxiety for the study and research of circumstances which disarm the organism against the invasion of that agent. When the physician shall be in possession of this double knowledge—that many diseases are produced by microbes, and that these can only act by means of a deterioration of the health resulting from various pathogenic processes—he will recognise that the new discoveries contain nothing subversive, and that the lessons taught by ancient medical observations are not compromised; he will know that the part he has to play is still the same to-day as it was twenty years ago, and that, whilst seeking the means of combating microbes, he ought to, and he always will, be obliged to sustain the forces of the organism and make good its defence, inspiring himself constantly with this truth: namely, before every illness there is a disturbance in life—for nutrition is life."

I should like to quote much more from this close observer and interesting writer, for it follows along so well with what I have felt and taught for many years, but must hasten to the practical matters under consideration.

Granted the pyogenous powers of micro-organisms, my position is that their powers are temporary, and limited by their own nature and the condition of the tissues in which they are found. Witness the different results attending superficial wounds in different individuals and also in the same individual at different times.

In some persons a scratch or bruise will readily take on suppurative action, while in others it tends to heal in the kindest manner possible, with little or no pus. The same is seen in the same patient at different times, and there is certainly some measure of truth in the common remark that "one's blood must be in a bad condition," because of the occurrence of suppurative areas with slight injury. I am confident that in my own person there is a constant difference in this regard from time to time. The same may be observed constantly in practice in connection with eczema and many skin lesions. Thus, although the pus bacilli are undoubtedly everywhere present, and at all times ready to lodge and do their work if the soil is proper, yet in comparatively few instances is suppuration set up. This is only in accordance with what is continually observed in the prodigality of Nature, where of the masses of pollen produced only an exceedingly small proportion ever fructifies; and of the millions of seeds developed, relatively few reproduce the species, and these only when the soil and other conditions are favourable.

I may be pardoned for thus dwelling on what is tacitly admitted on all sides, perhaps by everyone theoretically, for practically it seems to be forgotten or overlooked by many in the treatment of the conditions which form the subject of this paper. While it is continually granted that attention should be paid to the general condition of patients with these affections, I find that as a matter of fact very little is generally done. There is commonly so much regard given to the local trouble that there is not the careful investigation of the general condition and direction of the patient's life which will lead to the raising of the vital forces above the pus-producing stage. The yielding of one or more points to the attack of the pus parasite too often attracts attention from the weakened system and debilitated tissues, which may allow of many more successful attacks, as commonly happens in the case of boils.

My first point, then, is to urge that the occurrence of these suppurative processes should always and more forcibly be regarded as evidences of faulty metabolism, and a more serious search be made to discover and rectify what is wrong. For many years the occurrence of boils has been more or less connected in the professional mind with the presence of glycosuria, but in my experience this latter is relatively seldom found, certainly not in a marked degree, although not infrequently other disturbances of liver or kidney action may be discovered to be thus connected.

Patients with boils, carbuncles, and felons are never in perfect health, although it is sometimes difficult to discover exactly on what particular departure from health the condition depends; patient investigation, however, will generally afford the line upon which successful treatment will rest. Iron is most commonly needed, but quite as often there will be digestive and assimilative difficulties also to be overcome. Sometimes the cause lies only in overwork or worry, often in dissipation though of a relatively harmless kind, involving late hours and irregular eating. I cannot help dwelling as strongly as possible on this constitutional aspect of the question, for in this I find myself at variance with much that is taught even in the best modern textbooks. In them this aspect appears to be regarded apparently as of relatively minor importance compared to the local treatment, whereas I regard it as of the first importance, as compared to the relatively simple local treatment about to be described, which I have found thoroughly satisfactory.

The combination of iron which I have most commonly used in these affections is one which is known to us as Startin's mixture, somewhat according to the following formula: ℞ Ferri sulphatis ℥j; magnesiæ sulphatis ℥vj; acidi sulphurici diluti ℥iv; syrupi zinziberis ℥iv; aq. ad ℨiij; M. Sig. One teaspoonful in water, through a tube, after meals. Unless there is some counter-indication I generally begin treatment also with a good mercurial purge: ℞ Massæ hydrargyri, extracti colocynth. co. āā gr. x; pulv. ipecac. gr. ij; M. Div. in pil. no. iv. Take two at night and two on the second night after. These four pills are generally repeated at the end of a week, and perhaps in other successive weeks.

Sulphide of calcium, if a perfectly good and fresh article and properly used, has in my experience a very decided controlling effect over the process of suppuration. I always give it in gelatine-coated pills, which I test myself, for occasionally the drug will be found quite ineffective from having changed to the sulphate of lime or gypsum. To be efficient it should be given freely, ¼ gr., every two hours, say eight or ten doses in the day; this in connection with the iron tonic.

With these measures and a most careful attention to the diet and mode of life the tendency to the suppurative process may generally be quickly overcome, as I have observed almost daily for many years.

The local treatment of the diseases under consideration which I have found very satisfactory differs materially from that commonly laid down, but can be briefly described. We will consider each affection separately.

1. *Furunculi.*—The objects aimed at by the treatment are, first, soothing and protecting an inflamed area; secondly, exclusion of air; and, thirdly, a slight antiseptic action. For this purpose a moderately thick layer of absorbent cotton is taken, several times the size of the inflamed surface: for a medium-sized boil a piece 1 by 2 inches, with the fibres running the long way. Upon the centre of the cotton a considerable mass of the following ointment is spread by means of a spatula, and this is then laid over the boil, and held in place by strips of adhesive plaster across the ends, but not passing over the boil. The ointment referred to is generally composed about as follows: ℞ Acidi carbolici gr. v-x; ext. ergotæ fld. ℥j-℥ij; pulv. amyli ℥ij; zinci oxidi ℥ij; unguent. aquæ rosæ ℨj. M. Ft. unguent. The relief often given by

this dressing is very marked; the ointment soothes and protects the irritated surface, while the layers of cotton take up any outside friction. If comfortable, and unless disturbed, this dressing remains untouched twelve or more hours, when it is removed and a freshly spread piece immediately reapplied. If there has been any discharge the surface may be very gently cleansed with absorbent cotton, but I do not allow any squeezing. In many instances with proper internal and general treatment the boil aborts, and subsides without discharging; when this does not happen it ruptures spontaneously in a relatively short time, and I practically never find it necessary to incise it. This treatment I use in all stages of boils, keeping the ointment on until the boil is quite healed. If other boils form I direct it to be applied early, and by this means they are frequently aborted. I wish I could express in a measure some of the delight expressed by patients when thus dressed in the comfort and relief obtained, as compared with the sensations and results from other treatment which they had previously had. We should, I think, seek for the *jucunde* in our treatment as well as the *cito* and *tuto*, and from no small experience I can say that this treatment acts quite as quickly and surely as it does pleasantly.

2. *Carbuncles.*—As a carbuncle is in reality but a large boil, or a conglomeration of boils (with, of course, certain anatomical differences) the local treatment with me has been much the same as that just described. Both early and late in the disease I have put on an ointment like the above, thickly spread on cotton and fastened at the ends of the strip with strips of adhesive plaster. Not only on the back of the neck, but also on the face and elsewhere, this dressing proves most comfortable and serviceable, and I have not had occasion to incise a carbuncle since November, 1882, nearly fifteen years ago. The patient died from this and other complications, but there has not been a single case with such result in my practice since. I have applied this treatment to some large and formidable carbuncles, and have always, thus far, found that the pus would find exit rapidly enough, and the healing progress satisfactorily with this dressing. Occasionally it is necessary to aid in its expulsion by very slight squeezing or by removal of sloughs with the forceps. On some occasions febrile and other symptoms have at times seemed to warrant more active interference with the knife, but, although urged to it in consultation, I have adhered to this plan of treatment, without incision, and have obtained results which warranted its continued employment; and from previous experience with cutting, and from cases thus treated by others, I believe that the method suggested has the preference, both as to time occupied and final results, whereas on the point of pain and general comfort of the treatment it is far superior. I am quite prepared to admit, however, that, possibly from neglect or other cause, a very large suppurating carbunculous area might be formed which would demand very active surgical procedure, such as curetting, or even excision, with antiseptic dressing, but under the treatment outlined this has never occurred.

3. *Felons.*—It will no doubt excite surprise and criticism when I urge somewhat the same line of treatment for the various degrees of inflammation about the ends of the fingers which are known as paronychia, whitlow, and felon; but, having treated a very considerable number of cases in this manner during the last fifteen or twenty years, I am prepared to advocate it strongly. The cases referred to include not only those of superficial character, about the nail, but also those very deep seated, on the pulp of the finger, even when there had already been sleepless nights from the deep-seated throbbing. The ointment used here has always been the diachylon, or litharge ointment, prepared according to the formula of Hebra. This particular form of ointment I consider to be important, for I have not found such good results from that made by melting the diachylon plaster with oil or vaseline, as more recently proposed. The diachylon ointment of Hebra is prepared as follows: R. Olei olivarum optimi, ℥xv; plumbi oxidi, ℥iij — ℥vj; olei lavandulæ, ℥ij. M. Add the oil to two pounds of water, with constant stirring; the litharge is to be slowly sifted in while it is well stirred, fresh water being added as required. The ointment is to be stirred until cold, and the lavender added. In winter a slightly larger quantity of oil is required to make a soft ointment. When properly made (and this is difficult to secure), this ointment is of a soft, buttery consistency, and quite sticky. The affected finger is to be plunged into the jar and a considerable quantity taken up, completely enveloping the first joint to a thickness of $\frac{1}{4}$ inch. Over this are placed layers of absorbent cotton, and the whole loosely bound; sometimes it is more agreeable to spread the ointment on the cotton. It is generally desirable to renew the dressing about twice daily, but this is done with as little disturbance to the finger as possible, the old ointment being hardly disturbed, unless there is pus discharged.

I cannot fully explain the benefit obtained by this dressing; but time and again I have seen the greatest relief, even after sleepless nights had been passed, and for many years I have prescribed this treatment with the greatest satisfaction and confidence. When applied early and in milder cases resolution takes place and no pus appears. But in those cases which were seen later or which are more severe pus forms and readily reaches the surface, and is either discharged spontaneously or by means of a painless prick through the dead skin. I have never had occasion to make the well-known deep incision, even in certain cases where it seemed at first as though this would be required. Repeatedly I have been surprised at the ease with which the pus has reached the surface. As remarked before, when it was necessary to aid its exit, this was done with a very superficial prick, entirely painless, and I have never seen any scar resulting.

It is quite possible that the most severe cases have not come under my observation, and I can quite agree that, when pus has formed deep in the tissues and is burrowing under the tight fibrous bands which cross the tendons, a free surgical opening may be called for. But if taken reasonably early and the treatment intelligently carried out, I believe that in a very large proportion of the cases the course will be such as I have before described.

This completes what I have to say in regard to the very simple and easy local treatment which I have long used in these three conditions, to the great satisfaction of my patients and myself. But I must repeat what I said earlier in the paper—namely, that I place the greatest value in the internal and general treatment of the patient, and recommend the local measures only in connection with the same, carried out in the fullest and most intelligent manner on the lines previously described.

Dr. Ross (Halifax) stated that about two months ago he was called in consultation to see a case of boils of a severe character. This patient was a middle-aged man who had been for many years a pretty free drinker. He had been confined to bed for a couple of weeks, and a few of the boils had gone on to suppuration. The treatment had been Donovan's solution and iodoform applied to those lesions which had suppurated. The bowels had also been kept freely open. He advised calcium sulphide gr. $\frac{1}{10}$ every four hours, a blue pill at night, saline in the morning, and a bichloride solution, 1 to 2,000, to be applied to the lesions. In a week's time the patient attended to the duties of his office, all the boils having disappeared with the exception of two which had gone on to suppuration before undergoing this treatment. From the rapid appearance of the boils it appeared to him that some internal cause had something to do with the origin of the lesions in this case, probably from faulty metabolism and the secretory organs failing to throw off the effete products.

Dr. NEVINS HYDE (Chicago) pointed to the fact that the lesions under discussion were found chiefly on the back of the neck (when the coat collar was often effective as a nidus), the face, and the hands, regions remarkably exposed to the sources of infection. Walter Smith (Dublin) had said that the sulphide of calcium would one day be exposed in a museum of medical curiosities as a useless remedy once estimated of value in boils. The chief exceptions respecting an internal origin of boils were to be noted in the case of glycosuria and malaria where plasmodia were present.

Dr. C. W. ALLEN (New York) spoke of an internal remedy for boils suggested to him by Dr. Randolph, of Baltimore—namely, liquor ammoniæ in two-drop doses every two hours. He had employed it in many instances along with a possible suggestive element, telling the patient that the boils would cease coming, and in many instances this had been the

result. In certain instances, of which two were mentioned by the speaker, large-sized bullæ had been the first lesion seen, the greenish core being disclosed only after the thick bulla wall, as upon the region of the knee, had been ruptured, making it appear as though the infection had come from within the tissues rather than through the intact epiderm directly from the outside. There might be furunculosis of internal origin as well as furunculosis of internal origin as well as furunculosis of internal predisposition, as seen in glycosuria.

Dr. Dawson (London) referred to the fact that on the one hand there is the exciting cause, and on the other the soil on which it operates. Possibly in many cases we are apt to attach too much importance to the former, and too little to the latter, whilst it is difficult to draw the line between local and general treatment where as a rule both are employed. He personally went so far with the reader of the paper as to believe that in many cases iron in some form causes such a change in the resisting power or tone of the skin as to shorten a series of boils following each other, as they so often do for a considerable time.

Dr. W. M. Nelson said he was unfortunately a sufferer from severe cardiac lesions, and consequently his portal circulation is not what it should be. For a long time past crops of boils have, at longer or shorter intervals, appeared about the anal cleft and buttocks. Never had he had a boil elsewhere. Internal medication had never had the slightest effect, but the pricking of the vesicle which precedes the furuncle and the instillation of a drop or two of pure carbolic acid always aborted the lesion or lesions, and bathing the adjacent parts with antiseptics completed the cure for the time being. He could not but believe that these lesions are the result of local infection requiring local treatment.

Dr. Duncan Bulkley, in reply, thanked the Chairman for his energetic criticism, which he had fully expected; truth could only be brought out by full and free discussion. But he wished again to emphasise that he had only reported what he had observed and practised for ten and more years, and felt quite as sure of his position as did his old friend Mr. Morris. He had himself been educated in Vienna, in the purely local school of dermatology, and had kept up with literature and medical progress in bacteriology. But thanks to circumstances he had gradually been learning better things and had acquired broader views; and while recognising and acknowledging to the fullest the importance of modern discoveries as to septicism, he believed that still more modern views would prevail in the newest dermatology, giving due value to local infective processes while it recognised and properly treated the constitutional conditions existing in the soil on which the micro-organism finds lodgment. He would call particular attention to the connection between boils and carbuncles and glycosuria, as mentioned by Dr. Hyde and also in the paper. This point he regarded as one of the convincing proofs of his position. If it was acknowledged that this connection did exist, then we have one example of a systemic state which predisposed to the infective process, and it remained only to discover what the other states were which favoured the same; we should not be discouraged because they were difficult to determine, but with broad medical knowledge and experience seek to discover and rectify them. He protested against the assertion of Mr. Morris that drugs were used unnecessarily; he only wished to impress the necessity of treating the patient properly in all respects, and not attending solely to the single local condition present, as is too often done. In regard to sulphide of calcium, it certainly does control suppuration if a perfectly good article is used, and freely enough, as mentioned in the paper.

Reference.

[1] *Lectures on Auto-intoxication in Disease*, p. 9. Philadelphia, 1896.

Presentation.—Dr. John Robertson, formerly Medical Officer of Health of the borough of St. Helens, and now Medical Officer of Health for the city of Sheffield, has been presented by the officials of the St. Helens Corporation with a specially made table and writing case.

Bequest.—Mr. Richard Shaw, who was buried on September 15th at Rivington, near Bolton, has bequeathed £500 to the Bolton Infirmary.

ON THE IMPORTANCE OF GENERAL THERAPEUTIC MEASURES IN THE TREATMENT OF DISEASES OF THE SKIN.

By William Thomas Corlett, M.D.,

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In consulting with medical men for diseases of the skin I have been forcibly impressed with the lack of attention given to the general condition of the patient, and the importance attached to topical measures. This is somewhat surprising to me, as it occurs with physicians engaged in general practice, whose work, it is said, especially fits them for the quick recognition of general departures from the normal, and who are free from the narrowing influence which is said to follow an exclusive line of work. The explanation, I believe, lies in the tendency of the time—the fashion of medicine. The familiar and often-repeated illustration of the swinging pendulum serves as an example of the extremes to which we must attribute the steady progress of cutaneous medicine. The history of dermatology during the present century records two opposite points to which the prevailing thought has attained. At the beginning of the present century diseases of the skin were regarded for the most part as the result of constitutional conditions, poisonous humours, or diatheses, remediable by appropriate internal medication. Faith in the ingestion of drugs was at its height.

With the discovery of the itch mite and the trichophyton the prevailing belief began to wane, reaching the opposite extreme in the teachings of Ferdinand Hebra about the middle of the present century. The natural force of this great teacher, and the broad field of observation offered, attracted vast numbers of pupils, who have continued to propagate the methods of Rokitansky as applied by Hebra to the disease of the skin. Without the great impetus thus given by Hebra, the numerous discoveries in cutaneous pathology could not have been made, nor would the important investigations which are carried on at the present time by such indefatigable workers as Unna, Koch, Sabouraud, and others have been conceived. But it seems especially opportune to reflect that other factors in the cause of disease exist; that the skin itself is dependent for its normal maintenance on other organs and systems, which in treatment may first engage our attention. Pruritus ani may be dependent on the presence of threadworms in the rectum, an example of reflex disturbance. Local treatment may give temporary relief, but it will not cure the disease. If proper food be not partaken of local death of the skin—scurvy—may result. Malnutrition prepares the soil for the tubercle bacillus, and while lupus may not be cured by restoring assimilation, yet it is a useful supplement to local measures. Defective elimination by the bowels or kidneys causes a larger amount of effete material to be retained in the blood which is liable to affect the point of least resistance; when thrown off by the skin this material acts at times as a local irritant giving rise to dermatitis. To illustrate better what I wish to say, let us take a few diseases which comprise by far the great majority of all cases seen.

Eczema enjoys the distinction of being encountered more frequently than any other disease of the skin, forming about one-third of the combined returns of the American Dermatological Association. The comparative value of internal and general treatment in this disease will naturally depend on its cause.

In a discussion concerning the cause of eczema at the International Medical Congress in Rome, 1894, Kaposi, of Vienna, said, "We should regard eczema as an inflammation of the skin, of typical course, due to the various influences, such as chemic, caloric, etc., and which may be complicated or followed by various constitutional conditions, which should not be regarded as a special cause of the disease."

German writers in general follow the doctrine of Hebra that eczema is a local disease, and amenable to local treatment, while French writers, on the contrary, have always looked upon eczema as having a constitutional origin and calling for general therapeutic measures for relief. Some American authors are equally at variance, as extracts from two widely

known works will show. Dr. Hyde says, "The so-called internal causes of eczema must, for reasons given above, be considered for the most part as either coincidences or as conditions favouring the development of diseases in general, eczema not excepted.....Nearly every phase of eczema can artificially be produced upon the surface of the skin by the action of external irritants."

Dr. Piffard clearly defines his position as follows: "The fundamental cause of eczema lies in a constitutional derangement or diathesis, hereditary or acquired, of an indefinite duration. I believe, further, that it is directly due to the retention and accumulation in the blood of an undue amount of certain excrementitious substances, which, under normal conditions would be removed by the kidneys or other excreting organs as fast as formed."

It may also be mentioned that efforts have been made to relegate eczema to the parasitic dermatoses. Thus Elsenberg has endeavoured to prove that the staphylococcus albus is the cause of eczema, while Bernheim claims it to be due to the diplococcus albicans tardus. Ravogli believes the staphylococcus pyogenes albus to be an etiological factor in the disease. These views, however, are not generally accepted. Again, Leloir and other equally competent observers believe that trophoneurotic disturbances sometimes gives rise to eczema. We must confess from the varied testimony before us, that at present we do not know any definite internal or general condition, nor aberration of function that invariably, or as a rule, is associated with or gives rise to eczema, neither can we invariably ascribe the disease to external agencies. On the contrary, we have good reason to believe that the cause varies in different cases. That in many instances it is of local origin, associated in no way with the constitutional condition or antecedents of the patient. In others it seems equally true to be due to departures from the normal in some of the various processes of digestion, assimilation, or elimination. In others a predisposition exists in families, call it diathesis or what you will, rendering its subjects easily affected by local irritants. The causes of eczema seem to be numerous and varied. It is incumbent, therefore, in meeting a case, to study it individually, rather than as a class, and according to the ability displayed in recognising the disturbing element, will success reward our efforts. In infants a few weeks old I am accustomed to inquire as to the local care of the delicate skin. How is the baby clothed, how bathed, and are excreta allowed to remain in contact with the skin? These are each prolific causes of eczema at this period of life, and the means of relief lies, not in giving arsenic, but in conforming the care of the child to the ordinary rules of hygiene.

Later, between six and eighteen months, it is well to inquire as to the food. "The baby eats anything" is so often heard that it has ceased to startle me as it once did. Not, however, that it is regarded less harmful, for of all causes those arising from a faulty dietary are the most prolific in producing eczema at this epoch. This paper cannot deal with the proper feeding of infants, but in many cases the adoption of the proper rules for infant feeding by the family attendant will render the eczema amenable to simple soothing applications, of which the special drug or formula is of secondary import. The almost criminal negligence so often encountered in those who refer all cases of eczema to "teething" should also be relegated in most instances to the correction of the dietary.

Once a pustular eczema is established it may be carried to other parts, or possibly to other individuals by the inoculation of irritating discharges containing various micro-organisms to which reference has been made.

After middle life defective elimination frequently requires attention, to the correction of which may be attributed the benefit observed in obstinate cases of eczema at some of the German spas. Again, the dietary should be regulated to meet the requirements of the individual case. Finally, it should be forcibly impressed on the mind that neither arsenic nor Donovan's solution are panaceas for all the ills the skin is heir to. In fact, from my own experience, arsenic is a very much over-rated remedy in these affections.

Acne, although not the next in frequency, certainly ranks after eczema the most obstinate to treatment. Not that the disease is especially rebellious to treatment, but because the medical attendant too often looks upon the affection as trivial, or at worst self-limited in duration. Again, an error is often made in treating the part affected without regarding the whole integument of which the diseased area forms an integral part. We do not know any definite cause that invariably gives rise to acne, any more than we do in eczema and many other diseases, for what is frequently a cause in one individual is not in another. Besides, we have reason to believe that several factors are necessary, both predisposing and exciting, in producing the disease.

Thus the changes incident to puberty are undoubtedly the strongest predisposing cause; while various disturbances which are referred to the organs of generation, such as irregular and painful menstruation; frequent, involuntary seminal emissions, etc., are undoubtedly capable of aggravating the eruption, and in many instances must be regarded as the exciting cause. Again, the disturbances of digestion resulting in constipation must also be regarded not only as a strong predisposing, but as the exciting, cause in a very large number of cases. Defective circulation, with cold, clammy hands and feet, is not infrequently encountered in acne, such cases being especially intractable to treatment. True, we may not be able, with our present knowledge of physiology and pathology, to explain why and how many of these processes take place; yet from clinical observation we know that, by correcting some of the abnormal conditions mentioned, the disease of the sebaceous glands yields to the same local treatment, which previous to such correction was used without avail.

Aside from local treatment directed to the face or other parts affected, the general integument should not be neglected. Thus the daily cold bath taken upon rising in the morning, followed by brisk rubbing with a Turkish towel or flesh brush, or, if a reaction does not readily follow, the addition of a handful of coarse salt to each gallon of water will invigorate the skin and assist materially in maintaining it in health. A proper amount of exercise in the open air should not be neglected, and, finally, the patient should be warned against constantly picking the face and attempting to squeeze out the sebaceous accumulation with the fingernails.

The condition sometimes known as acne rosacea, which comes on later in life, may more readily be traced to its source. Popular opinion ascribes it to the use of ardent spirits, but this is only one of the many factors is producing it. I have in mind an instance in which Belfast ginger ale seemed equally potent as an exciting cause. For in those who are predisposed, anything that irritates the gastric mucous membrane may give rise to rosacea. Before beginning treatment, therefore, the medical men should ascertain the nature and the cause of such gastric disturbance, after which the course of procedure will be plain.

The merest tiro in therapeutics feels competent to direct the constitutional treatment of syphilis, one of the most grave, and, next to eczema, the most frequently met with of all diseases of the skin. This is so because mercury and the potassium iodide will in a vast majority of cases cause the disease to disappear. Undoubtedly, syphilis is the most satisfactory of all diseases to treat, because the most formidable lesions melt away or clear up under the influence of mercury and the salts of iodine. But there are many exceptions to this rule.

These usually occur late in the course of the disease, and are often met with in debilitated subjects. In these cases mercury not only fails to relieve, but is positively harmful to the patient. Neither will fumigation, inunction, or deep intermuscular injection surmount the difficulty. The potassium iodide in some of these cases acts no better. Recourse must be had to general therapeutic measures. I have in mind a case that came under observation in January, 1893, in which the diagnosis was somewhat difficult, occurring, as it did, in a married woman of good repute, in whom the history of early symptoms of syphilis could not be obtained. The husband could throw no light on the subject. Mercury aggravated the lesions, and the potassium iodide was of doubtful good. In December, 1895, the case was seen by Dr. George Henry Fox, who confirmed the diagnosis of syphilis, and advised that mercury and the potassium iodide be replaced by a simple vegetable bitter, and the patient directed to walk in the open air twice daily until a slight feeling of

fatigue was experienced. The patient returned at the end of a fortnight with the end of the nose eaten away, but in general health feeling better. Fearing lest the nose be further disfigured, the potassium iodide, in small doses, was again given, with continued attention to her general physical condition. It was soon noticed that the drug began to produce its specific effect, and the disease gradually improved. At the present time the woman is in good general health, and the lesions are held under control by the potassium iodide. I believe many of these exceptional cases are due either to over-medication, or a general disregard of hygienic measures. Of the greatest importance in such cases is change of air, as from a crowded city to the country, generous and well-regulated diet, and sometimes the withdrawal of mercury and iodine, with the substitution of bitter tonics.

While at Aix-la-Chapelle last year I had the opportunity of following the method of treatment at this celebrated Mecca for syphilitics. Undoubtedly many apparently hopeless cases are greatly benefited; but I believe it is not due to any special virtue in the water, but rather to general hygienic influences: change of air and surroundings, cessation from business, regulation of the diet, and restriction of all excesses—measures which may be adopted with equal benefit in any locality.

Dr. George Henry Fox advocated the plan of improving a patient's general health, not by dependence upon a blue pill at night and a purgative in the morning, but by adopting the tactics of the trainer, and not only giving advice as to exercise, diet, bathing, etc., but seeing that it is faithfully carried out. Then Nature alone will often effect a cure or render the treatment successful which before had failed.

Dr. Duncan Bulkley wished to corroborate much that Dr. Corlett had said, especially in reference to the necessity of the application of broad medical principles and knowledge to the treatment of diseases of the skin. He, too, in consultation, had very frequently found that the physician had paid too exclusive attention to the local condition when he had found the patient suffering from the most marked evidences of digestive or assimilative derangement, with constipation, loaded urine, etc. While by no means endorsing the indiscriminate and undue giving of drugs, as charged by the Chairman, he felt that the dermatologist who would get the largest measure of success in practice must not only be well educated in every branch, but must apply to each case the broadest and most intelligent medical knowledge. The more he saw of practice the more did he have reason to deplore the narrow-mindedness which too often prevails in regard to the treatment of diseases of the skin.

Dr. Corlett regretted that the Chairman jumped to the conclusion that advocating general therapeutic measures necessarily implies purging and picking. Nothing could be more erroneous. He endeavoured to impress his belief in the futility of drugs and the various combination of drugs as specifics for some of the more common diseases of the skin. His idea of general measures did not imply the blue pill thrice daily for two years—therapeutic measures of the first speaker. The importance of meeting indications as they present themselves he admitted possible by drugs if we believe them to be the best agents at our command, or, what was more frequently advisable, by the general rules of hygiene as indicated in the individual case. That the practice of medicine had attained that ideal to which the Chairman referred he did not believe; on the contrary, his observation in London led him to believe that suggestions as to general hygienic procedures were not entirely thrown away, and that people were not, as elsewhere, instructed as to diet, bathing, and the importance, as the paper maintains, of keeping the various functions of the body in a normal state. This did not detract from the importance of the purely local doctrine, but he ventured to believe there are other factors in the etiology of diseases of the skin.

The Queen has conferred the Jubilee Commemoration Medal upon the following officers of the Volunteer Medical Staff Corps:—Surgeon-Captains V. Matthews, T. H. Openshaw, and H. D. Buss, and Surgeon-Lieutenant J. R. Whait.

ON A FORM OF PATHOLOGICAL PIGMENTATION PRECEDING MALIGNANT GROWTH OF THE SKIN.

By James Galloway, M.D., F.R.C.S., F.R.C.P.,
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I trust that I may be permitted to bring the question of the significance of abnormal pigmentation before this meeting of our Association, for in spite of the interest that has always been taken in the subject difficulties still remain in the recognition of certain varieties of melanosis.

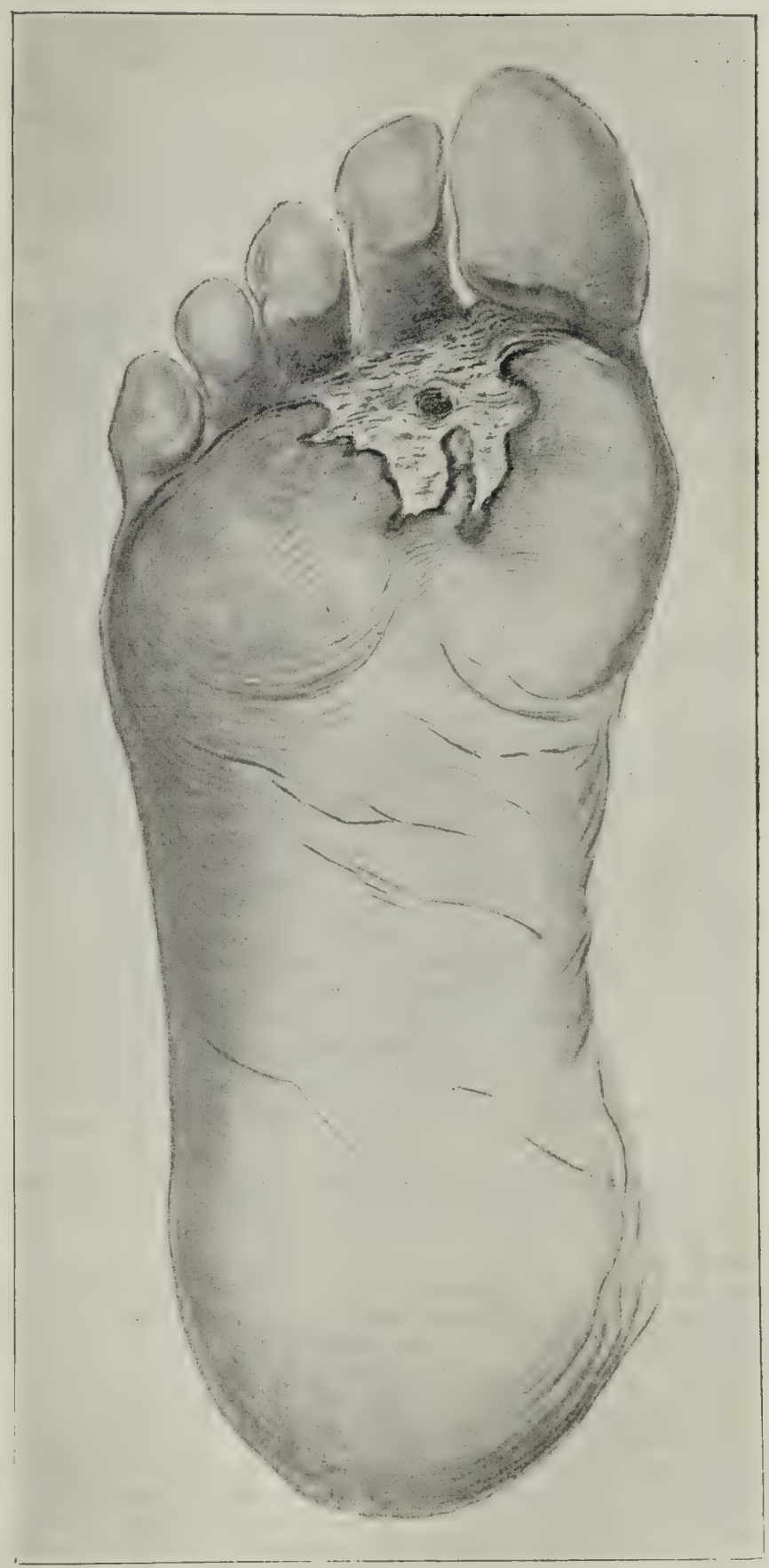

Fig. 1.—The position, superficial character, and pigmented border of the ulcer.

A recent writer in the *Lancet* emphasises this so recently as in the number for July 24th of this year (p. 211). He gives a

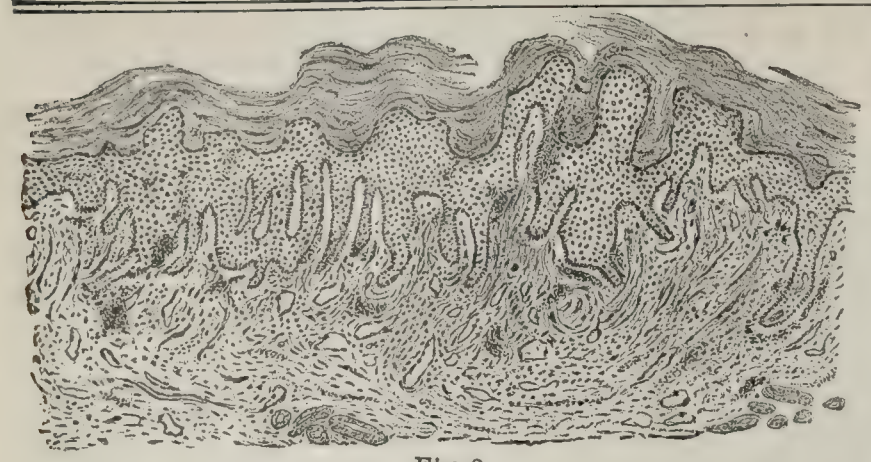

Fig. 2.

Vertical section of the skin through the margin of the ulcer, illustrating the retention of the horny epithelium, the irregularity of the horny epithelium; the irregularity of the papillæ owing to the infiltration into the papillary layer of the cutis, and the position of the pigment at the border of cutis and epidermis, but also throughout the epidermis and deeper in the cutis. Stained with methylene blue.

Fig. 3

Section similar to Fig. 2, but unstained, illustrating the position of the pigment.

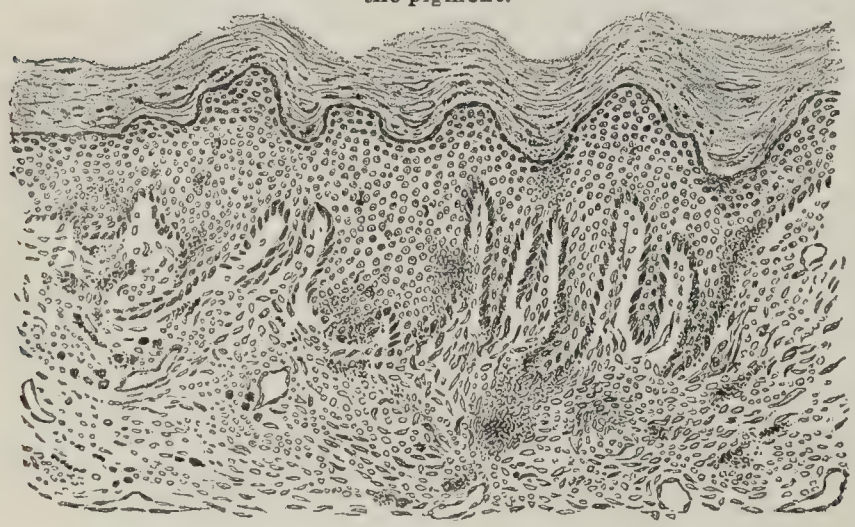

Fig. 4.

Section near the edge of the ulcer under higher magnification. The regularity of the papillæ of the skin is much interfered with, and the cutis is seen to be densely infiltrated with cells of new formation.

short account of a case of melanotic cancer published in another journal[1] somewhat as follows. The sufferer, an exceptionally healthy man, aged 27, had suffered from a black mole on the right arm ever since birth. Three years previously it had been torn by the horn of a sheep, but soon healed. It was again injured, and spread slightly in size. A medical man then saw it, and thought little of it. Once more it was bruised, but on this occasion did not heal properly, and a few satellites appeared. The case then followed the usual course. Operations were performed, and portions of the skin and the axillary glands removed; but, in a short time, the whole of the skin of the trunk was thickly studded over with minute melanotic growths. The annotator in the *Lancet* concludes by remarking, "How many more such cases must occur before it becomes generally realised that a mole is a potential sarcoma, and should be promptly and freely excised on showing the slightest activity?"

I do not think that the fact that melanotic cancer may arise from a mole fails to be appreciated by medical men. The difficulty arises from the circumstance that the earliest stages of advance beyond the stage of a mole or nævus are not easy of appreciation, either by the sufferer or by medical practitioners, and cases come for treatment too late.

Let me quote to you another example in support of my statement. A medical man in practice came to a colleague of my own, whose pupil he had formerly been, and, exposing the skin, said: "I am afraid I have melanotic cancer." Sure enough it was so. It appeared that the unhappy patient had remarked that there was a mole on the spot for some years, but had taken no notice of its increase in size till a tumour appeared.

In cases such as these, when the malignant growth is preceded by increase in size of a pigmented mole, if a diagnosis is not made, it can readily be understood that more obscure cases, in which there is no warning by the existence of a mole, may be neglected.

I had some intention, when I commenced to consider this paper, of discussing the question of the beginnings of the pigmentation process; but I soon decided that it would be more profitable to draw attention to one of the rarer forms of pigmentation, an example of which has recently been brought specially under my notice. Let me relate to you the case to which I refer:

The patient, a man, aged 61 years, came for advice in my clinic at Charing Cross Hospital in April, 1897. He complained of a sore on the sole of the right foot which would not heal properly. The account he gave of his condition is as follows:

About 5 years before this date he remembers to have suffered from a tendency to the easy formation of blisters on the sole of the right foot at the site of the present lesion. Very slight over-exertion in walking produced the blister, which occurred always at the same place—on the sole of the right foot between the first and second metatarso-phalangeal joints. For a long time the blister healed up readily and caused comparatively little inconvenience. He would break it with his finger, and it healed up in a day or two. He declares that from the very first appearance of this blister it was surrounded by a border of blackish tint as at present, but at first quite narrow.

The tendency to the formation of blisters on this spot continued, but during the last nine months he noted that the blister had shown a tendency not to heal perfectly, and that a slight superficial ulcer had appeared on the spot which formerly blistered. He stated that this ulcer would heal if he could have rest.

On presenting himself at the hospital it was seen that there was a very superficial ulcer occupying a position near the bases of the first, second, and third toes. It had an irregular outline, but the whole area occupied by the ulcer might correspond to the size of a half-crown piece. Over the surface of the ulcer the epithelium did not appear to be completely destroyed. The margin of the ulcer crept into the first, and to a slighter extent into the second interdigital cleft. The epithelium at the margin of the ulcer was slightly thickened, and presented a sodden appearance, especially between the toes. There was a slight halo of erythema surrounding the ulcer, suggesting that the sore had been recently irritated by walking.

Much more striking than the erythema was the fact that a margin of brownish-black pigmentation surrounded the ulcer on all sides, darker at certain points than at others, but especially dark in the interdigital clefts. At some points the halo of pigment might be seen $\frac{1}{4}$ inch from the margin of the ulcer. There was no sign of swelling as if new tissue were being formed; the appearance presented suggested rather loss of tissue. The glands in the corresponding groin were not enlarged, nor was there any appearance of undue pigmentation elsewhere. As a result of the presence of this ulcer the patient walked on his heel, but he declared that if he were able to rest for a few days the sore would heal, and he would walk naturally till the ulcer reformed. (The patient was watched for about three weeks, but no appearance of the ulcer healing was observed.) This condition was so peculiar that I demonstrated the patient at the Dermatological Society of London on April 14th, 1897.[2] Considerable interest was taken in the patient, but all the members present agreed that the affected area should be removed as freely as possible, the only difference in opinion being as to the method and extent of the operation. Accordingly, at my request my colleague, Mr. Frederick Wallis, amputated the anterior part of the foot at the tarso-metatarsal articulation. The operation was quite successful, and the patient was discharged to the convalescent home of the hospital. He has been kept under observation since, and there is no recurrence of the pigmentation in the foot or elsewhere.

As the whole affected area was removed, a very complete microscopic examination was made, with the following results:

The skin, with the exception of the pigmentation, seems to be normal up to the edge of the "ulcer." This lesion, which for convenience is called the "ulcer" in this description, is very superficial, the lower layers of the rete being present over almost the whole of the abraded surface.

Pigment.—The pigment, which was of the usual dark brown tint, was observed microscopically considerably wider afield than the edge of the pigmentation visible to the naked eye. In some places it might be distinguished at a distance

of about an inch from the ulcer. It made its appearance first as small granules arranged in clumps, often situated near the apices of the papillæ. It was difficult at first to decide whether the pigment made its appearance in the cells of the cutis or in the epithelium; but as the more central parts of the lesion were approached the pigment could be seen occupying the lowest columnar cells of the epithelium in a more or less regular manner, presenting an irregular resemblance to the normal distribution of pigment in the darker races. It was also difficult to decide whether the pigment was completely intracellular or not. Even when fairly regular in arrangement, free pigment could be made out beyond the cells; but it must be recollected that, in spite of careful cutting, the pigment may have been slightly displaced by the microtome knife. As the pigment increased in amount towards the central parts of the lesion it could be traced into the rete Malpighii and also into the stratum corneum. In the latter situation it was clearly extracellular as well as intracellular in distribution.

Very early in the progress of the disease the pigment could be traced into the underlying cutis. It was at first seen in the cells of the papillæ, where it appeared to occupy the protoplasm of cells frequently possessing processes, and larger than those usually present. The amount of pigment was frequently sufficient to obscure the nuclei of these cells.[3] As the central parts were approached the amount of pigment became greater, and in some spots the papillæ were so loaded with pigment that it was difficult to distinguish the outlines of the cells. The pigment could also be easily traced into the deeper layers of the cutis.

Cutis.—The surrounding unpigmented cutis seemed to be quite normal. There was no disturbance in the arrangements of the epidermis and cutis, and there were no groups of epithelial cells nor epithelial "cords," such as may be seen in moles or "nævi"—using the latter word in its German signification. When the pigment was first observed the cells of the papillæ appeared normal, except for the occcasional appearance of the large branched cells already noted. But as the pigment became more profuse the formation of new cells resembling those of chronic inflammatory exudation became obvious. Of these new cells only a small number seemed to be leucocytes; the majority were larger in size, rounded or polygonal in shape, and usually contained one nucleus. These new cells were often arranged in groups or in lines along the length of the papillæ or around the blood vessels. Mast cells were not numerous, but a few could be seen here and there, apparently without any definite arrangement. They occurred both in the papillæ and at the margins of the groups of newly-formed cells. The newly-formed cells at no point examined suggested the arrangements of sarcoma, and, speaking roughly, looked like inflammatory exudation.

On account of the formation of these new cells the papillæ became swollen and flattened, and the interpapillary processes of epithelium rather irregular; in other places the papillæ became much elongated, giving rise to corresponding lengthening of the interpapillary processes of epithelium. The latter transformation was especially obvious, as the ulcer was approached so that in some points a papillomatous appearance is presented.

Over the surface of the ulcer the superficial layers of the epithelium had gone, and the tips of many of the papillæ were laid bare and injured. But the interpapillary processes of epithelium existed over the whole surface.

Epidermis.—The epithelium retained its characteristics till the region of pigmentation was reached. Then it was noted that the cells of the deepest layers of the rete Malpighii began to fill with pigment granules. From these layers of epithelium the pigment made its way upwards, and could be distinguished scattered throughout the epidermis. The stratum granulosum was not disturbed in any way, and could be seen intact up to the edge of the ulcer. One important change in the epithelium remains to be mentioned. In the parts where much pigment was observed, the lowest layers of the epithelium, especially the palisade layer, were much altered. The cells lost their regular appearance, became rounded, and appeared to undergo proliferation. The cells of the overlying layers, owing to the lengthening of the papillæ and the stretching of the skin, were much elongated. As the result of these changes, the dividing line between the epidermis and the cutis became indefinite and blurred in parts, a change which was aided by the formation of the new cells in the underlying cutis, and the amount of pigment present.

The relation of this form of melanosis to that drawn attention to by Mr. Hutchinson under the name of "melanotic whitlow" is very clear. This pigmentation, which so commonly precedes the appearance of malignant growth of the fingers and toes appears, as is well known, usually on the dorsal or on the lateral surface of the digits, and may last for some time before the actual appearance of tumour. In the early stage some difficulty in recognition may occur, but the distinctive feature occurs just as in the case recorded in this paper. As Mr. Hutchinson expresses it, speaking of the lesion, "here a little coloured border may often be found, looking as if lunar caustic had been applied, which tells the tale." Again, "at the edge of the inflamed nail a little border of coal-black colour, and this, however slightly marked, must be allowed to make the diagnosis." The opinion of many writers is that the appearance of the "melanotic whitlow" is preceded by some injury of the nail.

In the case under consideration the lesion commenced on the sole the foot and appeared to commence apart both from the nails and even the toes. The first lesion that the patient observed was the blister which formed so readily on walking, though he adheres to the statement that the blister was surrounded from the first by a dark base or halo. It seems quite clear that there was no mole on the spot subsequently affected, not only on account of the patient's statement, but also as no trace of such a structure has been observed on microscopic examination. The probable course of events has been that, first, for some reason as yet unexplained, an undue deposit of pigment took place on the site of the disease, and that the area so affected became liable to injury, the action of walking being sufficient to produce blistering. The injury so produced excited a fresh disturbance of pigment and an extension of the lesion.

The history thus given undoubtedly supports the opinion of those who consider that injury of a pigmented point is a potent factor in producing further pigmentation and the onset of malignant transformations. In the case of pigmented moles or nævi this, at any rate, seems to be the case. The histological appearances shown point to the conclusion that pigment appearing abnormally acts as an incentive to proliferation of the cells of the part affected, whether the cells are of epiblastic or mesoblastic origin.[4]

The question arises in connection with our case whether the alterations taking place were most likely to lead to sarcomatous or carcinomatous disease. As is well known, round this point much controversy still goes on, and I do not wish to enter on the discussion of so debatable a subject now, but would draw your attention to certain points which are quite clear in the drawings and preparations before you. First, to the prolongation of the interpapillary processes of epithelium, and to the changes taking place in the palisade layers; by these changes the limit between epidermis and cutis becomes ill-defined. Secondly, to the character of the infiltrating new cells which make their appearance in the papillæ and then in adjacent layers of the dermis, these cells are certainly more of the character of cells appearing as a consequence of some chronic inflammatory cause than of sarcomatous new growth. Thirdly, the process of chronic irritation, which is so marked in the history of the case, coincides much more closely with the clinical idea of what precedes the formation of epithelioma than with the production of sarcoma.

In the matter of treatment there can only be one rule, to remove the affected area early and completely, and it is clear that in all such cases as that under consideration the surrounding faint areola of pigment should be defined as far as possible, and the incision of an operation should have no suspicion of being within the limits of this areola. The histological examination shows that pigment may be observed at points twice the distance from the centre of the lesion as the edge of the areola visible to the naked eye. But, considering the very important results involved, it may well be considered advisable to remove a much larger area than that actually involved, for example, the whole segment of a limb.

Another point is equally clear that the removal should be

performed by clean incisions so as to bruise the parts as little as possible, and that every precaution should be taken to secure immediate healing of the incisions, avoiding the irritation caused by suppuration.

Dr. William B. Coley (New York) said: I have listened with great interest to the very valuable paper of Dr. Galloway, and have been especially pleased with the demonstration of his very beautiful illustrations. Inasmuch as one of my own cases is of the same type of tumour as that which forms the basis of his paper, I may be permitted to refer to it in brief. The patient, male, aged 37 years, had a distinct family history of cancer, three of his father's brothers having died of cancer. Seven years before he had bruised his left thumb; December 7th, 1892, he again injured the same thumb. Immediately after this it became painful, and now had an inflamed appearance. It was treated with poultices and subsequently lanced with no improvement. Later, the bone was scraped. Finally, about five months from the injury, there was some discoloration about the nail. Suspecting malignant disease, a portion was examined microscopically by Dr. L. L. McArthur (Chicago), and the disease proved to be melanotic sarcoma of the round-celled type. The thumb was amputated at once, but a few months later a small shot-like tumour appeared just beneath the skin of the left wrist. Soon other similar tumours appeared in different parts of the body. The patient was treated for several months by Dr. William T. Bull and myself with the mixed toxins of erysipelas and B. prodigiosus. At first there seemed to be some improvement, evidenced by a cessation of growth of the tumours present and no further increase in number. This improvement was temporary, and a few months later a large number of tumours appeared. The case later had internal metastases, and rapidly had a fatal issue. I would emphasise the importance of early and very thorough operation in cases of melanotic, or suspected melanotic, new formations.

Dr. Allen (New York) spoke of the necessity for a warning note to the general practitioner against the removal of darkly-pigmented growths by the application of thread or silk about their base to tie them off. He had seen several instances in which such old-woman surgery had resulted in rapid spread of melanotic sarcoma and speedy death. Operation, if at all, before evidence of increased growth or inflammation has occurred, should be thorough. Moles of the face which are not of the deep black colour, but brownish, as seen in the ordinary form of hairy pigmented moles, he had always removed when requested for cosmetic effect by means of electrolysis, employing a flat needle; and had never yet known of any instance of resulting malignancy. Very dark or blackish moles he would prefer not to touch unless called upon to do so by evidences of disease, and then only by hide incision.

Notes and References.

[1] *Intercol. Med. Journ. of Australia*, May 20th, 1897. [2] *Brit. Journ. of Derm.*, vol. ix, No. 5, p. 199. [3] It is true that the appearance of these "wandering" cells may have been simulated by pigment finding its way along the lymph channels of the parts, but from a comparison of the aspect of these structures, and the arrangement of the pigment in the lymph and blood vessels in certain diseases involving pigment destruction, especially in the dark-skinned races, it seems more probable that in this particular instance the objects are actually cells laden with pigment. [4] Unna, *Histopathology of the Diseases of the Skin*, Eng. Trans. by Norman Walker, pp. 682, 724, 745, Edinburgh, W. F Clay, 1896.

Bibliographical Notes.

These are by no means complete, but may save a little trouble to anyone investigating the subject:—Faguet: Du Cancer Mélanique des Doigts, *Arch. Clin. de Bordeaux*, p. 448, No. 18, 1894. Plantier: Tumeurs Mélaniques des Doigts et des Orteils, *Thèse de Bordeaux*, No. 26, année 1895-96. These two monographs contain a very complete bibliography up to date. For their perusal I am indebted to my friend Dr. William Dubreuilh, Professeur agrégé à la Faculté de Médecine de Bordeaux.

References to Mr. Hutchinson's Notes on Melanosis:—Hutchinson, Jon.: *Trans. Path. Soc. Lond.*, p. 404, vol. viii, 1858; Melanotic Whitlow, British Medical Journal, p. 491, vol. i, 1896; *Amer. Journ. of the Med. Sciences*, pp. 158 and 470, vol. xli, 1886; *Illustrations of Clinical Surgery*, plate vi, p. 39; *Archives of Surgery*, vol. ii, pp. 85, 202, 349; vol. iii, pp. 67, 319, 330; vol. iv, pp. 61, 62, 124; vol. v, pp. 57, 123, 134, 159, 160, 257; vol. vi, pp. 11, 152; *Edin. Med. Journ.*, new series, vol. i, No. 5, p. 482, 1897. Howse, C. B.: Case of Melanotic Sarcoma of Right Great Toe (note), *Lond. Hosp. Gaz. Clin. Supplement*, p. 9, vol. iv, No. 2, June, 1897.

Presentation.—On the occasion of his retiring from the post of medical superintendent to the Cornwall Asylum, Bodmin, Dr. Adams was presented, on September 24th, with a silver coffee tray and an illuminated address by the officials of the asylum as a mark of their esteem and respect.

THE BIOLOGY OF RINGWORM.

By T. Colcott Fox, M.D., F.R.C.P.,
Physician for Diseases of the Skin at the Westminster Hospital, and to the Skin Department of the Paddington Green Children's Hospital.

[This paper, which was read for the author by Dr. Galloway, was illustrated with lantern slides.]

In the course of our investigations into the plurality of ringworm fungi my colleague Dr. Blaxall and I have formed a collection of photographs illustrative of the subject, and although many of the pictures have been already exhibited to the Pathological Society of London, I venture to take the opportunity of this meeting of the British Medical Association to repeat the demonstration in Montreal.

There are four criteria by which the plurality of ringworm fungi must be judged—namely: (*a*) The macroscopical clinical characters, (*b*) the microscopical clinical characters, (*c*) the macroscopical cultural characters, (*d*) the microscopical cultural characters.

So judged I will demonstrate to you four divisions of these fungi, separable from one another by all or some of these tests. These four divisions are: (1) The *microsporon Audouini*, (2) *so-called endothrix fungi*, (3) *so-called ectothrix fungi*, (4) *certain rarer organisms presenting clinically the characters of ringworm, but culturally approaching favus in aspect*. The endothrix and ectothrix fungi compose Sabouraud's great Trichophyton group.

Geographical Distribution.

In London we find that nearly all the scalp ringworm is due to microsporon, and endothrix and ectothrix is comparatively rare. In Paris there is a special incidence of endothrix ringworm, so that microsporon is relatively less frequent than in London. As one travels southwards and eastwards the microsporon disappears, and is unknown for instance in Italy.

A.—Microsporon Audouini.

Macroscopical Clinical Characters.—A perfectly characteristic picture is presented by cases undeformed by treatment or chronicity. Parent and satellite grey desquamating circumscribed areas, joining together, over which almost every hair is diseased, fragile, and broken off to form comparatively long stumps. These stumps have a white parasitic sheath, extending on them throughout the intrafollicular portion, and for 3 millimetres beyond the exit of the hair. This sheath is very characteristic, but must not be confounded with adherent epithelium. The scalp lesions are often associated with the existence of small red macules about the face, neck and shoulders, and ringed lesions are not infrequent. This fungus, however, makes but a small contribution to the cases of tinea circinata. It does not attack the beard or nails. It is a disease of children, and not of adults. It is almost exclusively human, although human beings may rarely be inoculated with a microsporon from the horse, and possibly the dog and cat.

Microscopical Clinical Characters.—It is a comparatively small fungus. It affects not only the outside but the inside of the hair. On the outside of the hair the fungus consists of spores, which are dotted over the bulb, lie in columns up its surface, then collect more densely into a mosaic which forms like a bark round the hair, and towards the free end of the stump dies away. Inside the hair the fungus assumes the mycelial form. It varies in quantity in different cases, and to some extent in appearance, for, though usually segmented at long intervals, it may be quite beaded. Otherwise the chain formation characteristic of other divisions of fungi is strikingly absent. The mycelium invades chiefly the superficial portions of the hair, and pieces may be found right to the free end of the stump, but it terminates just short of the bulb in a fringe, which is very characteristic. The hair is very apt to break off at this point. When the hair becomes detached from its papilla from any cause, the fungus promptly invades the bulb.

The lantern slides of microsporon shown included:

(1) Bulb of hair (unstained) showing spores attached and arranged in columns up the surface. This appearance is too constant to be accidental.

(2) Sheath of spores massed around the hair (unstained). The spores are seen forming a mosaic around the hair. The absence of chain formation is to be specially noted.

(3) Another specimen of this extrapilar spore sheath (stained) under

rather a higher power. There is within certain limits an inequality in the size of the spores. The margins beyond the hair border are out of focus.

(4) Mycelium terminating in a fringe just above the bulb (unstained). The appearance here shown is characteristic, though in all the ringworm fungi there is a tendency to form a similar fringe and avoid the bulb structures until the hair is separated from the papillæ.

(5) Very luxuriant mycelial fringe (stained).

(6) Mycelial threads beyond the spore sheath towards the free end (unstained).

(7) Another specimen of same (stained). The mycelium is found here in these short pieces. It is generally jointed at long intervals, but may be beaded with square or oval segments, and these may confuse the observer in making a diagnosis from the chain formation of other fungi.

[Dr. Fox also showed two slides illustrating the early invasion of the hair by microsporon, and proceeded:]

These are important, because Sabouraud describes the fungus as entering the hair, branching there, and finally giving off minute offshoots which penetrate the cuticle and then bear true ectospores, which form the mosaic. Thus, according to Sabouraud, the microsporon, in distinction to other ringworm fungi, undergoes a complete cycle of development, whilst parasitic on the hair. I dispute the accuracy of this view, because I find that (*a*) the hair itself is only invaded after the mosaic begins to form upon it; (*b*) the cuticle is stripped off rapidly and at an early stage; (*c*) I have never found any proof of Sabouraud's theory.

(1) Early stage of invasion of the hair showing giant spores dividing up in all directions to form smaller groups, and so the mosaic. The cuticle is intact, though out of focus. There is no trace of mycelium in the hair at this stage. Mycelial threads formed from these giant spores enter the hair beneath the cuticle, stripping the latter off as seen at the sides.

(2) Similar hair showing the stripping of the cuticle. The centre of the hair is out of focus. This early stripping of the cuticle is rapid and characteristic of microsporon.

B.—Endothrix.

Macroscopical Clinical Characters.—These fungi in London produce parent and satellite circumscribed desquamative patches freely studded with diseased hairs. It is often not easy to distinguish these areas from microsporon patches. Close attention, however, to the following points will be of great assistance:

The stumps have no white parasitic sheath like microsporon, though they are often encrusted with epithelial scales. The stumps tend to break off very short, even in the mouth of the follicle, and they get dark coloured and swollen. Further, it is very suggestive, if single stumps and groups of twos and threes are found about the head. My experience is that many of the old chronic ringworms, with one or two stumps disseminated about the head, belong to this category. That this form of ringworm is distinguishable to the naked eye from microsporon is proved by the fact that observers learn to recognise. I seldom let a case pass unrecognised now. This form is said to be frequently associated with well-marked tinea circinata, and it is certain that a large proportion of cases of tinea circinata are due to the endothrix fungus.

When a case has been rubbed some time with medicaments the hairs break off in the follicle, and alopecia-like areas are produced. Now, Sabouraud has established the existence in Paris of a distinct endothrix ringworm, called peladoide, characterised by the formation of these alopecia-like areas with the stumps broken off in the follicles. I have not met with this form of scalp ringworm in London as yet. It is said not to affect the beard, which I doubt, or the nails. It is exclusively human as far as we know. It attacks children to a later age than microsporon.

Microscopical Clinical Characters.—These are absolutely characteristic. The fungus is comparatively large, obviously larger than microsporon, and hence called megalosporon. The fungus is entirely in chain formation, and branches dichotomously. The fungus is seated exclusively within the hairs, except at the very outset, hence the term endothrix. It terminates towards the bulb in a cluster of smaller, clear, unsegmented threads, but invades the bulb when the hair is detached. Now occasionally a hair is extracted in an early stage of infection with threads lying outside the hair. This has been a source of confusion to some observers, but a wide experience establishes the fact that in the fully infected hairs the fungus is confined exclusively to the interior of the hair.

The lantern slides of endothrix shown included:

(1) Endothrix hair (unstained) giving the appearance of a bag of nuts from the dense packing of the threads. The borders of the hair are seen demonstrating that the fungus is within the hair.

(2) Another endothrix hair (unstained), less densely packed, and displaying the chain formation.

(3) A stained specimen of endothrix displaying very beautifully the chains and dichotomous branching.

(4) An unstained specimen with the hair structure dissolved away after prolonged soaking in liquor potassæ. The chains are well seen.

(5) Another unstained specimen similarly prepared.

(6) Another specimen, stained after soaking in potash, from a remarkable case of vesicular tinea circinata.

(7) Section of an endothrix hair displaying the fungus in the hair and none outside.

C.—Ectothrix.

Macroscopical Clinical Characters.—With this fungus also the infection is an excentrically spreading one, and rounded parent and satellite areas are produced. This configuration is sometimes very useful in distinguishing ectothrix ringworm of the scalp from pustular pediculosis.

The scalp affection is often associated with tinea circinata, or the latter very frequently exists alone. The endothrix and ectothrix fungi are responsible for most of the cases of tinea circinata. It is said to account for all the beard and nail cases. It is believed to be exclusively of animal origin. The striking clinical feature is the frequency with which the lesions are markedly inflammatory and even pustular, thus producing the lesions known as kerion, perifolliculitis suppurée en placards, forms of impetigo, vesicular and pustular tinea circinata, so-called parasitic sycosis of the beard, etc. The lesions are not, however, invariably of this character, for instance many cases of tinea circinata are not so, and Sabouraud has described a dry folliculitis of the beard due to an ectothrix fungus of birds. The diseased hairs break off, leaving stumps as in other forms of ringworm, but there is no white parasitic sheath on the hair beyond the follicle, as in microsporon.

Microscopical Clinical Characters.—The fungus, as in microsporon, attacks both the outside and inside of the hair, but further tends to ramify in the epithelial *débris* of the follicle and perhaps the lining epidermis. The term ectothrix is not meant to signify that the fungus is exclusively outside the hair, but to contrast the arrangement with endothrix. It does not strip the cuticle off in the same rapid way as microsporon.

The chain formation and dichotomous branching is very marked, as in endothrix, but mosaic groups are also formed outside the hair. When fully infected, the hair is encased in its intrafollicular portion by a sheath of fungus in which all trace of chain formation is lost.

In the hair threads may be seen proceeding towards the free end of the hair, and near the bulb a fringe is formed. As, however, the hairs are soon detached by the inflammatory exudation, the bulb is invaded and the fringe is not seen very often.

Lastly, whilst in microsporon the spores are small, and in endothrix large, in ectothrix ringworm they vary in different cases from very large (giant) to the size of microsporon. Many of the large-spored cases, as in the beard, can be distinguished at once from endothrix by the fungus external to the hair. Some of the small-spored cases it is exceedingly difficult to distinguish microscopically from microsporon.

The lantern slides of ectothrix shown included:

(1) Ectothrix hair (unstained) from a case of kerion in a child's head. The size of the spores, and their arrangement as a dense sheath around the hair closely simulated microsporon. Note, however, the mycelium ramifying beyond in the follicle.

(2) Hair from the same case disintegrated in potash showing the mycelial chains. Such chains are never seen in microsporon.

(3) Mycelium invading a deformed bulb from another case of kerion in a child.

(4) Early stage of infection of horse's hair. Note the chain formation and clusters of spores forming. The cuticle is intact, but out of focus, and the fungus was seen entering and ramifying beneath the cuticle.

(5) Cross section of a horse's hair from the same case. The edge of the hair is clearly seen on one side, with the fungus surrounding it and within.

(6) Hair from a beard case showing chain formation.

(7) Calf hair showing the massing of spores around the hair near the mouth of the follicle. Other specimens display the chain formation.

D.—Faviform Fungi.

Our experience has been too limited to enable us to profitably discuss this form. We have isolated it from two dogs and a case of tinea circinata in a child.

Cultures.

I have reserved the slides of the cultures to the last in

order that they may be the better compared one with the other.

All the cultures now shown have been obtained on the same medium (Sabouraud's Formula No. 2), and under similar conditions in plates.

MICROSPORON.

Macroscopical Cultural Characters.—This fungus has almost invariably a comparatively slow development. About the seventh day a round submerged plaque is seen, which by transmitted light appears to consist of radiating hyphæ very closely set together, and presenting a satiny aspect. The margin is even, or with a fine short fringe. In a day or two a white tuft of down projects from the centre, and finally the whole surface becomes covered with whitish down interspersed with fine concentric rings of a darker colour.

[Four types of these cultures, all aged 6 weeks, were shown. What the significance of the variations may be is not well established.]

ENDOTHRIX.

Macroscopical Cultural Characters.—It starts growing rather earlier than microsporon. The peculiarity is that in the centre of the culture a great heap is thrown up covered with a fine powder, and radiating from this heap are beautifully ramified submerged hyphæ, lightly powdered over. In about a month the heap becomes depressed in the centre, as it were invaginated, leaving a central cavity or crater. Sometimes they are white, sometimes bright yellow.

[Five of these cultures, all different, were shown. One might expect that the mechanical production of the craters would cause some diversity of aspect, but, as with the microsporon, it is astonishing how stable these fungi are, when cultivated under like conditions and from the same source.]

ECTOTHRIX.

Macroscopical Cultural Characters.—There are so many groups of these ectothrix fungi that it is impossible to give a short description which will embrace them all. We therefore demonstrate three for comparison with those already shown. These ectothrix fungi start growing early and continue to grow with great rapidity. The cultures now shown are covered with a characteristic white powder. They are: (1) From a tinea circinata, probably of horse origin; (2) from a case of kerion of the scalp (origin unknown); (3) from a kerion of a child's scalp, of cat origin.

CAT SERIES.

[Four cultures identified as originated in the cat were shown. They bear a remarkably close resemblance to microsporon cultures, but grow much more rapidly, and the rays are not quite so closely set. Possibly it is due to a microsporon of the cat.]

FAVIFORM CULTURES.

[A faviform culture, obtained from a lesion in a child, indistinguishable from ordinary tinea circinata, was shown. It approaches the favus type, and is quite different from any of the others shown.]

MICROSCOPICAL CHARACTERS OF THE CULTURES.

The type of the fructification is disclosed by microscopical examination of the cultures. Sabouraud relates the endothrix and ectothrix fungi to the family botrytis or to the sporotricha, because of the tendency to form irregular masses of spores—so-called "grape formation"—and calls them "trichophyta." The fructification of the microspora he considers peculiar, and cannot attach to any particular family. You will remember also that he thought the microspora peculiar in being able to undergo a complete developmental cycle whilst parasitic on the hair.

To this classification we cannot subscribe. We believe that the microspora and trichophyta all belong to the same family, and that their fructification is developed on a similar plan.

A word of explanation is here necessary. On the Continent they study the supposed fructification in "hanging drop" specimens. We say that such specimens correspond with the submerged portion of the culture on plates, and the real fructification is to be found in the aërial portion.

The lantern slides here shown included:

1. Klatsch or impression specimen from an endothrix culture, aged 10 days, showing Aaron's rods and arborescent appearance×600.
2. Klatsch specimen from an ectothrix culture, aged 16 days, showing Aaron's rods×600.
3. Klatsch specimen from a microsporon, showing an Aaron's rod and individual spores×600.
4. The same Klatsch specimen, showing Aaron's rods, groups of spores, and chlamydo spores×450.
5. Submerged mycelium from the same culture, unstained, showing the curious pectinations and flail-like organs described by Sabouraud as the fructification×600.
6. Submerged mycelium from another specimen, showing pectinations and a "vertebral" column×600.
7. Klatsch specimen from a cat ringworm, showing an Aaron's rod and numerous chlamydo spores×600.
8. Klatsch specimen of a cat ringworm, showing Aaron's rods×600.

SECTION OF ANATOMY AND PHYSIOLOGY.

AUGUSTUS D. WALLER, M.D., F.R.S., President.

A DISCUSSION ON THE TEACHING OF ANATOMY.

I.—ALEXANDER MACALISTER, M.D., F.R.S.,

Professor of Anatomy in the University of Cambridge.

PROFESSOR MACALISTER premised that the subject of discussion was the teaching of anatomy to students whose future career lies in the practice of medicine and surgery. He believed, therefore, that no one could adequately teach the subject who had not been engaged for some part of his life in medical or surgical practice. There were some points as to method and amount of teaching which were worthy of consideration. Anatomy being a practical subject could be learned only in the dissecting room; there were advantages in two students being set to work together, and no student should be allowed to dissect until he had mastered his osteology. Of accessory teaching the demonstrators should be aids, not labour savers, and it was found in the Cambridge School to be of advantage to have, during each term, courses of catechetical demonstrations for those men who were dissecting, so that a student engaged in dissecting an arm attended the course on the upper limb, and so on, and was daily catechised on the work of his dissection at the same rate as that at which he was progressing in his dissection. Frozen sections and prepared dissections were invaluable as aids in addition to the courses of practical anatomy. The same was true of diagrams and models, but the excessive use of these last often led to diagrammatic views topographically incorrect. Lectures were of secondary importance as means of teaching, but were useful as affording a means of giving instruction in the morphological connection of anatomical facts, and also served as a valuable *memoria technica*. The danger, however, of undue weight being attached to morphological teaching was that it was liable to lead away the student's attention from practical topographical knowledge. The amount of anatomy to be taught to the student required judgment on the part of the teacher, as the range of the subject for the time was prodigious, and the time for teaching limited (still more limited than formerly, as now so many other subjects had laboratory courses). It was impossible to teach anatomy by schedule, as the exclusion of any sections of the subject was to be deprecated; but the discretion of the teacher would naturally lead him to lay stress upon the weightier matters of the subject, such as visceral anatomy, the lymphatics, the central nervous system, and the distribution of the cranial nerves, and less emphasis on such points as the details of subdivisions of ligamentous capsules, or minute enumeration of muscular attachments. The anatomical teacher was, however, controlled by the examiners in the subject, and Professor Macalister hoped that in the conduct of anatomical examinations more and more care and judgment would be shown in the proportional weight given to the several portions of the subject according as they were more or less important.

II.—F. J. SHEPHERD, M.D.,

Professor of Anatomy, McGill College, Montreal.

DR. SHEPHERD considered that the student should learn his anatomy in the dissecting room, and that lectures should

only be used to guide the student to the proper method of study of the subject and to give him an intelligent interest in it, as well as to show him the reason of things. He considered the most important parts to be, first, osteology, secondly the nervous system, and thirdly the viscera, the latter being especially important both to physician and surgeon.

III.—Professor Primrose,
Associate Professor of Anatomy, Toronto University.

Professor Primrose said that the teaching of anatomy must be chiefly in the dissecting room, but that it was necessary to deliver a course of lectures on anatomy. He wished to speak chiefly of the lecture and the use of frozen sections in illustrating the subject. The method adopted by him in the University of Toronto was as follows: Sections were prepared in the ordinary way; these were photographed and were then placed in the museum, where they were accessible to the student. Lantern slides were prepared from the photographs and these were used in the lecture room. If, for instance, a lecture was delivered on the heart, and its structure and relations illustrated by specimens, chalk drawings, and diagrams, then at the end of the hour a lantern demonstration was given, and proved most useful in conveying to the student a correct impression regarding the relations of the various chambers of the heart to one another and the relations of the heart to the other structures in the thorax. Similar methods were used in demonstrating other viscera, the epiphyses of the bones, etc. Professor Primrose exhibited to the Section a series of photographs thrown upon the screen by the lantern, illustrating this use of sections in illustrating a lecture. Frozen sections were thus used as supplementary aids in illustrating the anatomical demonstration.

IV.—J. Playfair McMurrich, M.D.,
Professor of Anatomy, University of Michigan.

Dr. McMurrich said that the topic for discussion had been so thoroughly considered by the preceding speakers, that he felt it unnecessary to occupy time by an exhaustive lecture; but he wished to consider for a few moments the question of teaching by lectures. Making due allowances for the conditions under which the work had to be done, the methods he employed in the laboratory at the University of Michigan were essentially the same as those employed by the former speakers. He used the card system, however, and found it of the greatest value in checking the work of the students. The cards were marked by the demonstrators, and when the student had finished his course the cards were handed to him, and, glancing over each, he saw where each student had failed or had done the poorer work, and, calling him up, he "quizzed" him over this ground very thoroughly, making sure in this way that he had revised his work and brought his knowledge of all the regions to an efficient equality. As to the lecture courses, he recalled with sadness his experience as a student when he sat on hard benches listening to lectures on "descriptive anatomy," feeling all the while how much more profitably he could be occupying his time in the laboratory. When he became a teacher of anatomy he determined to say to his students, "If you wish to study descriptive or topographical anatomy, take your scalpel and forceps and go the laboratory. I will employ the lecture hours in explaining to you why the structure of the human body is as you have found it." In other words, he determined to teach in his lecture course what may be termed, in the words of Johannes Müller, "*denkende anatomie.*" He called on the facts of embryology and comparative anatomy to explain the structure of the body, and thereby, he believed, accomplish two aims. First, he believed that he succeeded in making his lectures interesting to the students, and at the same time put in their possession pegs on which they might hang the facts of human anatomy. He tried to let them see that there is a reason for every peculiarity of structure, and that, knowing these reasons, they can use them as guiding cords along which to string their anatomical facts. Secondly, it placed the study of anatomy on the same true scientific basis upon which the other subjects of his first two years are placed. When the student enters upon his professional work, he finds that his life is devoted to observing and asking why; and the more thoroughly the student is taught to combine the two factors of science, observation and deduction, the better will it be for him. Anatomy, in addition to its practical value, might, he thought, be given a disciplinary value. He did not wish it to be understood to mean that the practical side is at all neglected in work at the University of Michigan. He recognised that he was training medical men, and wished to send out men thoroughly inoculated with the true scientific spirit. One further point he would remark upon, namely, the importance of requiring of the student a thorough knowledge of the lymphatic system and the viscera. He instructed his demonstrators to insist upon thorough information on the part of the student as to the connections and arrangements of the lymphatic glands. But there is one other system which, he believed, also required especial attention, and that is the central nervous system. He gave to the second-year students a special course, accompanied by laboratory work, in the anatomy of the cord and brain, endeavouring as far as possible to bring out the various paths traversed by impulses, and to supply groundwork for the future study of the physiology of the central nervous system and of nervous diseases.

V.—John M. Elder, M.D.,
Lecturer on Medical and Surgical Anatomy, McGill University.

Dr. Elder drew attention to the necessity of teaching surface markings (regional anatomy) on the living model, as supplementary to the use of sections, frozen and others. The position of all the important structures were mapped out on the model by coloured skin pencils as the lecturer proceeded. These lectures were given to the senior students, who had had enough clinical experience to show them the points on which they were deficient. The course should be distinctly practical, reference being constantly made to the medical and surgical questions of the day. He also favoured a graded course of lectures—simple for first year and more elaborate in second year.

VI.—T. Wesley Mills, M.D.,
Professor of Physiology, McGill University.

Professor Mills thought there should be no rivalry between the different fundamental branches, but they should be coordinated for the general good of the student. Every teacher of physiology must, if not teaching, revise and present from his own point of view much anatomy. Even dull students would learn the essentials of anatomy if presented to them by different departments and from the special point of view of each instructor. Should not anatomists now try to devise means of learning anatomy less consumptive of time than when there were fewer subjects with claims on the student, all demanding practical work? There was danger of overburdening the average student in these days. He thought that one needed to be a practitioner and teacher in surgery or medicine to appreciate what parts of anatomy should be especially dwelt on. Students could only hold a certain amount, and they should be filled with the useful more than the merely scientifically interesting. He was more impressed than ever in the wards of the hospital how little of anatomy the student retains in his final years. The longer he taught the more humble he felt, the more he wondered at the small amount of receptivity of the average student. In the dissecting room he used cards, but was not now so strong an advocate in their favour as formerly, for when the student was certified he considered his work done, but until some better method was introduced he must retain their use. Demonstrators were continually demonstrating special parts, such as viscera, organs of special sense, etc., and the first-year students were having frequent examinations and demonstrations on the "bones." Nowadays the students had much less time for anatomy than formerly, so that they should not be overburdened with useless details. As for lectures they should not be too much elaborated. They should be illustrated by diagrams, lantern slides, and specimens. Dr. Shepherd did not place much importance on having a well dissected subject before the class as do some lecturers. Although he used a dissected subject for demonstration after

the lecture, he did not often attempt to show anything to the class during the lecture; he considered the showing of a subject the survival of the time when subjects were only got occasionally, and when got all the physicians and surgeons in the neighbourhood were called together to see the dissection.

VII. Michael Foster, M.D., F.R.S.,
Professor of Physiology in the University of Cambridge.

Professor M. Foster, being called upon to speak, said that not being a teacher of anatomy he felt diffidence in offering any remarks, but he might venture to state that in his opinion, while it was possible to attempt too much physiology, the student could not know too much topographical anatomy. He was in favour of doing everything to get into the student's mind as thorough a knowledge as possible of anatomy, and approved of all devices for doing so. If dwelling on morphological questions helped the student, let these be lectured on. He especially approved of continuing anatomical studies throughout the curriculum; he would make the early examinations in anatomy, but introduce further examinations at a later date.

Dr. Wishart (Toronto) also took part in the discussion.

After a few remarks from the President, Professor Macalister briefly replied.

A DISCUSSION ON THE HEART BEAT.

I.—W. H. Gaskell, M.D., F.R.S.,
Lecturer on Physiology, Cambridge.

Dr. Gaskell, in opening the discussion, said that he had no new facts to bring forward, and had seen no reason to alter the views he expressed fourteen years ago—namely, that all parts of the heart are endowed with the power of rhythmical contraction quite independently of the presence of ganglion cells, but varying in degree in different parts. What, then, is the relation of the ganglion cells to the contraction? In his view simply an accidental relation, the heart being regarded as a modified longitudinal blood vessel, the ganglion cells remaining in their old situations in the less modified parts of the tube. These results have been entirely confirmed in the recent papers of Engelmann. The objections to these views raised by Kaiser and others were briefly considered and refuted. Other workers have confirmed the truth of these opinions as regards the mammalian heart also. The ganglionic cells do not possess any functions other than those which pertain to sympathetic cells elsewhere; they are, in fact, trophic for the post-ganglionic nerve fibres, especially of the vagus nerve. Developmentally the cells are also of exactly similar origin as the other efferent ganglionic cells.

II.—W. T. Porter, M.D.,
Assistant Professor of Physiology, Harvard University.

Dr. Porter said any part of the dog's ventricle, even the extreme apical portion, will give long-continued, spontaneous, rhythmic contraction when extirpated and fed with defibrinated dog's blood at normal temperature and pressure. Rhythmic contractions are also seen when a part of the apex is separated from the remainder of the ventricle in such a way that the only connection is through the branch of the coronary artery supplying the separated piece. As ganglion cells are wanting in the apex of the ventricle, it follows that spontaneous, long-continued, rhythmic contractions can be carried on in the absence of nerve cells; or, in other words, the cardiac muscle has in itself the power of spontaneous, rhythmic, long-continued contraction.

III.—W. H. Howell, M.D.,
Professor of Physiology, Johns Hopkins University, Baltimore.

Dr. Howell stated his belief in the theory that the rhythmic activity of the heart is in its origin a muscle and not a ganglionic phenomenon. He discussed the theory of the nature of the internal stimulus of the heart. Two theories seem possible: First, that the stimulus arises in the course of its own metabolism; second, that it is due to an action of the circulatory fluid. The second view was supported, the speaker holding that no tissue of the body is truly automatic, the stimulus in all cases coming from the outside. The speaker further defended the view that the origin of the heart stimulus is to be found in the action of the inorganic constituents of the blood and lymph. A heart supplied with a liquid containing the salts alone of the blood in isotonic proportions will maintain the beat of the heart as well as the serum itself. An explanation of the rhythmic contraction and pause of the heart must be sought in a cyclical reaction of the calcium and potassium salts upon the heart tissue itself.

IV.—S. J. Meltzer, M.D.,
New York.

Dr. Meltzer stated the following theory, which he had advanced two years ago. The theory requires two assumptions; the first one is that the capability of the heart to respond to the stimulation of the accelerating nerves with contractions increased in number and vigour is not due to functions of the nerves or their endings, or of nerve cells, but to the muscle fibres themselves. The muscle fibres of the heart possess the functional ability to respond to stimulants, at least to certain stimuli, with a contraction as well as with inhibition or relaxation. The relations of these functions to one another are, then, those which were established for the antagonistic nerves of the heart, that is, when both functions are stimulated simultaneously the inhibition prevails during stimulation, but after cessation of stimulation the long after-effect of the functions of contraction comes to the front; that means to say that if, for instance, a contracted muscle fibre is stimulated, the first effect would be relaxation, but when the stimulus is discontinued, there would be soon a contraction again, due to the after-effect of the stimulation. The second assumption is that the state of contraction of a muscle fibre of the heart acts as a stimulus upon this muscle fibre. Whether it be due to pressure and other mechanical changes, or to changes in the chemical reaction, or to the current of action and other possible electrical changes, he did not care to discuss. He only said that the contraction itself, which creates so many changes in the muscle fibre, acts as a stimulus.

V.—Dr. A. B. Macallum,
Toronto.

Dr. A. B. Macallum said that the cause of heart beat is a question which is a larger one than is usually recognised by physiologists. Movement is a property of living protoplasm, and this property must therefore be closely associated with the nutrition of living matter. We find as we follow the line of development in animal life this movement becomes more and more specialised in direction, and that it acquires more a periodicity. It becomes, in other words, more and more rhythmical. The commonest example of this is the ciliated cell, in which one may be completely isolated from all its fellows and yet exhibit rapid periodic movement. There is no suggestion here of nerve stimuli, neither is there of inorganic salts. In heart muscle fibre the original property—movement—is possessed by the whole cell. It is probable that movement and rest are essentially a result of catabolism and anabolism, which in higher forms of animal life are apparently also rhythmical.

VI.—Arthur R. Cushing, M.D.,
Professor of Pharmacology, University of Michigan.

Dr. Cushing (Ann Arbor) discussed the question from the pharmacological point of view, and pointed out that the action of nicotine on the heart corresponded exactly with its effects on the sympathetic ganglia in general. It first stimulates and then paralyses the ganglia, and thereby interrupts the passage of inhibitory impulses. The fact that the stimulation of the accelerator nerve produces its usual results after nicotine would indicate the absence of intracardiac ganglia on the course of that nerve. Atropine, on the other hand, paralyses the extreme termination, of the inhibitory fibres in the myocardium, while it has no such effects on the acceleration. This indicates that the accelerans fibres pass directly to the muscle, and do not end in a common termination with the inhibitory fibres.

VII.—G. Carl Huber, M.D.,
Assistant Professor of Histology and Embryology, University of Michigan.

Dr. Huber said: The ganglia of the heart are sympathetic ganglia which send neuraxes to the heart muscle cells. These neurons are terminal links in a nervous chain, of which the second link is formed by the vagus, its nerve fibres ending in the sympathetic ganglia in pericellular end flexuses. The accelerator chain is of the following nature: The cell body of the neuron forming the peripheral link in this chain is situated in stellate ganglion; the neuraxes of these cells are the sympathetic fibres going to the heart; their ending in the heart is not so definitely known. The second link in this chain is a white ramus fibre ending in the stellate ganglia in pericellular flexuses.

VIII.—T. Wesley Mills, M.D.,
Professor of Physiology, McGill University, Montreal.

Professor Wesley Mills thought that there were many factors entering into the causation of the heart beat, as he had pointed out ten years ago. These factors have not all probably been discovered, and they vary quantitatively in different groups and individuals. We should consider function and nutrition as largely different aspects or phases of the same thing. The tonics of the heart is of the greatest importance and as yet inadequately considered by the clinician. The heart nerves are intimately related to "nutrition" as well as what is termed "function."

Dr. Gaskell briefly replied, and agreed with Professor Mills as to the great variability of the behaviour of different hearts under experiment.

A BRIEF ACCOUNT OF SOME OBSERVATIONS ON THE SYMPATHETIC GANGLIA OF VERTEBRATES.

By G. C. Huber, M.D.,
Assistant Professor of Histology and Embryology, University of Michigan, Ann Arbor.

[Abstract.]

The observations to be presented will be taken up under the following heads: (1) Shape and structure of sympathetic neurons of vertebrates. Sympathetic neurons may be unipolar, bipolar, or multipolar. In all vertebrates, with the exception of the amphibia, the prevailing type of sympathetic cells is multipolar. In amphibia nearly all sympathetic cells are unipolar; such cells are also numerous in reptilia. Bipolar cells are occasionally seen near the poles of a ganglion between the efferent and afferent nerves. The cell body of sympathetic neurons is surrounded by a nucleated capsule. Sympathetic neurons have one neuraxis; other branches, if present, are dendrites. The dendrites, by repeated division, form an interlacing network, situated between the cell bodies of the neurons constituting a ganglion. This network is always extracapsular. The neuraxes of sympathetic neurons are the non-medullated fibres or Remak's fibres of the sympathetic system, also the relatively smaller number of small medullated fibres of this system. They have the following distribution: (*a*) To nonstriated and heart muscle, motor and vasomotor; (*b*) to gland cells, secretory; (*c*) to the spinal ganglia; (*d*) to other sympathetic ganglia. (2) Relation of the sympathetic ganglia to the cerebro-spinal axis. The sympathetic ganglia are in connection with the cerebro-spinal axis by means of small medullated fibres which issue through the anterior roots and reach the ganglia through the white rami communicantes (Gaskell, Langley, and others). An impulse, having sympathetic effects, and leaving the cord through such fibres, is interrupted in the ganglia, as has been shown by Langley and others. By means of the Golgi and methylene blue methods it has been repeatedly shown for mammalia, and to some extent also amphibia, that the small medullated fibres which reach the sympathetic ganglia through the white rami, undergo branching in the ganglia, and by means of collateral or end branches, terminate in peculiar end baskets, which enclose the cell bodies of the sympathetic neurons. Similar relations have been found by me in the sympathetic ganglia of fishes, reptilia, and birds. These end baskets or pericellular baskets vary in complexity and arrangement in the several classes of vertebrates; they are, however, in all of essentially the same structure. In mammalia and birds the pericellular baskets are relatively simple, and are formed by the branching of collateral or terminal branches of the cerebro-spinal medullated fibres of the ganglion, the varicose terminal fibrillæ being woven into a basket-like network, which varies in complexity and arrangement, and encloses the cell body of a sympathetic neuron. In reptilia, simple end baskets as above described are also found; more characteristic are, however, very complicated end baskets in which the cerebro-spinal fibre or fibres (one to four) are spirally wound about the neuraxis of the respective sympathetic cell before ending in the end basket. In amphibia the spiral fibres of the bipolar ganglion cell, with straight and spiral processes, as long ago described by Beale and Arnold, is now known to be the ending of a cerebro-spinal fibre, wound about the straight process of a unipolar cell before forming an end basket enclosing the cell body of said cell. In fishes these structures are somewhat simpler; the cerebro-spinal fibres ending in the ganglion terminate in a loose network on the cell body of a sympathetic neuron. In all vertebrates the pericellular baskets are intracapsular. These observations seem to justify the following conclusion: The sympathetic neurons, the cell bodies of which are grouped to form the sympathetic ganglia, form terminal links in a neuron chain, of which the second link is formed by a neuron the neuraxis of which leaves the cerebro-spinal axis through the anterior horn, and terminates in the ganglia in pericellular end baskets, enclosing the cell body of a sympathetic (the terminal) neuron. The cerebro-spinal fibres ending in pericellular baskets are the pre-ganglionic fibres of Langley, these post-ganglionic fibres are the neuraxes of the sympathetic neurous. An impulse leaving the cord through a pre-ganglionic fibre is transferred to the cell body of a sympathetic neuron (or several of them) through the pericellular basket, and thence along its neuraxis (the post-ganglionic fibre) to its termination. As above stated, Langley and others have shown that such an impulse may be blocked in a sympathetic ganglion by the injection or local application of a solution of nicotine. This has been explained by stating that nicotine paralyses the cell bodies of the sympathetic neurons. The suggestion will be made that nicotine paralyses the end baskets of the cerebro-spinal (pre-ganglionic) fibres, and not the cell bodies of sympathetic neurons, much as curare paralyses the end plate in striated muscle, and not the nerve fibre as the cell body of a motor neuron. Space does not permit a fuller discussion of this point in this abstract. This interpretation of the structure of a sympathetic ganglia applies to all ganglia, those of the chain, prevertebral and peripheral or terminal ganglia; the entire nervous system being thus regarded as a unit, of which the sympathetic system is an integral part.

Dr. Gaskell acknowledged the value of Professor Huber's work on the sympathetic, and pointed out that the evidence obtained in Cambridge and elsewhere, especially due to the labours of Drs. Langley and Anderson, have enlarged and made almost certain his original observation that the cells of all vagrant ganglia, whether belonging to the so-called sympathetic system or to the cranial nerves, were cells belonging to a system of motor or efferent visceral nerves. It appears that all the visceral, sensory, or afferent nerves have their trophic centres in the cells of the posterior root ganglia, so that the sympathetic ganglia have no machinery for true reflexes, but only for motor reflexes of the kind shown by the hypogastric reflex.

A Case of Uterus Masculinus.

Professor Primrose (Toronto) related the case of a man, 25 years of age, presenting the normal characteristics of the male, saving that neither testis had descended. The left testicle developed into a large sarcoma, and the man died after an operation performed for its removal. On *post-mortem* examination a structure was found lying between the rectum and bladder. This was found to be a uterus with rudimentary Fallopian tubes. The uterus terminated in a cervix, the

mucous membrane of which showed the arbor vitæ well marked; this in turn was continuous with a vagina about 4 cm. long, which passed into the prostate, and opened into the prostatic urethra in front of the cana iculus seminalis.—The paper was illustrated by lantern slides. There was no discussion.

OBSERVATIONS ON THE MAMMALIAN HEART.

By W. T. Porter, M.D.

(From the Laboratory of Physiology in the Harvard Medical School.)

The observations about to be described deal with the cause of the heart beat, the recovery of the cardiac muscle from fibrillary contractions, the influence of systole on the flow of blood through the walls of the heart, and the circulation through the veins of Thebesius.

I.—On the Cause of the Heart Beat.

On March 29th, 1897, a dog, anæsthetised with morphine and ether, was bled from the left carotid artery, and the blood whipped, strained through glass wool, and diluted with an equal volume of 0.8 per cent. normal saline solution. Normal saline of the same strength was meanwhile allowed to flow into the right jugular vein. After a short interval the dog was again bled from the carotid artery. A second injection of saline solution was followed by a third bleeding. The product of these bleedings was mixed, and placed in a reservoir at the temperature of the body. The heart was now extirpated, a cannula tied into the ramus descendens of the left coronary artery not far from the apex of the left ventricle. That part of the apex which could be fed through the cannula was then excised. Both apex and basal portion fibrillated. The septum was removed. The piece of ventricle secured was 28 mm. in length (that is, the direction from the base to the apex), 23 mm. broad opposite the end of the cannula, and 27 mm. broad at the somewhat flattened tip of the apex. The ventricle measured from base to apex 70 mm. The part cut out was, therefore, the ganglion-free apex. The cannula was now connected to a reservoir of warm blood mixture, and the ganglion-free apex perfused with the blood at a constant pressure, which, to begin with, was about 30 mm. Hg., but which was afterwards raised to 90 mm. Hg. The blood entering the cannula was bright arterial red; that emerging by the coronary vein was venous blue. In a few moments regular and strong contractions set in. Curves were recorded with an ordinary muscle lever. During systole more blood escaped from the veins than during diastole. The experiment was stopped after the apex had contracted one hour and forty minutes. During a part of this time the preparation was in a bath of blood at the temperature of the body.

On April 5th the apical 10 mm. of a dog's ventricle (that is, the 10 mm. nearest the apex, measured on the long axis of the ventricle) was perfused by the method described above, and gave strong rhythmical contractions during several hours.

Other experiments have shown that the right ventricle and the remaining portion of the left ventricle, namely, the septum and the circumflex area, will also beat, if fed with blood, through the coronary arteries.

It follows from these experiments that: (1) The cause of the rhythmic contraction of the ventricle lies within the ventricle itself. (2) The cause of the rhythmic contraction is not a single localised co-ordination centre. The co-ordination mechanism, whatever it may be, is present in all parts of the ventricle. (3) The integrity of the whole ventricle is not essential to the co-ordinated contraction of a part of the ventricle.

It is certainly most unlikely that the blood with which the "ganglion free apex" was fed should have been so changed in the few minutes which passed between its withdrawal from the vessels and the establishment of the artificial circulation through the isolated apex as to have become an abnormal chemical stimulus to the cardiac muscle, producing thereby rhythmic contractions similar to those called forth by strong saline solutions, yet the following experiment is added to exclude even this somewhat hypercritical objection.

On April 21st, 1897, a dog, weighing 45 lbs., received hypodermically 0.06 gramme of morphine sulphate, and was completely anæsthetised with ether. Tracheotomy was then done, and the heart exposed by resecting the five upper ribs on the left side. The pericardium was opened and stitched on either side to the margin of the thoracic wound. The second chief branch of the ramus descendens in the apical region on the anterior surface of the ventricle was now freed from its bed for several millimetres, beginning close to its origin from the main stem of the descendens. An oval piece of the ventricular wall supplied by this branch was then separated from the remainder of the ventricle in such a way that every trace of muscular connection between the two was lost. The isolated piece remained connected with the ventricle only by a strip of pericardium several millimetres long, which supported the artery and its accompanying veins, and was absolutely free from muscular tissue. A good supply of blood was maintained through the artery. The piece thus isolated was 25 mm. long, 15 mm. broad, and 4 mm. thick in its thickest portion. The left ventricle measured, from the origin of the ramus descendens to the apex, 75 mm.; from the origin of the descendens to the isolated end of the basal piece, 50 mm. Hence the latter was cut from the "ganglion-free apex."

On tying a thread to the isolated piece and lifting it into the air so that it did not touch the ventricle, it appeared to be contracting, but its movements could not be observed to advantage, because of the impulse imparted to it by the contractions of the ventricle pulling on the vessels which connected the piece to the ventricle. The vagus was therefore stimulated strongly enough to nearly stop the ventricle, allowing but an occasional beat. The isolated piece could then be seen contracting with a slow but perfect rhythm, different from that of the ventricle. The occasional beat of the ventricle was not accompanied by a contraction of the isolated piece. After demonstrating the rhythmical contraction to several persons the experiment was broken off, having been successfully carried on during more than half an hour. The contractions observed in the isolated piece could hardly have been excited by changes of pressure in the coronary vessels. It is well known that the pressure in the coronary vessels falls greatly when the heart is arrested by vagus stimulation. The occasional strong contractions of the ventricle, during its incomplete inhibition, raise the pressure considerable; but these wide and sudden variations had in this experiment no apparent efiect, the beat of the isolated piece not being synchronous with that of the ventricle. The contractions of the isolated piece of the apex observed in this experiment could not have been caused by the current of action of the ventricle; the piece was raised in the air and thus kept from touching the ventricle. The action current could not have passed over the vascular bridge and thus excited the isolated piece, because the contractions of the ventricle and the isolated piece were not synchronous. The same total asynchronism is evidence that the beat of the isolated piece was not produced by the alleged impulses discharged by nerve cells in the basal portion of the ventricle passing to the piece over nerve fibres accompanying the nutrient vessels. Still less can the beating of the isolated piece be ascribed to changes in the character of the blood supply; the blood which it received was the same normal blood which was sent to the rest of the heart muscle. The conclusion that these long-continued, co-ordinated contractions were indeed spontaneous is unavoidable.

Hence—

4. The apex of the mammalian heart possesses spontaneous rhythmic contractility.

5. Assuming that the general belief in the absence of nerve cells from the apical part of the ventricle is correct, these experiments demonstrate that nerve cells are not essential to spontaneous, long-continued, co-ordinated contractions of the ventricle.

II.—The Recovery of the Heart Muscle from Fibrillary Contractions.

In spite of MacWilliam's statement[1] that the ventricle of the dog's heart sometimes recovers from fibrillary contractions many observers still maintain that fibrillation is always fatal in the dog, though frequently not fatal in the rabbit. MacWilliam, however, was right in declaring that the ventricular muscle of the dog could recover from fibrillary contractions. I have repeatedly obtained recovery of extirpated

parts of the ventricles by feeding them with defibrinated dog's blood, as in the experiments in the preceding section of this paper. Recovery takes place from fibrillar contractions induced by sudden ischæmia and mechanical injury, as well as from fibrillation brought on by repeated induction shocks. The entire heart of the cat can be readily made to recover, even after long-continued and violent fibrillation. Two experiments made on the entire dog heart failed, but the successful experiments on large extirpated parts of the ventricle leave no doubt that the whole heart could be recovered if a number of dogs were sacrificed and blood enough for continued perfusion thereby secured. Fibrillary contractions do not destroy beyond recall the power of normal, rhythmic, co-ordinated contraction.

III.—The Influence of Ventricular Systole on the Flow of Blood through the Walls of the Heart.

When an isolated piece of dog's or cat's ventricle is fed through the coronary artery, the flow from the veins is seen to be greater during systole than during diastole. In an extirpated heart supplied with blood at a constant pressure through the coronary arteries, a pulse synchronous with the systole may be observed in the superficial auricular veins, both before and after their connection with the coronary sinus is severed. A similar but less marked pulse may be demonstrated in the coronary arteries. When a vein on the surface of a dog's ventricle *in situ*, in the living animal, is incised and the heart slowed by vagus excitation, the flow from the cut vein is much increased during ventricular systole. These observations show that the contraction of the cardiac muscle compresses the veins, and to a less extent the arteries in the substance of the heart. The systole aids the circulation of blood through the heart muscle.

If one branch of a Y-tube, placed in the ramus descendens or ramus circumflexus of the left coronary artery, is connected with a pressure bottle filled with blood, and the other branch connected with a minimum manometer, stopcocks being interposed, and if, while the ventricle is beating vigorously, the branch through which the artery is being fed from the pressure bottle is suddenly closed and the branch leading to the minimum manometer as suddenly opened, any negative pressure or suction by the ventricle on the contents of the artery should be registered by the minimum manometer. But this method has thus far failed to demonstrate a negative pressure. The ventricle acts on the coronary circulation as a force pump, and not to any noticeable extent as a suction pump.

IV.—The Circulation through the Veins of Thebesius. (Experiments performed by Mr. F. H. Pratt, a student in the Harvard Medical School.)

A glass tube is introduced through the pulmonary artery into the right ventricle of the excised heart of a cat, and the ventricle tied firmly around the tube, the ligature passing below the auriculo-ventricular furrow, and closing both veins and arteries. Defibrinated cat's blood is then poured into the tube until the ventricle is full, and the blood stands in the tube at a height of 1 or 2 inches. The right ventricle will now begin to beat, and if one of the coronary veins on the surface of the heart is incised, a slight but constant stream of blood will flow from the interior of the ventricle through the foramina of Thebesius into the coronary veins, and out of the opening on the surface of the ventricle. The blood becomes venous in its course through the heart walls. It has never been seen to enter the coronary arteries. Only that ventricle into which the blood has been introduced has been observed to beat; the other ventricle remains inactive. Ringer's solution fails to maintain the contractions. A ventricle that has fibrillated violently on the excision of the heart will often resume its co-ordinated contractions when a circulation is established in this manner through the vessels of Thebesius. Thus the nutrition of the mammalian heart may be maintained in a degree sufficient to give long-continued, rhythmic contractions, while the coronary arteries are empty. The circulation through the veins of Thebesius is probably an important source of nutrition in hearts in which the coronary arteries have been obstructed by pathological processes.

Reference.

1 *Journ. of Physiology*, 1887, viii, p. 299.

THE TEMPERATURE OF MAN AND ANIMALS AFTER SECTION OF THE SPINAL CORD.

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[Attention was first drawn to the abnormal temperature of man after traumatic section of the spinal cord by Sir Benjamin Brodie in 1837. He observed that the temperature of a man whose spinal column had been fractured in the lower cervical region rose to 111° F. (43.9°) before death, which occurred twenty-four hours after the accident. Brodie had previously studied the influence of the nervous system upon animal heat; he had found that when the brain had been cut off from the spinal cord by section the temperature of the rabbit quickly fell.]

Since this work numerous observations upon the effect of traumatic section of the spinal cord upon the temperature of man and of animals have been made. The results, however, do not at first sight appear to harmonise, and no satisfactory explanation of the phenomena has been given. Most theories have been based upon hypothetical "heat centres" in the brain and medulla.

I have made experiments upon animals before and after division of the spinal cord, and have been able, through the kindness of Mr. Astley Bloxam and Mr. Morgan, surgeons of Charing Cross Hospital, to observe the deep and surface temperatures of two patients, who, as the result of accidents, were suffering from fracture of the spine and traumatic section of the spinal cord. The results are, I believe, sufficient to justify me in saying that a satisfactory physiological explanation of the abnormal temperature can be given. It is this explanation which I wish especially to submit for criticism to the members of the British Medical Association.

In the first place, it will be well to study the changes observed in the temperature of animals after section of the spinal cord. Elsewhere[1] I have given a critical account of the results obtained by Brodie, Tscheschichin, Fischer, Naunyn and Quincke, Riegel, Schroff, Rosenthal, Pflüger, and others; but here it is only necessary to state that these results, although in some cases discordant, can be harmonised and explained.

The general effect of section of the spinal cord in the lower cervical region is a fall in the temperature of the body, for the greater portion of the muscles of the body are paralysed. The heat of the body is chiefly produced by the chemical changes, the combustion occurring in the muscles. This production of heat is most marked during the contraction of the muscles, but is also present during apparent rest, when the muscles are in a state of tone. When, however, the muscles are paralysed and have lost their tone, the combustion and the heat arising from that combustion are greatly diminished. The loss of heat from such an animal's body is usually greater than normal, and therefore, since its production is less than normal, its internal temperature falls.

The next important point is the disturbance caused by section of the cord to the animal's power of regulating its temperature. A normal mammal maintains a fairly constant temperature, whether it is living in the tropics or in the arctic regions. When it is exposed to cold, it diminishes the amount of warm blood exposed in its skin by contracting the cutaneous blood vessels, and it greatly increases its production of heat by a more energetic combustion in its tissues, especially in its muscles. On the other hand, when the warm-blooded animal is exposed to heat, it increases its loss of heat by flushing its skin with blood, by sweating, and by more rapid respiration; at the same time it diminishes its activity and production of heat.

Now Pflüger showed that in a rabbit whose spinal cord had been divided in the cervical region, exposure to a warm external temperature increased the production of carbon dioxide; cold, on the other hand, diminished it. In this respect the paralysed animal resembles a cold-blooded animal. Thus it happens that cold lowers the temperature of the paralysed animal not only by increasing the loss of heat, but also by diminishing the production of heat, whereas warm surroundings may raise its temperature considerably above the normal.

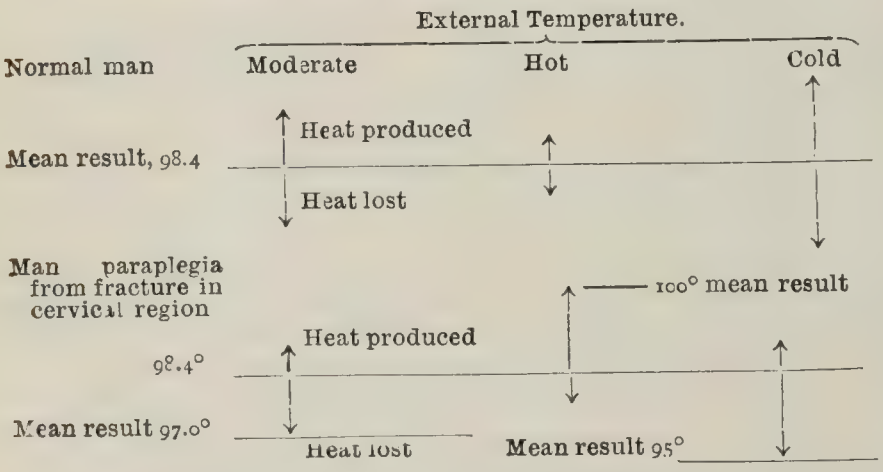
We may now proceed to study the temperature of man after

traumatic section of the spinal cord in the cervical region. The general result is, I maintain, a subnormal temperature, so long as the patient's condition is not complicated by other internal or external conditions. This contention is borne out by the records of cases which I have collected [2] and the cases which I have myself observed.

A cold bath or the exposure of the naked body to the temperature of an ordinary room does not lower the temperature of a healthy man. Likewise exposure to hot air, as in the tropics, does not raise the temperature of a healthy man more than half a degree. This is not the case with the man whose body has been paralysed by fracture of the cervical portion of his spine. I have observed that when such a patient is exposed even to moderate cold his temperature falls owing to the increased loss of heat and to the diminished production of heat. On the other hand, if the weather be hot and the patient be well covered with bed-clothes his temperature rises and may reach a dangerous height owing to the diminished loss and the increased production of heat in the body. The same result obtains even at a moderate external temperature when the patient is injudiciously supplied with a hot water bed, too many hot water bottles and blankets. Such a patient can only sweat on the non-paralysed parts of his body, the head and neck; he also loses less heat by respiration, for owing to the paralysis of the intercostal and pectoral muscles the ventilation of the lungs is imperfect. Further—and this is an important point—the hotter the patient becomes the greater is the production of heat in his paralysed body. In such cases of pyrexia I have proved that the temperature is readily lowered by partial removal of the bed clothes, the loss of heat is increased, and the production of heat diminishes with the cooling. In the case of a healthy man removal of the clothes would have no appreciable effect on the internal temperature, for the increased loss of heat would be compensated by an increased combustion, an increased production of heat in the tissues.

Section of the spinal cord high up in the cervical region abolishes the power of regulating temperature, which is such a marked characteristic of man and other warm-blooded animals.

We may represent these facts by the following diagram:



In the normal man the production and loss of heat balance each other, even when the body is subjected to a great rise or fall in external temperature. In the paralysed man the production of heat rises and falls with the external temperature.

Without reproducing figures, which I have given elsewhere, I may mention that cases are on record in which temperatures as low as 81.7° F. (27.6° C.), and as high as 111° F. (43.9° C.), have been observed in men after traumatic section of the spinal cord in the cervical region.

It may be asked, How are those cases explained in which, as in Brodie's case, the temperature rises to 111° F. (43.9° C.), and the patient is dead within twenty-four hours of the accident? The following points are in this connection to be considered: Directly after traumatic section of the spinal cord in the cervical region the respiration becomes hampered, it is only diaphragmatic. The ventilation of the lungs is imperfect, and therefore less heat is lost by the cooling of the inspired air and by the evaporation of water from the respiratory tract to saturate the expired air with moisture. Further, the man is soon unable to sweat, except upon his head and neck.

It is also to be noted that muscles supplied by nerves arising above the line of compression of the cord often show spasms for a day or two after the accident. These spasms are probably due to stimulation of the ganglion cells above the lesion, and would increase the production of heat.

A man cools slowly owing to the smallness of the surface of his body in relation to his mass. If then the patient is placed soon after the accident in a warm bed and well covered with blankets, his loss of heat would be smaller than his production of heat. His temperature will rise, and the heat will stimulate his paralysed body to an increased production of heat. With every rise of temperature there will be an increased production of heat, which, if unchecked, will end in hyperpyrexia and death.

In chronic cases of traumatic section of the cord, complicated by bedsores and cystitis, there is often fever. Apart from appropriate treatment of these complications, the fever can be reduced by the simple remedy already mentioned—namely, by removal of a portion of the bedclothes, and thus increasing the loss and diminishing the production of heat.

From the remarks already made it naturally follows that in cases of section of the spinal cord in the dorsal or lumbar regions the regulation of temperature is less disturbed.

The explanation which I have submitted to this Association must be tested by observation and experiment. Cases of traumatic section of the spinal cord of man are not common, and I therefore hope that members will supply further information in such cases.

In the observation of such cases the temperature in the rectum and axilla should be taken, and the loss of heat should be determined by Waller's method. For the latter purpose the temperature of the skin of the paralysed and non-paralysed parts is taken with special thermometers, the moisture given off by the skin is estimated by a simple form of hygrometer, and the temperature of the patient's surroundings, the water bed and the air, is noted.

References.
[1] Article, "Animal Heat," *Textbook of Physiology*, edited by Schafer
[2] *Ibid.*

A NOTE ON THE POSTERIOR INTEROSSEOUS NERVE.

By J. Playfair McMurrich, M.D.,
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In the English textbooks of anatomy most usually found in the hands of students, the posterior interosseous nerve is described as terminating in a gangliform enlargement; but, as a rule, in Continental works one finds no mention of any such peculiarity; indeed, in one of the editions of Henle, the existence of the enlargement is denied. He had made examination of a number of subjects with a view of observing the frequency of the occurrence of the enlargement. He might state in briefest terms that in every case examined it was present, sometimes well marked, sometimes rather feebly developed, and careful preparation showed that the enlargement was mainly due to an aggregation of connective tissue around the nerve, where it breaks up into the filaments, which pass into the carpal articulations. Sections of the enlargement showed an interesting peculiarity, namely, the occurrence among the nerve fibres of a number of bodies resembling greatly Krause's sense organs. These he took to be the sense organs described by Professor Horsley as endings of nervi nervorum, the interest in them in the present case being their size and number, and their situation in the substance of the nerve instead of in its epineurium. One possible morphological explanation of the enlargement was suggested by the fact that Sir William Turner had described an anomaly in which the posterior interosseous nerve did not terminate in the carpal region, but was continued out into the hand to terminate in the skin of certain of the fingers, an anomaly which seems to occur as normal in certain of the anthropoid apes. In the usual mode of ending of the nerve in man we have probably to do with a shortening up of the nerve from its original distribution, and an accompa 1. concentration of connective tissue around it.

AN ADDRESS
ON
THE AIMS OF MODERN MEDICINAL TREATMENT.

Delivered at the Fifteenth Congress of Clinical Medicine at Berlin.

By Professor Dr. OSCAR LIEBREICH,
University of Berlin.

In taking the opportunity of bringing before you the subject of the aims of modern medicinal treatment, I feel that the question may well be asked whether nowadays, in a Congress of Clinical Medicine, in which the most experienced investigators in the domain of therapeutics are taking part, there is not a perfect concord regarding the points which delay the solution of the problem. But this is far from being the case. Now, as in every century, are to be found the most widely-varying opinions, brought about not only by technical peculiarities, but also by fundamental differences of opinion regarding the subject at issue.

One of the most important scientific methods of advancing therapeutics is pharmacodynamics. This has been built up out of the old subject of materia medica, and, since the introduction of scientific methods, has rapidly attained an advanced stage of development. The rapidity of this development renders it a positive crime that, on the one hand, many who cannot follow its methods are constantly bringing forward unreliable results, while, on the other, the advocates of different methods perpetually cast suspicion on the reliability of pharmacodynamical researches.

For the proper understanding of the question the value of a consideration of the history of our knowledge concerning remedies should not be underestimated, either as regards our comprehension of the importance of the process or our opinion as to its further development.

How was the knowledge of remedies obtained in the first instance? Did the progressive development of medical knowledge itself lead people to regard certain things *a priori* as remedies? We know that this is not the case. The fact that the beginnings of the treatment of the sick were first developed from empiricism holds equally for the first application of remedies.

We must recognise that until the most recent times all remedies were borrowed from the purest empiricism. Unprejudiced physicians, armed with the weapons of scientific criticism, disentangled popular observations from superstitious and mystical ideas, and put to actual clinical test measures vaunted by their conservative colleagues, in order to ascertain whether in reality any use could be made of them. In consequence of the early state of scientific knowledge their judgment had necessarily to be based entirely on the results of practical experience without any experimental assistance. In this connection the history of digitalis is most instructive. Withering finds an old family recipe for dropsy; he does not keep to himself the results obtained with it, he finds the remedy of actual value, and in 1785 publishes it, with the results of his own cases, and so introduces it into practice.

It is extremely interesting that even the action of many of the chemical elements has been made use of in the form of the simplest house remedies. The ashes of the ordinary marine sponge have, for example, been much employed on account of their curative properties. When, however, chemical analysis found that they only contained soda, this valuable remedy, which had also found its way into medical practice, was for some decades laid aside. For in that period of chemical knowledge the mistake began of relying too much upon analytical results and of disregarding the strong evidence of clinical experience, because analysis did not necessarily detect powerful substances to explain the action of remedies. Owing, however, to the valuable discovery of Courtois, the soapboiler, who separated iodine from the soda-lye of his factory, it was easy to demonstrate this element in sea sponges as well, and it had in consequence to be admitted that the results recorded with them were neither due to error nor to suggestion. And how noteworthy is it that in opotherapy also iodine was first discovered long after its value had been shown by therapeutic observations, made in ignorance of the fact that an iodine-containing organic body was present in the thyroid. Similar considerations apply equally to preparations of arsenic and mercury. It could not but happen that the philosophic point of view ascribed to all these remedies certain qualities which did not in reality reside in them. It is admitted, however, that the idea that as a matter of fact the chemical properties of a substance were of significance in regard to its action was known to Paracelsus. If, therefore, the fanaticism for this idea far overshot the mark, still the results then and afterwards obtained, and, indeed, the whole work of the iatrochemical school was not without therapeutic value. To take one example, the fight for and against the use of antimonials is now hardly intelligible to us, especially with regard to a drug the importance of the action of which follows the employment of so small a quantity.

To the category of results which took origin from the popular observation of natural phenomena belongs also the wonderful achievement of Jenner, the introduction of vaccination. Jenner did not arrive at this by inductive experimental methods; the essential basis of his work was the observation that people who had infected themselves with cow vaccine during milking were free from human variola.

As regards the remedies which have been handed on to us, a division of the greatest importance, both for further investigation and for medicinal use, was very soon made—namely, into those which acted upon the primary disease and those which influenced its symptoms. Mercury in syphilis, quinine in malaria, phosphorus in rickets, may serve as examples of the former class; opium as an anodyne, and ergot as an ecbolic, of the latter. It cannot be denied that both groups have extraordinary power. The symptomatic remedies can also be used in saving life. The most striking example of this that can be brought forward is that of intoxication by poisonous substances. Thus we are in a position to overcome by means of a series of remedies the fatal convulsions evoked as a result of the intoxication till the poison has found time to be eliminated, and the organism has perfectly recovered. How important is it also in many diseases, as, for instance, epilepsy, to moderate or keep off the attacks.

The science of experimental pharmacology, which has arisen in our time, might well have contented itself with undertaking to put to the test the therapeutic material already to hand, and to contribute to the elucidation of its mode of action in order to be able to lay down more precisely the limits of its action, and so to lend a helping hand to clinical observation. It could easily have foregone the further empiricism of collecting new materials. But from the moment in which scientific remedies were brought into the domain of therapeutics, its horizon widened. It became necessary to take up and to seek to realise the idea of freeing the mind from empiricism, and of finding the leading principles by which the material of the healing art might be increased in a scientific manner. With the beginning of the attempt to establish this undertaking pharmacodynamics could no longer be satisfied to use merely the results of simple experiments upon living animals, but must needs also, with scrupulous attention to pathological principles, regard as its most important factor the representation of the conditions in health and disease as the basis of experimental inquiry.

In so far as concerns the search after new materials for remedies, one may correctly rely upon the principles of the iatrochemical school. Only those ideas must be excluded which, owing to deficient anatomical knowledge, rank as belonging to humoral pathology in the most rabid sense of the term. The investigators of those days stood also in the shadow of an alchemical environment, but had always before their eyes the endeavour to form an idea as to the nature of matter. For us, modern chemical ideas have created a new world. We know now that the smallest part of a chemical component—let us say, for example, a piece of sugar—is characterised by a special arrangement of the atoms of various elements, and that each change in their relative positions leads to the formation of a substance with new physical properties. The development of chemical research in this direction points to the discovery of innumerable new substances.

One single reaction can yield several millions of these, and he who knows how to use the pencil aright can readily, by the construction of their formulæ on the paper, convince himself that the vast number of hitherto isolated organic substances forms but a minute part of those which can be assumed with safety to be capable of existence. This simple observation teaches us that we are no longer travelling along the route by which digitalis and the other old remedies of the healing art were made known to us.

It is very noteworthy that a long period elapsed before attention was paid to these powerful therapeutic adjuvants. It may be acknowledged with great thankfulness that this attention has been directed not only from the medical but also from the chemical side. In this connection, A. W. v. Hofmann correctly points out that after the discovery of so many organic substances some were soon brought into use for the sake of their external properties, while their internal applicability was never troubled about. Thus chloral hydrate was discovered in 1832, but its properties were first recognised through my pharmacodynamical researches in 1869. When new alkaloids were discovered, the task which lay before the chemist was to test their action upon the organism itself on the chance that it might fit in with a similarity in chemical constitution between their new substances and alkaloids. On account, however, of defective application of methods which lay out of their own beaten track, many chemists overlooked the true affinities of these bodies. In support of this may be adduced an example which has hitherto been scarcely ever quoted. Cocaine was discovered in Wöhler's laboratory. Its chemical similarity to atropine led to a chemical investigation of its topical action on the eye, and while it was noted that no dilatation of the pupil occurred, its remarkable property as a local anæsthetic was overlooked. Even the chemists found soon enough the exceptional loss of sensibility which cocaine causes when applied to the tongue; but it was Koller's medical observations and the clinical observations following which first indicated the correct position of cocaine as a drug.

The first ideas in testing the materials provided by chemistry in such enormous quantities must naturally be directed towards establishing a connection between their chemical constitution and their action. And from this line of thought many considerations naturally result. Before everything, it compels the speedy observation that the chemical division into groups such as alcohols, aldehydes, ketones, etc., has no bearing upon therapeutical action. Nevertheless, that a connection exists between the actions of certain chemical groups is not to be denied. It has been proved that the great group of bodies allied to antipyrin ("pyrazolones") exhibit similar therapeutic properties in a given direction. But we must always keep in mind that when we wish to speak of the connection between constitution and action, we must recognise that the effect of medicinal action upon the animal and human frame forms a complex whole, and cannot be mapped out with mathematical clearness. Bodies which lower the temperature produce an effect which is compounded of various different factors. The same is true of the lowering of blood pressure: thus one cannot scientifically represent that the chemical constitution of a given substance will be in relation to its influence on a complicated diseased condition such as migraine, or perhaps on the killing of the itch parasite, the destruction of which can be accomplished by the most varied toxic agencies. This imperfection of the new method must be admitted, but from its incompleteness no one can deduce that it is useless. On the contrary, its perfection promises to bring forward new and unexpected results.

But it must also be admitted that if the knowledge of the chemical material be made the basis of research and merely taken by way of comparison in relation to the remedies already guaranteed by experience, this alone already affords sufficient ground for rendering a portion of the chemicals available in treatment. In this connection I may recall, for example, the fact that working from the chemical constitution of cocaine bodies, such as eucaine, were obtained which are not, it is true, identical in action with cocaine, but are able to replace it in many cases without exhibiting its toxic action. Thus in the search for new remedies it is no longer indicated that we should wait for chance results, as was formerly the case; we are, on the other hand, directed by scientific principles. Results crowned with success may be obtained through the most varied combinations which only those ignorant of the scientific method could describe as a "happy chance."

When the principles of chemistry are made the basis of the search for symptomatic remedies the experimental investigation is rendered much easier by the use of established physiological methods. I will not deny that these still require perfecting, but nevertheless they place us in a position to get to know a whole series of facts which are of direct therapeutical value. Through them we can obtain information as to whether a substance has a diuretic action, whether it excites the heart's action, and which factors participate in this stimulation, and we can decide questions such as whether the brain, the spinal cord, or the medulla are influenced or whether an anæsthetic effect is produced by central or peripheral mechanisms. We must, of course, rely upon observations upon man wherever it is a question of the excitation of subjective sensations. We have not, for instance, hitherto been able to show by experiment on animals that such a body as quinine evokes quinine intoxication by disturbance of the central mechanism. The great importance which the establishment of the functional action of drugs upon animals has already attained is, however, best shown by the example of digitalis. Medical observation alone, in spite of the impetus given by Withering, could not place the significance of this remedy in its right light, for we see it now admitted now excluded from the *British Pharmacopœia*. Now that, however, supported by the discovery of the influence of the vagus on the heart's action, its physiological properties have been established by Traube, digitalis will never more disappear from the ranks of remedies, in spite of the use of drugs with similar actions, such as strophanthus and others, in the treatment of cardiac disease.

A great number of new drugs belonging to these categories have come into existence. You know best that whole volumes are already filled with the enumeration of new and in many ways useful symptomatic remedies. I can well understand the complaint of the medical world which is compelled to work through the theories on which the use of these individual remedies is based in order to decide, for instance, whether in a given case antifebrin, phenacetin, or antipyrin should be employed. How great a difficulty often presents itself in deciding which of the numerous hypnotics that have come in since the discovery of chloral hydrate is to be used. Each one has its advantages and its disadvantages. The skill of the physician is shown in the judgment and individual consideration by which he as far as possible prevents the latter from operating, or at least moderates them. But against these difficulties must be reckoned the great advantage of being in a position to make use of such valuable remedies. Those who were in practice before 1869 can recall the longing for such drugs which was then felt. One had only opium and its alkaloids to rely upon, that drug whereof Sydenham said that without it no physician could exist. Now it may be declared with certainty that quite new and specific remedies lie buried in chemistry, a conclusion which is confirmed when we consider that no substance, be it never so like another, perchance generally active, passes through the media of the living organism with an identical result.

I like to indulge in the hope that the comprehension of these facts will spread widely among clinicians and scientific physicians, but it would especially gratify me if that minority of medical men who, dissatisfied with the results hitherto obtained, proclaim a medical nihilism, could also at least be made to recognise that laborious pharmacodynamical work is at least leading us nearer towards the desired goal of providing a powerful medicinal armamentarium for the treatment and cure of disease. It must be freely admitted that not every research lends itself to an application to practical life. How much scientific work hidden from the knowledge of the wider public has been done before the collection of the results which had been won could be turned to spiritual and material good.

Let us now turn to the second group, comprising those agents which act on the causes of disease. Here we find the greatest difficulties opposing us in our researches. First of all we are bound to admit that here also empiricism, which

in spite of all philosophy can give no account of either the material employed or the origin of the disease, has achieved great things. Of this the discovery of quinine must always remain the most striking example. We are bound to admit openly that our methods are still so imperfect that if we had been dependent on our experimental aids alone we should not to-day have been in a position to proclaim quinine as an antimalarial agent, and further that all the wonderful researches on quinine have not as yet carried us so far as to establish by experimental means any other substances which act with the same safety as cinchona bark. My bringing forward this confession of weakness need not be attributed to any modesty. As in other sciences problems lie before us which can only be solved after the perfection of our technique.

The main problem which must here be brought under consideration is to correctly judge the causes of disease, and to examine the influence which they exert upon the totality of cellular life—that is, upon the organism. Theoretical considerations have vigorously desired the discovery of a *contagium vivum* as the original causes of all internal diseases. The discovery of the anthrax bacillus by Davaine and Pollender, and of the spirillum of recurrent fever by Obermeyer marked the first commencement of the fulfilment of this wish, and with the introduction of solid nutritive media further discoveries were soon made. Koch found the tubercle bacillus, Schütz that of glanders, and other micro-organisms were detected in rapid succession. The confirmation of a hypothesis that many diseases were evoked solely by the action of a living cause seemed to indicate so smooth a course for systematic research that the softest criticism was condemned as a revolutionary blunder. But the simple plan of discovering the *materies morbi* and of rapidly removing it, which must be understood as the logical consequence of the theory and its confirmation, has not led to the desired goal as was originally expected. The therapeutic results have failed. It is not to be wondered at that among those investigators who have devoted their work to this direction opposition has called forth discontent; but still they cannot overlook the fact that as long as the observations on which it is based are eventually correct, a scientific truth cannot be suppressed but that it is more firmly established by the overthrow of opposition than by the testimony of its supporters. So that if I refer to facts which do not fall in line with the theories as to the causation of disease as they have been accepted by many bacteriologists following the older observations, I hope that by now the atmosphere has become sufficiently calm for my scientific opponents to be able to remember the dictum hitherto not sufficiently followed, *nunquam odiosum*. What animosities have been aroused by the slightest objections! Let us therefore enter in calm contemplation upon the question of the etiology of disease.

The conception of the origins of disease has gradually become amalgamated with a purely mechanical view for the conclusion "*cessante causâ cessat effectus*" resulting from it leads to the proposition that with the destruction of the cause the effect of the disease will also be removed. For the purposes of therapeutical research this principle must be closely discussed, for its acceptance as an established fact at once justifies as invariably correct the search for specific remedies. From many infectious diseases, in view of the knowledge already attained, the idea of a specific cannot be banished; for we see, for instance, that in syphilis mercury must be regarded as a destroyer of the etiological factor. But even here mercurial treatment by itself is insufficient. It must also be admitted that with the inclusion of other foreign bodies as causes of disease, one or other substance will be able to act in a certain sense as a specific. But in general the etiological factor which leads to the clinical picture of the disease must be taken into consideration only in conjunction with the living cell. Thus, in investigating the action of remedies, we have consequently not the power to consider alone the nature and strength of the foreign influence, but must reckon also with the properties and condition of the cells.

Such anatomical propositions as we can predicate with regard to the cells have been laid down by means of the microscope and methods depending upon it, and hence can eventually only lead so far as increased powers of observation permit. The eye will never be so armed as to follow molecular movements through deductions from which we might arrive at a view whose correctness could be established by experimental proof. Our views as to the vital activity of the cells can only be obtained by deduction, just as it was arrived at for solids, liquids, and gases, the knowledge of the nature of which came from criticism of chemical and physical experiments.

We collect the properties of living cells and call the product the vital function. Chemical and physical processes go on in them, but there are, in addition, properties which our present knowledge of chemical and physical action does not explain to us, but whose combined effect may be described as the vital function. To this vital expression belong also the power of development and the resistance of destruction. Anatomical considerations lead us easily to compare the lives of human and animal cells, but the reactions evoked by foreign influences show us that the vital power of the human cell is almost in no way comparable with that of the animal. Hence arises the difficulty of advancing the group last considered by experimental means.

In order not to lose ourselves too much in generalities by this theoretical discussion, let us turn next to a therapeutical problem which particularly affects our own time, and which physicians labour to solve with the assistance of benevolent laymen. Essays in the curative treatment of pulmonary consumption have the most active claim upon the attention and consideration of medical men. The now generally accepted method of the late Dr. Brehmer, for which he carried on so indefatigable a propaganda at balneological congresses, thereby introducing it to a wider circle, rested on the principle of strengthening the organism by the adoption of good nourishment and air, and of so conducing to a process of healing. For a long time the influence of a new line of inquiry pushed this method into the background. Villemin's discovery of the communicability of tuberculosis to animals was the groundwork which led to the finding of the tubercle bacillus by Koch. Henceforth began therapeutical researches in which the bacillus was regarded as the sole factor in the causation of the disease; this idea depends upon the fact that after the destruction of the bacillus the health of human beings can be re-established. The postulates which have been elucidated by experiments on animals do not really ratify themselves with that simplicity which has on theoretical grounds been attributed to them by authors.

If one had to deal, as in the case of syphilis, with an infection of such a nature that all patients, almost without exception, succumbed to the action of the poison, it would, perhaps, be conclusive that all agencies which killed the tubercle bacillus, and those alone, could be recognised as of value.

So far, however, as the observations on the action of the tubercle bacillus on the human body are to be regarded as unprejudiced, they show that its entry into the organism by no means always gives rise to pulmonary phthisis. One observes, of course, in the latter disease that tuberculosis is, almost without exception, the precursor. When one takes into consideration, however, what has been indubitably established by the *post-mortem* observation of Hansemann—namely, that pulmonary consumption can exist without the formation of tubercles, and therefore without tubercle bacilli—the conclusion becomes necessary that in this case precedent factors must have played a part in the lungs which prepared them to receive the tubercle bacillus. If, now, a distinction has to be drawn between phthisis and tuberculosis, it follows that Villemin has demonstrated the transmissibility of tuberculosis from man to animals, but not that of pulmonary consumption, for it is seen that the tubercle bacillus, when taken from the non-phthisical, always produces the same tuberculosis in guinea-pigs, whereas the inoculation of human beings with the tubercle bacillus cannot lead to the production either of pulmonary phthisis or of general tuberculosis, but only local tubercles, such as dissecting porter's wart.

To the condition which renders human beings susceptible to general infection by tubercle bacillus the name "predisposition" is applied.

But how are we to explain those cases in which, for instance, children of healthy parentage injure a knee, and in this damaged knee there develops a local tuberculosis

without consequent pulmonary consumption? The case already quoted by me of the introduction of tubercle bacilli into the body by the tattooing of an arm also led not to phthisis, but only to a local development of tubercles. We frequently see, also, the appearance of tubercles in diseases of internal organs which do not lead to pulmonary phthisis. And by no means a small proportion of patients with lupus vulgaris, a skin affection characterised by the formation of tubercles, show in general no signs of pulmonary tuberculosis. We now know further with certainty that the supposed primarily infectious material can exist in the nasal cavity without producing morbid appearances with anatomical changes; we see, also, that glands can contain tubercle bacilli without the slightest trace of phthisis being demonstrable in the body. This is shown by many necropsies. Not long ago Piccini confirmed it in 42 per cent. of the cases which he investigated on the *post-mortem* table.

But without entering into the general discussion as to what is to be regarded as predisposition or disease, we can still see, at least from the example of tuberculous disease of the knee, that a condition of disease is at first present, to which follows the parasitic affection, not it is true of the whole body, but only of the diseased spot. We thus see that here the tubercle bacillus only enters as the parasite of the diseased spot. It follows from this that in contradistinction to the originally accepted simple relation between parasite and man, a complex condition obtains which I have described under the name of "nosoparasitism." I have really selected this name for a perfectly definite reason, as showing that all treatment must act in a wrong direction which is founded on the belief that the ultimate goal in pulmonary tuberculosis is reached with the extinction of the tubercle bacillus. After its destruction the disease persists without tubercle bacilli and without tubercles, and the diseased spot becomes a seat of invasion for cocci and other micro-organisms. I do not deny for an instant that to free an affected tissue from tubercle bacilli is a powerful aid to its recovery, but the remedy used for this purpose cannot be a radical cure for phthisis, as the disease persists after its successful application. The consideration I have mentioned is also of value for the question of infection, for, at any rate, in a body which has grown up healthy the bacillus can find no point to invade; as a matter of fact, the healthy body keeps it at bay. Now, all of you here who recommend the employment of sanatoria must admit that this principle underlies your undertaking.

It is well known that one section of bacteriologists found itself compelled to depart from Koch's original view, and to admit predisposition as a factor in the establishment of disease. When, however, they proceed to put to the test remedies for tuberculosis, it becomes evidence that their experiments with them are based entirely on the hypothesis of pure parasitic infection with the tubercle bacillus.

We know that in the cells of domestic animals, particularly guinea-pigs, there is no power of resistance to the tubercle bacillus. A phthisis remedy is thus tested by bacteriologists by infecting the animal with tubercle bacilli. These here invariably give rise to a general tuberculosis, not because the cells are already diseased, but by reason of the totally different vital power from that of man which they possess. If the remedy is not in a position to check guinea-pig tuberculosis, all value in the treatment of human phthisis is at once and *a priori* denied it. But the actual facts are widely different. The human cell, which has lost its power of resistance, is accordingly in a state of disease, but can again become healthy, and by virtue of its regained vitality resist the onslaught of the foreign influence.

The question naturally arises as to whether besides light and nourishment we possess pharmacodynamical agents which place us in a position so to raise the vitality of the diseased cells that we can restore the normal conditions of the organism without acting on the bacillus itself. The experiments made hitherto allow us to conclude that such medicinal cell excitants must be present, and that it is one of the aims of modern and medicinal therapeutics to make these agents accessible to practice.

Although the assertion of the existence of these remedies rests on hypothesis, I am warranted in it by an experience which comes in in practice, which I have consistently obtained during six years' uninterrupted observation, and which has also found confirmation from the clinical side by others. The idea that remedies lead through increased capillary transudation, particularly marked at the diseased spot owing to excessive collection of nutritive material, to an increase in the vitality of the cells and in the resistance to the tubercle bacillus has so often been confirmed that I cannot doubt the correctness of the hypothesis, particularly as a direct influence upon the tubercle bacilli in this manner does not take place, as the experiments on guinea-pigs show.

But to what extent also the science of pharmacodynamics is occupied in the question of effecting the destruction of tubercle bacilli in the living organism may be shown by the following experiment which I have devised. It has always been remarkable that disinfectants which, outside the body, killed bacteria with ease, did not affect their vitality as soon as they were enclosed within living cells. This forms a contribution to the observation that the reactions taking place in the cells do not run the same course as those seen outside the organism. It may be held, with some probability, that one of the causes of this is the friction between fluids in a fine state of division. If one employs many of the ordinary disinfectants one must admit that their power of action upon bacteria is impeded by their power of combining with proteids. It is this fact, for instance, which has led to the substitution of asepsis for antisepsis. In investigating the question as to whether it was possible, in the living organism at least, to hinder the development of tubercle bacilli, I employed allyl sulphocyanide, the so-called ethereal oil of mustard. As the direct application of this leads to violent irritation, and considering that in the living body prussic acid is developed from emulsin and amygdalin, I employed myrosin and potassium myronate. Earlier observations have shown the former substance to be perfectly harmless, while potassium myronate has in like manner no disinfectant action comparable to allyl cyanide. If the two substances are injected under the skin of animals ethereal oil of mustard is formed in consequence. The dosage was so adjusted that no poisoning ensued. A large number of series of experiments were performed, and of each eight animals inoculated with the same dose of injection four were subjected to the ferment action resulting in the formation of allyl sulphocyanide. It appeared that, in relation of course to the body weight, the spleen in the animals so treated remained smaller in weight, and was visibly less affected with tubercle. I therefore believe that in man also the assistance of antiseptic agents would contribute towards checking the development of tubercle formation. After this experience it must be admitted that it is a justifiable object of experimental therapeutics to investigate substances like allyl sulphocyanide, but freed from its dangerous properties, with a view to their employment in the treatment of pulmonary consumption. Such antiseptics would assist phagocytosis and the action of alexins, those natural adjuvants of the organism which hold the action of microbes in check.

It can further be shown by pharmacodynamical researches that the organism makes use of yet other means of assistance in resisting the attacks of micro-organisms.

We see that the epidermis is protected to a certain extent by the presence of cholesterin ether, which differs from fats in affording no nutrient material for micro-organisms. The whole human organism is covered externally with a thin protective varnish. Without this protection the keratinous substance would be given over as a prey to oxidation and to microbial decay.

A similar question may be put with regard to the mucous membranes, particularly those of the stomach, intestines, urinary bladder, etc., which form internal surfaces exposed to external sources of injury. I made the attempt to extract a protective material similar to that mentioned above from the mucous membrane; the experiments to this end revealed, however, a noteworthy fact of another nature. The urinary bladder was first shut off by operation, and then emptied; if now a sugar solution with yeast was introduced into and allowed to ferment at the body temperature, it was observed that the fermentation went on more slowly than when a similar mixture was exposed to the same temperature in a glass vessel. If, however, an excised and chopped, and therefore dead, bladder was used, it could be demonstrated that an accelerated activity of the yeast cells followed. We thus see

that a living healthy mucous membrane offers an obstacle to the decomposition of chemical material, and hence to the multiplication of yeast cells. It may well be assumed that a similar influence would be exerted on other lowly organisms. In any case, this research agrees with the old therapeutical experience that catarrh of the intestinal mucous membrane is best and most effectually treated, not by disinfectants, but by tonics.

Before a bacterial disease can manifest itself, the protective mechanisms, both known and hitherto unknown, of the organism must be set aside or destroyed. This noso-parasitical prelude can also be shown experimentally. Of this there are many striking examples: one such is arsenic poisoning. Wurtz found in animals poisoned with this substance, but still alive, that the circulatory system, which is normally free from bacteria, contained bacterium coli. A similar clinical picture was produced by the subcutaneous injection of gum resin (dissolved in borax) into an animal. I observed an illness characterised by œdema, and in which the bacterium coli was found by me in the subcutaneous adipose tissue and in the heart's blood. There are bacteriologists who wish to overthrow the whole system of pathological observation, and, according to whom, the *ancien régime* should be extinguished, and diseases described only according to the bacteria present. What is the case here? Have we in both these instances to do with colibacillosis, a name with which some bacteriologists are in love? No; the bacterium coli is here a parasite of the disease evoked by the poison, a noso-parasite! In the diseases caused by these intoxications no one can seriously doubt at what causal therapeutics should aim.

Of late serum-therapeutics has attached itself to the domain of medicinal therapeutics. It has first become of practical importance in the treatment of diphtheria. I must emphasise the point that the practical results will not here be made the subject of observation; it should only be mentioned that the idea that they have met with unequivocal acceptance is by no means universally true.[1] The opponents of the treatment do not only adduce the fact that the original extensive promisses have not been fulfilled, but doubt also whether an actual cure is effected by the serum; here, as in many epidemics, such, for instance, as plague and cholera, a factor to be reckoned with is that during the subsidence of the epidemic (Gottstein) the percentage mortality falls.

What is of principal interest here, however, is not the practical question, but the decision as to whether the serum treatment is capable of extension as a general therapeutic method. We must first make it clear that, just as with tuberculin, the word inoculation is incorrectly used. There is not the slightest analogy between serum treatment and vaccination. The best illustration that can be given of this is that the serum of an animal suffering from variola when injected into another and healthy animal has no power of preventing the latter from taking the disease. A further difference from vaccination lies in the fact that, as already mentioned, the latter owes its introduction to empiricism. For serum therapeutics the basis must be furnished by experimental results. Here before everything these must be tested. The difficulty of the problem thus rests first in the domain of experiment. Experiments upon animals must furnish the proof that the toxin produced in the animal body by the Loeffler bacillus is actually neutralised as regards its noxious action by the antitoxin. This fact is not to be deduced from the results of Behring's experiments. Kassowitz[2] said in 1895:

"The third and smallest group, which comprised only seven animals, contains the curative experiments proper, in that here the poison was first injected into the animals, and the antitoxin not used till some time after. Now what was the result of researches so significant for the whole problem? Well, I can honestly say that I have scarcely ever in my whole life experienced a greater suprise than at the moment when, by exact and minute study of the experimental records, I arrived at the knowledge of this result, for of these seven animals no fewer than six succumbed to the action of the preceding poisoning, and one alone (to wit, a guinea-pig) withstood the action of the toxin after it had once become obvious. But this one rescued guinea-pig was at the same time the sixtieth and the last of the whole series experimented upon, and, as soon as its life had been saved, the research was stopped and its results made public."

These persistently unfavourable results have hitherto never been replaced by successful ones. They naturally contribute powerfully to the armamentarium of the opponents of antitoxin. On account of this contradiction the principal question, whether it is possible to act curatively by serum therapeutics cannot be further discussed in relation to this example.

On the other hand, serum therapeutics may be more clearly and safely judged by observations in tetanus and trismus. Here it can hitherto only be held as proved that white mice and other animals can be immunised against the poison of a tetanus culture. If experimental tetanus sets in, white mice, and in truth this species alone, can be saved if the serum is used soon after the intoxication. It will already be obvious, *a priori*, that from the unique constitution of the animals used in this research no safe conclusions can be applied to human beings. And so, as a matter of fact, it has been shown that this research has not helped on an experimental treatment.

From the principles already set out it must already have seemed improbable that this malady in man should be curable by the use of a single remedy. For further judgment let us allow experience to speak. In one of the completest monographs on human tetanus which has hitherto appeared, the author, Professor Edmund Rose, expresses himself as follows:

"That in the antitetanic serum we possess a certain remedy for every case of tetanus has now already been disproved with certainty by further reports. The case is the same with antitetanic as with all other remedies. The statistics in the literature give no reliable picture, because at first only the cures obtained with the new remedy are, in all joy, set down. The collected reports with greater experience, turn out worse." As a summary he goes on, "We are hence, up till now, not in a position to bring forward a single case proving, according to our standard, the efficacy of the serum treatment in tetanus."

Nor has the latest tetanus antitoxin been able to consummate better results. One of the professors here, who is about to publish the clinical details of the case more exactly, has told me how, at his instance, the antitoxin treatment was applied forthwith by the most experienced hands in Berlin right at the beginning of a case of tetanus and trismus. In spite of this the cramps continued to develop more strongly after the injection. A second application of the new antitoxin was resorted to, but this also was powerless to check the increase of the cramps, and at last the fatal event. As an instance of the failure of the antitoxin to act, an observation of a young investigator, F. Blumenthal, an assistant in v. Leyden's clinic, is of interest. He showed that in tetanus the poison was localised in the nerve centres, while the antitoxin, on the other hand, circulated only in the blood vessels; hence it follows that the tetanus poison in man must be a different one from that found in cultivations. So that after all one must leave off in the place in which one began, and treat tetanus as heretofore with a combination of different remedies. The wrong route which the serum treatment of tetanus and trismus has followed in consequence of faulty interpretation of experiments upon animals is clearly intelligible, and this experience teaches us in any case that it cannot be exalted to the level of a universal method.

The task of modern pharmacology is to enlarge the boundaries of treatment. It develops new remedies from within itself, but it is always ready to comprise in the domain of its researches the investigation of substances suggested to it from without. No therapeutic method can be set aside as *a priori* not falling within its compass. Only we must stipulate that the investigation shall proceed along scientific lines, for by this means alone can we avoid the danger of allowing mystical fancies to predominate over clear scientific knowledge. Many errors will also be spared us if we cling in sober judgment to the view that in medicine we can discover no cures, but only aids to recovery.

You will, I am sure, share the view with me that the object of our science is to further the advance of medical knowledge and the good of the human race.

References.

[1] Liebreich's *Encyclopädie der Therapie*, Berlin, 1897. [2] *Vortrag*, Wien., 1895.

ON OÖPHORECTOMY IN THE TREATMENT OF CANCER.*

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FEW things stand out more clearly when one reviews the progress of surgery during the last fifteen years than the growing determination manifested by operating surgeons to be no longer foiled in their endeavours to cure cancer. Possessed by a firm belief in the local origin of the disease, guided by a good general knowledge of the channels along which it tends to spread, and having thus a clear object in view—namely, the complete removal of the primary focus of disease, of parts directly infiltrated from it, and of all the lymphatic vessels and glands directly connected with the affected parts—everyone worthy the name of "surgeon" must, when operating upon cancer cases, have been conscious of the feeling to which I have alluded, and will doubtless have had now and again the satisfaction of knowing that he had advanced a step, that he had made a wider and cleaner sweep of the disease than usual, and had thus rendered recurrence less likely. Each surgeon must use his own judgment as to how far it is right to go in the interests of each patient. This much seems certain, that though unnecessary mutilation is much to be regretted, it is better, in a mortal malady like cancer, to go too far and remove too much than to stop short and leave foci of disease behind. Each case has its lesson for us—too often a painful one—showing that we did not remove sufficient skin, that we did not follow up the lymph tract sufficiently far, and so on; and thus we are being constantly driven to operate more and freely in the first instance.

In face of the statistics published of late years no one can deny that these extensive operations have been followed by long immunity from disease in a considerable number of cases, the frequency and length of the immunity increasing in proportion as the operation practised has been free and carefully and intelligently carried out. I speak of prolonged immunity, for we do not yet know when the liability to recurrence ceases; that cancer germs may lie latent in a lymphatic gland for ten years and then grow is a fact which I learnt not so very long ago. There are many points in the natural history of cancer which require working out, and with regard to these and to the ultimate results of treatment no one is so well able to help as the general practitioner. Whoever now publishes a series of unselected cases traced to the end, indicating shortly the state before operation, the extent of the operation, and the subsequent history, does a piece of really good work, and I hope that some of those here present may be induced to share their experience with others.

But although operation, carried out with modern completeness, is the only treatment which one can recommend at present in early cases of cancer, there are cases enough in which nothing local can be done, or in which local treatment will almost certainly fail to give long immunity. In such, attempts at cure have been made by constant compression, various dietaries, chian turpentine, pyoktanin, arsenic, hydrastis canadensis, celandine, thyroid extract, and anti-carcinomatous serum prepared in different ways. But time will not allow me to do more with regard to these and similar methods than to express my strong opinion that cases of reported "cure" of cancer should no longer be cast aside as incredible, but should receive careful examination and consideration. There has not been much to encourage us to work in this line, it is true; but a conviction that cancer is incurable (except by early operation) may have blinded us to signs pointing the other way, and (while admitting that there is but little to be said in favour of hope) I have lately come to feel that absolute hopelessness is not justified.

On November 27th, 1896, Mr. Pearce Gould showed a case at he Clinical Society of which the history runs as follows: A woman received a blow on the left breast in 1885; some tenderness resulted. A small lump was noticed in 1888, and amputation of the mamma was performed by Mr. Collins at the Temperance Hospital in 1890. In 1892 a recurrence in the left axilla was removed, and in 1894 nodules in the scar and one above the right breast were similarly dealt with; but in December, 1894, a further recurrence in the scar, accompanied by some dyspnœa, caused Mr. Collins to decline to undertake any further operation.

In January, 1895, she was admitted to the cancer ward of the Middlesex Hospital, where she was first seen by Mr. Gould in March 1896. She was then 44 years and 8 months old, and was suffering from great dyspnœa, absolute orthopnœa, frequent cough, and free expectoration, which had been tinged with blood on two occasions. The right chest was dull up to the spine of the scapula, and presented all the signs indicating fluid in the pleura. No evidence of growths in other viscera, particularly the liver, was discovered. But there was much pain complained of in the left thigh, and a considerable swelling of the femur below the great trochanter was found, accompanied by such bowing outwards of the femur as to give rise to a good inch of shortening. About this time she had a painful swelling, as large as a hen's egg, first in the right and later in the left groin; both ultimately subsided under fomentations. Round the scar on the left chest were numerous hard nodules, and both in the axilla and above the clavicle a good many glands were considerably enlarged; this was the case also, though to a less extent, in the right axilla and above the right clavicle. Three months later (June 15th) this patient, whom Mr. Gould in March naturally regarded as doomed to speedy death, was much better, though no treatment which could be regarded as curative had been adopted. She could now lie comfortably in bed, and there was no dyspnœa; the nodules about the scar had gone, with the exception of one tiny one which soon disappeared; the swelling on the femur had diminished. On November 27th, 1896, this patient was shown at the Clinical Society, apparently in ordinary health; she walked lame because her femur was so markedly bent and shortened, but it bore her weight well and painlessly; all superficial evidence of cancer had gone; resonance at the base of the right pleura was slightly impaired; enlargement of the femur was gone, leaving only the curving above noted.

The clinical course of this case renders its nature sufficiently clear and certain, but the growth was examined microscopically at the Temperance Hospital by two competent observers, and noted to be "ordinary scirrhus." This patient ceased menstruating in January, 1896, when she was very ill; no menstrual flow accompanied the regaining of her health and strength.

With Mr. Gould's consent, I visited this patient at Woodford, in Essex, on August 17th, 1897. She stated that in April she had apparently fainted in her room, and had fallen so as to injure her bowed left femur. She was taken to the Middlesex Hospital, but the house-surgeon found no reason for taking her in. She had left the hospital early in November, 1896, and from that time up to this fall had been able to walk out far enough to do her "bit of shopping" without the aid of any support. Since the fall she had not been able to bear weight on the left foot because it caused pain in the left thigh. After this accident she appears to have run down considerably, owing, as her sister thinks, to confinement in a poor room in a crowded part of London. Finally, she got bronchitis, and her sister then (in June) took her to live at Woodford, and looked after her well. She now lost her bronchitis in a fortnight, appetite improved, she put on flesh, pain in the thigh when used as a support lessened, and she was hoping to regain use of the limb when, on Thursday last (August 12th), whilst sitting sewing on a low chair she again fainted, and, falling on to the floor, hurt her thigh once more, and has been in bed since. Previous to this she had been able to get about on crutches well enough to dust and tidy her room. On one or two occasions she had managed to get down a short flight of stairs into the garden, but had "come over faint" while sitting there.

As to the "present state," she is very bright and cheerful, not suffering any pain, sitting up in bed and performing other required movements briskly and without obvious effort. She is anæmic and thin. I could find no trace of cancer in the superficial parts of her chest wall, in the axillæ or supraclavicular regions, though the left supraclavicular fossa is a little fuller than the right. The abdominal viscera appear

* Read before the East Anglian Branch of the British Medical Association.

normal. The left inguinal glands are plainer than the right, but can hardly be described as enlarged. The left lower limb is not more than 1½ inch shorter than the right, though the patient thinks that the bowing and thickening of the femur have increased. The femur certainly is thickened and obscured a little below the trochanter. There is no valvular heart disease, but the pulse is wretchedly feeble.

At the same meeting of the Clinical Society Mr. Bowlby was able to mention another very unusual case which he had seen under the care of Mr. Willett, and Mr. Willett has been good enough to supply me with further details of this case and to allow me to make use of it:

A lady of 42 had a scirrhous breast and axillary glands removed by Mr. Willett in April, 1893. In April and October, 1895, large portions of the pectoralis major were removed for recurrent growths in it. In November this patient went to live at Eastbourne under the care of Dr. Harding, from whom Mr. Willett has obtained for me a series of careful notes. In December, 1895, widespread nodules appeared in and around the scar, and a supraclavicular gland was enlarged; no further operation was deemed advisable. On February 11th obstinate and frequent vomiting began, the vomit consisting of food streaked with blood. On the 13th, acute pain started in the left hip and the patient became bedridden; the limb lay helpless, wasted quickly, and even jarring of the bed excited the pain. On the 22nd slight jaundice was detected, and there was acute pain with tenderness over the liver, which was considerably and irregularly enlarged. During the first week in March fresh nodules appeared in the right axilla and above the left clavicle, while the right supraclavicular glands increased in size. So far advance was steady and rapid, but in this month (March) the last regular period occurred—a "show," lasting a few hours only, appearing in May.

Improvement now began, and on the whole continued for some months. In August the patient was at her best; she was out daily, was in good spirits, had lost all cachexia, and had certainly gained flesh. In September pain in the hip had become so slight that she was allowed to walk, and did so daily for a fortnight, when she caught cold and was again confined to bed. After this slow failure began. In November, 1896, great irritability with attacks of depression began and increased. In February, 1897, slight delusions appeared, and in March "pins and needles" in the left hand and loss of power in the left arm were complained of. The patient was now failing very markedly, and died in April, 1897, under circumstances to be presently detailed.

The improvement which began in March, 1896, was not confined to general health. First, the vomiting subsided; it ceased in April, and, except for a fortnight in June, did not recur. In April all superficial growths (skin, fat, and glands) began to soften and atrophy, a process which continued during the period of general improvement; but it is not stated that any nodule actually disappeared. In May an ulcer, the size of a threepenny bit, formed in the scar, but healed in July shortly before a fresh crop of secondary nodules appeared upon the back and back of the neck. These nodules apparently soon began to share in the atrophy of such growths which was going on. In March, 1897, several similar nodules appeared over some of the dorsal spines, and another small ulcer appeared in the scar, but healed within a week, although at this time the patient was in a very depressed condition. The most interesting of the secondary growths, however, was one connected with the upper end of the right humerus, in which severe pain had been suffered since April, 1896. On June 28th a very hard swelling was found here; it increased for a month, was accompanied by œdema of the hand and forearm, and then began to subside. On November 13th a very hard swelling was again found at the same spot; it increased to the size of a goose's egg, only again to disappear in January, 1897, together with the accompanying œdema of hand and forearm. On April 18th, 1897, the patient being now very feeble, Dr. Harding found the right humerus broken high up. The fracture was not preceded by any fresh swelling, and the patient was quite unaware that anything of the kind had happened. She now got rapidly worse. The temperature rose to 105° almost daily; she became delirious, wasted rapidly, and died on April 26th. No lung trouble was detected.

I think I am justified in saying that we have here two indubitable cases of cancer, in the first of which apparently complete and prolonged disappearance of widespread lesions occurred; whilst in the other a remarkable series of attempts in the same direction was made—for example, wasting of superficial nodules, healing of cancerous ulcers, disappearance of two growths around humerus, and marked improvement in general condition. In neither case was any treatment which can be regarded as curative employed, and in both cases the improvement dated from the menopause—a fact which I note but do not desire to lay too much stress upon, as the concurrence may well have been fortuitous.

The simple argument which I base upon these cases is that if by clinical and pathological observation or by therapeutic experiment we can discover the conditions which lead to such atrophy of cancer masses, we may further succeed in artificially producing these conditions and thus inducing atrophy. Though not at present a believer in the parasitic origin of cancer—that is, in the causation of the disease by a specific micro-organism—I regard the cancer cells lying in blood vessels or lymphatics as invading parasites just as similarly situated bacteria or psorosperms would be. Exactly the same sort of struggle must be going on between the epithelial cells and the tissues in which they have come to lie as occurs between invading micro-organisms and the tissues. Following out the analogy, weak resistance on the part of the tissues, possibly excessive virulence (if I may theorise so far) on the part of the epithelial cells, will result in "acute cancer," rapid spread occurring locally or generally, or both locally and generally. The contrary conditions under which the tissues do not afford a suitable nidus for the growth of epithelium result in an implantation cyst or in a more or less atrophic cancer, the course possibly extending over ten, fifteen, or twenty years. We are all familiar with these acute and chronic varieties in, say, tubercle; and in this malady complete recovery is also well known. I suggest that the two cases which I have quoted should be regarded as instances in which a very high degree of resistance to the parasitic epithelial cells was developed, and that these cells consequently died, degenerated, and were absorbed, as all cells do when unable to obtain sufficient or suitable food.

If there be any truth in this view, the search for a cancer antitoxin may not be vain; but I do not propose to discuss the very doubtful results so far obtained in this line of research. I wish rather to draw your attention to a method of treatment by which atrophy of cancer masses has, in some instances, been induced.

On May 20th, 1896, Dr. Beatson, of the Glasgow Cancer Hospital, read a paper before the Edinburgh Medico-Chirurgical Society on the reasoning which led him to think that removal of the ovaries might arrest breast cancer. Dr. Beatson showed, in illustration of his views, two cases in which he he had carried out the treatment.

The first patient was a married woman, aged 33, who had had two children, aged 3 and 1¼ years respectively. In her first lactation she noticed a painless lump in the outer side of her left breast. Only in her second lactation, twenty months later, did she notice increase in this lump, and she sought no advice until she had suckled this second child for ten months. She was then in good health, but had a tumour 5×3½ ins., with nodules in the superjacent skin, one of which was ulcerating. An extensive operation was performed at one of the Glasgow infirmaries, but recurrence was evident almost before the wound was healed, and further operation was deemed useless.

Dr. Beatson saw this patient on May 11th, 1895. Her health was beginning to break down. About the middle of the scar was a prominent recurrent mass, 3½ × 2½ ins., adherent to the chest wall; and smaller nodules ran along the scar back into the axilla. No large glands could be felt, and no viscera seemed to be affected. A bit of the growth was excised and shown to be cancer. For a month thyroid extract was given fully without result.

On June 15th Dr. Beatson performed double oöphorectomy, and on July 12th thyroid extract was again begun, Dr. Beatson regarding it as a powerful lymphatic stimulant.

On July 19th (five weeks after the oöphorectomy) the large mass was smaller and less vascular, and similar changes were

evident in the minor nodules. The tissues around were softer and more pliable.

On August 1st (seven weeks) each diameter of the large mass had shortened 0.75 in. ($2\frac{3}{4} \times 1\frac{1}{4}$ ins.), and its thickness was hardly appreciable; its colour was yellow-white, its vascularity slight. The smaller axillary nodules, though shrinking, did not keep pace with the main mass. The general health was now satisfactory, and the patient went for a change of air.

On October 12th (four months) the main mass was reduced to a yellow lamina, not raised above the skin. The axillary nodules were smaller, thinner, and yellowish. No new nodules had appeared, and the patient appeared to be and felt very well. She was now taking 20 grains of thyroid daily.

February, 1896 (eight months). All trace of disease had gone.

On May 20th, 1896, the patient was shown at the Edinburgh Medico-Chirurgical Society, and was examined by Bell, Chiene, Stiles, and most of the well-known surgeons of the northern capital; all expressed themselves as satisfied that the case had been one of true cancer, and that no trace of the disease was at that time discoverable.

In June, 1897, Dr. Beatson writes that this patient remains to all appearance well—two years after the oöphorectomy.

Dr. Beatson's second case differed from the first in many respects. She was a chronic alcoholic, aged 30, married; no children, menstruating every three weeks. She was thin, pale, worn, but still fairly strong. A large tumour of five and a-half years' growth occupied all the right breast except the extreme lower edge. The skin was thick and red over a large area. The mass was not fixed to the chest. Increase had been rapid since a blow nine months ago. The axillary glands were swollen and rather fixed, the pectoral fold thickened, and shotty nodules were felt over the first space and over the clavicle. There were many large glands in the right, and one in the left, posterior triangle. No visual infection was detected. During a month no treatment was adopted, and steady spread occurred in all directions; large glands now reached up to the right angle of the jaw in both anterior and posterior triangles, and many more cutaneous and subcutaneous nodules had appeared. Pain and stiffness in the neck rendered opium a necessity to obtain sleep.

This patient now consented to a double oöphorectomy, which was done on October 3rd, 1895, adhesions rendering it difficult. Nine days later (October 12th) vascularity over the tumour was less, and pain had all but gone. She was "in a different world," slept without opium, and moved her neck more freely. Thyroid extract, 10 grains per diem, was now begun. At the end of two months (December 3rd) the tumour was sufficiently shrunken to allow infiltrated skin to be raised from it. A nodule now excised showed marked fatty degeneration and increase of fibrous tissue; the wound healed soundly. On January 10th, 1896 (fourteen weeks after oöphorectomy) she went to the coast, neglected to take the thyroid extract, and probably drank more than was good for her. On February 25th (five months) she was looking well, but increase had again set in, and the skin was reddened over some cervical glands. In bed, on 15 grains of thyroid per diem, some improvement occurred, but it soon ceased, and the patient died with secondary growths in the liver.

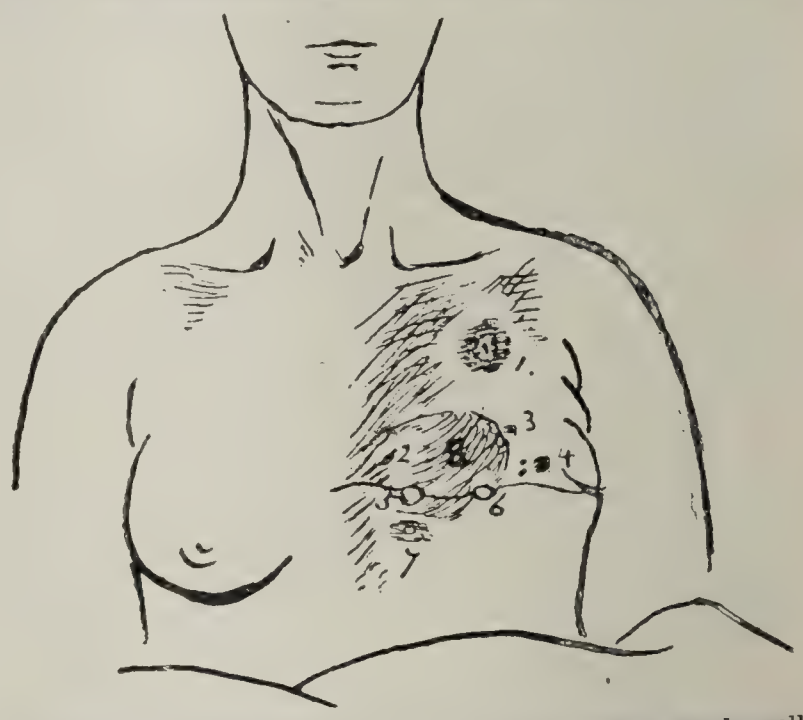
This was a case which, in its earlier, slowly growing stage, ought, one would think, to have been amenable to this treatment. But when the oöphorectomy was done the disease was very widely distributed, her early resistance was broken down, enormous numbers of the epithelial cells were present, were growing actively, and pouring their products into her system. Even under these unfavourable circumstances a distinct effect was produced, and continued for some five months.

Dr. Beatson spoke at meetings of the British Gynæcological Society in March and April of this year. Without giving details he stated that in three other cases of otherwise inoperable cancer of the breast treated as above described, he had obtained only a trifling and very short improvement, consisting chiefly in diminution of vascularity and relief of pain. He seemed despondent as to the future of the treatment.

So far as Dr. Beatson is concerned I have now brought you up to date, and I will next turn to my own small experience. I have operated on five cases; but, as my first case dates only from December, 1886, I lay myself open to the criticism that I am reporting them too early. Nevertheless, I hope you will find them interesting, so far as they have gone.

CASE 1.—My first case was sent to me by Mrs. Garrett Anderson in June, 1896, for an opinion as to whether anything further could be done. Mrs. Anderson had operated upon this lady for cancer of the left breast in September, 1892, a few days after the patient first noticed that anything was wrong. The growth seemed to be simple, and was alone removed; but in June, 1893, continued growth rendered removal of the breast necessary. The patient was then lost sight of until May, 1896, when she reappeared with recurrences of from eighteen months' to two years' standing. The patient was now aged 44, and was menstruating regularly. Although she had suffered from cancer for certainly over three and a half years, her fine physique had not broken down in any way, and I could find no evidence of visceral disease. Locally she presented a large nodule in the pectoralis major, above the scar, movable over the ribs. The axillary glands were almost certainly affected, though none could be felt. There were a few subcutaneous nodules round about the scar, and one small mass adherent to the chest wall in the neighbourhood of the fourth and fifth cartilages. The doubtful point was whether anything radical could be done with this latter growth. Influenced by the splendid condition of the patient I offered to make an attempt to remove it widely, with the understanding that if this could be satisfactorily carried out the operation should be completed by the removal of the great pectoral muscle and thoroughly clearing-out of the axilla. On July 9th, 1896, I cut freely round this mass, and removed it, together with the whole of the fourth and fifth cartilages. I then found a large anterior mediastinal gland, which I shelled out easily; but, feeling that there must be others higher up, I closed the wound. But for a little accumulation of bloody serum, healing took place without difficulty, leaving a deep hollow, at the bottom of which the heart could be felt with unpleasant distinctness. Some months later this lady heard that Dr. Beatson had discovered "a cure for cancer." He had at that time published his first two cases, and the second was beginning her downward course. I explained exactly how matters stood, how absolutely experimental the operation would be, with the result that, after some additional evidence had come to light, and had been communicated to them, the patient and her husband decided to have oöphorectomy performed.

At this date, patient being now 45, and menstruating regularly, there was marked swelling above the scar, due chiefly to a mass, the size of a large walnut, in the pectoralis major; not fixed. There was fulness above and below the clavicle, but no distinct gland. Cutaneous and subcutaneous nodules were distributed, as shown in the diagram (Fig. 1). A dense

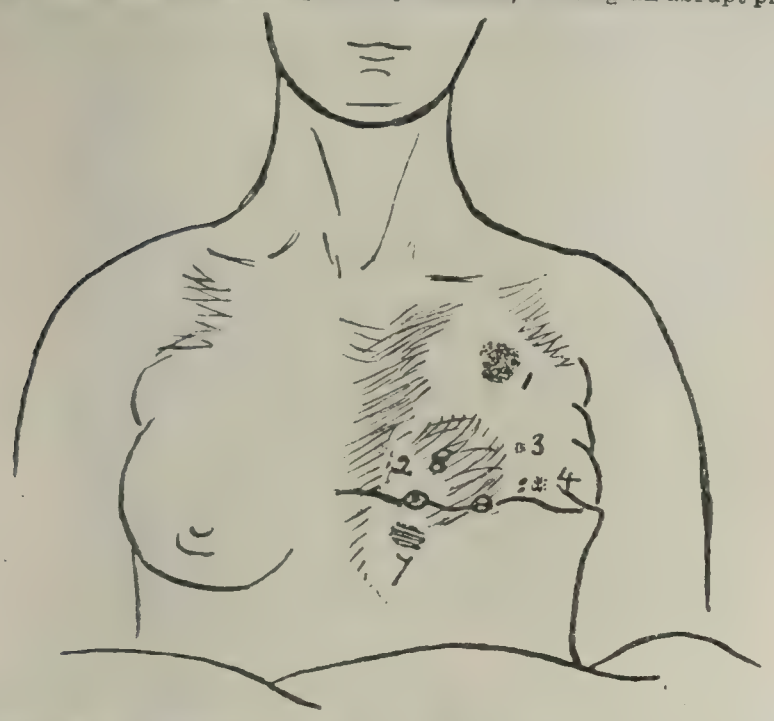


Case 1, Fig 1.—December 30th, 1896. (1) Mass in pectoral; much swelling around. (2) Prominent inner end of depression (8), through floor of which heart beats could not be felt. (3 and 4) Subcutaneous nodules. (5) Thin red plaque in scar. (6) Nodule in scar. (7) Mass fixed to cartilage and raising skin centrally.

mass of cancer, through which no cardiac impulse could be felt, occupied the site of the depression due to removal of the fourth and fifth cartilages. No visceral lesion was found. There was constant pain in the pectoral region, increasing of late, "like a claw drawing it together." Double oöphorectomy was performed on December 22nd, 1896, the ovaries removed being well developed.

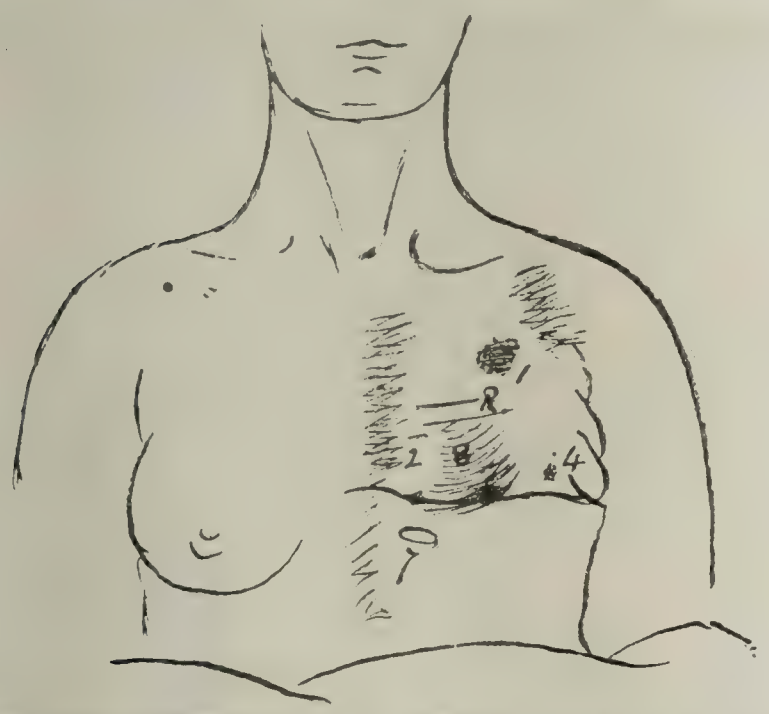
The immediate result of the operation was relief of pain. At the end of a week, vascularity of the nodules was less, the general fulness in the pectoral region was much less, and nodule No. 7 was decidedly less prominent. Three weeks (Fig. 2) after the operation No. 5 was all but gone, and the heart impulse could be plainly felt through the infiltrated depressed area. After four weeks I noted: The certain improvements are—loss of all pain, reduction of general swelling and hardness, diminution of vascularity of all lesions, disappearance of the small red scar-like patch (No. 5), and of the white patch (No. 6), and of the superficial portion of No. 7, which used to raise the skin; disappearance of induration from

the floor of the depression. The pectoral mass has shrunk more slowly; and a good deal of cancer probably remains, forming an abrupt promi-



Case I, Fig 2.—January 19th, 1897. General swelling less. (1) Is consequently more distinct and movable, smaller? (2) More defined, exact nature? (3 and 4) Smaller. (5) Gone. (6) All but gone. (7) No longer obvious, but some thickening still about rib cartilage. (8) Floor soft, heart impulse clear to eye and touch; edges of ribs and cartilages around are obscured by new growth.

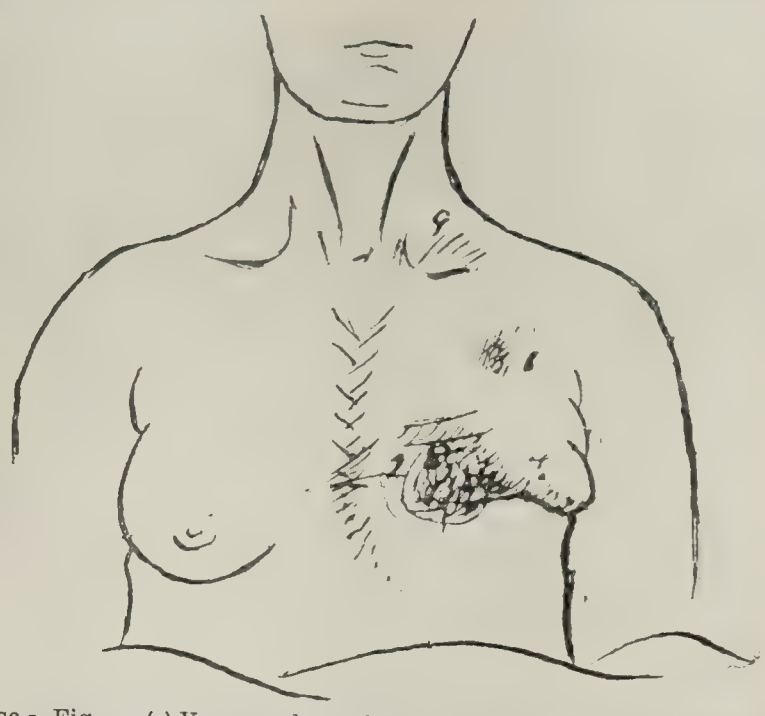
nence at the inner end of the depression. Nodules Nos. 3 and 4 have steadily, though lowly, diminished. Nine weeks (Fig. 3) after the



Case I, Fig. 3.—February 22nd, 1897. General swelling gone. (1) Rather smaller. (2) Nature still doubtful. (4) The largest of the three nodules remains, though smaller. (7) Very doubtful if any thickening remains. (8) Infiltration of floor gone, heart beats quite plain. The third rib (R) is now plainly felt above depression.

operation the general health was excellent. The pectoral nodule was smaller, but still considerable; it was moving much more slowly than most of the skin and subcutaneous nodules. All infiltration seemed to have gone from the floor of the depression, but I could not be certain as to the nature of the prominence at its inner end—that is, whether it consisted of cancer or of the tissues on the side of the sternum hardened by scar tissue, and possibly by bone. The third rib cartilage was quite clear above the depression. A small single nodule could still be felt at No. 4. No. 7 was almost if not entirely gone. At the end of May, 1897, this patient was in excellent health; she had been for some weeks confined to the house, and even to bed, by bronchitis (from which she is not now entirely free), and has lately been at the seaside. There was no evidence of secondary growth in the lungs. Little or no change had occurred in the pectoral growth and in the larger of the three nodules marked No. 4. If anything, these nodules were larger. All other evidence of cancer had gone, unless there was some cancer tissue in the abrupt prominence at the inner end of the depression over the heart.

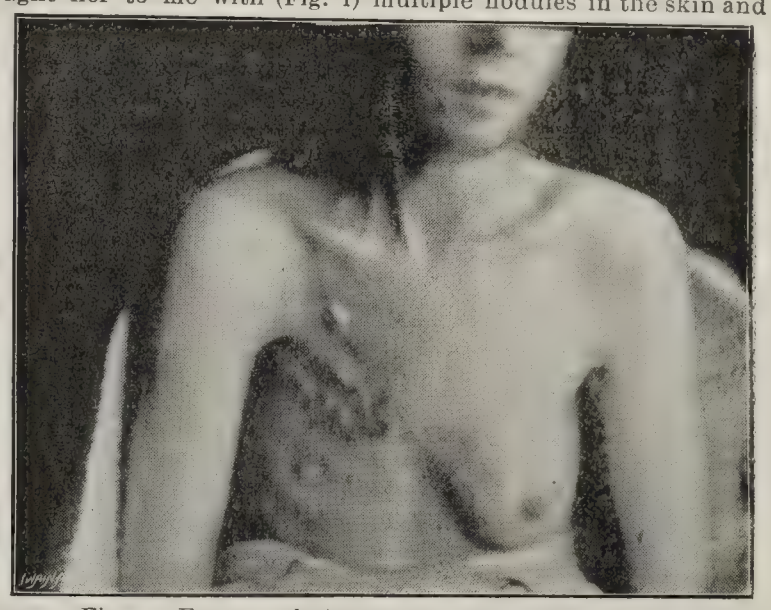
August 16th. In May I thought this patient had reached a point



Case I, Fig. 4.—(1) Very much smaller. (2) Sharp and natural, instead of blurred. (4) Present? (8) Pulse clear to eye and touch. Base smooth and firm, as if dense fibrous tissue. (9) Fulness?

beyond which she would not improve. At the end of June she went to Yorkshire, and remained there for five weeks (till July 30th). She now looks the picture of health, has gained strength and energy markedly, and has gained flesh, weighing now close on 12 stone. Her husband says she is "very well." The pectoral mass (No. 1) is much smaller—perhaps one-third of its size in May. The nodule No. 4 has all but disappeared; I think I can still feel something about where it used to be. The floor of the depression (No. 8) is firm, smooth, and gives the impression of tense fibrous tissue drawing the cut ends of the ribs inwards. The heart impulse is both visible and palpable through it. The prominence at the inner end of the depression is smaller, and to the touch very different, a bony sharp edge being now clear where formerly was a mass with blurred outlines. I have strongly advised this lady to go back to Yorkshire, and to remain there for some time longer.

Case II.—My next patient, 37 years old, and unmarried, was sent to me by Dr. Horace Sanders, of Camden Road, in March, 1896. She had noticed the disease for only three months, but it was very extensive, and included a mass 3 by 2 inches in the right breast, closely adherent to the pectoral, and, as I found at and after the operation, numerous secondary nodules in the breast itself, in the great pectoral, in the fascia beneath this muscle, on the subclavian sheath, and in the axillary glands. I did a very free operation, and saw no more of the patient till February, 1897, Dr. Sanders (who had lost sight of her for months previously) hen brought her to me with (Fig. 1) multiple nodules in the skin and sub

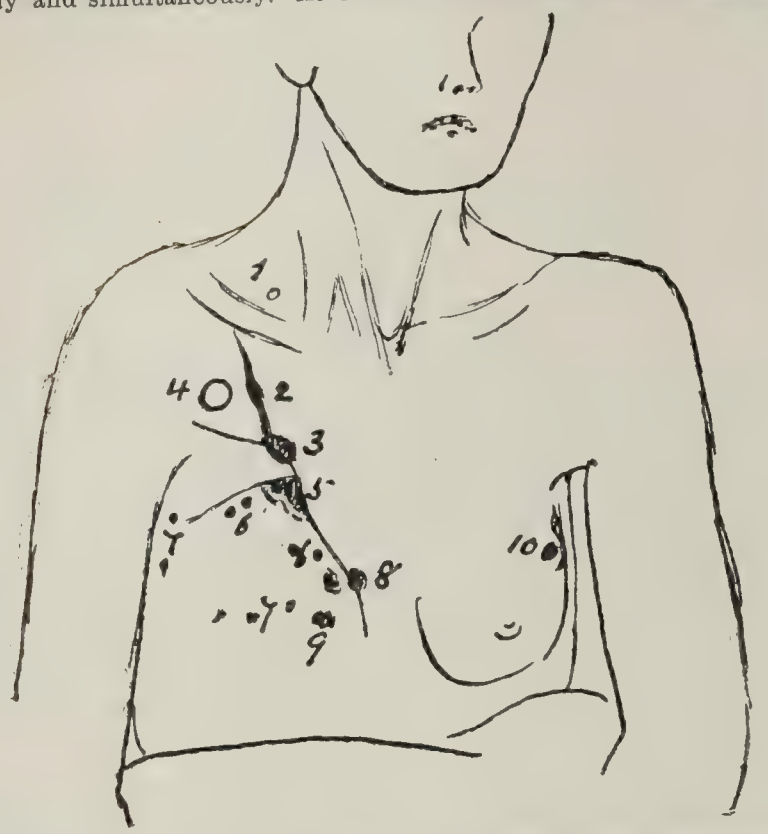


Case II, Fig. 1.—From a photograph by Dr. Horace Sanders, taken just before the oöphorectomy. These are the chief points shown: Thinness of patient; prominent gland above right clavicle; triradiate scar on right chest, with large nodule at meeting point of branches; a bridle-like prominence running from this up to clavicle with a nodule at its centre; general infiltration of the skin and subcutaneous tissue along and behind the lower limit of the scar, often closely adherent to the chest wall; a lower group of three nodules, of which the posterior is the larger; a nodule in the upper and outer part of left breast. There was a good deal besides which a photograph could not show.

cutaneous tissue in and about the scar, reaching back to mid-axilla, many being adherent to the chest wall. There was one considerable mass in the outer half of the clavicular portion of the pectoralis major (I had

removed the sterno-costal part), which was probably adherent to the chest wall. In the axilla were one or two gland-like nodules, and above the right clavicle a gland was obvious to sight. In the upper and outer part of the left breast was a prominent nodule the size of a marble, and a small gland could be felt above it in the left axilla. No visceral lesion was made out. There had recently been much pain in the left thigh, quite crippling the patient; it had not the distribution of ordinary sciatica; it had gone when I saw her, and nothing could be felt in the thigh to account for it. The patient was very thin and pale; she could walk only a very short distance with the aid of a stick.

On February 21st, 1897, double oöphorectomy was done, the ovaries being rather small. A week later the nodules were distinctly less vascular, and the hindermost of the three lowest shown in the photograph was now the smallest. This will give some idea of how rapid the atrophy of these nodules may be, and it shows also that they do not all waste equally and simultaneously. At the end of a month (Fig. 2) flesh and



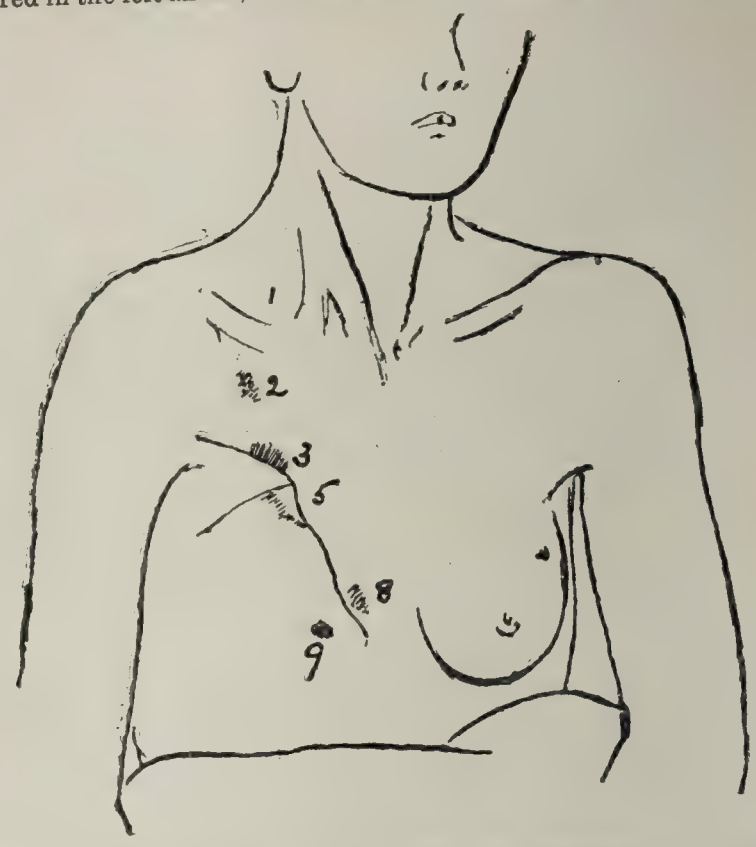
Case II, Fig. 2.—March 22nd, 1897. First fairly accurate chart taken. (1) Gland size of pea; no longer obvious. (2) Red patch, slight thickening of skin; bridle almost gone. (3) Reduced to marked thickening of skin, mobile on chest. (4) Nodule in pectoral, probably adherent to chest wall. (5) Vascular ridge of growth surrounding apparently healthy scar. (6) Vascular skin plaques. (7) Subcutaneous nodules almost gone. (8) Vascular plaques adherent to fourth cartilage. (9) Thickening on fifth cartilage, raising skin. (10) Nodule in left breast, much smaller.

colour had decidedly been gained. Pain in the thigh had recurred before the operation, but had since disappeared, perhaps from rest and warmth in bed. All superficial lesions were shrinking rapidly; prominent nodules had been reduced to mere plaques, and the attachment of skin lesions to the chest wall was loosening. The gland above the right clavicle could no longer be seen. The prominent ridge shown below the clavicle had flattened out, and its central nodule was reduced to a slight thickening of skin only.

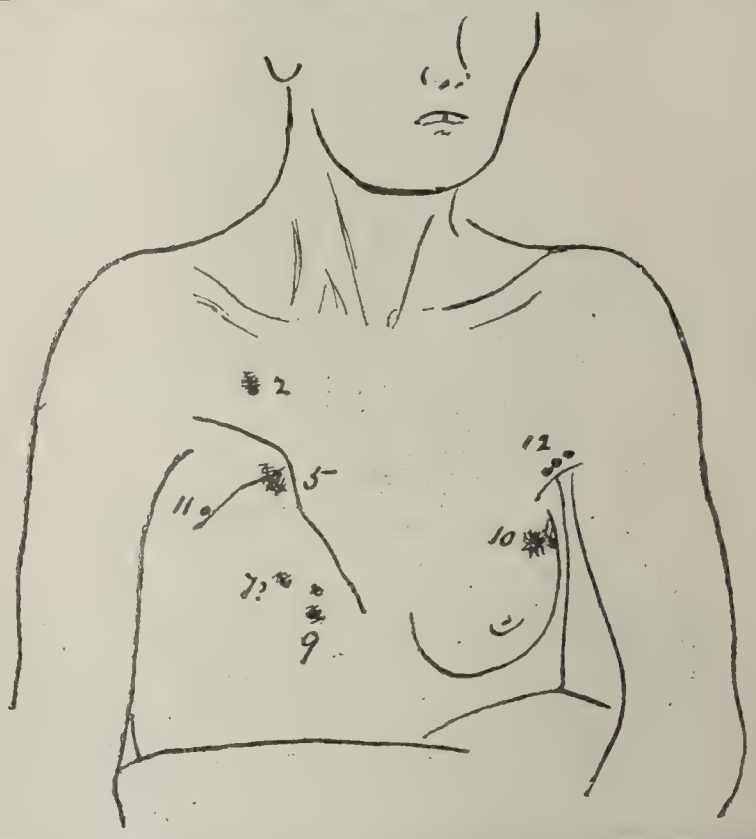
On April 30th, 1897 (ten weeks), this patient came to my house, and she looked so well that I thought she had been to the country. Her weight had risen from 6 st. 10 lbs. (fourteen days before operation) to 7 st. 5 lbs. (nine weeks after operation)—a gain of 9 lbs. During the last three or four weeks she had been out daily, and could now take a respectable walk and "hold herself up"—as her sister remarked. Locally (Fig. 3) the improvement was very striking; there was slight vascularity and very slight thickening at the site of the nodule in the ridge below the clavicle; similar changes had occurred at the centre of the triradiate scar, but rather more thickening remained here, the patch being quite movable; the innermost of the three lowest nodules could be felt as a hard point adherent to the fifth costal cartilage; the skin over it and at two points in the scar whence growths had vanished became vascular after manipulation; the nodule in the left breast was much smaller and the gland above it had disappeared.

On May 24th (thirteen weeks after operation) I heard that the patient had improved greatly at Hastings, that she walked two miles daily without fatigue, and had gained 2 lbs. more—11 in all since the oöphorectomy.

On August 6th (twenty-four weeks after operation) I saw this patient. There was nothing noteworthy in her appearance; she seemed bright and fairly brisk in her movements. Strength remains about the same as in May; she has not resumed her former light household duties. The scar (Fig. 4) looks quite normal, and the change in the appearance of the whole chest wall since the operation is most striking. At first sight all patches seemed to have disappeared; then I noticed faint red patches at spots shown in Fig. 4, and found that the skin at these spots was very slightly thickened and that the redness increased with handling. The two upper patches of the lowest groups did not certainly correspond to the lesions marked 7. I could feel no glands above or below the right clavicle; no nodule in the right pectoral, but there seemed to be some fulness internal to the head of the humerus. A new skin nodule the size of a split pea had appeared at 11. The nodule in the left breast was thrice as large as in April, and involved the skin; two or three small glands had appeared in the left axilla; no visceral growths detected.



Case II, Fig. 3.—April 30th, 1897. (1) Still felt obscurely. (2) Vascularity and very slight thickening of skin; bridle gone. (3) Vascularity with more thickening; quite movable. (6, 7) Gone. (5 and 8) Skin became vascular after manipulation. (9) Ditto; a small hard point adherent to cartilage. (10) Much smaller; no gland in either axilla. (4) Gone, but pectoral seems thick.



Case II, Fig. 4.—August 6th, 1897. At first sight the scar and chest wall look absolutely normal; then faint red spots were noticed at (2), (5), (7?), and (9), increased by handling; skin here very slightly thickened. (11) A new skin nodule as large as a pea. (10) Perhaps thrice as large, dimpling skin. (12) Two or three axillary glands enlarged.

CASE III.—Mrs. R. S., aged 9, menstruated regularly till October, 1896; not at all since (six months). Her left breast had been removed by Mr. Clement Lucas in August, 1891. In October, 1893, a swelling appeared on her sternum. In December, 1896, she noticed that her right shoulder was painful and swollen She was transferred to my care by my colleague, Dr. T. Henry Green, in March 1897. She was then (Fig 1 very emaciated,

Case III, Fig. 1.—Mrs. R. S., aged 49, oöphorectomy, March 20th, 1897.

feeble, and bedridden, suffering from pains in many parts, but particularly in her right shoulder. The enlargement of the upper end of the humerus was sufficient to show in a photograph. At and below the sternal articulation lay a hard swelling the size of half a large orange (3 by 2½ inches); on its summit was an ulcer as large as a sixpence. The breast scar and its neighbourhood were sound. The liver projected some three finger-breadths below the ribs. On March 20th I performed double oöphorectomy. The only changes noted while this patient remained in hospital were alleviation of pain and diminution in size of the ulcer on the sternal swelling. Nine weeks after the operation Dr. Jacobs, of Lee, wrote me that the patient was steadily getting weaker and thinner; that the pain in the right shoulder had been worse again during the last fortnight; that nausea and vomiting were occasional symptoms, and that the liver projected 3 inches below the ribs; and, later, Dr. Jacobs wrote me that Mrs. S. had died about fourteen weeks from the operation. She had suffered greatly from pain in the right shoulder, the liver continued enlarging, but there was no clear change in the sternal swelling.

Case IV.—Mrs. J., a widow, aged 64, from whom in April, 1896, I had removed a large cancerous right breast. In February, 1897, a nodule appeared at the inner end of the second intercostal space, encroaching upon and adherent to the sternum. She did not seem to have lost flesh or health. On March 27th double oöphorectomy was done. The ovaries were so excessively atrophied that it would be difficult to conceive that they discharged any function or exercised any influence at all upon the rest of the tissues. Eight weeks later the growth had somewhat increased, and the patient was thinner and paler.

Case V.—My last case was that of a married woman, aged about 45, menstruating regularly. She had a large tumour of the left breast, involving the skin over a large area, with marked affection of the axillary glands. The general health was very good, and no visceral disease could be detected. I felt that, however thoroughly I might operate in this case, recurrence at an early date was only too probable. Dr. Beatson's second case warned me that oöphorectomy alone would very likely prove insufficient, in the presence of such extensive infection of the tissues, to turn the scales in favour of the patient. Consequently, I first removed a couple of small ovaries, and went on immediately to a wide operation upon the breast and axilla. This was on May 19th.

On August 4th, Dr. Badcock, of New Brompton, wrote me that all was going on satisfactorily with this patient.

I mention the case merely to show that oöphorectomy may probably be usefully combined with the ordinary operation when we have to deal with bad cases.

In Case No. 1, when in May I found the mass in the pectoral at a standstill or even enlarging, I greatly regretted not having removed it at the first operation in June, 1896. Had I then done an operation on the recurrences, as complete as possible, the patient might now have been quite free from the disease. The removal of nodules which do not seem inclined to go after an oöphorectomy may help towards a favourable conclusion; so, too, may the removal of the ovaries in somewhat advanced but still operable cases of breast cancer.

The time has not yet come for drawing conclusions as to the value of Dr. Beatson's suggestion in the treatment of cancer, yet I will, with your permission, lay a few of my thoughts upon the subject before you. It seems to me to be in the highest degree improbable that the relationship between the oöphorectomy and the atrophy of the cancer masses which I have described to you is other than causal. How removal of the ovaries can produce such an effect I do not know, but my working hypothesis is that the internal secretion of the ovaries in some cases favours the growth of the cancer, acting either upon the epithelial cells or upon the surrounding tissues; consequently, in these cases, removal of the ovaries will leave the tissues better able to cope with the parasitic cells.

We cannot for a moment suppose the mere cessation of the menstrual flow to be causally connected with the atrophy; both, most probably, result from the same cause, namely, removal of the internal secretion of the ovary. Why, then, it will be asked, did I remove the ovaries in two women who had passed the menopause? I did so because it seemed to me that cessation of the menses did not by any means prove that the ovaries had become of no more importance, for good or evil, in the body than bits of connective tissue. The internal secretion of the ovary is, doubtless, extremely complex; it was conceivable that after that factor upon which the menstrual flow depended had been altered or eliminated, the ovarian cells still secreted the substance which influenced the growth of cancer cells. Consequently, the fact that the menopause had been passed did not appear to me to forbid the trial—the patient understanding that it was a trial—of so slight an operation as oöphorectomy. The results have not been encouraging. The cases selected were not, perhaps, the most favourable; No. 3, it is true, had ceased menstruating only six months, but she was very far gone at the time of operation; No. 4 was an old woman, and had hardly any ovaries left; they were extremely wasted. Nevertheless they support, so far as two cases can do so, the view that when the internal secretion of the ovary ceases to induce menstruation it ceases also to have any influence upon cancer.

But the question of main importance is, whether the atrophy in those cases in which it is induced by oöphorectomy will be permanent? Will it be a "cure"? Obviously, nothing but time can answer the question. At present, so far as I know, only Dr. Beatson's first case has reached the stage of apparently complete disappearance of all lesions. Of my own cases, Nos. 1 and 2, the latter, notwithstanding the astonishing progress made up to a certain point, seems now (six months after operation) to have again begun a downward course. She has gone to Southend, and I can only hope that the change of air may so improve her general health that, like case No. 1 (p. 892), she may still make a successful stand against the disease. I should not have ventured even to express such a hope, had I not just seen the effect of change of air (apparently) upon No. 1.

Another point of great importance is the frequency with which atrophy can be induced by oöphorectomy. In Dr. Beatson's three last reported cases the effect appears to have been very trifling. I have not full notes of these, but no doubt they were all operated on before the menopause. Does this mean, as I have supposed, that in these cases the interna secretion of the ovary had no share in the production of the cancer? That it influences the cancer process only when it has undergone a pathological variation? In my own cases (I and II) the local response to the oöphorectomy was very prompt. Pain ceased at once; diminution in vascularity soon followed, and in a week some evidence of atrophy was noted. But you will, doubtless, have been struck by the fact that all the cancer lesions did not waste uniformly; even those situate in the same tissue did not do so. Nodules in the skin and subcutaneous tissue seem to be most quickly affected, then enlarged glands; muscle growths come far behind these. Dr. Beatson is strongly of opinion that visceral growths are not arrested by oöphorectomy, and attributes his later failures to the wide extent of the disease. No effect was produced upon the liver in No. IV, but this was after the menopause. Yet, with Gould's and Willett's cases before me, I cannot yet abandon hope for even these cases, although I feel that large involvement of a viscus probably must render recovery proportionately difficult. Acute progress will probably act similarly, but I have no clear evidence.

An early thought to occur to anyone must be that cancers other than cancer of the breast will be influenced similarly by oöphorectomy, for, in spite of clinical and histological differences, we have regarded cancer as essentially the same wherever it occurs. I have not myself tried oöphorectomy for cancer of any part other than the breast; but upon my advice, Mrs. Boyd performed the operation upon a woman, aged 35, with extensive cancer of the cervix and vagina and a vesico-vaginal fistula. Her general condition was good.

No atrophy of the growth occurred, but the vagina became much more lax, so that she could be examined more easily. She lived six months, and might well have done so without operation. She had some severe losses, and died after a very severe one.

Dr. Beatson has recently stated that in four cases of cancer of the uterus the only result obtained was diminution of sloughing and of bleeding. I believe that the operation has been tried for cancer of still other parts, with which one would suppose the ovaries to be less closely associated, but I do not know the results. In the BRITISH MEDICAL JOURNAL of June 17th Professor Hobday states from an experience of three cases that oöphorectomy seems to check the growth of a certain very obstinate papilloma of the vagina in bitches.

Another idea which suggests itself is that castration in the male should have similar effects. It may have, but the inference does not seem to me to be at all certain, for although developed from corresponding bits of embryonic tissue, nothing can be clearer than that the ovary and testis differ in most respects. The experiment, however, has been tried, and we must await the publication of the result.

By-and-by I hope to complete the notes of my cases. Although I cannot as yet, like Dr. Beatson, bring forward a case of apparent "cure," I do claim that in both my cases, Nos. 1 and 2, suffering has been alleviated and life prolonged. I should say that, but for the improvement which followed upon the oöphorectomy, No. 2 would now have been either in her grave or very near it. The cases I have narrated open up, as you have seen, numerous problems and a wide field for clinical work in connection with a disease so common that all must long for some better means of dealing with it; and it is in the hope of drawing further attention to Dr. Beatson's suggestion, and of stimulating observation, that I publish these preliminary notes.

REMARKS ON FRIEDREICH'S ATAXIA, WITH NOTES OF THREE CASES.*

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Cheltenham

THE following account of this rare disease is principally taken from the records of three typical examples of the affection, which I had the opportunity of watching for eight or nine years.

The disease gets the name Friedreich's disease or Friedreich's ataxia from having been first described by him in 1861. He thought it was a form of locomotor ataxia, and subsequently suggested that the disease was due to defective development of the spinal cord. This opinion is strongly supported by Déjerine and Letulle, and recently the *post-mortem* examination of the nervous system made by Dr. Byrom Bramwell on one of the cases I am about to describe, fully bears out this opinion. The disease has also been called the "hereditary form of locomotor ataxia" and "hereditary ataxia," but these names are objectionable, as the disease is not related to locomotor ataxia, nor is it truly an hereditary affection transmitted from parent to child, but rather a "family disease," occurring in several members of the same family, whose parents are quite healthy. Dr. Griffith, in the *International Journal of the Medical Sciences* for October, 1888, proposed the name Friedreich's ataxia rather than Friedreich's disease, and this is the name subsequent authorities have adopted. Friedreich's ataxia bears most resemblance to locomotor ataxia, cerebro-spinal sclerosis, and ataxic paraplegia. But it is essentially different from all of them, as will be seen from the following description. The cases the history of which I am about to relate are members of the same family.

The eldest, Mr. B. B., was aged 24 at the time of his death, which took place last December from acute rheumatic fever and endocarditis. He was of decidedly blonde type of complexion, and very intelligent, occupying himself diligently in the study of music. He presented all the characteristic features of the disease. As an infant he was quite healthy. When a small child he frequently used to have attacks of uncontrollable crying and laughing, which often produced a spasm of the larynx, causing him to become quite black in the face, and on more than one occasion quite unconscious, seeming to his mother apparently dead. The attack would end by a gulping sound in the throat, after which he gradually regained his breath.

The first indications of his complaint were a "turning in of the right foot" and pains in the legs. These were noticed when he was aged 6½ years. He was at that time a robust, well-developed child, but extremely nervous, especially of carts or passing objects. He also suffered from occasional nocturnal incontinence of urine and fæces, and attacks of diarrhœa. The latter were brought on by any nervous excitement, and were considered by his then medical attendant to be due to his nervous temperament, and not to any gastro-intestinal irritation. The pains which developed at the time appear to have been true lightning pains, but were never very severe, and were chiefly confined to the legs. At the age of 7½ years it was noticed his legs used to shake inordinately, and his gait was staggery. At this time also arching of the foot was first observed. At the age of 8 years he went to school, his general health being good, but his gait was worse, and he was subject to uncontrollable fits of laughter. At 12 years of age he was head of a school of fifty boys, many of whom were 15 years old. At the age of 13 he was placed under a medical rubber in London. His mother states that the rubbing, which was continued for several months, did him a great deal of harm, and it was, she thinks, the cause of peculiar nervous (hysterical or epileptic) attacks, which at this time he suffered from. These attacks usually came on in the morning before the patient was awake. He seemed as if he was mesmerised or hypnotised. During the attack he would go through his former school life, get out of bed, fight with imaginary boys, repeat his lessons, and recount his school experiences. During several attacks he thought he was a general, gave orders to his officers, imagined he was wounded in the back, and the bullet had lodged in the thigh, pointing out the exact spot.

Exactly the same story was repeated during several consecutive attacks, and he used to describe minutely his favourite nurse, and order her to be sent for. He could not remember her while awake. These attacks would last from one to several hours, after which he would get into bed and fall asleep. On awaking he was quite well, and remembered nothing of what had happened. The attacks occurred every two or three weeks during the seven months while he was being rubbed, after which they ceased. At the age of 19½ years he had a well-marked epileptic fit from no accountable cause. Since that time he has repeatedly been subject to epileptic attacks, and has had to be kept constantly under the influence of bromides. The family history, which of course applies to his younger brother and sister, is interesting in some respects, pointing to the etiology of the disease.

The father, who was very blonde, was delicate in early life, and got very stout between 20 and 30 years of age. As a young man he lived fast, but it is not definitely known that he ever had syphilis. The children do not manifest any signs of inherited syphilis. During his married life he was much given to rich living, and habitually consumed large quantities of wines and spirits, but without getting actually intoxicated. He suffered much from rheumatic gout, and died at the age of 40 from cancer of the stomach and liver. His relatives are rheumatic and gouty, but none of them manifest any nervous diseases.

The mother is alive and well, of nervo-sanguineous temperament, and very excitable but not hysterical. During the time she was bearing children her life was one of continual social excitement and high living, and she used to keep herself going by the continual use of stimulants. Her relatives are of a decidedly nervous type; one aunt suffered from epilepsy, a brother was drowned while rowing, it being supposed that he took a fit and fell into the water. One of her cousins is notably intemperate. There have been no cases of Friedreich's ataxia or locomotor ataxia on either side of the family. It is quite possible that the children were conceived when the parents were decidedly under the influence of alcohol.

There were six children. One died in infancy; and of the

* Read before the Gloucestershire Branch of the British Medical Association.

five remaining three were affected with the disease, two of whom have recently died. The eldest of the family, a daughter, is quite healthy, married, and has three young children. The second, a daughter, is now 27 years of age, myopic, delicate, and of a neurotic character. Her knee-jerks are exaggerated, and she presents no symptoms of Friedreich's ataxia. The third, a son, died at the age of 24 years, and presented all the characteristic features of the disease. The fourth, a girl, died at the age of 19, and first showed symptoms of this disease at the age of $5\frac{1}{2}$ years. The fifth, a son, aged 19, developed the disease at the age of $6\frac{1}{2}$ years, and is now a very marked case.

The condition of the eldest son previous to the attack of rheumatic fever from which he died was as follows. He was 5 feet 7 inches in height, and weighed $9\frac{1}{2}$ stone. He was very thin, and had an anxious, careworn expression, and was, as previously mentioned, of very fair complexion. He was unable to walk, and could barely drag his legs after him when supported by both arms. In 1888, when at the age of 16 years, he could walk long distances, and was out of doors all day. Four years ago his gait was very characteristic; he staggered and tumbled about, and would have fallen if not supported. With slight assistance he could manage to get along. On attempting to walk his body and head were bent forward, and his eyes fixed on the ground; the arms were extended forwards or laterally, as if in search of some support or as a means of balancing the body. Walking was attended by great effort and fatigue. At each step the hindermost leg was brought forward round its fellow with an awkward, inco-ordinate swing or jerk, the foot planted flat on the ground, with the toes turned inwards. The whole body oscillated, and the patient reeled from side to side.

The movements of the upper extremities were not affected until the patient was 11 years of age. At the age of 16 there was marked ataxia. Writing was almost impossible for the last two years of his life. Feeding was a great difficulty owing to the jerky inco-ordinate movements of the arms. When he attempted to pick up or grasp anything the hand was first spread out like a claw over the object and then closed on it.

Muscular power in both upper and lower extremities was good, and the muscles were as well developed as could be expected considering his enforced sedentary life. Painful cramps were present in the calves of the legs, especially at night. The tonicity of the muscles was good. The muscular contractility to both forms of electricity was markedly increased. The increase was a simple one, the order of polar reactions being quite normal. The weakest currents caused severe contractions, and brought on great emotional disturbances—shouting, laughing, crying, etc. The knee-jerks were completely absent. The other reflexes were exaggerated. Choreic-like movements were very marked in the facial and limb muscles, on speaking or making any movement. These movements bear no resemblance to the rhythmical tremors of cerebro-spinal sclerosis. When the patient spoke, the head was jerked forwards, and the facial muscles twitched and acted inco-ordinately. The arms and legs also tended to move irregularly. Static ataxia and Rhomberg's symptom, or inability to stand with the eyes closed, were marked. Vertigo was not complained of.

The muscular sense appeared to be unimpaired. The sensibility of the skin to all forms of stimuli (tactile, heat, cold, and pain) was markedly exaggerated. Painful stimulation of any part of the skin produced faintness. Rubbing or tickling the skin produced great mental excitement. This may account for the injurious effect on the mind of the massage treatment already mentioned. Lightning pains were felt during the first years of his illness, and appear after careful inquiry to have been of a true ataxic character. They have been absent for some years past. The special senses of sight, hearing, taste, etc., were perfectly normal.

Speech was markedly affected. The articulation was jerky, moderately rapid, and apt to be interrupted by sudden pauses which often occurred between the syllables, owing to muscular inco-ordination, and the lips and facial muscles contracted inco-ordinately, producing contortions and grimaces.

There was no tremor of the tongue, no difficulty in retaining the saliva in the mouth, and no difficulty in swallowing, but sometimes, from inco-ordinate muscular action, particles of food would get into the upper part of the larynx, and cause violent choking attacks.

There was slight nystagmus, but this symptom was much less marked than in the other two cases. With the exception of the nystagmus, the occular condition was perfectly normal. The pupils were usually dilated, but they reacted perfectly, both to the stimulus of light and during efforts of accommodation.

A well-marked spinal curvature was present. This condition is more marked in the patient's younger brother (Fig. 1). The feet were characteristically deformed, being

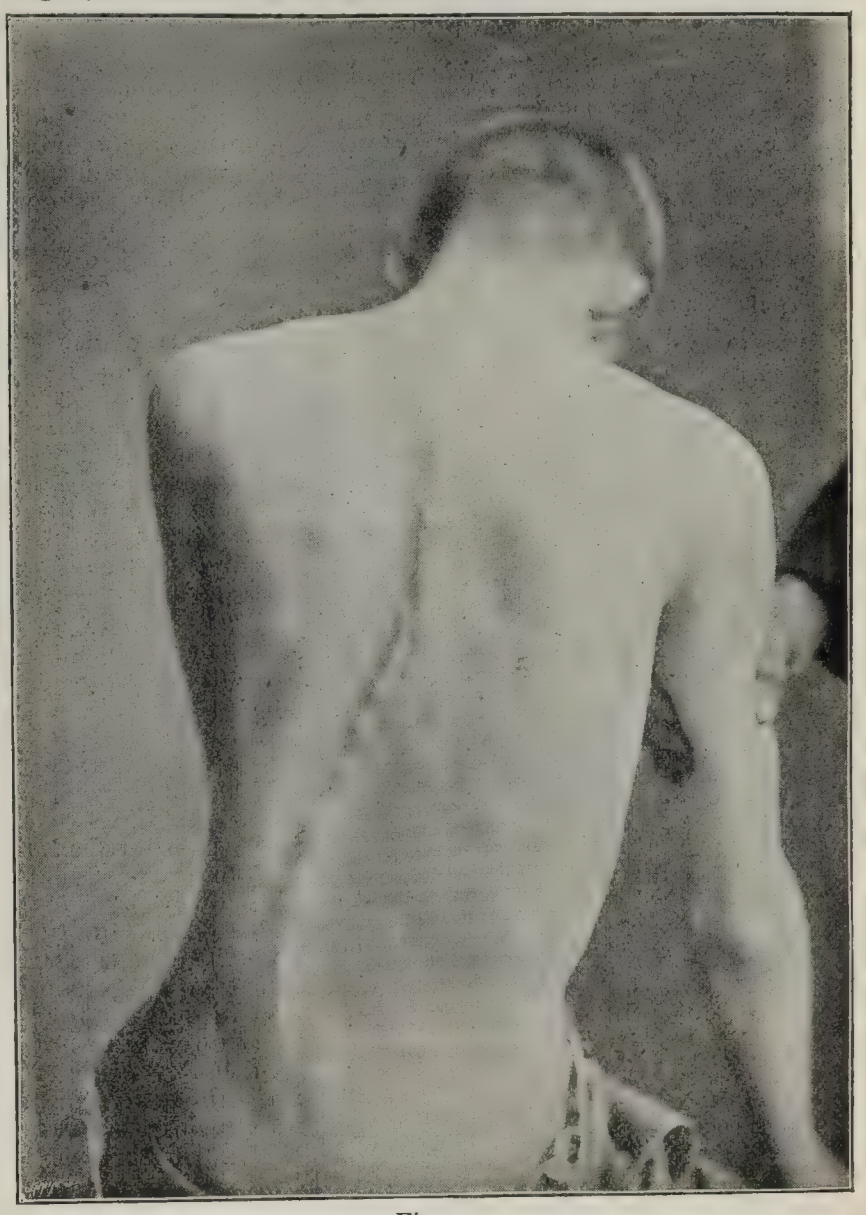

Fig. 1.

shortened from before backwards (clubbed). The insteps were arched and the dorsum very prominent, the toes dorsiflexed, and the balls of the toes, more especially the great toe were very prominent (Fig. 2). The feet were cold, and almost always of a blue or purple colour. With this exception there were no other vasomotor or trophic alterations. The bladder and rectal functions were normal. The intellectual faculties were unimpaired, the patient being very intelligent.

His general health had always been good, and, beyond the minor complaints consequent on a sedentary life and frequent headaches, he had had no serious illness until the attack of rheumatic fever which proved fatal.

With regard to treatment: Iodide of potassium, iodide of iron, arsenic, phosphorus, and various nervine tonics were systematically tried from time to time, but without an beneficial effect. During the eight years which I attended him the only remedies which had any influence on the symptoms peculiar to the disease were bromide of potassium and hydrobromic acid in combination. This relieved much of the painful cramps in his legs, and he stated he felt steadier and better in his movements while taking them.

At the age of 19 years, a prolonged trial was given to the suspension plan of treatment recommended by Charcot for

this disease and tabes. The patient thought that this treatment was beneficial, and made him feel steadier and stronger, but its appreciable effects to others were very doubtful. Two years ago a course of injections, first of orchitic fluid and subsequently of cerebrin, were tried, but neither of these produced any beneficial effect. The symptoms gradually and steadily progressed without any period of arrest or improvement since they first manifested themselves at the age of $6\frac{1}{2}$ years until the time of his death at the age of 24, when he presented a marked clinical picture of the disease.

Fig. 2.

With regard to the two younger members of the family, they presented all the characteristic symptoms of the disease, which need not again be related; but the elder of the two, the daughter, C. B., who died three years ago, presented certain peculiarities, namely, during the earlier periods of her illness, from the age of $5\frac{1}{2}$ years to the age of 13 years, characteristic lightning pains, so severe as to make her frequently cry out, were present. They were the first symptoms of the disease, and were felt in the legs, sometimes in the head. She also suffered from attacks of gastric pains and vomiting, which appear to have been true gastric crises. They occurred about once in six weeks, were ushered in by a feeling of sickness and sharp pains in the stomach, soon followed by sickness, and then violent retching about every quarter of an hour without any relation to food or liquid taken. These attacks usually lasted forty-eight hours, sometimes longer, causing great exhaustion, and were followed by pains in the arms, wrists, and legs. The occurrence of such marked attacks of gastric crises and lightning pains is altogether exceptional in cases of Friedreich's ataxia, no other cases presenting these symptoms having been recorded. Latterly, the patient also suffered from intense neuralgic headaches of a periodic nature. All modern remedies for headaches of various kinds proved of small avail, and, finally, hypnotism was resorted to, which proved most serviceable in relieving the patient's sufferings during the periodic exacerbations of pain. After being confined to bed for two years the patient gradually sank from general exhaustion, worn out by repeated attacks of gastric crises and persistent headache. At the *post-mortem* examination, which will be more fully detailed later, distinct patches of meningeal inflammation and thickening were found in the cavities of the skull and spinal canal, which may account for the headaches.

With regard to the youngest boy, all the symptoms of the disease are presented in much more pronounced degree. The ataxia has been more exaggerated since the age of 10 years. The spinal curvature and foot deformity are more marked. The nystagmus is very evident and the speech much affected. His first symptoms of the disease were attacks of pain in the bowels and diarrhœa, coming on in quite an unaccountable manner. At the age of 8 years he suffered much from lightning pains, but these have now quite disappeared. At the present time (he is now 20 years of age) he is a complete invalid, quite unable to walk or stand, and suffers much from coldness and blisters on his feet, the result of vasomotor trophic disturbances.

The above record of the clinical pictures presented by these three cases of Friedreich's ataxia show that the disease is a distinct "clinical entity," differing markedly from locomotor ataxia, cerebro-spinal sclerosis, and ataxic paraplegia. The disease which most resembles Friedreich's ataxia is locomotor ataxia. In both the posterior columns of the cord are sclerosed, in both difficulty of walking due to inco-ordination and not to paralysis is the leading symptom, and in both the knee-jerks are abolished. These points of resemblance bring the two diseases into very close relationship, but the points of distinction are more marked, namely:

First. The general character of the symptoms and history of the diseases are widely different, as may be seen from the above account of Friedreich's ataxia.

Secondly. With regard to the morbid anatomy, the account of which is for the most part taken from Dr. Byrom Bramwell's report of the pathological state of the spinal cord in the second of the two cases above recorded.

In locomotor ataxia the cord is of normal size, and the sclerosis is confined to the posterior columns and sensory nerve roots. In Friedreich's ataxia the cord is distinctly smaller than normal, and this congenital defect involves also the medulla and pons Varolii. This was well marked in C. B.'s case. The sclerosis is more extensive than in locomotor ataxia, and involves the columns of Goll and Burdach, or posterior columns, the vesicular column of Clarke, the direct cerebellar tract, and the crossed pyramidal tract. Further, in some cases the posterior roots in the lower part of the cord have also been found affected. The extent of the lesion is well seen in the diagrams, Figs. 3, 4, 5, which are taken

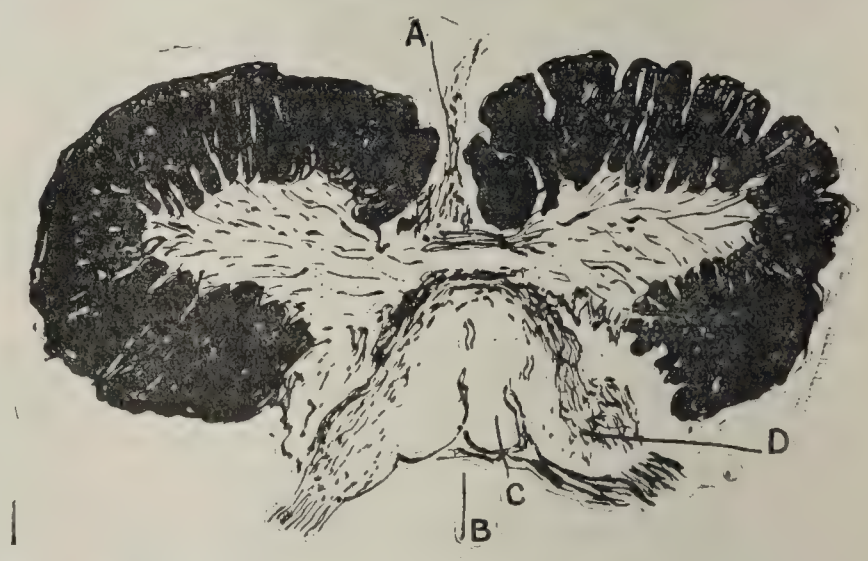

Fig. 3.—Transverse section of spinal cord in cervical region. A. Anterior median fissure. B Posterior median fissure. C. Column of Goll unstained from sclerosis. D. Fasciculus of Burdach, partly sclerosed.

from specimens of the cord in C. B.'s case, prepared by Dr. Byrom Bramwell.

In some cases a still further extension of the disease may be found, involving other parts, namely, Gowers's tract, the mixed ascending tract in the lateral column and the column of Turck, or direct pyramidal tract. There is also a thickening of the membranes surrounding the cord, and a certain

amount of meningo-myelitis, these changes being most marked in the lower parts of the cord.

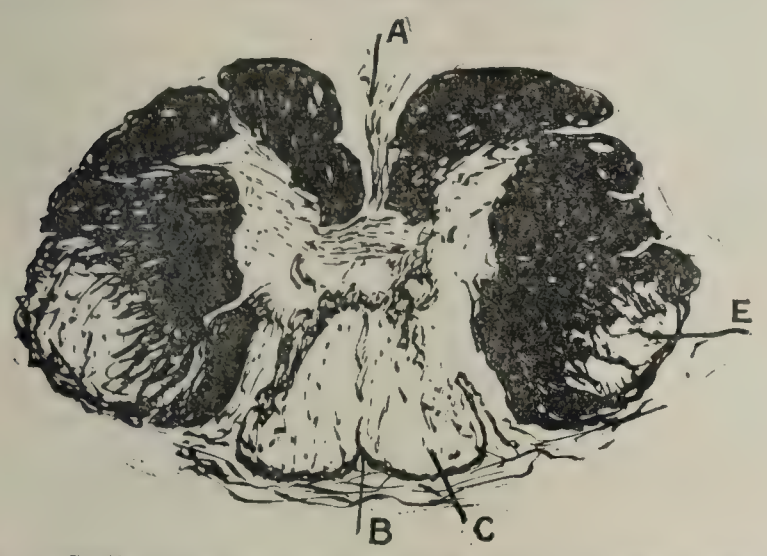

Fig. 4.—Section through the dorsal region. A. Anterior median fissure. B. Posterior median fissure. C. Column of Goll, much atrophied. Fasciculus of Burdach partly sclerosed. E. Antero-lateral column showing commencing sclerosis as yet limited to the crossed pyramidal and direct cerebellar tracts.

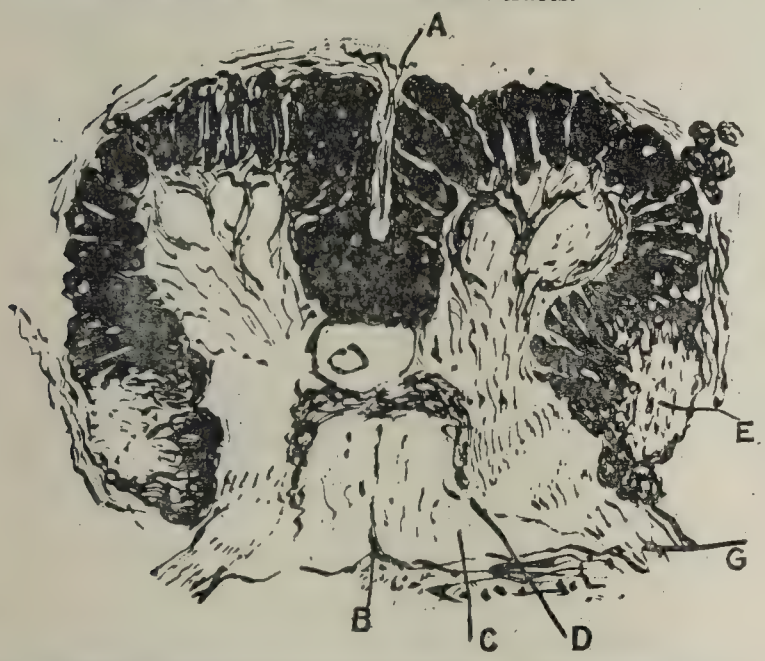

Fig. 5.—Section through the lumbar region. A. and B. Same as before. C. and D. Columns of Goll and Burdach, much atrophied. E. Sclerosis of lateral columns. G. Posterior roots, atrophied.

The lesion in Friedreich's ataxia is, therefore, a combined sclerosis of certain tracts in the posterior and lateral columns of the cord, together with the vesicular columns of Clarke in the grey matter and the posterior nerve roots.

Now, though in advanced cases, such an extensive development of the sclerosis may be met with, the primary lesion is a sclerosis of the posterior columns and vesicular column of Clarke, as has been proved by Déjerine and Letulle, who have also shown that all the other parts affected, namely, the direct cerebellar tract, the crossed pyramidal tract (?), Gowers's tract, the mixed ascending tract, the column of Turck, and the posterior nerve roots, are only involved in the later stages of the disease, and due to the meningo-myelitis, more marked in the lower part of the cord, and differing in the character of the sclerosis from that of the posterior columns.

According to Déjerine and Letulle the sclerosis of the posterior columns in Friedreich's ataxia is essentially different from that of locomotor ataxia, and, indeed, from every other sclerotic lesion. "It is a pure neuroglial sclerosis" (see Fig. 6). In it one sees fibres crossing one another in different directions, forming true whorls, and that the processes of the pia mater passing into the cord are perfectly normal. The whorls are composed of fine long fibres, running for the most part horizontally or obliquely at very acute angles, and in the midst of these whorls are seen some remaining nerve fibres, lying horizontally and obliquely, not cut transversely, as is the case in all other scleroses, where the degenerate nerve fibres are cut transversely, and the new development of fibrous tissue is in the course of the blood vessels or pia matal processes or nerve tubes. This proves the lesion to be associated with the earliest development of the cord, and not a lesion following on the fully developed cord.

Fig. 6.—Transverse section through the posterior columns at level of lumbar enlargement, after preparation by Dr. Byrom Bramwell. A. Posterior median fissure with blood vessel cut transversely. B. Whorls of fibres cut longitudinally. C. Fibres cut transversely.

It is only in the posterior columns of the cord that this particular form of sclerosis is met with. In the other parts affected, the sclerosis is the same as is found in other diseases, such as locomotor ataxia, cerebro-spinal sclerosis, etc.

It is still questionable whether the crossed pyramidal tracts are not primarily involved, as some of the earliest symptoms of the disease, such as the foot deformity, which is presumably due to the affection of the crossed pyramidal tract, seems to point to this part being primarily affected.

But for a full account of the disease and the points still unsettled, I would refer you to Dr. Byrom Bramwell's *Atlas of Clinical Medicine*, from which I have derived much of the above account of the pathology of the disease.

SERUMTHERAPY IN PUERPERAL SEPTICÆMIA.

WITH A TABLE OF CASES.

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As the number of recorded cases of puerperal septicæmia which have been treated with antistreptococcic serum is still small, it is highly desirable that all such cases should be published, in order that a true estimate of the value of this treatment may be made, and rules laid down for guidance as to the dose, time, and frequency of administration, and the selection of cases in which it will be of most benefit. To the following abstract of the notes of 3 cases in which I have used the antistreptococcic serum, I have appended a table of 23 cases so treated, collected from various publications, showing the date of onset of the malady, the date of the first injection, the number of injections, with the quantity injected and the result.

In no case can it be said with certainty that the treatment was followed by ill-effect which could directly be attributed to it. Gaulard thought that the fatal result of his second case was due to an overdose of serum, but as Dr. J. D. Williams[1] pointed out, this was most probably a mistaken view, and it may be seen from the table that in several cases more than twice the quantity Gaulard gave has been administered without harm. In fact, in Kennedy's case, the quantity given as the initial dose equalled the quantity given by Gaulard in four injections. In Dr. Williams's second case the patient

Reporter.		Date of Onset.	Date of First Injection.	Number of Injections and Quantity Injected.	Other Treatment and Results.
Leask, BRIT. MED. JOURN., vol. i, 1896.		7th day.	11 days after confinement	1 injection, 4 c.cm.	Intrauterine douches. Recovery
Gaulard, *Presse Méd.*, November 30th, 1895. Two cases.	(1)	7th day	13 ,, ,,	2 injections { 1st, 10 c.cm. 2nd, 2 c.cm.	Uterus curetted, and packed with iodoform gauze. Recovery.
	(2)	2nd day	4 ,, ,,	4 injections, 10 c.cm. each.	Uterus swabbed with creasoted glycerine. Death.
Vinay, *Lyon Méd.*, 1896. Four cases.		Not stated	2 cases { 22nd day 25th day 2 cases, not stated	Not stated.	General condition improved and temperature lowered. Death.
Jacquot, *Presse Méd.*, May, 1895.		Not stated	Not stated	3 injections, 30 c.cm. each, relapse, 1 further injection.	Intrauterine injections and quinine. Recovery. Relapse thought to be due to fresh infection from a case of erysipelas
T. C., BRIT. MED. JOURN., July, 1896.		3 days	7 days from confinement	1 injection, 10 c.cm.	Iodine douches and flushing curette used before injection. Death.
McKerron, BRIT. MED. JOURN., October, 1896. Three cases.	(1)	9 days	15 ,, ,,	3 injections, 10 c.cm. each	Sublimate douches and quinine. Recovery.
	(2)	2 days	8 ,, ,,	4 ,, 10 c.cm. ,,	Intrauterine douches. Death.
	(3)	4 days	8 ,, ,,	3 ,, 10 c.cm. ,,	Vaginal douches previously. Intrauterine douche after injection. Recovery
Kennedy, *Lancet*, vol. ii, 1895.		4th day	19th day	2 injections { 1st, 40 c.cm. 2nd, 45 c.cm.	Recovery
Williams, BRIT. MED. JOURN. vol. ii, 1896. Six cases.	(1)	7th day	11th day from confinement	2 injections { 1st, 10 c.cm. 2nd, 20 c.cm.	Perchloride douches. Recovery
	(2)	Between 2nd and 5th days	8th ,, ,,	2 injections { 1st, 30 c.cm. 2nd, 30 c.cm.	Perchloride douches. Recovery
	(3)	8th day	14th ,, ,,	1 injection, 35 c.cm.	Recovery
	(4)	2nd day	5th ,, ,,	2 injections { 1st, 30 c.cm. 2nd, 30 c.cm.	Recovery
	(5)	3rd day	7th ,, ,,	1 injection, 28 c.cm.	Recovery
	(6)	Early	10th day	3 injections { 1st, 20 c.cm. 2nd, 20 c.cm. 3rd, 20 c.cm.	Death
Adam, BRIT. MED. JOURN., vol. ii, 1896.		Before 7th day	11th day from confinement	11 injections { 1st, 5 c.cm. 2nd, 4 c.cm. 3rd, 10 c.cm. 4th, 10 c.cm. 5th, 13 c.cm. 6th, 17 c.cm. 7th, 10 c.cm. 8th, 8 c.cm. 9th, 10 c.cm. each 10th, 10 c.cm. ,, 11th, 10 c.cm. ,, 107 c.cm. altogether	Antiseptic douches. Complicated by enteric fever, following on 28th day. Recovery
Sheen, BRIT. MED. JOURN., vol. ii, 1896.		Immediately	7th ,, ,,	injections { 1st. 10 c.cm. 2nd, 10 c.cm. 3rd, 20 c.cm.	Curetting and intrauterine douches. Death from pneumonia, which had set in prior to the serum treatment
Butin, *Journ. de la Soc. Méd de Lille*, 35, 1896. Two cases.	(1)	Not stated	7th ,, ,,	5 injections amounting to 9 c.cm.	Sublimate douches and iodoform crayons introduced into uterine cavity. Recovery
	(2)	Not stated	At once	Not stated	Recovery. Disease cut short

developed a patchy pneumonia on the seventeenth day, which the medical man in attendance thought might be due to the serum; and Dr. Williams suggested two explanations: First, that possibly the serum was imperfectly filtered, and living streptococci were injected; if this were so one would rather have expected an abscess at the site of the injection, but no mention is made of this having occurred; secondly, that an efficiently-filtered serum might give rise to the pneumonia. I can find no record of this having occurred in the other cases, in several of which a larger quantity of serum was used.

Those cases in which the serum was injected soon after the onset of symptoms and in a fairly large initial dose, appear to have done best. When the treatment has been delayed, convalescence has been more protracted.

The table shows that the earlier the onset of the disease after parturition the more severe the symptoms. In all the fatal cases the symptoms began early. It would probably be best in such cases to give a large initial dose (30 c.cm. or more) as soon as the diagnos is established. Of the total number of 26 cases, 16 recovered, 10 died; these 10 deaths, however, include Vinay's four cases in which the treatment was not adopted till very late, and although he states that benefit was derived from the serum, organic lesions were already established which caused death. Excluding Vinay's cases, there were 6 deaths to 16 recoveries—a mortality of 18.18 per cent.

The antistreptococcic serum being only of value in streptoinfection, a bacteriological examination of the uterine discharges should, when possible, be made in order to determine the presence or absence of the streptococcus. The use of the serum in no way dispenses with the necessity for local treatment (curetting, douching, etc.), as probably in all cases of puerperal septicæmia there is a mixed infection and other organisms besides the streptococcus pyogenes are present in the uterus and capable of causing a fatal toxæmia if their growth is not prevented.

Case I.—Mrs. B., aged 34, 11-para, has had bad health during the whole of pregnancy, with considerable leucorrhœa. She was attended in her confinement by a qualified midwife from the Plaistow Maternity Charity. Confined October 11th, 1896. Breech presentation, which presented no difficulty. In the evening of the day of her confinement her temperature was 103°. I saw her on October 13th, and found the temperature 103°, pulse 120, skin hot and dry, tongue moist with white fur; abdomen distended; uterus on a level with the umbilicus and tender on pressure; lochia normal in quantity and not offensive. Ordered perchloride douches and quinine. October 14th. Morning temperature 102.8°; pulse 120 and of good quality; general condition the same. Gave injection of 10 c.cm. antistreptococcic serum. In the evening the temperature had risen to 103°, the abdomen was more distended; another injection of 20 c.cm. serum was given. October 15th. Morning temperature 103.8°. Uterus smaller and not so tender, abdomen softer, general condition the same; 10 c.cm. serum injected; evening temperature 104°, pulse 130; 10 c.cm. serum injected. October 16th. Morning temperature 103°, evening 104°; general condition worse. No more injections given. Died same evening. No bacteriological examination made.

Case II.—Mrs. B., aged 30, a thin, anæmic woman, who has been in a bad state of health lately. Confined October 29th, 1896; placenta prævia, from which there had been considerable hæmorrhage before I was summoned. All went well till November 1st, when she had a slight rigor and her temperature rose to 103°. With intrauterine douches of mercuric chloride she did well till November 5th, when, owing to illness, I did not see her till November 9th. During my absence the douches were omitted for thirty-six hours, and the lochia became offensive, the temperature rising to 105°. November 9th. Morning temperature 101°, pulse 112. Gave 20 c.cm. antistreptococcic serum. A cover-glass preparation of the lochia taken direct from the uterus by means of a speculum showed long chains of streptococci. Evening temperature 102.6°. November 10th. Morning temperature 99.4°, pulse 108. Patient's general condition good and takes food well. Another 20 c.cm. serum injected. Evening temperature 102.6°. Douches continued. November 11th. Morning temperature 101.4°; 10 c.cm. serum injected; has slight diarrhœa. November 12th. Morning temperature 100.2°, pulse 108. General condition improving; the douches to be discontinued. Evening temperature 101°. November 13th. Morning temperature 99.8°, evening 100°. Diarrhœa ceased and patient doing well. From this date the patient's recovery was steady and uninterrupted.

Case III.—Mrs. K., aged 35, miscarried February 2nd, 1897, at the third month. Had no assistance at the time, and has had considerable hæmorrhage since according to her own account. February 9th. Patient sent to the Maternity Charity for help as she was feeling very ill. She was seen by Dr. Geddes, the resident medical officer, who found her with an offensive vaginal discharge and a temperature of 102°, Some fragments of decidua which protruded from the os uteri were removed and an iodine douche given. In the evening the temperature rose to 105°, and I saw her with Dr. Geddes. I found that the patient had a retroflexed uterus, and that the fundus contained a quantity of decomposing fragments of decidua, which were removed with the curette and a perchloride intrauterine douche given. February 10th. Morning temperature 101°. Patient comfortable; uterus smaller and os closing; very little discharge. In the evening the temperature rose to 102°, and, as an examination of the lochia revealed the presence of streptococci, 10 c.cm. of antistreptococcic serum were given. February 11th. Morning temperature 100°; evening normal. Recovery uneventful from this date.

Reference.
1 British Medical Journal, 1896, ii, p. 1285.

CASES OF ABDOMINAL SURGERY.

By E. STANMORE BISHOP, F.R.C.S.Eng.,
Hon. Surgeon, Ancoats Hospital, Manchester.

The following cases of abdominal surgery which have occurred in my practice appear to me to be worth recording:

Case I. *Polypus Uteri: Ovarian Abscess.*—E. B., aged 36, a thin, dark woman of medium height, cook. Anæmic, came to hospital first October 11th, 1894.

Menstrual History.—Commenced at 12 years; has returned every 14 days since commencement. Always much premenstrual pain, passing off as period develops; amount always free. At 16 years of age lost blood for six months constantly.

Married at 18 years; first child at 24½ years; 3 children. One miscarriage; always flooded before and after confinements. First confinement easy—got up well. Twelve months later had abortion; missed five weeks, in bed three weeks with inflammation. Got up for two days, and had to go to bed again for sixteen weeks. Second child at 26 years; child 8 months—nearly flooded to death. Placenta came away of itself 15 hours later. Third child at 28 years; full time. Regular menstruation during first three months of pregnancy. Tedious labour. Membranes ruptured three days before birth; was in bed one month with "windy spasms." Flooding more or less every fortnight for six months. Has occasionally "dribbled" since then for five or six weeks at a time. Fourteen days before coming to hospital had severe shivering attack. Two months ago flooded for fourteen days.

October 28th. Has lost no blood since coming to hospital until last week. Period lasted three to four days—one napkin per day. Uterus retroflexed, small polypus with narrow stalk protruding from os. Fundus somewhat fixed; muco-purulent discharge from os. Iodine tampons, later changed for pure glycerine.

November 4th. Menstruation; lasted three days.

November 11th. Menstruation; three to four napkins per day—lasted six days.

November 22nd. Under chloroform. Uterus dilated. Polypus which springs from cervix half an inch above os, twisted off. No further abnormality found. Uterus normal size; appendages apparently healthy.

November 25th. Has had slight coloured discharge since; looks and feels better.

December 7th. Period, which lasted a week with free loss, some pain; tenderness over posterior uterine surface.

December 12th. Left hospital much improved. Returned August 25th, 1896. Has been well until about August, 1895, since which time she has had metrorrhagia at intervals.

September 5th. Uterus curetted. Small amount of granulation tissue removed.

September 27th. Under chloroform: examination shows normal uterus, but a firm elastic mass on the left side, apparently size of little finger.

October 2nd. In the Trendelenburg position, laparotomy was performed. On the left side, a tense tumour, the size of a small orange, composed of Fallopian tube and ovary, was found very adherent to the posterior surface of the broad ligament. The ovary was converted into a pus sac, with—in places—very thin walls. One of these ruptured during removal, and pus escaped, but was caught by sponges packed below. The tube was closed at both ends, and was greatly distended by serous-looking fluid. After removal, the peritoneum was united over the raw surfaces, and abdomen closed by triple suture. No drainage. The temperature, which was 102.6° on the morning of the operation, fell to 97.4° after operation, with a pulse of 88 and respiration 24. At 6 P.M. it was normal; pulse 92, respiration 14. During the next eight days it never rose beyond 99° Pulse usually 80 to 90, and respiration 16 to 20. She passed flatus by the rectum tube the next night, but was much troubled by flatulent distension until October 5th. As the bowels did not act, one-grain doses of calomel were given every hour for six hours, followed by tartrate of soda, and simple enema, which was followed by an action.

On October 5th menstruation (?) commenced, and continued with considerable loss until the 13th without pain. Was treated at first by plugging, but as it persisted, and the patient began to thin rapidly, a tupelo tent was introduced on the 12th, and the uterus curetted on the 13th, bringing away some deciduous-looking material from the right cornu. The uterus, as a whole, was somewhat fixed towards the left side, and could not be drawn down. The uterine interior was lightly plugged, as was also the vagina.

October 17th. There has been no more bleeding since curettement.

October 23rd. Some little bleeding recurred on the 21st and 22nd.

October 29th. No further bleeding. Has put on flesh considerably, and is always hungry. Discharged.

Case II.—*Extrauterine Pregnancy: Incomplete Removal owing to Collapse: Recovery.*—A. L., aged 23, sent by Dr. Carruthers, Openshaw.—Restaurant waitress. Medium height, blond, well-developed. Admitted December 22nd, 1896. Mother died, 55 years, uterine cancer; father died, 45 years, cerebral tumour. Has always been healthy except for rheumatic fever four years ago. Has had one child twelve months since. Confinement normal, but placenta torn; in bed ten days. Present illness dates from confinement; has been short of breath and troubled by flatulence. After confinement went back to work for four months. Periods returned, and were regular until one month ago, when she began to have continuous discharge of blood. There was pain in front, with a pressing sensation downwards in both inguinal regions. After coitus there was discharge and pain, with discharge of a dirty-watery character during the next day. Three weeks since, she stood for some time in the market with wet feet, caught a severe cold; the discharge of blood stopped for three days, during which time she was in bed. She got up again; the discharge returned, but after being about for a week she was obliged to return to bed again on account of great pain.

December 29th. Under chloroform; the uterus was dilated, and the interior found apparently normal. Behind and to the right is a large, tense, hard mass, apparently inseparable from the uterus.

January 5th. Operation. In the lithotomy position, the bladder was separated from the uterus, and the uterine arteries tied. The patient being placed in the Trendelenburg position—easily done on a Stockholm table—the abdomen was opened in the median line. A large mass was found in the right broad ligament, bulging into Douglas's pouch, and entirely subperitoneal. To its upper surface omentum and one loop of small intestine were firmly adherent. The peritoneum being divided and the uterus freed on the left side, it was attempted to shell out the mass with the uterus to which it was fixed. Its wall was too friable to permit of this being done without yielding, and about two pints of brownish-red fluid escaped; no fœtal structures found. This did not, however, touch the peritoneum, which was protected by sponges. When empty, the cavity was felt to extend downwards in the recto-vaginal septum. When the mass was nearly all loosened, the collapse of the patient became so great that it was rapidly determined to draw the whole mass through the vagina, leaving it attached by its posterior portion, close the peritoneum as quickly as possible, with the abdominal wound, leaving the intestinal loop still adherent. As much as possible of the tissues so delivered, including the uterus, was tied off and removed, but for a long time sloughs continued to come away. A gauze drain was also placed in the vagina.

January 6th. Patient rallied well, temperature being normal at 6 P.M. It rose on the 6th to 101°, and on the 9th to 101.8°, after which there was a long period of high and irregular temperatures lasting nearly seven weeks. Some chloroform sickness, but began to take food after twenty-four hours.

January 8th. No sign of peritonitis. Drain removed; some offensive smell. Bowels moved after enema; urine passed naturally.

January 9th. Some sloughs removed. Has been irrigated with perchloride five times daily. Bowels moved thrice; pulse soft and regular; abdomen supple. Slept well; temperature 102.6°.

January 14th. Large slough removed. Small amounts have been removed daily since last note, Smell very offensive; sloughs black. Remaining surface looks healthy. Patient very restless and difficult, disturbing everyone in ward; temperature 102.4°. Bowels rather constipated; urine passes easily. No frequency.

January 17th. Some pus. Still a small slough in left upper extremity of vagina. Smell much less; face flushed, no rigors, appetite fair.

January 22nd. Small amounts of slough washed out still. Vagina is somewhat excoriated above. Finger enters small cavity, which would

hold pigeon's egg, surrounded by smooth wall. Pus has been coming away freely every day, but has not increased. Some furuncles about face and body seen up to 14th—none since. Eats well; defæcation and micturition easy. Much more tractable.

February 7th. Temperature went up to 103.4° on 26th ult. Appetite fell off and remained poor until 5th inst, Healing processes came to a standstill, and surface of interior cavity became glazed. Face became puffy. Temperature remained persistently high—103°-102° until 18th inst., when it fell to 99.4°, rising again to 102° on 4th and 5th. Is now 99.8°, but appetite has improved, Discharge of pus has steadily lessened since last entry, and does not smell. On February 5th irrigation was stopped, and dry packing with dermatol gauze substituted. Since this the surfaces look more healthy.

February 14th. On 9th instant temperature went up to 102.6° and on 12th, having come down to 101.4°, it went up again to 103°. Has come steadily down since to 100 2° this morning. Cavity is contracting. Bowels constipated but act with mag. sulph. Urination easy. No tendency to bedsores or secondary abscesses. No cough.

February 21st. A few ligatures which were left long at the time of operation, and drawn into the vagina with the mass to be removed, are removed by scissors, as they show no tendency to loosen. Parts to be irrigated with lot. rub.

February 23rd. Has been no smell at all since removal of ligatures. Temperature has come down to normal. Cavity looks healthy. Has begun to eat again. To be syringed with iodine solution, and packed with gauze.

February 28th. Steadily improving.

March 2nd. Sitting up.

March 9th. Discharged at own request.

March 20th. Dr. Carruthers reports all healed and patient increasing in strength and bulk.

CASE III. *Prolapsus Uteri: Ventrifixation: Recovery.*—M. W., aged 40. Housework; admitted January 5th, 1896. Stout, rather flabby woman. Three children, eldest fourteen years, youngest ten years. No miscarriages. Since last confinement has been complaining. Last confinement ten years since, instruments, very big child. Lactation lasted twelve months. Very ill for three months after. Large furunculi around vulva. Regular since this. Periods since confinement have been very copious until lately. Now lasts four days, three napkins per day. Has had pain in both groins and across top of sacrum. This used to go down left calf. Dyspareunia for last four years. For some time has noticed complete descent of uterus, not procidentia. Much difficulty in walking. Legs swell on standing, left leg becomes numb. Leucorrhœa twelve months since. Improved by syringing. Urination frequent, small quantities, escapes on coughing. Bowels act every alternate day if she takes fruit. Has worn several pessaries without benefit—they usually come away.

January 22nd. Menstruation over on 19th, has lasted five days, pain during first day. Uterus enlarged half an inch. Perineum gone. Rectocele.

February 2nd. Ventrifixation performed with two buried silkworm sutures. Hodge pessary.

February 6th. Temperature reached 100° on the 3rd instant, came down to normal on 4th, and has remained so. Some bronchitis. Pseudo-menstruation appeared to-day, with pain across sacrum.

February 14th. Flow ceased on 13th. Has been very free. External sutures removed. Uterus in good position.

February 28th. Discharged well. Has been up for a week, free from pain or dragging. Urination has been normal since operation.

CASE IV. *Cystic Ovary and Salpingitis: Operation: Recovery.*—E. D., aged 31. Housework; admitted June 9th, 1896. Thin anæmic-looking woman. Menstruation regular, but scanty. Always painful during the first day. One confinement nine years ago. Has never been well since. On the same day complained of pain which was treated by hot fomentations. One month after had attack of "inflammation" on the left side. Eighteen months after confinement an abscess burst into the rectum. Complains at present of persistent pain in left inguinal region, and beneath the ribs in the position of the left kidney. Much worse during the last six weeka. Bimanual examination shows the uterus fixed and drawn to the left, broad ligament on the same side somewhat thickened and tender. Some thickening in Douglas's pouch. Pus issuing from cervix. No pus now passes *per rectum*. Some bleeding from anus about twelve months since. Urination easy, sometimes nocturnal frequency. Urine acid 1014. No albumen. Nothing found in kidney region.

June 17th. Has been irrigated and tamponed with ichthyol glycerine daily. Has passed much pus *per vaginam*. Complains much of pain. Pelvic condition as before.

June 19th. Patient in Trendelenburg position. Abdominal section in median line. Omentum adherent to bladder. Uterus firmly adherent to tubes, rectum, and small intestine. Tubes normal in size and colour, but twisted and adherent. Left ovary cystic. The latter was removed and adhesions broken down. Abdomen closed without drainage by triple suture.

June 20th. Reaction good. Temperature 97.8° one hour after operation. Pulse 96, respiration 22. Temperature reached 99.8° nine hours after, with pulse 100, respiration 20. To-day at 6 P.M. temperature 100°, respiration 18, pulse 88° came steadily down to normal by 2 P.M. on 21st, and did not again rise beyond 99°. Was not very sick, and declared that pain had gone on recovering consciousness.

June 29th. No pain since operation. Stitches removed at this, the first dressing. Primary union except at one point where skin was curled in. Abdomen quite supple. Patient looks and feels well.

July 4th. Allowed to get up.

July 12th. Discharged well.

CASE V. *Vesico-vaginal Fistula: New Operation: Recovery.*—E. F., aged 31. Housework; admitted September 22nd, 1896, sent by Dr. Boyd. Has had two children, first ten years ago, easy confinement. Second six months ago, born dead. Forceps delivery. Had "rheumatic fever" for three weeks after delivery. No sequent abscesses. First noticed urine escaping *per vaginam* five months since, or one month after labour. This has become much worse lately. Defæcation normal. In front of cervix, and close to it, is a gap in the anterior vaginal wall admitting finger easily into bladder. Edge of gap thin and smooth. Vagina somewhat excoriated.

October 6th. The vagina having been treated by emollients and constant douching is now fairly healthy. So the patient being placed in lithotomy position, an operation is performed, which will be fully described in the Medical Society's *Transactions* for 1897 and in the *Lancet*, June 19th, 1897. It differs essentially from all paring operations in that no tissue is sacrificed, and no tension put upon the uniting surfaces, which moreover are not exposed to the action of the urine, nor can urine penetrate to the plane where the sutures lie. The patient is placed in bed on her face, and a catheter fixed in the urethra. Daily irrigation of the vagina with boracic solution.

October 17th. There has been no leakage. All except the two buried sutures are removed. The wound is perfectly healed. Catheter to be used every four hours if required, but patient encouraged to empty her own bladder.

October 23rd. No leakage. Catheter has not been required. Has been allowed to turn on her back for the last four days.

October 29th. Discharged. No leakage from first to last. Perfectly well.

REMARKS.

The first case is worth relating mainly because no drainage was employed, although a pus sac burst in removal, and its contents escaped whilst the sac was in the cavity of the peritoneum. Its contents were absorbed by sponges carefully placed below, and when these were removed the pelvic cavity was seen to be clean. Any drainage tube would have been a possible channel for the entrance of external germs, and experience seems to show that we may rely more than surgeons were at first inclined to do upon the absorptive powers of the peritoneum, especially upon the external coat of the intestine.

All openings in the abdominal wall were sutured upon the triple plan; first, the peritoneum with catgut; second, the muscular wall, and especially the rectal sheath, by buried silkworm gut; and, lastly, the skin by horsehair, with one or two bracing sutures of silkworm gut. These are used for three separate reasons. The first, to close at once and rapidly the peritoneal cavity, preventing any ingress of decomposing or inflammatory material which may develop during the much slower union of the muscular wall. The material used is absorbable, so as to disappear as soon as possible after its work is done. It is separate from the rest, so as to create no tracks along which irritation might pass from without inwards. The second is used to close firmly the tendinous expansion of the muscles forming the abdominal wall, which, acting singly, would tend to widen the gap, but which, when united, only brace up the entire environment. They are strong, to withstand the natural muscular contractions. They are permanent, or nearly so, to give security to the union, which is a matter of weeks or months. The third are used to approximate the skin and subcutaneous tissue. They are pliable, to allow of easy apposition without pain. They are of less strength than the second, because the tension upon them is not so great. They are separate from the second row, to allow of their removal before scarring of the skin from pressure necrosis can occur; at a time much too early if upon them also depended the tendinous union.

The second case is reported for two reasons. First, the position and character of swelling pointed to ectopic pregnancy which had developed into and beneath the broad ligament; but no fœtal structures were found at any time; and, secondly, the necessary closure of the peritoneal cavity before completion left the patient in a condition full of very great though deferred risks. As the majority of the tissues to be removed separated as sloughs, they were not in a state favourable for microscopic examination, and there must, therefore, be some doubt as to their actual composition. One point of great interest is the immediate fall of the temperature, which had been persistently high long after all sloughs had come away, as soon as the ligatures, which had been left long and brought down to the vagina, and which showed no sign of loosening, were removed.

The third case raises the whole question of methods of support to a retroflexed and prolapsed uterus. I hope soon to publish the technique of a new operation by means of which this can be accomplished without the acknowledged drawback of absolute fixation, either to the abdominal wall or to the vagina.

Case v illustrates an operation which I have lately introduced for vesico-vaginal fistula, and which is fully described in the *Lancet*, June 19th.

REMOVAL OF ADULT FILARIÆ IN CASES OF LYMPHANGITIS.

By Surgeon-Lieutenant-Colonel J. MAITLAND, M.D., I.M.S.,
Surgeon to the Madras General Hospital.

In the British Medical Journal of April 21st, 1894, I published the notes of a case in which a number of filarial worms were removed from a patient who had suffered from lymphangitis of the arm. The case served to demonstrate the possibility of localising the position of the parasites, in some cases of filariasis, and of removing them; since that period I have removed parasites from five other persons suffering from various manifestations of the disease. The following are brief notes of these cases:

Fig. 1.—The caudal extremity of the male worm when first seen; the diameter of the body is from $\frac{1}{150}$ to $\frac{1}{100}$ of an inch.

Case I.—A Eurasian lad was suffering from lymphangiectasis of the femoral lymphatics on both sides of the body; his blood contained large numbers of embryo filariæ. The mass of diseased lymphatics in the right groin was removed successfully, but the swelling on the other side continued to enlarge, and embryos were after some time again found in the blood. The patient was averse to undergo a second operation. The mass removed from the right thigh was examined and found to contain three worms, one male and two females.

Case II.—Another Eurasian lad, whilst under treatment for chronic dysentery, developed inflammation of the lymphatic gland above the right elbow; filariæ were found in his blood. An operation was performed, and the inflamed gland, as well as the swollen lymphatic vessels above and below it, were removed. These structures were subsequently examined, and several filariæ, including two male worms, discovered. After some days embryos were again found in the blood.

Case III.—A native lad was admitted into hospital suffering from acute synovitis of the knee. The knee rapidly became well, but about fourteen days after admission the lymphatics of the right upper arm became inflamed, and the blood was found to contain filariæ. When the inflammation had subsided a cord-like swelling could be felt along the inner side of the limb. An incision was made down to this swelling, and on exposing the fascia overlying it a pinhead opening could be seen through which a bead of pus exuded, and on pressure a lump of matter containing a dead filarial worm was extruded. Four other small abscesses, or cysts, were found, each about an eighth of an inch in diameter, and with smooth walls. All of the cavities contained pus and filarial worms. The latter were coiled together, and disentangled from one another with considerable difficulty. They included two intact females and portions of others, as well as one male broken into two pieces. The worms were dead and somewhat shrivelled. When the patient left hospital embryos were still to be seen in his blood.

Case IV.—A Hindu, aged 30, was admitted into hospital for lymphangitis of the upper arm. Filarial embryos were found in his blood. The local conditions were very similar to those of the last case. A small abscess containing one dead worm was found in the thickened tissues. When the patient was discharged the blood still contained embryos.

Case V.—A Hindu, aged 35, was admitted into hospital on account of incipient elephantiasis of the scrotum. Soon after admission he was attacked with rigors and very high fever, accompanied by inflammation of the lymphatics on the inner side of both arms. Abscesses formed in the left arm, and were opened, giving exit to 2 or 3 ounces of pus containing filariæ—one male and portions of two females. The swollen lymphatics in the right arm were excised, and being subsequently examined were found to contain a series of small abscess cavities, communicating with one another and containing altogether somewhat less than half a drachm of pus. In the pus were found portions of one male and two female worms.

Several cases of lymphangiectasis besides the one recorded above have been operated upon in the expectation of finding filariæ, but with a negative result so far as the discovery of parasites was concerned. The worms are, however, not easy to find, and it is quite possible that they may, in some instances, have escaped observation. In one of the cases of lymphangitis embryos were found in the blood immediately subsequent to operation, showing that all the parental worms had not been removed. In the case of lymphangiectasis, although the operation was followed by the disappearance of embryos from the blood, yet they subsequently reappeared and further manifestations of disease took place. As only one of the tumours was removed, this result was to be expected. In two of the cases in which dead worms were found in the suppurating tissues embryos subsequently reappeared in the blood.

Several cases of another class were also operated upon, namely, those in whom all the usual signs and symptoms of filariasis were present, yet in whose blood no embryo filariæ could be found. In such cases the identity of the symptoms with those of others in whom embryos are found justify the assumption that they are cases of filariasis. There can be little doubt that the number of embryos found in the blood is proportionate to the number of parental worms that are present in any particular case, and it is possible that when the latter are few in number the embryos may be so few as to escape observation.

The experience of the last three years has confirmed me in the opinion that operative measures are called for in many cases of lymphangiectasis of filarial origin. Apart from the possibility of removing the parasites themselves, the operation usually relieves the patients from the annoyance caused by the recurring attacks of inflammation which so frequently incapacitate them from carrying on their duties. A patient upon whom I operated in February last had had seven of these attacks in the course of the six weeks previous to operation, and had in consequence to give up work.

During three and a half months that have elapsed since he left hospital there has been no further trouble, and he has been able to resume his occupation. Cases in which there have been attacks of chyluria, or in which there is other evidence to show that the obstruction to the circulation of lymph is seated high up, are not suitable for operation. But there are a large number of cases in which the dilatation of the lymphatics is very limited in extent, and which, therefore, may be operated upon with safety and success.

Some Continental surgeons have deprecated such operations as likely to be dangerous, but the results obtained in the Madras General Hospital up to the present time do not tend to corroborate those views. During the past seven years twenty-four operations of this nature have been performed, and in none of these cases did any serious symptoms arise.

The worms obtained from one of these cases were examined by Mr. A. G. Bourne, of the Madras Presidency College. The parasites were still living when submitted to examination, and it was found that the caudal extremity of the male worm was quite straight (see Fig. 1), and not curved upon itself, as it has hitherto been represented to be. Soon after death took place the tail became curved upon itself in a manner resembling that in which it has hitherto always been seen. Mr. Bourne is of opinion that the bodies formerly described by himself as being spicules, are in reality tubes. One of these tubes, when first seen, was extended through the orifice near the caudal extremity, but on tapping the slide it became gradually withdrawn to a considerable distance within the body of the animal. Tubes containing enormous numbers of spermatozoa were also seen, but no continuity of structure between the before-mentioned tubes and these sperm receptacles could be made out.

Bequest.—By the will of Mr. Robert Ingham, of Leeds, the testator gives £200 to the Leeds General Infirmary, £100 to the Cookridge Convalescent Home, and £50 to the Hospital for Women and Children, Leeds.

Presentation.—Dr. Hawkes, of Polyphant, was presented on September 10th with a testimonial in the shape of an illuminated address, a gold chronometer watch, and a purse of gold, on the occasion of his being compelled through ill-health to leave the neighbourhood, where he had practised for 20 years.

A SIMPLE AND ACCURATE FORM OF SPHYGMOMETER OR ARTERIAL PRESSURE GAUGE CONTRIVED FOR CLINICAL USE.

BY

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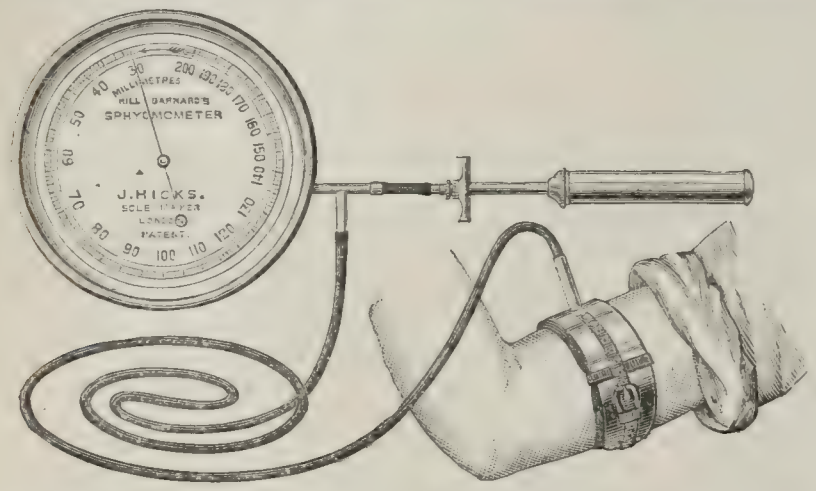
THIS instrument consists of: (1) A broad armlet, which is strapped round the upper arm. The armlet is formed of a flexible steel band, on the inside of which there is fastened a bag of thin indiarubber. The rubber bag is connected by a Y-tube with (2) a small compressing air pump fitted with a valve and (3) a pressure gauge.

The pressure gauge is of special construction. Roughly, it consists of a metal tambour, the expansion of which is



exhibited in a highly magnified form by means of an index or pointer which travels round a dial. This dial is graduated in millimetres of mercury. The armlet, pump, and pressure gauge when not in use fit conveniently into a leather case. The instrument is used thus: (1) The armlet is strapped round the upper arm so that it fits closely to the skin. (2) By means of the pump the pressure is raised within the rubber bag until the pulsation indicated by the index of the pressure gauge becomes of maximal excursion. (3) At this point the pressure indicated by the gauge is read, and this pressure is the mean arterial pressure.

The armlet can be applied to the arm of any individual with the greatest ease, for the flexible steel band adapts itself to any shape or size. In children the armlet can be fitted equally well to the thigh, and the pressure is then taken in the femoral artery. The armlet is bound closely round the arm so that the rubber bag may be but slightly distended when the pressure is raised within up to the arterial tension. If the bag were greatly distended the elasticity of the bag would come into play, and from this an error in the readings would arise. To avoid this error the rubber bag is made thin and flaccid. By raising the pressure within the bag the venous outlets are blocked. This, if continued for long, produces great congestion of the arm and discomfort. For this reason the readings must be taken rapidly. The pressure is never to be maintained on the arm for more than a minute or so. The following is a convenient plan of work:

(1) Force up the pressure rapidly till pulsation appears. (2) Continue to force up the pressure till pulsation disappears or obviously becomes lessened. (3) Slightly open the valve and allow slow leakage. As the pressure falls, note where the pulsation becomes maximal. (4) Let the air out entirely, and empty the arm of venous blood either by elevation of the limb or friction. (5) Repeat the operation and take another reading.

By following this plan no pain or discomfort will arise.

In studying the effect of exercise, posture, drugs, etc., successive readings must be taken in the above manner, first during the normal, and then during the experimental condition.

Owing to the effect of position on the circulation, the readings must be taken uniformly, with the arm placed by the side and on the same level as the heart. The muscles of the arm must be relaxed during the observations. The arterial tension is constantly varying slightly, owing to changes in the force of the heart beat and the respiratory oscillations of pressure. Thus the maximal pulsation may be found now at one place and now at another, a few millimetres higher or lower. The mean of the different readings must be taken just as is done when the mercurial manometer is used in physiological experiments on animals. In conditions of quiet respiration these variations are often not great, and the pressure may be read at each observation within 2 or 3 millimetres. Variations of pressure by 5 to 10 mms. Hg. are of frequent occurrence, are physiological, and of no importance.

When the rubber bag presses upon the outside of the arterial wall, with a pressure equal to that mean pressure exerted from within, the wall is able to oscillate with the greatest freedom. In systole the artery is fully expanded, while in diastole it is collapsed by the pressure of the bag.

The accuracy of this index has been proved by repeated experiment. Thus the armlet was strapped round the neck of a dog (excluding the trachea). A cannula was inserted into the femoral artery, and connected with a mercurial manometer. Simultaneous readings were then taken of the pressure in the femoral artery, as indicated by the mercurial manometer, and the pressure in the carotid arteries as indicated by the sphygmometer. The maximal pulsation of the index of the sphygmometer was thus found to occur always at a pressure which exactly corresponded with the mean pressure in the femoral artery.

It is well known that the carotid and femoral mean pressures are practically the same in the dog when the animal is lying in the horizontal position. To show in yet another way the accuracy of this instrument the following experiment was performed. Whilst one arm was passively elevated above the head and the other remained dependent by the side, simultaneous readings were taken from either brachial artery by means of two sphygmometers. From the dependent arm the higher reading was obtained. The difference was equivalent in mercury to the height of the vertical column of blood which separated the two points of observation.

The facility with which the instrument can be used for clinical purposes is illustrated by a series of observations which we have made upon patients placed under the influence of anæsthetics. Before and during administration a series of readings were taken at intervals of time, and from the figures thus obtained curves were plotted out. In 8 cases of anæsthesia with gas and oxygen (sitting posture) the arterial pressure either rose a few millimetres of mercury or remained constant. In 4 cases of anæsthesia with ether the arterial pressure remained constant or fell a very few millimetres of mercury. In 6 cases of anæsthesia with chloroform the sphygmometer indicated an extensive and rapid fall of arterial pressure. This fall equalled 20 to 40 mm. of mercury. The normal arterial pressure in most healthy young men appears to be 110 to 130 mm. Hg. in the sitting posture.

We shall shortly be in a position to publish a series of preliminary observations on arterial pressure in different pathological states. By means of this instrument, which is made for us by Mr. J. Hicks, of 8, Hatton Garden, E.C., we believe that the arterial pressure can be taken in man as rapidly, simply, and accurately as the temperature can be taken with the clinical thermometer.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

THYROID GLAND SUBSTANCE IN OBESITY.

I HAVE been trying this treatment on stout Anglo-Indians (who were desirous of taking off a stone or two, and improving their figures) for some time back, but have only done so systematically and regularly since the beginning of this year. I first used tabloids of the whole gland substance

(prepared by Burroughs, Wellcome and Co.), but, finding that these disagreed in some instances, owing no doubt to the fatty matter they contain, I was very pleased to see Dr. Hutchison's article On the Active Constituent of the Thyroid Gland, in the Journal of January 23rd, and at once wrote to Messrs. Burroughs, Wellcome and Co. for a supply of thyroid colloid tablets. In sending me these, they informed me that they were not prepared according to the method advocated by Dr. Hutchison; but, as they requested me to give them a trial, I did so in four cases of obesity, which I had under treatment by their whole gland tabloids. In one of these cases the result was decidedly disappointing, as the patient gained 1 lb. in a fortnight, whereas he had previously, on the whole gland tabloids, lost from $2\frac{1}{2}$ to 3 lbs. a week. Two of the cases, although they did not actually gain in weight, lost decidedly less than they had done on an equivalent dose of the whole gland tabloids; and the other patient (who had, however, not previously taken the whole gland tabloids) lost from $2\frac{1}{2}$ to 3 lbs. a week, which result I am perfectly satisfied with. As, however, the effect of these colloid tabloids was on the whole disappointing, I asked Messrs. Burroughs, Wellcome and Co. to prepare some for me exactly according to Dr. Hutchison's method, which they kindly did. I have tried these tabloids (which Burroughs, Wellcome and Co. label "Thyroid Proteid") in five cases of obesity, in all of which I am well satisfied with the results—two patients having lost one stone, or a little more, in six weeks; and this without any change or modification of diet. As regards the comparative merits of these different preparations of the thyroid gland, I cannot do better than quote from a letter (just received) from one of my stout patients, who says:—"I have no hesitation in saying that of the three sorts of tabloids I have used, Hutchison's is the most efficacious."

It will be noted that I have employed three different preparations of the thyroid gland in the treatment of this condition, viz.:

1. The Thyroid Gland Substance. This I administered in the forms of tabloids, representing the whole of the gland substance; and these I found efficacious, in that they produced the required reduction in weight; but they had the disadvantage of deranging the digestion in some cases, and so I had recourse to

2. The "Colloid Substance," which also I used in the form of tabloids. These, as already said, were distinctly disappointing. I next tried

3. The "Thyroid Proteid" tabloids, and found them as efficacious as the whole gland ones, without their disadvantage of deranging the digestion. Messrs. Burroughs, Wellcome and Co. are now, at my suggestion, labelling them "Thyroid Colloid-(H)," to show that they are prepared according to Dr. Hutchison's process, to whom I think is due the credit of having isolated the active principle of the thyroid gland, and demonstrated this distinctly in his article above referred to. I have simply followed in his lines, and furnished further clinical proof of the activity of the "colloid" matter of the thyroid gland in a different class of cases.

As regards the doses used and the mode of administration, I generally gave one 5-grain tabloid of the whole gland three times a day, immediately after meals—the tabloids being swallowed with a little water; and, when using the "colloid substances" and "thyroid proteid" tabloids, I administered an equivalent dose (1 grain of the colloid matter being equivalent to 10 grains of the whole gland) in a similar manner. In beginning the treatment, I always directed the patient to lie down (or at any rate remain seated) for a quarter of an hour after taking the remedy; and none of my patients have ever experienced any discomfort or ill-effects while taking the drug.

In conclusion, although I have been fortunate to have met with no ill-effects in conducting these experiments, I would caution those who wish to give this remedy a trial to do so with care, and on no account to allow their patients to dose themselves; and, further, in case this remedy should become popular, I would caution stout people against having recourse to it, except under medical advice.

P. Jervis, Surgeon-Major, I.M.S.

rouch End, N., September 13th.

A CASE OF "EXTRAUTERINE GESTATION."

F. S., a married woman, aged 27, up till July 11th had enjoyed perfect health. On that day she appeared quite well and partook of her meals heartily. About 7 P.M., however, she complained of sudden violent pain in the lower part of the abdomen, vomited, and went to bed. Mustard was applied by her relations; brandy and castor oil being administered internally, which she vomited immediately. I saw the patient at 11 P.M. and found her in a state of extreme collapse, eyes sunken, lips blue, face blanched, extremities cold, and bathed in a cold, clammy perspiration.

She complained of having suddenly vomited, and of violent pain in the lower part of the abdomen. She had not menstruated for two months. She had eaten nothing out of the usual course. She was the mother of three children. The pulse was 100, small and scarcely perceptible. The skin was slightly darkened round the nipples. There was slight distension of the abdomen. On palpation the uterus could not be defined or any tumour made out. Deep-seated dulness on percussion extended from the middle line to the right iliac fossa. The above symptoms suggested to me the rupture of a tubal gestation. I gave the patient a hypodermic injection of morphine and ordered ice to the abdomen.

An operation was impossible on account of the profound shock, and I had no alternative but to leave the case till the morning. The patient died at 7 A.M. the following morning just twelve hours from her first symptoms.

An inquest was held and a *post-mortem* examination ordered by the jury. On opening the abdomen I found numbers of large clots together with a great quantity of fluid blood, which I cleared out and I immediately sought the right tube which was found enlarged and ruptured $1\frac{1}{2}$ inch (from centre of rupture) from the right cornua. The accompanying illustration shows a bristle passed through the tube across the ruptured part and into the ligament beyond. The uterus was slightly hypertrophied, soft, and was lined with deciduous membrane. Its measurements were as follows: Length 4 inches, breadth across fundus $3\frac{1}{4}$ inches, internal measurement from fundus to os internum $2\frac{1}{2}$ inches. The fœtus lay free in the peritoneal cavity wrapped in a blood clot, and was of two months' development. All the other organs were healthy and the body well nourished.

The case is interesting on account of the rapidity of death; the large amount of hæmorrhage, probably accelerated by the hot applications; and in that the right tube was the seat of rupture. Also on account of the age of the fœtus and the disproportionate enlargement of the uterus. And lastly on account of the condition of the patient, who was previously a strong, healthy working woman.

Leicester. John Sides D. MacCormac.

REINSERTION OF A TOOTH.

I believe that the following case of successful reinsertion of a tooth that had been out nearly four hours is of great interest.

On June 19th last G. K., aged 10, fell off a wall into a brook, and, among other injuries, knocked out his left central incisor tooth. He was brought home at 3 o'clock, and carried the tooth with him; his mother washed his mouth and threw the tooth with the water on the sink, where the tooth remained for over two hours; she then put the tooth in her purse in order to show it to the boy's father on his return home. At 6 o'clock she came to ask me to go to see the boy, and she took the tooth out of her purse to show it me. I saw the boy at 6.30, and, after attending to his other injuries, I examined the socket and washed out some blood clot and *débris*, and, after dipping the tooth in hot water, I reinserted it and pressed it firmly home.

It is now three months ago, and the tooth is firmly fixed; it has maintained its colour, and there is no difference between it and its fellow. I think that this case shows that, under similar circumstances, an attempt should always be made to reinsert the tooth.

Leicester. John T. Horron Davies, M.D.

THE PAINLESS CURE OF HYDROCELE WITH CARBOLIC ACID INJECTION.

Since my communication on this method of treatment to the British Medical Journal in 1887, I have not noticed that it has been adopted in general practice, although its advantage over the old iodine injection after tapping must be obvious.

I treated a young man successfully for left hydrocele eighteen months ago, having to inject 20 minims of carbolic acid (concentrated solution) a second time after six weeks' interval. He presented himself to me in April of this year with right hydrocele, which I treated successfully with one injection after tapping.

J. B., aged 66, had right hydrocele for two years, and was tapped on February 7th, 1897, 20 minims of concentrated carbolic solution in glycerine being afterwards injected. The sac refilled and remained unaltered on March 21st, when the hydrocele was subjected to the same treatment.

On April 29th the fluid was again drawn off, and 30 minims of the carbolic solution injected, with the result that now, just four months after the operation, the fluid has completely disappeared, leaving a thickened, collapsed tunica vaginalis in place of a cumbersome bag of fluid. Throughout the treatment he experienced very little discomfort, which contrasts favourably with what he might have experienced had iodine been used instead of carbolic acid.

Since 1887 I have frequently treated cases that had been subjected to the painful iodine injection, which failed to cause absorption of the re-effused fluid, and was successful in each case with one carbolic acid injection as against two or more of iodine that had been made by other operators. The above-cited cases have been the only two that have required more than one injection at my hands for the establishment of permanent success.

Devonport. Geo. A. Rae, L.R.C.P.E., L.R.C.S.E.,

PROLONGED ADMINISTRATION OF IODIDE OF POTASSIUM.

Doris C., a girl, now aged 13, first came under my care eight years ago, when she was 5 years old. She is the firstborn of healthy parents, there being no signs of struma in either the father or mother, but a maternal aunt has chronic laryngeal trouble probably of a tuberculous kind. She is the only girl of the family, four boys born after her being healthy, and the parents attribute Doris's condition to vaccination from another child. The boys were all vaccinated from the calf. Doris was vaccinated at 3 months, and when a year old glands in various parts of the body began to enlarge and some broke down. She was taken to a London hospital, the doctor there pronouncing her a bad case, that she "looked as if she would have many abscesses," and advised her being sent into the country, which was done till I first saw her.

Whilst in the country but little improvement took place, though she was given milk and good food freely. For the past eight years about thirty glands have been implicated, mostly on the neck, two or three on the left wrist, some on the inner part of the right thigh, and two or three at the bridge of the nose, all having passed through the well-known stages of enlargement, caseation, breaking down, and suppuration. One and all are now firmly and healthily cicatrised, adhesions having occurred to the radius and nasal bones. As soon as I saw her I put her on iodide of potassium, rapidly increasing the doses until 8 gr. three times a day (24 gr. per diem) was reached, and this quantity was steadily taken for eight years, making a total of about 8 lbs. of the drug taken during that time. At no time did she show intolerance of it, nor have any complications in lungs, ears, eyes, etc., occurred. The teeth, though irregularly placed, are good sound teeth, with regular edges; she is, in fact, now a fat, strong, healthy, intelligent child, and is physically in every way beyond the average. Her weight is 5 st. 9 lbs., and her height 4 ft. 8½ ins. Menstruation has not yet commenced.

Tottenham, N. George H. Vos, M.B., M.R.C.S.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

ROYAL INFIRMARY, NEWCASTLE-UPON-TYNE.

THREE CASES OF NEPHROLITHOTOMY IN WHICH THE STONES WERE EXTRACTED BY AN INCISION THROUGH THE PELVIS OF THE KIDNEY: NO FISTULA.

(Under the care of Frederick Page, M.D.)

[Notes by P. L. Armstrong, House-Surgeon.]

Case I.—J. B., aged 56, a joiner, was admitted on September 21st, 1896, suffering from well-marked symptoms of stone in the left kidney, of three years' duration. On September 28th the kidney was exposed by an oblique incision in the loin, and a stone detected in its pelvis. The stone was cut down upon and extracted through a wound made directly upon it through the pelvis, without injury to the renal tissue. The wound was drained by a small piece of gauze. The wound was dressed the following day; some urine had escaped into the dressing. It was also dressed the next day, when the gauze was removed, and then not again till October 2nd, when the sutures were removed. The wound healed by first intention. No blood was passed in the urine after October 7th.

Case II.—H. S., aged 34, a locomotive fireman, was admitted on June 12th, 1897, with well-marked symptoms of stone in the right kidney, of five years' duration. On June 19th the kidney was exposed by a vertical incision reaching from the last rib to the crest of the ilium, and a stone felt in the pelvis of the organ. It was removed by the same plan adopted in the former case. The wound healed by first intention.

Case III.—M. C., a nurse in the Royal Infirmary, aged 36, had well-marked symptoms of stone in the right kidney for twelve years. On August 11th, 1897, the right kidney was exposed by a vertical incision in the loin, and twenty-seven calculi, varying in size from a pea to a large filbert, extracted through an incision made directly into the pelvis of the kidney. The wound healed entirely by first intention without any constitutional disturbance.

Remarks by Mr. Page.—It is usual in nephrolithotomy to extract the stone through an opening made into the sub-

stance of the kidney, and this is generally preferred, owing to the risk of establishing a urinary fistula. I am of opinion that the risk of fistula has been, and is, exaggerated, and these cases show that certain stones, at any rate, can be extracted through a direct incision into the pelvis without any such sequence.

NEWRY FEVER AND GENERAL HOSPITAL.

A CASE OF TRAUMATIC TETANUS TREATED BY ANTITOXIN: RECOVERY.

(By Benjamin Beamish, L.R.C.P.and S.I., Surgeon to the Hospital.)

M. C., aged 16, was admitted on March 6th suffering from extensive injuries to the left leg, which were caused by the limb having been caught in a threshing machine. On the following day symptoms of gangrene appeared, and it was found necessary to perform amputation. This was accordingly done on March 8th.

On or about March 18th symptoms of tetanus appeared, trismus and risus sardonicus gradually becoming marked. During the next four or five days the symptoms gradually became worse with frequent spasms, readily brought on by the slightest noise. The respiratory muscles were then attacked, and the patient's condition seemed hopeless. Having tried some of the usual remedies recommended, without the slightest benefit, I resolved to give the antitetanic serum a trial. This was done on March 25th, when 10 c.cm. were injected over the spine in three injections at intervals of two hours between each.

On visiting the patient twenty-four hours after, his condition was much the same; the spasms had not been so frequent. His pulse and temperature, which had been normal for some days previously, were undisturbed and continued normal. On the following day he was a little better, and had had but one or two spasms. From this onwards he made an uninterrupted recovery. Whether the improvement was coincident with or a result of the administration of the serum is difficult to say, but in either event I think the case is worth recording.

GENERAL HOSPITAL, SELANGOR, MALAY PENINSULA.

BULLET WOUND OF CHEST.

(Under the care of A. G. Mc. Closky, M.B., C.M.Edin., District Surgeon, Selangor.)

This case is of interest for the following three reasons: (1) The marvellous way in which the heart escaped injury, as the bullet must have passed in very close proximity to that organ; (2) the absence of any suppuration or sloughing along the channel of the bullet; (3) the fact that it kept us speculating as to the position of the bullet for twelve days before it actually revealed itself.

On February 9th, 1897, I was called by the police to see a case of self-inflicted bullet wound in a Chinese cook in the employ of a European. I found the patient on the floor of his room, lying on his left side, rolling and tossing about, and complaining of severe pain in the region of the left breast. There was a circular wound in the fourth left interspace, 1 inch from the left lateral margin of the sternum, with the edges torn and lacerated. There was no exit wound, and no bullet could be seen or felt anywhere. The pulse was full and strong. There was well-marked cellular emphysema immediately around the wound extending upwards as far as the clavicle, showing that the left lung had been injured. He was at once removed to the General Hospital, where a further examination with Nélaton's bullet probe was made. The probe passed upwards and outwards until it impinged against the lower border of the third rib, which was felt to be bare and rough, the bullet presumably having grazed this rib and ricochetted from it. No foreign body could be felt, and no streak of lead was left on the surface of the probe. It was therefore suspected that the missile had lodged in the thoracic cavity.

On the fourth and fifth days after the accident he had slight cough, with expectoration of small quantity of blood-stained sputum. No untoward symptoms supervened, and the patient made a rapid recovery, and was discharged from hospital on the eighth day after the accident. The bullet was still undiscovered, though suspicions were entertained of its presence under the outer third of the left clavicle in the supraspinous region owing to slight localised pain and tenderness in these regions. He was tried before the magistrate for attempting to commit suicide, and was sentenced to a term of simple imprisonment.

In the gaol I had further opportunities of frequently examining him, and on February 20th, eleven days after the accident, I felt a distinct resistance and a grating sensation in the left supraspinous region, as if the bullet rubbed against the bone; the patient also expressed that he felt something move during my manipulation. As the bullet was pretty deep and no distinct outline of it could be made out, I did not feel justified in cutting down then. On February 22nd, on the visit of the State surgeon, Dr. Travers, to the gaol, the bullet was distinctly seen and felt in the infraclavicular region immediately internal to the coracoid process, and was cut down upon and removed. Between February 20th and 22nd the patient had gradually worked the bullet down.

On his release from gaol he had made a more or less perfect recovery, with only slight impairment of the movement of abduction at the shoulder-joint, no doubt due to injury of some of the fibres of the clavicular origin of the deltoid and supraspinatus muscles.

The course the bullet pursued is interesting, and of course can only be conjectured. Some such course as this might be suggested, namely, having entered at the fourth left interspace close to the sternum, it passed outwards and upwards in front of the pericardium to the third rib, whence it ricochetted upwards through the left lung to the under surface of the clavicle, from which it again rebounded backwards and lodged in the supraspinatus muscle. The revolver used was a 0.450 Wabley's.

REVIEWS.

Manuel d'Ophtalmologie. [A Manual of Ophthalmology.] Par le Docteur E. Fuchs, Professeur Ordinaire d'Ophtalmologie à l'Université de Vienne. Second French Edition. Translated from the fifth German edition by Drs. C. Lacompte and L. Leplat. Paris: George Carré and C. Naud. 1897. (Roy. 8vo, pp. 878. 25 francs.)

This manual is perhaps the most popular work on diseases of the eye in any language. It has passed through six editions in Germany since its first appearance in 1889, and it has been translated both into English and French. The fact that a second edition of the latter translation has been called for further exemplifies the approval displayed for the work. The first edition of the French issue was translated from the second German edition; the present issue, therefore, differs very largely from its predecessor. So many improvements had been introduced into the succeeding German editions that the French translators found that it was necessary for them to undertake an entirely new translation for their second edition. This has been mainly based upon the fifth German edition; nevertheless, by the courtesy of Professor Fuchs, the translators have been enabled to incorporate in their new work some of the features of the sixth German edition.

One of the most noticeable features of Professor Fuchs's manual is the division of the text into large type for the most salient facts and smaller type for less important though nevertheless essential details. This plan is faithfully carried out in the French translation before us, and undoubtedly adds to the value of the work. Some points of difference between the last edition and the present one are the increase in the number of illustrations from 178 to 221, the increased space given to the description and discussion of retinoscopy, and the rewriting of the bacteriological department of the work in accordance with the recent discoveries in the science. So far as the illustrations are concerned, for the most part these are good. This however cannot be said of those depicting diseases of the fundus. Difficult, however, as the latter are to reproduce without the aid of colours, it is nevertheless

impossible to admit that they are equal to the standard of the good art work which is so common a feature of professional treatises published in France.

AN ATLAS OF THE NORMAL AND PATHOLOGICAL NERVOUS SYSTEMS, TOGETHER WITH A SKETCH OF THE ANATOMY, PATHOLOGY, AND THERAPY OF THE SAME. By Dr. CHRISTFRIED JAKOB; translated and edited by JOSEPH COLLINS, M.D. London: Baillière, Tindall, and Cox. 1897.

THE rational diagnosis of nervous diseases is always a "bugbear" to the average medical student, and the reason for this is not far to seek. The proceeding rests, more than in the case of any other system in the body, on an accurate knowledge of the anatomy of the central nervous system. This is often learnt in a very perfunctory manner, more especially that part of it relating to the distribution and connections of the various tracts and fibres. This has in many cases therefore to be relearnt; and, as a systematic account is difficult to find, except in the larger treatises, it is often set aside to be crammed at the last moment. In this volume these difficulties are removed. The greater part being composed of plates, and the letterpress, being clearly written and easily read, gives the advantage of being able to study the anatomy and diagnosis at the same time with the minimum of trouble. In fact we have a book in which rational diagnosis can be learnt on a sound structural basis.

The plan of the book is as follows:

The first three sections illustrate in 52 plates the anatomy of the central nervous organs. This is presented in a series of cross sections and surface views, together with diagrammatic representations of the best defined tracts and impulse paths.

Part IV illustrates in some 15 plates the general pathological anatomy of the same, and Part V considers in some 10 plates the special pathology of the spinal cord and the peripheral nerves.

The plates, executed on a systematic colour scheme, are the work of Dr. JAKOB, and convey everything that can be given. They give the actual relationships of the different parts in the clearest manner, and depict with great completeness nearly all the important discoveries which the last decades have brought forth. Even a superficial survey of them will illustrate the fact that the intimate relationship existing between clinical pathology, on the one hand, and normal and pathological anatomy, on the other, is never so striking or evident in any other branch of medicine as in neuropathology.

The text consists, in addition to the descriptive letterpress of the plates, of a terse account of the anatomy and morphology of the nervous system, after which comes an excellent summary of the general pathology and therapeutics of the diseases of the same.

The volume forms one of the Hand-Atlas Series now in course of publication by Lehmann, of Munich.

DIE PATHOLOGIE DER TABISCHEN HINTERSTRANGSERKRANKUNG [The Pathology of the Affection of the Posterior Columns in Tabes]. Von Privat-dozent Dr. EMIL REDLICH, Assistent der psych. Klinik von Professor v. Wagner in Wien. Jena: Gustav Fischer. 1897. (Roy. 8vo, pp. 205, 4 plates. M. 8.)

THIS work has a much wider scope than the title might suggest. The author treats his subject under four headings: 1. The normal anatomy of the posterior roots and posterior columns. 2. The pathological changes in the posterior columns and horns in tabes. 3. The etiology of tabes. 4. Its pathogenesis.

The subject is treated at some length, but is made extremely interesting by extensive original observations. On almost every point that is discussed the author has his own observations to bring forward, many of them of considerable importance. The book is thus not a mere compilation from other writers, although there is no lack of references to all the authorities on the subject.

Under the first heading there is an interesting account of the course of the fibres of the posterior roots. The author, after careful study of a large number of sections, is unable to substantiate the statement of Ramon y Cajal that the fibres bifurcate in the cord, at any rate in adult man. In opposition also to many observers, he finds after section of the posterior root, degeneration of the posterior column and posterior horn on the same side only, not in the opposite posterior column, nor in any other part of the cord.

Perhaps the most interesting chapters in the book are those on etiology and pathogenesis. Under the former head the question of the influence of syphilis is fully discussed, and a valuable collection of statistical results from writers of various nationalities is given. An attempt is made to reconcile the glaring discrepancies between various observers, but as the percentages range between 7.4 per cent. and 100 per cent. there is some difficulty in the task. The author's own figures occupy a mid-position, his percentage being 51.9. The conclusion is disappointing, for the author finds the evidence from statistics so conflicting that he despairs of arriving at the truth, and leaves the question *sub judice*.

An important argument, to which perhaps hardly sufficient attention has been paid by some writers, is here advanced, namely, that in the rare cases where tabes affects children it is almost, if not quite, invariably associated with congenital syphilis.

Syphilis, however, the author considers as merely a predisposing cause, which is present in the majority of cases of tabes. Syphilis does not always produce tabes, therefore some other exciting cause must be present. The author's remarks on the exciting causes of tabes are hardly convincing; over-exertion of the lower limbs and exposure to cold are causes which are difficult to prove, and although they might lend some support to the author's view as to the starting point of the pathological lesion being a meningitis about the posterior roots, the evidence offered is quite insufficient to establish any causal relation.

The observations on the pathogenesis of the changes in the posterior columns are interesting, but the views advanced as to the importance of the meningeal changes will hardly, we think, meet with general acceptance.

The value of the book is increased by an excellent bibliography of the subject. The plates are good, but would have been more useful if a fuller description had been given. The book is well worth reading, even if the conclusions cannot all be accepted, and the author is to be congratulated on the lucid and interesting manner in which he has treated his subject.

THE RELATION OF CANCER TO LIFE INSURANCE: A Paper read before the Members of the Insurance Association of Manchester, Thursday, February 18th, 1897. By WILLIAM THORBURN, F.R.C.S. Manchester: The Policy-holder Journal Company. 1897. (Demy 8vo, pp. 14.)

THE author begins by showing from statistics that although during the last fifty years the total death-rate has diminished, that from cancer has increased nearly fourfold. Attempts have been made to explain away this great increase in the death-rate from cancer. By some it is regarded as fictitious, and those who hold this view maintain that the alleged increase is due to greater skill in diagnosis on the part of the medical profession. While allowing due credit to the advance in the diagnosis of malignant diseases, Mr. THORBURN proves conclusively that it is quite inadequate to explain the increased death-rate from cancer. The real explanation is that the diminished mortality of the earlier years of life allows more individuals to attain the period at which cancer plays a prominent part. "But, despite the conditions under which we now live, the fact remains that ultimately we must all die, and hence there must be a correlative rise in the death-rate from those diseases which are neither curable nor preventable. The more people we save from one cause of death the more we ultimately reserve for another, and among those diseases which, being neither curable nor preventable, must increase in their frequency, cancer takes a foremost place." Or, as the author puts it paradoxically, "a high death-rate from cancer is the necessary concomitant of a low general death-rate, that is, of greater social comfort and well-being." Mr.

Thorburn has one very telling argument in favour of the view that the increase in the cancer death-rate is due to a larger residuum of those who are from their age most liable to the disease, rather than to an increasing virulence of the disease, and this is that in the course of twenty-five years the average age at death of males dying from cancer has increased by five years, while that of females has increased by two years. These figures are certainly not in favour of an increase in the virulence of cancer.

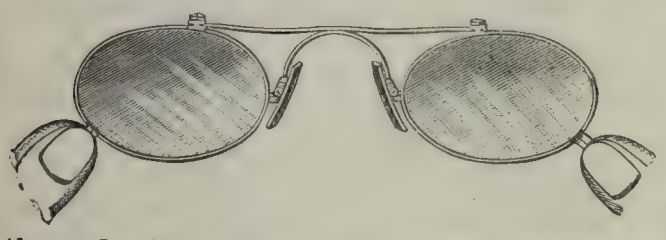
The author discusses the various conditions which precede or cause cancer. He has little doubt that ere long cancer will be proved to be an infectious disease; "not contagious, like most fevers, but conveyed in some manner from the sick to the healthy, under conditions as yet unknown to us, and generally attacking only regions which have been subject to long-standing inflammations." He thinks that the importance of the hereditary element in the production of cancer is very greatly over-estimated, but allows that it has more influence in the female sex.

The paper is one of great interest not only for the assurance medical officer but also for the general physician, and it will, among other things, enable him to quiet the apprehensions of nervous patients who are alarmed at the increase of cancer.

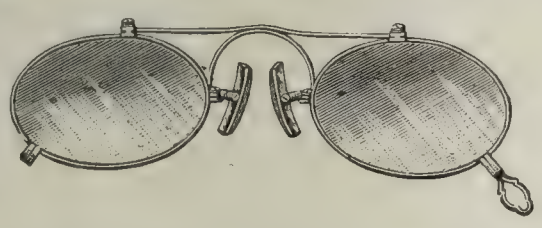
REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

THE REVLUC PINCE-NEZ.

This is a novel form of pince-nez made by George Culver, White Lion Street, Pentonville, N., in which the frames holding the glasses are attached to a strong horizontal spring, which allows the glasses to separate, but still keeps them firmly applied to the nose; the plaquets for the nose separate automatically when the spring is bent.



We have used the Revluc ourselves for some months, fitted with a convex cylinder; it is light, yet rigid, and can be applied with one hand, frequently a matter of importance. It is much less clumsy-looking, owing to the thinness of its frame than most other pince-nez, and it is certainly comfortable.



In order to test it more thoroughly we had it fitted with a heavy glass, + 6 D. sph. upon a prism of 8° in each eye, and we have found it completely satisfactory in carrying this heavy glass—a severe test for any form of pince-nez. From our own tests we can thoroughly recommend the Revluc for any kind of glass, even for such heavy ones as are necessary after cataract operations, and in high degrees of myopia.

ELECT COCOA.

"Elect Cocoa" of which a sample has been submitted to us by Messrs. Rowntree and Co., Limited, of York and London, is claimed to be one of the best cocoas obtainable. Our examination showed it to be a preparation of the cocoa bean from which a certain proportion of the fat has been removed, thus rendering the cocoa more suitable for digestion. At the same time the cocoa has been further treated in order that the preparation may be more miscible with water. "Elect Cocoa" makes a very palatable and nutritious beverage, and is certainly a high-class preparation of the "soluble" form of cocoa.

KOLLOX WINE.

The Kollox Wine Company, of 69, Mark Lane, E.C., has sent us samples of Kollox wine, which is stated to be a preparation consisting of port wine and the soluble constituents of beef and kola nut, and therefore possessing highly stimulating, tonic, and nutritive properties. An analysis of a sample submitted to us showed that it contained alcohol equal to 37.1 per cent. of proof spirit, 0.3 per cent. acidity calculated as tartaric acid, and 7.6 per cent. of extractives. The wine was also found to contain caffeine, the chief alkaloid of the kola nut, and a small amount of the soluble constituents of meat. Kollox wine is very palatable, and no doubt would be useful as a stimulant in many cases where a good preparation of this class is required.

"FLUID BEEF."

A sample of "Vimbos fluid beef" has been submitted to us by Vimbos, Limited, of 130, Queen Victoria Street, E.C. It is said to be prepared on an entirely new principle, by which not only the greatest stimulating and nourishing properties of beef, but the fresh flavour of home-made beef-tea, are retained. The sample received for examination was a well made preparation of "fluid beef," containing, according to our analysis, 43.6 per cent. water and 56.4 per cent. solid matter, of which 14.5 per cent. was saline constituents, and 7.3 per cent. meat fibrine. It is in this last respect that Vimbos differs from most of the ordinary kinds of meat preparations. These results differ somewhat from the statement of analysis submitted to us with the sample, showing 24.12 per cent. moisture and "50.86 per cent. nitrogenous organic matter (albuminous and flesh-forming)"—an expression of results which is really of little use as a criterion of the value of a meat preparation. Vimbos has a very pleasant flavour, and as a preparation of meat is one of the best of its class.

AN IMPROVED ŒSOPHAGEAL PROBANG.

Dr. E. Mansel Sympson (Lincoln) writes: "I see a notice and illustration of an Improved Œsophageal Probang in the British Medical Journal of September 11th, 1897. In fairness to Messrs. Arnold and Sons may I draw your attention to the fact that on January 16th, 1897, you published a notice and illustration of an Improved Œsophageal Probang designed by me, and carried out by Messrs. Arnold, which embodied the improvements claimed in notice in question—that is to say, it could be passed down the œsophagus without expanding, and when it has gone far enough, finger and thumb (of the same hand that passed it) loosen the clip part of the catheter, and pull the whole apparatus out.

SIXTY-FIFTH ANNUAL MEETING
OF THE
BRITISH MEDICAL ASSOCIATION.
Held in MONTREAL, August-September, 1897.

THE ANNUAL MUSEUM OF APPARATUS, FOOD, AND DRUGS.

The Museum of Apparatus, Food, and Drugs, which was held in the Victoria Skating Rink, immediately behind the Windsor Hall, was one of the largest and most interesting which has ever been formed at an annual meeting of the British Medical Association. Considerable expense was incurred both by the Museum Committee and by individual exhibitors, and the result was a collection of articles designed for the use of physicians, and was most instructive. The buildings contained some seventy stands given up to the exhibition of foods and drugs, medical and surgical instruments, books, diagrams, charts, and sanitary and ambulance appliances. The Museum Committee had prepared a full catalogue. In the drug department the exhibits reflect the great interest now taken in serum-therapeutics, of the growth of which Professor Richet gave so eloquent an account in the address which he delivered before the Association at Laval University. The exhibition of drugs, however, was not confined to these novelties, and upon the stands were specimens of new drugs, and of more elegant or efficient preparations of drugs in common use. Among the dietetic preparations exhibited were specimens of concentrated foods, and of various mineral

waters, including some of those which have their origin in Canada. Many of the most recent contributions to medical literature were to be seen on the stalls of the publishers, and the surgical instruments and appliances showed also the progress of invention in these directions.

The ALPHA RUBBER COMPANY (Montreal) exhibited Operating Aprons, Atomisers, and other appliances.

The APOLLINARIS COMPANY (London) exhibited Apenta (from the natural bitter water springs near Buda-Pesth), an aperient water, containing sulphate of magnesia and sulphate of soda in relatively large and constant proportions; their Apollinaris Water, which has won for itself a world-wide reputation as a natural mineral table water; and their Friedrichshall Aperient Natural Mineral Water, which is rich in the alkaline chlorides as well as in the magnesium sulphate.

Messrs. ARMOUR AND CO. (Chicago and London) showed products of their laboratory, including Nutrient Wine of Beef Peptone, a combination of beef peptone from fresh, raw, lean beef artificially digested, and high-class sherry; Essence of Pepsin; Desiccated Thyroids, twelve grains of which is stated to be equal to one entire gland; Extract of Red Bone Marrow, prepared by macerating bone marrow taken from the small bones of young calves in glycerine; and also Vigoral, prepared from the entire edible and muscle-forming substance of prime lean beef.

Messrs. P. BLAKISTON (Philadelphia) showed their various Publications dealing with Medical Subjects.

BOVRIL, LIMITED (London and Montreal) exhibited their usual well-known preparations of Beef Tea. They also showed their special Emergency Foods, as supplied to Dr. Nansen, Jackson, Harmsworth, and William Arctic expeditions.

Messrs. BRAND AND CO. (London) showed their various Invalid Food Preparations.

Messrs. J. A. CARVETH AND CO. (Toronto) exhibited a collection of Medical Publications.

Mr. J. H. CHAPMAN (Montreal) exhibited Surgical Instruments and Apparatus, Hospital Supplies, etc.

Messrs. CHARLES CURD AND CO. (Montreal) exhibited specimens of their Aerated Beverages and Medicated Waters.

Messrs. DOWN BROTHERS (London) had a display that was a great attraction to Canadian and other surgeons. Among their numerous exhibits, the following deserve special mention: Patent Antitoxin, Hypodermic, and Exploring Syringes, made entirely of metal, and therefore easily rendered aseptic; a Portable Bed Cradle designed by a nurse; new Cleft Palate instrument devised by Mr. Arbuthnot Lane; a lighter model of Messrs. Down Brothers' Patent Lever Clamp Binaural Stethoscope, with improved chest pieces; new Empyema Tubes, devised by Mr. Arbuthnot Lane and Mr. Griffiths, of Cardiff; a new and Portable Steriliser for Ophthalmic Instruments, by Mr. Simeon Snell; new Laryngeal Forceps, by Drs. Moritz Schmitz and Jurasz; new Craniectomy and Laminectomy Instruments, devised by Mr. Victor Horsley and Mr. Arbuthnot Lane; Lithotrity Instruments, devised by Dr. Milton, of Cairo, and Mr. Freyer; new Mastoid Instruments, devised by Mr. C. A. Ballance, and a complete set as recommended by Professor Macewen, of Glasgow; a model of Messrs. Down Brothers' "Desideratum" Midwifery Bag attracted particular attention; a new Axis Traction Midwifery Forceps, recently designed by Dr. Milne Murray, by which the direction of traction may readily be altered; a new and complete Mouth Gag, devised by Dr. Cock; and an Aseptic Model of the Army Regulation Pocket Case, which is also most compact and portable.

Messrs. DUNCAN, FLOCKHART, AND CO. exhibited their various products, including Chloroform, Blaud Pill Capsules, Blaud Pills with Aloes, etc., Cascara, Cod-liver Oil with Creasote, Easton Syrup, and other preparations in capsule form.

Messrs. J. ELLWOOD, LEE, AND CO. showed Medical and Surgical Plasters, Absorbent Cotton Dressings, and other appliances.

Messrs. EVANS AND SONS (Montreal) exhibited specimens of the products of several firms, including Savaresse's Capsules, Cascara Sagrada Preparations, Fluid Extracts, and other preparations.

Messrs. FAIRCHILD, BROS., AND FOSTER exhibited their Digestive Ferments, and Predigested Foods, Peptonising Tubes, Trysaphin, and other preparations.

THE GALVANIC BATTERY WORKS COMPANY (Toronto) showed Hodgkinson's Electric Neurotone, a new electric massage apparatus; Physician's Office Wall Cabinet for galvanic and Faradic currents, and other specimens of Batteries.

Messrs. GILMOUR BROTHERS (Montreal), who represented several firms, showed the Medicinal and Surgical Plasters in Rubber Combination of Messrs. Johnson and Johnson; Upjohn's Friable Pills, Horlick's Malted Food, Dr. Bengue's Ethyl Chloride, and Chinosol, a new antiseptic.

Messrs. J. M. GROSVENOR AND CO. (Boston, Mass.) exhibited Bell Capsic Plasters and "Konseal" Cachets for the administration of powdered and nauseous drugs.

Mr. HENRY IEVERS (Quebec, Canada) showed a new dressing which goes by the name of Styra-Phenol, and which is composed of balsam persiferum, balsam tolutanum, benzoin, styrax, olibanum, colophony, and phenol. It is claimed that the preparation is free from oil or grease.

Messrs. H. R. IVES AND CO. (Montreal) had a display of Brass and Iron Bedsteads, Ornamental Ironwork, and the Buffalo Water Heater.

Messrs. KERRY, WATSON, AND CO. (Montreal and London) showed Fluid Extracts, Tinctures, Elixirs, and Powdered Drugs; Martin's Concentrated Cardinal Food for Infants and Invalids; and Warner's Parvules, Granules, Tablets, etc.

THE KNY-SCHEERER CO. (New York, London, and Berlin) showed a great variety of Surgical Instruments, Models in Papier-Maché, Wax, and Plaster of Paris, Charts, and other apparatus required in schools. They also exhibited different forms of Orthopædic Apparatus, and Apparatus for Sterilisation and Disinfection.

Messrs. S. KUTNOW AND CO., LIMITED (London) showed their Improved Effervescent Carlsbad Powder; Antiasthmatic Powder, and Antiasthmatic Cigarettes.

THE LAURENTIAN SPRING WATER COMPANY had a display of their Table Waters.

Messrs. LEA BROS. (Philadelhhia and New York) showed a large number of Medical Publications.

Messrs. B. LEDOUX AND CO. (Montreal) showed various specimens of Vehicles for the use of the medical practitioner.

Mr. BERNHARD LINDMAN exhibited the "Lindman" Truss. It is claimed for this truss that it can be adjusted to suit any case, either for comfort when at rest or for safety during exercises.

J. B. LIPPINCOTT COMPANY (Philadelphia) exhibited their various Publications.

The LIVERPOOL LINT COMPANY showed their various specialities in the way of Bandages, etc. They also showed specimens of Undergarments made from Lambswool.

Messrs. LYMAN, SONS, AND CO. (Montreal) showed Surgical Instruments, Arnold's Sterilisers, Batteries, Syringes, and some Chemical Preparations of Howards and Sons (Stratford).

MELLIN'S Food for infants and invalids was exhibited by the Doliber-Goodale Company (Boston, Mass.).

The M. K. MULFORD COMPANY (New York and Philadelphia) showed their various preparations, including Concentrated Diphtheria Antitoxin, supplied in two degrees of concentration, containing 200 and 500 units to each centimetre; Antituberculin for use in tuberculosis; Tetanus Antitoxin for the specific treatment of tetanus in man and in animals; Mallein for the diagnosis of glanders; together with a variety of Compressed Goods, Tablets, Syringes, and Medicine Cases.

The PABST BREWING COMPANY exhibited their Malt Extract.

Messrs. PARKE, DAVIS AND CO. exhibited Fluid Extracts, a class of standardised extracts of plants and drugs, so prepared that each cubic centimetre represents the medicinal contents of 1 gramme of the standard drug; Taka Diastase, a ferment in powder form, for the artificial digestion of amylaceous foods; specimens of Antidiphtheria Serum, prepared in four strengths and put up in hermetically-sealed glass bulbs. They also showed a Germicidal Soap for use before and after operations, which, it is claimed, does not in any way affect the instruments. The same firm had on view a collection of Culture Media—Gelatine, Agar, and Blood

Serum—for use in bacteriological work; they are supplied in glass tubes, sterilised, and hermetically sealed; specimens of Lœffler's Solution for the after-treatment of diphtheria were also shown.

Messrs. Paterson and Foster (Montreal) showed the Sanitary Construction Company's (New York) Formaldehyde Generators, Microscopes of different ranges of power, etc. They also exhibited a collection of Cutting Instruments of Messrs. J. Weiss and Son, for eye and lithotomy operations; and specimens of Mr. J. J. Hicks's thermometers.

Mr. Young J. Pentland, Edinburgh and London, showed his Medical Publications.

The Radnor Water Company showed their Radnor Water.

Messrs. G. W. Reed and Co. (Montreal) showed a collection of Refrigerators of various sizes.

Messrs. A. Riddle and Co. (London), who were represented by their Canadian agents, had a good display of Stower's Lime Juice Cordials and Clarified Lemon Squash.

Messrs. Sharp and Dohme (Baltimore) showed their Medicinal Fluid Extracts, Powdered Extracts, Pills, Soluble Gelatin-Coated and Sugar-Coated and Granules, comprising all the official and other well-known favourite formulæ. They also showed their Compressed Medicinal Lozenges, together with samples of Alkaline and Antiseptic Tablets, Digestive Ferments, etc.

Messrs. Frederick Stearns and Co. (Detroit, London, and New York) exhibited various preparations of Cascara, Digestive Ferments, Diastase (Stearns'), Elixirs, Extracts, etc. They called special notice to Dike's Pepsin, which is claimed to be prepared by a new and original process.

Messrs. J. Stevens and Son (London) showed, though their Montreal agent, a Collection of Surgical Apparatus.

Messrs. Hiram Walker and Sons (Walkerville, Ontario), showed their Canadian Club Whisky.

Messrs. H. K. Wampole (Philadelphia) exhibited their tasteless preparation of Cod-liver Oil, Compound Syrup of White Pine, Cola Wine, and other like solutions.

Mr. W. Lloyd Wood (Toronto) exhibited O'Keefe's Liquid Extract of Malt, and also Listerine.

Messrs. John Wyeth showed specimens of various elixirs of standard strength and aromatised, and other varieties of drugs. They called special attention to their Effervescing Lithia Tablets, containing respectively 3 and 5 grains of lithium nitrate, and also their Effervescing Caf-Acetan, prepared with the view of producing an efficacious combination that will prove effervescent and valuable. They further showed Powdered Thyroid Gland, for the treatment of obesity, myxœdema, and other maladies.

MEMBERS PRESENT AT THE ANNUAL MEETING.

The following names of members and visitors attending the annual meeting were entered in the book provided for the purpose:

Acheson, George, M.B., Galt, Ont.
Adami, J. George, M.D., Montreal
Addison, James Lumsden, M.D., St. George, Ont.
Ahern, Michael Jos., M.D., Quebec
Alexander, John, M.D., Wick, Scotland
Alexander, Robert Reid, M.D., Hanwell, London
Alexander, W. W., M.D., Lachute
Alger, H. H., M.D., Frankford, Ont.
Alguire, D. O., M.D., Cornwall, Ont.
Allan, James Glen, M.D., Brooklyn, N.Y.
Allan, James H. B., Montreal
Allan, W. Munden, Conception Bay, Newfoundland
Almon, T. R., M.D., Halifax, N.S.
Anderson, Duncan P., M.D., Montreal
Anderson, Harry Bertram, M.D., Toronto
Anglin, J. Vickers, M.D., Montreal
Anglin, Wm. Gardiner, M.D., Kingston, Ont.
Armstrong, G. E., M.D., Montreal
Armstrong, H. G., M.R.C.S. Wellington College, Berks.
Armstrong, Samuel Treat M D New Rochelle
Asselin, E. G., M.D., Montreal
Atherton, A. B., M.D., Fredericton, N.B.
Atkinson, George A., M.D., Newcastle-on-Tyne
Ault, Charles, M.D., Montreal
Aubry, A. D., M.D., Montreal
Austin, F. A., M.D., Sherbrooke, P.Q.
Aylen, E. D., M.D., C.M., Montreal
Aylen, W. W., M.D., St. Andrews, Que.

Bachand, L. C., M.D., Coaticooke
Bailey, T. Ridley, M.D., Bilston
Bain, Hugh U., M.D., Prince Albert Saskatchewan
Baines, Allen, M.D., Toronto
Balfe, Thos. H., M.D., Hamilton
Ball, Charles B., M.D., Dublin
Banks, W. M., F.R.C.S., Liverpool
Baptie, George, Ottawa
Barclay, James, M.D., Montreal
Barclay, William B., L.R.C.P., Bacup, Lancashire
Barnes, George, L.R.C.P., Axminster
Barnes, Henry, M.D., Carlisle
Barnhardt, William Newton, M.B., Toronto
Barr, James, M.D., Liverpool
Barrow, Charles A. G., L.R.C.P., Sutton, Surrey
Barry, Noel C. W., Montreal
Bascom, Joseph, M.D., Toronto
Bates, William Richard, L.R.C.P.I., Addingham, Yorks
Baumann, A. F., M.D., Waterloo, Ont.
Bayard, W., St. John, N.B.
Bazin, Alfred T., M.D. [illegible]
Beaudry, Dr. J. A., Montreal
Beck, Geoffrey Strange, M.B., Port Arthur, Ont.
Beeman, M. I., M.D., Newburgh, Ont.
Beemer, F. H., M.D., Mimico, Ont.
Bell, James, M.D., Montreal
Bell, J. H., M.D., Montreal
Bennett, J. A., Montreal
Benny, J. J., M.D., Montreal
Benoit, E. P., M.D., Montreal
Berryman, John, M.D., St. John, N.B.
Bernard, Gerald, M.D., Sunderland
Berwick, G. A., M.D., Montreal
Biggs, Hermann M., M.D., New York.
Bishop, Cloesley, M.D., Montreal
Birkett, H. S., M.D., Montreal
Blackader, A. D., M.D., Montreal
Blair, Robert, M.D., Glasgow
Blair, William, M.D., Jedburgh, Scotland
Blake, William Henry, M.B., Harpenden, Eng.
Blandford, John Guthrie, M.R.C.S., Banstead, Surrey
Bonar, Thomson, M.D., Rome
Boulet, Rodolphe, M.D., Montreal
Bowie, R. A., M.D., Brockville
Bowlby, G. H, M D., Berlin, Ont.
Bowser, J. C., Kingston, N.Y.
Boyce, B. de F., M.D., C.M., Kelownna, B.C.
Boyce, Rubert M.B., Liverpool
Bradley, W. F., M.D., Montreal
Bray, J. L., M.D., Chatham, Ont.
Brennan, M. A., L.R.C.P., Charlestown, Co. Mayo
Brennan, M. T., Montreal
Brisebois, J. M., M.D., Pierreville, Que.
Brossard, J. H., M.D., Montreal
Brosseau, A, T., M.D., Montreal
Brown, Cecil L., M.D., Port Lewis
Brown, G. A., M.D., Montreal
Brown, G. Austin, M.D., Magog, P.Q.
Brown, John N. E., M.D., Toronto
Brown, Price, M.D., Toronto
Brown, W. A., M.D., Chesterville, Ont.
Browne, Arthur A., Montreal
Browne, H. Langley, F.R.C.S., West Bromwich
Browne, Lennox, F.R.C.S.E., London
Brookhouse, Joseph O., M.D., Nottingham, Eng.
Bryce, P. H., M.D., Toronto
Brymer, C. C. Montreal
Buchanan, H. M., M.D., St. Lawrence, N.Y.
Buck, Richard Maurice, M.D., London, Ont.
Bucke, R. M., M.D., London, Ont.
Buckley, G. E., Guysboro, N.S.
Buckly, William P., M.D., Prescott, Ont.
Buller, F., M.D., Montreal
Burgess, T. J. W., M.D., Montreal
Burland, Dr. W. H., Punto Gorda, Fla., U S.
Burnett, W., M.D., Montreal
Burnham, G. Herbert, M.D., Toronto
Burritt, C. H., M.D., Mitchell, Ont.
Burritt, H. C., M.D., Toronto
Burt, William, M.D., Paris, Ont.
Burton, Samuel Herbert, F.R.C.S., Norwich, Eng.

Cameron, J. C., M.D., Montreal
Cameron, John J., Antigonish, N.S.
Cameron, K., M,D., Montreal
Cameron, Irving Heward, M.B., Toronto
Cameron, John D., M.D.. C.M., Montreal
Campbell, Francis W., M.D., Montreal
Campbell, G. G., M.D., Montreal
Campbell, James T., M.B., Chicago
Campbell, John, M.D., Belfast
Campbell, John M., M.D., Saginaw, E.S., Mich.
Campbell, John A., M.D., Carlisle
Campbell, Rollo, M.D., Montreal
Campeau, William J., M.D., Harrow, Ont.
Carlyon, F. H., Truro, Eng.
Carmichael, H. B. W., M.D., Montreal
Carr, Thomas, M.D., Braintree, Eng.
Carruthers, J. F., M.D., Mablethorpe, Eng.
Carveth, Geo. H., M.D., Toronto
Cassidy, J. J., M.D., Toronto
Chabot, J. L., M.D., Ottawa, Ont.
Chagnon, E. P., M.D., Longue Pointe, P.Q.
Chambers, William, M.B., Oakwood, Ont.
Charett, J. A., M.D., Cote des Neiges, Que.
Chevalier, Gustave, M.D., Sorel, P.Q.
Cheyne, W. W., F.R.S., London
Chill, Edwin, M.D., London
Chipman, Clarence, J. H., M.D., Ottawa
Chisholm, Murdoch, Halifax, N.S.
Chown, H. H., M.D., Winnipeg, Man.
Christie, James, M.D., St. John, N.B.
Christie, G. H., M.D., C.M., Lachute
Church, Howard Morrison, Montreal
Clark, C. K., M.D., Kingston, Ont.
Clark, Daniel, M.D., Toronto
Cleroux, L. J. V., Montreal
Clifford, Thomas, M.B., Stalybridge, Eng.
Climesha, J. W., M.D., Port Hope, Ont.
Clinton, G., M.D., Belleville
Clouston, J. R., M.D., Huntingdon, Que.
Coleman, A. H., M.D., Tacoma
Collier, Thos., M.R.C.S., Ripon, Eng.
Conerty, J. Moore, Smith's Falls
Connell, J. C., M.D., Kingston, Ont.
Connell, Walter Thomas, M.D., Kingston, Ont.
Conroy, Peter, M.D., Charlottetown
Cooke, Louise R., L.R.C.P.&S.Edin., Chiswick, Midd.
Coon, D. A., Elgin
Cooper, M. A., M.D., Howick, Que.
Copeman, S. Monckton, M.D., London
Cormack, J. Harper, Montreal
Cormier, T., M.D., Montreal
Cornu, F., M.D., Ottawa
Cotton, C. L., M.D., Cowansville, Que.
Cotton, J. H., M.B., Toronto
Coulthard, G. E., M.D., Fredericton, N.B.
Coupland, Sidney, M.D., London
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Smith, R. W. Bruce, Hamilton, Ont.
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Stark, T. H., M.D., Toronto
Starr, F. N. G., M.B., Toronto
Starr. W. Henderson, Surg.-Maj., A.M.S., Gravesend, Kent
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Stevenson, Robt. A., Toronto

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Sutherland, Walter, M.D., Valleyfield, Que.
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Taylor, Alexander Goderich, Ont.
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Thomson, John, M.D., Edinburgh
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Thornton, Robert Stirton, M.B., Deloraine, Man.
Tillman, Harry George, M.D., Jamaica
Tomkins, J. E., M.D., Stanstead
Trenaman, Thos., Halifax, N.S.
Trow, Charles, M.D., Toronto
Troy, William, M.D., Ottawa, Ont.
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Verge, W. A., M.D., Quebec
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Vipond, Chas. W., Montreal

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Wallace, David, M.D., Metcalfe, Ont.
Waller, Augustus D., M.D., F.R.S., London
Walton, R. T., M.B., Hebden Bridge, Eng.
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Ward, Michael O'Brian, M.D., Maisonneuve, P.Q
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Wright, Hamilton K., M.D., Montreal
Wright, Henry P., M.D., Ottawa
Wylde, C. F., M.D., Montreal
Wynter, Andrew Ellis, M.D., Beckenham, Eng.

Young, William A., Toronto, Ont.

GUESTS AND VISITORS.

Allen, Charles W., New York
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Alt, Adolf, M.D., St. Louis, Mo., U.S.A.
Appel, Surgeon-Major A., Buffalo, N.Y.
Ayres, S. C., M.D., Cincinnati, O.

Bacon, F., M.D., New Haven, Conn.
Bacon, Gorham, M.D., New York
Baker, Albert R., M.D., Cleveland
Baker, M. C., Montreal
Baldwin, E. R., M.D., Saranac Lake, N.Y.
Barker, Lewellys F., M.D., Baltimore, Md.
Bauffieur, Albert F., Chicago
Baumgarton, Gustav, M.D., St. Louis, Mo.
Beard, R. O., M.D., Minneapolis, Minn.
Biggs, T. J., M.D., New York
Black, E. Bates, Atlanta, Ga.
Blake, Clarence J., M.D., Boston, Mass.
Brannan, J. W., M.D., New York
Bridges, E. H., M.D., St. Lawrence Co., N.Y.
Briggs, Myron D., M.D., Champlain, N.Y.
Bryan, Joseph H., M.D., Washington, D.C.
Bulkley, L. Duncan, M.D., New York
Brush, Edward N., M.D., Baltimore, Md.
Busey, G. W., Washington, U.S.A.

Calhoun, Abner W., M.D., Atlanta, Ga.
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Campbell, John M., M.D., Saginaw, E. S., Mich.
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Curtis, B., Farquhar, M.D., New York
Cushing, Ernest W., M.D., Boston, Mass.

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Davis, W. H., Brooklyn, N.Y.
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Edes, Robert V., M.D., Boston, Mass.
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Ernst, Harold C., M.D., Boston, Mass.

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Farlow, John W., M.D., Boston, Mass.
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Fly, A. W., M.D., Galveston, Tex.
Foote, E. M., M.D., New York
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Formento, Felix, M.D., New Orleans, La.
Foster, Frank C., M.D., New York
Fox, George Henry, New York
Fruitnight, J. Henry, M.D., New York
Fryor, B. E., M.D., Kansas, Miss.
Fuller, William, M.D., Grand Rapids, Mich.
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Gage, Thomas H., M.D., Worcester, Mass.
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Howe, Lucien, M.R.C.S., Buffalo
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Spitzka, Edward C., M.D., New York
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Thorn, Saml. S., Toledo, O.
Trudeau, E. L., M.D., Saranac Lake
Tuley, Henry E., M.D., Louisville, Ky.
Turner, Sir William, M.B., F.R.S., Edinburgh
Tyson, James, Philadelphia

Van Giessen, Ira, M.D., New York
Vineberg, Hiram N., M.D., New York

Ward, Samuel B., A.B., M.D., Albany, N.Y.
Watkins, Thomas J., M.D., Chicago, Ill.
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Wiggin. Frederick Holme, M.D., New York
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Wilcox, M. Russell, M.D., Minneapolis, Minn.
Wilder, H. R., Swanton, Vt.
Wilding, Robert J., M.C., Malone, N.Y.
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Wilson, Louis Blanchard, M.D., Minnesota
Wolf, C. L., Montreal
Woodhule, Alfred A., M.D., Denver, Col.
Woodruff, Thomas A., Chicago
Wurdemann, H. V., M.D., Milwaukee, Wis.
Wyman, Walter, M.D., Washington, D.C.

Young, John S., M.D., Newburyport, Mass.

Zenner, Philip, Cincinnati

LITERARY NOTES.

The Scientific Press will shortly publish a work by Mrs. Furley Smith entitled *Child Life under Queen Victoria*.

The October number of *Science Progress* will contain articles on Some Physiological Aspects of Hypnotism, by F. Gotch, F.R.S., Professor of Physiology in the University of Oxford; on Blood and the Identification of Bacterial Species, by Dr. Grünbaum; on the Fauna of the Great African Lakes, by J. E. S. Moore, etc.

We understand that Sir William Broadbent's book on *Heart Disease*, the publication of which has been delayed owing to the numerous calls on the author's time, will be issued by Messrs. Baillière, Tindall, and Cox next week. The same firm announce a new work by Dr. Walsh and Mr. Greenhill on *The Roentgen Rays in Medicine and Surgery*; a handbook on *Air, Food, and Exercise*, by Dr. Rabagliati; a handbook of *Diagnosis*, by Mr. Parkinson; and a new edition of Mr. Symons Eccles's work on *Massage*.

THE FIFTY-FIRST REPORT OF THE COMMISSIONERS IN LUNACY, 1897.

The opening paragraph of the Commissioners' report for the year ending December 31st, 1896, contains the startling statement that they regret to have to report the very large increase of 2,919 in the number of lunatics in England and Wales. It is among the pauper lunatics throughout the kingdom that this enormous increase occurs. No fewer than 2,857 is the number by which the pauper population of our asylums and workhouses has been swelled during the short period of twelve months, while the increase among private patients has only been 53, and among criminals 9. In regard to the amount of lunacy in each class, with its ratio per 10,000 of the whole population, it appears from the Commissioners' statistics that there is a slight decrease in the ratio of private lunatics to the population, and that this decrease has been continuous since 1891, when it stood at 2.82 per 10,000, to 2.68 in the present year, but that with regard to pauper lunatics there has been during the same period an increase from 26.78 per 10,000 to 29.07.

If we take the number of insane people to the population we find that in 1859 there was one officially known lunatic to every 536 sane persons; in 1889 the proportion had increased to 1 to 337, and in 1897 it stands at 1 to 313. The Commissioners have been unable to satisfy themselves that there has been any important increase of occurring or fresh insanity and that the undoubted large progressive increase in the number of officially known persons of unsound mind has been chiefly due to accumulation, the result of the co-operation of various causes, together with a diminished discharge rate. We may take it that if even there is no increase in the numbers of fresh cases there continues to be a never-ending stream of the chronic insane, which is being brought within the official cognisance, and that the deaths and discharges from our asylums are more than counterbalanced by accumulation. In fact, the Commissioners point out that the effect of the decrease of 0.96 in the death-rate which occurs in 1896 has left alive 722 patients who would have been removed by death had the rate of mortality been that of the preceding year. The percentage of recoveries is 38.53 per cent., and is certainly a shade higher than in the previous year, but 0.48 below the average annual rate for the ten years.

Although the number of county and borough asylums has been raised to seventy by the opening of the new asylum for the Isle of Wight, overcrowding still exists in our asylums all over the country. Extensions and additions are being made right and left, and new institutions are being rapidly pushed forward to meet the urgent requirements of this increasing accumulation of chronic insanity, and we can see no limit to it. It would seem that the more accommodation the unfortunate ratepayers are called upon to provide the more lunatics there are to provide it for. Among the county and borough asylums specially mentioned by the Commissioners under the heading "Insufficiency of Asylum Accommodation," we find Bucks, Cambridge, Cornwall, Durham, Essex, London, Hereford, Kent (both Barming Heath and Chatham), Norfolk, Northumberland, Stafford, Suffolk, Sussex, Worcester, Norwich, and Portsmouth—in all these more or less overcrowding exists or the accommodation is fully occupied. The case of the West Kent Asylum at Barming Heath calls for special remark from the Commissioners, who state that when visited in June last year the male side was overfull by 128 and on the female side by 72 patients, and the Committee had to appropriate the recreation hall for dormitory and day rooms, and, although they point out "this arrangement puts an end to all associated entertainment," and "the room struck us as being full of stagnant air owing to difficulties of ventilation," and suggest the meeting of the difficulty by taking a lease of a suitable house and adapting it for the accommodation of the patients and removing other suitable cases to the workhouses, "nothing has, however, been done in the matter."

Referring to the "insanitary conditions" prevailing in some asylums, the Commissioners regret they are unable to report any material decrease in the number of institutions in which the sanitary condition is defective and in which preventable disease has occurred, either as the result apparently of overcrowding alone or of overcrowding in association with the presence of specific disease-spreading poisons. Overcrowding is in itself a grave evil, but, when taken in connection with an outbreak of typhoid fever such as that now devastating the town of Maidstone, and with 70 cases in the seriously overcrowded Barming Heath Asylum above mentioned by the Commissioners, it becomes a public calamity.

With regard to suicides, 6 patients escaped from working parties or when out walking before destroying themselves, and 7 succeeded in putting an end to their lives while residing in the asylums—one of them at the very moment when his son had called to take him home on trial.

Accidents and injuries have been few considering the large number of cases under supervision, which speaks well for the care and attention of the nursing staffs of the asylums. The nursing of the insane has made enormous strides of late years, and the training and qualification of asylum nurses will now compare more favourably with the training of the hospitals.

THE CONDITION OF THE RIVER BRENT.

WE have received the following statement on the condition of the River Brent, drawn up by Mr. S. Slater Grimley, in reply to the report made at our request by Mr. Bailey-Denton, published in the BRITISH MEDICAL JOURNAL of August 21st, with a request from the Clerk to the Hendon Urban District Council that the same publicity should be given to it that was given to Mr. Bailey-Denton's report:—

Public Offices,
The Burroughs, Hendon, N.W.
August 30th, 1897.

TO THE CHAIRMAN AND MEMBERS OF THE URBAN DISTRICT COUNCIL OF HENDON.

CONDITION OF THE RIVER BRENT.

GENTLEMEN,—On the 24th inst. my attention was drawn to a special report on the condition of the River Brent by Mr. E. Bailey-Denton, C.E., made for the Editor of the BRITISH MEDICAL JOURNAL, and published in the issue of that JOURNAL for the 21st inst., wherein very serious allegations are made against your Council respecting the effluent from your sewage outfall works situate at Renters Lane, Hendon.

Such report is divided into five sections, as follows:

"1. To the condition of the lowest or canalised portion of the river from its junction with the Thames at Brentford upwards to a point by Hanwell Asylum, where the stream proper separates from the Grand Junction Canal.

"2. To its condition between Hanwell Asylum and the culvert under the main line of the London and North-Western Railway, situated at a distance of about a mile and a half north-west of Willesden Junction.

"3. To its condition between this culvert and the Welsh Harp Reservoir.

"4. To the condition of the Welsh Harp Reservoir, and of the two feeders which flow into it at its northern and north-eastern extremities; the first from East Finchley, Hornsey, and Dollis; and the second from Collindale and Edgware.

"5. To some remedial measures which are necessary to restore the river to something like its original purity, and health and happiness to the people living on its banks."

Section 4 in such report is the one which refers to your Council, and is as follows:

"As regards the reservoir I need not say much, as most Londoners are well acquainted with it; but I feel sure, if its contents were drawn off or if a chemist were to analyse and report on the quality of the water upon which during winter so many of us skate and on the banks of which during summer so many of us spend holiday afternoons, great astonishment would be universally expressed at no ill-effects having resulted before now. I must add, however, before passing onwards, that the tenant of the Old Welsh Harp Hotel informed me that twice during the last two years large quantities of fish have been killed owing to the polluted condition of the water, and that it was a matter of great moment to him that this destruction should not occur again.

"Following up the East Finchley, Hornsey, and Dollis branch, I found it in a most offensive condition, the smell being such as to make my companion and myself ill. Black lumps of sewage were floating down the stream, and on all sides gases were bubbling up from its bed. I was not long before I traced this pollution to the effluent from the Hendon Sewage Works, which I can say without any fear of contradiction was the most filthy and impure effluent that I have ever seen; indeed, in my opinion the Hendon Urban District Council are incurring the gravest responsibilities if they allow this dangerous condition of things to continue for a single day longer than is absolutely necessary.

"Above the junction of the effluent with the brook a great improvement is immediately noticeable, and, though in all probability the water is to some extent polluted, still the pollution is, comparatively speaking, trifling, and no nuisance is caused to the passer-by. The Edgware branch which joins the reservoirs at its northern extremity is badly polluted as far up its course as Schweppe's manufactory of mineral waters, and the several sources of pollution are clearly visible to the eye. Above this point the brook calls for no further comment, as its contamination is not serious."

As to the Welsh Harp Reservoir, Mr. Denton thinks if the contents of the reservoir were drawn off, or if a chemist were to analyse and report on the quality of the water, "astonishment would be universally expressed at no ill-effects having resulted before now."

Did Mr. Denton have a sample of the water in the reservoir analysed?—for it is a well-known fact that the reservoir teems with fish, and, mark well, it is the only place (according to the report in question) from the Thames at Brentford to the reservoir where there is any fish at all, as he says in the report.

Speaking of the river between Hanwell and Ealing, about four miles below the Brent Reservoir, not only had all the fish long since been killed, but that "even the water rats had fallen victims to the foulness of the water."

Had the water in the Welsh Harp Reservoir been analysed, I have no doubt that after Mr. Denton's report astonishment would be universally expressed at its purity, not its foulness.

As to the alleged destruction of fish in the reservoir twice during the last two years, owing to the polluted condition of the water, the report does not suggest that the effluent from your sewage works was responsible for that. It was not. I ask, would the old Welsh Harp Reservoir be the resort of hundreds of fishermen and others on pleasure bent in the course of the year, as it is, if the water was in the polluted condition suggested by Mr. Denton?

As to the allegations against your Council respecting the effluent from your sewage works, which Mr. Denton describes as the "most filthy and impure effluent that he has ever seen," as soon as my attention was called to Mr. Denton's report, I took the opportunity of calling upon him at his office, and he told me that his visit to the Hendon effluent, as near as he could fix it, was the 10th inst., about 2 to 3 o'clock in the afternoon. He said he considered the effluent flowing off at that time was "crude sewage." He made no inquiry at the outfall works as to the process of dealing with the sewage there; he simply saw this bad effluent running off, and went no further.

Is it not most extraordinary that while Mr. Denton should have thought it so important to have described all the other sewage works on the Brent, and the method of dealing with the sewage at those works in detail, he did not think it necessary or worth while to ask a single question at the Hendon outfall works?

Did he take any sample of this alleged bad effluent; and if not, why? Such a serious allegation should have been capable of proof by the most rigid chemical analysis. Why was this not done?

The report goes on to say that "black lumps" of sewage were floating down the stream which were traced to the effluent from the Hendon sewage works.

I say it is quite impossible for black lumps of sewage to have got out of your outfall works, because the treatment of the sewage in operation there since 1888, when the International Water and Sewage Purification Company took over

the works, and which was in operation (and can be sworn to by affidavit by the foreman of the works, if necessary) on the day of Mr. Denton's alleged visit, is shortly as follows:

The sewage at Hendon, amounting to nearly 500,000 gallons per day (dry weather flow) from a population of about 14,500, is first screened, and then mixed with ferozone obtained from the International Company (8 to 10 grains of ferozone being mixed to the gallon of sewage), it then falls into large precipitating tanks capable of holding about 700,000 gallons of sewage (about 40 per cent. more than a day's flow of sewage).

After precipitation in the tanks the clarified water is drawn off on to about 4¼ acres of artificial filter beds, constructed of a thick layer of Leighton Buzzard sand, soil, and burnt ballast, thoroughly underdrained, from 4 to 9 feet deep, through which the clarified water passes, and you have also about 500 yards super of "Polarite" filters laid down by the International Company; 30½ acres of land are also used for dealing with the water from the tanks and artificial filters.

The quantity of sludge dealt with from the tanks on the land averages each week 250 tons, or 13,000 tons per annum. This sludge is all dealt with at the works by pressing or digging in the land, not an ounce being allowed to go to the river.

The works were opened by the Right Honourable W. E. Gladstone in 1887, and in 1888-96 were let to the International Water and Sewage Purification Company, and worked by them, and since February, 1896, have been in your own hands, the method of sewage disposal still worked on the International principle. Very few complaints indeed have been received as to the quality of the effluent since the works were opened in 1887.

The cost of the works was about £18,800; £3,250 in addition was spent last year in acquiring further land; also £1,000 for sand for improving the artificial filters; and £3,000 is now to be spent on additional artificial filters, etc.; while on the sewerage of Hendon upwards of £100,000 has been spent, or over £12,000 per annum for the past ten years on capital account for sewerage alone. Where is there a town in the Brent Valley which can beat that record?

The Hendon effluent has been analysed from time to time and reported upon by the medical officer, who says (and everyone who knows the facts can bear him out) that the condition of the stream below the Hendon outfall works has been materially improved during the last few years, and scores of times during the past year I have seen large numbers of fishermen catching fish from the Hendon effluent itself and from the River Brent close by, so that if the effluent was as bad as described in the report in question, not only would there have been no fish in the stream or the Brent Reservoir at all, but there would have been serious outbreaks of disease in consequence.

I am pleased to say that this has not been the case at Hendon.

If, as Mr. Denton says, there is no Brent at all below the reservoir, all the outflow therefrom going to the Grand Junction Canal, how can Hendon be said to pollute the Brent below the reservoir or be held responsible in any way for the serious state of things described by him in the report in question? It is absurd.

With respect to the Silk stream, Mr. Denton is reported to have said that above Schweppe's factory "the brook calls for no further comment, as its contamination is not serious." The fact is that at Burnt Oak, about a mile above Schweppe's (where I assume from the report Mr. Denton could not have gone), in that stream there is serious pollution, which your Council are now remedying, the new low level sewer, which has cost upwards of £11,000, being nearly completed for the purpose, and the connections from the houses are soon to be made.

I merely mention this to show the value of the report in question. The sewage of a few isolated cottages below Schweppe's is made such a prominent feature therein (and, by the way, the drainage of such cottages is provided for by another length of sewer about to be laid at an estimated cost of £1,670, so that the small section of pollution will soon be remedied), when, according to the report, the sewage of a whole colony, including union workhouse and schcols, "calls for no comment, as its contamination is not serious."

Further, I would add that the Thames Conservators, the County Council, and the Regent's Canal Company periodically take samples of the effluent discharged from your outfall works into the Brent, and are satisfied with it; and by a curious coincidence a representative of the Thames Conservancy saw the effluent from the Hendon sewage works on the very same day, only an hour or two before Mr. Denton says he saw it, and pronounced it "a very good one," while only last year Professor Henry Robinson, C.E., made a special report on the "pollution of the river Brent," and I would like to quote such report with reference to your outfall works.

"The outfall works of the Hendon Urban District Council are situated on the south-east bank of the river, between the before-mentioned Brent Bridge and the Brent Reservoir to the south-west. The sewage is dealt with at these works, first by chemical treatment with ferozone, then by filtration through land, and finally by passing the effluent through artificial filters in some of which polarite is employed. The effluent produced at these works appears to be satisfactory, and, although there was black mud and other indications of pollution in the stream below this outfall, these might be caused by organic matter brought from the before-mentioned points above, especially as in this part of the river the flow would be very sluggish when the level of the water in the reservoir tends to head back the stream.

"The Brent Reservoir receives the flow from the river Brent, and stores the water for the purpose of feeding the Regent's Canal by water discharged from the other end of the reservoir through a channel (which is independent of the bed of the river Brent) below the south-westerly extremity of the reservoir. The water passing down the feeder was fairly clear, and formed practically the entire overflow from the river, as only a very trifling amount was being passed into the bed of the river Brent itself."

Professor Robinson is a great authority on the subject of sewage disposal, and he took the trouble to go into the matter very fully and also examined your works in detail.

As to the remedial measures in the report of Mr. Denton, who says that it is necessary that "Hanwell, Wembley, and Hendon should be immediately compelled to stop the pollution which they are now causing." The inference to be drawn from this is that Hanwell has done nothing and is doing nothing to stop the pollution of the Brent. The contrary is the case.

All must admit, however, who know the geographical situation of the Hendon outfall works that, such works being at the tail end of the Brent Reservoir, the course of the river being so tortuous and winding there, all the road detritus and other impurities carried down the stream from above the outfall works deposit in the "windings" of the river referred to, owing to the water in such reservoir heading it back, as Professor Robinson says that is no doubt the great difficulty to contend with at Hendon.

When the water in the reservoir is drawn off a few feet as at the present time after drought, this mud, especially in hot weather, rises by the heat of the sun, and is gradually washed further down the stream. This state of things has continued since the enlargement of the Brent Reservoir in 1851, and cannot be remedied unless the reservoir is done away with so as to allow a free flow of water right along.

It is also suggested that the course of the stream should be cleaned out, but it would be little use, in my opinion, going to the expense of cleaning it out unless the course were straightened to ensure a greater velocity and scour. The question of cleaning out and straightening the course of the river is already receiving the attention of the Middlesex County Council, and a plan of the proposed straightening was sent on to them by your authority some considerable time ago, and a conference has been suggested by the County Council between all the authorities in the Brent Valley at which the whole matter is to be fully discussed.

I trust I have shown that your council and the late local Board have done all they possibly could to prevent the pollution of the river, and you are still using every means in your power by careful and scientific treatment of the sewage at the outfall works to ensure that there shall be no pollution, nuisance, or complaint of any kind.

Pending further action, I would suggest that the clerk be instructed to officially deny the allegations in the British Medical Journal, and also that a committee be appointed to

visit and report upon the sewage works on the Brent from Hendon downwards.

I might add, in conclusion, as there seems to be a little misunderstanding in the minds of some, that the cost of the treatment of the sewage at the Hendon outfall works for the year ending March 31st, 1897, was:

	£	s.	d.
Treatment and disposal of sewage ...	979	17	7
Rent, taxes, etc.	300	10	0
Total in ledger	1,280	7	7

This does not, of course, include interest and repayment of capital expended in the purchase of lands, etc.

These sums have been audited by the Auditor of the Local Government Board.

I am, Gentlemen,
Your obedient servant,
S. Slater Grimley,
Assoc. Mem. Inst.C.E.,
Engineer and Surveyor.

*** We cordially endorse Mr. Slater Grimley's suggestion "that a committee be appointed to visit and report upon the sewage works on the Brent from Hendon downwards." We assume, of course, that it will be a disinterested committee.

BATTLE OF THE CLUBS.

Coventry.

Sir,—As Secretary of the Coventry Public Medical Service I am requested by my colleagues to express their thanks to you for your remarks in reference to the Coventry Provident Dispensary in the British Medical Journal of September 18th. We feel that the reply of the Coventry Dispensary Committee to the memorial of their medical staff was insulting, not only to that staff but to the whole profession of medicine. In intimating to its medical staff that "if they were not satisfied with their position the dispensary would be quite prepared to get a medical staff exclusively for the institution," the Committee were taking a low estimate of professional men in the town and elsewhere, and, considering that the Coventry Public Medical Service is open to the dispensary staff upon their resignation, and that ultimately their financial position will not be impaired, there seems to be no reason why they should not stand to the terms of their memorial. With a view of assisting them in such a course the following letter was addressed to them on September 5th, to which no reply has as yet been received.—I am, etc.,

Coventry, Sept. 20th. Edward Phillips.

20, Much Park Street, Coventry, September 5th, 1897.

To the Chairman of the Coventry Dispensary Medical Staff.

Dear Sir,—As Secretary of the Public Medical Service I have been instructed to write to you to express the regret of my Committee that you have failed in your efforts with the Dispensary Committee to carry out any of the reforms asked for in your memorial to them. If the report in the *Coventry Herald* of September 3rd be a correct one, my Committee much regret that any body of professional men should be exposed to such an insult as the following paragraph would imply:

"The present arrangement with regard to salaries the Committee consider fair, both in the interests of the patients and the medical staff, and they are not disposed to disturb it. The general feeling of the Committee on the whole question is that if the medical staff are not satisfied with their position the dispensary would be quite prepared to get a medical staff exclusively for the institution, as is being done in some other towns, notably at Yarmouth."

Taking into consideration the verdicts already pronounced on your dispensary system by the *Lancet*, the British Medical Journal, and the Ethical Committee of the British Medical Association, we are of opinion that there is nothing open to you but the resignation of your appointments. Supposing such a view were accepted by yourselves and you were at once willing to resign your positions as members of the staff, it is our intention to cordially ask you to join the Public Medical Service, and become members of a professional body which is able to control all contract work undertaken by its members. We are anxious to assist you, by this offer, in resenting an insult which has been offered through you to the whole profession of medicine.—I am, dear Sir, yours faithfully,

(Signed) Edward Phillips.

The following reply has since been received:

21, Bishop Street, Coventry, September 25th.

Dear Sir,—I beg to acknowledge the receipt of your letter of September 6th. As negotiations are still pending between the staff and the committee of the dispensary, I am instructed to say that we are unable to adopt your suggestions.—I am, dear Sir, yours faithfully,

(Signed) W. J. Pickup,
Secretary, Medical Staff of
Coventry Provident Dispensary.

THE ALLEGED RECRUDESCENCE OF PLAGUE IN INDIA.

We are not inclined to join those who at the present moment are attempting, and apparently succeeding in their attempt, to raise the alarm of a serious recrudescence of plague in India. Many daily newspapers at home have published an article commencing: "The early delusions respecting the plague in India have nearly all disappeared. It was to be a mere fleck, easily brushed away," etc.; and more than one daily paper has published such headings as "The Plague Spreading from Hamlet to Hamlet," "Alarm in Calcutta." To all these outcries we by no means turn a deaf ear, but what are the facts? To quote again from a contemporary: "The latest plague returns from Surat, Thana, Poona, Satara, Nasik, Kolaba, Ratnagiri, Baroda, and Kolhapur show that the disease has extended over a wide area." We accept the statement, but venture to draw quite different conclusions therefrom. If the information proves anything it shows how plague is not extending, but is confined to the very places where for months past we have been made familiar with its presence. The fact is the plague area is contracting, and the "grave peril to the Indian Empire," which is put forward by the alarmists, is lessening. Whilst thus minimising the area of infection it is not our intention to minimise the importance of the fact that plague in a severe form is still rife in the country around Bombay.

The returns for one week ending September 3rd, 1897, are anything but satisfactory reading:

District.	Cases.	Deaths.
Surat...	21	10
Thana	25	16
Poona	263	174
Satara	521	378
Ahmednuggar	1	1
Nasik	83	68
Kolaba	3	2
Cutch	63	60
Kolhapur	2	1

All these places are within a short distance of Bombay, but the whole plague-stricken district bears about the same proportion to India as does the county of Rutland to Great Britain. Neither the Satara nor the Poona outbreaks can be regarded as a true recrudescence. Taking the case of Poona more especially, the original outbreak was so rigidly dealt with that the disease was scotched for a time, but with the abatement of sanitary measures the disease reappeared. This is, however, a relapse not a recrudescence; and if the Poona authorities are not alert, they will have a true recrudescence when this relapse is over. That plague will recur, that it will become endemic for a time, unless strict and continuous surveillance is maintained for many months after an epidemic is over, seems to be an axiom; and when such an event does occur, it is proof that the sanitation of the city, village, or district has been neglected. If the outbreak in India last year has taught us nothing else, it has made it evident that plague occurs as a result of insanitation, but that given money and power an epidemic can be checked—nay, stamped out—in even a large city. As a corollary to to this lesson, it must be added that any relaxation in watchfulness will be followed by a recurrence which may last for years.

The Odessa telegram of September 17th, intimating that several deaths had occurred from plague in the Northern Caucasus, has not been confirmed.

The Duke of Cambridge laid on September 23rd the foundation stone of a new children's ward at the York County Hospital. The building of the new wing is one of the steps taken to commemorate the Queen's diamond jubilee.

A meeting of the Reading Pathological Society will be held in the Library of the Royal Berks Hospital at 5 P.M. on Thursday, October 14th, the President, Mr. Maurice, in the chair. A lecture on the Influence of Pathology on Medical Practice will be delivered by Dr. Pye-Smith, F.R.S.

The trustees of the Sir Morell Mackenzie Memorial Fund have handed over to the Throat Hospital, Golden Square, £1,023 towards the building of the memorial wing of the extension now being carried out.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, OCTOBER 2ND, 1897.

THE FORTHCOMING ELECTION TO THE GENERAL MEDICAL COUNCIL.

It is not often that the tranquil atmosphere of the medical world is disturbed by anything in the nature of a sensation; but Dr. Rentoul's resignation of his seat on the General Medical Council, coming as it did in the middle of the dull season, was a veritable "bolt from the blue." The incident, as far as he is concerned, is now a matter of history; and it would be unprofitable to discuss the reasons which led him to take this unexpected step. Whatever they may have been, we have no doubt that they seemed absolutely good and sufficient to himself. We cannot allow him to make his exit from the arena of medical politics without acknowledging his honesty of purpose and his strenuous and steadfast efforts to bring about reforms which he considered likely to be beneficial to his profession. It is possible that he may find a better field for the exercise of his special gifts outside the Council than he could have found within it.

The profession of England and Wales has now cast upon it the duty of electing a representative to fill the vacant seat. It is indeed a duty, and it is a duty which no member of the constituency should shirk. It is unfortunately the case that we have among us many Gallios who care for none of these things. At the last election not much more than half the electorate took the trouble to vote. Such indifference is contrary to the spirit of fellowship and solidarity that should animate the profession; and even from the purely personal point of view it is unwise, for if the condition of the body corporate be unsatisfactory, each member must, in his degree, be affected thereby.

At the present time it is particularly important that no one should stand aloof. It cannot be denied that the cause of direct representation has to some extent suffered discredit through recent events, and a mistake in the choice of a representative now would do it serious, possibly irreparable, injury. At this critical moment in the struggle for increased representation to send to the Council any untried man, however great his gifts and however good his intentions, would be a hazardous experiment. To speak plainly, the profession cannot afford to make such an experiment. Intemperance of zeal on the part of an advocate is as damaging to a cause as want of judgment and impracticability. The situation requires before everything a man with a general knowledge of affairs and a special knowledge of the business of the Council, with experience in the warfare of parties, with the definiteness of aim and firm grasp of the real necessary for practical achievement.

Four candidates are in the field. Mr. Victor Horsley at a comparatively early age has won for himself a brilliant reputation as a surgeon, and a very high position in the scientific world. He has also done valuable work for the medical profession as Chairman of the Medical Defence Union, a position which he has held for several years and in which he has necessarily learnt much of the needs of the general practitioner. The names of Dr. James A. Rigby and Dr. E. Diver are known within a narrower circle as those of honourable members of the profession keenly interested in all matters affecting its welfare and its dignity.

Sir Walter comes before the electorate as a man whose devotion to the cause of medical reform, and whose capacity to safeguard and further the interest of the profession have been proved by long and faithful and effective service on its behalf. For ten years in conjunction with Mr. Wheelhouse, Dr. Glover, and the other direct representatives he fought the battle of reform against the apathy or active opposition of the Council. Of this fight it is not too much to say that Sir Walter Foster bore the brunt. Although the work was generally distasteful and too often thankless he struggled on, frequently beaten, but never suffering defeat to dishearten him; and by his tact, resourcefulness, and quiet but resolute persistence, not only in gaining a hearing for the cause which he represented that could not have been won by violence, but in carrying many useful reforms. Such a position, however, necessarily entailed not only arduous labour but many and heavy anxieties; it is therefore not surprising that when his period of service came to an end last year, Sir Walter should not have felt disposed to seek re-election. But now that an emergency has arisen which may imperil the cause of direct representation, and with it the interests of the profession, he has deemed it his duty to yield to the request of a large body of the constituency, including many representative members of all classes of the profession, and has come forward under the immense disadvantage of having stepped, as it were, from the deck of a steamer into the battlefield of an unexpected election.

The public career of Sir Walter Foster is too well known to make any but the briefest recapitulation necessary. In Parliament, while faithful to his political constituency, he has never forgotten that he was one of the representatives of a larger constituency of his professional brethren. He has taken a prominent part in the discussion of all questions affecting, directly or indirectly, the interests of medical practitioners. He rendered invaluable service in the passing of the amended Medical Act of 1886, and he was largely instrumental in obtaining an increase in the direct representation of the profession on the General Medical Council. As the advocate of the redress of various grievances of medical officers and as the defender of Surgeon-Captain Fowler, he has earned the gratitude of the Army Medical Department. In connection with the Public Health (Scotland) Bill, the Midwives Bill, and the Poor Law Officers' Superannuation Act, he showed himself vigilant in safeguarding the interests of medical practitioners. As Parliamentary Secretary to the Local Government Board Sir Walter Foster proved himself a first-rate administrator, and did excellent service in periods of difficulty, notably in the strengthening of the system of

defence of the country againt cholera in 1892 and 1894. Here too, he lost no opportunity of improving the position of medical officers of health and parochial medical officers, and increasing the influence of the profession.

As President of the Council of this Association, and as a most active member of its governing body, Sir Walter Foster has for many years laboured hard and perseveringly in the cause of medical reform. The award of the Gold Medal of the Association at the recent annual meeting was intended to mark the appreciation of the good work done by him and his staunch colleague Mr. Wheelhouse by those who have had the best opportunities of knowing how faithfully they have striven to leave the state of the profession better than they found it.

As a member of the General Medical Council, Sir Walter Foster has done much to improve its procedure, which is still, however, so complicated, that only a man who has learned all its intricacies by experience has any chance of using its machinery to good purpose. He it was also who was mainly instrumental in getting the Penal Committee appointed, and the procedure in penal cases improved to its present degree of efficiency, particularly in respect of lessening the somewhat autocratic power that was formerly in the hands of the President, and in restricting the sphere of influence of his legal advisers. Sir Walter has always laid the greatest stress on the importance of maintaining a high standard in medical qualifications, and the service he rendered in connection with the lax granting of diplomas in public health by the University of Glasgow entitle him to the gratitude of all who have at heart the dignity of the profession and the welfare of the public. In short, Sir Walter Foster throughout his career has been one of the most active, useful, and devoted servants the medical profession has ever had.

In addition to the claims on the suffrages of the electorate set forth above, the fact that the two other direct representatives for England and Wales, and his only serious competitor for the vacant seat, are London practitioners, should weigh heavily in Sir Walter Foster's favour. It is only just that the provinces, which form by far the larger part of the constituency, should have one representative.

His programme—which will be found set forth in detail in his address printed at page 927—shows that he still deserves the fullest confidence of the profession. The increase of the representative element in the Council, the maintenance of a high standard of professional education, with the double object of enhancing the usefulness of the professsion and preventing overcrowding, the strengthening of the powers of the Council for the suppression of unqualified practice, and the more vigorous exercise of those which it already possesses for that purpose, are the main planks in his "platform." He is also in favour of the Council using its powers to prevent practitioners from acting in any way through medical aid associations to the injury of the profession, and while prepared to do all he can to improve the education of midwifery nurses, he is opposed to the registration of midwives. Nothing could be more explicit and satisfactory, and we are sure that the general practitioners and the profession generally will feel that their interests will be quite safe in the keeping of Sir Walter Foster.

The time is short: "Yet an hour is here for answer!" Let the answer be so emphatic that the man who has already done yeoman's service for his brethren may go back to the fray encouraged to further efforts and strengthened by the feelings that he may count, in the stress of the fight, upon their full and loyal support.

GENERAL PRACTICE: ITS FINANCIAL ASPECTS.

To-day our medical schools are receiving hundreds of fresh students to be trained for the profession, and one may opportunely contrast their prospects with those of students of a past generation. One point is certain. In consequence of the ever-advancing progress in medical science and art, examinations constantly grow more stringent. For example, one subject of present examination, bacteriology, with its manifold applications in practical medicine and surgery, has come into being and attained its present wide proportions within the last twenty-five years, whilst its realm is still enlarging. It is not surprising, therefore, to find that the proportion of rejections before various examining boards also grows; and it is safe to predict that several of this year's freshmen will fail to become qualified. But, notwithstanding all difficulties, a fair proportion of them will some five years hence become registered practitioners. And on leaving the schools they will doubtless possess a deeper insight into disease, and thus be more thoroughly equipped for life's work in the community than has been any preceding generation of newly-qualified doctors; and the public will be by so much the gainers.

But what will be the prospects of these highly-skilled practitioners themselves? The picked men, less than 5 per cent. of the whole number who "pass," will become teachers and eventually consultants. A small proportion will enter the naval and military departments, others devote themselves to sanitary or asylum work, others take up special lines of practice. Those in the public services will have assured incomes, usually rising with length of service, and calculable beforehand. Consultants and specialists will earn good incomes, but may have to wait a time. To none of these classes do the aftercoming remarks apply, but to the students who will settle down in town or country as general practitioners, and constitute the bulk of the profession. By a favoured few of these wealth and position will doubtless be achieved; by yet more a fair competence. But these are prizes. For a much larger number at the other end of the social scale the outlook is not roseate. In fact, unless possessing private means, many, after spending hundreds of pounds on their professional education, will, when they become practitioners, have to use strict economy to pay their way, and some will always be within the borderland of poverty.

Such statements as to neediness in the profession may come as a surprise to some, but their correctness cannot be doubted. Never before, perhaps, has the difference between the social and financial condition of the higher ranks of the profession and that of its least prosperous classes been so marked as it is to-day. Whilst some of the former enjoy splendid incomes, some of the latter, it may be feared, occasionally lack even some of the necessaries of life.

Whilst the hardships of the poorer clergy have for years formed a subject of discussion in the public press, the woes

of impoverished doctors, which are no less real, and in country districts have also been accentuated by the agricultural depression, rarely attract any attention. It is time, however, that reticence should cease.

A practitioner's duty is twofold: (1) To do his very best for his patients, and thereby (2) earn a satisfactory livelihood for himself and those dependent upon him. Fervid orators in introductory discourses address themselves with zeal to the inculcation of the former obligation, but curiously omit the latter, or refer to it with bated breath, assuming far too readily that competence awaits every member of the profession who works with diligence and keeps himself abreast of the times in his medical attainments.

Unfortunately this assumption is not now correct, however much it may have fitted the case a generation back; for whilst the incomes of members of the middle classes of society in general have been rising, there is little doubt that those of medical men during the last quarter of a century have on the average remained stationary or even diminished. A well-informed writer lately doubted if the average income of all doctors in this country exceeded £200 a year. This general impecuniosity of medical men is a matter of vital importance—of far greater urgency, indeed, than most of the subjects on which would-be reformers expend their valuable energies. It is doubtless the most efficient cause of the professional unrest observable in recent years; nor is it important only to doctors and their families; the public can appreciate the difference between a medical man whose mind is at rest and who can calmly do his work, and one who is harassed with cares dependent on insufficient income.

The causes of the general impoverishment of certain classes of the profession can mostly be comprised under two heads: (1) Overcrowding of the ranks; (2) decrease of professional work. For years the number of new doctors registered has far exceeded the vacancies ensuing upon deaths of other practitioners, or produced by increase in the general population; so that each doctor to-day has on the average fewer patients than his forerunner had a few years since. This increase of doctors causes undue competition, and so in the lower ranks of family practice it has come to pass that professional services, with medicines included, are now rendered by competing medical aid institutions and even by general practitioners for a few pence per visit. Whilst his fees remain so small no self-respecting doctor can possibly earn a decent living. The well-to-do classes can choose their doctors irrespective of expense, but with the poor the prevailing consideration is cheapness, which reacts on all their surroundings.

Next, professional work that has to be done now is, in consequence of modern advances in medicine and surgery, slowly but surely lessening, to the vast benefit of the general public undoubtedly, but to the curtailment of doctors' fees. Cases of many diseases, chronic and acute, formerly rife, are now by improved sanitation partly or altogether prevented, or by more appropriate treatment have their duration shortened, and many of their worst sequelæ avoided; whilst in surgery Listerism, to mention nothing else, has alone reduced the period of convalescence after nearly all serious operations to a fraction of its former duration. These advances too, it is apt to be forgotten, are the direct outcome of doctors' own work.

In other ways, however, which are not legitimate, medical work has been decreased (1) by the sale of potent drugs such as phenacetin, antipyrin, etc., obtainable of every chemist, and ignorantly employed for ailments of all kinds; (2) by the unrestricted sale of quack remedies vaunted to cure almost every malady under the sun, and which our Legislature permits to be sold without any accompanying statement as to their contents; (3) by the improper employment of prescriptions long after they should be discontinued, and their use by others than those for whom the prescriptions were written (since practitioners in large towns ceased to dispense medicines, prescriptions have become "nothing accounted of"); (4) by the wholesale abuse of hospitals by persons able to pay practitioners' fees.

Finally, in contrasting the present with the past of general practice, one may safely assert that the work to be done now is less than it was in former days, that there are more doctors to do that lessened amount of work, and that in the lower ranks of the profession the remuneration for the work done has fallen off. Moreover, the causes of this changed state of things are still in operation, and have by no means yet reached their final stage, so that the outlook for the student of to-day is not promising.

Let not this prospect, however, dishearten him; rather let it spur him to do his very best, so that eventually his professional work may be well recompensed, as it probably will be, if he now distinguish himself by steady application and by obtaining good degrees so as to start well in life's race. A good beginning, except for special and dire misfortunes, will tend to keep him above financial difficulty and its attendant miseries. Although a man, whilst single, may undergo perennial hardships, he scarcely has the right to subject wife, children, or others dependent on him to such rigours. A wise student will not lose sight of some such considerations when laying the foundations of his future career.

CONGRESSES AND HOLIDAYS.

The success of the Association system of medical meetings has long been recognised and was brilliantly manifested this summer at Montreal. At all our yearly assemblies it is remarked how popular they are with our countrymen compared with congresses held outside the British Empire. The Association needs neither a defender nor an apologist. On the other hand may not the profession in this country be reminded that in foreign congresses the Briton is too conspicuous by his absence? Is this fact altogether satisfactory? Everybody knows that it is in no way due to international prejudice. Our textbooks are full of the names of foreigners, applied to instruments, operations, and appliances. Our monographs are as crowded with references to European authorities as the letters of pious folk two centuries ago were studded with scriptural texts. They are usually provided with a kind of caudal appendage consisting of long titles of Teutonic periodicals which include the desired references. Few can deny that the author, especially if young, feels some satisfaction in drawing up such a terminal list of "authorities quoted." Again, in these congresses the two nations generally the best represented were clasped in deadly strife not so many years since, yet their representatives show the greatest cordiality to each other.

The cause of the phenomenon lies elsewhere. Visitors to a medical congress go for one of three reasons. One class

consists of those who go for business, either as presidents and secretaries, or as readers of communications and participators in discussions on subjects which they understand. The second class, on the other hand, go avowedly on complete holiday principles. The doctor of this type wishes to see the town where the meeting is held, or to go on somewhere else as he proposed before considering the place of meeting, or to see some local doctor who was once himself in our country and made himself pleasant. There remains, lastly, an increasing type, much and most unfairly abused, who honestly likes a "shop holiday." He goes to the congress to learn more about his profession, and he does so because it is a pleasure to him to learn. There is no greater fallacy than the notion commonly prevailing amongst ourselves, that doctors are specially fond of talking "shop," and making a pleasure of it. As for talking, let a doctor step into a few clubs consisting chiefly of members of other professions, and he will soon find that the prejudice against "shop" as a social offence hardly exists outside medicine. The reason why we take more and more to "shop" holidays is that the objection to them is based on an illusion.

As we grow older and spend eleven-twelfths of the year in work, we find that shaking off all association with our labours, a mental feat so dear to youth, becomes not only almost impracticable, but actually unpleasant. Hence men who suffer in this manner go to a congress because it affords them change of air, freedom from responsibility and sleep unbroken by night bells, whilst their minds, accustomed to run for years in one groove, are refreshed by continuing to act free for a time from physical fatigue and from sordid cares, the deadly foes of mental improvement. In several well-known professions the "shop holiday" is far more general.

Experience shows that the British doctor of all three types does not take enthusiastically to a foreign congress. What we do, we do thoroughly; so that Lord Lister received a most effusive reception at Berlin in 1890: but as a rule a business member of a congress is rarely a Briton; indeed, if so, he usually proves to be a Scot, and not an Englishman. He is almost as shy about reading a paper in his own tongue before foreigners as about attempting to talk to them in their own speech. The pure holiday member is more often from the United Kingdom; still the British tourist, for such he is and little more under these circumstances, has a great aversion to staying many days in the same town abroad. The reason is clear; in an English watering place, when he is tired of its mere novelty, he has the resources of native creature comforts specially congenial to him, but abroad he must seek fresh novelties elsewhere, as black coffee on boulevards and foreign diet cannot console him. The "shop holiday" member is more often one of our countrymen; if he speaks the language of the place, he can use his ears well, and learn without any of the fatigues which fall upon paper readers. Even if he cannot understand it, he can use his eyes, and is free from the anxieties about the hour when papers are to be read or particular members called on to join in discussions, and is saved the humiliation associated with the expressions, "taken as read" or "unavoidably set aside."

All three types of congress members have, we must admit, certain more valid objections against foreign meetings of this class. The gravest is the habit of making a show of operations. Visiting members are actually invited to operate on patients in the local hospital, a practice which neither the staff nor the governors of a hospital in this country would ever tolerate.

Another feature of foreign congresses is the wily "water doctor," whose friendship for the Briton is somewhat open to suspicion. The really competent and recognised medical guides from Vichy, Homburg, Carlsbad, and elsewhere do not require to intrude themselves on members from the United Kingdom.

Notwithstanding all objections, real or imaginary, we regret that foreign congresses are inefficiently patronised by our medical countrymen. There is much to learn from foreign hospitals and foreign doctors. It is true that the enormous improvement in foreign hospital management during the past twenty years is mainly based on the teachings of a fellow countryman in two senses noble; but the foreigners have got ahead of us in certain respects, and we should not fall behind in honourable rivalry. Surely we can spare the foreigner two or three days for the study of his principles and practice.

Mr. George Jackson, of Plymouth, as will be seen from a letter printed elsewhere, has retired from the contest for the seat on the General Medical Council, made vacant by Dr. Rentoul's resignation, in favour of Sir Walter Foster.

Voting papers for the forthcoming election to the General Medical Council will be issued on Saturday, October 2nd, and the last day for their return is Saturday, October 9th. The votes will be counted on October 11th, a meeting of the Branch Council to certify the result of the election will be held on October 15th, and the declaration of the poll made by the Returning Officer the same or the following day.

We are asked to state that a lecture introductory to the course of lectures (free to students and practitioners) at the National Hospital for the Paralysed and Epileptic, Queen Square, will be given on Tuesday, October 5th, at 3.30 P.M., by Sir Richard Gowers, F.R.S. The subject of the lecture will be "The Neuron and Disease."

We understand that Dr. Major Greenwood is one of three selected candidates who are to go before the Essex County Council at their meeting at Chelmsford next Tuesday to elect coroners for the Metropolitan and South-Western Divisions of Essex. Dr. Major Greenwood is a member of the Bar as well as a medical practitioner, and thus would appear to be peculiarly fitted for a post which requires a combination of medical and legal knowledge.

THE HEALTH OF MR. ERNEST HART.

Since our announcement of September 25th we are glad to learn from Mr. Lockwood and Dr. Mitchell Bruce that Mr. Ernest Hart continues to convalesce very satisfactorily. Mr. Hart asks us to acknowledge on his behalf the numerous letters of sympathy which he has received from members of the profession during the past week.

ALCOHOL IN ASYLUMS.

Various tables in the eighth annual report of the Metropolitan County Asylums Committee contain suggestive particulars as to the comparative consumption of alcoholic beverages in the five asylums in the county of London. It is well known that the County Council have for some years withdrawn intoxicants from the general dietary, so that the alcoholic expenditure is really therapeutical for the sick.

During the year ending March 31st last, Cane Hill, with 2,428 inmates, spent £106; Banstead, with 2,672 inmates, £170; Claybury, with 2,845 inmates, £130; Hanwell, with 2,288 inmates, £308; and Colney Hatch, with 2,808 inmates, £732. In another form, one halfpenny per head per week is the cost of alcohol at Banstead, Cane Hill, and Claybury; three farthings at Hanwell, and three halfpence at Colney Hatch. It would be interesting to have an explanation of the reasons why there has been such a difference in the alcoholic rate of expenditure of three times as much at Hanwell, and six times as much at Colney Hatch, as at the three other asylums of Banstead, Cane Hill, and Claybury. By this time the therapeutic action of alcohol in mental disease surely ought to have been somewhat more approximately determined. It may be remembered that, at the recent meeting of the British Medical Association in Montreal, the President of the Psychological Section, Dr. Bucke, head of the Toronto Asylum, practically assigned alcohol no place in mental treatment.

LONDON POST-GRADUATE COURSE.

The winter's work will commence on Monday, October 4th, with a daily course in practical bacteriology at King's College, which will last for six days. On October 11th the winter term will commence, and will include the following courses, namely, Skin Disease at Blackfriars, Mental Diseases at Bethlem, Diseases of the Throat, Nose, and Ear at Great Portland Street, Bacteriology at King's College, General Medicine and Surgery at Cleveland Street, Hygiene and Public Health at the Parkes Museum, and Clinical Chemistry at the Institute of Preventive Medicine. The terms will last for eight weeks, and the arrangements are such that all the classes can be attended by the practitioner. A prospectus can be obtained on application to the Secretary, Dr. Fletcher Little, 32, Harley Street, W.

THE INFLUENCE OF TOBACCO SMOKING UPON THE HEALTH.

With the object of elucidating the question how far the habit of smoking among students and how tobacco acts upon the respiratory and digestive organs, Dr. Mendelson in 1890 sent questions to all students of the St. Petersburg Military Medical Academy and the Technological Institute. Every smoker was to give five answers (age, how long he smokes, how many cigars or cigarettes daily, if he inhales the smoke, and if he often suffers from affections of respiratory or digestive apparatus) and non-smokers three, and those who gave up smoking nine. He received altogether 5,000 answers, a summary of which is published in the *Vratch*, No. 14, 1897. Of 1,071 students, 556 were of the Medical Academy and 515 of the Institute. Among the students of the Academy were more smokers than among those of the Institute. Of the former 54.66 per cent. and of the latter 47.18 per cent. were smokers. The majority began to smoke in the 16th, 17th, or 18th year. On the average, the smoking medical student smoked daily 19.64 cigarettes and the technological students 22.88. Estimating ten cigarettes to have cost 1½d., the author figured out that the student of the Military Medical Academy spent yearly on tobacco £1,200, that is, a sum quite sufficient for the proper support of 40 poor students. The smokers in both institutions show a higher rate of mortality than non-smokers. Out of 100 smokers, 16.09 per cent. fell ill from affections of the respiratory organs, and out of 100 non-smokers only 10.69; of digestive organs, out of 100 smokers, 11.88, and out of 100 non-smokers, 9.92; affected with both apparatus, respiratory and digestive, out of 100 smokers, were 8.77 per cent., and out of 100 non-smokers only 3.22; in general, 36.74 per cent. of smokers and 23.83 per cent. non-smokers were taken ill. One-third of the smokers began to smoke before their 16th year, and two-thirds after the age of 16. The first became ill oftener than the latter; of the first, 45.83 per cent. became ill, and of the latter, 32.71 per cent. The health of the technological is better than that of the medical students. This difference is particularly noticeable in the first semester, where, of the former 14.66 per cent., and of the latter 31.53 per cent., became ill. The smoking especially increased the sickliness of medical students of the higher courses and technological students of the chemical section. The reason why the technological students are on the whole healthier is, according to Dr. Mendelson, that they, for the most part, come from the country, and, besides, are not tired and fatigued by the "classical system of education." If the latter part of this explanation can be accepted, Dr. Mendelson must be allowed the credit of having discovered a new argument in favour of the "modern side" schools.

ALCOHOL AND THE DEATH-RATE.

Some interesting information is given by Mr. William Bingham, of the Sceptre Life Assurance Company, on the practice of insurance offices as to the lives of publicans. Eight offices consider the risk too unfavourable, and decline to accept this class of life. The Prudential used to charge an extra premium of £1 1s. per cent., but about a year ago this was raised to £2, in consequence of the unfavourable experience of the office in this class of lives. At first these lives were taken at the ordinary rates, then, after disastrous results, about twenty-three years ago the Company restarted with an extra premium of 15s., afterwards raised to £1 1s., and finally to £2. In other offices the increase varies from 5s. up to 30 per cent. of the premium; but the majority charge £1 1s. There is only one at the highest figure; one adds seven years; one charges 7 per cent., another £2 2s. It is somewhat remarkable that the same class of life should be weighted with such widely-differing rates of extra premium. This looks as if each office had rated according to its own experience. As to licensed grocers, whose rise in mortality was commented on by Dr. Farr shortly after grocers' licences were instituted, it is most remarkable that two officers rate their extra at 10s. per cent., and one office at 15s. As the publican alone among traders has to produce evidence of good character, and is generally well housed, clothed, and fed, the offices must consider the mortality risks very high to demand such extra premiums, and some even to absolutely decline to accept such lives at all.

A STATE DEPARTMENT OF PUBLIC HEALTH.

An interesting chart might be prepared showing the need of carrying out Dr. Farquharson's proposal for the formation of a Department of State for Health, which "would collect and co-ordinate into one harmonious whole the scattered threads of sanitary legislation which now entangle and frequently perplex every one of our great Parliamentary offices," and which would "focus all health questions, and furnish a bureau of information to enable all to see at a glance what is going on elsewhere." The picture is certainly attractive, and we agree that "the admission to such a department would be an object of honourable ambition to the best scientific talent of the day." At present health matters are under all and every department of State. The Home Office regulates the sanitary conditions of the factories and workshops, the War Office cares for the health of the soldiers, the Admiralty for the hygienic matters affecting the navy, and the India Office at least for the preliminary health of its officers. The Local Government Board bears the responsibility of the bodily security of the paupers and their children, while the Home Office takes similar charge of the criminal and his offspring. The physical welfare of the bulk of the nation's children is for five or six hours daily dependent on the scant care accorded to it by the Education Department, while the hygienic environment and life protection of vast armies of the industrial population are to a large extent left either to the goodwill of private employers and landlords, or to the arbitrary by-laws issued by railway and other monopolist companies. No one is to be blamed for the existing con-

fusion, but Dr. Farquharson's suggestion offers an excellent method by which some crooked paths could be made straight and opposing interests reconciled. Many of the duties which now overweight the Local Government Board could be better done by a Ministry of Health; and the fact that such a State department would have the charge of all matters affecting health in other departments would act on them both as a spur and a controlling force. Standards acknowledged necessary for criminals would not be lowered for paupers, or discipline found beneficial for the navy be considered an impossible counsel of perfection because applied to soldiers. The interests of the profession would be taken into account, and the recognition of its work by the State would do more to elevate medical science and sanitary principles to their due place in the organisation of the Empire than almost any other single measure. To the ignorant—and we must still count the bulk of the nation ignorant on hygienic matters—the fact that knowledge has received an official stamp makes it doubly valued, and gives it fresh power. The formation of a department of Public Health would be the official stamp on much work which is now done by the medical profession for the State, but hitherto without even the indirect support of State recognition or Government approval.

THE ABOLITION OF PAUPER NURSING IN IRELAND.

The sealed order which abolished pauper nursing in England has been quickly followed by a similar order for Ireland, which came into force on September 30th. It has taken us by surprise. We did not expect such prompt action on the part of the Irish Local Government Board; but we most heartily rejoice that the death blow has been so suddenly given to one of the most iniquitous systems that ever disgraced a public department, and we congratulate the authors of this order on the statesmanlike action which has seized a fortuitous moment for initiating a far-reaching reform. This Magna Charta of the workhouse patient will be received with thankfulness by those who have been struggling for years in an unpopular cause, and by the many who are now working in the interest of the long-forgotten pauper. The workhouse medical officer, by this order, can insist upon proper nursing for the pauper patients, and, knowing as we do so well how the medical officers have stood as buffers against the heartless cruelty of an oppressive system, we are confident that they will quickly avail themselves of their new powers through the length and breadth of Ireland.

RATE-AIDED RETREATS FOR INEBRIATES.

After the remarkable conversion of the community generally, of the learned professions, of magistrates, of nearly all managers of reformatory institutions, of most temperance reformers, and of several Royal or Parliamentary inquiries, to the principle advocated by the British Medical Association, of the therapeutic compulsory seclusion of habitual drunkards, it is refreshing to hear a note of opposition from a popular metropolitan daily journal and a Scottish temperance weekly on the score of expense. The *Standard* dreads aid from the rates if power of compulsion is legalised; and the *Scottish Reformer* piles on the agony by the extraordinary and groundless assertion that the cost would thus mount up to "many millions yearly," predicting a national calamity in these tragically prophetic words: "The loss by the operations of the traffic and that by its results would then be so great as to speedily bring the nation to the brink of physical, mental, moral, and financial ruin." Our readers will at once see the baselessness of such a prophecy, which is founded on the false premisses that the rich and the well-to-do would be boarded and treated without charge, that the poor would contribute the value of no labour, that every drunkard would be violently laid hold of and interned, that there is no legal definition of an "habitual drunkard;" that our criminal, police, and Poor-law expenditure would not be diminished, and that there would be no money gain to the nation from the value of the lives of many sober and industrious workers who are now profitless cumberers of the earth, and cost the country an enormous sum.

THE RAGLAN BARRACKS.

In the British Medical Journal of September 25th it was stated that there was a prospect of a portion of the Raglan Barracks at Devonport again being occupied before the end of the present year. Inquiries which we have since made from an authoritative source leave no doubt that this information is incorrect. We understand that so far from there being any likelihood of these barracks being opened at an early date, the work has not been commenced; indeed, the contracts have not even been given out. There is not, in fact, the smallest chance of these barracks being opened for at least eighteen months. Had due heed been paid to the warnings of the medical authorities some time ago, not only would the barracks have been completed in time, but the total evacuation would probably not have been necessary, a considerable amount of disease would have been prevented, and several lives would have been saved. The fact that two regiments with the wives and children of the officers and men—in all some 2,000 persons—have had to be sent away from Devonport has entailed on the commercial community of that town a loss in money probably to the extent of not less than £5,000 a month.

A NEW WARRANT.

It is rumoured that a new warrant will soon be issued in connection with the Army Medical Department. It will be proposed to revert in some degree to the regimental system, and for the first nine years of service the medical officer will be attached to a regiment; afterwards, he will be merged in the department for various hospital duties. An attempt will be made to remove the dissatisfaction which exists regarding titles by substituting the title "surgeon and captain" for "surgeon-captain," and so on through the various ranks. It is said there will be no "Royal Corps." We have not heard further details, but we may say at once that the changes here indicated will not, in our opinion, satisfy the army medical officers. The title proposed is more cumbrous than that which already exists, and is absurd. The military advisers at work in high quarters will achieve nothing by proposals which leave the whole question just where it was. It is important, in view of the dearth of candidates for the service, that this fact should be realised. There can be no peace until the rightful claims of the Army Medical Department are acceded to. The War Office has surely had full experience of the results of a policy of obstinate resistance.

THE MAIDSTONE EPIDEMIC.

The epidemic of enteric fever which is now in progress at Maidstone affords another example of the fact that this disease has in no case been traced to any cause other than pollution of the water supply. Our Special Commissioner has investigated the circumstances, and his report shows that the epidemic has, almost within 1 per cent. of the total number of cases, been strictly confined to the area served by one of the three supplies of the town. This fact is more striking because of the large number of cases, and also because of the high ratio in which they stand to the total population. At present nearly a thousand cases have been notified; and on the total population of about 35,000, this gives a ratio that is sufficiently alarming. The district served by the affected water supply, the district to which the epidemic is confined, is the least populated part of the town. The figures of relative distribution of population are at present not available; but it is evident that the ratio of cases to population actually exposed to the risk of infection must be terribly high.

A question arising out of the epidemic is whether the water company is to blame in the matter. That the outbreak was due to an encampment of hop-pickers situated in the immediate vicinity of the supply springs seems to be beyond doubt. The question is, who is to blame for allowing such a procedure? Ought the blame to fall on the water company for not adequately protecting their supplies, or ought the sanitary anthority to have interfered and caused the dispersal of the encampment? Many of the daily papers inveigh against the town council for having recently discontinued the analysis of the water. But it must be remembered that mere chemical analysis cannot be relied upon to give intimation of infective pollution. It can do so only in those cases in which the infection was accompanied by sufficient organic matter to show in the ordinary tests. Cases in which such a combination occurs must be in the minority.

MEDICAL SOCIETY OF LONDON.

We are requested to state that a general meeting of the Society will be held at 11, Chandos Street, Cavendish Square, W., at 8 P.M. on Monday, October 11th, 1897. The agenda are: (1) To receive the Treasurer's report and balance sheet, as passed by the auditors. (2) The President to vacate the chair, and the new officers to commence their duties. An ordinary meeting of the Society will be held at 8.30 P.M., when the incoming President, Dr. A. Ernest Sansom, F.R.C.P., will deliver the opening address on The Investigation of some of the Nervous Disturbances of the Heart, after which a paper will be read by Mr. William Anderson, F.R.C.S., on John Arderne, the Father of English Surgery, and his Time.

A CONJOINT EXAMINATION FOR THE MILITARY MEDICAL SERVICES.

The latest device to obtain recruits for the depleted and dissolving Medical Staff is the announced conjoint examination for it and the Indian Medical Service. We should not object provided that candidates previously declared which service they were competing for, but they are not to be asked to do so in the hope that candidates who fail to have choice of the Indian may be induced to enter the home service. This is a frank announcement that the lowest and least successful candidates, who tried but failed for the Indian, will be gladly welcomed for the Medical Staff. Anything worse could hardly be conceived. Could the cant about "good doctors" in the mouths of some of our military hierarchs receive a more thorough exposure? It shows that any scheme, however bad, will be tried to man the Medical Staff rather than make any concessions to it; efficiency, of course, is thrown to the winds. We sincerely hope this precious scheme will, for the sake of the army and its medical officers, defeat itself. Why not at once throw overboard the farce of public competition, and resort to old-world nomination?

INCREASE OF DIPHTHERIA IN LONDON.

The mortality from diphtheria in London has shown a marked increase during recent weeks. The fatal cases of this disease, which had been 25 and 35 in the two preceding weeks, further rose to 45 during the week ending Saturday last, September 25th, and exceeded the number recorded in any week since March last, although they only slightly exceeded the corrected average in the corresponding weeks of the ten preceding years. Of the 45 cases recorded in the metropolis last week, 4 were of persons belonging to Paddington, 4 to Islington, 3 to Marylebone, 3 to St. George-in-the-East, 3 to Whitechapel, and 3 to Wandsworth. The notifications of diphtheria in London have also shown a steady increase during recent weeks. The number of notified cases, which had risen from 171 to 267 in the five preceding weeks, further increased to 309 during the week ending Saturday last. The increase in the prevalence of diphtheria last week in the metropolis was confined to East and South London, the new cases notified in West London and in North London showing a decline, while those in Central London corresponded with the number recorded in the preceding week. In Kensington there was a marked increase in the prevalence of the disease, 9 new cases being notified, against 6 and 4 in the two preceding weeks; and in St. Pancras 7 new cases were reported, against only 2 during the preceding fortnight. Among the sanitary areas of East London there was a general increase in the prevalence of diphtheria, the new cases in Mile End Old Town alone showing a decline. In East London there was also a general increase, the highest proportional prevalence of the disease being in Bermondsey, Battersea, and Camberwell. In the last-mentioned sanitary area 27 new cases were notified last week, against 16 and 21 in the two preceding weeks. The admissions of diphtheria patients into the Metropolitan Asylums Hospitals during last were were 162, against 131, 139, and 156 in the three preceding weeks; and 1,013 patients remained under treatment in in these hospitals on Saturday last.

THE LOCAL GOVERNMENT BOARD AND THE SUTTON SCHOOLS.

Evidently the Local Government Board is going to do something about the Sutton Barrack Schools, and, if so, our preliminary labours, the work of the Poor Law Schools Committee, and the insistent energy of the State Children's Aid Association, will not have been wasted. The Sutton Schools house some 2,000 children, about 500 of whom are chargeable to the Camberwell guardians. Not unnaturally, that Board has been startled by the revelations of improper management, bad hygienic conditions, and inferior education, for which they are called upon to pay between £24 and £25 a year for each child, and they have been making strenuous efforts to induce the Local Government Board to dissolve the district so far as they are concerned, and to allow them to provide for their child rate-dependent population on the Sheffield scheme. This method is to isolate or scatter homes among the environments of the town, each house to contain some 15 or 20 children, who attend the Board schools, and share in the juvenile interests and life of the neighbours and locality. All seemed to be going well, if not rapidly, until last week, when the Camberwell Board were asked to defer any further consideration of the subject for three months, by which time the Local Government Board will have made public certain plans that they are considering with regard to the Sutton Barrack Schools, which, they write, may seriously affect the proposed action of the Camberwell guardians. As far as we can ascertain, the proposal is for the Metropolitan Asylums Board to take over Sutton, and use parts of the Brighton Road building for the ophthalmic children recently entrusted to its care. Greenwich is, we understand, so enamoured of its Banstead girls' school, which houses 629 girls, that it refuses to part with it, and will probably take it over and use it for all the children chargeable to it, whether boys, girls, or infants—leaving the main block, the infirmary, and receiving house, for the uses of the Metropolitan Asylums Board. We will not comment on what is at present so vague, only expressing a hope that the Metropolitan Asylums Board, which has at present obtained the public confidence by its recent circular proposing to deal with children as individuals in small groups, will not be tempted by buildings, however palatial, to become the keepers of central barrack schools.

THE SANITARY INSTITUTE.

As an introduction to the course of lectures in sanitary science to be delivered at the Parkes Museum, Dr. Louis Parkes on September 27th gave a lecture on The Outcome of Sanitation, in which he sketched the progress which sanitary science has made up to the present time, and pointed out what it has done for us as a people. Since "the great awakening" when, led by Chadwick and the earlier sanitary

reformers, the Government and the more enlightened portion of the people had their eyes opened to the condition of filth, neglect, and misery under which the large mass of the urban population existed, the Public Health Acts have revolutionised the lives of the poor and have protected them from communicable diseases and accident. Taking various types of disease, Dr. Parkes instanced the diminished mortality from small-pox, the immense decline in fever, especially in typhus, the lessened prevalence of scarlet fever and of phthisis, and the almost complete eradication of ague. On the other hand, he said measles and whooping-cough were still as common as when the Queen came to the throne; cancerous affections appeared to have increased even more than could be accounted for by the more precise diagnosis and registration of the present day; while diphtheria had risen in recent years till it was now just about as prevalent as it was thirty years ago. The general effect of the improvement in sanitation had been that 600,000 reached the age of 21 who would have died at the time when the reign commenced. But the expectation of life had diminished at more advanced ages, partly in consequence of the increased strain of existence in towns, and partly from the assertion in later life of tendencies that science and care had checked in infancy and youth. It had been contended that our charitable systems and methods interfered with the evolutionary law of the survival of the fittest; and this was to a certain extent true. In the past the selective action of plague and famine had no doubt tended to leave a strong and virile race; and he thought that the evidences of degeneration which were now to be found amongst us ought to induce the Government to leave no effort untried to check the migration into towns and to restore the people to their natural life in the country.

SANITARY INSPECTORS AND VITAL STATISTICS.

We are far from agreeing with the hackneyed quotation that "a little knowledge is a dangerous thing" when applied to hygienic problems. The mere fact that interest has been awakened in such problems is a great gain in the campaign against disease, even though the knowledge may be scanty and inaccurate. For this reason we are not inclined altogether to find fault with the medical officer of health who recently addressed a provincial association of sanitary inspectors on Vital Statistics in Relation to the Work of Officers of the Public Health Service. It is desirable that sanitary inspectors, just as much as the general public, should have correct notions on the statistical problems involved in sanitary science, though it is even more important that they should have correct and accurate knowledge of the parts of sanitary science with which they are practically concerned. In saying this we may lay ourselves open to correction, for we have before us as we write the annual report of the chief sanitary inspector of a large city in which the death-rates of the different districts and sanitary subdivisions of the city are given, varying from 8 to 33 per 1,000 of the estimated population. This is accompanied by a short discussion of these death-rates. If it is to become part of the duty of sanitary inspectors to prepare the vital statistics for their districts, and still more if they are to comment upon them, then such addresses as the one above mentioned will need to be increased in number and detail. We say nothing of the paltry consideration that our sanitary inspectors will also require a preliminary general and medical training, which is not as yet embraced within the scope of the previous training of the sanitary inspector of the present day. To speak seriously, there is ample work for both medical officer of health and sanitary inspector. An army cannot consist entirely of captains; there must also be private soldiers, and the latter must always be more numerous than the former. Each has his own duties; if each keeps to his own province, and discharges his work conscientiously and thoroughly without desiring to take the credit or encroach on the functions of the other, the maximum efficiency will be obtained.

SIR WALTER FOSTER AND THE "YOUNG MAN."

There was a large attendance at the meeting held at the Medical Society's rooms on Wednesday for the purpose of hearing from Sir Walter Foster a statement of his policy as a candidate for the vacant seat on the General Medical Council. The proceedings are fully reported on another page, and the result was decisively in favour of his candidature. Sir Walter was subjected to a good deal of "heckling;" but he is a veteran in Parliamentary contests, and, besides, has a skill in fence that stands him in good stead on these occasions. No man who comes forward as a candidate for the position of direct representative of the profession on the General Medical Council can complain of being interrogated as to his views on medical politics. We feel, however, that Sir Walter Foster has a right to complain of what we cannot but agree with him in calling an unchivalrous attack upon him on the score of an interview which has recently been published in a journal entitled the *Young Man*. This matter, we understand, was sprung upon him at the meeting without notice. The frank explanation which he gave of the affair satisfied the large majority of the meeting, and made the attack recoil on the heads of his accusers. The article in question grew out of an accidental conversation in a railway carriage, and though only recently published was put into the form of an "interview" several months ago. It came out when Sir Walter Foster was in Canada, and when his attention was called to it he at once took steps to have the issue of the number of the *Young Man* containing it stopped, and the paragraphs relating to his medical practice blotted out in any future copies sold. It must be remembered that Sir Walter is not merely a physician, but a prominent politician and a "front bench" member of the House of Commons. The interview, whether a good or a bad thing in itself, is nowadays a recognised element in public life, and no public man can escape from it. It is unfair, and even ridiculous, to compare such an interview as that published in the *Young Man* with similar articles relating to members of the profession who are medical practitioners and nothing else; and we are sure that this will be recognised by Sir Walter Foster's professional brethren.

TANGIER.

The British Consul at Tangier has lately complained that few English tourists visit the place. He finds it difficult to understand why Tangier is not more favoured by the large class of people who winter abroad, unless, indeed, they are kept away by sensational reports of the so-called outrages that appear from time to time in the European press, based generally upon the slenderest foundations. Its climatic advantages for some invalids must be admitted, and there are good hotels. The place has many points of interest for tourists, and can be easily reached either by sea to Gibraltar, or overland through France and Spain. In one respect, however, Algiers has certainly a decided advantage over Tangier as a place of residence for invalids, namely, in the excellence of its roads, and facilities for walks and excursions in the neighbourhood of a health resort are of the greatest importance.

The Extension of Hampstead Heath.—The Metropolitan Public Gardens Association have addressed a letter to the Hampstead Vestry, stating that they had made inquiries of the trustees of the late Sir Spencer Wells, and had ascertained that they were willing to sell 20 acres of the Golders Hill Estate, adjoining the West Heath, for £25,000. The Association remind the vestry that £10,000 was voted by it some time ago towards the purchase of a park for West Hampstead, and they suggest that as that scheme fell through, the vestry should transfer the £10,000 towards this scheme for adding to the West Heath. The matter has bern referred to the Free Open Spaces Committee of the Vestry for consideration and report.

THE COMING ELECTION.

DIRECT REPRESENTATION ON THE GENERAL MEDICAL COUNCIL.

Sir Walter Foster's Address to the Registered Medical Practitioners of England and Wales.

Ladies and Gentlemen,—On my return from Canada to-day, I found many letters from valued friends urging me to become a candidate for the vacancy on the General Medical Council caused by the regrettable resignation of Dr. Rentoul. Others, whom I have consulted, strongly press upon me the same course, and I have therefore decided that in the present crisis of Direct Representation it is my duty once again to offer my services to my professional brethren.

My experience of the struggles during recent sessions of Parliament in connection with the Public Health (Scotland) Act, and the Midwives Registration Bill, has also influenced me, as I am convinced that the most watchful care must be exercised by someone authorised to speak for the profession, in order to prevent legislation alike hurtful to the public and hostile to the profession.

The ten years' service which I gave to the Council is the best guarantee of the spirit in which I should, if honoured by your confidence, again take up the work.

As in the past, I am prepared to advocate:

1. The increase of the representative element on the Council.

2. The maintenance of a high standard of professional education, an increase of the requirements of the Preliminary Examination, and the establishment of one uniform qualifying examination for each division of the kingdom.

3. The more vigorous exercise of the existing powers of the Council for the suppression of improper and irregular modes of practice, and for protecting the public from unqualified persons and quacks.

4. The amendment of the Medical Acts in such a way as to strengthen the powers of the Council and more effectively protect the interests of the general practitioner.

While anxious to improve the education and training of midwifery nurses, I am resolutely opposed to any legislation which would register women as midwives and enable them to practise midwifery without the superintendence of a registered medical practitioner. I have fought this battle in the interests of the poor and in support of the general practitioners now for some years, and I hope it may be my privilege as your representative to carry the struggle to a successful issue.—I am, your obedient servant,

Birmingham, Sept. 23rd. B. Walter Foster.

Meeting in Support of the Candidature of Sir Walter Foster, M.P.

On Wednesday last a meeting of the supporters of Sir Walter Foster's candidature for the vacant seat on the General Medical Council was held at the rooms of the Medical Society, Chandos Street, Dr. Leonard Sedgwick in the chair. Mr. George Eastes and Mr. Andrew Clark acted as Secretaries.

The Chairman announced that letters and telegrams had been received from the following gentlemen, regretting their inability to be present and promising support. A telegram from Mr. Nelson Hardy promised his own support and that of the President, Treasurer, and Secretary of the Police Surgeons' Association; letters from Mr. Noble Smith, Dr. Pavy, and Sir Henry Thompson, Mr. Sidney Jones, Dr. Ferne, of New Cross, and Dr. Thorowgood, all of whose names would be placed on the list of supporters.

The Chairman said that he would merely remind the meeting that a dozen years ago Sir Walter Foster was their candidate on the General Medical Council. He worked for ten years heartily, and not unsuccessfully, notably in the improvement and the extension of the terms of medical education, and the suppression of irregular practice in all its forms, and had been largely instrumental in drafting the penal procedures of the General Medical Council. In all other matters interesting to the profession he had always been found an advocate of judicious reform, or rather a judicious advocate of reform. That was a great reason why they should re-elect him. Yesterday he came upon two statements which the meeting would immediately recognise as soon as he read them, of a very distinguished man whom he would like to have seen present, as one of their supporters, and whom he would have liked to vote for by-and-bye as a colleague of Sir Walter's on the General Medical Council. That gentleman said that he had "been driven to the conclusion that the prospect of advancing medical reform depends more upon the previous training of the representatives than upon the fact of their belonging to one particular section of the profession. It is obvious that an intimate personal acquaintance with the methods, laws, and procedures of the Council should be combined with a knowledge of the many pressing needs of the profession." Those were the weighty words of wisdom uttered by no less a man than Mr. Victor Horsley. What better training could a man have, and what greater confidence in his own knowledge of the laws, than a service on the Council of ten years? and they were advocating the claims of a man who had had that training and possessed that knowledge.

Sir Walter Foster, on rising to address the meeting, was heartily received. He first of all thanked those present for coming in such numbers. He believed the present meeting was one of the largest of the kind that had ever been held in any part of the United Kingdom; it was therefore a meeting that called forth at once his liveliest expression of gratitude and thanks. He was there to speak with reference to the General Medical Council, and the policy which he should be prepared to carry out if he was honoured again by the support of the profession as a direct representative. He might say that he had come forward at the present time because he believed it was an exceptionally grave crisis in the history of direct representation. He retired from the Council at the last general election for reasons that he would not go into then, but he would be happy to explain them to any gentleman if desired. They were reasons that were good to Mr. Wheelhouse and himself, and they were glad to lay down the burden of the work. Since that time he had received some remarkable expressions of opinion from the profession. Numerous friends from all parts of the country had expressed their regret that he had severed his connection with the General Medical Council. Those expressions of regret had become so frequent that they had almost sounded to him like reproaches, and he began to feel that he had done something quite wrong in not going on with the work. When he came back from Canada last Thursday afternoon, and heard of the great crisis in the history of direct representation, he found telegrams and letters urging him to stand. When he went to consult some of his trusted friends, he found that they were without a candidate, and they urged him to fight the battle for them once again. He felt under those circumstances, considering what he owed to the medical profession, and that he was still a comparatively young man that it would have been wrong of him not to be willing to come forward and do the work the profession wished him to do in its interests. With reference to his policy, he thought they had all received his Address. The policy would be very much the same as the one he had tried to carry out, and did carry out, as far as was possible on the General Medical Council during the ten years he had served there. He thought one of the most honourable records he could have as a direct representative on the General Medical Council would be to say that when there was a question of the interests of the general profession at stake, as opposed to the corporations, he was nearly always in the minority, as his colleagues were also. They fought the battle of the profession in that Council for ten years. They could not obtain

any very great results, but they obtained some. They made the disciplinary powers of the Council much more earnest and vigorous. They practically suppressed the system of covering which had existed in the profession, and from the moment the direct representatives went on to that board the interest of the Council in suppressing irregular methods of practice was awakened, and its efforts were more vigorous than ever before. Therefore they owed that result largely to direct representation, so ably carried out by his colleagues during those ten years. That being so, he would go back to the Council with the desire to increase direct representation. Repeatedly in the Council when he was a member of it he moved resolutions and pointed out to the Council how without an Act of Parliament it would be possible to increase the representation of the profession. He was invariably beaten on the resolution by a large vote of the Council, and he thought it very likely that he would be beaten again when he repeated the motion, if only he had the opportunity of doing so. But he was as true to the principle of direct representation as he ever was. Both in the General Medical Council and any other place such as the House of Commons, where he had an opportunity of arguing for the increase of direct representation, he would do his best to bring it about. He might say that he was a veteran on that subject. Between the years 1870 and 1886, when the Act was passed, he worked almost continuously with the late Dr. Edwin Waters, of Chester, in favour of the amendment of the Medical Act, which they obtained in 1886, and, by a piece of good fortune, he was in the House of Commons when that Act was passed, and was able to amend it in the direction of getting more direct representation than the original Bill contained. Direct representation was so good a principle and had done so much good in the Council that, if wisely used by the profession, he believed would work still greater good for the benefit of the cause to which they had devoted themselves. He was anxious to go back to the Council for another reason apart from ordinary medical policy. He had been looking at the condition of the medical profession with a good deal of observation and sympathy for some years past, and he was honestly bound to say in that medical meeting that the state of the general body of the profession was to his mind most serious. He had never known the profession so overcrowded; he had never known honourable and reputable men put to such shifts to get a livelihood on account of the increasing competition, of irregular and illegitimate practice, the enormous prevalence of hospital abuse, and the growth of those iniquitous institutions (from a medical point of view) the medical aid associations. When he looked at the towns with which he was acquainted, and at the vast metropolis of London, he saw the general practitioners having a harder lot than he had thirty years ago. He had been better educated, and had been forced to go through a higher curriculum, and was at a greater expense in carrying on his practice; but when he came to the battle of life the contest was more hard than it ever was before, and that was a condition of things which was heart-breaking to anyone who loved his profession. There might be distinguished men—scientists, consultants, specialists—connected with their body who had higher social advantages than men probably had in the past; but while the great body of the profession languished, as it did now, from the overcrowded state of its ranks and from the evils to which he referred, they could not say that it was in a healthy condition. He wanted to try and improve that, and he was ready to go back to the Council because he hoped that the direct representatives on that body might be of some use in helping to mitigate, lessen, and possibly overcome those evils. He thought in one respect that might be done by improving, not only the general standard of medical education, but the preliminary examination for entrance to the profession. In recruiting for the ranks of the army, if there were a larger number of recruits than were wanted for military purposes, the standard was raised sometimes half an inch and sometimes more. He thought they might begin to raise the standard of the medical profession. He would do that because he believed it was as much in the interests of the public as it was in the interests of the profession. It was very desirable that unfit men should not begin to study medicine, and they desired that they should test those entering upon it more thoroughly before they became medical students, and were placed on the *Register*. He thought medical aid associations, by a little care and a little scrutiny on the part of the General Medical Council, might possibly be prevented from continuing the objectionable shape which they at present had, and that something might be done to alter those institutions, so that they would be less hurtful to the profession and less degrading to their calling. There was also going on outside the profession an enormous an increasing amount of quackery and irregular practice. How they were to get at some of that under the present constitution and laws of the Council he failed to see, but he thought the Act of Parliament of 1858 did contain powers which might be exercised with more vigour than they had been in the past to put down the large amount of irregular and illegitimate practice which went on in every large city in the country, which was a danger to the public and an injury to the medical profession. Anything that could be done in that direction would have his most hearty and vigorous support. He had referred in his address to the Midwives Bill. He had never been opposed to the proper education of women who attended on women as nurses; but he was strongly opposed to registering midwives on the following ground: That the Medical Act of 1886 had distinctly laid it down that nobody was to be registered as qualified to practise medicine, surgery, or midwifery unless he had gone through the medical curriculum and had a full medical qualification in all subjects. As long as that Act was upon the Statute Book it was a distinct contravention of it to register a midwife, and he would not even in the House of Commons or in the General Medical Council, if he went back there, be a party to any sanction of a Bill which would register midwives and enable them to attend to so-called cases of natural labour. Labours were not natural till they were over, and no man could define them till they were. He based that view on two grounds; first, on the illegality of such a proceeding; and, secondly, because he believed that if they took such a step they would do a great injury to the poor throughout the country as well as to the medical profession. He did not put the injury to the medical profession in the foreground, because he did not think it would be so serious as the injury to the poor. They would be sending out to work among the poor people (who had as much right to good attendance as any ladies of the land), sanctioned by the State, and registered to do the work, persons who on a few months' curriculum were allowed to attend them in midwifery; whereas the richer people in the country would have a man who had gone through the whole curriculum of medicine and surgery to attend their wives. He did not think it was fair to the poor people. When he was at the Local Government Board the question was raised with reference to a certain union in the country as to midwifery cases. He objected to the midwives acting on their own authority, and he refused his sanction at that time to any midwife being used by the Poor-law authorities to attend the unfortunate paupers in that district. He said that a woman might attend as many cases of midwifery as she liked, but it must be under the superintendence of the parochial medical officer, who must be warned when she went to the case—not after she had been there twenty-four hours—in order that he might know she was in attendance and take the earliest opportunity of visiting the case and seeing that all was going right. Under such circumstances these women might be useful, but they should not be registered; they should only be regarded as nurses and kept in that position. While he was on the Council the work he did there was directed mainly to strengthen the powers of the Council and the action of the Council with reference to penal cases. He had to congratulate himself on the fact that it was largely through his instrumentality, backed by other members of the Council, that the Penal Committee was appointed to take the consideration of the cases out of the hands of the lawyers and go over them before they came before the Council. One of the last acts he did was to draft the new regulations by which the powers of the legal advisers of the Council and the President himself were very much lessened with regard to the ordering of the procedure in certain cases of

that kind. Formerly, everything was decided by the President and the legal advisers prior to coming before the members of the Council. He always objected to that, and said there ought to be a body of members of the Council who should go into the cases themselves, and be the first to decide whether a professional fault had been committed. It was not a legal question, but a professional one that had specially to be considered; and when medical men had decided that there was a professional fault committed, then it was the time to go to the lawyers, and not before. That had always been his contention on the Council, and he was glad to say before he left that body it was in the way of adopting that method of carrying it out. He had referred to what Mr. Wheelhouse, Dr. Glover, and he himself had done with regard to increasing the curriculum by extending it to five years. In several other questions, also, they acted together strongly and earnestly to try and bring about such changes as would be beneficial to the great body of practitioners in the country. If he went back to the Council he should exercise the same patience, and he hoped the same earnestness, in trying to improve its procedure, as he had done in the past. It was no enviable task, and if he had not felt a strong sense of duty to come forward in this crisis he would not have undertaken the duty again. It was no enviable task for five men to sit on the Council with a majority of four to one nearly always against them, and fight the battle for the profession, knowing they should hardly ever gain a victory when it came to a vote. Although the sympathies of the members of the Council were with the profession, they took different views from the direct representatives on these questions. He did not say a word against those gentlemen, for they were all honourable men, but many of them were not directly in touch with the profession, and very few of them knew the daily troubles and sorrows that beset many of the medical practitioners in their populous districts. Many of those gentlemen did not see eye to eye with them, and the consequence was it was a very uphill fight, and required great patience and a good temper to effect anything, and then they would only effect very little, probably at the end of several years. He had patiently done the work for ten years, and he was willing to go back for another short period of five years to do the same work with the same patience and good temper again if he was honoured by their confidence. He had done his work in the past honestly, for the good of his constituents, and he would give honest work in the future if he was honoured by their confidence.

Dr. Woods asked if there was any definite method by which it was determined who were to be the voters electing the representatives of the universities and the colleges on the General Medical Council. He was informed that their representative was not elected even by the Senate of that body; he was elected by a small number, chiefly of old clergymen. He thought the General Medical Council ought to investigate the matter and decide once and for all who were the men entitled to vote. He was most strongly in favour of the graduates of the universities having a vote.

Dr. F. H. Alderson (Hammersmith) said he was a member of the St. Andrews University, but he had no power in the election of the Council. He thought more men would join the Senate if they had some such privilege as that.

Sir Walter Foster said that the question had been raised by Dr. Prosser James many years back. His claim was that they should endeavour to get all the universities and corporations to have a vote of the whole body of their diplomates or graduates. That was not successfully carried out when their Medical Act was passed, and they had been unable to get it by any legislation since. It was left now to the universities to act for themselves. He should be very glad, if the proposal was made at any time, to support it or to make it himself. He did not think, however, it was in the power of the Council. He would see what could be done in the matter.

Dr. Woods asked whether, when a member came to take his seat from one of the Universities, it would not be possible to object to his election?

Sir W. Foster said that that would result in a vote being taken, and he would probably be in a minority of 5.

Dr. Creasey said the Committee described Sir Walter Foster as a provincial practitioner. Was it not the fact that his residence was no longer in Edgbaston, and that he was living and practising in Grosvenor Road, London?

Sir W. Foster said that he had a residence in London, but had no name on the door, and had not sought for any patients in London. He saw no patients there except any of his Birmingham patients who happened to be in London and wished to see him, but he did not encourage them. He had also a residence in Birmingham, where he practised.

Mr. Stanley Boyd said Sir Walter Foster's address showed that he felt that the subject of education was of the greatest importance, as he had specially mentioned "The maintenance of a high standard of professional education, an increase of the requirements of Preliminary Examination, and the establishment of one uniform qualifying examination for each division of the kingdom." He (Mr. Boyd) asked what Sir Walter Foster had done during the ten years he served on the General Medical Council with regard to education, and what lines he proposed to take in future.

Sir Walter Foster said that the curriculum had been extended to five years, and Mr. Wheelhouse and himself had done all they could to restore some modified system of apprenticeship. He should be glad to see that principle still more extended. He thought the old system of apprenticeship made the best practitioner. They also improved during that time the Preliminary Examination. It was a little better than it was, but he should like to see it still more improved. His old teacher, Dr. Stokes, of Dublin, said the only way to make the medical profession at all what it should be was to insist upon every man passing an examination equivalent to that of a Bachelor of Arts before he became a member of the medical profession. That was an ideal standard, which he should like to see attained.

Dr. Hall asked why Sir Walter Foster had resigned on the previous occasion. He had given the very curious reason that he wished to be relieved of the responsibilities of the office of a direct representative.

Sir Walter Foster said he was unwilling, and Mr. Wheelhouse was unwilling, to serve a third time. They were unwilling to go through the turmoil of a contested election, especially as they could no longer stand as three solid men. They differed on the question of the Midwives Bill. Mr. Wheelhouse and he were on one side, and Dr. Glover was unfortunately on the other. Probably Dr. Glover thought that they were unfortunate in their position. It would, therefore, have been necessary for Mr. Wheelhouse and him to have gone into a general election, leaving their old colleague outside their organisation. After ten years of work together they did not like that task, and under the circumstances they thought it best to retire, especially as they had had ten years of it.

Dr. Hall asked whether Sir Walter considered the responsibilities any less at the present time?

Sir Walter Foster said he did not think they were any less, but he was a little more willing to undertake them now. He was more willing to do so because he had so many regrets expressed to him, almost amounting to reproaches, at his going off the Council, and so many were anxious now for the sake of direct representation that he should go back, that he was willing to make the sacrifice.

Dr. Barrett said when he began practice it was the custom to give certificates of the cause of death, and charge people for them. Now he found that some authorities compelled medical men to give certificates, and the practitioners could enforce no claim against them. Having wrested the certificate from the doctor it was handed over to the registrar, and should a copy be required he made it, and said, "Two-and-sevenpence if you please." In the case of insurance societies who were perfectly willing to pay a guinea or two guineas for a copy of the certificate the registrar did it for 3s. 6d., and doctors were thus deprived of thousands a year by way of income. Could not this abuse be remedied?

Sir Walter Foster said that he went into the question before a Select Committee of the House of Commons on Death Certification. He there suggested that every medical man should be paid by the State for his certificate, and although it was carried in the Committee he was unable to get it through the Government. The Treasury objected to it, but sooner or later it would have to be fought out in the House of Commons. He thought in the interests of correct certificates it would be a great advantage if medical men

were paid for every certificate given by them, and that they should have the right of making copies of the certificates rather than the Registrar.

Dr. W. F. Cleveland said he thought the tone of the meeting and the general feeling indicated that the resolution which he had the honour to move would be received in a favourable way. It was this:

That this meeting, having heard Sir Walter Foster's statement, expresses its confidence in him, and promises to use its best efforts to secure his return as one of the direct representatives on the General Medical Council.

He was sure all would agree that what was required in a representative was a gentleman who could really recognise what their requirements were, and could to the best of his ability obtain them. He thought a representative who continually took up his parable on one exclusive subject and rode it to death was not one who would do the profession much good on the Council. What Sir Walter had said he felt sure was of a satisfactory nature, and that he was the right man to represent them. He came before them with a large experience, with a conviction of his own opinions, and a power of eloquence to enforce or defend them. They knew his love for the profession, and that he would do the very best he could for them if returned to the Council. He (Dr. Cleveland) was not sanguine enough to conclude that if they returned him with an overwhelming majority he would be able to obtain all they would like to have. Aristotle asked a friend who was the best shoemaker, and he replied, "He who makes the best shoes." The philosopher, however, said, "No, it is he who makes the best shoes with the leather at his disposal." Sir Walter would do the best he could for the profession on the Council. If he made such shoes as to prevent their treading upon the heels of each other, he would confer a boon upon their at present overcrowded profession.

Dr. Wallace, in seconding Dr. Cleveland's motion, said that Sir W. Foster was so well known that it was unnecessary for him to dwell upon his good qualities as a direct representative. One point which he had mentioned in his address, "The more vigorous exercise of the existing powers of the Council for the suppression of improper and irregular modes of practice, and for protecting the public from unqualified persons and quacks," would meet with the sympathy of all general practitioners. He had been himself thirty years in practice in a part of London where the struggle for existence by the medical profession was becoming keener and keener every day; and if Sir W. Foster could do anything for them to mitigate their troubles he would deserve well of his brother practitioners. From what he had done before they were convinced that he would do the best any man could do for them.

Dr. Bateman said he was sorry to disturb the harmony of the meeting, but he had come to oppose the resolution just moved and seconded. He was sure that the meeting would at any rate give him credit for courage in attempting to stem the current of opinion. It should be remembered that the members of the General Medical Council were elected not only as representatives of the profession, but as judges of their work. They had to decide the question of "infamous conduct in a professional respect." He need hardly say that the members of the Council should be beyond suspicion. He had recently had placed in his hands by a well-known Fellow of the College of Physicians a pamphet entitled "The Young Man." On the front page was a portrait of Sir Walter Foster in his consulting-room. On the other side was another portrait of Sir W. Foster, with a sphygmograph on his right hand and various works on his left. Then followed an "interview." It should be remembered that advertisements were of many kinds, and one of them was the interview. On one page were given the hours of Sir W. Foster's practice in London, and on another the hours of practice in Birmingham (it was true the fees were not mentioned). Then there was a copy of a postcard from Mr. Gladstone, which was handed by Sir W. Foster to the interviewer. It eulogised his powers of diagnosis in regard to Lord Randolph Churchill, and "the foresight and insight" shown in regard to his case. If that was not a testimonial to his powers he did not know what was. Other details were given with regard to the professional life of Sir Walter Foster, and the statement was made that he was one of the first to use the sphygmograph in cases of heart disease. That was an advertisement pure and simple. Were they going to put a man on the General Medical Council who might possibly be brought before it for his own conduct? It was extremely likely, or at any rate not at all improbable. In the same publication he found an advertisement by two men named Allinson and Alabone, both of whom had been struck off the *Register* for advertising, and one of them for having a portrait of himself in the *St. Stephen's Review*. He did not wish to be discourteous, but he should be cowardly if he did not mention the matter at the meeting. He wished to propose an amendment.

The Chairman said that the object could be better attained by a direct negative.

A suggestion was made that the "previous question" could be moved, with a view of superseding the resolution, and the Chairman assented.

Dr. Bateman then moved the previous question, which was seconded by Dr. Risien Russell.

Sir Walter Foster, in replying, said he had the misfortune to be a public man as well as a doctor. Public men occasionally had interviews, and he had been interviewed by a representative of the paper for a public purpose. He was sorry that anything medical had crept into it. The interview arose from a conversation he had with a gentleman in a railway train, and afterwards asked if he might put the conversation in the form of an interview. It was inserted mainly as an interview with a medical man who happened to be in Parliament. Ninety-nine-hundredths of the article had to do with certain political opinions and events connected with the progress of politics during the last twelve years, especially in Birmingham. He was sorry that any reference to his profession had crept into it. Everything else about him was public property and could be obtained from scores of papers that had published similar things before. The same thing happened to every man in public life. The public was curious to know about him, and he was interviewed in the lobby and elsewhere, and paragraphs were circulated about him at which no one was more astonished than himself. He was in Canada when the interview was printed, and when his attention was called to the objectionable parts in it he immediately saw the editor, and requested him to sell no more copies, or if he did to leave out the part relating to his professional work. He had no desire to give offence, or be in any way a stumbling block to any brother in the profession in such matters. He certainly thought it was a little ungenerous in Dr. Bateman to try by implication to associate him with people like Allinson and Alabone. In such matters they should fight chivalrously; there should be a fair fight between man and man. Let them not draw a red herring across the path in a question of that kind. He strongly resented the ungenerous, he would not use a harsher word, attempt to associate him with people whom he had had a share in turning out of the ranks of the profession for improper practices.

Mr. George Brown said he greatly sympathised with Sir W. Foster. He had himself been a vice-president of a political society, and he was interviewed; and to his great surprise there appeared in the journal (he thought it was the *Oracle*) an article giving long details in connection with his work. It was possible to be victimised in that way; and he thought Sir W. Foster was entitled to their sympathy for what had occurred. He felt sure that it would bring him more votes. He hoped they would do all they could to place him again on the General Medical Council, to be a colleague with himself (Mr. Brown) in fighting the battle of the profession.

Sir Walter Foster said there was one point he had forgotten, namely, with reference to the photograph of himself in his consulting room. That was one of a series of photographs of the Magistrates of Warwickshire. It had nothing to do with the interview, but being at hand, it was used for the purpose required and the words "consulting room" added by the interviewer.

Mr. Howard Marsh asked to be allowed to tell a tale. Sir James Paget was once asked to permit a lecture of his to be reported and illustrated, but as he did not wish it to be done he did not consent. The interviewer was not to be beaten, and a few weeks after the lecture was given (it happened to be a lecture on troubles of the feet) it appeared reported and illustrated, with Sir James holding out a dilapidated old boot

and giving a lecture on boots and shoes. He was quite sure that Sir Walter would not be a party to anything of the kind attributed to him.

The motion for "the previous question" was then put and negatived.

Dr. Radcliffe Crocker spoke in support of the original motion. He hoped that Mr. Horsley would be on the General Medical Council on some future occasion: but this was not the time for trying an experiment. Every new man was an experiment. Someone was wanted who had had experience. The whole principle of direct representation was now on its trial, and a man was wanted who would uphold it with judgment and dignity, and who would deal with the matter in a way to carry conviction to those who were open to conviction. No one could have watched Sir Walter Foster's conduct in the Council without feeling that he was such a man. It was no use drawing a red herring across the path. A man's conduct should be judged by his whole life, and not by any little accidental circumstance.

Dr. Douglas said that he had on a former occasion tried to prevent Sir Walter Foster severing himself from the General Medical Council, having seconded a resolution at Carlisle asking him and Mr. Wheelhouse to allow themselves to be again proposed. They had not received the support from the profession which they ought to have received, and which they had a right to expect. Sir Walter Foster had been asked about a Bill taking away the rights of the profession in regard to practising in the Colonies, and he had very properly answered that his attention had not been directed to the matter, that he had not been asked to prevent the Bill passing. That was the kernel of the difficulty that representatives on the Council had to deal with; they had not the support which they ought to have. It was of comparatively little importance how good a man they sent to the Council if he did not speak with the united voice of the profession. The stronger their voices were the greater would be his power on the Council. It had been said that the profession should be represented by a general practitioner, and he was in sympathy with that statement. But it was not enough that a man should be a general practitioner to be a member on the Council. If they had not a general practitioner in the person of Sir Walter Foster, they had one who was fully in sympathy with all general practitioners, who knew of the difficulties and evils existing and how best to meet them. He, therefore, begged to support the candidature of that gentleman.

The motion proposed by Dr. Cleveland was then put and carried by a majority of 54 against 7.

Sir W. Foster, in proposing a vote of thanks to the Chairman, said he was much obliged to his opponents for having come to the meeting, because it gave him the opportunity of disposing of their charges and obtaining a large vote of confidence from his medical brethren. A personal attack had been made upon him without any previous notice, which he had to answer on the spur of the moment, and they had interpreted his position so accurately, and been so just in their judgment, that he could only inadequately express his gratitude by tendering them his most heartfelt thanks.

A vote of thanks was carried by acclamation, and the proceedings concluded.

The Election of Direct Representatives.

Sir,—May I ask all practitioners to record their vote in favour of Sir W. Foster? He has served practitioners for ten years upon the General Medical Council along with Mr. Wheelhouse. When, in 1891, I was asked to stand against Sir Walter (my election expenses being guaranteed) I refused to do so. It will also be remembered that at the last election I publicly offered to withdraw if Sir Walter agreed to stand again. I need not say that he is a member of the House of Commons, and that his opinion upon medical questions in the House is eagerly sought. He also acted as Chairman of the Select Committee of the House of Commons in 1893 upon Death Registration, and the report of this important Committee must form the basis of future legislation. Further, he was Parliamentary Secretary to the Local Government Board in the last Administration, and I need not add how great a debt all Poor-law medical officers owe to him; also his efforts last session upon the Scottish Public Health Act, and in connection with the dealing of the threatened cholera epidemic should plainly show all medical officers of health that he is the best candidate. I need only state that in all our efforts to effect reforms at the General Medical Council in connection with the threatened repeal of the Medical Act 1886 by establishing an inferior order of midwifery practitioners, and in the improved education of medical students in practical midwifery, we have always had Sir W. Foster's earnest support.

A grave crisis now threatens us. No practitioner should fail to record his vote. If he do, he is an enemy to all reform.

This year the British Medical Association has given its Gold Medal of Merit to Sir Walter. Let its members now elect him to the General Medical Council.—I am, etc.,

Liverpool, Sept. 25th. Robert R. Rentoul.

Retirement of Mr. Jackson.

Sir,—I shall feel obliged if you will allow me, through your columns, to inform your readers that I have retired as a candidate as a direct representative on the General Medical Council in favour of Sir W. Foster.

He is a candidate who is well worthy of our support. He will oppose any attempt to create an inferior order of practitioners by throwing the ægis of registration over the midwives; and I believe is the strongest candidate all round that we can have at the present time. I wish to take this opportunity to thank all those who have promised to support me, and trust they will now support Sir Walter Foster, who practically will advocate the same views, and by the advantages of his position will be enabled the better to enforce our views on the Council.—I am, etc.,

Plymouth, Sept. 28th. G. Jackson.

Sir Walter Foster's Candidature.

Sir,—On my return from Canada at the close of last week, I was greeted with the unexpected news that Dr. Rentoul had resigned the chair in the General Medical Council to which he had been so recently elected by the voice of the profession.

I found many letters urging me to reconsider my action in leaving the Council, and to permit myself to be nominated for re-election, with assurances of earnest support if I would do so. I am profoundly grateful to my many friends for these proofs of confidence and appreciation, but seeing that the causes which originally led to my resignation are all operative still, some with increased influence, I find it impossible to accede to the request.

But I am beyond measure pleased to see that my younger colleague, Sir Walter Foster, is again a candidate, and I most heartily wish him success. That his reappearance in the Council would be acceptable to that body is, I think, beyond question. His experience of its work, and his parliamentary position alike, point him out as a most eligible representative, and the profession is, in my opinion, to be congratulated on the opportunity afforded to it of again securing his services. Will the profession for once rise in its strength, and, putting aside the chilling apathy which has hitherto marred all the efforts of its representatives, unite to record its vote in favour of one who has already proved himself a worthy representative? Sir Walter is too well known to leave any room for doubt as to his capability, and his world-wide reputation marks him as a candidate whose claim cannot be surpassed.—I am, etc.,

Filey, Sept. 28th. C. G. Wheelhouse.

Sir,—Everyone will admit that in Sir Walter Foster, M.P., and Professor Victor Horsley, F.R.S., we have two excellent candidates, and must regret to see them opposing each other. It is quite evident that nineteen-twentieths of their programme is identical, and that the remaining one-twentieth is the midwives' question. Essential as this difference is, we

will not, for the moment, dwell upon it. Sir Walter Foster has faithfully served the profession for ten years on the General Medical Council, a mark of appreciation of which our Association recently presented him with its gold medal at the London meeting. For many years previously he had been identified with medical progress, having been qualified in 1860.

On the other hand, Mr. Horsley has been President of the Medical Defence Union four years and a-half, and was qualified in 1881.

There is thus a great difference between the experience of the two men in medical politics. There is evidently plenty of time before Mr. Horsley without endeavouring to oust Sir Walter Foster just now, and as the former has had his four and a-half years' experience in the Medical Defence Union, and the latter ten years on the General Medical Council, it will strike everyone as the wisest course for the benefit of the profession for each to go on with the work for which he is so eminently "fitted by his previous training," as Mr. Horsley so aptly quotes. We must also bear in mind that Mr. Horsley could not retain the above presidency if he were elected on the General Medical Council. This would be a distinct loss to the profession and to the Defence Union. I have no doubt that nine-tenths of the readers of the BRITISH MEDICAL JOURNAL will agree with me that the strongest candidate to elect and the wisest course to take at the present juncture, and best calculated to promote our interests is to return Sir Walter Foster, and thus enable Professor Horsley to continue as the President of the Medical Defence Union.—I am, etc.,

Manchester, Sept. 28th. G. H. BROADBENT.

SIR,—I think it would be regrettable if a contest were to take place between such doughty champions of our honour and interests as Sir Walter Foster and Mr. Horsley. Mr. Jackson having very graciously and unselfishly retired, is it not possible for Mr. Horsley to do the same?

If, however, a contest be unavoidable, a task which is, at first sight, rather difficult, will be thrown on the electorate, that is, to decide between the merits of such eminent rivals.

On the urgent questions affecting the honour, if not the very existence, of our profession as an honourable one, their views appear to be almost identical. On that terrible "midwives" question a difference, however, exists, and it is worth noting. Whilst Mr. Horsley is in favour of the draft Bill which seeks to register midwifery nurses to attend confinements, Sir Walter is "resolutely opposed to any legislation to register women as midwives and enable them to practise midwifery without the superintendence of a registered medical practitioner."

Putting aside Sir Walter's ten years' work on the Council—marked, as it is, by the best work yet done in the direction of the improvement of our profession—may I suggest a question which each elector might ask himself: "Which of the candidates, if elected to the General Medical Council, is more likely to be able to carry into effect his programme of reform?"

"Man proposes;" and in an assembly which numbers twenty delegates of "vested interests" and five Crown nominees, as against five representatives of the profession, the big majority soon "disposes" of the most reasonable suggestion of reform.

The profession at large is accused of indifference as to who represents it on the General Medical Council. I do not think it is indifference; more likely they have noticed facts.

Mr. Horsley is a brilliant man, and, I believe, an earnest reformer, but on the Council he would count one. But if we elect Sir Walter Foster to represent us, we also elect a distinguished member of Parliament—a man who, in all human probability, will one day be a Cabinet Minister. On the General Medical Council he is more than a vote, whilst in Parliament he would truly be "the Member for Medicine."

Human gratitude is probably "off," but we fail to recognise its modern meaning if we fail to return our old friend Sir Walter Foster with a big vote.—I am, etc.,

Saddleworth, Sept. 28th. COLIN CAMPBELL.

SIR,—As a member of both the Medical Defence Union and of the Incorporated Medical Practitioners' Association, I beg to protest against the tone which Dr. Bateman has thought fit to adopt in his letter of advocacy of Mr. Horsley's candidature. The one body has as much right to its existence as the other, and to choose that name which, to the majority of its members, most fitly represents its objects. The avowed object of the existence of the Incorporated Medical Practitioners' Association is the promotion of medical reform, as being the root question, of which quackery, medical aid societies, and *hoc genus omne*, are merely suckers. With such abstract ideas of excellence as its guiding principles, the Incorporated Medical Practitioners' Association does not in the present state of professional apathy, appeal so strongly to support as one which, like the Medical Defence Union, promises material and immediate help of all kinds, but when the former has accomplished its objects the work of the latter will be very considerably lessened. That Mr. Horsley is a very strong and a highly desirable candidate cannot be disputed, and he will remember that I expressed to himself personally my regret that he did not come forward on the last occasion. Mr. Jackson did so, with a very creditable, if not entirely satisfactory, result, and he was selected by the Incorporated Medical Practitioners' Association at that time, so that, being prepared with a candidate whom the Council knew to be acceptable to its constituency, it was only natural that (there being no candidate of similar strength in the field, and time being limited) an effort should be made to complete the success with which the efforts of the Incorporated Medical Practitioners' Association, *pace* Dr. Bateman, were crowned on the last occasion. That the selection of the Association commended itself to the profession at large is sufficiently shown by the result of the poll on that occasion. Two candidates were returned, and the third was highest among the unsuccessful ones.—I am, etc.,

Old Kent Road, S.E., Sept. 24th. EDWARD C. BOUSFIELD.

SIR WALTER FOSTER AND THE INCORPORATED MEDICAL PRACTITIONERS' ASSOCIATION.

THE following letter has been addressed by Sir Walter Foster to the Chairman of the Central Council, Incorporated Medical Practitioners' Association:

Temple Row, Birmingham, Sept. 28th, 1897.

DEAR DR BEDFORD FENWICK,—As I understand the Council of the Medical Practitioners' Association will meet to-day, I write to express a hope that your Society will be able to support my candidature for the General Medical Council.

I am willing to go back to the work, because I see plainly that someone with experience is required on the Council in this crisis in the history of direct representation, and also because I am seriously concerned at the great overcrowding in our profession, at the grave difficulties which face the general practitioners in the shape of hospital abuse and medical aid associations, and at the enormous development of quackery and irregular practice. If I am returned to the Council I shall do my best to remedy these conditions, which I am convinced are a real peril to the great body of the profession.

I hope the Council will use its present powers to prevent registered members of the profession acting in any way, through medical aid associations, to the injury of our calling.

As regards the Midwives Bill, I blocked it all last session, and I shall resist the passage of any Bill which would register midwives and enable them to practise midwifery without the supervision of a registered medical practitioner. I will do all I can to improve the education of midwifery nurses, but they must be kept in the position of nurses.

I am in favour of increasing direct representation, and of lessening the number of the representatives of corporations on the Council, who should in all cases be elected by the whole body of Medical Graduates or Licentiates of the Corporation, and not by a Council.

Lastly, I think that the preliminary examinations for entrance into the profession might well be raised. We have too many men entering the profession, and the Council would, I think, be justified under these circumstances in ensuring a more careful selection of those who enter on the medical curriculum. I can with confidence appeal to my record on the Council during the ten years I served the profession

there, as the best evidence of the spirit in which I should take up the work again.—Yours very truly,

B. Walter Foster.

P.S.—I am in favour of amendment of the Medical Acts to make the constitution of the Council more representative, and to increase its powers for the protection of the public and the profession from quackery and irregular practice.

Mr. Horsley and Overcrowding in the Medical Profession.

Sir,—As much attention has recently been directed to this subject, and as it is one of enormous importance, not alone to those struggling against it, but to intending students, I submitted the questions appended to Mr. Horsley at the meeting held at Manchester recently.

Manchester is not the best (or worst?) example of overcrowding, and the number of medical men named is probably 20 per cent. in excess of those actually in practice. If these were deducted, there would be, according to Mr. Horsley, "support" for about 120 more medical men in Manchester.

I do not suggest that Mr. Horsley's views on this subject disqualify him for the General Medical Council, but they certainly want consideration.—I am, etc.,

Colin Campbell.

Saddleworth, Sept. 23rd.

Questions: You asked in 1891—speaking to students—(British Medical Journal, 1891, vol. ii, p. 739), "What number of the population is able to support a medical man?" and replied, "This, I believe, is usually supposed to be 1,200.....If the population is increasing, then the certainty of your success is assured. If it be stationary, there is always the chance that some day there will come someone mightier than yourself." Applying this to Manchester, with a population of 505,638, and 322 registered men (all included), which gives one doctor to every 1,569.5 of the population, (1) are you prepared to advise students and intending students that Manchester will support 99 more doctors, thus bringing the proportion up to one doctor to each 1,200 of the population? (2) How much per annum do you consider sufficient to support a medical man? (3) Do you derive any of your income from the fees paid by medical students?

Answers: (1) Yes. (2) £400 a year. (3) Yes; about £25 a year.

Mr. Horsley's Candidature.

Dr. Hamilton Hall (Frant, Sussex) writes: It is with great pleasure that I see the address of Mr. Victor Horsley, announcing his candidature at this election, and I sincerely trust that we shall seize this great opportunity of securing for ourselves a real representative. Everyone in the least degree familiar with the events of the last few years knows that there is not in the whole profession a man possessing wider knowledge of the needs, or broader sympathies with the trials, of the general practitioner than those which Mr. Horsley has so earnestly manifested. It is no exaggeration to say that our requirements, our difficulties, and our aspirations are as familiar to Mr. Horsley as they are to any of ourselves; and it is quite certain that he knows far better than most of us how the improvement we desire can most hopefully be attempted. When we consider the qualities most necessary in a representative who shall do us justice, it appears that the first requisite is a full, accurate, and minute knowledge of our case and position. Then the representative should really desire to apply this knowledge wholly and solely in our collective interests. Next it is desirable that the representative should possess the intellectual capacities necessary to give effect to his intentions. Lastly, he must have such tact, experience, and knowledge of affairs as to give him due weight with the Council.

I see that some of your correspondents look for qualifications other than these. Some seem to think the kind of practice done by the candidate a matter more important than the kind of representation we are likely to obtain. What we want is a man to represent general practitioners, not a general practitioner to represent us. This should be obvious to anyone. When we find a splendid candidate who, as we already well know, will not grudge us time, nor labour, nor brains, the fact that he has or has not some particular degree or diploma, or sees chiefly some particular kind of practice, is totally insignificant. We want a man, not a description, and we want him badly.

Other correspondents seem to attach weight to geographical distinctions, though it is hard to imagine wherein lies the virtue or the disadvantage of any particular locality. Others have their vision so obscured by some single object, that they are blind to everything else. Midwifery nurses, specialism, views of men expressed years ago, and under totally different circumstances, every kind of fad, every shade of egotism, is thrust forward as a reason why we should support some other candidate. If our attention can be diverted from our true objects by such miserable red herrings as these, we shall once more demonstrate a lamentable ignorance of our own interests.

Some of our former representatives have worked hard for us, and some have not done so much as was expected of their opportunities. We have had "excessive zeal" no doubt, and we have had apathetic indifference also, but we have not had level-headed, single-hearted, temperate, persistent, statesman-like representation in association as yet, with exhaustive knowledge of our requirements, and intimate acquaintance with the devices of the impostor. Surely we know by now not only what we want, but also what we do not want. When Mr. Horsley offers himself as a candidate for our suffrages we have an opportunity of securing in an eminent degree all the qualities we should seek in our representative, and if we cannot unite to avail ourselves of our opportunity we are indeed unable to help ourselves, undeserving of the aid of others.

Mr. Victor Horsley's Candidature.

The following meetings will be held in support of Mr. Victor Horsley's candidature:

London.—Friday, October 1st, 5 P.M., at the Medical Society's Rooms, 11, Chandos Street.

,, At a meeting of the Medico-Ethical Association of North-East London on Friday, October 1st, 9 P.M., Mr. Horsley will read a paper on Medical Reforms.

Norwich.—Saturday, October 2nd, 4.15 P.M., in the Library of the Norfolk and Norwich Medico-Chirurgical Society, Guildhall Hill, Norwich. The chair will be taken by Sir Frederic Bateman, M.D., LL.D., Consulting Physician to the Norfolk and Norwich Hospital.

Sir Walter Foster's Candidature.

Sir,—I have the greatest respect for Mr. Victor Horsley as a candidate for the vacant position of direct representative on the General Medical Council, but would venture to point out to my fellow provincial practitioners that there are already two of the three direct representatives who are metropolitan, and with all respect submit that two out of three is a very fair proportionate share of representation. It behoves, therefore, all "provincials" to vote for a provincial man, and there can now be no better candidate than one who has already done us such excellent service—Sir Walter Foster.—I am, etc.,

W. D. Spanton.

Hanley, Sept. 28th.

Sir,—I am requested by the Central Council of the Incorporated Medical Practitioners' Association to ask you to be good enough to publish in your issue of this week the following resolution, which was unanimously passed at a meeting of the Council held yesterday:

The Central Council appreciates the motive of Mr. George Jackson's withdrawal as a candidate at the present election of a direct representative on the General Medical Council. Having heard Sir Walter Foster's letter to the Chairman of this Council, and having regard to the invaluable services rendered to the medical profession by Sir Walter Foster in his ten years' tenure of office as a direct representative, and to the fact that he supports the programme of this Association, the Central Council strongly recommend that the active support of the members of this Association should be given, at this election, to Sir Walter Foster.

We have good reason to hope that our members and local secretaries will work as successfully in promoting the election of the candidate now supported by our Association as they did at the election last November.—I am, etc.,

Hugh Woods, M.D.,
President of the Association.

11, Adam Street, Strand, W.C., Sept. 29th.

Interrogatories for Candidates.

To Sir Walter Foster, Kt., M.P.; Professor Horsley, F.R.S.; Dr. E. Diver; Dr. James A. Rigby.

Dear Sir,—As earnest supporters of the principles and policy of medical reform which were enunciated by the Association of Fellows and Society of Members of the Royal College of Surgeons of England at the late general election, and most ably and eloquently advocated by that great and devoted reformer, our lamented friend the late Mr. Walter Rivington, we feel that those principles and that policy, with such developments as more recent circumstances have necessitated should, as affording the only practical means of attaining the ends in view, be submitted for the consideration of every candidate for a seat as a direct representative of the profession on the General Medical Council.

As the course most usual and strictly in order under present circumstances, we submit them in the form of a series of questions; not with any desire to embarrass your candidature or dictate to your judgment, but because whatever that judgment may be on the several points, we feel that it is due to the profession and ourselves to invite considered expression of it, which we believe cannot but contribute to the formation of correct opinion, and to the adoption of practical and useful measures.

We concur in the conviction which Mr. Rivington so well expressed, that the key of medical reform is the reform of the Corporations, and especially of the greatest of them, the Royal College of Surgeons of England; but in this respect, and in all others, we have endeavoured to restrict our questions to the actual or proper potential functions of the General Medi-

cal Council and its members.—We have the honour to be, dear Sir, your obedient servants,

J. REES GABE, M.D., M.R.C.S.Eng.,
16, Mecklenburgh Square, W.C.
GEO. JACKSON, F.R.C.S.Eng.,
Plymouth.
JOSEPH SMITH, M.R.C.S.,
Chiswick.
W. G. DICKINSON, M.R.C.S.,
Putney.
R. B. ANDERSON, F.R.C.S.Eng.,
30, Montague Place, W.C.

QUESTION ADDRESSED TO CANDIDATES FOR A SEAT ON THE GENERAL MEDICAL COUNCIL.

On certain of these questions Candidates are known to hold affirmative opinions, but their views as to proper lines of action are not known.

1. Are you of opinion that the Council should exercise its powers and apply its funds in carrying into execution, without distinction, by all available means, every section of the Medical Acts, including those which provide for the rights of medical practitioners for certifying which it takes our fees? (Section xxxi Act of 1858, and vi of Act of 1886.)

2. Will you promote vigilant observation by the General Medical Council of the performance of their duties by public departments and officials in relation to the functions, rights, and interests of the medical profession under the Medical Acts and to the public welfare; as, for example:
   (1) By Coroners' Courts in relation to certificates of causes of death and to cases of manslaughter or murder by negligence of attendants or guardians coming before those Courts.
   (2) By Magistrates' or other Courts not satisfactorily giving effect to the provisions of the law relating to the Medical Acts; with a view to the due enforcement of the law by suitable representations or other practicable measures, or, as often as may be necessary, the promotion of the amendment of the law to enable the Medical Acts to be properly and fully "carried into execution," which it is the function of the General Medical Council to do, and to insist upon?

3. Amongst such amendments of the law will you promote measures as follows, or modifications thereof:
   (1) To render a medical certificate of death with particulars, and a minimum or a definition of "attendance," or a coroner's inquest and a *post-mortem* examination, essential conditions precedent to registration of death.
   (2) To bring home to all unregistered persons a full responsibility for all injuries inflicted, or fraud or misstatement practised by them for gain, by any pretence or assumption of medical skill, with a full civil remedy for the recovery of all moneys so obtained as having been "paid to the use of the person paying them," together with all costs of so recovering them, and damages for injuries inflicted.
   (3) To restrain, as far as may be practicable, all false and misleading or exaggerated announcements and advertisements of claims to medical skill or knowledge, or of healing properties of powers of drugs or of persons; and especially in relation to the organs of reproduction.
   (4) To restrain chemists from prescribing and selling to the lay public medicines or drugs (except patent medicines under above restrictions) as compounded for, or remedial to, any ailments or symptoms.
   (5) To render illegal the employment by any public department, or any municipal or public body, or by any society of persons registered under any Act of Parliament, of unregistered persons for the performance of any medical function.
   (6) Whilst opposing the registration of midwives will you support the insertion of a provision in any Act of Parliament for the training or registration of nurses that whereas such nurses have no medical training their presence in no way relieves those who may be concerned of any responsibility to provide medical attendance, and that by undertaking, or pretending to undertake, any medical care of any case, or to render any medical attendance on any case, any such nurse renders himself or herself responsible in the first degree for any injurious consequences of such interference, or of any delay thereby occasioned, besides any disciplinary consequences for misconduct as a nurse.
   (7) The insertion of a provision into any such Act that whereas the successful treatment of patients and their efficient nursing require the teaching, training, and control of nurses by medical men, any council or other body or bodies to be created for the purpose of regulating such teaching, training, and control consist of registered medical practitioners only, and be brought under the authority of the General Medical Council.
   (8) To enlarge the powers of the Council in the following several respects:
      (*a*) The establishment of a single examining body in each division of the United Kingdom.
      (*b*) The censure or suspension of Registered Practitioners to enforce the ruling of the Council in case of conduct contrary to professional ethics, but which may not seem to call, in the first instance, for removal from the *Register*.
   (9) To establish a State Medical Department in which the General Medical Council should correspond somewhat in functions and position with those of the Council for India.
   (10) To remit to the police and the Treasury all duties of prosecuting quacks or other offenders; the proper functions of the medical profession in relation to such matters being advisory and supervisory only.
   (11) To increase to at least ten the present number of direct representatives on the Council.

4. Will you promote in the Council the adoption of the following measures and rulings:
   Measures.—(*a*) Increased efficiency of Preliminary Examinations.
   (*b*) The return to a (modified) system of Apprenticeship, by way of compulsory "Articled Pupilage" during some part of the Curriculum.
   (*c*) The utilisation of all available opportunities and institutions for clinical instruction, especially in midwifery.
   (*d*) A recommendation to at once add a direct representative for each division of the kingdom, omitting if necessary the Crown representatives.
   Rulings.—*A.* That the following lines of conduct are contrary to the ethics of the profession;
   (1) The advocacy to the public of any method or system of treatment.
   (2) Any advertising to the public, direct or indirect, of any method or system, or of any advantages of such method or system, or of treatment by any person, or of terms for treatment, in which the name or authority of any registered practitioner is made use of with his sanction, tacit or express.
   (3) The covering of lay persons in medical practice, with more strict definition.
   (4) The carrying on of medical practice under the cover or for the profit of lay persons or societies, and under circumstances that do not give the practitioner necessary opportunity for the proper discharge of his functions.
   (5) Any methods or acts which deprive, or actively tend to deprive, other practitioners of their attendance on patients; always excepted the right to undertake attendance on those who of themselves desire to discontinue the services of a previous attendant.
   (6) The above methods, or acts, include attendance (whether wilfully or by culpable negligence) in any charitable institution of persons or cases not fit objects of charity or of special attendance; or unless with the concurrence of such previous attendant.

5. Will you move or support at the Council Board a motion to investigate, if that has never been done, the authority by which the corporate representatives on the General Medical Council are severally appointed, and whether their several appointments are valid and regular under the Medical Act?

6. Will you, in and outside the Council, promote the choice of representatives of the Corporations on the Council by the constituencies or members of the Corporations instead of by the governing bodies as now prevails in some cases, contrary to the words of the section? (Sec. VII, Act of 1886, "chosen by each of the following *bodies*").

7. Will you in these several respects move or support motions at the Council Board in order to bring the necessary measures prominently forward, and divide the Board that the Profession may distingnish its friends?

8. Will you, if necessary, on such measures take part in reports of the minorities to the Government, and in petitions and representations to Parliament for necessary reforms and amendments of the law, and in efforts to co-ordinate the action of all bodies and societies in the Profession working for these objects?

SIR,—I enclose a copy of a letter I have just written to Sir Walter Foster regarding what I call the unscrupulous and unfair tactics adopted by him or his Committee, or both, in the conduct of the present contest for a general practitioners' representative on the General Medical Council, which I will thank you to publish in your next Saturday's issue.

I will not comment on the fact that the lay press has been induced to scatter broadcast a false and misleading statement in order to buttress Sir Walter's position, which, after the ten years' faithful services he so modestly alludes to, surely ought to have been able to speak for themselves.

In bare justice to myself, I ask you to insert these two letters.—I am, etc.,

Preston, Sept. 29th. JAMES A. RIGBY.

[Copy.]

15, Winckley Square, Preston, Sept. 29th, 1897.

Sir Walter Foster, Birmingham.

SIR,—I have just received a circular letter of your address enclosing a preliminary list of your alleged nominators and supporters. I notice with extreme regret that this list is headed with the following extract from the *Birmingham Daily Post:*

GENERAL MEDICAL COUNCIL ELECTION.

MR. GEORGE JACKSON, F.R.C.S., of Plymouth, who was the candidate of the Incorporated Medical Practitioners' Association, has retired in favour of Sir Walter Foster. Mr. Jackson's retirement means a great accession of strength to Sir Walter Foster, who is now practically the only provincial candidate.

I presume this letter and the enclosures were issued with your knowledge and sanction, and, as the statement that you are "now practically the only provincial candidate" is both false and misleading, I call upon you to withdraw it immediately in the same public and effective manner in which you have circulated it—that is, by circular.

You must be aware that I am, as well as yourself, a provincial candidate, nominated and accepted, and that my address was issued before your own.—I remain, Sir, your obedient servant,

JAMES A. RIGBY, M.D.

EPIDEMIC OF TYPHOID FEVER AT MAIDSTONE.

It has happened in every previous typhoid epidemic that has been investigated, that the primary source has been found in a contaminated water supply. The present epidemic at Maidstone is no exception to the rule. The following particulars have been ascertained by our Special Commissioner, with the kind co-operation of Mr. Adams, the medical officer of health, and from the (to their credit be it said) frank and readily accorded information of the waterworks authorities.

When the epidemic first gained a footing in the town it was at once evident that a rational explanation of the case incidence could only be in some infection of the local water supply. The town of Maidstone is supplied from no fewer than three distinct sources, two from the north from the chalk hills of Boarley and Cossington, and one from the south-west from the ragstone springs of Farleigh.

The chalk supply has throughout the epidemic been above suspicion. It is carried in iron pipes from the hills of Boarley and Cossington, the latter being a gravitation supply, and the former being pumped.

The Farleigh Supply.

It is on this source that suspicion fell early in the epidemic, which more detailed investigation has recently sufficed to confirm. Altogether there are fifteen springs contributing to the supply: Three at Ewell Manor, three at Tutsham Hall, and nine along the north side of the South-Eastern Railway, between Banjet House and Scrace's Farm, in the parish of East Barming. All the springs rise very near the surface. The Ewell Manor springs are not supposed to be polluted. The Tutsham springs have been the cause of the mischief, and their condition is certainly one that ought never to have been tolerated.

One of the springs takes the form of a pool situated in the middle of an orchard and surrounded by an ordinary paling fence. It will hardly be believed that the pool itself is actually used as a watercress bed—a fact that of course offers a considerable possibility of contamination every time the cress is gathered. The other Tutsham spring is a surface spring just below the turf in the middle of a meadow which has an unfenced road running through it. It is less than 3 feet below the surface, which is of clay. Now here we have all the elements necessary to allow of easy contamination. During the dry weather the clay dries into a cracked and fissured mass, which means that direct channels are provided by Nature to the surface springs immediately below—thus rendering infection of the water the easiest possible matter. And this is exactly what happened: a number of hop-pickers have actually been allowed to encamp in the very field in which is situated this spring, and on inquiry by the medical officer of health it has been found that this colony suffered during its stay from enteric fever. The rest is obvious.

Having received the Ewell Manor and Tutsham springs, the collecting main crosses the Medway near Teston, and, turning eastwards, follows the line of that river, between it and the railway, as far as the collecting tank at East Farleigh. Here are situated the filter beds and the pumping station, which pumps the water through the rising main, which here starts for Maidstone. Between Teston and East Farleigh are situated the Barming springs. These are of a similar nature to the Tutsham and Ewell sources, and were until recently in a similarly unprotected state.

The Distribution of the Farleigh Supply in Maidstone.

Having been pumped into the Barming reservoir, which is some 237 feet above sea level, the water supplies the area shown in the map as shaded. All the rest of the town is supplied by the Cossington and Boarley water.

It will be evident from the above and from inspection of the map that the Farleigh supply is distributed to a very large portion of the town, but not to the most thickly populated portions. When between September 19th and 20th the cases had reached 306, the distribution was as follows: In the area of the Farleigh supply, 295, while in the Cossington and Boarley areas 11 only. The evidence, then, that the Farleigh water was at fault is overwhelming; and, when the hop-pickers' encampment incident is remembered, the conclusion is inevitable that here we have the *fons et origo mali*.

What has been Done.

There certainly has been made on the part of the medical officer of health (Mr. Adams) and the local authorities, every effort to combat the disease. The suspected springs in the Farleigh area have all been closed and disconnected, leaving only for supply the Ewell springs and one of the nine on the north side of the railway. The whole of the Farleigh system of mains has been emptied and all the reservoirs cleaned out. But we must question the wisdom of using any of the Farleigh system of pipes until some adequate sterilising process has been carried out. Mere washing with clean water is hardly sufficient to disinfect a complicated system of mains and feeders after having conveyed infected water, and we should have preferred to have seen the whole infected system sealed from access until some more efficient measures had been adopted. As completing the evidence condemning the Farleigh supply, we understand that Dr. Washbourn has identified the bacillus typhosus in the suspected springs.

A detail of distribution, which is of value in confining the source of the epidemic to the Tutsham spring, is the fact that at Ewell Hall, which is supplied by water from the same collecting main as the infected areas, but before the reception of the Tutsham spring, no case of typhoid has occurred among the residents.

Against the theory of the Farleigh supply being the cause of the epidemic it was at first urged that the Barming Asylum, which was supplied from this source, remained free from infection. Hardly had the objection been made, however, before cases broke out.

Precautions now in Force.

All the necessary orders as to the boiling of water and milk have been issued by the authorities, the public generally seem to be well aware of the necessity of such precautions, and it is no uncommon thing to find tradesmen's announcements as to the fact that all mineral waters, etc., supplied by them have been manufactured from boiled water. There can be no doubt that the Farleigh supply is at the bottom of the mischief. The whole collecting area is one that should be completely overhauled. It seems to have been constructed with great carelessness. Along the line of the collecting main, after the reception of the Ewell and Tutsham springs, there is a row of small cottages. The supply for these is actually drawn direct from the collecting main by a lift pump common to the whole row, an arrangement that might have been designed to facilitate infection of the main. In this row of cottages diarrhœa had been prevalent before the outbreak in Maidstone.

The Filter Beds.

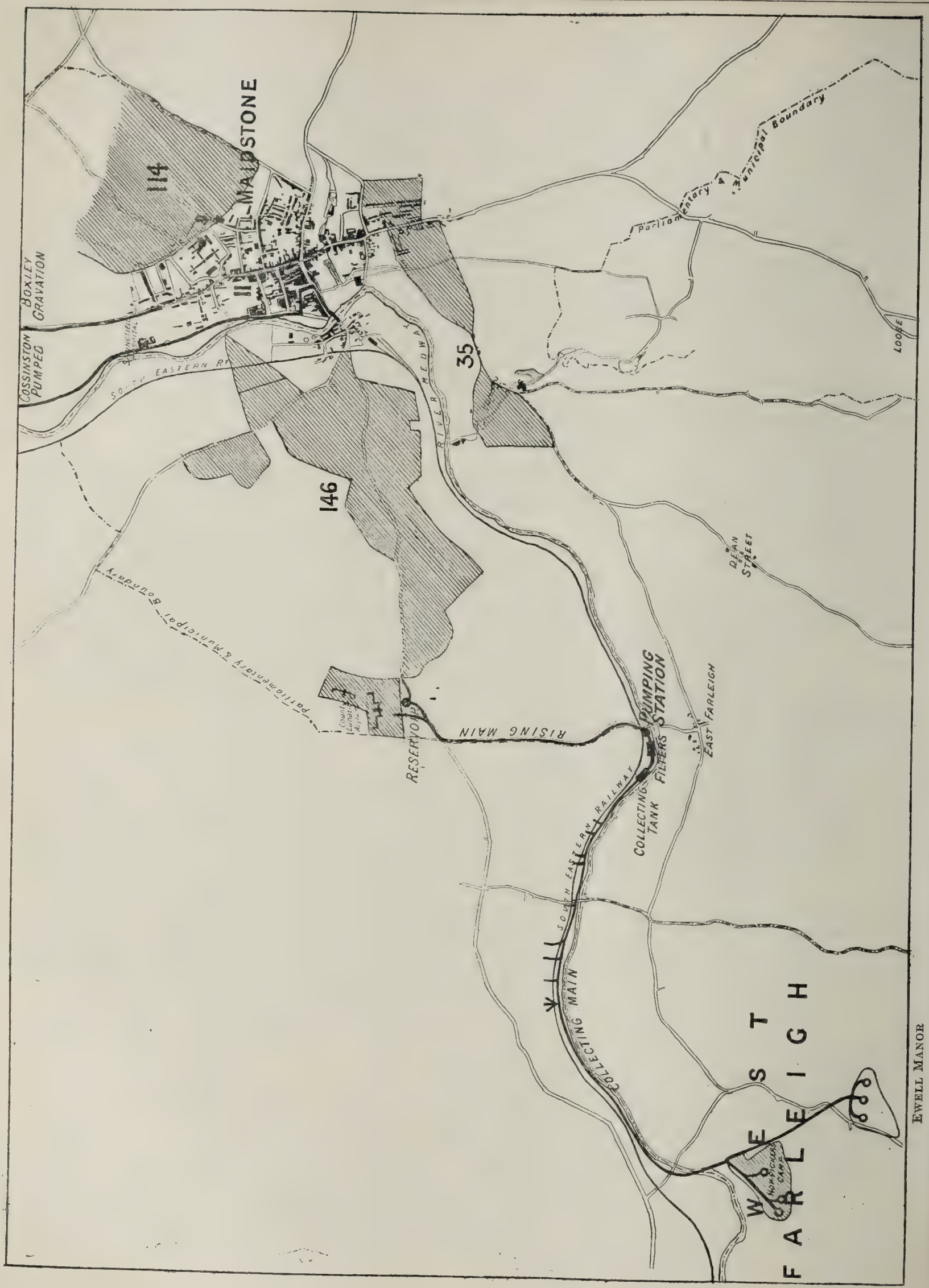
For some time past the filter beds interposed in the course of the Farleigh main have not been used. They are of the usual sand variety, and have recently been relaid, and are now in use. In view of the admitted inefficiency of sand filtration, especially in freshly constructed filters, to completely arrest disease germs, this precaution on the part of the water company seems singularly futile. As we have already said, we should have preferred to have seen the whole infected system of pipes, mains, and feeders completely closed down, either for such time—some three weeks—as the typhoid bacillus is known to survive in water, or until some adequate sterilising arrangements had been adopted. At present the epidemic shows very little signs of abatement, a similar fall in the daily notification to that which has occurred during the last few days having taken place on a former occasion. Up to date the notifications have been as follows:

Daily Summary.

Date.	Notifications.	Total Notified.	Date.	Notifications.	Total Notified.
Sept. 11	2	2	Sept. 21	68	395
,, 12	4	6	,, 22	78	473
,, 13	1	7	,, 23	59	532
,, 14	3	10	,, 24	88	620
,, 15	1	11	,, 25	104	724
,, 16	27	38	,, 26	74	798
,, 17	26	64	,, 27	54	852
,, 18	66	130	,, 28	40	892
,, 19	76	206	,, 29	46	938
,, 20	121	327	,, 30	53	991

The striking distribution of cases exemplified by the map has in the last ten days become less marked, although it still preserves its original character, depending on the water distribution. On the 29th the distribution was:

Cases in the Fairleigh supply area	810
Cases in other than the Fairleigh supply area	146



Sketch map reduced from the ordnance survey of Maidstone and environs; the shaded areas are supplied by the Farleigh water; the portions of the town surrounded by them by the Cossington and Boarley water. Scale 2 inches to 1 mile.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A meeting of the Council will be held in the Council Room of the Association, at No. 429, Strand (corner of Agar Street), London, on Wednesday the 20th day of October next, at 2 o'clock in the afternoon.

Francis Fowke, *General Secretary.*

September, 1897.

NOTICE OF QUARTERLY MEETING OF COUNCIL FOR 1897.

A meeting of the Council will be held on October 20th, 1897. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before the meeting.

Election of Members.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

Francis Fowke, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

Aberdeen, Banff, and Kincardine Branch.—The annual meeting of this Branch will be held in Marischal College, Aberdeen, on Saturday, October 16th, 1897, at 12 o'clock noon. Particulars will be sent to members by circular.—C. Thiselton Urquhart, J. Scott Riddell, Honorary Secretaries, Aberdeen.

Metropolitan Counties Branch: East London and South Essex District.—The first meeting of the session will be held at the Town Hall, Hackney, on Thursday, October 21st, at 8.30 P.M. The chair will be taken by Mr. Frederick Wallace, President of the Branch. Mr. Howard Marsh, F.R.C.S., will read a paper entitled, Operative Surgery of the Present Day in its application to Affections of the Joints, with Cases.—Herbert E. Powell, Honorary Secretary, Glenarm House, Upper Clapton.

North of England Branch.—The autumnal meeting will be held at the Talbot Hotel, Bishop Auckland, on Thursday, October 7th, at 5.15 P.M. Dr. Wardle will show a child, aged 3 years, from whose Belly he removed a Hat Pin (swallowed); also a man on whom he performed Enterostomy in July, 1893; also a Malignant Growth, removed from the Inguinal Region. Dr. Squance will exhibit some Skiagraphs. Mr. Rutherford Morison will read a paper on a New Operation for the Treatment of certain forms of Abscess due to Pelvic Cellulitis, with Notes of Five Consecutive Cases. Dr. Hume will show a specimen from a case of Pyosalpinx; and a Tumour from a successful case of Pylorectomy. Dr. Murphy will read a paper on Vaginal Hysterectomy; and will exhibit a Skiagraph of a Bullet Wound. Dr. Drummond will exhibit a Tumour of the Brain. Dr. Murphy will lay before the meeting a summary of the report of the Subcommittee appointed by the Parliamentary Bills Committee to consider the question of advancing Army Medical Reform. The dinner after the meeting is fixed for 6 P.M., at the Talbot Hotel; 6s. 6d. each, without wine.—G. E. Williamson, F.R.C.S., Honorary Secretary, 8, Eldon Square, Newcastle-on-Tyne.

South Midland Branch.—The autumnal meeting of this Branch will be held at the Northampton Infirmary on Thursday, October 7th, 1897, at 2 P.M. Gentlemen wishing to bring forward papers, cases, etc., are requested to communicate at once with the Honorary Secretary. The President, Mr. R. A. Milligan, invites the members to luncheon at the same place at 1 P.M., and requests the favour of a reply not later than Monday, October 4th. Agenda: The President: Introductory Address. Minutes of last meeting. Election of New Members: Messrs. H. C. Addison (Bedford), Charles Quinton (Sandy), and Thos. F. Long (Chesham) will be proposed. Mr. G. H. De'Ath will bring forward a resolution on the question of the dinner at the annual meetings. Dr. T. S. Maguire: A Phenomenal Gestation. Dr. J. Allison: A Case of Pernicious Anæmia. Mr. A. Linnell: An Unusual Cause for Otorrhœa. Dr. W. Newman will exhibit some *X* Ray Pictures. Mr. H. Cropley will probably give a brief summary of his experiences at the Montreal meeting.—C. J. Evans, Honorary Secretary, Northampton.

South-Eastern Branch: North Kent District.—The next meeting of this District will be held at the Hall of the Science and Art Schools, Bromley, on Thursday, October 14th, at 3.45 P.M., Dr. Beely in the chair. Dinner at 6 P.M.; charge 6s., exclusive of wines. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The following papers, etc., have been promised: Dr. Biss (Middlesex Hospital): Chlorosis, its Complications and Treatment. Mr. Keetley (West London Hospital): The Diagnosis and Treatment of Fractures into or near Joints. Dr. Lang: Trichorrhexis Nodosa. Members desirous of exhibiting specimens or of reading notes of cases are invited to communicate at once with the Honorary Secretary, A. Tennyson-Smith, The Birches, Orpington.

South-Eastern Branch: East Surrey District.—The next meeting of this District will be held at the White Hart Hotel, Reigate, on Thursday, October 14th, at 4 P.M., C. E. Oldman, M.D., of Blechingley, in the chair. Dinner at 6 P.M.; charge 7s. exclusive of wine. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The following papers, etc., have been promised: Dr. Washbourn: The Present Position of Bacteriology in reference to Practical Medicine. Mr. W. Arbuthnot Lane: Adenoids. Dr. George Stoker: The Oxygen Treatment, with Exhibition of Apparatus, Lantern Demonstration of Cases, Bacteriology, Oxygen Cicatrices, Lantern Slides, etc. Members desirous of exhibiting specimens or reading notes of cases are invited to communicate at once with the Honorary Secretary, Henry J. Prangley, Tudor House, Anerley.

Shropshire and Mid-Wales Branch.—The annual general meeting will be held at the Salop Infirmary on Tuesday, October 12th, 1897, at 3 o'clock. Members wishing to bring forward any business, to read papers, or show cases or specimens, or to propose any new members are requested to communicate with the Honorary Secretary not later than Saturday, October 2nd.—H. Willoughby Gardner, Honorary Secretary, Swan Hill, Shrewsbury.

SPECIAL CORRESPONDENCE.

BERLIN.

The Congress of German Scientists and Physicians.—Berlin Ambulance Society.—Proposed Deep-sea Exploration Expedition.—A New Hospital for Berlin.

This year's congress of German Scientists and Physicians, which has just been held at Brunswick, was largely occupied with medical matters, and this not only in the work of the Sections allotted to medicine and hygiene, but in the general addresses. Professor Waldeyer's address on Generation and Heredity summed up the knowledge, or rather the theories, of our day on the subject. Professor Johannes Orth (Göttingen), in an address on Medical Education and Medical Practice, pleaded for a longer course of study, and broke a lance for the specialist. The principle of division of labour had helped medicine forward in the astonishing development we had witnessed in late years. In the Section for military surgery Surgeon-General Dr. Eilert read an interesting paper on the Probabilities for Surgical Work in a future War. The increased number of soldiers, the small calibre rifle, and the new smokeless powder would produce new conditions which, even though they could not be accurately realised beforehand in every detail, would certainly lay a far greater stress of work than before on the surgical and ambulance staff.

The Berlin Ambulance Society, "Berliner Rettungsgesellschaft," which has been formed at last after many months of preliminary discussion, and which is beginning its work, bids fair to become a most useful organisation. The existing Berlin ambulances have always been chiefly private undertakings, and though many of them were excellent in their way still they were hampered and often unable to help, through want of a central organisation and affiliation to the municipal and other public clinics and hospitals. The present committee numbers Government officials, and delegates of the Berlin municipality, of the different hospital committees, of the medical societies, and of the Berlin sick clubs. The arrangements decided on are simple and practical. Every public hospital is to have its ambulance station, with a continuous day and night service. A central station has been opened in the city (Oberwasser Str.), where information of the number of free beds is to be given daily from each hospital, and from which this and other information will be telephoned—on demand—to the different ambulances. Other similar stations are to be opened by-and-by; they will be fitted up as day and night ambulance stations, and each managed by a medical committee, elected by its own township. Arrangements for the use of ambulance carriages are being made. The Committee hope that when once their new

organisation is in full work, and its beneficial results begin to be felt, the existing private ambulance stations will join work with them.

At the close of the Brunswick Congress of Naturalists and Physicians, Professors Virchow and Waldeyer and Geheimrath Neumayer brought in a resolution that the German Emperor be petitioned for a grant (from the Royal fund for various purposes) to enable a deep sea expedition in the Indian Ocean to be fitted out. The resolution was unanimously accepted, and the petition will be sent in.

The plans for a fourth (Berlin) municipal hospital have been submitted to the Building Committee, and finally accepted with a few trifling alterations.

LIVERPOOL.

Infantile Diarrhœa in Bootle.—Need for District Nursing.—Nomination of Mr. Victor Horsley.—The Retirement of Dr. Chapman.—The Medical Institution.

MR. R. J. SPRAKELING, the Medical Officer of Health for Bootle, has lately made an important statement as to the prevalence of infantile diarrhœa in that borough. The mortality returns show an exceptionally high mortality from zymotic diseases, the zymotic death-rate for 1896 being 1.38 per 1,000, or 0.59 per 1,000 in excess of the average zymotic death-rate in 133 large towns. Dr. Sprakeling shows that this excessive mortality is due to the remarkable prevalence of diarrhœa during the summer months, this incidence being almost exclusively upon the infantile population, chiefly children under 12 months. The deaths from diarrhœa have averaged 79.7 for the last ten years, reaching 131 in 1893 and 107 in 1895; 130 deaths from this cause have already been certified this year, only 8 being adults. Dr. Sprakeling points out that infantile diarrhœa is a strictly preventable disease, being due to a specific organism which is introduced into the body with the food, to which it obtains access in consequence of the insanitary conditions existing in dwellings, and the common practice of the poor in rearing infants partly or entirely by hand.

Dr. Sprakeling further insists on the urgent necessity for a nurses' home in Bootle, and for a properly organised system of district nursing; and he considers that the present year would be an appropriate time to organise such an undertaking. The Health Committee would be willing to provide a sum of money from the rates towards its support, but its inception would have to depend on private philanthropy.

A nomination paper in favour of Mr. Victor Horsley has been influentially signed in Liverpool, the signatories including Dr. Caton, President of the Medical Institution; Dr. Carter, Mr. Mitchell Banks, Dr. W. Macfie Campbell, and Mr. Chauncy Puzey.

Dr. J. H. Chapman, whose retirement from the post of Medical Superintendent to the Mill Road Infirmary was lately recorded in the BRITISH MEDICAL JOURNAL, has been presented with a testimonial and a cheque for £250 as a mark of the esteem in which he is held by his friends.

The inaugural meeting of the ensuing session of the Medical Institution will be held on October 7th, when the President, Dr. Caton, will deliver the usual address, and will afterwards entertain the members at supper and a smoking concert. The biannual dinner of the Society will take place at the Exchange Hotel on Saturday evening, November 6th.

MANCHESTER.

Culvert System of Sewage.—Teaching of Infectious Diseases.—A Belated Inquest.

"SANITAS, OMNIA SANITAS" is the question of the hour in Manchester. For years the Corporation has been struggling to devise a cheap yet effective method of disposing of the ever-increasing *débris* that has to be disposed of in a rapidly growing community. After much consultation the City Fathers proposed to construct a great culvert, to carry the effluent from the sewage works away from the city, and discharge it into the estuary of the Mersey. At a town's meeting of the citizens the scheme was rejected, but a poll was demanded, and will be taken.

Some time ago the Monsall Fever Hospital was in relation to the Royal Infirmary, and the cases there were treated by the medical officers of the infirmary. The fever hospital at Monsall has now been transferred to the Corporation. It appears that attendance in the fever wards of a hospital for a period of three months is compulsory on all students presenting themselves for the degrees of medicine in Victoria University. When the Monsall Hospital was under the direction of the Royal Infirmary the physicians of the infirmary attended, and gave the students the necessary instruction. When the transference of management was effected it appears from the following paragraph that the Royal Infirmary safeguarded the interests of its physicians and "the interests of medical education." It would further appear that "the Medical Board of the infirmary do not see their way to continue the teaching of infectious diseases to students at the Monsall Fever Hospital." The paragraph referred to is that approved by the Board of Management of the Royal infirmary, to wit:

> The Board approved the minutes of the House Committee, which contained the following resolution:
>
> The Infirmary Committee regret that the Medical Board do not see their way to continue the teaching of infectious diseases to students at the Monsall Fever Hospital, provision for which was made in the interests of medical education by the Infirmary Board of Management in the Act of Parliament which authorised the transfer of that hospital to the Manchester Corporation,

We have no doubt that ample provision will be made by other authorities for giving the necessary instruction in the fever hospital.

A curious experience recently befell the county coroner, Mr. J. F. Price. The coroner attended at Eccles, to hold an inquest on the body of a person who, it turned out, had been buried some days previously. It appears that the deceased died on September 23rd, having fractured his skull on the 11th. The relatives, it seems, were informed that an inquest would have to be held on the deceased, and that the funeral fixed for Saturday must be stopped. It appears that the funeral took place in spite of the notice given to the relatives. The coroner ordered the body to be exhumed, and an inquest was held later.

CORRESPONDENCE.

ALLEGED BLUNDERING OF ASYLUM OFFICIALS.

SIR,—Asylum medical officers have much greater difficulty than most outsiders imagine in replying to letters from friends of inmates. In Donegal District Asylum at the present moment I have six men all of the name of John Doherty. Five of these men come from the same locality, and several of them have relatives of the same name. I have also five men of the name of James Doherty. Four of these come from the same locality, which I may add is identical with the locality from which the five John Dohertys come. The relations of the James Dohertys in several cases have the same names. When I get a letter inquiring about one of the above I find it most difficult to identify the man.

I could give you examples of much more curious letters than Dr. Hearder quotes in the BRITISH MEDICAL JOURNAL of September 25th. Many letters that I get ask simply for information about a wife, husband, son, daughter, father, or mother, without giving the Christian or surname at all, and in many cases I find it most troublesome and tedious to find out who the letter is about.—I am, etc.,

E. E. MOORE, M.D.Dub.,
Resident Medical Superintendent.

Donegal District Asylum, Sept. 27th.

POISONING FROM CANNED FOODS.

SIR,—I am pleased to see that the subject of poisoning from canned foods was brought before the Congress of the Sanitary Institute by Dr. J. Brown, and hope the Council of the Institute will act upon the resolution passed.

I think it should be a simple matter to add a clause to the Sale of Food and Drugs Act forbidding canned foods to be sold after a certain date from the time of their being prepared, the date of preparation being stamped upon the tin in the case of all articles manufactured in the United Kingdom, and as regards imported canned foods that samples be subjected to

examination, and the date of such examination be affixed before the foods are put upon the market.

Obviously one important point of inquiry for the Council of the Institute would be the limit of time after which certain foods should be condemned, as canned fish will deteriorate more quickly than canned milk, meats, fruit, jams, etc.—I am, etc.,

London, S.E., Sept. 25th. E. J. Biden.

HOSPITAL ABUSE.

Sir,—The letter of "Clinical Assistant" in the British Medical Journal of September 18th demands a reply. He asks:

1. Why so many small operations—for example, adenoids and circumcisions—are sent to hospital out-patient rooms?

2. Why the general practitioner does not perform the operation for a smaller fee than a guinea, supposing that the friends cannot afford that fee.

3. Why the practitioner (if unwilling to take a smaller fee) does not send the case to a less flourishing brother?

The answers to these questions are the following:

1. Very rarely does a general practitioner send such cases to the hospital without an introductory letter, stating the fitness of the case. He has recommended the operation, and the friends, whatever their means, intend to get it done gratis at a hospital.

2. It does not pay, nor is it right, to perform any operation like a circumcision, requiring an anæsthetic, for a smaller fee than a guinea. For it necessitates the services of an anæsthetist, the use of a certain amount of anæsthetic, dressings, lotions, and, last but not least, the risk. The risk is twofold: (*a*) To the patients during the operation, however skilfully the anæsthetic may be administered; (*b*) to the wound subsequently, either from negligence on the part of the friends or from insanitary surroundings, which are not under the practitioner's control, but for which he gets the blame.

3. The third alternative would imply to the friends either that the practitioner was incapable, or afraid of performing the operation. And unfortunately, so keen is competition nowadays, our brother would very probably make capital out of our kindness. We are grateful to any hospital surgeon who has the courage to make any inquiry as to the means of patients attending at the hospital; for he is not personally under any obligation to make such inquiry. That duty should be performed by secretaries, committees, and subscribers, and is by them neglected.

These answers are given from a general practitioner's point of view. Like "Clinical Assistant," I was unable to understand these things when I was house-surgeon to a London hospital, but *experientia docet*.—I am, etc.,

September 29th. Rusticus.

NAVAL AND MILITARY MEDICAL SERVICES.

ARMY MEDICAL STAFF EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

A Surgeon-Captain, serving in the Cork District, is desirous of exchanging stations with an officer serving in England; Aldershot, Thames, Home, or Woolwich Command preferred. Apply, No. 2955, care of British Medical Journal Office.

A Surgeon-Major, who arrived from India early this year, would exchange to India this trooping season. Address, "A," care of Sir C. McGrigor, Bart., and Co., 25, St. James's Street, S.W.

A Surgeon-Major, A.M.S., expecting to go abroad about February next, wishes to exchange with an officer recently home. Address, "Geneva Cross," care of Messrs. Holt and Co., 17, Whitehall Place, London.

THE NAVY.

The following appointments have been made at the Admiralty: William R. M. Young, Staff-Surgeon, to the *Briton*, September 29th; Percy E. Maitland, Staff-Surgeon, to the *Volage*, September 29th; Ernest A. Shaw, M.B., Surgeon, to the *Trafalgar*, undated; Hugh P. Turnbull, Surgeon, to the *Victory*, September 23rd; Walter B. Maurice and Walter H. O. Garde, Surgeons, to the *Victory*, October 16th; Charles R. Sheward, Eustace Arkwright, Edward D. J. O'Malley, and Walter K. Hopkins, Surgeons, to the *Victory*, for disposal, October 16th; Frederick C. Stern and Henry Hunt, Surgeons, to the *Pembroke*, October 16th; Sidney Roach, Algernon C. Bean, and Robert H. Mornement, Surgeons, to the *Wildfire*, October 16th; Moyle Breton, Richard F. Clark, Harold E. Fryer, Samuel Conner, and Edwin Folliott, Surgeons, to the *Vivid*, October 16th; Ernest S. Reid, M.B., Surgeon, to the *Sunflower*, lent, September 25th.

ARMY MEDICAL STAFF.

The promotion to be Brigade-Surgeon-Lieutenant-Colonel of Surgeon-Lieutenant-Colonel Swayne is antedated to July 24th, 1897, *vice* R. Harman, M.B., deceased.

Surgeon-Captain William J. Smyth, M.D., has resigned his commission, September 29th. He entered the service as Surgeon-Lieutenant, July 27th, 1892, becoming Surgeon-Captain three years later. He was appointed to the Grenadier Guards, October 17th, 1892, and served with that corps until his resignation.

ARMY MEDICAL RESERVE.

Surgeon-Captain Robert E. Beveridge, M.B., 3rd Volunteer Battalion the Durham Light Infantry, to be Surgeon-Captain, September 29th.

THE VOLUNTEERS.

Mr. George H. S. Daniell, M.B., is appointed Surgeon-Lieutenant in the Dorset (Queen's Own) Yeomanry, September 29th.

Surgeon-Major J. Sherburn, M.B., 2nd East Riding of Yorkshire Artillery (Western Division Royal Artillery) is promoted to be Surgeon-Lieutenant-Colonel, September 29th.

Surgeon-Captain S. B. Mason, 4th Volunteer Battalion the South Wales Borderers, is promoted to be Surgeon-Major, September 29th.

Brigade-Surgeon-Lieutenant-Colonel C. F. Lewis is retired under the Volunteer Regulations of 1896, retaining his rank and uniform, and vacating at the same time his appointment in the Sussex Volunteer Infantry Brigade, September 29th.

Surgeon-Captains J. W. Blandford and G. Middlemiss, M.D., 1st Volunteer Battalion the Durham Light Infantry, are promoted to be Surgeon-Majors, September 29th.

Surgeon-Major E. Jones, 3rd Volunteer Battalion the Welsh Regiment, retires, September 29th; he retains his rank and uniform.

INDIAN MEDICAL SERVICE.

Surgeon-Colonel D. E. Hughes, Bombay Establishment, is permitted to retire from the service from September 15th. He was appointed Assistant-Surgeon, March 31st, 1866, and became Surgeon-Colonel, September 15th, 1892.

Brigade-Surgeon-Lieutenant-Colonel G. M'B. Davis, M.D, D.S.O., Bengal Establishment, is granted the temporary rank of Surgeon-Colonel, from August 21st, while officiating as Principal Medical Officer, Lahore District.

MEDICAL BOARDS IN INDIA.

It has been decided that an officer recommended for leave by a Medical Board may in all cases proceed on leave as soon as the Board's proceedings are approved by the Principal Medical Officer of the district, and without waiting for further sanction. Hitherto this special sanction by the Commander-in-Chief had to be applied for by letter or wire if the case of a sick officer was of special urgency. The new ruling has come not a day too soon. It saves additional correspondence.

DIFFICULTIES OF MOBILISATION IN INDIA.

The *Times of India* says that Nos. 62 and 63 Native Field Hospitals formed in Bombay were unable to proceed owing to a lack of hospital assistants, a large number having been lent to the Government for plague and famine duty. It is reported that only four assistants were available for the two field hospitals. Subsequently No. 24 British and 63 Native Field Hospitals were, after a delay of some days owing to the hospital assistant difficulty, despatched. These hospitals moved forward to Rawul Pindi.

MEDICO-LEGAL.

ASSISTANTS AND THEIR SALARIES.

A correspondent submits the following case: I answered an advertisement in the British Medical Journal from a gentleman advertising for an indoor assistant at a salary of £80 per annum. The advertiser asked me to come to him for a month on a certain date whilst we made arrangements as to the future. I replied saying that I would come on the date mentioned, but as it was the height of the *locum* season would he, under the circumstances, pay me for the month at the ordinary rate of *locum* fees. He did not reply to this letter, so I wired asking if I was to come, and he wired in reply "Yes." I came to him, and decided after a couple of days that the place would not suit me, and I told him I should leave at the end of the week. He said I must stay the month or he would refuse to pay me. I left at the end of the week, he still refusing to pay me. Cannot I make him pay me my week's salary, as I signed no agreement or entered into any contract to stay the month, neither did I by word or letter agree to do so; and, besides, after my asking him for the increased salary during the month he still wired me to come; surely that was an agreement to my terms, but this he denies?

*** It is impossible to say whether there was or was not a contract without seeing the letters and telegrams in which it would be contained. Probably the telegram amounted to an acceptance of the proposal for a month certain at *locum* fees. If so, that contract has not been carried out, and payment has not been earned. The best course will be to show the correspondence to a solicitor practising in the county court where the action, if any, to enforce payment, would have to be brought. He

can advise whether the claim would be likely to succeed in that court. Different judges take different views.

LOCUM TENENTES AND INQUEST FEES.

MERCURY desires to know to whom the fee paid for giving evidence at a coroner's court belongs, whether to the *locum tenens* or to the principal, (*a*) legally, (*b*) ethically. Would the fact of the *locum tenens* giving the evidence after his engagement had terminated make any difference?

*** In the absence of an agreement to the contrary all fees paid to a *locum tenens* while in the service of his principal, and on the latter's account, belong to the principal, and can be legally recovered by him. It is different, however, if the evidence is given after the termination of the *locum tenens's* engagement; in this case the principal could not recover the fee at law, but he is ethically entitled to it. The *locum tenens* must, however, be reimbursed for the extra time that has been expended in the principal's service. It is customary, under such circumstances, for the principal to share the fee with the *locum tenens*.

M.O.H.—There is no legislative enactment to prevent the use of "a mixture containing opium labelled 'anodyne syrup,'" or to prevent its sale by a registered chemist and druggist for the purpose mentioned. The Pharmacy Act requires that in the sale of such a preparation it shall, at least, be distinctly labelled with the name of the article and the word "Poison," and with the name and address of the seller. If the preparation contains one of the poisons in the first part of the schedule to the Act, other precautions must be taken in its sale. Failure to conform with these regulations constitutes an offence under the Act, entailing liability to a penalty of £5.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF DURHAM.

THIRD EXAMINATION FOR THE DEGREE OF BACHELOR IN MEDICINE.—The following candidates have satisfied the Examiners:

Honours: Second Class.—Claudia Anita Prout Rowse, London School of Medicine for Women; F. Pope, Mason College, Birmingham. Pass List.—F. W. Burn, College of Medicine, Newcastle-upon-Tyne; H. C. Coxon, College of Medicine, Newcastle-upon-Tyne; L. S. Davison, College of Medicine, Newcastle-upon-Tyne; Selina Fitz-Herbert Fox, London School of Medicine for Women; E. Gofton, College of Medicine, Newcastle-upon-Tyne; W. J. Harrison, College of Medicine, Newcastle-upon-Tyne; J. A. Hartigan, College of Medicine, Newcastle-upon-Tyne; L. F. Hemmans, College of Medicine, Newcastle-upon-Tyne; H. G. Harris, St. Bartholomew's Hospital; J. T. Johnson, College of Medicine, Newcastle-upon-Tyne; Margaret Joyce, London School of Medicine for Women; R. A. R. Lankester, University College, London; R. F. Moorshead, University College, Bristol; R. A. Moorland, College of Medicine, Newcastle-upon-Tyne; G. B. Picton, College of Medicine, Newcastle-upon-Tyne; N. Roberts, College of Medicine, Newcastle-upon-Tyne; H. R. D. Spitta, St. George's Hospital; C. W. Von Bergen, College of Medicine, Newcastle-upon-Tyne.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,176 births and 3,600 deaths were registered during the week ending Saturday last, September 25th. The annual rate of mortality in these towns, which had declined from 29.5 to 18.5 per 1,000 in the six preceding weeks, further fell to 17.1 last week. The rates in the several towns ranged from 10.3 in Birkenhead, 10.4 in Swansea, 11.2 in Plymouth, and 13.7 in Brighton to 21.3 in Sunderland, 22.3 in Manchester, 22.4 in Sheffield, and 22.5 in Liverpool. In the thirty-two provincial towns the mean death-rate was 18.0 per 1,000, and exceeded by 2.3 the rate recorded in London, which was 15.7 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.9 per 1,000; in London the rate was equal to 2.1 per 1,000, while it averaged 3.4 in the thirty-two provincial towns, among which the highest zymotic death-rates were 6.6 in Wolverhampton, 6.7 in Hull, 6.9 in Burnley, and 8.2 in Preston. Measles caused a death-rate of 2.3 in Portsmouth and 2.9 Burnley; scarlet fever of 1.0 in Leicester and in Gateshead; "fever" of 1.2 in Hull, and 1.3 in Bolton; and diarrhœa of 4.6 in Hull, 4.8 in Wolverhampton, and 5.0 in Preston. The mortality from whooping-cough showed no marked excess in any of the large towns. The 75 deaths from diphtheria in the thirty-three towns included 45 in London, 4 in Birmingham, 3 in West Ham, and 3 in Leicester. No fatal case of small-pox was registered last week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 3,652 at the end of the nineteen preceding weeks, had further risen to 3,697 on Saturday last, September 25th; 358 new cases were admitted during the week, against 376 in each of the two preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, September 25th, 914 births and 532 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had increased from 18.1 to 19.4 per 1,000 in the three preceding weeks, declined to 17.8 last week, but was 0.7 per 1,000 above the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 14.0 in Paisley and 15.1 in Aberdeen to 18.7 in Edinburgh and 22.0 in Greenock. The zymotic death-rate in these towns averaged 2.6 per 1,000, the highest rates being recorded in Dundee and Greenock. The 255 deaths registered in Glasgow included 13 from whooping-cough, 11 from diarrhœa, 5 from "fever," and 2 from measles. Five fatal cases of scarlet fever, 2 of diphtheria, and 2 of "fever" were recorded in Edinburgh.

POORHOUSE MEDICAL CERTIFICATES.

MR. FALCONER STEWART, Secretary to the Local Government Board for Scotland, has issued a circular relating to the form of medical certificate required in cases of persons to whom relief in the poorhouse has been offered. "It appears to the Board," the circular states, "that the word 'pauper' does not always correctly describe the person in connection with whom the certificate is to be granted, and that the word 'applicant' might sometimes with propriety be substituted." To the circular is appended a new form of certificate to meet the above suggestion.

INSANITARY INTER-RELATIONS.

THE urban districts of Hayle and Phillack, in Cornwall, have been made the subjects of inspection and report by Dr. St. George Mivart, on behalf of the Local Government Board. In an exhaustive report, dealing in detail with matters of local self-government as well as with actual conditions prevailing, Dr. Mivart relates how Hayle has to depend for its water on the gathering grounds located in the adjoining district of Phillack, and how the sources of supply are subject to dangerous forms of pollution—as, for instance, by privies and the like. Phillack itself has a series of wells, public and private, open also to serious pollution, whilst constant efforts on the part of the Board at Whitehall to move the council in the direction of providing an adequate and proper service have proved futile. That such service can be had is obvious, and this, too, at reasonable cost. Hayle is itself at present apparently without the amount of water needed to supply its neighbour; but we have here the anomaly of a district dependent on wells liable to pollution whilst water from its own area is taken by the adjoining area as a means of public supply, Hayle, however, having some doubt as to its power to remedy the dangers to which its water is open within the limit of jurisdiction of the Phillack Council. Surely the farce ought to cease. In the face of conditions such as these we feel how much stronger would be the position of the Cornwall County Council if they had at their command the services of a competent county medical officer of health.

DUAL NOTIFICATION FEES.

"A COLCHESTER DOCTOR" has written to some of the daily papers of East Anglia commenting on the action of the town council of his borough with reference to the compulsory notification of infectious disease. So far as we can learn, the Devonport town council have asked other boroughs to join them in a petition to the Local Government Board asking that the Act of 1889 may be amended in so far as it renders necessary the notification of the same case of disease by each and every medical man called in to see the patient. One of the councillors of Colchester, in seconding a resolution in favour of the petition, is reported to have said that each member of a firm of doctors might, if he wished, notify the same case and receive the fee. It is this implication that has apparently nettled "A Colchester Doctor;" and we do not wonder at it. But, apart from this unfortunate remark, our sympathies are with the Council, who have in mind only the unnecessary expenditure of public money now entailed by statute. It is not the "might notify" that is in question, but the "must notify" that compels every medical man to certify to a case of notifiable disease with which he in anywise comes into professional contact.

It may be that members of a firm are, for the purposes of the Act, one individual, and we take it that the dual charges made by such members are only a very small proportion of the total of such charges sent in under our present complex notification system. In any case the amendment sought has its origin, not in the fancied abuse of the Act by medical men practising in partnership, but in the fact, known by experience, that different medical practitioners, consultants, physicians, and the like, having professional cognisance of a notifiable case of disease are unable, without violating the law, to withhold what they know in many instances to be an unnecessary certificate which entails a charge upon the rates. The necessity for amendment lies in the drafting of the Act, not in the action under statute of medical men.

THE BRUSSELS M.D. AND PUBLIC HEALTH APPOINTMENTS.

PUBLIC HEALTH, who holds the diplomas M.R.C.S. and L.R.C.P., and is a diplomate in Public Health of an English university, wishes to know if the M.D.Brux. would be likely to be of any service to him in getting a public health appointment, as circumstances do not permit of his getting an English M.D. degree.

*** Every evidence of professional knowledge must assist in getting a public appointment. As many practitioners seek to obtain the M.D.Brux., it is to be presumed that they expect to derive some benefit therefrom. We cannot suggest any other degree in addition to those named by our correspondent.

MEDICAL NEWS.

REUTER'S agent in Bombay, telegraphing on September 22nd, states that the plague is increasing in the Bombay Presidency, and several Europeans at Poona have been attacked by the epidemic.

Fifeshire Medical Association.—At the sixteenth annual general meeting of the Fifeshire Medical Association held in Dunfermline on September 24th, the following office-bearers were elected for the ensuing year:—*President:* Dr. G. Hunter Mackenzie, Edinburgh; *Vice-President:* Dr. Lang, Kirkcaldy; *Council:* Drs. Ritchie, Ceres; John Macdonald, Cupar; Turnbull, Cupar; *Hon. Secretary:* Dr. Douglas, Cupar; *Hon. Treasurer:* Dr. A. G. Macdonald, Cupar.

MEDICAL VACANCIES.

The following vacancies are announced:

BETHLEM HOSPITAL.—Two Resident Clinical Assistants; doubly qualified. Appointment for six months. Apartments, board, and washing. Applications, endorsed "Clinical Assistantship," to the Treasurer, Bridewell Hospital, New Bridge Street, E.C., before October 4th.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—House-Surgeon. Appointment for six months. Honorarium £10 10s. on completion of appointment, and board, lodging, and washing. Applications to the Honorary Secretary of the Medical Committee by October 13th.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN. Out-patient Surgeon. Applications to the Honorary Secretary, John S. Nettlefold, Beechenhurst, Selly Hill, Birmingham, by October 6th.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon; doubly qualified. Salary, £150 per annum (with an allowance of £30 per annum for cab hire) and furnished rooms, fire, lights, and attendance. Applications to E. W. Forrest, Secretary, by October 18th.

BRISTOL DISPENSARY.—Two Surgeons to the Districts of the Institution, doubly qualified. Particulars of Mr. Harold M. Silcock, Small Street Court, Bristol, to whom applications must be sent by October 11th.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer. Appointment for six months. Board, lodging, and washing provided. Conditional honorarium of £20. Applications to the Secretary by October 9th.

CHELTENHAM GENERAL HOSPITAL.—Resident Surgeon for the Branch Dispensary; unmarried, or, if married, without family. Salary, £180 per annum, with partly furnished house, coal and gas. Applications to the Honorary Secretary and Treasurer, General Hospital, Cheltenham, by October 30th.

CHICHESTER INFIRMARY.—House-Surgeon. Salary, £80 per annum, with board, lodging, and washing. Applications to Eugene E. Street, Secretary, the Infirmary, Chichester, by October 11th.

DUNDEE ROYAL LUNATIC ASYLUM.—Medical Assistant. Salary, £100 per annum, with board, lodging, and washing. Applications to Dr. Rorie, Royal Asylum, Dundee.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton S.W.—Resident Medical Officer, doubly qualified, unmarried, and under 25 years of age. Also Resident House-Physicians. Applications to W. H. Theobald, Secretary, by October 13th.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.—Assistant Resident Medical Officer. Appointment for six months. Doubly qualified. Residence, board, and washing provided, and an honorarium given at the termination of the appointment. Applications to A. W. Bodger, Secretary.

LONDON THROAT HOSPITAL, Great Portland Street.—House-Surgeon (non-resident). Honorarium, £25 per annum. Application to the Honorary Secretary of the Medical Committee before October 13th.

METROPOLITAN HOSPITAL, Kingsland Road, N.E.—House-Physician, House-Surgeon. Appointments tenable for six months. Must be doubly qualified. Salary for each post at the rate of £40 per anuum. Applications to Charles H. Beyers, Secretary, by October 9th.

MORECAMBE URBAN DISTRICT COUNCIL.—Inspector of Nuisances. Salary, £104 per annum. Applications, endorsed "Inspector," to be sent to Jno. Bond, Surveyor, Council Offices, Morecambe, by 1 P.M. on October 2nd.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, N.E.—Junior House-Physician; doubly qualified. Appointment for six months. Salary, £15, with full board, and residence. Applications to T. Glenton-Kerr, Secretary, 27, Clement's Lane, E.C., by October 11th.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House-Physician, House-Surgeon. Appointment for six months. Salary at the rate of £50 per annum, with board and residence. Applications to the Secretary at the Hospital by October 11th.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Resident Medical Officer. Appointment for six months. Salary, at the rate of £100 per annum, with furnished apartments, board, and washing. House-Physician. Appointment for six months. Salary at the rate of £40 per annum, with board, lodging, and washing. Applications to the Secretary, by October 5th.

ROYAL VICTORIA HOSPITAL, Bournemouth.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Chairman by October 15th.

ROYAL VICTORIA HOSPITAL FOR DISEASES OF THE CHEST, City Road, E.C.—Resident Medical Officer. Appointment for six months, when re-election is required. Salary, £100 per annum, with furnished apartments, board, and washing. House-Physician. Appointment for six months. Salary at the rate of £40 per annum, with board, lodging, and washing. Applications to the Secretary at the Hospital by October 5th.

ST. GEORGE'S UNION INFIRMARY, Fulham Road, S.W.—Second Assistant Medical Officer. Appointment for one year. Salary, £50, with board, residence, and washing. Applications to Dr. H. W. Webster.

ST. MARY, ISLINGTON, GUARDIANS OF. Resident Second Assistant Medical Officer at the Workhouse and Infirmary, St. John's Road Upper Holloway. Remuneration, £80 per annum and rations, apartments, and washing. Applications, on forms to be obtained at the Guardians' Offices, to be sent to Edwin Davey, Clerk, Guardians' Offices, 131, St. John's Road, Upper Holloway, N., by October 5th.

SUSSEX COUNTY HOSPITAL, Brighton.—Assistant House-Surgeon, doubly qualified, unmarried, and when elected under 30 years of age. Salary not exceeding £30 per annum, with board, washing, and residence. Applications to the Secretary at the Hospital by October 13th.

SUSSEX COUNTY HOSPITAL, Brighton.—Fourth Resident Medical Officer, doubly qualified; unmarried, and when elected under 30 years of age. Salary, not exceeding £30 per annum, with board, washing, and residence in the hospital. Applications to the Secretary, at the Hospital, by October 13th.

SWANSEA GENERAL HOSPITAL.—House-Physician. Salary, £50 per annum, with board, apartments, laundress, and attendance. Applications to J. W. Morris, Secretary, 9, Castle Street, Swansea, by October 4th.

VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's Road, Chelsea, S.W.—House-Surgeon, doubly qualified. Appointment for twelve months. Honorarium, £50, with board and lodging in the Hospital. House-Physician, doubly qualified. Appointment for eight months. Honorarium at the rate of £50 per annum, with board and lodging. Applications to the Secretary, by October 16th.

YORK: THE RETREAT.—Junior Assistant Medical Officer. Salary, £100 per annum, with board, lodging, and washing. Applications to Dr. Bedford Pierce, by October 13th.

MEDICAL APPOINTMENTS.

Addenbrooke, B., M.B., B.S.Durh., appointed Medical Officer to the Kidderminster Rural District Council.

Ashton, G.. M.B., appointed an Assistant Medical Officer to the Chorlton Union Workhouse.

Bennett, F. Dillon, M.R.C.S., L.R.C.P., L.S.A., appointed Junior Medical Officer to the Army and Navy Co-operative Societies, *vice* Dr. Stanley De Butts, resigned.

Boger, Wm. H., L.R.C.P.Edin., M.R.C.S., appointed Medical Officer the Lanteglos District of the Liskeard Union.

Calderwood, George, M.D.Glasg., reappointed Medical Officer of alth to the Egremont Urban District Council.

Clark, John S. F., M.R.C.S.Eng., L.R.C.P.Edin., appointed Medical Officer for the Moretonhampstead District of the Newton Abbot Union, *vice* F. G. Englebach, L.R.C.P.Lond., M.R.C.S.Eng., resigned.

Davies, John Edward H., M.R.C.S.Eng., L.R.C.P.Lond., L.S.A.Lond., appointed Honorary Surgeon to Wrexham Infirmary; Medical Officer of Health for the Northern Division of the Wrexham Rural District Council; Medical Officer to the Wrexham Fever Hospital; and Certifying Factory Surgeon for the Wrexham District.

Elrington, Nicolas, L.S.A., M.R.C.S., appointed Medical Officer for the Wethersfield District of the Braintree Union, *vice* H. R. G. Rust, M.R.C.S.Eng., resigned.

Ewens, H. L., M.D., B.S.Univ.Durh., M.R.C.S.Eng., L.R.C.P.Lond. pointed Medical Officer and Public Vaccinator to the St. Peter's District of the Maldon Union, *vice* Dr. Scott, resigned.

Fisher. H. H., M.D.Lond., M.R.C.S.Eng., appointed Medical Officer or the No. 2 District of the Milton Union, *vice* C. H. Fisher, M.D,Glasg.

Fisher, R. W., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer to the Workhouse and the First District of the Westbury-on-Severn Union.

Fox, Edward J., B.Sc.Lond., M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Surgeon to the Manchester Southern Hospital for Diseases Women.

Goldie-Scot, T., M.B.Edin., appointed Assistant Medical Officer to Warneford Asylum, Oxford.

Hamilton, Henry Thomas, L.S.A.Lond., appointed Medical Officer for he Third District of the East Ashford Union, *vice* Henry Hamilton, M.R.C.S.Eng.

Hannigan, M. H., M.D., R.U.I., M.Ch., appointed Medical Officer for the Seventh and Eighth Districts of the Stow Union, *vice* A. Pearse, M.R.C.S., resigned.

Harden, Arthur, M.Sc., appointed Lecturer in Chemistry at the Pathological Institute of Preventive Medicine, London.

Hitchins, Frederic C., M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant House-Surgeon to the Royal Hants County Hospital, Winchester.

Hitchings, R., M.R.C.S., L.R.C.P., appointed Medical Officer of Health of the Headington Union Workhouse.

Hooton, W. Arthur, L.R.C.P., M.R.C.S., L.D.S., appointed Honorary Dental Surgeon to the Manchester Royal Infirmary.

Lane, H.A., M.R.C.S, L.R.C.P., appointed an Assistant Medical Officer the Chorlton Union Workhouse.

Little, James, M.D.Edin., M.R.C.S.Eng., reappointed Medical Officer Health to the Maryport Urban District Council.

Lloyd, D., L.R.C.P., L.R.C.S.Edin., appointed Medical Officer of Health to the Newcastle Emlyn Urban District.

McGachen, F. W. D., L.F.P.S.Glasg., L.S.A., appointed Medical Officer or the Brotton District of the Guisborough Union, *vice* J. D. Leigh, M.B.

Marmion, E. J., B.A., M.B.Dub., appointed Medical Officer of the Melton Union Workhouse, *vice* C. H. Fisher, M.D.Glasg.

Montgomery, W. Percy, M.B., B.S.Lond., F.R.C.S.Eng., appointed Resident Surgical Officer to the Manchester Royal Infirmary.

Mould, Philip G., M.R.C.S.Eng., L.R.C.P.Lond., appointed Third Assistant Medical Officer at the Asylum of the Manchester Royal Infirmary.

NEAVE, Edward F. M., M.B., Ch.B.Edin., appointed a Resident Medical Assistant in the Dundee Royal Infirmary.

RAW, Nathan, M.D.Durh., appointed Medical Officer to the West Derby Union Infirmary, *vice* H. C. Chapman, M.B.Lond., resigned.

ROSCOE, H., M.R.C.S.Eng., L.R.C.P.Lond., appointed Resident Medical Assistant at the Dyffryn Aled Asylum, near Colwyn Bay.

STEWART, W., M.D., appointed Medical Officer for the Bacup No. 2 District of the Harlingden Union.

STODDART, W. H. B., M.R.C.S., L.R.C.P., appointed Pathologist and Assistant Medical Officer to the County Asylum, Prestwich, Manchester, *vice* Dr. Fricke, deceased.

STOTT, H., M.R.C.S.Eng., L.R.C.P.Lond., D.P.H.Eng., appointed Medical Officer of Health to the Burgess Hill Urban District *vice* E. F. Fussell, M.B.Aberd., M.R.C.P.Lond.

SUMPTER, Eustace Wyatt, M.B., B.S.Durh., appointed House-Surgeon to the West Norfolk and Lynn Hospital, King's Lynn.

SUTCLIFFE, John, M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant Medical Officer at Cheadle Asylum.

THOMAS, D., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer of Health for Limehouse.

TORRENS, James, M.D., appointed Medical Officer for the Worfield and Claverley District of the Bridgnorth Union, and Medical Officer for the Trysull District of the Seisdon Union, *vice* T. W. Haslehurst, M.R.C.S.Eng., L.S.A., resigned.

TRIPP, Charles L. H., L.R.C.P.Lond., M.R.C.S.Eng., L.S.A., appointed Medical Officer to the Dawlish District of the Newton Abbot Union.

TRUMPER, O. B., M.B., Ch.B., appointed Medical Officer for the Market Rasen and the Tealby Districts of the Caistor Union, *vice* George H. Barton, L.R.C.P.Edin., M.R.C.S.Eng., resigned.

WADDELOW, John J., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer of Health to the Whittlesey Rural District, *vice* J. H. Webster, L.R.C.P.Edin., M.R.C.S.Eng., resigned.

DIARY FOR NEXT WEEK.

TUESDAY.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Sir W. Gowers: On the Neuron and Disease.

WEDNESDAY.

OBSTETRICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8 P.M.—Specimens will be shown by Dr. F. J. McCann and others. Paper—Mr. Alban Doran: On the Management of True and False Capsules in Ovariotomy.

FRIDAY.

CLINICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 P.M.—Dr. W. P. Herringham: Sudden Death in Rheumatic Fever due to Myocarditis. Dr. W. H. White and Mr. J. Langton: Stricture of the Pylorus; Loreta's Operation. Dr. A. G. Phear: A case of Cerebral Sinus Thrombosis. Mr. G. H. Makins: A case of Œsophagotomy for the Extraction of a Tooth Plate, in which Cellular Emphysema developed in the Neck without injury to the Pleura.

WEST KENT MEDICO-CHIRURGICAL SOCIETY, Royal Kent Dispensary, Greenwich, 8.15 P.M.—Annual Meeting. Election of Officers for 1897-98. Purvis Oration by Dr. G. H. Savage: The Insanities of Evolution and Dissolution.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

COATES.—On the 24th of September, at Ingleside, Whalley Range, Manchester, the wife of William Coates, M.R.C.S., of a son.

MCREDDIE.—On September 23rd, at Wincanton, Somerset, the wife of Percy G. McReddie, M.B., of a daughter.

POWELL.—On September 22nd, at Glenarm House, Upper Clapton, N.E., the wife of Herbert E. Powell, M.R.C.S., of a son.

TONGE.—On September 22nd, at Rock House, Beer, near Axminster, the wife of Edward Tonge, M.B., B.S., of a daughter.

MARRIAGES.

RUSSELL—MACKENZIE.—At Edinburgh, on September 23rd, by the Rev. T. Currie, M.A., assisted by the Rev. J. Hood Wilson, D.D., Sir James A. Russell, M.D., LL.D., F.R.C.P.Ed., F.R.S.Ed., to Mary Ruth, daughter of the late Captain George Boyes Prior, R.A., and widow of Captain D. G. MacKenzie, Bombay Cavalry.

WHEATLEY—THOMPSON.—On September 29th, at All Saints', Upper Norwood, by the Rev. P. B. Power, M.A., formerly Vicar of Worthing, assisted by the Rev. J. Oakley Coles, Vicar of All Saints', James Wheatley, M.D., son of Charles Wheatley, of Edgerton, Huddersfield, to Mary Elizabeth, only daughter of Charles H. Thompson, of Oaklands, Beulah Hill.

DEATHS.

BROGDEN.—Died at Lagos, West Coast of Africa, on August 9th, Marie Victoria Brogden, formerly of St. Bartholomew's Hospital.

CARNELLEY.—On September 18th, in his forty-first year, at Fallowfield, Matthew Carnelley, M.R.C.S., L.R.C.P., of Ruddington, Nottinghamshire, the dearly-loved son of William Carnelley, of Fallowfield, Manchester.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 12.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Tu., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Tu., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are devoted will be found under their respective headings.*

QUERIES.

Lamp would be obliged if any member could recommend a lamp suitable for both microscopical and ophthalmic work.

B. H. would be glad to know if there is any institution to which he could send a lady, a clergyman's widow, bedridden for 17 years (paraplegia). The relations could pay £50 or £60 per annum.

R.B.S. would be glad to be informed of any institution where a lady of slender means, aged 38, who suffers from epilepsy (eight years' duration) could be admitted. She is domesticated and can sew well, and would be willing to give her service and small payment in return.

Davos.—Two ladies of moderate means intend wintering at Davos Platz. Can any reader give information as to accommodation either at a boarding house or private lodging house; must not be expensive? They would be glad for information as to how arrangements are made and probable cost.

D. M. would be glad to know if any member has observed bad effects from so small a dose of exalgin as 1½ grain. He gave a patient this dose for intense neuralgia, and within half an hour very unpleasant symptoms developed—cyanosis, slow gasping respirations, and marked polyuria. Also a sensation of numbness all over the body, and great muscular feebleness. The patient's friends were very naturally anxious to know what was the matter, and if the medicine had anything to do with it. I could only tell them that the dose was a small one, and that I had not seen bad effects from moderate doses of the drug, although frequently prescribing it.

Scot desires to know what is the usual custom with regard to book debts in the case of the purchase of a half share partnership in a practice.

*** Unless a special arrangement has been made to the contrary, an incoming partner is not entitled to any share of the book debts arising from work done before he became a partner. He can only claim to share in profits that accrue from work done after his entrance into the business.

ANSWERS.

W. F.—We should advise our correspondent to have nothing to do with the society to which he refers.

F. B. T.—We should advise our correspondent to have nothing to do with the medical aid society as to which he inquires.

E.S.W.—The Horse Carriage and General Insurance Company, 17, Queen Victoria Street, E.C., will probably meet our correspondent's requirements.

W. H. P.—Mr. Jonathan Hutchinson's *Life Register* is published by West, Newman and Co., 54, Hatton Garden, E.C. Price, cloth, 1s. 6d.; morocco, 3s. 6d.

M.D.—Jars for mounting museum pathological specimens can be obtained from Messrs. J. Powell and Sons, Whitefriars Glass Works, Tudor Street, E.C.

An anxious One.—To qualify for the profession of analytical chemist requires four or five years' practical training and study, and the attendant expense is considerably in excess of the prospect of remunerative employment.

P. N.—1. As stated in the Educational Number of the British Medical Journal, August 28th, p. 521, the M.D.St. Andrews for practitioners has been abolished. 2. The University of London Bill has, we believe, been dropped for the present.

Young Practitioner.—(1) Dr. De Styrap's book may be safely recommended to our correspondent in matters of etiquette, etc. (2) The latest edition of Ringer's *Therapeutics* would probably supply all that is required on this subject. (3) We know of no book dealing with "club practice," but useful information may be obtained by the perusal of the various articles in the columns of the British Medical Journal, that have appeared from time under the heading of the "Battle of the Clubs." (4) Squire's *Companion to the British Pharmacopœia* will give our correspondent every information with regard to dispensing.

"M.D." writes to say that he assisted a medical man in his practice for three months in a large town during this summer; that he is anxious to practise in that town, and desires to know after the lapse of what period he could honourably do so.

*** This will depend a good deal on the size of the town. Few practitioners in a town such as Manchester or Liverpool would object to an assistant who had been with them three months setting up in practiee in a distant suburb of the same town, although it might be different if the start were made in the immediate neighbourhood. It would be impossible to lay down any rule beyond the general one, which is by far the best guide under such circumstances—namely, to do unto others as you would they should do unto you.

Home for an Idiot Boy.

M.D.Cantab.—We are informed that such a case would be eligible for Earlswood on a modified election (a separate list being made of candidates whose parents contribute £15 and upwards), or would be received on payment at the Western Counties Idiot Asylum, Starcross, Devon Superintendent and Secretary, Mr. Locke).

Home for Paraplegic Patient.

In reply to "M.D.'s" query in the British Medical Journal of September 25th, as to a man suffering from paraplegia who could pay, a correspondent recommends the Nursing Institute at 45, Grange Road, Ramsgate.

Treatment of Painful Chronic Ulcer.

In reply to "Medicus," A. Helen Boyle, M.D.(Brux.), L.R.C.P. and S. Ed. (Brighton), writes: Has it occurred to him to try Hilton's method? The pain in his case was due to an exposed nerve-ending, which can be carefully sought for with a blunt-pointed instrument, and, when found, cauterised. Recently I have also seen good results with regard to relief from pain and promotion of healing from the treatment with diluted oxygen gas.

Private School for Feeble-minded Lad.

There are several special schools for boys unsuited to public school life, the nearest to London being that of Mr. Devine, Clayesmore, Enfield. The tuition, as well as the medical care of such cases is also, we understand, undertaken at Ancaster House, Richmond Hill, and at other similar establishments advertised in the *Medical Directory*.

The Society of Apothecaries.

Santonin.—1. The address of the Society of Apothecaries of London is Blackfriars, E.C. 2. It is stated in the regulations that candidates will be excused any or all of the subjects of the Primary Examination on producing evidence that they have passed equivalent examinations before any examining body recognised by the General Medical Council. 3. In view of the Act for regulating the profession of an apothecary in Ireland (31 Geo. III, chapter 34), we think it extremely doubtful if a Licentiate of the Apothecaries' Society of London could keep an open apothecary's shop in Ireland. 4. A person holding the diplomas of L.R.C.P. and S.Edin. cannot get the Licence of the Society of Apothecaries simply by paying the fee.

Laryngeal Cough.

Dr. N. E. Norway (Newquay, Cornwall) writes: In response to "J. C. S." I may mention that the accidental omission of a pessary relieved a similar violent spasmodic laryngeal cough instantly. On its reinsertion the cough returned. This patient (aged 55) had seen a number of consultants and throat specialists during eighteen months without the least relief. She also was highly neurotic, and nothing could be made out in the throat or chest except a congestive condition, evidently due to the violent paroxysms of cough. I have seen a similar case since where the change of one pessary for a better fitting one relieved a noisy spasmodic cough, and, curiously enough, a case in which the insertion of a pessary for prolapse relieved a troublesome tickling cough simulating commencing phthisis.

NOTES, LETTERS, Etc.

Erratum.—In "W. H. D.'s" answer to "Velox" in the British Medical Journal of September 25th the word "mattol" should read "maltol."

Horse Ambulance.

Professor Pritchard, M.R.C.V.S., F.C.S. (ex-President of the Royal College of Veterinary Surgeons), will commence on Saturday evening, October 9th, at 8 o'clock, at the Morley Memorial College, Waterloo Bridge Road, S.E., a course of lectures on Care of Horses and other Animals in Health and Disease. The lectures will be continued each Saturday.

Medical Men and the English Bar.

In an article relating to the examinations to be passed by medical men seeking to be called to the English Bar, published in the British Medical Journal of September 4th, it was stated that medical men are exempted from a preliminary examination in Arts. It would have been more correct to have said that this only applies to such as have matriculated at a university situated within the British Dominions, or who have passed one of the Arts examinations specified in the *Consolidated Regulations* of the Council of Legal Education. It would appear that the Medical Preliminary Examinations do not figure on this list, though not unlikely this may be through an oversight; for taking into consideration the character of some of those examinations mentioned, it could hardly be maintained that they require a higher standard of knowledge than do the Preliminaries for the Medical Curriculum. As not a few medical men at the present time are seeking to be called to the Bar, the matter is of some importance, and the General Medical Council might be asked to approach the Council of Legal Education with a view of removing this anomaly.

Medical Assistants.

A Qualified Assistant writes: In reply to the letter of "L.S.A." in the British Medical Journal of September 18th, whilst agreeing with him that a recently qualified assistant has many things to learn upon entering general practice, which, however, is not his fault, but rather that of the present system of education—for even the wrapping up of a powder or bottle of medicine has to be learnt—I must take objection to his wholesale attack upon qualified assistants in his letter. Were his long list of complaints made in reference to his coachman or cook, he could not have adopted a more objectionable tone. "L.S.A.'s" long experience of assistants seems to be an unfortunate one. Many principals are as little qualified to judge and appreciate a gentleman as they would a thoroughbred horse, and appear to go about the procuring of one as they would the other. Cheapness and physical endurance are their chief objects; never mind the appearance or manners of the animal. Doubtless there are many assistants very undesirable men, but the same motley grouping will be found amongst the principals. Why a qualified gentleman is not as anxious to maintain a good character as an unqualified, I fail to comprehend; possibly "L.S.A.," who makes this assertion, will explain the reason. Fewer complaints would be heard of qualified assistants did the "master," as "L.S.A." styles himself, treat his man less cavalierly. The "L.S.A." type of practitioner looks upon his assistant as an expensive and unavoidable nuisance, a

something that must be kept as a general sweeper-up in the practice. In seven years I have had two principals, happily both gentlemen, and although quite inexperienced in my first post I became, through a little courtesy and forbearance on the part of my principal, I trust, a useful assistant.

CELLULAR CLOTHING.

DR. J. FFRENCH BLAKE (Putney) writes: Referring to the letter of "A. G." in the BRITISH MEDICAL JOURNAL of September 18th, in which he invites opinions as to cellular clothing, may I state that, from experience, I consider the use of this material very disappointing? True, it permits, *inter alia*, of free evaporation of perspiration, but this is obtained at the expense of one's waistcoat and (the armholes especially) coat. These become, after even moderate exercise with many, so soddened as to need thorough drying before being again put on, and this process must of necessity soon impoverish "the clothes." This is readily understood. I can with confidence strongly recommend a silk and wool shirt for the summer months, which is cool and comfortable to wear, can always be quickly changed, if need be, after exercise, on returning home, and we shall have the satisfaction of knowing that our waistcoat and coat have escaped a wetting.

WANDERING ŒDEMA.

MR. G. W. BRABYN, L.R.C.S., L.R.C.P., etc. (Wimbledon), writes: I have read with interest in the BRITISH MEDICAL JOURNAL of September 25th the article on Wandering Œdema, by Dr. Brown; and a case I have under my care at present is similar in many respects to those recorded by him. For the past six weeks the œdema has appeared at intervals, varying from a few hours to two or three days, except on one occasion when it was absent for about a week. It has been preceded for a few hours by a slight burning pain which has subsided when the swelling appears. This has usually lasted a few hours and then has disappeared, only to reappear in another part within a very short time. The swelling is painless, and no discoloration of the skin over it. The lips, cheeks, feet, and wrists have been several times affected, and once it appeared in the penis and one testicle. The general health of the patient in this case has undergone no change, and I am unable to discover the cause of the malady.

A CASE OF PUDENDAL HÆMORRHAGE IN A NEWBORN CHILD.

DR. T. R. HENDERSON (Balham) writes: On September 6th, 1897, one of my patients, a 6-para, was delivered of a healthy well-developed female child, the labour being natural and not unduly prolonged. Two days after birth the nurse observed a blood stain on the napkin, and further search revealed the fact that blood was oozing gently from the pudenda. On my arrival my attention was called to this unusual condition, and on closer examination the blood was found to proceed from the left labium minus, just where its outer coat blends with the vaginal mucous membrane. I touched the bleeding spot with a camel's hair brush dipped in Duncan Flockhart and Co.'s styptic colloid, and applied pressure by means of a St. Andrew's Cross bandage over a pad of cotton wool. This application was repeated twice daily for two days, after which time there was absolutely no recurrence of the hæmorrhage.

The source of bleeding in the present instance being quite plain, the case cannot be regarded as one of menstruation, like those recorded by Drs. Jardine and Hamilton on pp. 652 and 756; but as I have been unable to find any record of an exactly similar condition, I venture to think that this brief note may be of interest.

I may here recall the fact that about eighteen months ago I was hurriedly called to see a member of the same family, a lad about 17 years of age, who had been seized with sudden and rather alarming hæmorrhage from one of the superficial veins of the penis, which ever since his birth had presented a curiously congested and varicose appearance. The hæmorrhage on this occasion was easily subdued by the application of a ligature to the vein at the bleeding point, and has not recurred.

LETTERS, COMMUNICATIONS, ETC., have been received from:

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BOOKS, ETC., RECEIVED.

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SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF SURGERY.

Christopher Heath, F.R.C.S., President.

The President delivered an address on "The Teaching of Surgery," which was published in the British Medical Journal of September 11th.

INTRODUCTION TO A DISCUSSION ON APPENDICITIS.

By G. E. Armstrong, M.D.,
Surgeon, Montreal General Hospital.

I have thought that a discussion on appendicitis in this Section might perhaps prove interesting and instructive for two reasons: First, of course, because of the great surgical importance of the subject, and the fact that more deaths occur annually from appendicitis than from any other acute surgical affection; and secondly, because we have an opportunity here at this meeting of bringing together for comparison the views of English and American surgeons.

Through the courtesy of my colleagues in the Montreal General Hospital and of my *confrères* in the Royal Victoria and Western Hospitals, I am able to place before you the results obtained in the treatment of appendicitis in these three institutions, as shown by an analysis of 517 cases. (It may be of interest to note just here the age and sex of these cases):

Age.	Sex.		Total.
	Male.	Female.	
1 to 10	19	13	32
10 to 20	75	62	137
20 to 30	138	71	209
30 to 40	69	13	82
40 to 50	28	10	38
50 to 60	7	3	10
60 to 70	2	2	4
70 to 80	2	0	2
	340	174	514

Three not mentioned. 340 males, 174 females. Nearly two males to one female.

This table certainly shows a rapidly increasing frequency of appendicitis during the first three decades, and a gradually lessening frequency after 30.

Etiology.

The difficult question is, at present, unfortunately, only partly worked out. I have for some years felt that the entrance of fæces into this blind pouch of small calibre and abnormal position was an important etiological factor. It goes without saying that whatever removes the protecting epithelial layer from the mucous membrane lining the appendicical canal creates a *locus minoris resistentiæ*, and permits the entrance of ever-present bacteria. I think that the initial lesion is often of the nature of a stercoral ulcer. Then follow according to circumstances difficult to define—either a perforating ulcer, or the thinning of the appendicical wall to a degree which permits the escape of pathogenic organisms into the surrounding tissues, or a healing ulcer with subsequent contracture and stricture.

The investigations of Dr. Abbe are interesting in this connection, and throw a good deal of light on the question of the pathology and morbid anatomy of appendicitis. He has studied appendices removed during the interval. He directs that within a few hours after their removal they be distended with 95 per cent. alcohol, and then immersed for 24 hours or more in alcohol of the same strength. The appendices are then ready for transverse or longitudinal section, and he seldom finds two alike. First a catarrhal inflammation may be followed by a stricture as in the urethra. Secondly, a natural point of flexure in the appendix (due usually to an abbreviated point in its mesentery) leads to an arrest of its fæcal contents, which, being inspissated, grow into a concretion. Thirdly, an otherwise healthy appendix may be the subject of circular ulceration, from no apparent cause other than microbic infection.

Final obliteration evidently sometimes occurs, but even this change does not always rid the patient of pain, as in the process of cicatrisation nerve filaments may become included.

In 59 of my series of cases the concretions are reported to have been present. In one case a pin was found in the appendix, and there is an appendix in the museum containing 8 or 10 shot, which never gave any trouble to the man from whom they were removed.

Dr. Abbe finds on microscopical examination of unstained and stained bits taken from the centres of many of these concretions, pus cells, exfoliated epithelium cells, minute bits of meat fibre and starch cells, with occasional crystals of decomposition. Dr. Abbe concludes that the development of the diseased appendix may be said to pass usually through the following stages: First, a catarrhal inflammation of the lining mucous membrane; secondly, irregular narrowing of the calibre, with hypertrophy of the mucous and muscular coats; thirdly, stricture; fourthly, inspissated food, desquamated epithelium, and pus-forming concretions; fifthly, obstruction at the stricture, distension, perforation, abscess. These observations certainly take us a step forward, although very much remains to be done.

Mr. Rutherford Morison finds that many attacks seem to come on during the night after sleep, and he would explain this by attributing it to the increased contraction of the unstriped muscle fibre in the wall of the appendix and cæcum during sleep due to the increase of carbonic oxide.

The greater frequency of appendicitis in men than in women, especially in the third decade, is noticeable. This may possibly be due to the greater physical activity in men, and the more common occurrence of violent strain, which might increase for the time the intra-abdominal pressure. Dr. W. H. Draper has suggested that the frequency of occurrence of appendicitis during recent years may be due to the poison of influenza.

Since 1889 there have been admitted to the Montreal General, Royal Victoria, and Western Hospitals 517 cases of appendicitis, with a mortality of 12.8 per cent. During this period cases of appendicitis have been submitted to operation with gradually increasing frequency. At first only the hopeless cases were operated upon, and then the operation was often done as a *dernier ressort*. Greater experience led to greater frequency of operation, and the results have improved and are still improving.

It is instructive to compare this mortality with that before 1889, that is while these cases were treated in the medical wards without operation. Up to July, 1892, cases of appendicitis were admitted almost invariably to the medical wards. Occasionally they were afterwards transferred to the surgical side. Since July, 1893, all cases are admitted to the surgical wards unless an attending physician brings one into his own ward, under his own care.

Now if we look back it will be found that in the annual reports of the Montreal General Hospital from 1858 to 1873 peritonitis alone is mentioned. In succeeding years perityphlitis occurs quite frequently, with an average mortality of about 12 per cent. Peritonitis cases at this time lessen in number, but the mortality increases to about 40 per cent. After the year 1890 perityphlitis is not mentioned, and the term "idiopathic peritonitis" occurs but rarely. The term "appendicitis" becomes more and more common.

The total number of cases of perityphlitis and peritonitis from 1858 to 1890 was 152; of pericæcal abscess, 2; of perforation of vermiform appendix, 1; making in all 155 cases. The deaths were as follows: Perityphlitis and peritonitis, 35;

pericæcal abscess, 1; perforation of the vermiform appendix, 1; making a total of 37. A total mortality of 23.8, nearly double what it is in the succeeding six years. The mortality has been reduced by the operative treatment to about half what it was before the operative treatment was introduced.

Further examination of the cases admitted into these three hospitals since 1889 shows that of the 517 cases treated, 389 were operated upon and 128 were treated without operation; of these latter 4 died, a mortality of 3.12 per cent. These were the mild cases, and, except in a few instances, operation was not advised. The 4 deaths were due to the septic peritonitis. Of the 389 cases operated upon 84 were interval cases, and in this group there was not one death. Of the 305 cases operated upon in the acute stage 63 died, a mortality of 20.65 per cent., a rate of mortality in the severe cases less than in the whole series in preoperative days.

Now, I take it, the important question is the cause of death in the 63 fatal cases, and how it may be avoided; 36 of these were general septic peritonitis cases, 2 tuberculous appendicitis and peritonitis, 18 were abscess cases, 5 were cases of septic inflammation of the mesenteric veins and liver abscess; thus septic and tuberculous peritonitis, abscess and mesenteric pylephlebitis leading to abscess of the liver account for 61 of the 63 deaths, and septic pneumonia and broncho-pneumonia for the other 2.

I would like to mention here that we cannot as yet quite drop altogether the term "idiopathic peritonitis."

There have been 6 deaths in the Montreal General Hospital during the past five or six years from general peritonitis in which a necropsy was performed by Dr. Wyatt Johnston, and in which no cause could be found; 5 of them were apparently a streptococcus infection and 1 a pneumococcus. One or two of them gave a history of having recently had a sore throat, and several seemed to have occurred about the menstrual period. In 1 case I opened the abdomen and found a considerable quantity of sero-purulent fluid but could not find any apparent cause. I washed out the abdomen with but normal saline solution and inserted a large drain to the bottom of the pelvis and the woman recovered. This attack immediately followed an evening's skating during menstruation.

The first 3 cases that occurred in my practice after graduation made a very strong impression upon me, and I think they are worthy of brief mention.

First, in March, 1881, I attended a young man, aged 28, who developed well-marked right-sided local peritonitis, followed by symptoms of abscess formation. I asked my old professor in surgery to see the case with me, and, while he admitted that there probably might be an abscess inside, yet he maintained that it was inoperable, and my persuasive powers failed to gain his consent to an operation. This man had recurring chills and sweats until he died of exhaustion. At the necropsy, performed by Dr. Osler, a large retrocæcal abscess was found.

Secondly, in December, 1883, an almost exactly similar course was passed through by a young man, aged 17. Only in this case I thought I would seek advice from a younger surgeon, but here again I was disappointed. The younger surgeon said the case was one of typhoid fever. At the necropsy I found a large pelvic abscess connected with the appendix vermiformis.

Thirdly, a young man, aged 19, started with right-sided abdominal pain, followed by symptoms of abscess formation. This time I decided to avoid surgeons, and called in the late Dr. R P. Howard, at that time Professor of Medicine in this University, a most progressive man. He readily agreed to my diagnosis, and supported my advice to submit the patient to operation. On February 24th, 1884, the twenty-fourth day of the illness, I opened the abdomen on the right side, and readily came upon a large retrocæcal abscess. I simply opened and drained, the appendix was not removed. The patient died on the sixth day after the operation, and at the necropsy performed by Dr. Osler, who was then a professor in McGill, a mesenteric pylephlebitis was found. It was easily followed up along the branches of the portal, through the main trunk into the liver. Several abscesses were found in the liver, and the mesenteric glands were enlarged.

I must admit that the mortality rate was not improved by my operation, although so far as I know it was the first done in Montreal; but I got one lesson that I have never forgotten—namely, delay is dangerous. The successful treatment of general septic peritonitis is one of the most difficult tasks a surgeon has to undertake, and the secondary results of abscess formation are a frequent cause of death in appendicitis.

The abscess cases and the general peritonitis cases are the ones that increase the death-rate. This is the group of cases which gives us our failures, and the best way to treat them is to prevent them, to anticipate their development. This is accomplished in the vast majority of cases by prompt early surgical interference. Even the fulminating cases are often preceded by milder attacks, during which, or in the interval immediately following an operation, might have been successful.

The question of "time to operate" naturally arises here, and it is one that might be discussed for days. I believe it to be next to impossible to put in words a clear statement of the time to operate. There are two groups of cases upon which I think nearly all will agree. In one the attack is so mild that the question of operation during the attack scarcely arises; in the other, the condition of the patient when first seen is so grave that but few would dare to delay. But there is a much larger group where there seems to be room for difference of opinion; it is here that the judgment and experience of the surgeon need to be exercised to their fullest extent.

Operations in the interval are so safe that the question often resolves itself into whether there will be an interval or not.

Symptoms in appendicitis are so thoroughly unreliable that no one or two can be taken as safe indications. Pain, tenderness, muscular rigidity, vomiting, temperature, pulse, facial expression are all valuable signs, but they must be taken together, and the opinion be based on the *tout ensemble*. I find also that sometimes the further the case progresses the less reliable do the symptoms become. If we were able to foretell positively in a given case whether it would turn out well or ill, then could we intelligently make selections, but we cannot by any symptoms or group of symptoms be certain; therefore the surgeon should, when in doubt, give the patient the benefit and operate. The cautious conservative surgeon will operate early; only the bold will dare say, Wait.

Physicians are helpless; they have no means of controlling or limiting the course of this disease. Purgatives may do harm and should be avoided. Opium disguises the condition and misleads the patient, the friends, and the medical attendant. It should never be given until the diagnosis is clear, and the course of action decided upon, and then only if it is thought that vomiting or active peristalsis will spread the infection while preparations for operation are being made. The pain is seldom more severe than can be controlled by local applications of ice or hot fomentations.

To illustrate the danger of delay in even mild cases I will report the following experience:—

A young professional man in this city was recovering from what his family physician described to me as a very mild form of appendicitis, and apparently was making a most satisfactory recovery. On the sixth dav he had no pain, scarcely any tenderness, and a normal temperature and pulse. He was to have got up on the seventh day, but in the evening of the sixth day, while the nurse was out of the room, he went to the water-closet to defæcate. While there he was seized with intense abdominal pain and symptoms of collapse. I saw him shortly afterwards and had him removed to the hospital at once, and operated with the least possible delay. Yet, notwithstanding the most careful cleansing of the peritoneal cavity and drainage, he died of septic peritonitis, the infection coming from a ruptured pericæcal abscess.

I have seen a similar sudden rupture of an appendix with peritonitis follow the administration of a dose of castor oil. The patient was the wife of a veterinary surgeon, and the oil was given on the third day after confinement. A few hours after its administration the lady complained of agonising abdominal pains, and chiefly on the left side of the uterus. A diagnosis was made of probable purulent salpingitis on the left side, with rupture. I opened the abdomen, and found the left Fallopian tube and ovary apparently normal. I then examined the right tube and ovary and found them normal also. It was a trying moment, because her husband was in the room, and it appeared as if I had unnecessarily undertaken a serious operation. It occurred to me to examine the vermiform appendix, and to my great relief I found it distended, ruptured at one point, and pus escaping through the perforation. Fortunately the patient made a perfect recovery. Why the pain was felt to be so very much more severe on the left side I cannot tell.

My working rule is to operate on all well-marked cases at once. This includes all cases in which there is pain, tenderness, muscular rigidity, with vomiting, elevations of temperature, acceleration of pulse, and anxious facial expression.

In the milder cases I advise operation if, at the end of twenty-four or thirty-six hours, I am not perfectly satisfied that the condition of the patient is undoubtedly improving; and, if all the symptoms are not decidedly less on the third day, I urge operation strongly. I have no faith in the powers of any surgeon that I have yet met to individualise the select cases suitable for operation, and not suitable for operation, after the third day. If they are not getting well by that time they should be submitted to operation. I speak thus from

experience. I have knowledge of many cases delayed by the advice of consultants, the delay being followed by disastrous results.

There are a few details in the operation upon which I should very much like to hear an expression of opinion.

First, in regard to general septic peritonitis. If undertaken before paresis of the intestinal wall has developed there is a chance of saving them, and they should be given that chance. I am still doubtful of the advisability of turning all the intestines out on a table and washing them and the abdominal cavity before replacement. I am afraid that it lowers the patient's recuperative power, and the advantage gained seems to me doubtful. Of the injection of salines into the intestine, as advised by McCosh, I have no experience. The benefit of free movement of the bowel is appreciated by all, but enemata and purgatives, after washing out the stomach, generally succeed, and sometimes at this time opium seems to act as a purgative.

If the infection of the peritoneal cavity is general, thorough irrigation with but normal saline solution is called for. The so-called antiseptic solutions are here useless and probably injurious from their action on the epithelial layer of the peritoneum. Normal saline solution washes out the pus and sero-pus well, and is non-irritating. The washing out should be thorough, and for this purpose pitchers are useless. An irrigator should be used with a long soft rubber tube attached, which can be carried into the pelvis and either loin alternately, and thus a stream be made to flow from within outward. By changing the position of the tube I believe the abdominal cavity and intestines can be washed out as thoroughly as in eventration and with decidedly less shock to the patient.

The next point is drainage, and this part of the technique has not received sufficient attention. A tube in the pelvis does not drain the loins. In these cases three tubes should be inserted, one into the pelvis, and one into each loin, and they should be of large calibre. I have used during the past year large rubber tubes, having a half-inch bore. One is carried into the pelvis to the very bottom, and one into each loin. Strips of gauze are passed down the tube and all the fluid taken out. This is done sufficiently often to keep them always empty. In this way dependent drainage is secured for the whole abdominal cavity. All the fluid will gravitate into one of these three spaces as the patient lies upon the back, and if it is removed as fast as it accumulates, it amounts practically to dependent drainage of the whole abdominal cavity.

Now in regard to abscesses. I should say remove them as far as possible as soon as they are formed. Delay is dangerous. No surgeon can know in what directions an abscess is burrowing, or of what its walls are composed, or where the wall is thinnest until he operates upon it. When it is found and opened, should the appendix be searched for and the limiting adhesions broken down? I think the majority of experienced surgeons will say, No.

Before deciding that question let us see what tissues go to form the abscess wall. It will generally be found to be composed of one or all of the following: lymph, inflammatory tissue, appendix, intestine, omentum and mesentery; tissues rich in lymphatics and veins. Through these the septic matters may enter and destroy the patient. Their early removal may prevent such an unfortunate ending. In the series of cases which I have reported there are 5 cases of mesenteric pylephlebitis and abscess of the liver, and I have seen 3 others in private practice. The channels of infection in these cases may be clearly traced right through the branches of the portal vein to the liver. It does seem but rational to remove at the time of operation all the infectious material that can be removed with a view of arresting or preventing the development of this fatal complication. In one case the infection spread backwards through the splenic vein, and an abscess of the spleen was found at the necropsy.

Only a few days ago I saw an old lady, aged 65, who said she had had a mild form of appendicitis, her first and only attack previous to her present illness, in Chicago in the summer of 1896. It was a very mild form of the disease, and operation was not advised. She made an apparently good recovery, and remained well until about a fortnight before I saw her. At this time her family physician recognised the case as one of recurrent appendicitis with abscess formation. The abscess seemed on physical examination to be almost entirely pelvic. In addition her urine, although about normal in quantity, contained albumen and granular and hyaline casts. Operation was mentioned as affording the only chance of relief, but that chance was so small that it was declined. A few days before death the old lady coughed up a considerable quantity of pus, and two days before death she passed a quantity of pus through the urethra. At the necropsy the pelvic abscess was found connected with a ruptured appendix, mesenteric pylephlebitis, liver abscess, adhesion of liver to diaphragm, perforation of diaphragm, lung, and bronchus.

Delay is dangerous. Had this woman been operated upon during her first mild attack in Chicago, or in the interval after recovery, in all probability she would have been alive and well to-day. No man could have foretold the unfortunate ending in this case or in any similar case, and I hold, therefore, that the only safe advice to give in any case of appendicitis is to have removed what is a menace to life.

Another reason for advocating the more radical treatment of these abscess walls and the search for the appendix is that otherwise second or third abscesses may be left unopened. Such unfortunate experiences have occurred in Montreal and doubtless in other cities, the secondary abscesses being found in the *post-mortem* room. As an illustration of this condition I may mention the following:

I was asked during the past winter to see, in the medical wards, a case of abscess of the prostate. On examination *per rectum* I found a normal prostate, but distinct fluctuation in front of the rectum, behind the prostate. Inquiry into the history left scarcely a doubt that the case was one of appendicitis. I made a lateral incision in the usual way, and emptied the pelvic abscess, but found no trace of the appendix. I broke down the limiting adhesions, taking great care to protect the peritoneal cavity, and, on raising the cæcum, opened up a second abscess containing the diseased appendix. The man made a good recovery. Had I in this instance been content to drain the first abscess the man would probably have died. The second abscess had no connection at the time of operation with the first, and would not have been found had not the appendix been searched for. I might quote other similar cases, but this one serves to illustrate my point.

I am advocating this practice for operating surgeons working in their own operating room, and I hold that under such circumstances it is possible to remove the appendix in nearly all cases without infecting the general peritoneum. The intestines at once form new adhesions, and thus afford protection when the gauze pads are removed. In 14 cases of the series there were 2 abscesses. In 9 cases general peritonitis is reported to have developed after operation. In 7 of these the appendix had been removed and in 2 it was not found. But it is difficult to say that the peritonitis resulted from the search for the appendix. It is quite possible that the infection had taken place before the operation was performed.

Since the first of last October I have put these principles, which I have advocated in the treatment of general peritonitis and abscess, into practice with satisfactory results. During this period I have had under my care in the Montreal General Hospital 29 cases: 7 of these recovered and declined operation in the interval; 22 were operated on; 8 of these were admitted for operation in the interval; 14 were operated on during an acute attack, and in all the appendix was removed; in 7 the appendix was gangrenous, and in 5 perforated; 4 were cases of general peritonitis, and all recovered; 10 were abscess cases. They all recovered but one. This case was admitted on the fifth day; the abscess was opened, cleaned out with gauze swabs, and the appendix removed. She did well for eleven days. The temperature became normal, bowels moved, food was well borne, and she was looked upon as out of danger. On the twelfth day after operation she had a rigor; her temperature rose to 104° F., and she became decidedly septic. Four days later my colleague, Dr. Kirkpatrick, opened the abdomen. This second operation was unsatisfactory, except that it showed the absence of peritonitis. She died four days later, or twenty days after the first operation. Unfortunately, we were not able to obtain a necropsy, but from the conditions present I have little doubt that death was due to mesenteric pylephebitis and liver abscess. The late date of the first operation was unfortunate.

Fæcal fistula followed operation in 15 cases; 4 of these died, 8 healed spontaneously, 1 healed after operation, and in 2 the result is not stated. In two of the cases in which the appendix was not removed a second operation was performed for recurring attack. In each instance the appendix was removed at the second operation. Both recovered. I think that the next great improvement in our statistics will result from their earlier recognition and earlier operations.

Mr. Ward Cousins said: There are no special symptoms

which enabled us to diagnose the probable course of the attack. We may think that we have to do with a mild disorder which will soon subside, but in a few hours all the symptoms may change; one form to-day, and another and more urgent form of the disorder in a few hours. What is the risk of operation? What is the risk of waiting? Statistics and classification do not help us at the bedside. In favourable appendicitis colicky pains subside, then the fever, and last of all the tenderness. These are the cases for fluid diet and prolonged rest. In appendicitis followed by abscess formation, the suppuration is indicated by temperature and pulse, rigidity of the abdominal muscles, a point of special tenderness, and induration. I am not sure that the point of special tenderness and fulness gives often any indication of the position of the appendix. In the acute perforating appendicitis we find more acute symptoms with tympanic distension and great general depression. It is sometimes impossible to say whether severe general symptoms are caused by local or general peritonitis. The pain, distension, and tenderness are not localised. I have been sometimes most agreeably surprised, and my experience accentuates the necessity of early operation in all cases where the symptoms are severe, and there is no tendency towards improvement, as the risks of infecting the general peritoneal cavity are increasing every moment. Every case of appendicitis ought in my opinion to be explored as soon as the local and general symptoms are really grave, without any tendency towards improvement. As regards the method of operating I prefer the oblique incision, which gives the best look into the abdomen for exploring the region of the appendix. One or two strong silk threads introduced through the whole thickness of the abdominal wall I find make the best retractors. They never slip, and occupy no space. When well-marked symptoms of abscess formation exist free incision with free drainage is the best surgical treatment. If the appendix can be seen, and it is accessible, it ought to be removed, but the abscess cavity should not be disturbed too much. If adherent to the inner wall of the cavity it should be left, and any perforation at the point ligatured. Of course if intestinal obstruction is present the separation of adhesions may be necessary for setting free the gut. If intestines and omentum cover the abscess cavity, and in opening it the general cavity of the peritoneum is opened, I think flat and thin sponges give the best protection during the evacuation of the abscess, and in all cases I wipe out the cavity with antiseptic gauze, and drain at the lowest possible point with one or two tubes. In cases of relapsing and obstinate appendicitis, the infected area may contain little or no fluid. It may be situated deeply behind the colon or in the pelvis, surrounded by adherent intestine, and can only be reached through the general peritoneal cavity. The best guides to the appendix are the bands on the cæcum, and in the search the adherent parts must be very carefully separated, and the area protected with gauze or sponge. It is in this class of case that I have found the silk sutures extremely useful. In cases of septic peritonitis with a clinical history pointing to the appendix, the right iliac region ought to be explored, and if any pus is reached it ought to be evacuated, and a large tube inserted. The simplest operation is often followed by a good result, and often the appendix is spontaneously discharged in a necrotic condition. We owe a great deal to many eminent surgeons on this side of the Atlantic for their invaluable work in this field, and I think that we on the other side have been stimulated by their experiences in the direction of early operation. To-day we acknowledge that early operation is often safer than surgical procrastination; that operation will surely prevent relapse of the disease, and remove the risks of a dangerous infective inflammation of the abdominal cavity. One word in conclusion. In appendicitis we must exercise discretion in our efforts within the abdomen. Experience and the exercise of surgical judgment are essential in deciding the question of opening the cavity, and the same qualities are of equal service in settling the equally important question of when to shut it up.

Professor Ball (Dublin) stated that for practical purposes it appeared to be convenient to divide cases of appendicitis into four classes: (1) where there was general peritonitis; (2) where abscess was indicated; and (3) where a man's life was made miserable by frequently repeated attacks. He took it for granted that in all these cases modern surgical opinion was agreed that operation was indicated; the fourth class was that in which the real difficulty arose—namely, those of first or early attacks, the vast majority of which cases recovered by purely medical treatment, but there remained a certain small proportion of these cases in which serious symptoms developed with extreme rapidity. The important question was for us to decide what are indications by which the dangerous cases can be diagnosed early. He contended that no fixed time limit as to duration of disease could be fixed, and that each case should be judged on its own merits. He trusted that the present discussion would be the means of giving us additional information on this important point.

Mr. Jordan Lloyd (Birmingham) desired to confine his remarks to matters of treatment only, and for this purpose would divide appendicitis cases into two primary groups: First, those where the inflammatory process was confined within the appendix itself; and, secondly, those where the peritoneum had become affected. The first group might be simple or suppurative, and gave rise as a rule to no discoverable local swelling; simple cases got well on saline and dietetic treatment; suppurative cases extended to the peritoneum either by sudden rupture or by slower ulceration. The latter variety constituted one of the commoner forms of appendicitis met with in practice, and was in every case attended by the formation of local swelling. This swelling usually formed in the iliac region, but in other times it had to be sought for in the loin, in regions of the abdomen other than the iliac, or in Douglas's pouch by rectal or vaginal examination. Wherever the swelling lay, there the opening should be made, and it was sufficient in the majority of cases to liberate pent-up pus, and leave drainage to accomplish the cure. He believed these intrapelvic suppurations could be more safely opened from the rectum or the vagina than by the usual iliac incision. Where the appendix burst into the peritoneal cavity and diffused general peritonitis followed, an immediate section was called for, the appendix being rapidly removed and the cavity cleansed thoroughly by gauze swabbing and subsequently freely drained by means of iodoform tampons. Relapsing cases constituted a group to themselves, and should be dealt with by excision of appendix during the period of an interval.

Sir William Hingston said he was quite unprepared to make any connected remarks on the question of appendicitis, but yielding to the invitation of the distinguished President of the Surgical Section, he would observe, in connection with operative interference: First, that statistics—always unreliable in connection with operative surgery generally—were exceptionally unreliable in connection with the operation of removal of the appendix. The statistics now furnished by two of our city hospitals were, as far as they went, thoroughly trustworthy, but they were too partial and limited to enable one to judge of the general results of operations on this side of the Atlantic, where it appeared to him the disease and the operation for its removal had seemingly become more frequent—indeed many times more frequent—than in all the rest of the world beside. In hospital and private practice he had found it necessary to operate only in about 10 per cent. of the cases submitted to him for advice or operation, and he could not recall an instance in which he had occasion to regret having allowed the physician to continue his efforts unaided by the knife in the remaining 90 per cent. Yet the operation was an admirable one, and absolutely necessary, in his opinion, in some few cases, but it was performed in several parts of this continent with alarming and needless frequency. So anxious had people become of late, and so keenly alive to the possible danger from bursting of a fæcal abscess, or from an extension of the inflammatory action, etc., that it sometimes required a good deal of encouragement to induce a patient not to submit, but to not submit to an operation which to many seems to promise the only safeguard against danger and death. He thought the pendulum had been violently swung too far in the direction of operative procedure. This was unfortunate, as it might possibly lead in the future to a swing too far in the opposite direction, just as had been the case in many other excellent operations which were at one time fashionable. He entirely differed from those who claimed for the operation itself freedom from danger. This, from pretty wide observation, was not his experience. For

this reason he deprecated a tentative operation to establish a diagnosis. In by far the larger number of cases no operation was required, and in the fewer number—perhaps 10 or 12 per cent.—the operation was warrantable, and in a still fewer number imperatively demanded. To place the cases brought before them into one or other of those categories was, he admitted, in some instances a matter of difficulty, anxiety, and great responsibility, but he would strongly urge the physician not to relinquish his case too soon. The number of cases of persons within the sphere of his observation who were to-day in the enjoyment of continued good health who were judged fit subjects for operation, but which he (Sir William Hingston) could not advise, was so considerable that he felt impelled to speak thus boldly.

Dr. Vander Veer wished, first, to endorse the remarks of Mr. Jordan Lloyd in reference to the anatomical relations of the appendix. Faraway symptoms could be accounted for only in this way. Valuable time was sometimes lost by the attending physician in endeavouring always to locate the tender McBurney point in the right inguinal region. He believed there was yet much good to come from continuing these discussions on appendicitis. As hinted by Sir W. Hingston, he should make a still greater effort to bring the family physician and his consulting surgeon together early in the case. Let our classification of cases be as clear yet as simple as was possible. He might be too radical, yet he believed he voiced the sentiment of the earnest hard-working American surgeon in advocating an early operation, particularly in such cases as when the first attack had been a severe one. These were the dangerous cases that might go badly in the next attack. To be sure, many mild cases of appendicitis did get on without an operation. Who would undertake to assert when they were not likely to go wrong? Regarding cases associated with abscess he was quite sure they were reaching the point in this country when they were to be more radical and positive in cleaning out thoroughly the abscess cavity by use of gauze, the application or not of peroxide of hydrogen, and then complete removal of appendix and all diseased tissues. His own experience—not so very limited—led him to this conclusion. The statistics presented by Dr. Armstrong were of value, yet regarding his method of drainage he was quite sure they would procure quicker, safer, and better results by the use of gauze, and that it enabled one to answer the keen criticisms of Mr. Cousins, "how to get out of the peritoneal cavity?" safely. Undoubtedly to Dr. McBurney was due the credit of carefully mopping out the peritoneal cavity, and thereby doing away with the old method of douching. He was sure that there were certain seasons when a greater number of acute cases were present; and while he would always endeavour to impress upon the general practitioner the necessity of carefully watching every abdominal case, yet from the middle of July to the middle of January he was positive that diet and exposure to cold were strong factors in increasing our list. He believed that Dr. McCosh had, in our cases of septic peritonitis, given them great assistance by his method of immediate saline injection into the tract of the small intestines. It seemed to him at present that their greatest efforts should be made in the direction of a more thorough study and line of treatment in cases of septic peritonitis.

Dr. Alex. Hugh Fergusson (Chicago) said it was not his intention to say anything on this occasion, but being called upon, and in the absence of other Chicago men, he could not refrain from saying a few words. In their part of America they regarded appendicitis as a surgical affection. There were a few cases and conditions when an operation was not advised. They did not operate (1) when there were simply colicky pains in the region of the vermiform appendix, that is what he had been in the habit of calling "constipation of the vermiform appendix." (2) They avoided operation if possible during the acme of the inflammation. (3) They did not operate when the diagnosis was in doubt. (4) It was not wise to operate in cases with grave complications unless these demanded surgical interference. (1) They advised operation in appendicitis in all cases where the diagnosis was well defined, and early operation within three days was preferable to one performed when the disease was further advanced. (2) They operated at any time when a distinct tumefaction appeared. (3) They did not delay operation in acute cases with symptoms of evident perforation. (4) They always operated in cases of recurrent appendicitis. The signs and symptoms did not always by any means bespeak the pathologic findings; clinical and operative experience combined had taught them this. A case regarded as being simple might at any time become a grave one, and successful operation be too late. An abscess apparently harmless, with the presence of no symptoms or signs except that a tumour was detected, might burst into the general peritoneal cavity, or implicate important structures, causing death, or endangering life. They were not at all certain that a person who had passed through several attacks, and had become quiescent was cured or free from danger. He had reported several cases: 1 had no attack for fourteen years, 1 went twelve years, and another about eight years, and then a culminating attack carried off the patient in each instance. The incision they used was that recommended by McBurney when operating between the attacks. When a tumour was present he cut close to and parallel with (about an inch above) Poupart's ligament, the anterior superior spine of the ilium being usually opposite the centre of the incision. If no adhesion were present iodoform gauze was carefully placed so as to cut off communication with the peritoneal cavity. If adhesions were met with good and well—no gauze wool was necessary. The abscess cavity was then entered external to the gut, the pus washed out, and the cavity drained with gauze and a tube. There was a class of neglected cases where operation was delayed until the system was profoundly septic, and after the pus was evacuated no improvement occurred. What was to be done to save these he did not know. In 5 cases he did an intravenous transfusion of a saline solution with but temporary relief. Should venesection and transfusion be tried as recommended by Barré, of Paris, France, for septic cases?

Dr. Gordon (Portland, Me.) said: I am sure I did not know that my name was placed upon the list for discussion, but I am very glad of the opportunity, for I entertain some views rather different from many of my brethren in the profession. I believe fully in the operation for appendicitis, but I differ as to the time when the operation shall be made. When called to a case of appendicitis, if in the early stages I treat it entirely medically. I recognise a condition, and that condition one of peritonitis to a greater or less degree, and treat it as I always treat peritonitis from any other cause, namely, by saline cathartics. I see no peculiarity in peritonitis arising from appendicitis, and therefore see no reason for changing my method of treatment. I commence by a saturated solution of seidlitz powders or magnes. sulph. in hot water, repeating often until the bowels are freely moved. If after repeated trials I find that the patient does not retain this, I use the saline enema (magnes. sul. ℥ij, aq. bul. ℥iij, and glycerine ℥j. By staying by my patient, and not leaving him to a nurse or anyone else until the bowels move, I usually succeed in relieving pain, reducing fever, and practically curing the acute attack. In my opinion 90 per cent. of the cases of appendicitis will be carried through the acute attack by medical treatment alone. I am sure salines are better than other cathartics and seidlitz powders, better than Epsom salts, inasmuch as it corrects the condition of the stomach quicker, when vomiting is troublesome. Gentlemen may ask, What do you do for the extreme pain which is so unfortunate a factor—do you give no opium? No, never in the early stages. One will be surprised to see how soon pain will be relieved if you attend to this thing yourself, and when the relief to pain comes temperature subsides, and the patient in ninety cases in a hundred is cured of this attack. Now, I advise surgery; I advise every patient who has had one well-marked attack of appendicitis to have the diseased organ removed, for while it may not be destroyed yet it has suffered, and may perforate at the next time, and that next time is liable to come; so that while I am in full accord with those who believe that appendicitis is a surgical disease, I am not in accord with him who believes it is surgical at the start, but believe that in the early stages it is purely medical. I sometimes find a condition like the following: after getting free catharsis by salines the pain and temperature have been relieved, but in 24 or 48 hours they return; then I recognise a new attack, and at once advise operation; new germs have developed from the

first attack, and pus is almost sure to be the result. The operation for relief of pus should be done promptly, as in all other cases where pus exists. I may thus sum up by saying that in the early stages saline cathartics and no opium should be the treatment. Even in many cases where I am called in consultation, where opiates have been used, perhaps for several days, I believe an attempt should be made to get the effect of salines, unless a well-marked tumour exists, indicating pus. In this latter class of cases I advise operation at once, and then follow very soon with the saline. By this method I believe we save many more cases than by following the rule always to operate as soon as called to the case. A certain percentage of cases of the fulminant character will die no matter what we do, but in my opinion many more will die from early operation.

VENTRAL AND UMBILICAL HERNIA IN THE SAME PATIENT.

By A. E. GARROW, M.D.,
Montreal.

CASES of umbilical and epigastric hernia, having separate sacs but common coverings, for which radical cure has been successfully carried out, are evidently rare, or at least not frequently recognised and reported. After carefully looking over the literature at my disposal, I find but one case reported within the last twelve years, namely, one by Ochsner, of Chicago, in which radical cure was performed for a small supra-umbilical and a large umbilical hernia.

Double umbilical herniæ, with separate sacs, and multiple ventral herniæ, the result of repeated laparotomies, are not uncommon at the present day. Marcy in his work on the *Anatomy and Surgical Treatment of Hernia*, says of supra-umbilical hernia, "That it is not rare to find examples of ventral hernia in the middle line above the umbilicus; these, so far as I have had the means of observation, are small in size, oftentimes giving little or no discomfort; occasionally they interfere with the process of digestion, causing nausea, flatulency, and pain."

In the case under consideration the contents of the supra-umbilical protrusion consisted of large and small intestine, cæcum with appendix, and omentum; the latter, being spread out so as to form a more or less complete sac, was adherent, and could only be reduced with difficulty. The umbilical hernia, on the other hand, was small, sausage-shaped, and contained but a single loop of small intestine, which was not adherent, and was very readily reduced.

This case, at least, clearly supports the view that large irreducible herniæ may escape elsewhere than through the umbilical opening. Within the last two months I have had an opportunity of examining two cases of herniæ occurring in women past middle life, in which the neck lay some distance above the umbilicus. The explanation for the few cases reported may be due to the impossibility of diagnosing such a condition previous to operation, and that surgeons are comparatively seldom called upon to give radical relief for hernia in this situation unless strangulation has occurred, because the subjects of such herniæ are usually well advanced in years, obese, frequently suffering from bronchial, renal, or cardiac disease—in short, poor patients for any operative interference, particularly a prolonged laparotomy; besides many of them are made comfortable by wearing some form of abdominal support.

The danger in suitable cases in operating for such herniæ would not seem to be much greater than that entailed in a modern laparotomy, and the important lesson learned by the writer is, since in such cases it is impossible to recognise the double protrusion before incision, that after opening the main sac and replacing its contents within the abdominal cavity, a careful search from within should be made to ascertain whether any other hernia exists before proceeding to remove the adipose tissue mapped out at the beginning of the operation.

U. J. U., coloured female, aged 45, entered the Royal Victoria Hospital, December 10th, 1896, complaining of an abdominal tumour, and asking for radical relief.

Patient was married twenty-one years ago; within three years she had borne three children. Some months after the birth of the third child a small lump made its appearance about 1 inch above the umbilicus; this lump gradually increased in size until three years ago, when it was abou one-half its present dimensions. but since then it had grown rapidly.

Excepting transient attacks of abdominal pain, which she attributed to wind in the bowels, and some dragging-down sensations, relieved by assuming the recumbent position, she had suffered but little until the last year. During the last twelve months, however, disturbances in digestion had been persistent, besides the abdominal pains, and the dragging-down sensations already referred to had become much aggravated, and, though benefited by rest in bed, have never been entirely absent.

Various abdominal pads and trusses were tried in turn, but utterly failed to give relief—in fact, aggravated her symptoms.

Patient has had repeated attacks of what she calls low fever, in her home in Jamaica; has also suffered from muscular rheumatism, and from sciatica. Examination showed a large tumour projecting from the mid-abdominal region, irregularly hemispherical, freely movable, soft and doughy in some parts, but tense and elastic in others, irreducible, distinctly lobulated, somewhat tender to palpation, which occasionally elicits gurgling sounds.

Note tympanitic in some places, in others dull. The navel lies at the lower left-hand side, partially concealed by the overhanging mass, and the skin immediately surrounding it is superficially ulcerated, evidently from the friction of her clothes. The tissues above this part are very thin, so that the outline of the contents can be readily distinguished. Umbilical hernia was diagnosed, because the neck of the protrusion, which seemed to be about 2½ in. in diameter, apparently occupied the umbilical opening.

On December 14th an elliptical incision was made over the most prominent part of the mass and the aponeurosis of the external oblique exposed, keeping on this structure and dissecting towards the middle line; the neck of the sac and then the sac in part were defined, and the latter opened at its upper and left side. The contents were with some difficulty disentangled, the greater portion of the adherent and fatty hypertrophied omentum ligatured and divided; but reduction could not be effected until the opening had been enlarged upwards about an inch and a-half, and then only with considerable difficulty. The sac was transfixed at the neck with three intertwining catgut sutures and was then severed. The peritoneal stump was buried by a continuous Lembert suture of catgut.

On lifting up the elliptical mass of adipose tissue, sac, and omentum, preparatory to removing it, a gurgling sensation was detected, and on again dissecting towards the middle line at the lower portion of the mass, about 2 in. below the lower border of the upper opening, another sac, 1½ in. in diameter and about 3½ in. in length, was discovered, which, on being opened, contained small intestine, was not adherent, and was readily reduced. The sac of this protrusion was treated in a similar manner to the other and then the mass finally removed.

The peritoneum in both herniæ was firmly adherent to the surrounding fibrous rings, and was dissected away from the margin a full inch. The edges of both openings were freshened by dissection, the upper closed by five stout catgut sutures, introduced by Macewen's needles, one-half inch from the free margin, the lower by two. To relieve the great strain on these a number of fine catgut sutures were inserted Lembert fashion, about three to the inch. The skin was brought together by interrupted silkworm gut sutures, the edges of the wound having been purposely slanted towards the middle line on forming the flaps to prevent, if possible, a cavity being left when the sutures were tied. Small rubber tubes were carried down to the aponeurosis, at the middle and lower parts of the wound: these were replaced at the second dressing by strips of iodoform gauze.

The patient made an uneventful recovery. The skin wound healed by primary union, but the drainage openings did not close until the fourth week. Broad strips of adhesive plaster were employed to secure the dressings and to relieve the tension on the sutures; the patient was kept in bed for seven weeks, and was not allowed to assume the upright position until she had been fitted with a broad abdominal belt.

STRICTURE OF THE INTESTINE: A SEQUEL OF STRANGULATED HERNIA.

By ALEXIS THOMSON, M.D., F.R.C.S.Edin.,
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WHEN an operation has been performed for strangulated hernia, and the bowel, although damaged, has been pronounced viable and has been returned within the abdomen, symptoms of obstruction may persist, or they may recur after a variable period of well-being. In the former case one will assume that the cause of the strangulation has not been removed by the operation, or that the bowel has passed into a state of atony or incapacity for fulfilling its functions. In the latter case, where an interval of well-being is manifest between the herniotomy and the onset of obstruction, the diagnosis will lie between stricture on the one hand, and kinking, twisting, or constriction by various forms of peritoneal adhesions on the other, or a combination of these conditions. It will always be difficult to state with certainty which of these is present in any individual case. In general terms it may be said that in stricture the symptoms of obstruction will be gradual in onset and incomplete in character, that further they are initiated by colic after the ingestion of solid food, while in the different forms of obstruction caused by peritoneal adhesions, the symptoms will develop and progress with greater rapidity, the phenomena

will partake rather of those which characterise what has been called acute obstruction. It is obvious that young fibrous tissue requires to undergo development before it can constrict a tube, and that the formation of a cicatricial structure, which will appreciably narrow the lumen of the bowel, necessarily entails the lapse of time (certainly not less than fourteen days), whereas peritoneal adhesions, even when comparatively recent, may suddenly or rapidly bring about kinking or twisting, such as would give rise to the clinical features of acute obstruction.

While stating these points in differential diagnosis, I am aware that much stress cannot be laid upon them, for if one may judge from the very small number of cases which have been recorded, the two lesions coexist and co-operate in the production of obstruction.

These remarks have been suggested by the observation of a case recently under my care in which the above combination of lesions was present, and which presented many features of interest. I shall describe its features as briefly as possible, and then refer to two others which, so far as I am aware, are the only similar cases on record.

An office clerk, aged 31, was seen with Dr. Stewart Stirling, November 20th, 1896. He had noticed a rupture for many years but had never worn a truss. He had had threatenings of strangulation on several occasions. On the 17th he had pain in the hernia and began to vomit. Both on the 17th and 18th the rupture was alleged to have been reduced, but the swelling did not disappear and the vomiting persisted. When seen by me on the 20th he was reduced by illness and want of food. There was a large irreducible hernia in the left side of the scrotum, and there was frequent vomiting of foul-smelling fluid. Herniotomy was performed two hours later in the Deaconess Hospital; the hernia was of the congenital variety; the coverings of the sac were markedly inflamed. The sac contained turbid fluid, with flakes of lymph and a partially adherent coil of small intestine; the walls of the latter were thickened, brownish in colour, and smeared with recent lymph (recent peritonitis). A tight constriction at the internal ring had to be divided before the loop of bowel could be pulled down for inspection. There were then seen two well-marked constriction furrows, one at either end of the loop, corresponding to the position of the internal ring. On gentle manipulation these furrows recovered, and as the bowel was judged to be otherwise viable it was returned within the abdomen. With the assistance of a seidlitz powder the bowels acted freely and naturally upon the second day. He appeared to be making an excellent recovery, when towards the end of the third week he began to exhibit symptoms of obstruction. He suffered from colic, and usually vomited whenever he was allowed solid food. He was well enough when he was restricted to peptonised milk. It being evident that there was an organic cause for his symptoms referable to the recent strangulation of the bowel I advised laparotomy, but, at his own request, this was postponed until the celebration of the new year had been accomplished. I had no opportunity of seeing him again until February 12th, 1897 (twelve weeks after the herniotomy), when I found him in the last stages of intestinal obstruction. The symptoms, which had first shown themselves three weeks after the operation, had continued ever since with short intervals of well-being. The vomiting was irregular and intermittent; it would be absent for two or three days, then, without any sickness or appreciable effort, he would bring up enormous quantities of greenish-brown watery fluid. The motions, which were at first regular and well formed, had recently become fluid and quite irregular. He had lost flesh and strength to such a degree that he could no longer leave his bed. A remarkable feature was that he personally made little complaint, and ascribed his symptoms to biliousness. On examination, his extreme emaciation rendered the appearance of the abdomen characteristic in the highest degree. It was much distended, and exhibited the outlines of the different coils of small intestines arranged in what has been described by Dr. John Wyllie as "the ladder pattern," the coils running parallel with each other obliquely upwards and to the left. Loud gurgling noises were constantly audible, and there was marked splashing and visible peristaltic movements on handling. He was seen to vomit an enormous quantity of pale brownish watery fluid having a fæcal odour.

The cause of the obstruction was evidently some lesion produced at the time at which the bowel had been strangulated (twelve weeks before), either kinking from adhesion, or stricture, or both; it was assumed that the lesion would be found in the vicinity of the left internal abdominal ring; I therefore proceeded without further delay to open the belly immediately above and to the inner side of the scar of the first operation. There was a little clear fluid in the peritoneal cavity. Close to the inner edge of the wound there was a firm fibrous adhesion between the anterior belly wall and the convexity of a loop of distended and hypertrophied small intestine; this adhesion was ligatured and divided. The loop of small intestine was then pulled out, and was found to be shaped like the letter Ω, and presented a well-marked stricture at either end of the loop; the proximal stricture was the more serious of the two; the bowel above was enormously hypertrophied and distended with fluid, that beyond the distal stricture was small and empty, while that between the two strictures was of intermediate proportions; the peritoneal surface of the strictured loop was for the most part covered by young connective tissue, here and there collected into fibrous nodules, and its mesentery was shrunken and fibrous. I had intended resecting the damaged intestine, but decided otherwise. The segment of bowel, including the proximal stricture, was therefore brought out at the wound. The contracted mesentery had to be partially divided to allow of this. A piece of rubber tubing was passed beneath the protruded bowel, and a series of sutures inserted all round in order to keep it in place and prevent the extrusion of other coils. A very firm pad and dressing were applied with the same object, for when the patient retched the intra abdominal pressure threatened to burst open the wound. He was nourished *per rectum*. The following day the bowel was opened above the stricture, and a small Paul's tube inserted and secured by a purse-string suture. Thin, watery, coffee-coloured fluid escaped in a stream at first under pressure, and then in gushes corresponding to peristaltic waves visible through the abdominal wall. After an interval these gushes became less frequent as the abdomen subsided; between times the tube was closed with a cork. The visible peristalsis and the escape of intestinal contents in gushes was excited by any manipulation of the extruded bowel. In the course of twenty-four hours the abdomen had emptied itself, the sickness had disappeared, and he was able to take nourishment by the mouth. The fluid escaping from the tube was then from time to time replaced by thick semifluid yellow fæcal matter. It was noticed with much interest that the fibrous stricture in the exposed segment of bowel relaxed considerably from day to day, probably because muscular spasm had exaggerated the existing stenosis, and was now eliminated by the relief to the distension of the bowel above.

On February 16th, 1897, it is noted that his appetite was pathological, and excited alarm, especially as he was passing from 5 to 10 pints of urine in the twenty four hours (urine specific gravity 1028, no sugar). The matter escaping at the wound was sometimes like the yellow semifluid fæces of an infant, and sometimes greenish and watery, with fragments of clotted milk; the skin around the fistula became red and raw. If the protruded bowel was handled, there escaped a clear, yellow, acid, watery fluid, giving the reactions for bile acids and pigment.[1] It was erroneously assumed that the fistula was high up in the small intestine, and yet on injecting fluid into the rectum (enema) some of it promptly escaped at the wound. It is difficult to reconcile these observations unless it be assumed that the reaction of the intestinal contents is or may be acid throughout the greater part of the small intestine.

As the patient was going down hill (it was firmly believed by relatives and others that he was dying), I thought it necessary to close the fistula and at the same time resect the loop of bowel, and thus get rid of the stricture. This was done on March 2nd.[2] Forty-three cm. of small intestine had to be sacrificed in order to get healthy bowel above and below; and although even then the lumen of the two ends was very unequal, the junction was immediately accomplished by means of a seven-eighths inch Murphy's button. The other coils of small intestine exposed in the course of the operation showed an extraordinary inequality of lumen, depending upon inequality of muscular contraction. The appearance suggested a resemblance to that of the cerebral arteries in cases of miliary aneurysm, and illustrated the depraved tone of the neuromuscular mechanism of the intestinal wall. As there was no sickness after the operation, and it seemed imperative to flush out the whole intestinal tract, he began to have saline aperients.

Two days after the operation, by which time he had taken three small seidlitz powders and three wineglassfuls of Franz Josef water, he passed a large natural liquid motion. His subsequent recovery was remarkable. The bowels acted naturally every day. Regular doses of nux vomica and cascara restored the tonicity of the intestinal wall. The stitches were removed, and the wound healed on the fourteenth day, and he was allowed up on the fifteenth day. The button was passed on the fifty-first day. He reported himself four months after the operation in perfect health, and informed me that he was heavier and stronger than he had ever been before.

The portion of bowel resected measured 43 cm. in length. About one-half consisted of the dilated portion above the proximal stricture; its outside girth was 16 cm.; thickness of wall 3 mm.; diameter of lumen 5 cm. The proximal stricture was 1.5 cm. in length and 8 mm. in diameter; it presented the appearance as if a broad band had encircled the gut; its wall was firm and fibrous and its lumen smooth, pale, and devoid of mucous membrane.

Microscopic sections were made by Mr. R. Muir in the long axis of the stricture, and showed great increase in the total thickness of the wall and loss of definition between the different layers; the mucous coat was represented by a thin layer of delicate granulation tissue without any traces of Lieberkühn's follicles or other epithelial structures. The muscularis mucosæ and solitary glands had disappeared. The submucous coat was represented by a thick layer of young fibrous tissue, arranged in interlacing bundles. The circular muscular coat, although thicker than normal, alone retained its original characters. The outer layer of longitudinal muscle fibres was almost entirely replaced by young fibrous tissue, and the serous coat was not capable of being differentiated from it.

The distal stricture differed in many respects from the proximal; it was represented externally by a shallow circular groove as if a ligature had been tied round the gut; it was easily recognised by the fingers as a circular induration. Microscopically the different layers were fairly well preserved, including the mucous membrane. The stricture appeared to result from a circumscribed fibrous thickening in the position of the outer longitudinal layer of muscular fibres.

Beyond the distal stricture the bowel was so small that its lumen barely admitted the tip of the index-finger; that between the two strictures was intermediate in characters between the dilated bowel above and the contracted bowel below.

It is evident that nothing short of removal of the entire loop of altered bowel would have ensured a complete recovery; for apart from the consideration that it was necessary to remove bowel beyond that affected by the double stricture, in order to obtain segments of comparatively equal lumen for purposes of end-to-end junction, it was an advantage to get rid of all intestine the peritoneal coat of which had been converted into fibrous tissue, for trouble might have resulted at a later period from adhesions. As regards the site of the incisions in cases of obstructions following upon strangulated hernia, inasmuch as the lesion may be expected to lie somewhere in the vicinity of the internal ring, one may obtain direct access to it by an opening made a little above and in-

ternal to the ring, bearing in mind, however, the probability of the existence of adhesions between the bowel and the abdominal parietes.

In the literature that has been available to me I have only been able to find the record of two similar cases, of which the following are the essentials:

The first, by Professor Dr. C. Garré,[3] of Tübingen, refers to a man, aged 27, who had had a left inguinal hernia for a year, but had not worn a truss. Acute strangulation was present for fourteen hours. At the operation there was found in the sac a portion of omentum and a loop of small intestine 20 cm. in length; the latter was dark-bluish-red in colour. The serosa was smooth and shining, except at the site of constriction, where there was a well-marked groove which righted itself after division of the internal ring. The bowel was returned, as there was no doubt of its vitality. From the third to the tenth day there was complaint of colic and of typhoid-like stools. The patient, however, made a good recovery, and was sent home.

Five weeks from the date of operation he began to suffer from colic after solid food, and on readmission to hospital he presented physical signs which led to the diagnosis of kinking of the bowel from peritoneal adhesions. For this laparotomy was performed nine weeks after the original herniotomy. After separating adhesions there was exposed a cluster of densely adherent coils of small intestine. These were resected, and the patient made a good recovery. The resected portion of intestine consisted of a Z-shaped loop 41 cm. in length. In its middle there was a tubular stricture 7 cm. long, the lumen of which only admitted a probe, and was devoid of mucous membrane; its walls consisted of dense fibrous tissue. The stricture was regarded as the result of an extensive necrosis of the mucosa, following upon the disturbance of circulation caused by the strangulation at the internal ring. The following stages are described: Venous stasis, with hæmorrhagic infiltration merging into necrosis; shedding of the epithelium, and bacterial infection of the remaining layers of the gut.

Given a sufficient disturbance of the circulation the mucosa will suffer first, and more severely, because the physiological resistance of epithelial structures is less than that of other tissue elements, and because the muscular and serous coats are more favourably placed as regards the collateral circulation. Garré is of opinion that the persistent and profuse diarrhœa observed from the third to the tenth day after the herniotomy was related to the sloughing of the mucous membrane. For the lesion which is here described he proposes the name of "internal cicatricial stricture" to distinguish it from the commoner "external or peritoneal stricture" (described by Palasciano and others), in which the stricture is a sharply defined furrow, as if a thread had been tied round the bowel, while the mucosa projects in a valve-like fashion into the lumen of the gut. The latter type of stricture is supposed to result from a lesion of the outer coats of the bowel by direct mechanical pressure at the point or points of constriction.

The second case is recorded by Maas,[4] of Berlin, and refers to a woman of 47, who had suffered from a left inguinal hernia for ten years, but had never worn a truss. A condition of strangulation had existed for twenty-four hours. At the operation there was found in the sac, besides omentum, a loop of small intestine of a bluish colour, and presenting furrows at the points where it had been constricted.

After dividing the constriction, the colour and the furrows rapidly recovered, so there was no doubt as to the viability of the bowel; it was therefore returned. There was obstinate diarrhœa from the third to the fourteenth day after the operation. Then there developed symptoms of obstruction which was believed to result from adhesions. Laparotomy was performed on the sixteenth day. Certain coils of small intestine were exposed, adherent to each other and to the summit of the bladder by a quill-like band, which was divided. On separating the coils, it was found necessary to resect an S-shaped loop, because of a stricture about its middle. The divided ends of bowel were sutured, and the patient made a good recovery.

The resected portion was 19.5 c.cm. long. At the seat of stricture the mucosa was smooth, atrophied, and immovable on the deeper layers, which were thickened and fibrous. On microscopical examination, there were no traces of a glandular layer in the mucosa. There was abundant young connective tissue in the submucosa. The remaining layers showed cellular infiltration and remains of blood pigments. These changes were confined to the seat of stricture.

Maas agrees with the previous author (Garré) in attributing this special form of stenosis to an exfoliation of the necrosed mucous membrane, and at the same time raises the question why it is that stricture is such a rare sequel of strangulated hernia compared to gangrene of all the coats. He performed a series of experiments on rabbits, consisting in arresting the circulation through the mesenteric vessels by means of clamps. In a first series, in which the venous return was alone impeded, considerable infarction resulted, but no stenosis followed upon this, for the changes induced were all capable of repair and complete recovery. If, on the other hand, the arterial circulation was interfered with, the mucosa underwent necrosis, and a stricture resulted. If, however, the arterial ischæmia was maintained for more than two to three hours, all the coats of the bowel became gangrenous, and the animal succumbed to peritonitis. He argues, therefore, that stricture is a rare sequel of strangulated hernia because complete ischæmia is exceptional, and when it does occur, that gangrene is the usual result. It is very rare that the mucous membrane alone perishes; when it does happen, then stricture is the probable result. It is a practical point, that at the time of operating for strangulated hernia, the changes in the bowel which will result in stricture cannot be recognised. Inasmuch as the conditions which are likely to give rise to stricture are much more likely to terminate in gangrene, the formation of a stricture may be regarded as a specially fortunate termination when these conditions are present.

Notes and References.

[1] This fluid was kindly reported upon by Dr Noel Paton, Superintendent of the Laboratory of the Royal College of Physicians. [2] In this, as in the preceding operations, I had the valued assistance and counsel of Dr. J. C. Cattanach. [3] *Beiträge z. klin. Chirurgie*, 1892, vol. ix, p. 187. [4] *Deut. med. Woch.*, 1895, i, p. 365.

THE SUTURING OF WOUNDS.

THE ADVANTAGES OF THE ABSORBABLE SUTURE BURIED IN ASEPTIC WOUNDS.

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Modern surgery demanded a revision of wound treatment. Although it has now been long accepted that the essential all-important factor is to make and maintain a wound aseptic it is still a fact that septic conditions supervene in a large minority of surgical cases, even when the technic of the operation itself has been faultless. A very considerable share of the indefatigable labours of Mr. Lister has been directed to prevent this danger, and for this purpose antiseptic dressings in great variety have been devised.

It is pertinent to our present purpose to inquire, What is the cause of this post-operative infection? The answer is definite and unmistakable—an open wound; and it is that the wound may be left open that the antiseptic protective dressings have been considered such an important part of modern surgery. If the open wound is the fault, then the first question which arises is, Why not close it as a part of the operative procedure, and hermetically seal it to prevent the ingress of infection? To this was made ready answer, More or less devitalised material necessarily exudes from the wounded structures, which must be permitted to escape; and the stitches which hold the parts in approximation must be subsequently removed.

Modern science gives easy answer to the why, during all the period antedating antseptic surgery, the exudative fluids from wounds were considered so deleterious. I well remember my early teacher Marion Sims, of immortal fame, emphasising to me the danger arising from the red fluid which was so often found in the pelvic cavity after abdominal operations, then a *factum ignotum* of surgery, now recognised as the best of culture media in thermostatic equilibrium for the nurture and development of the deadly infective vital organisms.

One of the very first of the pathogenic conditions which was questioned by Lord Lister in his early studies was why an extensive exudate arising from an injury to the structures

beneath the unbroken integuments should subside without serious trouble, when an open wound of far less extent or seeming importance might be followed by conditions inimical to life.

In the earlier period of antiseptic surgery, although the abstract principles underlying all operative procedures appeared logical and indisputable, the measures undertaken in their application were necessarily tentative and experimental. When the source and origin of the seed had not definitely been determined it was of importance to maintain as far as possible a sterility of the soil; and this in fact, although not recognised in such terms, was and is yet the only reason why the drainage tube holds a part in the surgical procedures of the present. When I say of the present I presuppose that I am addressing only surgeons whose technique has been perfected in a way to make at least reasonably assurative the ability to finish an operation in aseptic structures and leave the wound uninfected. If the wound is uninfected the remainder of the problem consists in maintaining it in this condition under relations best calculated to promote speedy restoration. This necessarily brings in review the mechanical measures best adapted to this purpose.

Sutures.

Sutures are used for the same common end for which they were applied centuries ago—namely, the holding in approximation of sundered structures. Until within a late period it was necessary to apply them in a way to facilitate their subsequent removal, and the material best suited to this end was almost any inelastic suture of sufficient strength and durability. Although a great variety of material had been used for this purpose, silk for many reasons found general favour. The metallic suture (lead, iron, silver, and gold) was occasionally used in the earlier period, but the popularisation of the silver suture in this generation was due to Marion Sims, who considered its use one of the greatest advances in the surgery of his time. By the means of the shield and compressed shot he closed deep cavities and held large masses of tissue in fixation in a manner worthy of his inimitable genius, since he recognised, as we do to-day, the importance of an even coaptation of wounded structures, held at rest with a minimum of devitalisation—coaptation that there might not be pockets to fill with exudates, which experience then abundantly taught would be, in all probability, followed by suppuration.

Most naturally one of the first facts of importance now taught in surgery is the bacterial infection of wounds, the knowledge of which now seems so simple that the laborious and painstaking studies that led up to it are almost forgotten. In the earlier period, so sure and great was the danger of infection in the closure of large wounds, that no less a distinguished authority than the late Dr. James R. Wood, of New York, a most acute observer and original thinker, advocated and practised the treatment of amputation by leaving the wound entirely open, and subjecting it for days together to an uninterrupted irrigation, and this for the very purpose of washing away the exudates, at that time supposed to be so deleterious to wound repair.

We are indebted to Mr. Lister for his original studies upon the ligation of arteries in continuity with catgut, and his introduction of catgut into modern surgery as a suitable material for ligatures in general. In this connection a chapter in the earlier history of American surgery is of interest. In 1827, Dr. Jameisen, of Baltimore, was awarded a prize for his original investigations upon the ligation of arteries in continuity by the use of the animal ligature. His experimental studies and observations were conducted with great care upon animals, and although the fruitage of his discoveries was lost in the smoke of the battle which then waged fiercely over the so-called inflammatory processes in wounds, his name is worthy of perpetuity in the annals of surgery.

For a considerable period animal ligatures were used in surgery by several of the leading operators, even by Sir Astley Cooper of London. Although the demonstrations as made by Mr. Lister were conclusive that the loop of animal ligature could be safely left in the deeper structures of the wound, and in the processes of repair it was encapsuled by living tissue and finally disappeared, it had not occurred to any surgeon to make use of sutures deeply implanted in the tissues (buried sutures) until in 1870.

In November, 1870, when operating upon a large strangulated hernia, the internal ring presented conditions which caused me to think it advisable to close it independently with deeply-buried catgut sutures. The resultant cure was complete and remained permanent. Subsequent experiences proved equally satisfactory.

I instituted immediately a series of experimental studies upon animals, and demonstrated that in aseptic wounds the suture material was first encapsuled by leucocytes, little by little invaded by them, in turn to be transformed into connective-tissue corpuscles, *pari passu* as the foreign material disappeared, leaving in its stead a living band of connective tissue. This at once led me to the broadening of its use for the closure of aseptic wounds of every description, and in the study of the conditions which followed it seemed a just corollary that the drainage tube not alone should be abandoned as useless in all aseptic wounds—since the proper suturing of the wound left no deep pockets to fill with fluid—but that it was of necessity a measure involving greater or less danger, since by so much at least, varying with the size and number of the tubes, the wound was kept open.

Further demonstrations showed that, even under careful antiseptic dressings, the opening made by the drainage tube not seldom became the highway of ingress of infection, the explanation of which it was difficult to determine until—as the result of numerous researches carried on at the Johns Hopkins Hospital in Baltimore—it was found that the dying epithelial cells of the cutaneous surfaces are normally the home of the micrococcus pyogenes albus, a discovery of the greatest practical importance to every surgeon.

Now for the first time it became apparent why, notwithstanding every precaution, the so-called stitch abscess, localised points of infection, remained and oftentimes became foci of real danger. These facts not alone led up to a recognition of a hitherto undiscovered danger, but taught the practical lesson that the hand of the surgeon is the more common cause of wound infection, and that its proper disinfection is perhaps the most important and difficult of all the practical measures of antiseptic surgery, of much greater value to the patient than a marble hall for an operative amphitheatre.

Knowing that the deeper layers of the skin are exceptionally well vitalised, I had for a considerable period prior to these discoveries coaptated the edges by the use of a very fine continuous running animal suture taken through the deeper layer only, subcuticular continuous suture, for the very purpose of avoiding stitch abscesses, and with the most satisfactory results. Therefore the explanation was to me of the deepest satisfaction.

I well remember the enthusissm with which an intelligent country physician showed me, while yet a mere lad, a new product. It was soon after the discovery of ether as an anæsthetic. He called it artificial cuticle, explaining that it was gun cotton dissolved in ether, and that it was so named because a thin film of it would adhere closely to the skin and make a new, shiny, cuticular surface. He said he had used it in the dressing of small wounds with much value, but its use was soon discontinued, since it served as a means of retaining the omnipresent infection. When it became assured that wounds could be made aseptic, it occurred to me that it would serve an almost ideal purpose as an hermetic seal to prevent its subsequent infection, and from this arose the collodion seal applied to aseptic wounds, preferably containing a little iodoform in the solution, and reinforced by a few fibres of cotton to prevent cracking. Iodoform should be dissolved in the collodion in quantity sufficient to produce a light cherry colour. Its value is in its inhibiting power over the micrococcus pyogenes albus which does not develop under the seal. The silver foil as applied at the Johns Hopkins Hospital has a somewhat similar effect, but is faulty because of its non-adherence.

I trust I may be pardoned for this summarised review of studies which is the fruitage of a series of continuous researches covering a period of years, since they are of importance in their demonstrations upon our present subject. They were published from time to time, the first communications dating back to 1871.

If buried sutures have advantages, and I suppose few at the present will deny their usefulness, the question arises, of what material shall they consist, and how shall they be applied to be of the greatest value?

They should be absorbable, and yet of durability sufficient to hold the coaptated parts until permanent union has supervened. Some use silk, silkworm gut, and silver wire for buried sutures, but irritative troubles supervene so often, especially in the more movable parts of the body, that they are being discarded. They can, of course, easily be made aseptic, but at the best are encapsuled and for a very long time must remain in the structures as foreign bodies. The suture material in more general use is catgut sterilised in a variety of ways. It is well known that it is separated from the other coats of the intestine of the sheep by bacterial decomposition, and its structure has necessarily been damaged thereby, and as furnished for musical purposes it is infected with a variety of bacteria, sometimes even with anthrax. However, there can be no doubt of its being rendered sterile, and in so far it is trustworthy. It is necessarily of inherent faulty construction in that its ultimate fibres are disposed in diagonal interblending for the physiologic purpose of accommodation of intestinal contents.

Catgut consists of a very thin, flat, more or less wide band, not unlike a very delicate silk fabric cut upon the diagonal. The cement substance which holds the fibres has been injured by long maceration, and it is very elastic. Twisted and dried it becomes the violin string of commerce. When in this condition it is very strong, but, however prepared, in the tissues it very soon becomes soft and elastic. Owing to the yielding of the twist and its elasticity, knots hold insecurely, relaxation takes place, and hence the often-repeated criticism: "Buried sutures and ligatures are untrustworthy." My experimental studies upon animals early taught this, and caused me to institute a search for some substitute.

The connective tissue of animals appeared to be the required material, and that found in freshly-prepared tendons is greatly to be preferred.

First, aseptic at the beginning, it is less likely to be infective.

Secondly, its anatomical construction renders it the strongest of known animal tissues, and, when smooth and even, its ultimate fibres are disposed in a parallel direction, and are not required to be twisted upon themselves in order to increase their strength.

Thirdly, the cement substance has not been impaired by long maceration.

Fourthly, knots are reliable.

At the International Medical Congress in London, in 1881, I advocated the use of the tendons from the caribou and moose; but the following year I ascertained the superior quality of the tendons obtained from the tail of the kangaroo, and have used them continuously, almost daily, since. They are now so well known to the profession that reference to their superior value need only be made. Their sterilisation is more easily affected than that of catgut. When chromicised they remain longer in the tissues—about three months.

If absorbable sutures are to be used, how may they be best applied? Coaptation and fixation at rest of like structures, with as little force applied as possible, is the object sought. More suture material than is required for these purposes is detrimental. It must be applied with a minimum of devitalisation of the tissues. The interrupted suture is faulty, in that it holds at only the single point of application; and in order to make complete coaptation in large wounds, undue compression, often to the devitalisation of the part constricted, must be used. Each stitch necessitates a knot.

The interrupted suture is the legacy of the Fathers, and was used by them distinctly with the purpose of removal, and, in order to relieve the tension of the exudation fluids, a stitch was cut from time to time as thought desirable.

If the wound remains aseptic, primary union will supervene, and the stitches taken through the skin for the purpose of removal have no advantage in being single. Thus taken, they coaptate far less evenly and securely the included tissues. It requires much more time to apply them. If the seamstress or the tailor made our clothes in this manner, we should wonder at their bungling methods. The principle is precisely the same with the surgeon; and even if he has to serve an apprenticeship to the tailor, he should certainly not be less dexterous, since Nature's most precious coat should be most artistically repaired.

Like structures, as far as possible, should be coaptated, fascia to fascia, muscle to muscle. Fine, continuous running sutures, taken rapidly, accomplish this purpose in a manner so as not to leave pockets for the accumulation of fluids. These accumulations, as well as larger tendons applied in many layers, we know, if aseptic, will usually be cared for by Nature's processes, but it is a part of our art to minimise the burden, instead of making the effort to determine how much she can accomplish in this direction.

The over-and-over suture, glover's stitch, is undoubtedly the one in more common use, but it does not serve the purpose in the coaptation of wounds nearly as well as the parallel stitch—namely, the needle is inserted deeply within the tissues parallel to the long axis of the wound, and each succeeding stitch is made by introducing the needle exactly opposite the emergence of the preceding one. In this way, upon tension, coaptation is evenly secured, and the suture material crosses the incision at right angles, and by this means the suture is completely buried in healthy, closely surrounding structures.

Sometimes—for example, in the reconstruction of the inguinal canal, the closure of the peritoneum and linea alba—there is a decided advantage in using a double line of sutures, just as the shoemaker sews leather, the needle with eye near the point serving as a shuttle to carry the suture. It must, however, be remembered that much force is inadvisable, since coaptation and not constriction is the purpose.

In sewing, the needle is of importance as well as the suture, and the profession is greatly indebted to Hagedorn for his valuable addition to our armamentarium in this direction. The medium sizes of full curved needles serve best, since they can usually be used by the fingers without the aid of forceps. The continuous suture requires but a single knot, and undue constriction is less liable, since a compensation occurs equalising the force applied to the entire suture. This I consider of the first importance, since under the earlier teaching most surgeons still use far too much force. Injury and devitalisation of the structures is the necessary consequent. The extraordinary strength of tendon is in a measure a fault, since its unyielding character admits easily of undue force. The frequent inquiry is made "for larger tendon, since I must have it very strong." Some time ago one of Europe's most distinguished surgeons operated in my clinic. He would have only braided silk, and in its application broke all his sutures finer than "No. 8." Such force must necessarily necrose all the enclosed structures.

Fatty tissues are of low vitality, and burying sutures in them is as far as possible to be avoided, since an aseptic fat necrosis will not seldom supervene. As a rule they do not require independent suturing, since they are not very vascular and are in themselves passive, and are in easy juxtaposition when the other structures are held in coaptation. The skin is evenly sutured by the use of a fine tendon. The needle is introduced parallel to the long axis of the wound, and hence I have called it the parallel suture. Each stitch is entered exactly opposite the emergence of the former one. In this way juxtaposition of the edges of the skin is accurate without puckering, and the iodoform seal completes the operation.

ADVANTAGES.

An aseptic wound closed with buried aseptic tendon sutures will remain aseptic, and in well-vitalised structures will be followed by primary union. There is no danger of subsequent infection; no expensive and troublesome dressings are required; the subsequent nursing and care are very greatly reduced; the anxious foreboding of the surgeon "lest something go wrong with his wound" is avoided; no sutures are to be removed, relieving greatly the dread and anxiety of the patient; safety is greatly enhanced and the period of convalescence is shortened. When the work has been done with care the resultant cicatrix is scarcely visible, a matter of much importance in some portions of the body. Some operations hitherto impossible have been rendered feasible by the use of the buried absorbable sutures, for example, the reconstruction of the pelvic structures, the closing of rents in the peritoneum, etc.

The reconstruction of the obliquity of the inguinal canal for the cure of hernia in the male has become an almost every-day occurrence, and should be yet much more widely practised. Indeed, it was for this very purpose that I first used the buried suture in 1870, and am now in my 400th series of cases with over 90 per cent. of resultant cures.

The reformed structures may be greatly strengthened by the rejoining of the sundered tissues by means of lines of buried sutures as contrasted by a single layer of interrupted sutures, for example, the closure of the abdominal wall in laparotomy. Here, in the closure of the wound by a single line of interrupted sutures, about 10 per cent. of the cases result in a hernia at the line of the incision. When closed in layers the component structures are rejoined, and in primary union hernia should be altogether avoided. In over 500 laparotomies of this character I have had but a single subsequent hernia. Indeed, this is but to be expected, since like structures are joined, and the suture itself is replaced by a living band of connective tissue.

To-day the aim of the surgeon is to reconstruct and restore, as far as possible, to the normal pattern all the healthy tissues remaining for manipulation. To this end a tumour is removed, and the parts completely closed if possible. Although our mission is necessarily iconoclastic, the service should be rendered with such gentleness of measures that Nature accepts it as her best ally, and a double blessing follows the ministrations of the surgeon, not alone in the aversion of the threatened danger, but also in the accomplishment of the same with the minimum of pain and suffering and the maximum of safety.

With all the emphasis of an earnest conviction, I commend to every aseptic surgeon familiarisation with the methods of wound closure by means of buried absorbable sutures, preferably tendon, and not alone predict their early general adoption, but that in importance they hold the first place in the technique of modern aseptic wound treatment.

TRAUMATIC ANEURYSM OF INTERNAL MAXILLARY TREATED BY LIGATURE OF COMMON CAROTID.

By H. Langley Browne, F.R.C.S.E.,
West Bromwich.

J. P., aged 32 years, married, employed as a boatman, was admitted to the District Hospital, West Bromwich, on March 12th, at 4.15 P.M., suffering from lacerated wound of scalp, punctured wound of right cheek, and concussion of brain arising from kick of a horse. The patient had been standing close to the horse's hindquarters, and stooped to pick up and fasten a trace chain, when the horse moved forward and flung out, inflicting the injury. The patient leads a healthy out-door life, is well clothed and has a comfortable home, and has never before suffered by an injury incapacitating him from work. He is a moderate user of both beer and tobacco.

Family History.—Good on both sides. Mother still alive and in good health; father killed in pit. Two brothers and one sister alive and well.

Condition on Admission.—The patient was semiconscious on admission and suffering from shock. He was bleeding profusely from cheek (right), ear (right), nose and scalp. The right side of the face was much swollen, the right eye was completely closed, and the swelling extended about half way down the neck.

On examination the lower jaw was found fractured on the left side close to the symphysis, and on the right side through the neck of jaw. Crepitus was also detected over the right malar bone.

The scalp wound and the punctured wound of cheek were thoroughly cleansed with carbolic lotion (1 in 20), and carbolic dressing applied. The ear was syringed out with carbolic lotion (1 in 80), and pulv. acid. borac. insufflated. The ear was syringed out, and then insufflated every two hours. Patient had ℥ss. mag. sulph. the same evening. The temperature rose to 100.2° F. next evening, but then fell to normal, at which it remained till March 20th, when it registered 101.8° in the evening. The evening temperature kept rising gradually, till on March 25th it stood at 104.6°. He

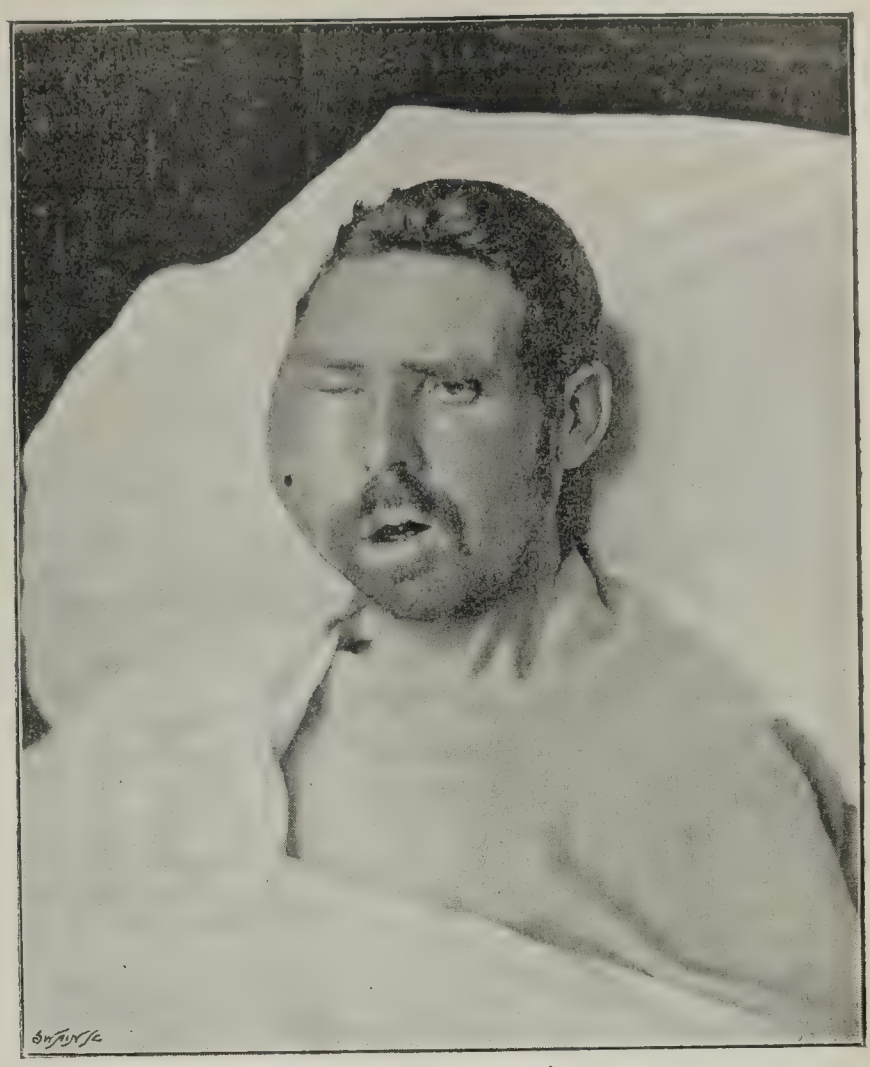

Fig. 1.—Before operation.

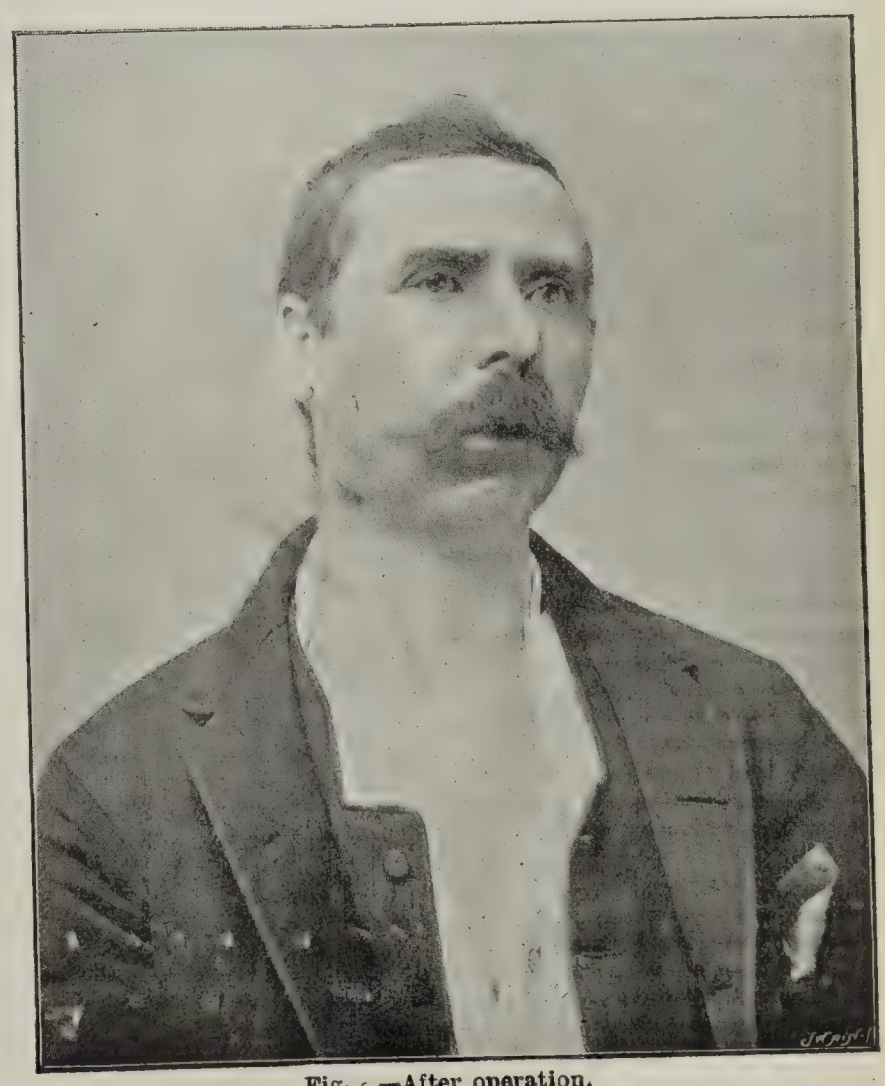

Fig. 2.—After operation.

then had 30 minims Warburg's tinct., and temperature fell to 98.2° F. During the next seven days the swelling slightly decreased.

On April 5th the temperature again rose to 101.2° F., and on April 9th fluctuation was detected in the neck, and an incision was made in the neck, and ℥vj pus evacuated. Patient was much relieved. The swelling did not quite subside.

On April 13th a copious hæmorrhage from incision in neck took place. This was controlled, and the wound stuffed with iodoform gauze. The swelling now increased, and on April 15th distinct pulsation was felt over the right cheek. On examining the mouth the soft palate was greatly depressed on right side, and congested, and pulsation was easily felt.

On April 24th he had slight hæmorrhage from the mouth, and again on April 26th a copious hæmorrhage took place from the mouth, and Mr. Browne decided to ligature the carotid. This was done on April 26th, and patient was easy and restful.

On April 29th he passed fæces involuntarily, but since that time he has had perfect control. He was discharged cured on May 24th, and since then has reported himself weekly at the hospital.

Mr. JORDAN LLOYD had the privilege of seeing Mr. Browne's patient before operation, and thought the course of treatment adopted was the only one which gave any chance of success. Traumatic aneurysms of the internal maxillary were rare, but he had such a case under treatment about two years ago. A farm labourer had fallen from a hayrick on to the prongs of a hay fork, one of which had penetrated the left cheek at its centre. Bleeding at the time was moderately free, but checked without treatment. A few weeks later a pulsating swelling filled the antrum, and, bulging the front of the cheek and beneath the ramus, led to the diagnosis of wound of the internal maxillary artery in the spheno-maxillary fossa, and subsequent aneurysm. The external carotid was tied in the neck and a rapid cure followed. Mr. Lloyd thought that the external carotid should be more frequently tied than was customary, as it was as easy as ligaturing the common carotid and was very much safer.

The PRESIDENT referred to the value of Syme's operation in the treatment of traumatic aneurysm. Although cerebral complications were not common after ligature of the common carotid, he had met with them, and had seen them prove fatal.

Dr. ASHHURST (Philadelphia) said: There are several points which have struck me as of special interest in Mr. Browne's paper, particularly in connection with the suggestive remarks of the President. In the first place, as to the choice of operation: Whilst it is perfectly true that the rule enunciated by the late Professor Syme, of Edinburgh, still holds good—namely, that in traumatic aneurysms the "old operation" is commonly to be chosen—yet there are exceptions; and when the aneurysm involves the roof or the floor of the mouth, so much trouble might be found in securing the distal end of the diseased vessel, even if it could be determined which particular branch was in fault, that the Hunterian operation was preferable; and in such a case as Mr. Browne has recorded the "old operation" would seem a dangerous procedure. Again, while I quite agree with Mr. Lloyd that ligation of the external carotid should be preferred to that of the main trunk under ordinary circumstances, yet I feel bound to say that cerebral symptoms after carotid ligation are in my experience much more seldom met with than is commonly supposed; indeed, in a considerable number of cases in which I have tied the common carotid I have never seen any cerebral symptoms beyond a few hours' drowsiness, due to temporary anæmia of the brain, the collateral circulation being so quickly established that no ulterior harm has resulted. Therefore, in such a case as Mr. Browne's, in which the parts surrounding the aneurysm were already infected, I think he did wisely in securing the artery at a distance in healthy tissues rather than in placing the ligature on the external branch, where greater risk of septic complications would have been incurred.

THE Duke of Cambridge, K.G., will open the Grand Pump Room Annexe and Roman Promenade at Bath on October 18th. The building, now in course of completion, has cost nearly £30,000.

ON INTUSSUSCEPTION OF THE VERMIFORM APPENDIX AND CÆCUM.

By THEODORE A. MCGRAW, M.D.,
Detroit, Michigan.

IT occasionally happens that a single case is of importance in elucidating certain points in the pathology and treatment of disease. I report a case to-day which I believe to be unique, and which throws, so to speak, a side light on the pathology of intussusception.

A boy of 7 years was seized early in June, 1896, with an attack of cholera morbus. During his illness of three or four days he vomited and had frequent evacuations of the bowels, accompanied with a great deal of pain. He would then, while sitting on the vessel, draw his knees up to the abdomen and violently strain, at the same time pressing his hands vigorously into his belly. His discharges at that time are said to have been thin and yellow, and only once or twice to have contained a little blood and mucus. His diarrhœa and vomiting ceased, his discharges became normal, and he regained his appetite and strength, but began now to develop a train of symptoms for which his physicians could find no adequate cause. His tongue had become clean, his digestion was good, and in general he seemed to be in perfect health, but every few days there would occur an attack of frightful abdominal pain, which would last several hours, and finally succumb only to large doses of morphine. The attack over there would follow a period of several days' duration, during which the little fellow would seem lively and well, and then would come another attack. He had at these times no fever whatever, nor was there any disturbance of the digestive functions. He had daily normal evacuations of the bowels, rarely containing after these seizures a little blood and mucus. The attacks occurred without apparent cause, and were not materially influenced by the character of his diet.

As time went on, the intervals of relief became shorter and the seizures more severe This condition of things lasted four months, during which he had many physicians, every one of whom made a different diagnosis. He began gradually to lose flesh and strength, and it became evident to the parents that unless something were done for his relief the child would succumb to his malady. Dr. J. E. Clark, of Detroit, was finally called in to take charge of him. He wisely concluded that an abdominal disease of unknown pathology and of such gravity warranted an exploratory operation. I was called in counsel, but delayed operating for a period of five days, in order to keep the child for that length of time under observation. During this interval he had two attacks, in which he became nearly crazed by his agony. He would get up on his hands and knees, and, if not restrained, butt his head into the wall, or tear out his hair. It required three quarters of a grain of morphine to relieve his pain, but when finally asleep the paroxysm would cease, and he would awake, freed for the time being, from his trouble. During the paroxysm the abdominal muscles would contract and become hard and tense, but in the intervals there could be discovered on the most careful examination neither hardness, tension, nor tumefaction. There was but little tenderness and no tympanites. No tumour could be felt in the rectum, nor in the iliac fossa. He referred his pain to the epigastric region and seemed to be somewhat sensitive to pressure just above the navel. His tongue was clean and his appetite good. He had no elevation of temperature until the day before the operation, when it rose to 100.5 F.° An exact diagnosis was impossible. An intussusception was thought out of the question because there was no obstruction and scarcely any disturbance of digestion. The diagnosis of chronic appendicitis was excluded from a case in which there was no fever, nor local tenderness, nor muscular tension The most probable theory was that of an omental hernia, either in the median line above the navel, or within the abdomen through some pathologic aperture. A spot of apparent thickening in the epigastric region made this diagnosis more probable. I operated on him on October 27th, 1896 more than four months after the beginning of his illness. I made an incision in the median line above the umbilicus, of 2½ inches. The cut passed through the abdomen over the site of the supposed possible hernia without disclosing anything abnormal. Immediately on opening the peritoneal cavity, however, the transverse colon presented itself intensely red, highly inflamed, and coated with lymph. On pulling out this gut I found that the ascending colon had a mesocolon of such enormous length that I was able to draw it and the cæcum with ease through the opening made above the navel. The whole of the large bowel, as far as the angle made by the transverse and descending portions, was injected and angry looking.

The real pathologic focus, however, was found in the cæcum. This portion of the bowel had been of the fœtal type, with the vermiform appendix given off from its extreme end. It was unusually long, and its end, together with the vermiform appendix, was invaginated, making a tumour within the gut which could be felt through its walls of the apparent size of a walnut. The intussusception involved the cæcum and vermiform appendix only. The ileum was not included in the inversion, neither was the ileocæcal orifice at all obstructed. There was, in fact, an appreciable space between the invaginated bowel and the opening of the ileum. I could not hope, without using a great deal of force, to reduce an intussusception of that long duration; neither could I be very confident of the permanence of a cure, if effected, as the bowel, weakened by its long inversion, would be liable to a recurrence of displacement.

I thought it better surgery to cut off the affected portion of the bowel, and thus produce a radical cure. I cut through the cæcum at the neck of the intussusception just where the infolding occurred, and removed the invaginated part. There was left behind, from the cut edge to the ileocæcal orifice, at least an inch or more of cæcal wall. The bowel had become much thickened by its long irritation, and all of its coats were hypertrophied. This condition was, of course, favourable to primary union. I closed the opening by a double row of catgut sutures, one for the mucous and one for the serous surface, and covered the whole intestinal wound with the omentum, wrapped around and fastened well in place. The child made an uneventful recovery, retarded only by a small

stitch abscess. He had no more attacks of pain, gained steadily in health and strength, and when I last saw him was fat, rosy, and well.

Examination of the intussusceptum after opening the colon showed a turgid and discoloured mucous membrane. The fresh specimen was round and knobby, very different from the shrunken object now exhibited. Its surface was of a mottled blue, owing to the great congestion to which it had been so long subjected. It is somewhat remarkable that notwithstanding the inflamed condition of the cæcum and colon there were nowhere any adhesions. This was probably due to the violence of the muscular contractions of the bowel in the attacks of colic, the spasmodic movements breaking up the adhesions as soon as formed. It is, however, difficult to understand why, even in the pouch formed by the inversion, there was no agglutination of the opposed serous surfaces as is common with invaginations elsewhere.

That which renders the case peculiar is the occurrence of an invagination, not as is commonly the case in the continuity of the bowel, but at its extreme end. The absence of obstruction, too, eliminates the symptoms due to obstruction and to the strangulation of the gut, and enables us to study those which are due to the inversion, free from all complications. Intussusceptions of the ileum and cæcum into the colon are common, but those of the extreme end of the cæcum and the vermiform appendix into the cæcum without implication of the ileum are so rare that I have been able to find but one case reported in all medical literature, and even that a doubtful one. In the fourth volume of the *Edinburgh Medical Journal*, published in 1859, Jno. McKidd publishes a somewhat similar case, in which death was followed by a *post-mortem* examination. It is unfortunate that the record is written in such a confused and doubtful way that it is impossible to arrive at an exact knowledge of the actual pathological condition. A child of 7 years suffered for two months with an intermitting pain, located at about an inch below the umbilicus. The attacks gradually increased in severity until they became excruciating. In the intervals the child seemed healthy and well. Examination of the bowels revealed nothing abnormal. There was no tenderness, and he could bear pressure on every part of the abdomen. There was no constipation, and the evacuations always presented a natural appearance. At the end of two months' illness he died. The end of the cæcum was turned into itself, and, if I understand the description rightly, the vermiform appendix was turned inside out and projected across the ileo-cæcal valve into the colon. The mucous membrane covering the inner wall of the cæcum, vermiform appendix, and ileo-cæcal valve had become gangrenous.

A case described by Dr. Chaffey in the London *Lancet* for 1888 may have been of this character, although the ileo-cæcal valve seems to have participated in the invagination. A child, aged 3 years, died after an illness of about two months, in which there had been some vomiting and pain. The bowels were regular, and no blood was passed from them until late in his illness. There was in this case a tumour in the region of the transverse colon, which was made, by large enemata of hot water and subsequent massage, to disappear, but which afterwards recurred. The necropsy revealed evidences of severe chronic inflammation, "with the place of the cæcum occupied by a rounded tumour about 3 inches by 2, composed by the cæcum partly invaginated into itself along with the ileo-cæcal valve." The question suggests itself whether the so-called ileo-cæcal and ileo-colonic invaginations ever begin with indentations of the end of the colon.

In all of the cases reported, as far as I know, in which the relative positions of the invaginated parts have been accurately stated, either the ileo-cæcal valve or the protruded ileum has formed the apex of the tumour in the colon, the cæcum being inverted behind it. Now it is evident that if the intussusception started with a doubling in of the extremity of the cæcum, and then proceeded until it involved the ileum, the inverted cæcum would form the apex of the tumour, and in its passage into the colon would precede the ileo-cæcal valve. I do not know of any reported cases in which this relation of the parts was found, and hence conclude that ileo-cæcal and ileo-colonic invaginations rarely, if ever, begin in this way.

It is not easy to understand the pathologic mechanics of an intussusception of the caput coli. How can force be applied to the extreme end of the colon to invert it, and what retains it in its false position? It is evident that the disturbing force cannot operate in the same way as with the invaginations produced in the continuity of the bowel. In the latter case, during irregular and violent muscular contractions of the bowel, a contracted segment may push itself into a distended and relaxed portion lower down. This would not be possible at the end of the colon, where the *vis a tergo* would be wanting.

This very rare form of invagination is probably due to a very complicated process, in which irregular and violent muscular contractions, changes in atmospheric pressure and external force may all take part. Of these the most important factor is probably muscular spasm, alternating with sudden relaxation and affecting adjoining segments of the colon differently. The large intestine, drawn into folds by the longitudinal bands is, as everyone knows who has had occasion to operate on it, a very resilient organ. If you force it to assume an abnormal shape it tends to fly back as soon as the pressure is removed, and to resume its normal form. If then the extremity of the cæcum is contracted in diameter during an attack of colicky pain, while the longitudinal muscles in a condition of tonic spasm shorten the gut to its utmost, we have a pathological condition which may easily become the forerunner of an invagination. It needs only that the contraction of the extremity should persist, while the longitudinal muscles suddenly relax, for the gut, springing back into its place and becoming suddenly elongated and distended, to shoot over and infold the contracted end. To accomplish this it is necessary that the muscular action, partial, irregular, and violent, should be followed by a muscular relaxation, also abrupt and partial.

It is highly probable that in a bowel so resilient as the colon, these irregular and sudden variations in size and calibre would cause at times a diminished atmospheric pressure, which would be met, not as in the small intestine by a general collapse of its walls, but by the indentations of the weaker portions. In some instances at least the equilibrium would be re-established by the caving in of the extremity of the cæcum. The *modus operandi* might vary with each and every case, but we are obliged in all cases to seek the explanation of the phenomena in the combined and irregular action of these forces. We may also believe that external violence, such as a blow upon the abdomen, accidentally expending itself on the end of the cæcum, might aid in producing an inversion. The retention by the intussuscepted bowel of its acquired form could only occur as the result of a continued spasmodic contraction of the circular fibres surrounding the neck of the invagination. Later on adhesions and permanent changes in form make such invaginations irreducible.

The symptoms caused by this malady are due to the constriction of the neck of the intussusceptum. It is possible that the bowel might in time accustom itself to this pressure, however, were it not that such inversions are rendered peculiarly liable to attack by the lodging of fæcal matter around them. In no other way can I account for the intermittency of colicky pain so marked in these cases. The cavity of the intestine in which is lodged an invaginated bowel is filled and distended by the mass. When fæces get into the crevice existing between its mucous membrane and the invagination, it must of necessity produce intense irritation. Whatever tendency to relief, therefore, might come through the intestine becoming inured to its false position, is rendered futile by a continued repetition of injury.

I am inclined to think that the severe cramping pains experienced at varying intervals were largely due to this cause. It is not so easy to account for the extension of the inflammation to such a distance from the focus of trouble. The whole colon as far as the junction of the transverse with the descending colon, was intensely injected and covered with lymph. Whether the small intestines in the neighbourhood partook of this morbid change I do not know, as I carefully abstained from exposing them. We may reasonably assume that, when the spasms occurred, the whole large intestine became involved in the disturbance. While in other forms of intussusception the danger arises from the strangulation and mortification of the intestine and the obstruction of the

bowels, neither of these conditions is to be looked for in an invagination of the caput coli. The pathologic anatomy differs from that usual to this disorder inasmuch as the intussusception consists of only one thickness of the intestinal wall, instead of two. The resulting tumour is therefore much smaller and the constriction less severe. The vermiform appendix might, indeed, be considered as occupying the place of the inner wall of the intussusception, but its small size makes its addition to the tumour of little importance. For this reason, and because the invagination lies outside of the channel through which the contents of the bowel pass, the inflammation of the intussusceptum is not very intense, and the danger from gangrene is very small.

Obstruction of the bowel from this condition is not possible. These cases will probably always tend to a chronic course, and become fatal only after weeks of intense suffering have exhausted the strength of the patient, and when the frequent repetition of a violent muscular spasm of the walls of the bowel has induced a general peritonitis. The diagnosis of an invagination of the caput coli must always be extremely difficult; but henceforth the surgeon must bear in mind the possibility of its occurrence.

When a person, especially a child, suddenly, or after an attack of cholera morbus or diarrhœa, is seized with frightful and frequently recurring attacks of colicky pain; when these seizures occur at short intervals for weeks together without apparent cause; and when other causes of such trouble have been carefully excluded, the surgeon must think of this possibility. That which distinguishes this disorder from most others is the intense pain of intermitting character, without any disturbance whatever of digestion. The tongue remains clean, the bowels move regularly, the abdomen has its normal appearance, there is no tympanites, and but little tenderness, and yet every few days the patient will have an onset of excruciating agony. The only diseases which might show similar symptoms are: (1) Hernia of the linea alba and other hernias; (2) chronic partial obstruction of the bowels from flexions or stenosis; (3) chronic appendicitis.

Of these, the most difficult to diagnosticate are the small concealed hernias, in which a fold of the bowel or omentum becomes pinched without becoming strangulated. I have operated three times on such hernias above the navel in the median line, to the complete relief of severe colicky pain. Usually they can be detected by searching for the little tumour, often not larger than a pea or a bean, in its usual position in the linea alba. When such a hernia is in an unusual position or is in the abdominal cavity itself—as when the bowel is caught in a rent in the mesentery—its diagnosis may be exceedingly difficult. Not even an exploratory laparotomy will always discover a rupture of that kind, which may become temporarily disentangled just as the surgeon is looking for it.

Partial obstructions of the bowel, such as occur through stenoses or flexions caused by adhesions, cause also intermittent colics. The pain of a stenosis, however, intermits only for a short time, and recurs at a certain time after eating. The bowel will then swell above the point of narrowing, the patient will have a moment of agony, and then there will be gurgle as the contents of the bowel pass through the narrowed spot, and relief will come for a few minutes, to be followed soon by a new paroxysm. This is entirely different from the pain of cæcal intussusception, which is absent for days together, and then endures for hours without remission. Chronic forms of appendicitis are often marked by intermittent colicky pains; but attacks of that character from that cause do not approach in severity the suffering caused by an invagination. The recurring attacks of appendicitis are marked, too, by fever, local tenderness, muscular tension, and tumefaction, and last as a rule several days before subsiding. Notwithstanding the most careful consideration of these peculiarities, the diagnosis of an uncomplicated cæcal invagination must always remain doubtful, unless the surgeon can detect the tumour, and even then an exploratory operation might be necessary before the disorder could be positively diagnosed from certain inflammations and tumefactions of the appendix.

One thing was omitted in this case which might have proved of great value, namely, an examination of the abdomen under anæsthesia. It is not possible with a little child, or even an adult, to make deep pressure on the abdominal walls without causing more or less muscular resistance and tension, unless we secure that absolute quiet which characterises a profound anæsthesia. I believe that it might have been possible with the aid of chloroform to have located the disease by the discovery of the tumour, even though it had not been possible to determine its true character. A principal reason for its omission, however, was the conviction that only an exploratory operation could fully uncover the seat of the disorder, and enable us to cope with it successfully. The result of operative treatment in this case adds another example to the multitude which have distinguished the surgery of recent years, of the good to be derived from exploratory operations in obscure and intractable disorders in the abdominal cavity. The conservatism which refuses this possible aid in desperate cases is no longer warranted in these days of aseptic surgery.

I believe this case to be unique in the annals of surgery. It has demonstrated the possibility of an intussusception of the extreme end of the colon, and has added a new disorder to those which the diagnostician must study, namely, an intussusception without obstruction. It makes it necessary for us to revise our theories as to the nature of the forces which produce invagination, for it is not possible to believe that the stormy peristalsis to which has been credited the ileo-cæcal and ileo-colonic invaginations could, in the same way, indent the end of the cæcum. The question is opened whether, as is generally believed, the ileo invaginations have always their point of departure at the ileo-cæcal valve, or whether they may begin with an involution of the cæcum—a question which can be decided only by the most careful study of pathologic specimens. This case has shown, too, that an intussusception which has caused neither obstruction nor gangrene may, nevertheless, become dangerous to life by exciting an enormous, though intermitting, irritation.

I have no doubt that the extension of the field of operative surgery over all obscure and dangerous disorders of the intestines will in the end discover other cases of this character. This one has seemed to me worthy of record, if only to call the attention of surgeons to its possible occurrence.

ANALYSIS OF 1,000 CASES OF LATERAL CURVATURE OF THE SPINE

TREATED BY "POSTURE AND EXERCISE" EXCLUSIVELY (WITHOUT MECHANICAL SUPPORTS).

By BERNARD ROTH, F.R.C.S.,

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[ABSTRACT.]

THE paper related to 1,000 consecutive cases of scoliosis which were under the author's treatment in private practice from June 27th, 1885, to November 24th, 1892, and are subsequent to a series of 200 cases read at the annual meeting of the British Medical Association in 1885. The whole of these 1,000 cases have been treated by the methods described in the author's book, *The Treatment of Lateral Curvature of the Spine*, 1889. The author hopes by the publication of this series to convince a larger proportion of the medical profession of the superiority of, and the much more rapid results obtainable by, his method at all stages and at all ages than by the old treatment of lateral curvature by spinal supports or other mechanical means.

Sex.—The 1,000 cases consisted of 122 males and 878 females. Messrs. Bradford and Lovett, in their *Orthopædic Surgery*, 1890, have collected 2,340 cases, of which 363 were males and 1,979 females—that is, a percentage of 15.5 males to 84.5 females, which is to be compared with the author's percentages of 12.2 males to 87.8 females.

Age when brought to the Author, and Age when the Deformity of the Spine was first noticed.—The average age of the 1,000 cases is 12.32 years for the commencement of the deformity, and 15.65 years for the age at which they came under treatment; 897 cases (that is, 89.7 per cent.) commenced to develop lateral curvature between the ages of 5 and 17 years, and more than half (594) between the ages of 10 and 15 years.

Causes of Lateral Curvature of the Spine.—In 231 cases no assignable cause of the deformity could be found, while of the remaining 769 cases, 297 were hereditary, 203 due to rapid growth, 176 described as delicate, 59 followed acute specific

fevers, scarlet fever, whooping-cough, measles, typhoid, etc.; 41 attributed to lung diseases, 27 were born in tropics, 24 had a neurotic origin, 14 attributed to overstudy, violin playing, etc.; 11 attributed to premature birth, 10 attributed to eye affections, 8 were twins, 5 children of elderly parents, 11 miscellaneous causes, as being very tall—over 6 feet—3 cases; rickets, 2 cases, etc. The very small percentage of cases attributed to rickets is due to the fact that the patients belonged to the middle and wealthy classes chiefly, and included no hospital cases.

Description of the Different Forms of Lateral Curvature.—The 1,000 cases divide readily into six classes:

(*a*) With whole convexity to left	523, or 52.3	per cent.
(*b*) With dorsal (upper) convexity to right, and lumbar (lower) convexity to left ...	329, or 32 9	,,
(*c*) With whole convexity to right	72, or 7.2	,,
(*d*) With dorsal (upper) convexity to left, and lumbar (lower) convexity to right ...	45, or 4.5	,,
(*e*) With triple curvature, highest and lowest curves being convex to left, and middle curve convex to right	23, or 2.8	,,
(*f*) With triple curvature. highest and lowest curves being convex to the right and middle curve convex to the left ...	3, or 0.03	,,

Amount of Osseous or Incurable Deformity of the Ribs and Vertebræ.—If osseous deformity be present to that extent the case is incurable; and no patient has ever been exhibited at any recognised medical society with osseous deformity, however slight, before treatment, and exhibited again after treatment, with the deformity corrected. The method of scoliosiometry which the author has employed for many years, and which he first explained in the British Medical Journal of October 27th, 1888, is still the simplest and most rapid method of recording the degree of osseous deformity in lateral curvature. The amount or degree of osseous deformity is classified as extreme, severe, moderate, and a trace; if the ribs posteriorly and the erectores spinæ are perfectly symmetrical when the trunk is well flexed, absence of osseous deformity is diagnosed. Of the 523 cases of *a* deformity, 117 cases had moderate deformity of the lumbar vertebræ, and 76 cases had a trace of osseous deformity of the left ribs posteriorly and moderate osseous deformity of the lumbar vertebræ. Of the 329 cases of *b* deformity, 67 cases had moderate deformity of the right ribs posteriorly, and of the lumbar vertebræ with convexity to the left. The 72 cases of *c* deformity had 14 with moderate osseous deformity of the right ribs posteriorly and of the lumbar vertebræ. The 45 cases of *d* deformity had 10 cases of moderate osseous deformity of the lumbar vertebræ, while the 28 cases of *e* deformity and 3 cases of *f* deformity had all more or less osseous deformation of the ribs posteriorly and of the lumbar vertebræ; of course, when osseous deformity of the ribs posteriorly is indicated, osseous deformity of the dorsal vertebræ is implied. There were only 79 without definite osseous deformity among the 1,000 cases.

Pain or Backache.—Four hundred and seventy-six cases, or 47.6 per cent., had more or less backache, including 11 cases with extreme pain, 230 with severe pain, 87 with moderate pain, and 148 with slight pain.

Flat Foot.—The author was one of the first surgeons to point out the extremely frequent association of flat foot with lateral curvature of the spine[1], and of these 1,000 cases 565—that is, 56.5 per cent.—had more or less well-marked flat foot, and 256 cases, in addition, had a trace of flat foot, which possibly some surgeons would not accept as such.

Previous Treatment of the 1,000 Cases.—Omitting treatment by ordinary or special gymnastics, suspension by the head, and the innumerable forms of shoulder straps, etc., 202 cases had been treated by means of spinal supports, including 104 by steel supports, and 98 by other forms of spinal supports; of these many had worn supports for years; thus 24 had worn them for 1 year, 25 for 2 years, 19 for 3 years, and so on, including cases where spinal supports had been worn for 10, 11, 12, 16, 20, 25, and even 40 years.

Duration of Author's Personal Treatment. — The average course consisted of 3 months' daily treatment, or 72 visits, and 634 cases underwent that amount. Early cases of lateral curvature, with little or no osseous deformity of the vertebræ, to the number of 265, made each from 24 to 48 daily visits. Twenty-eight adult male cases have been treated on 36 alternate days, or by weekly visits. The remaining 73 cases, with 6 to 18 daily visits and with 81 to 216 daily visits, have been exceptional patients in whose cases the treatment has been interrupted too soon or from intercurrent illness unduly prolonged.

Results of Author's Treatment.—As osseous deformity of the vertebræ, even to the slightest extent, is to that extent incurable, the author has not ventured to label any case as "cured," although many surgeons would have used that term instead of "much improved." By "much improved" he expresses the best possible result that he was able to prognosticate when the patient was first examined—that is, a strong and much straighter spine where the most improved posture possible has become a more or less habitual one, with disappearance of backache, with improvement in the general health where this has been failing, and, finally, with arrest of further increase of the osseous—that is, incurable deformity of the ribs and vertebræ. There were 869 cases much improved, and 75 cases improved. By "improved" the author distinguishes those cases where arrest of the further increase of the ossecus deformity has been effected, but where pain has still persisted more or less.

Fifty-six cases were more or less failures, and include 47 apparently successful at first, but which then relapsed, and 9 which were not improved from the very first. Most of these 5.6 per cent. failures have been due to want of intelligence or perseverance in the patients themselves. The most successful of the author's cases, and those which gave the least trouble, were young men anxious to enter the army, and who ran some risk of being rejected as physically unfit, and young women engaged to be married. Of the "much improved" and "improved" cases, 207 were confirmed by examination during the first three years following the completion of the treatment. Some were reported as straight and well ten years after.

REFERENCE.
[1] British Medical Journal, May 13th, 1882.

ACCURATE MEASUREMENT OF SPINAL CURVATURES, WITH DESCRIPTION OF A NEW INSTRUMENT FOR THE PURPOSE.

By R. Tait McKenzie, B.A., M.D.,
Demonstrator of Anatomy, Medical Examiner, and Instructor in Gymnastics, McGill University, Montreal.

Almost the first difficulty that confronts the surgeon in dealing with a case of scoliosis is the obtaining of definite data on which to base a diagnosis and prognosis, a fixed starting point from which he can follow its progress; a standard by which he can test his course of treatment with a reasonable degree of accuracy. Mere opinion as to the exact condition in a patient is notoriously unscientific and inaccurate, especially in this disease, and a few figures in black and white, or an accurate chart, are worth pages of surmise or supposition.

In the measurement of curvatures we must obtain a record of the general asymmetry of the figure as well as of the details of the deformity. One wants some quick and accurate way of getting at the difference in height of the acromia, of the points of the scapulæ, some graphic record of the deviation of the spinous processes from the straight line, of the difference in outline and levels of the hips and iliac crests. And again, the record will not be complete unless the rotation of the vertebræ is shown both in the dorsal and lumbar regions.

In angular curvature the nature and extent of the kyphosis must be displayed to give a clinical picture of the case. Many methods have been used to get some of these results, and some plans have been used to get many of them, but I have not yet seen any practical scheme by which a complete picture such as I have just described has been obtained.

I need not enter into a detailed description of all the ways by which this subject has been attacked, but among them photography has certainly been the most popular. Perhaps the most fatal objections to its use as a route practice are its expense, both in time and money, and its liability to mislead the observer by indistinctness or other imperfections in the process of lighting the figure or the developing of the plates.

Many plans have been described in which plumb lines are dropped and deviations from them noted at different levels. The shoulder levels have been measured from the ground, and various other isolated facts have been taken. These methods are all imperfect and cumbersome, and, above all,

lack that uniformity so necessary if such observations are to be of permanent value.

For recording the rotation, which is totally neglected by the above-mentioned plans, Mr. Bernard Roth describes a method which is both rapid and accurate. The complete description of it is found in his textbook on the subject. Briefly, it is by moulding a strip of pure tin to the back at the desired level and making a tracing from this on paper.

Mary Putman Jacobi elaborates this method by using a hinged tape and encircling the whole chest or abdomen. This tape is removed, placed on a table, and plaster is run in forming an accurate cross-section of the body at the level selected. This, although accurate, is imperfect, and its inconvenience in private practice will at once suggest itself.

Dr. George W. Fitz, in the *Boston Medical and Surgical Journal*, recommends in measurements of the spine to place the patient behind a screen consisting of a rectangular frame with threads strung vertically and horizontally, cutting the entire surface in inch squares. To measure the amount of rotation of the spine he uses the method described by Mr. Roth.

In the *Cyclopædia of Diseases of Children*, Mr. R. E. Roth describes a small instrument for recording rotation which merits description. A long pointer with a pencil attached moves freely by a swivel joint on a stand placed on the back of the patient, who bends well forward. Attached to the stand is a curved sheet of paper on which the pencil marks the movements of the point, the tracing being, of course, reversed; by varying the proportion of the two sections of the pointer the tracing can be made to any scale.

J. A. Weegel describes a graphic method of showing a cross section (natural size) of the prone figure. This is open to the serious objection that the scapulæ and attached muscles mask to a great extent all sections taken in the upper dorsal region, an objection surmounted by having the patient stooping well forward.

Raymond Sainton took up this subject very fully in the *Revue d'Orthopédie* some years ago, and described a hinged collar or belt of steel in which the patient is encircled. Set in it at regular intervals are pointers like wheel spokes. These are shoved in till they touch the skin, clamped, and the collar removed. A tracing from these pointers will show the body in cross section. He also figures an adaptation of the pantograph for taking full-sized tracings of the spinous processes.

Many instruments have been devised, all more or less complicated and expensive, for taking tracings. The most elaborate I have seen, that of Schultess, which, though accurate, gives a tracing life size, and too big for convenience. It is not adapted to record rotation. Its size and expense would make its general introduction impossible. Behring uses a glass plate on which the silhouette is traced, but I could multiply example on example till one is tempted to cry that of making many devices there is no end, and yet one must agree with the author in a recent work on orthopædic surgery when he says that "an inexpensive and efficient scoliosiometer is yet to be invented."

An efficient instrument should record in inches or centimetres the difference in levels of the shoulders, of the points of the scapulæ, and of the iliac crests. It should measure the deviation of the spinous processes at all levels. It should show the outline of the hips and shoulders that differences may be noted; and, lastly, it should measure the amount, and show the nature of rotation when present. In this instrument an attempt has been made to fulfil these conditions. It consists of a fixed horizontal iron stand into which a rigid upright rod is screwed firmly. To this rod two arms are attached by collars, that can be moved up and down or clamped by thumbscrews.

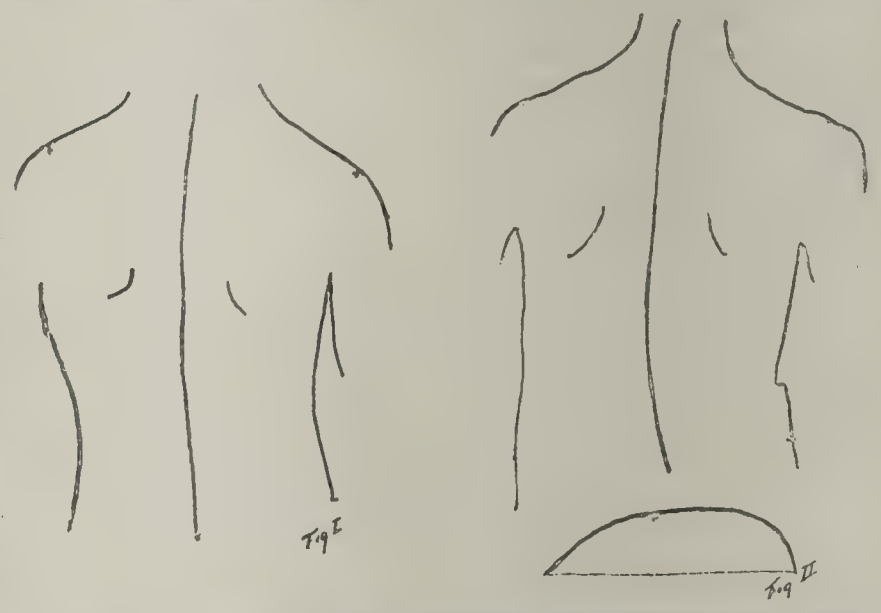
The lower arm passes behind the patient and clamps the hips, preventing any sidewise movement. The upper arm passes in front of the patient and fixes the shoulders. To the collar of the upper arm is attached by a hinge a plate to which a pantograph is screwed, set so as to make a tracing reduced to one in four. The paper, which is stretched over this plate and held by clips behind, is ruled in eighth-inch squares. Hence, a line passing vertically through eight squares, or 1 inch, would represent a distance of 4 inches covered by the pointer. It is more accurate and convenient to use a reversible pointer, a short arm for the spine and scapulæ, and a longer for the outline of the shoulders and hips.

To take a tracing the spinous processes are first marked with a flesh pencil, and the patient is placed upon the stand. The hips are first clamped at the level of the trochanters, the shoulder-arm is then moved up or down, adjusted and clamped, when the patient has settled into the habitual position. The spine is followed by the pointer, the gluteal cleft and the points of the scapulæ noted, and then an outline of the shoulders and hips is rapidly traced. In taking cross-sections to show the rotation the patient stands bent over and the end of the pantograph easily follows the outline of the back at any desired level.

The amount of the difference in levels, or the deviation, is obtained by following the horizontal or vertical lines, and counting the squares on the paper, for you have an accurate map drawn to scale of the back and its bony points.

The figures will illustrate better than words can describe the forms of certain typical cases from my case book.

Fig. 1 is from a young man, the difference at the acromia being $2\frac{1}{2}$ inches, taken when standing with heels together, and in his habitual position.



In Fig. 2 the cause of the curvature is shown in the difference of height of the iliac crests and tilting of the pelvis due in this case to shortening of the left leg. The cross-section taken at the level of the third lumbar vertebra shows a projection of the right side, and a corresponding depression of the left.

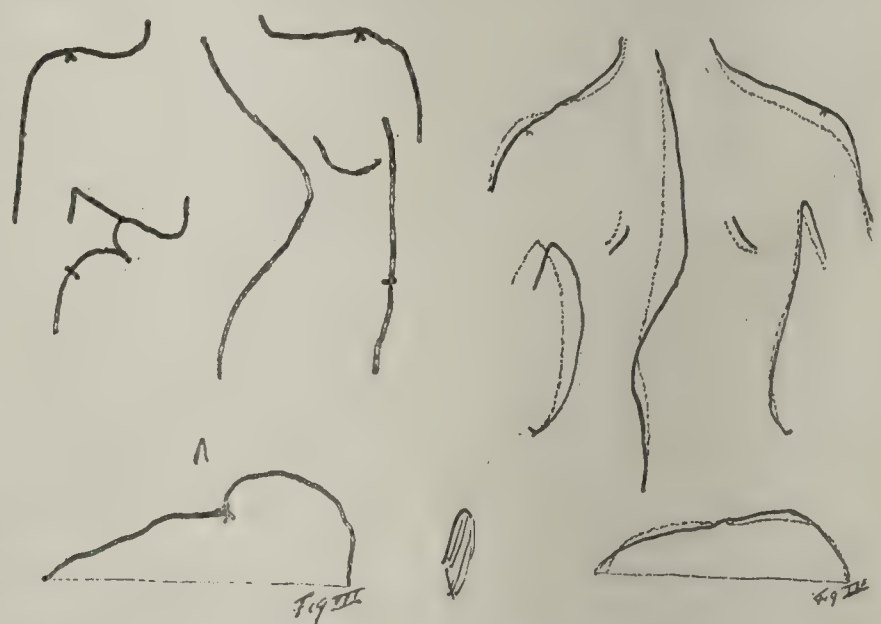


Fig. 3 shows a very extreme deformity due to infantile paralysis. The projection of the left hip is very noticeable.

Fig. 4 shows two tracings plotted on the same chart, the iliac crests being taken as the starting points. It will be

seen from this how improvement under treatment can be clearly demonstrated.

If we could select some standard set of measurements, instead of continuing in the present haphazard way, every man having a system which may serve for himself but is a sealed book to his neighbour, there would be a chance of comparing our work one with another, and arriving at results in the treatment of scoliosis that would be at once definite, intelligible, and scientific.

The President said he was convinced of the uselessness of instrumental treatment in scoliosis, and that where osseous deformity was present its cure was impossible. He commented on the inadvisability of putting such cases into the hands of instrument makers.

Dr. Gibney (New York) fully agreed with the Chairman on the importance of the subject, especially in our desire to rid ourselves and our patients of the cumbrous devices of the instrument maker. He believed that Mr. Roth's measurements were not reliable except for original observations. Pain was not a symptom in this country. Flat foot was often present, but he could not trace any connection. Advanced cases and stupid patients must be treated by attempts at forcible correction and retention by plaster. He thought McKenzie's scoliosiometer the best.

Dr. Ketch (New York) referred to the importance of early recognition, and thought a systematic examination of young persons' backs was desirable, and suggested that such examination should be made at schools. As regards practical treatment they might be divided into those in which extrinsic muscles of the spine were affected, and those where the intrinsic muscles were involved, and the former are curative and the latter easily so. Where rotation was present treatment is less satisfactory. The occasional use of apparatus was necessary, but it was upon exercises that we chiefly rely, but when instruments were employed the surgeon himself should apply and should control them.

Dr. Lee (Philadelphia) pointed out that deformity could be detected most early in the lumbar region, and it is then treatment is most satisfactory. He thought occasional elastic support was of benefit.

GUNSHOT WOUND OF THE SPINAL CORD.

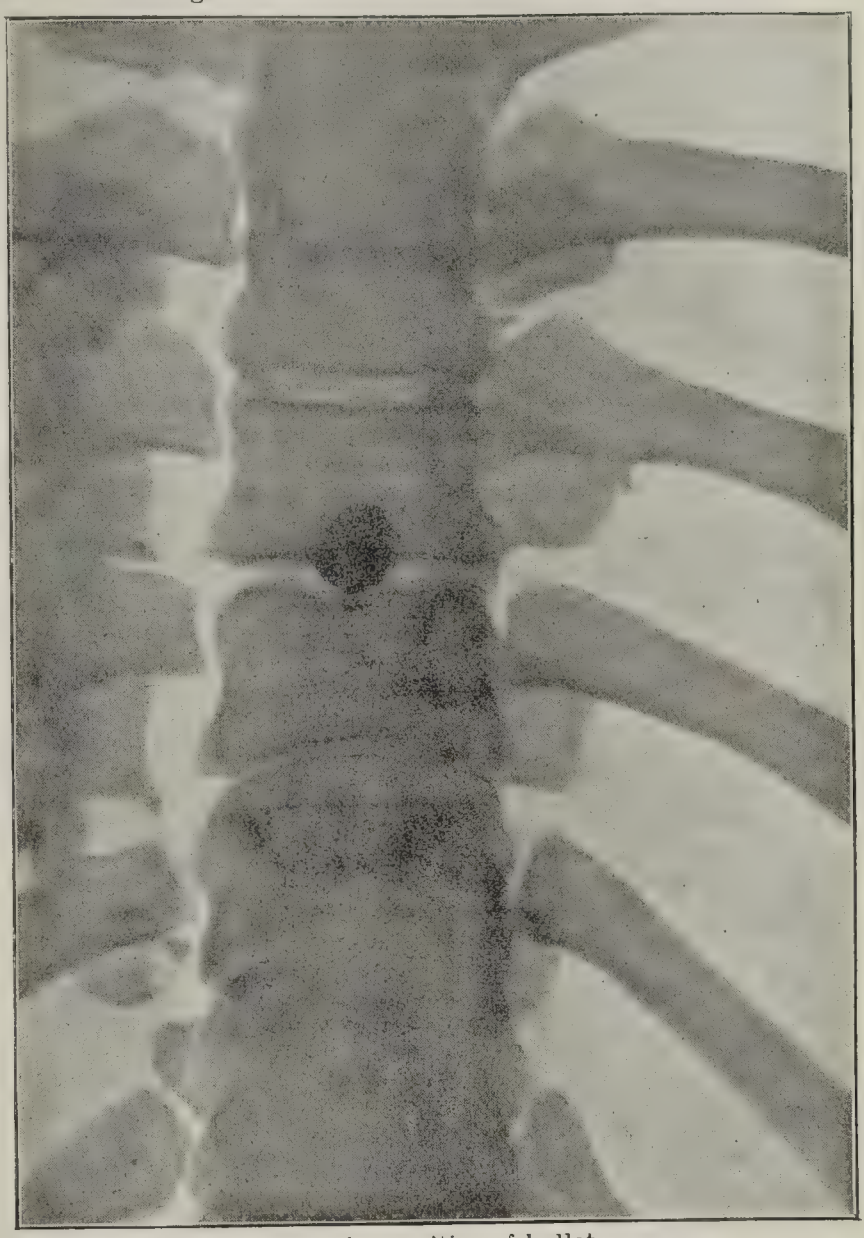
By Geo. A. Peters, M.B., F.R.C.S.Eng.,
Associate Professor of Surgery and Clinical Surgery, University of Toronto; Surgeon to Toronto General Hospital and the Victoria Hospital for Sick Children, Toronto.

In times of peace gunshot wounds are comparatively so uncommon that the report of a case of bullet wound which caused a complete transverse division of the spinal cord may not be uninteresting to the members of the Association. In military practice such wounds are, of course, not infrequently met with, and the attendant mortality is enormous. For example, it is stated in the *Medical and Surgical History of the British Army in the War in the Crimea* that "all fractures of the vertebræ were promptly fatal except two among the officers and two among the men, all of which were either fractures of the transverse processes in the neck, or of the spinous processes only."

The immediate causes of death in these injuries during war appear to be shock, hæmorrhage, and septic processes. In many cases also there are concomitant injuries of adjacent organs which in themselves would be almost necessarily fatal.

In civil practice the bulk of such injuries are caused, as in the case about to be related, by small arms bullets; and though, as this case also shows, the missile may be large enough to quite destroy a section of the cord, the attendant shock and the explosive effect of the bullet are much less marked than in the case of projectiles of greater weight and higher initial velocity.

Without doubt the factor which most largely determines the rate of mortality is the proximity of the cord lesion to the brain. Any complete transverse lesion of the cord in the cervical region is almost certainly fatal within a few days; if above the origin of the phrenic, death is, of course, instantaneous. That the prognosis is progressively more favourable as the injury recedes from the medulla is well shown by the statistics of the American war. The very complete medical and surgical history of this war shows that there were reported 642 cases of gunshot injury of the vertebræ. This number of course does not include those who fell during action with such injuries, and perished on the field without coming under observation and treatment. Nor do the records show what proportion suffered injuries of the apophyses of the vertebræ only without involving the spinal cord. The inference is, however, that there was a large number of the former class, since it is stated that only 349, or 55 per cent., of the cases proved fatal, and 104 cases were subsequently able to return to duty, a much better showing certainly than could have been made if the spinal cord had been injured in all cases. Of those who died, 70 per cent. were injured in the cervical, 63 per cent. in the dorsal, and only 45 per cent. in the lumbar region.



Showing position of bullet.

Though unique cases are now and again reported in which, after complete transverse lesions of the cord at various levels, the individuals survived for periods of twelve, fourteen, twenty-six years, or even longer, it may be stated as a rule, to which the exceptions are insignificant in number, that patients with such lesions die within a year of the reception of the injury. The two great determining causes of death where the patient survives the shock, etc., are (1) Inflammation of the bladder, leading sooner or later to surgical kidney; and (2) bedsores from wasting and trophic failure, followed by pyæmia, amyloid disease, and exhaustion. In the majority of cases the two conditions are combined. The case reported in this paper was that of a female, and although the bladder showed some cystitis, the kidneys appeared healthy enough to have carried on their functions indefinitely. On the contrary, I cannot recall seeing a *post-mortem* examination on a male with a similar injury in whom the kidneys were not found to be in a condition of advanced disease. This fact suggests the question whether the better drainage permitted by the short

and straight female urethra might not be imitated in the male by performing a median cystotomy as a routine practice in all cases of complete paraplegia from injury.

CASE.—Mrs. A R., aged 31, married, was admitted to the Toronto General Hospital, June 12th, 1896. The history was that she had been shot with felonious intent by her husband, who stood but a few feet away from her, and used a revolver of .32 calibre. Two shots had taken effect, one ball having passed quite through the left deltoid muscle from behind forwards, and lodged in the wall of the room, while the other entered slightly to the left side of the eighth dorsal spine, passed through the corresponding lamina, and lodged in the body of the ninth vertebra. As the *post-mortem* examination subsequently showed the ball in passing to its billet, perforated the membranes behind, crashed through the cord, and passed out of the membranes in front, carrying fragments of bone with it. There was no escape of cerebro-spinal fluid. The patient had been seen before admission by Dr. Winnett, who had applied a very effective antiseptic dressing, under which the wounds healed without inflammation.

At a consultation of the hospital staff it was decided that operative interference was not indicated. This decision was based on the following considerations:

The paralysis of motion and sensation in the parts below the lesion was complete and came on instantaneously. There was also paralysis of the bladder and of the sphincter of the bowel. There was complete absence of "knee-jerks" and of all skin reflexes below the seat of the lesion. The sudden onset of the symptoms was taken to indicate that the paralysis was not due to pressure of effused blood, and the completeness of the paralysis, together with the total loss of the knee-jerks and other reflexes, was held as evidence of the fact that the lesion was a destructive one, involving a complete transverse section of the grey matter at least, and perhaps also of the white fibres of the cord. The line of anæsthesia was below the seat of distribution of the eleventh dorsal nerve, and at no time was there present a zone of hyperæsthesia. Notwithstanding that the patient was at once placed on a water bed, and every care taken to maintain the nutrition of the paralysed parts, a bedsore formed over the sacrum about the end of the first week, and persisted as such throughout the remainder of the patient's life. The wounds made by the bullets healed quickly without suppuration.

The skin reflexes began to return in the third week, and soon became greatly exaggerated, to such an extent, in fact, that irritation of the skin of one foot, for instance, would be followed by a drawing up of the foot, not only of the irritated side, but of that of the opposite side also. There was, however, no return whatever of the deep reflexes. Extensive involuntary movements of the lower extremities also occurred spontaneously at short intervals, and certainly were an important factor in producing in the eighteenth week a bedsore over the left hip and an extensive abscess which burst externally, and became a bedsore over the right hip. Other factors in the production of the bedsores were the rapid emaciation and the constant leakage of urine, and latterly also of fæces. The pulse and temperature were at first normal, but when the bedsores formed there was a febrile reaction, due no doubt to absorption of septic matter.

On July 9th it is noted that the temperature ranges from normal to 103° F., pulse 90 to 112. Urine sometimes clear, sometimes clouded with mucus. It is drawn off at regular periods, but in the intervals part of it escapes involuntarily. The bladder is washed out with boracic solution at stated intervals.

August 8th. A large slough came away from bedsores over the sacrum. There is considerable pus discharging from this wound, and the skin is extensively undermined.

From August to October the pulse and temperature remained for the most part about normal, with occasional fluctuations for a few days. The patient was sometimes better and sometimes worse than her average condition, but gradually failed in strength and decreased in weight. The spasmodic movements of the legs continued, and were so forcible as to move slightly the upper part of the trunk, by which she became conscious of the spasms, otherwise she had no consciousness of their occurrence.

In November a deep and extensive abscess formed over the right trochanter, and breaking down, produced a large bedsore with extensive undermining of the adjacent skin. A very large quantity of pus continued to discharge from this sore during the remainder of the patient's life. A smaller bedsore also formed over the left hip. At this time the temperature rose to 105°, and the pulse to 130

Throughout November, December, and January, the wounds on the back and hips continued to suppurate profusely. The temperature ranged from subnormal to 104°, and the pulse from 90 to 120. The flexors of the lower limbs became very much contracted, so that the patient lay curled up in bed, and it was not possible to straighten out the limbs. The patient gradually wasted, and began to show signs of amyloid disease.

Early in February a profuse diarrhœa set in, and continued in spite of treatment. This was explained *post mortem* by the discovery of amyloid disease of the bowel and ulceration of the rectum.

On February 22nd, 1897, a pathological dislocation of the right hip occurred. It was found that the upper part of the capsule had sloughed and that the rim of the acetabulum was eroded. The tonic and clonic spasms of the muscles combined to force the head of the bone out of its socket, so that it protruded through the bedsore to the extent of about 3 inches. It was reduced by traction with some difficulty, but the contractions of the muscles threw it out again in a short time.

Repeated small hæmorrhages also occurred from this wound, and had to be controlled by packing with iodoform gauze. During the last few days of her life the patient was delirious.

She died on March 2nd, 263 days after the reception of the bullet wound.

Post mortem examination thirty hours after death. The scars made by the bullet wounds were found in the positions described, and were completely white in colour. The right pleura was universally adherent, and contained at its lower part some recent lymph, apparently about to break down into pus. This was probably of pyæmic origin. There were some old adhesions in the pouch of Douglas, and double hydrosalpinx of considerable size. The rectum was congested and slightly ulcerated. The small intestine showed some amyloid disease, and the mesenteric glands were slightly enlarged.

The bladder was empty, somewhat contracted, and its mucous membrane showed marked inflammation, some pigmentation, and slight ulceration. The ureters were normal, as were also the pelves of the kidneys. The parenchyma of the kidneys showed well-marked amyloid disease, with a corresponding amount of interstitial nephritis. The capsule was somewhat adherent; the suprarenals were markedly amyloid; the spleen was a beautiful example of "sago spleen"; the liver had undergone some fatty and well-marked amyloid degeneration (it weighed 74½ oz.); the brain and its membranes were normal.

On tracing the scar found at the left side of the eighth dorsal spinous process, it is found to lead to a small perforation in the lamina of the eighth vertebra. A small fragment of lead was found in the line of the scar, as if the bullet had grazed the spine in its passage. On opening the spinal canal the membranes were found to be firmly adherent to the laminæ behind, and also to the bodies of the vertebræ in front. Some small fragments of bone were found to have been carried in and were lodged in the membranes, in which was also entangled a small piece of lead about $\frac{1}{16}$ in. in diameter. On separating the membranes from the laminæ they are found to be perforated by an opening about ½ in. wide by 1 in. long. To the extent of 1¼ in. the cord itself has completely disappeared, and a degenerative softening extends upwards for about 1¼ in. and downwards for about 2 in. The grey matter, however, is degenerated to a much greater extent than the white, the outermost fibres of which are adherent to the membranes. On separating the membranes in front the bullet is found to be lodged firmly in the body of the ninth dorsal vertebra, quite near its lower surface and not far from the canal. There is no indication that the bullet in its present situation was the source of any disturbance during life. In fact, it appears to be firmly and perfectly encapsulated.

Perhaps the main interest in this case centres in the fact that the tendon reflexes were entirely lost and never returned, while the superficial reflexes, though quite absent at first, returned on the third week, and became so greatly exaggerated as to become a factor in the production of bedsores on the hips. This condition is, of course, the usual one, but it is seldom, I believe, that the superficial reflexes become so greatly exaggerated. The jerkings which were observed to occur with apparent spontaneity must of course have had a reflex origin. The irritant may have been the presence of urine in an inflamed bladder, or of fæces in the rectum.

Fagge relates that the most violent convulsions of paralysed limbs are often caused by the acts of micturition and defæcation, and Budd cites a case in which, whenever the patient was placed upon the nightstool, he had to have his feet strapped to the floor by saddlers' webbing to prevent his being thrown forward upon his face.

In regard to the exaggeration of the reflexes, Fagge says: "It seems probable that the susceptibility of the lower spinal centres is often directly augmented by an irritant influence transmitted downwards from the diseased part." I have stated that irritation of one foot frequently led to the drawing up of both. According to the same authority, it is the rule that when reflex movements are excited by impressions upon the cutaneous surface, they remain confined to the limb on the same side. Leyden says that they do not spread to the opposite limb except when the lesion is in the medulla oblongata, but Fagge states that many instances to the contrary may be found. The case cited is one.

It appears to be always true that complete transverse lesion of the cord is associated with a total and permanent loss of deep or tendon reflexes. If one could state it as a positive dictum that a total loss of knee-jerks indicates a complete transverse lesion of the cord, we would be in possession of a valuable symptom as a guide to treatment, as any such operation as laminectomy is manifestly of no avail where the cord is completely divided.

That there is an essential difference between the superficial and deep reflexes, is also well attested by this case. This difference has, of course, long been recognised, but there still exist conflicting opinions as to what the difference consists in. All are perhaps agreed, however, that the superficial reflex is of the simplest kind, passing from the point of irritation in the skin through the sensory nerve to the cord, and thence by motor nerves to the muscles. Whereas in this case a comparatively slight irritation produces an extensive movement, not only of the limb irritated, but also of an adjacent limb or limbs, the explanation is that the sensory impulse "overflows" at the cord, and affects a wide range of motor cells in its neighbourhood.

In health it is generally held that the knee-jerk is caused by a stretching of the already tense fibres of the quadriceps extensor cruris. This muscle retains its tone and nutrition to some extent in transverse lesions of the cord, and will

respond to appropriate skin irritation. Why will it not respond to the stretching? It is evident that the muscle lacks some quality or influence which functional connection with a healthy brain alone can maintain. Fagge, Budd, and others have shown that even in man reflex movements are purposive, though much less so than in the lower vertebrates. Hence a certain degree of muscular sense must be retained by the muscles, even when completely isolated from brain influence.

Moreover, the brain itself does not take any part in the production of the knee-jerk, for Gowers has shown experimentally that the jerk follows the blow on the tendon in too short a time to allow the impulse to travel as far as the brain and back between the events. He believes, however, that the reflex arc includes the cord, and is not limited to the muscle alone. We can only say that in health some influence descends from the brain, which enables the muscle to perceive when it is stretched, and that when the cord is divided this perception is lost, and hence the "knee-jerk" is lost also.

TWO CASES OF MENINGOCELE SUCCESSFULLY TREATED BY OPERATION.

By W. D. Spanton, F.R.C.S.E.,
Hanley.

The cases of meningocele recorded in which excision has been performed with success are comparatively few; and this is due, I imagine, partly to the circumstance that instances of large meningoceles suitable for operation are infrequent, and also that many have proved fatal which have never been published. Hutchinson states that, for every 10 operated on only 1 usually recovers. This is assuredly a mortality-rate sufficient to deter most surgeons from undertaking the operation, or the responsibility of advising its performance. No doubt in a large proportion of instances the tumour consists of brain substance as well as meninges, and Bland Sutton goes so far as to state that a simple meningocele of large size is of comparatively rare occurrence. I may count myself fortunate under these circumstances in having had, within a few weeks of each other, two of unusual size, in both of which a cure was effected. The first case was that of a baby:

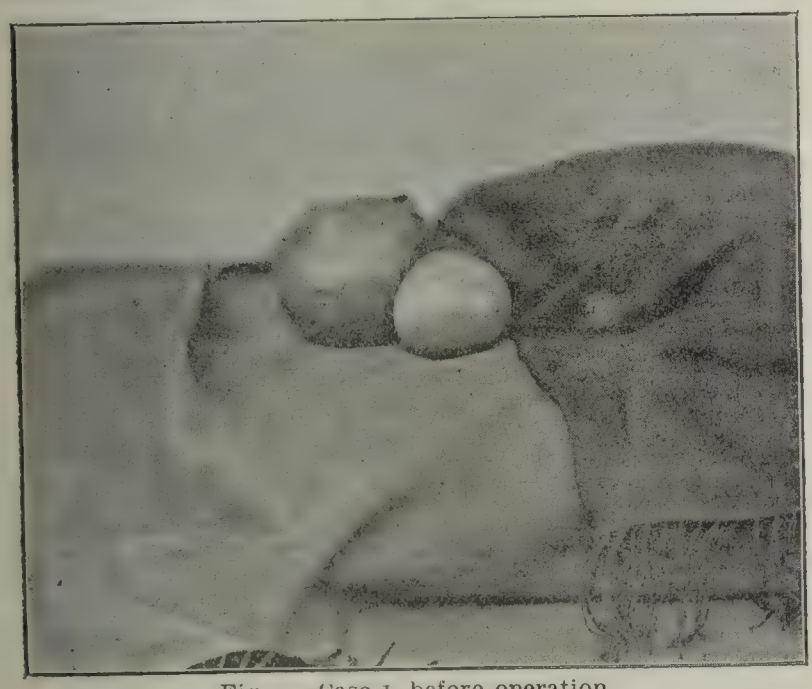


Fig. 1.—Case 1, before operation.

O. M. R., aged 3 weeks, was admitted to the North Staffordshire Infirmary on April 17th, 1896, with a large tumour at the back of the head, which was at birth about the size of an egg, and had increased gradually. The child appeared in good health, and had not suffered from any cerebral symptoms. The tumour was about the size of a large tangerine orange, and seemed to spring from the occipital foramen, having a well-defined neck. The skin was thin over the prominent part, thickened below. It was quite translucent and fluctuating. Pressure upon it caused no pain. The anterior fontanelle was open and the parietal bones still separated.

A week afterwards the tumour was aspirated and about 6 ounces of clear fluid withdrawn, of a pale straw colour, neutral reaction, specific gravity 1008, containing much albumen, no sugar, and giving a faint albuminose reaction; chlorides not marked. The child did not suffer at all from the tapping, but the tumour soon refilled, and on May 2nd an operation was performed with a view to a radical cure.

Chloroform was given, an incision was made across the tumour, and the skin dissected up from the sac in both directions. The sac was then opened, and, after the escape of some serous fluid, a firm mass, like a hygroma, was found occupying the opening of the occipital fontanelle. It consisted of matted pia mater and arachnoid, and was of a deep purplish colour, apparently not containing any brain substance. The base of the sac was transfixed and ligatured with catgut by a Staffordshire knot ligature. The remainder of the tumour, consisting of pia mater, arachnoid, and dura mater, was cut away. The skin flaps were

Fig. 2.—Case 1, after operation.

carefully stitched to cover the opening, and the wound was dressed with iodoform gauze. There was considerable collapse while this was being done, but it quite passed off in about two hours. No symptoms of any moment followed. The temperature rose next day to 102° F., then gradually subsided, and was normal three days afterwards, and remained so. The wound was dressed on May 10th (a week after) and the sutures removed. The wound was soundly healed, and the child never had any untoward symptom. On May 14th the child left the infirmary (twelve days after operation) quite well, and has remained so ever since.

The second case is as follows:

A healthy, well-grown boy, 3 months old, sent to me by Dr. Coulson Bull, on account of a large tumour in the occipital region, which had existed from birth, and was gradually increasing. The tumour was about the size of a large orange, the skin over it thin and translucent, and it was apparently quite painless. It communicated with the posterior fontanelle, which extended further back than usual.

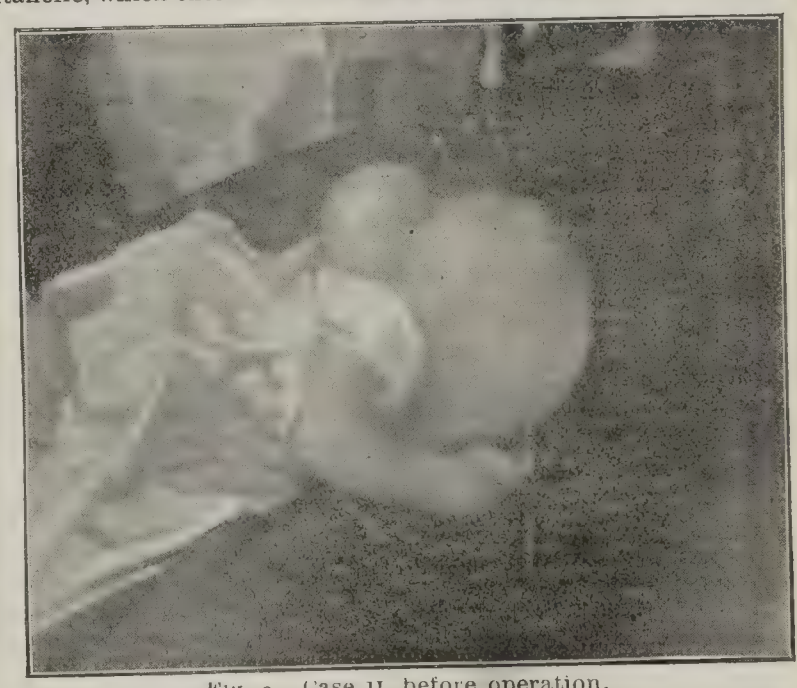


Fig. 3.—Case II, before operation.

I aspirated the tumour, and withdrew eight ounces of clear, pale fluid, of neutral reaction; specific gravity, 1007; albuminous. The tumour refilled in a few days, and I then excised it under chloroform. Skin flaps were formed, some small vessels ligatured, and then after emptying the tumour of about six ounces of fluid the neck of the sac, consisting of all the membranes, was ligatured by a Staffordshire knot of catgut, and the tumour cut away. In doing this a rent occurred, which I secured with a continuous fine catgut suture. The wound was then closed by interrupted silk sutures, and dressed it with iodoform gauze. The opening in the skull was very large, about 2 inches in diameter, and the cere-

bellum was observed quite devoid of all its membranes at that part. The wound was not dressed for several days; no untoward symptom of any kind occurred, and the child returned home about ten days after, quite well

In the second, as in the former instance, it will be observed that no symptoms other than temporary followed the operation—no convulsions or brain disturbance of any kind—and the child has since remained perfectly well.

Fig. 4.—Case II after operation.

The absence of any brain substance in both is interesting, and in the first one the curious nævoid condition of the pia mater constituting a soft mass which felt externally precisely like brain substance was unusual. The ligature of this no doubt conduced to the more effectual closure of the opening in the skull, and forms an additional safeguard against any recurrence. The plan I adopted of employing a Staffordshire knot ligature at once shut off the general meningeal cavity from the wound, and acted much as the ligature of the neck of the sac does in closing the general peritoneal cavity in the cure of hernia. This seems by far the best method of dealing with the meningeal sac, especially as we might naturally expect the apposed serous surfaces to unite quickly.

In any similar cases in future I shall adopt the same method, with a confident hope of success. In saying this, I am of course alluding only to cases of large meningoceles in which a prospect of a natural cure seems out of the question. The small ones more frequently met with ordinarily undergo a natural process of cure, and call for no surgical treatment.

PARTIAL RESECTION OF THE BLADDER FOR ULCER CAUSED BY THE DISTOMA HÆMATOBIUM.

By B. FARQUHAR CURTIS, M.D.,

Professor of Clinical Surgery in the New York Post-Graduate School and the Women's Medical College of the New York Infirmary.

A FEW isolated cases of infection by the parasite known as distoma hæmatobium (or bilharzia) have come under medical treatment in North America, all of them having originated in the Orient. An Egyptian at the World's Fair was treated for the disease in 1893, in Chicago. My own case was treated in the same year. Recently a case in a Jewish rabbi has been reported by Dr. Brooks from the practice of Dr. Edebohls, of New York.

The manner by which the parasite enters the body is as yet uncertain, but it is generally supposed to find its way into the urethra. The worm lives in the renal and vesical veins, producing eggs which are discharged by the urine. The eggs are not unlike a kernel of oats in shape. They measure from 80 to 120 micromillimetres in length and 30 to 40 in width. They become embedded in the mucous membrane of the bladder, and occasion capillary hæmorrhages, local ulceration, and cystitis if infection by pyogenic germs takes place. Calculus has been observed as a secondary result, and malignant tumours have developed in the ulcers due to the parasite as reported by Fenwick and others. The symptoms are usually slight and the general health is not affected, but in some cases the patient's sufferings are as great as those occasioned by the worst forms of cystitis, of vesical calculus, or of tumour. The course of the disease may be long or short, whether the symptoms are severe or slight. The mild cases do well under medical and local treatment, such as irrigation of the bladder; in fact, some of them require no treatment whatever, the symptoms disappearing spontaneously; but in some cases symptoms resembling those of a severe cystitis, in addition to the hæmaturia, have persisted for ten years or more, rendering the patient a chronic invalid. It is the great suffering endured by such patients which has prompted the publication of the following case, in which the bladder symptoms were completely relieved by operation.

A man, 29 years of age, a native of Scotland, served in the British army at Cairo eight years before his admission to St. Luke's Hospital on September 29th, 1893. While in Cairo he had an attack of gonorrhœa lasting one month, and not treated by injections. He does not recollect any other illness. In 1891 he had a severe attack of intermittent fever lasting for two months, and cured by quinine. Soon after this illness he noticed blood in his urine at the end of micturition, but without pain or tenesmus. He has resided in New Jersey since coming to this country six or seven years ago, so that the hæmaturia did not begin until five years after leaving Cairo, where the infection must have occurred. The hæmaturia was continuous, except for a month in July, 1893, and during that free interval the urine was examined when he applied for life insurance, and pronounced free from albumen. The policy was not granted however, because a second specimen free from blood was not obtainable. For the last eighteen days before admission the amount of blood has greatly increased, with clots, and vesical tenesmus has been frequent. Sometimes he was forced to urinate every fifteen minutes, but at others he was able to wait two or three hours. He has lost strength and weight, and grown anæmic from the constant bleeding and vesical irritation. The urine was of a dark port-wine colour. When most free from blood it was cloudy, acid, specific gravity 1021, containing no albumen or sugar. Pus and red blood corpuscles were found in the sediment. A rectal examination revealed a normal prostate, with distended seminal vesicles. The bladder appeared to be unequally distended, the left half seeming larger than the right. An examination of the bladder by the searcher revealed nothing, but a cystoscopic examination by Dr. William K. Otis, who kindly took an interest in the case, revealed what appeared to be a tumour situated near the orifice of the right ureter. The amount of blood in the urine rendered this examination very difficult.

October 7th, 1893. Suprapubic cystotomy was performed, with the kind assistance of my colleague, Dr. Francis H. Markoe. Ether anæsthesia. Trendelenburg's position, Petersen's balloon in the rectum, and 8 fluid ounces of water in the bladder. The usual median incision was made, and the bladder opened. Examination by touch and sight revealed a diseased area of mucous membrane surrounding the mouth of the right ureter, nearly circular in shape, and about an inch and a half in diameter, extending well over towards the left ureteral orifice. This area was the seat of a nodular infiltration, increasing the thickness of the mucous membrane to three times the normal. The nodules were from a quarter to half an inch in diameter, firm but not hard to the touch, some covered by an unbroken epithelial surface, others by flat granulations as if superficially ulcerated. Blood oozed from the ulcerated surfaces. Two or three of the nodules were flat and quite hard. The gross appearances were so exactly those of sarcoma that it was decided to extirpate the diseased tissue, and this was done with the scissors, removing a thin layer of the internal muscular coat of the bladder along with the mucous membrane and cutting well beyond the evidences of disease on every side. The hæmorrhage was slight and easily controlled by pressure and actual cautery. A probe was inserted in the ureter after the excision, and the canal slit up where it traversed the bladder wall obliquely, to enlarge the orifice and lessen the dangers of cicatricial contraction. The bladder was lightly packed with gauze, a large drainage tube being also placed in it with its lower end touching the base of the bladder to allow the escape of the urine. A heavy gauze and cotton dressing externally took up all discharges.

The operation was followed by severe pain and restlessness, but no nausea. Morphine was administered hypodermically, and the external dressing was changed every two hours and the tube evacuated by suction. In twenty-four hours after the operation the drainage tube was connected with a siphon apparatus, so that it was drained automatically. The gauze in the bladder was also removed, and the wound cavity proper lightly packed. The pain gradually lessened, but was always brought back if the bladder drainage failed to act. The temperature remained low with one exception, as follows: October 8th, 100.2°; 9th, 100.2°; 10th, 100.8°; 11th, 102.0°; 12th, 100.4°; 13th, 100.4°; 14th, 99.6°, etc.

The urine record is interesting. Before the operation the amount passed was about the normal, perhaps slightly increased. After the operation the daily amounts were: October 8th, 22 fl. oz.; 9th, 38 oz.; 10th, lost; 11th, 24 oz.; 12th, 59 oz.; 13th, 60 oz.; 14th, 80 oz.; 15th, 75 oz.; 16th, 117 oz.; 17th, 59 oz.; 18th, 78 oz.; 19th, 53 oz.; 20th, 78 oz.; 21st, 56 oz.; 22nd, 43 oz.; 23rd, lost; 24th, 48 oz.; 25th, 62 oz.; 26th, 64 oz., and then a gradual decrease to from 35 to 48 oz. in the week before discharge.

October 23rd There was a severe attack of pain in the right lumbar region, relieved by deep massage, and probably due to temporary obstruction of the ureter. Unfortunately there is no record of the amount of urine passed on that day.

Two weeks after the operation the patient was allowed to sit up in a chair; towards the end of the third week the larger part of the urine passed by the urethra, the tube being closed by a clamp, and after five weeks the tube was removed. In six weeks the sinus was entirely closed, and the patient was discharged. On November 5th there was a severe attack of pain in the right loin, relieved as before by massage.

After his discharge he had dry pleurisy for a few days, and during this illness had another attack of retention. After the pain ceased a large amount of thin jelly-like mucus was passed in the urine. This was

observed by his physician, who was irrigating the bladder regularly, and had always found it clear on other occasions. For some months afterwards he was liable to similar attacks of retention, relieved by the discharge of mucus in the urine, often with sufficient pain to confine him to bed for a couple of days. The attacks at first occurred every fortnight, but the intervals gradually increased and the pain grew less. No blood has ever been seen in the urine since the operation, and the micturition occurs only with normal frequency. There have been no bladder symptoms whatever. In October, 1894, he still had attacks of right renal colic from retention. In October, 1895, he reported that from February to August he had no attack, but two since then. At the present writing (September 1st, 1897) he reports that he has not lost a day from business for over a year, and feels better than ever before in his life. Examination shows a healthy scar less than 2 inches long, without the slightest tendency to hernia, and careful palpation of both kidneys proves them to be of normal size and free from tenderness. He says that he occasionally has slight pain and tenderness in the right lumbar region, but not enough to incommode him.

The report of the hospital pathologist, Dr. J. S. Thacker, states that papillary outgrowths were seen in the diseased mucous membrane, covered by a thickened epithelial layer, which also subdivided them by frequent in-dippings where the eggs were situated. The latter lay sometimes directly under the epithelium, and sometimes 2 micromillimetres below it. The surrounding tissues showed inflammatory infiltration with marked congestion and many tubercle-like nodules. The latter were made up of connective tissue cells, giant cells, and a few leucocytes. The superficial epithelium is for the most part lost. The tubercle-like changes are similar to those found about foreign bodies buried in the tissues.

Briefly stated, this is the report of a case in which excision of the parasitic deposits in the mucous membrane of the bladder relieved at once and permanently the hæmaturia and vesical irritability in a man who was very anæmic from loss of blood and exhausted by suffering. It is hardly necessary to mention that the error in diagnosis was due to the rarity of the parasite in this country. The treatment was evidently correct, and the error in diagnosis was a fortunate thing for the patient, as otherwise such a radical measure would hardly have been considered justifiable, for operations for this condition have rarely been undertaken except when complicated with a vesical calculus. In a few cases treated by simple cystotomy and drainage the results have not been satisfactory.

The attacks of renal colic in my patient were evidently due to the mucus collecting in the pelvis of the kidney and blocking the ureter, as proved by their gradual cessation, for it is known that the life of the parasite is limited. As the bladder continued healthy after the operation, the parasite was probably situated in the renal vein. If the obstruction had been due to cicatricial contraction, it is improbable that the attacks would have disappeared with time as these attacks have done, unless a hydronephrosis formed, and the kidney shows no sign of enlargement now four years after the operation.

DISLOCATION OF THE KIDNEY.

By J. F. W. Ross, M.D.,
Toronto.

Dislocation of the kidney should be distinguished from movable and misplaced kidney. Dislocation of the kidney, as I understand it, is a rare affection, and is one that is difficult to diagnose. It is easy for us to criticise our apparently blinded perception when looking back upon a case that has passed through the different stages of examination and exploratory operation.

I was called some time ago to see a lady in consultation with one of our leading physicians. The patient herself was the wife of a physician who had been many years in practice. She was 53 years of age, been married for several years, and given birth to several children. While at an entertainment on the evening of October 23rd, 1896, she was attacked with a severe pain in the right hypochondrium. She found it necessary to leave the hall, and arrived at a friend's house in about an hour. When seen she was suffering intensely and vomiting at intervals. Examination revealed a small tumour in the abdomen situated about the point of the tenth rib, and apparently about the size of a walnut. It seemed to be attached to the liver, and moved with respiration. She complained of a dragging sensation in the region of the right kidney and a frequent desire to urinate. The tumour was not sensitive to pressure, but when pressure was made from without inwards more distress was caused than when it was pressed from within outwards.

The history of the case showed that the patient has been subject to similar attacks for twelve or thirteen years. During each attack the pain was situated in the right hypochondriac region, and was accompanied by a similar dragging sensation and similar frequent desire to urinate, and occasionally with chills, fever, and vomiting. Each attack was preceded by an uneasy sensation, and by this the patient was apparently warned of impending trouble. She soon learned that on assuming the recumbent posture the pain would almost instantly vanish, and not return perhaps for days. At a later stage of the complaint the pain would not leave until after vomiting occurred. It was some time after this period that a small tumour was discovered that disappeared on pressure with a gurgling sensation, followed by sudden and complete relief of the pain.

Several physicians living in her neighbourhood saw her, examined the tumour when down, felt the gurgling when it receded, and were of the opinion that it was a rare form of ventral hernia. About ten years ago pus was found in the urine in microscopical quantities at varying intervals, and this was supposed to be due to pyelitis.

Just prior to the last attack incipient cataracts had been discovered in both eyes. As a general rule, the tumour would vanish easily on pressure. Often when riding in a carriage the patient would lean forward, press on the tumour, and reduce it. When attacked at home she would lie down, press the tumour back, and immediately resume her duties. If, however, from any cause the tumour was allowed to remain down for any length of time, it would then be very difficult to reduce it, and its reduction would be followed by chills and fever and sometimes by night sweats continuing during several nights. These attacks would sometimes come on almost every day when the patient was in otherwise perfect health, or an interval might occur of many weeks without the occurrence of an attack. Her husband thinks that she must have had at least 1,000 of these attacks, severe and light.

During the last seizure, when I saw her, the tumour remained irreducible; the pain was very severe, and vomiting occurred frequently. After about twenty-four hours she began to have chills and fever at times; the temperature rose to 104°; the patient looked very ill. No positive diagnosis could be made; the general opinion was that she was suffering from some obstruction of the cystic duct of the gall bladder. Exploratory operation was advised and refused, but in a few days the patient asked for operation. After six days and nights of great suffering the operation was performed.

The abdomen was opened over the situation of the gall bladder, which was found to be normal; the gall bladder itself was pressed forwards, was empty, and the mass felt before operation was found to be the right kidney pushed up under the ribs, displacing the lower portion of the liver. This was cystic and the kidney was cystic, the cyst communicating freely with the pelvis of the organ and containing 7 ounces of urine. This was evacuated, a drainage tube inserted, and the opening in the kidney stitched to the wound in the abdomen. Iodoform gauze was packed around to prevent extravasation of urine into the abdominal cavity. She made a good recovery, and went home four weeks after the operation.

For six weeks there was no return of the trouble, but in two or three days after getting up the kidney became distended again, could be felt distinctly through the abdominal walls, and she suffered from pain. After that time she had two slight attacks at intervals of about two weeks. When last heard of there had been no attack for eleven weeks. There is still some pus in the urine.

At the time of the operation I would have preferred nephrectomy to nephrotomy, but this was refused by the friends, and it is scarcely probable that the patient would have survived it. The case is in my experience a unique one, and there are several points that deserve consideration.

From the sudden onset of the pain, the vomiting, and the appearance of the tumour, three conditions were taken into consideration, namely, stone in the cystic duct and sudden enlargement of the gall bladder, some rare form of hernia of

intestine, or dislocated kidney. The patient herself was suffering from a very severe form of angular curvature of the spine, producing great prominence of the lumbar vertebræ, so that they crowded the intestines into the loins and away from the median line. The edge of the costal cartilage was, as a consequence, approximated to the anterior protrusion of the spine, and through this opening the kidney slipped. A movable kidney is frequently caught in this position when the patient stoops down even when there is no deformity of the spine. The deformity of the spine in this case, I considered, accounted for the aggravation of the symptoms.

The patient, in her last severe attack before operation, frequently said that if she could put the tumour back as she had put it back several hundred times before she would be all right. But, for the first time, she failed to reduce the dislocation. On previous occasions she had been able to press back the tumour by assuming the recumbent posture.

The gurgling sensation described was unaccounted for. No cause was found in the cystic mass. The gurgling led to the belief that perhaps the enlargement was due to a partial strangulation of a knuckle of intestine. Her husband, though a well informed and experienced practitioner, was unable to throw any light upon the nature of the case, and was as much in the dark as any of us. No one ever thought that the tumour could be in reality a dislocated kidney. The presence of minute quantities of pus in the urine should have excited some suspicion as to the true nature of the case.

Hydronephrosis and movable kidney are closely associated with one another. Pyonephrosis is very liable to follow in the wake of hydronephrosis. The diagnosis of this case of temporary distention of the kidney is not easy.

At one examination during the attack of pain the enlarged, rounded, tense kidney could be felt, and in twenty-four hours no tumour could be made out even after the most careful examination. The urine has escaped, and nothing but a collapsed sac remains.

In a case recently operated on I found the patient at my first visit in the first condition—namely, with the kidney distended. There had been some little dispute as to the correctness of my diagnosis, and as there were several physicians in the patient's family I hesitated before making the first incision owing to the fact that no tumour could be discovered. The hesitation was but momentary; the incision was made, a collapsed kidney drawn into the wound and tapped, and a small quantity of urine slightly tinged with pus removed. Misplacement of the kidney did not tend to disorganise the organ to the same extent that dislocations do.

Recently I operated on a young girl, aged 15. She was brought to me suffering from abdominal pains, and during the examination I discovered a tumour lying in front of the spine, with its lower edge on a level with the umbilicus. It was flattened from before backwards, irregular in its outline, and but slightly movable. I advised exploratory operation.

After the abdomen was opened the mass was found lying in front of the spine and behind the posterior layer of the parietal peritoneum. The lobulation of the mass was peculiar. It looked like a kidney without a confining capsule, and was not kidney shaped. Its colour and other appearances soon proved, however, that it was a congenitally misplaced, malformed, but otherwise healthy-looking kidney. The right kidney was absent from its normal position. I was pleased to find that there was nothing more serious the matter with the patient. She has since remained in perfect health. She states that she is unable to lean her abdomen against any hard substance, such as the table, without feeling pain and nausea.

For a time it was thought that misplacement of the kidney produced but little damage to the renal structure. Renal structure is, however, very susceptible to the effects of the damming back of the urine, as is evidenced by the results produced after the continuance of stricture of the urethra from any cause. But the kidney seems very prone to become cystic under such circumstances. As the ureter is collapsible a slight movement of the kidney may produce a condition akin to the stricture. This kinking of the ureter cannot be produced in any but a minority of the cases of movable kidney. If this were not so we would meet with degeneration, such as that described, much more frequently than we do. If the operation of nephrorrhaphy can be relied upon to keep the kidney *in situ*, and if the operation can be performed without the placing of any permanent sutures that are liable to produce renal irritation, then it is certainly indicated in every case of movable kidney in order that a subsequent degeneration may be prevented. But the harmlessness and the success of the operation have not yet been satisfactorily demonstrated.

SUCCESSFUL REMOVAL OF AN ENORMOUS MESENTERIC TUMOUR AND NEARLY EIGHT FEET OF INTESTINE.

By Francis J. Shepherd, M.D., C.M.,
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The successful cases of removal of large sections of intestine are by no means uncommon; in 1881 Koeberlé, of Strasburg, removed 6½ feet successfully, and this amount has not been often exceeded since that time. When in addition to intestine a large tumour also has to be removed, the condition becomes more complicated, and the number of cases of resection of a large extent of gut with a tumour are not very numerous. My case is as follows:

C. S., aged 28, a healthy-looking young man, with a florid complexion, was sent to me January 18th, by Dr. H. Lafleur, for opinion as to advisability of operation. On examination, the patient's abdomen appeared very prominent, and on palpitating it was seen that a smooth hard tumour filled the whole abdomen from the ensiform cartilage to the pubes. It was quite movable, and its upper edge immediately below the ribs could be felt sharp and hard. Over the anterior part of the abdomen percussion was dull, but in the flanks a resonant note was easily elicited. One got the impression from examination that the tumour was a solid one. Patient did not complain of pain, and said he had never had any; he has never been ill. A year ago noticed that his dress clothes, which he only occassionally wore, seemed too small for him, and he thought it was because he was growing stout. Three or four months ago remarked that his abdomen was swollen, and on feeling it noticed a tumour which was quite movable. The tumour had gradually grown to its present size. Bowels have always been most regular; urine has always been normal. On consultation, operation was advised. The tumour was thought to probably be a retroperitoneal lipoma on account of its size, smoothness, and gradual growth. Dr. Armstrong, who saw the case with me and assisted at the operation, agreed as to necessity of operation.

Operation, January 18th, 1897.—The patient having been etherised, an incision was made into the abdominal cavity above the umbilicus and the tumour was immediately reached. It had a bluish look, seemed elastic, and apparently free from adhesions. The incision was enlarged upwards, and on introducing my hand, found a perfectly smooth tumour unattached above and, as far as I could reach; on the flanks, but having many adhesions below and in front.

The tumour filled the whole cavity of the abdomen, and the sides overlapped so much that it could not be explored postero-laterally or posteriorly. Removal was thought feasible, so the incision was extended for some distance below the umbilicus. There were firm adhesions both over the anterior and lateral surfaces of the growth. After separating these rapidly, with some hæmorrhage, the tumour was quickly delivered from the abdomen, and then it became plain that it grew from the mesentery, and had some three feet of small intestine closely adherent to it on its lower and posterior aspect. Above, the tumour was closely attached to the transverse colon. Beneath the colic attachment a great number of large mesenteric vessels entered it. It was now seen that at least 3 feet of intestine would have to be removed, and perhaps more would, owing to ligature of mesenteric vessels, be deprived of nutrition, and removal would be necessary. There was nothing to do but to go on with the operation, for, certainly, the tumour could not be returned. The tumour seemed so intimately blended with its covering of mesentery, that, owing to excessive hæmorrhage which resulted from the attempt, enucleation had to be abandoned. First, the transverse colon was separated from the upper end of the tumour to which it was attached by fibrous tissue; then the mesenteric vessels were ligatured one by one, as close to the tumour as possible, and the mesentery cut as tied. After some time and the tying of numberless ligatures, the tumour was freed, the intestines involved in its lower part cut away, and the mass with the 3 feet of ileum lifted out of the abdomen. Previously to cutting away the bowel which was attached to the tumour rubber tubing was tied around it. Now, after removing the tumour, two ends of bowel remained, each end having over 2 feet absolutely without any mesenteric blood supply. There was nothing to be done but to remove these portions of bowel. The ends were brought together in the way I usually adopt in resection, namely, a continuous suture of fine silk through the mucous membrane and afterwards a continuous Lembert suture through the peritoneum and subperitoneal tissue. Afterwards the rent in the mesentery was closed with continuous Lembert sutures. During the time these procedures were being carried out, the patient had been getting very weak from loss of blood, and the long continuance of the operation, so, whilst I was suturing the bowel my assistants introduced into the basilic vein of right arm two quarts of sterilised saline solution, which had the effect of bringing up the pulse very satisfactorily. In fact, without this aid, I do not believe the patient would have left the table alive. On examining the sutured bowel it was found that the lower end after the removal of the portion deprived of its blood supply was only about six inches from the ileo-cæcal valve, and that all the portion removed was ileum.

After swabbing out the abdomen, which now seemed to have little intestine left in it, and clearing the pelvis of blood clots, some large pieces of gauze were packed about the pedicle of the tumour into the flanks and into the pelvis, and the ends brought out of the wound. The abdomen was now closed with silkworm gut sutures, and the usual dressings applied. On leaving the table the patient's pulse was 160, and hardly perceptible at the wrist.

After a few hours in a warm bed it fell to 120. The actual operation took nearly an hour and a half, the greatest time being consumed in ligaturing and cutting away the mesentery. During the night following the operation, nutritive and stimulating enemata were given; he vomited a few times only. Next day he complained of severe pain and a sense of tightness, but was in very good condition, with a pulse of 112, temperature 100°. That night he was given ¼-gr. sulphate of morphine hypodermically, and he slept well all night. Next morning he was given a large enema of soap-suds and turpentine, but it was ineffectual, and was followed by some vomiting. There was of course, no distension, so much bowel and so large a tumour having been taken away. The gauzes were removed from the abdomen, and on the second day the wound redressed; temperature 100°, pulse 120.

On the night of the third day an enema brought away considerable flatus. Still fed by enemata, and given cracked ice and champagne by the mouth. At night he was given ⅓-gr. sulphate of morphine hypodermically, and slept well.

On the fourth day he vomited occasionally, and had a very dry tongue; was restless, but his pulse improved (96), and temperature reached normal.

On the fifth day beef-tea, milk, and lime water were given by the mouth.

On the sixth day he first had a stool, and after this there was rather an inclination to diarrhœa. The wound was dressed for the second time on the eighth day (January 26th), and the stitches were removed. There was a stitch-hole abscess of considerable size at the lower end of the wound, which discharged pus for a few days, but there was no rise of temperature.

During convalescence his temperature ranged from 98-99°, and pulse 90-100.

On February 18th he was so well that he went out for a drive, and he left the hospital on February 21st, about five weeks after the operation.

During the last two weeks of his stay in the hospital he gained flesh rapidly, his weight increasing during one week a pound a day, altogether 15 pounds.

I heard from him a month ago (July, 1897), and he writes that he feels perfectly well, and rides a bicycle and weighs 140 pounds. When he left Montreal in March he weighed 115 pounds.

After leaving the hospital he had frequent attacks of diarrhœa—in fact, seldom had a solid stool. He would swell up for a day or two, and then be relieved by a large number of liquid stools; in the interval his stools were always liquid, and he suffered from occasional attacks of colic.

After the operation we were in some doubt as to whether the patient would obtain sufficient nutrition from the intestine that was left, for after the 8 feet were taken away the amount of small intestine seemed very small, being unusually short in his case; however, when he began to eat he rapidly gained weight, and has continued to do so up to the present. At the time I was consoled by reading some experiments of Senn on dogs, in which he concluded that in all cases of extensive resection of small intestines where the resected portion exceeded one-half the length of this portion of the intestinal tract where the animal survived the operation marasmus followed as a constant result, although the animals consumed large quantities of food. In all these cases defective digestion and absorption could be directly attributed to a degree of shortening of the digestive canal incompatible with normal digestion and absorption. As the small intestines usually measure from 20 to 22 feet, and as only about 8 feet had been removed, I felt there was reason for anticipating a favourable termination of the operation. Gzebicky concludes, after many experiments on animals, that a resection of 286 centimetres in man is feasible.[1] In my case 234 were removed, and in one case, a boy, operated on by Ruggi, of Rome, 3 metres and 30 centimetres were removed; the patient recovered. This is the greatest amount of intestine that, as far as I am aware, was ever successfully resected.

The question of solid mesenteric tumours has been recently dealt with W. L. Harris and W. Herzog,[2] of Chicago, who report a successful case of removal of a solid mesenteric tumour (weighing 5 lbs.) and 51 centimetres of intestines from a boy aged 5 years. A table is given of 57 cases. Of these 18 were operated on, and 10 recovered from the operation. Of these 10 cases only 3 were malignant tumours, and 1 died subsequently from obstruction due to a Murphy's button. In the majority of cases nothing was done, and they all died.

Of the 57 cases death was reported in 40 cases. No data given in 7 cases. Recovered after operation 10 cases.

Of these 57 cases 16 were carcinoma, 10 lipomata, and 7 sarcomata; the rest were fibromata and lymphomata, etc.

A minute account is given of the microscopical appearance of the tumour in the case of Dr. Harris and Herzog, which proved to be lympho-sarcoma. The case was diagnosed as one of tymour of the mesentery before operation.

In only 3 cases of these operations for tumours of the mesentery is there any mention of removal of intestine. In Case 30, Madelung removed 20 centimetres of gut; in Case 53, Canthorn removed 43 inches (about 109 centimetres); and in Case 57, Harris removed 51 centimetres (20 inches).

In a paper by Dr. J. W. Elliot, of Boston, On the Operative Relief of Gangrene of Intestine due to Occlusion of the Mesenteric Vessels,[3] a number of cases where more extensive resection of the gut than in his own was successfully accomplished is given. These are five in number, namely, those of Kocher, Koeberlé, Schlange, and Braun; to these I can add as many more.

No.	Operator.	Amount Resected. m.	cm.	For What.
1	Ruggi	3	30	Stricture and inflammatory matting of intestines
2	Shepherd	2	34	Tumour of mesentery
3	Kocher	2	8	Railway injury
4	Koeberlé	2	3	Multiple strictures
5	Kocher	1	60	Strangulated hernia
6	Braun	1	37	Umbilical hernia
7	Schlange	1	35	Internal strangulation
8	Elliot	1	24	Gangrene of intestine
9	Roux	1	24	Lipoma of mesentery
10	Canthorn	1	9	Sarcoma of mesentery
11	Maston, G. W.	1	12	Sarcoma of mesentery
12	Trombetta	1	10	—
13	Hahn		80	Quoted by Ruggi

In these thirteen cases the patients all recovered from the operation, and six months later eight were in good health, one died four months after from marasmus, and two from obstruction due to a Murphy's button. In the others the loss of so large an amount of small intestine did not apparrently interfere with their nutrition, except in Braun's case (6). Diarrhœa was noticed in several cases, especially where careful dieting was not observed. Otherwise patients felt well, and most of them had continued to gain flesh, my own case during the last three months gained 25 lbs.

The following is a more detailed account of the cases tabulated above:—

1. The most remarkable case is that of Ruggi.[4] In this case 330 centimetres of small gut were removed in 1894 from a boy, aged 8, for stenosis. Three operations were performed. The first relieved the stenosis by dividing a band; obstruction continuing, 7 to 8 centimetres were resected. This relieved for a time, when again obstruction occurred and a third operation was performed. The obstruction this time was found to be due to matting together of coils of intestine, and in endeavouring to free them the mesentery was torn away; so a large amount of bowel had to be removed, namely, 3 m. 30 cm. The ends were brought together by primary suture. The boy did well, all his digestive functions being satisfactorily performed. He gained flesh after some weeks rapidly, and was in perfect health two years after when the article was written. This, as far as I know, is the largest piece of intestine successfully resected.

2. Shepherd 92 inches (2 m. 34 cm.) of small gut measured without stretching the day after operation and reported above. In this case a solid tumour weighing 13 lbs. was also removed. Patient well seven months afterwards and gaining flesh.

3. Kocher[5] 2 m. 8 cm. removed for railway injury. Ends of intestine united by primary suture. Patient remained well, with the exception of having a diarrhœa easily started by errors of diet.

4. Koeberlé of Strasburg resected 2 m. 3 cm. (6 feet 1¼ inches)[6] for multiple strictures. The cut ends were stitched into the abdominal wound which closed in 6 weeks, and the patient, a woman aged 22, suffered no digestive troubles after.

5. Kocher[7] resected 160 cm. (5 feet 3 inches) for strangulated hernia in a man aged 57 by primary suture. Patient died 3 years later from another disease.

6. Braun[8] removed 137 cm. (4 feet 6 inches) by immediate suture for umbilical hernia. Patient died 4 months later of inanition after a second operation.

7. Schlange[9] resected 135 cm. (4 feet 5 inches) for internal strangulation in a woman aged 42. Two years later patient was in good health.

8. Elliot[10] resected 124 cm. (4 feet ¾ inch) in a man aged 25 for infarction due to thrombosis of the superior mesenteric veins. Patient was in good health 2 years after.

9. Roux of Marseilles[11] resected 124 cm. of intestine (4 feet ¾ inch) for a lipoma, with recovery.

10. Canthorn[12] resected 43 inches (109 cm.) of small intestines from a man aged 49 for sarcoma of mesentery, ends united by Murphy's button. Patient recovered from operation, but died 4 months later from obstruction brought about by the button.

11. Maston[13] resected 112 cm. (44 inches) for sarcoma of mesentery, death five months later from perforation due to Murphy's button.

12. Trombetta in 1884 resected 110 centimetres (43½ inches) of small intestines in a woman, aged 40 years (quoted by Ruggi).

13. Hahn resected 80 centimetres (31½ inches), 1885, in a man aged 38 years (quoted by Ruggi).

The following is the pathological report of tumour in my case furnished by Dr. Wyatt Johnston, pathologist to the hospital:—

Large, smooth, firm, rounded growth 11 inches by 10 inches by 5 inches. Weight 5,250 grammes (13 lbs.). Attached to the growth are 36 inches of small intestine. Also two other lengths of small intestine received 30 inches and 26 inches respectively. Total length of gut removed 7 feet 8 inches (234 cm.).

Growth encapsulated, firm, inelastic to touch. On section cut surface, pale grey, translucent and glistening; not very vascular; has a fasciculated appearance.

Microscopical examination shows growth to be fibromyxoma containing clear spaces, which contain a fluid becoming coagulated and granular on adding acetic acid. Stained sections show spindle and stellate cells, forming bundles and reticulæ. Vessels are much thickened. These growths are semi-malignant, but prognosis better than in sarcoma.

[The patient was exhibited to the Section as well as the tumour and the three lengths of intestine which had been removed. Patient was in perfect health and said now he had normal stools.]

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[1] Elliot, *Annals of Surgery*, Jan., 1895. [3] *Annals of Surgery*, July, 1897. [3] *Annals of Surgery*, Jan., 1895. [4] *Policlinico di Roma*, Feb., 1896. [5] Quoted by Elliot, *loc. cit.* [6] *Bull. de l'Acad. de Méd.*, 1881, No. 4. [7] *Correspond. Blatt. f. Schweizer Aerz*, 1886. No. 5 [8] *Centralblatt. f. Chir.*, 1885, No. 7. [9] *Berl. klin. Woch.*, Band i, xlvii. [10] *Annals of Surgery*, Jan., 1895. [11] *Sem. Méd.*, 1893. [12] *New York Med. Journal*, 1895. [13] *Med. Brief.*

SOME UNUSUAL FORMS OF HERNIA: WITH REMARKS.

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The four cases of hernia here detailed present features of interest on account of the contents of the sac, and because of the rarity of the form of hernia and the age of the patient.

The first case is as follows:

Case I.—*Strangulated Congenital Left Inguinal Hernia, the Sac containing the Cæcum, the Appendix Cæci, a portion of the Colon, and some Small Intestine.*—A. C., aged 3 years, was admitted into Westminster Hospital on June 14th, 1897. The history was that he had had a hernia from birth, but that it had become larger during the last twelve months. On admission he was seen to be a fairly nourished child; there were no signs of collapse, but he vomited three times during the last twenty-four hours, and his bowels had not been moved. The scrotum was much distended by the hernia, which reached to the middle of the thigh. The testicle could be felt at the bottom of the swelling. The mass was resonant generally, and there was slight impulse at the upper part, but not at the lower part. The child was operated on at once, and an incision about 3½ to 4 inches long was made over the inguinal canal and the upper part of the scrotum. On opening the sac some small and large intestines, including the cæcum and about 2 inches of the ascending colon, were seen. They were distended and dark-red in colour. On handling them the vermiform appendix was readily found at the posterior and inner part of the cæcum. On dividing the external ring, the intestines were easily returned to the abdomen. The patent funicular process was dissected out from the inguinal canal, and from the spermatic cord as far down as the testis. The edges of the abdominal rings were approximated with silk ligatures. The incision in the skin was closed with sutures, and the wound was dressed with collodion and gauze. It was left untouched until June 25th, when the dressing was removed, and as the wound had healed perfectly the skin sutures were taken out. The child was discharged on June 30th, quite well.

The above case is worthy of record as an instance of hernia of the cæcum and ascending colon on the *left* side.

Case II. *Strangulated Scrotal Hernia on the Right Side, containing Cæcum, Appendix, Part of Ascending Colon, and Small Intestine.*—Albert M., aged 12 months, was admitted into Westminster Hospital on February 26th, 1897. The history was the child had had a hernia on the right side since birth. He was brought to see me when three months old, and was ordered to wear a truss, which he did for three or four months. The mother then ceased to put the truss on, and it was noticed that the hernia descended when the patient coughed, but at first it was easily put back. Two weeks before admission, however, the patient vomited and the hernia became larger. Two days previously the vomiting became more severe. On the day before admission the mother became alarmed and took the patient to a medical man, who tried taxis under chloroform, but failed to reduce it. On admission the patient was somewhat collapsed; there was a swelling in the right groin and scrotum about 4 inches long and 3 inches wide; it was tender to the touch, and there was no impulse to be felt. For the last twelve hours the child had vomited continually. The child was operated on at once, and on opening the sac, the cæcum, the appendix, and a small portion of the ileum were seen; they were darkish in colour, but still shiny. The external ring having been enlarged, the site of constriction was found to be at the internal ring, and this was very tight. A small incision upward from the internal ring was made, but owing to the great distension of the strangulated part this incision was not sufficient to allow of reduction. The abdominal wall was then divided still further for 1 inch in the upward direction, and in doing so the deep epigastric artery was divided. The edges of the wound were quickly everted, and the two ends of the cut artery readily secured. There was now no difficulty in returning the bowel. The patent funicular process was carefully dissected away, as in the preceding case, and the external and internal rings of the inguinal canal approximated and closed by a stout silk suture so arranged as to run around those parts like a purse-string; the superficial wound having been closed with silkworm-gut and horsehair stitches, a collodion dressing was applied. The wound healed well and required but one dressing, but the child's convalescence was interrupted by an attack of bronchitis on March 1st, 1897. He was discharged, however, quite well on March 26th.

In this case, contrary to what sometimes occurs, division of the deep epigastric artery gave rise to little or no trouble, and, as the edges of the wound were promptly seized and everted, a small quantity of blood only entered the peritoneal cavity. The tender age of the patient, and his subsequent recovery, in spite of the prolonged vomiting and of the taxis, are noteworthy. In both these instances of congenital hernia, as in many others which I have operated upon for radical cure, I have adopted the plan of dividing the funicular process just above the testis, and then peeled it off the spermatic cord and from the walls of the inguinal canal as far up as the internal ring, and ligatured it at the latter spot. This can very readily be done if care be taken to free an edge of the serous membrane only from its attachments, and then seizing it with a pair of forceps; with a little steady traction the whole membrane comes away with ease. As a rule, no swelling of the cord nor of the testis follows this procedure, but in one case some orchitis ensued. At any rate this method has the merit of leaving a raw surface, which unites quickly, and effectually occludes the canal.

Case III.—*Strangulated Right Inguinal Hernia: Hour-glass Sac: Gangrenous Omentum: Herniotomy: Recovery.*—H. L., aged 40, was admitted into Westminster Hospital on February 29th, 1897. The history of the affection was that about fifteen years ago the patient fell 6 feet on to a piece of piping. When this happened, he noticed a sudden tearing sensation in the right groin. Six months afterwards he found a lump there the size of a filbert nut. The swelling gradually increased in size, especially during the last year, owing to a cough, when it became about the size of a cricket ball. He was, however, able to reduce it to the size of a hen's egg. On February 26th, 1897, when the patient was working a lift, he experienced a severe pain in the right groin, which compelled him to leave off work. He went to see a medical man, who prescribed for him, and attempted to reduce the hernia, but was unsuccessful. During twelve hours previously to admission on February 27th, 1897, he vomited nine or ten times, but this was not fæcal. He had also not passed any motion for the previous twenty-four hours, and the bowels had been confined on and off for a month. On admission there was found a tumour in the right groin and scrotum about 4½ inches long and 3½ inches wide. The swelling was tense in consistency, non-reducible, and with no impulse on coughing. It seemed that strangulation had existed for about thirty-six hours. An operation was performed immediately after admission, and on opening the sac a good deal of sero-sanious fluid escaped. Within the sac there were found both gut and omentum. The latter lay along the whole length of the sac, and in the lower part was gangrenous. The intestine, a portion of the ileum, was nipped just below the external ring by a tight hour-glass constriction in the sac. Below the constriction the gut was very dark, but above it was of good colour. The constriction was divided, and the bowel could then be returned with ease. The gangrenous portion of omentum was removed after ligature, and the stump returned. The sac was dissected out, and a radical cure made. The patient did uninterruptedly well, and was discharged from the hospital on March 16th.

In this case probably the omentum had been protruded from the abdominal cavity for a long time, and the sac had been constricted opposite the external ring, thus giving rise to its hour-glass shape. The bowel probably came down the

day before his admission, and slipping through the constriction was strangulated at once. The constriction of the sac was carried downwards from its original position near the external abdominal ring by the descent of the bowel, arising from the sudden muscular action in starting the lift.

Case iv. *Left Interstitial Inguinal Hernia of both Ovaries and Fallopian Tubes: Operation: Death.*—G. T., aged 4 months, was admitted to the Evelina Hospital for Sick Children on March 27th, 1891, with this history. The mother had noticed for about a month that the child was very fretful and cried very much on being moved about, and that it kept its legs drawn up. Three weeks before admission a lump was noticed in the left groin, which became larger when the child cried; and for a week before admission the child cried both day and night. On admission a small, hard, oval-shaped lump was felt in the left groin. It was fairly movable, but could not be returned into the abdomen. The tumour was not quite smooth on the surface, a ridge being felt on its anterior aspect, and it was somewhat granular. Rather deeper than the tumour was felt an ill-defined fulness in the abdominal wall. A diagnosis was made of interstitial hernia of the left ovary. The child was kept in the hospital under observation for a fortnight, and then as it continued to cry, and appeared to be in considerable pain, it was decided to operate. On May 11th, 1895, the patient was placed under an anæsthetic, and an incision was made over the most prominent part of the swelling, which was found to be between the internal oblique and transversalis muscles. The swelling on exposure was seen to be composed of an irregular cyst about the size of a filbert-nut, with several smaller cysts, and partially surrounded by a sac of peritoneum. On the under surface of the large cyst some healthy ovarian tissue was subsequently discovered on microscopical examination. From the large cyst a pedicle could be traced upwards into the abdomen, which was found to be connected with the Fallopian tube. When the cyst was removed, the right tube and ovary were found lying in the abdominal wall and just outside the left internal abdominal ring. They were adherent to the neighbouring structures and had no peritoneal covering. The adhesions were broken down. On tracing the two Fallopian tubes back to the uterus, it was noticed that they approached one another very closely so as to give one the impression that the uterus was bicornate. The stump of the left Fallopian tube was ligatured, and it, together with the right tube and ovary, were reduced and the wound closed. On May 16th it was noticed there was considerable swelling of the left labium majus, and that the abdomen was somewhat distended. The house-surgeon reopened the wound and put in a drainage tube. On May 19th some pus was found in the abdominal wall and let out. On May 21st an incision was made into the swollen left labium majus, and a slough was found and removed. The child, however, continued to get worse, and finally died on May 28th. At the *post-mortem* examination all the internal organs were healthy, and there was no peritonitis. The right ovary and tube were found in their normal positions and looking perfectly healthy. The stump of the left Fallopian tube was firmly adherent to the lateral pelvic wall. There was considerable cellulitis on the left side of the anterior abdominal wall, and the muscles were extensively broken down.

I had considerable hesitation in operating upon a child of such tender age, but the facts that it continued to be in pain after admission to the hospital and that the swelling was irreducible induced me to operate. The operation was necessarily prolonged on account of extensive adhesions of the right Fallopian tube and ovary. But the technique of the operation does not seem to have been faulty so far as the question of septic contagion was concerned, since there was no peritonitis found at the *post-mortem* examination. It is probable, however, that the round ligament of the left ovary was deprived of its blood and became gangrenous, and so instituted the cellulitis from which the child died. In any case I take it that failures as well as successes should be reported, and it seems to me that each of these four cases presented sufficient points of interest to warrant my doing so.

BRIEF CONSIDERATIONS ON THE DIAGNOSIS AND TREATMENT OF PENETRATING WOUNDS OF THE ABDOMEN.

WHEN IS LAPAROTOMY INDICATED?

By Tobias Nunez, M.D.,
Mexico.

One of the most difficult questions in surgery is that of establishing a correct diagnosis in many cases of penetrating wounds of the abdomen, it being of the greatest importance to make this diagnosis in order to be able to undertake a suitable treatment; above all, in those cases in which the intestine is wounded and the escape of fæcal matters into the peritoneum (for it is the small intestine most frequently wounded) must produce a fatal peritonitis in the greater number of cases, due, above all, to the natural infection of this inflammation.

The penetrating wounds of the abdomen by a sharp instrument are in general of short extent, measuring usually less than an inch. From this it is impossible to know their depth, either at sight or by means of touch, the introduction of the index finger, although perfectly aseptic, as well as the introduction of the probe, being out of the question.

These wounds of short extension are difficult to diagnose. If one could examine the instrument itself and see how far the blade of the knife was covered with blood we would have a sign from which to judge whether it had penetrated or not into the abdominal cavity, but commonly the one who makes the wound conceals the instrument.

The escape of fæcal matter, whether fluid or otherwise, which some authors give as a symptom of penetrating wounds, does not hold in practice, for one never sees these materials escaping from wounds of short extension, and only very seldom in wounds from firearms.

Some authors believe that one can diagnosticate penetrating wounds of the abdomen with intestinal lesion by introducing hydrogen gas through the rectum, which would pass into the peritoneal cavity if there were a wound of the intestines, discovering by means of percussion the passage of the gas into that cavity. This advice, in my opinion, ought not to be followed, not only because it does not give a practical result, but on account of its danger, for in wounds of the intestines of very short extent, which are the most frequent, the mucous membrane makes a hernia between the lips of the wound, obstructing and thus preventing the flow of the fæcal matter, and in consequence avoiding the onset of peritonitis. Briefly, then, the introduction of the gas under certain pressure would pass through the wound or wounds of the intestines, facilitating at once the passage of these materials, causing consequently septic peritonitis; and as these wounds are of short extent neither the omentum nor the intestine making a hernia through them, it follows that these wounds of short extent are those which present the greatest difficulties in their diagnosis, the same being said of wounds caused by firearms.

The penetrating wounds of the abdomen, where the intestines are not wounded, or any other organ or a blood vessel of some size, all heal, the prognosis being good and the diagnosis nearly always remaining doubtful. The same thing does not always happen when the instrument on penetrating the abdomen wounds the intestines (most always the small) or some blood vessel of some size; in these cases the prognosis is very grave, as well for the septic peritonitis which follows in the first case as for the internal hæmorrhage which follows in the second, and are precisely those wounds which require speedy and sure diagnosis in order to be able to perform laparotomy on the spur of the moment, whether it be in order to suture the intestine or as well to ligate the vessel or vessels wounded.

In wounds caused by firearms one has other symptoms which facilitate the diagnosis, although very deficient, such as the situation of the wound, the relation between the openings of entrance and exit of the projectile, always supposing that it has not remained in the body.

These symptoms, together with the shape of the entering wound, can be of great use in establishing the diagnosis of penetration, according as this last has a circular or more or less elliptical shape, as the projectile may have wounded the part perpendicularly or more or less obliquely. However, in the majority of cases it is not possible with these symptoms alone to establish a diagnosis sufficiently certain to authorise one to perform laparotomy.

Unfortunately these wounds in which the intestines are wounded, or one or several blood vessels of fair size, and which are, in the greater number of cases, of fatal prognosis, can only be diagnosticated by the complications to which they give rise, these complications being peritonitis of a septic nature, and internal hæmorrhage. The symptoms of septic peritonitis form a characteristic clinical group, not leaving the least doubt as regards the penetration, because the peritonitis is the consequence of the lesions of the intestines; the same can be said of the internal hæmorrhage, the symptoms of which characterise the vascular lesion. These two complications, I repeat, are those which cause death in the majority of cases, and those which in consequence render the lesion mortal.

Septic peritonitis is the most frequent complication, presenting the following particulars: It spreads rapidly to all the serous membrane, and follows a very acute course the patient rarely surviving a week after the receipt of the injury.

These two characteristics fix with precision the diagnosis of the intestinal lesion, but unfortunately too late, when the surgeon can do nothing to save the patient. The septic nature of this lesion is that which impresses one as being characteristic, giving it a particular clinical form. I have once found in making necropsies in these cases, among other bacteria those of the bacillus colon and lactis.

In the internal hæmorrhage, which is the other complication and which presents itself with most frequency in the penetrating wounds of the abdomen, the symptoms are those which are found in every abundant hæmorrhage, and thus it is that one can diagnosticate this complication at once, but unhappily without advantage to the patient, for these individuals in general die quickly, very rarely surviving the lesion three days.

Lastly, there are other cases—those in which there is an internal hæmorrhage and the intestine is also wounded, presenting the symptoms of peritonitis, but not so clearly as when this complication does not accompany the internal hæmorrhage. In this last case the patient dies soon, and at the necropsy are found both the clots of internal hæmorrhage and the exudations and adhesions of the intestinal folds consecutive to the inflammation of the peritoneum.

It may thus be seen that there are two complications which present themselves in penetrating wounds of the abdomen, causing the death of persons: septic peritonitis and internal hæmorrhage, both complications being sometimes found in the same case. Septic peritonitis being the most frequent complication of these wounds, permit me to say something more concerning this variety of inflammation of the peritoneal cavity.

In penetrating wounds of the abdomen without lesion of the intestines peritonitis sometimes occurs, although very seldom, and one observes this complication only in wounds which have not been well treated. This peritonitis, which we will call purulent—for in it we find the microbes of the pus, the staphylococcus pyogenes aureus predominating—presents as a distinctive character this: that the inflammation remains more or less circumscribed upon the serous membrane, but without complicating the whole, the greater number of cases recovering if well attended.

The same does not happen when treating peritonitis consequent upon the lesion of the intestines, which is essentially septic, since various species of bacteria whose virulent properties are very marked are found in the intestines. This variety of peritonitis, as I have already said, presents as its peculiar characteristic a tendency to invade rapidly all the serous membrane, and such is the rapidity with which it extends that Senn remarks: "Diffuse septic peritonitis spreads over the entire peritoneal cavity with almost lightning speed." In fact, this is one of the characteristics which distinguishes septic peritonitis.

This variety of inflammation of the peritoneum always follows in consequence of the lesion of the intestine, the small intestines being in the greatest number of cases those wounded. In speaking of the treatment of these wounds we will see the importance of this very acute course of septic peritonitis, and its tendency to extend rapidly to all the peritoneum. In treating penetrating wounds of the abdomen made by a sharp cutting instrument which are of fatal prognosis, I have stated that the patients die as well in consequence of the septic peritonitis from a wound of the intestine—generally the small—as by the internal hæmorrhage, these being the two complications which cause the death of the patients in the greater number of cases. Let us see, now, why these two complications are the most frequent, and I might say the only ones, found in the wounds.

The abdominal cavity contains organs which, like the intestines, are more exposed to wounds by cutting instruments as well because these organs are superficially located as because they occupy the greater part of the abdominal cavity. The small intestines are more frequently wounded than the large ones, as well on account of their position as their being more spread out in the cavity. The lesion of the small intestines produces septic peritonitis more readily than the wound of the large, due as much to their greater mobility as to the fluidity of the fæcal matter contained. After the intestines we have the blood vessels, which are more frequently wounded on account of being more numerous, and also on accouut of their accompanying all the organs contained in this cavity. From this we learn that the internal hæmorrhages are those which, after septic peritonitis, present themselves with most frequency.

With regard to the other organs, they are rarely wounded, which explains itself if one takes into account as well the shortness of the instrument—very seldom their blades measure more than five inches, and they do not penetrate completely into the abdomen—as the situation of the organs, they being placed behind, and covered by the intestines, or, as it is with the liver and stomach, by the ribs and costal cartilages. The bladder alone may be wounded when it contains a large quantity of urine, for when it contains but little or none at all, it remains hidden behind the pubis, and is consequently protected. The kidneys and the spleen are rarely wounded, being situated far back, except when the individual is wounded from behind.

What I have stated is observed only in wounds made by sharp cutting instruments, for in wounds from firearms the projectiles respect nothing, any organ contained in the cavity being injured.

I intended to refer to the usual wounds made with sharp cutting instruments, but not to those inflicted in an exceptional manner, as when the individual attacks his unsuspecting victim to kill him surely and safely, as in the case of the French President Carnot. In such cases the cutting instrument is exceptionally long, well sharpened, and the blow is given purposely, and with determination to kill on the spot.

I now pass to speak of the treatment of the wounds. In every penetrating wound of the abdomen, or in those where we only suspect that they may be penetrating, the patient should have absolutely no food whatever; from time to time he may be given small pieces of cracked ice, or, instead, tablespoonfuls of water to quench the thirst.

Opium is the medicine *par excellence* which nearly all employ in order to paralyse the intestines, thus favouring the cicatrisation of the wound or wounds, whether it be that we are sure these wounds exist and they have been sutured before introducing the intestines into the cavity, or that one fears only that the intestines may be wounded. Opium, although it paralyses the intestine and so favours the cicatrisation of its wounds, also has this drawback, namely, that of producing a tympanites more or less marked, due to the formation of gases, being more marked when there is a collection of fæcal matter. For this reason this matter should be evacuated by means of enemas when the small intestines are, or may be, wounded. The local dressing of these wounds completes the treatment, always endeavouring to keep them as completely aseptic as possible. Nearly all these cases recover when they do not present one of the two complications already mentioned. In any case, notwithstanding this treatment, septic peritonitis supervenes, which is the most frequent complication. Many surgeons prescribe calomel in very small doses, rubbing at the same time mercurial ointment over the abdominal wall, afterwards applying constantly bladders of ice. As the majority of patients die in spite of this treatment, it has been advised to perform laparotomy with the object of suturing the intestine and at the same time disinfecting the peritoneum. Unfortunately, when peritonitis is once established, laparotomy is performed under the worst possible conditions, for, as Senn says, this form of peritonitis spreads with lightning rapidity to all the serous membrane, and is, in fact, that which we observe in practice, and this is the reason why most patients operated on under these conditions die.

In view of these constant failures many surgeons advise performing laparotomy before peritonitis sets in, operating immediately after the individual has received the wound if it is suspected that the intestines are wounded—that is to say, they advise performing what we may call preventive laparotomy. This opinion expressed by notable surgeons is not easy to follow in practice, and I have never performed preventive laparotomy for the reasons which I now explain. Penetrating wounds of the abdomen which do not involve the intestines or any blood vessels which might give rise to an internal hæmorrhage of some importance generally recover without laparotomy.

Wounds of the intestines or any blood vessel or vessels in

the cavity are those which cause death in the greater number of cases, as I have stated, whether from septic peritonitis or internal hæmorrhage.

Now, then, we can only make the diagnosis of the wound of an organ, in wounds of short length, in the greater number of cases by the symptoms which characterise these complications. It follows, then, that we cannot make a sure diagnosis before these symptoms present themselves, except in very rare cases. Laparotomy performed immediately after the receipt of the wound, with the object of avoiding the above-mentioned complications, most frequently causes the death of the patients by errors of diagnosis. I have seen a case in which laparotomy was performed for a wound caused by a firearm where it was supposed that the intestines were wounded, and it was seen on opening the abdomen that the projectile had not only not wounded the intestine, but had not even penetrated into the cavity, the wounded man dying a few hours after the operation, and probably from it.

In view of the above facts I believe that laparotomy should only be practised when a sure diagnosis can be established which justifies surgical interference, and before the onset of the complications already mentioned. To these facts it may be objected that, although peritonitis or internal hæmorrhage may have already supervened, one ought to operate, for otherwise the patient will surely die. To this I will answer, that although the cases are very rare, which I have seen recover through the forces of Nature alone when these complications supervene, I have never seen, up to this moment, a patient recover who was laparotomised under these conditions.

Here I finish this imperfect work, which I have the honour of reading before this assembly, composed as it is of men learned in this interesting branch of medical science. In reading it I wish only, as the representative of the Academy of Medicine of the City of Mexico, to contribute my humble work to the success of the 65th annual meeting of the British Medical Association.

In presenting this paper I only wish to lay before this honourable assembly the views which I hold, after treating these cases so frequently in the Hospital Juarez of the City of Mexico during a period of 24 years, as surgeon of that hospital. In leaving Montreal, and returning to our professional duties, each one will judge on viewing the given results which I have observed in the practice of laparotomies for the cure of penetrating wounds of the abdomen.

THE RELATIONSHIP OF MOVABLE KIDNEY TO RENAL COLIC ASSOCIATED WITH TRANSITORY HYDRONEPHROSIS AND INTERMITTENT ALBUMINURIA:

Treatment by Operation.

By David Newman, M.D.,
Glasgow.

Transitory hydronephrosis is met with in cases where the ureter is occluded only occasionally. A clear distinction must be drawn between those cases where, as a rule, the pelvis is not distended, and those where a more persistent swelling becomes temporarily relieved by a sudden urinary discharge. With this limitation, it may be said that transitory or relapsing hydronephrosis is seldom observed. This may be due to the circumstance that in those cases the sac of the hydronephrosis is not often of sufficient size to be detected by the hand, and the symptoms, although acute, are of short duration, being soon relieved by evacuation. Sudden accumulation and rapid subsidence of the swelling is an important characteristic of transitory hydronephrosis, and while, on the affected side, the pelvis is still filling and becoming more and more tense, on the healthy side there may be complete inhibition of the function of the kidney. An explanation of this will be sought presently.

In movable kidney obstruction to the escape of urine through the ureter may happen in three ways. (1) The displacement of the kidney may consist of a rotation of the organ on its short axis, so that the ureter is twisted round the vessels. (2) There may be a sudden bending of the ureter at any part of its course; or (3) angular insertion of the ureter into the bladder may obstruct the passage of urine.

Whereas most modern pathologists regard the angular insertion and the valvular closure of the ureter to be the cause of hydronephrosis in such cases, Simon and a few Continental writers, on the other hand, hold the opinion that the collection of fluid within the renal pelvis is the cause of the alteration in the relationship of the kidney and its duct. The latter assume that, a temporary impediment having caused a hydronephrosis, the kidney becomes displaced, and at the same time the lower half of the distended renal pelvis compresses the first part of the ureter; or, if the pelvis be dilated more on one side of the point of origin of the duct than the other, the ureter is contorted and a valvular obstruction created, which becomes permanent. As the accumulation increases the kidney becomes pushed outwards and backwards, while the upper portion of the ureter comes to be situated anteriorly. Another explanation has been offered by Landau, who holds that the frequently repeated displacements, twistings, and kinkings of the ureter in movable kidney are calculated to produce urinary obstruction and hydronephrosis. He maintains that "this view is confirmed by the fact that the majority of hydronephroses of obscure origin are seen in women of considerable age, and on the right side."

Transitory hydronephrosis may be characterised by severe renal colic associated with intermittent albuminuria, or with the presence of tube casts in the urine, as will be shown in the following cases:—

Case 1.—*Movable Kidney: Transitory Hydronephrosis: Suppression: No Tube Casts, but Intermittent Albuminuria: Cure by Operation.*—M. H., aged 35, a housemaid, enjoyed good health until January, 1889, when she commenced to complain of vague pains, as she thought, in the region of the stomach, but these were not so severe as to interfere with her regular

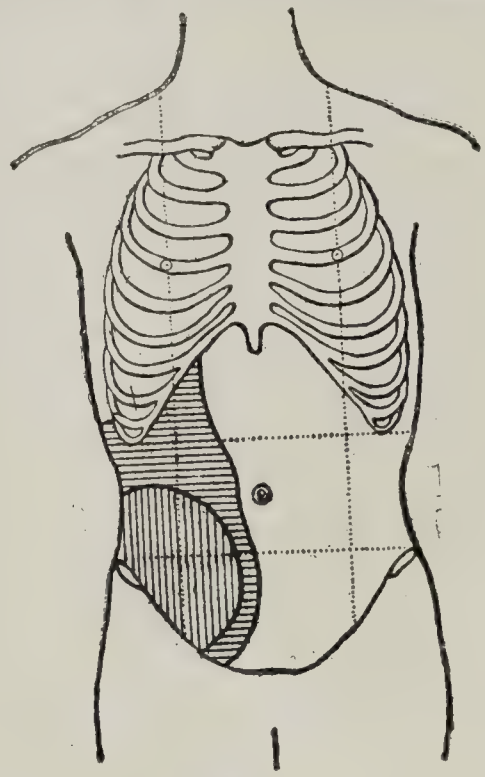

Fig.

Case 1.—M. H., aged 35. The space occupied by perpendicular lining indicates the position of the hydronephrosis when fully distended; that occupied by the horizontal lining shows the space within which the kidney could be palpated.

occupation. She, however, gradually became thin and anæmic; steadily the pain increased, and after a time it became complicated by dyspeptic symptoms, such as nausea, severe attacks of vomiting, diarrhœa, and occasional constipation.

When I saw her first in November, 1891, she had developed all the characteristic symptoms of movable kidney on the right side, and on palpation the right kidney could be easily made out. The radius of movement of the kidney is indicated in the diagram (Fig. 1), also the space occupied by the hydronephrosis. The most interesting feature of the case, however, was the occurrence of a transitory hydronephrosis. At first occasionally, but afterwards more frequently, she had more or less sudden attacks of severe pain associated with sudden diminution in the urinary secretion, sometimes amounting to total suppression. This apparent suppression was coincident with a rapid increase in size of the movable tumour within the abdomen, and also with severe paroxysms of pain, which lasted until the swelling was suddenly relieved by the escape of a large quantity of watery and slightly albuminous urine. At all times she suffered from more or less dull aching pain in the loins, extending at times over the whole abdomen, and sometimes down as far as the right knee. This pain differed entirely from what was experienced

during an attack. The paroxysmal pain did not last more than six or eight hours, and while it lasted the patient was unable to lie in bed, but nearly always occupied a sitting posture, at first almost erect, but when the hydronephrosis attained a large size she would bend the chest forwards over the abdomen and elevate the knee so as to relieve the pressure.

The symptoms just mentioned were accompanied by sickness, nausea, and vomiting. The following is a note of the examination of the urine before, during, and after one of these attacks:—

1889.	Quantity.	Specific Gravity.	Remarks.
May 7th, 8 P.M.	5 ozs.	1016	Acid; no albumen
,, 12 noon	16 ,,	1014	,,
,, 4 P.M.	6 ,,	1026	Severe pain; trace of albumen till 8 P.M., on May 8th.
May 8th, 8 P.M.	36 ,,	1008	Pain gone; trace of albumen
,, 9 P.M.	4 ,,	1012	No pain; no albumen
,, 11 P.M.	6 ,,	1014	,,
May 9th, 1 A.M.	5 ,,	1012	,,

At 4 P.M. on May 7th 6 ozs. of urine of high specific gravity was passed, and almost immediately following the paroxysm of pain set in, and continued with increasing severity for twenty-eight hours, when it was suddenly relieved after the passage of 36 ozs. of urine of low specific gravity.

CASE II.—*Right Movable Kidney, with Transitory Hydronephrosis from Kinking of the Ureter, Cured by the Operation of Nephrorrhaphy.*—C. G., aged 34, single, was admitted into the Glasgow Royal Infirmary on November 1st, 1895, complaining of a dull aching pain in the right loin, which commenced five years ago, and from then till now has steadily increased both in frequency and in severity. This pain was described as being almost constantly present; but over and above it she suffers frequently from paroxysmal attacks of severe colicky pain, which sometimes assumes a very acute character

During the acute attacks the patient was herself able to feel a distinct swelling in the lumbar region, which on pressure was very tender. These acute paroxysms of pain occurred only at intervals of several months at the onset of the disease, but as time passed they have become more frequent. At the present time they recur nearly every second day. The onset of the pain was gradual, but the relief was sudden. Her own description of the attack was as follows:—

"Suppose the pain begins to increase about 1 o'clock in the day, it steadily becomes more severe until about night (6 or 7 o'clock); at the same time the swelling in the groin gradually enlarges, and sometimes extends beyond the middle line in front; as the swelling increases so also does the pain." During the period of enlargement the urine was scanty and highly coloured, and of high specific gravity. Suddenly a copious flow of pale-coloured urine took place, the swelling subsided, and the pain was suddenly relieved.

While the hydronephrosis was increasing the patient was generally compelled to go to bed; but very soon she was unable to lie in the recumbent posture, and required to sit up with the thighs flexed on the abdomen, and the chest thrown well forward in order to relieve the pressure

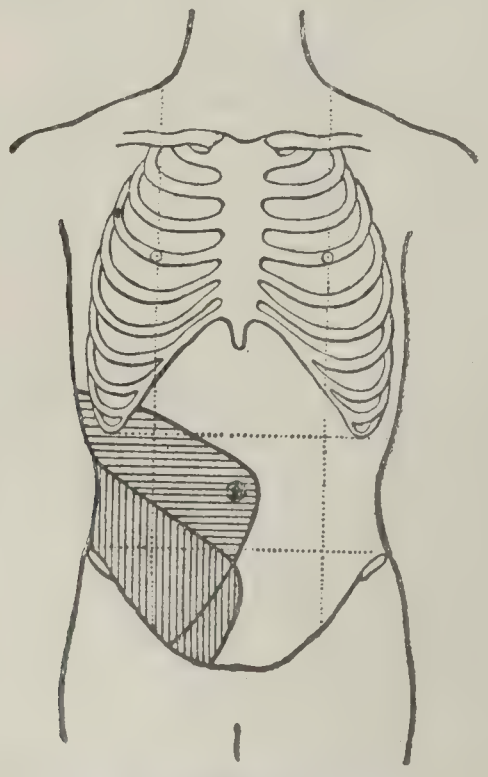

Fig. 2.
Case II. C. G., aged 34. The radius of movement of the right kidney is shown in the diagram by the horizontal lining, and the space occupied by the transitory hydronephrosis by the perpendicular lining

On examination of the abdomen between the attacks the walls were observed to be very flaccid. When the patient lay upon her back a distinct bulging was observed in the lumbar region on the right side, which on palpation was found to be quite soft, but on firm pressure pain was elicited over a considerable area, extending from the crest of the ilium to the ribs, and as far forward as the middle line. The amount of swelling varied greatly from time to time. When she was suffering from an attack of pain the swelling always increased, and the pain was relieved by a copious flow of pale urine. Since admission to the hospital the worst attack occurred on November 12th. The paroxysms of pain began at 5 A.M., and continued until 10 P.M. Towards the end of that period the patient suffered agony of pain, so that morphine required to be administered. Relief came about 10 P.M., accompanied by a copious flow of urine measuring 1,000 c.cm., the first quantity passed since 6 A.M. During the paroxysm of pain the swelling could be felt about two inches to the left of the middle line, between the umbilicus and pelvis, and extending downwards in the right iliac fossa to within 1½ inch from Poupart's ligament. During the intervals between the attacks of the pain the right kidney could be found to be distinctly movable, with the excursion ranging from the position of the gall bladder above to within 4 inches of the symphysis pubis below; at the level of the umbilicus the kidney could be pushed 1½ inch across the middle line. Beyond the condition of the kidney the patient was absolutely healthy. The following note of the characters of the urine before, during, and after an attack is of interest:—

Date.	Quantity in ozs.	Specific Gravity.	Remarks.
1895.			
Nov. 13. 3 P.M.	13	1016	Acid; no albumen
,, 9 ,,	11	1014	Acid; no albumen. Pain set in
Nov. 14. 11 P.M.	40	1007	Acid; no albumen. Pain relieved
Nov. 15. 6 A.M.	6	1010	Acid; no albumen. Pain relieved
,, 2 P.M.	13	1016	Acid; no albumen. Pain relieved
,, 9 ,,	7	1016	Acid; no albumen. Pain relieved

At midnight on November 13th pain was very severe, and continued so till 11 P.M. the following day, when 40 oz. of urine of low specific gravity were passed.

This case was clearly one of transitory or intermittent hydronephrosis, due to torsion of the ureter when the right kidney became displaced. The course of events noticed was sudden suppression of urine, almost immediately followed by paroxysms of severe pain, which continued and increased in severity until suddenly relieved by the copious flow of dilute urine.

Nephrorrhaphy was performed on November 26th, 1895, and since that date there has been no recurrence of the pain, nor has any accumulation of urine been observed in the pelvis of the kidney. The main point in the operation was to fix the kidney as high up as possible, and firmly, so as to stretch out the tortuous and elongated ureter.

In this case the operation was completely successful, and the patient is now (April 1897) quite well.

CASE III.—*Right Movable Kidney causing Torsion of the Ureter and Renal Vein, and leading to Hydronephrosis, Albuminuria, and the presence of Tube Casts. Operation: Cure.*—The patient, Miss A., came under my observation at the beginning of 1895. The history of the case, the physical signs, and

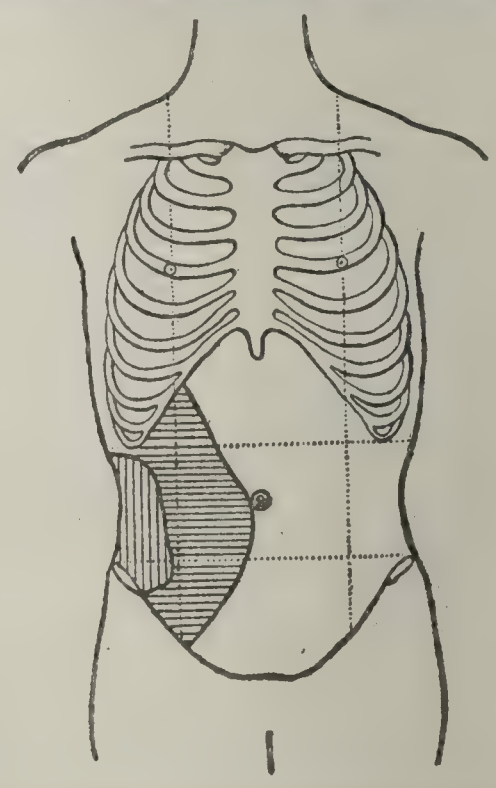

Fig. 3.—Case III.—M. A.—Lining same as Case I

the symptoms all pointed to right movable kidney of some years' duration. The patient was anæmic and emaciated, and it was considered desirable before an operation was performed to try the effect of complete rest in bed. The treatment by rest and by careful dieting was adopted during January, February, and March, but with comparatively little success, and it was resolved to perform nephrorrhaphy early in May. Frequent examinations of the urine were made during the first three months of the year, and on all occasions it appeared to be strictly normal. The day previous to the one on which the operation was arranged for a careful examination was made of the kidney, when it was found to be swollen and unusually tender; and when the urine was examined it was discovered for the first time to contain a considerable amount of albumen, and some hyaline and finely granular tube casts; but these were not found in the deposit, but only when separated by a centrifugal machine. On account of the albuminuria and the presence of tube casts in the urine the operation was postponed, and on May 3rd all the samples of urine were carefully examined as shown in the following table. At first the possibility of a nephritis being present was considered, but as no symptoms beyond the albuminuria and the presence of the tube casts could be discovered, I carefully watched the course of the urine to see if any other explanation of the albuminuria could be discovered. Every sample passed was kept for the examination, with the following results:—

1895.	Quantity in ozs.	Specific gravity.	Remarks.
April 29. 9 A.M.	9	1023	Acid; considerable albumen and tube casts; pain in kidney severe
April 30. 8 A.M.	7	1023	Ditto
,, 12 noon.	10	1019	Acid; trace of albumen; pain much less; tube casts
,, 4 P.M.	13	1010	Ditto
,, 9 P.M.	6	1015	Acid; no albumen; no tube casts
May 1. 2 A.M.	17	1009	Ditto
,, 7 A.M.	13	1009	Ditto
,, 1 P.M.	10	1013	Ditto
,, 9 P.M.	7	1014	Ditto
May 2. 6 A.M.	10	1010	Ditto

With the onset of the attack of paroxysmal pain, sometimes there was present hydronephrosis, sometimes it was absent or not observable; but high specific gravity of the urine, albuminuria, and tube casts always appeared in the urine at such times, and disappeared at the same time as the pain. Since the operation was performed no albumen or tube casts have been found.

Case iv.—*Left Movable Kidney causing Torsion of the Renal Blood Vessels: Albuminuria, Tube Casts, Severe Pain, and Suppression of Urine: No Hydronephrosis: Operation: Cure.*—J. D., aged 41, married, and has a family of nine children. She was at one time very stout, but during the last three years had been steadily emaciating. She first complained of pain in the left kidney in 1887, and when I saw her first in 1894 she was greatly reduced in weight. The abdominal walls were flaccid, and she complained of almost continual pain located in the left lumbar region. At irregular intervals most severe paroxysms of pain set in, and these lasted from three to seven hours, and were accompanied by sickness, nausea, and vomiting. During an attack the patient always laid upon her left side. In one or two instances, after the paroxysms had passed off, the patient suffered from undue excitability, severe and persistent headaches, and dimness of vision, pointing probably to some uræmic poisoning. On examination of the abdomen the left kidney could be distinctly felt freely movable within the abdomen, and could be pushed upwards under the left costal cartilages, across the middle line in front and down the pelvis. Handling of the kidney produced considerable pain accompanied by sickness. This pain differed in character from that usually felt during a paroxysm. The following is a note of the urine passed during one of the paroxysmal attacks:—

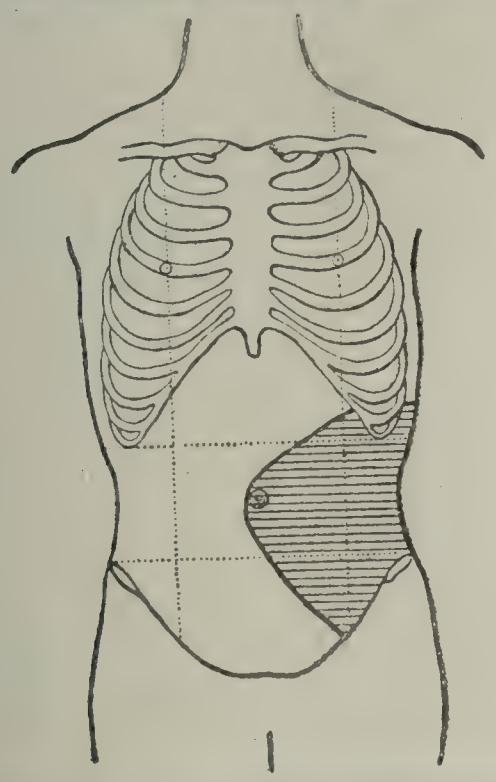

Fig. 4.—Case iv.—J. D., aged 41.—Lining indicates the s ace in which the kidney moved.

1894.	Quantity in ozs.	Specific Gravity.	Remarks.
Feb. 11. 2 P.M.	15	1013	No albumen; no tube casts.
,, 11 ,,	17	1012	Ditto.
Feb. 12. 9 A.M.	18	1018	Ditto.
,, 8 P.M.	10	1020	Moderate quantity of albumen and a few tube casts; pain set in at 6 P.M., on the 12th, and continued till midday on the 15th.
Feb. 14. 7 A.M.	13	1023	Ditto.
Feb. 15. 2 ,,	11	1022	Ditto.
,, 9 ,,	16	1012	Trace of albumen.
,, 8 P.M.	15	1010	No albumen.

The patient was kept under observation for many months, and although advised to have an operation performed, refused until November 1895, when, with the assistance of Dr. E. A. Gibson, I performed nephrorrhaphy. The result was quite satisfactory. Patient reported herself well, January, 1897.

Case v.—*Severe Renal Pain, Nausea, Vomiting, and Rapid Emaciation; also Symptoms of Transitory Hydronephrosis following a Natural Labour: Physical Signs of Movable Cystic Kidney: Operation followed by considerable Relief.*—Mrs. M'N., aged 30, was sent by Dr. Beveridge, of Hurlford, and admitted to the Glasgow Royal Infirmary, November 24th, 1896, complaining of pain in the abdomen and in the right loin, with rigors and painful micturition following a natural labour.

She was the mother of five children, and after the birth of the last child she had rigors three days in succession, and within a few days thereafter she began to experience more or less pain on micturition, which was followed by severe sickening pain in the abdomen and the right loin; this pain was only present when the patient moved about or when the kidney became displaced—while resting in bed the pain was never very severe. It was constant in situation and aggravated by pressure. Since the onset of the pain she had become progressively weaker, and on admission she also complained of loss of appetite, flatulence, and constant nausea on taking food. The patient said that during the last three months she had lost considerably in weight. The bowels have been as a rule constipated, the tongue furred, the patient sweats very much at night, and, with the exception of three days, she has been unable to be out of bed since her confinement.

The temperature from November 24th to December 7th was between the normal line and 102.2° F.; of fourteen evening temperatures, eight were up to or above 100° F., the morning temperatures were about 99° F. She never noticed any abnormality in the urine, except that the quantity was large and she had to pass water very often, and has had to do so for some years. When the pain in the kidney was severe, occasionally—very soon after the bladder was emptied—she found it suddenly distended again, and when this occurred it was always followed by relief of the pain, but a swelling present in the loin did not on any occasion disappear. There was no history of hæmaturia at any time. From November 27th till December 5th the quantity of urine varied from 1,320 to 2,624 c.cm., and on standing for twelve hours a deposit, amounting to from 30 to 50 c.cm., was thrown down. The urine was of a pale straw colour, its specific gravity 1008 to 1010, and on one occasion 1020. The urine contained a trace of albumen, and the deposit consisted almost entirely of mucus, urates of soda, with a few leucocytes and epithelium, but after repeated examinations, no tube casts or tubercule bacilli were discovered.

Physical Examination of the Abdomen.—The patient was very pale and anæmic, emaciated, and the abdominal wall was lax; the hepatic, splenic, and stomach percussions were normal; in the right loin there was a distinct hard non-fluctuant swelling, rounded but irregular on the surface, and when pressed upon it was easily moved towards the middle line. The swelling extended under the anterior margin of the liver and downwards as far as the crest of the ilium, and while the patient was lying upon her back and the swelling occupied the loin, the inner margin of the mass was felt with the hand to extend within 4 inches of the middle line in front. The size of the swelling as detected by palpation did not correspond to the dull area; on percussion, the anterior margin of the swelling gave a clear rather than a dull note. Percussion over the swelling in the loin was dull, but on passing forwards a resonant note was obtained even where the enlarged kidney could be clearly made out with the hand; the percussion of the upper limit of the swelling was obscured by the liver, and the lower margin by the ileum. On palpating the kidney it could be easily pushed out of its position in the right loin, but when it was pressed over the middle line, or when it assumed the same position on movement of the patient, severe sickening pain was brought on, and if the organ was not replaced soon nausea set in. There was no enlargement of the left kidney. The bladder on examination was found to be healthy, and there was nothing abnormal in any of the other abdominal organs. The lungs were practically normal; there was evidence, however, of slight hypertrophy of the heart, although no increased arterial tension could be made out.

The facts, then, which we had to deal with were briefly these:—The history of sudden onset of pain in the right lumbar region, with rigors

and painful micturition following a natural labour, but without pyuria or much elevation of temperature; pain constant in situation and coincident with a rounded but irregular non-fluctuant renal swelling, which was freely movable; pain aggravated by pressure or by displacement of the right kidney. The patient suffered from night sweats, constipation, flatulence, and almost constant nausea, and was rapidly emaciating. The case was clearly not one of abscess, pyonephrosis, or tuberculous disease. The absence of any marked elevation of temperature and of pyuria, together with the fact of the swelling being non-fluctuant, dismissed the possibility of any of these diseases. Therefore the only conditions which remained to be disposed of were cystic degeneration and tumour of the kidney, or these conditions combined with some hydronephrosis. The physical characters of the swelling, namely, its large size, rounded contour, nodulated surface, and firm consistence, pointed to a kidney having undergone cystic degeneration, and probably the onset of the pain was accounted for by the enlarged kidney becoming movable after delivery; but the circumstance that the bladder was occasionally suddenly filled after evacuation, and that this was followed by relief of pain, pointed to some distension of the pelvis of the kidney, probably a transitory hydronephrosis from some obstruction in the ureter. The diagnosis between renal tumour and cystic degeneration was based upon the character of the pain and the absence of hæmaturia; the only tumours that were likely to attain a size sufficient to explain the enlargement of the kidney were sarcoma or cancer, and in either of these instances before the organ had increased to its present dimensions severe hæmaturia would probably have occurred. Although rarely severe in the early stages of malignant disease, hæmaturia is almost constantly present in the later stages, and is then very generally profuse; and when the hæmorrhage has commenced it is more profuse and less transient than when due to other causes. It is generally spontaneous and continuous, although at intervals liable to aggravation. The pain, also, in tumour is different from what was found in this case. In malignant disease the pain is constantly present and not relieved by or aggravated with movement of the body, and before the tumour has attained the size of the swelling in this case the suffering becomes intense, and is not limited to the lumbar region or hypogastrium of the affected side, but generally extends to the chest, across the middle line, or to the hip and lower extremities.

I therefore came to the conclusion that we had to deal with a case of cystic degeneration of the kidney, associated with transitory hydronephrosis. On December 7th, 1896, the kidney was exposed by a lumbar incision, and on opening the adipose capsule the cortex of the kidney was seen to be occupied by numerous cysts of various sizes. The organ was greatly enlarged, so that the pelvis of the kidney could not be explored with the finger through the wound. The adipose capsule was freely separated from the surface of the kidney, and a considerable portion of it removed; the organ was then sutured to the parietes.

The patient made a rapid recovery, and since the operation the swelling has diminished in size, partly accounted for by the removal of the adipose capsule, and probably also by the disappearance of the pelvic distension present previous to the operation. The patient was dismissed on January 12th, and she reported herself on March 11th. She then said that since the operation she had suffered very little from pain in the abdomen, but that she occasionally still complains of flatulence and indigestion. There were no indications of retention of urine in the renal pelvis since the operation, and the pain in the lumbar region had subsided.

In the first two cases there was little or no difficulty in understanding the condition. The increase in size of the movable tumour at the time the symptoms arose, and the disappearance of the hydronephrosis before they were relieved, indicated very clearly that the attacks were due to obstruction to the flow of urine through the ureter. The character of the urine, and the position which the patient assumed in bed, aided us in forming a diagnosis. In cases of hydronephrosis from torsion of the ureter in movable kidney the patient is unable to lie down in bed, but almost always sits up, with the knees flexed on the abdomen and the thorax thrown forwards. In transitory hydronephrosis the quantity of urine is suddenly diminished in amount, as illustrated in Cases I and II, and previous to the paroxysm of pain being relieved a large flow of dilute urine is observed to escape. On the other hand, in cases of torsion of the renal vessels, as in Cases III and IV, the paroxysmal attack is associated with a sudden and transitory albuminuria, sometimes without suppression of urine, and no increase in the size of the renal swelling. In Case II, from 8 P.M. on the 12th of February till 2 A.M. on the 15th, only 34 ozs. of urine were passed, but of high specific gravity, and containing albumen and tube casts. In all four cases nephrorrhaphy was performed with a good result.

These cases also raise several points of considerable pathological interest.

When the efflux of urine from the kidney is suddenly impeded we know, from the experiments of Hermann and those performed by myself, that the quantity of urine excreted in a given time is diminished, and that there is also a reduction in the percentage of solids in the urine. When the backward fluid pressure reaches a certain point the excretion ceases, and this at a point when the pressure on the fluid contained in the ureter is considerably below the arterial pressure. But as soon as the obstruction is relieved the kidney regains its function, and an abundant secretion of urine of low specific gravity rapidly follows. Fortunately, when the escape of urine is impeded by occlusion of the ureter, the velocity of the blood stream is reduced, owing to the pressure exerted by the over-distended uriniferous tubules upon the capillaries and blood vessels. The urine in the kidney is probably also reabsorbed to some extent, just as in obstruction of the gall ducts the bile is taken up by the circulation. This is demonstrated by the œdematous condition of the kidney after ligature of the ureters, an œdema which rapidly disappears on the ligature being relieved. The rapid excretion of a large quantity of watery urine after relief of the ligature of the ureter is probably accounted for by the evacuation of the œdematous fluid, and by an active arterial hyperæmia which follows the relief of pressure on the capillaries.

In cases of transitory hydronephrosis, while the pelvis of one kidney is becoming distended the action of the opposite organ is suddenly inhibited, as shown by complete suppression.

Examples of reflex inhibition of the functions of the kidney are numerous. For instance, I have seen complete suppression of urine following the passage of a catheter and succeeded by hæmaturia for some days. Then, again, we have cases of unilateral obstruction such as is produced by the presence of a calculus in one ureter cause complete anuria, which may last for a considerable time; again, in cases of transitory hydronephrosis from angular insertion of the ureter or from movable kidney, when the obstruction on one side reaches a certain point, the kidney on the opposite side fails to act, even although the hydronephrosis continues to increase in size. These cases seem to be analogous to those described by me elsewhere;[1] but in them all it is very difficult to assert whether the reflex inhibition of the function of the kidney is due to reflex spasm of the walls of the ureters or to contraction of the small renal arteries; but the circumstance that the anuria is in many instances followed by the excretion of albuminous and bloody urine indicates that in these cases at least there has been a serious disturbance of the renal circulation. In some instances, doubtless, the anuria may be the result of a general fall in the blood pressure as a consequence of shock, but the circumstance that the pulse was of good strength in Case VI.[1] and the anuria was relieved by wet cupping is against this argument. Probably the suppression of urine in Case VI.[1] is similar to decrease of secretion in cases of lead colic or that which precedes a paroxysm of eclampsia. In these conditions, however, the spasm of the renal arterioles is probably not so marked, as the attacks are not usually followed by hæmaturia or albuminuria. To cause complete suppression of urine the spasm of the arterioles must be very great, and must involve the majority of the smaller vessels. The extent and gravity of the disturbance of the circulation is clearly indicated by the abnormal constituents in the urine after the attack.

Many cases have been recorded where a unilateral obstruc- has produced a complete anuria, lasting sometimes for days. But it is difficult to say whether suppression on the unobstructed side is due to a spasm of the muscular fibres of the ureter or to a local reduction of blood pressure from spasm of the arterioles. The circumstance that pain is not a prominent symptom except on the hydronephrosed side would point to the latter rather than the former as the cause of anuria.

Take, for example, Case I. At 4 P.M., on May 7th, the patient had a sudden attack of renal colic, which continued with increasing severity for twenty-eight hours. During that time, while the pelvis of the right kidney was being distended with urine, the left kidney failed to secrete, as on passing a catheter into the bladder no urine escaped.

This is a remarkable fact, as one should have expected a compensatory functional activity of the healthy organ rather than a complete suppression of function. The same conditions were observed in Case II.

REFERENCE.
1 *Transactions* of the Clinical Society of London, 1897.

PRESENTATION.—Dr. Bywater Ward was, on the occasion of retiring from the post of Medical Superintendent to the Warneford Asylum, presented with an American writing table by the resident staff and patients as a mark of their esteem.

CASE OF STRANGULATION OF A LOOP OF ILEUM THROUGH A HOLE IN THE MESENTERY, WITH A MECKEL'S DIVERTICULUM ATTACHED.

By A. B. Atherton, M.D., L.R.C.P. and S.Edin.,
Surgeon to Victoria Hospital, Fredericton, New Brunswick.

The following case presents certain remarkable features which seem to make it worthy of record:—

F. A., male, aged 14. Ever since birth the patient has had a small umbilical protrusion. At 6 years of age he began to have attacks of "cramps," which occurred once or twice a year, and lasted from a few hours to a day or two. Up to the last year they were attended with both vomiting and looseness of the bowels, the latter occurring as the pain passed off. Of late he has always vomited, but no diarrhœa has followed. During the last six months has had three or four of these attacks, and they have been growing more severe and have lasted longer than formerly. Some error in diet was supposed to be the exciting cause. During the one preceding the present the attending physician gave several 1-gr. pellets of calomel, with a cathartic effect and relief to the symptoms. Fifty hours before I was called to visit him he was seized with the usual abdominal pain, accompanied by vomiting. A hearty supper with a large amount of turnip had been eaten a short time before.

His parents treated him with enemata, and twelve 1-gr. calomel pellets were given by the mouth. The enemata brought away a moderate amount of fæcal matter, but no cathartic effect was produced by the calomel. Indeed, vomiting was so frequent that a good portion of it was probably ejected.

I first saw the boy at 8.30 P.M. on October 16th, 1896. His facial expression was bad. Pulse 120. Temperature 99° in mouth, 99.6° in the rectum. Belly considerably distended and tympanitic, especially in epigastric and umbilical regions. Tenderness not very great, but most so in the neighbourhood of the umbilicus, especially below and towards the right side. The pain had been most severe also in this locality. No induration felt anywhere. I advised immediate operation, and it was agreed to.

Operation, 9.30 P M.—Chloroform given by Dr. Mullin, who also assisted otherwise, while a lamp was held by the boy's father. I first made the usual incision over the appendix cæci, thinking it might be the seat of the trouble. I readily found that organ, with its tip well over to the median line, and adherent there. After separating it I ligatured and removed it, the stump being touched with pure carbolic acid. It measured just 4 inches in length.

This not being considered enough to cause the boy's symptoms, I introduced my fingers towards the umbilicus and felt what seemed to be a piece of distended bowel, firmly adherent to the abdominal wall there. I therefore made a second incision from the navel downwards, so as to expose the parts, and cut away the connection with the navel and withdrew what proved to be a Meckel's diverticulum of about the size and shape of a small-sized pear, its pedicle being as large as the little finger. It seemed partly gangrenous, and both Dr. Mullin and myself noticed a distinct twist in its neck as it was drawn up out of the abdomen. This twist I thought accounted for the damaged condition of the diverticulum, as also for all the symptoms from which the patient suffered.

I now cut away the pouch from the bowel. Some arterial bleeding followed, which was controlled temporarily by forceps until a row of continuous silk sutures was inserted; a second row of the same was put in so as to invert more completely the stump. The diverticulum contained a considerable amount of fæcal matter, one piece being very hard and about an inch in diameter. I did not notice anything much out of the way with the gut, although it required some little force to pull the diverticulum and it up out of the abdominal wound. Finally I excised the thinned umbilicus, and united both incisions with silkworm gut sutures. Iodoform dusted on and a dressing of double cyanide gauze applied. The operation lasted about two hours.

After coming out of chloroform patient was very restless, throwing himself about in bed and trying to get up, and was quite out of his head. He did not complain of any pain, however, and had no vomiting after operation. At 4 A.M. he became more quiet and rested well till 9 A.M. Drank a cup of milk during the night and retained it. The pulse rose to 148 after the operation and continued rapid and weak.

October 17th, 10 A.M.—I saw him again. He said he felt much better than before operation, though his countenance looked pinched and eyes sunken. Pulse 150, temperature 101° in rectum. 6 P.M.—Had rather a restless day. Not much pain and no vomiting. Took a moderate amount of milk and water. Gas has passed by rectum. Pulse 150, feeble. Temperature in mouth normal. Dressings changed. At 8 P.M. he again became very restless and more or less delirious, and continued so till his death, which took place at 7.30 A.M. next day, being about 34 hours after the operation. At the necropsy a loop of the ileum about a foot in length was found protruding through a hole in the mesentery. It was somewhat dark in colour, but not much distended. A few recent adhesions were found at its points of contact and between it and the median incision. It had entered on the right and upper side of the mesentery and lay to the left and below it. It was freely movable and could be readily withdrawn through the opening. The stump of the ileum was found an inch or more beyond the aperture, having again passed through it with the accompaning bowel subsequent to the operation. It was situated about 6 inches from the ileo-cæcal valve, and both it and the stump of the appendix looked perfectly well, no inflammation appearing about them. There was considerable distension of the coils of small intestine in the immediate neighbourhood of the mesenteric opening, but no great evidence of peritonitis was anywhere seen.

Remarks.

This case seems to be worthy of being placed on record if for no other reason than because of its great rarity. In the first place, a large pouch-like shape of Meckel's diverticulum is seldom met with. Treves, in his work on *Intestinal Obstruction*, says that "in nearly every instance the intestinal end of the diverticulum is larger than its opposite extremity." In no case, as far as he is aware, has it been seen to assume a polypoid form with a comparatively narrow attachment. He afterwards states that where the diverticulum does appear as a large pouch it has doubtless been exposed to considerable distension. And this might well have occurred in the case reported, for it is easy to conceive that at various times fæcal matter slipped into the diverticulum and there became imprisoned by twisting of its neck and thus led to more or less distension, such distension being increased by any exudation which might take place from the mucous surface. The hard fæcal mass found at the time of operation lying in its cavity was three or four times too large to pass through the neck of the sac, and must have accumulated there just as a fæcal concretion forms in the appendix cæci.

Again, it is very unusual to find a Meckel's diverticulum associated with a hole in the mesentery, and apparently it is still rarer to have a strangulation of it and the ileum through such a hole. On looking into the literature of the subject I can find only one instance reported where these abnormalities were met with in the same individual. It is a case of Dr. Pye-Smith's, the notes of which were read before the Sheffield Medico-Chirurgical Society and published in the *Lancet* of March 9th, 1889. In his case intestinal obstruction was produced by a fish fin lodging above a constriction of the ileum, which constriction was caused by a Meckel's diverticulum about 2 inches in length, which passed through a hole in the mesentery, and encircling the bowel was attached to a point on the mesentery half an inch or more from the aperture of entrance.

In regard to the diagnosis in this case I was led to think that appendicitis was the most probable cause of these attacks, largely because of their continuance through so many years. Besides there was some fever present and a uniform history of vomiting with "cramps." To be sure, the point of greatest tenderness was situated more inwards towards the navel than is usual in appendicitis, and perhaps on that account I should have made my first and only incision in the middle line. However, the appendix had evidently been involved more or less, as its extremity was bound down by quite firm adhesions near the middle of the abdomen, and I thought better to remove it.

Being satisfied that the appendix was too healthy to account for the patient's condition, I searched for other evidences of disease, and found a strangulated and partly gangrenous diverticulum. This damaged appearance I naturally supposed to be due to the twist in its neck, and having removed the diverticulum I thought I had no need to look for any further cause of the symptoms. I called to mind afterwards that I had some difficulty in bringing the part up into the wound in the abdomen, but I did not notice anything much out of the way with the portion of bowel to which it was attached. Possibly the dimness of the lamp-light prevented me from doing so.

After making the necropsy I of course had no doubt but that there must have been more or less strangulation of the loop of ileum which had passed through the hole in the mesentery as well as strangulation of the diverticulum itself; for the stump of the latter was found an inch or more beyond the aperture, and without doubt before the operation the diverticulum had been dragged into it by the loop of bowel and thus acted as a wedge to strangulate both itself and the gut, just as is done when an extra piece of intestine comes down in an ordinary hernia, and gives rise to strangulation. It is probable that the recovery from former attacks of strangulation was largely due to the pear-like shape of the diverticulum together with its attachment to the umbilicus, both of which would tend to effect its withdrawal from the hole in the mesentery.

The relief of all pain and cessation of vomiting, together with the passage of flatus, proved that the operation had relieved the strangulation, this being due to the removal of the diverticulum, thus leaving only the freely moving loop of bowel lying loose in the opening.

I am inclined to think that one of the chief causes of death in this case was the absorption of septic matter from the

semi-gangrenous diverticulum and the damaged loop of ileum. I am strengthened in this belief by the extreme restlessness and delirium which occurred after the operation. Of course the long continuance of the symptoms of strangulation and the shock of operation also contributed materially to that end.

Whether a resection of the loop of gut would have given a more favourable result must remain an unsolved problem. It would undoubtedly have added much to the shock of the operation, but this might have been more than counterbalanced by the removal of an important source of the supply of septic material to the system.

Dr. KEEN (Philadelphia) congratulated Dr. Atherton on his bravery and his honesty in reporting a case in which an error was made. Only thus by the experience of a colleague could the rest of them learn to avoid similar errors. In this case the circumstances made the error quite explicable if not excusable. Only those among them without sin should cast the first stone.

Dr. SHEPHERD agreed that the overlooking of the hernia of the ileum through an opening in the mesentery was quite excusable, and still more so when operating in the country with poor assistance and the light of a lamp held by a novice. Even in a hospital such a condition might be overlooked. He had assisted the late Professor Fenwick in a case of obstruction where a gall stone was found in the diverticulum; the patient made a good recovery. The speaker said Meckel's diverticulum occurred in almost 3 per cent. of individuals, and was of various shapes. The speaker had several times seen a dilated end which was bifid, and this was seen frequently in the pig. In such a diverticulum fæcal matter could be easily retained and dilatation would occur.

HYPERPHORIA AND OCULAR HEADACHES.

BY W. WATSON GRIFFIN, M.B., F.R.C.S.ENG.,
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ONE of the factors in some ocular headaches and neuralgias which it is important to bear in mind is the existence of a latent deviation, more especially in the vertical direction, upwards or downwards, and constituting what is known as hyperphoria. This condition can be rendered evident by means of a Maddox's disc (consisting of five or six pieces of a red glass rod, each about an inch long, and of the thickness of a lead pencil such as is attached to ball programmes; these pieces are fixed side by side on a circular brass disc. A point of light regarded through them appears lengthened out into a red line at right angles to the axis of the rods). This disc is placed in the spectacle trial frame before the right eye, and in such a position that the glass rods lie vertically; the glasses which correct the patient's ametropia are also placed in the frame before each eye. The flame of a candle, situated 6 metres off, in a darkened room, is now looked at, and the patient says whether the horizontal red streak of light is on a level with the centre of the candle flame or lies in a different plane. If the latter, a square prism is held before the Maddox's disc, with its apex vertically upwards or downwards according as the streak is below or above the candle flame; that prism which makes the red streak appear to pass through the centre of the flame is the measure of the hyperphoria. The test for hyperphoria can also be carried out without Maddox's disc by a modification of Snellen's red and green test, as described in Lang's *Examination of the Eye*.

Slight degrees of hyperphoria, represented by a prism of 0.5 D. or less, are not uncommon, and can exist without occasioning symptoms of discomfort, but now and then it calls for correction, as in the following case.

Mrs. P., a lady of middle age, was seen by me in April, 1895. She then complained of severe frontal headaches, and of a constant tired feeling and aching in the eyes, and of her inability to read or sew for more than a few minutes at a time. This had been the case for years, and glasses (−3 D. sp.) had given but slight relief; medicinal treatment had also been without much effect. On testing her vision she read $\frac{6}{9}$ with $\frac{-6\text{ sp.}}{-1.5\text{ cy. }30^\circ\text{ in.}}$ before the right eye, and $\frac{6}{9}$ with $\frac{-4\text{ sp.}}{-2\text{ cy. }30^\circ\text{ in.}}$ before the left.

Retinoscopy under 2 per cent. homatropine and cocaine gave

R.	− 6.5	L.	−6
	−5		−4.5

and she now read R. $\frac{-5\text{ sp.}}{-1.5\text{ cy. }30^\circ\text{ in.}} = \frac{6}{9}$; L. $\frac{-4.5\text{ sp.}}{-1.5\text{ cy. }30^\circ\text{ in.}} = \frac{6}{9}$.

On recovery from the drops the same results were obtained. On now testing the balance of the ocular muscles I found there was exophoria to the extent of a prism of 1.5° d., and hyperphoria, which was corrected by a prism of 0.75° d. apex down before the right eye. The base line was 58 mm. There were no myopic crescents, but in each lens there was a circle of fine peripheral cortical opacities, such as is frequently met with in myopic eyes. In ordering the glasses for the distant vision I gave the full ametropic correction, and disregarded the heterophoria; for reading I gave weaker glasses—namely: R. $\frac{-2\text{ sp.}}{-1.5\text{ cy.}}$ L. $\frac{-1.5\text{ sp.}}{-1.5\text{ cy.}}$ combined with the prismatic correction of the hyperphoria—namely, a 0.375° d. prism, apex down, in the case of the right eye, and a 0.375° d. prism, apex up, in the case of the left.

On the 22nd of the next month the patient returned saying that while the reading glasses were quite comfortable, she had been unable to wear the distance ones after the first day or two, so I put the correcting glasses into the trial frame, together with the vertical prisms. These the patient kept on with comfort for a quarter of an hour, and I concluded that the prisms were as necessary in the distance glasses as in the reading. They were ordered accordingly, and were worn with complete relief, as the patient testified three weeks later. In fact there has been no further eye trouble since.

I have no doubt that many other ophthalmic surgeons have had similar cases, but as there is but scanty reference to them in ophthalmic literature it is only right that their occurrence should be emphasised, and general attention be drawn to the striking relief which the use of vertical prisms can bring about in some cases where the most exact correction of astigmatism or other error of refraction is without avail.

I may add that when hyperphoria is associated with eso- or exo-phoria, the latter may usually be disregarded; though in some cases a prism has to be found and to be set in an intermediate axis before equilibrium is produced. Such a resultant prism can be arrived at by calculation (Maddox), but the best results are perhaps obtained by rotating prisms in the trial frame, and selecting that one which in a certain axis seems most comfortable.

THE STATE MEDICAL SERVICE AT ST. PAUL'S.—That the State medical service held last year at St. Paul's Cathedral was highly appreciated by the profession is shown by the fact that upwards of 1,100 practitioners attended, more than 500 of whom wore academical robes. It is therefore not surprising to learn that the Guild of St. Luke has decided to repeat it this year on October 19th, at 7.30 P.M., when the Archbishop of York has consented to preach the sermon. Unfortunately it has been found necessary on account of the large attendance to limit the number of tickets issued to those who are not members of the medical profession. A very influential Committee, comprising many of the leaders of the profession, has been formed. Invitations will be issued to all practitioners residing in London, and all attending, if University graduates, are requested to wear the hood and gown of their degree, whether in Medicine, Science, or Arts. Invitations will not be sent to practitioners resident in the country, but all who wish to attend can obtain tickets on application to either of the Honorary Secretaries: S. Russell Wells, M.D., M.R.C.P., 24, Somerset Street, Portman Square, W.; C. Devereux Marshall, F.R.C.S., 10, Devonshire Street, Portland Place, W.

OPENING OF THE MEDICAL SCHOOLS:

INTRODUCTORY ADDRESSES.

UNIVERSITY COLLEGE, LONDON.

By Raymond Johnson, M.B., B.S.Lond., F.R.C.S.Eng.,
Assistant-Surgeon to University College Hospital.

THE MEDICAL STUDENT: HIS WORK AND ITS OBJECT.

We are assembled here to-day to inaugurate the seventieth winter session of the Medical Faculty of this College, and those of you who are beginning your studies and those who are continuing or concluding them, are invited to meet together and listen to an introductory address. From time immemorial it has been the custom to surround the admission of students to the profession of medicine with some kind of ceremony. Thus we are told that in the earliest Sanscrit writings the function is described as of a most imposing character. The gods were first propitiated by numerous offerings, and then the students were treated to an excellent introductory lecture, in which, amongst other things, the teacher counselled them "to be chaste and temperate, to speak the truth, to obey him in all things, and to wear a beard." And, in passing, it may be remarked that this matter of the beard seems ever to have been under consideration, and by the middle of the sixteenth century it was decided that no apprentice of the Barber-Surgeons' Company should wear a beard of more than fifteen days' growth, the penalty being that the unshaven apprentice should forfeit his apprenticeship, and that his master should pay a fine of 6s. 8d. Doubtless this regulation was framed with an eye to business, for since the professions of barbery and surgery have been divorced from each other the medical student has been allowed to follow his own tastes entirely in the clothing of his chin.

It seems but natural that we should begin our year's work by a general meeting together before we start off upon our different studies, and doubtless the delivery of an introductory address is a very business-like commencement. Personally, however, I had wished that on this occasion the well-worn custom had been honoured in the breach rather than in the observance, and that having heard the Dean's report and the announcement of the Prizes, you, gentlemen, might be free to spend the remainder of the meeting in some more congenial manner than in gathering the dry crumbs which are the best that I can offer you. You are familiar with the words:

> Some are born great. Some achieve greatness. And some have greatness thrust upon 'em.

If my position here to-day is any evidence of greatness, I can assure you it has been thrust upon me. And yet, gentlemen, my first and chief duty is a very easy and a very pleasant one—to wish those of you who are here for the first time to-day a very hearty welcome to University College. May the years you spend within these walls be the happy ones they have been to hundreds before you! May the friendships you make grow firmer with advancing time and be something much deeper than mere acquaintances! May you never have reason to regret your choice of a medical school, but may University College become in the highest sense your Alma Mater to whom in future years, wherever your lines may be fallen, you may look with gratitude and respect—I would venture to say, with love!

Gentlemen, the profession which you have selected for your life's work will call for the exercise of all your energy if you wish for any success. In no other circumstances could you find a wider field for your labours, for I may with confidence assume that each one of you desires to become a widely informed scientific worker, and something much higher than a mere "medicine man."

To none more fully than to those who are engaged in the study of medicine do the words of Alexander Pope apply:

> The proper study of mankind is man.

We are concerned with man. Man is the material upon which we are called to exercise our craft; and, therefore, there is nothing concerning mankind at large which a medical man will not be the better for knowing. A great physician has said that each case which comes before us should be considered as "the disease *plus* the person." The "disease" element is provided for in the medical curriculum; the "person" element can only be fathomed by him who from experience has learned to make a rapid and accurate estimate of the man with whom he has to deal.

And thus it is that a medical man should be in the highest sense "a man of the world." Let me urge you, therefore, not to allow the keen interest which you cannot fail to have in your medical studies to prevent you widening your general knowledge in every possible direction. Keep up your general reading, take a lively interest in all that is going on in the world, and never lose an opportunity of adding to your fund of general information. In your everyday work you will be brought into contact with every conceivable variety of individual, and the more thoroughly you can put yourself into the position of your patient the more accurately will you be able to estimate the personal element of which I have been speaking.

Be sure of this that your patients will expect of you much knowledge which can hardly be called medical. The family doctor is consulted about all kinds of matters which have but a very indirect bearing on his profession, questions which only a sound common sense and a rich fund of general information can enable him to answer. He is a witness of many plays on the stage of life, and if he would enter into the spirit of the actors he must be a man of "many parts." Each one from "the infant mewling and puking in the nurse's arms" onward to the "lean and slippered pantaloon," and the weary player in the "last scene of all," will look to the doctor for sympathetic interest, and will expect to find in him an intimate acquaintance with the part he plays.

These remarks may seem to you somewhat premature at this stage of your proceedings, but it is just when the student's mind first becomes engrossed with the many subjects of our crowded curriculum that there is the greatest danger of general knowledge and culture being neglected. And although it is perfectly true that an earnest worker must find his greatest happiness in his work, it is none the less true that much additional happiness and healthy relaxation can be obtained from outside interests. A hard-worked man without a hobby is like a high-pressure boiler without a safety valve, likely to burst from overstrain at any moment. Some men are so engrossed with their work that they cannot even enjoy a holiday, and should they in due course be able to retire from active practice, instead of spending their declining years in well-earned leisure, they break up and die, literally from want of something to do.

The course of study which you begin to-day resolves itself into two great periods: first, that in which you are concerned with the structure and functions of the healthy human body, together with the study of such sciences as may help to elucidate them; and secondly the period in which you will study disease in all its aspects.

The importance of thoroughness and method in your earlier studies cannot be exaggerated, for they possess a double value. Not only are they obviously indispensable as a preliminary to the strictly medical part of the course, but they afford an invaluable training of the powers of observation and a means of acquiring a scientific habit of mind. They have, therefore, both a strictly technical and a general educational value. For this reason such subjects as anatomy and physiology demand the most thorough and painstaking study. Frequently the student will find himself confronted with matters in which he fails to see the remotest possibility of any practical application. Not the less on this account must he endeavour to master them, and who indeed shall venture to pick out the smallest fact in anatomy or physiology which is necessarily devoid of all practical importance? The study of chemistry, moreover, is daily becoming of greater importance for the proper understanding of the nature and treatment of disease.

Above all things I would implore you not to neglect your practical work in the dissecting room. A thorough knowledge of anatomy will prove of inestimable value to you and can be obtained only in one way—by actual dissection. You may supplement this by the study of textbooks, but anatomy

learnt by reading only is an empty sham. The student may know in order every branch of every nerve and every artery, and be able to draw the brachial plexus on a blackboard with his eyes shut, and yet altogether fail to recognise even the most important of the structures about which he knows so much when he meets with them in their only right, but to him unfamiliar, place—the body.

Who is not familiar with the sorry sight of the would-be anatomist who armed with a "pocket *Gray*" in one coat-tail, and a packet of diagrams and mnemonics in prose and verse in the other, is vainly endeavouring, with the additional aid of illustrations and other people's dissections, to cram up in a few short weeks the knowledge which he should gradually have been acquiring by diligent work in the dissecting room? Such a quasi-knowledge of anatomy may, if the student have good luck, secure him the minimum of marks required for a pass at an anatomical examination, but it will disappear as quickly as it was acquired, and need not be mourned for, being from the practical point of view absolutely valueless. At the present time a strong plea for individual practical work in anatomy and the other subjects of the earlier part of the curriculum seems to me to be particularly necessary. The medical curriculum is very crowded—possibly overcrowded—and the constant chain of classes and demonstrations which the student is called upon to attend is in danger of seriously curtailing the time devoted to individual study, especially in practical anatomy. Indeed, I fear that we are in risk of unduly multiplying these classes and demonstrations, valuable as they are, if rightly employed.

There is a grievous error into which the medical student is very apt to fail, that of regarding the acquisition of knowledge as necessary merely for the successful passage of the examinations. Examinations are a very necessary evil, for by such means alone is it possible to determine, however imperfectly, that a student has acquired that degree of knowledge which entitles him to receive official permission to practise his profession. Some such guarantee must be forthcoming; the Public who place themselves in our hands demand it, and the State which entrusts important duties to the medical profession must have some guarantee of fitness. It is disastrous, however, to regard those tests as the final object of study. And yet how often is the mistake made. The result is invariably the same; the student's work becomes paroxysmal, and occasional periods of phenomenal exertion are separated by long intervals of more or less complete quiescence. In these circumstances the one endeavour is to induce the brain to assimilate for the time being the necessary store of facts, which must be so condensed and arranged as shall fit them to be the more readily brought forth again in the time of need. It is a travesty of the name of knowledge to apply it to such a conglomeration. The information thus obtained lacks, amongst other things, all perspective. Each solitary fact stands out of all relation to its surroundings. The "likely" and the "unlikely," the "probable" and the "possible," are all hopelessly jumbled together. Such information cannot be used for practical application, and is too frequently concerned with the extraordinary to the exclusion of the commonplace. One man may be able to rattle off quite faultlessly the course and branches of all the petrosal nerves, and yet hardly be able to distinguish a kidney from a spleen; whilst yet another can construct a list as long as his arm of the causes of retention of urine, putting dislocation of the femur in the perineum at the top, and adding stricture of the urethra as an afterthought at the bottom.

Gentlemen, let me urge you to look to the quality as well as to the quantity of your knowledge, and aim at something higher than the bare minimum with which so many are content. George Herbert's advice is excellent:

> Pitch thy behaviour low, thy projects high;
> So shalt thou humble and magnanimous be:
> Sink not in spirit; who aimeth at the sky
> Shoots higher much than he that means a tree.

Advice which we may particularly accept, because the poet concludes his verse—

> A grain of glory mixed with humbleness
> Cures both a fever and lethargicness.

Obtain your knowledge at the fountain head, and digest it down by your own efforts, so that it may become assimilated and form an integral part of yourselves. Do not crave too much for specially-prepared knowledge or you will lose the power of teaching yourselves, and in course of time, according to the law that the supply is determined by the demand, you will convert the teachers into mere cramming machines, warranted to force the largest amount of semidigested intellectual pap into the student in the shortest possible time and with the least possible effort on the part of himself.

Much has been said in introductory addresses and elsewhere both for and against the systematic courses of lectures which engage a good deal of your time and attention. Some men—I believe the great majority—can obtain a better grasp of a subject by listening for an hour to the expositions of a capable lecturer than by spending a similar period of time in reading the best of textbooks. It is proverbially easier to express ideas in speech than to commit them to writing, whilst the individuality of the teacher should be an important help in impressing the facts which he is endeavouring to elucidate. Moreover, a clear lecturer may avoid uncertainty by a degree of repetition which would hardly be pardonable in the pages of a manual, and is able to draw similes and quote instances which would appear trivial if reduced to black and white. But I would say if a student honestly believes that he can employ his time better than by attending lectures, by all means let him do so; he alone is the loser if he has judged wrongly. Let his absence, however, be honestly due to this belief alone, and not in the least degree determined by the fact that the hour fixed for these discourses is often 9 o'clock in the morning. I would repeat that for most men attendance at lectures is one of the most useful means of acquiring knowledge. Frequently, however, a most industrious student may altogether lose the chief value of the lecture by a misdirected energy in note-taking. He labours incessantly from beginning to end taking down the words of the lecturer as far as he can *verbatim*, and possibly spending much of his evenings in making a fair copy. He thus provides himself at infinite trouble with what is practically the unrevised proof of a textbook on the subject. The serious weak point in such a system is that the student gains nothing during the hour of lecture except a certain quantity of written material from which doubtless he may gain useful information by subsequent study, but which has lost the personal stamp of the lecturer. Let the most that is attempted during the lecture be to go carefully with the lecturer along the course which he marks out, and merely to note down in the shortest manner the main headings of an argument or of the facts under consideration, which may be somewhat amplified when the matter is being subsequently studied.

It so happens that in this College a main thoroughfare runs between the medical school and the hospital, an arrangement which serves to impress the maxim—Do not meddle with the affairs on the other side of the road until you have finished with those on this. Nothing is gained, but much valuable time is lost, by a student who is occupied with the earlier part of the curriculum resorting to the operating theatre or wards of the hospital. The desire which attracts him there is not higher than that which induces a crowd to collect at the sight of an ambulance in the street—morbid curiosity. The sights presented to him are but meaningless tragedies, unsoftened by the real interest they will possess for him if only he will wait until he comes to study and not merely to gaze upon them. It is, indeed, needless for me to assure you that only by the most steady and persevering application to your work will you be able to master all that is required of you in the first two years of your studentship. Do not let the first burst of energy be a mere flash in the pan, but begin steadily as you mean to go on.

It may be thought by some that the question of a medical student's recreations, which are not provided for in the curriculum, hardly comes within the scope of an introductory address. Surely, it may be urged, a man may be left to make his own plans for his recreations and amusements. Quite so; and yet surely it is highly desirable that in any institution where men are collected together for purposes of study all reasonable facilities should be afforded by the authorities for the different forms of athletic exercises. In this respect the medical schools of London have been well to the front, and it should be the endeavour of the students of this College to see that their school takes its proper place in the

cricket and football fields as well as in the more serious fields of learning and research. Thanks to the Union Society—to which every student and teacher should if possible belong—we are now in possession of an excellent athletic ground and thus a long-felt want has been supplied. To every man, whatever his occupation, regular outdoor exercise is absolutely necessary if he wishes to remain the possessor of a healthy mind in a healthy body, and it must be remembered that a professional man is dependent upon his own individual efforts, and may be compelled to abandon his practice for a degree of ill health which in many other circumstances would not prevent him remaining at the head of his concerns. It should be his endeavour, therefore, to remain in good working order as long as he can. Whatever form of recreation is adopted, let it be, like your work, indulged in with some sort of method, so that the one may not suffer but benefit as the result of the other.

One is but too familiar with the opposite extremes, between which, of course, lies the happy mean. One student thinks of absolutely nothing but his work; from morning until night, week in, week out, Saturday afternoon and Sunday included, no relaxation is taken. A student of this class was positively met on his way to the college with a femur under his arm, deep in the contemplation of its inferior extremity! On the other hand, who has not come across the student who from all appearances is endeavouring to qualify rather as a professional cricketer than as a practitioner of medicine?

In this matter I cannot do better than recommend to your consideration the advice lately given by the Master of Trinity, which you will not appreciate the less because it was addressed to a gathering of schoolboys: "Strive to preserve a right balance between your different enthusiasms." Cultivate the habit of throwing off all thoughts of work at the proper time for recreation, but do not let the latter so occupy you that the more serious matters which should be your first concern are relegated to spare moments when there seems to be nothing else to do. Football and cricket will, of course, take precedence of all other games, and of these the former certainly has the advantage that it can more easily be indulged in without interference with the work of the school. Moreover, football offers the additional advantage that it often combines pleasure with business, and affords no small experience in the rendering of first aid to the wounded, and a valuable personal acquaintance with the more ordinary fractures and dislocations.

In such an institution as this we necessarily miss much of the social life of a university. A man may, if he be so disposed, pass through the whole of his course here and never know in any real sense a single one of the men with whom he is daily brought into contact; but although such a state of things is possible, it is none the less undesirable and by no means necessary. The man who locks himself up within the narrow limits of his own self is denying himself one of the most valuable means of preparation for his part in life. We are all more or less roughly-cut stones, though some perchance be diamonds, and are much improved by gentle friction with others of a like kind. In his work the student will necessarily find himself in constant association and competition with his fellows, and the wise man will not allow any feeling of jealousy to lessen the valuable assistance which he can gain from intercourse with those who are stronger than himself. How exactly does R. W. Emerson hit off what all of us must feel in this matter of friendship: "Our chief want in life is somebody who shall make us do what we can. This is the service of a friend. With him we are easily great. There is a sublime attraction in him to whatever virtue is in us. How he flings wide the doors of existence! What questions we ask of him! What an understanding we have! How few words are needed! It is the only real society."

> He who has a thousand friends
> Has not a friend to spare,
> And he who has one enemy,
> Shall find him everywhere.

Let us, then, for our general and individual advantage do what we can to promote real friendship among us. There can be no doubt that many a man has been driven to something approaching despair, and has sadly failed in his work for want of nothing more than a real friend to whom he could have gone with his troubles and anxieties, and by whose help his way might soon have become smooth again.

Let me here recommend to you the many societies which we have in this College, and, of these, more particularly the Medical Society. Since its formation, in 1828, this has done excellent work. By all means join it, attend its meetings, and do not be a silent member. It affords excellent schooling in the art of speaking—a gift which unfortunately so few of us possess. We know exactly what we want to say, but once on our feet we do little more than perspire and splutter and lose our heads; the carefully thought-out sentences rapidly vanish; forty are begun but none ended; until finally we sit down flurried and trembling, leaving our audience in blissful ignorance of what we hoped to convey to them. It is a gift worth much pains to acquire to be able in a few clear words to express our meaning, and the medical man will find it particularly useful if he can do this without the use of phrases which, to the lay mind, may be perfectly unintelligible.

To those who to-day are about to begin their practical work in the hospital, how much might be said! Let us ever bear in mind that a Hospital such as ours fulfils two great functions. In the first place it is a Charity, and in the second place it is a training ground for students of medicine and a centre for the advancement of medical knowledge—two functions of the greatest importance to the community at large. Now, contrary to what many persons seem to imagine, there can be no doubt that the work of the charity is all the better performed by reason of its connection with a medical school. I mean that the presence of students in a hospital is certainly an advantage, and not a disadvantage, to the patients. I do not speak only of the many duties which the students in a hospital perform under the direction of the medical officers—duties which are all the better done by reason of that feeling of responsibility which, especially when first appreciated, is such a strong incentive to good work. I refer to the healthy criticism which stimulates into action the best efforts of those upon whom it is brought to bear. Who will venture to deny that a physician or surgeon sitting in the out-patients' room, and for several hours attending to the various complaints of the patients who come before him, will not do his work better and with less risk of some serious oversight when he is surrounded by a group of earnest students than when he works uncriticised and unobserved?

In his clinical work in the hospital the student will find that those habits of method and thoroughness which he has contracted in his earlier studies will prove of the greatest value to him. The two great faculties which the student of medicine should strive to cultivate are, first, the power of accurate observation, and, secondly, the power of drawing accurate conclusions from the facts observed—faculties not different from those aimed at in any form of education, general or special. In speaking of the education of the young, it has been observed that "scientific training is not the imparting to others the results of someone else's observations, but the developing in every individual child a mind capable of making its own observations and of drawing its own accurate conclusions. It is not how much a child knows that matters, but how much a child is able to find out and learn for himself." It is better to have a store, scanty though it may be, of carefully-made personal observations than a brain loaded to the full with facts said to have been observed by other people. From the very vastness of the subject it goes without saying that the student of medicine will find himself compelled to accept as true many facts which he has not the opportunity of verifying for himself; but these should not be one more than necessary, for they lack that reality which serves to impress facts personally observed.

Gentlemen, no period of your career can compare as a training in the art of observation with that which is spent as clerks and dressers in the wards of the hospital. The cases with which you will then be individually concerned will, if rightly observed and investigated, serve as a very sure foundation of your experience of disease. Each case should be followed through with the utmost care, and no detail, however insignificant it may appear, passed by unnoticed. In many instances it may appear to you as though the elaborate details

of the written records of the cases, for which you will be in part responsible, are superfluous and the preparation of them a waste of time. There can be no greater mistake. The training thus obtained in the observation of the symptoms and physical signs of disease is invaluable. And even should the result of your labours be to show that the supposed patient is in reality sound, the time you have spent in coming to this conclusion will not have been wasted. You will often be called upon to decide whether an individual is in a state of health or disease; and before you are justified in stating that to the best of your belief no evidence of disease is present, you must have left no stone unturned in your examination. There can be no doubt that many more mistakes in diagnosis result from incomplete examination than from faulty deduction. The latter is excusable, although serious; the former is less serious, but quite inexcusable. Each case thus thoroughly investigated and recorded will become fixed indelibly in the memory, and will serve as a standard with which similar cases afterwards met with can be compared. In this way alone can a living picture of a disease be obtained, which will subsequently be of practical value. The knowledge thus gradually accumulated must of course be supplemented by systematic reading, but this must be kept in its right place and not allowed to take precedence of clinical work. The man whose only acquaintance with disease is that which he has obtained from the pages of a textbook is trusting to a broken reed; and it is proverbial that those who have the greatest store of book learning are by no means always those who are best able to apply it practically, so that their opinion as to the nature and treatment of a case may be vastly inferior to that of a man whose knowledge, though much less than their own from the point of view of quantity, has been derived from practical experience. Therefore, above all things, let your resolve be to see things for yourselves, and not to take another person's word for them. One case thoroughly investigated is worth more than a hundred merely seen.

From the day of its foundation, thoroughness in clinical work has ever been the pride of University College Hospital. The hospital is not a large one, and, comparatively speaking, is never likely to be, and yet some of the first clinicians of the last half century have received their training within its walls. But whilst urging the paramount importance of a few cases thoroughly observed, I would not for a moment underestimate the value of an abundance of clinical material. No two individuals even in a state of health are exactly alike, and still less are two examples of the same disease ever precisely similar. Every case will exhibit something new, and will differ more or less widely from the standard or type with which we compare it, and thus we see the need for the cultivation and exercise of a wise judgment. This alone will serve to distinguish between the fundamental and the superficial. It often happens that the most obtrusive symptom which a patient presents, and of which he himself may chiefly complain, is of small importance as a guide in diagnosis compared with some less obvious sign apparent only to the trained observer. We very rightly entertain the greatest admiration for the man who possesses in a high state of development the gift which we call clinical instinct. By this he is enabled, often with astonishing rapidity, to form a correct opinion of a difficult case by a process of the steps of which he is himself scarcely conscious. The ideal clinical teacher is he who not only possesses in a high degree of perfection this clinical instinct, but is also able to analyse for those who are less gifted than himself the train of argument by which he arrives at his conclusions.

It is useless for the student to attempt to imitate such brilliancy much as he may admire it; it is enough for him to keep a strict watch over his power of reasoning, and satisfy himself that he has a good sound basis for any conclusion at which he arrives. By such means alone can he hope to gain any firm belief in his own opinion, and having formed it to stand by it resolutely but not pigheadedly. Carlyle tells us that the gift which we call genius enables a man to express "what all men were not far from saying, were longing to say." Therefore, I take it, we should all be something more nearly approaching geniuses than we are if only we had the courage to say what we think, or are longing to say. Let us learn, then, as Emerson bid us, "to abide by our own spontaneous impression with good-humoured inflexibility the most when the whole cry of voices is on the other side. Else, to-morrow a stranger will say with masterly good sense precisely what we have thought and felt all the time, and we shall be forced to take with shame our own opinion from another."

It may not be out of place for me to remind you of the necessity of being very broadminded in your medical studies, and of not allowing any special liking or aptitude for some particular branch to cramp your efforts in other directions. It is sufficient for the present that your aim should be to obtain such a sound general knowledge of the principles and practice of medicine and surgery as the few short years at your disposal will allow. This is an age of specialism, and before you know the names of the bones your relations and friends will be asking you what particular branch of practice you intend to adopt. Tell them "general practice," and let this be your aim. Specialism is absolutely necessary on account of the enormous scope of the science of medicine, and men must be found who will limit their efforts mainly to special branches, and by so doing attain to a degree of special skill and knowledge which is impossible to the general practitioner, whose sphere of work knows no such narrow limits. The point, however, which at the present day seems to require more full appreciation, is that no man has a right to style himself a specialist until he has already shown himself possessed of the knowledge required to equip him for general practice. In fact, some of the most celebrated specialists who could be named spent their earliest years in general practice, until a special taste or success in some particular department led them to devote their attention exclusively to it.

A specialist should know everything that is known about something, and something about everything else; whereas too often he knows something about something and nothing about anything else. Cavities have a natural charm for him, and gradually his view of life is apt to narrow itself to that which can be obtained through the particular speculum suited to the particular orifice which he has appropriated to himself. He becomes in course of time like the blind crabs in the caves of Kentucky whose eyestalks still remain, but whose eyes have long since gone for want of use. A story is told, for the truth of which I would not vouch were it not transatlantic in origin, of an urinary specialist of this type who explained the presence of an ingrowing toenail as the result of the impaction upon the digit of an urinary calculus which he felt sure the patient unconsciously had passed *per urethram*.

Every medical man who is not in general practice is a specialist, although the limits of his special branch may vary much in different instances. His proper function is to serve as a referee for the general practitioner in special cases, and it is certain that the public will live to regret it if they go too far in deserting the good old custom of entrusting themselves to the care of the well-tried family doctor, and instead allot their various members and organs to the charge of special custodians.

Turn to Oliver Wendell Holmes's *Over the Teacups*, and hear what conclusion the Counsellor's friend came to: "Following my wife's urgent counsel I kept on for a whole year with my specialists, going from head to foot, and tapering off with a chiropodist. I got a deal of amusement out of their contrivances and experiments. Some of them lighted up my internal surface with electrical or other illuminating apparatus. Thermometers, dynamometers, exploring tubes, little mirrors that went half-way down to my stomach, tuning-forks, ophthalmoscopes, percussion hammers, single and double stethoscopes, speculums, sphygmometers—such a battery of detective instruments I had never imagined. All useful I don't doubt; but at the end of the year I began to question whether I shouldn't have done as well to stick to my well-tried practitioner. When the bills for 'professional attendance' came in, and the new carpet had to be given up, and the old bonnet trimmed over again, and the sealskin sack remained a vision, we both agreed, my wife and I, that we would try to get along without consulting specialists, except in such cases as our family physician considered to be beyond his skill."

We are, indeed, at the present day possessed of a wondrous "battery" of means for the investigation of disease, many of the greatest value, some requiring much skill

for their right application, but all worthy of our most careful study. The physician who suspects tuberculosis proceeds to search for the bacillus tuberculosis in the secretions and discharges, and may even resort to experimental inoculations. He confirms his diagnosis of typhoid fever by observing Widal's remarkable reaction, and in a doubtful case of diphtheria forms his decision by noting the character of the growth of micro-organisms obtained from it. The surgeon calls in the aid of the microscope to clear up his doubt as to the nature of a tumour, he trusts to the Roentgen rays to tell him whether he is correct in his diagnosis of fracture, and frequently has resource to that valuable, but sometimes abused, investigation—an exploratory operation. All these and many other such methods are of the greatest value if rightly used, but there is just this fear that in our eagerness to resort to them we may at times be inclined to neglect those more ordinary methods of examination which can be conducted by the skilled eye, the educated touch, and the trained ear. Let us not use our naked eyes the less carefully because we are enabled when necessary to supplement them by oil-immersion lenses, nor pay less regard to all the clinical features of some obscure abdominal tumour, because in the end we intend to expose it by operation and see what it really is.

Gentlemen, I must soon close, or you will be inquiring whether my vocation in life is to preach or to practise, but before doing so I would ask you to bear in mind that you will lose much of the value of your hospital work unless while you are learning how to deal with disease, you learn also how to treat the patients. Be kind and courteous to them, for an ailment which to us may be trivial and possessed of but little interest, is to them a very real and serious affair, and they will naturally be disappointed and distrustful if they notice that we regard it as a matter of little concern. Much patience and tact are often required to extract the information we require, whilst considerable skill is often called for rightly to interpret the answers to our questions. It is needless to say that no gentleman will adopt one plan of treatment for the poor in the hospital and another for the well-to-do outside it. Further, the student, whilst performing the duties of even the most humble appointment, should appreciate the fact that the work he does will reflect either to the credit or discredit of his hospital according as it is carried out thoroughly or carelessly, and that a very little pains more or less on his part may make just the difference to the comfort and welfare of the patients with whom he deals.

Those who after receiving their qualifications are fortunate enough to obtain resident appointments in the hospital cannot too fully appreciate the responsibility of the position they occupy. In duty to themselves they should endeavour not to miss a single one of the many advantages for practical study which hospital life affords them. In duty to the institution they must recognise the dignity and grave responsibility of the work which they have voluntarily undertaken. In duty to the more junior men, who will take their standard from them, they must be punctual, thorough, and painstaking; for of this I am sure, unless a remarkable change has occurred in the few years since I was a student in the hospital, that the clerks and dressers look more to their house-physician or house-surgeon than to the members of the staff for their first lessons in the practical aspect of their work, and the resident officer who neglects this part of his duty is missing a splendid opportunity, for there is no better way of teaching oneself than by endeavouring to teach others.

We are rejoicing to-day in the magnificent service which Sir Blundell Maple has done to University College, and many of you will have the privilege of enjoying at least some of the advantages of the new hospital. Since the day of its foundation as a humble dispensary on September 28th, 1828, University College Hospital can show a record of work of which we may well be proud, and it is not without a passing pang that we realise that the old building will soon be numbered among the things of the past. May a double portion of the spirit of energy and enthusiasm which has stimulated our workers in the past fall upon those who shall be privileged to carry on their labours among the far more favourable surroundings of the future! May we never merit the reproach that we have missed the splendid opportunities which lay before us. Gentlemen, we pride ourselves on our past achievements, but we must not live upon them alone. The future is ours, and we have the making or the marring of it. It is to you, gentlemen, who year by year come forward with fresh instalments of enthusiasm that the college looks to make her reputation in the past an earnest of great deeds in the future.

Were I possessed of the highest eloquence and powers of oratory, they should all be employed in my endeavour to fire you with enthusiasm. Successes and failures must come to each one of us. Let success be an encouragement to further effort, and not an inducement to rest upon the laurels gained. Let failure not dishearten us, but rather stimulate our energies to follow it with success. And if at times you feel despondent do not give way to despair.

"Look not into the mournful past that comes not back; wisely improve the present, it is yours; go forth into the future without fear and with manly heart."

UNIVERSITY COLLEGE, SHEFFIELD.

By P. H. Pye-Smith, M.D., F.R.S.,
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SCIENCE AND PRACTICE.

Allow me first to thank you for the honourable task you have given me of delivering the address on this auspicious occasion, and to congratulate this ancient and famous town upon the step it has taken in completing the union of its institutions of higher education and on the near prospect of becoming a constituent college of the Victoria University.

This is the youngest of the remarkable series of collegiate foundations which have marked the long and glorious reign of our revered Sovereign. At the end of the great war there were only the two ancient universities in England, the four in Scotland, and one in Ireland. The sixteenth century in which the revival of learning in England was marked by the foundation of Christ's Church at Oxford and Trinity College at Cambridge, saw no new university arise like Dublin, Edinburgh, Leyden, and many others on the Continent. Two attempts only were made—one by Wolsey in his native town at Ipswich, the other, and the last for 200 years, by Cromwell at Durham. Each died with its founder.

In 1827, however, University College was founded in London, in 1837 it was united with King's College and the London Schools of Medicine in the University of London, and since then, besides the University of Durham there have been founded Owens College at Manchester and University Colleges at Newcastle, Birmingham, Liverpool, Leeds, and Bristol, besides the two in Wales which have been lately united to form a federal university. This is a good, probably a sufficient, number of foundations for the present. May none of them languish for want of funds or decline from their original aims! To avoid such competition for easy terms of graduation as has done much evil in America, we must look to confederations like that which Manchester, Liverpool, Leeds, and now Sheffield have formed. Education must be cheap in money, but expensive in time and labour. Not only must endowments be provided for professors and demonstrators, for bursaries and exhibitions for poor students, but laboratories, libraries, museums, and observatories must gradually be established. Probably some division of work may help each to be better equipped, and students of confederated colleges may perhaps be encouraged to migrate from one to another in order to secure the best opportunities of mature study.

When we recall the great results which have been produced in learning and in science by the universities of little towns like Giessen, Würzburg, Tübingen, or Göttingen, we may well feel ashamed that here in England our great and rich manufacturing cities were so long without any like institutions. But although we have long arrears to make up, we have now made a beginning. We have in the Johns Hopkins and other modern universities in America examples of what may be done when wealth is given or bequeathed for worthy objects, and its expenditure entrusted to those thoroughly competent for the responsible task of founding a university. A university is no adult boarding school, no machine for printing letters after a man's name, no workshop for trade, no playground for busy idleness. It is an institution

which provides the best means at the disposal of each generation for increasing and imparting knowledge.

You who will soon be students of a university will learn much which is not taught by your teachers. At least, if I may speak for our own students in London, while we do our best to help them, they learn, I believe, still more from each other. You also will profit by mutual impact and friction. You will learn many of you how to work, you will learn some of you how to play. You will find out your own foibles and also your own strength; you will learn the noble lesson of admiring the qualities that excel your own, and of encouraging the weakness that is greater than yours. While reading will make you full and writing exact, conference will make you ready. You will lose little peculiarities of speech, of manner, of dress; you will become polished by constant attrition; you will learn habits of business; you will form clubs and associations, will become members of committees, secretaries, and even chairmen. You will learn

> Das gute zu lohnen, das böse zu strafen
> Heilen und retten.

Still, the main object, I take it, of this and of every other college is knowledge, to help its acquisition and to increase its sum. In the one aspect it is a school, a discipline, a "knowledge shop;" in the other it is a laboratory, an observatory, a "knowledge factory." Both objects are in the highest degree worthy, and important to the true interest of the nation. They may be pursued separately, but as a rule the sooner a learner is set to work to find out as well as to receive knowledge the better, while as a rule the investigator gains by being a teacher as well.

But there are two sorts of knowledge. We say a child knows how to talk, a boy knows how to swim, a girl knows how to dress, a woman knows how to cook, a man knows how to drive, or how to work, how to obey, or how to rule. Such knowledge we call practical, its end is action, doing, or making, and its result is either well or ill done. This knowledge the greatest philosopher shares with the rudest savage, nay with the brutes. The knowledge how to run, to swim, to hunt, to construct dwellings, to rear the young are all learnt and practised by man and animals alike. To advance in such knowledge we in modern language restrict the word invention. Of the many inventions that man has sought out the first and most important was probably making fire, then came the knowledge how to make stone hammers, flint knives, bows, arrows and throwing sticks, nets, houses, clothing, pottery, ploughs, and carriages.

This kind of knowledge has gone on increasing from the palæolithic age, from a time when we scarcely know whether man was man at all, down through prehistoric and historic ages till the present hour. The progress in this practical knowledge—the knowledge how to do—has often been very slow, it has sometimes gone backwards, and it has always been irregular. Thus it is strange that the operation of trephining the skull was practised by the cave-dwellers who preceded all historical records in Europe; strange that the ancient civilisation of China, India, Babylon, Nineveh, and Egypt was so backward in the art of war which was always practised but never learnt, if we compare them with the barbarous Latin race; strange that the Greeks, who excelled all other people ancient or modern in sculpture, should have remained such elementary builders.

It is melancholy to look back on the almost complete destruction of Greek civilisation by the Mohammedan conquest, and of Arabian art and learning by the Gothic arms in Spain; and here in England we are reminded whenever we dig deep foundations for a new bath or theatre or college, that these evidences of cultivated life once covered the Roman province of Britain, and were almost completely blotted out by the invasion of our heathen forefathers. Still the periods of immobility or retrogression have been limited both in time and in extent.

Even the great catastrophe of the Fall of the Western Empire, and the still greater calamity of the loss of Constantinople, put back the knowledge of the arts of life much less than has been assumed by those who spoke of "the Dark Ages" with an obscurity which was chiefly subjective. The most learned archæologists tell us that the civil and military architecture of the Roman Empire, with the rest of its material civilisation, was never wholly lost, but became the direct parent of the apparently independent arts of the middle ages. In any case, no one can fail to be struck by the rapid progress in knowledge how to do whatever man wants to do since the close of the fifteenth century, and the progress has not only been rapid but also uninterrupted. Since the invention of printing, every fifty years have been marked by some striking and useful advances in the arts of life, in agriculture, mining and metallurgy, manufactures, navigation, engineering, medicine. The progress in means of illumination from tinder-boxes and dip-candles (which many persons still living remember) to lucifer matches, gas, and electric lighting, and the marvellous advance in ease and rapidity of locomotion by steamships, railroads, tramcars, and bicycles, are perhaps the two most remarkable achievements of the nineteenth century; but if so, they are only striking examples of an almost universal onward course.

May it be added in passing, that when Frenchmen and Germans, Englishmen and Americans, exult in these marvellous results of "knowing how to do things." as if it had all been attained by our own wisdom, it is well to chasten our boastfulness by these reflections. First, we men of the nineteenth century have not done it all, or even the greater part of it. The progress of tactics and navigation in the sixteenth century, the progress of medicine, physiology, and fortification in the seventeenth, the improvements in roads and in stage-coaches, and the completion of inland navigation, which occupied the reign of George III., were not insignificant achievements. Many of our modern inventions are old—breechloading cannon and revolvers, for instance; some previous inventions have not been carried out successfully—aërial navigation, for instance. On the whole, the most important contributions to modern civilisation in its material aspect were due not to the four leading nations, as we call ourselves, but to Italy and to Holland. Moreover, as means of locomotion and communication increase, the world becomes more uniform, and therefore less interesting, and travelling loses in instruction what it gains in comfort. Lastly, we must not forget that this nineteenth century is the only period in which the buildings, furniture, and clothing of civilised countries are mean and ugly—inferior not only to those of previous times in Europe, but to those of less civilised nations at the present time.

Of the fine arts music alone is still progressive, painting alone can be said not to decay, architecture is only imitative, and sculpture is dead, though unhappily not yet buried. The ordinary dress of men is so hideous that it makes noble portraiture almost impossible. Whether we go to Paris (justly still the capital of civilisation) and observe the Eiffel tower or the statues of Ney belonging to the earlier, or of Joan of Arc belonging to the latter part of the century, or study the modern sculpture of Italy (*optimi corruptio pessima*), or the Neue Pinakothek at Munich, or the objects which stand in London to perpetuate the names of Byron, of Burns, or of Mr. Peabody—and compare them with what remains of the arts of past ages in Paris or in London, in Florence or in Nuremberg, we must feel that the marvellous convenience of modern life has a serious drawback.

There is, however, another kind of knowledge to which mankind has always sought to attain: not the knowledge of how to do something, but the knowledge of how and why things are. This is speculative as distinguished from practical knowledge, scientific as distinguished from technical knowlege, ἐπιστήμη as distinguished from τέχνη. The desire for it is less universal, and comes later both to the individual and to the race. The child knows how to walk and talk long before it asks why the sky is blue, or why dogs have four legs and children two, or "if everybody once was a baby, who were the nurses?" (Sully.) But the desire for speculative knowledge is as old as the oldest historical records, and the first questions were like those of children—very far-reaching, very bold, and very unanswerable. What am I? What is the world made of? Why is this as it is?

Allow me to illustrate the difference between practical and speculative knowledge, and the methods by which each is attained: Two boys want to move a heavy stone. They are not strong enough to do so by lifting or pushing; but, casting about for means, one finds a stick, and, thrusting it under the stone, prises it up. He has found out how to do it. He has invented the lever. But the other boy is not

satisfied with knowing how to move weights easily. He wants to know "the go of it," as Clerk Maxwell when a child said of a toy, how and why it works. Explanations are readily given. "It is because God made it so." True, but beside the mark; for final causes, as Bacon said, are barren virgins. "It is because a stick was once a living tree—is therefore more excellent than a dead stone." "It is because there is greater appetency to movement in a long stick, since your hands are further off, and what we are furthest off from we desire most, as dinner." "A stick naturally causeth movement, for if you show a dog a stick he runs." There is a power in a stick so applied which is called *vis motatoria*, and the longer the stick, it stands to reason that the *v. m.* is greater. "That is all nonsense," says the practical man; "the reason is, you get a better purchase—why of course you do."

But our philosopher does not explain, he investigates. He tries an iron bar, and finds it does as well, or better. He lengthens both arms, and finds no advantage; he makes them equal, and loses the advantage he had. He measures the movement of each end of the stick, and finds the inverse relation of range and energy of movement. Next he puts the fixed point at one or other end instead of midway, and finally measures the weight of the stone raised and the pressure of his hand, by putting so many stones of the same size at each end of the lever. Thus he discovers that the product of weight into distance is equal.

This is true science—not a mere enumeration of facts like making a list of plants, or describing the surfaces of a bone, or mapping out the constellations. These are only preliminary tasks. The scientific inquiry is how they came into being, how they are related, and how they work.

The attraction of these scientific inquiries is that of a purely intellectual pleasure, the delight of a reasoning mind overcoming difficulties and arriving at its goal, like that of a healthy body surmounting obstacles and reaching its object. No doubt the pure sciences often sprang out of utilitarian arts. Thus astrology led to astronomy; botany was cultivated for the sake of medicine, chemistry in the hope of finding gold, and trigonometry for measuring land; but the purely intellectual inquiry gradually dropped its useful or sordid, or superstitious origin, and went on with its own objects and its own methods. In the long run, as we know, pure science has lavishly repayed the debt of its origin. Medicine has gained its most valuable results from physiology, mining from geology, metallurgy from chemistry, and navigation from astronomy.

Now of this speculative scientific knowledge I believe we may say that it never rises to certainty, and that it never can go beyond certain limits.

We know only in part. We can only know phenomena. The ancient philosophers aimed too high, at understanding the absolute truth of things, the essential nature of their existence. "All things are made of earth," said one, "all of fire," or "of water," or "of air," said others. These "elements" we now know are far from elementary, and every few years another element is discovered almost without notice, or with scarcely more than attends the discovery of a new planet. The real interest is in the universal relation of the elements and their arrangement in complicated but orderly series. But the notion of a substance, of something essential and real, underlying all "accidents" or appearances, this must be given up. The endless speculations and arguments on what is sub- or super-phenomenal ended in nothing, and served only to sharpen human wits and to put up a warning sign post on the path of metaphysics—this way leads nowhither.

At first sight it seems as if mathematics were absolutely certain, and an instance of successful deduction leading to true results. But it is so only as abstract numbers and abstract forms are its subject matter. We define points and lines and figures which have no real existence, and when mathematics is no longer pure but applied, deductive reasoning must needs be corrected by observation and experiment.

If we determine, however, to abjure every belief which cannot be substantiated by the senses, we come to this strange result. Say that not only the external world is material, but also that we ourselves are only machines, and governed only by physical and chemical laws, still the only evidence we have of the existence of matter is by its phenomena and of these phenomena by our own consciousness. Thus a little knowledge leads to materialism, but deeper consideration turns us back again to idealism. The retina and the cerebrum with their functions of sight and thought are as much phenomenal as rocks and stones and trees. Nay, the whole material universe may be as unreal as the names by which we speak of it, or the opinions we hold of it; and its existence may be only, as Berkeley sublimely imagined, in continuous creative thought.

Of what, then, have we true speculative knowledge? Of nothing absolutely, of nothing perfectly, but of most things probably, and to an indefinite though not an infinite extent. Probability is not only the guide of life; it is the guide of speculation no less than of practice, of thought no less than of action.

The proof lies in the event. A mathematical deduction must be modified before it is applied to the construction of a machine or to determine the path of the heavenly bodies, but when so modified, the machine does what it is intended to do, and the rising of stars can be foretold. That the study of the relation of the atomic weights of metals is not only an intellectual amusement is shown by the fact that the equivalent and even the properties of a new metal can be prophesied before it is discovered. From knowledge of geology the existence of gold in certain regions has been foretold and verified. From finding a femur with three trochanters, it has been confidently anticipated that the number of toes in that skeleton would be uneven, and when the metatarsus was unearthed it was so. From consideration of what we call symptoms we can predict that a fever will cease at or about a certain date, and it does so cease, or that a certain microscopical change will be found in a limited part of the nervous system, and so it is found.

Only we can never be absolutely certain. All these events are in different degrees probable, some so highly probable that we speak of them as certain, others only more probably true than untrue.

Moreover we are often baffled if we try to arrive at exact knowledge of facts by some illuding difficulty. The weights of oxygen and hydrogen which make up water have been long known approximately, but it is remarkable that several independent, minute, and laborious experiments—the last carried out by Lord Rayleigh—differ from each other, and none of them arrive at the precise results expressed by the familiar symbol H_2O.

The limitations of science are well illustrated in the physiology of the circulation. When deductive reasoning from general principles was abandoned for direct observation and experiment, Harvey discovered that the heart was muscular, that its contraction was active not passive, and that it drove the blood round and back again. Malpighi discovered the capillary vessels which Harvey had only surmised. Hales showed the meaning of blood-pressure and Ludwig and many others have completed the account, until the circulation is now reduced to hydraulic principles and its adaptive regulation by the nervous system understood. But if we are asked how the thing is done, we say that muscular fibre is a machine for converting the chemical energy of our food into kinetic energy as movement, and that the systole of the ventricle, the movements of the hand, and (as Burdon Sanderson has shown) some of the movements of plants are all essentially the same, and identical with the movements of unicellular animalcules or of a white corpuscle in our blood. And when at last we examine the amœba, where

> Nature's self untwisted lies
> Into its first consistencies.

we find that all our previous knowledge, interesting and in every aspect valuable as it is, respects only the outer framework of the central mystery; the problem of why the amœba moves is the problem of animal movement generally, and apparently as insoluble as ever.

We may ask whether the same kind of certainty—that is to say, high probability—applies to other kinds of intellectual belief, which rest neither on deductive reasoning nor yet on observation and experiment. It is often said of matters of taste, "*De gustibus non disputandum;*" but this is not because taste is too uncertain, but because it is too certain for argument. If I say that Sheffield, like other great manufac-

turing towns, is ugly, but that, unlike most of them, it has beautiful country close to it, I may in one sense be guilty of bad taste, but no one would dispute the facts. Is there any fact in science more certain than that Titian was a great painter? And why? Because that was the opinion of contemporaries; because it has been held ever since in succeeding generations, with very different tastes, by men of different races and languages all over the world; because it is held by all those who themselves excel in painting; and because it may be foretold that if anyone who has no judgment (or a wrong judgment) on the matter will study the best paintings and learn to paint he also will be certain that Titian was a great painter.

The same remark applies to the masterpieces of Greek, Italian, and English literature. Of contemporary works the best critics sometimes judge amiss, but their errors are corrected by subsequent generations or by the opinion of oreign critics, who form a kind of contemporary posterity. For myself I believe that the same confidence is properly felt in such matters as right and wrong, truth and falsehood, goodness and natural affection. But here feeling comes in, and each one must form his own creed for himself.

Leaving now more or less theoretical considerations, may I as a student and teacher for most of my life offer you some hints which may possibly help you in the acquisition of both kinds of knowledge—skill in doing things and mastering natural philosophy? To take the latter first—remember that in scientific studies the method is everything: Exactness, measurement, accurate observation, forming theories to be confuted or confirmed by fresh observations or experiments. Philology or grammar can be learned as scientifically (that is, as thoroughly and rationally) as chemistry or physiology, and physics or botany may be taught as unscientifically (that is, as thoughtlessly and mechanically) as lists of dates or verbs in $\mu\iota$.

Certain things you must learn by rote; don't trust to *memoria technica*, except to any that comes to you of itself, but depend on frequent repetition and reiterated writing out.

Make sure of everything you see or hear or feel. Never persuade yourself against your senses that you see what you are told to expect, and be almost as much ashamed of a false observation as of an untruthful statement.

Beware of metaphysics, of metaphors, of rhetoric, and of undefined terms. Never go very far from facts, nor trust your arguments but for very short stages. As Hunter wrote to Jenner when he argued about the hedgehog's hybernation, "Don't think—try." When you meet in a scientific argument (or any argument for the matter of that) with such phrases as "obviously," or "it needs no reasoning to show," or "as a matter of course," prick up your ears; such phrases often hide the weak points of an argument.

One of the most acute and sincere of public writers once argued that cats and dogs are our fellow creatures (which is true, since we were all created by the same Power), and then that we are bound to act to our fellow creatures as we would wish them to act to us (which is true of our fellow men), and therefore that we are bound to treat cats and dogs as we would wish them to treat us (which is absurd).

Nature, personified, is a figure of speech, and I venture to think a foolish one. The *vis medicatrix naturæ* is a figment which owes its prevalence to its Latin dress, and should follow the old adage that Nature abhors a vacuum. Remember that diathesis is only Greek for disposition, metamorphosis for change of form, and metabolism for changes of chemical composition. If a tonic means a strengthening medicine, ask yourself whether strength, that is, energy, can come from anything except oxydisable food. What is meant by an alterative and what does it alter, what by an absorbent and how does it absorb?

Never accept an explanation without testing it. A real cause is an invariable antecedent of the effect. If negroes are dark because they live in hot countries, why are Esquimaux dark who live in cold? I getting wet through causes rheumatism, why do people get rheumatism who are not wet through, and why do you often get wet through and escape rheumatism? If rising early makes a man wealthy, why are farmers not richer than Jews? Remember that even a syllogism may mislead us. As Dr. Dickinson wittily says, "Nature sometimes allows us patiently to establish the major and minor premisses and then calmly denies the conclusion."

As soon as you have the opportunity get some "research," however humble and limited, entrusted to you. Meantime miss no chance of seeing, feeling, hearing, or even smelling the things you have to do with. Get as close to the facts as you can, and as far as possible verify all you are told. Make your own notes and diagrams, and draw, however roughly, whenever you can put a note in that form.

In reading you must depend on textbooks, but as soon as you have passed through your preliminary studies try to get a sight of the documents on which textbooks and cyclopædias are founded. You will sometimes be surprised by the clearness and pregnancy of the original statement, sometimes by its obscurity and imperfection. The most fruitful as well as the most scientific way of studying a subject is to study it historically. Questions of priority are seldom worth fighting for, but you may be certain that no great advance in science was ever made by a single man. Harvey was preceded by Servetus, Newton by Des Cartes, Lavoisier by Black and Cavendish, Bell by Magendie. Remember the good work that each has done, forget their imperfections, and especially remember such honourable and generous behaviour as that of Wallace to Darwin. Get a sight of great men's portraits and memoirs when you can; it will help your memories and prevent you supposing that Wurtz was a German chemist, Du Bois-Reymond a French physiologist, or Avogadro a Moorish alchemist. Take every chance of seeing and hearing scientific leaders at the universities or at the Royal Institution or Royal Society, in Paris or Berlin or Heidelberg or Breslau. Learn German in order to read German books, for in no branch of science can you do without them; and duly reverence the learning and intellect of the great German masters; but do not suppose everyone who writes in German to be equally clever.

I need not warn young men against being too conservative, but do not think the last book is always the best. Neither despise books because they are written in English, nor refuse knowledge from any quarter. Who expected to learn from Spain the minute structure of the most complicated tissue of the body? The right attitude to take to a new discovery is, I think, exemplified by that of Lyell and Hooker to evolution. The latter particularly combated every argument of Darwin in the most friendly and the fairest way. After a long time he was convinced, and at once joined his antagonist. For naturalists who did not know Darwin's facts it was, I think, right to hold with Cuvier against evolution up to 1859, to be doubtful for a short time, and after the publication of *Animals and Plants under Domestication* to hold with Darwin. He discovers who proves, and the highest praise for a man of science is that his opinions follow evidence. It was no credit to Erasmus Darwin, or Lamarck that they advocated evolution without proof. Thales was not more intelligent than the other wise men of Greece if he asserted that the earth goes round the sun; the Ptolemaic system was not founded on ignorance, but on learning; and phrenology is no less an imposture because without evidence its founders on one point anticipated the results of subsequent investigations.

And now for a hint or two to those who, while rightly desiring scientific knowledge, look on it as the introduction to practical skill: to students of medicine, metallurgy, and other applied or technical knowledge.

First, I would say, cling to the scientific basis of your art, the engineer to mathematics, the miner to geology, the steelmaker to chemistry, the medical student to physiology in its widest sense. Your intellectual pleasure in following your several callings, your hope of perhaps improving technical knowledge yourselves, and your appreciation and criticism of the work of others depend on keeping up your scientific interest.

Secondly, I would urge you to put out habitually and constantly your full strength. If you run, run at your best speed or for your longest course. If you cross a brook on stepping stones, fall in no more than if it were a dangerous torrent. If you walk on the top of a wall, let each step be as sure as if you were on an *arête* with a precipice on each side. If you add up a column of figures, make sure the same is

correct (addition, and particularly compound addition, you are likely to find difficult through life). If you are asked a riddle, do not give it up, but tackle it; most riddles are framed on a few common lines, and with practice and effort are soluble. If you pass a field, guess its acreage and verify it; estimate the breadth of a river or any weight or dimension which you can afterwards test. Ask yourself the composition of every stone you pick up, the botanical or vernacular name of any flower you pluck. If you are fond of pictures, guess the name of each painter from his work, and mark your misses as well as your hits. In speaking and writing, strive to be audible or legible, clear and distinct, to admit no slovenly abbreviations, no meaningless expletives, no un-English idioms. Never use a word of which you do not clearly know the meaning; never use a long one when a short one will do as well; never say "commence" for begin, "assist" for help, "transpire" for leak out, "predicate," or "suggest," or "point out" when you mean state or affirm. Never quote inaccurately. If you have to speak in public never regret that others better qualified have not been asked, for first you imply a censure on your chairman; secondly, you compare others with yourself; and, thirdly, you assume that you were asked to speak for your eloquence, and not that your hearers might be amused by seeing a good man struggling with difficulties.

In your reading choose the best books and never read rubbish. There is no relaxation in reading vulgar or silly books—they either irritate or degrade. You need not read Bacon's *Essays* or *Samson Agonistes*, the *Faëry Queen*, or the *Excursion* for amusement. But what can be more entertaining than *Robinson Crusoe*, *Joseph Andrews*, or *Guy Mannering?* Or if you prefer modern writers, than *Pendennis*, *Wives and Daughters*, *Kidnapped*, and *In the Jungle?* It needs just a little effort to read literature instead of trash, books instead of magazines. But if you make the effort, I can promise you will never regret it.

If you seek for pleasure you will assuredly fail to find it, even if the wealth necessary for the attempt were yours: but if you do not seek it, it will come. For the greatest pleasure is in putting forth the energies of body and of mind, in living up to your full powers.

We know how in mountain climbing, in rowing, in any continued exertion, the breath fails, and the muscles are tired after a time, and the temptation to cease effort seems irresistible; but we know also that if instead of sitting down or "easying" we go doggedly on, the second wind will come, the heart beats steadily again, and we find the exertion a pleasure and not a pain. So mental effort has its dull and irksome periods (even preparing an inaugural address) but if we stick to it, difficulties yield, progress is made, and perseverance conquers.

We have, each of us, his own appointed limits. If you train, you will be able to leap many inches higher than you could at first, but the rapid progress of the first week or two becomes gradually slower, and at length no further practice, no effort of the will, suffices to increase the height you can jump. So it is with mental work. By effort and by practice we can each increase our powers and improve our results. But we shall find our quickness and accuracy of observation, our sureness of judgment, our insight, and powers of reasoning have their limits. I promise you, therefore, no impossible results. Each in his own order. You will still look up to the heights attained by Newton and Lavoisier and Faraday, by Pascal and Helmholtz and Ludwig, with increased, not diminished, admiration, because you have climbed a little nearer them. But the prize is not in the result but the effort. *Labor ipse voluptas.* The strenuous exertion of the powers we possess, the faithful use of the one or the many talents entrusted to each of us, this earns the immortal garland to be won, not without dust and sweat. Each of us has his own powers and they are equal to the duties of each.

> Honour and shame from no condition rise.
> Act well your part—there all the honour lies.

We may not, we dare not decline the contest or desert our post of duty;

> For we are set like sentinels, who watch
> Through starless nights and wait the appointed hour

and we can never enjoy the full happiness of active exertion of body and of mind, the pleasure of work and the pleasure of rest, the cheerful spirit, the sunshine of the soul, unless we do all our daily tasks

> As ever in the great Taskmaster's eye.

ST. GEORGE'S HOSPITAL.

By Patrick Manson, M.D., LL.D., F.R.C.P.,
Lecturer on Tropical Diseases at the Hospital.

THE NECESSITY FOR SPECIAL EDUCATION IN TROPICAL MEDICINE.

I have been asked by the authorities of this school to speak a word of welcome to those of you who to-day commence your systematic medical studies. I congratulate you on two things—one, your choice of medicine for your profession; the other, on your choice of St. George's for a school.

Though the medical profession is by no means a bed of roses, perhaps more than any other it is one which, to him who follows it in a proper spirit, is full of good things. It is intensely interesting, it is a recreation as well as a study, its influence on society is rapidly increasing, it is a fairly satisfactory means of getting a livelihood, and, above all, it is full of boundless opportunities for doing good. What reasonable man could wish for more?

As regards your school, apart from its associations with the past—associations such as few can boast—I can confidently claim that of all the metropolitan medical schools none have shown of late years more energy, greater determination to keep with the times, or more far-sighted enterprise. Nor have the students been unworthy of their school; for St. George's men are known all over the English-speaking world as accomplished physicians and surgeons. More than this, and in a great measure owing to the high tone of the school and of its social life which has been carefully cherished by the teachers, they are known as good citizens, brave soldiers, loyal and devoted public servants, and, even better than that, as gentlemen. You come, therefore, to an Alma Mater of honourable repute; it must be your care to maintain, and, if possible, to add to this reputation.

In congratulating you on your choice of a school, I do so on the strength of what, since I had the honour of being connected in a humble way with St. George's, I have observed here for myself. I have been especially struck with the energy I have already referred to and the foresight in the management. In every department I find these. Naturally the institution of a lectureship on tropical medicine has appealed to me more especially; but this is, I see, only one evidence of the spirit that runs through the entire management. Laboratories, museum, teaching appliances, and teaching are all of the best and most advanced description; and I am especially pleased to remark that the students, so far as my opportunities have enabled me to judge, are not slow to avail themselves of their exceptional opportunities. The mere fact of my being asked to address you on this occasion, I believe, is but another evidence of the desire of the authorities to advance, to extend, and to improve the training they offer. They seem to be impressed with the desirability of something being done for one of the neglected departments of medical education, for tropical medicine, and as they know the interest I take in this subject I have an idea that this is the reason why I have been asked to come here to-day. I fancy I am expected to ventilate the matter.

This being so, the first remark I would make is, that the systematic teaching of tropical medicine, ere many years are over, will be universal in our medical schools. Those who can read the signs of the times, and who are best able to judge, regard this as inevitable. Why? Because our country is the centre of a great and growing tropical empire; and, secondly, because tropical diseases, in many respects, are widely different from the diseases of temperate climates, which, practically, are the only diseases about which at present the student receives instruction. There are dozens of diseases more or less special to the tropics, diseases which demand special knowledge for their diagnosis and successful treatment. Rather over a fifth part of the medical graduates of Great Britain and Ireland practise in warm climates, or,

being in the army or navy, may be called upon to do so. Surely, if tropical practice is so different from practice here, it is highly desirable that this vast army of medical men should be properly equipped for their special work. It may be said, and has been said, that as the principles of pathology and therapeutics are the same the world over, they apply in India as well as in England. Quite true. But we have not to do merely with the principles of pathology and therapeutics. As a practical profession we are more concerned with their applications, which is quite another matter. Similar objections might be, and formerly often were, raised about giving special instructions in such branches as eye disease, skin disease, and so forth; but the advance of our art, and the requirements of the public have long ago swept aside these objections. So it is now with the teachings of tropical medicine as a special subject; and so in the near future it will be.

A principal reason why hitherto there has been so little done in this matter is this. Candidates for medical degrees know very well that they will not be asked any questions about tropical disease by their examiners, and so they have not demanded instruction in this subject. And the reason why questions are rarely put on tropical medicine is that the leaders of the profession—those who man our hospitals, who fill the the teaching chairs, who examine for degrees, who grant licences to practise, who make the regulations for the education of the youth of the profession are, in almost every instance, men who have never practised in warm countries, and who themselves have never felt the necessity for a wider and more practical knowledge of the diseases peculiar to these climates. Not having themselves felt the want, they have been slow to acknowledge that such a want exists, slower still to apply the remedy.

But ask those who are best qualified to express an opinion on this subject. Ask the medical men who have themselves felt the responsibilities of practice in the tropics, and more especially those of them who have endeavoured to follow recent developments in tropical pathology. Ask them if they do not think that the medical man who goes out to battle with tropical disease should have some special instruction and training for the very special and responsible work he has before him, and if they do not think that the medical authorities should take care that the men who do so go out to practise should be properly qualified so far as teaching can qualify. I am sure of their answer. Unfortunately, most of the men of tropical experience live and practise away from the great medical centres. They are hardly represented on the medical teaching, graduating, or legislating bodies, and so it comes that their opinions do not make themselves felt, and that a much needed reform is delayed.

It is more especially of recent years, partly in consequence of the enormous expansion of our empire, and partly in consequence of the advances in tropical pathology which have signalised the last two decades, that the claims of tropical medicine have become urgent. Formerly the little that was known about tropical disease could be carried in a waistcoat pocket. But of late years so great has been the advance that nowadays the subject is quite as extensive and quite as special, so to speak, as ophthalmology, dermatology, gynæcology, or as any of those departments of medicine which claim and receive special teaching. More so. When the practitioner in this country is puzzled about a case, it is an easy matter for him to call in someone known to be familiar with the class of case he is in trouble about. But in the wilds of Africa, in the islands of the Pacific, in lonely stations in India or China there is no consultant to fall back upon. The practitioner there has himself alone to depend upon. And woe to his patient and, if he has a conscience, to his future peace of mind if he is not up to date in his knowledge.

The course of instruction in general medicine usually received in this country is utterly inadequate to qualify for tropical practice. I say so emphatically; basing my assertion on my own experience, my own mistakes, and what I have seen and still daily see of the mistakes of others.

Let me illustrate this by a few examples. Take that great scourge of mankind, greater perhaps than tubercle itself, namely, malaria. This is eminently a tropical disease. Every day the tropical practitioner is fighting it. Yet what does the student and future tropical practitioner actually know about malaria when he is stamped as qualified to practise his profession even in the haunts of this disease. He may possibly recognise a tertian or a quartan ague, and he may know that quinine will cure them. Ten chances to one his malarial patients know all that quite as well as he does himself. But could he any more than his patients tell a malarial remittent from an enteric fever? Could he diagnose a pernicious malarial attack, from cholera it may be, from thermic fever, from apoplexy? He has heard of the malaria germ; but has he seen it? Could he recognise it? Has he been taught to find it for himself? To make use of the fact of its presence or absence in the circulation as an infallible means of diagnosis? What would an examiner nowadays do with a student who could not recognise and demonstrate the tubercle bacillus? He would pluck him. At all events, were I an examiner I would pluck him. And if I were an examiner and found that a student intending by-and-by to practise in the tropics could not recognise and demonstrate the malaria parasite I would do the same. For I know that the malarial parasite is just as important to him and his prospective patients as the tubercle bacillus is, and that the ability to recognise and demonstrate it is just as necessary for the tropical practitioner. In those terribly sudden forms of malaria which now and again will be sprung on him, perhaps the only reliable means of diagnosis lies in ability to recognise the malaria parasite. Life hangs on it. Dr. Andrew Davidson, whose experience in tropical medicine has been very great, and whose judgment and knowledge are on a par with his experience, on my telling him I was to speak about these things to-day and sympathising with my views, at my request sent me some memoranda on the subject. He relates a case which well exemplifies the necessity for knowing something about malarial disease before attempting to treat it. He writes: "I had not landed many weeks in Madagascar when I was called upon to see a patient who I was told had been suddenly seized with what was looked upon as an apopletic fit. This was in the afternoon, and when I saw him about an hour afterwards he was lying unconscious, the body in a state of complete resolution. The skin was cool, the pulse and respirations were slow, and there was no stertor. His condition suggested cerebral hæmorrhage or thrombosis. It was, indeed, in a certain sense a case of thrombosis, for as it turned out the patient was suffering from the apoplectic form of pernicious malarial seizure in which as we now know certain capillary areas in the brain are permanently or temporarily blocked by malarial parasites and pigment. The disease is by no means a rare one in malarious countries. It had long before been described by Torti. I had read in Graves's lectures of the soporose or comatose seizure in which fever is a prominent symptom. Here there was no fever, and the possibility that it was a malarial attack never entered my mind. What the precise brain lesion might be I could not decide. But something had to be done, and I saw nothing better than to place a drop of croton oil on the tongue, apply a blister to the nape of the neck, and warn the relations to prepare for the worst. I was gratified to hear next morning that after remaining ten hours insensible the patient had recovered consciousness; but what surprised me most was that there was no paralysis. The patient's chief complaint in fact was the blister. In the afternoon of the same day the patient was seized with shivering, fever, and sweating. There could now be no difficulty either as to diagnosis or treatment. The patient probably owed his life to the fact that the apoplectic seizure did not recur and prove fatal, as it often does when treated on the lines I had followed. What I conclude from this is that grave mistakes would often be obviated by special instruction in tropical medicine." Dr. Davidson remarks, "Experience, no doubt, is a good teacher; only the fees are very heavy." The microscope would probably have diagnosed this case correctly; but then one must be taught how to apply it.

I could relate from my own experience many similar stories illustrative of the danger to life with which a working experience in malaria has been bought. As with malaria so with many less important, though nevertheless very important, tropical diseases. What, I would ask, does the student learn of practical about beri-beri, a disease which, if he is to practise in the tropics, he is almost sure to encounter often enough, although he may not recognise it when he does come across it? Beri-beri is a very important malady.

Occurring both endemically and epidemically, it annually kills its thousands and tens of thousands. It makes the settlement of many fertile lands almost impossible. It kills off the planter's coolies like flies, and makes his plantations unprofitable It fills the hospitals, and is a downright scourge in some of the fairest lands of the earth. But it is a disease which can to a great extent be prevented; and it is a disease which can, by proper management, be robbed of much of its danger. Its recognition, therefore, is of the first importance. Many times, in beri-beri perhaps more than in most diseases, early and correct diagnosis means the saving of life. When I first went to the East all I knew about beri-beri was its name. This I had sometimes seen in books. I had wondered at its quaintness; perhaps, medical student-like, I had waxed facetious about it and had punned upon it. So little did I know about beri-beri that I believed some medical writers who said that it was a kind of anæmia. Examiners, I was told, were not likely to ask any troublesome questions about the symptoms, pathology, or treatment; so I skipped the chapter on beri-beri in Aitken's *Practice of Medicine* as being, for my immediate purpose, useless. Students then, as I suppose students now, worked to pass their examinations as their primary object; to learn their profession was altogether a secondary affair. Little wonder, therefore, I failed to recognise the disease when I first came across it. I well recollect my first case, and the horror and the shame with which it filled me, and still fills me. I was then in practice in Formosa. One day I was called to see a Chinese clerk employed in a European firm. I had known him well as an active, obliging young fellow. I found the patient sitting propped up in a chair, short of breath, dropsical from head to foot, with a cardiac *bruit*, irregular, tumbling action of the heart, and complaining of a feeling of distress in his chest. As there was no albumen in the urine, and as there was a loud *bruit* with manifest disturbance of the heart, I felt convinced it was a case of heart disease, and from other circumstances in the case one which treatment would benefit. I prescribed and gave directions, and went away feeling, and probably expressing by manner, that we Europeans knew a great deal more about disease than the old Chinese doctor, who hitherto, with the assistance of the village idol, had been treating the patient. Next day I went to see the lad, expecting to find an improvement. I thought as I passed the door that there was a strange hush about the house. I entered what was my patient's room. On the bed, covered with a blanket, there was something long and rounded and still, which explained the hush I had noticed; and so I left the house sadder, wiser, and I trust, humbler than I did the day before.

Some years later, being then in general practice at Amoy, and in charge of a large native hospital, I used to see a number of Chinese soldiers who came to hospital suffering from what appeared to me, in my ignorance, to be locomotor ataxy. Some could hardly walk, others could just stagger into the out-patient room, and some had to be carried in. The significance of the knee-jerk symptom in spinal disease was then a new discovery and in those days was regarded as a sure sign of locomotor ataxy. In all these soldiers the knee-jerk was absent, and all of these exhibited what I took to be ataxic symptoms. If you would criticise my diagnostic acumen, please bear in mind that in those days peripheral neuritis had not been invented. However that may be, I diagnosed these cases as locomotor ataxy, prognosticated that they would never recover, declared that there was no immediate danger to life, put them to bed, and prescribed strychnine in various forms. But by-and-by, in utter disregard of my prognosis and of my reputation, in the course of a month or two some of these soldiers, whom I had regarded and pronounced as hopeless cripples, were walking about. Some had even returned to their military duties. This is the pleasant, not to say the funny, side of my mistake. There is another side, however, not quite so funny. A good many of these patients died—died suddenly, just as my dropsical Formosa patient had done. I was mortified as well as puzzled, What was the nature of these cases? My books did not help me. I noticed that whereas some of these paretic patients were wasted to shadows, others were swollen and œdematous. I also noticed that in most of them the muscles, especially the calf muscles, were tender. Occurring as this disease did as an epidemic and confined to a very limited area (for most of the cases came from a damp, ill-constructed fort, the casemates of which served as a barrack) and knowing that the Chinese are very fond of pork, I thought that the muscle tenderness and the œdema might be symptomatic of trichinosis. I thought I might be dealing with an epidemic of trichinosis. Indeed I went the length of searching the muscles for trichinæ. If they can help it the Chinese will not allow their dead to be dissected. I always entertained a great respect for what we, in our civilised pride, call "native prejudices;" but in this instance, in view of the importance of correct diagnosis, I thought I would run the risk of offending these for once. So with the aid of an old and seasoned native porter I smuggled one of the dead bodies into a piece of waste ground near the hospital, and there, behind a wall, excised a piece of muscle. Needless to say I found no trichinæ. In this way I groped about for a long time in search of a diagnosis. It was not till months had elapsed and not a few deaths had occurred, that I recognised that I had to deal with an epidemic of beri-beri; and it was only then that it began to dawn on me that the poor dropsical fellow who had died in Formosa some years before had really died of beri-beri, and not of heart disease after all.

For exactly the same reason, lack of proper teaching, the history of my education in the matter of beri-beri is that of most of the medical men of my generation who, in lonely places in the tropics, essayed to practise their profession. And I am grieved to say that in this matter, even at the present day, it is just as it was thirty years ago. My education in beri-beri was got by experience; the young medical man of the present day has to learn in exactly the same costly way as I did, and in the same stern school of experience. As Dr. Andrew Davidson says in his letter to me: "The fees are heavy." Only the other day I got to know that there had been no improvement in the teaching of beri-beri in all these thirty years. This is how I came to realise the ugly fact. Beri-beri is very common, you may be astonished to hear, in the port of London, especially among the Lascars and seedy boys who, in many instances, form the bulk of the crews of the large steamers trading to the East. The cases are often brought to the Seamen's Hospital. They come on written medical recommendation, and are sent as cases of heart disease, kidney disease—almost anything but beri-beri. They are very rarely correctly diagnosed. Now the ship-surgeons who make out the certificates are usually men fresh from the schools and from their examinations, and therefore, presumably, well up in all that is newest in medicine. Here is a verbatim enumeration of some of their diagnoses:—Anasarca, rheumatism, pericarditis and fits, dyspnœa, cardiac disease, debility, asthma and anasarca, Bright's disease, locomotor ataxy, myelitis, tachycardia, apoplexy, paraplegia, progressive muscular atrophy, and, of course, hysteria. I transcribe these diagnoses from the admission registers. Not once in a dozen instances is the diagnosis correct. Now it does not matter so much whether the cases are correctly diagnosed or not provided they are sent to hospital. But there is every reason to believe that many of the cases of ship beri-beri are not sent to hospital but are treated on board their ships, and that many die in consequence. When we admit a case of beri-beri from a ship we ask if there are any more cases of the disease on board, and if there have been any deaths. We are generally told that there are no more cases on board, but that there have been deaths from heart disease, asthma, or some such name, which from experience we know under the circumstances stands for beri-beri. Sailors, we may be sure, are not shipped with active heart disease, or with asthma such as would be likely to have a speedily fatal issue. I heard of one instance of a Lascar who had been shipped in India as an effective seaman. Within a few weeks he died on board ship, and the cause of his death was officially logged as locomotor ataxy—as if locomotor ataxy ever ran its course in four or five weeks! The man died of undiagnosed beri-beri, as many another has done.

All this represents a very serious, not to say disgraceful, state of matters. Most of these deaths are avoidable. No beri-beri patient should be allowed to remain in the place, whether house or ship, in which his disease was contracted; to allow this is like treating a case of alcoholic neuritis with brandy

To treat alcoholic neuritis properly you must first diagnose it; and similarly, to be able to treat beri-beri properly you must also first diagnose it correctly. But without special instruction, or without an experience bought with human life, there is as little chance of being able to diagnose the one as there is to diagnose the other.

Filariasis is another tropical disease which is often overlooked, and about which there are many absurd and even dangerous misconceptions. In most tropical countries in which the subject has been investigated it has been found that about one man in every ten is affected with blood worms. In some places the proportion is as high as one in three, in others one in two; and I know of at least two places where nearly every inhabitant is victimised in this way. Surely, therefore, it is of importance, seeing that these parasites give rise in many instances to grave disease, that the medical practitioner should know something about them, be able to diagnose their presence, and recognise their effects. But ten chances to one if one asks a student, or even a medical practitioner, to set about examining a patient for filariæ, he will prepare a very fine film of blood, such as would be suitable for the demonstration of bacteria, and that he would set to work to examine it with a twelfth of an inch immersion lens and an Abbe condenser. Now, although there may be tens of millions of filariæ in the patient's blood, the chances are they will not be discovered by such means. Most people think that when they have to make a microscopic examination the more microscope they have the better. As a rule, the reverse is the truth. Filariæ should be sought for with an inch objective, otherwise they will be missed. Though the individual filariæ are large as compared with bacteria they are relatively few in the blood. You require, therefore, to include a large field with your microscope to have a reasonable chance of finding them. If a sailor could command with his eye only the narrow horizon visible from a small boat, he is not likely to see many whales in the sea; so he ascends into the crow's-nest at the masthead, and commanding there a wide view, he can see any whale that spouts for miles around. So it is in searching the blood for filariæ—a large field is indispensable. But this is a self-evident fact hardly ever grasped by the student, unless he has it actually demonstrated to him. He seldom arrives at it spontaneously. Now exactly the opposite is the case for the malaria parasite. All this needs teaching and demonstration. The malaria parasite I tried to find for nearly ten years before through accident I finally succeeded. A Chinaman found my first filaria for me. I mention these things to show how necessary it is, if we would save time and make the best of our opportunities, to have someone to teach us even simple technique.

In connection with filariasis and blunders in diagnosis from want of elementary instruction in tropical disease I may refer to a case which I came across. The patient was a handsome young fellow, who some years before had joined a regiment of horse artillery, then in India. He got on very well for a year, liked his work, and was on the high road to promotion. One day he got a smart fever, and with the fever a pain in his left groin, which he now and for the first time noticed to be swollen. In due course the fever subsided; not so the swelling, which grew and grew until it became the size of a fist. It interfered with his riding, and so he consulted the regimental surgeon. The swelling was soft and to a certain extent reducible. Accordingly rupture was diagnosed, and a truss applied. But the truss caused so much pain that it could not be worn. It irritated the swelling and brought on attacks of inflammation and fever. Getting no better, he went to one of the Presidency towns to consult a surgeon of experience in tropical disease. This surgeon recognised at once the true nature of the swelling, diagnosed the case as one of varicose groin glands, confirmed his diagnosis by an examination of the blood, which he found to be full of filariæ, and very properly advised the patient to throw away his truss and to give up soldiering. Now a very little instruction in tropical diseases given to the regimental surgeon would have put him on the right track, would have spared this patient much suffering, time, and expense, and have reduced to some extent the military burdens of our overtaxed Indian empire.

One more illustration of my contention. In 1895, and again in 1896, Dr. Galgey, colonial assistant surgeon, St. Lucia, West Indies, sent certain valuable reports to the Government, part of which were subsequently published in one of the leading medical journals, pointing out that ankylostomiasis is very prevalent in St. Lucia and probably all over the West Indies, and narrating his experience of the wonderful efficiency of thymol as an anthelmintic. Many of you are doubtless aware that there is a form of pernicious anæmia common among negroes and the natives of hot countries generally. The patient, without obvious reason, becomes breathless, weak, anæmic, dropsical, and very likely, after a long and distressing illness, dies. Many years ago Griesinger showed that the Egyptian form of this disease was associated with—in fact, caused by—a blood-sucking intestinal parasite, the ankylostoma duodenale. In 1880, in consequence of the publicity given to this discovery by the epidemic of ankylostoma anæmia among the workmen in the St. Gothard tunnel, this fact of the relation of the ankylostoma to a form of pernicious anæmia was thoroughly established. In the same year Bozzolo introduced thymol as an anthelmintic in this helminthiasis.

Experience in Jamaica, Ceylon, Java, Brazil, the Straits Settlements and elsewhere confirmed Griesinger's discovery of the cause of this anæmia and also Bozzolo's discovery of its curability by thymol. But although these things were well known in Italy and in many parts of the tropics, their importance was missed by the teachers of medicine in England, and as a consequence the medical men who went out even, subsequently to 1880, to the West Indies, went out imperfectly informed in a matter of the highest importance to a considerable section of the people committed to their charge. Thus our fellow subjects, the poor negroes, did not have the benefit of an important advance in medical science and in practical therapeutics until Dr. Galgey found, fifteen years after it was known in Europe, that ankylostomiasis was the cause of the anæmia of the negro, and that thymol could cure it. Who can estimate the number of lives that might have been saved if tropical medicine had been taught to our West Indian colonial surgeons in 1880 and if they had gone out thoroughly informed on the subject of ankylostomiasis? Dr. Galgey writes that in the six years, 1890-95, there were seventy-two deaths in the hospital of Castries, St. Lucia. In 1896, that is to say, since he diagnosed the nature of these cases and treated them efficiently, he informs us that there was not a single fatal case of this disease. From this we are entitled to infer that the seventy-two deaths from pernicious anæmia occurring in the preceding six years were from ankylostomiasis, and that these seventy-two lives might have been saved. That is to say, an average of twelve lives a year. Or, assuming that this mortality had been going on ever since 1880, the date of the discovery of the anthelmintic properties of thymol, we must conclude that in the hospital of Castries alone 180 people died whose lives might easily have been saved. But this is not all. There are four or five hospitals or dispensaries in St. Lucia, and as there is no reason to suppose that ankylostomiasis is confined to the Castries district of the island, we are forced to conclude that in these fifteen years about 900 have died unnecessarily in St. Lucia. St. Lucia is one of the smaller West India islands. Although I know that thymol has been in use for some time in British Guiana, I do not know that it has been generally employed in the neighbouring archipelago, except in the hospital at Kingston, Jamaica. I also know that the existence of the ankylostoma has not been recognised, at all events until very recently, in many of the islands. The avoidable mortality from ankylostomiasis, therefore, for the whole of the West Indies during these fifteen years must run into tens of thousands.

This is a serious indictment against our present system of medical education, and the worst of it is that what holds good for ankylostomiasis holds good for a dozen other tropical diseases, some of them perhaps not so serious as ankylostomiasis, but some of them even more serious.

I fear that, as so often happens in medical lectures, I have spent so much of my hour in describing the symptoms and pathology of this disease of the body medical that I have little time left in which to speak of that very practical matter, the treatment. I hope, however, I have convinced you that we are speaking of a very grave disease in our educational system, and that there can be no question about the diagnosis and the indications for active and prompt treat-

ment. I have my own ideas about the latter, but as the responsibility in the case is serious I have called in a specialist of experience to prescribe. I need hardly say I fully endorse his prescription. Dr. Andrew Davidson writes: "I do not think that attendance on a course of lectures on tropical medicine should be made a part of the ordinary curriculum. It seems to me, however, urgently necessary (1) That a course of lectures on the hygiene and diseases of warm climates should be instituted in each medical school. (2) That a certificate of qualification in these subjects be granted by the licensing bodies after examination to those who have attended this course of lectures. (3) That the Government should encourage the study of tropical pathology by giving a preference to those possessed of this certificate if equally proficient in other subjects, and that appointments made from home of medical officers for tropical and subtropical colonies should be restricted to men holding this qualification."

If these suggestions are acted on, not only could vast benefits accrue to the natives of warm climates and to those Europeans who have to reside among them, but an enormous impetus would be given to tropical pathology and therapeutics, and, doubtless, indirectly to medical science in general.

By instituting a lectureship on tropical medicine St. George's has done its share to encourage this necessary reform in medical teaching. Other medical schools are following our lead. But be the schools ever so willing to second each other in this matter, without the co-operation of the General Medical Council they can do but little. As Dr. Davidson suggests—and it is the General Medical Council that can alone give effect to the suggestion—there should be a special examination and some kind of diploma for tropical medicine, and Government should countenance it.

If this reform be carried out, of one thing I am sure, and that is that those of you who in the future may go abroad to practise your profession will bless the General Medical Council for forcing you to qualify yourselves for your work.

CHARING CROSS HOSPITAL MEDICAL SCHOOL.

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AUTHORITY IN AND OF MEDICINE.

[Abstract.]

Medicine, using that term in its broadest sense, as including all that relates to the maintenance and restoration of health, owes much of the attraction which it exercises on those who study and practise it to its ever-increasing expansiveness. Looking back through the years which have passed since, as a student, I sat on the benches of this College, I cannot but be struck with the marvellousness of the change which it has undergone during that period, and if we were endowed with the power of accurate anticipation as we are with that of retrospection we should no doubt be as much astonished at the development which it will undergo during the coming thirty or forty years of its history as we now are with that which it has undergone during those just ending. [Here followed a brief enumeration of the chief advances. The remarkable anticipation of Condorcet as to the influence of the medicine and sanitation of the future in promoting health and length of life, published more than a century ago, before even vaccination was practised or there was the least apparent indication of these advances being likely, was quoted, and a brief sketch given of what has been done under the one head of "Improvement in the Sanative Art," to which he referred, since the Health of Towns Commission reported and the Public Health Acts of 1872 and 1875 were passed, the sum of the results being a steady fall in the death rate from 22.5 to 18.7 per 1000. Dr. Carter proceeded:] "Considering what has been already attained you will be filled with hope and encouragement and with a determination that the legitimate influence which medical opinion and practice ought to exercise on the affairs of the world shall never be diminished by anything that you will do. It requires but a very slight glance at modern society to see how enormous that influence is, and it should be (and if we are true to ourselves it must be) as much for the advancement of mankind as for that of our profession that it shall be maintained and extended." The degree to which our influence will extend will depend on the respect which we can gain for our opinions among the thinking portion of mankind, who alone constitute its true rulers. By authority, then, is understood the power of controlling opinion owing to a recognition of the supposed truth and justice of what we teach; for we are but little fettered by external authority. So large, indeed, is the measure of freedom granted to us that extraordinary individual whims and extravagances are not infrequently manifested within our ranks, which, however, by being wisely let alone, or at any rate controlled only by the general body of wholesome opinion that prevails amongst us and is reflected with great clearness and strength in the medical press, are seldom, if ever, developed into extensively organised systems.

But a dangerous form of internal authority is that sometimes exercised by the owners of great names, who enunciate dogmas which, though apparently true when first uttered, cease to be so as further facts are discovered, and yet trammel the mind in its efforts to advance, because of the just respect felt for their authors. Medicine being ever advancing should have no dogmas. [The long-believed statement that fever could never be cured, and Pott's curvature never suddenly reduced with safety, were given in illustration, both having recently been proved to be incorrect.

To authority of another and more insidious kind which is threatening to weaken the vigour of the medical profession attention was then directed.] This consists in the absurd lengths to which specialism is being carried. The departmental habit of mind is a narrowing one, yet it is directly fostered by these ridiculous extremes. They impair the power of forming a just and comprehensive conception of man as a whole, whose organs are mutually interdependent, and tend to encourage a belief both in the public and professional mind that the human body is composed of a great many minute and independent parts, and that he alone can speak with authority concerning any one of them who has devoted himself exclusively to its consideration. The *Twentieth Century Practice of Medicine*, now in course of publication, affords an apt example. Here small portions o organs, or systems of organs, are considered each by an "eminent authority." Taking the respiratory system, the nose in its medical aspect is under the care of an eminent authority in London; but, lest he should be weighted with a burden that might prove intolerable to him, the adjacent naso-pharynx, pharynx and tonsils have to be considered by another in France, while a third—this time in North America—takes charge of the larynx; but the trachea and bronchi, being too much for any one man, are consigned, the first to one eminent Scotchman, and the second to another; the lungs—but only on the understanding that nothing is to be said of influenza—are confided to a South American; while the last department, that of the accessory sinuses, falls to New York; and a fine comprehensive idea of the disorders of man as a whole will any student possess who lives long enough to acquaint himself with all the diverse views thus set forth. The assumption seems to be that by this minute subdivision of labour between us, bit by bit we can get to the very heart of things, and solve all the mysteries of life and disease. [Illustrations of the harm in practice of the unnecessarily minute specialism, and of the advantage of that just specialism rendered necessary by the many-sided ness of medicine, were then given. The first was to be discouraged by the assiduous cultivation of a robust, if modest, independence of mind, founded on an accurate knowledge of facts actually and often observed by means of all available instruments. This would enable medical men to enter on the work of their lives with a quiet and assured confidence in no other way attainable—a confidence in themselves which would make them unassailable by the criticism of those whose practice was more special than their own.] It is (said Dr. Carter) fear, arising from consciousness of ignorance, that brings mental subserviency, and makes a man readily defer to the dogmatically asserted statements of others; and it is not fair to ourselves or our profession willingly to consent to see with another man's eyes what with a little extra trouble we can learn very well how to see with our own.

To exercise fully the influence which medicine ought to

exercise, medical men should know much over and above the mere technicalities of their profession. They are everywhere being pressed to take part in the public life of their neighbourhoods, and as members of urban or district councils, boards of guardians, school boards, benches of magistrates, etc., are able to impress their ideas on the thought of their time.

They should be men of culture, and, instead of neglecting that basis of liberal knowledge on which their technical education was raised, should enlarge and strengthen it, which they could do at little cost of time and labour. The mere technical knowledge of their profession, if that were all they had to think or talk of, would shut them out from a society which it is most important they should influence.

Many of the great movements of the time, in order to have the full amount of good derivable from then, must be governed by medical ideas. The swift set of the current of life from the country to the towns would lower the vitality of the nation and increase its mortality, as it always did in past times, if the causes which make the aggregation of vast numbers of human beings within limited areas injurious to health were not sought out, opposed, and counteracted; and this is a work which medical men alone are competent to do.

The *rôle* which alcohol plays in the individual, social, and national health is one on which medicine should be prepared to give an unhesitating and authoritative opinion, not guided by small laboratory experiments merely, but by those great facts which every village and town throughout the kingdom present to them. The data asked for by Dr. Farr in the Appendix to the Registrar-General's 39th Annual Report as being necessary for the formation of a sound judgment have now been fully supplied and should be carefully studied by medical men.

The great subject of national recreations, of especial importance now that on all hands shorter hours of labour are becoming the rule, merits attention. The pursuit of those magnificent outdoor sports, which are happily the glory as they are the strength of our race, should everywhere be encouraged by us. This noble passion for cricket, boating, cycling, golfing, football, hunting across country, shooting over moors, or anything, indeed, that tends to foster hardihood, muscular endurance, a fine spirit of fair play and justice, as well as health, should be encouraged and never repressed by us who are best qualified to judge of its effects.

In one department of work in which the demands of the specialist on our credulity are very exacting, we should maintain a strong independence of mind. The ideas of right and wrong, of accountability for action, and of the truth and reliability of those great moral intuitions, as we have been content to consider them, on which as a strong foundation human society is reared, have been attacked of late years by cerebral specialists. These gentlemen, while finding fault with the vagueness of the mere metaphysicians who have preceded them, have given us pretended explanations of mental operations and of the relation between matter and thought, which, if genuine, would degrade human beings to automata, but which, when examined, are found to be more vague and more meaningless than anything which metaphysics has been guilty of—a mere trick of high-sounding words which leaves the solution of the apparently insoluble as far off as ever.

Conviction, conscience, devotion to the death in the cause of truth, and many another noble characteristic of our species which no mere philosophy of the scalpel and test tube can comprehend have to be carefully considered as important facts of human nature by medical men. Gentlemen, on such questions as those also, on a right or wrong view of which the happiness of mankind so much depends, we must preserve a strong if unobtrusive independence of mind.

The schools of medicine are probably at this moment the most stimulating schools of thought throughout the whole world. That "sacred torpidity" which is said still to permeate at least one of the older seats of learning and to "dishearten early" all but its boldest intellects is unknown and unfelt here. The great problems of life, disease, and death are too intense and too close at hand to admit of lethargy. But in the stimulation there may be danger. Speculation is apt to run riot. In attempting, then, the solution of these problems, if and when they are soluble, do not in a spirit of slavish submission bow down to authority. Do not, on the other hand, in a spirit of recklessness and to show the world how independent you are, needlessly run counter to it because it is authority. But with pure and honest hearts, conscious of a manly integrity, and with a noble but quiet determination to fulfil to the utmost those sacred duties which it has pleased Almighty God in His Providence to entrust you with, "prove all things and hold fast that which is good."

MASON COLLEGE, BIRMINGHAM.

By Sir JAMES CRICHTON-BROWNE, M.D.Edin., LL.D., F.R.S.,
Lord Chancellor's Visitor in Lunacy.

ETHICS AND INDIVIDUALISM IN MEDICINE.

GENTLEMEN,—This is a day of salutations. We are met here, as are many other groups of men with pursuits or interests like our own, in London and the provinces, to greet a new medical year, to welcome those who have come to join our ranks and to exchange words of encouragement with one another. On such a ceremonial occasion it would not be appropriate, I think, for him who is made the mouthpiece of the hour to indulge in any disquisition on the special professional topics that engage his attention, and with which he is no doubt most competent to deal; and least of all would such a course be justifiable when, as happens this evening, the speaker is interested in a very special speciality, recondite in its subject, complicated in its relations, and highly technical in its terms. I shall not, therefore, take advantage of the opportunity to inflict upon you a discourse on mental perturbations, or on the molecular commotions of the brain; nor shall I attempt to elucidate any point in nervous mechanism. I shall merely submit to you a few general observations suggested by my visit to Birmingham, and by the circumstances of this vigorous and flourishing medical school, a new session of which opens to-day.

And in the first place, as a disinterested observer having some knowledge of many medical schools, and not being personally connected with any one, I would congratulate you who are beginning or continuing your studies here, on the very favourable conditions under which these studies will be carried on. The history of your school is an instructive illustration of the rapid evolution of a useful and necessary institution. The germ of it, as your Calendar says, was planted just seventy-two years ago in a private house, where some classes were conducted by Mr. Sands Cox, but in three years that germ had sprouted into a medical school; in twenty-eight years it had grown so luxuriantly as to be deemed worthy of being fenced about by Royal Charter; and in sixty-seven years—that is to say in 1892—having meanwhile branched out in various directions, it blossomed into its present comeliness as the Queen's Faculty of Medicine of Mason College. In little more than the allotted term of a man's life, an insignificant private enterprise has developed into a great and prosperous public seminary for medical education, fully organised and thoroughly well equipped in every department. So complete is your school, so adequate is the education it offers, that its students are entitled to ask that facilities should be given to them for the acquirement of degrees, and success must therefore be wished to the project which is now on foot to obtain the authorisation of a Midland University.

The advantages which your school derives from its union with Mason College are so patent and well known to you, that I need not even name them; and the advantages which Mason College derives from its union with your school will, I am sure, be generously acknowledged by the representatives of its other faculties. At this very moment every medical student I am addressing must, I believe, experience a stimulus as well as a sense of pride in the knowledge that an alumnus of this college has attained to the distinguished position of Senior Wrangler at Cambridge; while the students in the faculties of Arts and Science cannot, I am sure, but regard with some sympathetic interest the admirable work in myology and teratology that is being done in the anatomical department by Professor Windle, your accomplished and energetic Dean; the valuable researches into the

functions of the suprarenal bodies that have been undertaken by Dr. Vincent, the original pathological observations that we owe to Professors Saundby and Barling, the opthalmic studies of Mr. Priestley Smith, and the surgical achievements of Mr. Jordan Lloyd. It would be trite to discuss the actions and reactions of Mason College and the Queen's Faculty of Medicine upon each other, but I may perhaps be permitted to say a word as to the influence which seems to have been exerted on both by their surroundings. Institutions, colleges, schools, societies have their distinctive characters, just as have individual men and women; and the distinctive character of Mason College and the Queen's Faculty of Medicine is, I should say, practical and utilitarian. The active, searching, contriving, empirical spirit of Birmingham has called both of them into being to meet pressing public wants, and has impressed its stamp upon them. The founder of Mason College was undoubtedly moved to establish it by recollections of the difficulties he himself experienced in preparing for an industrial career, and by a desire to promote the manufactures of the town and district; and the original deed provided for scientific instruction only, with the addition of modern languages, which, of course, have a commercial value. The founders of the medical school, on the other hand, aimed at the education not of professors or devotees of science, but of expert surgeons and medical men, qualified to practise their art. Both the college and the school have in recent years greatly enlarged the scope of their teaching, letters on the one hand, and science on the other now taking a much more prominent place than they once did; but both are still dominated by a regard for the immediate economical requirements of the place and period.

The practical and utiiitarian intent which I have ascribed to this college and school, will no doubt be regarded by some as an opprobrium. We have it often dinned into us that it is knowledge for "its own sake" which we should pursue, without any concern as to its applications; but while not disputing this authoritative dictum, I would suggest that there is room for all kinds of knowledge in this world, and that while knowledge for its own sake is good and may unquestionably lead to unforeseen results of the utmost value, knowledge for bread and butter's sake is not bad, and must always have a primary claim on beings who have the pangs of hunger to appease. Pure science, erudite learning and proud philosophy find, perhaps, their fittest home in colleges and schools to some extent sequestered and remote from the busy haunts of men, while technics and science bearing on industry and the business of life, will be most suitably located in great centres of population like Birmingham. Carlyle called Naseby field the navel of England, and Birmingham might perhaps be described as the medulla oblongata of the industrial world, made up as it is of a collocation of centres that are essential to the maintenance of crafts and manufactures in all quarters of the globe. Without the weapons, the implements, the machines, the fabrics that it pours forth, human activities would be paralysed in many regions, and any interruption of its functions would certainly have an asphyxiating effect upon the whole of this country. The atmosphere of Birmingham is keenly practical, and it is but natural that the institutions of Birmingham should have a practical complexion.

As regards the medical school here, the practical turn given to its teaching in harmony with the *genius loci* is worthy of all commendation. Its main purpose is not to fit out original investigators, but to arm and discipline those who are to contend with the forces of disease; and in order to do that it has, as science progresses, to insist more and more on laboratory, dissecting-room, and clinical work. It is steadily increasing its laboratory accommodation, and you do not require to be urged to avail yourselves of the opportunities thus opened out to you. Nay, it occurs to me that a word of warning of an opposite kind may be useful, and that you should be recommended, in your addiction to laboratory work, not to under-estimate the utility of the systematic teachings of your professors.

Lectures do not certainly play the prominent part in medical education that they did in my student days. In the University of Edinburgh thirty years ago we had to listen to lectures five hours a day five days a week. But while admitting that lectures were formerly overdone, while practical, experimental, and tutorial work was neglected, I cannot agee with those who would discard them altogether from our curriculum, as mere slipshod versions of what is to found in the textbooks, or who depreciate their teaching power. The spoken word has a vitalising influence that is all its own, and oral instruction has physiological claims to the academic precedence which has been at all times accorded to it.

In this bookish age a very large proportion of our acquired knowledge comes to us through the eye; whereas in bygone centuries the ear was the main, nay, the almost exclusive, channel for the importation of learning; and there can be no question that the invention of printing has to some extent modified the structure of the brain by diminishing the functional demands on its auditory paths and rendezvous. The increased use of one sensory centre and the diminished use of another in connection with cerebral activities of wide range and potency must, during the development of the cortex and brain generally, have led to changes and deviations in the associative paths and internal convolutions linking and lying between the sensory and the motor centres. And thus, traffic of a certain class having been diverted from the ear to the eye, there must have been a broadening and multiplication of the high roads and by-ways leading from the visual centre, in the occipital lobe, to the central or distributive and the efferent or expressive centres, and a corresponding narrowing or abandonment of the routes connecting the aural centre, in the temporo-sphenoidal convolution, with them. Vision has become more and more the dominant sense in education. But, although vision is the dominant sense, we must not rely upon it too exclusively, for even our simplest ideas are built up by contributions from all the senses, and those mental stores are most useful and available that can be approached by several different alleys. Entire dependence on a single avenue of sense may give precise reactions graded in accordance with the intensity of one kind of stimulus, but the full and free growth of intelligence requires the well-balanced activity of all the organs of sense by which materials for distinction and comparison are supplied. All the secondary sensations that fringe our mental images enhance their working value and enable us to lay hold of them more readily, and the most perfect response is obtained from those cerebral centres that are invaded by sensory impulses of several different sorts. Clearness of conception, quickness of apprehension, breadth of thought belong to the brain that has been thoroughly opened up, both in its auditory and visual tracts and their connections, and hence the high significance of ear-teaching in education. There is sagacity in the Prayer Book exhortation to god-parents that they are to call upon those for whom they are sureties "to hear sermons," and I am inclined to believe that the dialectic and polemical ability of my countrymen in Scotland is to be attributed in some measure to the voluminous pulpit utterances to which they had to listen in their boyhood.

I am not suggesting, however, gentlemen, that there will be anything of the nature of the sermon in the lectures that you will have to listen to in this college, and that will, as you will have to listen to in this college, after passing through mazes of nerve auditory impulses, after passing through mazes of nerve fibres and throngs of cells, enter and illuminate your consciousness. Sound these lectures will be, I have no doubt; cogent in argument, elevating in tone, but they will not be homiletical in character but will necessarily deal with those direct observations and material problems and experiments that form the foundations of medical science, and that have taken the place of the dogmas and speculations upon which it once mainly rested. All recent progress in medicine has depended on research and discovery carried on by physical and chemical methods. The mechanical principles that were first applied in anatomy, the mother science of medicine, to the explanation of the construction and movement of bones and muscles, have been carried by the physiologist into every organ of the body, and into the arcana of the tissues, and have been shown to be essential to the understanding of the changes that take place in them during the performance of their functions. And at the same time the aid of chemistry and electricity has been invoked to drive back, step by step, and, if possible, to banish altogether

that vitalism which was at one time all but supreme in the domain of animal physiology. And now, not content with his corporeal conquests, the physiologist is pushing his mechanical methods into the realm of psychology, and is seeking by means of them to investigate the data of consciousness. Having by electrical stimulation and other experimental procedures localised sensory and motor centres in the brain, having shown that there is a definite order of development in the nerve tracts, and having disentangled to a large extent the paths of nervous impulses of various kinds, their halting points and goals in nerve cells, he is now eager to catch ideas on the wing, and to examine them in the usual manner.

Helmholtz, in his great works on vision and hearing, was the first to show how physics mount into physiology and psychology; and after him Weber, Fechner, Lotze, and Wundt have step by step pushed forward the parallels of the material accompaniments of thoughts and feelings. And quite recently a movement has sprung up in Germany to advance still further mechanical explanation of the facts of mental life, and to bring psychology, which has always been scientific in as far as it has observed and classified and analysed phenomena, into line with the exact sciences of external nature. Experimental psychology has been inaugurated, and research laboratories, in which the physical changes that are associated with mental processes are to be measured and tested, have been established. Originating in Leipzig, experimental psychology has taken root in several other centres on the Continent, has spread to America, where it has been eagerly adopted, and has at last made its way into England. The University of Cambridge has voted a sum of money to be devoted to investigations in connection with it, and a few months ago a meeting was held in London to promote the establishment of a laboratory for its study in University College. The names of those who attended that meeting are a sufficient guarantee that the project which it approved will be successfully carried out. I have little doubt that suitable arrangements will be made for instruction in the new methods of psycho-physical research in University College, and that in course of time other schools and colleges, Mason College amongst them, will follow its example and afford facilities for studies in anthropometric psychology. I have little doubt, too, that such studies will be fruitful of useful results, by widening the scientific basis of psychology and supplying us with standards by which to gauge the speed and duration of certain neural operations, the variations in these in different individuals, and the depth of certain mental defects. But at the same time I am disposed to think that exaggerated notions are entertained as to what experimental psychology can actually accomplish. Its field is after all a narrow one. It can never supplant self-observation and introspection as means of mental analysis, and must indeed always to a large extent lean on these. It is practically restricted to the measurement of sensations and movements and the gaps between them, or the simplest mental processes; and hitherto it has, it must be admitted, been somewhat ambiguous and indefinite in its declarations. For my own part, I look with more sanguine expectations of light on the obscure problems of mind to comparative, ethnical, developmental, and pathological psychology, which may all of course be investigated by experimental methods, than to the new experimental psychology strictly so called.

We all gratefully acknowledge the immense debt we owe to experimental physiology with its exact mechanical methods. It has dispelled myths and errors, supplied us with a body of precise and well organised knowledge, and revolutionised our treatment of disease, and it promises in the future not only to augment our healing power, but to afford trustworthy guidance in education, and in the regulation of many social relations. As it stands to-day, physiology, it seems to me, offers a liberal culture to all who study it. An independent science itself, but in touch with all other sciences, it brings into exercise observation, judgment, memory, while it passes in review questions of surpassing interest to every human being, and thus confers an admirable intellectual discipline, while storing the mind with information that must prove useful in the conduct of life. I would be disposed to say that physiology might henceforth with excellent results enter much more largely than it has hitherto done into a general liberal education, that is to say, into the education of those who do not intend to follow medicine as a profession; and I would even suggest that the young men of Birmingham who are destined to carry on its staple trades might be worse employed than in attending a course of physiology in this College. I read the other day that the late Sir Isaac Holden attributed his invention of the square-motion wool combing machine which made his fortune and brought about a complete transformation in our woollen industries, to the fact that he tried to imitate as closely as possible the movements of the hand of the hand-comber. On this physiological basis he laboured consistently, and on it he achieved success where many others had failed. And the human body, you may depend upon it, is a rich storehouse of practical hints of this kind—a storehouse of which physiology holds the key. It is an epitome of mechanics, and in its exquisite machinery the engineer, the artificer and the inventor may still find, perchance, some vein of new inspiration. But apart from any such possible treasure trove, the study of physiology is well deserving of the attention of those who are to engage in arts and manufactures like those of Birmingham, for they will derive from it habits of thought, special insight, broad views and sympathies which cannot fail to be useful to them as producers themselves, or the superintendents of those who produce.

But whatever outsiders may think of it, there does not seem much danger that the study of physiology will be too lightly regarded by the medical student in these days. Its definiteness and lucidity appeal with special force to him, and its mechanical methods take possession of his mind at a very plastic age; and, indeed, the risk would seem to be that physiology in conjunction with anatomy and pathology may materialise his conceptions, bind him down to a purely mechanical interpretation of the universe, and so cause him to lose sight of truths which are not less valuable than physiological principles to the medical man. It is expedient that from time to time the medical student should be induced to raise his eyes from the test tube, the microscope, or the galvanometer, and to fix them on a wider horizon; and mindful of this expediency, I would ask you to allow me in what I have further to say this evening to point out to you that man after all stands above physiology, and that there is that in his nature which mechanical methods can never enable us to reach or appraise. The revelations of comparative anatomy and the brilliant discoveries that we owe to experiments on animals have assuredly inclined us to take an animal view of human nature. Every tissue that enters into the composition of man's body has its analogue in the bodies of creatures far beneath him in the scale of being. Every organ with which he is endowed is seen in greater or less elaboration and completeness in the beasts that perish. Every function he exhibits is displayed in a rudimentary or fully evolved state by inferior organisms. And yet, notwithstanding all homologies and resemblances, there is a great gulf fixed between human and animal nature. Man, the breviary of all bygone evolution, stands pre-eminent in form, structure, intelligence, and above all in the possession of a moral sense.

In his power of assuming the erect attitude, and of extending and flexing the hip and knee-joint when standing, in the development of his hands for purposes of prehension, in the freedom of movement of his upper limbs, in the perfect poise of his head on the summit of the spinal column, in the high degree of sentiency conferred on him by his exposed integument, in the modelling and mobility of his face as an instrument of expression, man presents characteristics that are entirely his own. And in a still higher degree is he differentiated from any animal by the mass and structure of his brain, which, although exceeded in absolute weight by the comparatively simple brains of the elephant and whale, whose huge body mass demands large sensory and motor centres, is, in his civilised state, more than three times the weight of brain of the highest anthropoid ape, the animal that most closely approximates to him, from which again it is even more widely separated by the proportional development of its parts, by the complexity of its cortical structure, and by its richness in association centres.

But it is by what are incorrectly spoken of as the functions of the brain, by his mental faculties, his reason and intelligence that man is distinguished from animals, far more than

by visible cerebral differences. I say these are incorrectly spoken of as the functions of the brain, for they certainly cannot hold the same relation to that organ that movement does to the muscles, or bile to the liver. The brain is a sensori-motor machine, concerned with the storage and liberation of energy, and it is contrary to the principle of the conservation of energy that will or emotion or ideas, which are immaterial agencies, should interfere with movements in nervous arrangements and disturb the balance between work done and the diminution of the intrinsic energy of the body and its contents. Nothing can be derived from motion but another motion, nothing from mental process but another mental process; and thus the facts of consciousness can never be explained by molecular changes in the brain, and all that we can do is to fall back on an hypothesis of psycho-physical parallelism, which assumes concomitant variations in brain and mind. There is a physical universe of which only a fragment is known to us. There is a psychical universe in a corner of which we live and move and have our being. We may picture these to ourselves as circles which impinge on each other at the first moment of conscious existence, which intersect more and more as life goes on, their largest intersection (including but a small segment of each) being reached when life is at its full, which then withdraw from each other as old age sets in and part company at death. But whatever image we may adopt we must hold fast to the truth that mind and matter are distinct essences, irreconcilable in their nature, though mysteriously accordant in their operations; that only in the elementary processes of mind made up of sensory and motor elements has correspondence with physical changes in the brain been traced out, and that we are still without any cerebral explanation of those higher powers of mind which exalt man above the animal creation.

Without attempting even to sketch the intellectual and emotional characteristics which place human nature on a pedestal above all other nature, I would direct your attention specially to that moral sense to which I have already referred as a peculiarly human attribute, and which, as Huxley has insisted, is not derived from the struggle for existence, but implies a reversal of the action that avails in that struggle. In his capacity as an animal man has achieved his success in the world by his superiority in certain qualities which he shares with the tiger and the ape; by his cunning, his power of imitation, his greed, his rapacity, cruelty, and self-assertion; but in his capacity as a social being he has advanced from savagery to civilisation by the suppression of these qualities and the substitution for them of others of a very different kind, qualities such as sympathy, self-restraint, justice, and benevolence, of which we have no hint at in any level lower than his own. In his advance into manhood he has created for himself an artificial, a social, an ethical atmosphere which he alone of living beings breathes. In his progress in civilised polity he has prepared for his species an ethical environment which powerfully modifies its characteristics and tendencies, and is in turn modified by it. In that environment what we call goodness or virtue is the potent force, and the survival of the fittest becomes the survival of the best, the survival, that is to say, of those best adapted not to material but to moral conditions of existence. A new standard has been set up. Better and worse mean no longer more or less adaptation to geographical surroundings for the time being, but more or less conformity to laws, rules, precepts, and sentiments of artificial origin but of everlasting obligation.

Now, if we allow that certain rudimentary virtues, such as moderation in the indulgence of appetite, and industry, may be of advantage to the individual and the race in the competition for life, it must still be maintained that morality proper only emerges when altruism, sympathy, or a desire for the happiness of others appears on the scene, and that in morality proper an entirely new principle is involved. Even if we allow that the moral sentiments, like other natural phenomena, have been reached by a process of evolution, we must still bear in mind that the immoral sentiments must have had the same origin, and that our preference for the one over the other can be found only in human intuition and experience. Moral sanction has not grown out of environment, or outer relations, or circumstances, but out of an element in human nature, the accumulated influences of individual men and the initiative of certain great men who have from time to time emerged from the mass of mankind and become active agents in differentiating the ethical environment around them and in all time coming. Everywhere in human history we discern not only the slow accretion of morality by the impalpable additions made to it by submerged millions, but its sudden upheaval from time to time by the workings of the spontaneous impulses of great men whose names stand for ever prominent.

This immensely energetic quality, greatness, genius, or heroism, to which so important a part is assigned, is a departure from common form, and we must carefully distinguish between the causes which produce it and the causes which tend to preserve it. It is not an adaptive modification. It may be fostered, pinched, or blighted by environment; it is not produced by it. Its origin is to be sought in those internal molecular changes which give rise to variations. It is a divergence from the parent type due to influences operating upon the ovum and the embryo, and is independent of external conditions, physical or social. Neither in descent nor in personal vicissitudes is any adequate explanation of it to be discovered. The motherly theory of greatness, which only removes the difficulty one generation, does not bear examination in detail, for it can be shown that some great men had inferior mothers, and that those of them who had superior mothers differed from them just in those properties that made up their greatness; and the climatic theory is equally untenable, for greatness has not been tied down to any special meteorological conditions, but has appeared in all parts of the planet suitable for the habitation of the best human breeds. It is a sport, a new departure, what we call a spontaneous because an inexplicable variation, inexplicable at least by the biological causes which lie nearest at hand and which we commonly invoke. In every series of living beings that we contemplate we are accustomed to look for the transition from term to term, by minute and insensible differences or continuous variation; but we must not shut our eyes to the truth that in such series there are to be noted breaks or gaps, filled by no transitional forms, but leapt, as it were, by discontinuous variation. Breaches of continuity undoubtedly occur in the evolution of living beings and of particular organs and instincts, and the recognition of such breaches and abrupt or transilient variations, as Mr. Galton has called them, removes a stumbling block in the way of the acceptance of the evolutionary theory. There are in the animal kingdom mechanisms and devices useful to their possessors in a state of perfection which, while only partially developed, must have been not only useless, but disadvantageous encumbrances. Now it is clear that with reference to such structures natural selection could have afforded no protection during their imperfect and preparatory stages while they were advancing by minimal steps, and that we can only account for them by supposing that they appeared at once, fully formed by a volt of discontinuous variation. Environment is continuous and varies merely in degree, but species and organs are discontinuous, and differ in kind, and it is difficult to understand how the former can be the cause of the latter. In studying discontinuity, realising that the missing links are more numerous than the existing ones, we begin to suspect that the chain of being may resolve itself into a series of rings disconnected, but still somehow related, as evidenced by their form, size, proportion, substance, and arrangement.

In plant life we have many illustrations of variation due to environment which disappear when the environment is changed, as, for instance, in the alterations which present themselves in marsh plants grown on dry land, and in lowland plants grown on chalk downs or mountains, and of spontaneous variations due to a deeper cause and unaffected by changes in environment, as, for instance, in the copper beech, an unaccountable sport from a green beech in a German forest, which retains its coppery hue in the most widely different soils and climates, and the weeping habit in the elm and ash, a novel trait without environmental justification which is perpetuated under diverse circumstances. What in environment or in immediate ancestral conditions have we to thank for the double rose or William pear or Japanese chrysanthemum? It is all very well, hypothetically, to ascribe such variations to over-nutrition or under-

nutrition, or to say that variations group themselves in the probability curve, but the facts remain that certain individuals have stepped out of the parental type, while innumerable other individuals presumably also over or undernourished have proved true to it; that variable plants never cease to vary; that similar variations occur under dissimilar conditions; and that dissimilar variations arise under conditions nearly uniform.

In the animal kingdom variations of all kinds are abundant and multiform, some of them obviously due to surrounding conditions, and some, as far as can be ascertained, not so; some built up by gradual, almost impalpable, increments, and some presenting all at once a large degree of originality. Our canine friends are a highly varied group, probably descended from several wild species, and amongst them we observe slight modifications due to habitat and artificial selection of variations which can be traced up in diminishing proportion through a line of ancestry. With such variations we are familiar, but the sudden appearance of an albino in a dark-haired family is a somewhat startling phenomenon, which apprises us, as Huxley said, that "Nature is often brusque, and makes leaps and bounds." Of this sort of advance examples are afforded by the hairy moorhen, in which the feathers are, for no obvious reason, destitute of barbules; by the angoras amongst domestic animals—the goat, the cat, and the rabbit—in which the hair is long and silky; and by the "rhinoceros mice" found at Taplow, which were entirely naked and without hair, except a few dark-coloured whiskers. These variations were certainly not due to selection or environment any more than are those which we see daily in the human families of our acquaintance, in which a number of children born of the same parents and reared in practically identical conditions differ from each other in a remarkable manner in size, build, colour, and mental capacity, in which, perhaps, an idiot and a monster (and we must remember that, as St. Hilaire taught, there is order in abnormality) are growing up side by side with a genius and a beauty.

As regards vegetable and animal variations alike—and among the latter I would include the great man—there are, it must be admitted, a large number for which no exciting cause can be discovered, and which must therefore be classified, provisionally at any rate, as spontaneous, or accidental. Discontinuity in variation, of which species may be a standing monument, is not certainly in the environment; so we are bound to look for it in the living thing. And in this connection it is well to remember Darwin's remark, that as regards variation the nature of the organism is far more important than the nature of the conditions. Those variations referable to the living being Darwin in the first instance ascribed to chance—an incorrect statement, as he allowed, merely intended to cover ignorance; and to-day we are still obliged to speak of them as fortuitous. Taking the universe in its entirety, regarding all as "parts of one stupendous whole," such variations are included in the unity of the cosmos. But the cosmos is a wide word, and there is no inconsistency in holding that variations, although summed up in the nature of things, are not interpreted in the organic nature by which they are immediately surrounded. No doubt in a strict sense the great man is the product of his antecedents, but these antecedents in the absence of the great man himself could not have afforded any clue to his personality. Causes become apparent in their effects; and the great man being not a simple mechanical phenomenon but a complicated problem of conscious life, is not to be explained by a reference to elements of a different order containing no trace of his characteristics. The combination of these elements in such a manner as to produce this particular result has to be explained, and that can only be done by taking into account the result itself. All ultimate explanation must look to the end and read back the nature of the particular result into the remotest antecedent. It must concern itself with the whole evolution, and rest on proof that there is an organic unity binding the whole process into one and making it intelligible; that there is evolution and not merely gratuitous metamorphosis. But of remote causes of this description, science, in its still purblind state, does not take cognisance, and we need not, therefore, be surprised to find the most recent authority in this department, Mr. Bateson, whose compendious researches are a rich dower to science, dismissing the subject in these words; "Inquiry into the causes of variation is as yet, in my judgment, premature."

It is clear that variations, the causes of which are as yet inscrutable and beyond investigation, may still be conveniently spoken of as spontaneous—and the bulk of variations fall under this description—while as regards these variations which, it is alleged, can be traced to diversified external conditions, to food supply, climate, use and disuse, pressure, etc., there still remains to be taken into account, when allowance has been made for all these, the power to vary and to vary in such a manner that the symmetry and general balance of the organism is maintained. We are obliged to fall back upon a law of reproduction, involving not only resemblance to parents, but individual difference from them; upon covert causes infinitely remote, setting up a tendency to vary as well as to repeat; upon a duplicity of the original vital impulse, whensoever derived, operating upon the totality of living beings from the commencement. And if we accept this view and regard spontaneous variation as one of the fountains from which have sprung those beneficial differences which natural selection has adopted and accumulated, and if we connect it with established facts as to the order in which animal forms, and more especially vertebrates, have appeared in the long history of the fossiliferous crust of the globe, in definite sequence, beginning with the lowest and culminating in man, we come to see something of an increasing purpose running through the ages. We may come even to acknowledge that evolution is a continuous revelation, and variation a perpetual miracle. "The flowers," said Carlyle, "are eyes looking out upon us from an inner sea of beauty." May not the great man be a flash of illumination from an unsearchable firmament of wisdom?

But whatever his origin, the great man is an indisputable fact recurring with greater or less frequency. A wonderful complex of higher faculties not attributable to inheritance from either parent, or from any more remote ancestor, or to the play of investing forces, he comes with peculiarities which distinguish him from the average man and enable him to remodel the average man more or less extensively and powerfully. Selected by his environment and moulded and biassed by it in some degree he does not owe to it his essential qualities.

How little the genesis of the great man depends on his personal environment may almost, I think, be inferred from the histology of the brain. At the sixth month of fœtal life the cortical substance of the cerebrum contains neuroblasts equal in number to the cells present in it in its most mature state, that number being computed at 1,200 millions. True, an enormous elaboration of structure subsequently takes place. The neuroblasts grow in size and change in shape, become nucleated and nucleolated nerve cells in which pigment is deposited. The cytoplasm of these nerve cells changes in chemical constitution as shown by its reactions to staining agents. The cells undergo polarisation, and the neurons and then the dendrons are sent out. The medullation of different nerve fibres at different rates takes place, and there is a multiplication of tangential nerve fibres. The brain goes on expanding and becomes more complicated up till adult life: but whenever the number of its cells is determined, its groundwork may be said to have been laid down and its ultimate plan to have been outlined. Now genius or greatness is unquestionably involved in the ground plan and elevation of the brain, and when it appears, therefore, it must have been potentially present at the sixth month of its existence when the muster of neuroblasts is complete. But up till the sixth month of existence, the environment is uterine and of a singularly uniform description, scarcely affording conditions equal to the differentiation of the genius from the average man.

In primitive times a great man born into any tribe or clan must have been to it just what a new and advantageous structural variation is to an animal. His greatness, courage, ingenuity, insight and energy must have helped it in its tribal conflicts and conduced to its survival. And although the greatness of the great man could not be perpetuated as advantageous structural modifications are, yet might it be very far reaching and, indeed, permanent in its effects. The example of the great man would be imitated

by members of the tribe who were not great, a process which we see in operation to some extent amongst animals of gregarious habits, and his greatness would live in the traditions of the tribe and in a manner exclusively human, influence the conduct of unborn generations and thus determine at many critical epochs their tribal development. And in times not primitive the influence of the great man becomes more and more apparent. History is indeed a record of its interactions with the existing temperament prejudices and ideals of a people in certain physical conditions. In every individual life there are decisive moments when a choice has to be exercised that determines the whole future course of its current, and in every nation's life there have arisen decisive men, who, by precipitating war or revolution or reform, or by their inventions, discoveries, or ideas, have irrevocably changed its career, have become factors in its environment and deflected its advance. Would the United States of America have been what they are to-day had George Washington never lived? Would Europe be mapped out exactly as it is had Napoleon never aspired? Does not Italy owe its unity to Cavour and Garibaldi, Germany its empire to Bismarck and Moltke? Can we believe that our insular position would have given us the sea power we possess, had men like Drake, Hawkins, Frobisher, Blake, and Nelson never grown up on our shores? Have not men like Frederick the Great and Cromwell determined great changes in national life? Have we not seen nations stagnating for want of great men, and bursting into vigorous efflorescence when a group of them appeared? Is it possible to believe that the differences between one nation and another, whether in intellect, commerce, art or morals, depend simply and solely upon physical circumstances or geographical position? Can we credit it that, had the original stock of our English people been planted in the malarious forests of Benin, their descendants would have been to-day black, bloodthirsty, and treacherous savages, rejoicing in Ju-Ju, and that the late subjects of King Drunami, had their progenitors been located here, would have been now a wealthy, humane, and prosperous white people? Surely we must keep in mind the vastly preponderating influence of racial constitution and the manner in which this is differentiated from within as well as from without. We see nations stimulated and biassed in every direction by their own offspring, and bearing indelible traces of the great men who have sprung up within their borders, and who have often exerted an influence far beyond natural barriers. There is no Englishman to-day who does not in his thoughts or conversation bear the impress of him who sleeps at Stratford-on-Avon, who came like a meteor but has stayed like a sun, the only genius who ever made universality a success. Scotland still stiffens with the fierce rigidity of Knox, and melts into tenderness at the songs of Burns. To say nothing of the founders of religion, men like Luther and Loyola have swayed mankind under the most diverse geographical conditions. Mr. Herbert Spencer is himself a conspicuous refutation of his own theory, for the influence of his truly original intellect, the making of which is not to be recognised either in the long story of the race, or in the social state into which he was born, has proved a leaven in science, has permeated into the general thought of the time, and permanently affected social relations. So, too, Darwin has brought about an unexpected and radical change in intellectual government, and created a critical epoch in science, a period of rapid evolution after an interval of quiescence. Hours might be spent in enumerating and defining the specific influences that great men have exerted on national evolution—men like Julius Cæsar and Marcus Aurelius, Raphael and Michael Angelo, Charlemagne and Hildebrand, Milton and Goethe, Voltaire and Rousseau, Gibbon and Hume, Bacon and Newton, Comte and Mill, Davy and Faraday, Ruskin and Carlyle, Watt and Stephenson. I shall content myself with one illustration near home, and I am sure I shall not transgress the rule laid down by the Founder of this College and worthy of all acceptation, that politics are not to be referred to in its precincts, if I say that we could all name a great man, a living statesman, an unmistakable product of Birmingham, who has transcended his antecedents, and by virtue of his individual endowments, has improved the environment for all who live in his native city, has quickened our national life, and, setting at naught geographical restrictions, has done something to consolidate a world-wide Empire.

In the history of medicine every chapter might have as its heading the name of a great surgeon or physician. In the biographies of Linacre, Sydenham, Harvey, and Jenner, distinctive steps in advance may be measured and connected with personal initiative; and in every branch of medicine and surgery as they are to-day, excellent though the work accomplished by the rank and file may have been, a few great pioneers have determined and guided progress. In my own department, neurology, it is certain that progress has hinged on the genius and labours of a few great men—Charles Bell, Marshall Hall, Claude Bernard, Brown-Séquard, and Hughlings Jackson—and I cannot conceive that it would have been in the forward position in which it is, had any one of these been missed out. Neither can I conceive that, had any one of them failed to appear, some understudy would have been supplied by the geographical and social conditions of the period to fill his place. At this hour we have amongst us, in the circle of our profession, a brilliant example of the great man, who changes for ever the environment in which he finds himself. It will not be gainsaid that Lord Lister has once for all and profoundly influenced the practice of surgery and medicine. Without a forerunner except Pasteur, by methods strikingly novel, in the strength of a fresh variety of intellectual power, he has reached discoveries which have already given check to the cosmic process in certain directions, and which must ultimately benefit the whole human race.

We have spoken of the influence of greatness in the creation of environment, but we must not overlook the less conspicuous but more widely diffused influence of men who are not great but still possess individual initiative. Every man may be a great man in a small way, and leave his social environment better or worse than he found it. The arc light, like genius, lifted aloft, scatters its radiance afar and, like genius, is apt to flicker and splutter in doing do; but the glow lamp, like the patient drudge, in its lower and narrower sphere, emits a useful and a steadier light, one glow lamp differing from another in glory. And so each average man may not only fill his average place, but by virtue of his little individual talent do something to increase or diminish the momentum of the social movements that are going on around him, and bring about, no matter on how small a scale, a recasting of social relations. For each man is a variation, even if only in an infinitesimal degree, from all the men who have preceded him. The zoological man in him is a settled affair, but the human constituent is still in a state of flux, and it is for the new combinations that it effects that we are constantly watching with such intense interest. Variations are, as we know, more frequent under domestication than in a state of nature, and have a wider range in civilised than in barbarous races of mankind. In the faces of our own country people we see greater anatomical differences, a richer play of expression, than is to be observed amongst negroes; and as regards some of the lower types of our species, it would almost take a shepherd with his eye trained in ovine physiognomy to distinguish one man from another. But the face is a screen on which are projected the dioramic, I might say the cinematographic, changes of the brain within, and it is the brain that is the great theatre of human variations in these days. Without referring to its intimate structure, we can see in the fissuration of its surface that it has in every individual a personal identity of its own; while in the products which accompany its functional activity we find idiosyncratic differences in every case. Sensations, ideas, emotions, active tendencies, are the flora and fauna of the brain; and these, while subject in the main as regards their general character, their form, order, and associations to the influence of heredity and environment, are yet constantly exhibiting new growths and features, random and discontinuous variations. We have amongst them many familiar types, but we have also startling novelties, hideous monstrosities, and beautiful and useful developments. And in this flora and fauna of the brain selection is ceaselessly at work—environmental selection—the climate for them is made up of emanations from other brains, and what may be termed artificial or deliberative selections, which I wish to emphasise as the basis of that mental discipline which is so essential to all ethical life. We can within

limits regulate our own brain crop. We can weed it and fertilise it, and we can do this by an exercise of that voluntary power which is our proudest attribute. Thousands of ideas shoot up in the mind for one that survives and becomes operative, and the one that survives does so because it is selected by the will. The real force of ideas, said Fichte, is not in the ideas, but in the will of the person who selects them as his.

I do not forget, of course, that the very existence of this will, for which I am claiming such autocratic power, is more and more ingeniously disputed as mechanical physiology advances; and you will, I am sure, be relieved when I tell you that I do not here propose to embark on another Arctic expedition or balloon voyage into the dark and frigid controversy on determinism and free will. But, as a practical physician, I would just say that I look upon free will as as much a need of the individual and of the race as is fresh air, and that I should regard as a pestilential calamity any widespread abandonment of a belief in it. A sporadic case here and there does not much matter, but anything like a general lapse into downright predestinarianism must mean the extinction of ethics, and a reversion to that cosmic process out of which we have with so much pain and effort worked our way. This argument, the argument *in terrorem* founded on the supposed consequences of a doctrine, is no doubt open to objection, but it is more so in relation to secondary and derivative beliefs than to those that are primary and fundamental. Mr. Balfour has made effective use of it in relation to naturalism, and an appalling picture might be drawn of the results of universal determinism. The illustrations which we possess of its partial ascendency in Mohammedan races—I say partial, for fatalism is never thorough-going—are sufficiently forbidding, and it may perhaps be a sufficient condemnation of it on the present occasion if I point out that its complete triumph would involve the disappearance of medicine as an art. It will be well for you during your curriculum to be on your guard against insidious suggestions of wholesale automatism, for there can be little doubt that the study of reflex action, investigated as it almost invariably is from below upwards, and not from above downwards, predisposes to that faith—an enervating faith—which reduces man to a mere pith ball in the jet of the fountain of events, helplessly tossed aloft, heedlessly falling, ceaselessly moving, as if animated, and yet the mere plaything of external forces. Apart from all the mystifications of logic and classifications of science, we have just as good evidence for the freedom of the will as we have for our own existence. You will feel and know, when you come to think of it, that you are not as Münsterberg would have you believe, a mere sequence of ideas, but have the choice amongst these, and that you are bound to exercise that choice in such a manner as to make your calling and election sure, utilising your gifts, recognising your responsibilities, taking advantage of your variations, and being responsive to your environment, thus fitting the place in which you find yourselves. Hold fast to the importance of the individual. Do not worry yourselves about the insignificance and evanescence of man.

You are here, gentlemen, in an animal world and an ethical society; you are variations (each of you is a variation), the outcome either of ancestral conditions or of an inherent vital impulse; and you have been selected, you have not been found unfit for survival and condemned to perish. You have escaped the perils of the embryo, of gestation, and parturition; you have fought your way through the legions of pathogenic bacteria that lie in wait for infancy and childhood; you have survived the break-neck hazards of boyhood, and even football has not put an end to you; you have not as yet been devoured by the examination beast of prey; you have proved yourselves adapted to the climatic conditions in which you find yourselves, and have been able to provide yourselves with ample nourishment. You have struggled up into existence so far, and have shown that with individual traits in every case you are all more or less adapted to your environment. And now selected, vaccinated, educated, you are about to enter on an entirely new environment as students of medicine, an environment which will again select and sort you, and, perhaps, in a few instances—I trust a very few—reject you altogether, and which will at the same time remodel those of you whom it selects, and prepare you for still another and more trying environment which you will enter [when you go forth from this college as practitioners of medicine. And in that environment by which you are now encompassed, and still more in that larger environment that looms before you, you will, I predict, discover that harmony with your surroundings and blessedness for yourselves are promoted by keeping constantly in view the ethical nature of man, on which I have this evening insisted. For you the era of the "ape and the tiger," of tooth and claw, is past and gone. The instincts and promptings that were uppermost in that epoch, its selfishness, cruelty, ferocity, and destructiveness, are still to be seen at work in the human struggle for existence on every hand, and still assert themselves with greater or less vehemence from time to time in every human breast; but in civilised beings they are dominated and held in check, as we have seen, by a new principle that has intruded into human life—the ethical principle creating a sense of duty and enjoining goodness and virtue. And this ethical principle, or categorical imperative of duty, as Kant called it, or conscience, once awakened in a man, can never slumber again, but if neglected or violated, becomes itself the source of pangs worse than those which are attendant on the natural order of things. For your own advancement and happiness in life you cannot too soon cease to make an idol of the natural man, for the profession you have chosen is the outcome of quite another cult. It is the highest expression of the humanising process, as opposed to the cosmic process, and its great aim is to assuage the sufferings and heal the wounds of those who have been worsted and trodden down in the struggle for existence, and to mitigate the asperity of that struggle. In the cosmic process pure and simple the medical man is a troublesome meddler, promoting the survival of the unfittest and protracting the miseries of the condemned. At a recent meeting of the Medico-Legal Society of New York, it was gravely argued that suicide is, under certain circumstances, to be professionally recommended, and that in cases of incurable, fatal, and agonising disease, the physician should be empowered to terminate life by what is designated "homicidal euthanasia." If you would justify your professional existence to yourselves, you put aside such extravagances and must early attune your ears to those ethical harmonies which mingle with the fierce discords of the strife, and which happily grow more and more audible as time rolls on.

I admit that it is not always easy to pay due allegiance to ethics. It takes some courage in those who have contracted the material tenets and tendencies which elementary studies in medicine are apt to engender, to admit, even in the company of Huxley, that the cosmic process has broken down and that we must go back to ante-evolutionary principles. It requires ethical strength to be ethical. Revolt has always had a charm for the young. Agnosticism has almost come to be regarded as a sign of intellectual virility, reverence as weakness of the knees. But ethical facts, which even agnosticism cannot relegate to the category of superstitions, stare us in the face, and an early recognition of their significance will help us to accommodate ourselves to our situation. Renunciation, self-discipline, respect for the rights of others and of the community, not only save us from blank despair, but ensure the easiest adjustment to the existing state of things.

To the medical man in actual practice a perpetual remembrance of man's ethical nature, of that in him which transcends the animal and makes for righteousness, of the union in him of *l'esprit divin* with *la bête humaine*, is of paramount importance. He has to minister to more or less ethical beings, who will not be content to be treated as bits of mechanism, and the highest diagnostic skill and therapeutic precision will not save him from failure if he lacks sympathy with human suffering and frailty, and is unable to understand the emotional as well as the muscular heart. In his professional work, too, he hourly requires the support of ethical principles in himself, and an ethical outlook to guide him amongst the subtle moral problems that are submitted to him, and to support him in his resistance to the appeals of the natural man, who is still the slave of his animal instincts and destitute of spiritual ideals.

Unhappily, the loose talk of the period and the literature of the day too often pander to the natural man, and extol the

wisdom of following nature. It is fashionable not to be straitlaced, and great writers have not hesitated to tell us that it is the libertine who has grasped the true meaning of life, and that it is foolish to plague ourselves with remorse for acts dictated by desires of natural origin. One of our most powerful novelists, Mr. Hardy, has frequently shown a tendency to assimilate the moral to the natural, and, as Professor Seth, the present highly gifted incumbent of the Chair of Logic and Metaphysics in the University of Edinburgh, points out, has in a conspicuous instance in his *Tess of the D'Urbervilles*, sought not only to extenuate vice, but to transmute it into virtue by quoting for it a feral sanction and ensample. Tess, fallen from her innocence, is wandering in the woods, a prey to self-reproach, "terrified without reason" by "a cloud of moral hobgoblins." "Walking amongst the sleeping birds in the hedges," writes Mr. Hardy, "watching the skipping rabbits on a moonlit warren, or standing under a pheasant-laden bough, she looked upon herself as a figure of guilt intruding into the haunts of innocence. But all the while she was making a distinction where there was no difference; feeling herself in antagonism, she was quite in accord. She had been made to break an accepted social law, but no law known to the environment in which she fancied herself such an anomaly." Now, the purport of this plainly is that the social or moral law is a mere convention, and that the true code of conduct is to be found in the woods and fields—a code in which, as I need scarcely indicate, the depths of iniquity may be legitimatised. A convention no doubt the moral law may be said to be, framed as it has been out of the tacit or verbal agreements of assemblages of human beings but it is the convention that holds society together, and prevents universal anarchy, and, therefore, it is lamentable to find it seriously impugned even by men of science. M. Letourneau, for instance, Secretary to the Anthropological Society of Paris, contemplates with complacency the slow disintegration of the marriage tie, as evidenced by the gradually increasing number of divorces and illegitimate births in all civilised countries, and predicts that while monogamic marriage may continue to subsist, because the balance of the sexes makes it almost a necessity, it will be largely emancipated from legal restraints and become a free union, freely contracted, and, if need be, as freely dissolved. As a corollary of this freedom in marriage, M. Letourneau tells us the family tie must also disintegrate. This final collective unit of society—the family—must be broken up, and a larger collective unit—the State, the district, or the commune—must assume the *rôle* of guardian and educator of children.

I do not introduce to you such mischievous nonsense for the purpose of refuting it—that seems superfluous—but to illustrate the inevitable and pernicious consequences of including man in the strictly natural order of things and ignoring his moral obligations, and to enforce my thesis that medical men are now more than ever in need of sound and definite ethical standards.

I shall not be wrong in saying that, as the result of the wide dissemination of teachings and opinions such as I have quoted, the medical man is now frequently confronted by singularly confused and distorted moral views, the consequence of a kind of ethical astigmatism that is abroad. He is invited to give a professional prescription for incontinence or infidelity, or a scientific indulgence to bow down in the temple of the great goddess Lubricity. He is even complacently approached in the hope of securing his assistance in a breach of the criminal law. It is not for him to be extreme to mark what is done amiss, for he comprehends better than others the infirmities of the flesh, and his pity shelters what his judgment condemns. It is not for him to scruple to adopt measures to prevent the spread of disease, because, perchance, these measures might confer impunity on vice. It is not for him to censure or reproach those who seek his aid, however obviously their maladies may have arisen out of their own transgressions; that they are suffering is a sufficient passport to his skill. But it is for him when occasion arises to uphold the moral law, which is a bulwark of health as well as the chief cornerstone of felicity, and neither by connivance nor silence to countenance any infringement of purity of life. It is for him to inculcate, when the season serves, the injunction that closes the pathetic epitaph written by a wayward son of genius for himself:

> Know, prudent cautious self-control
> Is wisdom's root.

Well, gentlemen, it only remains for me, on behalf of the seniors of the profession you have adopted, again to greet you on passing its portals, and in doing so we have nothing but words of good cheer to speak to you. We shall not, assuming the routine attitude of veterans towards beginners, tell you that

> We, nearer to the wayside inn
> Where toil shall cease and rest begin,
> Are weary thinking of your road.

Rather we would assure you that we regard with envy the pilgrimage before you—a pilgrimage in which weariness is forgotten in the absorbing interest of the route—and that we would gladly share with you your toils in order to be partakers in the enlightenment that is in store for you. We seem to be on the eve of great discoveries. The universe is not played out. The globe is not yet ripe for its fall. The film of organic matter that mantles on a portion of its surface is not an exhausted ferment. The possibilities of the future are infinite, and amidst the possibilities of the near future are rapid advances in our knowledge of disease and in our power of preventing it.

And even if the discoveries we anticipate do not come in your time, you are still to be envied, for the career you have chosen is a beneficent and a happy one. It may not bring you the rewards most coveted in these days of exorbitant luxury—piles of jaundiced metal for yourselves and bits of glistening carbon for your wives—but it will yield you an honest competency and the satisfaction of knowing that you have earned your wages. It may not raise you to social distinction, but it will reveal to you in time that there is one thing more precious than fame, and that is obscurity with work well done. Even the sad circumstances under which you must pursue your calling will not rob it of its charms. You will move daily amidst the dolorous shades of disease, and will become familiar with the pallid visage of death; you will see more of sorrow and anguish than other men, and yet you will not abandon faith in life, nor will the springs of hope be frozen within you. In your incessant conflicts with the powers of darkness you will lose the dread consciousness of their stupendous power. In your practical efforts to do good you will come to perceive "a soul of good in things evil." By the very fatigues and hardships of your lot a keener zest will be added to existence, for that bread is sweetest that is eaten in the sweat of the face. "The sovereign source of melancholy," says a brilliant transatlantic philosopher, Professor James, "is repletion." "Need and struggle are what incite and inspire us; our hour of triumph is what brings the void. Not the Jews of the captivity but those of the days of Solomon's glory are those from whom the pessimistic utterances of the Bible come." It is idle men or men of studious and reflective habits that *tædium vitæ* chiefly visits, not those who have to wrestle with strenuous responsibilities. No doubt men of melancholy temperament, constitutionally insusceptible of happiness, enter the medical profession now and then; no doubt weakly members of it break down here and there under the trials and disappointments that are incidental to it and become a prey to misanthropical gloom; but, taken as a whole, I maintain that the medical profession is of all professions the most cheerful and contented. Meetings of medical men are, in my experience, all but invariably characterised by geniality and good humour, notwithstanding acute differences of opinion. The doctor's home is for the most part bright with domestic sunshine. The doctor's heart is never soured, but overflows to the last with "the milk of human kindness." I could draw a contrast, but I refrain.

Let me congratulate you, gentlemen, on your adhesion to what is an anxious and laborious but an ennobling and satisfying profession. "The claims of the future," said Lord Beaconsfield, "are represented by suffering millions, and the youth of a nation are the trustees of posterity." The future is yours. The suffering millions cry aloud for help. In the faithful execution of the trust confided to you you will reap "an exceeding great reward."

LONDON SCHOOL OF MEDICINE FOR WOMEN.

By J. Grosvenor Mackinlay, F.R.C.S.Edin.,
Senior Ophthalmic Surgeon to the Royal Free Hospital.

THE MEDICAL MOVEMENT AMONG WOMEN.

Mr. J. Grosvenor Mackinlay disclaimed any intention of giving a formal lecture on the advance made in surgery, medicine, and therapeutics during the last few years. He merely wished to make a few remarks based on his own experience in querying the origin of the medical movement among women. Mr. Mackinlay traced its growth and accumulative strength through the troublous times of its initial stages to the recent rebuff met with at Cambridge and the refusal of the Royal College of Surgeons to grant diplomas. He advised the students to show the authorities what they could achieve without their help and with that of Newnham and Girton. The speaker characterised such policy as short-sighted; the fees in consequence were diverted into the more liberal spirited academies and colleges of Scotland, Ireland, Belgium, and Sweden.

Mr. Mackinlay, in alluding to women's medical work in Her Majesty's vast dominions, laid particular stress on that carried on in our Indian provinces, the principal requisite for pursuing this being good health. He felt he might speak with some authority on the question of the great need for women doctors in the East, since his father and uncle had both spent many years in the Indian Medical Service, characterising as derogatory to the profession those women who attend for a few months at a hospital or dispensary and return to the East with scanty qualifications, small knowledge, a Bible, and a few instruments, posing as lady doctors, but merely taking the bread from the more competent women.

Woman had now released herself from the old bonds, especially by her entrance into the medical profession, with all its attendant responsibilities. Many of the studies have to be carried out under objectionable and unfavourable circumstances; none the less woman's advance in the profession has been sure, if slow.

Recalling the meeting at Nottingham at which qualified ladies were elected members of the British Medical Association, Mr. Mackinlay paid a tribute to the lifelong work of Dr. Mrs. Garrett Anderson and that of Mrs. Scharlieb, mentioning also that past gynæcological authority Madame de Boivin.

The late Albert Smith called medical students an interesting race, although in his time no women medicals existed. His advice to them was, "Forget the deeper studies and forget the red globules of the blood in billiard balls." Ladies could substitute cycling, tennis, or other exercise for the billiards.

Considering the many eminent men connected with the hospital the names of Dr. Cockle, Mr. Wakley, Mr. Gant, and Professor Rose presented themselves. The speaker also dwelt upon the many changes in the building and in the *personnel* of the institution in the Gray's Inn Road, and alluded to the Hospital for Women, and the alterations in the School in Handel Street. Of his own speciality, ophthalmology, Mr. Mackinlay treated only very briefly, touching upon the far-reaching responsibility of the treatment of diseases of the eye, and of the terrible deprivation which loss of sight means to the uneducated poor. In this branch of the medical art, nerve, cheerfulness, and kindness were essential weapons in the fighting of the hard battle against optical disease. Amongst the advice tendered by Mr. Mackinlay to the students was that of being just to colleagues and to brother or sister practitioners; of a necessity for cheerfulness with lucidity with patients and their relatives, and the positive need of dogged perseverance in their work. Despatch and method were the soul of the profession, and the smallest detail of deportment required to be studied. The demonstration of sympathy should never be repressed, and no one having a heart should simulate indifference, this latter being the perfection of selfishness.

In conclusion the lecturer spoke in warm tones of appreciation of Lord Lister, and, as a corollary, suggested that Her Majesty might institute some order of distinction for the women members of the medical faculty. Truly (he said) do they merit it, for many of them have to go through not only serious trials, but often imminent danger, possibly unrecorded, if not unrequited. It is known that many women die at their posts from cholera, diphtheria, fever, and other forms of contagious disease, and for these heroines of an often silent battlefield there has been so far no particular recognition. We can only hope that the day is not far distant when a "red badge of courage" will be instituted for women doctors, as it is for women nurses, and that the Queen will see her way to further ennobling them. At any rate, even if you cannot all attain to the dignity of being a great doctor you can each do your duty fearlessly and thoroughly, and this of itself will make you feel contented, and able to say with Hazlitt when your time is over, "Well, I have had a happy life."

ROYAL VETERINARY COLLEGE, LONDON.

By D'Arcy Power, F.S.A., M.A., M.B.Oxon., F.R.C.S.Eng.,
Assistant Professor of Physiology, Royal Veterinary College.

SUGGESTIONS FOR A VETERINARY SANITARY SCIENCE.

Mr. Power began his address by extending a cordial welcome to the veterinary students who were now commencing their work at the College. They had chosen their profession wisely, for veterinary science was advancing more rapidly than any other branch of the healing art. It was daily obtaining a higher place in the eyes of the State, and of private individuals as one of the most useful professions both to the wealth of the country and the welfare of the community. He then continued: Charles Sainbel, the founder of the Veterinary College, taught human anatomy a lesson, and at the same time established his own reputation in England when he published his essay on the proportions of Eclipse, the great racehorse belonging to Mr. O'Kelly, who was never beaten, and who died February 27th, 1789. The essay is still in advance of the time, for it shows how animal mechanics can be expressed in geometrical terms, and it would be interesting to apply Sainbel's method to the record breakers who are now so numerous in the world of athletics. The observations of veterinary anatomists, too, explain many obscure points in connection with the development and anatomy of man, especially in those aberrant conditions which are found to a greater or less degree in every body which is carefully dissected.

The debt of human physiology to veterinary physiology is well recognised. In modern times, and in this country, it dates from the day in 1727 when Archdeacon Hales introduced a long tube into the femoral artery of a horse, and noted the height to which the blood rose in it. The importance of breeding has led veterinary surgeons to make a most careful examination of the generative functions in animals, and has enriched physiology with many facts of prime importance. It has demonstrated the possibility of artificial impregnation; it has settled the vexed question of superfecundation, and the recent work on epizoötic abortion has set us thinking whether a similar condition may not occur sometimes in the human species.

In like manner histology owes much to the study of animal tissues, for until recently nearly all the human tissues have been examined either in a diseased or in a badly preserved state.

In botany veterinary science has long placed medicine under a debt of gratitude. All practical men, whether physicians or veterinary surgeons, have had occasion to study the effects of poisonous plants and the results obtained from observations on animals have often been of signal service to the medical profession. Veterinary science has done more than this, for it has compelled botanists to study the most difficult but important natural order of the grasses not only from a classificatory standpoint but in such a manner as to indicate their economic value.

Veterinary medicine sometimes gives valuable hints to the human physician about the use of drugs and the cause or treatment of various diseases which, though they are common to men and animals, are more common in animals. Until quite recently, however, the importance of veterinary

science to physicians has never been better shown than in connection with the life history of the more common entozoa, some of whom use our bodies as an intermediate host in the cycle of their existence, which they renew in cattle, dogs, or rodents.

The surgeon has learnt somewhat less from the veterinarian than any of his brethren who practise upon the human body, yet even he has learnt a few principles from the veterinary surgeon which have stood him in good stead in the advancement of his art. The operations of the sow-gelder stimulated the early ovariotomists to practise a similar operation upon women, and encouraged them to persevere in spite of the most disastrous results until the operation was brought from a position of complete disrepute to the high place which it now occupies in the estimation of surgeons.

Indeed it has always been in principle rather than in detail that medicine has been indebted to veterinary science. Nowhere is this better seen than in pathology. Every first rate pathologist is necessarily a man of science, a comparative pathologist with a wide knowledge of animals as well as of men. It is this fact that has made pathology the grandly progressive science which it has lately become. John Hunter was interested alike in men and cattle, but his successors for many years were only morbid anatomists concerned with the details of morbid processes not with their principles. It is only recenly that we have outgrown this stage and have become pathologists in the true sense as disciples of Hunter, who must always remain our great master.

In pathology human medicine has learnt from veterinarians the great lesson long since known to the preacher, but long since forgotten: "For that which befalleth the sons of man befalleth beasts; even one thing befalleth them: as the one dieth so dieth the other; yea, they have all one breath, so that a man hath no pre-eminence over a beast." The better and wider knowledge of pathology possessed by the best veterinary surgeons often helps them to settle very obscure points in connection with disease occurring in the human being. It is no wonder, therefore, that comparative pathology daily rises higher in the estimation of the medical profession, for to the thoughtful physician its problems appear to be identical with the most difficult which he is called upon to solve. Daily, too, we see that prophylaxis is the most important part of medicine, and it is exactly in prophylaxis that comparative pathology excels, though it has done good service in pointing out the part played by animals in sharing diseases which affect man. In doing so it has shown that animals may act as transmitters of disease, so that cats and pigeons in diphtheria, horses in influenza, and rats in the plague must be considered as probable rather than as possible carriers of infection,

Prophylaxis is of as much importance to a large stock-owner as it is to the head master of a public school, and a thorough knowledge of preventive measures is even more valuable to a veterinary surgeon than it is to a physician. Only in exceptional cases will an owner consent to pay for the treatment of a prolonged illness in his stock, whereas a human being must be attended throughout his sickness, for he cannot be summarily slaughtered.

But all preventive measures on a large scale require special knowledge and concerted measures. Special knowledge only accumulates slowly, concerted measures require the intervention of the State. After many years the Government in this country was made to feel the necessity of enforcing the application of sanitary measures, and medical officers of health came into existence. In a tentative manner, and very incompletely, some attempts have been made to form a veterinary sanitary service. But too much is left to the initiative of local bodies, and what has hitherto been done in detail now requires to be established upon a broad groundwork. Such a service properly conducted would be of undoubted use to the community, whilst it would be advantageous to the veterinary profession.

The whole of animal hygiene should be placed under the care of a veterinary sanitary service, and as no one can be much in advance of his time such a service for the present should be carried out along the lines which have been found most useful in the Medical Sanitary Service, care being taken to eliminate or, if they cannot be altogether eliminated, to strengthen those points which have seemed to be the weakest in the working of the Public Health Acts. Such a veterinary sanitary service would not be hard to organise. Its existence is already foreshadowed, for the State has recognised that a medical officer of health cannot be omniscient. The Infectious Disease (Prevention) Act of 1890 allows the medical officer of health to be accompanied by a veterinary inspector or some other properly qualified veterinary surgeon to inspect the animals supplying milk to a suspected dairy. Such officers should be much more carefully trained to enable them to perform their duties efficiently, and after a proper course of training, being duly qualified veterinary surgeons, they should be able to obtain a diploma in veterinary hygiene.

A specially qualified body of men being thus provided, places would have to be found for them throughout the country. At first, no doubt, this would be difficult on account of the expense, but the stockowners form so large and important a body of men that as soon as they had satisfied themselves by actual proof that such a system saved them from loss they would readily assist in its extension. The districts over which the veterinary sanitary officers would have to preside should be large enough to occupy their whole time, whilst the remuneration should be sufficient to tempt the most promising of the young men to apply for appointment. There should also be provision for a reasonable security of tenure. Only the very best men should be advised to enter the veterinary sanitary service at first, for they will have to create the service. They will have to fight and to overcome many difficulties both of fact and prejudice. Not only will the public be opposed to them, but, as some of their duties must necessarily overlap those of the medical officers of health, there is certain to be some jealousy between the less competent and more narrow-minded members of the two services. The more highly educated and more far-seeing members of the medical profession, knowing the disadvantages of dual control, will readily yield to the veterinary service those duties which seem especially to belong to it, and they will welcome a release from comparatively alien topics, as it will allow them more time for the effectual performance of their own work which is already sufficiently arduous. The duties of the veterinary sanitary officers would be to carry out the provisions of the Animals Contagious Diseases Acts and of the Dairies, Cowsheds, and Milkshops Orders of 1885 and 1886. They would also inspect the piggeries, slaughter-houses and butchers' shops, and they should be given effectual control over all meat exposed for sale. By a careful system of notification, followed by immediate inspection, they would be able to control many contagious diseases, whilst a better system of registration and the destruction of ownerless dogs throughout the country would soon render hydrophobia as rare in England as is leprosy.

The veterinary sanitary officers having to control large districts, would necessarily require assistance, which would be provided by recruits from the class who now furnish the veterinary sub-inspectors. Reliable men who have held positions of trust in the district and who are therefore well acquainted with the local inhabitants and their customs. Even these men however should receive some course of training before they enter upon their duties. The veterinary inspectors would remain, for they have done good and useful work, but as vacancies occurred their successors would be selected from the most energetic and tactful of the veterinary sanitary officers who would be tempted by the prospect of better pay and wider duties. The veterinary inspectors would form a more select body of men, specially qualified to sift evidence and fitted by the highest scientific training to cope with the more formidable outbreaks of epizootic disease. They would be responsible to the Department of Agriculture, whilst the veterinary sanitary officers would be under the control of the County Councils.

Both classes of officials should be wholly occupied in their duties and should be prohibited from private practice, lest there should be even a suspicion that their interests as individuals might clash with the efficient performance of their public duties. The surest way to ruin the service would be to make a series of small appointments, but if a service of well trained men devoted their whole energies to the study of veterinary hygiene we might soon obtain a great school of

general or comparative pathology serviceable alike to the State, the community, and the individual. Many preventable diseases would be abolished, stockowners would become more prosperous, and the average life of man would be still further prolonged.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

ATTEMPTED POISONING BY LAUDANUM AND ANTIPYRIN.

On July 18th last I was hurriedly summoned to attend a lady who had, while in a depressed state, taken overdoses of laudanum and antipyrin. On arriving at 5 A.M. I found her in an excited state, but she answered all my questions readily and distinctly. The temperature was 99° F., pulse 100, and the pupils were perfectly normal and contracted to light. By the patient's own statements, the evidence of her husband, and the bottles which contained the drugs now in my possession, I found that at 9.30 A.M., the day before I saw her, she had taken ℥xviij of tinct. opii, and at 10.30 P.M. the same day 60 to 70 gr. of antipyrin. These drugs she had procured for toothache at several different chemists. Shortly before I arrived she had been slightly sick but the vomit had been thrown out. I washed out the stomach, and found that what came away smelled most strongly of laudanum.

The recovery was perfect except for a slight amount of dyspepsia for a few days afterwards. Into the cause which induced the attempt at suicide it is unnecessary to enter here. The important point is that there never had been any opium habit, and there is also no doubt whatever that both drugs were taken in the amount stated.

The curious part about the case is the long retention of the laudanum in the stomach without any marked symptom. The only noticeable symptom was a slight unsteadiness of gait in walking across the floor on the afternoon of the 17th. This, the patient assured her husband, was due to her being "bilious."

From 9.30 A.M. on July 17th to 5 A.M. on the 18th is nineteen and a half hours, and this, combined with the circumstance that antipyrin in a 60 to 70-gr. dose—a dose highly depressant to the heart—was also taken without effect, makes the case almost a unique one.

Cases are on record where opium has been retained in the stomach for nine, ten, and even eighteen hours, and in the *Lancet* of July 15th, 1857, Dr. Gibbs published a case where ℥xij of laudanum had been rejected spontaneously from the stomach after a lapse of nine hours without giving rise to any marked symptoms.

I am not aware that antipyrin is in any way an antidote to opium—at least I have not seen it mentioned in the books; but, even allowing that it were, there was an interval of thirteen hours between the time of taking the two drugs. The case appears to me to be of interest, and I cite it to show that opium may be retained for hours in the stomach without giving rise to any noticeable symptoms.

Beverley. W. Herbert Gregory, M.D.Edin.

TWO CASES OF LACERATION OF THE TONGUE.

The first case was that of a boy, aged 7 years, who, while climbing down from a gate, caught his chin on the highest bar, driving his lower incisor teeth into the tip of the tongue, and causing a lacerated wound on the under surface thereof. The hæmorrhage from this wound was free. The second case was that of a boy, aged 15 years, who tripped up in a hole in the carpet, and fell against a fender, lacerating the dorsum of the tongue; the wound extended right across the dorsum of the tongue, necessitating the use of three catgut sutures.

In both these cases rapid healing took place. The only eatment adopted was abstinence from solid food and "Sanitas" mouth wash—in the first case for a period of five days, and in the second for a period of eleven days.

I may add that in the casualty department of this hospital we have had two cases of laceration of the tongue quite recently, and one case in which a piece of red-hot steel was embedded in the muscular substance of the tongue.

S. J. Ross, M.B., Ch.B.Vict.
Bedford General Infirmary. Resident House-Surgeon.

HYPERPYREXIA IN SCARLATINA.

Early in the morning of September 14th I was called to see a little girl, aged 8, who had been suffering for three days from scarlatina. The early symptoms of the disease were not of a very severe type, the rash came out well, and nothing occurred to cause special alarm to the parents or the attending physician until about seven hours before I saw her, when she became very restless and delirious, and the skin, which had been perspiring freely, ceased to act. I found the child unconscious, with contracted pupils, very rapid pulse, and slightly stertorous breathing. The thermometer in the axilla registered 111.6° F., and death occurred in about fifteen minutes. This is the highest temperature I have ever observed. Dr. J. W. Moore, in his *Eruptive and Continued Fevers*, states that the maximum observed by Wunderlich in this disease was 110.3°, but that a temperature of 115° was observed by the late Dr. Bathurst Woodman.

Portadown. W. E. Hadden, M.D.

OVARIAN PALATINOIDS IN THE FLUSHINGS FOLLOWING THE MENOPAUSE.

Having some time back sent notes of a case of severe flushings successfully treated by ovarian tissue administered in palatinoid form, I think it but fair to give the sequel. The lady soon after was obliged to lead a more active life, and had less sleep and rest. The flushings returned, and this time the palatinoids failed to afford relief.

A medical friend told me he had tried them in a case under his care with a negative result. The experience of others, if published, would be a help in determining the value or otherwise of this and similar remedies.

Bournemouth. W. Hubert Fosbery, M.A., M.D.Cantab.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

STATION HOSPITAL, UP PARK CAMP, JAMAICA.

OPIUM POISONING: PERMANGANATE OF POTASH TREATMENT: RECOVERY.

(By J. D. Reckitt, Surgeon-Major, A.M.S.)

J. C., aged 25 years, an unmarried non-commissioned officer of the 1st West Indian Regiment, was admitted about 4 P.M., having been found in an insensible state in his quarters with a 2-ounce bottle by the side of his bed. The bottle was labelled "Laudanum," and was quite empty.

On admission he was seen by Surgeon-Captain Adams, A.M.S., who gave him potass. permang., gr. v; and zinci sulph., gr. xxx, dissolved in about half a pint of water, which produced slight vomiting.

When I saw him about 4.45 P.M. he was very drowsy, pupils much contracted, breathing noisy, and almost insensible. He could, however, be roused with great difficulty. The breath had the odour of rum. I could not obtain any reply to questions put to him. I immediately repeated the potass. permang., gr. v. in half a pint of warm water, which, with considerable difficulty, I induced him to swallow, and directed that he should be constantly moved about by relays of men from his regiment, to be flicked repeatedly with a cold wet towel, and ammon. carb. to be frequently applied to the nostrils. At 7.30 P.M. I again saw him, when he was quite insensible, breathing slow and stertorous, and soundly asleep whilst being dragged along by two orderlies. I then introduced the tube of the stomach pump, and injected potass. permang., gr. x, in 12 ounces of water, which was retained. I repeated the dose of permanganate at 8.30 P.M., and left with directions to keep him moving, and combine the application of amm. carb. to the nostrils, and at 9 P.M. to have a cup

of strong coffee. I again visited him at 10.30 P.M., and found him partially sensible, potass. permang., gr. v, in half a pint of water, having been given at 10 P.M. by the ward master on duty. I repeated this at 11 P.M., and ordered citrate of caffeine, gr. viij, every two hours in water, to be moved about until 4 A.M., with half an hour's rest at 1 A.M.; also have some ext. carnis at intervals. He had vomited freely at 10.45 P.M.

March 17th. Quite sensible at 9 A.M., but manner strange and abrupt. He stated to me "that he was tired of life, and wished he had taken prussic acid instead."

Remarks.—On recovery J. C. stated to me that he had formerly been employed in a chemist's shop in the West Indies; that he had purchased 2 ozs. of laudanum on 16th inst., and whilst under the influence of rum, of which he had been drinking freely for many days, had swallowed the whole of the narcotic about 3 A.M., with the full intention of taking his life. After swallowing the poison he had retired to bed, and was found in the condition described on admission. When I saw him at 7.30 P.M. of March 16th, his condition was so grave, and insensibility so profound, that I formed a very unfavourable prognosis, and thinking it necessary to introduce the antidote more rapidly into the system if it were to be of any use, I doubled the dose, and it is very probable with the good result shown. There is little doubt that the whole of the 2 ozs. of laudanum was absorbed into the system, but whether of the full strength I am unable to say. On another occasion, however, I would not hesitate to give much larger doses of the permanganate, and thus produce more rapid and powerful antidotal effects.

REVIEWS.

The Workmen's Compensation Act, 1897, Reviewed. Handbook by M. Roberts-Jones, Barrister-at-Law. Cardiff: *Western Mail*. 1897. P. 78.

The author, who has already had considerable experience in the working of various friendly societies, miners' permanent relief funds, and the Employers' Liability Act of 1880, has published a brief treatise which is intended for the use of arbitrators and committees of arbitration employed to settle questions of compensation between employers and workmen. As the Act does not come into force until July 1st, 1898, and as some time thereafter must necessarily elapse before its operation is thoroughly understood in all its details, and its influence felt through the various industries scheduled, it may interest our readers to know that the Workmen's Compensation Act applies to nearly one-half of the total workmen of the United Kingdom, and that it will largely remove from courts of law such debatable points as "common employment" and "contributory negligence," legal technicalities the effects of which have frequently ere this disappointed the hopes of injured workmen, and in the case of death left their dependents utterly helpless. Until the introduction of the Act, only 12 per cent. of accidents received compensation; under its operation a larger measure of compensation will be secured. By the Act, 6,000,000 workmen are protected. Among these are included workers in factories, docks, wharves, miners, quarrymen, railwaymen, builders, bricklayers, and navvies. Large as the number is, there are still left out of the Act 7,000,000 workmen, many of whom as time goes on will probably be included.

In this handbook the text of the Act is given in full, also the schedules, with explanatory footnotes. Acts of Parliament are always difficult to interpret, but Mr. Roberts-Jones has made the Workmen's Compensation Act easier for us to understand. Attention is drawn to the permission given to workmen to contract out of the Employers' Liability Act of 1880. Under the Act, 1897, when death results from injury, if the workman leaves any dependents wholly dependent upon his earnings, a sum equivalent to three years' wages, or £150, is to be paid by the employer. This seems at first sight a large sum, but to a widow, aged 40 years, this amount will purchase from the Post Office an annuity of only 2s. 10d. a week, and when we remember that the Savings Bank pays these annuities half-yearly, it is after all very slight compensation for the death of the wage earner.

The treatise is full of useful information, and will be a considerable help to those for whom it has been written. It was hoped that when the Bill passed it would not disturb harmonious relationships that have existed between employers and workmen. Already, however, there are more than rumours in the air. In the North of England one of the largest and wealthiest engineering firms has given notice that it intends to withdraw from the Mutual Assurance Fund, to which on behalf of its injured workmen it has for years generously contributed, and has intimated that for the future the claims for all accidents must be dealt with under the Act. This was a probability to which Mr. Chamberlain's attention was in Parliament frequently directed, but to which he could not give any support. He had no fear for the future of any of the provident societies, but believed that an immense impetus would be given to them, and that mutual agreement schemes would not suffer.

A few weeks ago the South Metropolitan Gas Company, which employs several thousands of workmen, introduced a scheme which is admitted by the men to be satisfactory. It is premature, however, to discuss this side of the question. Time will show. It is only right to add that, while at first the Act seems to press hardly upon the employer, his work men are equally liable under it for any negligence and can be sued by the employer. The Act throws upon the employer under all circumstances the responsibility of proving that an injury is attributable to the wilful misconduct of a workman, and it allows that, while the employer is primarily liable, he can sue his subcontractor or any third party whose negligence really caused the injury. The measure is purely economic. Society has ultimately to provide for the life disabled in its service. The employer primarily compensates, but this reacts by increasing the cost of production and the consumer in the end paying more.

To all interested in labour questions and accidents affecting working men Mr. Roberts-Jones's handbook will prove a useful guide.

Les Tumeurs Cérébrales [Cerebral Tumours]. By Dr. Maurice Auvray. Paris: Bailliére. 1896. (8vo, pp. 466, with 29 figures. Fr. 8.)

The progressive tendency of modern surgery is well illustrated by the fact that a book on this supject which ten years ago could have been written only by a physician, and could have comprised only diagnosis, should now be written by a surgeon and devoted mainly to treatment. This work opens with a historical introduction, which is followed by chapters on pathological anatomy and cerebral localisation, the latter of which is very inadequate. Succeeding chapters take up the questions of diagnosis and treatment, those on the indications for operation and the method of its performance occupying nearly a quarter of the book. Almost 200 pages are devoted to a summary of all the operations upon the cerebrum and cerebellum of which the author has been able to find records, and this statistical portion we must regard as by far the most valuable section of the whole. There is nothing original in the book, which does not rise above the level of the ordinary graduation thesis, and the amount of personal observation recorded is very slight. Following closely as it does upon the great treatise of Chipault, we fear that there is not much scope for a work like the present, though, as we have already stated, its bibliography and summary of cases will no doubt be of use.

La Suisse Balnéaire et Climatique [The Mineral Waters and Climates of Switzerland]. Par le Dr. Eugène de la Harpe. Second Edition, revised and augmented. Zürich: César Schmidt. 1897. (Cr. 8vo, pp. 406, map and illustrations).

Ever since its first appearance in 1890 Dr. de la Harpe's book has occupied amongst French handbooks the position corresponding to that held by Gsell-Fels's *Bäder und Kurorte der Schweiz* in the German language. These are the two generally acknowledged guides for the spas and health resorts of Switzerland.

A considerable number of alterations have been made for the present edition, and we may instance amongst them the

revised accounts of Bex, Leysin, Arosa, Tarasp, and Weissenburg. Bex, where the author now practises during the summer, has had its brine and mother-water (*eau-mère*) re-analysed by Brunner (in 1894). Its strong brine now contains 27½ per cent. common salt and 2 per cent. chloride of calcium, whereas, according to Bischoff's analysis, it formerly contained only about 15½ per cent. common salt. The doctors, therefore, at Bex now have a concentrated brine at their disposal, which rivals the practically saturated brines of Rheinfelden in Switzerland and Droitwich in England. The situation of Bex is very beautiful, lying as it does in the Rhone valley on the opposite side to the Dent-du-Midi; the baths of the Salines, some little distance to the north-east of the village, will be preferred by many to the village itself on account of the park and secluded position. During the heat of summer there are various higher Alpine resorts in the neighbourhood which can be utilised—for instance, Villars-sur-Ollon, with the adjoining Chesières, and Gryon, though the accommodation at the latter place is still very limited.

Nearly every health resort in Switzerland is separately described and discussed, and Dr. de la Harpe's book can be recommended to all medical men on account of the amount and accuracy of the information given on the climates and mineral waters of the different localities, and their indications in disease. At the end of the book, besides the index of places, are tables of altitudes and a list of doctors practising at Swiss health resorts.

Schedules for Plant Description. By John Wishart. Edinburgh: E. and S. Livingstone. (Oblong 4to, containing Thirty Blank Schedules and One filled as an Example. 6d.)

There is no doubt about the value of schedule work to the young student of botany. It involves the exercise of a kind of observation and examination that leads to a practical knowledge of plants, which is of more utility in everyday life than the profounder studies connected with vegetable physiology and anatomy, to say nothing of the rote learning of the life-histories of microscopic organisms from books and diagrams. Mr. Wishart has devised a very good form of schedule, and the familiar wallflower is described in the one given as an example; therefore the student can begin by comparing the plant with the description. On the opposite page are the floral diagram, the floral formula, a vertical section of the flower, reasons for classification and name, habitat, and miscellaneous remarks. Two or three inaccuracies should be corrected in a future issue. The most important is the substitution of the term replum for septum: the ovary being described as 2-celled, "due to the presence of a replum." This error, it may be added, has crept into several other recent elementary works on botany. Gynæcium is better gynæceum. Further, the remarks under "habitat" might have been expressed in more elegant English.

Die Geschwülste des Nervensystems. [Tumours of the Nervous System.] Eine klinische Studie von Dr. Ludwig Bruns. Berlin: S. Karger; and Glasgow: F. Bauermeister. 1897. (Super Roy. 8vo, pp. 402. 12s.)

The author states in his preface that "the aim and object of all our clinical research is the healing of the sick," and it is evident throughout that he has tried to keep this object before him in writing this book. The work is divided into three parts, dealing with tumours in the brain, the spinal cord, and the peripheral nerves respectively. As might be expected the work is largely a compilation of facts and statistics from various authorities, and would perhaps be more valuable if it contained a larger amount of original observation.

Among cysts of the brain the cysticercus cellulosæ receives more notice than it usually does from English writers, and it is pointed out that it is much commoner in Germany than the echinococcus. A chapter is devoted to the results of pressure of cerebral tumours on surrounding structures, and contains an interesting discussion on the etiology of the "choked disc" of cerebral tumour. It is somewhat surprising to find the author accepting in its entirety the purely mechanical theory. The old time-worn arguments are advanced in its behalf, while the contrary-minded are supposed to have only three arguments, which the author introduces and demolishes with the greatest of ease to his own satisfaction if not to that of everybody else. In a later chapter he waxes bolder, and wishes to discard the term "optic neuritis" altogether, for "a real neuritis never occurs with a cerebral tumour." (Gumma and tubercle are here excluded from the category of tumours, and may, he thinks, occasionally give rise to optic neuritis by direct extension of the inflammatory process.)

Considering the "choked disc" (*Stauungs-papille*) as accepted the author suggests that a similar mechanical lesion may occur in other nerves, and the "choked labyrinth" (*Stauungs-labyrinth*) is suggested as a possible cause of the deafness in some cases of cerebral tumour.

Few will agree with the author, we think, in the value he attaches to percussion of the skull in the localisation of tumours. No doubt with very large experience information may sometimes be gained by cranial percussion, but it is startling to find the author affirming that he would rather trust a localisation from percussion, that is, from an alteration of note, than a localisation from symptoms.

The chapter on differential diagnosis of cerebral tumours from other conditions is excellent, if somewhat Utopian, in its advice; to examine with the ophthalmoscope every case of headache is an admirable rule, but hardly practicable for most of us.

The author is a keen advocate of surgical interference both in cerebral and in spinal tumours; in the latter, indeed, he considers that it is not merely justifiable, but is the medical man's duty to recommend operation in every case. Great credit is given to Mr. Horsley throughout the book for his advances in surgery, and references to English authors are numerous. The book contains some good illustrations, and the bibliographies are useful.

As a practical aid to diagnose this treatise is a really valuable addition to the literature of the subject, and the author may, we think, feel confident that his book will, at any rate in some degree, fulfil its purpose.

Les Troupes Coloniales: Statistique de la Mortalité. [Death Statistics of the Colonial Troops.] Par F. Burot, Médecin Principal de la Marine, etc.; M. A. Legrand, Médecin de 1re Classe de la Marine, etc. Paris: J. B. Baillière et Fils. 1897. (Demy 8vo, pp. 140. Fr. 2.50.)

This interesting and suggestive book is not an official report, but a compilation of two eminent French naval medical officers, who have spared no pains to make it original and unique of its kind. It clearly discloses what has hitherto been a matter of speculation, namely, the cost in lives to France of her forward tropical colonial policy. The survey includes the Soudan, West Africa, West Indies, Annam and Tonquin, Madagascar, Réunion, New Caledonia, and Tahiti, but not Algiers.

The death-rate of the French white troops in these colonies during 1891-5 inclusively is shown, together with that of invalids sent back to France. During these years a total of 71,164 land and marine French troops passed through these colonies, giving a yearly average of 14,332 officers and men, having an average annual death-rate of 42.95, ranging from a minimum of 25 in 1893 to a maximum of 76 in 1895, the year of the Madagascar expedition.

There was no epidemic prevalence of cholera or yellow fever to swell the mortality of these years, which very largely resulted from malarial diseases, including "typho-malarial" fever, dysentery, etc. Especially did these diseases work terrible havoc in Madagascar, the death-rate in which rose in 1895 from an average of 103 per 1,000 to 356 among soldiers, and 237 in the marine. The 40th Chasseurs-à-pied actually lost by death 506 out of 800, and the Sappers 387 out of 600 men!

The French death-rate is compared with those of Holland, Italy, Spain, and this country in tropical colonial enterprises, and we fortunately come out exceedingly well. The losses of Spain have been appalling; it is asserted she sent out to Cuba and the Philippines about 200,000 men between March, 1895, and December, 1896, among whom a death-rate of 278 per 1,000 has occurred, not including the deaths of invalids sent back to Spain!

It is summed up that the death-rate of the troops of France in her tropical colonies is seven times that of the army at home; and the moral is hinted, if cautiously expressed, that, as the number of Frenchmen is limited, it behoves her better to husband her military resources.

We are highly complimented on the way we manage, from a sanitary point of view, our tropical expeditions; the Egyptian campaign of 1884-5 being called "a triumph of military hygiene." This is praise indeed coming from a French source, and a curious commentary upon the action of a section of our military officers, who, it will be recollected, tried to discredit our medical service in Egypt.

This book, altogether, merits a much more extended analysis than we can give it; and shows unmistakably that, with all our shortcomings and self-depreciation, we can manage some things, including tropical expeditions, better even than they can in France.

NOTES ON BOOKS.

The Experience and Lessons of the Bombay Plague. By Thomas Blaney. Reprinted from the *Times of India*. Pp. 26.—Mr. Blaney asserts that an unchecked plague visitation comprises three natural stages: (1) A spreading stage, the pestilence going from house to house, from street to street, and from district to district; (2) the stage of complete spread to all the districts; and (3) the stage of decline by natural decay. Each stage, he contends, demands a different plan of management. In the first stage, in which infection is transmitted from person to person, "stamping out" measures by rigid segregation of the sick and proper control and disposal of the healthy are indicated, and, if rigorously enforced, may be effective. In the second stage the infective agency is local rather than personal, and the evacuation and thorough sanitation of tainted houses and streets, and the proper accommodation and care of the persons removed whether healthy or diseased, are the objects to be aimed at. In the third stage the contagion is weak, whether of persons, places, or things, and will eventually die out, and active measures of evacuation and segregation are unnecessary. There is much truth in these statements, though they are probably more precise and dogmatic than experience and the nature of the case justify. The author criticises the action of the governing authorities of Bombay very severely. He contends that excessive apathy prevailed at the time when properly conducted effort might have been advantageous, and that excessive energy was exhibited at that period in the history of the epidemic—the period of decline—when it was useless if not pernicious. He elaborates this theme in considerable detail. The first charge may be justified, but as regards the later activity, it is not so clear that it was unnecessary or misplaced. On one point the author will command the assent of the whole world—namely, the need of radical and permanent sanitary reform in Bombay and all other Indian towns.

Contribution à l'Etude de l'Hémothorax Traumatique. Par le Dr. Antonio Figueiredo. (Paris: A. Maloine. 1897. Demy 8vo, pp. 82. Fr. 3.)—Dr. Figueiredo, who is Physician to the Hospital of St. Elisabeth, at Bahia, records five excellent cases of traumatic hæmothorax, and on these he builds a very valuable essay on the whole subject, with innumerable references to the work done lately in France and Germany by Charles Nélaton, Pagenstecher, and many others. The only fault in his writing is a tendency to over-theorising. The little work is, however, well worth study.

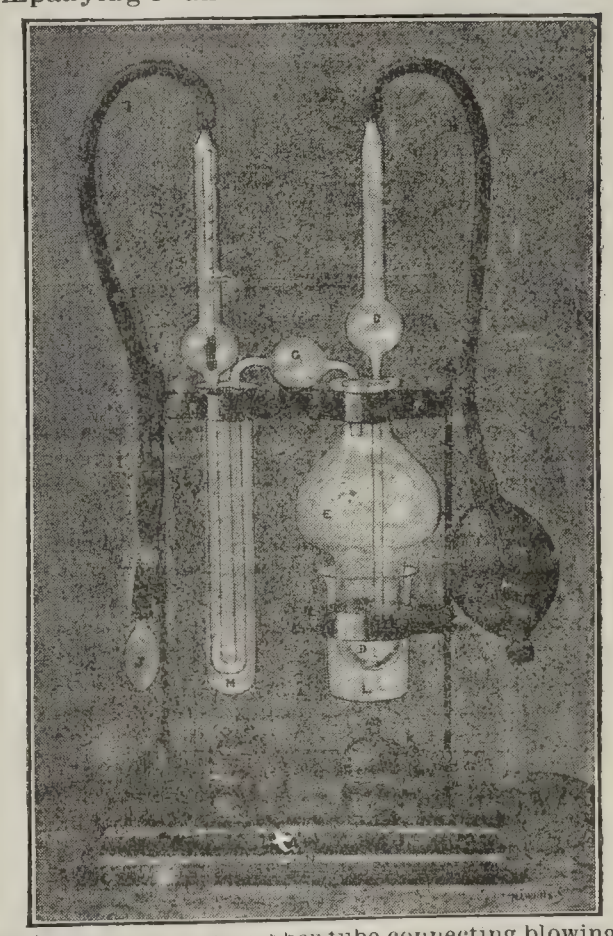
A Munificent Gift.—The treasurer of Guy's Hospital has received the sum of £4,000 from a lady, who desires to remain anonymous, for the purpose of endowing four beds in perpetuity. This gift will form part of the re-endowment fund, which is still much below half the amount required.

The will of the late Dr. Jabez Spence Ramskill, Consulting Surgeon to the London Hospital, has been proved by his widow, the value of the personal estate being £1,178 10s.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

A PATENT PNEUMATIC MEDICATOR AND INJECTOR.

Medicated air has been used in America for some years for the treatment of catarrh of the head, ears, nose, throat, and lungs with marked success, and especially for the cure of catarrhal deafness. It has lately been introduced into Great Britain and has been equally successful. Up to the present, however, the medicated air has only been used in a dry state at the temperature of the room in which the patient used the instrument. Dr. D. Johnston, of Dalston, considers that better results might be obtained in many cases, such as bronchitis and phthisis, if the temperature of the medicated air could be raised or lowered, made dry or moist, as the conditions of the case required, and he has therefore constructed and patented an instrument to achieve this object, of which the accompanying is an illustration.



A, rubber blowing bulb; B, rubber tube connecting blowing bulb wit straight glass tube; C, straight glass tube; D, reservoir for holdin medicine; E, air chamber for medicated air; F, rubber cork fo holding glass tubes; G, long bent glass tube containing thermometer; H, thermometer in long bent glass tube; I, rubber tube connecting long bent glass tube with mouth or nose piece; J, glass nose or mouthpiece; K, spirit lamp for heating water baths: L, water bath for heating medicine in reservoir, or for cooling medicine by filling with ice; M, water bath for heating medicated air in long bent glass tube which passes through it; N, stand containing spirit lamp; O, holder for supporting water bath; P, holder for supporting air chamber and reservoir; R, holder for supporting long water bath.

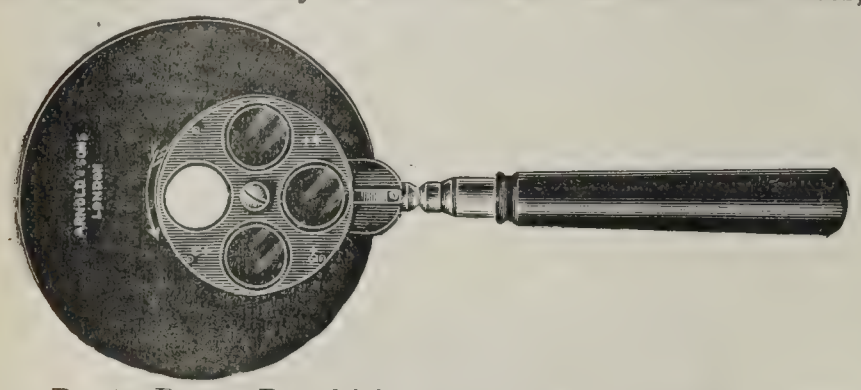
COCOA.

The Tower Tea Company, of 5, Jewry Street, E.C., has sent us samples of cocoa preparations—namely, "Cocoa Essence," "Homœopathic Cocoa," and "Soluble Cocoa." The cocoa essence we find, as stated, to be pure cocoa from which a small proportion of fat natural to the cocoa bean has been removed, in addition to which the cocoa has undergone treatment to make the preparation "soluble," or, more correctly, miscible with water. The so-called homœopathic cocoa is an admixture of cocoa, arrowroot, and sugar, and we find in it a good proportion of the cocoa bean. The "soluble cocoa"

contains a larger proportion of the cheaper ingredients, thus furnishing a preparation suitable in price to the requirements of the working classes. All these preparations are of good quality and make palatable beverages.

NEW AURAL AND THROAT MIRROR.

Mr. Thomas A. Goodchild forwards a description of a mirror designed by him, and which presents some novel features. With it an enlarged, well illuminated, and distinct view of the tympanum may be obtained. It is a concave mirror 3 inches in diameter, and having a focal distance of about 7 inches. It is pierced in the centre by a sight hole 15 mm. in diameter. A rotary disc at the back carries three lenses,



+2 D., +3 D., +4 D., which can in turn be moved opposite the central aperture. The best results are obtained by holding the mirror midway between the eye and the object. If the observer be presbyopic he can correct his error by using the appropriate lens. The instrument is made by and can be obtained from Messrs. Arnold and Sons, West Smithfield.

"AN IMPROVED ŒSOPHAGEAL PROBANG."

Mr. Lennox Browne (Mansfield Street, W.) writes: Looking over back numbers of the British Medical Journal on my return to town I find an illustration in the issue of September 11th of "An Improved Œsophageal Probang" by Mr. C. J. Mayhew. But the second edition of my book, *The Throat and its Diseases*, published so far back as June, 1887, contains an illustration (Fig. 101, p. 142) of an instrument made for me by the same firm as that of Mr. Mayhew's. It was constructed to overcome both the difficulties it has occurred to this gentleman to correct, namely, that of premature expansion of the ramoneur on insertion, and the necessity for employment, of but one hand, and both—as I venture to think—by a better mechanism. Moreover, my instrument is made in jointed form so as to occupy less space in the pocket or instrument case, while the end, instead of being of sponge, is replaced by an aseptic metal point, which has the additional advantage of detecting any hard foreign body on percussion. P.S.—The foregoing remarks apply equally to the claim of priority of Dr. Sympson, since my instrument was devised and in use ten years before his.

FOUNDLINGS AND FOUNDLING HOSPITALS IN ITALY.[1]

[From our Rome Correspondent.]

So much attention has recently been given to the condition of the *brefotrofi* (foundling hospitals) in Italy both in this country and abroad, that I trust the following facts obtained from official sources will be of interest to the profession in England.

The *brefotrofi* in Italy are under the control of the communal and provincial authorities. Up till the year 1866 the *ruota* system for the reception of the exposed was in action in all the provinces in the kingdom. The *ruota* is a wheel, placed in an opening in the wall of the hospital, which contains a small bed in which the foundling is placed. The movement of the bed rings a bell, and the infant is immediately removed by a servant of the *brefotrofio*. These *ruote* were open in 1,179 communes in the above year. Since that time they, however, have gradually become diminished in numbers through the action of the provincial authorities, and have been substituted by the direct consignment of the foundlings to the office of Civil State, or to persons appointed for the purpose. In the year 1895 the *ruota* was still in action in 503 communes, but only nominally in 61 of these, as no foundlings had been deposited in them. This is the last year for which I have been able to obtain statistics.

The living infants found in the *ruote* were 36,552 in the three years 1879-81 (besides 541 found dead); 29,025 in the three years 1885-87 (besides 599 found dead); and 21,191 in the three years 1890-92, besides 742 found dead. For the years 1893-94 particulars have been provided only by 54 out of 69 provinces of the kingdom in which these institutions exist. In those 54 provinces 103 *ruote* were in action and 737 infants were placed in them in 1893, and 685 in 1894.

Among the 21,191 foundlings deposited in the *ruote* in the three years 1890-92 (excluding those found dead), 8,143 belonged to the communes of Sicily, 3,907 to Campania, 4,005 to Puglie, 1,938 to Calabria, 1,038 to Abruzzi, 776 to Basilicata, 599 to Emilia, 534 to Marche, 132 to Tuscany, 67 to the province of Rome, 28 to Sardinia, 24 to Umbria, and not one to Piedmont, Liguria, Lombardy, and Venice.

Much discussion has taken place as to the desirability or not of abolishing the *ruote*, the defenders of this system arguing that with their suppression the number of infants exposed in public places would increase. As far as regards Italy this has not been so, as the number of infants abandoned in the streets, churches, near the doors of midwives' houses, etc., has diminished *pari passu* with the suppression of the *ruote*. Thus in the three years 1879-81 the number was 8,744 (not including 79 found dead), and in the three years 1890-92 there were only 6,706 (not including 364 already dead).

Still more, the infants abandoned in places outside the *ruote* are more numerous in those provinces in which they are still open. Amongst the 29,003 infants found living or dead in the *ruote* or exposed in other places in the three years 1890-92, 14,153 were males and 14,850 females. Although the annual number of males born in the kingdom exceeds that of the females in the proportions of 106 males to 100 females, the number of the male foundlings is less than the female, perhaps became the former are abandoned with less facility than the latter. The suppression of the *ruote* has not produced, as many predicted, an increase in the number of infanticides or procured abortions.

Brefotrofi do not exist in 15 provinces, and in these the foundlings are put out to wet nurses in the country by the communal authorities. Other provinces only partly provide hospitals for the foundlings, as many of the communes place them directly with the wet nurses.

The foundling hospitals are 121, including the *case succursali*. On January 1st, 1890, the number of foundlings in them was 107,496; on January 1st, 1893, 105,169; and January 1st, 1895, 103,149. In the five years, 1890-94, 112,085 children were admitted; in the same period 60,157 died; 39,211 were discharged, having passed the prescribed age; 16,795 were claimed by their parents or adopted by the foster parents.

The infants admitted into the *brefotrofi* in the three years, 1879-81, were 69,102 (an annual mean of 22,567), and in the years 1893-94, 44,377 (an annual mean of 22,189); thus the number of foundlings in 1894 is somewhat less than that of 1879.

The greater number of these foundlings are not brought up within the hospital, as all the institutions now endeavour to place them with paid wet nurses in the country districts. Among the 103,419 foundlings under the care of the institutions on December 31st, 1894, only 3,269 were in the institutions proper; of these, 1,184 were sucklings and 2,085 under ordinary diet; the other 100,150 were placed with external nurses. The hospital serves as a momentary deposit for the foundlings when they are first received, for those who are returned by the nurses on account of the illness of themselves or the foundlings, or for other causes—emigration, poverty, bad conduct, etc.

In the provinces that wholly or partly provide for foundlings without possessing special institutions, 38,994 children were maintained at the public expense on January 1st, 1890; of these, 29,339 were received in the three years, 1890-92. In the same years 16,568 ceased to be assisted through death, 11,748 through having passed the prescribed age, and 1,147 through being restored to their parents or adopted by the foster-parents.

Several of these hospitals also admit legitimate children whose parents are in a state of extreme poverty or are dead or imprisoned. Generally the assistance of legitimate infants ceases directly the period of suckling is completed—that is, after a year or two years at most. In the five years, 1890-94, 8,376 legitimate infants were received in the institutions, of whom 7,836 were under a year.

[1] British Medical Journal, July 31st, p. 311.

The mortality of the total number of foundlings, legitimate and illegitimate, under 1 year of age, within and outside the *brefotrofi* in the years 1893-94 was 28.2 per cent. For all ages in the five years, 1890-94, it was 27.8 per cent. The mortality of those in the institutions proper is not given, but it must necessarily be proportionately much greater than the general death-rate.

For the full facts in reference to the sanitary and financial conditions of the various *brefotrofi* in the kingdom we must wait until the Royal Commission lately appointed have presented their report.

SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in MONTREAL, August-September, 1897.

VOTES OF THANKS.

At a general meeting of members held in the Windsor Hall, on Friday, September 3rd, Dr. Roddick, President, in the chair, it was resolved:

That the thanks of the British Medical Association be given to his lordship the Right Reverend the Bishop of Niagara for his eloquent sermon delivered in the Cathedral.

To the Dean and Chapter for the choral service on the occasion of the sixty-fifth annual meeting of the Association.

To the Governors of McGill University and its affiliated Colleges for the use of their splendid buildings, which has tended to render the success of the meeting so marked and the work of the Sections so comfortable, and for the hospitable reception on Friday, September 3rd.

That the Archbishop, Monsignor Bruchesi, and the Sub-Rector, Canon Racicot, be warmly thanked for the *conversazione* at the Laval University.

That the cordial thanks of the meeting be given to the Right Hon. Lord Strathcona and Mount Royal for the brilliant and hospitable reception given at his house on Wednesday last, and for the interest which he has taken throughout in the success of the meeting.

That the warm thanks of the Association be given to the Worshipful the Mayor of Montreal for the enjoyable excursion to the Mountain and for the warm hospitality in giving luncheon.

That the Ladies' Committee be warmly thanked for the enjoyable garden parties and receptions during the meeting.

That the cordial thanks of the meeting be given to Sir William Van Horne, president of the Canadian Pacific Railway; Mr. Charles M. Hayes, general manager of the Grand Trunk Railway, and Mr. L. J. Forget, president of the Richelieu and Ontario Navigation Company, for their great courtesy and help which they have rendered to the members of the Association visiting Montreal, thereby increasing the enjoyment of the meeting; and also to Dr. Howard Church for his attention to members landing at Quebec.

That the cordial thanks of the meeting be tendered to Mr. R. B. Angus for the reception at the Royal Victoria Hospital.

That the warm thanks of the Association be given to His Worship the Mayor of Montreal, Lieutenant-Governor Sir Adolphe Chapleau, His Excellency the Governor-General, the Right Honourable the Earl of Aberdeen, for their cordial welcome and hospitality.

That the hearty thanks of the Association be given to Professor Adami, Dr. Springle, and Dr. Benoit, hon. local secretaries, and to Dr. J. A. Hutchison, hon. local treasurer, for their most successful abours in connection with this meeting.

That a hearty vote of thanks be given to Dr. Perrigo and Dr. Jack, for their very successful museum, which has been placed on record as one of the most successful in the history of the Association.

That the hearty thanks of the Association be given to Sir William Hingston and Dr. R. F. Ruttan, of the Reception Committee; Dr. Armstrong and Dr. Birkett, of the Excursion Committee; Dr. Lachapelle and Dr. F. G. Finley, of the Finance Committee; Dr. Bell and Dr. Lockhart, of the Dinner Committee; Dr. Shepherd and Dr. Campbell, of the Soirée Committee; Dr. Girdwood and Dr. Cameron, of the Local Entertainment Committee for their able and willing help in rendering the meeting a success.

That the cordial thanks of the Association be given to the Worshipful the Mayor and Corporation of Ottawa for their hospitable reception.

That the warm thanks of the Association be given to Dr. Blackader and Dr. Macphail, of the Printing and Publishing Committee, for the admirable local guide and souvenir and for the pamphlets containing the interesting accounts of Montreal.

That the cordial thanks of the meeting be given to the citizens of Montreal for their great hospitality on the occasion of the 65th annual meeting.

The President of Council having then taking the chair, it was moved by him (Dr. Robert Saundby, of Birmingham), and seconded by Dr. Charles Parsons, of Dover (Treasurer):

That the hearty thanks of the Association and this meeting be given to Dr. Roddick for presiding so ably and courteously over this 65th annual meeting.

OPENING OF THE WINTER SESSION IN THE MEDICAL SCHOOLS.

The London Schools.

October 1st was, as usual, the day fixed upon by most of the London Medical Schools for celebrating the beginning of a new year of work. A few delayed until Monday the 4th, and a small number commenced work without any demonstration.

St. Bartholomew's Hospital.

In consequence of the honour recently conferred upon Sir Thomas Smith, the popular Senior Surgeon to the Hospital, the annual dinner of old students was unusually well attended; in fact, 173 persons were present, the largest number on record. The Queen's toast was proposed by the Chairman, Sir Thomas Smith; "The Health of the Army, Navy, and Reserve Forces" by Sir W. Mac Cormac, Surgeon-General Jamieson replying. The Chairman proposed "The Hospital and School," Sir Trevor Lawrence speaking in return. Sir Henry Oakley proposed "The Chairman and the Hospital Teaching Staff," which was drunk enthusiastically; Sir Thomas Smith and Sir R. Thorne replied. Dr. W. J. Collins, J.P., Chairman of the County Council, proposed "The Health of the Honorary Secretary of the Annual Dinner, Mr. Bruce Clarke," to whose energy in reminding old students the special importance of this occasion much of the success of the dinner was due; Mr. Bruce Clarke replied.

Charing Cross.

At Charing Cross Hospital the introductory address was given by Dr. William Carter, Professor of Materia Medica in University College, Liverpool. The following entrance scholarships have been awarded: Livingstone Scholarship (100 guineas) to Mr. S. A. Boyd; Huxley Scholarship (55 guineas) to Mr. W. J. O'Brien; Universities' Scholarship (60 guineas) to Mr. W. G. Rogers. Entrance scholarships have also been awarded to Mr. E. Bayley (60 guineas), Mr. C. L. Lakin (40 guineas), and Mr. G. S. Welham (30 guineas). An abstract of Dr. Carter's address is published on page 989.

St. George's.

At St. George's Hospital, Dr. Patrick Manson, Medical Adviser to the Colonial Office, and Lecturer on Tropical Medicine in St. George's Hospital Medical School, delivered the opening address, which is published at page 985.

Guy's.

At Guy's Hospital the following Entrance Scholarships have been awarded: Scholarship for University students (anatomy and physiology), of the value of £50, to Mr. A. H. Davis, B.A. (Caius College, Cambridge), and certificates to Messrs. R. Cuthbert Mullins, B.A. (Keble College, Oxford) and J. A. Glover, B.A. (St. John's College, Cambridge). Open Scholarships in Science.—First Scholarship, of the value of £150, to Mr. A. E. H. Parkes (Guy's Hospital Medical School); Second Scholarship, of the value of £60, to Mr. W. H. Harwood-Yarred (Dulwich College); and certificates to Messrs. C. E. West (Balliol College, Oxford), and D. J. Morgan (St. John's College, Cambridge). Open Scholarships in Arts.—First Scholarship, of the value of £100, to Mr. Percy R. Bolus (Bancroft's School, Woodford Wells); Second Scholarship, of the value of £50, Mr. S. A. Boyd (Bedford Modern School); and certificates to Messrs. J. M. O'Brien, W. E. Griffin (St. John's School), and G. W. Smith (Liverpool College). Open Scholarship in Arts, of the value of £30, for dental students only, to Mr. P. P. Cole (Weymouth College).

King's College.

At King's College the distribution of prizes to the students took place at a reception given at the College by the Rev. Dr.

Robertson, the Principal, and the members of the medical staff. The following students had associateships conferred upon them: J. R. Benson, R. T. H. Bodilly, A. Bousfield, H. A. Burridge, A. H. Burt, F. C. W. Clifford, R. S. Oliver, J. M. Schaub, and E. Sly. The senior scholar was T. H. Gardner, and F. C. Carlé was first in the second year. In the National Science Division the junior exhibition, given by the Clothworkers' Company, was gained by M. R. C. MacWatters, and the "Carter" (botany) gold medal and £10 in books by A. Edmonds. The Jelf medal was won by Mr. G. A. Roberts, the Tanner prize by Mr. L. D. Saunders, and the Sambrooke by Mr. W. W. Campbell. Mr. Percy Levick took the surgery and patholological anatomy prizes, and was awarded a certificate of distinction for hygiene. In the course of his address to the students the Principal, the Rev. A. Robertson, D.D., said that the prospect of a substantial redress of the inequality under which the London medical student laboured as a candidate for a degree, as compared with students at the greater provincial schools, was at present once again postponed. The abortive London University Bill of the past session would not necessarily have removed the inequality in question, consisting as that inequality did in the greater accessibility to the average medical student in the provincial college of an ordinary medical degree. As a set-off against any such attraction to the provinces, the London medical schools, it was true, enjoyed in their hospitals a field of clinical work surpassing anything that a provincial school could offer. This fact in one sense made the existing anomaly more glaring. However, the prospect of a Bill being carried into law which should decisively remedy this hardship appeared at the present time somewhat remote. Accordingly he hoped the King's College students would in increasing numbers take the existing London degree.

St. Mary's.

At St. Mary's Hospital the introductory address was delivered by Dr. William J. Gow. Speaking of medical education, he said: The modern schoolboy training—founded as it is on the Renaissance ideal, which exalts the learner above the doer—affords him but little help when he comes to study such intensely practical subjects as medicine and surgery, and he is apt to forget that there is a technical side to his work which cannot be acquired by the reading of books. The study of surgical and medical technique, although it does not count for much in the examination room, because it does not lend itself easily to examinational tests, is of fundamental importance, and one of your foremost duties is to learn how to do things in the best possible way whilst yet you have at hand the enormous opportunities for practice which a great hospital affords. Lord Armstrong once, when speaking of the aphorism that knowledge is power, said that a man's success in life depends incomparably more on his capacity for useful action than upon his acquirements in knowledge. Another matter of great importance is that as much of your knowledge as possible should be obtained at first hand. The modern plan of taking up the various subjects for the final examination separately tends, in my opinion, to encourage cramming, and further tends to throw into the shade the very close relationship which exists between all the branches of medical study. If the student as he reads would only cultivate the habit of getting a clear mental picture of the subject under consideration instead of trying to get so many words by heart, and in addition would constantly ask himself questions and answer them in clear and simple language, examinations would have no terror for him.—The following were the results of the Entrance Scholarship Examinations: Science: £144, Mr. M. F. Kelly; £78 15s.. Mr. J. B. Albury; £78 15s., Mr. D. E. Finlay; £52 10s., Mr. J. H. Wells; Exhibition of £26 5s., Mr. H. R. Kidner and Mr. M. T. Williams. University Scholarships: £57 15s., Mr. F. C. Eve; £57 15s., Mr. C. Kellick; Exhibition of £26 5s., Mr. A. Whitmore.

The annual dinner of the past and present students of St. Mary's Hospital was held on Friday, October 1st, in the King's Hall, Holborn Restaurant. One hundred and sixty-two sat down to dinner; and the Chairman, Mr. A. J. Pepper, F.R.C.S., was supported by Sir William Broadbent, F.R.S., Mr. Owen, Mr. G. P. Field (Dean), Dr. Lee, Mr. Page, Dr. Phillips, Mr. Lane, Dr. Luff, Dr. Waller, F.R.S., Dr. Handfield Jones, and numerous other members of the staff and lecturers in the medical school. Among the past students were Dr. Danford Thomas, Mr. Bertram Thornton, J.P., Brigade-Surgeon-Lieutenant-Colonel Myers, Dr. Wills, J.P., Mr. J. Moore, J.P., Mr. Mivart, Mr. Noble Smith, Mr. J. R. Hill, Dr. G. R. Cundell, J.P., Mr. C. G. Havell, Dr. Downes, Mr. Lidderdale, Mr. A. S. Brown, etc. The toaste of "The Queen" and "The Prince and Princess of Wales and the Royal Family" having been duly honoured, the Chairman proposed "The Navy, Army, and Reserve Forces," which was ably responded to by Fleet-Surgeon T. J. Preston, R.N., Brigade-Surgeon A. B. R. Myers. and Brigade-Surgeon Danford Thomas, V.D. In giving the toast of the evening, "Prosperity to St. Mary's Hospital Medical School" Mr. Pepper called attention to the extensive structural alterations and improvements that had been made during the vacation, and stated that, while not wishing to encroach upon the toast that was to follow, he could not refrain from pointing out to what extent the prompt execution of the work was due to the indefatigable energy of Mr. Field, the Dean. The toast of "The Dean," proposed by Dr. Lees, was received with applause and musical honours. Mr. Field, in replying, alluded to the success achieved by Mr. W. H. Willcox in securing two scholarships and three gold medals at the Intermediate M.B. Examination, the approaching completion of the ground floor of the new Clarence wing, and other topics, and concluded with a witty homily on "taking trouble," in which he pointed to Mr. Owen as a model exponent of the art. The "Past and Present Students" was also proposed by the Dean. Mr. H. Manders replied for the past students. Mr. Willcox responded for the present students. Dr. Phillips, replying to "The Staff," felicitated the hospital on the recent appointment of Mr. H. S. Collier as Surgeon to the Out-patients. He concluded by giving the toast of "The Chairman," which was briefly acknowledged by Mr. Pepper. A musical entertainment, under the able direction of Dr. Scanes Spicer, brought the proceedings to a close.

Middlesex.

The opening of the sixty-third winter session of the Middlesex Hospital School took place on Monday, when Lord Strathcona and Mount Royal of Glencoe, High Commissioner of Canada and Chancellor of the McGill University, Montreal, took the chair and presented the prizes to the successful students. The Chairman, who on rising was received with loud cheers, said he regarded the medical profession as one of the noblest of all professions in view of the great service it had rendered, and unquestionably would continue to render more and more to mankind. No one more thoroughly recognised than he did the immense utility, indeed, the absolute indispensability of the great hospitals, among which the Middlesex had played so important a part for over a century and a-half. It had been his privilege within the last few weeks to be in Canada during the meeting of the British Medical Association in Montreal, and he was glad to refer to its success from every point of view. It was a happy idea that such a reunion should take place in one of the outlying portions of the empire, especially in the present year, when Imperial sentiment seemed to have shown a vigour not previously witnessed, and when the Dominion of Canada and the colonies of the Empire had been brought much more closely towards the Mother Country than ever before. The fact that two great Associations like the British Associations for the Advancement of Science and the British Medical Association should both in one year hold their annual meetings in Canada was proof in itself of the improvement that had taken place in the means of communication between the different parts of the world. It tended further to show the Colonies that the term "British" included them, and that they were as much a part of the Empire as any of the counties or divisions of the United Kingdom. Nothing but good could result from the opportunity of the interchange of thought between the medical men of the United Kingdom, Canada, and the United States, and he thought the greatest possible benefit would follow the recent successful meetings of those important bodies. Canada was delighted to welcome the British Medical Association for many reasons. It was doing the country an honour, and it was also felt that an opportunity would be afforded to a large number of men of light and

leading in the profession to form an idea of its climatic advantages, of its position as a health resort, and as a new field for travel in the case of those requiring both rest and change. On the prairies in the West, the air, from the altitude of the plains was very dry and bracing, and a stay there had been found to be very beneficial in cases of lung and chest troubles. This was also the case in the Rocky Mountains, among the pine forests, and in the Kamloops district, and the establishment of a large institution in the nature of a sanatorium was seriously contemplated. There were medicinal springs to be found, not the least known among them being the sulphur springs of Banff, where water of a temperature of 100° and upwards flowed from the sides of the mountains. The training of the medical profession in Canada had made much progress in the last few years. Large numbers of young men were trained and qualified to practise, and many visited England and the Continent after obtaining their degrees in order better to prepare themselves for their work. The excellence of the instruction given in Canada and of the clinical advantages available were demonstrated by the fact that it was the exception for any of the Canadian graduates to fail in the examination. There were eleven medical schools in Canada, the oldest and largest being the McGill University, Montreal, which was now entering upon its sixty-seventh session. Many of the advances in medical education on the American continent were first instituted there. It was the only Canadian medical school which had an endowment (derived from benefactions from the citizens of Montreal), the others being dependent on the students' fees. All Canadian medical schools required a four-years' course, with sessions of from eight to nine months, and the methods of teaching followed closely those of the English and Scotch schools. The faculty of medicine at McGill was always kept up to date. The latest improvement was the equipment of the Museum of Public Health, and considerable additions had also been made to the laboratory of experimental pharmacology. It was now four years since the department of hygiene was established, and part of the interest of the endowment was set aside to provide a museum of public hygiene and preventive medicine. The museum occupied three rooms in the medical buildings, and at present was chiefly of interest on account of the number and excellence of the working models illustrating the best modern methods of sterilisation, disinfection, filtration, and ventilation, together with a very useful collection of modern sanitary apparatus. Lectures on public health were to be regularly given in future. Students had also the advantage of the pathological laboratory at the Royal Victoria Hospital, which was admitted to be one of the most complete and instructive of any. Medical students had in most parts of Canada the opportunity of attending many excellent hospitals in the different centres of population, and this was especially the case in Montreal. Some of the Canadian hospitals would compare more than favourably with institutions of the kind in the provincial towns of the United Kingdom, and even with many in the great metropolis. Within the last few years the training of nurses had attracted much attention, and numbers were to be found pursuing their noble work in every part of the country. The position of the medical profession in the different provinces of Canada was not as satisfactory in some respects as it might be. Licences to practise were issued by the medical boards, but were only tenable in the provinces in which they were granted. A graduate in one province could practise in another on carrying out the local conditions, but in his judgment a licence issued in one part of Canada should entitle the holder to carry on work anywhere within the limits of the Dominion, and indeed in any part of the Empire. The granting of authority to practise medicine should be under the control of a Dominion Medical Board, as a matter affecting the community in general, and there should be uniformity with regard to the standard of study and the qualification to practise. The absence of facilities of that nature in Canada also operated to prevent Canadian medical men practising in the United Kingdom. They could not be placed on the register for that purpose on the strength of their local qualifications until the Act of 1886 was extended by order of Council to the provinces of the Dominion, which had not yet been done, as none of the provinces had passed the legislation necessary to enable reciprocal treatment to be extended to graduates from the United Kingdom. The matter was receiving attention in the medical profession, and they trusted it would not be long before the difficulties to which attention had been called were removed. In Labrador there was always a large mortality among the native children resulting largely from lung diseases, and adults suffered a good deal from similar complaints. Rheumatism and affections of that kind were little known. Fevers were more or less common, but few of the organic diseases of civilisation were prevalent, and insanity and nervous diseases were almost unknown. The people could not be said to be long lived, 50 to 60 years being regarded as a good age. So long as the natives kept to their own food and habits—they lived largely on cooked meat and fish, and upon wild berries and fruits—they generally retained their teeth, but natives from the interior, who adopted the food of the white men, soon lost their teeth, and their lives were shortened by indigestion and other causes incident to the change of living. Although the climate was severe and the summers were short, the country was healthy, and no doubt the open-air life conduced to freedom from disease. With regard to the treatment of disease, they had their own remedies. A form of vapour bath had been in vogue among the natives as far back as they had any records. They had also their decoctions of herbs, and understood the preparation of nourishing foods. In the case of lung diseases they had much faith in the virtues of a decoction made from boiling crushed bones and marrow. Small-pox was not common, and vaccination had been accepted by the Indians cheerfully as a preventive measure. A primitive and somewhat rude form of antiseptic treatment was practised in the district many years before Lord Lister introduced his great discovery. For the treatment of wounds, ulcerated sores, etc., a pulp was made by boiling the inner bark of the juniper tree (*Juniperus virginiana*), or a tree nearly allied to it. The liquor which resulted was used for washing and treating the wounds, and the bark, beaten into a plastic, pliable mass, was applied after the thorough cleansing of the wound, forming a soft cushion which lent itself to every inequality of the sore. Scrupulous cleanliness was observed, and fresh material used for every application. It would be admitted that that was in some sense the basis of the antiseptic treatment which was now so important, and with which the name of Lord Lister would ever be honourably associated. A very general belief prevailed that meat was more nutritious and strength-giving than fish, but this was not borne out in the experience of the Hudson Bay Company. In former years in certain districts the food of the employees was almost solely the flesh of the buffalo, deer, etc. In others it consisted mainly of fish. Opportunity was offered for testing the merits of the different foods each spring, when the brigades of boats were on the way out with their furs. There were naturally trials of strength in rowing, and with the result the fish-eating crews invariably had the advantage, especially in long-sustained efforts. That proved, he thought, that theory and practice did not always coincide. The proportion of medical men was fairly large in the Dominion, although not so large as in the United States. There were, however, large parts of Canada, particularly in the West, which were not yet occupied. It was certain that they would afford homes to millions of people in the more or less near future, and there would thus be new fields continually being found for the activity of the students graduating every year, the numbers of which were ever on the increase. At the same time they did not encourage young medical men to go out from this country to Canada unless they had friends there or were not dependent upon immediate work for their subsistence. The demand for medical men was amply met by the supply on the spot, although the old axiom that there was always room on the top of the ladder applied equally to Canada as elsewhere. In conclusion, it could not be too strongly impressed upon medical students that an important heritage descended to them, that they had to maintain the reputation of the school, built up by those distinguished men who had gone before them, and that great opportunities were open to them as the result of their studies and investigations, of making life more pleasant and happier. It was only right that the qualifica-

tions of graduates should be submitted to a severe test before they were allowed to practise, and on the other hand it was the duty of legislators to see that persons without such qualifications were not let loose upon the community. Further, it was surely desirable that every proper means should be used to prevent quackery, and to restrict the wide advertisement of nostrums. Finally, he ventured earnestly to impress upon his audience the necessity of steady work and perseverance. The McGill University would feel honoured that its Chancellor had been privileged to address them on that occasion.

The prizes were then distributed to the successful students, and the meeting terminated with a vote of thanks to the Chairman for presiding, proposed by Sir Arthur Watson.

Amalgamation of Hospital and School.—One of the first fruits of the amalgamation of the Middlesex Hospital with its Medical School, which at the time attracted some notice, is now apparent. For some years the school buildings have been inadequate, and great difficulty had been experienced in providing laboratory space for the teaching of advanced pathology and bacteriology. The school authorities have wisely decided to considerably enlarge and partly reconstruct the existing buildings. The plans for the new school have been prepared by Mr. Keith Young, and will necessitate the pulling down of part of the buildings on the west face of the hospital garden. The museum, which has always been a feature of the place, remains untouched, as does the large lecture theatre. The new block will contain two limbs set at right angles and facing respectively the hospital garden and Union Street. The latter site, with a frontage of some 80 feet, has been acquired for the purpose of the school extension. The work is already commenced, and the new school buildings are to be ready for use next year. The execution of these plans cannot fail to prove of benefit to the hospital, which must always depend on the school for its medical staff.

London School of Medicine for Women.

At the Royal Free Hospital Mr. J. Grosvenor Mackinlay, F.R.C.S.E., delivered the inaugural address at the opening of the winter session of the London School of Medicine for Women. The proceedings took the form of a *conversazione*, the programme including vocal and instrumental music. An interesting feature of the evening was a display of surgical appliances, etc., in the "Elizabeth" Ward.

St. Thomas's.

At St. Thomas's Hospital the prizes were distributed by the Rev. Dr. Fairbairn, principal of Mansfield College, Oxford. The ceremony took place in the Governors' Hall. Mr. Wainwright, the treasurer, presided. The following scholarships and exhibitions were awarded: Entrance science scholarships, W. H. Harwood-Yarred, first scholarship, £150; Francis H. Whitehead, scholarship, £60. University scholarship, £50, Frank Cecil Eve. William Tite scholarship, £27 10s., C. N. Sears (first year student). College Prize, £50, A. B. Lindsey. Musgrove scholarship, £38 10s., C. F. Selous (second year student). College prizes of various amounts were also awarded. H. C. Jonas took the Mead medal for practical medicine; A. C. Robinson the Cheselden medal for surgery and surgical anatomy; C. G. Seligmann the Bristowe medal for pathology and morbid anatomy; W. M'Dougall the Granger testimonial prize of £15; and A. W. Sikes the treasurer's gold medal for general proficiency and good conduct. Dr. Fairbairn, in the course of an address at the conclusion of the ceremony, alluded to the intimate connection which exists between education and literature with the profession of medicine, which, he said, was charged perhaps more than any other with beneficence for man. He who aspired to the medical profession had need to be a man of eminent moral and intellectual qualities. It was, he thought, very remarkable how much the medical profession had achieved.

The annual dinner took place at the Whitehall Rooms of the Hôtel Métropole on the evening of Saturday, October 2nd. Sir William Mac Cormac was in the chair, and presided over a record muster of St. Thomas's men, 181 old students sitting down to dinner. Dr. Fairbairn, who had previously distributed the prizes to the successful students in the Governors' Hall in the afternoon, was the guest of the evening, and proposed the toast of "St. Thomas's Hospital, Past and Present." Dr. Hawkins, the Dean, in his speech, mentioned the most important improvements of the past year, including the new clinical laboratory, now nearly ready for use. He also congratulated the amalgamated athletic clubs on having obtained nine acres of good ground at Chiswick. Dr. Ord proposed "The Chairman," and later had to speak again in response to an enthusiastic call, a demonstration of the regret felt at his retirement. The Chairman met with a great reception, and made a neat speech in reply. The other speakers included the Treasurer, Dr. Foord Caiger, and Dr. Barry Blacker. The guests seemed loth to separate, and the party did not break up till later than usual.

University College.

At University College the session was opened on Monday, October 4th, with an introductory address by Mr. Raymond Johnson, F.R.C.S., which is published at p. 977. In the evening a dinner of past and present students was held at the Hotel Cecil, Dr. H. C. Bastian in the chair.

The annual distribution of prizes was held on October 5th, the Treasurer, Mr. J. F. Rotton, Q.C., taking the chair. Professor Oliver, the Dean, reviewed the progress made by the College during the past year. That year, he said, had been noteworthy on account of the considerable augmentation in the existing Parliamentary grant, and the allocation to certain departments of two valuable trust funds. In the second term of the Session 1895-96 the Commissioners appointed by the Treasury to visit and report upon the university colleges of England began their labours there. The outcome of the inquiry was shown in the fact that the Government had raised the annual grant to the College from £1,700 to £3,000. The College had for some years combined with King's College for the teaching of Oriental languages. Now, as the result of considerable negotiation, a further experiment in co-operation with that body was to be made, particularly in chemistry, physics, mathematics, and engineering subjects. Mr. Rotton, in his address, said he would not undervalue the importance of academical distinctions, but would not have them forget the principal objects of a student's ambition. Athletics, he thought, should be regarded merely as relaxation, not a part of the business of life.

Westminster.

At the invitation of the Committee and staff of the Westminster Hospital Medical School, a considerable number of guests assembled on Thursday evening at the Westminster Town Hall, Caxton Street, on the occasion of the distribution of prizes by Mrs. Howes. The prize list included the following: Entrance natural science scholarship, £60, Mr. E. C. Whitehead; entrance scholarship, £40, Mr. F. D. Martyn; Treasurer's prize, Mr. W. Payne and Mr. E. R. Carling; President's prize, Mr. F. W. W. Dawson; Bird medal and prize, Mr. A. H. Evans; Fish prize, Mr. H. T. Barrow; Chadwick prize, Mr. E. B. Sherlock. Professor G. B. Howes, Professor of Zoology at the Royal College of Science, South Kensington, presided. The Dean, in his report, after referring to the changes in the staff during the past year, said the percentage of successes of the students of the school at the different examinations was not behind that of any other school, and was greatly in advance of most. Professor Howes, in offering a few remarks to those who had received awards, said the prizes would be to them a record of preliminary work in pure science; he said preliminary, inasmuch as the real work of their lives would start when they entered the greater world outside the medical school, face to face with the difficulties of their profession, which was a vocation which demanded the highest mental and moral attributes. The distribution of prizes was followed by a *conversazione*, at which a good programme of music was rendered, and an interesting series of scientific exhibits was shown, including a portion of the Indian and Chitral collection made by Surgeon-Major Sir George Robertson, a former pupil of the school.

PROVINCIAL SCHOOLS.

University of Cambridge.

Opening of the Session.—The Master of Downing, Dr. Alex Hill, was admitted to the office of Vice-Chancellor on October 1st. Mr. Charles Smith, on resigning the office, addressed the Senate on the events of the past academical year. Referring to the vote on women's degrees, he said that the

result "would seem to show that it will be some years before the University will be prepared to grant any further rights or privileges to women students." The financial needs of the University were emphasised, and the gratifying announcement made that an anonymous friend had promised through Mr. A. J. Balfour a gift of £2,000 in four instalments, and that the first had already been paid. It is to be hoped that this generous benefactor will find many followers. The new posts created during the year included a lectureship in Physiological Psychology, but the appointment of a lecturer has not yet been made.

Addenbrooke's Hospital.—At the quarterly court held on Monday last Mr. Francis Villey, B.A., M.B., late Scholar and Hutchinson Student in Pathology, of St. John's College, was elected House-Physician. Mr. E. H. Douty, M.B., Assistant-Surgeon to the Hospital and University Lecturer in Midwifery, has been obliged, on account of health, to leave Cambridge for some months.

Department of Pathology.—Professor Roy, whose death occurred, as we announce elsewhere, on October 4th, has for over a year been incapacitated for the discharge of his professorial duties. The department has, however, been ably administered by Dr. A. A. Kanthack, the deputy professor, and he will continue to direct it until the election of Professor Roy's successor.

Birmingham.

At Mason College, Birmingham, Sir James Crichton-Browne delivered the introductory address, which is printed elsewhere. At the close of the proceedings the company enjoyed an inspection of various exhibitions. Dr. Dencer Whittles gave a demonstration of the electric projection microscope; and in the physics laboratory Professor J. H. Poynting gave demonstrations with the Roentgen rays. The new bacteriological laboratory was opened for inspection, and the apparatus and bacteria exhibited.

Leeds.

The winter session of the medical department of the Yorkshire College was opened by an address by Mr. T. R. Jessop, F.R.C.S. The following is the list of prizes for the session: Biology: Diploma students, second certificates, H. N. Keeling, C. J. Brierley. University student, second certificate, L. H. Moiser. Chemistry, University student, prize, Ed. Saville. Physics, University student, prize, L. H. Moiser. Anatomy, junior prize, William F. Ellis; second certificate, C. R. Willans. Anatomy, senior prize, W. Gough, B.Sc.; second certificate, H. Tett, W. J. W. Anderson. Physiology prize, Godfrey R. Potter; second certificate, H. Leach, F. W. Harrowell. Practical physiology, prizes, H. Collinson, H. C. R. Hime; second certificate, F. W. Johnson. Materia medica, prize, W. F. Ellis. Therapeutics, prize, Ed. Trotter. Pathology, prize, E. Trotter. Midwifery, prize, W. J. W. Anderson; second certificate, R. W. Bollans and H. C. R. Hime. Gynæcology, prize, J. F. Dobson; second certificate, H. Peet and W. J. W. Hirst. Surgery, J. F. Dobson; second certificate, H. Dunk. Medicine, prize, F. E. Taylor; second certificate, J. F. Dobson. Thorp prize in public health, £5, E. Trotter. Thorp prize in forensic medicine, £10, E. Trotter. M'Gill prize in clinical surgery, £10, divided between J. F. Dobson and George Hardwicke. Hardwick prize in clinical medicine, £10, G. Hardwicke. Junior silver medal, W. Gough, B.Sc. Senior silver medal, E. Trotter. Gold medal (given by the Treasurer of the Infirmary), J. F. Dobson. Infirmary medical scholarship, J. E. Middlemiss. College medical scholarship, J. A. Coupland.

Newcastle on-Tyne.

At the Durham College of Medicine the opening of the winter session took place in the great hall of the College on Friday, October 1st. There was a very large gathering, and, as usual, the Mayor and Corporation and other officials attended in state. The President, in his introductory remarks, mentioned that the electrical installation had been extended in the College, and that now all the working departments, with the exception of the museum, are lighted by electricity. There had been no change in the staff of the lecturers. The number of students who had attended during the previous year was 220, showing a slight increase notwithstanding the introduction of a five years' curriculum, which had lessened the number of students in the other medical schools. The number of titles and degrees conferred by the University of Durham in the Faculty of Medicine during the past year had been 110. Lord Barnard presented the scholarships and prizes, and then gave a brief, but animated and eloquent, address to the students, which was listened to with much attention. The usual votes of thanks terminated the proceedings.

Sheffield.

At University College, Sheffield, the introductory address was given by Dr. P. H. Pye-Smith. His address is published in full in another column. The following is the list of prizes for the session: Prize for Clinical Medicine (£10): N. Milner. Prize for Clinical Surgery (£10): J. Beard. Book Prizes: For first year's students: 1, H. S. Tumber. For second year's students: T. Adam. For third year's students: J. Beard. For fourth year's students: E. W. Adams. Certificates: Anatomy, Senior: T. Adam, C. Thackray, J. E. Chapman, W. H. Forshaw, F. J. Birks. Junior: H. S. Tumber, H. Gardner, H. S. C. Derbyshire. Physiology: T. Adams, W. H. Forshaw. Practical Physiology: T. Adams, J. E. Chapman, C. Thackray. Medicine: V. K. Blackburn, J. Gardner, N. Milner. Practical Medicine: N. Milner, J. Gardner, V. K. Blackburn, S. Bentley. Surgery: N. Milner, V. K. Blackburn, E. W. Adams, J. Gardner, S. Bentley, J. Beard. Practical Surgery: J. Beard, W. F. C. Bennett, J. Gardner, N. Milner. Pathology: E. W. Adams, N. Milner. Forensic Medicine: E. W. Adams, W. S. Symes. Obstetrics and Gynæcology: J. Beard, E. J. Scorah. Operative Surgery: J. Beard, S. Bentley, V. K. Blackburne, N. Milner.

St. Vincent's Hospital, Dublin.

On Tuesday last Dr. M. F. Cox delivered the introductory address at this hospital. He took for his topic the present state of the Army Medical Service. He referred to the death of Surgeon-Captain Cassidy, who was mortally wounded at Tochi while attending to the wounds of Colonel Bunny. Would it be believed that while the deeds of the combatants were eulogised, no reference was made to the doctor's services? The department demanded to be constituted a Royal Corps. Relative rank was an evasive shadow. They asked for substantive rank with limited power of command—absolute within its own sphere. In the army medical officers were treated as if they belonged to an inferior caste, and were exposed to various indignities and insults, social and official. The medical officers asked for equality and justice. They did not want tinsel titles, or mock rank, or borrowed plumes. Participators in every danger, were they alone not to be allowed to participate in the glory? Sir Christopher Nixon, the chairman, strongly urged the claims of the department as put forward by the late Sir Andrew Clark. He said they should advise the students not to enter the service until the reforms asked for had been granted. Sir William Thomson, President of the College of Surgeons, proposed a vote of thanks to the lecturer. He said he could not say to a student, "Don't go into the army." The service was most unattractive as it existed at present. But if a student took his chance of an appointment and passed beyond the age, what had anyone to offer him in recompense? It was their duty to tell the student how the case stood, and to throw on him the responsibility of choice. Professor Birmingham seconded the vote, and expressed his opinion that students ought not to enter the army until reforms were yielded to the department.

School of Pharmacy.

The fifty-sixth session of the School of Pharmacy of the Pharmaceutical Society was opened on October 4th. The chair was taken by Mr. Walter Hills, the President. An inaugural address was delivered by Professor Herbert McLeod, Professor of Chemistry at Cooper's Hill College. He remarked that chemistry was not all "pretty experiments." They would find that it required a good deal of hard work, and neatness and accuracy were absolutely essential. One great advantage about it was that they could not learn chemistry properly or perform chemical experiments properly without thinking what they were going to do and what was going to happen. He suggested to the students

that they should learn chemistry and botany as pure science; the application would come afterwards. He urged them to learn everything they were taught, and as much more as they could, and never to inquire, "What is the use of it?" A teacher could not be asked a more distressing question. The students in a school like theirs stood in an extremely advantageous position compared with many others; they had the opportunity of learning the theory, so that when the practice came they were ready for any emergency. It must not be supposed that the work was so easy and simple that it could be "got up" in a very short time. They were certainly improving the work of the students, and, necessarily, the teaching work. Examinations were a necessity -a very bad necessity—but he did not know what could be put in their place. He strongly urged them, however, not to work for examinations—although they must not leave the preparation work until a week or so before the examinations. Let them remember a sentence of Huxley's: "Learn to know and not to pass." If they learnt to know the passing would follow naturally. He might be considered old-fashioned in saying so, but he believed that qualitative analysis was a very excellent mode of teaching chemistry, if properly taught and learnt. He recognised the necessity of recreation for the students during the period of their studies; and he further urged them—not from a religious but from a utilitarian standpoint—to do no work on a Sunday.

The President announced that the Hanbury medal had this year been awarded to Dr. De Vrij, C.I.E. For the greater part of his life the attention of Dr. de Vrij had been specially directed to the study of cinchona and its alkaloids, and he had done much to promote the cultivation of the plant, both in Java, to which he was sent in 1857 by the Dutch Government, and also in India. The medal was accepted on his behalf by Mr. Maas, Consul-General of the Netherlands. The Flückiger medal, lately established in memory of Dr. Flückiger, had been awarded by the German Pharmaceutical Society to Mr. Edward M. Holmes, the curator of the museum belonging to the English Society, and was now presented to that gentleman by Dr. Paul.

Mr. Greenish, the Dean of the School of Pharmacy, then read a report of the work during the past year, after which the presentation of prizes to the successful students took place.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.

The usual monthly meeting of the Executive Committee of the Medical Sickness and Accident Society was held on September 24th, at 429, Strand, London, W.C. There were present Dr. de Havilland Hall (Chairman), Dr. J. B. Ball (Medical Examiner), Dr. J. Pickett, Mr. J. Brindley James, Dr. W. Knowsley Sibley, Dr. Walter Smith, and Dr. Alfred S. Gubb.

The accounts and statements placed before the committee showed that the operations of the Society during the last ten weeks have been unusually large for the time of year. Both the income and the outgo have been larger than in any previous summer since the business was established in 1884. Every year the amount received as premiums has grown, and now that the Society has formed large reserves (over £100,000), the income from interest is assuming large proportions. On the other hand the outgo, which consists almost entirely of payments to members who are incapacitated by illness or accident, has grown with at least equal rapidity, and there is no doubt that when the accounts for 1897 are issued, it will be seen that in the present year the Medical Sickness and Accident Society has paid more in benefit moneys to its members than in any previous twelve months. The large number of claims arising from accident has been more than once referred to. There is, however, another class of claim which seems likely to prove much more onerous to the Society in the long run, namely, those arising from nervous disorders. Medical men are specially liable to overwork, and on the other hand their work cannot be properly done unless their nerves are in fairly good order. Hence it happens that every year a large number of them are compelled to stop work, some for a few days only, but others for many weeks, and these latter cases add considerably to the claim account of the Medical Sickness and Accident Society. In addition to these, there are the sad cases of complete breakdown. Several members of the Society have drawn sickness pay for years continuously, and there is little hope that any of them will ever be able to resume professional work.

Prospectus and all particulars can be obtained on application to Mr. F. Addiscott, Secretary Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

NURSES FOR THE WORKING CLASSES.

A method of supplying nurses for the working classes has yet to be devised which, while it preserves their independence, shall be within reach of their means. The inevitable result of the high cost in production and distribution has increased the fees for the services of the modern nurse, so that she is more and more the luxury of the rich; and this upward tendency does not at present appear to have reached the highest figure.

At the outset we would deprecate any scheme which aims at providing a cheap nurse by lowering the standard of her qualifications; sickness shows no consideration to the purse of its victim, graduating the severity and complexity of the attack to the ability to obtain the highest medical opinion, and the services of the most highly-trained nurse; the sick nurse for the poor, the middle class, and the wealthy must be fully trained for her duties.

If, then, the need cannot be met by cheapening the cost of production, can it be done by lowering the cost of distribution? We think it can, and we would consider it from this point of view.

The principle of co-operation might be introduced into the nursing profession; that principle which underlies the system of district nursing for the poor; in other words, the services of one nurse might be shared out among several patients requiring attention; this gives us the visiting or daily nurse, visiting and attending on a limited number of patients in a given area. This nurse, of course, could only attend on the slighter cases; but there are many surgical patients who could in this way receive all the nursing care needed, and a certain proportion of medical cases; but this scheme would break down where there was need of unremitting watching and attention. The scheme would have to be extended by providing a nurse by day and another by night, and that at a cost still within reach of the working classes. Is this practicable? We think it is, and yet leave a small margin of profit on the outlay. The scheme must be worked on the same lines as the Jubilee nurses, the initial outlay being met either by advances from responsible people interested in promoting it, or by forming a central body who should control and develop the associated homes as the demand arose. At first the homes might be started in those localities most favoured by the class to be benefited, with a sufficient number of nurses and a superintendent to work within a circumference of two miles; others to be planted in districts as the demand arose.

With the co-operative might be combined the provident principle, by which a householder by an annual payment in quarterly sums should obtain the services of a visiting nurse when required, or of her full services at a reduced charge. The nurses, of course, must live entirely at the home, thus meeting one difficulty of the working class — the lodging of the nurse; still we think that a scale of fees might be framed which should pay the nurse a fair salary and leave a modest profit to pay the interest on the outlay. As the demand for this class of nurse is growing up, we feel that it has only to be met in some such way as we have suggested to develop into a recognised working-class nursing association.

The quarterly meeting of the Society for the Study of Inebriety will be held in the rooms of the Medical Society of London, Chandos Street, W., on October 14th, at 4 P.M. A paper on The Etiology of Inebriety will be read by Surgeon-Major Poole, M.D.; and Professor Wilhelm Bode of Hildesheim will read a paper on The New German Code and Inebriety. Dr. Norman Kerr, the President of the Society, will take the chair.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, OCTOBER 9TH, 1897.

THE GENERAL MEDICAL COUNCIL ELECTION.

The fight for the vacant seat on the General Medical Council is nearly over, but the interest in it taken by all who are not what Americans call "Mugwumps" in the matter of medical politics, so far from abating, seems actually to grow in intensity as the end approaches. We would again impress upon our readers the importance of the whole profession in England and Wales availing itself of the suffrage at this critical time. On former occasions the number of voters has been so small relatively to the strength of the electorate as to make the cause of direct representation appear weak, indeed almost ridiculous. We learn with satisfaction that in the present election the profession is showing itself less indifferent; already we understand the poll is heavier up to the hour of writing than it was at a corresponding period in the last election. But the votes so far recorded do not even now, we believe, exceed 10,000, which means that more than half of the number of those having the right to vote have taken no part in the election of a man to represent them on the General Medical Council. We therefore appeal with all the emphasis in our power to those who have not yet voted to do so without an hour's delay. The time still remaining for the return of voting papers is extremely short, and unless members of the constituency residing in the country post their voting papers this day (Friday), so that they may be delivered at the office of the General Medical Council, 299, Oxford Street, W., on Saturday morning, there is a danger of their reaching the hands of the Returning Officer too late.

We have already clearly stated the reasons which lead us to believe that in the interest of the profession it is desirable that Sir Walter Foster should be returned by a large majority, and nothing has happened since we gave expression to that opinion to make us change it. The contest practically lies between him and Mr. Victor Horsley. Sir Walter Foster's programme embraces the same reforms as that of Mr. Horsley and others besides; his public career has gained for him the full confidence of the bulk of the profession; and he has the great advantage over his younger rival of a long experience in the conduct of business not only in the General Medical Council but in the larger sphere of Parliament. Sir Walter Foster is a clear-sighted man who sees things as they really are, and does not despise the day of small things while waiting for the coming of one of greater fulfilment. He is not an enthusiast, but a man of moderate counsels and a statesman.

It will, we think, be generally admitted that the practical mind and calm judgment of the statesman are more likely to be useful to the profession in the struggle for the betterment of its condition than a zeal for the reform of things in general which, like vaulting ambition, too often o'erleaps itself and falls on the other side—into failure, if not into the ruin of the hopes of those who put their trust in it.

Reference was made in these columns last week to the use of an article published in a lay paper which was being made by some of Sir Walter Foster's opponents. Such tactics generally defeat themselves, and it is satisfactory to note that the present instance forms no exception to the rule. At the meeting held at Birmingham on October 4th, a short report of which appears in another column, Mr. Bennett May, referring to this matter, gave utterance to what we are convinced is the general feeling among the broader-minded members of the profession. His words are so weighty that we think it right to reproduce them. He said: "Allow me to express my thanks to Sir Walter Foster for coming forward, and my indignation at the altogether mistaken, unworthy, and ridiculous attack that was made upon him at a recent meeting. There is one point which I think has not been sufficiently noted, that is, the sacrifices Sir Walter has already made in the interests of the profession. We have some knowledge of it here, but it may not be so well known everywhere else, and we know, so far from Sir Walter having resorted to such means of professional advertising as he was most insultingly charged with, he has been for many years overwhelmed with professional work of the very best class throughout the Midlands, and we know he has voluntarily and deliberately relinquished and turned away from his doors a very large amount of professional work of the highest class. That is not the part of the man who resorts to such means. I think the insult which was offered to him is one which demands some redress, and I believe the only effective redress that can be given is to carry him to the Council with an overwhelming majority."

The cheers with which Mr. Bennett May's remarks were received proved that Sir Walter Foster's professional brethren in his own city of Birmingham well knew that he had made great sacrifices in carrying on his public work for the benefit of the profession. We cannot help saying once more that an attempt to place this "interview," of which some persons are trying to make electioneering capital, on the same level as similar articles in the case of physicians who are not politicians, appears to us either foolish or disingenuous.

COUNSELS OF PERFECTION.

In spite of the grief, pain, suffering, and pecuniary loss that the present epidemic is causing in Maidstone, some good, in the form of valuable lessons for the future, may be drawn from the lamentable incident. The sufferers have all our commiseration; and the medical officers (Mr. Adams and his son Mr. Percy Adams) and practitioners in the town, together with the town council, have our warm admiration for the skill and energy with which they have severally attacked the problem before them. Still there is room for criticism, and we trust that any remarks we think it our duty to make on this subject will be taken in the spirit in which they are made.

The history of the epidemic is now well known, and, indeed, it is a familiar one. A badly constructed water supply becomes contaminated by surface drainage, the filters are powerless to remove the infective agent from the water, the water is drunk by the people of the town, and an epidemic follows. How often have we heard this story, varying perhaps in its details, but still substantially showing the same sequence of events. During the thirty-one years from 1862 to 1893 there occurred in England no fewer than 206 outbreaks to which the above history would have applied. It will be sufficient to mention Worthing, Atherstone, King's Lynn, Tees Valley, and Bangor as the most recent.

The records of these 206 epidemics show that the number in which the history of the spread of the disease resembles that of Maidstone even more closely is large. In the case of Atherstone the infection was traced to tramps; in the case of Maidstone it has been traced to hop-pickers. The question naturally arises what means could have been adopted to prevent the present epidemic.

Who is responsible for the health and sanitation of wandering people temporarily encamped? Ought the medical officer to have been in a position to take in hand the cases of illness among the pickers, or is the water company to blame for not adequately protecting its intake? There can be no doubt that in the present case the mains and collecting areas were in a very unsafe condition; for such a condition the water company is certainly to blame, but as they have only rights to the water, and do not own the property in the area in which the hop-pickers encamped, they could not have prevented the hop-pickers from encamping within that area. The question as to the control, in the interests of public health, of casual visitors and tramps is a difficult one. There seems to be no law at present in existence under which these hop-pickers could have been dealt with effectually. The difficulty has often been encountered before, but no effectual remedy has been devised.

In all cases in which water is drawn from springs near the surface, there must be a risk of infection, however perfectly the water mains are arranged; and when it has definitely been ascertained that a public water supply is the cause of an outbreak of typhoid fever immediate steps should be taken to cut off at once the whole of this supply. Either the whole system, including the distributing pipes in the town, should be shut down and sealed from access until an interval of time has elapsed equal to that for which it is known that the typhoid bacillus survives in water, or the whole system should be flushed with some adequate disinfectant. Anything less than such measures, which may seem needlessly severe, leaves a margin of risk. The question may be raised as to how the town should be supplied with all its pipes out of use, but extreme perils demand extreme measures. Twenty-four hours would probably be sufficient to sterilise any system of water mains, and for that time the supply could be arranged in water carts. The remedy would be expensive, but it would be better to pay any price than to risk human lives and suffering.

The Sanitary Committee of the Hull Corporation have decided to recommend the City Council to enlarge the existing sanatorium at a cost of £4,000. This will provide a new department for the treatment of cases of diphtheria, which has long been urgently needed.

THE PREVAILING IGNORANCE OF TROPICAL DISEASES.

The past week has seen the opening of many schools devoted ostensibly to the teaching of medicine and the training up of medical men, and many mutual felicitations have been heard in the land as to the excellence of the teaching which is given in them, and the boundless opportunities for study which are offered by them to the medical student of to-day.

Lest, however, those responsible for our schools and for the existing system of medical education should be too much puffed-up with pride of heart, or should have the chance of even dreaming that the machine which they have invented for the manufacture of "qualified" medical men is a satisfactory article, or turns out a decently satisfactory product, Dr. Patrick Manson has dissected this product, and finds it wanting, and wanting more especially in the place where it ought to be strong.

If there is one sentiment that has been hammered into us during the current year more than another it is the idea of imperialism. From every quarter of the globe fellow subjects in many uniforms, but all living under and ready to fight for one banner and one Queen, have paraded our streets, and by object lessons without end it has been impressed upon us that, wrapped around the torrid zone, there is a belt of English territory, ruled over by English governors, held by English troops, thronged by English traders, and inhabited by countless millions who, although not English born, are English fellow subjects. If, then, there is one place in the world where it ought not only to be possible but almost a matter of course for a medical student to obtain a good working knowledge of those diseases which are especially common in the tropics; if there is one place more than another where every available opportunity should be made use of for instructing him in such diseases before he has to fight them, often singlehanded, in these distant lands—it should be in the capital of this great empire.

But it is not so. Dr. Manson says that the course of instruction in general medicine usually received in this country is utterly inadequate to qualify for tropical practice. This assertion he founds not only on the mistakes of others, and, as he honestly admits, his own mistakes in the past, but upon the mistakes which he still sees made daily in regard to tropical diseases.

Take, for example, beri-beri. Surely one might expect that, considering our vast eastern trade, our students should possess some working knowledge of such a disease as this. Nor should it be difficult to impart such knowledge by practical training, for it is a disease which is common enough in the port of London among the Lascars and seedy boys who, as Dr. Manson says, form the bulk of the crews of the large steamers trading to the East. But to show how little the student of to-day is actually taught about it, Dr. Manson tells us that although patients affected by it are often brought to the Seamen's Hospital on medical certificate they are sent in "as cases of heart disease, kidney disease, almost anything but beri-beri. They are very rarely corrected diagnosed. Now the ship-surgeons who make out th certificates are usually men fresh from the schools and from their examinations, and therefore presumably well up in all that is newest in medicine." He then gives a long list of the curious entries in the admission registers under which

cases of beri-beri come in. "Not once in a dozen instances is the diagnosis correct." The ignorance of tropical diseases which is thus demonstrated, sad as it is here, is infinitely more sad and infinitely more dangerous when at the far ends of the earth the medical man has just to do his best with such knowledge as has been given to him in his British school, and has been accepted by British examiners—knowledge which, when brought to the test of practice, is shown to be no knowledge at all. Dr. Manson says: "I am grieved to say that in this matter even at the present day it is just as it was thirty years ago. My education was got by experience; the young medical man of the present day has to learn in exactly the same costly way as I did, and in the same stern school of experience;" but "the fees are heavy," being paid for, it is to be feared, in human life.

Now whose is the fault? On this point Dr. Manson is perfectly clear, and we cannot but feel that he is perfectly right. It is what one may call the "provincialism" of English teaching and of the whole of English medical education that is at the root of the matter. We live at the centre of a great empire, and we boast of it. Yet in educating our students, one-fifth of whom will have to maintain a lonely fight against strange diseases in tropical countries, we teach that aspect only of medicine which presents itself to the view of those who practise within the boundaries of these isles. Candidates for medical degrees know very well that they will not be asked any questions about tropical diseases by their examiners, and so they have not studied the subject or demanded instruction on it; and the reason why they are not asked questions on these diseases is that "the leaders of the profession, those who man our hospitals, who make the regulations for the education of the youth of the profession, are, in almost every instance, men who have never practised in warm countries and who themselves have never felt the necessity for a wider and more practical knowledge of the diseases peculiar to these climates." This is a statement which British teachers and examiners should most seriously consider. Dr. Manson's assertion is sure to bear fruit before long, for it is advanced in full accord with the broadly humanitarian spirit of the times, and with the definite object of forcing the schools of London to teach the medicine of mankind rather than the medicine of one small country.

The Harveian Oration before the Royal College of Physicians will be delivered by Sir William Roberts on Monday, October 18th, at 4 P.M., in the Library of the College.

The fund which is being raised in Glasgow in commemoration of the Queen's Diamond Jubilee, and which is to be devoted to the reconstruction of the Glasgow Royal Infirmary, has now reached £72,083 5s. 11d.

The fact that a baronetcy has been conferred on Sir William Mac Cormac, President of the Royal College of Surgeons, was formally notified in the *Gazette* of October 1st which also contained the announcement of the knighthood conferred on Felix Semon, Esq., M.D.

The annual dinner of the past and present students of the Charing Cross Hospital will be held at the Holborn Restaurant, Royal Venetian Chamber, on Friday, October 2nd, at 7.15 P.M. The chair will be taken by Surgeon-Major James, F.R.C.S. Tickets may be obtained from Dr. Arthur Fair, House-Physician to the hospital.

At the opening meeting of the winter session of the North-West London Clinical Society, which will be held at the North-West London Hospital on October 20th, at 8.30 P.M., the President, Sir William Broadbent, will deliver the annual address.

Sir William Gowers will be entertained at dinner by the members of the Society of Medical Phonographers on November 25th, in order to congratulate him on the honour recently conferred upon him. The chair will be taken by Sir William Broadbent, who since the foundation of the Society has been one of its warmest friends.

THE MONTREAL MEETING.

The amount of the offertory of the service at the English Cathedral, Montreal, on August 31st, before the British Medical Association was $137.96.

REOPENING OF ST. MARY'S HOSPITAL.

We are requested to state that St. Mary's Hospital, Paddington, which has been closed for two months for extensive repairs, has now been reopened for the reception of in-patients. The out-patient department resumed work on Monday, October 4th.

SANITATION IN BOMBAY.

The Government has formulated an important scheme for the sanitary reformation of Bombay at a cost of five crores of rupees. The work will be entrusted to a nominated body, which will be independent of the Corporation. The control of Government and municipal lands will be vested in this body, which will also be empowered to lay new streets through crowded localities, and to erect dwellings at low rents for the poor. The scheme involves an addition to the municipal rates of not more than 2 per cent.

THE ELECTION TO THE GENERAL MEDICAL COUNCIL.

A correspondent writes: The cost of the 1896 election of the direct representatives for England on the General Medical Council was £404; it is probable that the election now being conducted will cost about the same sum. The by-law as to direct representatives states that "they shall be elected to hold office for the term of five years." The person who will be chosen this week will consequently not end his term of office until 1902, unless the law be before that altered, or he resign in 1901 when the two other direct representatives will go out of office. It would diminish expense and trouble if the law were so amended that upon the death or resignation of any direct representative, the person elected in his place should hold office only for the unexpired portion of the five years' term of office then remaining to the former representative whose place is thus filled. The same plan might be adopted as is carried out on the Council of the Royal College of Surgeons when a member of Council dies or resigns. His successor is at first elected only for that unexpired portion of the term of office (eight years is the full term) that has yet to run; but he is then capable of re-election.

DIPHTHERIA IN LONDON.

The mortality from diphtheria in London still continues to increase. The deaths referred to this disease, which had been 25, 35, and 45 in the three preceding weeks, further rose to 49 during the week ending Saturday last, October 2nd, and exceeded the number registered in any week since March last, although they were slightly below the average in the corresponding weeks of the ten preceding years. Of the 49 fatal cases recorded in the metropolis last week, 6 were of persons belonging to Camberwell, 5 to Hackney, 5 to Lambeth, 4 to Battersea, 3 to Kensington, and 3 to Bethnal Green. The number of notifications of diphtheria in London, which had steadily increased from 174 to 316 in the six pre-

ceding weeks, declined to 299 last week. There was a slight decline in the number of notified cases last week in West, North, and Central London, and a marked decline in East London, but in South London the number of new cases showed a further increase, and amounted to 143, against 99 and 128 in the two preceding weeks. There was a marked decline in the prevalence of diphtheria in Paddington, Clerkenwell, Whitechapel, Poplar, and Bermondsey. On the other hand, in Newington 16 new cases were notified, against 3 and 7 in the two preceding weeks; and in Lambeth and in Greenwich there was also a marked increase in the prevalence of diphtheria. In Camberwell there were no fewer than 35 new cases notified, against 16, 22, and 28 in the three preceding weeks. The admissions of diphtheria patients into the Metropolitan Asylums Hospitals during last week were 164, against 139, 156, and 162 in the three preceding weeks; and 1,033 patients remained under treatment in these hospitals on Saturday last.

THE INTERNATIONAL LEPROSY CONFERENCE AT BERLIN.

We understand that most of the Governments interested in the leprosy question are sending official delegates to the International Leprosy Conference which is to meet at Berlin next week, with the exception of course, of the British Government, which in scientific matters usually leaves the initiative—and expense—of such missions in private hands. Dr. Phineas Abraham will, we understand, be the representative from this country, and has been nominated one of the Honorary Secretaries of the Conference. The matters to be discussed at Berlin include, not only the recent advances in our knowledge of the pathology of the disease, but the new serumtherapy of leprosy, and the still burning questions of the etiology of the disease and of the supposed necessity for the absolute isolation and segregation of of lepers. Mr. Hutchinson will contribute a paper on the subject of Alimentation and Leprosy, and such high authorities as Virchow, Koch, Hansen, Kaposi, Besnier, Meisser, Arning, Kitasato, and many other leading leprologists from all parts of the world will contribute to the debates. The general public in many parts of the world—and, to no slight extent, in several of the British dependencies—are so much interested in the leprosy question, and acquainted with the difficulties connected with the management of lepers, that the deliberations of this Conference are likely to excite interest beyond medical circles.

THE VICE-CHANCELLOR OF CAMBRIDGE UNIVERSITY.

It cannot be said that the medical profession has in the past received its due share of recognition in the old universities. With the enthronement of Dr. Alex Hill in the Senate House at Cambridge on October 1st, we had for the first time in history the satisfaction of seeing a member of our profession appointed to rule over his university as its Vice-Chancellor. John Caius, the last medical head in Cambridge, presided over the college which he had refounded and endowed from 1559-73, but he did not fill the office of Vice-Chancellor. The great Harvey, the last medical head at Oxford, was appointed Warden of Merton in 1644, but lost his office six months later owing to the fall of his royal master. It is probable that medical men had filled headships before the days of Caius and Harvey, but no industrious historian has yet arisen to make a list of their names, and it is therefore impossible to pick them out from the long roll of Vice-Chancellors. We must look upon the appointment of Dr. Hill as an indication not only of the increasing influence which medicine is exerting at the universities, and especially at Cambridge, but also as a proof that year by year medicine is gaining ground, and attaining more nearly to a position of equality with the sister professions of theology and law. When he was elected Master of Downing in 1888, it was generally supposed that Dr. Hill was the youngest man ever appointed head of a college. It is not improbable that he is the first man who has ever attained to the highest executive office in his university at the age of 41. Last year Dr. Hill succeeded Sir Wm. Broadbent as President of the Neurological Society. His papers on the anatomy and physiology of the nervous system are to be found in the *Philosophical Transactions*, *Brain*, the *Journal of Anatomy and Physiology*, and elsewhere. He is also known to the profession as the translator of Obersteiner's *Central Nervous Organs*, and the author of *The Physiologists' Notebook*, etc.; but to the public at large his name is associated with the National Home-Reading Union, of which excellent society he has been the indefatigable chairman since its foundation eight years ago. Recently Dr. and Mrs. Hill took their children for a voyage round the world, and we understand that their experiences and observations will shortly appear in print under the title of *A Run Round the Empire*, a book in which the geography, natural history, and resources of various parts of the Queen's dominions will be described for the benefit of other young people who have not had the opportunity of making a personal acquaintance with the different parts of the vast heritage to which every Briton is born.

THE FUTURE OF THE ARMY MEDICAL SERVICE.

We learn that the rumours as to a new Royal Warrant for the Army Medical Service are somewhat premature, but we understand that the War Office authorities have been, and are, seriously considering the possibility of overcoming the present regrettable deadlock in respect of recruiting for the Army Medical Staff by so altering the conditions of organisation as to permit of some kind of return to a regimental system. From the information which reaches us we gather that the proposals put forward by the late Adjutant-General on behalf of the War Office to secure this end were extremely crude, involving practically a return to the old regimental system. Whilst fully recognising the value and importance of establishing a closer bond of union between the medical *personnel* and the fighting units, we think it our duty emphatically to intimate to those advising the War Office in this matter that no system of reorganisation can succeed in practice or be acceptable to the medical profession which in any way perpetuates the present conditions in the medical staff in respect of army rank. The medical officer in respect of army rank must be on an absolute equality with his non-medical brother. The mere fact of a man having taken a medical degree or qualification should not penalise him in the military hierarchy. An experienced correspondent suggests that if it be desirable to revert in some way to a regimental system, there would be no inseparable difficulties in the way of its introduction, provided that unambiguous army rank were given to the medical officer, such rank, however, not to carry powers of command over men not belonging to the medical establishment. Once that were given, our correspondent continues, "it would be quite possible to organise a true medical or technical corps, having a fixed establishment, and composed of officers of a certain seniority, say from ten to twenty-five years' service; the duties of such a corps would be to run and organise all the various hospitals, whether garrison, general, or field. This corps should include the men of the present Medical Staff Corps, and should constitute an integral corps of the army, being organised upon similar lines to the Army Service Corps. Such a corps should be recruited as vacancies occur in it from medical officers in and belonging to fighting units. The probable period of service at which men might expect transference from their units and *ipso facto* promotion into such a technical corps would be about the tenth year. From this medical or technical corps should be selected the medical officers for staff employ, and these men would be the really only true medical staff. These medical staff officers would be the principal medical officers of districts, and as such should be known as deputy assistant adjutant-generals,

issuing orders as to matters concerning medical and sanitary arrangements 'by order.' The rank of these staff officers would necessarily be that of colonel. If the medical service of the army could be organised on lines similar to these, some of the best medical talent and material of the country would be attracted to military service. Their younger years would be put in as officers of corps having the finest military tradition, while in their later years they would either be officers of a purely technical corps, or serving as staff officers for technical purposes. From the first day of service to the last, they would be soldiers, and the branch of the army to which they would ultimately belong would soon be as much respected and sought after as it is now shunned and avoided." These proposals are certainly worthy of the most careful consideration by the military advisers of the War Office, as they appear to offer a way by which conflicting views, prejudices, and interests can be reconciled.

PREVENTIVE INOCULATION FOR RINDERPEST.

It is announced that Dr. Alexander Edington, Bacteriologist to the Cape of Good Hope Government, has found that the blood of animals affected by rinderpest, when treated with citric acid and kept for such a time as to ensure the death of the contagium, will, when injected, immunise all animals exposed to infection. An animal thus treated received ten days later an injection of a large quantity of blood from another animal suffering severely from rinderpest, without being at all affected or suffering any rise in temperature. Dr. Edington has obtained equally satisfactory results from the bile of affected animals similarly treated and glycerinated. A herd of 128 cattle near Kimberley was selected for a field experiment, 126 being injected and 2 left for a control experiment. Of the 126 injected cattle, 1 shortly died (as was supposed from its infection beforehand from cattle on the adjoining farm, amongst which it was found that rinderpest was prevalent). The remaining 125 animals were ten days afterwards injected with virulent blood, which was at the same time and in the same dose injected into the 2 unprotected animals. Of the 125 injected animals, 2 had a slight attack of rinderpest, but recovered, and 123 remained quite healthy, but the 2 control animals died of rinderpest on the twelfth day. This method appears to give better results than the French serum treatment or Dr. Koch's method. As proof of the demand that has arisen for the new injection, it is stated that 4 tons of glycerine have already been used by Dr. Edington in the preparation of his protective fluid, and that 14 tons are now on the way to South Africa.

VACCINATION AGAINST TYPHOID FEVER.

We understand that Surgeon-Major Semple, Assistant Professor of Pathology at the Army Medical School at Netley has proceeded to Maidstone with the view of placing at the disposal of the inhabitants of the stricken town the method of vaccination against typhoid fever which has been worked out in the Pathological Laboratory at Netley by Professor Wright and himself. It is not, of course, proposed to treat patients who have already contracted the disease; but, in view of the fact that every patient suffering from typhoid fever is a focus of infection, it is thought that it may be advisable to vaccinate those who have not yet suffered, but who may at any time unwittingly be exposed to the infection. As is well known, and as has been again strikingly illustrated at Maidstone, the main channel by which the infection of typhoid fever is distributed is the water supply; but when once an extensive epidemic has occurred in a community, other less ordinary modes of infection may come into activity. Professor Wright and Surgeon-Major Semple have recently improved their method, and are now able to obtain the characteristic reaction of the blood serum on typhoid bacilli, which may be taken as a proof that the individual is protected from the infection, by injections of a vaccine which produces only some discomfort for a couple of hours and a little local soreness. This has been the experience in the case of all the last batch of newly commissioned officers of the Indian Medical Service who were inoculated at Netley. The Director-General of the Army Medical Department has allowed Professer Wright to place the resources of his laboratory at Netley at the disposal of the Maidstone authorities. Surgeon-Major Semple has a considerable supply of the vaccine with him in Maidstone, and Professor Wright anticipates that he will be able to supply enough material to inoculate the whole population of Maidstone if necessary. The demand, however, must come from the general public, and we hope that advantage will be taken of Surgeon-Major Semple's presence in Maidstone to employ this valuable protective method at a moment when the risks of infection must, owing to the large number of persons suffering from the disease, be considerable.

PLAGUE IN INDIA.

The Indian Government has asked for twelve medical men to be sent out from this country to the Bombay Presidency for duty in the plague-stricken districts. The conditions of engagement are: £25 for expenses previous to starting, a free passage to Bombay and back, and 500 rupees a month. Preference will be given to candidates holding a Public Health diploma. They are expected to sail for Bombay on Friday, October 8th. We congratulate the Indian Government on the wise step they have taken. By many it will be regarded as an attempt to lock the door after the danger is over. We would, however, warn the critics to study more carefully the history of plague, and to try to digest the fact, which has so often been stated in the British Medical Journal, that plague in its most mild form is a lingering epidemic, that relapses and recrudescences are part of its natural course, and that until the time for their reappearance is over the authorities dare not relax in their strict sanitary measures. The plague returns for the week ending September 30th show that 60 deaths occurred from the disease in Bombay. From Karachi there would seem to be evidence of a true recrudescence, as the plague had wholly disappeared from that place some time. The reappearance seems to have caused alarm in the district, but those who are surprised must have been wrongly instructed in regard to the course of plague. That plague can be stamped out is well nigh an established fact, but it requires strict surveillance for a period of at least two years—a surveillance so rigorous that but few municipalities have either the money, the men, or the tenacity to carry it through successfully. In India this seems more difficult than in this country, as is testified by the most recent news from the village of Ghoti, near Igatpuri. At this place Dr. Kapadia (a native practitioner, be it observed) and four (native) plague officials were interfered with by the villagers, and not only so, but the party were attacked and clubs freely used. Dr. Kapadia and one of the officials were clubbed into insensibility. If this takes place with native authorities, who were able to reason with the people in their own language, how much more is it likely to happen with Englishmen, upon whom the native looks askance when questions of sanitation arise.

SANITARY ORGANISATION.

In his address to the Conference of Medical Officers at Leeds, Dr. Edward Seaton did well to draw attention to the importance of sanitary organisation in aiding the spread and controlling the methods of sanitation. He pays a high tribute to the energy and the unselfish aims of those local sanitary authorities, municipalities, and Boards which have been in the van and have had the raising of vast sums of money and the promotion of great public works solely for the advantage of the public health. Yet after all it has been to sanitary organisation, including in that term the medical element which is essential to its existence, rather than to mere sanitary measures, that the motive power has been due

which has given to sanitation much of the credit that it has obtained. "Whenever," says Dr. Seaton, "sanitation has been promoted indiscriminately and without the advantage of medical direction, it has been rudely checked." The functions, the position, and the independence of the medical officer of health are therefore matters of the greatest importance. As Dr. Seaton says, he must be representative of the medical profession, which is itself an organised preventive force, upon whose high sense of honour and public spirit the success of preventive measures chiefly depends. He is also an "assistant," properly speaking, of the authority, but beyond all this he is a public servant holding a position of responsibility to the community, for whom he is the medical officer of health, and as such he should be as amply protected as any public servant entrusted with the highest duties in connection with the administration of the law. In regard to special sanitary measures, Dr. Seaton pointed out how extremely trivial is the cost of "notification" when compared with its utility, and especially with the expense of other branches of practical sanitation. The annual expense of working the whole notification system in England is, he says, less than what it often costs to drain a little village. In regard to the disposal of sewage, he enters a protest against the drainage of houses, villages, and towns into the chalk and other water-bearing strata, a practice which he, and, we should fancy, many others, think should be stopped by legislation; and, in regard to house sanitation, he asks with great appropriateness the following conundrum in sanitary law which seems never yet to have been satisfactorily answered: "If the law operates in such a manner that an owner of small houses let at weekly rents is practically compelled to fall in with a certain standard of sanitary requirements, why should the owner of larger houses, let on lease, frequently be subject to little or no interference from the public authoritles?" It is easy to say that it is the law, but there still remains the question, Why?

OWENS COLLEGE, MANCHESTER.

AT the meeting of the Court of Governors of Owens College, Manchester, on October 5th, several munificent gifts were announced. A letter was read from Mr. R. C. Christie, offering a sum of not less than £50,000, the third of the balance of the estate of the late Sir Joseph Whitworth at his disposal, for the erection of a College Hall, and so far as the amount will extend towards the completion of the College Quadrangle. Two anonymous friends of the College have offered sums of £10,000 and £5,000 for the erection and maintenance respectively of suitable buildings for the physical laboratory. A further sum of £5,000 will be required to provide completely for maintenance of the laboratory. Mr. Edward Holt has presented £1,500 to defray the cost of the newly erected gymnasium. Owens College is already one of the most completely appointed colleges in the country, and these gifts will serve to make up certain deficiencies which have been felt in recent years.

SALE OF POOR-LAW MEDICAL APPOINTMENTS.

AT a recent meeting of the Leicester Board of Guardians, in consequence of a recent vacancy in one of the medical districts, a discussion arose as to the propriety of appointing the successor in the practice of the late holder of the appointment, on the ground that no encouragement should be given to any form of sale of public appointments. There is, of course, some reason in this argument; and if Poor-law appointments were to become actually saleable, such a custom would no doubt be objectionable. Such, however, is hardly the case. It is very common in England for medical practices to be bought and sold, but this in the great majority of cases is without any specific agreement in reference to Poor-law or other appointments associated with them, as the purchaser is well aware that he takes the practice with the risk of not obtaining some, or even any, of the appointments held by his predecessor. The Leicester Board, in discussing this matter at so great a length, appear to have been somewhat overscrupulous, and we are inclined to doubt whether any good whatever will result from their prolonged debate upon it. There are strong reasons for believing that in most cases the purchaser of any private medical practice would have a greater interest at stake, and would consequently give more personal attention to any public duty which had previously been associated with the practice he had purchased than any outsider, who might have no position to sacrifice and no pecuniary risk at stake, and who might at any moment become dissatisfied with his inability to live on the emoluments of a Poor-law appointment, and might consequently be found absent when his professional services were specially required.

THE DRAINAGE OF FARNBOROUGH.

THE drainage question seems, like Tennyson's brook, to go on for ever. The Farnborough council, it seems, were a little out of order in adopting so hurriedly the scheme of Messrs. Martin, Wells, and Co. for dealing with the sewage farm. Before anything can be done the sanction of the Local Government Board must be obtained. Further, whatever is done will have to be well in hand by December, for on the 23rd of that month the summons of the Thames Conservancy for polluting the Blackwater is returnable. By that date, therefore, if heavy fines are to be avoided, Farnborough must, says the *Aldershot News*, be able to show that sound and definite steps are being taken to do what is necessary. When the effluent has been purified it is to be hoped that the general drainage of the district will be given the attention which it has long demanded.

RETIREMENT OF DR. W. J. SIMPSON, HEALTH OFFICER OF CALCUTTA.

ON September 4th a large and representative meeting was held in Calcutta for the purpose of bidding farewell to Dr. W. J. Simpson, who during the past eleven years has with great credit to himself and very great benefit to the community held the office of health officer of Calcutta, which he is now compelled by ill-health to resign. An address, signed by the principal residents of Calcutta, the members of the medical profession, and officers of the corporation, was presented on the occasion. Dr. Simpson's sanitary services are well summarised in this document: "Among the most important of these have been the inauguration of measures to prevent pollution of the subsoil and to place on a sounder basis the drainage system of the town; the introduction of the principle of incineration of the town refuse; the demonstration of the need of efficient building regulations for the town; the organisation of an agency for the investigation of the causes and course of preventable diseases and the adoption of preventive measures; the establishment of a well-appointed laboratory, the first of the kind in India, for food analysis and bacteriological research; the reorganisation of the department of food inspection and registration of births and deaths; the testing of the results of Professor Haffkine's system of anti-cholera inoculation; and the timely precautions taken to prevent the importation of plague into Calcutta." The address also refers to his researches into cow-pox, small-pox, rinderpest, and cholera, to his services as organiser and Secretary of the first Indian Medical Congress, to his labours as editor of the *Indian Medical Gazette*, and his important suggestions as to the organisation of a sanitary service for the whole of India, which have been adopted by the Government of India. Dr. Simpson made a happy response to the address, in which, after referring by name to the merits and worth of his assistants, he said: "In departing from Calcutta I have the satisfaction of knowing that I leave behind me a small band of Indian medical men, the first of their kind who are sanitary experts, and who are thoroughly trained in the principles and practice of Public Health." Dr. Simpson proceeded to India with a

high reputation already gained for good sanitary knowledge and work, and much scientific acumen and capacity. He has added very materially to his fame in all these respects, and in the face of a trying climate, indifferent health, and the opposition, sometimes very bitter, which too often besets the path of the reformer, has conferred undying benefits on the city of Calcutta, and placed the world of science under a load of obligation which will best be discharged by utilising his gifts and acquirements in the same field in which he has already done so much productive work. We can offer no better wish for the welfare of Calcutta than that the city will obtain a successor who will as diligently, skilfully, and fearlessly advance the sanitary interests of the town as Dr. Simpson has done.

THE INDIAN MEDICAL SERVICE.

In *Guy's Hospital Gazette* for August, Surgeon-Captain Birdwood, I.M.S., gives an account, chiefly of the civil side, of the Indian Medical Service, from which we extract the following statements: Of the 648 officers of the Indian Medical Service, 309 are in military and 339 in civil employ; although all are nominally military, more than one-half are therefore holding civil appointments, of which civil stations with gaol appointments absorb 200; residency surgeoncies, professorships, and the big civil hospitals with miscellaneous employ absorb about 100 more. These civil appointments are the prizes of the service, especially the professorships in the great centres, which afford possibilities of lucrative private practice. But in the civil surgeoncies there are also many possibilities of private practice. All of them at all events afford opportunities of, especially, surgical practice. The sanitary appointments afford large scope for the scientific application of the newest hygienic methods. To the bacteriologist and pathologist there is a large field for work. Dr. Birdwood further touches upon the military appointments, and states that the regimental life of the medical officer is usually very pleasant. Afterwards he sets forth the financial advantages of the service. Altogether the Indian Medical Service affords far higher prospects of professional and financial success than the Medical Staff of the army. On the other hand, prolonged exile in a climate often unhealthy, and separation from home and family, are disadvantages which have to be well weighed in choosing the Indian Service for a life career.

PREGNANCY AND WOMEN'S LABOUR IN FACTORIES.

According to a report published in the *Yorkshire Evening Post*, a firm of spinners in Yorkshire was recently fined for employing a woman in their factory within a month of her confinement. The prosecution was undertaken by one of the lady inspectors of the Home Office, and under circumstances that were perfectly justifiable. A single woman, admittedly known to the foreman to be pregnant, was allowed to work within two hours of her confinement, and was found by the inspector again at work nine days after. It was stated that the woman herself had craved to be allowed to return to the factory as early as possible after her confinement. A fine of 10s. and costs was imposed upon the owners of the works. If women are to be efficient workers, and the mothers of healthy children, it is absolutely necessary that the law should step in and protect them, if they will not take care of themselves. Medical men who have had experience among the cotton spinners in Lancashire can bear testimony to the widespread practice in manufacturing districts of women working in the factory almost until the pains of labour come on, and of returning thereto as early as a week after their confinement. To most of the cotton operatives every penny of their wages is a necessity, for, owing to their mode of living, they are nearly always in debt. Those who know much of our textile industries will confirm this statement, that before any of the wages earned by the operatives can be spent upon immediate wants, a large part of it has already been consumed in the payment of arrears by what is known as the weekly system of payment by instalments. It is to this wrong principle of purchasing that has crept in among these industrial classes, and which allows of their living in anticipation of their income that the practice of pregnant women working too long in the factories is largely due. The harm that is done to the individual and to the child by a pregnant woman following her employment almost until the expiry of term, and returning to the factory too soon after her confinement, can only be partially realised. Women who have been but recently delivered, by returning to an occupation such as spinning or weaving, which obliges them to stand nine hours a day in a heated atmosphere, frequently suffer from subinvolution or prolapse of the womb, and thereby sow the seeds of future ill-health. It is difficult for owners of factories to restrict women working in the last month of pregnancy, for it is not always possible even for the woman to state definitely the date of her expected confinement; and, besides, some women more than others convey by their figure and general appearance information of the coming event. At this stage the responsibility should rest rather with the worker than the employer. The factory owner, however, cannot be excused for allowing a woman to return to work a week after her confinement. Before readmitting her, he should fortify himself with a medical certificate. Under the Factory Act, an occupier who has knowingly allowed a woman to be employed within four weeks after having given birth to a child is liable to be fined. Protecting himself by medical testimony as to the date of the confinement, the factory owner is at the same time conferring a benefit both upon mother and child.

THE DISCOVERY OF ANÆSTHESIA.

The current number of the *Johns Hopkins Bulletin*, vol. viii, p. 174, contains the substance of a paper read before the Johns Hopkins Hospital Historical Society, advocating anew the claims of Dr. Crawford W. Long to be called the discoverer of anæsthesia. Dr. Hugh Young marshals his facts in a most orderly manner, and supports them with a goodly array of original documents obtained from the original sources. Dr. Long was born in Danielsville, Georgia, on November 1st, 1815, the grandson of one of Lafayette's captains in the Revolutionary war. He was educated at Franklin College, and afterwards practised in Jeafferson, Jackson County, Georgia, then a small county town far removed from a railway and in the midst of a farming community. It was fashionable in 1841 to inhale laughing gas for its exhilarating effects, and Dr. Long, being asked to provide the gas for such an entertainment, said that, although he had no means of preparing nitrous oxide gas, he felt sure that sulphuric ether would produce similar exhilaration. Ether was tried, and it so became so popular that almost every party ended up with an "ether frolic." During these "frolics" Long noticed that some of the party received bruises and even injuries without experiencing any sense of pain. He therefore determined to try its effect in surgical operations, and in January, 1842, he administered ether to Mr. James M. Venable, and excised a cystic tumour from his neck. The operation was performed without the patient experiencing any sensation of pain, and it was undertaken four and a half years before Morton's earliest claims. Two years and a half later Wells of Hertford discovered the anæsthetic powers of nitrous oxide. Dr. Long reported only the first five cases in which he used ether, but it seems certain that he operated upon at least eight cases before Morton's "discovery." Dr. Long was a retiring, fair-minded man, who desired to obtain the merit of his prior claim to the use of ether as an anæsthetic, but who did not claim any monetary advantage therefrom. He contented himself therefore with preventing the Senate from recognising either Wells or Morton as the real discoverer, but he never pushed the matter any further, and his documents of proof never seem to have been brought up before Congress. He died in poverty in 1878.

EXTENSION OF DISTRICT NURSING IN LIVERPOOL.

THE Liverpool Diamond Jubilee Commemoration Fund has reached the sum of £23,472, and the subscription list is now closed. This sum, as already announced in the BRITISH MEDICAL JOURNAL, will be devoted to the extension and completion of the district nursing organisation of the city. The main lines of "The Queen Victoria District Nursing Institution of the City of Liverpool," as the new organisation will be called, have been drawn up by Mr. William Rathbone. It is proposed to effect an amalgamation with the present nursing institution and to co-operate with the hospitals, all the homes, funds, and endowments of the present nursing institution being transferred to the new body. The David Lewis trustees have agreed to build a central home and offices. The government will be by a committee of twenty-six members, with the Lord Mayor as chairman, representing the subscriber to the Commemoration Fund, the present Nursing Institute, the Ladies Superintendent of the District, the three large hospitals, and the Hospital Sunday and Saturday Fund.

SANITARY ARRANGEMENTS ON THE RIVIERA.

A RECENT letter in the *Times* compares the careful inspection as to sanitary condition of houses in London, which is usually considered necessary before selecting one for residence, with the carelessness often displayed by English visitors to the Riviera in choosing their place of residence. The writer saw a house of an expensive character being built in a very good situation. In the middle of the basement was a large pit to serve as a cesspool for the whole house. The pipes that led into it from the closets were very large and of rough earthenware, with very imperfect joints, and they were all inside the house. Examining a house later on with a view to hiring it, he found the cesspool partly outside and partly under the house; the soil pipes, which came down inside the house, were of the very roughest construction, and there was no pretence of a siphon trap; an inch or so of water in the pan was supposed to provide all necessary security against the admission of sewer gas. The owner on being told about this was indignant, and said he thought the English were "mad about microbes."

THE POWERS OF SANITARY INSPECTORS.

THE ruling of Mr. Commissioner Kerr, to which we referred recently, has not passed without protest. Mr. Mark Judge writes to the *Times* saying that "if by any chance the Act can be construed to admit of such a ruling, it will only be the more necessary to take steps to free ourselves from the "sanitary" terror that is gradually establishing itself in our midst. Mr. Commissioner Kerr's ruling is nothing more or less than that a sanitary inspector has the power to enter a house, and, without communicating with the owner, give instructions to a builder to "improve the sanitary arrangements." We think, however, that if Mr. Judge will refer to the full report he will see that this was one of those cases in which common sense as well as law was brought into the decision. It was no doubt stated that it was no use opposing sanitary inspectors when they wanted necessary work done, but the reason why it was no use opposing them under such circumstances was also given, namely, that if they appealed to a magistrate they could get an order, and then the work would have to be done. The case was not very well reported, but it seems not improbable that the decision in the end depended on a question of agency. It is clear, however, that even among educated people there is a constant tendency to revolt against sanitary legislation, and all that pertains to the general welfare, directly it interferes with private inclination. The *Times* publishes another very characteristic letter illustrating this aspect of the question from a "A London Householder," who delivers himself in the following fashion: "We find ourselves being gradually ground down more and more by faddy and grandmotherly legislation. Hitherto we have merely grumbled mildly, but the time seems to have arrived for us to bestir ourselves. Public Health and other similar Acts are, when stripped of their verbiage, simply an insidious form of extra taxation, imposed solely for the benefit of the British workman and leviable upon householders only at the caprice of ignorant and irresponsible individuals." As a call to arms to resist the devastating onslaughts of sanitary science this is not bad.

ABSTINENCE AND LONGEVITY.

IN a paper by the High Secretary of the Order of Rechabites it is stated that at the age of 18 the expectation of life is, among the Foresters, 44.74 years; among the Rechabites the expectancy is 50.62 years—a difference in favour of the latter of 5.88 years. Compared with the Oddfellows, the latter's advantage is even greater by 7.75 years. Applied to the whole population, the expectancy at 18 among abstainers is better by 8.72 years. The mortality of the Foresters at the same age is 0.723 per cent. and of the Rechabites 0.589 per cent. The percentage of the Foresters' death-rate to that of the Rechabites at 18 is as 123 to 100, and at 38 as 189.3 to 100. These figures are confirmed by life insurance office statistics.

THE DISINFECTION OF ROOMS.

THIS subject was fully discussed at the Leeds Congress of the Sanitary Institute. It also forms the subject of a pamphlet recently issued by Dr. F. W. Alexander as a report to the Board of Works for the Poplar District. In this report Dr. Alexander reviews the whole subject, and gives a useful summary of our present knowledge and of the trend of scientific knowledge as applied to disinfection. The Paris method of spraying the room and its contents with a corrosive sublimate solution (1 in 1,000) by means of a Geneste-Herscher *pulvérisateur*, and the Berlin method of disinfection of rooms by rubbing the walls with bread, are first described. The still widely-practised fumigation by means of sulphur receives a short shrift. If it is to be practised, the floors, walls, and ceilings must be sprayed with water, as sulphurous acid is inert except in the presence of water. At this point the proper way of spraying the walls of a room is described. This is a matter of some practical importance, as some local authorities have been inclined to abandon spray methods of disinfection previously introduced in consequence of complaints of running of the colours in wall-papers. The spraying must be carried out from below upwards, so that, if any liquid tends to run down from above, it will have a wet surface to run over, and consequently not leave long streaks. The merits of formalin disinfection are then discussed. While practical workers like Drs. Kenwood and Alexander, and chemists and bacteriologists like Mr. Wynter Blyth, Dr. Rideal, and Dr. Sims Woodhead, arrive at results which are absolutely discrepant, it is obvious that the only safe plan is, at least in part, to suspend judgment. There can be no doubt that when actually applied to cultures of pathogenic organisms, dilute solutions of formic aldehyde, as also of chinosol, are powerful bactericides. It would appear, therefore, on *a priori* grounds, that we have in either of these chemicals a substance which is suitable for use with a spray disinfecting apparatus. They present the further advantage over corrosive sublimate of being non-poisonous. The use of formic aldehyde spray is somewhat irritating, but those who have employed it aver that this can be obviated by using goggles and a respirator.

PRESENTATION.—Dr. Nathan Raw, late Medical Superintendent of the Dundee Royal Infirmary, has been presented by the nurses of that institution with a silver inkstand with candlesticks attached, as a token of their esteem.

THE *Gazette* of October 5th announces that the Queen has conferred the decoration of the Royal Red Cross upon Mrs. Ann Ayre Hely and Miss Sarah Ann Terrot in recognition of their services in tending the sick and wounded.

THE GENERAL MEDICAL COUNCIL ELECTION.

Sir Walter Foster's Candidature.

Meeting in Birmingham.

A meeting, at which ninety members of the medical profession in Birmingham and district were present, was held at the Medical Institute on Monday, October 4th, for the purpose of affording Sir Walter Foster, M.P., an opportunity to explain his policy as a candidate for the vacant seat at the General Medical Council. The chair was occupied by Dr. Saundby, President of the Birmingham Medical Institute; and among others present were Drs. Rickards, Carter, Scurrah Warden, Denne, Weston, Edgington, Westwood, Vince, Donovan, Quirke, Neile, Ratcliffe, Lee Strathey, Bark, Short, Craig, Foxwell, McKeogh, Vokes, Kirby, Messrs. A. Oakes, A. Freer, Bennett May, Lloyd Owen, Garner, Hall Edwards, Vincent Jackson, Wright, Wilson, etc.

The Chairman spoke of the eminent services Sir Walter Foster had rendered to his profession, and testified to the great satisfaction with which his acceptance of the candidature for the General Medical Council was hailed.

Sir Walter Foster, who was very cordially greeted by his professional brethren, then delivered an address. He said he was induced to become a candidate partly by the many pressing invitations he found awaiting him on his return from Canada recently, but also because he felt the position was a critical one in regard to direct representation on the Council. He was the more willing to come forward because the many kindly marks of appreciation and generosity he had received from the profession of late had left him very much the debtor of the body to which he belonged, and if there was work to be done which some of his friends thought he, with his experience of the General Medical Council, could do possibly better than some others who were without that experience, he thought it due to the great body to which he owed his fortunes and success in life to place himself at their disposal. He had no objects to serve for himself. The only objects he could have in going to the Council again would be to try and promote the best interests of the profession. Proceeding to expound his policy, Sir Walter urged the necessity for raising the number of direct representatives on the Council to ten, and reducing the other members to about the same number; and then, as to the general condition of the medical profession, he was shocked to see the amount of trouble, sorrow, and difficulty, and, to a very great extent, poverty, which oppressed many of those in their ranks. He had never known the profession of medicine so overcrowded, the competition so severe, and he had never known so many men of good reputation and good medical acquirements having a desperate struggle to make a livelihood. He wanted to see if they could not find some means of lessening the unfair competition with which they were confronted in the excessive number of patients treated at hospitals—some with their midwifery departments—the competition of medical aid associations, and other forms of competition which threatened their legitimate interests. In this connection he advocated the raising of the standard of requirements for the preliminary examinations so that unsuitable men should be prevented overcrowding the profession, and the suppression of various forms of quackery which not only injured their profession, but were a serious imposition on the public. As to the registration of midwives, he recognised fully that that was inexpedient, as giving the sanction of the State to one branch of practice, whereas they owed it to their charter, as embodied in the Medical Act of 1886, to insist that proficiency in midwifery should also be accompanied by like attainments in medicine and surgery. He protested against an unfair attack in a circular recently issued by Mr. Victor Horsley, another candidate, in which it was suggested that he (Sir Walter Foster) was responsible for the adoption of Lord Balfour's Midwives Registration Bill by the General Medical Council, whereas the fact was he had resisted in the strongest possible way the action of the Council. Sir Walter also advocated internal reforms in the work of the Council.

Mr. A. Oakes moved a resolution expressing confidence in Sir Walter Foster, and promising to support his candidature.

This was seconded by Mr. Langley Browne, supported by Dr. Rickards, Dr. Leslie Phillips, Mr. Vincent Jackson, Dr A. Freer (Stourbridge), Mr. Jordan Lloyd, Mr. J. T. J. Morrison, and Mr. Bennett May, and unanimously carried. The last named speaker alluded to the discreditable attack that had been made on Sir Walter Foster in London in respect of an article which had appeared in a lay periodical. Mr. Bennett May said they all in Birmingham knew that for many years past Sir Walter Foster had made great sacrifices in devoting himself to public work on behalf of the profession, and to such an extent he had had to turn away from his door medical work of the highest class. Under these circumstances, it was ridiculous to suppose that Sir Walter Foster could have been actuated by the desire for an advertisement that might bring patients to his consulting room. Mr. Bennett May's remarks were received with hearty cheers. A vote of thanks to the Chairman brought the meeting to a close.

Meeting in London.

A meeting of the College Reform Subcommittee (consisting of R. B. Anderson, F.R.C.S., Colin Campbell, M.R.C.S., W. G. Dickinson, M.R.C.S., J. Rees Gabe, M.D., T. Granville Hockridge, M.D., M.R.C.S., George Jackson, F.R.C.S., Albert S. Morton, M.R.C.S., Joseph Smith, M.R.C.S., John Chas. Smith, M.R.C.S., and others), was held on Monday, October 4th, Mr. Joseph Smith, President of the Society of Members of the Royal College of Surgeons of England, in the chair.

On the motion of Dr. J. Rees Gabe, seconded by Dr. Hockridge, Mr. Joseph Smith (Chiswick), President of the Society of Members of the Royal College of Surgeons of England, was elected chairman.

Mr. Anderson brought up the list of members of Committee and the notice convening the meeting, and stating its purpose, together with the letter and questions addressed to all candidates for the present vacancy on the General Medical Council, the favourable reply received from Sir Walter Foster, M.P., and the reply from Dr. Jas. A. Rigby dissenting from the views indicated in Question 3, Subsections (1) and (6), and in Question 5, and reported that Professor Horsley and Dr. Diver had not replied; also a letter written to Sir Walter Foster on receipt of his reply proposing the formation of this subcommittee, and Sir Walter Foster's acceptance.

Dr. Gabe gave the names of four new members of the Committee.

Dr. Gabe moved, and Mr. Anderson seconded, the following resolutions, which were unanimously adopted:

1. That this Committee of Fellows and of Members of the Royal College of Surgeons of England thanks Sir Walter Foster, M.P., for his unreserved promise of support in the measures submitted to him for the reform of the General Medical Council and Medical Corporations (as published in the British Medical Journal of October 2nd, p. 934), and earnestly invites all Fellows and Members of the College, in the best interests of collegiate reform, of practitioners, and of the public, to exert their united influence in securing his return as one of the direct representatives of the profession on the General Medical Council.

2. That measures be taken to invite the active co-operation of Fellows and Members of the College, and of professional bodies, in proceedings to promote these reforms, and to press upon our direct representatives the obligation of united action in the interest of their constituencies.

3. That the Chairman and Messrs. W. G. Dickinson and R. B. Anderson, F.R.C.S., and Drs. Gabe and Hockridge, with power to add to their number, be a provisional Committee, and that Messrs. Dickinson and Anderson be Provisional Secretaries.

A vote of thanks was passed to the Chairman, and the meeting adjourned to Monday, October 11th, at the same hour.

Sir Walter Foster's Reply to "Interrogatories for Candidates."

Sir,—We append Sir Walter Foster's reply to our letter and questions (*vide* British Medical Journal, October 2nd, 1897, p. 934), which we trust you will consider, as we do, eminently satisfactory.

Dr. Rigby's reply is not in accordance with the views indicated in Question 3, subsections (1) and (6), and in Question 5; and Professor Horsley and Dr. E. Diver have not replied. Assuming, however, the most favourable replies, we feel that not only has Sir W. Foster high claims of seniority and past services, but still higher claims of ability to further the ob-

jects aimed at, which should, we submit, be the sole consideration in the election of our direct representatives. We therefore propose, having obtained Sir W. Foster's sanction, to constitute a Subcommittee of his General Committee, with a view especially of canvassing the Fellows and Members of the College of Surgeons to support the candidate who can give the most direct and powerful help in effecting the reforms so long and vainly demanded from the sense of justice of the Council and of the present constituency of the College, as well as other practical and greatly needed reforms that can be accomplished only in Parliament, but could there most hopefully be conducted by one of our direct representatives on the General Medical Council.

We are, dear Sir, yours very truly,

Joseph Smith, M.R.C.S.,
Chiswick.
W. G. Dickinson, M.R.C.S.,
Putney.
R. B. Anderson, F.R.C.S.Eng.,
30, Montague Place, W.C.
J. Rees Gabe, M.D., M.R.C.S.Eng.,
16, Mecklenburgh Square, W.C.
T. Granville Hockridge, M.D., M.R.C.S.,
Tysoe Street, W.C.
Geo. Jackson, F.R.C.S.Eng.,
Plymouth.
Colin Campbell, M.R.C.S.,
Saddleworth.
A. S. Morton, M.R.C.S.,
J. Chas. Smith, M.R.C.S.,
Brondesbury, N.W.

55, Temple Row, Birmingham,
Sept. 30th, 1897.

Dear Mr. Anderson,—I only received your long list of questions this evening, and hasten to send you a reply. The principles underlying your questions are all dealt with in my address and speech, and so I believe I am in accord with all your views. There is one, No. 9, under head 3, to which I must make a reservation, as I should like to consider it at leisure.

Yours very truly,
Walter Foster.

P.S.—I have always felt—as you know—deep interest in your case and the extremely hard way in which you have been treated. If I can do anything for you you may always command me.

Replies of Other Candidates to the "Interrogatories."

Sir,—I enclose copy of Professor Horsley's reply sent to Mr. Jackson at Plymouth, owing to which I only received it late last night, after the "whip" and enclosures of the subcommittee had been issued. I am sure all signatories would desire, as Mr. Jackson does, to give it the utmost publicity, and it will be furnished to the press at once.

I also received a letter from Dr. Diver yesterday, dated October 2nd, enclosing answers to the questions addressed to candidates, but expressing the opinion that "at this late hour the questions are of no use for the present election, and before the next the course of events may probably make some of them obsolete in their present form," which I am sure we shall all join in desiring, if it means that the reforms will have been accomplished. Dr. Diver's answers are for the most part favourable, but as to Question 4, measure (*d*), and Questions 5, 6, 7, and 8, he takes some exceptions and makes some reservations which would, if adhered to, on subsequent reliance on Dr. Diver's help in the Council, not tend to make the questions obsolete within the next five years.

The answers of Sir Walter Foster and Professor Horsley give ground to hope that whichever is elected, the profession will have the invaluable help of the unsuccessful candidate in promoting that concerted action without which no great reform was ever effected.—I am, etc.,

30, Montague Place, W.C., Oct. 6th. R. B. Anderson.

25, Cavendish Square, W., October 4th, 1897.

Dear Mr. Jackson,—I agree with all the reforms mentioned in the circular you kindly send me, and though some are plainly impossible of attainment for a long period, I would use every effort to press them forward.

May I add that I cannot see that our views as to what is urgently required to further the interests of the profession are in any degree divergent, and remain, yours sincerely,

George Jackson, Esq., F.R.C.S. Victor Horsley.

Mr. Horsley's Candidature.

Meeting in London.

Mr. Victor Horsley addressed a meeting of the profession at the Medical Society's Rooms in Chandos Street, Cavendish Square, on Friday, October 1st. Dr. Stamford Felce presided, and there was a large attendance of medical men, as well as a number of ladies.

In introducing Mr. Horsley as a candidate for the vacancy, the Chairman said that whilst he held a high opinion of Sir Walter Foster, M.P., who had also appeared as a candidate, he felt bound to support Mr. Horsley as being more in touch with the profession than Sir Walter could now be said to be, and as one who in every way was thoroughly qualified to represent the profession on the General Medical Council.

Mr. Horsley said he wished to enter the General Medical Council for very specific purposes. His experience of the working of the Medical Defence Union had shown him clearly that unless the profession had some sort of representation on the General Medical Council in regard to practical reforms in those matters which pressed on it most heavily at the present time, they would be left where they had been during the last decade. If he were elected he would be ready to receive suggestions and help from his colleagues in regard to reforms that were urgently needed. Among these was reform in the present constitution of the General Medical Council itself and its by-laws, as being essential to the carrying out of reforms in other directions. Among other things he would strive for topographical representation, such as would be representative of the different divisions of the country. He was in favour of the "one-portal system" of admission to the profession, by means of a State degree, as being calculated to secure that uniformity of examination which was not to be obtained under the system that now prevailed. He would also advocate an amendment of the law in regard to the practice of midwifery, a subject on which the profession felt very strongly. He believed that the case would be adequately met by providing for the supervision, within certain limits, of registered medical practitioners.

On the motion of Mr. Lockwood, seconded by Dr. Bennett, the meeting unanimously passed a resolution pledging itself to support Mr. Horsley's candidature.

A meeting of the Medico-Ethical Society of North-east London was held at 184, Mare Street, Hackney, on Friday, October 1st, at 9 p.m., C. T. Aveling, M.D. (Vice-President) in the chair.

Mr. Victor Horsley delivered an address on Medical Reform, in which he indicated clearly the changes that were necessary, and how they could best be brought about. He made special reference to the Medical Act, and explained fully and satisfactorily his position with regard to the Midwifery Nurses Registration Bill, which he distinctly said he would not support until Clause xl of that Act had been amended so as to prevent midwives or midwifery nurses opposing medical men. At the close of the meeting a unanimous vote was recorded in favour of Mr. Horsley's candidature for the General Medical Council.

Liverpool Medical Club.

At a special meeting of the Liverpool Medical Club it was decided to support the candidature of Mr. Victor Horsley.

Meeting at Norwich.

On October 3rd a meeting of members of the medical profession in East Anglia was held in the Medical Library, Norwich, to hear an address from Professor Victor Horsley. Sir Frederic Bateman occupied the chair. There was a large attendance of medical men from Norwich, Yarmouth, and elsewhere in the Eastern Counties, and the following resolution was passed unanimously:

That this meeting, having heard Mr. Victor Horsley's statement, expresses confidence in him, and promises to use its best efforts to ensure his return as one of the direct representatives on the General Medical Council.

Mr. Victor Horsley and Mr. Colin Campbell.

Sir,—My attention has been drawn to Mr. Colin Campbell's letters in the British Medical Journal of October 2nd, and which are dated September 23rd and 28th. As Mr. Campbell was present at the meeting held in support of my candidature at Manchester on September 21st, it is due to your readers that he should at once withdraw the misrepresentations he has made of my views and my answers to his questions.

First, as regards my views on the so called "midwives' question." No one is more "resolutely opposed" than myself to any registration of unqualified women, whatever they are called, whether midwives or midwifery nurses, enabling them to practise midwifery. The circular I have issued to the profession on this subject will perhaps also do something towards neutralising Mr. Campbell's distortion of my statements, and I will therefore pass to the question of overcrowding.

My views on "overcrowding" are well known—namely, that what is felt by the profession is not so much an increase in the number of medical practitioners as the severe and rapidly increasing competition of (1) medical aid societies, (2) irregular practice by quacks, chemists, and midwives, (3) hospital abuse.

These gigantic evils are the cause of the distress termed "overcrowding." But my chief ground of complaint against Mr. Campbell's misrepresentations on this point is his omission of almost the whole of my answer to question 2.

He asked me how much I considered sufficient to support a medical man. Though I considered such a question obviously absurd, I replied that, seeing that the cost of living varied so greatly in different places it was impossible to say; I knew, however, that a minimum of £400 a year had been reached, and that it was most regrettable.

The question and answer as you have printed it, at Mr. Campbell's suggestion, form an *ex parte* misstatement of my views by one who is not responsible for a correct report of the meeting.

Convinced as I am of the necessity of further closing the portals to the profession by placing preliminary examinations on a proper scale and of stopping the discreditable intercorporate degree, giving competition by the establishment of a State M.D. degree alone qualifying for registration to practise, I nevertheless consider that "overcrowding" is in the main due to irregular and grossly unjust competition.—I am, etc.,

Cavendish Square, W., Oct. 3rd. Victor Horsley.

The Wants of the General Practitioner.

Sir,—Now that there is a vacancy in the General Medical Council, the election of a member to fill the post must be of great interest to the bulk of medical men—general practitioners—especially in these times when the tendency towards a change in medical politics is more than implied. The general practitioner is the worker, the burden bearer, the taxpayer of the profession. It is he who comes into contact with human suffering in its many phases; it is he who keeps open house day and night in order that the requirements of the people may be attended to at all hours; and it is he who wants representing to the full extent in the General Medical Council.

There is no doubt that the apathy shown by general practitioners in these matters is due to the succession of disappointments they have experienced of late years; but there is now no reason why they should not make one decided effort to secure a candidate who is capable and willing to undertake the no light task before him. It is the wish of the general practitioner that the new member be acquainted with the profession in all its branches, from the arranging of a dispensary to the extirpation of the gravid uterus.

The "slough of despond" into which the general practitioner has sunk may be attributed to a great extent to his own misplaced confidence; but now the worm is beginning to turn. We "want a hero, an uncommon want," to represent the vast body of medical men; a man who is willing to make sacrifices in the cause he undertakes; a man whose integrity and honesty will generate confidence; in short, a man of capacity and sincerity of purpose.

It would appear that the idea of passing through "one portal" into the profession was only of secondary importance compared with the other glaring needs of the profession. The idea itself casts a doubtful reflection on the soundness of one or more of the already too many examining bodies; but so long as these are free from corruption, the profession will think little at present of interfering with their existing privileges. And it is questionable whether the "one portal" system would *per se* improve matters. Would passing through "one portal" guarantee a new diplomate's knowledge of the working of general practice? Would he know how to dispense? Would he understand the various preparations, standardising, and concentration of drugs, the keeping of books, the giving of certificates, and the complex laws and customs connected with a general practice? 'Tis doubtful. If there were one common portal, would our universities and schools be turned into huge "cramming" machines? The "portal" through which the profession at large would wish its members to pass would include a common one resembling to some degree that of old, namely, that after passing the necessary examinations the student should be required to spend at least twelve months in some general practice, and to secure certificates of character before receiving his diploma, and therefore before registration. The counter-signature of the practitioner would remove many of the difficulties in the way of such an assistant's giving certificates. These changes, coupled with some confessed religious belief, would establish the profession once more in its original and rightful position as a branch of priesthood from which it has fallen.

The registration of midwives, in order that they might be allowed to attend unaided "natural" labours, is treacherous, and need no longer be discussed now that women can secure medical diplomas.

The first step in this momentous question is that the bulk of the profession be represented by a candidate whose influence can and will be felt not only in the legislative body immediately concerned, but also in Parliament. Then the second step will follow—the increase of the number of direct representatives. It is the duty of every general practitioner to vote accordingly.—I am, etc.,

Wolverhampton, Oct, 2nd. T. Dobson Poole.

Sir Walter Foster and the "Young Man."

Sir,—In the British Medical Journal of October 2nd, in a leaderette entitled "Sir Walter Foster and the *Young Man*," you state that it was not notified previously to the candidate for General Medical Council honours that the question as to the advertising was going to be brought up at the meeting. Such is not the case—and, indeed, I mentioned that I had given him notice in my statement at the meeting, and it was not denied by Sir Walter Foster. Your charge as to want of chivalry on the part of myself falls, therefore, to the ground.

The principle for which I contend is that upon these matters of professional advertising all ranks of the profession should be treated alike, not that there should be one law for the consulting physician or surgeon and another for the general practitioner. Either advertising is to be allowed for all or none at all. If, as you hold, a physician who happens to be a public man or a member of Parliament is to be exempt from the unwritten laws of professional ethics, where are you to draw the line? A chairman of a county council in the country, practising as a general practitioner, could equally claim to have, as a public man for the nonce, his photo in his consulting room, with medical and surgical apparatus exhibited in the picture, placed in the local magazine, with his hours of consultation and a testimonial as to his powers of diagnosis appended from the squire of the nearest village.

The full force of the British Medical Journal has always been employed against advertising by medical men, whether direct or indirect. This force is weakened considerably if you allow that under certain circumstances the "interview" is to be permitted. In the action of Kingsbury *v* Hart the support, on behalf of the defence, was secured from a highly-placed official and Fellow of the Royal College of Physicians; it would be interesting to learn whether the attitude you now take up has been influenced by the verdict in that trial. I do not wish to occupy your valuable space any longer, but there is one point to which I must ask leave to refer before concluding. Sir W. Foster stated at his meeting that the

"interview" was the result of a conversation which he had in a railway train with a gentleman; in the published article the writer on page 326 says: "When I called to interview him at his house in Grosvenor Road he told me," etc. There seems here to be a little difference of opinion as to facts between the writer of the article and Sir W. Foster which might with benefit be explained.—I am, etc.,

Devonshire Street, W., Oct. 5th. A. G. Bateman.

*** We have Sir Walter Foster's authority to state that he received no notice whatever from Mr. Bateman of his intention to bring forward the matter of the "interview" published in the *Young Man* at the meeting in question.

SIR SAMUEL WILKS.

A large number, some 260, of the old friends and pupils of Sir Samuel Wilks, Bart., assembled at the Hôtel Métropole on Wednesday last to do him honour by a dinner. The proceedings were of an enthusiastic character, and no small share of the great success of the evening was due to the efforts of the Honorary Secretary, Dr. G. Newton Pitt. The chair was taken by Mr. H. Cosmo Bonsor, M.P., Treasurer of Guy's Hospital; who was supported by all the members of the consulting and acting staff, and by very many past students of the royal school.

The Chairman, in proposing the toast of "The Queen," said that he was speaking to a happy family party, and that Her Majesty, after sixty years of glorious reign, had conferred a distinguished honour on the guest of the evening.

Dr. Pye-Smith, in proposing the toast of the evening, said that he had been a pupil of Sir Samuel Wilks, and had known him for long years, and that if Roentgen rays could pierce him they would find in their old friend nothing of which they could be ashamed. When he entered Guy's in 1859 Sir S. Wilks was Demonstrator of Pathology, and Curator of the Museum, and doing work which since his time had always been done by two members of the staff. As a pathologist he was known throughout the civilised world; he was also an acute clinical physician, and a believer in the genuine treatment of disease, but with an enlightened scepticism. It was as a man, however, that they honoured him. He never courted popularity, yet no man was more popular. He had striven for wisdom, and to him long life and honour had been added. He had been raised to the highest post in the profession by the suffrages of all his colleagues, and had since received honour from the fountain of honour in this country. Might long life, prosperity, happiness, and all that should accompany old age be his!

Sir Samuel Wilks, in reply, thanked Dr. Pye-Smith for his eulogistic and flattering speech, and his hearers for their applause. In endeavouring to grasp the occasion he had been quite bewildered. Each man's life had an interest for other men; acting on this principle, he would say a few words about himself. He was disposed to think that if a man had at starting any idea before him of coming honours, it would mar his work; but such ideas could not come into a man's mind to actuate him in the sick wards or the *post-mortem* room. So little ambition had he in his early days that he never even thought of the lesser appointments at Guy's; and if anyone had told him whilst he was listening to Bright or Addison that he would attain his present position he would have laughed such an one to scorn or thought him a lunatic. As a child he had been modest, shy—a misery to himself and everyone about him, and always in the background. At school his master said he wanted a constant spur, and had found fault with his handwriting, saying that he was learning to write on pill boxes. And all his life he had wanted spur. Left alone he would have initiated nothing. He had no ambitions, no objects in his work. He had fallen into his appointments, and supposed he had been found fitted for them. In beginning work he started with pathology, thinking it the most scientific part of his profession, and had followed it because he liked it. He had fallen into various posts through life and had accepted the last highest position with reluctance. This was his outer professional life, visible to the world; but a man's inner life was known to himself only. He had had his troubles, which to a man of his temperament brought headaches, want of sleep, and all that made one the victim of his organisation. His father one hundred years ago, being in the East Indian Service, had so worked himself up over the Warren Hastings trial, that he obtained four medical certificates to show his inability to attend it; such an inheritance formed part of his descendant's inner life. Only three Samuels, as far as he knew, were famous—the prophet, Dr. Johnson, and Mr. Weller, junior. A scientific man had a peaceful life, not worried with material interests, whilst he restricted himself to science alone. If any man should write a truthful novel of the events of his own life, it would be the most thrilling novel ever written. Dr. Pye-Smith had given him credit for motives he had never entertained. He had never courted reputation or cared a straw for public opinion; the only thing he had cared for was the respect of his medical brethren. Therefore, to have attained his present position, thrust upon him by his fellows, gave him the greatest possible satisfaction. In Guy's Hospital he had formed the friendships of his life, and that night he was quite satisfied by the kindly presence of his friends; for it he thanked them one and all.

Mr. Howse, in proposing the toast of "The Chairman," said that Mr. Bonsor was the first non-resident Treasurer of Guy's, and his term of office had been an unqualified success.

Mr. Bonsor briefly replied.

The above chapter of autobiography by the President of the College of Physicians recalls a remark made by Sir Richard Owen at a dinner of the Hunterian Society. He stated that it was a saying of John Hunter that "no man ever became great who expected to be great." Sir S. Wilks's depreciatory remarks as to himself are a case in point.

EPIDEMIC OF TYPHOID FEVER AT MAIDSTONE.

[Further Report from Our Special Commissioner.]

II.

The daily incidence of cases is at last beginning to abate somewhat. The following are the corrected returns up to date. Some confusion has arisen in the sending in of returns by practitioners in the town. In the press of work they have been allowed to accumulate, and then sent in as opportunity arose. Allowance has been made for this source of error in compiling this list.

Daily Summary.

Date.	Notifications.	Total Notified.	Date.	Notifications.	Total Notified.
Sept. 28	64	916	Oct. 3	40	1,293
,, 29	124	1,040	,, 4	66	1,359
,, 30	112	1,152	,, 5	43	1,402
Oct. 1	50	1,202	,, 6	50	1,452
,, 2	51	1,253			

Present Water Supply.

The whole of the Farleigh supply has now been cut off, including the springs which were not supposed to be infected. The whole of the town is now supplied by the Boarley and Cossington water. The Boarley supply, which is by gravitation, has not been altered, but the Cossington main is now used to pump water to the reservoir (*vide* map last week) near the county lunatic asylum (Barming Reservoir). From the reservoir the water is allowed to supply by gravitation the parts of the town (shaded in the map) previously supplied by the Farleigh water. From this it will be seen that pure water is being pumped into a reservoir which has been infected with typhoid, and is supplied to the town through a system of mains that have been used for a similar water. As we said last week, the whole of the infected system of mains ought to be not only cleansed by flushing with uninfected water, but adequately disinfected before being allowed to be used again.

Cases in Area supplied by Pure Water.

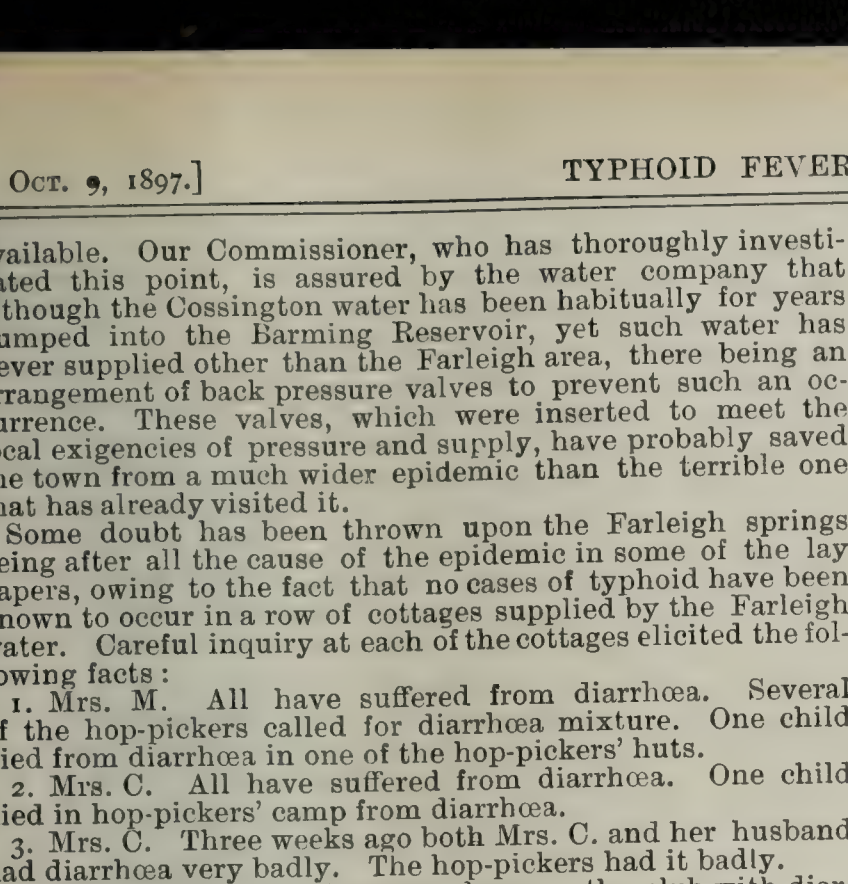
That the epidemic should confine itself strictly to the area supplied by the Farleigh water is not to be expected. A certain number of cases have occurred in the parts of the town supplied by the Cossington and Boarley water. It was at first thought that these might have been accounted for by the mixture of some of the Farleigh water with the pure supply to such parts of the town, but such an explanation is not

available. Our Commissioner, who has thoroughly investigated this point, is assured by the water company that although the Cossington water has been habitually for years pumped into the Barming Reservoir, yet such water has never supplied other than the Farleigh area, there being an arrangement of back pressure valves to prevent such an occurrence. These valves, which were inserted to meet the local exigencies of pressure and supply, have probably saved the town from a much wider epidemic than the terrible one that has already visited it.

Some doubt has been thrown upon the Farleigh springs being after all the cause of the epidemic in some of the lay papers, owing to the fact that no cases of typhoid have been known to occur in a row of cottages supplied by the Farleigh water. Careful inquiry at each of the cottages elicited the following facts:

1. Mrs. M. All have suffered from diarrhœa. Several of the hop-pickers called for diarrhœa mixture. One child died from diarrhœa in one of the hop-pickers' huts.
2. Mrs. C. All have suffered from diarrhœa. One child died in hop-pickers' camp from diarrhœa.
3. Mrs. C. Three weeks ago both Mrs. C. and her husband had diarrhœa very badly. The hop-pickers had it badly.
4. Mr. P. Has been fourteen days on the club with diarrhœa in July and August.
5. Mrs. C. Baby had diarrhœa very badly.
6. Mrs. G. The eldest son, who is a platelayer on the railway, and is only home from Saturday to Monday, has suffered from very severe diarrhœa.
7. Mrs. O. All the inmates of the house have had diarrhœa very badly. One person who came from Larkfield was attacked with diarrhœa after arrival. Had previously been quite healthy.

This row of cottages is situated near where the main (*vide* map last week) crosses the Medway at West Farleigh. It is the same row as has been alluded to as drawing their water from the main direct by an ordinary lift pump. Of course such evidence is not conclusive as to the presence of typhoid fever. Still, taken in conjunction with the fact that a child is known to have died of diarrhœa, is worth something. As stated above, the water supply of this row of cottages—Mill Cottages—is drawn from the collecting main by a suction pump. Appended is a sketch of the arrangement:



The collecting main (shown in cross section) passes through a brick chamber, from which the pump draws the water direct. The faultiness of this arrangement will be apparent. As is well known a lift pump—especially if the sucker be dry—will often not start until some water has been poured in to moisten the leather. Any such water would find a ready access to the brick chamber, and so to the main.

Our Commissioner is engaged in obtaining an accurate account as to the condition of the whole supply, and next week we hope to be able to present his report. Since all the Farleigh water supply has been cut off the service has, fortunately, been continuous, the Boarley and Cossington springs yielding unexpectedly well. The water company, however, are entirely without any reserve supply at the present moment, and the effect would be extremely serious in the event of an outbreak of fire in the borough. As a result of the visit of Mr. Hawksley, C.E., prompt measures will be taken to obtain additional water at Boarley, and meanwhile a connection is to be made at Cossington between the mains of the Maidstone Water Company and those of the Mid Kent Company, who supply several rural centres in the neighbourhood. In this way Maidstone will obtain an additional supply of 100,000 gallons per day. The directors of the water company have had under consideration the offer of Alderman Samuel to place at the disposal of the town some copious springs at Otham, and, acting on their instructions, Mr. Hawksley has inspected the springs, upon which he will present a report in due course.

It is estimated that the cost of the epidemic to the guardians is about £1,500 per week. The Mayor's fund has reached the goodly total of £1,500, subscriptions having been received from all parts of the county.

The Bournemouth Corporation have sent three hospital huts to Maidstone, and have also requested the medical officer and three fever nurses to render the Maidstone Sanitary Committee all the assistance in their power. This timely help is greatly appreciated at Maidstone, as every day shows the need of more hospital accommodation. There are now three mission rooms, two schools lent by the Wesleyans and Congregationalists, the West Kent Hospital, the Union Hospital, the Tonbridge Road Permanent Hospital, the Salvation Barracks, and another large building, all filled with typhoid cases, and still the accommodation is insufficient, and it is feared that the sanitary committee will be compelled to apply for the use of four of the largest day schools in the town.

BRITISH MEDICAL JOURNAL REPORTS.

THE OPHTHALMIC CONDITION OF POOR-LAW CHILDREN.

The report written by Dr. Sydney Stephenson, on the ophthalmic condition of the Poor-law children in the metropolis, embodying the results of an inquiry undertaken by him at the request of the Local Government Board, was issued on Saturday last. It is a document of deep significance and unusual importance. It will be remembered that one of the recommendations of the Poor-law Schools Committee was that an expert be appointed to visit all the workhouse infirmaries and schools with a view to ascertaining the number of children requiring isolation and treatment for ophthalmia. This recommendation was carried out by the Local Government Board, who appointed Dr. Sydney Stephenson for the duty, and the Blue Book before us is the result of his labours.

At the outset we would say that the report shows not only skill and knowledge, but a great power of grasping details, grouping facts, and estimating averages and opinions. As a report, however, which is intended to attract public attention, and to guide public opinion on a matter affecting the health and lives of thousands of children, we cannot but regret that it is so long (239 pages), and also that the conclusions are not more tersely summarised, and the recommendations more vividly and forcibly portrayed.

Its figures, however, are deeply interesting; they are set forth clearly, and handled with masterly vigour. From them we learn that Dr. Stephenson has examined 17,002 children, of whom he found 1,156 (that is, 7.16 per cent.) suffering from blepharitis, 762 (or 4.72 per cent.) in whom discharge from the eyes was present, and 973 (or 5.72 per cent.) with trachoma. Of the whole 17,002, 17.60 per cent. were more or less diseased. In addition to this traces of the

past existence of trachoma were noted in 244 children among those now in the schools, or 1.43 of the total numb r inspected, but it was of course impossible to trace those who had left the schools after becoming affected in them. It will be well to place these facts in tabular form.

Out of 17,602 Children Examined

Disease.	Number of Children.	Percentage.
Blepharitis	1,156	7.16
Discharge from the eyes	762	4.72
Trachoma	973	5.72

Of purulent ophthalmia practically no trace was found in the schools, but of those examined in the workhouses and infirmaries Dr. Stephenson found out of 860 children under 2 years of age 27 (or 3.14 per cent.) had muco-purulent ophthalmia, and 39 (or 4.53 per cent.) were afflicted with purulent ophthalmia.

These facts put in tabular form show :—

Out of 860 Children examined under 2 Years

Disease.	Number of Children.	Percentage.
Muco-purulent ophthalmia	27	3.14
Purulent ophthalmia	39	4.53
	66	7.67

The cases of active trachoma were distributed as follows :—

	Per Cent.	
Exmouth	0 84	
District schools	3 65	
Separate schools	4 66	
Infirmaries	5 60	Excluding those under 2 years
Workhouses	6.41	
Roman Catholic schools...	7.48	
Convalescent homes	29.89	
Ophthalmic school	57 19	

The question will at once arise as to the prevalence of ophthalmia among the normal population, an inquiry which Dr. Stephenson is able to answer, as he examined the eyes of 14,792 children belonging to various schools, public and semi-public—to board and church schools, to higher grade schools, and orphanages. Out of the 14,792, he found 68 instances of trachoma, that is, 0 46 per cent. of the total number seen. As a comment on these figures Dr. Stephenson remarks: "The Poor-law institutions included within the present inquiry come out badly when compared as a whole with these figures. Indeed, trachoma appears to be more than twelve times as frequent among the parochial as among the outside children, the standard remaining much the same in the two cases."

The table giving the total number and percentage of children whose corneæ were blemished is painful reading, the totals being 871, and the percentage 5.12, and the sad results of mismanagement are brought home by the sentence that the "ophthalmic corneal damage" percentage bears a close relation to the incidence of trachoma among the various groups of institutions included within the inquiry. Among the 871 children with damaged eyes are 277 whose damage can be distinctly traced to trachoma, and these 277 children show amongst them 439 damaged eyes, evidencing that in the large majority of cases both eyes have been rendered more or less ineffective.

				Percentage.
In 79 eyes	vision is reduced	to two thirds of the normal	... ...	17.99
,, 66	,, ,,	one half ,,	... ...	15 03
,, 48	,, ,,	one third ,,	... ...	10.93
,, 35	,, ,,	one fourth ,,	... ...	7.97
,, 37	,, ,,	one sixth ,,	... ...	8.42
,, 49	,, ,,	one tenth ,,	... ...	11.16
,, 7	,, ,,	one twelfth ,,	... ...	1.59
,, 2	,, ,,	one fifteenth ,,	... ...	0.45
,, 4	,, ,,	one eighteenth ,,	... ...	0.91
,, 9	,, ,,	one twentieth ,,	... ...	2.05
,, 6	,, ,,	one thirtieth ,,	... ...	1.36
,, 4	,, ,,	one thirty-sixth ,,	... ...	0.91

Actual damage to sight is *nil* in 71 eyes (16.17 per cent.), but to this we must add that "in consequence of trachoma 22 eyes (5.01 per cent.) are blind, using that expression in a popular as opposed to a scientific sense." To complete the tale, 4 of the children with trachoma were found to be afflicted with trichiasis of the eyelids, the two conditions being associated as cause and effect. "This formidable catalogue, it must be borne in mind," writes this ophthalmic expert, "is due to a malady that is preventable, and ought to be prevented." This is but another echo of Mr. Ernest Hart's words at the deputation which opened out this subject to the public, whom he startled by affirming that this form of granulated ophthalmia is "created by the Local Government Board, is chiefly a pauper disease, and mainly a disease of barrack schools."

That the present condition of the schools is very greatly improved there can be no doubt, the comparison between Mr. Nettleship's figures in 1874 and Dr. Stephenson's in 1896 being both discouraging and encouraging—discouraging as once more reminding the public to what an extent an evil may run without check, encouraging in showing that the fierce light of public opinion can awaken even the most self-satisfied custodians of an out-of-sight class for their benefit.

	1874.	1896.
	Percentage.	Percentage.
Discharge	11.90	4.06
Trachoma or "bad granular lids"	42 00	4.91
Ophthalmic corneal damages	9 10	1.28
Total seen	8,798	13,047

"It is a striking fact," says Dr. Stephenson, "that of the schools found in a bad ophthalmic state by Mr. Nettleship 22 years ago, some still occupy that undesirable position. Between then and now there is, however, one great difference, namely, that the absolutely bad condition of 1874 has been converted into the relatively bad condition of 1896. Among district schools Sutton was formerly the worst, and, all things considered, it is so still. Among separate schools the worst are Mitcham and Edmonton, the first and fourth respectively upon Mr. Nettleship's black list."

For the remedy of the state of things here revealed, showing that in spite of the great improvement 1,000 children are still suffering from this preventable disease, Dr. Stephenson recommends what practically the Poor Law Schools Committee recommended before him, and which we, up to a point, anticipated them in suggesting. Briefly, he advocates: The breaking up of all barrack schools; that no child should ever enter the workhouse; that medical officers should have the power to reject applicants; that a central ophthalmic receiving house and another hospital school be established. He also urges that greater attention should be paid to the dormitories and their ventilation and warming; that more cubic feet should be allowed to each child; that better day rooms and play sheds should be provided, that night sanitary conveniences should be supplied, that schoolrooms should be made more hygienic, that probation periods should be longer and quarantine wards adequate, and that official inspection be not only personal and thorough, but "carried out at regular intervals only by a medical man with a good knowledge of eye disorders."

In all these matters we agree, and more than agree, with Dr. Stephenson, only pausing to point out that these additions would add very largely to the expense—already averaging £29 5s. 6d. per child per year—of keeping pauper children, and that there still remains the late Mr. Mundella's shrewd observation, based on the experience of the many who have watched the same class of children under normal conditions, namely, that if the children are not aggregated there will be practically no disease requiring all these elaborate precautions and expensive preventive measures. Half per cent., against 5.72 of active trachoma, and against 17.60 per cent. of all eye diseases are unanswerable facts, which point now, when brought out under the scientific observation of the ophthalmic expert, as they pointed when known only by the rougher

estimate of experience and common sense, to the bringing up of children in ways according with Nature's plan, which is in small groups of 10 or 12, and not in masses varying from 169 to 1,500.

Among Dr. Stephenson's recommendations is one that has already been placed before the Local Government Board by Lord Peel as Chairman of the State Children's Aid Association. We refer to that body's request that the Metropolitan Asylum Board should be empowered to inspect the children and take those classes suffering from ophthalmia, ringworm, debility, or defective intellect, with which it is now entrusted, from unwilling or unenlightened guardians. In relation to the new hospital school and its central receiving home, Dr. Stephenson makes a similar recommendation. He says: "The hospital school by its receiving house would be in touch with every metropolitan school, sanatorium, workhouse infirmary, and children's home. Its use would not be optional, and steps should be taken to see that every public body charged with the care of Poor-law children availed itself of its services. It should receive children even below school age, so long as they were afflicted with ophthalmia; it should be empowered to retain its patients until cure was complete, notwithstanding the discharge of their parents from the workhouse or parochial infirmary."

That this recommendation is absolutely essential to the effective working of any reform is shown from the fact that only 33.54 per cent. of children in the schools now suffering from active trachoma are at present isolated in the school infirmaries, the remaining 66.46 "walking about among healthy children."

The following Table shows the Number of Cases of Active Trachoma found in the District, the separate and the Roman Catholic Schools, as well as the Number and Percentage isolated:

—	Active Trachoma.	Isolated.	
		Number.	Percentage.
District schools	31	113	48.91
Separate schools	216	72	33.33
Roman Catholic schools	179	25	13.91
Total	626	210	33.54

In conclusion, we congratulate Dr. Stephenson on his report, which will be but yet another nail in the coffin of the system of rearing children in large numbers and on an unnatural system which opens the door to disease and debility.

THE CALENDAR OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The annual *Calendar* has just been published by the Council of the College. It shows that there are 1,191 Fellows on the College roll (against 1,175 last year), of whom 1,023 obtained the Fellowship by examination, 15 were elected as Members of twenty years' standing--under Section v of cap. 15 Vict.—151 are Fellows by election, and 2 are *ad eundem* Fellows. There are 17,333 Members (against last year's total of 17,102), and 590 Licentiates in Midwifery—the examination for this licence having been discontinued since 1876. The Licentiates in Dental Surgery are stated to number 1,186 (or an increase of 94 over last year), and the Diplomates in Public Health to number 282.

During the past year 9 candidates presented themselves in Elementary Physiology, 8 of whom passed and 1 was referred; 387 candidates presented themselves in Elementary Biology, of whom 246 passed and 141 were referred. Of 503 candidates who presented themselves in Chemistry, 300 passed and 203 were referred; in Materia Medica, of 98 candidates, 59 passed and 39 were referred; in Practical Pharmacy, of 309 candidates, 228 passed and 81 were referred. The proportion of the fees paid by candidates for these examinations receivable by the College amounted to £1,933 11s. 6d., the examiners elected by the College receiving £195 15s. The examiners in Elementary Biology are appointed by the Council, those in Elementary Physiology in conjunction with the Royal College of Physicians of London, and those in Chemistry, Materia Medica, and Practical Pharmacy by the Royal College of Physicians of London under the scheme for an Examining Board in England.

The examiners in Anatomy and Physiology for the Second Examination are appointed in conjunction with the Royal College of Physicians of London; they have conducted the Primary Examination under the Old Regulations as well as the Second Examination of the Examining Board; 715 candidates presented themselves for examination in Anatomy, of whom 349 passed and 366 were referred; 702 presented themselves in Physiology, 346 of whom passed and 356 were referred. The proportion of fees paid by candidates to the College for these examinations amounted to £3,219 16s. 6d., and the fees paid by the College to the examiners appointed by them to £1,159 16s.

The Board of Examiners in Anatomy and Physiology for the First Professional Examination for the Diploma of Fellow, elected annually by the Council held two meetings for the examination of 193 candidates, of whom 59 passed, whilst 134 were referred. The fees paid by candidates amounted to £1,207 10s., and the fees paid to the examiners to £772.

The Court of Examiners, ten in number, are elected by the Council from the Fellows of the College only, for a period of five years. They conduct the Third or Final Examination in Surgery of the Examining Board in England, as well as the Second or Final Examination for the Diploma of Member under the old regulations, and the Pass or Final Examination for the Diploma of Fellow. During the past collegiate year the Court held two examinations for the Fellowship and four for the Membership. At the former there were 96 candidates, 50 of whom passed, 43 were referred for six months, and 3 for one year. For the Membership 783 candidates presented themselves in Surgery, of whom 493 passed, and 290 were referred. The fees paid by candidates for these examinations amounted to £10,365 14s., and the fees paid to the Court of Examiners and the Examiners in Midwifery amounted to £5,172 19s. The examiners in Medicine under the scheme for an Examining Board in England are elected by the Royal College of Physicians of London. Of 794 candidates examined 489 passed, and 305 were referred. The examiners in Midwifery are appointed in conjunction with the Royal College of Physicians of London, and have examined 932 candidates, of whom 576 passed and 356 were referred.

The Board of Examiners in Dental Surgery have held two meetings for the examination of 141 candidates, 98 of whom received the licence, and 43 were referred. The fees paid candidates amounted to £1,029, the Board receiving £592 4s.

The Examiners in Public Health, appointed in conjunction with the Royal College of Physicians of London, examined 43 candidates in Part I, 32 of whom passed and 11 were referred; in Part II, out of 51 candidates 29 received the Diploma, and 22 were referred. The fees received by the College for both parts of this examination amounted to £222 12s., and the fees paid by the College to the examiners to £141.

With regard to the finances of the College, it appears that the income from all sources amounted to £28,975 7s. 5d., the largest item being derived from the fees paid by candidates for the diplomas of the College—namely, £17,978 4s.; the next largest being from dividends on the Erasmus Wilson bequest, £4,885 4s. 10d.; rents from chambers adjoining the College produce £750; investments, £797 6s. 10d.; hire of rooms, sale of questions, etc., at Examination Hall, £701 5s. 1d.; incidental receipts at College, £231 13s. 3d.; receipts from trust funds, £290 2s. 8d.; dividends from sinking fund for Savoy Estate, £6 3s. 3d.; expenses repayable by the Metropolitan Asylums Board (at Midsummer Day, 1896), £282 0s. 6d.; fees retained for candidates, £404 5s.; amount paid by London County Council on taking over Lincoln's Inn Fields, £1,162 19s. 5d.; balance at the bank at Midsummer Day, 1896, including half Goldsmiths Company grant, £1,486 2s. 5d.

The expenses for the year amount to £27,184 12s. 2d., leaving a balance at the bankers (including half Goldsmiths Company grant, £223 14s. 5d.) of £1,790 15s. 1d., the largest

item of expense being (as in the receipts) in connection with the examinations: Examiners' fees, £8,033 14s.; half expenses of the Examination Hall for the purposes of the examinations, £4,151 13s. 2d.; this amount includes rates, taxes, and insurance, which absorb the no small amount of £2,087 1s. 4d.; expenses of the Fellowship and Dental Examinations, £376 15s. 1d.; half expenses of scientific laboratories on Victoria Embankment amount to £689 12s. 3d. (this amount does not include rent, rates, taxes, insurance, fuel, or light). At the College rates, taxes, and insurance amount to £1,314 19s.; extraordinary expenses—that is, Hunterian festival, reconstructing lecture theatre, etc., £1,003 0s. 8d.; alterations and repairs, £329 11s.; fees to members of the Council, £236 5s.; law expenses, £144 5s. 9d.; stationery, printing, postage, etc., £405 10s. 7d.; salaries, wages, and pensions in the three departments—museum, library, and College, £4,782 6s.; lectures, catalogues, specimens, etc., for museum, £346 11s. 11d. For the library, purchase and binding of books, £668 0s. 2d.; furniture and fittings, £72 4s. Trust funds, £339 2s. 2d.; purchase of stock, £2,505 14s.; fees returned to candidates, £427 7s.; corporation duty paid under protest, £158 1s.; Metropolitan Asylums Board, repayable, £295 17s. 10d.; miscellaneous items—that is, printing *Calendar*, fuel and light, furniture, etc., £727 16s.; disbursement of Goldsmiths Company grant, £176 5s. 7d.

The Secretary's report contains an abstract of the work done by the Council and Committees, the Committee of Management of the two Royal Colleges, the Research Laboratories on Victoria Embankment, also reports of meetings of Fellows and Members, results of elections, etc. From the annual report of the Finance Committee we find that the gross income of the College for the past collegiate year is £804 less than the gross income of the previous year. This decrease is due to the falling off in the receipts from the examinations of the Combined Examining Board. Under this head there is a decrease of £530 on the First Examination, of £240 on the Second, and of £842 on the Final, whilst there is an increase of £249 on the diploma fees paid by University candidates, making altogether a net decrease on these examinations of £1,363. The receipts from the Fellowship and Dental Examinations continue at a satisfactory figure, being in each case higher than in any previous year.

The expenditure of the College for the past year is £1,341 less than the expenditure of the previous year. This large difference is chiefly due to a reduction of £957—arising in consequence of the smaller number of candidates examined—in the amount of the fees paid to the examiners under the Combined Examining Board. The expenses, however, which are less liable to variation than the examiners' fees, have in most instances been smaller than in the previous year. There is thus a reduction of £248 in the expenses of the Examination Hall, of £140 in the expenses at the Research Laboratories; of £445 in the general working expenses of the College in Lincoln's Inn Fields, and £239 in the special expenses of the museum. The special expenses of the museum have not been so low for several years, but the difference in the general working expenses of the College is only brought about by the inclusion under this head in the previous year of a payment of £405 for several years' insurance. There is only a difference of £4 in the special expenses of the library for the two years, this being the department of expenditure least liable to variation. The extraordinary expenditure has been even heavier than the preceding year, the chief item being a sum of £753 expended on reconstructing and redecorating the lecture theatre. The balance on the "income and expenditure" account amounts to £2,018. The fact that so large a margin has been left, notwithstanding the heavy expenditure on the lecture theatre, must be regarded as very satisfactory, and as an indication of the sound financial position of the College.

From the report of Dr. G. Sims Woodhead, the Director of the Research Laboratories of the two Royal Colleges, it appears that on June 4th last the number of those working or having received permission to work in the laboratories during the year was 14. The agreement with the Metropolitan Asylums Board for the examination in the laboratories of specimens from the throats of the diphtheria patients admitted to the hospitals of the Board was continued up to December 31st, 1896. During the half-year from June 5th, 1896, to June 4th, 1897, 8,701 specimens, or an average of 55.4 per diem, were examined and reported upon. The Board have now made arrangements for the conduct of this work in their own hospitals. The preparation of antitoxic serum for the treatment of diphtheria in the hospitals of the Metropolitan Asylums Board has been carried out during the year, and this work is to be continued for the Board. From June 5th, 1896, to June 4th, 1897, the Director has supplied 8,473 doses of 4,000 units, 1,539 of 3,000 units, 350 of 2,000 units, 786 of 1,500 units, and 3,258 doses of 1,000 units.

The grant entrusted to the Committee by the Goldsmiths' Company is still being administered for the furtherance of the antitoxic treatment of diphtheria. Since the last annual report on the work done in connection with the grant Dr. Cartwright Wood has continued his investigation on the production of potent diphtheria antitoxins, and has succeeded by his new method in obtaining large quantities of strong antitoxic serum. The strongest of these serums prepared by Dr. Wood has been supplied to Dr. Sidney Martin at University College Hospital, who reported that he had obtained most remarkable results by its use. In 1894 the percentage death-rate from diphtheria in that hospital was 39. In 1895, the first year in which antitoxin was used, the death-rate had fallen to 28, and in 1896, when the strong serum was used, to 20.5.

In Dr. Martin's figures we have additional evidence of the importance of the treatment of diphtheria by antitoxic serum at as early a stage of the disease as possible, Dr. Martin also notes that the number of cases of post-diphtheritic paralysis was very small—only three in the whole of the cases that recovered—that not a single case of abscess occurred, and that rashes on the skin and pains in the joints were of very rare occurrence. He further notes that no cases proved fatal unless they were severe on admission, and states that the more potent the serum the better will be the results obtained by its use, both as regards immediate effect and as preventing injurious after-effects. In fulfilment of one of the conditions of the grant from the Goldsmiths' Company, that antitoxin should be, if possible, supplied for use among the poorer classes of the community, antitoxic serum has been supplied to various general and children's hospitals in London during the past year, as well as to certain medical practitioners for cases fulfilling the necessary conditions.

During the past collegiate year many valuable specimens have been added to the museum of the College.

In the library department, Mr. Victor Gustave Plarr, B.A.Oxon., formerly librarian at King's College, London, has been appointed to succeed the late Mr. James Blake Bailey, B.A.Oxon., who died on April 14th, 1897. Mr. Bailey was appointed librarian in 1887. On the completion of the additions to the library premises in 1888 the collection of books was rearranged by Mr. Bailey, and under his able management many improvements have been introduced, whereby the value of the library as a place of study and reference has been greatly increased.

BATTLE OF THE CLUBS.

Agitation in the Profession against Medical Aid Societies.

That the acceptance of professional appointments at inadequate rates and under degrading conditions is exciting more and more attention throughout the country is shown by the frequent paragraphs on the subject in the daily press.

The *Daily Telegraph* of September 20th states, without comment, that "each medical society in the country is being asked to sign a memorial for presentation to the councils, which declares that persons are admitted to membership of these medical aid societies who do not need assistance, that women and children are enrolled at inadequate rates, and that the organisations are simply speculations run by laymen. These declarations are the preface to the request that the councils will declare that the holding of the appointment is not compatible with the conditions under which the diploma is granted." The *Manchester Guardian* of the same date speaks of the "medical crusade against medical aid clubs and societies," but confines its remarks to a statement of the case, simply adding that "It will be interesting to see how this new demand is met by the authorities."

The *Liverpool Mercury* of September 21st and the *Eastern Daily Press* of September 22nd unreservedly condemn the action of the profession. The former goes so far as to suggest that "the law of libel" might have something "to say to a man, or body of men, who branded a gentleman with 'infamous conduct' because he alleviated suffering at lower charges than some others of his fellow practitioners."

This is certainly a novel view as to the "law of libel," and it would be wise to have a legal authority for so startling a contention. Our contemporary, too, may be assured that action is not likely to be taken against a practitioner "because he alleviated suffering at a cheaper rate" than another. The gist of the contention of the "medical agitators" is that the impugned practitioner takes upon himself responsibilities which he knows he cannot perform, and by so doing degrades his profession; in order to get a bare living at the rate of remuneration he receives he must affect to attend a number of patients out of all proportion to that he can properly do justice to, and the hurried attendance he necessarily gives is an injustice to the poor. Whether such conduct is "infamous in a professional respect" or not is for the General Medical Council to decide, but at any rate the question is not so simple as our contemporary would make it.

The *Eastern Daily Press* deprecates the agitation because "the poor pay the penny a week in order to escape the stigma of pauperism;" otherwise "they would have to go to the parish." "Dislike of the parish doctor may be only a sentiment, but it is a sentiment worth fostering." If a poor man can obtain adequate medical treatment at his own expense, by all means let him avoid the parish doctor; but sentiment, in our opinion, goes too far when it induces him to snatch at any sort of medical treatment, rather than seek the services of an official who at least is able to give a sufficient amount of attention to individual cases, and is not under the necessity of seeing many scores of patients before he is entitled to his modest remuneration.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held in the Council Room of the Association, at No. 429, Strand (corner of Agar Street), London, on Wednesday the 20th day of October next, at 2 o'clock in the afternoon.

FRANCIS FOWKE, *General Secretary.*

September, 1897.

BRANCH MEETINGS TO BE HELD.

ABERDEEN, BANFF, AND KINCARDINE BRANCH.—The annual meeting of this Branch will be held in Marischal College, Aberdeen, on Saturday, October 16th, 1897, at 12 o'clock noon. Particulars will be sent to members by circular.—C. THISELTON URQUHART, J. SCOTT RIDDELL, Honorary Secretaries, Aberdeen.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.—The first meeting of the session will be held at the Town Hall, Hackney, on Thursday, October 21st, at 8.30 P.M. The chair will be taken by Mr. Frederick Wallace, President of the Branch. Mr. Howard Marsh, F.R.C.S., will read a paper entitled, Operative Surgery of the Present Day in its application to Affections of the Joints, with Cases.—HERBERT E. POWELL, Honorary Secretary, Glenarm House, Upper Clapton.

SOUTH-EASTERN BRANCH: NORTH KENT DISTRICT.—The next meeting of this District will be held at the Hall of the Science and Art Schools, Bromley, on Thursday, October 14th, at 3.45 P.M., Dr. Beely in the chair. Dinner at 6 P.M.; charge 6s., exclusive of wines. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The following papers, etc., have been promised: Dr. Biss (Middlesex Hospital): Chlorosis, its Complications and Treatment. Mr. Keetley (West London Hospital): The Diagnosis and Treatment of Fractures into or near Joints. Dr. Lang: Trichorrhexis Nodosa. Members desirous of exhibiting specimens or of reading notes of cases are invited to communicate at once with the Honorary Secretary, A. TENNYSON-SMITH, The Birches, Orpington.

SOUTH-EASTERN BRANCH: EAST SURREY DISTRICT.—The next meeting of this District will be held at the White Hart Hotel, Reigate, on Thursday, October 14th, at 4 P.M., C. E. Oldman, M.D., of Blechingley, in the chair. Dinner at 6 P.M.; charge 7s. exclusive of wine. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends. The following papers, etc., have been promised: Dr. Washbourn: The Present Position of Bacteriology in reference to Practical Medicine. Mr. W. Arbuthnot Lane: Adenoids. Dr. George Stoker: The Oxygen Treatment, with Exhibition of Apparatus, Lantern Demonstration of Cases, Bacteriology, Oxygen Cicatrices, Lantern Slides, etc. Members desirous of exhibiting specimens or reading notes of cases are invited to communicate at once with the Honorary Secretary, HENRY J. PRANGLEY, Tudor House, Anerley.

SHROPSHIRE AND MID-WALES BRANCH.—The annual general meeting will be held at the Salop Infirmary on Tuesday, October 12th, 1897, at 3 o'clock. Members wishing to bring forward any business, to read papers, or show cases or specimens, or to propose any new members are requested to communicate with the Honorary Secretary not later than Saturday, October 2nd.—H. WILLOUGHBY GARDNER, Honorary Secretary, Swan Hill, Shrewsbury.

NORTH OF IRELAND BRANCH.—The autumn meeting of this Branch will be held in the Museum, College Square North, Belfast, on Thursday, October 28th, at 12 at noon. Members who wish to read papers, show patients, or bring other business before the meeting, will kindly communicate, on or before Wednesday, October 20th, with JOHN CAMPBELL, Honorary Secretary, 21, Great Victoria Street, Belfast.

WEST SOMERSET BRANCH.—The autumnal meeting of this Branch will be held at the Railway Hotel, Taunton, on Friday, October 29th, at 5 o'clock. It being the intention of Dr. Kelly to resign the office of Hon. Secretary and Treasurer, the appointment of his successor will be considered at this meeting. The subject as settled by the Council for discussion (before dinner) will be: Nervous Depression and its Treatment; and the discussion will be opened by the President, Mr. Hayes. Dinner at 6.30 (5s. a head, inclusive of waiters, but exclusive of wine) will be provided for gentlemen who give previous notice to the proprietor of the Hotel, or to Mr. Rigden, 2, Billet Street, Taunton.—W. M. KELLY, M.D., Honorary Secretary, Taunton.

DORSET AND WEST HANTS BRANCH.—The next meeting of this Branch will be held at the Avon Castle Hotel, near Ringwood, on Wednesday, October 13th. The business meeting will be held at 3 P.M. Agenda:—Election of new members of the Branch. Candidates: William Burrough Cosens, Dorchester, nominated by G. W. Daniell and W. H. Williams; Arthur Augustus Pim, Beaminster, nominated by William Vawdrey Lush, M.D., and T. P. Daniel. Election of officers for 1898: President, two Vice-Presidents, two Honorary Treasurers and Secretaries. Place of the May meeting. Dr. Lush to move: "That a donation of 10 guineas be granted to the British Medical Benevolent Fund. Discussion: Reinfection in a Case of Scarlatina. Communications: Dr. H. G. Dyer: Notes on a recent Surgical Case. Dr. MacDonald: Case of Malignant Disease involving Œsophagus and Trachea, with specimen and slides. Dinner at the hotel at 6 30 P.M; charge 6s. each, without wine. Members intending to be present are requested to sign and return a post card to Dr. Henry Dyer, by Monday, October 11th. Brakes will meet the 1 58 up-train at Ringwood, to convey members to the hotel at a charge of 1s. per head. Trains leave Avon Lodge at 9 P.M. for Ringwood, to catch the 9.30 for Wimborne, Weymouth, etc., and the 9.40 for Christchurch and Bournemouth East.—WM. VAWDREY LUSH, M.D., Weymouth, and C. H. WATTS PARKINSON, Wimborne, Hon. Secretaries.

STAFFORDSHIRE BRANCH.—The annual general meeting will be held at the Stork Hotel, Walsall, on Thursday, October 28th, at 4 P.M., when an address will be delivered by the President-elect, Mr. G. A. Phillips. Agenda:—Correspondence. Election of new members: Dr. J. A. Codd (Wolverhampton), Mr. A. H. W. Hunt (Wolverhampton), and Dr. Arthur J. Martin (Bloxwich), are proposed. Address by the President. Report of the Council and Ethical Committee, and financial statement. Election of officers and Council for the ensuing year. The dinner after the meeting is fixed for 6 P.M., 5s. each. Members desirous of reading papers at the Stoke meeting in November are requested to communicate the title to the General Secretary, F. MILNES BLUMER, Stafford.

OXFORD AND DISTRICT BRANCH.—The next meeting of this Branch will be held at the Radcliffe Infirmary, on Friday, October 29th, at 3 P.M. Agenda:—Dr. Freeborn; A Case of Purpura Hæmorrhagica. Mr. S. A. Hayman: A case of Acute Myelitis. Dr. Elsmore: Hepatic Intermittent Fever. Mr. Doyne: Exophthalmos and other Eye Cases. Mr. W. L. Morgan: A Case of Intussusception. Dr. Collier: A Severe Case of Chorea. Dr. Mallam: Malignant Disease of the Suprarenal Capsules. And other business. Notice of further communications should be sent to the Secretary before Tuesday, October 19th.—W. COLLIER, St. Mary's Entry, Oxford, Honorary Secretary.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

THE autumn clinical meeting was held at the Cardiff Infirmary on September 29th, Mr. J. L. W. WARD (Merthyr), President, in the chair.

Communications.—Mr. W. F. BROOK showed (1) A specimen of Dermoid and Cystoma of Left Ovary incarcerated in right side of pelvis; (2) a specimen from a case of Cholecystotomy for Gall-Stone Impaction and Cholecystitis; (3) Skiagram of Fractured Astragalus.—Dr. A. W. SHEEN showed (1) Two skiagrams of a case of Excision of Wrist; (2) Multiple Exostoses in a girl of 19.—Dr. D. R. PATERSON showed (1) A case of Exophthalmic Goître; (2) Goître in three sisters

(3) Perforating Ulcer of Septum Nasi; (4) three cases of Laryngeal Papillomata in children.—Dr. P. Rhys Griffiths read a paper on Some Points in the Diagnosis and Treatment of Diseases of Brain, based on ten recent cases. He also showed the following cases: (1) After Trephining for Rupture of Meningeal Artery; (2) After Exploration of Brain for Abscess; (3) and (4) After Trephining for Depressed Fractures of Skull.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.

A meeting of the East Sussex District was held at Bexhill on September 28th. The chair was taken by Dr. Wills (Bexhill).

Communications.—A paper on Syphilitic Diseases of the Iris and Cornea was read by Mr. H. E. Juler, of St. Mary's Hospital.—The following cases were shown:—By the Chairman: A case of Dense Leucomata of both Corneæ. By Dr. Harvey: A case of Epithelioma of the Dorsal Surface of the left hand, with warty growths on the dorsum of right hand similar to that in which the epithelioma originated. By Dr. Batterham: Boy, aged 4 months, with Spina Bifida (Sacral Meningocele); the sac was shrinking under treatment by injections of Morton's iodo-glycerine.

SPECIAL CORRESPONDENCE.

BERLIN.

Medical Courts of Honour.—New Sanatoria.—The New Municipal Slaughterhouse.—General News.

It will perhaps be remembered that some time ago there was considerable agitation in medical circles with regard to a proposed new law on medical courts of honour, the draft of which had been submitted to the Prussian "Aerztekammern" (representative bodies of medical men) for approval. The greatest opposition was aroused by a clause which proposed to give the courts of honour jurisdiction over the conduct of doctors in the non-professional part of their life, as well as in the exercise of their profession. In consequence of the objections formulated by the Prussian "Aerztekammern," the Prussian Cultus minister has modified the clause in question, and has submitted to the "Aerztekammern" a draft in which it runs as follows: "A doctor who violates the duties of his profession, or who by his conduct shows himself to be unworthy of the respect and confidence which the medical profession demands, incurs punishment by the medical court of honour." The punishments are to consist in warning, rebuke, and fines. Some alterations have—also at the request of the "Aerztekammern"—been made in the clause in which medical officials, army surgeons, etc.. are exempted from the jurisdiction of the court of honour. In the new draft all such exempted persons are excluded from election to the courts of honour, and are without a vote for the election of others. The Cultus-minister has requested the "Aerztekammern" to debate the new draft as expeditiously as possible, in order that the Bill may be brought into the Prussian Diet before the expiration of the winter session.

The Berlin-Brandenburg Society for Sanatoria, of which Professor v. Leyden is the leading spirit, will begin building its first large sanatorium almost immediately, a very good plot of ground having been found, and already bought, at Belzig in the province of Brandenburg. In the same grounds a separate building for twenty free beds is to be erected with funds left for the purpose by the late banker, Herr v. Bleichröder, and this will be affiliated to the Society's sanatorium. By the autumn of 1898 the Society hope to open both buildings.

A model of hygienic arrangement is the new municipal slaughterhouse in the east end of Berlin, where every demand of modern scientific research has been fulfilled, even to a sort of quarantine station for imported pigs. Large halls fitted with enormous boilers, etc., are set apart for the pickling and smoking of hams, so that this can be done on a large scale and in the most thorough way for the different pork butchers. A new building has been erected for the municipal trichine examiners.

It seems that there are not yet a sufficient number of medical societies in Germany. A new one has been founded—the German Pathological Society—with Professor Virchow as president, which is to hold an annual meeting in connection with the congress of German naturalists and doctors.

A monument, subscribed for by German and Austrian pharmaceutical societies, has been placed on the grave of Dr. Hermann Hager at Neuruppin, near Berlin. Hager, who died not long ago, was an authority on pharmaceutical subjects; his commentaries on the German *Pharmacopœia* and manuals of pharmaceutics are justly celebrated.

This year's report of the Berlin University makes mention of work done by women in various departments. In the physical laboratory a lady has been pursuing a research on the visual purple; and in the microscopic-biological department, where for some years a lady, Fraülein Paula Günther, has held an appointment for drawing and painting microscopic preparations. two other ladies are receiving instruction in the same scientific branch of art.

ROME.

Professor Lustig's Serum Treatment of Plague.

In the *Rivista d'Igiene e di Sanità Publica* of September 16th Professor Bizzozero has published a preliminary notice obtained from Professor Lustig, of Florence, of his experiments in India with his plague serum. Some months ago Professor Lustig and his assistant, Dr. Galeotti, went to India in a private capacity to test the value of the serum in cases of plague. With regard to vaccination the Professor states that they were quickly persuaded that it was not possible to demonstrate its efficacy in India because the population is chiefly composed of Mussulmans, Hindus, and Parsees, whose religious prejudices prevent them being inoculated. Thus, for example, in the 2nd Regiment of Bombay Lancers, stationed at Poona, the plague was very violent, but on Professor Lustig requesting permission from the authorities to perform preventive inoculations they replied that the Lancers being all Mussulmans and Hindus it was impossible to accede to his request. He then turned his attention to monkeys, which have a great receptivity for plague, as they present a clinical and anatomico-pathological picture identical with that of man. The monkeys vaccinated once or several times with small doses of the substance prepared by Lustig all resisted inoculation of large doses of the culture of the bacillus of the most virulent form of plague, through whatever way it was injected. On account of the short time which had elapsed the Professor was not now able to establish the longest duration of the immunity. In regard to the treatment of plague by means of immunised horses, it always at first was tried in monkeys by artificially infecting them with cultures of great virulence and treating in the same way the control animals. The results were excellent, since the animals first infected and afterwards treated with serum lived even when intraperitoneal injections of the virus were made. One monkey died as a result of the treatment, but this was made when numerous bacilli already existed in the blood of the monkey.

The results in man were equally satisfactory, and may be summarised as follows: 1. The serum has no action in malarial fevers, or upon infectious diseases excepting plague. 2. Injecting the serum in doses of 40 c.cm. under the skin of healthy persons does not cause morbid phenomena. Professor Lustig experimented on 30 patients ill with grave plague, both of the bubonic form, and without visible tumefaction of the lymphatic glands. The effects of the serum began to show themselves six hours after the first injection and are: a lowering of the temperature, sometimes accompanied with slight collapse, euphoria, cessation of delirium, diminution of local pain in the bubonic form. The serum is also efficacious when the bacilli in patients with or without buboes are already found in the liver and spleen, as has been verified by Professor Lewin, the Russian delegate, who, in some patients treated with Lustig's serum, who afterwards were cured, practised punctures of those organs, and obtained cultures of the plague bacillus. The serum, however, is inefficacious in advanced stages of the disease when the cardiac action is weak, and the kidneys function badly, and it is equally inefficacious in the grave and very acute septicæmic forms without buboes where already in the first

two days of the disease numerous bacilli are found in the blood. Of the 30 patients that were treated with Lustig's serum, and were selected by the physicians of the Arthur Road Hospital, Bombay, and by those of the plague hospital of Poona only 4 died. Although the number of cases treated has not been great, still considering that the ordinary mortality of plague is 80 per cent., these results of Professor Lustig must be considered very promising.

NEWCASTLE-UPON-TYNE.

The New Infirmary Site.

A special meeting of the governors of the infirmary was held on October 2nd, when the Building Committee, to whom the question of the site had been referred, unanimously recommended the Governors to ask the Corporation for a site on the Leazes, not less than eight acres in extent. This proposal was at once adopted, and a deputation was appointed to wait upon the City Council at their meeting on October 6th. It is expected that the Corporation will agree to do this in time to allow the question of the site to be included in a Bill which they are presenting to Parliament in November. The proposed site is on an extensive, elevated and open piece of grass land, adjoins the beautiful Leazes Park, and is easy of access from all parts of the town. No objection has been raised by the subscribers to the Jubilee Fund of £100,000, and it is therefore anticipated that the whole of this sum will be available for endowment, Mr. John Hall having undertaken to build the new hospital. It will be a great advantage to be able to carry on the work of the infirmary uninterruptedly in the present building until the new hospital is ready for occupation.

CORRESPONDENCE.

THE MAIDSTONE EPIDEMIC.

Sir,—In the numerous reports, officially or otherwise communicated to the press in reference to the terrible outbreak of typhoid fever in Maidstone, no reference appears to have been made either to a satisfactory method of disinfecting the excreta, or the culpability of permitting the common drainage to be further contaminated by them. The pollution of the sources of the drinking water seems to be satisfactorily proved, as well as the occurrence of disease in the definite course of its distribution, so that the organisms are not only fostered and multiplied infinitesimally in the human system, but ultimately thrown broadcast into the common drainage. Here, then, we find two additional aids to the propagation and extension of the malady; but while the three conditions referred to have to be specially dealt with, the primary object and the ultimatum must be the extinction of the organism concerned.

That typhoid fever is produced by a specific bacterium or so-called bacillus is beyond a doubt, but, as in other cases, the pathogenic power is resident rather in the effete products of its nutritive processes than in the bacillus itself. Thus, although the presence of the organism is necessary for the production of the specific poison, it is quite possible to be microscopically absent in specimens of water already contaminated by it.

In support of this latter statement the following example may be adduced. In the late Professor de Chaumont's time in the Army Medical School at Netley a sample of water well known to have given rise to typhoid was sent to him for special examination, but, notwithstanding the character that came with it, the ordinary methods of chemical analysis applied to this sample gave it a very fair position as a wholesome drinking water, added to which the most careful microscopical examination of the water (or, rather, specimens of it) failed to reveal the typhoid bacillus.

The conclusion was that even if decided evidence of fæcal contamination were present, the detection of the specific material in question would be quite impossible in the existing state of our knowledge. Hence, the periodical chemical examination of any water actually tainted in this way can only reveal an increase or diminution of other and more usual components. The microscopic detection of the bacillus would, of course, be at once more satisfactory.

Now as to the question of disinfection of the typhoid excreta. Up to the present it has been found to be most unsatisfactory and uncertain; indeed, it may be said to be practically impossible considering the well-known protective power of moles. Disinfecting agents generally act superficially and are readily washed away. This is precisely what takes place when the so-called disinfected excreta fall into the common drainage system, and so become free to carry on the same cycle of events.

A much safer plan is to mix the excreta with sawdust, and burn them up, or cremate them in a suitable vessel. I find that this practice is carried out in India, where there may be no regular drainage system, and choleraic dejections are served in the same way.

That cholera is regarded as more infectious than typhoid is shown by the fact that the dead in the latter case may be inspected in the coffin, but not in the former. Nevertheless we have sufficient proof of the infectious nature of typhoid to warn us of the impropriety of permitting the common drainage to remain a hotbed for it.

The immunity of Netley Hospital for so many years from typhoid was clearly due to the practical injunction of the late Professor Parkes not to allow the excreta to pass into the hospital drainage system. Though the consumption of infected water must have its effect until it is detected and cut off, there can be little doubt that, if the measure here advocated were carried out at Maidstone from the very start, the terrible epidemic—as it has proved to be—would have been entirely averted at an early period.

Finally, it may be safely affirmed that this species of cremation should be adopted, not only in any future epidemics, but in all individual cases of enteric fever.—I am, etc.,

Hurstpierpoint, Oct. 7th. John R. Macdonald.

GENERAL PRACTICE: ITS FINANCIAL ASPECTS.

Sir,—In your leader in the British Medical Journal of October 2nd upon the above subject you observe: "It is not surprising, therefore, to find that the proportion of rejections before various examining Boards also grows." May I call your attention to some statistics which you quoted in the Journal some two years ago, which proved conclusively that "the proportion of rejections before various examining Boards" was a fraction less than it was twenty years ago, and your comment that, if the examinations had grown more severe, the facilities for learning had increased *pari passu?*

The burden of your article appears to be that the harvest is diminishing and the reapers increasing; and yet how difficult it is at the present day to get a *locum tenens* or an assistant! Where is the leakage? Something, no doubt, must be allowed for the greatly contracted field of work for the unqualified assistant; and yet this is not so large a gap as might be supposed, for his place is being filled by an army of district nurses and "diplomated" midwives, who do a good deal of prescribing and have advertised consulting hours.

Is not the young doctor above the drudgery of general practice? Why does he prefer to starve behind a brass plate rather than go as an assistant for a few years and obtain a knowledge of what the schools cannot teach him—the secrets of success in private practice?

It is sad to see that the fifth year of medical education, which Professor Struthers fought so hard to make into a practical year, has been "collared" by the schools. I maintain that the general practitioner can be properly trained only in general practice, and the sooner that fact is recognised and acted upon the better it will be for the public and the profession. How much better it would have been if we had retained the old four years' school curriculum, and added to it a compulsory two years' apprenticeship or assistantship? Our young practitioners would then, if they had not known everything, at least have known "a little physic."

We are raising the standard of attainment for the medical student, and yet we are not supplying the public with a more

serviceable article. We are doing away with the unqualified assistant and we are replacing him by nurses and midwives.—I am, etc.,

Hadfield, Oct. 4th. W. WHITE.

SIR,—Agreeing, as I do generally, with your very sensible article on "General Practice: its Financial Aspects," an experience of over a quarter of a century at the work has taught me that the *fons et origo mali* is in the profession itself.

To illustrate my meaning, I send you some correspondence between the agent of a powerful assurance company and myself. You will see that this company, of some ninety years' standing, and with some millions of money in reserve, would expect me to examine proposers for insurances up to £500 for the fee of 10s. 6d. When I point out the want of proportion between the fee and the responsibility, I get the retort that my betters accept the position.

That medical practitioners do these things I am well aware, and also others such as cheap clubs and gratuitous dispensary work, because they seem to hold out a prospect of popularity and fussy importance. However, my experience has demonstrated to my own satisfaction that the way to continue to live with one's head above water is to place a fair value on all professional services rendered, and ask for payment. That the public in general will exact as much gratuitous work from the medical profession as they possibly can is an axiom which requires no Euclidian mathematician to demonstrate. When the individual failures occur, local sympathy usually takes some such form as "Ah! poor fellow, he was the worst enemy to himself."

As I have no desire to advertise either the assurance company or myself,—I am, etc.,

October 4th. SIMPLE JUSTICE.

TEACHING OF INFECTIOUS DISEASE IN MANCHESTER.

SIR,—In reference to a note in the BRITISH MEDICAL JOURNAL of October 2nd, 1897, as to the discontinuance of the teaching of students at the Monsall Fever Hospital by the members of the Infirmary staff, I am directed by my Board to state that the reason they were obliged to abandon the teaching was because the Monsall Fever Hospital being no longer an integral part of the Royal Infirmary, the Medical Board felt that their members could not conduct the teaching of disease at an institution where they had no *locus standi* except for teaching purposes. The clause referring to teaching facilities in the Act of Parliament transferring the hospital to the Corporation of Manchester was made by the Board of Management of the infirmary without previous consultation with the Medical Board.—I am, etc.,

THOMAS JONES,
Chairman of the Medical Board.

Royal Infirmary, Manchester, Sept. 5th.

"MENTAL EVOLUTION."

SIR,—For the enlightenment of "the man in the street," would Dr. Bucke answer the following questions arising out of his interesting address at the annual meeting?

What is the state of the infant for the few days of its existence previous to the appearance of "simple consciousness?—comatose or unconscious?

What is self-consciousness? how is its absence proved in animals and in dreams? and how does shame manifest itself in states of simple consciousness?

How is a fact demonstrated by an argument?

If the colour sense does not appear till about 5 years of age, how is it that a nurse can pacify a younger child with bright colours? Does the Froebel system call up the colour sense years before the time with a coloured cardboard? Black is the absence of colour; why, then, is not every object in a dream black? Are dream flowers all colourless? Are not such dreams only one class—"nightmares?"

What is the "moral nature?" In the days when "might was right," was it an advantage to the individual to start the reverse theorem? would not the "natural selection" party promptly club him? Is repugnance to sin, in dreams, a symptom of morals? and is it not of frequent occurrence?

Do not children under 20 form the most persistent audience for the barrel-organ grinder and the brass band? and do not musical toys find a sale among the same class? Do not animals show an interest in music? and can only every second savage breast be soothed by music's charms? How many musicians have been interrogated as to their dreams?

"The longer the race has any faculty, the more stable will that faculty be:" hence the millions of years (according to Dr. Bucke) we are in possession of the faculty of sight or of hearing ought to secure to us the almost absolute stability of these; yet is not their perversion more common, as delusional insanity, than religious mania? Religion would, I suppose, be a "very recently acquired phase" of man's moral nature, and at least half the religious people ought therefore to suffer from the unstable nature of their deepest convictions.

This "law" for the loss of faculties ought easily to be susceptible of proof if applicable to lunacy; the numerical order of the appearance of the faculties ought to be also the order of frequency of insanes, classified according to the faculty affected. What do alienists of authority, including Dr. Bucke, say?—I am, etc.,

H. A. HAINES,
Surgeon-Major A.M.S.

Limerick, Sept. 28th.

THE MONTREAL ADDRESS IN SURGERY.

SIR.—I have read with much pleasure the interesting and scholarly Address on Surgery delivered by Dr. W. Mitchell Banks at the recent Montreal meeting of your Association. Among other early British surgeons he mentions in detail Robert Clowes as having lived and laboured during the sixteenth century (1540-1604). A careful search of the medical literature of that time fails to disclose the name of Robert Clowes, but I do find the name of William Clowes, and the same experiences and writings are attributed to him that Dr. Banks attributes to Robert Clowes. Is it not possible that Dr. Banks is in error in regard to the name? If I am wrong I should be glad to be so informed.—I am, etc.,

St. Paul, Minn., U.S.A., Sept. 21st. BURNSIDE FOSTER, M.D.

THE CHLORIDE OF SODIUM TREATMENT OF TINEA TONSURANS.

SIR,—Mr. Murphy's communication on the above subject in the BRITISH MEDICAL JOURNAL of September 25th, in which he refers to my letter on the same subject in November, 1895, shows most gratifying results from the treatment. For some years previous to my communication, and in every case under my care since, I have used chloride of sodium and nothing else; in every case a rapid cure has been effected. I do not confine the chloride of sodium treatment to tinea tonsurans, but use it for a variety of troubles depending on a vegetable or animal parasite.—I am, etc.,

Wimpole Street, W., Sept. 29th. GEO. STEELE-PERKINS, M.D.

THE EMPLOYMENT OF DIPHTHERIA ANTITOXIN FOR NON-DIPHTHERIAL DISEASES.

SIR,—In the Daily Journal of the Annual Meeting of the Association at Montreal for September 4th, it is reported that in the Section of Pharmacology and Therapeutics, and on Friday, September 3rd, a paper was read "On the Action of Behring's Serum in Diseases not caused by the Klebs-Loeffler Bacillus." The effect on consumption, cancer, pelvic inflammation, lupus, etc., was discussed. In one case of tuberculosis 25,000 units were given in three months, apparently with benefit. A favourable action was reported in a case of lupus. The theory suggested was that the "serum increased the internal secretions." In the *Lancet* of September 25th the list is somewhat extended. It is reported that "cases of tuberculosis, sciatica, sarcoma, lupus, and Hodgkin's disease were treated daily for several weeks. The serum he (the author) considered as a lymphagogue. Some benefit was claimed in the tuberculous cases, and marked benefit in lupus. In typhoid fever the temperature is first raised, and then lowered. The principal efficacy of serum is that it procures sleep." Behring's serum was further recommended for its sleep-giving properties by the same speaker in the discussion on Hypnotics, and supported by another, in the same Section, as reported in the BRITISH MEDICAL JOURNAL.

Nowhere do I find one word of protest, either from the President of the Section or from any of the speakers, against this loose and general—one might almost say wholesale—administration of a remedy whose very existence depends on its specificity; but such a word seems to be called for, especially since the suggestion follows hard on a serious proposition emanating from Italy to treat atrophic rhinitis also by diphtheria antitoxin.

Were it not for the possibility that this practice might lead to most serious results, it would perhaps best be met by ridicule; but I content myself with pointing out that the recommendation strikes at the very foundation of bacteriology, and of the special efficacy of serum therapeutics.—I am, etc.,

Mansfield Street, W., Oct. 2nd. LENNOX BROWNE.

CLAYESMORE SCHOOL.

SIR,—My attention has been drawn by our school doctor to a paragraph in the BRITISH MEDICAL JOURNAL of October 2nd, p. 943, in which this school is described as suitable for a feeble-minded lad. As this statement is calculated to do us considerable harm, may I beg you to publish this letter in denial of such a statement?

"Clayesmore" is an ordinary school, and is conducted on public school lines, the only difference being that our limited numbers admit of a closer attention to individual character training than is possible in the larger schools.

So serious a misstatement would naturally be greatly resented by members of the school (fortunately they do not read the BRITISH MEDICAL JOURNAL), and, too, would prove serious if it met the eye of any of our clients (amongst whom are several well-known medical men); may I therefore very earnestly beg your aid in the publication of this denial?—I am, etc.,

THE HEADMASTER OF CLAYESMORE SCHOOL.

Enfield, Middlesex, Oct. 3rd.

GENERAL TUBERCULOSIS.

SIR,—As a medical officer of health I receive information (in the Registrar's Weekly Return) of the death of two young children from general tuberculosis. Being interested in the question of tuberculous milk, I cause special inquiries to be made, with the following results:

Case 1. Child aged 5 months. Parents healthy. Child suckled at breast for three months. Never well from birth, suffering from vomiting and constipation.

Case 2. Child aged 2 years. Parents healthy. Child healthy, and always suckled at the breast. Had an enlarged head. Had an attack of hæmorrhage one night, and sank rapidly afterwards.

I should like to know if you consider the diagnosis to have been probably correct. I have been in the habit of including "general tuberculosis" under the head of "phthisis" in Table A. It rather seems to me that I may have been doing my district an injustice.—I am, etc.,

September 23rd, 1897. D. P. H.

*** It is impossible, with the insufficient data supplied by "D. P. H.," to decide whether the two cases mentioned by him had tuberculosis or not. Quite probably the first had not, in view of the age.

"D. P. H." seems to us to have introduced a serious source of fallacy by including "general tuberculosis" in his statistical returns with "phthisis." A serious error is being rapidly introduced into our national statistics of "phthisis," owing to the frequency with which cases, which would formerly have been returned under this head, are now certified as having died of "general tuberculosis." The statistical remedy for this is not, however, to add the two together, but to state them separately, and then base conclusions on the two death-rates separately and when combined.

REUTER'S agent at Larnaca, Cyprus, writing under date September 24th, reports that an epidemic of small-pox has broken out there. The whole of the Turkish quarter has been attacked and many of the other parts of the town. It seems that the disease was first brought over from Bûrût by a Turkish woman and her child, and before anything was discovered by the authorities the disease had obtained a firm hold, and, in spite of all the measures now being taken, is steadily increasing.

OBITUARY.

CHARLES SMART ROY, M.A., M.D., F.R.S.,

Professor of Pathology in the University of Cambridge.

PROFESSOR ROY, who for some time has been in failing health, which has more or less prevented him from performing his academic duties since the autumn of 1895, died in Cambridge on Monday evening, October 4th. He had returned from a holiday apparently improved in strength, but was suddenly seized with epileptoid convulsions on Monday, and these continued without intermission until his death.

The late Professor was born at Arbroath in 1854, and received his earlier education in that town and in St. Andrews. Proceeding to the University of Edinburgh, he graduated with distinction as a Bachelor of Medicine in 1875, and was forthwith appointed Resident Physician to the Edinburgh Royal Infirmary. Thence he went to the Brown Institution in London, and took up research in physiology and pathology. When war broke out between Turkey and Servia in 1876, he went out to Turkey as a surgeon, and was placed in charge of the garrison hospital at Janina, in Epirus. When peace was proclaimed he returned to the Brown Institution, and completed his researches on pleuro-pneumonia. He next studied in Berlin under du Bois-Reymond and Virchow, and investigated the physiology of the heart. His results were embodied in his thesis for the Edinburgh M.D. degree, which gained for him the gold medal of the University. While at Berlin he was invited to become assistant to Professor Goltz, of the Strassburg Physiological Institute, and, accepting the invitation, he worked for some time in the laboratory there on the mechanism of the circulation. Turning his attention next to pathological problems, he left Professor Goltz to work under von Recklinghausen for some six months, and then passed to Leipzig in 1879. Here he undertook, in conjunction with Professor Cohnheim, some important researches on the physiology and pathology of the kidney, and carried on independently his investigations on the mammalian heart. Appointed George Henry Lewes student in 1880, he came to Cambridge and worked at the pathology of the heart, spleen, and kidneys in Dr. Michael Foster's laboratory, where he gave a course of lectures on physiology to advanced students. On the election of Dr. Greenfield to the Chair of General Pathology in the University of Edinburgh, Dr. Roy was chosen to succeed him as Director of the Brown Institution. During his tenure of this office he visited the Argentine Republic for the purpose of investigating the causes of an epizoötic disease then raging among the cattle in the Province of Entre Rios. He held the Directorship for two years and a half, when in 1884 he was elected to the newly-established Professorship of Pathology in the University of Cambridge. Within a few days of his election he received notices of his selection for the Fellowship of the Royal Society, and of his admission as a member of the Alpine Club. He became a member of Trinity College, and resided within its walls until his marriage in 1887 to Violet, daughter of the late Sir George E. Paget, K.C.B., the Regius Professor of Physic. At first the teaching of pathology was carried on in rooms belonging to the Physiological Laboratory, but in 1889 the old chemical laboratory was transformed and refitted to accommodate the Department of Pathology. In this building, with the help of such able students as Griffiths, Hankin, Adami, Hunter, Wesbrook, Kanthack, Lorrain-Smith, Lloyd Jones, Cobbett, and others, much brilliant work in pathology and bacteriology has been carried on under Professor Roy's direction.

The John Lucas Walker Studentships in Pathology, founded in 1887 through the good offices of Sir Richard Webster and Sir James Paget, have been of the greatest service in furthering the scientific investigation of the nature and causes of disease, and the high positions now held in various parts of the world by former Walker students testify to the soundness of the judgment shown in their selection and the excellence of the opportunities for research afforded them in the Cambridge Laboratory.

Professor Roy was President of the Section of Pathology at the annual meeting of the British Medical Association in 1893. He was a great traveller, an able linguist, an enthusi-

astic mountaineer, and a skilful sailor. He invented many ingenious pieces of apparatus for physiological purposes, some of which, such as the oncometer and oncograph, and the tonimeter, are universally known among investigators, and will continue to be called by his name. His researches on the heart, carried out with Professor Adami and independently, have thrown new light on that perplexing organ; it is perhaps on these that his reputation will chiefly rest.

He leaves a widow, but no children.

The funeral will take place on Friday, October 8th. The first part of the service will be held in Trinity College Chapel at 3 P.M. The burial will be at the Mill Road Cemetery. Friends attending the service are requested to be in the chapel by 2.50 P.M.

Dr. Edward Davies, of Wrexham, who died recently, was the son of the late Mr. Edward Davies, of Darland Hall, Denbighshire, and was born on August 30th, 1831. At the age of 15 he was apprenticed to the late Dr. Dickenson, and remained in Wrexham for some years. He then went to study in Dublin, where he took his L.M. in 1855. Soon after he went to University College, London. In 1856 he qualified as M.R.C.S. and L.M.Eng. and L.S.A., and at the end of the same year he took the degree of M.D. at St. Andrews. After holding an appointment in the Rotunda Hospital, Dublin, Dr. Davies was for nearly two years in Liverpool, where he held the post of House-Surgeon to the Northern Hospital, and Visiting Surgeon to the Northern Dispensary. He then went to practise at Wrexham, and in 1857 was appointed Surgeon to the Wrexham Workhouse, which appointment he held up to the time of his death. Since 1862 he had held the post of Honorary Surgeon to the Wrexham Infirmary. Dr. Davies married in 1865, and leaves a widow, two sons, and three daughters to mourn his loss.

We regret to have to record the death of Mr. E. P. France, M.R.C.S., L.R.C.P., which occurred on May 20th at Port Darwin in Australia. Mr. France was Surgeon on board the Eastern and Australian Company's steamer *Menmuir*, having left England in March, 1896 in the ss. *Australia* of the same company. Returning to the *Menmuir* with some passengers on the night of May 20th, the gangway to the ship was found to be very steep, owing to the great fall of tide. According to the *Hong Kong Telegraph*, from which we quote, Mr. France slipped from the gangway and fell against the wharf, death ensuing soon afterwards from fracture of the skull. Mr. France was educated at University College, London, where he held the appointment of Assistant to Professor Schäfer, and with whom he did valuable research work on neurology, the results of which were published in the *Transactions of the Royal Society*. In 1890-91 Mr. France was House-Surgeon to the North-Eastern Children's Hospital. In 1892 he was appointed Principal Medical Officer to British North Borneo, a position he held for three years. In March, 1896, he joined the Eastern and Australian Company's steamers, and remained with them till his death. His firm but kindly manners made him many friends, and won him the regard of his patients. That such useful lives should be thrown away by accidents, which, to say the least, might be prevented, is regrettable in the extreme.

Dr. Hugh M'Harry, of Belfast, who died recently, had held for fifteen years the post of medical officer to one of the dispensary districts. This post he had to resign owing to failing health, but he held up to the last the appointment of medical officer to the Royal Irish Constabulary in Andersonstown district.

UNIVERSITIES AND COLLEGES.

CONVOCATION OF THE UNIVERSITY OF DURHAM IN NEWCASTLE.

The first Convocation held at Newcastle took place last year at the College of Medicine, and this year the second was held at the College of Science, on September 25th. There was a very large attendance. Several honorary degrees were conferred, and amongst them that of Doctor of Literature upon Miss J. E. Harrison, for her investigations in classical archæology and Greek art. This is the first time the University has exercised its new power of conferring degrees upon women. The ordinary degrees, particulars of which are given below, were then granted to those who had passed the examinations of the University since the last Convocation.

Doctor in Medicine.—W. E. Alderson, M.B., B.S, Durham; W. A. Atkinson, M.B., B.S., Durham; O. Beven, M.B., B.S., Durham; C. V. Dingle, M.B., B.S., B.Hy., Durham; R. A. Dunn, M.B., B.S., Hy., Durham: H. H. Gourley, M.B., Durham; F. H. Halse-Francis, M.B., B.S., Durham; A. Jervis, M.B., B.S., Durham; S. A. Leigh-Sodipe, M.B. (*in absentia*); R. C. Leonard, M.B, Durham; R. Pearson, M.B., B.S., Durham; F. Robson, M.B., B.S., Durham; C. R. Wood, M.A., M.B., B.S., Durham.

Doctor in Medicine (Practitioner of Fifteen Years' Standing).—T. R. Atkinson, M.R.C.S., L.S.A.; G. Booth, M.R.C.S., L.R.C.P.; C. Donkin, L.R.C.P., L.F.P.S.; P. S. Jakins, M.R.C.S., L.S.A.; F. W. Jordan, M.R.C.S., L.R.C.P.; H. P. Rowlands, M.R.C.S., L.R.C.P., L.S.A.; C. J. Vlieland, M.R.C.S., L.S.A.; O. Withers, M.R.C.S., L.R.C.P.

Bachelor in Medicine (M.B.).—A. W. Aldridge, M.R.C.S., L.R.C.P., Mason College, Birmingham; W. O. Arnold, College of Medicine, Newcastle-upon-Tyne; G. Arnott, College of Medicine, Newcastle-upon-Tyne; J. D. Dodds, College of Medicine, Newcastle-upon-Tyne; J. L. Frazer-Hurst, College of Medicine, Newcastle-upon-Tyne; E. W. Gilroy, College of Medicine, Newcastle-upon-Tyne; P. Holgate, College of Medicine, Newcastle-upon-Tyne; A. A. Hope, College of Medicine, Newcastle-upon-Tyne; J. W. King, College of Medicine, Newcastle-upon-Tyne; M. G. McBean, College of Medicine, Newcastle-upon-Tyne; N. McCall-Smith, College of Medicine, Newcastle-upon-Tyne; W. A. Peverley, College of Medicine, Newcastle-upon-Tyne; A. Riley, M.R.C.S., L.R.C.P., Westminster Hospital; C. Salkeld, B.A., College of Medicine, Newcastle-upon-Tyne; T. O. Scott, M.A., College of Medicine, Newcastle-upon-Tyne; H. F. Shea, St. Thomas's Hospital; G. Smith, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; A. E. Stevens, St. Thomas's Hospital; J. A. Swindale, Mason College, Birmingham; W. A. H. Waite, Yorkshire College, Leeds; W. L. W. Walker, College of Medicine, Newcastle-upon-Tyne.

Bachelor in Surgery (B.S.)—A. W. Aldridge, M.R.C.S., L.R.C.P., Mason College, Birmingham; W. O. Arnold, College of Medicine, Newcastle-upon-Tyne; G. Arnott, College of Medicine, Newcastle-upon-Tyne; J. D. Dodds, College of Medicine, Newcastle-upon-Tyne; J. L. Frazer-Hurst, College of Medicine, Newcastle-upon-Tyne; E. W. Gilroy, College of Medicine, Newcastle-upon-Tyne; P. Holgate, College of Medicine, Newcastle-upon-Tyne; J. W. King, College of Medicine, Newcastle-upon-Tyne; M. G. McBean, College of Medicine, Newcastle-upon-Tyne; M. McCall Smith, College of Medicine, Newcastle-upon-Tyne; W. A. Peverley, College of Medicine, Newcastle-upon-Tyne; A. Riley, M.R.C.S., L.R.C.P., Westminster Hospital; C. Salkeld, B.A., College of Medicine, Newcastle-upon-Tyne; T. O. Scott, M.A., College of Medicine, Newcastle-upon-Tyne; H. F. Shea, St. Thomas's Hospital; J. A. Swindale, Mason College, Birmingham; W. A. H. Waite, Yorkshire College, Leeds; W. L. W. Walker, College of Medicine, Newcastle-upon Tyne.

Bachelor of Hygiene (B.Hy.).—W. E. Harker, M.D., B.S.

Mr. G. C. Belcher, M.R.C.S., L.R.C.P., received the Diploma in Public Health (D.P.H.).

UNIVERSITY OF LONDON.

A meeting of Convocation will, in accordance with the standing orders, be held on Tuesday, October 26th, but as no notice of business to be transacted has been received, and the annual Committee has not considered it opportune to present a report, the meeting will be of a purely formal character.

UNIVERSITY OF ST. ANDREWS.

In consequence of the intimation made by the University Court that, until the University Commissioners provide them with the funds, they cannot proceed to make the appointment of assistants, the Professors specially interested met and unanimously adopted the following resolutions:

"I. In order that the work of the University may not suffer, the undersigned Professors resolve to request their assistants to resume their work as usual for the ensuing winter session. Each Professor will personally guarantee the payment of his assistant's salary till April, in the full expectation that before that time the Commissioners will make arrangements for the payment to the assistants of their full salaries for the year, and for the repayment to the Professors of whatever advances they may have made to the assistants in fulfilment of the former part of this resolution.

"II. To approach the Commissioners in the hope that they will see their way to advance the amount necessary for the above purpose when their attention is drawn to the following facts: (1) That serious injury will inevitably fall on the University if assistants are not appointed for the ensuing session. (2) That the sum necessary to provide assistants has been advanced by the Commissioners every year from session 1892-3 till now. (3) That the first advance for this purpose was made in 1892 before ordinance 46 was issued even as a draft ordinance, and consequently the amount allowed for assistants cannot be considered as chargeable to the University only under the terms of that ordinance.

"III. To approach the University Court and to urge respectfully that if the Commissioners remain of opinion that they are unable to continue to make payment of the sum necessary to retain the services of the various assistants, the Court should borrow the amount required, and in any case should approve of the appointment of the assistants on the terms of paragraph 1. In support of this request, they beg to point out: (1) That the number of separate classes taught in the United College, and the number of hours during which classes meet, have nearly doubled

within the last few years. (2) That this increase in the efficiency of the University has to a large extent been rendered possible by the appointment of assistants. (3) That consequently without the assistants the efficient carrying out of the work of the University cannot be secured. It is obvious that thus inevitable loss must be entailed on the students and the University."

The resolutions are signed by Alex. Roberts, Professor of Humanity; William Knight, Professor of Moral Philosophy; P. R. Scott Lang, Professor of Mathematics; A. S. Butler, Professor of Natural Philosophy; W. C. M'Intosh, Professor of Natural History; Thos. Purdie, Professor of Chemistry; John Burnet, Professor of Greek; David G. Ritchie, Professor of Logic and Metaphysics.

ROYAL UNIVERSITY OF IRELAND.

First Examination in Medicine.—The Examiners have recommended that the following be adjudged to have passed this Examination:

J. Clements, Queen's College, Galway; M. Conroy, Queen's College, Galway; *P. Doherty, University College, Dublin; *W. J. B. Fergus, Queen's College, Belfast; *A. T. Frost, Queen's College, Cork; M. J. Laffan, University College, Dublin; *M. M. Lee, B.A., University College, Dublin; *J. L. Lunham, Queen's College, Cork; *M. J. Macaulay, Queen's College, Cork; R. McCandlers, Queen's College, Belfast; *H. M. McCrea, Queen's College, Belfast; F. E. McCune, Queen's College, Belfast; E. J. McKenna, Queen's College, Galway; J. S. Morris, University College, Dublin; A. D. O'Carroll, University College, Dublin; *W. Rodgers, M.A., Queen's College, Belfast; W. B. Sampson, University College, Dublin; *W. A. Sandys, Queen's College, Galway; A. T. Swan, University College, Dublin; J. Thompson, Queen's College, Belfast.

Second Examination in Medicine.—The Examiners have recommended that the following candidates be adjudged to have passed this Examination:

Upper Pass.—*J. G. Anderson, Queen's College, Galway; P. T. Cawley, Queen's College, Galway; G. Graham, Queen's College, Galway; B. J. Hackett, Catholic University School of Medicine; R. Lee, Queen's College, Cork; *J. E. MacIlwaine, Queen's College, Belfast; *J. A. D. Radcliffe, Queen's College, Belfast; J. C. Rankin, Queen's College, Belfast; *J. H. Reford, B.A., Queen's College, Belfast; *H. B. Steen, Queen's College, Belfast; J. Stewart, Queen's College, Belfast.

Pass Division.—J. M. Ahern, Catholic University School of Medicine; J. S. Casgin, Queen's College, Belfast; F. Garland, Catholic University School of Medicine; J. McC. Gibson, Queen's College, Belfast; J. Gorman, Catholic University School of Medicine; T. Gray, Queen's College, Belfast; T. Huston, Queen's College, Belfast; O. E. Jackson, Queen's College, Belfast; J. C. McCarroll, Queen's College, Belfast; R. Mathewson, Queen's College, Belfast; P. L. O'Driscoll, Queen's College, Cork; W. C. Oram, School of Physic, T.C.D.; C. Peacock, Queen's College, Belfast; H. C. Quirke, Mason College, Birmingham; H. E. Rutherford, Queen's College, Belfast; J. E. Simpson, Queen's College, Belfast; H. Stevenson, Queen's College, Belfast; J. J. Walsh, Catholic University School of Medicine; A. Welply, Queen's College, Cork.

Those marked with an asterisk may present themselves for the Further Examination for Honours.

CONJOINT BOARD IN IRELAND.

Preliminary Examination.—Candidates have passed this Examination as undernoted:

Honours (in order of merit).—M. J. Fleming, E. T. G. Pasley (C. Robinson, G. C. Robinson—equal), W. Cummins, P. M. Sheridan, T. J. Ryan, D. M O'Sullivan.

Pass (in alphabetical order).—R. G. Allen, T. Brophil, A. Charles, F. X. Costello, Miss S. F. Dickson, J. P. Falls, J. Green, C. H. Harrison, P. Holmes, W. M. Jellett, J. E. Johnston, L. F. Kelly, J. P. Lawson, P. L'Estrange, G. Lockwood, H. Macken, J. J. Moore, R. B. McBride, M. J. McDonnell, C. H. Newton, E. A. Reilly, D. F. Rice, W. V. Sutton, T. N. Whyte, B. Wilson.

MEDICO-LEGAL.

THE RIGHTS AND PRIVILEGES OF AN L.S.A. (1874).

G. W. asks the following questions: (1) If an L.S.A. (1874) has the diploma of M.R.C.P.I. taken away from him, how does it affect him professionally? (2) Can he hold the post of medical officer to a Lodge of Oddfellows, where a by-law says that a surgeon fully qualified must be chosen? (3) Can he employ a fully-qualified assistant to cover him in respect to surgical work? (4) Can he have a partner? (5) Can he hold the appointment of medical officer of health where there are several fully-qualified men in the district?

*** (1) The withdrawal of the diploma in question can have no legal effect if the diplomate's name continue on the *Medical Register*. (2) He could do so except for the by-law. (3) He can employ a fully-qualified assistant, who might legally do surgical work for him. (4) There is no reason why he should not have a partner. (5) Yes, where the district is not over a certain extent, when it is necessary for the medical officer of health to hold a diploma in Public Health. It is possible he might find it difficult to recover for surgical work, if the exception were taken that he only held a diploma entitling him to practise medicine.

Lunacy Bill writes: What stage has the Lunacy Acts Amendment Bill, 1897, reached?

*** The Lunacy Bill is dead and buried. A resurrection is hoped for next spring.

FEES TO MEDICAL WITNESSES.

Justitia who has been summoned to give evidence before a J.P. in a case of stabbing, wishes to know whether he can claim more than 10s. 6d. for his attendance.

*** Our correspondent can only claim half a guinea for attendance at a petty court, and one guinea a day for attendance at the sessions or assizes, with an additional allowance for railway and travelling expenses.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

The following appointments have been made at the Admiralty: John Lowney, Staff-Surgeon to the *Victory*, additional, September 28th; Alfred H. Miller, Staff-Surgeon, to the *Melampus*, September 28th; Rowland A. Kirby, B.A., M.B., to the *Victory*, additional, undated.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant C. W. Profeit has been selected for appointment to the Grenadier Guards as an attached medical officer.

INDIAN MEDICAL SERVICE.

It appears that no fewer than twenty-two Indian Medical Service officers and six from the Army Medical Staff have been instructed to revert to military duty. They are drawn chiefly from Bengal.

THE VOLUNTEERS.

Surgeon-Captain W. Mearns, M.D., 1st Durham Engineers, is promoted to be Surgeon-Major, October 6th.

LORD ROBERTS ON A SOBER ARMY.

Field-Marshall Lord Roberts, speaking at Dublin, described the institution, ten years ago, of the Army Temperance Association in India, and of a similar Association in England four years ago, of which he is Chairman of the executive. He had seen the marked benefits of temperance in the army in India, the admissions to hospital having been about 20 per cent. less among members of the Association than among the rest of the forces. The difference in crime was still more remarkable, court-martial convictions among their members having been only 5.21 per 1,000 during 1896, as against 38.88 per 1,000 among non-members. There were 14,000 members now in England. A separate tent at camps of exercise for the use of their members had been a great boon.

THE PAY OF SURGEON-GENERALS OF MADRAS AND BOMBAY.

Indus writes: A correspondent in the British Medical Journal of July 31st asks if it is not a fact that the pay of Surgeon-Major-Generals of Madras and Bombay has been reduced from Rs.2,500 to Rs.2,200. This is a fact, and the order for this is to be found in the Indian Army Circulars for 1895, in Clause 15, published on April 15th.

ABOLITION OF SURGEON-GENERALCIES.

Surgeon-Colonel Hughes (since retired) has declined the offer of the succession to the Surgeon-Generalcy in the Bombay Presidency. The medical authorities at Simla have, it is rumoured, improved the occasion by abolishing the Surgeon-Generalcy and substituting a functionary of altogether inferior status. The *Bombay Gazette* says that it is understood the Government of India have taken from the appointment of the head of the Medical Department in that Presidency the title of Surgeon-General, and that the officer will in future be known as Surgeon-Colonel and Inspector-General of Hospitals. What's in a name? may be asked; but with the loss of the title comes the loss of the additional pension that has hitherto accrued to the administrative head of the medical service in the Bombay Presidency, and the post is thus less tempting than ever to the ambitious man. By the change Bombay has been brought to the same status in this regard as the North-West Provinces and Bengal, and presumably the Madras appointment will be similarly dealt with when the next vacancy occurs. The inevitable result will be that the appointment, so far from being prized, will be shunned by the best men in the service. At a time when it is growing more and more difficult to induce the students of the English medical schools to elect for the Indian services, the withdrawal of one of the few prizes hitherto offered will render recruiting well nigh impossible.

THE HEALTH OF THE JAPANESE SOLDIER.

An interesting paper on the health of the Japanese soldier was read before a recent meeting of the Sanitary Society of Japan by Surgeon-Colonel Koike. A large portion of the paper was occupied with a discussion of the most suitable diet, and especially of the much-vexed question in Japan of rice or bread as the best food for the soldier. In the Japanese navy dietary system, which has been adopted after much experiment by the medical officers, rice gets only a secondary place, the chief constituents of the Japanese sailor's food being biscuits and barley. The results have been most encouraging, the chief being a remarkable decrease amongst sailors of that form of elephantiasis called kokke, which is very common in Japan. In spite of this the army medical authorities are in favour of rice, which is still the soldier's staple food, and Dr. Koike thinks that on the whole it is the best. Experiments conducted at the Japanese Military Medical College showed that rice prepared without the admixture of any other grain is more easily digested and more nutritious than foreign food or barley mixed with rice. A fraction less than a quart of rice, with vegetables, meat, and fish as condiments, is the daily ration of the Japanese soldier. The outfit in time of war of the Japanese is the lightest in the world, being 25½ kilos, and according to Dr. Koike, the military

authorities regard it as necessary to reduce it to about 19½ kilos, which they think is the proper limit for infantry. So far, however, they have got it down to 21 kilos., but cannot find means of reducing it lower at present. As to the construction of barracks, Dr. Koike stated that the old French method, in which the chief feature is the grouping of buildings in the form of a square with a courtyard in the centre, has been abandoned in Japan, and a more healthy form of construction has been adopted on the advice of a committee appointed to consider the subject. The new buildings are in parallel rows with sufficient space between them, while more attention is given to ventilation, the admission of light, and the mode of heating in winter. The different climatic and other natural conditions of the different districts and their particular requirements are more carefully considered in the buildings. The result has been most satisfactory. Between 1878 and 1885 the general average of death-rate was 12 9; in 1803, owing to the improvements in the hygienic and sanitary conditions of barrack life, it was 4 4.

MEDICAL MOBILISATION IN INDIA.

THE assistant-surgeons of the Subordinate Medical Department in India in military employ are complaining that during the strain on the Medical Service owing to the frontier operations, the officers of the same rank in civil appointments are permitted to retain possession undisturbed of their snug berths, and that this occurs during every campaign. Owing to the Government of India having no proper reserve of these subordinates, of the hospital assistant class, and no proper administrative arrangements having been made beforehand for plague, now increasing, the assistant-surgeons and hospital assistants lent for civil duties by the Principal Medical Officer, H.M.S.'s Forces in India cannot be spared to revert to their proper military work, and a howl is raised all round. It must be noted that the staff of the class of medical subordinates named for garrison and regimental work has been reduced to the very lowest workable limit, and the mobilisation arrangements are obstructed by the absence at present of a proper reserve. While there is a talk of playing off the Indian Medical Service against the Army Medical Staff to meet the requirements of India and also distant hints of bloated medical establishments, we have to state that the Indian Medical Service is apparently insufficient without assistance from the military side to meet the calls made on it. The articles in the *Indian Medical Gazette* for August, and in the *Englishman* (a Calcutta daily) of August 2nd, describe a condition of undermanning of the Indian Medical Service which is in urgent need of attention and rectification if the medical arrangements for constant extra calls owing to war, pestilence, and famine are to be efficient.

SICKNESS AMONG THE TURKISH TROOPS IN THESSALY.

THE number of Turkish soldiers invalided by sickness in Thessaly is steadily increasing, typhoid fever being the malady most prevalent among the troops. More than 6,000 men have already been sent home, while about 4,000 more are now waiting to be conveyed back to Turkey.

TICKETING.

FORWARD writes: The late order that medical officers shall wear the letters "A.M.S." refers to India and khaki uniform. At present they only wear "M" on their shoulder, which is also worn by the subordinate assistant surgeons, so that "A.M.S." seems an improvement. Commissariat officers in India wear the letter "C" in khaki uniform; regimental officers usually wear their badges in brass on their collars. On the other hand, the use of the new "A.M.S." is not quite obvious, as all departmental officers in India are indicated by pieces of coloured cloth on the collar; the Medical is black, the Commissariat maroon, etc.

EMPLOYMENT OF RETIRED MEDICAL OFFICERS.

A CORRESPONDENT states that the employment of eighty retired medical officers is a saving of £12,000 a year. We do not know how he works out his figures; but if the £150 which such employed retired officer receives in addition to retired pay be multiplied by 80 the product is £12 000. Probably he reckons that to fill the places occupied by the 80 officers by men on full pay would cost double £150, and therefore works out a saving of £12,000. He may not be far wrong. Many of the retired officers certainly do the State very admirable service for a very small addition to their pension.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,294 births and 3,538 deaths were registered during the week ending Saturday last, October 2nd. The annual rate of mortality in these towns, which had declined from 29.5 to 17.1 per 1,000 in the seven preceding weeks, further fell to 16.8 last week. The rates in the several towns ranged from 11.7 in Cardiff, 12.0 in Croydon and in Halifax, 12.7 in Blackburn, and 12.9 in Portsmouth to 21 5 in Wolverhampton, 21.6 in Newcastle-upon-Tyne 23.1 in Preston, and 23.7 in Liverpool. In the thirty-two provincial towns the mean death-rate was 17.8 per 1,000, and exceeded by 2.5 per 1.000 the rate recorded in London, which was 15 3 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.4 per 1,000; in London the rate was equal to 2.1 per 1,000, while it averaged 2.7 in the thirty-two provincial towns, among which the highest zymotic death-rates were 4.3 in Norwich, 5 9 in Burnley, 6.8 in Preston, and 8.4 in Wolverhampton. Measles caused a death-rate of 1.8 in Preston and 2.0 in Burnley; whooping-cough of 1.0 in Derby; "fever" of 1.0 in Burnley and 1 9 in Norwich; and diarrhœa of 2 9 in Salford, in Burnley and in Bradford, 4.1 in Preston, and 6.0 in Wolverhampton. The mortality from scarlet fever showed no marked excess in any of the large towns. The 67 deaths from diphtheria in the thirty-three towns included 49 in London, 4 in Leicester, 4 in West Ham, and 3 in Cardiff. No fatal case of small-pox was registered last week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of the scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had increased from 2,380 to 3.697 at the end of the twenty preceding weeks, had declined to 3,677 on Saturday last, October 2nd; 349 new cases were admitted during the week, against 376 and 358 in the two preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, October 2nd, 937 births and 579 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 19.4 and 17.8 per 1,000 in the two preceding weeks, rose again to 19.4 last week, and was 2.6 per 1,000 above the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 10.2 in Perth and 17.3 in Aberdeen to 22.8 in Greenock and 25.2 in Dundee. The zymotic death-rate in these towns averaged 2 6 per 1,000, the highest rates being recorded in Dundee and Leith. The 255 deaths registered in Glasgow included 14 from diarrhœa, 9 from whooping-cough, 5 from "fever," and 2 from scarlet fever. Two fatal cases of diphtheria and 2 of scarlet fever were recorded in Edinburgh.

THE WORKING OF THE INFECTIOUS DISEASE (NOTIFICATION) ACT.

THE medical officer of health of Crewe has presented to his local authority a summary of some of the defects in working of the above Act, which, notwithstanding the very short experience of Crewe of the operation of notification, is not without suggestions of utility. He draws attention to the anomaly which renders it obligatory according to the strict letter of the law for partners in medical practice, or principals and assistants, to notify the same case of infectious disease, although they may be aware that the case has already been notified by a member of the same firm. He adds the remark, "No honourable medical man would, I think, take advantage of this after having ascertained that the local authority had already been notified; and no honourable Council would, I am sure, think of taking proceedings against a medical man in such cases." The suggestion is made that subsequent cases occurring in one house within one month from the date of the receipt of the first certificate, should be paid for at the rate of 1s. per notification instead of 2s. 6d.; that cases of erysipelas should be more carefully distinguished from mere inflammatory redness, and that the dual character of notification should be enforced upon the householder.

The greatest lack of success in notification of infectious diseases has arisen from the non-recognition of slight cases. On this point an opinion adverse to the suggestion that "proof of innocence shall rest with the person charged" is expressed. It is properly pointed out that this principle is sound when enforced against a butcher, whose business it is to know the difference between sound and unsound meat, but not sound when enforced against laymen who have no special knowledge of the diagnosis of infectious diseases. The better remedy would probably be to enforce the compulsory notification of measles, chicken-pox, and mumps, diseases very apt to be confused with more serious infectious ailments.

Among the further suggestions made in this report are the proposed increase of the maximum penalty for non-notification beyond 40s. in cases of deliberate concealment of disease; the payment of postage by the local authority, and the enforcement of notification of epidemic diarrhœa, partly because it forms a useful indicator of insanitary conditions, and partly because it is in places harbouring this disease that cholera, when imported, finds its best footing.

We hope that ere long the Infectious Disease (Notification) Act will be made universally compulsory in this country; and that in connection with this some of the above suggestions, along with others, will find practical expression in legislation.

THE REPORT OF THE EGYPTIAN COMMISSION ON THE BOMBAY PLAGUE.

EGYPT is historically interested in the subject of plague, and from her geographical position she is bound to take notice of communicable pestilences prevailing in places with which she is in direct communication. The sending of a Commission to observe what was going on in plague-stricken Bombay was therefore necessary and proper. The members of this Commission returned to Egypt with the conviction that, at any rate in the first instance, plague is spread from man to man, local contamination holding a secondary position in the *rôle* of distributing agencies. Early detection, isolation, and infection are therefore held to be the mainspring of preventive effort. The efficiency and practicability of preventive inoculation are considered very doubtful by the Egyptian Commissioners.

A QUESTIONABLE ALTERNATIVE.

THE Sanitary Committee of the Dundee Town Council have decided, on the report of their medical officer of health on the subject, that the expense which would be entailed by the enforcement of the compulsory notification system in the cases of measles and whooping-cough would be in no way compensated by the advantages to be expected. We are not going to combat the decision, nor to call in question the desire to be expressed in a leaflet, which is to be circulated in the town, asking householders to notify all attacks of those two diseases to the health officer. The expression of the desire, however, serves to demonstrate the feeling that good is to be expected from knowledge of the place and time of existence of the maladies. But what we do regard as being open to criticism is the intention of the Committee to include in the leaflet—which will describe methods of treatment of the diseases—advice to the effect that the services of the health officer should be sought whenever complications arise. Will not the leaflet be open to the view that medical assistance can be dispensed with *until* "complications" ensue, and then that the health officer is to be called upon to take the place of his professional brethren and act their part of private medical attendant

gratuitously? We can only read the matter in this way, but we may be wrong in our interpretation.

HEALTH OFFICERS AS HOSPITAL SUPERINTENDENTS.

The Sanitary Committee of the Town Council of Coventry have had before them the question of the duties of their medical officer of health, in connection with a communication from the Local Government Board to the effect that attendance at the city hospital forms no part of such duties, and that the remuneration in respect of his hospital superintendentship must be awarded as a separate item from his salary as health officer. One reason for this separation of the amount payable to the officer seems to be that in respect of his official duties at the hospital the city rates must meet the whole cost, no part being repayable out of the Exchequer Contribution Fund. It seems to us, however, that the city authorities are acting wisely in combining in one and the same person the two offices in question. No one, perhaps, needs more than a health officer to be kept in personal touch with the various forms of disease that find their way to the hospitals of our local sanitary authorities; and accordingly we regard the communication of the Local Government Board not as an endeavour to divorce the one and the other post from joint holding by the same person, but as dictated by what seems to be the foolish accident of omission of the right of a health body to claim repayment from Imperial funds of any portion of a salary paid to a hospital superintendent.

ADOPTION OF THE INFECTIOUS DISEASE (NOTIFICATION) ACT AT ABERDARE.

Aberdare has adopted the Infectious Disease (Notification) Act as the "result of six years' preaching." Not only so, but one of its district councillors has gone so far as to say that human life is of greater moment than the half-crowns to be paid under the system. This is a distinct advance on what appears to be the feeling of some other towns where the fees appal the health bodies and baffle all attempts to save the community from disease and death.

POOR-LAW SUPERANNUATION.

We have received letters from several members desiring information on the subject of superannuation allowances under the Poor Law Act of last year, the questions put to us having reference generally to retirements from service brought about by inability longer to discharge the duties of office efficiently. It may be well, therefore, definitely to set down the various considerations and conditions applicable in the instances in question. First, an officer or servant falling within the terms of the Act must in any case have had ten years' service to entitle him to a pension; secondly, being so entitled he will receive one-sixtieth of his salary for every year of service up to an aggregate of forty years' service; "salary" being the average amount received annually for the last five years, and "service" being an aggregate of all services, whether or not continuous, and whether or not whole time; thirdly, to claim pension the officer or servant must (1) have become incapable of discharging the duties of his office with efficiency by reason of permanent infirmity of mind or body, or of old age, and if the latter, must have completed the full age of 60 years; (2) have attained the age of 60 years, and have completed an aggregate service of forty years; or (3) have attained the full age of 65 years; no question of incapacity being in mind under conditions (2) and (3); and fourthly, no claim can be set up apparently at the age of 60 years apart from incapacity unless forty years' service has been rendered. We judge that when the plea of incapacity is set up at or before 60 years of age, Boards of Guardians will require proof of such plea under competent medical certificate, whether old age or mental or bodily infirmity be in question, although proof of age, where "old age" alone is concerned, as the plea might be held to cover all legal requirements by itself.

A QUESTION OF COMPENSATION.

Under the above heading "M.B., C.M." has sent us a long communication, which may be summarised as follows:

Last July his son F. developed scarlet fever in a northern city, where he and his family were spending a holiday. There being six other children in the house F. was sent to the Fever Hospital, where he was kept for eight weeks. After his discharge he was sent to a convalescent home at the seaside for a week. On September 13th (presumably at the end of the week at the seaside, though this is not definitely stated) he rejoined his family. On September 16th they returned home. On the 17th a brother, on the 18th a sister, on the 19th a cousin staying in the house developed scarlet fever. On the 20th the mother, on the 22nd a nurse and a one-year old baby took the infection, followed on the 23rd by an under-nurse, and on the 25th by the housemaid. On September 19th the original patient F. was examined, and his heels and the soles of his feet were found to be peeling in large flakes. "M.B., C.M." not unnaturally thinks that this shows very great negligence on the part of the hospital authorities, and inquires whether he has any redress.

*** We may first of all say that "M.B., C.M.," has our hearty sympathy in his calamitous experience. Furthermore, it seems probable that the discharged patient was the source of infection to the earlier secondary cases. Next as to the desquamation on the feet of F., found apparently twelve days after his discharge from hospital, we cannot agree with "M.B., C.M." without further evidence that this desquamation was going on at the time of the discharge of the patient. A more likely supposition is that either (*a*) it was a case of what is known as recurrent desquamation, which is usually regarded as non-infectious, or (*b*) that the patient had, while in the hospital, a second attack of scarlet fever (not uncommon in mild cases), that this attack was possibly overlooked, and that it was the cause of the desquamation occurring after the discharge from hospital. It would be interesting to know as bearing on these points whether the desquamation was confined to the feet. A third supposition is that the patient had some otorrhœa or nasal discharge. It is well known that such conditions are a much more frequent cause of protracted infectivity than late desquamation (occurring after eight weeks from the onset of the illness). It would be interesting to know whether any susceptible children were in contact with F. during his week's stay at the seaside, and, if so, whether they have failed with scarlet fever. The difficulties of administration of fever hospitals are very great, and a small percentage of "return cases" is inevitable under the best management. We are not prepared to believe unless it can be definitely proved, that F. was freely desquamating at the time of his discharge. The question of compensation in this case would evidently be one of balance of weight in evidence.

BOARDS OF GUARDIANS AND THE SUPPLY OF CALF LYMPH.

Sir,—We, the undersigned public vaccinators, having been informed that some time during the earlier part of the present year an order was issued by the Local Government Board authorising Boards of Guardians to supply their public vaccinators with calf lymph, desire to know if such is correct. If it is, will you kindly give us full information as to the number of the Order and the wording thereof?—Yours, etc.,

J. T. Roger Miller,
F. McIntyre,
Public Vaccinators for the Norton Out-relief Union.

Malton, Yorkshire, Sept. 28th.

*** The Order in question issued last year relates to the Instructions to Public Vaccinators, which have been modified as to enable the Local Government Board to grant awards where first-class results were obtained by the use of calf lymph, instead of, as formerly, by the use of arm-to-arm lymph only. The Local Government Board have also sanctioned, in a considerable number of instances, endorsements on the existing contracts between the guardians and public vaccinators authorising the payment to the latter of an extra fee, commonly 6d., in all cases where calf-lymph is used. No Order has been issued as to this, but the Local Government Board supply guardians with a form of endorsement to the contract.

A QUERY AS TO NOTIFICATION.

A Lancashire practitioner asks for an answer to the following query: "On a certain date I was called to visit a child presenting all the appearances of scarlet fever (there were several cases in the same street), and, the symptoms next day confirming this opinion, I notified the case. At the end of the third week of my attendance I was quite satisfied that I had made a wrong diagnosis, and therefore sent word to this effect to the M.O.H., stating at the same time that as it had turned out to be a case of rubella I did not feel justified in keeping my patient isolated any longer, and that further disinfection than that ordered by me was unnecessary. On my account being presented before the Sanitary Committee exception was taken to it on the ground that I had cancelled the certificate in acquainting the M.O.H. of my wrong diagnosis, and it was disallowed. In my note to the M.O.H. no mention of certificate was made. On a second application I am informed that I have no claim."

*** In answering this query we assume that in the town to which the above query applies the terms of the Local Improvement Act, under which notification is obligatory, are the same as those of the Infectious Disease (Notification) Act. If this is so, we have no doubt that the practitioner in the above instance is entitled to his fee for notification made in perfect good faith, and to the best of his belief. The fact that he subsequently found he had made a mistake, and with laudable candour intimated this to the M.O.H., does not, in our opinion, debar him from the fee to which his previous certificate entitled him. The onus of proving any *mala fides* in the original certificate rests with the local authority. It does not appear that they even suggest this, and such *mala fides* is, we think, the only ground on which they could disallow the fee.

PENSION ON LOSS OF OFFICE,

S. A. presupposes a case in which a district medical officer, 47 years of age and having seventeen years' service, loses office by reason of his replacement by a medical man who has come to reside in the district which "S. A." served, but in which he himself does not reside. Is "S. A." eligible for a pension under the Poor-law Officers (Superannuation) Act of 1896?

*** The guardians have no power to grant a pension in the circumstances above set out. "S. A." has been holding office on sufferance and until he or a medical colleague takes up residence in the district. Being neither 60 years of age with forty years' service, nor incapable of longer service, "S. A." can only be granted a return of his contributions under the Act, or at most, with the sanction of the Local Government Board, a gratuity not exceeding twice the amount of his salary and emoluments during the year preceding his loss of office.

POOR-LAW OFFICERS' EMOLUMENTS.

Member is referred to Section 19 of the Poor-Law Officers (Superannuation) Act of 1896, which states that "emoluments" includes not only all payments made to an officer for his own use; but also "other allowances in kind appertaining to his office or employment."

PAYMENT OF PUBLIC VACCINATORS.

PUBLIC VACCINATOR, having to travel twenty or thirty miles per month at stated intervals to outlying stations for purposes of the performance of public vaccination, seldom if ever finds a child to be operated on. He will do well to make claim on his guardians for, say, 1s. per mile, or 5s. per visit, at contract times, to his distant stations, to cover actual loss.

E. J. ROWBOTHAM.—Consult the Annual Report of the Medical Officer to the London County Council, or the Annual Report of the Statistical Committee of the Metropolitan Asylums Board; the latter also gives spot maps showing the local distribution of the disease.

HOSPITAL AND DISPENSARY MANAGEMENT.

GLASGOW EYE INFIRMARY.

UNDER the constitution the surgical staff is stated to consist of "such surgeons as may be annually appointed by the directors, with such titles and privileges as the directors may think fit." For many years the staff, annually appointed, has consisted of a senior surgeon, three surgeons, and three assistant-surgeons (with clinical assistants, etc.). The directors have now resolved that at and from September 13th no distinction should be made between the offices of surgeon and assistant-surgeon, and that the present assistant-surgeons should be styled surgeons, with the same emoluments and privileges as the present surgeons. No change is made as regards the status or title of the senior surgeon.

CARDIFF SEAMEN'S HOSPITAL.

THE Diamond Jubilee scheme at Cardiff, for building a Seamen's Hospital in place of the hospital ship *Hamadryad*, which has done good service for the past thirty years, is making but slow progress. Lord Bute generously promised a site and £5,000 on condition that £30,000 should be raised, but up to the present time only about £11,000 has been promised. At a recent meeting of the General Committee, the Mayor (Alderman E. Bevan) presiding, it was thought desirable that Lord Bute should be asked to withdraw his condition, and it is to be hoped that his lordship will consent to do so. The plans for a hospital of this kind should be simple, and so arranged as to allow of any future extension that may be deemed necessary. The expense ought not very much to exceed £200 per bed.

MEDICAL NEWS.

MR. JONATHAN HUTCHINSON proposes to resume his weekly conferences at the Clinical Museum, 211, Great Portland Street, next Wednesday. They will be continued each Wednesday at 4 P.M., and all members of the profession except ladies are invited to attend.

PRESENTATION.—Mr. Creswell, of Cliffe-at-Hoo, Kent, was recently presented with a handsome gold albert watch-chain and locket and an address on his leaving that place after seven years' work. The great majority of the subscribers were working men.

ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—The Directors have appointed William A. Potts, B.A.(Cantab.), M.B., C.M.(Edin.), and Jean Fraser Robertson, L.R.C.P.&S. (Edin.), to be Resident Physicians for six months from November 1st next.

THE HUXLEY MEMORIAL.—A proposal by the Committee of the Huxley Memorial Fund to place a statue of the late Professor Huxley in the Natural History Museum has been agreed to, subject to the trustees' approval of the statue. The full-sized model for the statue, which is being executed by Mr. Onslow Ford, R.A., will shortly be completed.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—The annual meeting of the West Kent Medico-Chirurgical Society will be held at the Royal Kent Dispensary, Greenwich, on Friday, October 8th, at 8.15 p.m., when the Purvis Lecture will be delivered by Dr. G. H. Savage, the subject of whose discourse will be "The Insanities of Evolution and Dissolution."

THE opening meeting of the Roentgen Society will be held at St. Martin's Town Hall, London, W.C., on November 5th, when Professor Silvanus Thompson will deliver the presidential address. An exhibition of Roentgen methods, apparatus, and photographs will also be held.

AT a recent meeting of the British Laryngological, Rhinological, and Otological Association, the following officers were elected for the ensuing year:—*President:* Dr. Dundas Grant. *Vice-Presidents:* Mr. F. Marsh, Mr. G. C. Wilkin, Dr. T. Davison. *Council:* Dr. W. Milligan, Dr. A. B. Kelly, Mr. V. H. Wyatt Wingrave, Dr. W. Hill, Mr. P. Jakins, Dr. H. Woods, Mr. Lake. *Honorary Treasurer:* Dr. Macneil Whistler. *Honorary Secretaries:* Mr. St. George Reid, Dr. F. Potter.

EDINBURGH ROYAL INFIRMARY.—At a meeting of the managers on October 4th the following appointments were made, to run for six months from October 1st: Andrew H. Watt, M.B., C.M., Resident Physician to Professor Sir Thomas Grainger Stewart; Edwin Matthew, M.A., M.B., C.M., to Professor T. R. Fraser; W. T. Harvey, M.A., M.B., C.M., to Professor W. S. Greenfield; T. A. Ross, M.B., C.M., to Dr. Affleck; Harry Fowler, M.B., C.M., to Dr. James; J. W. Struthers, M.B., C.M., to Dr. Byrom Bramwell. The following resident surgeons were at the same time appointed: E. W. Scott Carmichael, M.B., C.M., to Professor Annandale; W. E. Gibbons, M.B., C.M., to Professor Chiene; Robert Irvine, M.B., C.M., to Dr. Maclaren; R. G. Riddell, M.B., C.M., to Dr. MacGillivray.

LATERAL CURVATURE OF THE SPINE.—A lecture was delivered at the City Orthopædic Hospital, by Mr. Noble Smith, senior surgeon to the hospital, on Wednesday, September 29th. The subject was Some Typical Forms of Curvature of the Spine. The lecturer was opposed to the view that weakness of the muscles alone was a common cause of deformity. He thought there was also generally softness of the bones and weakness of ligaments. From some hundreds of measurements he had found that weak backs were long in proportion to their breadth by 1 to 2 inches, in contrast with the backs of strong children, and that after treatment, when the patients had become robust, these measurements changed again to the normal, the length of the back being compared with the measurement of one shoulder from the centre of the spine. The cause of the weakness leading to this irregular growth he thought to be anything which tended to lower the vitality of the body. Amongst these influences he mentioned especially severe illnesses and insufficiently nourishing diet during growth. The lecture was illustrated by patients, photographs, and morbid specimens.

THE ROYAL COMMISSION ON TUBERCULOSIS.—Some members of the Royal Commission on Tuberculosis, including the Chairman, Sir Herbert Maxwell, Bart., M.P., Sir Richard Thorne Thorne, Mr. Cooke-Trench, and Mr. John Speir, intend this week to visit Glasgow, Edinburgh, and Belfast, in order to study the method of dealing, in the public slaughter-houses there, with animals or carcasses affected with tuberculosis, and to obtain information on other points connected with the Commission's inquiry. It is intended to visit Dublin also, probably on October 11th, and subsequently one or two English towns may possibly be visited for the same purpose.

CLINICAL LECTURES.—The first of a course of clinical lectures and demonstrations, which will be given free to students and practitioners at the National Hospital for the Paralysed and Epileptic, Queen's Square, was delivered on October 5th by Sir William Gowers, who discussed the nature of the neuron, and the influence which this new conception of the structure of the nervous system must have upon neuro-pathology. The lectures will be continued weekly; those on October 12th, 19th, and 26th will be given by Dr. Buzzard, Dr. Ferrier, and Dr. Ormerod respectively. The following is a list of the remaining lectures: On November 2nd, Dr. Beevor will lecture On the Examination of the Action of Muscles; November 9th, Dr. Tooth on Spinal Cord Lesions, with lantern demonstration; November 16th, Sir Felix Semon on the Diagnostic Significance of Laryngeal Abductor Paralysis; November 23rd, Mr. Marcus Gunn on Paralysis of the Ocular Muscles; November 30th, Mr. Victor Horsley, F.R.S., on Surgery of the Nervous System; December 7th, Mr. Ballance on Surgery of the Nervous System; December 14th, Dr. Colman; and December 21st, Dr. Taylor.

MEDICAL VACANCIES.

The following vacancies are announced:

BIRMINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Appointment for six months. No salary, but residence, board, and washing provided.—Surgical Casualty Officer. Appointment for one year, but eligible for re-election. Salary, £50 per annum (non-resident). Applications to Howard J. Collins, House-Governor, by October 30th.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—House-Surgeon. Appointment for six months. Honorarium £10 10s. on completion of appointment, and board, lodging, and washing. Applications to the Honorary Secretary of the Medical Committee by October 13th.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—Additional Out-patient Surgeon. Applications to the Honorary Secretary, John S. Nettlefold, Beechenhurst, Selly Hill, Birmingham, by October 23rd.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon; doubly qualified. Salary, £150 per annum (with an allowance of £30 per annum for cab hire) and furnished rooms, fire, lights, and attendance. Applications to E. W. Forrest, Secretary, by October 18th.

BRISTOL DISPENSARY.—Two Surgeons to the Districts of the Institution, doubly qualified. Particulars of Mr. Harold M. Silcock, Small Street Court, Bristol, to whom applications must be sent by October 11th.

CALCUTTA, CORPORATION OF, Bengal, India.—Health Officer for the Town of Calcutta. Salary not less than Rs.1,200, and not more than Rs.1,500, a month. Also reasonable horse allowance for outdoor inspection, not exceeding Rs.100 a month. Must be a duly qualified practitioner, and hold diploma in Public Health from the University Cambridge or similar qualifications. Applications to W. R. Macdonald, Secretary to the Corporation, to be received in Calcutta by November 10th.

CHELTENHAM GENERAL HOSPITAL.—Resident Surgeon for the Branch Dispensary; unmarried, or, if married, without family. Salary, £180 per annum, with partly furnished house, coal and gas. Applications to the Honorary Secretary and Treasurer, General Hospital, Cheltenham, by October 30th.

CHICHESTER INFIRMARY.—House-Surgeon. Salary, £80 per annum, with board, lodging, and washing. Applications to Eugene E. Street, Secretary, the Infirmary, Chichester, by October 11th.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton S.W.—Resident Medical Officer, doubly qualified, unmarried, and under 25 years of age. Also Resident House-Physicians. Applications to W. H. Theobald, Secretary, by October 13th.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Assistant Resident Medical Officer. Salary, £50 per annum, with board and residence. Applications to the Secretary by October 13th.

KING'S COLLEGE, London.—Sambrook Surgical Registrar. Applications from King's College students only, to Walter Smith, Secretary, by November 1st.

LONDON THROAT HOSPITAL, Great Portland Street.—House-Surgeon (non-resident). Honorarium, £25 per annum. Application to the Honorary Secretary of the Medical Committee before October 13th.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART AND PARALYSIS, Soho Square, W.—Resident Medical Officer; doubly qualified. Board, residence, laundry, and an honorarium of 10 guineas for the six months. Applications to the Secretary.

NEW SOUTH WALES, LINNEAN SOCIETY OF, Sydney.—Macleay Bacteriologist. Salary, £400 per annum. Full particulars to be obtained of Messrs. Dulau and Co., 37, Soho Square, London, W. Applications to the Council of the Society by mail not later than November 12th.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, N.E.—Junior House-Physician; doubly qualified. Appointment for six months. Salary, £15, with full board, and residence. Applications to T. Glenton-Kerr, Secretary, 27, Clement's Lane, E.C., by October 11th.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House-Physician, House-Surgeon. Appointment for six months. Salary at the rate of £50 per annum, with board and residence. Applications to the Secretary at the Hospital by October 11th.

ROYAL SEA BATHING INEIRMARY, Margate.—Assistant Resident Surgeon. Salary, £52 per annum, with board and residence. Applications to the Secretary, 30, Charing Cross Road, by October 23rd.

ROYAL VICTORIA HOSPITAL, Bournemouth.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Chairman by October 15th.

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House-Surgeon. Salary, £100 a year, with board, lodging, and washing. Applications to Henry Bonner, Secretary, by November 16th.

SUSSEX COUNTY HOSPITAL, Brighton.—Assistant House-Surgeon, doubly qualified, unmarried, and when elected under 30 years of age, Salary not exceeding £30 per annum, with board, washing, and residence. Also Fourth Resident Medical Officer, doubly qualified; unmarried, and when elected under 30 years of age. Salary, not exceeding £30 per annum, with board, washing, and residence in the hospital. Applications to the Secretary, at the Hospital, by October 13th.

SYDNEY, UNIVERSITY OF, N.S.W., Australia.—Demonstrator of Physiology. Salary, £350. Passage money allowed, £60. Applications to the Acting Agent-General for New South Wales, Westminster Chambers, 9, Victoria Street, Westminster, by October 31st.

VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's Road, Chelsea, S.W.—House-Surgeon, doubly qualified. Appointment for twelve months. Honorarium, £50, with board and lodging in the Hospital. House-Physician, doubly qualified. Appointment for eight months. Honorarium at the rate of £50 per annum, with board and lodging. Applications to the Secretary, by October 16th.

WHITTINGHAM COUNTY ASYLUM, Lancashire.—Assistant Medical Officer; unmarried, and not over 30 years of age. Salary commencing at £100 per annum, with furnished apartments, board, attendance, and washing. Applications to the Medical Superintendant.

YORK: THE RETREAT.—Junior Assistant Medical Officer. Salary, £ 0 per annum, with board, lodging, and washing. Applications to Dr. Bedford Pierce, by October 13th.

MEDICAL APPOINTMENTS.

AHERNE, Dr. J., appointed Medical Officer for the Gislingham District of the Hartismere Union.

BOND, Francis T., M.D.Lond., reappointed Medical Officer of Health to the Thornbury Rural District Council..

BOYD, J. D., F.R.C.P.Edin., appointed Physician to the Deaconess Hospital, Edinburgh, *vice* Professor Stockman, resigned.

CORBETT-SINGLETON, F. E., L.R.C.P. and S.Edin., appointed Clinical Assistant to Out-Patients at the Chelsea Hospital for Women.

CRAN, R. D., M.R.C.S., L.R.C.P.Lond., appointed Medical Officer for the Salford District of the Salford Union.

CRUTWELL, Dr., reappointed Medical Officer for the No. 5 District of the Market Harborough Union.

DENT, H. C., M.R.C.S.Eng., L.S.A., appointed Medical Officer for the Northrepps District of the Erpingham Urban, *vice* R. Fenner, L.R.C.P., M.R.C.S., resigned.

DOVE, J. R. B., M.B., B.S.Lond., reappointed Medical Officer for the Ruislip District of the Uxbridge Union.

DRAFFIN, D. K., L.R.C.P., L.R.C.S.Irel., appointed Medical Officer for the Troedyrhiw District of the Merthyr Tydfil Union.

FARRAR, J., M.D.St.And., L.R.C.P., L.R.C.S.Edin., appointed Medical Officer for the Gainsborough District of the Gainsborough Union.

FOULKES, Dr., appointed Deputy Medical Officer for the No. 1 District of the Conway Union,

GRAHAM, D. J., M.B., C.M.Edin., appointed Assistant Medical Officer to the City Hospital for Infectious Diseases, Edinburgh.

HARRIS-LISTON, T., M.R.C.S., etc., appointed Assistant Medical Officer of the Lawn Hospital, Lincoln.

HARVEY, William, F.R.C.S.Eng., L.S.A., reappointed Medical Officer of Health to the Rural District of Newton Abbot, and the Urban Districts of Newton Abbot and Dawlish.

HOPE, George. D P.H., L.R.C.P., M.R.C.S., and L.S.A.Lond., appointed Medical Officer of Health for the Greenford Urban District.

HOOTON, W. A., L.R.C.P.Lond., M.R.C.S, L.D.S.Eng., appointed Dental Surgeon to the Manchester Royal Infirmary, *vice* Mr. G. W. Smith, M.R.C.S., L.D.S., resigned.

JONES, S. C., M.D.Lond., appointed Medical Officer for the Merthyr Lower Town District of the Merthyr Tydfil Union.

LEIGH, J. Dickinson, M.B., L.R.C.S.Edin., appointed Consulting Surgeon to the Cleveland Cottage Hospital.

LE PELLEY, Amelia M., M.B.Lond., appointed House-Surgeon to the Belgrave Hospital for Children, London, S.W.

MCCARDIE, W. J., B.A., M.B., B.C.Cantab., appointed an Anæsthetist to the General Hospital, Birmingham.

MOORE, A. J., M.R.C.S.Eng., L.S.A., reappointed Medical Officer for the St. Lawrence District of the Reading Union.

MUSGRAVE, — M.D.Lond., appointed Medical Officer for the Cromer District of the Erpingham Union.

NEIL, James, M.D.Aberd., appointed Medical Superintendent to the Warneford Asylum, *vice* Bywater Ward, B.A.Cantab., M.D., resigned.

OLIPHANT, Frank, M.B.Edin., appointed House-Surgeon to the Kidderminster Infirmary.

PARK, George W., M.B., C.M., B.Sc.Edin., appointed Resident Physician at the Middle Ward Isolation Hospital, Motherwell, Lanarkshire.

PARTRIDGE, Sydney, M.D., L.R.C.S.Edin., appointed Medical Officer of Health to the Darlaston Urban District Council.

PEARSON. H. A., L.R.C.P., L.R.C.S., appointed Medical Officer for the No. 5 District of the Blandford Union.

PORRITT, Ernest E., M.B., C.M.Edin., appointed Assistant Medical Officer to the City Hospital for Infectious Diseases, Edinburgh.

ROLSTON, J. R., L.R.C.P., L.M.Edin., M.R.C.S.Eng., appointed Ophthalmic Surgeon to the Royal Albert Hospital, Devonport.

ROSE, Dr. John A., appointed Resident Physician at the Aberdeen City Hospital.

SANDELL, Henry William A., L.R.C.P.Edin M.R.C.S.Eng., reappointed Medical Officer of Health to the Eaton ayRural District Council.

SELKIRK, John, M.A.Glasg., M.B., C.M., a inted Medical Officer for the Boston Spa District of the Wetherby .

SHIRREFFS, William, M.B., C.M.Aberd., a pointed Medical Attendant for the Water, Sewerage, and Roads Dep tment of the Aberdeen Town Council, *vice* Dr. Glennie, resigned.

SLADER, G. W. B., L.R.C.S., L.M.Irel. L.A.H.Dub., appointed Medical Officer for the Blyton District of the Gainsborough Union.

SMITH, Dr. R. R., appointed Assistant Medical Officer to the Walton Workhouse of the West Derby Union.

STANLEY, Hubert, M.B., B.C.Camb., reappointed Medical Officer for the Sellinge Disirict of the Elham Union.

THOMSON, G. D., M.R.C.S., L.R.C.P., reappointed Medical Officer of Health to the Ruskington Urban District Council.

TUXFORD, Reginald, M.R.C.S.Eng., L.R.C.P.Lond., appointed Resident Medical Officer to the Guest Hospital, Dudley, *vice* S. E. Hickman, resigned.

WIGAN, George W., M.R.C.S.Eng., L.S.A., appointed Medical Officer of Health to the Methley Urban District Council.

WILLIAMS, J. T. Creswick, M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer of Health to the Whitland District Council.

WINDLE, J. D., L.R.C.P.I., L.R.C.S.Edin., reappointed Medical Officer of Health to the Southall Norwood District Council.

DIARY FOR NEXT WEEK.

MONDAY.

LONDON POST-GRADUATE COURSE. London Throat Hospital, 204, Great Portland Street. W., 8 P.M.—Mr. W. R. H. Stewart: Examination of the Ear.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 P.M.—Dr. E. E. Sansom: Presidential Address on the Investigation of Some Nervous Disturbances of the Heart. Mr. Wm. Anderson: On John Arderne, the Father of English Surgery, and his Time.

TUESDAY.

LONDON POST-GRADUATE COURSE, Bethlem Royal Hospital for Lunatics, 2 P.M.—Dr. Craig: Mania, Acute Hysterical; Acute Delirious. Hospital for Diseases of the Skin, Blackfriars, 4.30 P.M.—Dr. Abraham: Sclerodermia and Morphœa.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Dr. Buzzard: Clinical Lecture.

WEDNESDAY.

LONDON POST-GRADUATE COURSE, Parkes Museum, 74A, Margaret Street, W., 4.30 P.M.—Professor Wynter Blyth: Refuse, Removal and Disposal, etc.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W., 4 P.M.—Dr. Sidney Martin: The Diagnosis of Early Phthisis.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

EVELINA HOSPITAL, Southwark Bridge Road, S.E., 4.30 P.M.—Dr. Nestor Tirard: Clinical Demonstration on Diseases of Children. Post-Graduate Course.

THURSDAY.

BRITISH GYNÆCOLOGICAL SOCIETY, 20, Hanover Square, W., 8.30 P.M.—Specimens by Drs. Macnaughton Jones, Collins, and Hodgeson. Paper by Mr. Skene Keith: On Dysmenorrhœa.

LONDON POST-GRADUATE COURSE, British Institute of Preventive Medicine, 3.30 P.M.—Dr. Macfadyen and Mr. A. G. Foulerton: On the More Important Constituents of Normal Urine, etc. Central London Sick Asylum, 5.30 P.M.—Mr. John Hopkins: Clinical Lecture.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C. 4 P.M.—Dr. Garrod: Demonstration of Selected Cases.

SOCIETY FOR THE STUDY OF INEBRIETY, 11, Chandos Street, Cavendish Square W., 4 P.M.—Surgeon-Major G. K. Poole: The Etiology of Inebriety. Dr. Wilhelm Bode, Hildesheim: The New German Code and Inebriety.

FRIDAY.

LONDON POST-GRADUATE COURSE, Bacteriological Laboratory, King's College, W.C., 3 to 5 P.M.—Professor Crookshank: The Microscope and Methods of Cultivation, etc.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

MARRIAGES.

CAZALET—LYON.—On the 2nd October, 1897, at St. John's, Caterham Valley, by the Rev. Fergus Wood, M.A., Vicar, Granville William Cazalet, L.R.C.P.Lond, M.R.C.S.Eng., of Grey Friars Green, Coventry, elder son of the late Lt.-Col. P. G. Cazalet, Madras Army, and stepson of Francis T. Bond, M.D.Lond., F.R.S.E., of Gloucester, to Edith Louisa, eldest daughter of Jeremiah Lyon, Riddings Court, Caterham Valley, Surrey.

FEATHERSTONE — WILLS.—On September 22nd, at the Parish Church, Chapel-en-le-Frith, Derbyshire, by the Rev. J. P. Cort, Vicar of St. Anne's, Sale, assisted by the Vicar, the Rev. Dr. Given, and the Rev. W. H. Austwick, of St. Mary's, Higher Crumpsall, George W. Beaumont Featherstone, M.R.C.S.Eng., L.R.C.P.Lond., of Chorlton-cum-Hardy, Manchester, eldest son of the late B. Featherstone, Esq., Wandsworth Common, London, to Mary M. (May) Wills, eldest daughter of Charles J. Wills, Esq., of Bank Hall, Chapel-en-le-Frith.

HOGGAN—HOGGAN.—At Sefton Park Presbyterian Church, Liverpool, on September 22nd, by the Rev. John Watson, D.D., Robert Hoggan, M.B., C.M.Edin, Liberton, to Jeannie, eldest daughter of the late Edward Hoggan, M.D., L.R.C.S.E., of Liverpool. At home after November 27th.

MILL—HARROP.—On September 30th, at Holy Trinity Church, Ossett, by the Rev. H. C. Cradock, M.A., George Symers Mill, M.D., only son of W. A. Mill, Esq., Hill House, Arbroath, to Alice Mary Harrop, daughter of John Harrop, Esq., J.P., Green House, Ossett, Yorkshire.

MORTON—LAW.—On September 30th, at St. Bartholomew's, Maltby, by the Rev. J. Vernon, M.A., Vicar, Samuel Ernest Morton, L.R.C.P., M.R.C.S., son of Samuel Morton, M.R.C.S., L.S.A., of 8, Burngreave Road, Sheffield, to Mary Gertrude, eldest daughter of William Law, The Manor, Maltby.

DEATHS.

CHARLESWORTH.—At Nusseerabad, Rajpootana, September 3rd, the dear wife of Surgeon-Lieutenant-Colonel H. Charlesworth, A.M.S.

ROY.—At Cambridge, October 4th, Charles Smart Roy, M.A., M.D., F.R.S., of Trinity College, Professor of Pathology in the University of Cambridge, aged 43 years.

SMITH.—On October 3rd, at Stockton Hospital, Robert Gillies Smith, M.A.Aberd., B.Sc.Lond., M.R.C.S., L.R.C.P., eldest son of Robert Smith, M.D., Durham County Asylum, aged 36.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 12.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* British Medical Journal *are directed will be found under their respective headings.*

QUERIES.

Sigma would be glad to hear of a home where an epileptic boy, aged 13, could be received for half a guinea a week.

M.B. wishes to know the best books to read on mental physiology for the M.D. degree of London University.

A Member would be glad to know whether candidates for Woolwich are liable to be rejected owing to defective teeth? Are stopped or artificial ones allowed, and if so to what extent?

I. M. S. would like to know if coaching by correspondence is of any use for the Indian Medical Service examination. Also, what books would be most suitable for the different subjects?

Certifying Factory Surgeon and M. O. H. writes: A factory inspector complains that a factory in my district has insufficient privy accommodation. He suggests one closet to every 25 workers. What is the law or custom in the matter?

M. T. writes: Will any member suggest line of treatment likely to benefit the growth of the hair in lady of 30 in robust health? Hair has always been thin and weak, and is now coming out. Such cases too often drift to the so-called "professors," and pay exorbitant sums for bottles of hair tonics, etc.

A correspondent inquires whether it is unprofessional or wrong for a practitioner holding the diploma of L.R.C.S.I. to put "Dr." on his brass plate.

*** The title "Dr." properly implies the possession of a University degree.

M. O. H. wishes to know of a reliable up-to-date publication dealing with South Africa as a health resort. Does Grahamstown combine social advantages (such as would be desirable for a young English lady) with a climate beneficial to early phthisis? What is the most suitable time of year for a patient to arrive in South Africa?

*** There is an excellent little treatise on South Africa as a health resort by Dr. Arthur Fuller. Grahamstown is a charming little town, with nice society—and although it is not so distinctly favourable to phthisical cases as some places further up country, it is better than os uro n health resorts.

Stamped Receipts for Salary.

Receipt asks whether a Poor-law medical officer is compelled to use a stamp when giving a receipt for salary, he having always understood that such receipts are exempt from this tax.

*** We are not aware of any such exemption as our correspondent refers to, though all cheques drawn by boards of guardians are exempt from stamp duty.

ANSWERS.

H. B. should advertise in the ordinary way.

Dr. A. Sheen (Cardiff) is thanked for his suggestions.

L.R.C.S.Dub.—It is contrary to our rule either to give the names and addresses of specialists or to prescribe.

Holiday.—The French law is absolute. No one can practise medicine within the territory of the French Republic or Algeria without a diploma of doctor of medicine obtained on precisely the same terms as are imperative in the case of French subjects.

Cures for Dipsomania.

M. G.—We cannot recommend a resort to clerical advice for counsel as to the method of treatment in any case of disease. There is a multitude of alleged "cures" of this and many other maladies, testimonialised mainly by clergymen as being always, or nearly always, successful. Our correspondent had better rely on the opinion of a reputable physician, whose profession and training qualify him for giving intelligent advice.

NOTES, LETTERS, Etc.

Coto in Diarrhœa, alone or combined with Creasote and Bismuth.

Mr. C. W. Brisley, M.R.C.S., L.R.C.P. (St Leonard's-on-Sea) writes: Coto is a drug of great value in diarrhœa of all kinds if given in sufficient doses, and, if combined with beechwood, creasote, and bismuth carbonate, it will stop the vomiting and diarrhœa of cholera infantum when other remedies fail, and thus save many lives. It also seems to act as a tonic in the collapse. I have given coto with mucilage and creasote in many desperate cases of cholera infantum with success, and other medical men whom I have asked to try it have met with similar good fortune. It answers well in other forms of diarrhœa.

A child 1 year old may take mv every few hours, and the smallest babies a few weeks old can take mij; $\frac{1}{10}$ minim creasote (beechwood) for a child of 6 months, to $\frac{1}{8}$ or $\frac{1}{5}$ minim for a child of 1 or 2 years, combined with tr. coto mij to v, and mucilage, will often stop the symptoms rapidly; bismuth carbonate, in addition, makes doubly sure. For a child a year old: ℞ Creasote (beechwood), mij; bismuth carb., gr. xx; mucilag. tragac., 3ij; tr. coto, 3j; aq. cinnamoni ad 3jss. Misce. Signa: One teaspoonful every four hours. Or the bismuth may be omitted.

The main thing is to give the coto with creasote. A few doses is often sufficient. Adults may take mxv to mxx of tr. coto every four hours, with mij or miij creasote and gr. x bismuth. carb., the mucilage being, of course, given to emulsify the creasote, and suspend the bismuth, the aqua cinnamoni (a feeble astringent) being used to disguise the taste.

Such immense success has followed this treatment in my hands, and in the hands of others, that I think attention should be called to it.

Medical Assistants.

On September 18th we published a letter from "L.S.A." on the subject of medical assistants. He said that for a salary of £45 or £50 a year indoors he formerly could get "a good practical man, who could dispense well, attend an ordinary confinement, visit less serious cases alternately with his principal, keep his books, and be of great assistance about the surgery," the latter phrase being apparently a euphemism for "answering the surgery door," whereas now the general practitioner is obliged to keep a qualified assistant, who expects from £80 to £90 a year indoors, and has to be taught his duties.

To this letter we have received a shoal of replies, many of them couched in sarcastic terms. It is pointed out, first of all by M.A.Cantab., that the complaint made by "L.S.A." is incorrect, and that if the assistance he requires is limited by that mentioned in his letter, "the Medical Council unfortunately does still allow unqualified men to do such work." But if he wants a sound article he must pay for it, and he must necessarily be doomed to disappointment if he expects "to obtain a reliable gentleman qualified for all the exigencies, professional and social, of a general practice for from £60 to £90 indoors." "For my own part," says "M.A.," "I see very little difference between the 'sweating' of an assistant, who earns for his principal a larger income than is paid—perhaps 60 per cent. less—and the 'sweating' of their medical officers by the friendly societies."

The opening of the surgery door seems a sore point with most of our correspondents. It is maintained that "the reason that these unfledged men come for the pittance he offers is that they do want experience," and as soon as they get it they go. The principal gets all he pays for, and has no cause for complaint.

"M.B.R.U.I." has seen more examples of ignorance among principals than among assistants, and he points out that the dissatisfaction expressed is owing to the fact that conditions have changed, and that however well qualified a man may be, he cannot be expected to be conversant with the idiosyncrasies and methods of his principal as the old type of unqualified assistant was, for the skill the principal wants to find in his assistant is something outside professional education. "The only way out of the difficulty is for the general practitioner to treat his assistant as a social and professional equal, or else employ a dispenser and do his own medical work."

"Pro Bono Medico" very pertinently compares the lot of the army doctor with that of the assistant, and says that after all the protests concerning the want of courtesy shown to medical officers by their military *confrères* it is surprising that letters should remain unchallenged which shew that in the alternative mode of getting a living, namely, becoming an assistant, men are expected "to act as dispensers, clerks, bottle washers; 'L.S.A.' would also have them attend to his surgery door, added to this they have generally to attend to all night cases unless the patient be some particularly good one." Bad as the army may be there seems to be a still lower depth, which may explain much.

The more purely sarcastic effusions hardly bear analysis or condensation. One writer suggests that "a student entering the portals of his profession might become in his final years hospital porter, then he would learn the habit of attending to the surgery bell. He might then spend six months or so after qualifying as bottle washer to the dispenser, and learn to wrap up bottles of medicine and powders. The generous hospital authorities might give the alternative of attending this course as counter boy to some chemist. He might then become a clerk in the secretary's office for another nine months to learn the subtle art of book keeping..... A final three months as waiter in a first-class hotel might brush away the rough hospital manner of the aspirant. After this training the assistant would be in a position to command the enormous salary of £80 or £90 per annum, and to fulfil the requirements of an exacting L.S.A."

We sympathise with the writer. We feel that what he writes is not only smart, but expresses very accurately a very sore feeling among young qualified assistants. And yet, when we look at facts, all the things that seem to rankle so in his mind are things that the young general practitioner will be found doing for himself, yea, often, even to the opening of the surgery door, until he begins to make his way, till he, perhaps, employs a "newly-fledged" assistant for himself, and, maybe, even writes letters to the British Medical Journal bewailing their deficiencies.

"Menstruation (?) in Newborn Infants."

Dr. F. W. Forbes Ross (London, W.) writes: Certain correspondents have lately written concerning what they describe as menstruation in infants. Permit me to offer a few remarks on the subject. This affection occurs, at a modest computation, in nearly 40 per cent. of female infants. I myself have seen it over and over again—so often, indeed, that I had begun to look upon it as usual. Quite recently I saw it again in a female infant, and the nurse remarked that it was "common." The same remark was made to me by a well-trained and experienced nurse two and a-half years ago in the case of an infant a near relation of my own. I have made inquiries of older and more experienced practitioners, and am assured that it is by no means a discovery of the immediate past.

I personally have investigated the nature and origin of the sanguineous discharge, and cannot agree with statements that it is either menstruation or issues from the vagina. As to duration, that it lasts twenty-four to forty-eight hours is fairly correct. The date of its occurrence after birth corresponds with the period necessary for excoriation of the vulva and that portion of the anterior vaginal wall immediately behind the urethra and from the hymen and labia minora. Whether from irritation by acid urine or organisms—because the epithelium of

those parts are particularly delicate and liable to erosion and ensuing capillary exudation—is difficult to say. The fact remains that lotio plumbi or sulphate of zinc stops it promptly.

Pus cells are to be noted under the microscope immediately before and just after the red discharge ceases. This is a discharge more frequent in 6-months premature births than in full-term infants. If your correspondents will take the trouble to examine the napkins of all the female infants they come across, they will find that this so-called phenomenon of menstruation in infants is only a vulvo-vaginal muco-sanguineous discharge, due to local causation; is not menstruation, even though "bright red;" and is by no means unique or of recent occurrence or discovery.

Wax Candles for the Complexion.

A curious story comes from Worcester. It appears that a young girl has committed suicide by eating wax candles. It is said that they were taken to improve her complexion, and that the habit was persisted in in spite of the remonstrances of her family. We all know that wax candles contain, or are reputed to contain, arsenic, and that arsenic is employed in the treatment of various skin diseases; but a candle seems to be a somewhat unusual vehicle in which to administer so potent a remedy. It is stated that the patient died in a comatose condition, and that death was attributable to "malnutrition of the vital centres of the brain," the result of anæmia. The whole story is so improbable that we await further particulars before expressing an opinion on so remarkable a case.

Diphtheria in the Country.

Dr. W. Whitworth (St. Agnes, Cornwall) writes: It may not be out of place to send you the subjoined summary of 122 cases of diphtheria which have fallen under my care during the last four years, not specially as further testimony of the value of the serum treatment, but because a statistical comparison of the treatment in the cottages of the poor with the statistics of hospitals may be useful. If in country practice we are more fortunate in injecting the serum in an earlier stage of the disease, we have the disadvantage of ignorance, bad nursing, insanitary surroundings, and sometimes pure indifference to contend with.

My cases readily fall into two series separated by a well-marked interval. The first series preceded the introduction of the serum treatment. In the second series the serum treatment and confirmation of diagnosis by bacteriological examination were carried out as fully as possible.

	Date.		Period.	No. of Cases.	Recovered	Died.	Mortality per Cent.	Treatment.
	From	To						
1st series	9/9/93	18/5/94	8 mos.	65	44	21	32.30	Old routine.
Interval ...	18/5/94	10/9/95	16 mos.	None	—	—	--	——
2nd series	10/9/95	10/9/97	2 years	57	53	4	7.01	Antidiphtheria serum & boric acid gargles.

Note on the Four Deaths in the Second Series.—No. 1. A girl, aged 19; moribund when first called to her; she died same evening. No. 2. A boy, aged 10; serum not injected till fifth day. No. 3. A man, aged 37; serum not injected till fifth day. No. 4. A girl, aged 10; apparently convalescing and out of bed, died somewhat suddenly on sixteenth day from cardiac paralysis.

Royal Edinburgh Hospital for Sick Children.

Edina writes: The directors of this hospital have just appointed two resident physicians. One is a lady and one a gentleman. This is the third appointment of a woman to this hospital. The dispenser and the clerk and registrar are both women. Exception is not being taken to medical women, nor to the medical education of women. Rather would one see greater facilities for the fuller and fitter education of medical women But doubt may be expressed whether the directors of this particular hospital are not going much too far in the appointment of women. These directors ought to know that in the Edinburgh Medical School there is a great preponderance of men over women. While then women are appointed—and have an *a priori* right to be appointed—to various posts, it is only reasonable that this should be done with a due regard to proportion and ability. Hitherto it has only been found possible to provide one sitting room for the residents. A second sitting room could not be found because there was no space. Is it now proposed that the young lady and the young gentleman just appointed shall share one sitting room? Are they to have their meals together? In times past the residents have been chosen by the staff, and the directors have generally set their imprimatur on the recommendation of the staff. It is only fair to the staff to say that they did not recommend the appointment of a representative from each sex on this occasion.

LETTERS, COMMUNICATIONS, Etc., have been received from:

(**A**) Mr. R. B. Anderson, London; Mr. H. Aveling, London; F. C. Abbott, London; Mr. F. Addiscott, London. (**B**) Mr. T. C. Booth, Manchester; Mr. a de V. Blathwayte, London; Mr. W. E. Burton, Frodsham; J. W. Batterham, M.B., St. Leonards-on-Sea; Dr. Bannatyne, Bath; Dr. J. B. Bird, Carlisle; Mr. R. Brogier, Oxford; Dr. J. W. Ballantyne, Edinburgh; F. M. Blumer, M.B., Stafford. (**C**) Mr. W. J. Cant, Lincoln; Dr. W. Carter, Liverpool; Mr. W. Cross, Liverpool; Church Sanitary Association, Secretary, London; Mr. A. H. Cresswell, London; Dr. J. Craig, Dublin; Charing Cross Hospital, Dean, London; Mr. T. S. Cotterell, Bath; Clinical Assistant. (**D**) Davos; Dr. T. M. Dolan, Halifax; Mr. A. Doran, London; Dr. L. Drage, Hatfield; R. A. Dove, M.B., Brigg; Mr. W. Dent, Cheltenham. (**E**) Miss N. Evans, London; Dr. G. H. Edington, Glasgow. (**F**) Mr. G. P. Field, London; Fulona Food and Cereal Company, London; Dr. H. M. Fletcher, London; Dr. M. Foster, St. Paul, Minn.; Mr. J. B. Footner, Tunbridge Wells; Dr. L. Furst, Berlin. (**G**) H. Galt, M.B., Glasgow; Dr. A. E. Giles, London; Mr. M. Gray, Nunhead; Mr. H. C. Gover, London; General Practitioner; Mr. H. B. Garnett, London; J. Graham, M.B., Edinburgh; Mr. H. Gadow, Cambridge; Dr. L. G. Guthrie, London. (**H**) H. B.; Mr. E. Hodenpyl, New York; Mr. H. Hall, Frant; Mr. W. A. Hooton, Manchester; Mr. T. F. Hopgood, Sunderland; Dr. A. P. Hillier, London; Dr. T. E. Hughes, London; Mr. G. Hope, London; D. A. Hill, Cambridge; Messrs. J. Haddon and Co., London. (**I**) I.M.S. (**J**) Mr. H. E. James, Glasgow; Mr. H. Jeffries, Bolton; Mr. H. H. Jennings, London; R. Johnson, M.B., London; S. Jones, M.B., Manchester. (**K**) Dr. W. M. Kelly, Taunton; Messrs. Krohne and Sesemann, London; G. E. Keith, M.B., London. (**L**) Mr. F. Land, Lewes; Mr. J. D. Leigh, Edinburgh; Mr. H. Lawrence, London; Dr. W. G. V. Lush, Weymouth. (**M**) Member B.M.A.; Mr. H. Murray, Baltimore; Mr. C. R. Mackie, Cullompton; M.B.; Dr. C. F. Marshall, London; Messrs. Mayer and Meltzer, London; Mr. E. Merck, Darmstadt; W. J. McCardie, M.B., Birmingham; Mr. C. L. Morton, Umtali, Rhodesia; Dr. W. Murrell, London; M. T.; M.R.C.S.; Dr. J. W. Moore, Dublin. (**N**) Mr. A. G. Newell, Cymmer; National Dental Hospital, Secretary of, London; Mr. P. Newell, Crowborough; Dr. A. Newsholme, Brighton. (**O**) Dr. J. Oliver, London; Mr. F. Oliphant, Woburn. (**P**) Dr. G. C. S. Perkins, London; Perplexed; Mr. G. C. Peachey, Wantage; Mr. R. Pollock, London; Mr. T. D. Poole, Wolverhampton; Precedent; Mr. T. L. Pennington, Liverpool. (**Q**) Qualis ab incepto. (**R**) Mr. T. Ryson, London; Dr. A. P. Russell, Lincoln; Mr. W. G. Ridewood, London. (**S**) Mr. W. D. Spanton, Hanley; Surgeon and M.O.H.; Mr. J. J. Smith, London; Simple Justice; Mr. A. Sharpin, Bedford; Messrs. Street Bros., London; Sigma; W. Shirreff, M.B., Aberdeen. (**T**) Mr. R. Tuxford, Dudley; Dr. A. Todd, Monkstown; Messrs. Thompson and Co., Liverpool. (**V**) Vae Victis; Mr. S. K. Vines, Doncaster. (**W**) Mr. L. Webster, St. Albans; Dr. H. Woods, London; G. E. Williamson, M.B., Newcastle-on-Tyne; Dr. W. White, Hadfield; Mr. S. Wilson, London. (**Y**) M. Young, M.B., Crewe.

BOOKS, Etc., RECEIVED.

The Sanitary Inspector's Handbook. By Albert Taylor. Second Edition. London: H. K. Lewis. 1897. 5s.

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OF THE

BRITISH MEDICAL ASSOCIATION

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICINE.

Stephen Mackenzie, M.D., President.

INTRODUCTION TO A DISCUSSION

ON

THE DIETETIC TREATMENT OF DIABETES.

By Robert Saundby, M.D., F.R.C.P.,

Physician to the General Hospital, and Professor of Medicine in Mason University College, Birmingham, England.

When not many months ago your distinguished President paid me the compliment of inviting me to open a discussion in this Section, I fully appreciated the brilliant opportunity afforded me; and I can only express my regret that in this year of festivities, amid the bustle of many engagements, I have not been able to do for you all I wish and you deserve. I should not have accepted this position but for the consideration that we who were intending to cross the Atlantic to represent British medicine upon your shores were after all but a small band, and that each was bound to do his best for the honour of England, if not for the edification of Canada. At the same time, it gives me great pleasure to address you upon a subject in which I take great interest; and, although assured beforehand of your courteous reception of any views I may express, I venture to hope that they may find some echo among you, and that they will travel back to Europe with the authority of your approval.

When the diagnosis of diabetes mellitus has been established, sometimes when only the presence of sugar in the urine has been detected, it is the very general practice to place the patient upon a so-called "diabetic diet." That is to say, he is furnished with a list of permitted and forbidden articles of food and drink arranged upon the principle that all carbohydrates are injurious, and he is told that he must keep to this diet until the sugar has disappeared from his urine. The extent to which this regimen is followed depends upon the authority of the doctor and the docility of the patient, but any relaxation is regarded as a departure from the right rule. It may be conceded to the exigencies of the patient, but is never offered as part of a rational scheme of dietetics. I believe this to be a perfectly fair statement of the general practice in Europe, and I suppose in America as well, in spite of the fact that not a few protests against it have been made by those who have a right to be heard on this question.

Diabetes mellitus is nothing more than the name given to a clinical group characterised by the presence of persistent glycosuria. The causes of this glycosuria and the proper classification of the components of this group are still much debated. Meanwhile, the various doctrines in dispute should not be allowed to influence our views upon treatment, and certainly have no claim to the predominance which they have so often successfully asserted.

In health the urine contains no sugar, or only a minute trace, so that all carbohydrates ingested are in some way converted or destroyed, provided their quantity is not excessive—that is to say, this capacity for utilising carbohydrate food is not unlimited, and is subject to variations in different individuals and in the same person at different times. A dose of grape sugar, varying from 150 to 200 grammes, is invariably followed by transient glycosuria, and we are familiar with the occasional occurrence of the same phenomenon in healthy persons after some error of diet, such as taking too much sweet champagne. Such cases are on the borderland of diabetes, and von Noorden has suggested that persons who become easily glycosuric from slightly exceeding their usual allowance of carbohydrate food are liable to become diabetic. This is a point upon which further evidence is required, but it is impossible to deny their close relation to those milder cases of diabetes which yield readily to a moderate reduction of carbohydrate food.

But carbohydrate food is not the only source of sugar. In severe diabetes glycosuria continues, although much reduced in amount, when the patient is placed on a flesh diet, and this is explained by the discovery that a carbohydrate molecule is formed in the process of converting albumen into urea in the proportion of 45 parts per cent. This fact, duly appreciated, must convince everyone of the futility of persisting in withholding carbohydrates in the hope of removing the glycosuria; or at least it cuts away the physiological ground for this practice, and compels us to look for its justification, if it can be justified, in clinical experience. This is the point at which I wish to arrive. If it is conceded that the disputed data of physiologists do not afford a sound basis for our treatment of diabetes, but that we must look to clinical results before we say that a means is good or bad, then the old routine method is doomed.

Instead of ordering a stereotyped diet in every case, we shall try experimentally in each individual how much carbohydrate, or rather what combination of proteid, fat, and carbohydate gives the best result. This is the method which I wish to advocate here to-day, and perhaps you will allow me to say that the views I now entertain have been adopted solely upon the basis of clinical experience. The first definite step towards the acquisition of clinical experience in the dietetic treatment of diabetes was made by Rollo when he put his patients on flesh diet, and it is an experiment worth repeating by everyone who wishes to study the subject. If anyone will try it, and then watch the effect of the cautious addition of carbohydrates, he will notice not only that the patient is very much happier, but that he gains weight, proving thereby that physiological equilibrium, even in a diabetic, may be restored by carbohydrates. At the present day no one attempts to keep people on Rollo's diet, but if they were consistent they should do so. The present orthodox diet is to a great extent a pretence. Potatoes, which contain 15 per cent. of starch, and milk with its 3 per cent. of lactose, are forbidden; while gluten bread and all the fancy articles from the diabetic food shops, many of which contain from 25 to 40 per cent. of starch, are allowed without stint. There is no attempt at dosage; forbidden articles are absolutely excluded, but no limit is placed on the quantity of those permitted. It is not at all uncommon to find a patient stripped of all carbohydrate food except brown bread or toast, a concession to the exigencies of the situation, but this is taken at discretion. What is the good of measuring the excretion of sugar to the decimal part of a grain, when no account is taken of that which goes to form this sugar? If it is worth while to weigh the patient, to measure his urine, and to estimate his sugar, it is quite as important to weigh his food.

My method, after all, does not involve a great sacrifice of time on the part of the doctor; in fact, all the most important observations can be made, and a register kept, by the patient himself; the only thing he cannot do is the analysis of the urine. I recommend that the patient should once weekly get weighed, and collect and measure with approximate accuracy the whole of his urine for twenty-four hours; a specimen of the urine should be sent to the doctor, who should determine the total amount of sugar in grains or grammes. Of these observations, the body weight is the most important, for if, after allowing for fluctuations of 3 or 4 lbs., it continues on the whole to be stationary or tending upwards, we have the best proof that the diet is properly regulated, even though the sugar shows a moderate increase.

In order to determine the diet most suitable to each patient we must proceed experimentally, and although this may be done either by gradually reducing or gradually increasing the amounts of saccharine and starchy food, the latter is the more convenient plan. It is easier for the doctor to make concessions than to insist upon further restrictions, and patients are contented to put up for a short time with considerable deprivations when they are told that relaxations will be made as they are found to be safely permissible. In addition, many patients are suffering from polyuria with frequent micturition and great thirst, and these symptoms can best be checked by strict diet for a limited time, combined, if

necessary, with the administration of a grain or two of extract of opium every night. Further, the result of strict diet affords valuable information for prognosis, as it is only in the milder cases that the sugar disappears under its influence.

By strict diet I mean that from which sugar and starch are excluded as far as possible. I do not allow gluten bread, but employ as a substitute for ordinary bread the "brown loaf" or starchless biscuits made by Mr. Callard, of London. If these were not procurable I should use cakes made of almond or gluten flour fermented to destroy any sugar that might be present. Callard's brown loaf contains only 6 per cent. of starch, and is quite as palatable as gluten bread; the biscuits are free from starch.

The patient should, if possible, make one meal, for example, breakfast, of fat bacon or eggs and bacon, with which he may eat cabbage and the above-described bread or biscuits. He is, of course, allowed other green vegetables, any animal food, tea or coffee with cream, and, if he desires it, 2 to 3 ozs. of sugar-free alcohol, with mineral water.

When the effect of a week of this diet upon the glycosuria has been determined, I proceed according to the result. Should the sugar have disappeared entirely, or almost entirely, I add 6 ozs. of baked potatoes and $1\frac{1}{2}$ pint of milk, containing between them the equivalent of about 1,100 grains of sugar. If this causes no glycosuria I order $4\frac{1}{2}$ ozs. of dry toast, of which about 800 grains are starch. I also allow a bottle of light wine containing very little sugar, such as ordinary Bordeaux or Moselle, or in some cases a pint of bitter Burton ale. If such a diet causes no return of symptoms, the doctor may be satisfied and the patient is generally contented, and if sugar continues to be absent the quantity of toast or bread may be gradually increased to double the amount. Such cases are, however, exceptional. As a rule the sugar, though diminished, persists; it may have been 10,000 or 12,000 grains before dieting, and afterwards falls to 2,500 or 3,000 grains. Here I proceed in the same way, giving first the milk and then the potatoes, and if there is no return of distressing symptoms I do not retrace my steps because there is some moderate increase of sugar, but watch the body weight, and I am satisfied if that shows no loss, while generally it shows a gain. In these cases I keep the patient on this diet for many weeks before venturing to make a trial of ordinary bread, and often the patient has to be content to do altogether without it. I prefer to increase the potatoes, for although physiology has so far given us no explanation of the fact, there is considerable difference in the behaviour of the various sugars and starches. Thus glucose and cane sugar appear more readily in the urine than lactose and levulose, and I am convinced that the starch of cereals is for some reason more productive of glycosuria than that of potatoes. Levulose, which can now be obtained for diabetics, is not of much value from the patient's standpoint, except, perhaps with children, who crave for sweetening agents, yet for this purpose it is inferior to saccharin. As a means of adding carbohydrate it is expensive, but can usually be assimilated if given in not greater quantity than $1\frac{1}{2}$ oz. daily.

I have not laboured very much to prove the advantage of a more liberal diet in diabetes, because it appears to me that if it can be done safely, everyone must admit its advantages. I do not care to dwell on the repulsiveness of ordinary diabetic diet, on its indigestibility, its danger when albuminuria is present, or upon its alleged action in producing acetonæmia; but I will only add that I have been treating patients on this plan for some years with satisfactory results. I admit that the same ends are often attained upon the ordinary plan as the result of compromises between doctor and patient, but at some loss of medical dignity, or at some private sacrifice of the doctor's own opinions. In urging the adoption of a standpoint from which concessions would be voluntary and given with good grace, or withheld for reasons that the patient could appreciate, I am asking your support for a method which has already many open advocates on the Continent of Europe, and probably many silent friends in England and in America. In France, Worms and Barth have expressly recommended the plan here proposed—namely, to commence with strict diet, and add carbohydrates in such quantities as experience may show that each patient can assimilate, while similar views have been upheld in Germany by Hirschfeld and Leo. During the last few years, in papers or speeches at societies, the addition of carbohydrates to diabetic diet has been supported by Leyden, Klemperer, Bouchard, Dujardin-Beaumetz, Oettinger, Charrin, Lindemann, Mai, von Noorden, Grube and others. If I have failed to convince you, the fault lies with the advocate and not with the cause, which in more powerful hands must in the long run triumph over a system which struggles to keep up appearances, but is in reality either a cruel blunder or a hollow sham.

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Dr. Sidney Coupland felt that it was most difficult to debate the full and scientific exposition of the subject given by Dr. Saundby, who had advocated the careful regulation of the amount of carbohydrate permissible to the diabetic, and shown that in the so-called "diabetic regimen" all carbohydrate food could not be excluded. Diabetes presented itself under so many forms that all rules of treatment had to be adapted to every individual case. Moreover some responded more readily than others to dietetic treatment, although mostly it effected more or less notable diminution in the amount of sugar excreted, but very rarely caused its entire disappearance; some cases were even barely affected by it. He mentioned a case recently under his care in the Middlesex Hospital—not a severe case, and in an elderly woman—where, however, dietetic restriction did not effect the complete disappearance of sugar in the urine, which followed shortly after codeia was administered, the glycosuria returning on ceasing the drug without further change in the diet. Such an experience was not uncommon with other drugs, and yet it was impossible in any given case to predict that it would be encountered. Much had yet to be learnt of the pathology of diabetes before a rational treatment could be arrived at. In conclusion, he referred to the unexpected manner in which acetonæmia arose, due to physical or mental fatigue, and he thought this terribly fatal complication might be hastened by a too abrupt restriction of diet; so that in hospital practice it was perhaps wise to wait a few days before adopting this regimen.

Dr. Shingleton Smith expressed his belief that there was greater danger in too much latitude in diet than in too rigid restriction; that until the sugar had disappeared from the urine the restriction from carbohydrate food must be absolute unless some complication necessitated a change. Compromises are not to be admitted at first, but as soon as the sugar has been reduced below 1 per cent. then some latitude may be admitted; and thereafter the patient should be allowed as much latitude as may be possible. Drugs are of secondary importance, and the dietetic is the one all-important point in the treatment of the disease. Every case must be a close and continued study, but some such routine diet as that suggested by Dr. Saundby must be maintained continuously. Latitude in this respect is likely to be followed by more or less speedy disaster.

Dr. E. Duncan (Glasgow) desired to say that in his experience the estimation of the amount of sugar in the urine was not the most important point. It was quite possible to diminish the sugar in the urine and starve the patient. The estimation of the body weight and of the muscular strength was quite as important; evidence of increase of nerve power in any direction was as important as elimination of the sugar in the urine. In cases of diabetes from extensive disease of the pancreas it is difficult to see that any treatment can do permanent good. But there is a large class of neurogenous cases in which the excretion of sugar in the urine depends on the loss of power in the sugar-consuming cells to absorb and

utilise the sugar in the blood. In these cases he believed that restriction of the diet was absolutely essential, particularly in young persons. Rest from over-work was essential to these sugar-consuming cells, and was always followed by improvement and ultimately recovery of power and strength.

Dr. Tyson (Philadelphia) said: Whatever may be the etiological and pathological difficulties in the way of a thorough understanding of diabetes mellitus, and the consequent obstacles to a rational treatment, practically, in my experience the cases fall very easily into one of two categories for treatment—the mild and the severe. I include in the mild cases all those in which the glucose is removable from the urine, and presumably from the blood, by dietetic treatment only. In the severe cases I include all those where the sugar is not thus easily removable. Of great practical importance is the fact that, if neglected, the mild case may pass over into the severe one. For the first class of cases the dietetic treatment may be regarded in a sense curative; for it is certainly true that as long as the urine of such a diabetic is free from sugar he is practically well. I believe this is acknowledged by all who have had very much experience in treating the disease. The degree of rigidity in diet required varies, of course, with the cases. In some the exclusion of the purer carbohydrates alone, such as sugar and starches, is sufficient. In others all kinds of bread except the purest obtainable gluten—which is at once difficult to obtain and most unpalatable as a bread—must be omitted. In a large number of such cases a very considerable latitude is permitted in the use of vegetables, and it goes without saying that a diet so little restricted is totally without disadvantage to the patient. It has happened to me in a few cases that a continuance of such a diet for some time has apparently resulted in a cure—by which I mean that the patient has subsequently been able to use an ordinary mixed diet without return of sugar. It may have been that in these instances Nature has been working a cure which she was unable to make on the ordinary diet. In other cases such improvement as that just referred to has been followed sooner or later by a relapse, in which, however, the same treatment again sufficed to bring about the same change for the better. In a certain other proportion of cases such a moderately rigid diet does not altogether remove the sugar, but reduces it to such a small percentage—say below 2 per cent., or 1 to 10 g. in the twenty-four hours—that the patient is still practically well, and can go about his business as though nothing was the matter, though perhaps in strict truth such a patient has a tendency slowly to get worse. In such a case, too, I consider it a matter of the extremest importance that at intervals of, say, a month, he should be put on a diet sufficiently rigid to take out all the sugar, and it often happens that such diet must be purely albuminous. To live upon such a diet for one, and even two days if necessary, is not only harmless to the patient but also in no way a privation, and, so long as I can so influence the urine of my patient, I regard him as perfectly safe. It does not seem to me worth while in such cases to consider the question as to whether a proteid diet is harmful by reason of any tendency to produce diacetic acid or allied toxic substance, because it is quite impossible for such substances to develop in toxic quantity in the small time during which the treatment is carried out. Let us take, however, the second class of cases, in which even the most rigid proteid diet, while it will influence the quantity of sugar secreted, does not get rid of it altogether. In these cases even the proteid radicle is split up into products, of which glucose is one, and it may be, too, that even the body albumen shares the same fate. It is well known that the addition of codein or opium to the treatment will have a useful effect; but, as I understand it, we have to do to-day only with a dietetic treatment. The problem at once becomes a more difficult one. It is to be remembered that a proteid diet still influences the quantity of sugar, but it does not take it all out of the blood. The problem is, however, rendered more simple in practice. No patient, in my experience, will submit to a pure proteid food for any length of time. Hence a certain proportion of carbohydrates in the shape of vegetables must be allowed. The question, according to some, remains, Is there any reason for modifying the diet at all in these cases? In my mind there is; for, apart from its uselessness as a force producer, and throwing out of consideration the older view that diacetic acid is, and allied substances are, direct products of sugar metamorphoses there are certain harmful effects due to sugar in the blood alone. One of the most noteworthy of these is diabetic cataract and a general degenerative effect on the tissues due to long saturation with sugar. Again, the polyuria being partly, at least, due to the effort of the system to rid itself of the sugar, is at times so annoying a symptom as to worry and exhaust the patient. So far as possible, therefore, I would still restrict even the members of the second category of cases to a diet containing a minimum of carbohydrates. In view of the fact that a total proteid diet continued over more than a few days is a practical impossibility, it may seem scarcely worth while to consider the question of the possible harmfulness of a pure proteid diet as a source of diacetic and oxybutyric acids, but as this question, although not a new one, has recently been raised again by a series of excellent papers by Dr. Munson, of the United States Army, some allusion ought to be made to it. Dr. Munson has shown by observations on a single case that the diacetic acid increased in the urine during the administration of a pure proteid food, although the glucose diminished, while the symptoms became aggravated. I endeavoured to repeat Dr. Munson's experiments in a case in my wards before leaving Philadelphia, but I soon found I was not enough of a chemist to carry them to a conclusion in the short time allowed from the very general directions given by Dr. Munson. As the studies of skilled and well-trained physiological chemists have shown that the chief source of these substances is the splitting up of the body albumen in response to the inexorable progress of the disease, I cannot conceive that the small addition due to a proteid food would seriously aggravate the condition, while as I have already said the practical impossibility of continuing such food makes the question a less important one. In conclusion, I would say that my method in the management of an individual case is precisely that of Dr. Saundby: first to place the patient on a rigid diet, and having succeeded, as one commonly does with the majority of cases in eliminating the sugar, to add gradually one article of food after another, until as much carbohydrate is allowed as is consistent with the safety of the patient, as determined by the symptoms, in which I include permanently a glycosuria not exceeding 2 per cent.

Dr. Jacobi (New York) said: There is a difference of dietetic treatment according to ages. The younger the patient the more they are endangered by carbohydrates. I never saw a child getting well of diabetes under any treatment, but I saw them getting worse quickly unless their diet was strictly proteid. It only preserves them longer. I have allowed them carbohydrates towards the end of their lives, but for the sole purpose of making them more comfortable. Old persons in whom diabetes is apt to last five or twenty-five years tolerate and require some carbohydrates, particularly those who are emaciating. As to milk diet (not exclusive milk diet), I side with those who give it, not only Donkin's skim milk, but milk in every form—pure, boiled, skim, butter milk—not cheese, or whatever it is.

Dr. Lindsay (Belfast) thought there was not so much real diversity of view amongst the speakers as might appear at first sight. He could agree generally both with Dr. Saundby and Dr. Shingleton Smith. It came to this—that we must distinguish between cases, allowing a large amount of dietetic liberty to elderly patients, very little to young patients. The clinical condition must be the chief guiding landmark, the state of the urine, though very important, being secondary. He had recently seen a case in a child in which a marked improvement in the urine was followed by the sudden death of the patient. He strongly condemned the exclusively milk diet, but thought that in elderly patients and in mild cases a certain amount of milk should be allowed on the broad principle of keeping up the patient's nutrition.

Dr. H. P. Wright (Ottawa) said: I have been for years in the habit, based upon a somewhat extensive experience, more in private than hospital practice, of dealing with glycosuria and diabetes—the former an ailment associated with, usually, digestive derangement, and always with sugar in the urine, and having no known or discoverable pathological background; the latter having some evident serious pathological cause associated with emaciation, thirst, and sugar

in the urine, with polyuria. The glycosuric cases usually occur in elderly people, and with an observed, though not restricted, diet do well and enjoy fair health for many years. The diabetic cases do not do well under any treatment, though helped in many instances. I am therefore fully in accord with the views held by Dr. Saundby. I should like here to speak of another type of case, that discovered accidentally in life insurance examination, and would like briefly to recite one case occurring in a healthy adult, 44 years of age, muscular beyond the average, and fully up to the usual weight. As he was a patient of my own I had many opportunities of examining his urine, and always found sugar, even when a "diet" was observed. In such a case I would like to know from Dr. Saundby, should a "diet" be observed, and particularly, if I may be allowed to sidetrack the question strictly under discussion, should such a patient be accepted by any life company?

The PRESIDENT stated how greatly he was impressed with the value of Dr. Saundby's paper in dealing with the question of the limitation of diet in diabetes, and with his protest as to a rigid routine of diet in all cases. He had showed how important it was to ascertain by observation the limits to which starch and sugar could be given with advantage to the patient, being guided by the body weight and nutrition rather than by the amount of sugar in the urine. By this means much better results were obtained than by the attempt to cut off all starch and sugar.

THE TREATMENT OF DIABETES MELLITUS BY NITRATE OF URANIUM.

By EBENEZER DUNCAN, M.D.,
Physician to the Victoria Infirmary, Glasgow.

MY attention was first directed to the use of nitrate of uranium as a remedial agent in diabetes mellitus by the perusal of a paper read by Dr. Samuel West, of London, before this Section of the British Medical Association in 1895. In that paper Dr. West gave a carefully detailed account of two cases in which the administration of this uranium salt in doses of 5 to 15 gr., with suitable dieting of the patients, was followed by entire disappearance of the glycosuria for a considerable period of time, and although the glycosuria ultimately returned in a modified form, very great improvement in the general health and strength of the patients ensued. Increase of weight and alleviation of thirst were believed by Dr. West to be the general results, not only in these cases, but also in others treated in the dispensary practice of the hospital. Last year Dr. West made a further communication, giving 5 fresh cases, but although some improvement followed the use of the drug, the results were somewhat disappointing. A few cases have been treated in various hospitals since. In most of these cases, as far as I can gather from reading and conversation, the results have not been so good as those recorded by Dr. West in his first communication. I think it likely that physicians have been deterred from using the remedy in sufficient doses, and for a sufficient length of time, by the statement that nitrate of uranium is a dangerous irritant poison producing gastro-intestinal irritation and nephritis. This statement is based upon physiological experiment conducted by various observers on cats and dogs and rabbits, but I do not know of any recorded case of poisoning by nitrate of uranium in the case of man. Certainly no injurious effect has been recorded from the use of the remedy in doses of 5 to 20 gr. taken thrice daily for several weeks or months.

As the result of my experience, I have formed the opinion that the treatment of diabetes mellitus by nitrate of uranium merits further trial, and I shall now place before you the details of the cases which have led me to form that opinion.

CASE I.—J. McL., aged 32, labourer in Turkey Red Dye Work, was admitted to the Victoria Infirmary on April 17th, 1896, complaining of thirst and excessive flow of urine of five months' duration. Notwithstanding an excessive appetite he had lost flesh and become much weaker. His knee-jerks were absent. There was no evidence of any organic disease. The first twenty-four hours' urine measured 9 pints and contained 35 gr. of sugar per ounce (a daily excretion of 6,300 grs. of sugar). His weight, taken on the day of admission, was 9 st. 1 lb. For four days he was kept on ordinary diet, with the result of an increase of the urine to 10 pints per diem, containing 40 grs. per oz. of sugar (8,000 grs. per diem). He was then dieted on absolute skimmed milk,

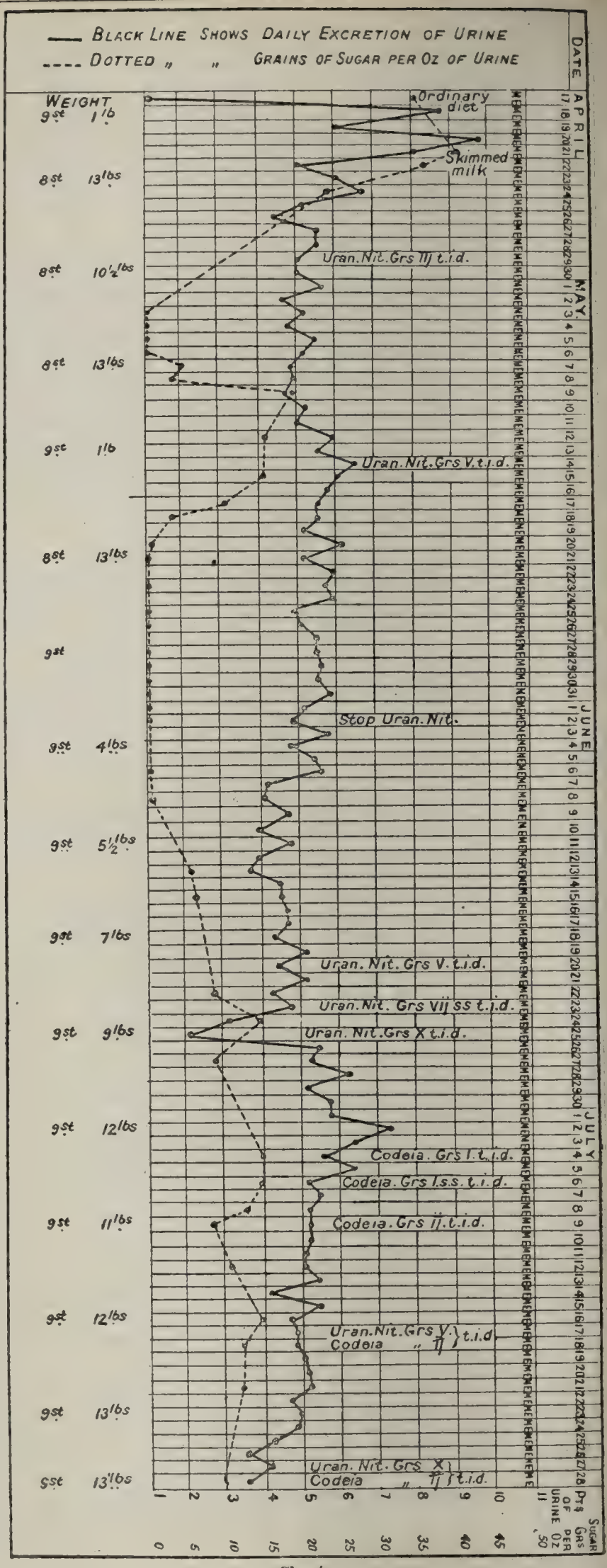

Chart 1.

and after four days of this diet the urine had fallen to 6¾ pints and the sugar to 25 grs. per oz. On April 29th nitrate of uranium was prescribed in doses of 3 grs. three times a day, given in water after meals. The diagram exhibited shows the subsequent progress of the case.

Chart 1 shows that after he had taken fifteen doses of the medicine the urine fell to 5 pints and became sugar-free, giving no reaction to Fehling's test, and that it continued to be sugar-free for four days. The sugar then reappeared in small amount, but rapidly increased until on May 9th it showed 20 grs. per oz. without any corresponding increase in the amount of the urine.

On May 14th the dose was increased to 5 gr., administered three times a day after food, and in a few days the sugar again disappeared from the urine, which remained sugar free for about a fortnight. The administration of the drug was stopped on June 2nd, but no sugar was found in the urine until the 13th, when 5 gr. per ounce was noted, and the amount gradually increased, until on June 24th 15 gr. per ounce was noted, with a coincident rise in the amount of the urine to 7 pints. Meantime, on June 20th, the administration of the nitrate of uranium had been resumed, and the dose gradually increased to 10 gr. on June 25th. It was continued until July 4th, and on that day, as no further improvement had resulted, the uranium salt was stopped, and codeia substituted and pushed to 2 gr. thrice daily. Still the amount of the urine and of the sugar excreted continued about the same, the urine varying from 5 to 6 pints, and the sugar about 15 gr. per ounce. I then tried a combination of uranium and codeia as shown in the chart, with the result that when the patient left the hospital on July 28th, after three months' treatment, the urine was reduced in amount from 9 pints to 3½ pints, and the sugar had fallen from 40 gr. to 10 gr. per ounce. His body weight had risen from 8 st. 10½ lbs. to 9 st. 13 lbs. His strength had correspondingly increased, and he no longer suffered from thirst or polyuria.

Case II.—Mrs. S., aged 51, housewife, was admitted to the Victoria Infirmary on April 29th, 1896, complaining of excessive thirst of two months' duration. For some time she suffered from itching of the genitals, but that discomfort is now gone. The first twenty-four hours' urine amounted to 4 pints, and contained 43 gr. of sugar per ounce = 3,440 gr. per diem. She was kept on ordinary diet, and no medicine was given for the first week. The daily average amount of urine was during that period 3 pints, with an average of 40 gr. per oz. of sugar. On May 5th she was dieted on eggs and milk, and this change in diet was followed by a temporary diminution both in the amount of urine and in the amount of sugar excreted, but this improvement did not continue. On May 14th I began the administration of 5-grain doses of the nitrate of uranium, which was gradually increased to 10 gr., and afterwards to 12½ gr. The

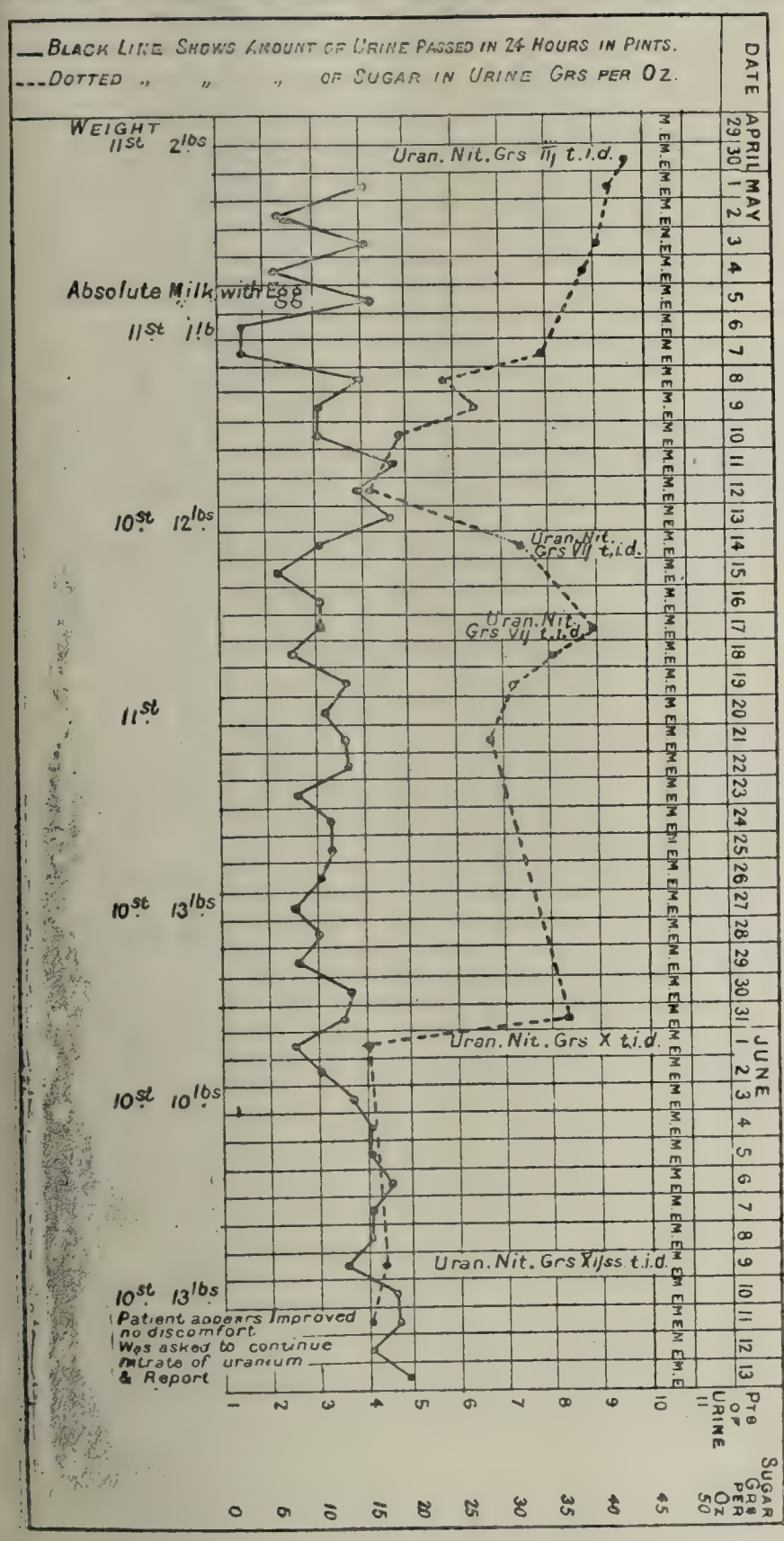

Chart 2.

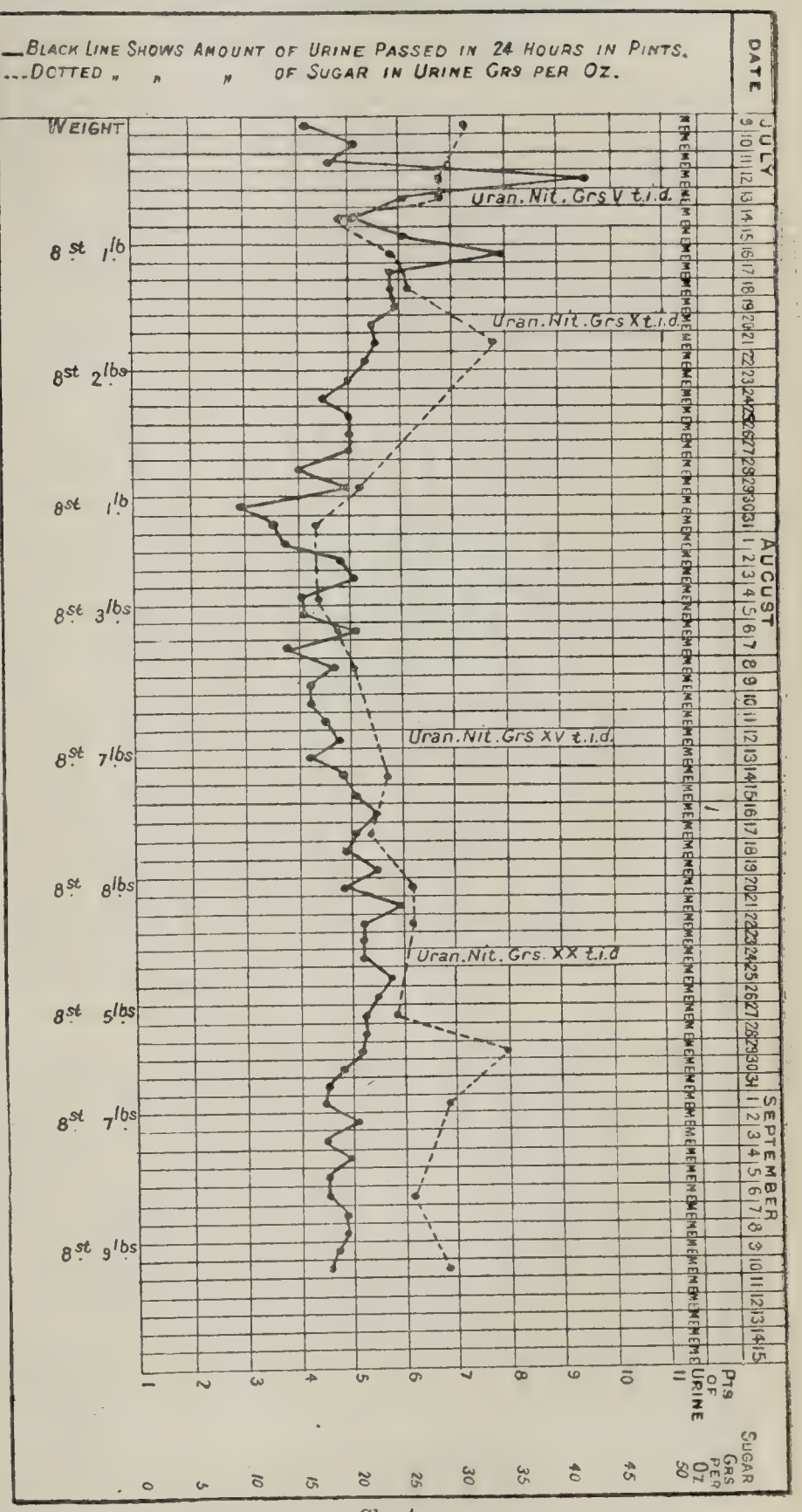

Chart 3.

marked diminution in the amount of sugar excreted which followed is shown in the Chart 2. It is interesting to note that when the dose of the uranium salt was increased 10 gr. on May 31st, there was a sudden drop in the sugar excreted from 35 gr. per ounce to 15 gr. per ounce, with a coincident decrease in the amount of urine, which fell to 50 ounces. This improvement continued until she left the hospital on June 11th. When the treatment by uranium was commenced, she weighed 10 st. 12 lbs., and on the day of her dismissal she weighed 10 st. 13 lbs. She stated that she felt much better, and that she had no thirst.

CASE III.—J. F., aged 20, labourer in a print works, was admitted to the Victoria Infirmary on July 9th, 1896, complaining of thirst and of excessive flow of urine of eight months' duration. He looked well nourished, and presented no evidence of organic disease, but his knee-jerks were absent. His diet for the past eight months had been restricted to milk and toast. The first twenty-four hours' urine was noted as 5 pints, containing 32 gr. per ounce of sugar. Patient was dieted, and on July 13th treatment by nitrate of uranium was commenced by the administration of 5-gr. doses thrice daily. Improvement followed, but was not maintained until the dose was increased to 10 gr., when a very decided drop in the excretion of sugar occurred, and was maintained for several weeks, as shown in Chart 3, but although the administration of the uranium salt was pushed in this case to 20 gr. thrice daily, at the

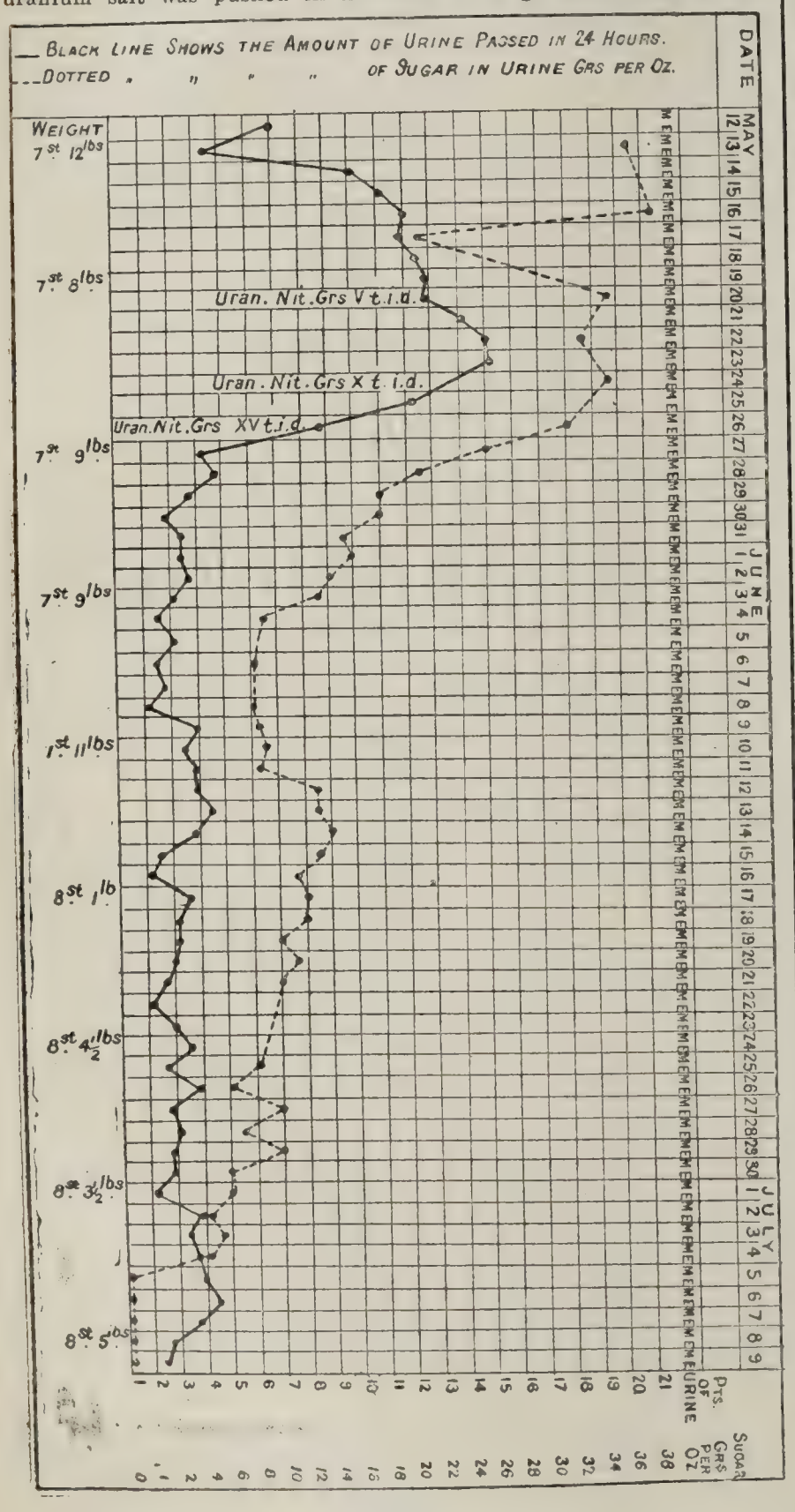

Chart 4.

end of two months' treatment the urine amounted to 4½ pints per diem, containing 30 gr. of sugar per ounce. The patient's weight had, however, risen from 8 st. 1 lb. to 8 st. 9 lb., and he felt stronger and better; there was also considerable diminution in the thirst.

CASE IV.—H. W., aged 18, bank clerk, was sent to the Victoria Infirmary on May 12th, 1897, by Dr. James Dunlop, of Glasgow, who found that he was suffering from diabetes mellitus, and before his admission the sugar in his urine was estimated by Dr. Dunlop at 50 gr. per ounce. On admission patient stated that for six weeks he had suffered from thirst, excessive flow of urine and increasing weakness with loss of flesh. He had a dry and furred tongue. His skin was also very dry and he was very much emaciated. His knee jerks were absent, but there was no evidence of any organic disease. The first twenty-four hours' urine measured 133 ounces, specific gravity 1040, and contained 37.2 gr. per ounce of sugar. At first he was put upon a diet of skimmed milk, with two slices of gluten bread per diem, but as no great improvement followed, a more varied diet of fresh meat, eggs, green vegetables, custard, and tea, were substituted.

On May 20th 5-gr. doses of uranium nitrate were administered thrice daily, and the dose was gradually increased to 15 gr., and continued steadily to be given in the larger dose until July 9th, when after two months' treatment the urine became sugar-free. Chart 4 shows the progress of the case. A week after admission he weighed 7 st. 8 lb.; when he left the hospital he weighed 8 st. 5 lb., and had greatly increased in strength. His thirst was quite gone, and his daily excretion of urine had fallen from 16 pints to less than 2 pints.

A month after his dismissal he returned to report himself, and although he had not taken any uranium nitrate for a fortnight his urine continued to be free from sugar. He said he felt quite well and able for work. As he had continued to diet himself in order to test the completeness of his recovery, I asked him to eat a slice of white bread three times a day, and come back in a few days with a specimen of his urine. He returned on August 11th, and reported that he still felt quite well, and wished to go back to his work, but on examination of his urine I found that the sugar had returned to the extent of 6 gr. per ounce. I asked him to omit the white bread and resume the uranium nitrate in 10-gr. doses. He did so, and returned again on August 19th, two days before I left for this meeting. His urine was again normal, specific gravity 1018. No sugar, no albumen, and his weight had increased to 8 st. 8 lb.

CASE V.—J. M., aged 45, ship carpenter, was admitted to the Victoria Infirmary on June 26th, complaining of great thirst, weakness, loss of flesh, and frequent micturition. He stated that these symptoms had lasted for seven months, and that he had been treated in the Western Infirmary of Glasgow for a period of two months under the care of Dr. Samson Gemmell. The following is a summary of the details of his illness and treatment there got from the ward journal by the kindness of Dr. Gemmell's assistant. On admission to the Western Infirmary, patient weighed 10½ st., his weight in health having been 12½ st. His urine had a specific gravity of 1040, and contained 28 gr. per ounce of sugar. During the first week of his residence on ordinary diet his daily excretion of urine varied from 200 to 330 ounces, and the average daily quantity of sugar excreted amounted to 4,796 gr. On diabetic diet the urine fell to 100 to 172 ounces daily, and the daily average of sugar to 2238 gr. = 22.5 to 18 gr. per ounce. Liquor arsenicalis was given for twenty-three days, and increased up to 15 minims t. i. d., which dose he had for eleven days. Under this treatment the daily average excretion of sugar fell to 2060 gr.

During the succeeding fourteen days he had diabetic diet and pil. codeiæ t. i. d., and under this treatment the sugar fell to 1,391 gr. excreted daily. The lowest records of sugar were therefore obtained under the administration of codeia. When he left the Western Infirmary the sugar was estimated at 13 gr. per oz., and his thirst was almost gone. After two months' treatment he had gained 3 lbs. in weight. On his admission to the Victoria Infirmary a fortnight after his dismissal from the Western Infirmary his first twenty-four hours' urine measured 117 oz., which contained 28 gr. of sugar per ounce, his weight had diminished to 10 st. 6 lbs.; so that the improvement effected in the Western Infirmary had rapidly disappeared. His knee-jerks were quite absent, and he was very weak. He was dieted, and, as his case had been sufficiently tested under diabetic diet in the Western Infirmary on the day after his admission, I began the administration of the nitrate of uranium in 5 gr. doses t. i. d. Chart 5 shows what followed with regard to the excretion of sugar and the flow of urine. You notice the remarkable fall in the amount of both when the dose of the uranium was pushed to 15 gr. On July 6th the administration of the uranium salt was stopped, the reason being that coincident with the increase of the dose diarrhœa occurred, and he began to have five or six liquid stools daily. I thought it possible that this was the result of the increased dose of the drug. On July 10th, as the diarrhœa had ceased, and as the sugar and urine had again risen very considerably in amount, I resumed the administration of the drug in 10 gr. doses. There was no return of the diarrhœa, but his bowels were inclined to be looser than formerly and he had generally two motions daily, somewhat liquid, but not unduly abundant. I am now inclined to think that the diarrhœa was due to overfeeding. On the occurrence of the diarrhœa he was put on a boiled milk diet, of which he took 9½ pints daily. After the diarrhœa stopped on July 10th he resumed his former diet of egg, meat, fish, gluten bread, and milk.

The diarrhœa recurred on July 22nd. On the previous day, in addition to 10 ounces of milk, he had eaten two herrings and two chops, followed by custard with ten ounces of cream. He was again put upon a diet of boiled milk, and on this occasion the medicine was continued, and yet the diarrhœa rapidly diminished.

On July 25th his urine was found to be sugar free, and his urine had for three days averaged 2 pints. There was no return of the sugar.

On July 29th he left the infirmary, stating that he was quite well and intended to return to work. On dismissal his weight was 10 st. 9 lbs., a gain of 3 lbs.

I asked him to continue the medicine and report himself from time to time. He returned to see me on August 14th, when my hospital assistant, Dr. James Weir, made the following note with regard to him in the ward journal:—

"August 14th. Patient has been for a fortnight at work. He has no thirst and feels quite fit for work. His only complaint is that the bowels

are somewhat loose; three motions daily. He has continued nitrate of uranium up till the present with one day's interval to see if it caused diarrhœa, but its stoppage made no difference, and it was therefore resumed.

"His daily diet since resuming work has been as follows: Half a pound of ham, five eggs, half a pound of steak, three slices of gluten bread, one

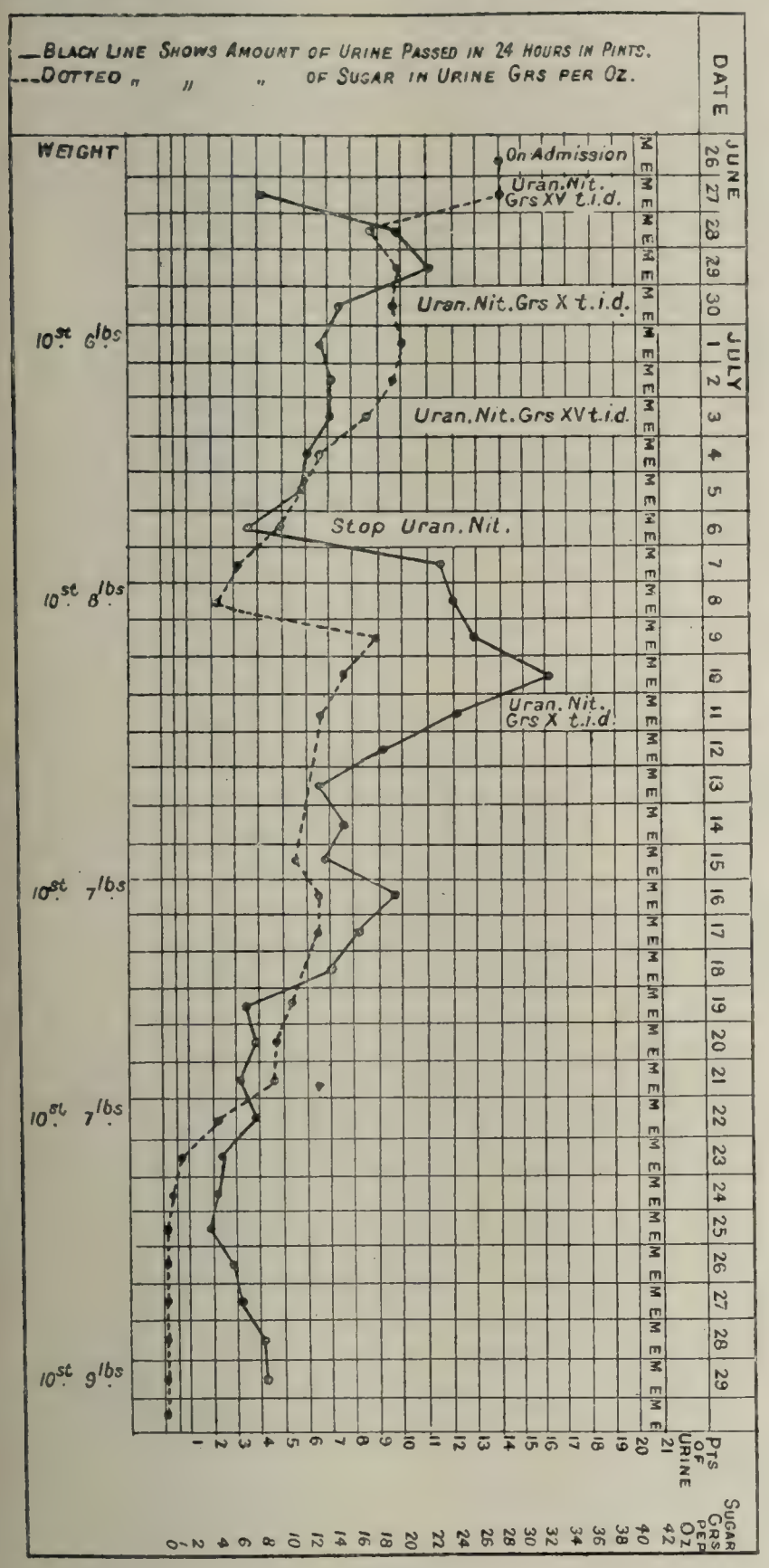

Chart 5.

spoonful of American gluten flour in soup, and about 7 pints of milk. Amount of urine for last twenty-four hours, 5½ pints, urine acid, specific gravity 1025, no albumen. On adding about half a drachm of urine to a drachm of Fehling, and boiling, no reaction was got, but, on the mixture cooling, a dirty yellow coloration was noticed. The saccharimeter showed that no sugar was present in the urine. Nitro-prusside of sodium solution was then added to the urine, along with some caustic potash. This immediately gave a rich port-wine colour, which very quickly disappeared, and did not return on the addition of dilute acetic acid, showing the reaction to be due to the presence of kreatinin."

I have no doubt that the man was overeating. On calculation I found that he took daily a quantity of food representing 4,900 calories, which was at least a-fourth more than full diet for a labouring man. I therefore asked him to diminish his food and come back again. He returned two days before I left Glasgow—August 19th—and his urine was again examined, and found to be sugar-free. His weight in his working clothes was 11 st. 8 lbs. Allowing for the additional weight of his working clothes, I believe that he has gained several pounds in weight since he left the hospital. I hope to keep these cases under observation, and to be able to give a further account of them on some future occasion.

After careful consideration of all the facts of these cases, I have formed the opinion that the diminution of the urine and of the sugar in these cases, and the improvement in the weight and in the general health and strength of these patients is due to a stimulating effect produced by the uranium salt on the sugar-consuming cells of the human body. This effect may be either direct or indirect through trophic nerve centres. The sugar formed from the food of the patient is no longer excreted, and as the patient gains in weight and muscular strength it must have been consumed in adding to the nutrition of the tissues. It is true that by physiological experiments it has been proved that outside of the human body the uranium salt retards the digestion of starch, and forms an insoluble compound with albumen, and on that ground Dr. West thought it likely that its action in diabetes is due to the effect it has in checking the rapid digestion of starch, and of some forms of albumen. The difficulties I have in accepting that theory are, first, that my patients appeared to digest their food quite normally, and even rapidly, as shown by the frequent meals they asked for; and in the second place, the large amount of sugar of milk taken in these cases would ultimately have overflowed into the urine if it had not been taken up by the sugar-consuming cells. I am of opinion that the cases in which this remedy will prove most useful are those of neurogenous origin, and therefore it may form a useful test in the differential diagnosis between neurogenous and pancreatic and other forms of diabetes. In the latter class of cases I do not think it will be of any value.

Dr. Tyson (Philadelphia) said that almost 20 years ago he first used nitrate of uranium in the smaller doses recommended at that day, not exceeding 2 grains three times a day. Then he met Dr. West's paper, and was much impressed with it, and immediately placed several cases upon the drug. After what seemed to him a fair trial he had discontinued it as failing of its purpose. He had not, however, been able to increase the dose beyond 5 grains three times a day, because of its producing looseness of the bowels. He noted that Dr. Duncan reached a dose of 15 grains three times a day. In one bad case attended by stubborn constipation he had given it without producing the effect he hoped for, namely, the relief of constipation. This case subsequently died.

Dr. Saundby apologised for having been absent during the reading of the paper, but he might be permitted to say that he, too, thought he had satisfied himself 17 or 18 years ago of the uselessness of uranium nitrate, but the remarkable paper of Dr. West led him to reconsider the question, and he had placed a large number of patients on this remedy in doses extending up to 30 grains daily. As a result of this experience he regretted to have to conclude that in uranium nitrate we have no specific for the treatment of diabetes.

REMARKS ON BRAIN TUMOURS AND THEIR REMOVAL.

WITH A RECORD OF EIGHTY CASES AND FIFTEEN OPERATIONS.

By Professor M. Allen Starr, M.D., Ph.D.,

Professor of Nervous Diseases, College of Physicians and Surgeons, New York; Consulting Neurologist to the Presbyterian, Orthopædic, St. Vincent's, and St. Mary's Hospitals, New York; ex-President, American Neurological Association.

There are few subjects in the field of medicine which excite more universal interest than cerebral surgery. It appeals to general practitioners, to neurologists, to ophthalmologists, and otologists, and particularly to the surgeons; for it offers a reasonable hope of successful treatment in a class of diseases hitherto considered uniformly fatal.

It is impossible in a single paper to deal with the many forms of disease of the brain in which surgical treatment is applicable. I have selected the subject of brain tumours because it is in this field that the most brilliant results have been attained; and I believe that if these results are more widely appreciated, many cases will be discovered in which operative interference is clearly indicated.

The first operation for brain tumour was recorded by Bennett and Godlee in London in 1885, though Macewen, of Glasgow, had successfully removed a tumour (subsequently reported) in 1879. The chief impetus to brain surgery was given by the discussion of this subject before the British Medical Association in 1888, and I think we may proudly claim that in this field of work British and American surgeons and physicians have fairly led the world. Germany and France have been behind even the Australian colonies in this respect, though now at last their interest is enlisted. Within the past ten years medical journals everywhere have contained records of cases, and it is from these records as well as from a personal experience of 80 cases of brain tumour that the facts I am now to present to you have been gathered.

1. *The frequency of brain tumours* can only be ascertained by a study of pathological records. From Table I it will be seen that at hospital necropsies a brain tumour is found in about one out of every hundred subjects. It is only from statistics of large dispensaries that any estimate can be made of the frequency of brain tumours in practice. Byrom Bramwell has found 82 cases among 10,115 patients. I have seen 80 cases among 16,361 patients. It is evidently difficult therefore to determine the frequency of the disease, the hospital statistics being as misleading in one direction as the dispensary statistics are in the other.

Table I.

At the New York Hospital 30 brain tumours were found in 2,970 necropsies.
At the Presbyterian Hospital 7 brain tumours were found in 745 necropsies.
Beadles reports 45 tumours in 4,000 necropsies at one of the insane asylums in England.
Beck reports 50 tumours in 6,177 necropsies at Heidelberg.

2. *The diagnosis of brain tumour* is in the majority of the cases a matter of little difficulty, yet every year cases are observed and reported in which it has been impossible. The simultaneous existence of headache, severe and persistent, of vertigo and tinnitus aurium, of vomiting, of optic neuritis or atrophy, and of general convulsions point directly to a brain tumour. When that tumour is located in the well-known motor or sensory or speech areas of the cortex, or in the course of their tracts, there are clear indications of its position. It is a very encouraging fact that the parts of the brain in which tumours cause marked local symptoms are the very parts which are open to the surgeon for exploration. There is no more brilliant proof of the value of physiological investigation than the present use to which the doctrines of cerebral localisation worked out by Fritsch and Hitzig, by Ferrier, by Munk, and by Horsley by methods of vivisection have been put. These facts are so easily comprehended that the general practitioner can reach a local diagnosis of brain tumour as readily as the neurologist. For, as Keen has said, the various parts of the brain are as distinct in their function as the various organs of the abdomen, and disturbance in function causes usually definite symptoms.

The chief localising signs of brain disease are spasms and paralysis, disturbances of speech and of sight. A localised spasm, associated with numbness beginning in one limb and extending to others in a definite sequence, and usually followed by a temporary paralysis known as Jacksonian epilepsy, and differing from ordinary epilepsy in the fact that consciousness is not lost, is the most important of all local symptoms. It points to the motor area of the cortex, about the fissure of Rolando, as the site of the lesion, an area easily accessible at operation. It is interesting to learn that it has proved the guide to the surgeon in over 100 of the cases already operated upon, and is the most reliable guide which we have.

Disturbances of speech either in the form of sudden temporary suspension or progressive loss of the power of expression, or of the power of understanding words, heard or seen, is the next most frequent local sign of brain disease; and as the speech areas, motor and sensory, in the third frontal and first temporal convolutions are quite definitely located, such disturbances may also guide the surgeon in his search. The loss of vision in one half of the visual fields, hemianopsia, is another important symptom showing disease in the occipital lobe. Thus definite signs are to be expected in brain tumours in about two-thirds of the accessible region of the cerebral cortex.

The diagnosis of brain tumour lying in the cerebellum is equally easy on account of the characteristic staggering and the very usual development of cranial nerve symptoms. The cerebellum is an organ so deeply situated and so hard to reach, except the small portion (hardly one-tenth) of its surface lying under the occipital bone, that operations upon it are attended with less success, and are always exploratory. Thus, of 34 attempts to remove tumours from the cerebellum but 19 were successful, and but 10 of the patients lived and recovered from the operation.

Cases which do not present very clear localising symptoms are, of course, beyond the range of surgical treatment. Among 80 cases of which I have records it was possible to locate the tumour in 65 cases; 26 were cerebellar, 14 were in the motor region, 10 were in the basal ganglia, 7 were frontal, 4 were parietal, 3 in the pons, 1 in the occipital lobe.

3. *The proportion of tumours open to operation:* It being evident, therefore, that surgical treatment may be successful in cases of brain tumour in which the diagnosis can be made, the question at once arises what proportion of tumours are open to operation. This question can be decided in several ways. It is possible to review the pathological records and to estimate the percentage of tumours which might have been removed. This method has been pursued by many authors since Hale White first made his estimate from the records of 100 tumours examined in Guy's Hospital.

Table II.—*Proportion of Tumours found post mortem which might have been Removed.*

Author.	Reference.	No. of Tumours.	Operable.
Mills and Lloyd ...	Pepper's *System of Med.*, 1886, vol. v	100	10
Hale White ...	*Guy's Hosp. Rep.*, 1888	100	10
Starr (children) ...	*Medical News*, January 12th, 1889	300	16
Knapp	*Intracranial Growths*, 1891	40	2
Gray	*Sajous's Annual*, 1891 and 1892	102	10
Seydel	*Verhandl. Deut. Gesell. f. Chir.*, 1892	100	3
Dana	*Trans. N. Y. Acad. Med.*, 1893	29	5
Starr (adults) ...	*Brain Surgery*, 1893	300	21
Byrom Bramwell ...	*Edin. Med. Journ.*, June, 1894	22	5
Oppenheim ...	*Die Geschwulste des Gehirns*, 1896	23	1
Bruns	*Gehirntumoren: Encyclo. Jahrk.*, 1896	33	3
Starr	Personal cases	12	2
Total ...		1,161	88

In Table II the results are shown: 88 tumours out of 1,161 might have been successfully diagnosticated and removed—7 per cent. Another method of estimation is to study cases clinically and determine in what per cent. a satisfactory diagnosis can be reached and an operation recommended. If we take the records of clinics, we find here a considerable variation of opinion. Thus, Bramwell states that, out of 82 tumours which he has studied, 5 could be recommended for operation, and in 2 of these its success would have been doubtful. Of these cases, 22 were studied *post mortem*, and of these, 5 could have been operated upon had a diagnosis been possible, which was the case in 1 only. My own records are as follows:

Of the 80 cases which I have seen, I could recommend an operation in 18, because it was possible to locate the tumour accurately in these cases in a place supposedly accessible to the surgeon. Of these 18 cases, 15 have been operated upon. In 9 the tumour was found where it had been diagnosticated, and in all but 1 it could be removed; in that 1 case it was too extensive and too vascular to be excised. In 6 the tumour was not found; 5 of these cases were tumour of the cerebellum, and the necropsy showed the tumours to have been inaccessible as they lay on the anterior surface far from the bone. This experience has been duplicated by almost every surgeon who has attempted to remove cerebellar tumours. In the sixth case the symptoms of aphasia and hemiplegia which led to the diagnosis of a tumour in the third frontal and adjacent anterior central convolution were due to pressure from a distance. The tumour was found at the necropsy deep in the apex of the temporal lobe and island of Reil.

I cannot but believe that the estimate made by pathologists that only 7 per cent. of tumours are removable is too small a one, and that with more careful clinical examinations

the proportion will be greatly increased. In 1889 I showed that among 600 tumours taken at random from the records 164 lay in a position to be accessible to the surgeon, while 46 could have been diagnosticated and 37 successfully removed. It is not impossible that at the present day a larger percentage might be successfully located, symptoms being studied by modern methods. It is safe to say that 1 tumour in 10 is open to surgical treatment.

4. *The results of operations:* Granting, then, that surgical success is to be anticipated in a certain proportion of brain tumours, let us now consider the results thus far attained. I have succeeded in finding records of 220 operations for brain tumour since Bennett and Godlee's original report. Before approaching the statistical results of these cases, be it remembered that this is a novel operation, attended by many unforeseen contingencies, and that experience is essential to success. After my own experience in the direction of the removal of 15 tumours, supplemented by that derived from 16 brain abscesses, and about 40 cases of epilepsy, for which trephining has been done, I must confess that every operation offers some new point of instruction, and I can support the dictum of Keen that this is not an operation to be rashly undertaken by the novice in surgery. Statistics show that the greatest success has been reached by the surgeons whose experience in this field is the widest. Hence I believe that, as experience brings knowledge, future statistics will show results even more favourable than these which I present.

Table III.—*Operations for Brain Tumour.*

—		Cerebral.	Cerebellar.
Total number of operations undertaken...	220	186	34
Tumours found and removed	140	121	19
Tumours found but not removed	7	5	2
Tumours not found	73	60	13

In a few cases the size of the tumour, its vascular character, or the sudden collapse of the patient from hæmorrhage or shock has prevented the removal of a tumour which was found. In some of the cases in which the tumour was not found there has been a manifest lack of indication for the operation from the symptoms, and greater care in diagnosis would have arrested hasty action. In other cases the symptoms were clearly misleading in character. Thus some cases found at necropsy to be subcortical or basal tumours have given rise to symptoms of Jacksonian epilepsy so typical as to lead to the diagnosis of a cortical disease. The differentiation of subcortical from cortical tumours is the hardest problem presented to the neurologist, and is in many cases as yet impossible to solve. Cerebellar tumours are more frequently missed at the operation than cerebral tumours.

Turning now to the successful cases in which the tumour was found and removed, 140 in number, I find that 6 were frontal, 99 were about the Rolandic fissure in the motor area, 6 were parietal, 3 were occipital, 19 were cerebellar. The preponderance of tumours in the central convolutions is owing to the fact that here the diagnosis is, as a rule, quite easy, and this part of the brain is most accessible. As Bruns has aptly said: "The tumours which are most easily diagnosticated are the ones which are most easily reached."

But successful removal is not always followed by recovery. I find that out of 140 cases, 92 recovered from the effect of the operation, so that its primary result was satisfactory, and 48 died. This is a mortality of 30 per cent. Death has been due to shock (which is now prevented by dividing the operation into two stages on different days), or to hæmorrhage (the arrest of which is less difficult than formerly because of many ingenious devices), or to sepsis (which can now be obviated). Hence there is a reasonable hope that this mortality will be diminished in the near future.

5. *The question of ultimate recovery* and restoration to health is the one of most interest, and only recently could this be answered with any precision. I cannot offer precise statistics here, for many cases have been reported as cured within two or three months of the operation. But I know that such reliable surgeons as Macewen, Horsley, Durante, Keen, and Weir, have reported patients as living and in good health from six to eight years after the operation. One of my own patients is in perfect health, now fifteen months after Keen removed a tumour the size of a large hen's egg from the frontal lobe, and has recovered his vision, which had been lost before the tumour was taken out. These cases, were there no others, are sufficient to warrant the statement that in every case of brain tumour careful consideration of the possibility of surgical interference is imperative.

The character of tumour removable is of some interest, and determines the prognosis in any case. The following table shows the varieties of tumour removed and the results:

Table IV.

Variety of Tumour.	Recovered.	Died.
Sarcoma	26	12
Glioma	10	8
Gliosarcoma	7	2
Tubercle	11	8
Cystic	10	8
Angioma	4	0
Gumma	4	3
Fibroma	3	1
Endothelioma	2	1

It is evident that the prognosis is best in hard encapsulated tumours, and that the greatest mortality is in cases of infiltrated glioma, or in cystic tumours, which are frequently the result of degenerated gliomatous tissue. The prognosis is also serious in tuberculous cases, because of the liability to a tuberculous meningitis developing after the operation, or to the existence of multiple tumours.

It is manifestly impossible to determine prior to an operation whether the conditions present are such as to lead to a hope of success; hence every operation for brain tumour must be regarded as exploratory and as open to many unforeseen difficulties, which may prevent a successful result. This, however, should not be regarded as a contraindication to operation.

6. *Remarks regarding the operation:* While the technique of an operation is a matter largely for the surgeon to determine, I venture to state from a study of many cases, and from the careful observation of the methods of many different surgeons, that I prefer the flap operation of Wagner, in which a horseshoe-shaped incision is chiselled through the bone, scalp and bone being reflected together, thus exposing a very large surface of the brain at the outset, and preserving an adequate protection to the brain subsequent to the operation. The hæmorrhage from the scalp is best controlled by pressure applied by the fingers of assistants during the incision, and a rapid clamping of the vessels by the operator as this pressure is removed. Attempts at compression of the blood vessels by a band about the head, or the insertion of long needles through the scalp, or by ligatures passed beneath the scalp and tied or tightened about needles, appear to me to involve waste of time and to offer no advantage in point of saving of blood over the other method. In cutting the skull the line of incision is to be first traced with a sharp gouge, and then completed by a chisel; and it is better to chisel through the skull at an angle of 45 degrees to its surface than to chisel through vertically. In prising up the bony flap, which is to be done by pressure exerted at three points rather than at one or two, it is necessary to proceed gradually, and, in reflecting the skull, to be aware of the danger of a jagged edge of bone at the point of fracture being thrust into the dura or tearing a large dural vessel. The question of suspending the operation at this stage of the proceedings and completing it upon a second day is an open one; but, inasmuch as experience has shown that such an exposure of the brain can be accomplished within fifteen minutes without difficulty, while a correspondingly large opening produced by trephining at two or three different points and removal of the bone by means of *rongeurs* requires a greater time, it has rarely seemed to be necessary to delay the completion of the operation in my experience. The incision of the dura should be semicircular, following the incision in the skull, but not

within ¼ inch of that incision, as the dura is apt to retract after cutting, and thus to disappear beneath the edge of the opening. The treatment of the brain itself depends largely upon the conditions met with at the time of the operation. Some tumours can be easily shelled out from a capsule and the cavity packed with iodoform gauze. Others have to be incised in order to be removed, and it is better to take out a tumour in sections than to delay the operation by an enlargement of the original opening. In case of gliosarcoma infiltrating the brain, no complete removal is possible, and severe hæmorrhage is liable to be met with which may even prevent a completion of the operation. It is not dangerous to incise the brain substance, and in such a case, if anything is done in the way of removal of the tumour, it is better to cut through the brain at the border line of the tumour in the hope of preventing its further extension. Bramann has excised portions of a glioma on three occasions from the same patient at intervals of a year. The hæmorrhage from a glioma is sometimes very alarming; and, if it is impossible to tie the delicate vessels with catgut and the actual cautery does not arrest the hæmorrhage, the only means possible is the packing of the wound with iodoform gauze.

In case the tumour is not evident at the opening, puncturing in various directions with a large aspirating needle is legitimate, and if cysts are found or resistance is met with, it is right to incise the convolution at its summit, and thus reach and remove the subcortical tumour. This has now been done successfully in a number of cases. In case a cyst is met with it is not sufficient merely to empty it or to exsect a small portion of its wall, for the cavity will surely fill again with fluid unless it heals from the bottom; therefore an extensive dissection of the wall of a cyst is necessary a packing with iodoform gauze, and the slow removal of this gauze as the cavity fills up with granulating tissue. It is my experience that the prognosis of cysts is by no means as favourable as that of other tumours. In uncomplicated cases it is possible to remove the packing of gauze on the second or third day, or if there has been no reason for packing the wound, to remove the rubber tissue which is used as a drain, and thus secure rapid healing. In a number of cases, however, subsequent to the operation, within twenty-four or forty-eight hours, the appearance of symptoms of pressure may indicate the occurrence of secondary hæmorrhage, under which circumstances it is necessary to open the wound again and wash it out thoroughly. This should not be neglected, as in several cases under these conditions very large clots have been found and removed to the subsequent benefit of patients.

Record of Personal Cases operated upon.

Case I.—M., 40. General symptoms: Headache, forehead and top, on left side; nausea, hebetude, stupidity, optic neuritis, slowness in use of words, imperfect control of sphincters. Local symptoms: Tenderness over left frontal region near top, one convulsion beginning with head turned to right, followed by right hemiparesis lasting two weeks, and returning after one year; slow speech, spasms after two years in right leg or arm. Duration of symptoms: Two years of gradual increase since the convulsion up to time of diagnosis. Diagnosis: (1) Tumour in posterior part of second frontal gyrus on left side, possible gumma; no improvement on specific treatment after six months. (2) Tumour for operation. Operation by Dr. McBurney June 23rd, 1892. Trephined over tender area; tumour found in 1 and 2 F. gyri; 2½ by 1¾ by 1½ inches; removed completely; sarcoma. Result: Death from hæmorrhage and shock eight hours after operation. Reported: *American Journal of Medical Sciences*, 1893, April.

Case II.—M., 42. General symptoms: General convulsions at intervals for seven years; optic nerve pallor. Local symptoms: Numbness and spasms of right hand and arm, extending to face and leg, followed by weakness; several daily for five years; partial right hemiplegia with slow hesitating speech; increased knee-jerk on right side; slight anæsthesia of right hand. Duration of symptoms: Seven years of gradual increase up to time of diagnosis. Diagnosis: Tumour or clot, with scar in left anterior central gyrus. Operation: Dr. McBurney, November 5th, 1894. Bone flap chiselled over middle motor area. Infiltrating vascular glioma through the anterior and posterior central convolutions; impossible to remove it on account of hæmorrhage. Result: Death from shock and hæmorrhage twenty-four hours after operation. Reported: *New York Medical Record*, February 1st, 1896, in abstract.

Case III.—M., 40. General symptoms: Headache, vomiting, vertigo, optic neuritis, double vision, blindness, boulimia. Local symptoms: Spasms beginning in left hand, extending to leg, followed by weakness and hemiplegia; no anæsthesia. Optic neuritis worse in right eye. Duration of symptoms: Duration of general and local symptoms one year; under specific treatment six months. Diagnosis: Tumour in central region, right side. Operation by Dr. McBurney, October 22nd, 1895. Bone flap chiselled over right middle motor area: nothing found. Result: Death from exhaustion two weeks after operation. Necropsy: Large sarcoma in basal ganglia and centrum ovale on right side, under area exposed at operation.

Case IV.—M., 21. General symptoms: Headache, left parietal region; mental excitement with maniacal attacks and amnesia; mental weakness. Local symptoms; Tenderness of parietal bone at point of an old fracture; depressed bone. Duration of symptoms: Five years of attacks, increasing in frequency. Diagnosis: Depressed fracture with pressure on brain. Operation by Dr. McCosh, February 10th, 1894: Trephined; no depression; angioma lying on surface of superior parietal lobule removed. Result: Recovery; loss of muscular sense in right hand for three weeks, gradually subsiding; fits of mania recurred three years later without headache. Reported: *American Journal of Medical Sciences*, Nov., 1894.

Case V.—F., 27. General symptoms: Headache, optic neuritis, left eye blind, vomiting, exophthalmos. Local symptoms: Spasms in right foot followed by weakness and numbness every two weeks; ataxia of right hand; paresis of right foot; increased knee-jerk, right > left; tenderness over left parietal region and pressure caused twitching of right leg and feeling of defect in skull. Duration of symptoms: Two years of local spasms; six months blind; three months paretic in leg. Diagnosis: Tumour in upper left motor area. Operation: Dr. McBurney, June 10th, 1896. Defect in skull found and enlarged about a soft tumour lying on the dura. This was removed. On exposing brain a second large tumour was found and removed, 2½ by 2 by 2 inches, adherent to brain, only partly encapsulated; gliosarcoma. Result: Death from hæmorrhage due to laceration of longitudinal sinus six hours after operation. Reported: American Neurological Association, 1897.

Case VI.—M., 22. General symptoms: Headache and tenderness of the head following a blow on the right upper frontal region. Local symptoms: Fracture, with depression at junction of fronto-parietal bones, upper part. Spasms beginning with turning of head and eyes to the left, and spasms of left arm. Duration of symptoms: Spasms for six years. Diagnosis: Depressed fracture; possible cystic tumour. Operation by Dr. McBurney, January 31st, 1895. Trephined, and the opening enlarged by *rongeur*. Cyst under the thickened dura, with fibrous walls indenting the brain 1½ by 1 by 2 inches. Wall excised. Result: On the fourth day return of convulsions, with left hemiplegia and mental dulness. Wound opened; large clot removed. Immediate relief of hemiplegia and mental dulness. Recovered; discharged perfectly well. Fits recurred in five months. Wound reopened; cyst had refilled; was drained. Became infected in June, and died in convulsions in July. Necropsy showed an extensive cyst beneath the one drained.

Case VII.—M., 19. General symptoms: Severe headaches after general convulsions. Fracture of left frontal bone at age of 1, with large defective region of skull and fluctuation. Local symptoms: Spasms in right hand, going on to general convulsions in a series as many as 300 at a time, once in two or three weeks. No paralysis or aphasia. Duration of symptoms: Since injury, eighteen years. Diagnosis: Cyst of the meninges, with pressure on the brain. Operation by Dr. Hartley, March 8th, 1895. Trephined behind the defect in the bone, and a large area exposed. Large cyst, 3 by 2 inches, extending into the brain emptied. Fibromatous bands within the cyst forming honeycomb-like tissue. Cyst drained. Result: Death six days later from exhaustion. Necropsy showed that the brain had been compressed by the cyst, and infiltrated with connective tissue from the cyst wall, which was adherent.

Case VIII.—M., 17. General symptoms; Headache, frontal; exhaustion on exertion of unusual kind; vomiting attacks; optic neuritis; hebetude and irritability; slight convulsive seizures; general feebleness; vertigo; incontinence of urine on several occasions; pulse slow. Local symptoms: Exophthalmos of left eye; paresis of right face with thick speech; athetoid motions of right hand; right knee-jerk increased; dulness to percussion over left frontal region. Duration of symptoms: Nine months of slow increase of symptoms; a blow over the site of the tumour had been received three years before. Diagnosis: Tumour in left second frontal convolution at posterior part; probably sarcoma, from slow progress. Operation (by Dr. W. W. Keen, May 10th, 1896): Bone flap chiselled over frontal region, and enlarged by *rongeur*. Tumour found protruding through cortex, and removed with its capsule. Sarcoma 3½ by 2⅝ by 2⅝ inches. The ventricle was opened and drained and then packed with gauze. Result: Progressive recovery. In September, 1897, was well in all respects except for a weakness of vision due to remaining optic neuritis, which was still improving. Reported: *American Journal of Medical Sciences*, November, 1896.

Case IX.—F., 55. General symptoms; Headache left side frontal and temporal; nervous and mental excitability; loss of memory; optic neuritis; staggers to right and backwards; somnolence. Local symptoms: Progressive motor aphasia with use of wrong words; confusion of thought going on in three months to monosyllabic speech, alexia, agraphia. Slight hemiplegia worse in arm, not severe, but progressing rapidly in two weeks. Duration of symptoms: Four months. Diagnosis: Tumour in left third frontal convolution invading motor region or tract, probably glioma from rapid progress. Operation by Dr. R. F. Weir, December 23rd, 1896: Trephined and opening enlarged with *rongeur* over lower frontal region; nothing found. Result: Gradual exhaustion; death on tenth day after operation; symptoms unchanged. Necropsy: Glioma, vascular, 2 by 2 by 1 inches in left temporal lobe inner forward part.

Case X.—M., 40. General symptoms: Headache, mental irritability, occasional general convulsions. Local symptoms: Hesitation in use of words and mispronunciation; difficulty in reading and writing; tactile apraxia in right hand; slight right hemiparesis. Duration of symptoms: Symptoms developed after compound fracture of left parietal bone with defects ten months before operation. Diagnosis: Depressed bone with probable cystic tumour causing pressure on inferior parietal lobule. Operation by Dr. McBurney, January 28th, 1897: Old fracture exposed and opening enlarged, bone thickenings chiselled away; dura thickened; fibro-cyst with much fibrous tissue found; cyst emptied; fibroma removed. Result: Immediate improvement in speech; four days later aphasia became complete and hemiplegia worse; wound opened and clots removed; progressive recovery; return of fits four months later; present state about as before operation.

Case XI.—M., 30. General symptoms: headache, frontal and occipital; vertigo, increased on motion; tinnitus, hebetude, stupidity, drowsiness, optic neuritis, exophthalmus, nystagmus. Local symptoms: Numbness in left face and mouth; paresis of left internal rectus; deafness of left ear; staggering gait; falls forward and to right; weakness of right hand;

knee-jerk r > l.; ankle clonus in right foot; pain behind left ear. Duration of symptoms: Three years of gradual increase up to time of diagnosis 1; treatment for two years, then diagnosis 2. Diagnosis: 1. Tumour, specific treatment for eight months; no result. 2. In cerebellum on left side. Operation by Dr. McBurney, December 3rd, 1891. Chiselled opening over left occipital bone; nothing found but great bulging of brain. Result: Convalescence for six days, then hæmorrhage due to fall from bed; shock; fever, 105°; death on December 15th. Necropsy: Tumour; gliosarcoma, 2 by 1 by 1 inches, on ventrocephalic surface of left cerebellar hemisphere compressing pons and l. V n. l. VII n. and l. VIII n. Reported: *American Journal of Medical Sciences*, April, 1893.

Case XII.—F., 7. General symptoms: Headache, frontal; general. Vomiting; optic neuritis; vertigo. Local symptoms: Staggering gait, falls back and to left; earache in right ear. Duration of symptoms: One year of general symptoms, then three months of local symptoms. Diagnosis: Tumour of cerebellum on right side. Operation by Dr. McBurney, December 29th, 1891. Opening chiselled through right occipital bone. Nothing found. Cyst evacuated by needle. Result: Increase of symptoms; shock. Death six days after operation. Necropsy: Tumour; gliosarcoma, 2½ by 2 by 1 inches in middle lobe, and extending into both hemispheres of cerebellum, chiefly into right side, pressed on fourth ventricle. Reported: *American Journal of Medical Sciences*, April, 1893.

Case XIII.—M., 10. General symptoms: Headache, frontal; vertigo, vomiting, hebetude, and irritability; optic neuritis; nystagmus. Local symptoms: Staggering gait, falls to left side; ringing in left ear; deafness in right ear; paresis of right external rectus; loss of smell in left side; paresis of right side of face; knee-jerks diminished. Duration of symptoms: Six months of general symptoms and four months of local symptoms to time of diagnosis, March 10th, 1893. Diagnosis: Tumour of cerebellum right side of base. Operation by Dr. McBurney, March 15th, 1893. Opening chiselled in right occipital bone. Tumour found and partly removed; two cysts opened, 1½ by 1 by 1 inch. Glioma. Result: Death on eighth day from gradual exhaustion. Necropsy showed that tumour extended forward on the base beyond reach. Reported: *Brain Surgery*, 1894, Case XXIV.

Case XIV.—M., 28. General symptoms: Headaches; general spasms, with stiffening of trunk muscles and clonic spasms of extremities and back without loss of consciousness, lasting one minute, many daily; vomiting extreme; vertigo on motion; emaciation; slow pulse; optic neuritis; nystagmus. Local symptoms: Staggering gait; knee-jerks normal. Duration of symptoms: Five months rapid progress to moribund state. Diagnosis: Tumour of cerebellum, secondary hydrocephalus. Operation: Dr. McCosh, January 15th, 1897. Trephined over right cerebellar fossa; nothing found. Opening enlarged upward exposing occipital lobe; ventricle drained; 30 c.cm. fluid evacuated, and permanent drainage by tube about 20 ozs. daily. Result: Relieved of headache, vomiting and vertigo, and of the spasms; pulse normal. Death suddenly from respiratory failure eight days after operation. Necropsy showed glioma 2 by 1½ by 1 inches in right cerebellar hemisphere.

Case XV.—F., 11. General symptoms: Headaches; vomiting; optic neuritis; blindness; hydrocephalic head. Local symptoms: Staggering gait, especially towards right; slight right hemiplegia; knee-jerks diminished. Duration of symptoms: Fourteen months general symptoms, nine months local symptoms. Diagnosis: Tumour of cerebellum. Operation by Dr. McCosh, February 23rd, 1897. Occipital bone exposed; found eroded and softened; enormous hæmorrhage from skull required cessation of operation. Result: Discharged from hospital one month later in same condition.

THE BACTERIOLOGY OF PERTUSSIS.

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The bacteriology of pertussis convulsiva may still be said to be a field comparatively little explored. The etiology of pertussis, as far as its parasitic nature is concerned, has two distinct sets of investigators. First, there are those who, like Deichler,[1] and most recently Karloff, have limited their work to a microscopical study of the sputum. Professor Karloff[2] has very recently described a ciliated protozoon-like body in the sputum of pertussis subjects. C. Deichler, a decade ago, described protozoon-like bodies in the sputum of pertussis cases. On the other hand, the modern bacteriological study of pertussis may be dated from the work of Afanassjew,[3] who, in the sputum of whooping-cough, found a characteristic bacillus which has also been found by Szemetzchenko.[4] Cohn and Neumann[5] failed to find it after careful study of a number of pertussis cases, and came to the conclusion that this bacillus, if it were constant at all, was but an accidental saprophyte found also in the healthy sputum, and that the diplococcus forms, if any, were the most constant bacterial growth obtained from the sputum of pertussis patients. J. Ritter[6] found that his studies all tended toward the constant presence of a diplococcus, which, however, is not the same as that described by Cohn and Neumann.

It will thus be seen that the recent data thus far obtained in the study of this disease, or rather the sputum, are confusing and divergent, though rather scanty. In this paper the writer desires to record some investigations conducted on the sputum of pertussis cases during the past year.

Methods.—The method of examination, which includes sixteen cases, consisted in collecting the sputum of the patient in a sterilised glass Petrie dish, allowing it to stand for an hour or more until it has resolved itself into the sputum pellets described by most writers on the subject of pertussis sputum. The pellets were fished out of the sputum with a sterile platinum hook, and sown on media. It was found that the sputum of the uncomplicated cases alone showed these pellets in their pure condition. The sputum, which, after standing, resolved itself into a clear glairy fluid in which could be distinguished opalescent white irregular-shaped particles, was the best adopted for investigation. This is important, for as soon as the latter stages of whooping-cough become complicated with a severe bronchitis of pneumonia, the sputum takes on a different appearance. It is muco-purulent, thick, and the pellets referred to cannot be made out as clearly as in the sputum from cases not thus complicated.

We shall return to this later. Again, a new medium was used. It occurred to the writer to use some medium obtained from the human subject. Blood serum is always difficult to obtain. Hydrocele fluid was found more convenient. Pure hydrocele fluid was used sterilised at 70° C. repeatedly; all other media known to the working bacteriologist were freely used. The pellets described above were cultivated both aërobically and anaërobically on all the above media. It will be seen from what follows that the hydrocele was a peculiarly favourable medium to work with as far as the results to be obtained were concerned. As is well known, hydrocele fluid is not a favourable medium for the growth of all bacteria. It seems particularly selective, first and above all for the bacillus to be here described, and for a few diplococci, and also for the capsule diplococcus of Fraenkel, which I found to grow in beautiful capsules in pure culture on this medium. The anaërobic method of Fraenkel by means of the test tube supplied with displacing tubes by which hydrogen gas is used to displace air was utilised. For anaërobic plate cultures the Petrie dish and apparatus was tried, but on the whole the Fraenkel tube was found most convenient. The cases were obtained from the writer's dispensary service. The patient would be isolated until an attack came on, and during the attack the sputum was collected.

Investigated Cases.

The bacillus *x* in all cases was that isolated in pure culture, and described later on.

Case I.—Female child, aged 3, whoops for the past two weeks; general condition good. Sputum: Cover glass *x* bacilli. Culture: In almost pure culture bacilli isolated, and grown on pure sugar. Loeffler serum, bouillon gelatine.

Case II.—Infant, aged 13 months. Has had pertussis for two weeks, whoops, has no symptoms of pneumonia. Sputum: Cover glass *x* bacilli. Culture: Hydrocele, Loeffler serum, agar-agar, bouillon. Gelatine shows almost pure culture *x* bacilli; bacilli isolate, pure.

Case III.—Infant, aged 7 months, has a whoop to its cough. Sputum: On cover glass and in culture medium, *x* bacilli.

Case IV.—Child, aged 3½, has been coughing with a whoop for two weeks. No bronchitis, and has a simple angina; face swollen; sputum muco-purulent. Sputum: Cover glass doubtful, few bacilli; but in hydrocele there grew an almost pure culture of the *x* bacilli.

Case V.—Is a doubtful case, resembling Case IV. Child, aged 2. No distinct whoop to cough, but mother says she has a distinct whoop; gets red in the face when coughs; sputum very scanty. Sputum: Culture and crude specimen shows cocci and diplococci.

Case VI.—Female child, aged 3½. Cough is of three months' duration. Has severe paroxysm; has bronchitis. Sputum is muco-purulent and thick; the characteristic pellets of pertussis not present; several attempts at culture results in streptococci and diplococci.

Case VII.—Female infant, 7 months old. Cough two weeks in duration; face puffy; no bronchitis. Bacteriological sputum clear and tenacious, and in hydrocele, etc., cultivates an abundant growth of the *x* bacilli.

Case VIII.—Female infant, aged 9 months; has had a paroxysmal cough one week; no bronchitis; cough is typical. Bacteriological: Sputum cover glass *x* bacilli culture tube was lost by mistake in inoculation.

Case IX.—Female infant, aged 8 months; ill two weeks; has six paroxysms in twenty-four hours; no bronchitis; attacks seen and are typical. Bacteriological: Sputum on cover glass *x* bacilli. Hydrocele almost pure culture of bacilli; also streptococci.

Case X.—Female child, aged 4; ill three weeks; face swollen; attacks typical. Bacteriological: Sputum is thick, muco-purulent; cover-glass stain gives bacilli. Culture abundant growth of *x* bacilli.

Case XI.—Female child, aged 4½; has been coughing four weeks: has typical attacks; has general bronchitis. Bacteriological: Sputum muco-purulent; few pellets. Culture on hydrocele almost pure *x* bacilli.

Case XII.—Female child, aged 5; illness three weeks' duration; attacks typical and innumerable; no bronchitis. Sputum has pellets, but is muco purulent. Bacteriological: Sputum on cover glass fine bacilli.

Culture on hydrocele and all media. Find bacilli *x*, streptococci and Fraenkel's diplococcus capsulatus.

Case XIII.—Male child, aged 3; has had a cough with a whoop one week; cough is typical; no bronchitis. Sputum is clear and has white pellets. Bacteriological: Almost pure culture of *x* bacilli on hydrocele. Cover glass shows the bacilli also.

Case XIV.—Female infant, aged 1 month; has been ill three weeks; has a typical cough; attacks severe; slight bronchitis. Sputum: muco-purulent; no pellets. Bacteriological: *x* bacilli found, also diplococci and streptococci.

Case XV.—Female infant, aged 8 months; has been ill three weeks; has typical attacks; has slight bronchopneumonia in both lungs; febrile movement.

Case XVI.—Female child, aged 5 years; same family as Case XV; attacks typical and severe. Sputum: muco-purulent; has slight bronchitis. Bacteriological: Cases XV and XVI. Sputum allowed to settle, and the pellets inoculated on hydrocele tubes.

Cases XV and XVI.—On hydrocele and blood serum we have pure growth of the *x* bacilli in both cases. A set of tubes inoculated with the mixed sputum, that is the pellets, were not isolated; gave also a beautiful growth of the Fraenkel diplococcus lanceolatus in capsule on hydrocele.

From the above it will be seen that in 13 cases out of 16 of pertussis examined in succession without any selection of material, there was the constant presence in numbers sufficient to give it a leading dignity as bacillus. This bacillus always grew either in pure culture or in vast numbers slightly contaminated with various forms of diplococci or of diplococcus lanceolatus or streptococci.

As pointed out in the previous histories, the bacillus was found most easily in those cases uncomplicated with bronchitis or pneumonia. In the latter, the streptococci or diplococci or lanceolate coccus outgrew the bacillus on the cultures. It has occurred to the writer that this fact accounts in part, as well as the specific medium, used for the fact that previous investigators following Afanassjew have failed to isolate this bacillus.

The Bacillus isolated by the Writer.

In describing the bacillus isolated by the writer in the above cases of pertussis, and which seems identical with that described by Afanassjew, we have, in view of the divergence of opinion as to the etiological connection of this bacillus with pertussis, thought it best to give here the results of the author's personal studies, inasmuch as the medium used was a new one and the methods extensive.

The Sputum.—Afanassjew, and following him many writers, have had no difficulty in establishing in the sputum of pertussis patients, when stained on cover glasses in the ordinary manner with Loeffler alkaline blue, the almost constant presence of a small bacillus. The present writer has seen this bacillus years ago, but has been unable, for reasons given above and the lack of a specifically favourable culture medium, to isolate this bacillus, unless it was present in almost pure culture. The contamination with bacteria of the ordinary sputum always prevented this. In the sputum, as stained in a crude state, these bacilli are seen not only in epithelial cells, but also free in the meshes of mucous threads; they are very delicate and short, and stain quite uniformly; they occur mostly in zoogloœa. They are very constant in the sputum of cases which are uncomplicated by bronchitis or pneumonia. In these cases then they seem to be the only bacteria which occur, with the exception of isolated diplococcus forms and few streptococci. In sputum which is thick and tenacious, and is expectorated by those having a severe bronchitis or bronchopneumonia with pertussis, the bacilli can also be readily found. They are also present in zoogloœa or isolated, but in such sputum we also see to an overwhelming degree the streptococci or the diplococcus lanceolatus. If the whitish pellets of the sputum mentioned above are examined on cover glass, they are found to be made up almost exclusively of a tenacious mucus, in the meshes of which are seen vast numbers of these fine bacilli. If the pellets of the sputum are sown on obliquely solidified hydrocele fluid, or hydrocele fluid mixed with one-third its volume of glucose bouillon and then solidified, there grows in twenty-four hours a densely whitish layer, which on examination is found to consist mostly of bacilli. A small particle of this layer is diluted with bouillon, and the dilution sown on hydrocele. Separate colonies can be thus obtained, or after obtaining a massive mixed growth on the hydrocele medium, we may then make agar plates or gelatine plates, and thus obtain a very pure culture without difficulty.

In pure culture we find that the bacillus grows in a finely dotted layer, of a pearly-white colour, on hydrocele medium. On hydrocele and sugar bouillon the colour is not so delicately pearly, but more creamy in colour, like the diphtheria growth. On agar-agar the pure culture grows as a pearly-white opaque layer. Colonies in agar are whitish by reflected white, and straw colour or deeper olive by transmitted light. They are irregularly rounded in shape and granular.

In gelatine a "stich" culture grows as a finely granular white growth, much like streptococci, with a nail head, and does not fluidify the gelatine. The colonies in gelatine have an irregularly circular outline, whitish or straw colour by reflected light, olive colour by transmitted light, and granular. They do not grow to large-sized colonies.

In simple peptone bouillon we have after twenty-four hours a fine granulation of the medium; this after a while results in a sediment at the bottom of the test tube, which is made up of small adherent masses. After a week we have the surface of the bouillon covered with a film or pellicle of bacilli which becomes thicker with time. On Loeffler's diphtheria serum we have a whitish growth resembling very much that of diphtheria bacilli.

The bacillus grows quite luxuriantly anaërobic. It is motile. The bacillus here described, when stained with Loeffler blue from a pure culture grown on hydrocele fluid, appears as a remarkably delicate short bacillus, thinner than the diphtheria bacillus, and not more than one-half to one-third its length. It measures 0.8 to 1.7 micromillimetres long, and is about 0.3 to 0.4 micromillimetres wide. In staining it has a finely dotted appearance, and in this respect resembles the diphtheria bacillus stain, but here the resemblance stops, for it is a much finer and shorter bacillus. Old hydrocele and agar growths show that this bacillus develops peculiar club-shaped extremities which stain more deeply with blue—in other words, involution forms like the well-known involution forms of the bacillus diphtheriæ, but in much more delicate fashion. Contrary to the experience of Afanassjew, I have never been able to convince myself that this bacillus has spores or is capable of sporulation. Staining for spores by the known methods of heating or subjecting to the action of strong acids gives decidedly negative results. The dotted appearance of the bacillus and the clubbed extremities of the involution forms may have led to the belief that there were spores.

Animal Experiments.

White mice, if injected with small quantities—0.5 c.cm.—of a recent culture, die after a week or more of a form of asthenia, and in the blood the bacilli are found; the spleen may be enlarged, but there is no lung lesion. If large quantities—2 c.cm.—of an old bouillon culture are injected the mice die within twenty-four hours with general œdematous infiltration of the subcutaneous tissues of the whole trunk, lung and heart being free from lesions. If injected with 1 c.cm. of an old culture the mice die within a week and present no characteristic lesion. Guinea-pigs do not seem to be affected by subcutaneous injections of the bacillus, nor do rabbits lose weight or health after subcutaneous injections. Intravenous injections of the old bouillon culture in the rabbits causes a form of suppuration of the joints, or pyæmia. In none of the animal experiments were lung lesions produced, nor were there characteristic convulsive symptoms. A limited number of animals were utilised, and it may be that in large numbers of animals varied lesions would be produced. Some experiments were made by direct inoculation of sputum into guinea-pigs and rabbits, but without any characteristic results.

It will be seen that we have isolated and described in thirteen cases out of sixteen of pertussis a bacillus which, in all but a few minor details, which may easily be accounted for by differences in technique, corresponds to that of Afanassjew. We can understand that in the absence of a favourable culture medium and the use of cases complicated by bronchitis and pneumonia this bacillus, which is an extremely delicate micro-organism and very difficult to isolate in pure culture, escaped some observers. We are not prepared as yet to fix beyond a shadow of question the exact *rôle* of this bacillus, yet there is no doubt that in the cases examined it can be given the dignity of a leading micro-organism in regard to numbers. Animal experiments are as

yet unsatisfactory, as with the gonococcus the human test alone could give us some definite data.

References.

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Sir James Grant (Ottawa) said: Pertussis is frequently modified in its manifestations by the process of vaccination, and it is important in carrying out bacteriological investigation to trace, if possible, the precise cause of such change. Vaccine is a powerful systemic factor, and produces strange and interesting manifestations as to its modifying and even curative effects, chiefly alterative in character, and frequently curative. It would be interesting to note any change into the specific bacterial forms during the vaccine period.

GENERALISATIONS FROM SIX YEARS USE OF TUBERCULIN.

By Jas. T. Whittaker, M.D.

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Robert Koch announced the discovery of tuberculin at the Tenth International Congress at Berlin, August, 1890. The publicity of the occasion, the fame of the author, above all the defiance of the disease to all treatment hitherto lent peculiar interest to the discovery. The suddenness of the announcement was another factor; very few had even an inkling of the work leading up to it.

The declaration of the discovery of the tubercle bacillus in 1882, though credited by many of the members of the critical audience in the Berlin Physiological Society to which it was presented, met with so much scepticism in the profession at large as to have been practically disbelieved. Most of the leading medical journals discredited it, many of them derided it. When the truth asserted itself the disbelievers found themselves punished for incredulity. So, although the problem was harder, belief was easier on this occasion. In fact, there was reaction to the other extreme, and more was expected of the remedy than was expressed in the modest claims of the other. This was the reason, I think, why medical men who represent the most cautious and conservative branch of human culture accepted the remedy at once, and began to experiment with it in a way and in cases in which the author, to use the mildest terms, had never advised it. The disappointment which followed was intense, and the expression of it was bitter and long. In fact, we have just now reached a period when any renewed advocacy will be listened to at all.

I got my first tuberculin directly from Berlin January 15th, 1891, as the very first importation into this country, and began the use of it in the cases at the Good Samaritan Hospital at that time. These were 4 cases of tuberculosis pulmonum and 1 case of scrofula, to which I will allude again.

All my first use of the remedy was entirely therapeutic, and I did not begin to avail myself of the immediate action of it in diagnosis for two or three years. When it was used in this way the results were found, it is needless to say, much more striking and satisfactory.

The use of tuberculin should be studied therefore from the double standpoints of diagnosis and treatment. The value of it in the disclosure of tuberculosis in man was not at once rightly recognised, on account of alleged dangers in the use of it, but in cattle it soon met its proper appreciation, and is perhaps nowhere more extensively and satisfactorily used than in the United States.

Aside from the objections urged by ignorant and prejudiced people not worthy of notice, four apparently valid arguments accumulated in the course of time against the use of tuberculin in man:

1. That the reaction occurred in the absence of tuberculosis. This objection has been met by the demonstration of concealed depôts.

2. That the reaction occurs in other diseases—syphilis, lepra, actinomycosis, etc. This objection has been met by the demonstration of tuberculosis coincident with or complicating these maladies.

3. That the reaction will occur in the most quiescent case, even where the bacilli are not only concealed but encapsulated and depôts are partly calcified. This is, of course, no objection at all, but a most striking confirmation.

4. That the use of it is dangerous in that it not only only awakens the disease from latent sources, but disseminates it over the body, and thus leads to auto-infection and increases the danger of infection of others. This conclusion rests upon a false premiss, and confounds the *post* with the *propter hoc*.

As my paper is purely clinical I will not take the time to further discuss theoretical objections, but content myself with the repetition of a statement made upon another occasion, that I had used tuberculin every day in hospital and private practice for six years in now nearly one thousand cases, and have never seen any kind of evil result beyond the characteristic reaction. Koch himself declares the fear of danger to be a "foolish prejudice." He has, he says, never seen "even the slightest intimation of any mobilisation or transmission of tubercle bacilli in the use of tuberculin as a diagnostic agent in over one thousand cases," and this experience he thinks "should put the diagnostic value of it in man upon the same plane as in animals." My own use of tuberculin, I ought to say here, has been nearly exclusively for therapeutic and only exceptionally for diagnostic purposes.

In a paper read before the Association of American Physicians in May, and published in the *Transactions*, I reported a number of cases, doubtful and obscure, in which the diagnosis, positive and negative, so far as tuberculosis was concerned, had been easily established, and mostly after failure with other means, by a test dose of tuberculin; thus, in cases of neurasthenia, night sweats, joint disease, laryngitis, pulmonary tuberculosis, peritonitis, fistula, etc. Since this report I have had a striking illustration of the penalty which attaches to over-confidence in diagnosis and neglect of using the most approved method of study. This will be the only case which I will mention.

On June 10th I was called in consultation by a surgeon in Cincinnati, to aid in the diagnosis of a case of enlarged glands in the neck in a patient, a woman, aged 67. The glands had begun to grow three months before, and now formed a good-sized mass under the angle of the right jaw, extending down behind and below the sterno-mastoid muscle. There was some pain, and within the past few weeks there had been slight fever. The glands were deep-seated and hard. The patient had enjoyed good health hitherto, and had no other discoverable disease. The rapidity of the growth, the presence of pain, the exemption of any affection of the lung, and, above all, the age of the patient, led us to declare a diagnosis of carcinoma, probably sarcoma of the cervical glands, and to advise immediate extirpation. The operation was tedious and bloody (as had been expected), and the patient succumbed in three weeks. I learned these things by letter from the surgeon, together with the fact that the glands upon microscopic and bacteriological examination turned out to be tuberculous. Now, although extirpation is often the best treatment of an adenopathy of this kind, I should myself, with a true knowledge of the disease, have advised against an operation in this case at that stage.

The mode of action of tuberculin, to which I allude merely from a clinical standpoint, has met with various explanations. Certain it is, that together with leucocytosis and fever a sharp hyperæmia is developed, extending over the entire domain affected, and in this process toxins are formed or are liberated which produce the characteristic reaction, and give partial immunity to the poisonous products of the tubercle bacillus. The immediate benefit which nearly all patients feel is due to this immunity. The proper principle of treatment consists in pushing the development of this toxin as rapidly as possible this side of extreme reaction, before tolerance to the tuberculin itself is established in the body. Most of the protection of the body against the action of poisons is based, as we know, upon tolerance, which is probably secured by increasing the antitoxic action of the serum of the blood. The patient affected with tuberculosis is not fatally poisoned by the products of the tubercle bacillus because of tolerance to the products of it begotten in their slow development. When these products are developed too rapidly the body is overwhelmed, and succumbs. But the tolerance to tuberculosis, as a rule, is so great that individuals live for years, and decades of years, and often recover entirely. The body becomes adjusted to the effects of the poison, and sometimes shows in this process remarkable changes. Thus the disposition may be actually improved by it. It was Klebs, who makes, anyhow, such close and curious observations, who first spoke of the singular sweetness of disposition and loveliness of character sometimes seen,

especially in women, the sufferers with slow phthisis. Men, it seems to me, are rather made more irritable. The true principle of treatment with tuberculin is to secure the action of it before tolerance to it is established, for as soon as it is tolerated it loses its effect. Unfortunately there is, as a rule, not time to secure immunity to the products of the tubercle bacillus before this tolerance to tuberculin is established, and thus the benefit experienced at first is lost in the latter treatment. For it may be assumed that with tolerance the toxin ceases to increase the antitoxic action of the blood, and any continued use of it after this time seems really to lessen it. So, when the tuberculin fails to do good, and the disease reasserts itself, the use of the remedy should be stopped. Time should then be allowed to elapse, several weeks being required in most cases, and then when the tolerance is lost the treatment should be begun again. Thus, the successful treatment of tuberculosis takes time—a long time, months and years, about as long as does the successful treatment of syphilis, which is usually a matter of years. The physician who expects to cure a case of tuberculosis in a few weeks will, of course, soon become discouraged, and will probably join the ranks of medical men who denounce and decry the means.

For diagnostic purpose the first dose in cases of lightest infection (suspected) should be 5 mg., the second 10 mg. or 1 cg., the third 2 cg. These doses may be given on succeeding days, or, better, every other day, preferably in the evening, that the temperature records may be properly observed on the following day. Failure to get reaction from three tests excludes concealed tuberculosis. The crude tuberculin diluted one hundred times, preferably with ½ per cent. solution of carbolic acid, makes, of course, a 1 per cent. solution, of which one interspace of the Koch syringe represents 1 cg. One interspace of this 1 per cent. solution diluted ten times makes 1 mg. For therapeutic use I begin with one-tenth of a milligramme.

I will be more brief in my remarks upon the therapeutic use of tuberculin. In our first use of the remedy we were able to adhere rigidly to the rules laid down by Koch, but we were not able to select the cases or limit ourselves to the first stages of the disease, the phthisis incipiens. In fact, every one of the cases of lung disease was advanced to what is commonly called the second stage, phthisis confirmata, and one of them was so far advanced as to constitute a phthisis consummata. The remedy was used in this case in infinitesimal dose simply *solaminis causâ*.

I do not propose in this brief summary to vex the Section with any details of cases, but I may say here at once that the case of scrofula ultimately, that is in the course of two years, made a good recovery, while the cases of phthisis pulmonum all died in from four to six months. It was impossible not to feel disappointed and somewhat discouraged at the result. But on comparing subsequently the course of similar cases treated with tuberculin with other cases, it was seen that the progress of the disease was slower in the first cases. For some improvement pretty much always sets in at first. We had, however, nearly uniform results to report in hospital practice, an improvement for a time with subsequent continued progress downward, interrupted with many stages of quiescence and occasional temporary gain. And in explanation of the temporary improvement it became plain to see as cases multiplied that after making all allowance for the all-powerful influence of suggestion, and some for the better hygiene of hospital life, there was still room for much to be granted to the specific treatment.

It was a long time before the reason of the continued progress of the disease was ascertained, but it became apparent at last, with continued examinations of the sputum, that direct product and derivative of the disease, the closer examination of which had led to the discovery of the tubercle bacillus to constitute the luminous epoch in the history of tuberculosis. But all attention had been directed to the detection of this bacillus in the sputum hitherto to the neglect of other micro-organisms. As examinations multiplied in competent hands, it was soon seen, or perhaps we might say the fact already known became better appreciated, that the new advances or relapses marked by chills and sweats were due to invasions of other, especially of the pus-producing, micro-organisms, and that the disease had passed beyond the domain of tuberculosis into the wider realm of sepsis. It was at this time that the school of Koch proposed to call the see-saw temperature of hectic the "streptococcus curve." The reason of the failure of tuberculin in the further course of the disease now became apparent. It was not to be expected that tuberculin, a product of the tubercle bacillus, would inhibit the growth of or destroy the influenza bacillus, the diplococcus or the pyogenic micro-organisms. The truth is the great majority of cases in hospital practice are advanced beyond the stage of pure tuberculosis. They are cases of mixed infection or sometimes of secondary infection, and belong not so much to tuberculosis as to septicæmia.

The results of the use of tuberculin in private practice are more encouraging. In ordinary house practice cases are encountered, of course, in every stage, and the majority, because of the long duration of the disease, are advanced to the second stage, but the hygienic environment is better as a rule, that is, there is more breathing room, more outdoor life, including here the advantage of change of climate, more comfort in every way; as a rule, to which there are many exceptions, there is less auto-infection and, of course, less homesickness, and all that without saying goes with it to gregarious man. I had the influence of this factor impressed upon me once by the remark of a big, strong-looking man, who came back from Colorado too soon with the apology, "Doctor, I am going to stay home; I had as leave be buried under the ground as on top of it."

But the advanced cases in private practice in the long run took the same course. The disease after a temporary check would reassert itself with chills often of origin sudden and inexplicable, with hectic, night sweats, and final dissolution. But every now and then there were agreeable surprises. The progress of the disease would be checked for a longer time, or the whole condition would be raised to a higher level—to that of several months or of several years before. In these cases the bacilli would diminish and sometimes disappear altogether, and the gain in spirits, which is quick in phthisis—the spes phthisica—would exceed the gain in weight.

Just in which cases this gain would occur or in which it would fail to show itself could not be foretold. As in so many other things, it was necessary to try to find out. Sometimes it would be impossible to know whether the improvement was really due to the tuberculin or to conjoined treatment; but as time advanced and cases multiplied, the feeling would grow that the cases treated with tuberculin off and on, more especially for a long time and judiciously—that is, with the same caution as in the use of any other agent in the materia medica—did the best. It was always easy enough to study control cases in patients who were themselves or had been by their physicians prejudiced against the use of it.

So that when the diagnosis was clear, as established in a plain case by the physical signs, in a doubtful case by the discovery of the tubercle bacillus, or in a still more doubtful case by a test injection of tuberculin, I made it a practice to use it tentatively in every case, with the consent of the patient, of course, never without it, and then continue with or abandon it according to the results.

Some of the differences in results could be pretty definitely attributed to the kind or degree of the mixed infection, some to the localisations elsewhere in the body, and some to the site of the deposit. For instance, influenza cases, that is, cases complicated by influenza, do badly as a rule. Caries of the vertebræ, of the tarsus or carpus, make ugly complications, while deposits in the pulmonary veins or thoracic duct or irruption into these vessels inundate the body to produce phthisis florida and miliary tuberculosis. We recognise these cases often after a very short examination, and appreciate at once their ominous character. The continued feeding of the body from these depôts makes futile every kind of therapy until an exacter localisatisn may be effected, perhaps by some kind of penetrating light, and destruction or extirpation become possible by galvanotherapy or by the knife. At the present time they constitute the despair of medicine, and the use of tuberculin is actually contra-indicated in them. I know of no other contra-indications.

The best results are got in office practice; in the first place in the way of diagnosis. It is a great satisfaction to be able to clear up a concealed case and to declare an exact diagnosis

of a disease treated hitherto without a diagnosis or for something else. Thus an obstinate or frequently recurring dyspepsia, an amenorrhœa, a neurasthenia, an anæmia, a rheumatism, an adenitis, a little low fever (to say nothing of acute cases of chills, night sweats, catarrhs, and coughs), may have their true nature revealed in this way. These are the cases (aside from the chills and fever) in which the treatment furnishes the best results. Tuberculin gives good results also in childhood. Children react favourably to tuberculin, much more so than adults, so that the so-called apex catarrh of childhood will often clear up and disappear in them within two or three weeks.

Aside from these cases the treatment must be persistent, and good judgment must be used in dosage. Rather too little than too much. I have never seen any bad results from the use of tuberculin, because I have always endeavoured to secure a slow tolerance, so that individuals who react at first to a few milligrammes become later insensitive to one hundred times as much; in fact, at last to 1,000 milligrammes. The evils ascribed to it I believe to be due to the disease itself, for I have seen them as often before the use of it. But it is easy to conceive that the patient would suffer under excessive reactions, and that repeated excesses might do permanent harm. But *ex abusu non arguitur ad usum.* It is a maxim of the law, good also in medicine, that we may not from abuse argue against use.

The highest value of tuberculin is the diagnostic value, which is supreme, and which enables us to distinguish the disease at the start, as a tuberculosis, before the development of sepsis or other complications which go to make up that composite picture which we call phthisis.

ON THE DISAPPEARANCE OF ENDOCARDIAL MURMURS OF ORGANIC ORIGIN.

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The murmurs of valvulitis or organic heart disease are usually characterised by their permanency. This feature, along with others, serves to distinguish them from the murmurs of anæmia or of incompetency from dilatation, the so-called functional or dynamic murmurs. Nevertheless, it is well known the organic murmurs often appear and disappear on change of posture or under the influence of rest, or of exertion involved in change of position, or the greater one of walking across the room.

Consideration of the temporary disappearance of murmurs, and of their significance by virture of alteration of position or on exertion, is not within the province of this paper; nor is it our desire to consider the disappearance of murmurs shortly before, and indeed as a precursor of, death. Such disappearance, necessarily temporary, is believed by all to be due to the extreme dilatation and consequent debility of the heart muscle, on account of which the force is insufficient to generate the vibrations productive of sound. In this manner murmurs generated at any one orifice may disappear, particularly mitral and tricuspid murmurs, whether of obstruction or regurgitation. It will be seen later that aortic murmurs much less frequently indeed, if at all, disappear under these circumstances.

Murmurs, however, disappear and reappear independently of the above causes, and it is our object to discuss this curious, more or less permanent disappearance of murmurs which occur in the course of valvulitis. Many authorities totally ignore any mention of the disappearance of cardiac murmurs under these circumstances. Those who do refer to this phenomena are generally in accord as to the variability or total disappearance of the murmur of mitral stenosis; some note the disappearance of the murmur in aortic regurgitation. Isolated cases are thus reported by Saundby, Gardner, Duckworth, Boyd, and others. Only rarely do we have mentioned in the literature of cardiac disease the disappearance of the murmur of mitral regurgitation, and then not from authentic cases of valvulitis. In no authoritative instances have we found the report of the disappearance of the murmur of aortic stenosis, or of tricuspid or pulmonary valvular disease.

Valvulitis without Murmur.

Before systematic consideration of the subject of which we are directly concerned, it is not without interest to speak of the closely intertwined subject of valvulitis without murmur. It has been the experience of all of us to meet with such cases, and many are recorded which during life presented subjective and objective symptoms of cardiac disease, in which murmurs were not detected although under observation, not only in the latter periods of disease, but even for a long time prior to death, and before compensation had taken place. At the necropsy in these cases advanced and therefore old valvulitis was found.

Anent the absence of the murmur in mitral stenosis, we must recall that the diagnosis of this affection must be made frequently by other physical signs than those revealed by the characteristic murmur, and of these the most specific, if we may so term it, is the peculiar accentuation of the first sound. Indeed, I am accustomed to predict the occurrence of mitral stenosis in cases which present all the phenomena of failing compensation, providing first, that the subject is in the early or middle periods of life; and, second, that no other cause exists for dilatation of the heart. It is to this class of cases, heart disease without murmur, that Fagge applied the term morbus cardii, and calls it the "sandy desert of cardiac pathology."

Named in the order of frequency we will consider the disappearance of murmurs: first, of mitral obstruction; second, of aortic regurgitation; third, of mitral regurgitation.

Mitral Obstruction.

The quixotic nature of the murmur of mitral obstruction has rendered its study one of peculiar interest and charm. Students of this form of valvulitis generally agree that the murmur is most variable, although many systematic writers ignore reference to it. The disappearance of the murmur may be temporary or permanent. It is to the latter we wish particularly to refer. It may disappear in the course of the disease on the one hand, or in the terminal periods. Not only does it disappear as we would expect in the period of dilatation, but at other times, as Gee well says, "in a manner that cannot well be explained." Page affirms it may appear and disappear, and is the only one not permanent. Sansom speaks of its variability and of its disappearance for long periods; Bristowe of its disappearance wholly or in part when the circulation is tranquil. Walshe states that it may come and go from day to day to day or may be wanting. Gibson and Russell say "the murmur is not present in every case if there is a weakness of the heart muscles," and Tyson confirms the statement. Fagge mentions its disappearance altogether, as well of its disappearance in the latter stages, or when the patient is prostrated by acute disease. Flint (*Clinical Medicine*) teaches that a mitral constrictive murmur may disappear temporarily or permanently in the course of the disease from enfeeblement of the left auricle. Da Costa merely refers to cases in which the murmur was absent. Strümpell speaks of its disappearance as the disease advances, and Osler of its disappearance with rupture of compensation. Loomis (Pepper's *System of Medicine*) observes that the murmur may only be heard in the upright position, and may disappear when the heart weakens. Hayden refers to two cases under his observation in which the murmur ceased to be audible a few days before death, but avers that the murmur of mitral obstruction is never permanently absent. Bramwell records that the murmur may be absent early; or it may be absent late if the left auricle is dilated. Greves, Williams, Boyd, and Saunders report isolated cases of the disappearance of the murmur. Greves's two cases might be looked upon as doubtful, for they were attended by extreme dilatation, so that with treatment the presystolic murmur disappeared. Saunders says the murmur may completely disappear. Potain, referring to this phenomenon, believes that such disappearance may be due to the smoothness of the surface of the valves resulting from constant attrition. Fagge and others believe the murmur disappears because the contraction of the auricle is too weak for its production. Bechner reports two terminal cases in 1855, and believes the murmur disappears as the disease advances, because of the more rapid action of the heart, its incomplete contractions, and

lessening of the volume of the blood which takes place in the course of the disease.

In one of the writer's cases the murmur disappeared, and was absent for a long period before death without any evidence of failing compensation, the patient died from other causes, and at the necropsy the orifice was enormously dilated, and the mitral leaflets thickened and contracted. This contraction and drawing in of the leaflets were so extreme as to lead to the formation by the auricle and ventricle of one cavity practically, so that the blood pouring into the auricle fell directly into the ventricle, hence that which was an obstructed channel became thereby a patulous opening.

Saunders believes that the disappearance of the mitral murmur takes place because of changes, first, in the rapidity of the flow of blood; second, in the relative capacity or greater or less extension of the different cavities; third, in the roughness or smoothness of the surface of the valves; and, finally, because of changes in the strength of the heart's action.

It must not be forgotten that we may have to do with the so-called "Flint murmur," the presystolic murmur that attends aortic regurgitation. Its possible occurrence must be kept in mind when studying the nature of the vanishing murmurs of mitral obstruction, for it is well known, as Osler points out, that this murmur disappears as dilatation of the ventricle diminishes.

Aortic Regurgitation.

Walshe, Gairdner, Hayden, Sansom, indeed most authorities, declare that this is the most persistent of all organic murmurs, neither disappearing nor varying under the influence of rest or position, or the occurrence of cardiac dilatation. Gee, however, states it may disappear when the heart falls into a state of asystole; Strümpell, that it is absent in rare cases; Loomis, that it disappears temporarily. Fagge says it may be heard occasionally only in the course of the disease, thereby leading us to infer that it disappears from time to time, although he does not state the circumstances associated therewith. Klein states that the murmur of regurgitation may disappear when an inflammatory deposit takes place on the valve.

Of isolated cases Boyd refers to one which was absent for a period of two years after its detection, the disappearance being coincident with an attack of acute rheumatism. Drasche puts forth the view that the enfeeblement of the diastolic murmur may arise from extension or pulling outwards of the sound leaflets to close the orifice.

In Gairdner's case the murmur disappeared twenty-eight days before death, and at the necropsy it was found that a vegetative outgrowth occluded the otherwise patulous orifice. Loomis states it may temporarily disappear by closure of the orifice by a plug of fibrin. Duckworth reports a case of a similar cause. In Saundby's case an aortic diastolic murmur propagated along the sternum was heard one year prior to the fatal illness—absent in the interim; dilatation of the aorta was found, and mitral thickening, but no aortic disease. In another case the murmur was not heard whilst under observation, yet the valves were found greatly incompetent at the necropsy, a murmur presumably having existed some time during life. Hawkes and Lycett, in the discussion on Saundby's paper, reported cases of the disappearance of this murmur. Black reports a case of a male, aged 28, who was was under observation when 16 years of age. At the earlier age a loud aortic diastolic murmur was heard; it was absent at the later period of observation. Quite recently, Whitby reports a case in which the murmur disappeared for twenty-one days during an attack of fever; while absent, substernal pain and oppression were not complained of; both marked symptoms before the murmur disappeared and after it returned. The murmur, it may be said, was well conducted in the usual situation; there was no Corrigan's pulse.

Apropos of our subject, a most interesting paper, an abstract of which only I have been able to see, has recently been presented by Weismayr. The presence of the symptom-complex of aortic regurgitation, he says, may be due to, first, accidental diastolic murmur in the aortic area; secondly, to incompetency, without murmur; thirdly, to pseudo-insufficiency, neither murmur nor lesion being present. The first he avers is rare, and must be excluded from aortic regurgitation, mitral obstruction, pericarditis, and aneurysm. The second lesion without murmur is more common. The third, pseudo-insufficiency, is attended by typical peripheral vascular signs of aortic regurgitation though the valves are intact. Usually there are signs of atheroma of the aorta, and it is to this lesion that the peripheral signs are to be attributed. He believes it cannot be diagnosticated from true aortic regurgitation without murmur, unless there are signs of the coexistence of another valve lesion. Litten also reports three cases of pseudo-aortic insufficiency, which presented all the peripheral signs of aortic regurgitation without either murmur or lesion.

In the study of the vanishing murmurs of aortic regurgitation the above conditions must be borne in mind, and it must also be remembered that diastolic murmurs in the aortic area may be due to dilatation of the ascending aorta, or to yielding of the sinuses of Valsalva. These conditions must be excluded before we can speak with confidence of the disappearance of a murmur due to true aortic regurgitation.

The case of vanishing aortic murmur which came under my observation was that of a male, aged 70, who three years prior to death presented a diastolic murmur in the aortic area transmitted along the sternum, with the peripheral signs of aortic regurgitation. The murmur persisted for about one year, and then disappeared. Two years subsequently the patient died of sudden œdema of the lungs, caused by the asystole of myocarditis. At the necropsy a peculiar condition of the aortic valves was found. The leaflets themselves were not thickened nor adherent, and showed a very few spots of fibrous change.

The corpora Aurantii were, however, very thick, enlarged, and completely calcified, so that in place of the corpus of each leaflet there was a calcareous button 4 mm. in diameter and 2 mm. thick. They were quite regular and smooth on the free surface, with facets resembling those upon a gall stone. The aorta showed considerable atheroma above the valve, but no calcification and no dilatation; it measured 56 mm. in circumference. Wearing down of the above described nodules rendered the once incompetent valves competent.

Mitral Regurgitation.

The murmurs of this character, systolic in time at the apex, are so frequently due to incompetency or to the condition of the blood (anæmia) that we can readily appreciate the difficulty of deciding when a murmur disappears whether it has been organic or inorganic. The inference always is safe in classifying it among the latter murmurs. Saunders, in his systematic paper on the variation and vanishing of cardiac murmurs, says that organic murmurs vary remarkably at long but also at short intervals of time, and that they may also disappear. He instances mitral regurgitation, but does not report specific cases. Walshe refers to the disappearance of this murmur in chorea. Other authorities likewise refer to the disappearance of this choreic murmur, affixing the term "dynamic" to indicate its cause. None of the authorities previously referred to speak specifically of the disappearance of the murmur of mitral regurgitation unless there is failure of compensation. Both Hayden and Bramwell state that it may disappear under these circumstances, and without further cavil we will with one accord no doubt agree with the distinguished authors. Boyd relates the case of a child who, at the age of 12, had a mitral systolic murmur with left ventricle hypertrophy. Several years afterwards both murmur and hypertrophy disappeared, because, the author believes, absorption of thickened interstitial deposit took place. We find in Sansom's small book on *Cardiac Treatment* the narration of a somewhat similar case. No doubt the same experience has occurred to many of us in studying the murmurs of organic disease in children.

Other organic conditions, if they may be so termed, have caused the murmur of mitral regurgitation to be variable and even disappear for a considerable time. Potain reports a case of rupture of the tendon of the mitral valve; sometimes the tendon floated in the ventricular cavity, and sometimes between the leaflets. In the latter case the incompetency caused thereby gave rise to the regurgitant murmur. The appearance and disappearance of the murmur depended upon the accidental position of the floating body. Walshe refers to an interesting case where a pedunculated growth floated from

the ventricle into the auricle, and at variable intervals gave rise to a systolic murmur.

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EMPYEMA OF PNEUMONIA, WITH FOUR CASES.

By Dr. MacKinnon,

Guelph.

Of empyema, as a general term to include all forms of suppurative pleurisy, much has been written, many cases related, and the method of treatment clearly defined. But in regard to the empyema of pneumonia all the older writers are silent. Flint, in his work *On Practice*, edition of 1886, dismissed the subject in one line: "It is sometimes secondary to lobar pneumonia." I find several cases related in the Journal of the British Medical Association, May 19th, 1888. From this date onward, occasionally in the various medical journals of Great Britain and the United States, the association of pneumonia and empyema is shown by relating cases. But it would not be prudent to quote these cases, interesting as many of them are, in the short paper I am about to read. The conviction is undoubtedly gaining ground in the minds of the profession that the commonly accepted theory that empyema results in some way from simple pleurisy is not true or satisfactory. In 1877 Dr. Wilson Fox published a paper in which he held that empyema does not result from a slow and gradual change in an effusion, primarily serous. In other words, he held that a simple pleurisy had no tendency to go on to pus. I think all will agree that this view is in full accord with experience. In the British Medical Journal of July 18th, 1891, Dr. Drummond writes: "During the past two years I have traced without doubt 14 cases of empyema to an antecedent attack of pneumonia, and during that time I have not met with a single case of simple pleuritic effusion that went on to pus."

Professor Osler, in his work on the *Practice of Medicine*, 1892, says: "Of late special attention has been paid to the frequency with which empyema complicates pneumonia. Effusion may not have been suspected during the height of the disease, but after the temperature has been normal for some days, a slight rise occurs and the irregular fever persists, dulness continues at the base, or may have extended. The breathing is feeble, and there are no *râles*. Such a condition may be closely simulated of course by the thickened pleural layers which are so commonly found after pneumonia. The question should be settled at once by the introduction of the needle. It is by no means an uncommon complication, and many cases of empyema supposed to be primary are in reality secondary to a slight pneumonia."

I can well remember when we were taught that more or less pleurisy was present in every case of pneumonia, but that it was not of sufficient importance to demand separate consideration. And whilst this doctrine still holds true as to the slight pleurisy that is always present in pneumonia, it ought not to be allowed such weight in our minds as to overlook the more serious condition of empyema when present. I have no doubt whatever that under the inspiration of this old doctrine many cases of empyema were allowed to die unrelieved, and that death was ascribed to "unreserved pneumonia," or "abscess" or "gangrene of the lung." Had the needle been used, as Osler suggests, and the chest properly drained, the "abscess" or "gangrene" would not have occurred, or the pneumonia would have passed on to resolution in due course. I make the assertion, which may appear rash but I believe is absolutely true, namely, that, except when due to tubercle, foreign matter, traumatism or sepsis, abscess of the lung does not occur. Every other case of so-called abscess is in reality a case of a limited empyema which led to perforation of the lung, and discharged into a bronchial tube. Such cases are not necessarily fatal though very serious. If the pus cavity be small, prompt recovery may follow; if very large, such imperfect drainage could not end otherwise than in fatal exhaustion. It does not require any great flight of imagination to understand that "gangrene" could also result from a large empyema. In some cases the sero-purulent fluid is secreted with amazing rapidity. We are considering the empyema of pneumonia. The lung is in a state of hepatisation, and its circulation consequently seriously embarrassed. Add to this the pressure of a large effusion of foul pus, and it is small wonder if gangrene should be the result. We should not fail to make a most critical re-examination of our patient if resolution does not soon follow the crisis, lest we overlook an existing empyema. The transition from acute pleuro-pneumonia to empyema is often so gradual that the practitioner may be pardoned for regarding the case as one of lingering consolidation, and the patient may die with his chest nearly filled with pus. The importance, therefore, of recognising the pneumonic origin of empyema cannot well be overstated.

The cause of the empyema of pneumonia can be clearly traced to the presence of the pneumococcus. It is held by some pathologists that the pneumococcus causes a general disease which may affect the pleura, the lungs, the peritoneum, the meninges, the pericardium, etc. If this view be correct then it is easy to account for the empyema of pneumonia. Many years ago I had a severe case of peritonitis, which was followed by an attack of pneumonia within a few days. At that date pathology offered no form of coccus as a cause for either pneumonia or peritonitis.

Diagnosis.

In some cases it is very easy, the symptoms pointing very strongly to the presence of pus. In others it can be made only by the introduction of the needle. In those cases where after the usual crisis there is a return of the fever, temperature rising to 101°, 102°, or 103°, the respiration continuing about as frequent as during the attack of pneumonia and the area of dulness perhaps not increased but corresponding to the extent of the pneumonia. The needle should be introduced. This condition almost invariably means empyema. Free perspirations, when present, add to the suspicion of pus here as elsewhere. After some days, these symptoms continuing, the dulness becomes absolute. Vocal fremitus is lost. Here the diagnosis is self-evident. But the most difficult cases are those in whom the empyema is almost concurrent with the pneumonia. No crisis occurs. The cough is harassing and frequent; the respirations rapid and distressing; the pulse of small volume, 120 to 140; drenching perspirations; the voice sounds not abolished; the area of dulness exactly as in the earlier stage of the pneumonia; bronchial breathing and *râles* are heard in the dull area. In these cases the use of the needle is the only way to make an intelligent diagnosis. The pneumococcus that caused the pneumonia caused also and simultaneously the empyema. I need scarcely insist upon the grave importance of an early diagnosis. Many cases of empyema are reported as having been cured by a single aspiration. To be successful, aspiration must be resorted to at an early stage while the amount of fluid is still comparatively small. If aspiration be done with proper skill and care it can do no injury, and the patient

should have the chance of cure by this method before being subjected to the much more serious operation of drainage of the chest. Therefore I think I am on sound ground when I insist upon the use of the needle in all cases of reasonable suspicion that there is pus in the chest, not only as a means of diminishing the danger to the patient's life, but also as a means of simplifying the subsequent treatment.

In exploring the chest for pus the needle used should be longer and somewhat larger than the needles of an ordinary hypodermic syringe. This is most important. If the ordinary hypodermic needle be used, although pus be present it may not be found, for the simple reason that the pus is often thick and cannot be drawn through the fine tube of the needle.

Treatment.

The treatment of empyema, of whatever origin, is purely surgical. I have mentioned that many cases have been reported as cured by aspiration, and, though I have never relied upon aspiration when the fluid in the pleural cavity is purulent, I can well believe that aspiration resorted to early in the case may wholly cure. I have found this method most successful in simple effusion, and would resort to it in any suitable case of empyema. However, in my own experience I have always made a simple incision between two ribs and introduced a fair-sized soft rubber tube. I prefer not to irrigate the cavity, even though the fluid be offensive. The tube should be short and fixed securely in position. The nature of the case must determine the point at which the tube is to be inserted and what length of time it is to remain.

The empyema may be limited and the pus cavity not large. The proper point for the incision is where the needle has demonstrated that pus is present, whether that point be high or low, at the back, side, or front of the chest. It is an abscess cavity, and should get the most direct drainage possible.

The four cases I am about to relate very briefly will serve to illustrate the intention of this paper:

Case I.—A young man had pneumonia in the City of New York. He appeared to be convalescing, and left his home under advice to go to the country. He travelled by rail in easy stages, a distance of over 500 miles, arriving at the home of his uncle much exhausted and apparently very ill. I was called immediately, and found the whole side of the chest absolutely dull. Whilst getting the drainage tube into the chest the pus found its way into the lung, and he nearly died from asphyxia there and then. Although the tube was successfully introduced and discharged a very large quantity of pus, the poor patient died next day from septic pneumonia. Perhaps if the needle had been used before he left New York the journey would not have been advised. When I saw him, forty-eight hours later, the condition was too obvious to require the needle.

Case II.—A boy of 16, ill with pneumonia. Crisis occurred on the seventh day. On the ninth or tenth day fever returned; temperature rising to 102.5° or 103°, pulse 112 to 120, and respiration 36 to 40, as during the attack of pneumonia. The area of dulness corresponded to the extent of consolidated lung, and was not noticed to be increasing; free perspirations occurred at times. Here the needle, introduced near the angle of the scapula, showed thick pus in the pleural cavity. At this point a rubber drainage tube was introduced, and the boy was fully recovered in six weeks. The diagnosis in this case should present no difficulty to any careful practitioner of even a limited experience.

Case III.—A girl, aged 7, under the care of a colleague, who very correctly diagnosed a pleuropneumonia affecting one side of the chest, and considerable bronchitis in the other. On the fifth day, during the unavoidable absence of her medical attendant, she became suddenly much worse, and I was called. I found the following condition: Pulse feeble, about 130; temperature 102°; respirations 70, and dulness absolute from base to apex of the affected side. The face had an ashy grey hue, the nails and lips were blue, the respirations much embarrassed, owing in part to the bronchitis on the other side. Recognising the urgency of the case, I obtained assistance and drained the chest. The fluid was sero-purulent, and the quantity that drained away during the first week was enormous.

After the incision was made, during the introduction of the tube, a large quantity of fluid drained away. This continued so freely that when seen next day, not only were all the dressings saturated, but the fluid had drained through the mattress on the floor under the bed. Recovery in this case was slow, but all discharge ceased in about four months. The rapidity of the effusion was very remarkable. The day before my visit she was seen by her medical attendant, who found nothing alarming. The pleural friction sound was easily heard, showing that there was then but slight effusion, if any. In twenty-four hours the whole side became dull. In this case no error in diagnosis could be made.

Case IV.—A girl of 22, health good until she had her teeth extracted under chloroform. On the third day afterward pneumonia developed. It began with a severe rigor, the temperature promptly rising to 105°: the pulse rapid. I first saw her in consultation with her medical attendant on the tenth day of her illness. Pulse 130 to 136, small volume; temperature 103°; respirations 36 to 40. Dulness limited to the part of the lung involved by the pneumonia. Vocal fremitus not abolished in the dull area, and there was bronchial respiration. No crisis had occured. The cough was hacking and distressing. The sputum was thin, brownish in colour, and most offensive. Even the air of her chamber was permeated by the intensely fœtid odour of the sputum. The patient's breath was also distinctly fœtid. There was free diaphoresis. The second puncture of the needle found thick and fœtid pus. Under chloroform the chest was properly drained, and the patient made a prompt and perfect recovery. A large quantity of pus as fœtid and offensive as any I ever removed from the pelvic cavity came away after the incision was made. From the condition of the patient I think I can safely say that she could not have lived more than a day or two if the chest had not been drained. What would have been the reported cause of death? Gangrene, of course. Yet the actual morbid process was a large empyema, developed concurrently with the pneumonia, which was making its way to discharge by perforating the lung, and which itself became fœtid by the absorption of air. In this case I think no one could make a correct diagnosis without the introduction of the needle.

Dr. Acheson (Galt) related a case of double pneumonia complicating parturition. The right lung cleared up in the usual manner, but in the left side an empyema was developed. Some fluid withdrawn by a needle showed a pure culture of Fraenkel's pneumococcus. Operative procedure was refused, and the next day the empyema perforated into a bronchial tube, and by this fistulous opening a large quantity of pus was discharged. This discharge continued, and the patient made a prolonged convalescence, with a permanent bronchial fistula.

THE FEASIBILITY OF CONTROLLING PERNICIOUS VOMITING BY MEANS OF INTUBATION OF THE LARYNX WITH A SPECIALLY ADAPTED TUBE:

With a Reference to the possible Relief of otherwise Intractable Hiccough and Pertussis.

By Chas. Lyman Greene, M.D.,

Clinical Professor of Medicine and Physical Diagnosis in the University of Minnesota; Visiting Physician to the City and County Hospital, St. Paul, Minn.; University Free Dispensary, etc.

I present this paper with considerable diffidence, as it involves a novel therapeutic measure which is radical and somewhat heroic, but I must rely upon kind indulgence, and shelter myself behind the old dictum which admits for dangerous diseases heroic remedies. The paper is intended to reopen an inquiry contained in an article published in July, 1895, under a somewhat less definite title.

Beyond one or two kind references in foreign journals, the paper, and the suggestion therein contained, attracted little attention, presumably because of the fact that it was based upon purely theoretical grounds, and was not reinforced by the clinical data properly belonging to the announcement of a novel procedure.

The fact that the treatment suggested is directly in line with physiological teaching would seem to justify me in asking that it be given a fair trial by the profession at large, and in inviting criticism and suggestion. If it fail, it will not be the first time that a physiological theory has been found wanting in practical value; if it succeed, something has been added to the therapeutic resources of medicine and surgery; in any event, it will not have done harm if used in appropriate cases.

Recent observation has strengthened my original belief that the method is worthy of a trial at the hands of men whose work brings them into contact with those rare cases of vomiting which are at present thought to be beyond the known resources of medical and surgical procedure. Before taking up the proposed treatment permit me to review briefly the mechanism of the act of vomiting as at present understood, and the *rationale* of the special treatment suggested. Aside from the purely nervous mechanism, the agents concerned in the act of vomiting are:

(1) Slight contraction of the muscular fibres of the stomach itself, which closes the pylorus, opens the cardiac orifice, and exercises a variable amount of compression upon the contents of the viscus.

(2) A coincident strong contraction of the muscles of the abdominal wall and contraction of the diaphragm immediately following a

(3) Sudden forced inspiration with glottic closure, which ensures fixation of the diaphragm, and thus provides a rigid surface, against which the stomach and its contents are

forced by the abdominal muscles, the opposing and co-incident action of these forces expressing the stomach contents.

The third factor is apparently the all-important one in the completion of the act. A certain amount of regurgitation might be accomplished in the case of an overfull stomach, especially in infants, by muscular contraction of the stomach alone, or by this factor assisted by the action of the abdominal muscles, and it may be possible for the small, vigorous, and generally overfull stomach of the child to reject its contents, even if the third factor be wholly wanting; but this is improbable and in this connection unimportant, inasmuch as the cases to which this proposed treatment is especially applicable occur in adults, and vomiting in adults to be really effective would seem to require descent and fixation of the diaphragm such as is to be secured only by the deep inspiration reinforced by the air column maintained by a closed glottis. This being admitted, it would follow that if such a tube could be introduced into the glottis as would prevent glottic closure and effect descent of the epiglottis, or if tracheotomy were performed and held inspiration thus rendered impossible, we might hope that effective vomiting would cease in any given case.

The tube which I show you was made for me by Tiemann after a model submitted to him in 1895. In general it is like the O'Dwyer tube, but differs from it in that the head is much higher, slopes upwards and backwards, and instead of opening only upon the superior surface, as in the ordinary intubation tube, it has also an outlet upon its dorsal aspect which is intended to ensure the free passage of air whether the epiglottis be raised or lowered. The particular tube shown is too long in the shank, and has been improved by being made of vulcanite instead of metal. The vulcanite tube is neater and lighter, and seems to be more easily retained.

At the time my first paper was written, it was suggested by Dr. Henry Sewall, of Denver, that because of the very intimate association in the medulla between the centre for glottis closure and the vomiting centre, prevention of glottis closure might of itself be sufficient to prevent the completion of the act even did the epiglottis in whole or in part obstruct the superior opening of the tube. If this were true the ordinary tube would be sufficient, but I, personally, believe vomiting may and does exceptionally occur after the introduction of the ordinary tube.

The treatment which I should suggest in a case of intractable or pernicious vomiting might be formulated as follows:

1. Maintaining a semi-recumbent or sitting posture. The head and shoulders being kept as high as possible.
2. Introducing preferably by a tube small quantities of concentrated pre-digested or easily digestible food at short intervals.
3. The hypodermic use of morphine in doses of $\frac{1}{40}$ grain, repeated hourly.

This last-named procedure has proven most successful in my hands, and will of itself arrest any ordinary case of vomiting. I regret my inability to give its author proper credit.

If these measures fail, I suggest intubation with this modified tube or, that failing, tracheotomy. To prevent possible misunderstanding I would state that so heroic a method as tracheotomy is not here recommended in any cases of vomiting save only those which by their pernicious and intractable character actually threaten the patient's life. Here as elsewhere it is the *dernier ressort*.

The following questions can be easily answered by the men who are doing large numbers of tracheotomies and intubations, and I shall be greatly obliged to any who will favour me with the results of their observations:

1. Do patients intubated with the ordinary tube vomit freely and effectively, the tube remaining in place and unobstructed? If so, the ordinary tube is ineffective, and mere separation of the glottic bands is not sufficient to inhibit the act.
2. Do tracheotomised patients ever vomit effectively, or can they be made to do so when the tube in the trachea is of proper calibre and free from obstruction? If not, the main proposition is established, and this procedure or the use of a modified tube would certainly be justified in cases of vomiting when other treatment fails and death is threatened by exhaustion and starvation.

I am not unmindful of the possible difficulties attending the retention of the tube in cases of vomiting, or the possibility that spasm of the associated muscular structures might result in the closure even of the special tube, but would insist that trial alone can decide these questions. It has been amply proven that large tubes of unusual construction are well borne for astonishingly long periods.

In the past three years I have not met with any cases of vomiting which could not be controlled by other than operative measures, and no opportunity has arisen to test my theory in actual practice, the conditions necessitating the procedure being fortunately as rare as they are fatal. Careful questioning of many surgeons, physicians, and nurses has strengthened my belief that such a test should be made; their replies indicating that vomiting is a rare event even in ordinary intubation, while none remember to have seen it after tracheotomy in the adult.

The special tubes are easily obtained in any size, and might readily be included in the usual intubation outfit, the introductor and extractor being the ones in common use. The extractor should invariably be tested before the tube is introduced. The elbow above the beak being sometimes made too large to enter the upper opening to a sufficient distance to permit its beak to enter the true calibre of the modified tube. The tube might also, as suggested in my original paper, be of value in intractable hiccough or pertussis.

Within the past two weeks I have through the kindness of my friend, Dr. J. E. Schadle, been able to accurately note the effect of tracheotomy upon the act of vomiting in the adult man.

The doctor has been forcibly dilating a case of chronic laryngeal stenosis, the patient wearing a tracheotomy tube having a calibre F.21 catheter scale.

During the passage of the large œsophageal bougie employed the man makes the most violent efforts to vomit, but whether the stomach be full or empty cannot expel any part of the stomach contents. An interesting point noted by Dr. Schadle is the fact that when the bougie is just engaged at the glottis retching ceases, indicating apparently that Dr. Sewall's ingenious suggestion rests upon a correct basis, and encouraging the belief that a modified tube when inserted, as we intend it shall be later on, may prove even more effective than the opening in the trachea.

I would submit also the following report of some preliminary work undertaken at my request by Dr. M. Russell Wilcox, Demonstrator of Physiology in the Medical Department of our University. These observations, though incomplete, seem to bear out the theory outlined in this paper.

The tube used by Dr. Wilcox for his experiments was not designed for the dog's larynx, and there was in consequence much difficulty in placing the tube securely. A special tube has now been made by Tiemann, and will be used in future experiments. The report follows:

Dog "A" (Scotch collie and shepherd); weight, 39½ lbs. Inserted metal tube, which was repeatedly cast out. Used then the hard rubber tube, which was retained. Injected apomorphine in $\frac{1}{15}$ gr. doses until $1\frac{1}{15}$ gr. had been given. Testing and endeavouring to produce vomiting by tickling the pharynx with tuft of feathers. Dog made efforts and went through movements of vomiting, with the exception that with each spasm the air could be distinctly heard rushing through the tube, there being no material raised from the stomach. After twenty-five minutes the tube was withdrawn, and the dog vomited violently.

Dog "B" (mongrel); weight, 27 lbs. Inserted tube, and injected $\frac{1}{15}$ gr. apomorhine. Dog made effort, and did not vomit until in the attempts to vomit the tube was injected, when he vomited normally.

April 30th and May 1st. Two experiments made, but the tube was not retained. Also would say that during the past three years I have been assisting Professor Beard in his demonstrations, and I have never seen a dog accomplish the act of vomiting after tracheotomy had been performed, or communication with outer air established by tube or cannula. I hope these observations are not too late to be of service.—Respectfully,

M. Russell Wilcox.

I submit these facts with some diffidence, hoping that they may excite such free discussion and criticism as will help to determine the propriety and value of the proposed treatment. Did my own line of practice allow me to hope for opportunities to carry out more fully work necessary to positively determine the therapeutic value of the procedure, I should certainly present the result of actual clinical instead of theoretical considerations, and the incomplete though important and suggestive data given above, but the mere possibility of obtaining, by a slight modification of simple and known procedures, a remedy for a disease or symptom which is *opprobrium medicorum*, must furnish my justification for the present paper.

SECTION OF OPHTHALMOLOGY.

Edward Nettleship, F.R.C.S., President.

RETINITIS PIGMENTOSA WITHOUT THE CHARACTERISTIC PIGMENTATION: A REPORT OF TWO CASES.

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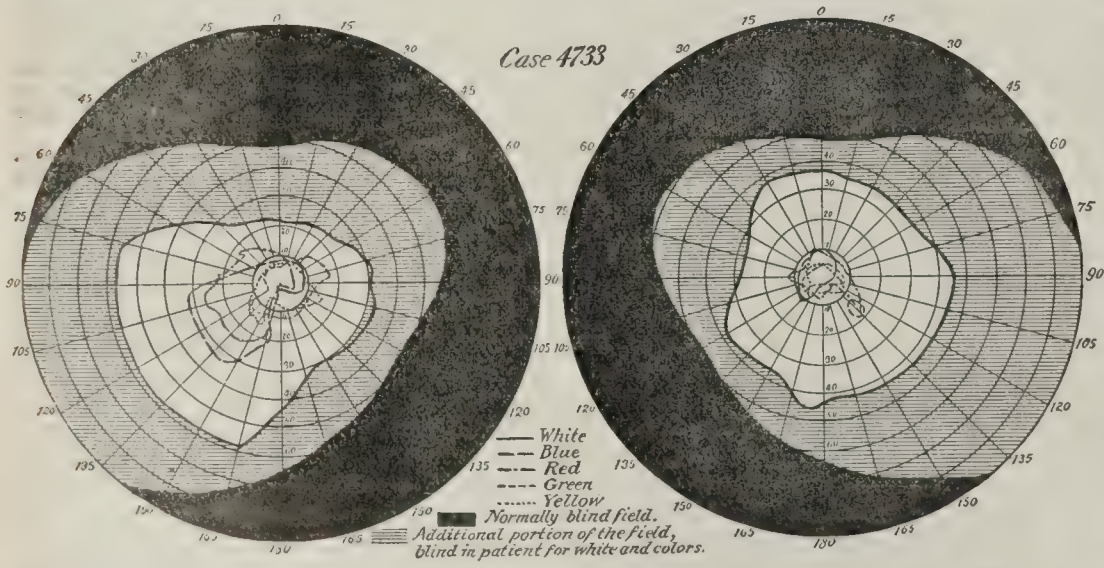
So far as I have been able to learn, only five cases, probably, like those I shall describe have been reported, and the reports of these four cases contain no charts of the visual fields for colours, while two are without the fields for white as well as without other important details. My cases are as follows:

Case 4733.—A young lady of 26, a typewriter, and a very expert one, by profession, presented herself on May 1st, 1897, complaining of headaches and obscure ocular and cerebral symptoms, apparently due to eye-strain. Under mydriasis I found her error of refraction to be:

R.—Sph. 0.37—cyl. 0.25—ax. 180° = $\frac{20}{20}$.
L.—Cyl. 0.37—ax. 180° = $\frac{20}{20}$.

There was no considerable muscle-inbalance. The ophthalmoscopic examination was negative—that is, there was no pathological tissue change detected in the fundus. I did not suspect anything wrong, and therefore did not make inquiries as to symptoms which were at a later date elicited by questioning. I prescribed spectacles for near work. At a subsequent visit, in conducting the patient out of the office I noticed a certain doubtfulness of stepping in the darker hallway, a sort of groping motion of the hands and feet, that, had I been more busy or tired, less alert-minded, might have escaped my attention. Inquiry at once brought out the fact that for three years she had had difficulty in walking at night, and by further questioning her brothers and sister confirmed the statement. They had frequently noted her indecision and stumbling. By tests I found what I think is a significant sign or hint of the limitation of the visual field: the necessity of bowing the head well downward in darkened halls or at night, in walking over rough places, or in beginning the ascent or descent of unfamiliar stairs. This device is required to bring the images from the periphery to the more central portions of the retina. I show herewith carefully-made perimetric charts—enlarged by my friend, Dr. Pyle—of the girl's visual fields, setting forth the extreme peripheries of the same for white, red, blue, green, and yellow. These charts tell the story perfectly. The white fields are about half the normal extent; those for the remaining colours are very small, extremely irregular in outline, and in relative order.



With aroused attention I now most carefully examined the ophthalmoscopic details of the periphery of the retina. They were such as to have been passed over in routine work, but with not a little difficulty I could now detect numberless obscure tiny dots brownish or blackish, similar to those of a stippled engraving, closely strewn about the periphery; sometimes they seemingly tended to a streamer-like or strand-like arrangement, but not in the faintest degree suggestive of the appearance of typical retinitis pigmentosa; in no part of the fundus were there any pigment-heapings whatever, and all the vessels were without the least abnormal pigmentation. This punctate appearance, or microscopic stippling was confined to the extreme periphery, ceasing gradually as one approached the equator.

This patient was not colour-blind, although across the blind indentations of some of the colour fields certain tints were not detectable until the traveller overlapped the white fixation spot. Even if there had been central colour-blindness for these colours I do not think the patient, with both eyes open would have failed to distinguish the tints accurately enough, either because of one field supplementing the other, or by the unconscious device of indirect fixation, so that the image would fall on some retinal tissue still normally responsive to the stimulus. It is interesting to note that in approaching the centre of fixation the red and blue travellers were for 5° or 10° perceived as pink, or spotted, before the true tint was detected. Other parachromatisms were found in charting the fields. Of especial interest is the fact of the little island of preserved blue-response in the south-east portion of the right field separated from the central field by 10° or 15° of space insensitive to the colour. Into this island a sharp angle of peninsular red extends.

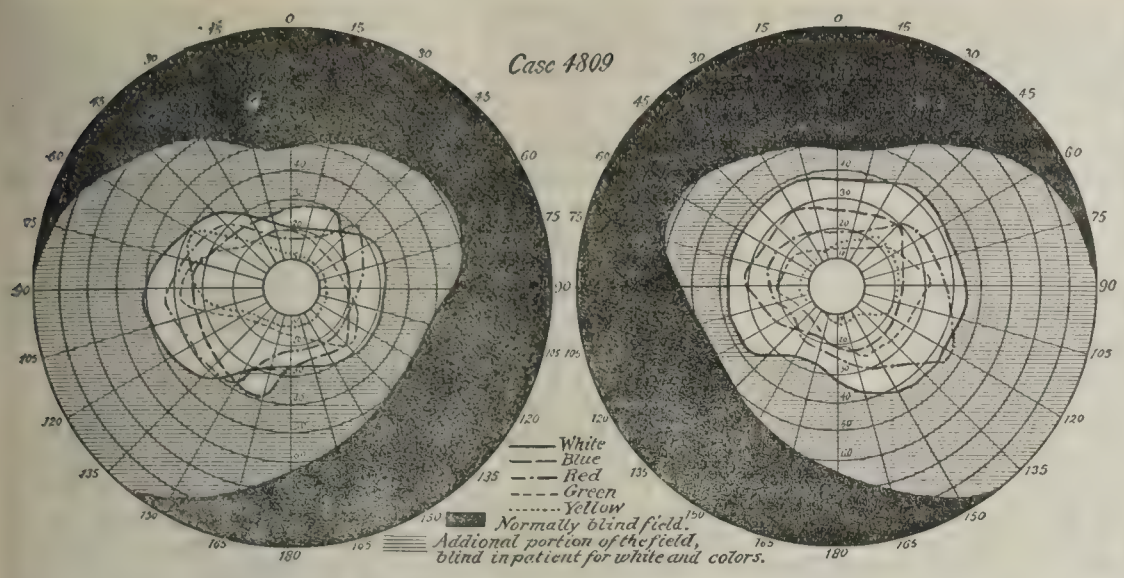
The discovery of the true nature of the foregoing case, of course, moved me to secure examinations of this patient's relations, and I was able to do so in the cases of two brothers, one sister and their mother. In one brother, and in the mother, inquiry, refraction, and ophthalmoscopic examination were negative, except that in the sister there was an almost indistinguishable stippling of the retinal periphery, similar to that in her sister, but less distinct. The perimeter, however, showed normal fields. The pathologic process was either incipient or had been checked prior to any involvement of the distinctive retinal function; and this was, at least, a suggestive fact to be borne in mind in the future. In one brother, however, I had the scientific delight of finding another case like that of the affected sister—a typical case of what, lacking a better name, we must at present paradoxically call retinitis pigmentosa without the characteristic pigment.

Case 4809.—This patient, a brother of the patient whose case I have just described, is a strong healthy business man, aged 29, who, with the exception of night blindness, had never suspected anything abnormal as regards his eyes of vision, besides his ametropic error measuring

R.—Syph. 0.25—cyl. 1.25 ax. 180° = $\frac{20}{30}$.
L.— ,, 0.75— ,, 1.50 ,, 180° = $\frac{20}{30}$?

He had, however, to bow his head to see the ground or floor at night, and his brothers and sisters, as well as himself, had been aware that for ten years he stumbled or was abnormally undecided and bothered in walking at night or in dimly-lighted rooms. Even with perfect correcting lenses it is noticed that his 20-foot amblyopia is greater than the sister, although his visual fields are far less abnormal and limited. He had the same stippling as the sister at the periphery of the retina, but, like her, there was not a pigment cluster or line so large as the smallest pin he had in the entire fundus. As in the sister's case, the vessels, discs, etc., were not abnormal. Both being blondes, the choroidal vessels were somewhat clearly visible. I show you the fields for white and the four principal colours, from which you will see their precise delimitations.

Your own scientific and dramatic satisfaction can hardly equal mine in learning that although the father of these children was free from the symptoms of the disease in question, his father, that is, the paternal grandfather of the two patients, had all his life decided and complete night blindness, and went entirely blind, not probably from cataract, at the age of 70. When I asked the mother concern-



ing the symptom, she remembers that her husband's father had to bow his head very low, when in doubt, to see the ground, stairs, etc. I am most sorry to add that this man is now dead, and that no oculist ever examined his eyes. Whether his disease was with or without the characteristic pigmentation must remain a regrettable mystery. Under the circumstances there cannot be the slightest doubt that it was one or the other. The knowledge would help to determine two important questions—that relating to heredity, and that as to the essential identity of the disease.

I regret very much that it was impossible for me to measure the variation of central and peripheral acuteness under diminished illumination. Being private patients their good-will was exhausted by the extended perimetric examinations, and I judged that these tests were of far more importance than those pertaining to the intensity of the retinal stimulation. There can be no doubt that, as in all such conditions, the law of greater contraction of the fields and lessened acuity would have followed the lowering of the illumination. In this connection one of the most suggestive interest is the case of Atwood,[1] in which with normal fields for full illumination there was contraction under lowered illumination. I suspect, however, that perfectly normal and healthy eyes might exhibit this phenomenon more or less. It would seem to be a logical deduction from the known laws of light and sensation. If this is true, the initial stages of retinitis pigmentosa without pigmentation might naturally exhibit a disproportionally greater reduction both in acuity and contraction.

A Brief Review of the Literature [2]

Nothing better illustrates the importance of a proper definition and use of words than that pertaining to the words "hemeralopia" and "nyctalopia." For years I have been advising their utter disuse on account of the confusion sure to result if each writer does not distinctly state what he means whenever he employs them. But until I attempted to collate the literature on this subject I never suspected the extent of misfortune connected with the term "hemeralopia." In the first place, and in any case, it denotes but a symptom, and may be a consequence of very diverse and manifold causes and conditions. The same author will sometimes use it in the most contradictory senses, or one author will use it to denote one symptom or disease, while another will understand the reverse. Nobody defines the word, and yet by the reports of cases one finds it to mean amblyopia, night blindness, day blindness, photophobia, and a multitude of other symptoms. One finds that it may be caused by exposure to bright light, electric light, snow, etc., or may be due to myopia, or to any form of local ocular disease; it may be the result of deprivation of food, or the consequence of a hundred systemic diseases; it may be transient and curable, functional or organic, chronic or congenital; it may be anything or nothing! Great is hemeralopia of the Germans! I have never yet found anyone who could define the word, and I am quite sure it is beyond the power of the finite mind.

In endeavouring to digest the literature I have been forced to exclude several classes of cases as not like those I report. These cases are as follows:

1. All such as were acute or functional, whatever may have been the cause. The disease of my patients was chronic, and perhaps congenital. With such cases those have no analogy, which were plainly due to a temporary cause, and which recovered under treatment and rest.

2. Disease due to light traumatism, such as from overexposure or over-stimulation by bright light, snow, etc.

3. Diseases certainly or possibly due to such local ocular affections as malignant myopia, optic nerve disease, choroiditis, retinitis, xerosis of the conjunctiva, keratitis, etc., or to reflex ocular neuroses.

4. Affections the result of systemic diseases, as, for example, anæmia, drug intoxication, fevers, digestive malfunction, deprivation of food, etc.

5. Cases in which the reports were self-contradictory, as, for example, those of hereditary congenital night blindness in which the visual fields were reported "normal," or in which the patient saw better by night than by day. They surely had no pathology at all like that of my cases.

I have also been forced to put aside cases reported as "hemeralopia," but the reports of which, with all the intellect and sympathy I was able to command, were utterly unintelligible to me. It is possible that among these may have been some belonging to the same class as my own. But were it so, it must be added that the omission from the reports of the all-important light fields and colour fields, with other details, must make any use of, or deductions from, them quite impossible. I may add, also, that many writers seemed at first to offer tempting riches, but when I found that the "hemeralope" saw better at night than in the day, that he had central scotomata, that there was no limitation of the fields, or, *mirabile dictu*, that no ophthalmoscopic examination was made—plainly, nothing more was to be done.

Most of the textbooks have none, or only a passing allusion to the subject. There is no reference to it in Gowers, Michael, Macnamara, Roosa, Carter and Frost, Hartridge, Wolf, Jones, Juler, or Stellwag. The first case in point of time that I have been able to find of this disease upon which one may rely is that of Perrin.[3] The patient was a soldier, aged 21, who is described as afflicted with congenital "hemeralopia." This instance was plainly not so pure a case as mine, as there was "a single oval point of pigment along a vein" in the upper part of the fundus of the right eye, and in the left eye "two or three small grains of isolated pigment stellate in shape." There was said to be great limitation of the field (for white), but no exact perimetric examinations were made, a fact especially regrettable as to colours. "Integrity of the colour sense" is reported. There is also no evidence that the (difficult) examination of the periphery of the retina was carried out with the ophthalmoscope, and the results carefully set down. The man died soon after of scarlet fever, and the great value of the otherwise faulty report consists in the very valuable histological *post-mortem* examination of the retinæ.

The next case reported is that of Huidiez. His article is entitled "Retinite Pigmentaire sans Pigment Visible à l'Ophtalmoscope."[4] The patient was a girl child of 8, afflicted with night blindness from earliest infancy. The author says central vision was good, the fields for white narrowed, and also for colours. No pigment existed along the vessels, but there were traces of slight pigmentary infiltration at the periphery. Here again no charts of the fields, even for white, are given.

Alvarado has an article entitled, "Un Caso de Retinitis Pigmentaria sin Pigmentacion de la Retina Visible con el Oftalmoscopio,"[5] and reports a case. The entire report arouses many doubts and questions. The crude tests of the field without the perimeter make us pause, the existence of cataract complicates, and yet, notwithstanding this, "the fundus completely clear and limpid without the slightest

race of obscurity at any point of the retina" seems an impossibility, and makes us doubt any accuracy in the report. The failure to say a word about night blindness makes the last sentence quoted very indefinite, to say the least; the high myopia and rough indefinite diagnosis of the same complicate our doubt and heighten our scepticism; and, finally, the "fundus of intense orange colour" makes us wonder if there was not systemic leucocythemia present. On the whole, I think we must exclude the report as being of any value in future statistics and investigations.

In one of Darier's cases[6] of anomalous retinitis pigmentosa there were but few typical pigmentary stars, and another had only two or three small black points along the vessels and peculiar macular changes. One other of his cases, that of a boy of 18, may have been like mine, but the lack of the all-necessary fields and other details, as well as the general indefiniteness of the report, together with certain retinal and macular changes suggestive of a different disease make me feel very doubtful about it. It cannot be too strongly urged that (especially in these incipient cases, if they may so be called) there need not be, and if uncomplicated there should not be, any great retinal, macular, vascular, or disc changes. The visual field, Darier says, was reduced to central vision. In returning from school in winter the patient had great difficulty in walking. The reports lead one to infer that the author does not use a mydriatic, and so there is a doubt left in our minds, although he says that in no part of the periphery were there any pigmentary spots. It seems from the pathology of the disease that were the field limited, there must necessarily be the ophthalmoscopic showing of stippling, or of some form of pigment infiltration. As to this case, not a word is said about night blindness though we may suppose it to have been present. However, when we find another observer reporting a case purporting to be retinitis pigmentosa without pigment, and yet in which the patient saw better by night, our scepticism is likely to become dominant. I have grave doubts if Darier's case belongs to the class under discussion.

Morton[7] has reported 2 cases evidently like those I have described. Many male members of the family of these two patients were night blind for several generations. No abnormal pigmentation of the fundi was found. The fields were much contracted and irregularly so for white, but I am sorry the colour fields are not reported.

Nettleship[8] reports 4 cases of permanent partial night blindness with unusual ophthalmoscopic changes. These changes were of two types: (1) Minute discrete opaque white dots, apparently deposits on the choroid and retina, separated by comparatively wide spaces of healthy choroid. The spots were round or oblong, not glistening, the majority free from pigment though with some black bordering. (2) Irregular distribution of pigmented epithelium of a mottled or stippled appearance, but not of the reticulated pattern of retinitis pigmentosa. Twilight blindness had always existed in all. It is to be noticed that in 1 of the 4 cases there was no contraction of the field, and no mention is made of contraction in the other 3 cases.

Galezowski[9] describes a case with typical symptoms in which the pigmentation was characteristic, but less in amount and extent than usual. Hoch's case[10] was an atypic but most decidedly pigmented case, and that of Magnus and Jacobson[11] was the same. In the latter the intense pigment changes are shown in a chromolithographic plate. Germaix's case[12] occurred in a child of 11 during an attack of variola, but without ophthalmoscopic examination, and is, moreover, evidently not to be included in this category. In Cowell's case[13] sight began failing at 14, and there was at the time of examination only a perception of light. "The pigment accumulations were much fewer than normal and only sparingly stellate."

Leber[14] makes his Class 2 consist of cases of "Retinitis Pigmentosa mit typischen Sehstorung mit anomalen Augenspiegelbefund," and his subclass A, "Die wohlbekannte retinitis pigmentosa ohne Pigment," which through many intermediate forms passes into the typical. Leber's expression, "*wohlbekannt*," well known, made me gasp for breath at first, until I came later to the sentence wherein he says that in the ophthalmoscopic examination of these cases, "in spite of the failure of the pigment, the pigmentation is sufficiently characterised to make the diagnosis clear." Cases without the characteristic amount of pigmentation, but with decided pigmentation, are necessarily not of the class under discussion. This quite shuts his cases out of our consideration, and when we find given no perimetric charts, no records of amblyopia or ametropia, no specific data of night blindness, no precise statements as to the amount and kind of pigment deposits, nor of other ophthalmoscopic findings, we are compelled to omit the reports as of helpful value to us. Moreover, of the three cases to which he vaguely alludes, without the mention of the typical symptoms, he speaks of one seeing better by night than by day, a fact that absolutely puts it out of our classification.

Pettlesohn[15] quotes Donders and Schweigger,[16] who pointed out even so early that contracted fields, night blindness, and decline of the central visual acuity could exist independently of pigment change in the retina, and claimed that the two affections were identical. In Vol. iii, *ibid.*, Donders observed that "according to his idea the pigment changes were secondary and other than causative." Schweigger ascribes the visual failure in such cases to an affection more of the percipient than of the conducting portion of the visual apparatus. Leber lays stress on the fact that the essential character of the affection is not the pigment change, but is really a coincident interstitial hypertrophy of the retinal elements. But, says Pettlesohn, "Leber's" cases, as observed by Schweigger, may belong to the so-called cerebral amauroses—namely, all presented visual failure and contracted fields even in earliest childhood. He further says (this was in 1888), "I have not yet seen a case reported in which there existed coincidently all the classic signs of retinitis pigmentosa without a pigmented fundus." He then details the following case, seen in Hirschberg's clinic:

A 21-year old lithographer complained that for two years his vision had been rather indistinct, and he was never sure of himself after dark. Investigation revealed that a 30-year-old cousin was similarly affected, although there was no consanguinity. The patient's sisters had perfectly good eyes.

O.D. $-2s-2$ $180°=20-20$
O.S. $-4s-2$ $180°=30-20$.

At noonday with good illumination there was no contraction of the field, although with diminished illumination it shrank to within 10° of the fixation point. There was no pigment to be found in the fundus, or, if any, there were only the smallest flecks to be seen in the periphery. Three years later the patient returned for change of glasses, when the fundus was found studded with the characteristic stellate heapings of pigment, and that even with perfect illumination there was contraction of the field. Vision was unchanged. In the meantime (between 1885 and 1888) two younger sisters were said to be becoming affected in like manner, although unfortunately they could not be examined. Pettlesohn says in conclusion: "We can now positively state what has long been thought probable, 'that retinitis pigmentosa sine pigmento' is identical with, and is only an early transitional stage of, typical retinitis pigmentosa."

This conclusion seems quite convincing, though it by no means proves that there may not be stationary cases of retinitis pigmentosa without pigmentation. My patients seem to be examples, as no ingravescence has been noticed in late years.

We are thus limited to 5 cases upon which we may rely as probably like or similar to my own, 1 each of Perrin and Huidiez, 2 of Morton, and 1 of Pettlesohn. It must not be forgotten, however, that in all the reports of these cases some highly-important details are omitted. No fields of vision for colours were taken by any with the perimeter, and Morton and Pettlesohn alone give the fields for white; the existence or not of central amblyopia is often not stated; the refraction is not specified, and there is a lingering doubt if the ophthalmoscopic examinations were made with the iris paralysed—a prerequisite of accurate, and even then often difficult—examination of the extreme periphery of the retina. Moreover in Perrin's case there was some slight pigmentation, and what existed was characteristic of the common retinitis pigmentosa. It will be noted that as Leber, writing in 1871, had not before him the report of a single case to justify his "wohlbekannte retinitis pigmentosa ohne pigment," the expression, according to his own contradiction,

was meaningless, and its use was theoretically devised in the interests of classification and perhaps of prophecy, certainly not of history.

Wells[17] alludes to Schweigger, who, he says, noticed night blindness and contraction of the field (only for white, of course) "before the appearance of any pigment in the retina; but in all cases there was a marked contraction of the retinal arteries, whilst the older brothers and sisters had retinitis pigmentosa. He also observed this, in some rare instances, in older persons (between the ages of 40 and 50), who suffered from all the symptoms of retinitis pigmentosa, for example, "hemeralopia" from torpor of the retina, great contraction of the visual field without any trace of pigmentation of the retina or any other symptom except contraction of the arteries and paleness of the disc. In similar cases von Graefe has subsequently found a deposit of pigment in the retina."

I have been unable to find Schweigger's printed words of a date prior to Wells, but in Schweigger's *Vorlesungen*, etc. (1890, p. 143) there is an allusion to the histologic findings of certain cases which "ophthalmoscopically gave no indication of pigmentation." Graefe and Saemisch[18] say that the pigment in retinitis pigmentosa "may be entirely wanting," but with "fine points and dots," "a fine brown or black punctation upon a light ground at times pale-yellow, more rarely yellowish-white spots alternating with dark." Swanzy says the pigment is in some cases "quite absent;" de Schweinitz that cases occur with "the usual subjective symptoms, but without the accumulation of pigment;" Fuchs speaks of the existence of cases "without pigment," and "not necessarily associated with the presence of pigment;" Berry's words are, "not so very rare to find no pigmentary changes of the characteristic form." Reference to the subject by other authors are still more vague or uncertain, and are hardly worthy of quotation.

Consanguinity, Heredity, etc.

In my cases there was no relationship in the ancestors so far back as I could learn; not even the grandparents were cousins. In typical retinitis pigmentosa consanguinity, according to de Wecker, exists in 33 per cent., and Liebreich says the percentage may be as high as 50. In Huidiez's case the maternal grandparents were cousins, and one first cousin of the maternal grandmother born of first cousins, and aged 55, was congenitally night blind.

My cases were almost certainly examples of heredity, and in the typical disease it is estimated to exist in 33 per cent.

As to sex, in the typical disease, about 70 per cent. of cases are males.

A small proportion of patients are also afflicted with deafness.

I may observe parenthetically that in both of my patients there is a peculiar quivering and tremor of the fingers when the hands are held loosely extended. I have never seen anything like it; it is present in the normal brother and sister, is most intense in Case 4733, somewhat less in the man, Case 4809. I do not know that it has any correlated significance, nor what is its cause. All are otherwise healthy, hard-working people. This tremulousness, the mother informs me, was very noticeable in her husband, and existed all his life, although he had no night blindness. In the case of the girl (Case 4733), there is also the slightest possible tremor of the eye ground when she is tired, or has been subjected to long examination. It could hardly be called nystagmic in character.

Pathology.

In the typical disease the histo-pathology is well understood. De Wecker calls it a retinal cirrhosis, others call it a sclerosis. The essential process consists in a hyperplasia of the cellular tissue of the pigment layer with infiltration of its own pigment, that is, of that of its epithelial layer. Poncet's report in Perrin's case was as follows: "The equatorial portion of the retina was sown with small pigment heaps, the principal flecks being somewhat irregular, between which was a general pigmentation more fine. It did not exist along the vessels, but was localised in the external granular layer. The reason that the pigmentation was not typical or stellate is that this is due to the fact that when the process is complete the pigment is deposited along the sheaths of the vessels; but as vessels do not exist in the external layer, and as in this case the pigment did not pass beyond the external layer, it did not take the stellate form. The limitation of the field was in direct proportion to the pathologic pigment change of the periphery. This process had its inception in the polygonal layer of the choroid." In Huidiez's case the same result was found, the pigment not having passed beyond the external granular layer of the retina.

In the article on Amblyopia and Amaurosis in de Wecker and Landolt's *Traité complet*, Nuel divides nyctamblyopia into two classes—the congenital or hereditary, and the acquired. From the first class must be excluded the observations made in preophthalmoscopic days, and the author inclines to view the balance as cases of *rétinite pigmentaire larvée*, either stationary or progressive, different cases showing all intermediate stages of nearly absent or typical pigmentation up to the characteristic retinitis pigmentosa.

Assuming, then, that my cases were pathologically and essentially of the same nature as those of Perrin and Huidiez, we have as a nature of the tissue change a morbid cirrhotic process existing in the pigment layer of the retinal periphery whereby the pigment infiltrates the retina in discrete punctate particles, but the infiltration, if checked at the external granular layer, not, however, before having injured the retinal structure, so as to destroy its functions as an intermediate of light sensation and colour sensation. At this point the discrete pigment infiltration becomes ophthalmoscopically visible as a half-hidden punctate stippling. If the infiltration process proceeds to its full extent the pigment becomes heaped in large moss-like masses, and extends along the course of the obliterated capillaries, giving the typical picture of the completed and characteristic retinitis pigmentosa.

What starts the morbid process into existence, whether it is congenital or not; what checks it, if it is checked; what is its rate of progress, if progressive?—these are questions that remain to be answered. Therapeutics is also inconceivable. It should be added that we may feel absolutely assured that the morbid process is not confined to the retinal periphery; the limitations and irregularities of the colour fields of my cases clearly demonstrate that the whole retina is affected, and, as my charts show, irregularly so. The limitations are relatively not concentric. But the microscope as yet fails to tell us of the infinitely small local changes that interfere with the responses to certain colours, permit them to others, while still not too extensive to prevent the general reaction to white. The indication is that colour response is interfered with by a slighter degree of the infiltration process than that occurring at the periphery, and one that so far has escaped the microscope. The explanation of colour sensation may result from a closer attention by the microscopist to the difference in tissue change between the periphery and the central part of the field, both in these cases and in normal retinæ. More microscope and less theory might lessen the work of the eternal theory-makers as to the nature of colour reactions.

It is evolutionally of interest to suggest that the mechanism of normal reaction to certain colours has developed later in the biologic process, and that the peripheral reaction was established subsequent to the central; hence, according to well-known atavistic laws, the more unstable later acquirement of certain colour reactions, and of all sensation at the periphery of the retina, are the first or more frequent to fail in congenital exceptions and in acquired diseases. A proof of this is the very fact of the differences in extent of the normal colour fields, the greater amount and the more constant of the colours having relatively the more extended retinal reactions, white of course exceeding all.

Not to wander too far afield and into glimpsed by-paths, I have a fancy that these four cases illustrate a phase or grade of disease of which the albinotic eye is an extreme type. It would be almost, if not absolutely, impossible to prove, but I wonder if the albino has not greatly contracted fields, and if the nystagmus is not a device partly to find a less exhausted and more sensitive portion of the retina, but also by this means to get images of lateral objects on the central and reacting portion of the retina without motion of the head. Of significance is the fact that the nystagmic movements are lateral, not vertical. However this may be, it is

highly desirable that there should be a scientific study of the chromogenesis of normal and pathologic pigmentation, including perhaps therapeutics. Some one, let us hope, will some day learn the cause, and hence the prophylaxis and cure of albinism; and what a benefactor he will be!

Returning to our subject, I would conclude by a suggestion that these cases of non-pigmented peripheral retinal atrophy are possibly more numerous than we suspect. Both of my cases had passed through the unsuspecting hands of good oculists, and with no discredit to them surely! Argon was discovered only a year or two ago. Habit and a sensitive nervous organisation enable such patients to circumvent and compensate for their partial night blindness, at least to forget it; and unless the oculist draws them out by questioning, they would not volunteer the recital of the subjective symptoms. The perimeter alone tells of the objective symptom, and on a busy day the making of ten perimetric charts of one patient is a task we are none too anxious to undertake.

I would finally suggest:

1. Inquire of every office patient if he sees as well at night as other people; watch for the "bowed-head sign."

2. Test every patient (it takes but an instant) with finger movements at 90° to the patient's temporal sides.

3. If in doubt test the extent of the field at least for white, with the perimeter.

4. If there is a narrowed field carefully examine (under mydriasis) the periphery of the retina as to its pigmentation.

5. If a case is found report it, and besides the usual history and data, give also carefully-made perimetric charts for white and the four principal colours; record also the central acuity for form, and the exact (mydriatic) error of refraction.

6. The important facts to determine are: (*a*) Is the disease progressive? (*b*) If so, is it the incipient stage of what later becomes typical retinitis pigmentosa? Typical cases in brothers and sisters, or inherited from an ancestor with the typical disease, would greatly help to determine this. (*c*) What is the pathology of the abnormal colour fields? (*d*) What is the etiology of the disease?

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[1] *Royal London Ophth. Hospital Reports*, 1895. [2] I am under obligations to my friends, Dr. Wendell Reber and Dr. W. L. Pyle, of Philadelphia, for valuable and kind assistance in collating the reports reviewed. [3] *Annal. d'Oc.*, 1875, p. 234. Published also in Hocquard's Thèse. [4] *Annal. d'Oc.*, 1877, p. 211. [5] *Rev. de Cien Med.*, 1882, viii, p. 269. [6] *Archiv. d'Opt.*, 1887, vol. vii, p. 170. [7] *Trans Oph. Soc., U.K.*, 1893, p. 147. [8] *Trans. Oph. Soc., U.K.*, vol. vii, 1887, p. 301. [9] *Recherches Ophtalmoscopiques*, 1863. [10] *Klin. Monat. f. Augen.*, 1875, p. 58. [11] *Ibid.*, 1888, p. 202 [12] *Annal. d'Oc.*, 1893, p. 276. [13] *Trans Oph. Soc., U.K.*, vol. ii, p. 58. [14] Ueber anomale Formen der Retinitis Pigmentosa, *Arch. Ophthal.*, 1871, xvii, Abth. 1, p. 314. [15] *Cent. f prakt. Augen.*, Bd. xii, p. 206. [16] *Von Graefe's Archiv*, vol. i. [17] *Diseases of the Eye*, p. 529, 1883 Edition. [18] Band v, Th. 5, p. 641, 1877.

SECTION OF SURGERY.

CHRISTOPHER HEATH, F.R.C.S., President.

A DISCUSSION ON THE OPERATIVE TREATMENT OF HIGH CANCER OF THE RECTUM.

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I MAY preface my remarks by saying that in introducing this subject I shall aim rather at provoking discussion upon certain points in connection with it and eliciting the views of others upon them, than at presenting an exhaustive review of the subject itself. I am convinced that this is a very promising field for surgical work, and one which has hitherto been very much neglected by the surgeons of English-speaking countries. It is a remarkable fact that, with a very few exceptions, the subject is either not mentioned at all or is only barely alluded to in the standard surgical works of English-speaking authors, even the most modern. It is true that only twelve years have elapsed since the removal of the middle and upper portions of the rectum became practicable through the introduction of Kraske's operation, although a step in this direction had been taken by Kocher as early as 1874. Since the appearance of Kraske's article in 1885, however, much work has been done in this field by Continental (especially German) surgeons; and it can now be safely stated that the removal of any portion of the rectum is a feasible and satisfactory operation by the sacral route. No surgeon will deny the frequent occurrence of malignant neoplasms in this situation. Many cases are diagnosed and demonstrable, and many are never diagnosed or only diagnosed in the *post-mortem* room. On this point (frequency of the occurrence of carcinoma in the rectum) I may be permitted to quote Mr. Bland Sutton, who says, in *Tumours Innocent and Malignant*, that of every 100 cases of carcinoma of the intestine 75 occur in the rectum and 10 in the sigmoid flexure of the colon.

Furthermore, it may be accepted that the same general rules which apply in the treatment of malignant disease elsewhere—say, for example, in cancer of the breast—apply here. Early and wide, and thorough extirpation, well beyond the disease, through healthy tissues, together with the contiguous lymphatic glands, and before metastasis has taken place, is essential to success, and if thorough removal can be effected the future immunity of the patient will be as great as after removal of a dangerous breast or other organ.

The sacral glands are first involved, and later the iliac, along the course of the iliac vessels; when these latter have become involved, complete extirpation of the disease is, of course, impossible, and palliative treatment is only to be considered.

Visible and palpable lymphatic glands discovered during the performance of a preliminary inguinal colotomy in the meso-sigmoid are not necessarily cancerous, and are often observed when there is no primary cancerous lesion. The first difficulty in the way of success in the treatment of cancer of the rectum is the fact that it is practically never diagnosed early, rarely indeed early enough for satisfactory operative treatment. In my own experience I have never yet had the opportunity of treating a case sufficiently early to find the disease confined to the bowel itself; while, on the other hand, I have frequently discovered in performing inguinal colotomy (preparatory to radical operation), extensive invasion of the iliac glands, which caused me to desist from further interference. Within the past year an elderly man who came under my observation, moribund with peritonitis, and died within a few hours, was discovered at the necropsy to have a cancerous mass high up in the rectum, above which ulceration through the bowel had taken place, with escape of the intestinal contents into the peritoneal cavity. This man had been in failing health for a couple of years, but no such condition had been suspected either by himself or by his physician.

Similar cases are, I believe, not very rare; and their occurrence is easily understood when one remembers the vague and indefinite character of the earliest symptoms of cancer of the large intestine. There is in a large proportion, if not in the majority of cases of high cancer of the rectum, a remarkable absence of localising symptoms until the disease is far far advanced, or until obstructive symptoms have occurred. Loss of flesh and strength, with irregularity of the bowels—alternating diarrhœa with constipation and flatulence—are usually the only symptoms for a long period in the early history of the disease; and these are usually misinterpreted. Next, symptoms of auto-intoxication occur, and further complicate the diagnosis; and it is only when ulceration of the mass has caused hæmorrhage or sanious and mucous discharge from the anus, or when symptoms of obstruction have occurred, that a diagnosis is made. Even in advanced cases no tumour can be felt from the abdomen, except, of course, those of secondary formation. Exploration of the rectum alone will discover the growth, and if early and thorough examination of the rectum had been made as a routine procedure in those doubtful cases with the symptoms above mentioned, many cases would be discovered in time to enable the surgeon to effect a cure, or at least a long respite, by operation.

Operation.—When cancer of the middle or the upper portion of the rectum has been discovered how are we to determine whether the case is operable or not, and how are we to proceed with the operation? Operable cases are: (1) Those in which the disease is limited to the gut itself, and the whole mass of diseased tissue can be removed with a fair prospect of perma-

ent cure, and (2) those less promising cases in which, while t is still possible to remove the whole mass, extension by infiltration and invasion of the sacral glands have made it doubtful whether an early recurrence after operation is not probable. There is, in my opinion, a distinct gain in the removal of the cancerous mass, even in these somewhat doubtful cases, which is shown by the great increase in body weight as well as in strength and vigour, which is shown by their patients after operation—an improvement much more rapid and more marked than after a palliative colotomy only. In any case where the iliac or lumbar glands are involved, or when there is evidence of metastasis, or when the direct extension of the disease by infiltration has made complete removal impossible, no radical operation should be attempted, and inguinal colotomy, to overcome or avert the effects of obstruction and to divert the stream of fæces from the ulcerated area of the bowel should be substituted.

Access to the Growth.—The middle and upper portions of the rectum are only accessible (1) from the abdomen; (2) through the sacral region; (3) through the vagina in the female. From within the abdomen cancer of the rectum has been removed by Marcy and Murphy, and the ends united by the Murphy button, with successful results. I have operated in this way in one case, but the patient died from sloughing of the ends of the bowel and escape of its contents into the peritoneal cavity forty-eight hours after operation. Keen also reports an unsuccessful case operated upon in this way. In most cases the lower section through the gut is of necessity too low to admit of accurate approximation of the ends within the abdomen, and it is generally, if not always, extraperitoneal. Maunsell's proposed invagination method can be applicable only to cases in which the disease is limited to the bowel tissues and situated high up; and the operation does not readily admit of the removal of lymphatic glands. It can therefore have, at best, only a very limited application. The same may be said of the vaginal method. Access to the bowel in the upper portion is most readily obtained by (1) removal of the left lower quadrant of the sacrum and the coccyx (Kraske); or by one of several osteoplastic modifications of Kraske's incision which permit of closure of the wound and restoration on the bony as well as the fleshy framework of the pullet of the pelvis (Heinecke, Rehn, Rydygier, and others); or by exposure along the left border of the sacrum (Zuckerkandl).

The sacral route is therefore, in the present state of our knowledge, the one which is most universally applicable, and the one which, with some comparatively rare exceptions, is always selected. The line of the third sacral foramen is uniformly accepted as the upper limit of the incision, and the rectum should always be exposed by one of the osteoplastic methods, in order that the continuity of the bowel may be re-established after the removal of the disease, and the osteoplastic flap or flaps replaced. Should it be found necessary to attack the proximal end of the bowel in the upper angle of the wound, as is often the case, the left lower portion of the sacrum can be removed, and the operation completed as in Kraske's method. Keeping in mind the possibility of terminating the operation in this way, I have generally adopted the Heinecke incision. It would be manifestly out of place here to enter into a discussion of the technique of the operation. I shall therefore only refer to some of the points which seem to me of most importance, and upon which I should like to elicit an expression of opinion.

1. *Preliminary Colotomy.*—It is generally admitted that in many cases a preliminary colotomy is necessary, but many surgeons, notably Schede, hold that it is in all cases desirable. In this opinion I entirely concur, and for the following reasons: (*a*) Rectal examination gives no information as to the upper limit of the growth, nor of the presence or absence of glandular involvement, information which can only be obtained from examination within the abdomen, and without which, in my opinion, the operation should not be undertaken. (*b*) As the peritoneum is generally freely opened during the operation, free evacuation and thorough cleansing of the bowel are of the utmost importance as a preliminary measure. In most cases free evacuation is quite impossible, except through a colotomy wound, and if the operation be undertaken without it a constant discharge of fæcal matter will effectually nullify any attempt at cleansing the lower bowel, while much fæcal matter will be retained above the mass to foul the wound during the operation. It is also a most important matter to be able to divert the stream of fæces from the wound for the first few days after operation. (*c*) Should a permanent opening be necessary, the inguinal is much more cleanly and manageable than a sacral one. The fæces should be directed entirely through the inguinal wound and the rectal portion of the bowel closed off.

2. *Resection or Amputation.*—Resection with restoration of continuity of the bowel should always be aimed at, and although the records of the past are not very encouraging, I am convinced that the future will show much better results. Heretofore sloughing of the bowel, incomplete union with fæcal extravasation causing cellulitis and ending in fistulæ, etc., have attended many of the attempts at resection. The essentials to success are (*a*) a clean field of operation (hence the necessity for a preliminary colotomy and thorough cleaning of the lower bowel); (*b*) free descent of the proximal end of the bowel without tension; and (*c*) careful suturing. I am under the impression that there exists a quite unnecessary dread of bringing down the upper segment of the bowel for fear of depriving it of its blood supply and causing it to slough. The bowel must be brought down without any violent pulling or stretching, and in order to do this the attachment of the meso-rectum and meso-colon must be snipped away, and if this is carefully done at a point well away from the wall of the bowel, the vascular supply need not be interfered with. On one occasion about four years ago, while snipping away the meso-rectum with blunt-pointed scissors in this way, making steady traction on the bowel at the same time, I was horrified to find it suddenly yield and come down several inches so that I could bring it through the anus (and much farther if I so wished). I sutured it to the anal portion fully expecting it to slough, but it united without the least trouble.

3. *Suture Method.*—In two cases I have, after suturing the cut extremities of the bowel through all their tissues, invaginated the proximal into the distal portion, and applied a row of sutures, through the serous and muscular coats only, at the line of invagination with the most satisfactory results. Where practicable, I believe this to be the best method of union. In any case, I am in the habit of introducing a rubber drainage tube, about half an inch in diameter, covered with iodoform gauze, through the anus, past the line of suture, and leaving it there for some days. The object, of course, is to support the line of suture, and apply to it a dressing of iodoform gauze, and to carry off mucous and perhaps fæcal discharges which may find their way down past the colotomy wound.

4. *The Opening of the Peritoneum.*—This is unavoidable in high operations upon the rectum, and in a clean wound is not to be feared. When possible the wound in the peritoneum should be closed by suture, but this is not always easy, and packing with iodoform gauze for a few days will answer every purpose.

5. *Closure of the Inguinal Colotomy Wound.*—A question in the after-history of these cases which, so far as I know, has not received much attention is, When should the colotomy wound be closed? This question was forced upon me in the case of a woman upon whom I operated early in January last. She made an excellent recovery, with perfect restoration of the continuity of the bowel, and in a few weeks most of the fæces were passed *per anum*. She clamoured for the closure of the inguinal wound before going home, but, as the disease had been of long standing and very extensive, with much glandular involvement, I advised against it, as I expected an early recurrence. She has just recently returned with recurrence, eight months after operation.

Finally, it must be borne in mind that this operation, although practicable and without direct danger in suitable cases, is always a formidable and serious one for the patient. Of necessity, considerable time is required for its performance, and the position of the patient during operation is a trying one. There is also more or less shock and some loss of blood, especially in the early stages of the operation.

Statistics are proverbially unreliable, and probably in no case more so than in the subject at present under discussion, for the reason that the cases vary so much—in the condition

of the patient, the extent of the disease, and the unforeseen difficulties to be encountered during the operation. Besides, statistics to be of any value must be compiled from a large number of cases, extending over a considerable period of time. However, a careful study of the most recent statistics would seem to justify the statement that the average rate of mortality following the operation does not exceed 20 per cent., and that the proportion of cures (cases remaining well and free from recurrences at the end of four years) is at least 10 or 12 per cent. Statistics also show that the mortality has been greatly diminished in recent years; and while we cannot speak of the cures effected by the more recent operations (as the lapse of time is the only test of cure), there can be no reasonable doubt but that, with earlier diagnosis, bolder and more radical operations and improved technique, the proportion of cures will be greatly increased.

In conclusion, I will refer very briefly to some of the main facts in the history of a series of three cases upon which I operated between the middle of June, 1896, and the middle of January, 1897, as they are still fresh in my memory, and illustrate very well the points which I have attempted to bring out in this paper:

Case I.—A gentleman, aged 58, had suffered from diarrhœa and hæmorrhage for a year, and lost flesh and strength to a marked degree for six months, during which he had also suffered from three attacks of obstruction. He was very pale and cachectic, and suffering from auto-intoxication to a marked degree. On June 29th, 1896, thirteen days after preliminary colotomy, 4½ inches of bowel together with a mass of infiltrated sacral glands were removed. The lower section of the bowel was 2½ inches from the anus. The proximal end was fixed in the wound. Recovery was slow but uneventful. He went home on August 6th, thirty-seven days after operation. Within two months he had gained 50 lbs. in weight, and for a year he enjoyed the best of health and attended to his business and his public duties. Fourteen months after operation I saw him again with recurrence at the extremity of the bowel, but without any constitutional symptoms.

Case II.—A man, aged 45, had suffered severely for four years with stone in the right kidney. The symptoms had recently been transferred to the bladder, and on June 26th, 1896, I removed the stone from the bladder by lateral perineal lithotomy. Recovery was uneventful, but during convalescence he suffered much from constipation. Two months later a cancerous mass was discovered high up in the rectum. On September 18th, 1896, the abdomen was opened for a preliminary colotomy. There was no glandular involvement beyond the immediate vicinity of the mass, but one of the epiploic appendices presented a suspicious appearance, and was removed for examination, and proved to be cancerous. Ten days later 4½ inches of the rectum, including the cancerous mass, was removed. Recovery was slow but uneventful. Early metastasis occurred, and the patient died three and a-half months after operation with widely-diffused cancer of the peritoneum and liver.

Case III.—A woman, aged 50, with a history of three years' symptoms, was operated upon on January 7th. Between 4 and 5 inches of the rectum, including the mass, was removed, and the ends of the bowel reunited. Recovery was uneventful and perfectly satisfactory. She regained flesh and strength rapidly, and remained in good health for seven months, when she returned with recurrence in the hollow of the sacrum, at the line of the suture in the bowel. She weighed on admission at the end of December last 93 lbs., and when seen two months ago 126 lbs.

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TRANS-SACRAL EXCISION OF THE RECTUM.

The officers of this Section are, I think, to be congratulated on having chosen for discussion at this meeting the subject of Kraske's operation and its various modifications for the treatment of cancer of the rectum, as the history of this procedure is still being made.

Some surgeons would have us to believe that the stercoral fouling of the wound, which must, to a certain extent, be present in excision of the rectum prevents us from reaping the full benefit of antiseptic treatment, and that a large proportion of septic cases must still be expected. I am sure, however, that those operators who have had large experience in this subject will agree with me in thinking that this is far from being the case, and that just so far as we attend to the minute details of operative technique by so far will we decrease our mortality and obtain perfect aseptic healing of our wounds.

The published results of the majority of surgeons tend to show that where Kraske's operation, or any of its modifications, in which the sacrum is divided, have been performed, the mortality is somewhat greater than where the older perineal operation was adopted. This possibly is true where the sacral route has only been employed for high-lying and extensive cancers, many of which possibly were totally unfit for any radical operation, the slighter cases all being subjected to the perineal method. I am, however, very strongly of opinion that the perineal route should be completely discarded for all cases of cancer of the rectum, except those rare instances in which the anus alone is involved. Let us for a moment contrast the application of both methods to an ordinary typical case, one in which a cancerous mass is felt about 1 inch from the anus, freely movable in the pelvis, indicating that the disease has not yet spread beyond the outer tunic of the bowel, while the finger can be passed above the limits of the growth, feeling healthy mucous membrane all round the entire circumference of the gut. Such a case would be treated by the majority of surgeons by perineal extirpation; the sphincter would be incised, the ischio-rectal fossæ opened up on each side destroying the continuity of the pelvic diaphragm; the bowel would be separated from its attachment with a good deal of bruising sufficient to allow amputation of the gut at a proper height above the disease; there remained then a great cavity, from the surface of which there was a good deal of bleeding; usually an attempt is made to bring down the divided end of the bowel from the apex of this cavity and suture it to the anus; drainage tubes are inserted into the ischio-rectal fossæ and the rest of the wound closed. Even in the best hands the immediate mortality of this procedure must nowadays be considered great; the sutures usually cut out; suppuration occurred in quite 90 per cent. of the cases, with protracted healing by granulation, and the result was a stricture in a considerable proportion of instances; while all had to pass the remainder of their lives in a miserable condition of incontinence.

If such a case is treated by excision of the coccyx and a small portion of the sacrum, the healthy bowel can readily be reached and divided above the seat of disease, the upper lumen of the bowel controlled with a suitable clamp, a careful clean dissection, without bruising, removes the lower segment of the bowel, together with its contained disease, without any injury whatever to the sphincteric apparatus, while bleeding is stopped with certainty; the upper segment is now freed sufficiently to allow its being brought out at the anus without any tension whatever; it is sutured there, and the wound closed without drainage. There is great probability that such a case will heal without suppuration in a fortnight, retaining fairly good control over the rectum.

Where the disease extends considerably higher up the bowel than in the typical case taken, the sacral method is generally admitted to be the only route allowing a complete removal, and in this way the entire rectum, even up to the junction with the sigmoid flexure, can be reached, the only contraindication to operation being the fact that the disease has spread to structures outside the muscular coat. When this is the case the difficulties and dangers of the operation are much increased, while there is almost the certainty of very rapid recurrence; in a few cases, more especially when the disease has spread to the posterior wall of the vagina in females, a complete removal may still be performed. In one of my own cases the posterior wall of the vagina was involved and perforated, so that it had to be widely removed with the rectum; when the upper portion of the bowel was brought down and sutured to the anus, the posterior vaginal wall was formed of the peritoneum covering the upper anterior surface of the rectum. The case did well, but there was recurrence of the disease within six months. Such a case must be contrasted with one of colotomy, and if it is possible to reduce the mortality of trans-sacral operation in these cases to anything like the low rate obtained nowadays in laparo-colotomy, the former certainly ought to be adopted, as the natural anus with fair sphincteric control is retained, while the complete removal of the disease tends to prolong the life of the patient, even though recurrence is almost inevitable. When disease has penetrated through the external muscular coat, there is of necessity considerable involvement of the lymphatics of the pelvis, rapidly tending to infection of the peritoneum; and, unfortunately, the majority of cases have reached this stage before the surgeon is consulted, the onset of the disease being so extremely insidious and the early symptoms so trivial, that early diagnosis is not so frequent as is desirable. When, however, we do get a case in which the disease is as yet confined to the wall of the rectum, the prognosis as to recurrence is very dis-

tinctly more favourable than it is of cancer in most other parts of the body. It is early as yet to speak with confidence on the statistics of trans-sacral resection relative to permanent cure, but it is only reasonable to expect that the more complete removal thereby possible will give better results than were obtained by the old perineal operation; and there is abundance of evidence that a large number of cases of unequivocal carcinoma were permanently cured by the old operation. In my own practice one case died eleven years and another ten years after operation without recurrence after perineal excision.

The clinical feature by which we can best estimate the extent of the disease and its suitability for operation is the mobility of the growth in the pelvis as indicated by digital examination. If the tumour is freely mobile we may undertake the operation with every prospect of success, its extent upwards being a matter of much less importance, thanks to the introduction of the sacral route. I have never as yet seen a case in which the upper limit of the disease could not be reached without much difficulty. If, however, the growth gives one the idea of moving with any of the other pelvic viscera, it means that the disease has spread through the external coat of the bowel, and the case is probably an unfavourable one; while, if the tumour is fixed, indicating attachment to the bony pelvis, radical operation is absolutely contraindicated.

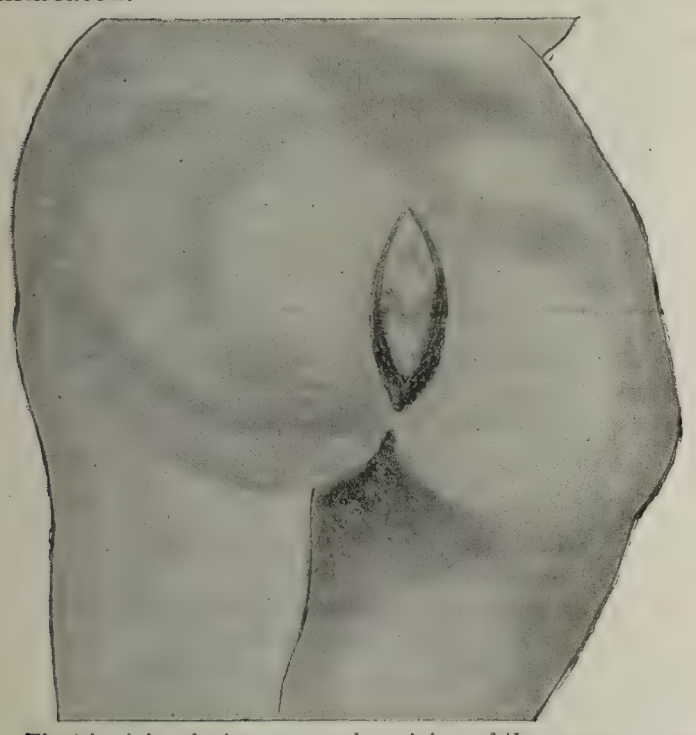


Fig. 1.—First incision in trans-sacral excision of the rectum, exposing the coccyx and portion of the sacrum, with their muscular and ligamentous connections. (In the preparation of this and following illustrations I am indebted to Dr. E. H. Taylor for valuable help.)

A thorough and intelligent preliminary preparation of the patient previous to operation is probably of greater importance in these cases than in almost any other surgical operation; four or five days before, free purgation should be commenced, and continued till the day previous to operation, when a copious enema should suffice to completely empty the colon, the patient is to be well fed with food that will leave but little residue, and the night before operation a full opiate is to be administered to check peristalsis. Another enema may be given a couple of hours before operation, and when the patient is well under ether, a thorough washing out of the rectum and lower part of the colon with a 2 per cent. solution of creolin or other antiseptic solution should be employed; this preliminary preparation is a matter of very real importance. I have used intestinal antiseptics by the mouth, but am not by any means convinced of their use. The skin over the sacrum is to be cleansed antiseptically, and an incision made from the middle of the sacrum to within about an inch of the anus (Fig. 1); this exposes the fibrous coverings of the bone with the attached ligaments, and the connections of the levatores ani to the coccyx, and to one another in the middle line. An incision is now made through the musculature below the tip of the coccyx, and with an American pruning shears the ligaments, first on one side of the coccyx and then on the other, are severed, while a third section is carried transversely through the fifth sacral vertebra, and the triangle of bone thus separated from its attachments is easily removed. This transverse division of the sacrum is practically that recommended by Bardenheuer, which I consider far the best line of section. (Fig. 2.) When made through the fifth sacral vertebra sufficient room is usually secured, but a further bone section can readily be made if required, but it is of great importance to keep it as low as possible, so as to insure the safety of the nervous supply of the sphincteric apparatus. The removal of the entire piece of bone is unattended with subsequent trouble, and is, I think, vastly to be preferred to any of the osteoplastic operations which have been recommended. The American pruning shears cuts the bone cleanly without much bruising, and much more rapidly than other instruments.

The posterior surface of the rectum is now exposed and separated with care, bleeding of course being arrested, but usually only the mid-sacral artery requires attention. With the finger now an attempt should be made to free the anterior surface so as to clear the entire circumference of the rectum; in the female this can sometimes be done with ease, but it is usually difficult in the male. No force or bruising is permissible, so if difficulty arises the bowel should be divided

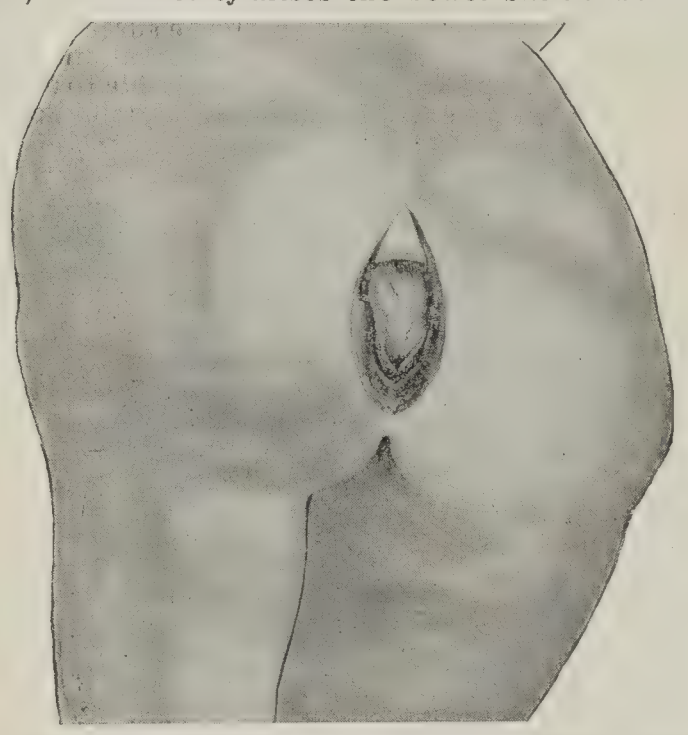


Fig. 2.—Removal of coccyx and last bone of the sacrum, exposing posterior surface of the rectum.

circumferentially before the anterior connections are separated. When the disease is tolerably low down this incision is best made above, when high up below, while occasionally in cases of very severe disease it may be wiser to make the incision through the infiltrated intestinal wall, subsequently removing the diseased structure from each end. This incision should be made with a pair of scissors bit by bit, pressure forceps being applied to the bleeding vessels as they are divided, while free antiseptic irrigation is carried out during the whole procedure. As soon as the entire circumference is freed, the upper lumen of the bowel is closed by a suitable clamp, and we now have to decide whether the case is one in which a sacral anus should be made; an end-to-end resection be performed; or the lower portion completely removed without injuring the pelvic diaphragm or sphincteric apparatus, and the upper portion brought out and fixed at the normal anus. Formerly a very large proportion of cases were completed by the formation of a sacral anus, and in my own series a large number of the earlier cases were thus terminated, although I now know that many of them were suitable for an operation that would retain sphincteric control with an anus normally situated. I believe that a sacral anus is necessary only in a very small proportion of cases—namely, those in which the disease is extremely extensive and involves the anus to such an extent that it

is impossible to retain the surrounding musculature in any useful condition, and also in those rare cases in which it is found impossible to free the upper segment sufficiently to bring it down for a resection or normally-situated artificial anus. Such cases are, however, exceptional. Should, however, the case be considered one in which a sacral anus is necessary, the upper segment is to be freed well above the disease which is to be removed, making sure that the section traverses the bowel well free of infiltration. The free lumen is now to be brought out over the divided sacrum and sutured to the skin and the large cavity left by the removal, completely closed by deep and superficial sutures, no drainage being employed.

A resection with end-to-end junction, if a fair amount of healthy bowel exists below the disease, may sometimes be a possibility, and in the rare cases in which it succeeds the result is very perfect, the conditions under which this operation are performed, however, being extremely unfavourable for good union. In the first place, there is not a uniform covering of peritoneum; secondly, the solid fæces of the colon exercise a considerable tension upon the bond of union; while to dilate the anus for the passage of fæces, even under normal conditions, necessitates a very considerable strain, and if, as is usually the case, the bowels are kept confined for many days after operation, this strain will be so great as almost certainly to tear through the new bond of union even if tolerably firm. It is well, therefore, if the surgeon attempts this method, to commence free saline purgation after the second day, and in this way as far as practicable to assimilate the case to that of the small intestine with its fluid contents,

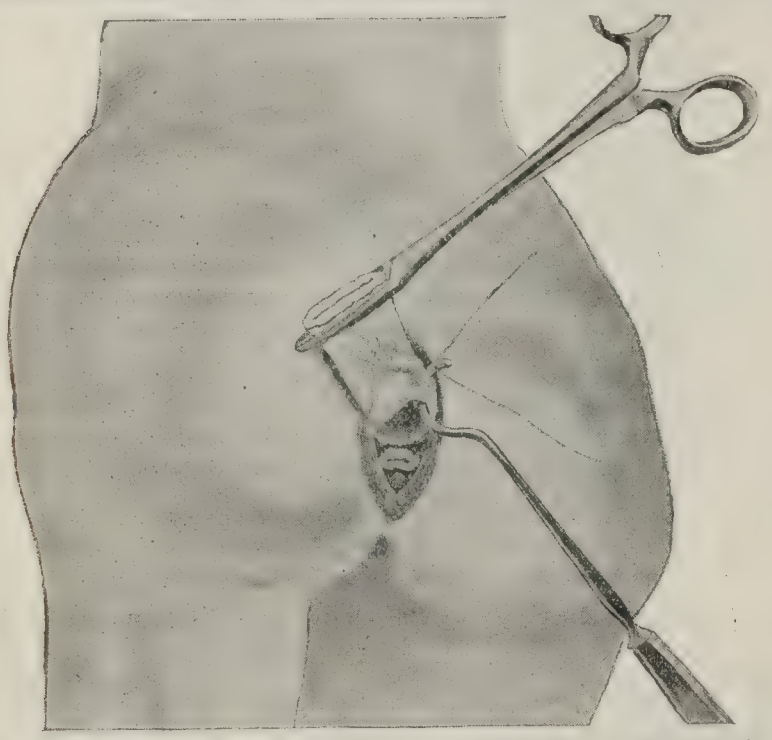


Fig. 3.—The way to pass sutures so as to tie off the attachments of the upper portion of the rectum before dividing them with scissors.

where we know the results of end-to-end junction are so much better than they are in the colon. The method of junction may be by suture, decalcified bone ring, or Murphy's button, at the discretion of the surgeon. Personally, for all intestinal resections with end-to-end junction, I prefer the decalcified bone ring. I have had 3 cases of this operation; in all a fæcal fistula formed, but was eventually closed, leaving a functionally good rectum.

The method which promises the best results in a very large majority of cases is undoubtedly that of Moulonguet.[1] He dissects out the lower portion to the upper surface of the pelvic diaphragm, and the entire mucous membrane down to its junction with the scaly epithelium of the anal canal, but carefully preserves the entire sphincteric apparatus from injury, and then frees the upper end sufficiently to bring it out at the anus, without tension, and suture it there, thus making an artificial anus at the normal position completely provided with an efficient sphincteric control. There is usually no great difficulty in freeing the upper portion sufficiently to bring it down to the anus, even where an extensive excision has taken place, and in doing so it is well to open the peritoneal pouch early, as the subsequent steps are thus much simplified, the lateral reflections being tied off and divided with scissors in the same way that broad ligaments are treated in vaginal hysterectomy. (Fig. 3.) The abdominal cavity can be subsequently efficiently closed by uniting the free anterior edge of peritoneum by fine continuous catgut suture to the serous covering of the rectum. Posteriorly it is desirable to keep as far from the muscular tunic of the bowel as possible, remembering that the mass of vessels for the supply of the rectum pass down the loose areolar tissue in the hollow of the

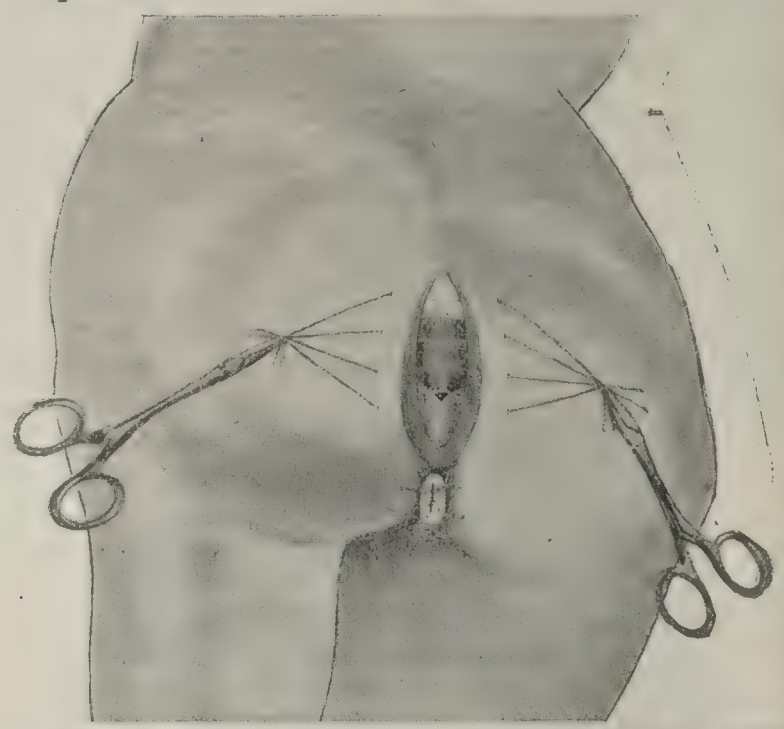


Fig. 4.—The deep sutures placed in position. The upper one passes through the periosteum of the sacrum, the next two pick up small portions of the muscular coat of the bowel, and the lower one passes through the divided attachments of the levator ani muscle on each side.

sacrum, and must as far as possible be preserved. As, however, the vascular supply of the rectum is by vessels which run down vertically, many of them in the submucous tissue of the gut, the vitality of the rectum can generally be assured, if great care is taken to prevent undue bruising and lacerations, and to retain as many of the vessels in the posterior areolar tissue as is possible. The danger of necrosis of the intestine is the one drawback to the employment of this method. In my own cases, a small portion of the gut sloughed in two instances, but not sufficiently to prevent an

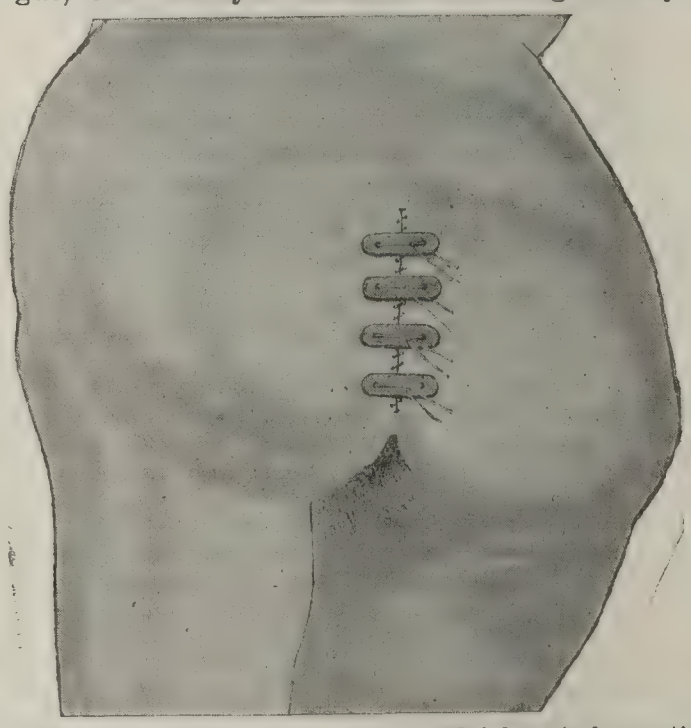


Fig. 5.—The wound finally closed, the superficial parts by continuous suture, the deep sutures tied over lead plates.

excellent result from being eventually obtained. Four or five deep sutures are now passed through the entire thickness of tissues divided, the centre ones including a few fibres of the external muscular coat of the rectum. (Fig. 4.) Before closing these the edges of the wound are brought together by a firm continuous suture, and the deep sutures finally closed over lead plates (Fig. 5.), no drainage being employed. By this operation all the advantages, without the dangers, of end-to-end junction are secured, and an anus opening directly externally controlled by an efficient sphincter is obtained.

My personal experience of trans-sacral excision of the rectum extends to 17 cases, performed during the last six years; 1 died of sepsis on the fifth day, he had complete obstruction which prevented efficient preliminary cleansing of the bowel, and also secondary involvement of the peritoneum, the case was probably one only fitted for colotomy; the remaining 16 recovered. In 9 (mostly early cases) sacral anus was formed; in 3 end-to-end junction; while in 5 the upper lumen was fixed to the normal outlet which I now feel tolerably certain is the best and most usually applicable method.

REFERENCE.
[1] *Soiété de Medecine d'Amiens*, July, 1890.

III.—W. W. Keen, M.D.,
Philadelphia.

Dr. Keen said that nowadays the entire intestinal tract except a part of the œsophagus could be reached by operation; those cases of cancer of the rectum too high for operation by the sacral route could be reached by the abdominal route, and *vice versâ*. Cancer of the rectum was favourable for operation by reason of the late glandular involvement, the slow development of metastasis and the encouraging results obtained. The primary mortality was 20 per cent. or slightly less, and was diminishing rapidly, as Kraske in his last seven years had had only a mortality of 9.8 per cent. Permanent cures also were both numerous and increasing. Out of 12 of his personal cases, 33.3 per cent. had already reached the four year limit, and others were approaching it. He advocated a preliminary colotomy or colostomy two or three weeks before the resection with a view of unloading the colon (often requiring three or even four weeks without it), preventing infection, and because an inguinal anus was far more comfortable and less obnoxious than a sacral anus. He advocated the entire removal of the bone, and condemned osteoplastic resection. In women cases of normal labour had followed such removal, and in some of his own cases the patients were able without discomfort to ride a bicycle. If women could bear children and men ride a bicycle after a sacral resection, why add to the danger by a needless retention of the bone?

IV.—John Ashhurst, Jun., M.D.

Dr. Ashhurst said that he hesitated to speak on this subject because his experience had led him to take a somewhat less enthusiastic view of operations for cancer of the rectum than was obviously held by the speakers who had preceded him; with regard to the propriety of excision in selected cases, he had, of course, no doubt; and when it was decided to remove a considerable portion of the rectum, he believed that a preliminary colotomy was of advantage. He could not agree with Dr. Keen that the term colostomy should be employed for this operation, because its object was not the formation of an artificial mouth for feeding purposes, as in the case of gastrostomy, but for a very different reason. The advantage of opening the colon before excising the rectum was not only that it gave an opportunity to disinfect the part to be removed, but that it gave an opportunity also for subsequent medication in case the operation should be followed, as it sometimes was, by persistent vomiting and intestinal paralysis. He should give the preference to removal rather than to osteoplastic resection of the lower part of the sacrum, believing that the operation would thus be less complicated, and that the experience of surgeons in excising the coccyx for coccygodysia showed that no functional harm would result. One procedure which had not been referred to, he thought, deserved mention, and that was Verneuil's operation of linear rectotomy—the simple division of the rectum in the median line posteriorly—as a palliative measure in cases in which there was much pain from implication of the sphincter without complete obstruction. When obstruction existed, he had no doubt of the propriety of colotomy, preferably in the left inguinal region, and when the disease was strictly limited to the rectum itself, of excision in the manner so clearly and beautifully demonstrated by Professor Ball.

V.—Christopher Heath, F.R.C.S.,
Holme Professor of Clinical Surgery, University College Hospital; President of the Section.

The President read a communication from Dr. Kraske, giving these results of his operations for cancer of the rectum:—80 out of 110 cases seen had the radical operation done: total mortality 15, equal 18.7 per cent. (29 first cases, 10, equal 34.5 per cent.; 51 later cases, 5, equal 9.8 per cent.). Of the 15 fatal cases, 8 deaths were not due to local effects of operation, but to causes such as pneumonia, fatty heart, etc.; 7 deaths were due directly to the operation (4 peritonitis, 3 phlegmon). Of the 65 cases which recovered, in 4 there was anus præternaturalis; in 15 sphincter partly retained, slight control. In 7 there was anus præternaturalis sacralis. Of 39 in which the continuity of the bowel was restored, there was in 23 complete restoration of function; in 16 a small fistula. The later results of the 65 cases as regards recurrence, etc., were as follows: 5 not traced; 2, sarcoma, died of recurrence $1\frac{1}{4}$ and $\frac{1}{4}$ year respectively; 3, squamous carcinoma of anus, 2 died of recurrence, $1\frac{1}{2}$ and $\frac{3}{4}$ year; 1 alive, and no recurrence, 4 months; 55 columnar carcinoma, 22 died of recurrence with or without metastases—1, $\frac{1}{2}$ year; 3, $\frac{3}{4}$ year; 7, 1 year; 1, $1\frac{1}{4}$ year; 4, $1\frac{1}{2}$ year; 1, $1\frac{3}{4}$ year; 2, 2 years; 1, $3\frac{3}{4}$ years; 1, 9 years; 1, $12\frac{3}{4}$ years; 1 died of deposit in brain without local recurrence, $2\frac{1}{2}$ years; 1 was alive, with recurrence, $1\frac{1}{4}$ year; 16 died of intercurrent diseases without local recurrence or metastases, 1 to 5 years; 15 alive without recurrence (1, $\frac{3}{4}$ year; 3, 1 year); and 1 each $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{2}$, 3, $4\frac{1}{2}$, $5\frac{1}{4}$, $5\frac{1}{2}$, $8\frac{1}{4}$, $8\frac{1}{2}$ years respectively.

SOME RARE AFFECTIONS OF THE FINGERS.

By A. H. Tubby, M.S.Lond., F.R.C.S.Eng.,
Assistant Surgeon to, and in charge of the Orthopædic Department, Westminster Hospital; Surgeon to the National Orthopædic and Evelina Hospitals.

Among the many affections of the hand and fingers are two which are sufficiently rare to merit notice. These are jerk-finger and drop-finger. So occasionally do these occur that many practitioners never see an example.

Jerk-Finger.

This is known by various synonyms. It is called snap- or spring-finger, and in his recently published work on *Deformities of the Fingers and Toes*, Mr. William Anderson calls it trigger-finger. The description of this affection is as follows: The patient can close all the fingers on the palm, but on attempting to extend them he finds that one remains more or less flexed. "In some cases the flexion passes away suddenly, and the fingers extend with a distinct jerk. But in other cases extension can only be obtained by passive movement, and then straightens with a jerk. Sometimes the reverse condition obtains; the fingers can be fully extended but one of them cannot be flexed except with a sudden jerk, or by means of a passive movement ending in a jerk." The literature of the subject is extensive, and most of it can be found in Mr. Reeves's book on *Bodily Deformities*, pp. 373-382, where an excellent account of the affection is given. In addition to those references given by Mr. Reeves, Abbe, in an article on the Surgery of the Hand in the *New York Medical Journal*, January 13th, 1894, describes the affection and gives illustrations of five cases. Mr. William Anderson in *Deformities of the Fingers and Toes* also contributes a very careful article on this subject but without arriving at any definite conclusion as to its pathology. I have recently seen two cases which I will quote here.

Miss G. Y., aged 24, consulted me in March, 1897, for a painful affection of the right knee. It seemed that the joint became fixed sometimes and remained caught momentarily, but after a few tentative movements she

could move it again. This condition recurred from time to time, and last February she had some difficulty in unlocking it, and when she succeeded in doing so acute pain resulted, and it swelled after that very much. She has subsequently been troubled with this locking of the joint but not to such an extent. On inquiring if any other joints were similarly affected she told me that her thumb sometimes came out straight with a distinct snap or spring. On examination I found that the metacarpo-phalangeal articulation of both thumbs acted like gunlock springs. The right thumb could not be fully extended except passively, when a distinct click was heard, but flexion was entirely free, The left thumb was in the same condition. On attempting extension both thumbs remained flexed to about 30° and could then be forcibly straightened as beforesaid with a distinct click. It was noticeable that both were considerably smaller than normal and out of proportion to the other fingers. On the right thumb there could be felt a distinct solid and globular enlargement of the flexor longus pollicis tendon. This moved upwards and downwards with the tendon in the tendon groove for half an inch, and so far as one could determine there was no doubt that the enlargement was on the tendon and not on the sesamoid bones. And, similarly, on the left side, there was opposite the base of the first phalanx a distinct globular enlargement to be felt. I suggested removal of the small masses or nodules, but the patient preferred not to have the parts interfered with. I regretted this, as it would have given one a favourable opportunity of more exactly determing the pathology of the affection.

The second case occurred in a woman, aged 50, and affected the extensor tendons of the middle finger of the right hand. The difficulty was of the following description. The middle finger could be fully extended but there was considerable difficulty in flexing it from the point of full extension. She would make one or two tentative movements in the direction of flexion, when suddenly with a somewhat sharp pain at the metacarpo-phalangeal joint the finger would fly forward and become flexed to about 30°. The remainder of flexion was unaccompanied by pain and was quite smooth. In her case no enlargement of the tendon could be felt, and it seemed possible that the cause of the affection was narrowing of the tendon sheath probably from osteo-arthritic outgrowths, as both knees were affected with that disorder. She also declined to have any surgical interference. This case was interesting inasmuch as it was the converse of the preceding. In the first case the difficulty was as to full extension, in the second case the difficulty was not extension but starting to flex the finger.

The digits usually affected are the thumb, the middle and the ring finger. The forefinger and the little finger usually escape. Children, it seems, are rarely, if ever, affected, and it is most commonly seen in middle life, and more often in women than in men.

With reference to the pathology of the affection, Mr. Wm. Anderson, in his recent work mentioned above, gives five distinct views of the matter. The views quoted by Mr. Anderson are as follows:—1. The development of a fringe or a growth in the synovial sheath of the flexor tendons. An example of such an affection appears to be the case given by Mr. Battle in his article on Some Surgical Affections of the Hand in the BRITISH MEDICAL JOURNAL of April 8th, 1893, pp. 783-784, and his case is the more noteworthy, as it seems to have occurred in the index finger. The description is as follows:—"A patient will sometimes come for relief on account of a painful place on the palm of the hand, and usually of the right one, perfectly well localised and much increased by an attempt at grasping anything, such as the handle of a door in order to open it. The pain will have existed for a variable time. On inspection, if the finger be flexed and careful examination made where most tenderness is felt, a rounded body will be found not so large as a pea, well defined, very hard, and attached to the deeper parts just at the point where it is known that the sheath of the flexor tendon of the index finger terminates in the palm. If these apparently solid bodies be cut down upon, they will be found to permit of easy separation from surrounding parts, excepting where the pedicle is attached, pear-shaped, and cystic." It is therefore evident from this description that the flexor ganglion may, by the thickening it causes in its growth, narrow the groove. 2. The second possibility is a nodosity on the tendon itself as it passes through the groove. Such appears to have grown in the first case of mine quoted above. The nodosity may either be a fibroid enlargement of the tendon or else a small thickening of the synovial covering of the tendon itself. Mr. Reeves states that he has found ganglia on the flexor tendon, and Leisering, quoted by Mr. Anderson, actually exposed a nodosity on the profundus tendon at the level of the point at which it entered the canal of the flexor sublimis. He excised it and cured the disease. 3. The third explanation advanced is "an alteration in the shape of the articular surface, such as was first pointed out by König in hammer-toe. In these cases movement of the distal bone is intercepted by the presence of the ridge extending transversely across the head of the proximal bone, and when by voluntary or passive force the ligaments are made to yield sufficiently to allow the obstacle to be surmounted, the movement is terminated by a sudden spring-like action of the extensors or flexors, as the case may be." 4. The fourth explanation is the following: That on the side of the head of the proximal bone an osseous excrescence is developed. This is so placed that the narrow attachment of the lateral ligament has passed over it during the movement of flexion and extension. But, unfortunately, the existence of this in a human subject has yet to be demonstrated. 5. Finally, it is sought to explain the affection by spastic irregularities of muscular action. Against this it may be said that it seems unnecessary to presuppose such an explanation when there can be felt in or about the groove in which the tendon runs a distinct enlargement, which moves with the tendon or which seems to arrest its movements. While sharing Mr. Anderson's inability to decide the question as to the exact pathology of all the cases, it yet seems clear that, so far as treatment is concerned where a distinct enlargement can be felt, the question of excising the enlargement must be faced.

Treatment.—If a ganglion can be felt, the finger should be opened and the ganglion excised. Should there have been a previous history of teno-synovitis, blistering, and, later, passive movements under an anæsthetic are to be recommended. If a small tumour can be felt, it is quite justifiable to cut down upon it, and, if possible, to remove it. Finally, if there should be no information forthcoming as to the cause, then fixing the finger in a metal splint, with pressure over the spot where the movement of the tendon is arrested, will cause the affection to disappear.

MALLET-FINGER OR DROP-FINGER.

This affection, which is a somewhat rare one, is variously described as mallet-finger, drop-finger, subcutaneous rupture of the extensor tendons. As to the cause, Morris states that the deformity is not uncommon among men who engage in athletic sports. When the extensor tendons of the finger are tense, a blow upon the end of a finger, transmitting force in a direction which would ordinarily flex the finger, results in an injury to the extensor tendon where it is attached to the dorsal surface of the last phalanx. According to this writer the injury consists not in a bodily separation of the tendon from the point of attachment, but rather in a thinning of the tendon on the proximal side of the principal point of attachment to the phalanx and of the fibres which form the posterior ligament of the last phalangeal articulation. A few fibres are undoubtedly ruptured, but most of them slide away from each other very much as the thread of a textile fabric separates when the fabric is violently stretched but not torn.

In many instances, however, it is interesting to note, as a rule, the injury is by no means severe, and the affection occurs more often in women than in men. Such an example came under my notice some little time back.

Mrs. X., the wife of a medical friend, came to me with the last phalanx of the little finger of the right hand flexed, and she gave the following history. A month previously she stumbled or slipped in the bedroom, and fell forward on the bed with the hand outstretched. At the time she felt something click, and almost heard the click, and noticed at once that the last phalanx of the little finger was bent. When I saw her she could flex the finger very well indeed, but was quite unable to fully extend the last joint. But by passive movements complete extension was easily obtained and without pain. There was no swelling about the base of the nail, nor was the finger tender to pressure. By way of treatment, I advised her to have a straight splint applied to the front of the little finger and along the inner side of the palm of the hand, and this was kept on for two months almost uninterruptedly, being removed only for passive movements of the metacarpo-phalangeal articulation and the first interphalangeal joint, care being taken not to flex the last phalangeal joint. Abbe gives two similar cases—one of a lady who was taking off a stocking and pushing it down the side of her leg with the tips of her fingers, when she suddenly found the end-joint of her ring finger had given way, and hung at right angles to the finger, powerless. With the other hand she could straighten it, but was unable to support it. It appeared to have nothing but skin over the joint to hold it up.

The second case, which was cured by operation, was that of a prominent architect whose ring-finger dropped useless at the last joint from the slight pressure of his finger-tips pushing across a paper from which he was brushing some bread-crumbs. An operation was performed two weeks later. A linear cut was made on the back of the knuckle, and the torn end of the tendon was sutured to the periosteum of the base of the last phalanx. The result four years afterwards was most admirable.

From the preceding cases, which are fairly typical, the symptoms can be readily deduced. But it sometimes happens that there are distinct swelling and ecchymosis over the last phalangeal joint, and a circumscribed tender spot on the

dorsum of the last phalanx just below the joint. It seems that the anatomy of the affection is either partial or complete tearing away of the attachment of the extensor tendon to the base of the last phalanx. Delbet, who made some experiments on the cadaver, was of opinion that the rupture was partial and not complete. If the case be left entirely to itself, the last phalanx becomes fixed in the flexed position, and the use of the injured finger is much impaired on account of the formation of adhesions in the joint.

Treatment.—Many cases have been treated by the application of a straight splint to the front of the finger, but my friend Mr. Robert Jones tells me that he obtains much better results by hyper-extending the phalanx on a small metal splint specially shaped for that purpose, and in future I shall adopt this method. If, however, at the end of four to six weeks the power of full extension has not returned, the surgeon should cut down and stitch together the divided ends of the tendon or the tendon to the periosteum and the base of the last phalanx. Very often as the result of this the nail is lost, but it soon grows again. In many cases it is preferable not to stitch the tendon to the periosteum, but to stitch it to the under surface of the skin. When the advanced fasciculi are sutured in place the last phalanx is sometimes over-corrected and over-extension at the second interphalangeal articulation is caused. But this is merely temporary and disappears in a few weeks, leaving a perfect finger.

THE COMPARATIVE FREQUENCY OF APPENDICITIS AS A COMPLICATION OF PUS TUBES, WITH SOME REMARKS ON THE TECHNIQUE OF REMOVING THE APPENDIX.

By A. Lapthorn Smith, M.D.,
Montreal.

At the recent meeting of the American Gynecological Society, the well-known author and gynæcologist, Dr. Munde, of New York, reported a case of appendicitis complicating a pus tube, and from his study of the literature of the subject it would appear that the coincidence of these two conditions is somewhat rare. From the consideration of the writer's experience, however, it would seem to be comparatively frequent, as he has had 7 cases of appendicitis in about 100 cases of pus tubes. It is with a view to eliciting further information on this point that it was thought worth while to make the following communication. In a recent article by Dr. McCosh, of New York, upon appendicitis, treated of course from the surgical point of view, he also reports 5 cases of pyosalpinx as a complication in 53 cases of appendicitis on which he operated. Besides the 7 cases which have occurred in the writer's operations, he has seen the appendix adherent to pus tubes in 2 other cases operated on by his colleagues at the Western Hospital. Several other writers mention that they have seen these two conditions present at the same time. It is difficult, however, to say which of them was the initial one; that is, whether the appendicitis caused the pus tubes, or whether the pus tubes caused the appendicitis. The fact that in all of his cases both tubes were markedly diseased would tend to prove that the pus tubes were the cause of the appendicitis; for if the contrary were the case, namely, that the appendicitis was the cause of the pus tubes, only one tube, and that the right one, would probably be affected. Even this, however, is not quite certain, because a number of writers have observed that the diseased appendix caused pain on the left side of the middle line, and when the patient was operated on the appendix was found attached to some point in that region. In fact, in many cases, the pain is not felt at McBurney's point, midway between the umbilicus and the anterior superior spine of the ilium, but several inches higher up on the same side, and in other cases four or five inches to the left of this point. It is now well known that the appendix varies greatly in length, and in one of the writer's cases the appendix was estimated to measure 8 inches in length, while other cases are on record in which the appendix was found by actual measurement to be even longer than that. No one as far as the writer is aware has given any explanation as to why the appendix wanders round in the abdomen, but it is probably wafted about at its free end by the persistaltic movement of the intestine. It is easier to understand, however, why it should become attached to the right tube, because when the patient is lying on the left side the appendix vermiformis would naturally gravitate towards the middle line, and when the patient is erect it would then fall directly upon the right tube, especially if it happened to be heavier than usual. That the inflamed appendix is heavier than usual is without doubt due to the sometimes enormous thickening of the muscular and mucous coats; while in some cases as occurred in the sixth of the author's series of seven, a concretion the size of a bean occupied the extreme end of the appendix and could be distinctly felt through its wall, while on opening the appendix the concretion was found to be firmly held there. It is thus evident that a diseased appendix would be especially liable to fall upon and become adherent to the Fallopian tube. It may be that the free end of the healthy appendix is often carried over until it touches the right tube, without becoming adherent, and this latter would only happen when either the tube or the appendix was in such an inflamed condition as to pour out plastic lymph, without which adhesion would not take place. As most cases of pus tube are in precisely this condition and are surrounded and imbedded with lymph, it would be easy to understand how even the healthy appendix could become attached to it. Morris, of New York, has shown that the appendix is fed by a central artery, which frequently becomes blocked up by the pressure of inflammatory exudation or of a foreign body about the entrance near the cæcum. We know also that when ovarian tumours become twisted so that the ovarian artery is closed the tumour forms adhesions to neigbouring structures such as the bowel or the abdominal wall, and obtains its blood supply from them instead of from its own artery. It may be that the appendix vermiformis has the same power, and that when its own artery is occluded it instinctively attaches itself to some other organ on which it becomes, so to speak, a parasite. A brief report of the cases is given below.

Case I occurred at the Western Hospital some six years ago in a woman who had during many years had several attacks of pelvic peritonitis She had on admission a high temperature and a fast pulse, and both vaginal fornices were of board-like hardness. The pain, which was severe on both sides, was worse on the right side, and the abdomen was tense and distended. The case was diagnosed as pyosalpinx, but appendicitis was not suspected. She was put on preparatory treatment for a week or ten days, when the temperature and pulse became much lower. The operation proved a very difficult one. A hard mass was enucleated from the front and right of the bladder, after which a large right tube and ovary were abstracted from Douglas's *cul-de-sac*. The left tube and ovary were not removed. The mass removed from the bladder, which subsequently proved to be the end of the appendix, was connected with a tube at least 8 inches long, leading towards the right kidney, so that several of the staff felt certain that it was the ureter. In deference to their opinion the mass at the end and a small piece of the tube were cut off, and the rest, about 6½ inches long, was fastened to the lower end of the abdominal incision, so that if it should prove to be the ureter it might subsequently be implanted into the bladder. Microscopical examination by Dr. Adami proved it to be the appendix, and there it has remained ever since. Strange to say, this patient made a splendid recovery, and was shown to the Medical Society two years later in good health, and she reports to me every year. She occasionally has some pain in the left iliac region, which is relieved by painting the vaginal vault with Churchill's iodine.

Cases II, III, and IV were not diagnosed as appendicitis, the patients having great pain in both sides. The only thing remarkable about them was that they occurred at the Samaritan Hospital within a few months of each other. No. IV. occurred in a woman who had been in bed for six months after a confinement.

Cases V and VI occurred at the Western, and the appendicitis was suspected in both casos, owing to tenderness at McBurney's point. In both the appendix was adherent to the right pyosalpinx.

Case VII was one of large tubo-ovarian abscess in right side six weeks after a confinement, and has been fully reported in *La Clinique* of August, 1897. She was brought to the Samaritan in the ambulance in a very exhausted condition, with a very high pulse and temperature. She had a very foul discharge from vagina and was extremely emaciated, and it was two weeks before it was thought safe to give her an anæsthetic. When the abdomen was opened there were many flakes of lymph, partly organised, binding the omentum to the abdominal wall and to the pelvis, and the vermiform appendix was firmly adherent to the right tube, which was in turn bound down and glued to Douglas's *cul-de-sac* and the back of the broad ligament. The appendix was carefully removed in the manner described later and the stump covered with peritoneum. It was found that the tube had infected the broad ligament, and that the pus thus formed had broken into the bladder, so that, although she had been up and about with a normal pulse and temperature for a week before going home, I have since heard that she had relapsed and gone into other hands.

Having seen several cases from one to two years after their operation from whom the vermiform appendix had been re-

moved, with the result that the patients were troubled ever since with fæcal fistula or pericæcal abscess, and on reflecting as to the cause of this untoward result and as to the means of preventing it, it seems to me that the cause of the trouble may be traced to the method employed in these cases of treating the stump of the appendix. When we make an opening into another part of the large or small intestine we always begin by sewing up the hole with fine silk or catgut sutures, bringing the mucous and muscular layers together, but we know that such a closure alone could not be trusted to retain the contents of the bowel, so that this first line of suture is invariably followed by a second row of sutures bringing peritoneal surfaces in contact and at the same time turning in the first row of sutures. No one would for a moment venture to close an opening in the bowel by picking up the edges of the opening and tying a ligature *en masse* around them, because this would simply bring mucous surfaces in contact, and when the ligature had cut through or otherwise fallen off the secreting glandular surfaces would separate and the contents of the bowel escape. The writer has never seen anyone, even the merest tiro in intestinal surgery, adopt this method of closing a hole in the intestine, and yet the appendix vermiformis is practically a part of the intestine, and what applies to the latter applies to the appendix in every respect. It has glands which secrete mucus imbedded in the mucous membrane, and therefore to the writer it seems quite as unsurgical to put a ligature around the base of the appendix from $\frac{1}{8}$ to $\frac{1}{4}$ inch from the cæcum and then to cut it off. Those who follow this method may say that they cauterise the mucous membrane after cutting off the appendix, and not only disinfect it but destroy its secreting surface. But this I maintain it is impossible for them to do, because they manifestly cannot reach the mucous membrane brought together by the ligature, nor still less the part of it which lies below the ligature. They may say that while my contention is theoretically correct, yet as a matter of fact the cases treated by a simple ligature and cauterising do perfectly well, which of course they believe to be the case in perfect good faith, not having always seen the patients a year or two later, as was the case in the two mentioned above.

The ideal method in the writer's opinion is for an assistant to hold up the intestine an inch on each side of the intestine while the operator catches the appendix and with a pair of scissors curved on the flat snips it off even with the bowel, first of course taking care to tie and separate the meso-appendix. The hole in the cæcum is then sewed up with fine silk, care being taken to include only the muscular layer and not the mucous membrane, as by doing so the silk might become infected. A director is then pressed upon the united edge until it sinks below the level of the surrounding intestine, when another row of sutures brings the peritoneal surfaces together. Such a hole will almost surely unite by primary union, doing away with all danger of fæcal fistula or pericæcal inflammation by which the opening in the appendix is sometimes closed, and in which cases, although there is no fæcal fistula, the patient is subject to a good deal of discomfort while Nature is throwing out a layer of plastic lymph to seal the defective closure. Some authors recommend the peeling off of the peritoneal coat of the appendix so to form a cuff $\frac{1}{4}$ inch long, and then after tying and cutting off the appendix in the manner which is condemned above make up for the defect by sewing the peritoneum over the end of the stump. This of course is much better than leaving a sloughing stump free in the abdomen, but is by no means so good as the method advocated above, in which no stump at all is left and nothing but a fine thin line of Lembert suture which we know gives absolutely no trouble. The author trusts that this suggestion will be generally adopted by those who are doing this life-saving operation so much more frequently than he. It is at least offered as his contribution to the improvement of the technique of the operation.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—The autumn dinner of this Association will take place at the Café Monico on Tuesday evening, November 2nd, at 7.15 P.M., when the chair will be taken by Professor Alexander Macalister, F.R.S. The Association on this occasion will entertain Field Marshal Lord Roberts, V.C., G.C.B.

THE SPECIFIC HEAT OF HUMAN BLOOD.

By W. F. LLOYD. M.B.CANTAB.,
Lampeter

THE researches which have recently been made to determine the specific gravity of human blood in health and disease have yielded results which are not only interesting, but may prove to be of great importance from a pathological point of view.

The application of physical methods to the investigation of physiological or pathological problems is always interesting, because the results must be accurate within the limits of experimental error. There is another physical property of the blood—namely, the specific heat—which does not seem to have been investigated in this country.

The following experiments were made with a view to determine the specific heat of human blood. The blood was received direct from the vein into a thin beaker, containing a certain weight of water at a known temperature. The temperature of the blood was assumed to be identical with that of the patient taken in the mouth. The highest temperature of the mixture was then accurately determined, and the amount of added blood ascertained by weighing. The following are the figures obtained from two experiments, and as may be seen the results agree fairly well with one another:

Weight of water	35 19 grammes ...	43 8 grammes
Weight of blood added ...	22 42 ,, ...	15.68 ,,
Temperature of water ...	15 9° C. ...	15.9° C.
Temperature of blood ...	36.1° C. ...	36 1° C.
Temperature of mixture ...	22 2° C. ...	20.0° C.
Rise of temperature ...	6 3° C. ...	4.1° C.
Fall of temperature ...	13.9° C. ...	16 1° C.
Specific heat	0 711 ...	0 710

When the specific heat of the blood is known the amount of heat required to raise the temperature of a certain quantity of blood may be calculated. Let us suppose that the temperature of a patient whose weight is 65 kilogrammes is 37° C., and twelve hours after this the temperature has gone up 3° C. The weight of the patient's blood would be $\frac{1}{13}$ of 65, or 5 kilogrammes, and the amount of heat required to raise the temperature of 5 kilogrammes, or 5,000 grammes of blood 3° C. will be: $5{,}000 \times 0.71 \times 3 = 10{,}650$ heat units. This amount of heat must be derived from the chemical changes going on in the tissues of the body, and the amount of heat required to raise the temperature of the whole body would of course be much greater than this.

Now, this amount of heat may, by the use of Joule's equivalent, be expressed in terms of work; for every heat unit is equivalent to the amount of work required to lift 424 grammes 1 metre high against the force of gravity; therefore the mechanical equivalent of 10,650 heat units will be $10{,}650 \times 424 = 4{,}515{,}600$ grammetres. This amount of work represents the chemical energy which must be required to raise the temperature of the blood of the patient 3° C. in twelve hours, and in every second the chemical changes going on are represented by the amount of energy required to lift 104 5 grammes 1 metre high against the force of gravity.

From this it will be seen that the amount of energy going on in the tissues of a patient whose temperature is rising must be very considerable, and about thirteen times greater than the above figures, for these figures apply only to the blood.

It is also possible that the difficult problem with regard to the number of atoms in the molecule of protoplasm, which has hitherto baffled physiologists, may be finally solved by an accurate determination of the specific heat of living protoplasm.

GLASGOW SOUTHERN MEDICAL SOCIETY.—The following are the office-bearers for the session 1897-8:—*President:* James W. Allan, M.B.; *Vice-President:* R. H. Parry, L.R.C.S.; *Treasurer:* G. W. Thomson, M.D.; *Secretary:* Wm. Watson, M.D., Gartmore, Langside; *Editorial Secretary:* Henry L. G. Leask, M.D.; *Seal Keeper:* Alex. Roxburgh, M.B.; *Court Medical:* J. Stuart Nairne, F.R.C.S., Alex. Rankin, M.D., Eben. Duncan, M.D., R. W. Forrest, M.D., Professor Jas. Dunlop, M.D. *Extra Members of Council:* J. Fraser Orr, M.D., Hugh Kelly, M.D., T. W. Jenkins, M.D. *Representative to Board of Victoria Infirmary:* Professor James Dunlop, M.D.

REMARKS

ON

THE EFFECT OF RESISTANCE EXERCISE UPON THE CIRCULATION IN MAN, LOCAL AND GENERAL.

BY

T. LAUDER BRUNTON, M.D., F.R.S. and F. W. TUNNICLIFFE, M.D., M.R.C.P.

Physician, St. Bartholomew's Hospital.

The extensive therapeutic use of so-called resistance exercises in certain disturbances of the circulation made it, in our opinion, of interest to find out what changes occurred in the circulation in man during and after the practice of these exercises.

Before passing to the description and discussion of our experiments, we may consider briefly what is known of the local and general effects upon the circulation of the contraction of a muscle or group of muscles. Ludwig and his pupils, Sczelkow, Sadler,[1] and Gaskell, were the first to investigate this subject exactly. Two points in Sadler's results are of interest to us in this connection. He found that more blood passed through a muscle when in a condition of contraction than when at rest, and that the most blood in a unit of time passed through a muscle immediately after its contraction. He further found that when a group of muscles were made to contract but were prevented from changing their form, that is, from becoming shortened, considerably more blood passed through them in unit time than passed through muscles thrown into contraction and also shortened.

Gaskell's[2] results in the main confirm Sadler's. The points of difference which are of interest to us are, that in cases of muscles thrown into tetanus for a short time (15 seconds)[3], there often occurred no increase in the rate of flow during the contraction, when the spurt of blood coincident with the commencement of the tetanus had ceased. Further, that the maximum rate of flow was always obtained either directly after the cessation of a tetanus, or in cases of tetanus of relatively long duration at the end of the tetanus. This latter result was constant.

Ludwig and Gaskell point out that in their experiments the muscles were thrown into action by the direct application of electrical stimuli to their nerves, and not by reflex or voluntary stimuli sent down from the spinal cord or brain. Direct stimulation of mixed nerve trunks may possibly have an effect upon the vessels different from reflex or voluntary stimulation, and consequently the results of these experiments on the effect of the direct stimulation of nerves on the flow of blood through the muscles can only hold for reflex and voluntary stimulation to a certain extent, namely, so far as the changes in the circulation are due to pressure on the vessels from without by the contracting muscle, and not to changes occurring in the calibre of the vessels themselves from direct nervous influence.

Mosso[5] found that (1) An arm enclosed in a water plethysmograph diminished in volume during the contraction of the flexors and increased above its normal volume immediately after the cessation of its contraction; and (2) that an increase in the amplitude of the pulsations of the whole arm took place both during and after the contraction of the flexors.

Chauveau and Kaufmann[6] took up this subject in 1892, and made some experiments upon the circulation in the levator labii superioris, and masseter of the horse before, during, and after mastication. They produced mastication by the ingenious method of simply putting oats in the horse's mouth. Those of their conclusions which are of interest to us are as follows: The circulation through muscles in a condition of physiological activity is under the influence of two opposing factors, namely—(1) the vaso-dilatation which accompanies contraction favours the passage of blood through them; (2) the shortening of the muscle, which, by compressing the vessels, offers a mechanical obstruction to the circulation, and hence renders the flow intermittent. During shortening the muscle becomes empty of blood; during the subsequent relaxation it becomes full of blood.

Coincidently with the contraction of the masseter there occurred a rise in blood pressure in the muscular vein and a fall in that in the muscular artery, showing that the blood was flowing more freely from the artery into the vein; at the same time a rise occurred in the blood pressure in the carotid. These experimenters were the first to demonstrate the changes occurring in the circulation through muscles thrown into contraction by reflex stimulation as opposed to direct electrical stimulation of their motor nerves. The results of these experiments in the main confirm the results of Ludwig and his pupils. It must be remembered, however, that the conditions in the experiments of Chauveau and Kaufmann are not so simple as they at first sight appear, since as a result of the mastication of oats a number of other vascular reflexes would probably occur—notably a dilatation of the vessels going to the salivary glands.

Marey[7] found that the pressure in the carotid of the horse fell 6 mm. immediately after a run of ten minutes, in spite of greatly-increased cardiac frequency; subsequently it rose 7 mm. above its original height. He[8] also found that if, during the taking of a radial sphygmogram, the subject was directed to contract energetically the muscles of the thighs and legs, and at the same time to avoid holding the breath, the base line of the sphygmogram rose considerably. He quotes this latter result as being evidence that there is a considerable obstruction to the circulation—that is, a considerable increase in peripheral resistance, during the contraction of muscles. The results of these experiments of Marey, put shortly, are that during considerable muscular exercise the general blood pressure is raised, but falls below the normal after the exertion is over.

Oertel,[9] von Basch, Maximowitsch and Rieder[10] observed a considerable rise in the general blood pressure follow muscular exercise. The more recent results of Hallion and Comte,[11] and Bloch[12] are in the main in accordance with those of Oertel.

From the above brief summary it will easily be seen that the results obtained are, to a very great extent conflicting. This in all probability depends upon the amount of exercise, gradual and excessive exercise having a different effect on the general blood pressure. Further, as far as we have been able to ascertain, no estimations of the general blood pressure have been made while the muscles were actually contracting during exercise, Oertel's observations having been made during the pauses. In the experiments we are about to describe the exercise was slight and exceedingly gradual, no change in the frequency and practically none in the depth of the respirations being produced during it.

Method.—The instrument employed to measure the blood pressure was the sphygmomanometer of Mosso.[13] All estimations before, during, and after the exercise were made in the erect position. The arms were fixed by means of plaster-of-paris into boxes, which were applied to the arms of the sphygmomanometer. By this means the subject was kept in the same position during the whole experiment, which was thus rendered continuous.[14]

Control experiments were made with a view of ascertaining what changes occurred in blood pressure, pulse, and respiratory frequence in a man standing in the position necessitated by the experiment for three hours. At the end of the second hour a slight diminution in pulse frequency invariably occurred (from six to ten beats per minute). Respiratory frequency remained unaffected. In about half the experiments a diminution of blood pressure as measured by the sphygmomanometer also occurred. This never amounted to more than 5 mm. of mercury, and never occurred till after the second hour. The results of these experiments may be taken as indicating the slight extent to which the circulation in man is affected by the fatigue of standing for three hours.

The following protocol may be regarded as typical of the results of these experiments: Man of average height, aged 30, weight 10 st., took his ordinary dinner at 12.30 P.M., and slept after it. At 2.30 P.M. he went into position on the experimental platform; his arms were fixed in the boxes and his fingers in the sphygmomanometer.

3.00.—Pulse 96, respirations 16, pressure 80 mm. mercury.
3.30.—Pulse 96, respirations 16, pressure 80 mm. mercury.
4.00.—A bag of shots weighing 800 g. was placed round left ankle, and one weighing 900 g. round right ankle.
4.05.—Slow movements begun. Movements consisted in slowly flexing the legs on the thighs and the thighs on the trunk.

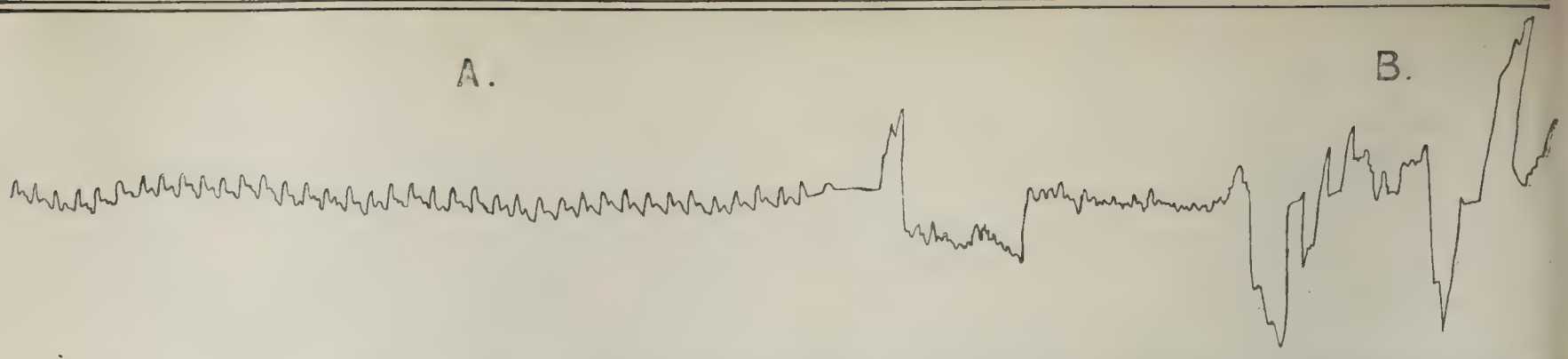


Fig. 2.—Curve A is the sphygmogram obtained with the muscles at rest; curve B is the tracing obtained during

4.20.—Pulse 92, respirations 16, pressure 90.
4.35.—Pulse 92, respirations 16, pressure 80, movements stopped.
5.00.—Pulse 84. respirations 16, pressure 74.
5.05.—Pulse 84, respirations 16, pressure 70.
5.20.—Pulse 84, respirations 16, pressure 80.
Experiment discontinued.

The results of this experiment will be seen more readily by a glance at the accompanying curve (Fig. 1).

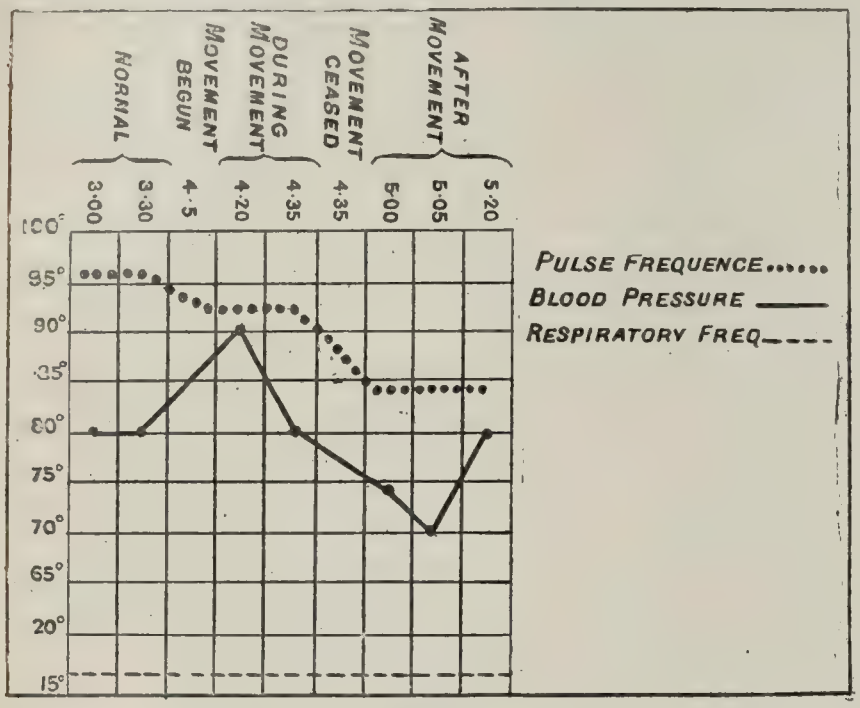


Fig. 1.

Coincident with the commencement of movement a slight diminution in pulse frequency took place, and a considerable rise of blood pressure. During, however, the second half of the movement the blood pressure fell to its original level and the pulse frequency remained the same. After the cessation of the movements the blood pressure fell, and at first also the pulse frequency; this latter, however, remained constant before the blood pressure had reached its lowest point, which it did half an hour after the cessation of the movements. Three-quarters of an hour after the cessation of the movements the blood pressure had again risen to its former level.

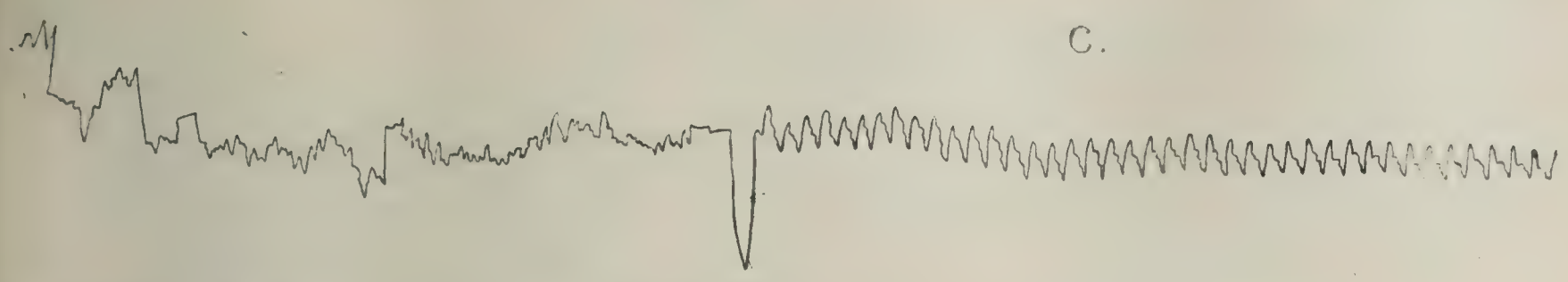
In the above experiment it is to be noted that no change took place in the frequency of the respiration. Curves taken with a Marey's double pneumograph showed also that a very slight increase in the depth of the respiratory movements took place, and that the pulse frequency fell fairly steadily from the beginning to the end of the experiment. In some of the experiments a slight increase in pulse frequency occurred coincidently with the initial rise in blood pressure. In our experiments we always observed a rise of pressure varying from 5 to 10 mm. of mercury during the first stage of the exercises, whether the pulse frequency remained the same, was increased or diminished. The pressure rarely fell below the normal, the minimum pressure being registered from fifteen to thirty minutes after the cessation of the movements.

Before attempting to explain these results it will be better to consider the local changes which occur in the muscular arteries subsequent to muscular contraction. The muscle which we chose for this purpose was the gastrocnemius. The subject was placed in the supine position, with the leg slightly raised. At a given moment he was directed to extend the foot by contracting the muscles of the calf, the movement of the foot being the while resisted, so that very little if any shortening of the muscles occurred. The muscles were kept in a condition of contraction for the desired time, at the expiration of which time the subject was directed to desist. The apparatus which we used to obtain the following tracing was designed by one of us (Tunnicliffe) in conjunction with Professor Mosso, of Turin, and has received the name of myosphygmometer. It will be fully described elsewhere; suffice it to say here that we regard the above tracing as a muscular sphygmogram. This sphygmogram, which for the sake of convenience has (Fig. 2) been split up into three parts (A, B, C) was taken continuously, the sphygmomanometer being kept in position during the entire experiment. The changes in the pulse occurring subsequently to contraction are best seen by reference to these curves (Fig. 2). Curve A requires no explanation. It will be seen that both the respiratory and vascular oscillations of pressure are manifest in it, and hence it may be taken as a sensitive index of the changes occurring in the vessels.

Concerning the Curve B, or the one taken during contraction, we are at present unable to make any exact statement with regard to the condition of the vessels during this period. It is possible that the fibrillar twitchings which occur when the belly of a muscle like the gastrocnemius is thrown voluntarily into contraction may be responsible, probably are in some part, for the masking of the arterial pulsations during contraction. Another, and to us a more probable explanation, is that the result is in the main due to a partial occlusion of the intramuscular arteries and arterioles during the period of contraction. This explanation would be in accord with the observations of Ludwig and Gaskell, that during a short tetanus, after the first jet-like rush of blood, the flow from the efferent vein may fall to practically *nil*, or, in other words, the vessels may have their calibre practically occluded.

With regard to change in the sphygmogram after contraction, there is much less room for uncertainty. If we examine the post-contraction sphygmogram, and compare it with the sphygmogram taken before contraction, we shall see that although the pulse frequency has remained practically the same, the pulse itself has become considerably altered. The pulsations are larg er, nearly double their former size, and the relative position of the dicrotic notch is altered. The inference one can draw from this is that the arteries have increased in diameter, and are relatively fuller than they were before the contraction. If we now direct our attention to the end of the curve we shall see that the last few pulses which are registered are almost identical with those occurring before the contraction. If we reckon this in time it means that a contraction lasting one minute produces an arterial dilatation lasting half a minute.

Having considered the local and general changes in the circulation in man consequent upon the practice of resistance exercises, the question which naturally arises is how far the local changes explain the general ones. There can be little doubt that the fall in general pressure which always follows the exercises is in great part due to the dilatation which occurs in the peripheral muscular arterial area. A considerable diminution in peripheral resistance being thus produced; exercise acting in this way similarly to a vaso-dilator such



the contraction of the gastrocnemius; curve c that immediately ter the cessation of the contraction

as nitro-glycerine, etc. The rise in general pressure which takes place is less easy to explain. It is probably in part due to reflex cardiac stimulation and in part to the diminution in calibre of the peripheral muscular arteries which occurs during the shortening of the muscles which are called into play. The last of these factors is most probably far the most potent. This initial rise in pressure can be considerably diminished by making the exercises very slow, but we have never succeeded in abolishing it entirely. The fact that even during the exercises, after they have been continued for some time, the pressure returns to its normal level, and may even sink below it, seems to point to the conclusion that by the contraction of a muscle some substance is produced which exerts a vaso-dilating influence, and as the amount of this substance increases its nett result is to overcome the diminution in arterial calibre which is mechanically produced by the shortening of the contracting muscles.

The conclusions which we are able to formulate from the above experiments fall under two heads—(I) Physiological, (II) Medical.

(I) Physiological. (*a*) Locally, gentle exercise is followed by a dilatation of the muscular arterioles with an increased flow of blood through them. This is shown by the fact that after the contraction is over the pulsations in the muscle have a greater amplitude, that is, there is a greater distance between the crest and hollow of each pulse wave than before the contraction. As these alterations in the circulation are purely local, the heart remaining the same, they can only be due to a local dilatation of the arterioles in the muscle, allowing them to empty themselves more rapidly during the cardiac diastole.

(*b*) Generally, the effect of exercise so gentle as to cause no hurry in the respiration and no increased frequency in the pulse on the general blood pressure is that during the exercise itself the pressure first rises above the normal, but begins to fall, even during the continuance of the exercise, continues to fall, so that at the end of the exercise it has usually reached the normal. After cessation of the exercise the pressure continues to fall. The pressure after the exercise may remain subnormal for half an hour or longer; after the expiration of this time it gradually rises again to its initial height.

These results may at first sight appear to differ from those of Oertel, who found that a rise in general blood pressure invariably followed muscular exercise. We believe that the difference between his results and ours depends upon the amount of exercise taken being different in the two cases. In his experiments the amount of exercise was sufficiently great to cause considerable strain. In one case, for example, the exercise consisted in making an ascent in forty minutes for which an hour was usually reckoned. Although he notes that no difficulty in breathing occurred, yet the respiration must certainly have been quickened.

If we compare the results of our experiments just mentioned with those which we found to follow massage,[15] we notice that the primary rise of blood pressure upon exertion is greater than that caused by massage, but that the subsequent fall is both greater and of longer duration.

(II) General medical conclusions. (*a*) In cases where the heart is very feeble, so that the primary rise of blood pressure caused by even gentle exercise may interfere with its action, massage is the mode of treatment best adapted for restoring the circulation. (*b*) That when the heart is sufficiently strong to bear the increased resistance presented to it by the primary rise of pressure occurring during exercise, gentle exercise is preferable to massage, inasmuch as the subsequent diminution of resistance is greater in amount and of longer duration. (*c*) The difference between our results and those of Oertel affords a scientific basis for the practical rule which has been found so advantageous at Nauheim, namely, that the exercises shall not be carried to such an extent as to cause any acceleration of breathing on the part of the patient.

We desire to express our thanks to Professor Mosso, of Turin, for allowing some of the above experiments to be done in his laboratory and also for his kind help in them; also to the Scientific Grants Committee of the British Medical Association for a grant towards the expenses of this research.

References.

[1] Ludwig's *Arbeiten*, 1869. p. 77. [2] Ludwig's *Arbeiten*, 1877, p. 45. [3] *Ibid.*, p. 77, *et seq.* [4] Ludwig and Segellion, *Heub. v. Pfeiffer's Zeitschrift*, 1863, vol. xvii, 106, 122. [5] *Sulle Variazioni locali del polso nell' antibraccio del uomo*, Torino, 1878. [6] *Archiv. de Phys.*, 1892, p. 279. [7] *La Circulation du Sang*, Paris, 1881, p. 343. [8] *Op. cit.*, p. 525. [9] *Handbuch der allgemeinen Therapie der Kreislaufs-Störungen*, Leipzig, 1891. [10] Untersuchungen über die durch Muskelarbeit und Flussigkeitsaufrahme bedingten Blutdruck-Schwankungen, *Deutsch. Archiv f. klin. med.*, Band. xlvi. [11] *C. R. Société de Biologie*, x serie, iii, 906. [12] *Loc. cit.* [13] *Archives Italiennes de Biologie*, xxiii Fasic. 1895. [14] Further details as to method with regard to the estimation of general blood pressure, and the local arterial change will be given elsewhere. [15] *Journal of Physiology*, vol. xvii, No. 5.

THE ROENTGEN RAYS AND THE FLUOROSCOPE AS A MEANS OF DETECTING SMALL, DEEPLY-PLACED STONES IN THE EXPOSED KIDNEY.

By E. HURRY FENWICK, F.R.C.S.,

Surgeon to the London Hospital, Surgeon to St. Peter's Hospital for Urinary Diseases.

No renal operation is probably safer, easier, or more brilliant in its after-results than is the removal of an oxalate of lime stone from the surface of the kidney. The finger of the operator detects the stone in the cortex directly the organ is exposed; his finger-nail is sufficient to free it, and the patient is at once relieved, without danger, from a source of suffering which may have crippled him for years.

Not less easy, but not quite so smooth in its convalescence, is that case in which the stone is at once felt in the undistended pelvis, or that in which the stone is discovered on opening a dilated pelvis.

These three classes do not require skill—merely cleanliness, gentleness, and care. The real crux of renal surgery is encountered when we have to deal with a small prickly calculus imbedded in the end of a lengthy calyx of an undilated pelvis (Fig. 1 c). To detect such a stone and to remove it with but little damage to the delicate tissue of so vital an organ as the kidney is almost impossible with our present methods. The operator, moreover, is often haunted by the knowledge that certain forms of unilateral, non-somatic kidney disease (for instance, the granular kidney and the large white kidney), if locally inflamed or irritated by pyramid-chokage, simulate stone very closely; and if a diligent search is rewarded only by profuse hæmorrhage, he hastily concludes that his diagnosis of stone is faulty, and that he is dealing with a de-

generated kidney—yet all the while some deeply-placed stone is the real cause of the symptoms.

Nay, more, it is probably in the experience of most operators that after such a fruitless examination the patient has been so much relieved that he has returned to active life. For months, even years, he continues well, then he relapses, and as likely as not consults another surgeon, who removes a stone from the kidney.

It might be said that chronic inflammation of the kidney can be recognised by microscopy of the urine. Not so. Many examples of unilateral inflammation of the kidney ex-

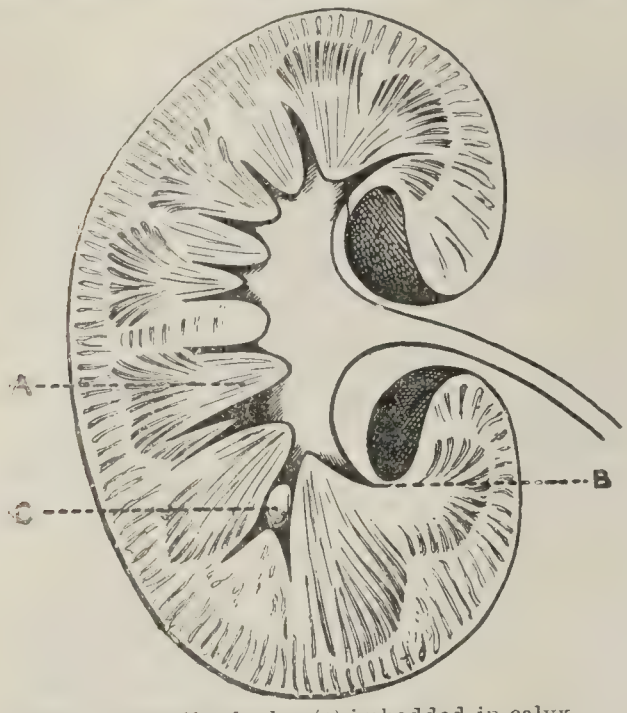


Fig. 1.—Small calculus (C) imbedded in calyx.

hibit normal urine. Even *post-mortem* examinations may be quoted in which advanced disease of the kidney was discovered, and yet the examination of the urine undertaken a few days before death had shown that nothing abnormal could be found in the secretion. On the other hand, evidences of renal disease frequently appear in the urine of patients suffering from renal stone.

Have I overlooked a stone or have I explored an inflamed kidney? This is a question which I have sometimes found most difficult to answer after a negative exploration. I have removed stones from the kidney in thirty-four cases without mishap or death, and have, moreover, a tactile experience of over a hundred renal operations; and yet I feel convinced that I have overlooked small stones in probably six instances.

Fig. 2.—Use of Roentgen rays and fluoroscope on exposed kidney.

If with one finger in the pelvis and another on the cortex, I cannot detect a stone; if the bougie passes along the ureter smoothly into the bladder; if the cystoscope demonstrates the vesical orifice of the same ureter to be unimpeded, I conclude that my diagnosis of stone is wrong. Yet a more thorough cortical search might have revealed a stone. But a thorough search through the pelvis and cortex, even when conducted with gentleness, is fraught with present and future danger to the patient. I have seen one operator in London so thoroughly explore a kidney of a young man to remove a small stone that the patient died the same night from shock and hæmorrhage; and I am certain from my own work that inflammatory changes consequent upon extended examination take place in the gland, so that it often is subsequently crippled in its output, and is rendered very susceptible to suppression upon shock.

To try to obviate opening the kidney at all, when no stone is present, and to render an incision on to a located stone more precise, I have lately been working with the Roentgen rays from a 10-inch coil. These are thrown upon the exposed kidney (Fig. 2), and the viscus is then examined with a fluoroscope screen (Fig. 3). Although the method has

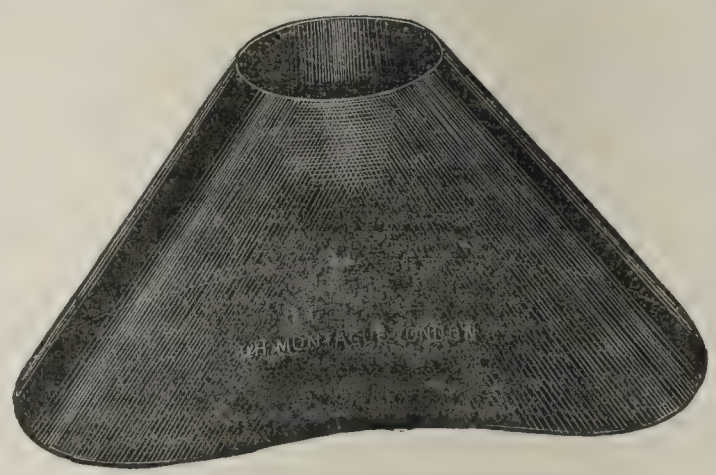


Fig. 3.—Fluoroscope for renal examination.

marked disadvantages for routine operations, I believe it may be of occasional value to those surgeons who can command the rays in private or hospital practice. Personally I should employ them when called upon to deal with a kidney which had been negatively explored before.

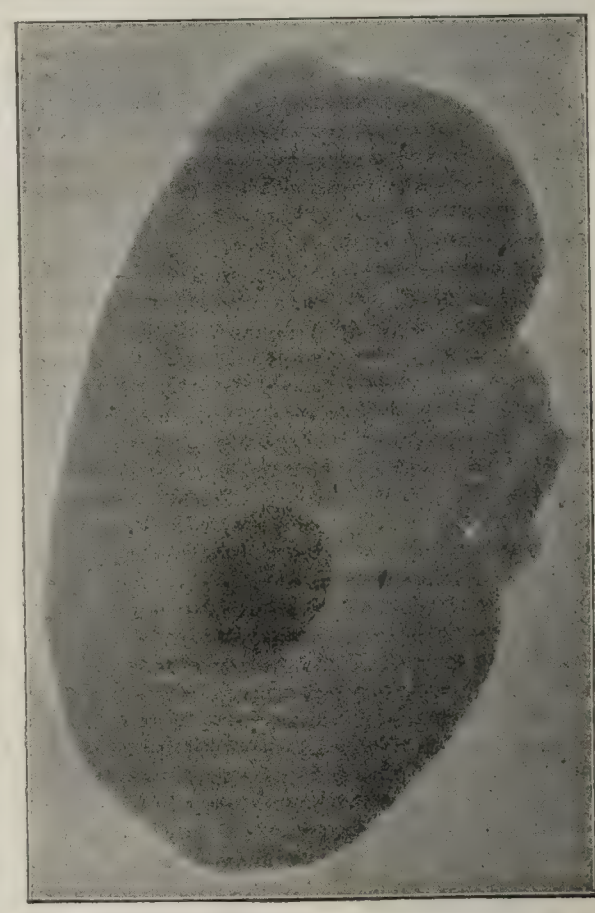


Fig. 4.—Radiograph of oxalate stone in substance of kidney.

With a little education of the eye, any stone—oxalate, urate, or phosphate—can be detected in the kidney or its pelvis, if sufficient strength of *x* ray is employed and the screen is held near the organ.

Figs. 4 and 5 represent the visual appearances of these

Fig. 5.—Radiograph of phosphatic and uratic stone in pelvis of kidney.

three classes of calculus. The screen, which can be much improved, is of a kidney shape, so as to be easily adaptable to the edge of the loin. It was made for me by Mr. Montague, of New Bond Street, who has kindly helped me throughout the work.

The disadvantages of the method are as follows:

1. The kidney must be brought on to the loin, and it is not every kidney that can be dislocated. In some the vessels are too short, in others the kidney is fixed high up under the ribs, and the operator may at once feel that free separation ought not to be risked. Women, of course, are easy subjects for renal dislocation—in fact, renal surgery in women bears no comparison, as regards difficulty, with that of men.
2. The operating room must be absolutely dark, and the initial steps of exposing the organ of course need a fair light.
3. The rays ought to be from a 10-inch coil, and concentrated upon the kidney, the tube being placed near the organ.
4. The screen used must be a good one, for there are many screens on the market which do not deserve the name of a fluoroscope. It should be made so that it can be rendered aseptic, and must be brought near the kidney.

In Fig. 5, which is introduced to emphasise the fact that the kidney is exposed, the fluoroscope is, for the sake of clearness, placed too far off the kidney.

THE EXAMINATION OF ONE HUNDRED CASES OF TYPHOID FEVER BY WIDAL'S SERUM TEST.*

BY

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Since the end of February last we have examined, by Widal's method, the serum of 132 cases in the pathological laboratory of Queen's College, Belfast.

* Read at the Annual Meeting of the North of Ireland Branch of the British Medical Association.

Belfast is an excellent centre for any investigation concerning typhoid fever, as the disease is pretty well endemic here. During the past spring and early summer there has been quite an epidemic, 1,293 cases with 127 deaths having been notified to the medical superintendent officer of health from March 1st to June 23rd, 1897.

The technique employed has been as follows: We have modified the collecting tubes recommended by Professor Delépine by drawing out in a blowpipe flame pieces of glass tubing from $\frac{1}{8}$ to $\frac{1}{6}$ inch calibre, so as to form small elongated bulbs with long tapering ends. A finger of the patient, after being carefully cleansed with soap and absolute alcohol, is pricked with a sterile needle: the two ends of the tube having been broken off, one end is inserted into the drop of blood, which then rises in the tube by capillary attraction. Sufficient blood having been obtained (about two drops), the ends are again sealed in the flame, care being taken to first seal the end which is next to the blood. The tube should be kept upright, with the blood end downwards till required for use. After the serum has separated the lower sealed end is again broken off, and the serum expelled on to a sterile glass slide by heating the other end of the tube. One loopful of this is thoroughly mixed by means of a platinum loop with ten loops of a twenty-four-hour old broth culture of bacillus typhosus. A loopful or two of the mixture is then placed on the centre of a clean coverglass, inverted over a hollow slide, and examined under the microscope, $\frac{1}{6}$ inch objective being the most suitable power to use. A fresh broth tube is inoculated every day from the preceding one, it being well to do this as a preliminary measure to avoid the risk of contamination.

At intervals of three weeks or so we make an agar plate culture, and start fresh growth from a separate colony, as otherwise the bacilli are apt to become sluggish. It is also well to isolate fresh strains from any typhoid *post-mortem* examinations as opportunity offers.

On now examining the preparation, and supposing it to be a typical case, a very marked change is observed. The bacilli, which were formerly extremely active and uniformly distributed over the field, are now motionless and clumped in masses, the intervening portions of the field being clear. The foregoing may be considered the complete reaction, and usually takes place either immediately or within a few minutes; this is what is observed in the majority of cases.

Occasionally (that is, in cases which are not typical) no change is noticed for from ten to twenty minutes; then an imperfect reaction occurs in which either (1) there are quite distinct clumps, but some limited movement still persists, both in isolated bacilli and in the members of the clumps, whilst the field is not entirely cleared; or (2) the bacilli are motionless but the clumping is poorly developed; this latter is not of frequent occurrence as far as our observations go. With blood serum, other than typhoid, no reaction takes place; the bacilli continue to move freely, imparting their motion to any blood corpuscles which have remained in the serum, and there is no attempt at clumping.

As will be observed, we have used a dilution of 1 to 10, following Delépine. In some of our later cases we have also diluted the serum with normal salt solution to make a 1 to 20 dilution, which seems to be preferable, as the clumps are more sharply defined, owing to the reduction in the number of bacilli. We have adopted Grünbaum's half-hour limit for observing the reaction.

A glance at the appended tables will show that we have divided the cases broadly into two divisions, namely, those clinically typhoid and those clinically non-typhoid, subdividing the first into four classes—(*a*) reaction immediate and complete; (*b*) reaction incomplete, but complete, or nearly so, when retested at a later date; (*c*) reaction incomplete but not retested; (*d*) no reaction. The total number of cases in this division is 105. Of these, 84 gave a complete reaction, 12 an incomplete reaction, more complete subsequently; 7 an incomplete reaction not retested, whilst in 2 cases we failed to get any reaction.

The second division comprises:

(1) Cases clinically doubtful at the time, which subsequently ran a non-typhoid course. Total 13, all giving no reaction.

(2) Cases certainly not typhoid. Total 7.

(1)—*Cases Clinically Typhoid in which Reaction was:*
A.—*Complete and Immediate or nearly so.*

No. of Case.	Date of Examination.	Sex.	Age.	Date of Disease.	Remarks.
1	27/2/97	M.	18	29th day	
2	27/2/97	M.	23	12th ,,	
3	1/3/97	M.	43	38th ,,	
4	1/3/97	M.	17	33rd ,,	
5	5/3/97	F.	26	11th ,,	
6	15/3/97	M.	8	13th ,,	
7	15/3/97	M.	5½	—	In 10 minutes.
8	15/3/97	F.	18	8th day	Died next day.
9	15/3/97	M.	17	14th ,,	
10	15/3/97	M.	15½	9th ,,	
11	18/3/97	M.	40	14th ,,	Diagnosis lay between typhoid and delirium tremens.
12	22/3/97	F.	8	12th ,,	At first looked like acute tuberculosis. Mother took disease later.
13	22/3/97	M.	28	16th ,,	
14	30/3/97	M.	27	6th ,,	Mild case.
15	30/3/97	—	—	7th ,,	
16	13/4/97	M.	8	2nd week	Diagnosis lay between typhoid and pneumonia.
17	15/4/97	—	—	6th day	In 15 minutes.
18	15/4/97	—	—	9th ,,	In 10 minutes.
19	17/4/97	F.	5	5th week	
20	22/4/97	F.	7	10th day	
21	23/4/97	M.	17	32nd ,,	
22	23/4/97	M.	28	22nd ,,	
23	29/4/97	M.	28	12th ,,	Died 9 days later.
24	30/4/97	M.	10	10th ,,	In 10 minutes.
25	30/4/97	F.	6½	13th ,,	
26	30/4/97	M.	7	8th ,,	In 10 minutes.
27	5/5/97	M.	24	25th ,,	In 10 minutes.
28	5/5/97	M.	21	13th ,,	
	27/5/97	M.	21	12th ,, (of relapse)	Second observation during a relapse.
29	10/5/97	M.	25	13th day	
30	11/5/97	M.	35	20th ,,	At first considered influenza, later diarrhœa and rose rash.
31	12/5/97	F.	3	4th ,,	Died on 5th day day with acute diarrhœa.
32	12/5/97	F.	2½	17th ,,	
33	12/5/97	F.	7	25th ,,	
34	12/5/97	M.	10	33rd ,,	Brother of Case 33. Temperature normal nine days.
35	14/5/97	F.	8	4th week	
36	14/5/97	F.	6	3rd ,,	
37	14/5/97	F.	19	22nd day	
38	14/5/97	M.	23	11th ,,	
39	17/5/97	M.	19	24th ,,	
40	17/5/97	M.	36	17th ,,	In 10 minutes.
41	18/5/97	F.	24	18th ,,	
42	19/5/97	—	—	—	
43	26/5/97	—	—	3rd week	
44	26/5/97	—	—	3rd ,,	
45	26/5/97	F.	25	12th day	
46	27/5/97	M.	22	Convalescent	
	3/6/97	M.	22	,,	
47	2/6/97	F.	25	7th day	
48	7/6/97	F.	12	8th ,,	
49	7/6/97	F.	30	9th ,,	
50	10/6/97	M.	6	2nd week	
51	15/6/97	M.	25	18th day	In 5 minutes.
52	16/6/97	M.	55	4th week	
53	16/6/97	M.	28	17th ,,	
54	16/6/97	M.	16	18th ,,	
55	16/6/97	F.	—	—	Convalescent 1 month.
56	17/6/97	M.	23	14th day	In 5 minutes. Complicated by head injury.
57	17/6/97	F.	24	19th ,,	Pyrexia high, 104-5°.
58	25/6/97	F.	26	17th ,,	In 10 minutes.
59	30/6/97	M.	30	15th ,,	
60	30/6/97	M.	30	9th ,,	Only 3 days off work.
61	2/7/97	F.	2¾	6th ,,	Mild case.
62	3/7/97	M.	22	5th or 6th week	
63	3/7/97	M.	30	11th day	
64	3/7/97	M.	30	11th ,,	
65	3/7/97	M.	24	—	
66	6/7/97	M.	21	50th day	
67	6/7/97	M.	40	14th ,,	
68	6/7/97	M.	34	15th ,,	
69	6/7/97	M.	25	19th ,,	
70	6/7/97	M.	26	21st ,,	
	14/7/97	M.	26	29th ,,	
71	14/7/97	M.	26	25th ,,	
72	14/7/97	M.	25	46th ,,	
73	14/7/97	M.	25	14th ,,	
74	15/7/97	M.	27	34th ,,	Some desquamation; possibly complicated by scarlatina.
75	15/7/97	F.	29	22nd ,,	Wife of Case 74.

A.—*Complete and Immediate or nearly so—continued.*

No. of Case.	Date of Examination.	Sex.	Age.	Day of Disease.	Remarks.
76	15/7/97	M.	15	23rd ,,	
77	15/7/97	M.	11	23rd ,,	Temperature 101°.
78	15/7/97	M.	9	14th ,,	Temperature 103.4°.
79	15/7/97	M.	50	26th ,,	Father of Case 78.
80	15/7/97	M.	12	21st ,,	
81	15/7/97	M.	24	15th ,,	Had a hæmorrhage previous day.
8	15/7/97	F.	18	18th ,,	
8	15/7/97	F.	10	35th ,,	11th day of a relapse.
8	20/7/97	M.	28	—	Convalescent a fortnight. Did not seek medical advice till convalescent.

(3) Cases who had suffered from typhoid at a previous period. Total 3.

Four cases we have been obliged to group as unclassed, as will be explained later. Thus of 105 cases of undoubted typhoid fever, only 2 failed to give the reaction, whilst of the 20 non-typhoid cases only 1—a case of typhus fever—reacted.

We feel strongly convinced of the great value of this test, and in several doubtful cases have been able to give an opinion which subsequent history has fully confirmed.

Surely a method which has in this instance proved to be correct in over 98 per cent. of cases must undoubtedly have a very solid foundation. We believe that after more extensive application of the method, and when the causes and meaning of the reaction are better understood, the percentage of errors will likely be eliminated, and it is more than probable that by means of this test many a mild and puzzling case will be diagnosed with a certainty where hitherto the clinician has been compelled to remain in doubt. We refer more particularly to the so-called gastric fevers of childhood, which are often exceedingly anomalous. The earliest day of disease on which we obtained the reaction was the fourth. In many cases a good reaction has been seen on from the sixth to the ninth day. Apparently a marked reaction is almost undoubted evidence of typhoid, but its absence is not so conclusive against the disease. It is necessary to reserve the opinion and ask for another sample at a later date (say a week) if the clinical signs remain suspicious; thus in Cases 88, 89, and 96 no reaction was seen when first tested, although it was found on retesting at a later date.

We have observed what might be termed a cumulative reaction in a number of cases, that is, when first tested, the reaction is absent or very incomplete, later more complete, and perhaps not fully complete till convalescent has been well established.

Cases 88, 89, 91, 92, 93, and 94 are good examples. We do not attempt to offer any explanation of this phenomenon, nor can we explain why in some cases this paralysing and agglutinative property should be developed at an early stage, whilst in others it should be so slowly formed. The majority of the cases showing a cumulative reaction were mild ones, but this did not hold universally, and some mild cases also gave a well-marked early reaction.

Let us look for a moment at a few of the more interesting cases.

In the first division, that is, those clinically typhoid, there is not much to note except, perhaps, that Case 56 exemplifies well the utility of the test. This man was admitted to hospital suffering from a severe head injury owing to a fall from a height. The temperature rose in a few days, and was naturally thought to depend on septic trouble; but none being found, whilst the temperature remained elevated, a sample of his blood was sent to us. It gave a well-marked reaction, the man evidently having been in the incubation stage of the disease when he met with the accident; the disease subsequently ran a typhoid course.

Case 28 was examined both before and during a relapse. Case 83 was first examined during the relapse. The reaction was well marked in both.

Turning to the two apparently undoubted cases of typhoid fever which failed to react, Case 104 was, as far as symptoms go, a mild attack, with three weeks fever and some typical

diarrhœa. Her blood has been tested on three separate occasions. We learn that since this paper was compiled she has had a relapse.

B.—*Incomplete, but Complete or more nearly Complete when Tested at a Later Date.*

No. of Case.	Date of Examination.	Sex.	Age.	Day of Disease.	Reaction.	Remarks.
85	1/3/97	F.	29	18th day	Incomplete	
	5/3/97	F.	29	22nd ,,	Complete	
86	14/4/97	M.	4	3rd or 4th week	Incomplete	Complicated by broncho-pneumonia.
	17/5/97	M.	4	3rd or 4th week	Complete	Died a few days later.
87	4/5/97	M.	7½	8th day	Incomplete	Symptoms meningeal.
	10/5/97	M.	7½	11th ,,	Complete	Now clinically typhoid.
88	22/5/97	M.	6	4th ,,	None	
	29/5/97	M.	6	11th ,,	Slight clumping	
	2/6/97	M.	6	16th ,,	A little better marked	Temperature normal this day.
	12/6/97	M.	6	25th ,,	Good reaction in 10 minutes	
	3/7/97	M.	6	7th week	Immediate and complete	
89	5/6/97	F.	12	11th day	None	
	15/7/97	F.	12	Convalescent	Complete in 15 minutes	
90	9/6/97	F.	30	14th day	Slow and imperfect	
	11/6/97	F.	30	16th ,,	Complete in 10 minutes	
91	12/6/97	M.	6	17th ,,	Incomplete	Symptoms broncho-pneumonic, but spleen enlarged.
	3/7/97	M.	6	39th ,,	Complete and immediate	
92	15/6/97	F.	11	8th ,,	Incomplete in 15 minutes	Mild case.
	25/6/97	F.	11	18th ,,	Incomplete in 15 minutes	
	6/7/97	F.	11	29th ,,	Complete in 5 minutes	
93	6/7/97	M.	21	11th ,,	None in ½ hour	
	14/7/97	M.	21	17th ,,	Incomplete in ½ hour	Severe case.
	20/7/97	M.	21	24th ,,	Complete and immediate	
94	6/7/97	M.	17	6th ,,	Incomplete in 10 minutes	
	21/7/97	M.	17	21st ,,	Complete in 10 minutes	Temperature normal.
95	15/7/97	F.	30	6th week	Incomplete in ¾ hour	
	21/7/97	F.	30	7th ,,	Fairly good in 20 minutes	
96	15/7/97	M.	26	49th day	None	Tested on 10th day by Dr. Lynass, with negative result.
	21/7/97	M.	26	54th ,,	Incomplete in ¾ hour	

C.—*Incomplete; not retested at a Later Date.*

97	18/3/97	M.	35	—	—	
98	18/3/97	M.	—	—	Bacilli motionless; clumps not well marked	Died from hæmorrhage a few days later.
99	14/5/97	F.	—	—	In 20 minutes	Infected from husband.
100	14/5/97	F.	3	8th day	In ½ hour	
101	17/5/97	M.	26	7th ,,	—	
102	9/6/97	M.	15	14th ,,	In 20 minutes	
103	9/6/97	F.	33	8th ,,	Bacilli motionless; clumps poor	Died on 15th day from bronchial complications.

D.—*Absent.*

104	29/6/97	F.	24	5th day	None	Mild case; typical stools and temperature.
	5/7/97	F.	24	11th ,,	,,	
	21/7/97	F.	24	26th ,,	,,	Temperature normal at end of 3rd week.
105	15/7/97	M.	28	23rd ,,	None	Complicated by phthisis at right apex. Has had hæmorrhages.
	21/7/97	M.	28	28th ,,	None after 1 hour	

Case 105 is complicated by phthisis in the right apex, and is not yet convalescent. His blood has been twice examined. This case may possibly throw some light on Case 129, which is one of our four unclassed cases. In it the patient, whilst suffering from an apparently clear attack, there having been one hæmorrhage, failed on two occasions (twenty-sixth and fifty-seventh day) to give any reaction. He died shortly afterwards, and at the *post-mortem* examination general acute tuberculosis was found, although there was also a suspicious condition of Peyer's patches in the lower portion of the ileum. The possibility of its having been tuberculosis all along naturally suggests itself. However, thinking that the presence of tubercle might have some inhibitory effect, we obtained some serum from a well-marked case of phthisis with hectic temperature and abundant bacilli in the sputum, and mixed it with an equal quantity of serum from a typhoid case giving a good reaction. The result of our experiment, as far as our theory went, was negative, the mixed serums clumping just as well as the pure typhoid serum. It might be that the effect *in corpore* is different from that *in vitro*.

(2)—*Cases in which Diagnosis was Doubtful at the time: Subsequent History not Typhoidal.*

No. of Case.	Date of Examination.	Sex.	Age.	Day of Disease.	Reaction.	Remarks.
106	22/3/97	F.	16	15th day	None	
107	23/4/97	M.	17	5th or 6th week	,,	Sent into hospital at end of supposed attack.
108	10/5/97	F.	9	6th day	,,	Temperature normal this day.
109	18/5/97	M.	32	7th ,,	,,	Pneumonia; died.
110	26/5/97	M.	10	2nd week	,,	Bronchitis.
111	5/6/97	M.	4	8th day	,,	
112	2/6/97	M.	18	18th ,,	,,	Anomalous case with alternating high temperature and apyrexia, each lasting a few days.
113	15/6/97	M.	19	7th ,,	,,	Slight pleurisy.
114	14/7/97	M.	23	4th ,,	,,	Acute diarrhœa with febrile symptoms.
115	15/7/97	F.	22	3rd month	,,	At first considered typhoid, but abdominal swelling has persisted with hectic temperature, probably tuberculous peritonitis.
116	20/7/97	M.	19	10th day	,,	
117	21/7/97	M.	20	30th ,,	,,	Case of meningitis.
118	3/7/97	M.	20	—	,,	Colic with slight fever.

(3)—*Cases certainly not Typhoid.*

119	18/3/97	F.	30	—	None	Typhus fever.
120	18/3/97	M.	35	—	Well marked	Typhus fever; patient too stupid to ascertain whether ever had typhoid.
121	20/3/97	M.	27	—	None	Healthy individual.
122	17/5/97	F.	25	—	,,	,, ,,
123	26/5/97	F.	65	—	,,	Case of "bronze skin."
124	22/6/97	M.	28	—	,,	Malaria; six months returned from India; taken between paroxysms.
	2/7/91	M.	28	—	,,	During paroxysm; temperature 105.2°.
125	6/7/97	F.	24	—	,,	Healthy individual.

With regard to the remaining unclassed cases, in Case 130, which showed a suspicious pyrexia in an alcoholic subject, we could not obtain another sample of blood, and we are inclined to believe that we might have got a reaction at a later date, especially as the patient suffered from a fortnight's relapse during convalescence.

Case 132 is suffering from dorsal caries with slight temperature. The patient had a suspicious illness last summer, lasting a month, which the child describes as "inflammation." Her blood gave an imperfect reaction.

Case 131 was a lingering case of periuterine inflammation, in which the temperature remained elevated for short periods. Although there was an element of doubt about the case it never appeared to resemble typhoid clinically. On two occasions her blood gave a very imperfect reaction. She never had typhoid previously.

We regret that we obtained only three cases who had suffered from typhoid at a previous period. One six and one twelve months convalescent failed to react, whilst the third, fourteen months convalescent, gave an imperfect reaction. This case is interesting in that she is now the subject of tuberculous peritonitis with high temperature, and is a good example of the necessity for being on guard as

to whether the patient had ever before gone through an attack of the disease.

(4)—*Cases who had Suffered from Typhoid at a Previous Date.*

No. of Case.	Date of Examination.	Sex.	Age.	Day of Disease.	Reaction.	Remarks.
126	16/3/97	—	—	6 months	None	
127	27/5/97	M.	21	1 year	,,	
128	12/6/97	F.	16	14 months	Imperfect	Now suffering from tuberculous peritonitis with pyrexia.

(5)—*Unclassed Cases.*

No. of Case.	Date of Examination.	Sex.	Age.	Day of Disease.	Reaction.	Remarks.
129	27/2/97	M.	22	26th day	None	Apparently typhoid clinically, with one hæmorrhage, but temperature remained elevated, and death ensued, the *post-mortem* examination revealing general tuberculosis, although Peyer's patches were prominent and discoloured.
	30/3/97	M.	22	57th ,,	,,	
130	26/5/97	M.	41	3rd week	,,	A suspicious case of pyrexia in an alcoholic subject. During convalescence there was a relapse lasting a fortnight. Could not obtain a second sample of blood.
131	2/6/97	F.	45	3rd week	,,	Was suffering from perituterine trouble in May. Since then temperature has occasionally for a time risen two degrees above normal at night.
	12/6/97	F.	45	—	Very slight small clumps, but good deal of movement	
	9/7/97	F.	45	—	Ditto	
132	8/7/97	F.	7	—	Movement stopped in 10 minutes, but clumps prove imperfect	Has dorsal caries, with slight hectic temperature. Had a suspicious illness last summer, "inflammation" lasting a month.
	21/7/97	F.	7	—	Fair clumps in 10 minutes, but field not quite clear	

Of the non-typhoid cases one case of typhus fever (Case 120) gave a good reaction. We can only explain this by supposing that he had had typhoid previously, but this could not be satisfactorily ascertained. Another case of typhus fever tested on the same date gave absolutely no reaction, and this accords with the experience of other observers.

With a view to test Bates Block's statement that cases of malaria will react, we obtained serum from a well-marked case of this disease (Case 124), both during a paroxysm and in the interval, and at neither period was any reaction observed.

Of the total cases examined, 34 were obtained from the Belfast Royal Hospital, 37 from the Belfast Union Fever Hospital and Infirmary, 8 from the Ulster Hospital for Women and Children, 8 from the Queen Street Hospital for Sick Children, and 9 from the Garrison Hospital. The remaining 36 cases were sent in by private practitioners.

Our warmest thanks are due to Dr. J. Lorrain Smith for permission to work in his laboratory, and for many valuable suggestions while the work was in progress.

PERIPHERAL NEURITIS CONNECTED WITH PREGNANCY AND THE PUERPERAL STATE.

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In paralysis occurring during pregnancy or the puerperium the seat of the lesion may be either in the brain, as from hæmorrhage or thrombosis; in the spinal cord, as from some form of myelitis; or in the nerve trunks. Of paralyses due to lesion in the nerve trunks it is easy to distinguish two widely different groups of cases—namely (1) those due to injury or disease of the nerve trunks, as they pass through the pelvis; and (2) those due to neuritis occurring at the periphery of the nerves, and in which the nerves affected do not necessarily pass through the pelvic cavity.

Of the paralyses due to affection of the nerve trunks as they pass through the pelvis I intend to say but little. They are more commonly due to injury of the nerves by forceps when the symptoms are generally unilateral, setting in with severe sudden pain at the time of injury (sometimes followed by anæsthesia of the part supplied by the injured nerve) and followed by paralysis of the extensors of the foot and tensor vaginæ femoris supplied by the external popliteal and superior gluteal nerves, the pressure having been applied to the lumbo-sacral cord and the roots of the sacral nerves. Cases of this nature have been recorded by Bury,[1] Thomas,[2] Bernhardt,[3] Mills,[4] and many others. More rarely paralysis has resulted from pressure of the head of the child on the pelvic roots during prolonged and difficult labour, as recorded by Vinay,[5] Ramskill,[6] and Lloyd Roberts.[7] Other cases of paralysis of the legs from a lesion of the large nerve trunks in the pelvis have had a very different cause, as in a case described by Leyden,[8] where paralysis came on in the lower extremities with neuralgic pains in the sciatic nerves after puerperal fever, and on *post-mortem* examination there was found phlegmonous infiltration of the cellular tissue of the pelvis, implicating the sheaths of both sciatic nerves. Adams[9] reports a case where a pelvic abscess coming on after confinement caused a unilateral paralysis.

I have seen a case in which a severe double sciatica led to the discovery of a fibroid tumour of the uterus impacted in the brim of the pelvis. An operation was performed and the tumour was lifted up and fixed to the anterior abdominal wall. There was no septic mischief, and the operation was entirely successful, but the pains in the legs still continued and were followed by double atrophic paralysis of the anterior tibial and peroneal groups of muscles, and afterwards of the muscles of the calf, with marked œdema in both legs. These symptoms progressed in spite of the fact that the fibroid growth not only remained in the position in which it had been placed, but also, from the menopause setting in, diminished until the uterus was practically of the normal size and the whole pelvic cavity was apparently normal, as ascertained by careful bimanual examinations made by most competent gynæcologists. It would seem as if the symptoms had been produced by a chronic inflammation of the nerve sheaths in the pelvis set up by the pressure, just as may possibly occur very rarely by pressure of the head of a fœtus.

I wish to deal, however, more particularly with those cases in which peripheral neuritis comes on, either during pregnancy or the puerperium, and in which many nerves are affected (not necessarily only those which pass through the pelvic cavity), and in which there is evidence of true peripheral neuritis, similar to that found after taking alcoholic and other poisons. These cases, judging from the few reported, do not seem to be very common, but this may be because they are not sufficiently recognised.

The two following cases have occurred in my practice:

Case I. *Vomiting of Pregnancy, Abortion Procured; Peripheral Neuritis following and affecting both Legs; Gradual Recovery.*—Mrs. D., aged 24 years, was married in April, 1895. In November, 1895, she was about four months pregnant, and was suffering from such severe and uncontrollable vomiting that abortion had to be procured. For two or three weeks after this she had complete loss of power over the bladder and rectum, but these symptoms passed off in a fortnight, and never troubled her again. About a month after the abortion had been procured her feet felt very cold and numb; a month after this she found that her legs were very weak, and sensation in them was almost entirely abolished; there was no affection of the upper extremities. The loss of power became complete, she could not stand or walk, the legs were wasted, and finally the knees became contracted and fixed. This condition continued in spite of treatment, and when she first came to Manchester, in July, 1896, the legs were in the same flexed position, with marked talipes equino-varus of both feet, and extreme wasting and total paralysis of the lower extremities, and absence of the knee-jerks. There was some power of flexion of the hip-joints and she could move the great toes very slightly; there was some loss of sensation in the toes. The knee-joints were straightened five times under chloroform, and fixed in splints. Electricity and massage were employed, and the condition improved much for a time, and then became stationary.

I first saw the patient in consultation with Dr. Grosvenor, of Manchester, in October, 1896, when I found all the muscles of the legs, and to a less extent the muscles of the thighs, wasted and powerless, the feet

being in a state of talipes equino-varus, and the knee-jerks absent. There was total inability to stand or walk, both from the loss of power and the contracture of the knee-joints. There was no loss of sensation, and no tenderness on deep pressure of the muscles. Regular massage was advised. I saw the patient again on March 5th, 1897, when she was again pregnant, but had not suffered from vomiting. There was still loss of the knee-jerks, but the muscles of the thighs were fairly strong, and much greater in bulk than formerly; there was only a slight contracture at the knee-joints. The muscles of the legs were also increasing in volume, and gradually regaining their power; but the feet were still both "dropped" (talipes equino-varus), although the toes could now be moved slightly. The right foot could be flexed normally, but the left could only be flexed and adducted, the left peroneal muscles not having regained their full power. The patient could now walk, but with the feet dragging slightly unless well lifted from the ground at each step ("high-stepping gait"); the toes were put down first, followed in the right by the heel; but in the left foot the heel did not touch the ground, as it was held up by the contractures of the left calf muscles. In June Dr. Grosvenor informed me that the patient had had a normal confinement, and that the paralysis was so much better that the patient could take short walks outside. There was no previous history of alcoholism.

Case II. *Chronic Pyæmia following Labour: Atrophic Paralysis of both Legs: Gradual Recovery.*—Mrs. H. was quite well until her first child was born in 1892, when she was 18 years of age. The confinement took place in a Manchester hospital, and she told me that shortly afterwards she was very ill, and was operated on for a "liver abscess." She was then removed to the Manchester Royal Infirmary, and I am informed by one of the late resident surgical officers that she was found to be suffering from chronic pyæmia and paralysis of the legs. She was removed to the workhouse, and came under my care early in 1893 in the Manchester Workhouse Infirmary. She was then suffering from total atrophic paralysis of both lower extremities with contractures of the knees; there was absence of knee-jerk, but the arms and sensation were unaffected. She was treated by massage, and was discharged much improved in eighteen months. At the present time (June, 1897) she is practically well, and can do all her ordinary housework. She walks a little lamely because of a rigid contracture of all the joints of the toes into the soles of the feet, but all other muscles of the lower extremities are normal and well nourished. There was no previous history of alcoholism.

In the *Deutsche medicinische Wochenschrift*, 1895, Nos. 8 and 9, will be found an account by Eulenburg of puerperal peripheral neuritis, with a classified account of 38 cases; 8 of these, recorded by Mills, are, however, principally unilateral cases, due either to forceps or to exudations into the pelvis—sometimes associated with phlegmasia dolens—and these I here exclude from consideration, leaving 30 cases. In addition, I have collected 17 more cases of pure neuritis, and these, together with the 2 cases reported above, make up 49 cases, from which I have drawn the following conclusions:

Etiology.

I find that the disease is more common in multiparæ; in 12 cases the onset occurred during pregnancy, and as the symptoms are so similar to those in which the condition commenced in the puerperium, I think that all should be considered together. Of the cases commencing after delivery, in 16 the symptoms appeared within the first week, in 7 during the second week, in 6 during the third and fourth weeks, in 2 within the second month; in the 5 remaining cases the details are not available. In 15 cases out of the total of 49 there was a distinct history of some form of sepsis with shivering and fever; in 11 cases there was marked and incessant vomiting of pregnancy, so great in some instances that abortion had to be procured, and in 2 of these the symptoms of neuritis did not come on until about three weeks afterwards. In several cases the patients were very anæmic from loss of blood, and in a very few—especially where bulbar symptoms were present—it was difficult absolutely to exclude diphtheria. In 4 cases there was a distinct alchoholic history, and as in many instances there was marked tenderness on deep pressure of the muscles, the question arises as to whether more of the cases were not due to alcohol. One knows that during pregnancy and in the puerperium not a few women take alcohol, and though the doses may only be moderate, yet it must be remembered that comparatively small quantities of alcohol will sometimes induce neuritis, and especially if the subject is not in robust health. There can be no doubt, however, from a careful study of the symptomatology of puerperal neuritis that alcohol is not the cause in the infinite majority of cases; for alcoholic neuritis is practically never associated with paralyses of the cranial nerves. Again, if in alcoholic paralysis the affection of the legs is very severe, then the arms are also affected, and finally such symptoms as severe neuritis of the arms, and more especially of one arm without affection of the legs, is unknown to me in alcoholic paralysis. In many cases reported it is difficult to find any cause for the neuritis of pregnancy and the puerperium, but personally I look upon sepsis or of incessant vomiting as the most potent factors in producing the condition. In septic poisoning it is admissible to assume that the toxins set up the neuritis just as occurs in diphtheria. As regards the incessant vomiting, two views may be taken. First, the view stated in a paper by Dr. Clifford Allbutt,[10] and kindly forwarded by him to me, that the vomiting itself is due to a toxin, and probably that the neuritis is due to the same toxin. A second explanation which I merely suggest as a hypothesis may be that the incessant vomiting sets up a condition of acetonæmia, and that the acetone or some allied body in the blood produces the neuritis just as may possibly occur in the neuritis of diabetes.

Symptomatology.

In the great majority of cases the disease begins with sensory disturbances, especially in those parts which are afterwards affected with paralysis of motion. These consist of numbness, tingling, hyperæsthesia, paræsthesia, or severe pains, often shooting in character. In not a few cases there was well-marked tenderness on deep pressure of the muscles, and great tenderness on pressure of the nerve trunks. Later on there may be anæsthesia of certain parts, but in cases of recovery this disappears before the restoration of motor power. The sensory symptoms are followed very soon by motor troubles, and in some cases the motor come on simultaneously with the sensory disturbances, and progress very rapidly over the whole body, running a course not unlike that seen in Landry's paralysis, and ending in speedy death from respiratory failure. Bulbar symptoms were present in 5 cases, and showed themselves either as difficulty of swallowing, alteration of voice or actual aphonia, pains in the fifth cranial nerve or paralysis of the third, sixth, seventh, or twelfth cranial nerves. In one case reported by Schanz there was, in addition to severe multiple neuritis, an atrophy of the optic nerves with blindness. In the 23 cases in which there were general signs of paralysis—that is, attacking both legs and arms—the loss of power was as a rule first noticed in the legs, and more or less rapidly extended to the arms, sometimes only one arm being affected, but more generally both. In many of these cases, also, the trunk muscles were affected with some involvement of the respiratory muscles and very rarely some affection of the bladder and rectum. In all cases the paralysis was of an atrophic character, often with well-marked reaction of degeneration.

In 15 cases the symptoms were confined to the arms, in 10 of these being limited to one side. In 7 the sensory and motor disturbances affected the median and ulnar nerves only, the paralysis being as usual of the atrophic type. In 1 case there was a complete diffuse atrophy of all the muscles of the right arm, in another atrophic paralysis of the upper arm and shoulder muscles on both sides, and in a third a unilateral paralysis of the same region; in 2 cases the ulnar nerve only was affected, and in 2 others the median only. Finally in 1 case there was generalised paralysis of both arms.

In 10 cases the muscles of the legs only were affected, in 8 of these the symptoms being on both sides. The muscles most generally involved were those of the anterior tibial and perineal groups, less commonly those with paralysis of the quadriceps extensor, and in 2 or 3 cases all the muscles of the legs. The position of the legs was almost exactly like that seen in alcoholic paralysis with talipes equino-varus and flexion of the toes with absent knee-jerks. As in other cases the paralysis was atrophic, and there were generally marked sensory disturbances.

In very many of the cases of generalised paralysis there was a marked œdema, especially of the legs, and this also occurred in most of the cases in which the legs only were paralysed.

Prognosis.

In 14 cases there was either no recovery (death occurring fairly rapidly in a few cases) or only a partial recovery, some of the most severely affected muscles remaining permanently paralysed. In 22 cases recovery was complete, and in 13 cases I can find no mention of the termination. The prognosis as regards complete recovery is worst in the generalised forms, and is best in the partial cases, especially where the arms only were affected. It would seem that, just as in alcoholic paralysis, years may elapse before an absolute re-

covery takes place, so that treatment by massage, etc., must on no account be relaxed, but kept up for long periods.

Pathological Anatomy.

In several cases the nerves have been examined after death, and well-marked evidence of neuritis has been found. Thus Korsakoff and Serbski,[11] in a case of septic origin, found degenerative neuritis in both sensory and mixed nerves, the changes being most marked at points furthest from the nerve centres; the ulnar, median, phrenic, and vagus nerves were much degenerated, and there was slight degeneration of the abducens. Lindemann,[12] in his case in which vomiting was the apparent cause, found well-marked general polyneuritis. In a case of Mader's,[13] commencing with persistent vomiting of pregnancy, there was found extensive neuritis of the sciatic, tibial, and peroneal nerves, and pigmentary atrophy of the extensor muscles of the thigh; but by Marchi's method no changes were found in the spinal cord. Finally, in Solowieff's[14] case associated with vomiting in pregnancy, there was neuritis of the phrenic, vagus, peroneal, and median nerves.

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A CASE OF MALIGNANT TUMOUR OF THE BRAIN ORIGINATING IN THE MIDDLE EAR:

SYMPTOMS SIMULATING TEMPORO-SPHENOIDAL ABSCESS: OPENING OF MASTOID ANTRUM AND CRANIUM: PARTIAL REMOVAL OF TUMOUR: CESSATION OF RESPIRATION UNDER CHLOROFORM: TRACHEOTOMY: DEATH TWO AND A HALF MONTHS AFTER OPERATION.

BY

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History of Case Previous to Final Operation, by Dr. Barr.

The patient was a boy 12½ years of age. He was first brought to me on the 29th March, 16 months before his death, owing to severe pain in the right ear. This had existed intermittently for about three months. The pain occurred in such severe paroxysms that, in the words of the father, "the boy shook all over"; it was most intense at night, but might be absent two or three days at a time, returning without any special cause. On the supposition that it was of dental origin a tooth had been extracted without any effect. While the pain was his only spontaneous complaint, I was informed on inquiry that there had been a very slight discharge from the ear for three months. The hearing on that side was so defective that a watch, ordinarily heard 40 inches from the ear, was perceived at a distance of only half an inch; he had also a buzzing sensation in the affected ear. The tissues in the neighbourhood of the ear were quite healthy and the lymphatic glands of the neck were free from swelling.

Although subject to headaches and rather dull at his lessons, the boy had been considered quite healthy up to the occurrence of the pain; he had, however, prior to that, fallen on the ice, against which his head came with violence. It may be mentioned that his father's aunt was said to have died from a cancerous disease.

In the external auditory canal, but not protruding from it, there was a mass resembling a polypus; it differed from an ordinary aural polypus in its being exquisitely painful to the touch of a probe, which also caused more bleeding than usual. I removed the growth by means of a wire snare, under chloroform; its texture seemed to be peculiarly strong and tough, more like a fibrous polypus than the more common mucous variety, and the bleeding which followed was unusually severe. The growth undoubtedly sprang from the bony walls of the tympanum; the tympanic membrane being almost entirely destroyed. The after-treatment consisted in the occasional application of chromic acid to the thickened tissue forming the root and the use of antiseptics, including diluted spirit. In the course of a few weeks he went back to school, and was soon after rather unfortunate in receiving a blow on the affected ear, which for the time being produced faintness and sickness.

Four months afterwards he was again brought to me with a similar growth, this time protruding from the external orifice of the ear. It was in like manner removed with the snare, cauterised, and treated antiseptically. Shortly after going home on this occasion he was again unfortunate—contracting scarlet fever, which laid him up for two months.

Finally, on 29th April of last year, he returned with a recurrence of the growth, which protruded as before from the external orifice of the ear. A more radical operation was now performed, and the growth was not only removed from the external auditory canal, but opening the mastoid antrum and the other cavities of the middle ear (which were found occupied by these growths) I cleared them out as thoroughly as possible with a gouge. During all those months severe pains in the ear and also in a less degree in the head occurred intermittently, and the sensitiveness of the interior of the ear was so great that nothing could be done without chloroform. The discharge from the ear had also continued.

Soon afterwards graver symptoms manifested themselves; these were persistent vomiting for several days, increased headache, intensified on the right side, followed (in a few days) by subnormal temperature and pulse, great drowsiness and stupor, ocular paralysis, and optic neuritis, clearly pointing, as was thought, to temporo-sphenoidal abscess. The eye symptoms seemed at this time, as observed by Dr. Ernest Thomson, to be very characteristic of abscess in that region. The following is Dr. Thomson's report:—

In the right eye there is complete ptosis. On elevating the drooped lid it is found that the eyeball is rotated outwards and very slightly downwards. The pupil is dilated *ad maximum*, and does not respond at all. The eye moves freely outwards, very slightly downwards, and not at all in any other direction. In the left there is no ptosis. Pupil active both directly and consensually. The eye moves freely in all directions, except outwards, in which direction the movement is very limited. Diplopia is not now admitted, although complained of previously. Ophthalmoscopic examination shows in the right optic neuritis, with swollen papilla, œdema of surrounding retina, and engorged and twisted veins. Left nerve slightly hyperæmic, with a little blurring of the edge, but not prominent to any extent.

Diagnosis of Eye Conditions.—Right optic neuritis of intense character, commencing left optic neuritis, paralysis of all the branches of the right third nerve. Paresis of right fourth nerve. Paresis, almost amounting to paralysis, of left sixth nerve. From the fact that the right pupil is dilated completely there is probably irritation of the sympathetic fibres to the iris.

It will be generally admitted that these symptoms, taken in connection with the existence of a purulent ear disease, pointed to temporo-sphenoidal abscess, and it was decided, after a consultation with Dr. James H. Nicoll, to trephine the skull in the usual situation of temporo-sphenoidal abscess. The operation was performed on May 19th, 1896, by Dr. Nicoll, assisted by myself, Dr. J. G. Connal, and Dr. Fred Adams, Dr. Connal administering the chloroform.

Description by Dr. J. H. Nicoll of Final Operation and of Subsequent Events.

On May 19th I saw the case with Dr. Barr, and we agreed in the opinion that the symptoms as just now detailed by Dr. Barr indicated a lesion in the temporo-sphenoidal lobe. As to the nature of that lesion we were also at one in thinking it probably an abscess, and not a tumour, and this for the following reasons: (*a*) The boy had, and had had for three months, the most common exciting cause of intracranial abscess in the form of a purulent otitis. (*b*) The rapidity and progressiveness of the development of the symptoms of intracranial lesion, a matter of five or six days in all. (*c*) Apart from these considerations the symptoms themselves afforded no sufficient evidence on which to decide between the two probabilities—abscess and tumour. That being so, it was natural to think it more probable that the lesion was the common one, abscess, and not a rarity in the shape of a malignant tumour causing both aural and intracranial symptoms.

Later in the day I operated. In the first place I still further enlarged the very free mastoid opening previously

made by Dr. Barr so as to freely open the bony channel of the sigmoid sinus. This was largely occupied by a firm, greyish granulation-like tissue. The operation had then lasted about ten minutes. At this point the patient's respiration gradually became shallow, and finally ceased. The pulse remained perfectly good. The patient was evidently in a condition of apnœa from cerebral pressure. Artificial respiration was begun. No stimulant was given, nor was the foot of the table raised. After some minutes I performed tracheotomy on the suggestion of the chloroformist, Dr. Connal, who found this an aid to artificial respiration. For over one hour the patient's condition remained unchanged. So long as artificial respiration was kept up the pulse and colour remained good, but on stopping the artificial respiration from time to time there was not the faintest attempt at spontaneous breathing.

It was then decided to open the skull at all hazards, and explore the temporo-sphenoidal lobe. This I did while artificial respiration was still being carried on. On removing a large trephine crown of bone, about 1½ inch directly over the external auditory meatus, the dura mater bulged markedly. In the dura I made a crucial incision. The cerebral cortex bulged at once in the opening, evidently under great pressure. At this point, one hour and ten minutes after the breathing had failed, the first faint effort at spontaneous respiration occurred.

I explored the temporo-sphenoidal lobe with the trocar. No pus was got, but, at a short distance under the cortex, a hardish mass was detected. I divided the cortex, and displaced it to either side and exposed a firm greyish mass of tissue similar in appearance to that which had been exposed in the groove of the sigmoid sinus. With a small elevator a portion of this was removed.

The patient was now breathing regularly, and there had occurred a marked contraction of the previously dilated right pupil. I enlarged the aperture in the skull by means of gouge forceps, and removed a considerable portion of the intracranial tumour. This was readily distinguished by the sense of touch from the soft brain around. After evacuating the larger part of the then intracranial portion of the growth it became clear that the tumour sprang from and widely permeated the petrous bone. I therefore gave up the attempt to remove more and applied an aseptic packing and dressing. By this time the patient, to whom no chloroform had been administered from the time apnœa set in, was moaning and struggling to get at our hands working at his head.

Further History.—For some days the symptoms were relieved, the headache, drowsiness, and vomiting having ceased. After that time, however, the headache returned, as formerly, more marked in the right side, and the right pupil again dilated. At the end of a fortnight optic neuritis occurred in the left eye, rapidly followed by atrophy and blindness. Soon after this the left side of the face became paralysed, and this was followed by paresis of the left arm. During the two and a half months he survived the operation there was no return of the semi-comatose condition developing before the operation, and on only one occasion was there any return of the vomiting. On two occasions towards the end of the first month after the operation I shaved off portions of the growth which had fungated through the large cranial opening, and were giving rise to hæmorrhage.

On June 18th, a month after the operation, he was removed home to Saltcoats, and the further report is by Dr. Campbell, whose patient he was. Dr. Campbell notes on June 19th, "Hearing, taste, and smell perfect. Intellect clear. No pain. Temperature normal. Complete blindness. Paralysis of left side of face and of left arm." For the following six weeks his condition varied little except that the old pain in the head occasionally returned, and on one occasion he had a recurrence of the vomiting. About a week before death he became gradually completely deaf. Four days before death drowsiness returned, and gradually merged into coma with a steadily rising temperature which, just before death, on August 2nd, reached 107°.

Note on the Anæsthesia by Dr. J. G. Connal.

There was nothing in the condition of the heart or lungs to contraindicate chloroform; indeed, I had on three previous occasions given chloroform to this same patient (one of these operations being rather protracted), and on each of these occasions he had taken the chloroform well. It will be noticed that the condition of the patient before this last operation was one of advancing and deepening coma.

About ten minutes after the beginning of the operation I noticed that the breathing was becoming shallow and embarrassed—though the pulse at the wrist was full and regular. The operation was discontinued, the patient was turned on his back (with face upwards), and the tongue pulled forwards; but notwithstanding this, the breathing became shallower and shallower, and finally ceased. Artificial respiration was at once resorted to, and air entered the lungs quite freely—but so soon as artificial respiration was discontinued, matters were as before—there was no voluntary attempt at breathing. It was perfectly evident that there was no laryngeal or tracheal obstruction to the free entrance of air into the lungs, but after some time a little mucus gathered at the back of the throat, and it was considered advisable to perform tracheotomy. This was done by Dr. Nicoll, but still there was no respiratory effort, and we were confronted by the difficulty that the patient made no attempt to breathe, whilst all this time his pulse was good. The patient's face was now of an ashy grey colour, and, as showing the degree of apnœa, the anal sphincter relaxed. For one hour and ten minutes we performed artificial respiration, when it was suggested that the skull should be trephined. Dr. Nicoll rapidly did this, though working under the great disadvantage that he operated while we were keeping up the artificial breathing. As soon as the disc of bone was removed from the skull there was a bulging of the membranes, and now for the first time the patient made a voluntary effort to breathe—shallow at first, but shortly after that a deeper breath. The pulse, which had been good all this time, was now noted to be a little weaker.

Dr. Nicoll was meantime removing portions of the growth and soon respiration was quite established—indeed, it was not long before the patient began to cry out and to raise his hand to his head. The right pupil, which had been much dilated before and during the operation, now began to contract, and the operation was finished without a further administration of chloroform.

The anæsthetic employed was Duncan and Flockhart's pure chloroform, and the method adopted was the drop method on the open mask. I do not think I had used much more than one drachm of chloroform from the time the patient was placed on the table till the operation had to be suspended on account of the apnœic condition supervening.

What should have given rise to the condition impeding voluntary respiration might be a matter for some speculation, but it was probably due to intracranial pressure leading to œdema of the brain and distension of the ventricles. The fact that, immediately after the trephine opening was made, the membrane bulged outwards, and then a voluntary effort at respiration set in so markedly as to leave no doubt on the matter, seems to point to this conclusion.

It is acknowledged that chloroform has a definite risk in cases like this, and Professor Macewen has emphasised this in his work on *Pyogenic Disease of the Brain and Spinal Cord.*

The Character of the Growth and other Observations, by Dr. Barr.

The growth is of very considerable size, firm in texture, and attached chiefly to the floor of the middle fossa of the skull. It consisted of two portions, one external to the skull (Fig. 1) being the extension through the operation openings above and behind the ear of the main growth within the cranium. In this direction the growth became very exuberant after the opening of the skull, so that during the two and a half months which intervened between the last operation and the death of the patient, portions had to be sliced off more than once by Dr. Nicoll. The chief mass, however, was situated within the skull, and is seen to be somewhat bifurcated (Fig. 2) on its upper and inner aspect. It appears to be closely attached to the upper surface of the dura mater, which seems almost intact. In the central part of the base of the skull some of it is also visible underneath the dura mater. While the growth permeates the neighbouring structures no actual destruction of bone or fibrous tissue had taken place. The

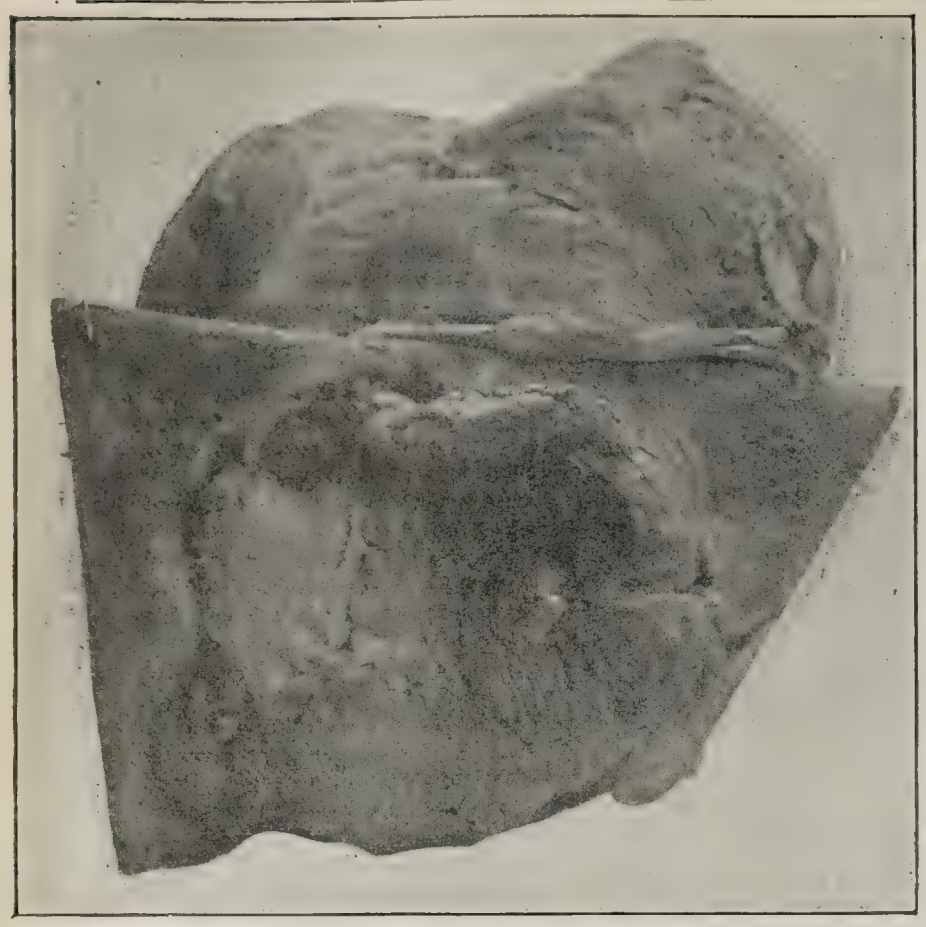

Fig. 1.—Outer aspect of tumour, showing the fungating extensions through the operation openings in the side of the skull.

Fig. 2.—Inner aspect of tumour.

mass is no doubt connected with a similar growth in the middle ear where the disease really originated. From the middle ear it probably first sprouted outwards into the external meatus in the form of a polypoid-looking excrescence corresponding with the fungus hæmatodes of Toynbee. The clinical history shows that the extension upwards into the middle cranial fossa was probably a much later event and followed also by more rapid progress.

Sections of the growth (Figs. 3 and 4) have been submitted to several pathologists, and opinion seems to be fairly equally divided as to whether this tumour is to be regarded as a very soft and cellular carcinoma or a sarcoma of the so-called "alveolar" type. Clinical considerations, I think, rather favour the view of its being sarcomatous. In the first place,

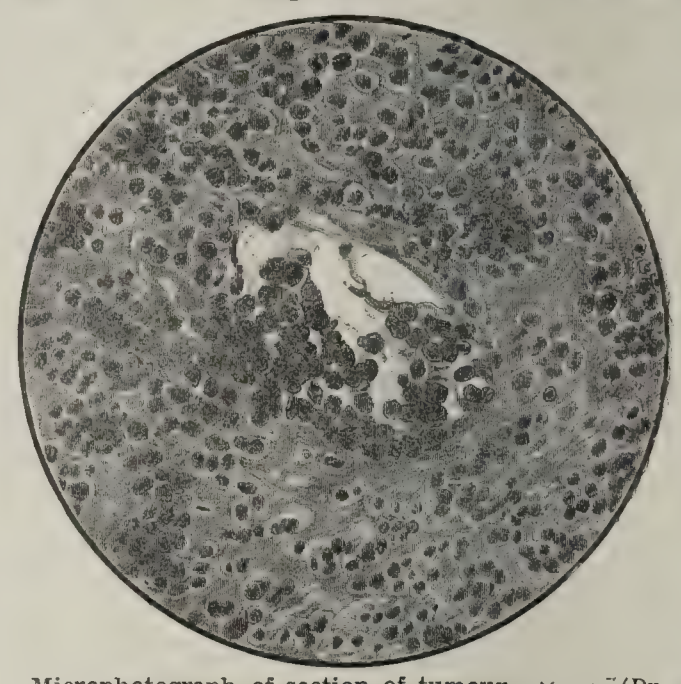

Fig. . Microphotograph of section of tumour. × 150 (Dr. Leslie Buchanan.)

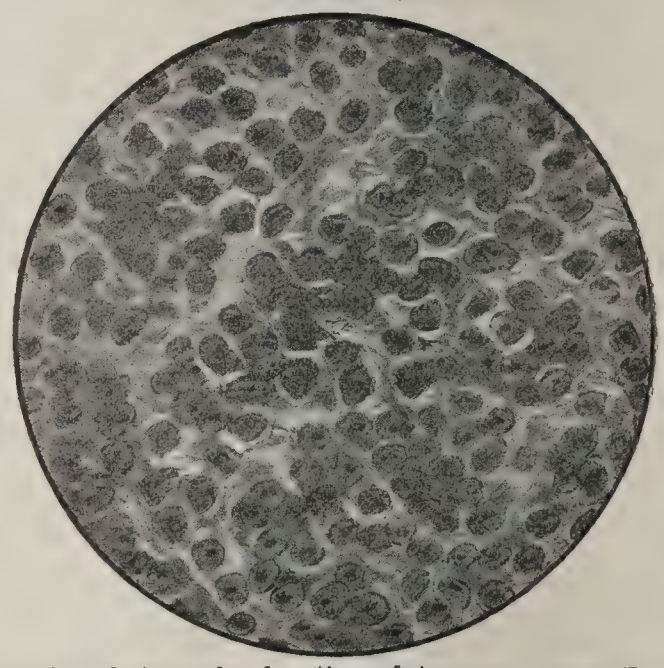

Fig. 4.—Microphotograph of section of tumour. × 300 (Dr. Leslie Buchanan.)

the age of the patient is distinctly opposed to the idea of carcinoma. It is, as is well known, extremely rare to meet with carcinoma in a child 11 years of age, while, on the contrary, sarcoma probably occurs more frequently in children and young persons. Then again, so far as my experience goes, carcinoma affecting the ear has a different clinical character from that of the present case. Carcinoma of the ear has usually its starting point in the cutaneous lining of the external meatus, appearing at first as a trifling eczematous-looking erosion or as a furuncle. From such a beginning it extends not only to the middle ear and cranial cavity, but also outwards to the auricle, the mastoid process and the glandular structures in the neighbourhood of the ear. These external structures, especially at the junction of the lower part of the auricle with the side of the head, become the seat of swelling, great induration, followed sooner or later by ulceration, leading to serious destruction of the temporal bone and soft structures, with comparatively early implication of the facial nerve. In the case before us we had, on the contrary, no such involvement of the external

tissues, nor of the external meatus, nor of the bones, nor of the facial canal (unless as a late feature of the case); neither had we such destruction of tissue as is associated with the carcinomatous growth. One symptom is, I think, common to and prominent in both carcinoma and sarcoma of the ear alike, namely, pain in the ear beginning at the early stage, intense in character, and continuous throughout. Such pain, occurring in an ear with the objective changes just mentioned, should, I think, suggest malignancy. There is no doubt however that carcinoma may also arise in the middle ear, especially in connection with previously existing purulent disease. Such important authorities as Schwartze, Lucae, and Kidd report cases of epithelioma originating thus in the middle ear.

It must be confessed that up to the opening of the cavities of the middle ear the growth was regarded by me as a simple inflammatory product. I was perhaps beguiled into this opinion by the fact that during my attendance upon this patient there happened to be another case under my care presenting a fibrous-looking growth, springing apparently from the osseous walls of the middle ear, and likewise singularly recurrent in tendency. In that case on several occasions, twice under an anæsthetic, I snared and curetted the growth, which was examined at the pathological department of the Western Infimary, with the result that there was no reason to believe it other than a simple product of inflammation. The ultimate result showed the correctness of this, as eventually there was complete recovery. Such recurrent fibrous growths, which we occasionally meet with in the ear, may really be of the nature of a fibrous sarcomatous tumour, which is known to have a longer and milder course than the round-celled variety, the latter being more malignant, spreading rapidly, and invading the cavity of the cranium. May the case before us not have been in the early stage a simple inflammatory neoplasm, developing subsequently into a sarcoma?

It may be asked, May this growth not have originated primarily in the intracranial cavity, extending thence to the middle ear? That malignant disease of the ear may be the result of extension from neighbouring structures, such as the parotid gland or dura mater, is proved from recorded cases. For example, Pomeroy reports a case in which a myxosarcoma extended without doubt from the middle and posterior fossæ of the skull through the tympanic cavity into the external meatus. In such cases, however, the phenomena pointing to intracranial disease manifest themselves at an early stage, and the aural symptoms appear later on; the contrary held good in the case before us.

Records show that malignant disease of the ear is comparatively rare. Bürkner's statistics indicate that carcinoma of the ear occurs only in the proportion of 1 in 3,000 cases of ear disease; with regard to sarcoma of the ear the proportion is still less. It is worthy of note that in the recorded cases of the latter I have found that most of them presented, as in this one, a polypoid-looking growth in the external meatus when first brought under notice.

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The Company of Plumbers.—At the quarterly meeting of the Court of the Worshipful Company of Plumbers, held at the Guildhall on September 29th, Alderman Richard Hind was sworn into the office of Master, Mr. Frederick Machin to that of Warden, and Mr. Charles Hudson to that of Renter Warden for the ensuing year.

CONTINENTAL AND BRITISH VISION TESTS FOR RAILWAY SERVANTS.

A COMPARISON.

By W. M. BEAUMONT, M.R.C.S., etc.,
Surgeon to the Bath Eye Infirmary, England.

The necessity for examining the eyesight of railway servants, especially in the case of drivers, signalmen, and pointsmen, has been recognised by ophthalmic surgeons in all countries for many years. Its importance has been demonstrated again and again, and now it is enforced by State regulations or bye-laws in nearly every civilised nation. All over the Continent the standard of vision is fairly uniform, in most countries the rule being that one eye at least shall have normal acuity, whilst the other one shall have from one quarter to one half the normal. In this category are included Holland, Italy, Sweden, Austria, Switzerland, and I believe Belgium. In France two-thirds of the normal is required, in Germany at least one-half without glasses. If, however, we turn to Great Britain and Ireland we find a much lower standard of visual acuity. Instead of perfection in one eye, as is the usual rule on the Continent, the man who has one quarter of the normal in his better eye is considered to be visually fit to drive an engine, to signal a train, or to guard its passengers. Why is Great Britain satisfied with a quarter when almost all Europe exacts the whole? Has Europe set up an unnecessary high standard, or is Great Britain below the level of safety? I imagine, gentlemen, that you all will agree that we in Great Britain are wrong, and that no argument is necessary to demonstrate that the guard, the pointsman, or the driver who is three-quarters blind is not fit to fulfil his duties. Such, too, is the opinion of ophthalmic surgeons in England, and acting on that opinion they have on several occasions called the attention of the Government and of the railway companies to the inadequacy of the standard. Hitherto they have done so without avail, and it is with a view to consider the causes of the great difference in the English standard as compared with the Continental, that I have brought the subject before you today. In the first place the ownership of the railways is, I think, an important factor. In most countries we find that they are the property of the State. Such is the case in Holland, Italy, Sweden, and Norway; whilst in Germany, France, and Denmark they are nearly all State property. In Switzerland, on the other hand, with the exception of the Jura Simplon, they are all private. So, too, in the United Kingdom the railways are entirely in the hands of companies, and of these companies there are upwards of 200, many of them keenly competing with each other for the traffic. The Government of the country takes but little interest in the way in which the lines are managed and exercises but little supervision. As long as there is no gross neglect of duty they are not responsible for accidents, and they are left to frame laws and bye-laws for themselves. Should any question arise in the House of Commons there is a solid phalanx of eighty members who are railway directors always ready to protect what they conceive to be their interests. And so the companies can have any standard they choose, or if they choose, no standard at all. In reply to a deputation of ophthalmic surgeons that waited on the responsible department of the Government in February, 1895, to urge that some supervision should be exercised in this matter the President of the Board of Trade unsatisfactorily answered that they had "no power" and that "all the leading railway companies had shown a commendable desire to do what they could, and now required their surgeons to apply tests to the eyesight." This statement is quite inaccurate, as on the majority of, if not on all, the British railways the sight testing is done by lay officials, and as is to be expected they do it about as well as the mannikin at the back of the Hôtel de Ville would do it. The President of the Board of Trade went on to say that the companies "applied substantially the same tests as were applied on the State railways of the Continent, and therefore there was no reason to think that the work would be better done by the State." Had he known the facts he would not have replied thus. These, then, are the difficulties which we

* Read at the International Conference on Railway and Marine Hygiene Brussels, September, 1897.

meet with in England in trying to press upon our Government the necessity for proper control of the vision of railway officials. They are difficulties which the nations of Europe have not to contend with; they are difficulties which will not be overcome until a terrible catastrophe points the moral.

In conclusion, I will just refer to what I believe to be the causes which prevent the adoption of more stringent regulations on the British railways. First, there is the money question. The chief duty of a railway which is the property of a private company is to return dividends, as large as possible, to its shareholders; a State railway, on the other hand, is never in straitened circumstances. It is cheaper to let a clerk "test" the eyesight and detect colour-blindness in the officials than to appoint a surgeon for that duty; and as the standard of visual acuity is so low a one, any man not more than three-quarter blind being eligible, practically almost every applicant is visually a fit and proper person to safe conduct a train.

In the second place, there is the opposition of the men themselves to be reckoned with. Trade unionism is strong in England, and changes cannot always be made without risk of upsetting the balance of power. This, together with the injustice to the servant involved in dismissing him, after many years' service, in consequence of failing sight, weigh more with the directors than the hypothetical danger to the public. Neither do they see the necessity for making a change as long as no serious accident has been publicly demonstrated to have resulted from the faulty vision of the officials. Although such accidents have occurred, public feeling is not yet sufficiently aroused; and until there is some rude awakening, it is improbable that the minimum acuity of vision which is considered safe by the ophthalmic surgeons of Europe will be recognised and adopted. Our contention in England is that Government should impose upon the railway companies a visual standard, in the case of drivers, signalmen, and pointsmen, of perfect sight in one eye and of not less than half the normal in the other, together with an absence of colour-blindness. For less important posts a lower range might be accepted. Surely, when we consider the serious consequences which may result from deficiency of eyesight, such a standard is not too high. And yet the struggle to secure proper supervision has been a long one in Great Britain and Ireland. In other countries there does not appear to have been so much difficulty. It was in 1877 that Professor Holmgren drew attention in Sweden to the dangers which may arise from colour-blindness, and in the same year regulations were authorised by the Government of that country. In the same year Donders reported on the eyesight of the employees on the Dutch State Railways; and now vision is tested in that country more thoroughly perhaps than it is anywhere else. Most of the European nations quickly followed with satisfactory laws—in some cases imposed by the railway companies themselves, and in others by the Government. In Great Britain, I have said, the struggle has been a long one. As far back as 1885 Dr. Wilson, of Edinburgh, wrote On Railway and Ship Signals in Relation to Colour-Blindness. In 1879 Dr. Wolfe read a paper On Colour-Sight and Colour-Blindness in the Relation to Railway and Sea Signals; and in 1880 the Council of the Ophthalmological Society of the United Kingdom appointed a committee to consider defects of sight in relation to public safety, with authority to communicate with the Government in the name of the society. The Secretary of the Board of Trade was interviewed, but no results followed. At the International Medical Congress in London in 1881 a committee was appointed which drew up a series of recommendations for the examination of the eyesight of mariners and railway servants; and in the same year Mr. Brudenell Carter's Lectures on Colour-Blindness were delivered which also called attention to the subject from the same point of view. Since then the struggle has never ceased, if it can be called a struggle, when one side does all the battering. Letters in the papers, lay as well as medical, committees of ophthalmic surgeons, lectures and papers by recognised authorities have followed one upon the other without avail. Still the most usual rule on British railways is that somewhere about a quarter or a third of the normal acuteness of vision is sufficient for engine-drivers, for signalmen, and for pointsmen; and it is still believed that clerks and inspectors are sufficiently acquainted with the science of optics and the intricacies of colour-blindness to utilise the one in the detection of the other.

HEPATIC CIRRHOSIS OF CHILDHOOD: INTERCURRENT TYPHOID FEVER: DEATH FROM ACUTE YELLOW ATROPHY.

By C. M. POWELL, M.A., M.R.C.S., L.R.C.P.,
Exmouth.

Malignant jaundice remains so puzzling a disease that all fresh facts exhibiting its pathological affinities and modes of origin are worth recording. In the following case not only was the course of events most singular and instructive, but the opportunities for observation were unusually good, because the patient was in hospital for many weeks before the onset of the hepatic atrophy.

D. P., aged 6, was first seen at her home (a squalid one) on July 16th, 1896, on account of high fever, which had begun the previous day, and turned out to be typhoid; there was an epidemic in the district at the time.

On July 28th, owing to the severity of the attack, she was removed to the Maud Hospital. She improved, and on August 3rd her temperature fell rapidly to subnormal. From the first the abdomen was tumid; a note of July 17th recorded that "the liver was somewhat enlarged, the spleen much enlarged," that is, more than was accounted for by fever only two days advanced; and now, within a few days of the cessation of the continued fever the chart began to show oscillations between 97° (A.M.) and 100° (P.M.); and the enlargement of liver and spleen persisted or (as I believe) increased. There was evidently some underlying disease of these viscera of older date. There was no history of syphilis on the mother's part, and no sign of it in the elder sister aged 8. No malaria exists here. No special excess of leucocytes was found in an examination of the blood on July 30th. The child had, however, had measles severely at the age of 1, had been weakly ever since, had in the past year or two suffered from abdominal pains, chilliness and "colds," and during the last twelve months from increasing failure of nutrition and spirits. The conclusion arrived at thus, and afterwards confirmed by necropsy, was that the case was one of "infantile cirrhosis," and on August 25th exact measurements of liver and spleen were begun owing to their marked hypertrophy (see table).

From August 6th to August 22nd quinine was given and then, till September 5th, arsenic.

On September 5th jaundice, with pale stools, set in, preceded, for five or six days, by mild diarrhœa. For this reason the arsenic was stopped, but the diarrhœa and jaundice persisted through the remaining weeks of life. A strong cadaveric odour was present during her whole stay in hospital, corroborating Harley's remarks in *Diseases of the Liver* (p. 496). Appetite and tongue remained good, but strength began to flag, and she preferred bed to being up. The liver had begun to recede at least a week and a-half before the jaundice set in.

On September 26th delirium began, passing in a few hours into stupor. Pupils were unequally dilated, axes of eyeballs unsymmetrical, legs showing sensory and motor paresis, unsymmetrical, knee-jerks and abdominal reflex exalted; pulse 108, epistaxis, double incontinence.

September 27th. Feebler, stupor greater. Knee-jerks diminished.

September 28th. Urine 1016, acid, a little blood, urates, leucin, tyrosin; urea 7 grs. to the oz.; chlorides nearly absent.

September 29th. Weaker; coma: dysphagia. Tongue becoming brown; odour of breath like that of cut liver in *post-mortem* room.

September 30th. Vomited once. Respiration of Cheyne-Stokes type, pulse 120, temperature rising to 100°; urine as on 28th, but urea equal 5 grs.

October 1st. Deep coma with clonic spasms. Death at 4.20 P.M., with temperature risen to 101.4°.

Table of Measurements.

—	Aug. 25th.	Sept. 1st.	Sept. 19th.	Sept. 25th.	Sept. 26th.	Sept. 30th.
Liver: distance of lower edge from level of umbilicus, in inches ...	2½	3	3¾	4	4½	4½
Spleen: distance of lowest tip from umbilicus, in inches	¾	¾	1¼	1¾	—	2¼

Post-mortem Examination (abdomen only).—Liver much shrunken, weighed 15 ounces; flabby, but tough; pea-sized nodules covering surface. Gall bladder flaccid, contents dark, inspissated; cystic duct occluded. On section of liver, numerous bright tawny-yellow nodules, pea-sized, on dirty-grey firm matrix. Spleen congested, weighed 9 ounces. Intestines: No definite typhoid cicatrices in ileum.

Microscopic Examination.—Dr. A. A. Kanthack, St. Bartholomew's, reported as follows: "The liver is extremely cirrhotic; the cirrhosis is both lobular and intercellular in type; in the thick fibrous tissue there are a large number of bile ducts, so that it is possible the cirrhosis began along the bile ducts. Further the liver is extensively vacuolated. . . . . The constriction of the bile ducts is most likely due to the infantile cirrhosis, which is frequently of this type."

The points of special importance in the case, as bearing on the natural history of acute yellow atrophy, are: (1) That it was grafted upon infantile cirrhosis; (2) that the intercurrent typhoid fever may have been a factor; and (3) that the enlarged liver had begun to atrophy at least 10 days before jaundice set in, and 37 days before death.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

A CASE OF BLOOD POISONING.

On November 4th, about 8 A.M., a strongly-built bricklayer came with his employer into my consulting room. The cause of his extremely critical condition was an immensely swollen right arm, serious œdema extending from fingers to shoulder. The wound was on the external side, just below the elbow, and this had, it seemed, been inoculated about ten days previously by the arm being thrust down a stopped-up drain pipe for the purpose of removing the cause of obstruction. In doing so he may have scratched the elbow, or he may previously have had an abrasion there.

Superficial lancing, followed by careful dressing, were promptly and extensively carried out, soothing medicine given, and the patient sent home to bed. At 3 P.M. I visited him, and lanced his arm more freely, treated the seat of inoculation with strong solution of permanganate, fomented and bandaged, gave two cathartic liver pills, an antifebrin powder, and a pill containing perchloride of mercury, as well as his anodyne medicine to be taken every three hours.

According to my wish, Dr. Bruce met me at night. The patient was a little better, but the pulse was still over 120, respirations 45, temperature 102° F. He had been delirious, and the arm was enormous. The heart was very weak; there was some bronchitis, even suspicion of pulmonary congestion; the urine was heavily loaded with urates; and the pupils were small and did not react.

Serum had flowed copiously from the incisions, and yet the œdema seemed likely to spread. At night I lanced and dressed the arm again, and gave a sleeping draught.

Next morning (November 5th) the pulse numbered 96, the respirations 40. At night Dr. Bruce and I decided to lance the site of inoculation, which was now of an ominous blackish hue, freely and much more deeply. It seemed that if the swelling were not checked it would soon press dangerously on the important structures in the neck. The wound I treated with lotion of biniodide of mercury, and most carefully dressed it three or four times a day. Medicine containing a little morphine, bromides, and belladonna, salicylate of ammonium, bicarbonate of potassium, and perchloride of mercury was given, together with a few antifebrin powders and effervescing salines. Afterwards, when the temperature was lower, he had a mixture of spirit of chloroform and perchloride of iron.

On November 6th it was clear that there had been an excessive discharge owing to the bold incisions. The bowels were open, pulse and respiration much better, temperature 101°, swelling much less. It was, however, necessary to incise the wound again. The arm was thrice daily dressed, covered with warm boracic lint, and sleeping draughts given at night. There were still restlessness and delirium. To dress the wound thoroughly took up as much as an hour, and the smell was most offensive.

On November 7th the œdema had subsided greatly, the wound was clean, the patient still delirious. Temperature in morning 100.5°, at night 102°.

On November 8th the temperature both morning and evening was 100°. The wound itself was doing very well, but the arm had broken out higher up, above the elbow.

On November 13th further operation was necessary in regard to the different sores which had burrowed their way into the arm, and drainage tubes had to be inserted from the upper to the forearm. A large core was extracted from the cavity which had broken out in the upper arm. The pulse was now 72, temperature normal; there was a daily evacuation, the wound clean and granulating at the edges; but on the outside of the arm there was a flap of skin undermined by the acrid excretions discharged from the sore. A drainage tube was inserted through the bottom of this skin, and by careful cleansing and syringing the flap soon became adherent. The solutions used were of permanganate, biniodide, and perchloride of mercury, carbolic acid, and tincture of iodine. The granulating sores were well cleansed, and covered with protective, the arm then swathed with warm boracic lint and bandages thrice a day. The windows had to be opened, and fumigating powder burnt. Exuberant granulations were cauterised with sulphate of copper.

About the second week of December, the open surface being so very large as to occupy nearly two-thirds of the surface of the forearm, I laid a few skin-grafts on the wound.

On January 21st the nearly healed sore was dressed by myself for the last time, and about February 1st the patient went out of doors. At first he could not raise the arm properly, but massage aided to produce good power of movement.

Treatment was concluded March 20th, recovery being complete. The nurse was untrained, but indefatigable, and beyond praise.

George Gresswell,
Grimsby. M.A.Oxon. and Cape, L.R.C.P. and S.E., L.F.P.S.G.

MEASLES: THE RASH APPEARING ON THE FIRST DAY.

Some weeks ago I was called to see a patient, aged 9 years, who had suffered from measles when 6 months old. He had eaten a hearty breakfast, and later bathed in the sea. At 1 o'clock on the same day he felt ill, and could not eat his dinner, when I was immediately sent for. On arriving I found his temperature to be 101.5° F., eyes suffused, and the characteristic rash of measles present in the lumbar region only. That same evening I saw the boy again, when his temperature was 102°. The rash was well marked all over the back, and a few spots were to be seen on the abdomen. Watering of the eyes, running from the nose, and the ordinary symptoms of measles were present. There was no sore throat. Next morning the rash was thickly distributed over the abdomen and face, with a few spots on the limbs. His temperature was 102°.

On the third day his temperature was normal, and the lad made a rapid recovery without any complications or sequelæ.

I have given a very brief description of this case, as my only object is to draw attention to the early appearance of the rash, and the order of the regions in which it appeared. Had not this case been otherwise so typical, it might pos-

sibly have led to some difficulty in the diagnosis. The treatment of the disease in this instance does not call for any comment.

Bridlington Quay. A. KAYE JARRATT, M.B., C.M.

SUTURE OF EXTENSIVELY SEPARATED TENDONS.

A PISTOL in a boy's hand accidentally went off, the bullet passing through the soft structures on the flexor side of the little finger over the second phalangeal joint. It was important to save the finger, as the boy was intended for a military career.

Two months after this accident I first saw the case. There was dislocation of the second phalangeal joint, causing an apparent hyperextension of that joint. The little finger was so flabby that to save the finger seemed impossible.

Over the joint the flexor tendons were not represented even by the thinnest fascia, for the dislocated head of the second phalanx was merely covered by transparent skin as thin as tissue paper.

An incision was made extending from the tip of the finger to the middle of the palm. To reduce the dislocation was found impossible, so that the head of the second phalanx was removed, causing the hyperextension to disappear. The joint so formed was then found freely movable.

Two inches of the flexor tendons were then dissected out in the palm and divided longitudinally from the proximal side, but not separated at its free end, as one might tear down a piece of string, making 6 inches of string into 12 inches. The other end of the ruptured tendon was then dissected out near the pulp of the finger, quite 2 inches apart, and sutured with catgut.

The skin sutures were inserted, and rest on a splint and passive motion was the after-treatment. The result is satisfactory. I quite believe that but for the unfortunate dislocation requiring osteotomy, the result would have been perfect, and I am sure that this method is worth a more extensive trial.

Guernsey. HENRY KAY RAMSDEN.

MYXOMATOUS TUMOUR OF VAGINA IN A CHILD 1 YEAR 9 MONTHS OLD.

A LADY consulted me regarding her daughter, 1 year and 9 months old, who had "something showing from her parts, accompanied with bleeding." I found protruding from the vagina a soft, friable tumour, pale reddish in colour, which had commenced to ulcerate. There seemed to be some difficulty in micturition. The following day, with the assistance of my friend, Dr. Mahony, who anæsthetised our little patient, I found the tumour to be about the size of a walnut, occupying the whole of the vagina, the walls of which were distended. The tumour was of a mulberry character, resembling most markedly a bunch of grapes. It was but slightly vascular, and was adherent by a broad pedicle to the anterior wall of the vagina high up. The smallness of the vagina somewhat interfered with a rapid removal. The patient made an uninterrupted recovery, and next morning was running about the house playing with her doll. Dr. Warrington, of the Pathological Laboratory, examined the specimen and pronounced it to consist of myxomatous and mucous tissue.

Liverpool. A. IVOR THOMAS, M.R.C.S., L.R.C.P.Lond.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

STROUD GENERAL HOSPITAL.

A CASE OF CÆSAREAN SECTION.

(Under the care of Mr. STORRY.)

ON July 17th at 10 P.M., Mr. Storry was asked to see a case of obstructed labour in consultation. The patient, a small, rather emaciated woman, aged 32, had been in labour since 7 A.M. of the same day, the head presenting at the brim of the true pelvis. Forceps had been applied under chloroform, but the head could not be induced to move.

The antero-posterior diameter of the pelvis was gauged at $2\frac{3}{4}$ inches, and the child, being alive, the question to be decided was whether Cæsarean section, symphysiotomy, or craniotomy should be resorted to. Cæsarean section was finally decided on, and the woman, being in poor circumstances and living in a cottage, was removed to the Stroud Hospital to undergo the operation.

On July 18th the patient was put under ether. The vagina was thoroughly douched with a 1 in 2,000 solution of perchloride of mercury, and the skin of the abdomen was cleansed with a 2 per cent. solution of "lysol and liquor potassæ." An incision was then made in the middle line from 2 inches above the umbilicus to within 2 inches of the pubes, and the peritoneal cavity was opened in the usual manner. The body of the uterus was gently manipulated through the abdominal wound, and two temporary silver sutures were passed through the upper part of the wound and tightened to prevent the escape of intestines, The uterus, well packed round with flat sponges, was allowed to rest on the abdominal wall. A rubber band was passed round the lower segment of the uterus and held tightly by an assistant. A 2-inch incision was made through the middle line of the uterine wall, and the placenta not being found attached anteriorly, the incision was prolonged downwards for another 4 inches. The child was rapidly extracted through the incision and handed over to a nurse, the cord being divided between catch forceps. The placenta was found attached to the posterior uterine wall, and was easily removed. There was very little hæmorrhage, and the uterus commenced to contract after some minutes; upon which the rubber band was removed, contraction afterwards being rapid. A hypodermic of ergotine was given as a precautionary measure.

The uterine wound was closed with silkworm gut sutures passed at half-inch intervals, which did not include the decidual lining membrane. The uterine peritoneal covering was brought together by a continuous silk modified Lembert suture. The temporary sutures in the abdominal wound were then removed, and the uterus returned to the abdomen. Nothing abnormal was found, except that the sacral promontory appeared to be more prominent than usual.

The pelvis being found free from blood the abdominal wound was closed layer by layer. Continuous silk sutures were used for each layer. No drainage tube was used. The vagina was again douched and the patient sent back to bed. She made an uneventful recovery; the abdominal wound healed by first intention, and she was allowed to sit in a chair on the twenty-second day.

At birth the child, a boy, weighed $7\frac{1}{2}$ lbs., and measured 21 inches, and is now thriving.

Seven years ago this patient is said to have been delivered of a child at term without any surgical assistance.

BEDFORD GENERAL INFIRMARY.

PENETRATING WOUND OF CHEST AND ABDOMEN.

(By S. J. Ross, M.B., Ch.B.Vict., House-Surgeon.)

A CASE of perhaps more than usual interest occurred on September 26th. An old man, aged 80 years, was trimming a hayrick, when he fell from the ladder 12 feet from the ground, falling on his "trimming knife," a knife with a blade 25 inches in length.

On admission there was a wound 15 inches in length, extending from the middle of the left clavicle to 2 inches below the seventh left rib; this wound led to the bones, cutting through the seventh, eighth, ninth, and tenth ribs. Through the eighth intercostal space there was a hernia of the left lung. There was a wound through the left side of the diaphragm, through which penetrated the lacerated apex of the spleen. The wound was sutured; a firm pad applied over the left side; a milk diet allowed. Tr. opii, ℥x, given. Four hours and a half after admission the patient died. I might add that the patient had come in a farmer's cart from a place two and a half miles distant, thus losing a quantity of blood.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

John Langton, F.R.C.S., President, in the Chair.

Friday, October 8th, 1897.

Introductory Remarks.

The President, on taking the chair for the first time, thanked the Fellows for the honour they had done him in electing him to the office of President after he had temporarily filled that office in consequence of the death of Mr. Hulke. Alluding to the past history of the Society, he said he apprehended that the presidency of such a Society must needs become more and more difficult as years went by, for they had to fear the indifference of the members and the rivalry of other societies; at present, however, he was glad to say the position of the Society was more prosperous than it had ever been before. He alluded to the value of the work done by the Society and its subcommittees, and insisted particularly that the report on myxœdema had not only elucidated the pathology of the disease, but had led to the discovery of a means of treating it with success. Much valuable work had also been done in relation to inflammatory conditions of the vermiform appendix. He mentioned that at St. Bartholomew's Hospital during the past year there had been 14 cases of appendicular mischief requiring operation, all of which recovered; in 10 there was suppuration and in the others inflammation. He would defer the usual presidential address until next year, when he would be more in touch with the general work of the Society. The new volume of *Transactions* was just completed, also a new index to the first thirty volumes of the *Transactions*, which would be one of the best of its kind.

Stricture of the Pylorus: Loreta's Operation.

Dr. W. H. White read for himself and Mr. Langton notes of a case. The patient was a male, aged 32, who had had good health till he was 18, when he had typhoid fever. For some years he suffered from gastric pain increased by food and relieved by vomiting. Lately he complained of rapid loss of flesh and strength, anorexia, and inability to retain food more than half an hour. He had lost flesh rapidly, at last weighing only $7\frac{1}{2}$ st. Nothing abnormal could be detected in the abdomen, except an indefinite tender swelling in the neighbourhood of the pylorus. There was some distension of stomach, with a sickening sensation when the tumour was examined. All other viscera were normal. The symptoms and history pointed to stenosis of the pylorus, probably of an inflammatory origin. Exploration was recommended, and, with the patient's consent, Loreta's operation was performed by Mr. Langton. The patient recovered quickly, and within a few months had gained over a stone. He was seen again three years after operation, and now weighed $11\frac{1}{2}$ st., ate well without any discomfort, and seemed in perfect health.

Mr. Gould said that Loreta's operation was not in favour in this country; pyloroplasty was more popular for the treatment of fibrous pyloric strictures both here and in Germany. In the latter country pyloroplasty had also been urged as the best treatment for ulcer of the stomach, that that viscus might be easily relieved of the food put into it. He had had one case. The patient, a woman, was greatly emaciated. She quickly recovered, gained flesh and strength, and lost all pain for a few months; then the pain and vomiting returned, which medicine and most careful dietary could not check. The abdomen was opened a second time, and adhesions between the pylorus and liver were found; these were broken down, and the symptoms again relieved. After a time recurrence took place; the abdomen was opened a third time, extra adhesions were found and were separated, and the pain and vomiting again relieved for some weeks. Since last January, however, she had been very ill. He had published the case a few months after the first operation as successful, and was glad to have that opportunity of making an amended statement respecting it.

The President had not had much experience of the operation. He thought pyloroplasty the better operation. The adhesions were due to the spread of inflammation to neighbouring organs. In such a case as Mr. Gould's, he thought gastro-jejunostomy suitable, though it was unfortunately a very fatal operation. There were 2 cases last year at St. Bartholomew's, both fatal. It was a good plan to defer the reports of these cases for a while, as the first improvement was not always maintained.

Cerebral Sinus Thrombosis.

Dr. A. G. Phear described the case. The patient was a child, aged 7 years. The onset of symptoms was abrupt, the child, after calling out loudly, immediately becoming unconscious, and never regaining consciousness. The illness lasted twenty days. There was no middle-ear disease, nor antecedent diarrhœa, nor acute specific fever save measles at the age of 5. Contracted kidneys were discovered at the necropsy. The features of the case consisted of unconsciousness, great restlessness and irritability, the child often tossing her limbs about with violence, crying out, and actively resenting interference, though in other respects insensible, and passing urine and fæces under her. There were no convulsions, nor vomiting. Motor irritation was confined to rigidity of the posterior neck muscles, and those of the abdomen; it was persistent. There was for a time slight divergent strabismus. The pupils were equal. No satisfactory view of the fundus was obtained. There was no discharge from the ear, no epistaxis, and no œdema about the root of the nose or elsewhere. Knee-jerks were exaggerated; no ankle-clonus was obtained. The temperature was raised at the beginning and end of the illness; it gradually fell from 104° at the onset to 99°; then during eight days it was normal; later it rose to 102.4°. Cheyne-Stokes respiration was noted twice; on the first occasion two or three forcible respirations were separated by prolonged pause; on the second occasion there was a gradual rise and fall in respiration. Respiratory symptoms were at no time urgent. Towards the end diarrhœa set in, strength rapidly failed, and the child died of exhaustion. At the necropsy the whole superior longitudinal sinus was blocked with partly decolorised adherent *ante-mortem* clot, extending for an inch into the tributary veins. The left lateral sinus was distended with similar clot, which continued through the internal jugular vein, and extended a short distance into the left subclavian vein. The left innominate vein contained dark *post-mortem* clot. There was no œdema nor softening of the brain substance; the ventricles contained no excess of fluid. There was no meningitis. Both middle ears were healthy. The left pulmonary artery was blocked with decolorised adherent clot, extending into its ramifications. The left lung was mostly solid, of a deep plum colour and firm, and in places broken down into a brownish semi-liquid material; there were also small areas of lung, pale and tough, of cicatrised tissue. The left ventricle of the heart was hypertrophied. The kidneys were shrunken, especially the left, which weighed only 1 oz. The capsule stripped with difficulty, and the substance was pale, opaque, and very tough.

Dr. Kingston Fowler said a similar specimen, from an anæmic woman, was in the Museum of the Middlesex Hospital. The longitudinal sinus and tributary veins were all blocked. The centrum ovale and cerebral cortex in that case were studded with punctiform hæmorrhages, and the case was more acute than Dr. Phear's case. He thought the punctiform hæmorrhages were due to thrombosis of the sinus. He had seen two other cases which were at first regarded as hysterical. It was interesting that infarcts were found only in the left lung in Dr. Phear's case; but only the left pulmonary artery was thrombosed. The association of infarctions and thrombus was disputed; at any rate, the infarcts in the author's case were breaking down, so that there was a septic as well as thrombotic condition.

Dr. Bertram Abrahams believed that no case of this kind had ever been attributed to a renal origin. Hitherto three causes had been assigned: (1) Sepsis, which chiefly affected the lateral sinuses; (2) pressure of tumours; (3) depraved conditions of the blood, such as anæmia. Possibly in the author's case the cause was septic and the outcome of the breaking down of the infarcts in the lung. He inquired what was the condition of the blood; were leucocytes too abundant, and were any organisms found in the sinuses?

Dr. Phear, in reply, said there were no punctiform hæmorrhages of the brain substance in his case. The high temperature negatived the original diagnosis of hysteria. He stated

that Dr. Newton Pitt had described two cases in which he recognised renal trouble as the cause of sinus thrombosis.

ŒSOPHAGOTOMY COMPLICATED BY CELLULAR EMPHYSEMA.

Mr. MAKINS related a case in which, during the performance of œsophagotomy for the removal of an impacted tooth plate, cellular emphysema developed in the tissues of the neck without injury to the pleura. The patient was a man, aged 48, and the plate, which was swallowed during sleep, had been in the gullet for four days. The position of the plate having been determined by the use of the fluorescent screen, the classical operation was done at the root of the neck on the left side. During its performance dilatation of the lower angle of the wound was followed by the distension of the loose tissue of the carotid sheath with air. Beyond this, when the œsophagus was opened, air passed in and out of the tube with the movements of respiration, and primary union of the wound not occurring in consequence of the ulcerated condition of the gullet, gastric juice apparently found its way upwards, with the result of somewhat retarding the permanent closure of the wound. The first point was explained by the opening up of the subpleural tissue of the mediastinum and the entrance of air from without, which on expiration was driven into the tissues of the neck; the second point by the patent condition of the gullet noted at the time of operation.

The PRESIDENT had seen such cases. The foreign body was usually arrested opposite the cricoid cartilage. One notable case came from Wales, and was under Mr. Savory's care. The plate had been swallowed five days before admission to hospital, and there was already emphysema with cellulitis of the neck due to ulceration of the plate through the œsophagus. The patient died of acute blood poisoning after a few days, as did most of these cases. He had seen emphysema occur during two or three other operations at the base of the neck; they all did well.

Mr. GOULD recalled a case at the Middlesex Hospital in which an impacted tooth plate caused ulceration of the gullet, and death from acute blood poisoning. The Roentgen rays would be of great use in localising the position of the plate. He agreed with the author in his explanation of the emphysema; but how did the gastric juice escape from the wound? Wounds of the œsophagus did not heal well; and in all such cases he would place a drainage tube in the wound.

The PRESIDENT said that all recent cases of the kind in St. Bartholomew's Hospital had died.

Mr. MAKINS, in reply, referred to a case operated upon by Sir William MacCormac, in which the wound healed by primary union. That operation had been done soon after the plate had been swallowed, and that was probably a chief item in the success. At the time of life of his patient the lower part of the œsophagus was, he believed, rarely quite closed; it often contained gas, and that would account for the escape of gastric juice. He regretted that no search was made for peptone reaction until too late.

MEDICAL SOCIETY OF LONDON.

ARTHUR ERNEST SANSOM, M.D., F.R.C.P., President, in the Chair.

Monday, October 11th, 1897.

AFTER the usual business of the annual meeting had been transacted Mr. Reginald Harrison, the retiring President, gave place to Dr. A. E. Sansom, the President-Elect.

PRESIDENTIAL ADDRESS: ON THE INVESTIGATION OF SOME OF THE DISORDERS OF THE HEART.

Dr. ARTHUR ERNEST SANSOM said: There are some variations from the normal functioning of the heart which are attended by feelings of acute pleasure. This fact has been recognised from time immemorial, and has been incorporated into the language of everyday life. So we have the words in the vernacular—hearty, heartfelt, and, derived from the Latin, cordial, with its substantive, cordiality. Conversely, an aching heart is, in ordinary language, the expression of sorrow and depression. It is a truism to many that variations of the functioning of the heart associated with subjective feelings of pleasure or of pain are consistent with a structural integrity of the organ so far as can be determined by physical means of investigation. I have come to the conclusion that perturbations of the heart's rhythm, whether in the sense of tachycardia, or of arythmia, or of bradycardia are essentially independent of any structural disease of the heart and of its valves, and are entirely due to causes involving the nervous mechanism of the cardiac reflex. In a great majority of such cases careful physical examination during life reveals no trustworthy evidence of structural disease, and in some of the few in which death has occurred, and has been followed by necropsy, no organic changes in the heart have been noted. I conclude that when structural disease of the heart has been observed in the subject of perturbed rhythm, either the latter has been a coincidence, a superadded phenomenon, or the organic cardiac changes have been secondary to the disorder of the nerve mechanism. For instance, I have seen well-marked Graves's disease supervene upon chronic valvular disease, the result of antecedent rheumatic endocarditis; and I have observed dilatation of the heart with mitral incompetence to occur in the course of Graves's disease when there has been no reason to suspect any intercurrent malady. In the latter case I have found that the signs of structural disease of the heart have borne no proportion to the degree of cardiac tumult. The subject of a very rapid heart (120 to 160, such rate being manifested for many months) may never show any signs of cardiac dilatation nor of structural change, whilst one in whom there is only a moderate tachycardia (100 and under) may manifest the advent of undoubted dilatation of the left ventricle with valvular incompetence. If we accept it as a working hypothesis that serious disturbances of the action of the heart, and serious symptoms interfering with the sense of its well-being, may occur without morbid change detectable by physical examination in the heart itself, there is a very important corollary, namely, that it is necessary in every case that in addition to the employment of the ordinary methods of physical diagnosis for the discovery of organic changes within the heart, there should be a careful investigation of the nervous system, more especially in its relation with the cardiac reflex. On this point I propose to suggest a scheme of examination, and to offer a few hints. It will, of course, be understood that what I propound must of necessity be brief and incomplete. In the first place I would urge the importance of keeping the patient who is to be examined as tranquil as possible. In the case of a patient in bed I have nothing to say; the examination will, of course, be conducted in such way as to cause as little disturbance as possible. In the case of one who comes for consultation in ordinary out-of-door apparel, I suggest that he should sit down and not attempt to disrobe. It is easy enough to excite a patient but it is not so easy to keep him or her quiet. I have known the rate of the heart beats to be increased in an extraordinary degree by a mere change from the sitting or recumbent to the standing position. One who rushes and peels off his clothes in a state of excitement may not only cause for himself an abnormally rapid pulse, but may, I think, manufacture a murmur near the heart's apex which may lead to erroneous inferences. I dare suggest that in some instances it is probable (in the cases of candidates for life assurance, for example) that a life has been embittered because the physical examination has been conducted on a subject in a state of abnormal excitement, and a systolic murmur at or near the apex has been wrongly interpreted as the index of an organic disease. I suggest, therefore, that the examination should be commenced when the patient is in the sitting position, the ordinary clothing not being removed. (1) Amongst the most important are the signs observed by inspection of the eyes and eyelids. Any protuberance of the eyeball will of course, be observed, and its relation with the condition of the thyroid and the rate of the heart's pulsation recorded. Any retraction of the upper eyelids towards the margin of the orbit must be noted, for this is a sign of considerable importance. It often exaggerates the prominence of a bulging globe, and sometimes I have seen that it produces the semblances of an exophthalmos when there is really no prominence of the globe. I have observed another sign in regard to the upper eyelids in many cases of tachycardia.

When the patient has been told to close the eyelids gently the upper lid has manifested a very marked and unusual tremor. I have observed this sign in the early stages and also in the recovering stages of Graves's disease. Von Graefe's sign and Dalrymple's (eyelid retraction) often coexist, but in some cases the one is observed and not the other. I have noticed (as recorded by Dr. Dixon Mann in *Trans. Ophthal. Soc.*, 1886) that in some cases the normal balance of the muscles of the globe is somewhat perverted, so that one eye appears to be on a lower level than the other. I have also noted in some instances a decided inequality of the pupils—of course unexplained by organic causes—which become restored to the normal when the other disorders of function ceased. When these signs exist, especially in combination, I think they have an important significance. In the great majority of cases they are associated with heart disturbance or heart distress. The most frequent form of disorder is tachycardia—the rapid heart—persistent or paroxysmal. This has long been recognised; the association of the eye and eyelid phenomena with Graves's disease, of which tachycardia is so marked a feature, has been fully acknowledged. Less frequently the association is with extreme irregularity of the heart's action, and such irregularity, rather than rapidity, I have found in some cases of typical Graves's disease. I have observed well-marked von Graefe's sign in a man aged 49, whose pulse was only 68, but showed very marked irregularity, and in whom there was much subjective heart distress. In some of the cases in which I have observed the signs noted, there were great variations of rate in the heart beat—a state which may perhaps be termed irritable heart. For instance, in a man aged 48 manifesting slight exophthalmos and inequality of pupils, the heart-rate—76 in the sitting position, 84 in the standing, and then a sudden rise (without any evidence of discomfort) to 114. In other cases, though there have been no perversion of rate and rhythm of the heart to be noted, the patients who have shown well-marked eye and eyeball signs have manifested symptoms of distress referred to the heart. It is no doubt correct that well-marked eyelid phenomena may occur (though rarely) in those who show no cardiac sign nor symptoms. Starkey found von Graefe's sign in 12 out of 613 cases of all disease in his out-patient room. Dalrymple's sign has been recorded as frequently seen in neurotic and hysterical subjects. In many of these, however, it is probable that subjective distress, at least, or else deviations of rhythm occurred. I have seen well-marked von Graefe's sign in a young man addicted to alcohol, and in an old woman with emphysema, both of whom manifested heart symptoms. Nevertheless, I cannot doubt that the signs I have mentioned are of considerable practical significance, for they indicate very strongly the probability that the patient who manifests them will present signs of disorder or distress of the heart. (2) It is important that the auditory mechanism and the pharyngeal tract be explored, for from data which I have already published in the *Medical Society's Transactions*, vol. xvi, p. 107, I have convinced myself that irregularity of the heart is sometimes the result of a reflex occasioned by a morbid irritation of some part of the naso-pharyngeal tract or of the auditory mechanism. (3) The pulse at the wrist should be carefully explored by palpation, and its lessons supplemented and controlled by a determination of the rate and character of the heart's pulsations as determined by auscultation. Such auscultations should at first be practised when the patient is sitting quietly, the clothing as yet unremoved. Much valuable evidence, notably the accentuation of the second sound in its predominance in the aortic or pulmonic area, is obtained by this preliminary method of auscultation. (4) The existence and site of muscular tremors should be observed and noted. If fine tremors of the muscles of the trunk, the limbs, or the face are observed, there is a probability of a disorder of the nervous mechanism of the heart of the nature of Graves's disease. (5) The clothing being removed the chest is of course to be examined by the ordinary means of physical diagnosis. In regard to the nervous disorders of the heart, the most important points are the determination and the significance of dilatation of the heart, and the characters and diagnostic indication of a systolic murmur heard at or near the apex. Extreme dilatation of the heart may occur from causes affecting the nervous elements, such as neuritis of the vagi, and yet the normal condition may return in the course of a fortnight. The bulk of the heart, in some cases, varies considerably in the course of twenty-four hours. Hutler brought evidence to show that in the normal heart there are rhythmic diurnal variations in volume. A systolic murmur heard at or near the apex of the heart is sometimes erroneously interpreted as the index of structural disease. It may certainly be entirely independent thereof, and only an indication of nervous disorder. In such cases it is of the first importance to determine whether or no there are persistent changes in the bulk of the various chambers, or in the sounds which indicate overstrain in the circuits. A loud second sound over the pulmonary artery means structural disease. On the other hand, in the case of a systolic apical murmur due to neuroses the heart is not dilated, and in the great majority of cases is smaller than the normal. A systolic murmur which is independent of structural disease seldom attains its maximum audibility at the exact apex, but slightly to the right, to the left, or above this point. It is usually soft, and does not replace the first sound. It does not occupy the whole but a middle period of the systole (it is mesosystolic). It is much influenced by the movements of respiration. As a rule, it is intensified both during expiration and respiration, especially the latter; but it often becomes inaudible at the end of an expiration. If, therefore, rhythmical *crescendo* and *diminuendo* in the sound of the murmur are heard during the respiratory acts the murmur is probably not due to organic change. It is important that auscultation should be practised not only in the erect or sitting, but also in the recumbent, position of the patient. Very frequently a murmur is very audible in the recumbent position, but disappears when the sitting or erect position is assumed. In such case a confident opinion may be given that there is no structural disease. In a minority of cases the rule is reversed, and a murmur which is not detected in a patient in the recumbent position becomes audible when the erect or sitting posture is assumed. Potain has made a most valuable and elaborate study of these, which he calls cardio-pulmonary murmurs. He believes them to be due to causes external to the heart. When the heart is distended in diastole certain portions of the adjoining lung are pressed against the the thoracic wall, and the air is squeezed out of them, when there comes the systolic recession, provided always the muscular contraction is accomplished rapidly, the comparatively airless tongue of pulmonary tissue becomes quickly inflated, and this sudden inflation causes the sound. The mechanism reverts for its determining cause to the nervous elements. There must be an abnormal suddenness of valvular contraction, and for the establishing of the validity of the theory it may persist for months, and even for years. With the highest appreciation of the conscientious and elaborate researches of Potain, I think that a more probable explanation of the murmur is to be found in a derangement of the nervous mechanism of the cardiac systole. The ventricular systole is a complex act—a correlated sequence of muscular contractions—as shown by the remarks of Roy and Adami, of Ludwig and Hesse. It is not difficult to realise that these may be disturbed, and may continue so disarranged for protracted periods, the effect of such disarrangement being a slight mitral reflex, harmless and transitory, or abnormal vibration communicated to certain portions of the structure. Whatever the proximate cause, the ultimate is a disturbance of the nervous mechanism of the heart. My object has been to urge the importance of an investigation into the nervous condition of the heart which should go *pari passu* with the use of the ordinary means of physical diagnosis.

John Arderne and his Time.

Mr. William Anderson said: The name of John Arderne is an unfamiliar one even for surgeons, although numerous MS. copies of his writings are preserved in the British Museum and at St. John's College, Oxford, and appreciative references to his work have been made by many high authorities on medical and surgical history, notably by Dr. Daremberg, Mr. John Flint South, Mr. D'Arcy Power, and Dr. J. F. Payne, who has written his life in the *Dictionary of National*

Biography. John Arderne, a contemporary of Chaucer, Wyckliffe, Froissart, Petrarch, and Guy de Chauliac, belongs to a period of extreme interest in the evolution of general and surgical literature, and within his sphere gave no mean aid to the advance of a higher culture. He was born in 1307, and practised at Newark from 1349, the year of the Plague, till 1370, when at the age of 63 he settled in London. It is surmised that he had been previously attached for a time as Field-Surgeon to the English forces during the French wars, and there is no doubt that he was well acquainted with France and its language, and that he had an extensive knowledge of the treatment of wounds. He was, moreover, a man of clerkly attainments that were rare in his time, and was well read in the available literature of his profession. In 1370 he settled in London, and devoted himself to the record of his professional experiences, producing works of great literary and surgical interest, which stood alone in their kind for upwards of 200 years. The date of his death is unrecorded. His writings covered nearly the whole ground of medical and surgical affections as then known, and were couched in fair Latin, and illustrated by sketches of diseases, medicinal plants, and surgical appliances. None, however, received the honours of the press except an abstract of a single essay printed in 1588. The period of Arderne was one of struggle for emancipation from physical and intellectual bondage; but the best minds were more attracted by metaphysics, astrology, and alchemy than by the advancement of true scientific knowledge, and the study of medicine was perhaps more deplorably in the rear of progress than any other branch of learning. There was but one scientific centre in Europe where any pretence of surgical teaching was maintained—namely, Montpellier; and surgery, despised by the educated physicians, was in the hands of a few "Masters of Surgery," a body with which Arderne must doubtless be classed; a considerable body of barber-surgeons, who, however, like the last, were not yet banded into an association; a number of specialists—bonesetters, herniotomists, lithotomists, and the like—working on traditional methods and without anatomical guidance; a motley crew of empirics of both sexes, trading upon herbs, ointments, embrocations, pills, amulets, and the like; and, lastly, a scattered, and by no means despicable, body of amateurs, often of gentle birth and nearly all of the gentler sex, who were ready to act in the domestic or friendly circle as doctors and nurses in cases of emergency, and who probably did less harm than most of their professional rivals. The nature of the various MSS. in the British Museum was briefly alluded to, and one of the two early English translations was then described in detail as a type of Arderne's work. This included an introduction, entitled, Of the Manner of the Leech, giving wise counsel to the neophyte in medical practice; an essay on Fistula in Ano, Cancer of the Rectum, Hæmorrhoids, and a few other diseases, and concluding with a descriptive list of preparations useful in surgery. The introduction in its early fifteenth century English probably represents as nearly as may be the words John Arderne would himself have used, and contains many quaint and pithy items of advice, which were quoted *in extenso*. The account of fistula in ano stands apart amongst English surgical writings down to the time of Richard Wiseman as a record of painstaking clinical observation. The description is rich in experience, and the methods of treatment are recited with a fulness of the kind of detail that only experience can teach. Arderne appears to have been the only man of his time who dared attempt the cure of the condition by operation, and his success was equal to his deserts. The rest is no less original, and in his essay on hæmorrhoids he shows a wide acquaintance with the mediæval surgical authors, amongst others, Bernard of London, Richard, Roland, Roger, and even of his contemporary Guy de Chauliac. Certain astrological and other superstitions creep in from time to time, but as a rule he proves himself eminently practical. Many quotations from different parts of the work were given, and Arderne's concluding section of materia medica was criticised, one preparation called sanguis veneris being especially curious. It is difficult at the present time to adjudge John Arderne's claims upon posterity, but when we remember how honestly and successfully he strove to elevate his profession by his example and teaching, we can scarcely do him too much honour. He was, above all, a true clinical observer, and based his treatment on experience and reason rather than on precedent and superstition. Comparing him with his great French contemporary, Guy de Chauliac, we shall find that while Guy was a compiler of genius, with remarkable literary method, Arderne was perhaps the better clinical student and the more practical surgeon, but as a writer he was somewhat lacking in order and completeness. Of the man himself his book conveys a distinct picture. It is easy to see him as the leech of courtly and obliging manners, sober in attire and moderate in speech, endowed with a self-restraint born of self-respect, with a tact that bore him well through the many difficulties that must have beset the thorny path of the chirurgeon in his day, and with a strong common sense that never rose too near the dangerous level of genius. A good man and true, kindly and honest, but shrewd withal, with a quick eye to the main chance, and a capacity for raising expediency to the dignity of principle. Through all, however, he was a surgeon, a scholar, and a gentleman; and in the records that he bequeathed he stands before us as one whom we, his professional descendants, may accept with pride and veneration as the father of English surgery.

OBSTETRICAL SOCIETY OF LONDON.

C. J. Cullingworth, M.D., President, in the Chair.

Wednesday, October 6th, 1897.

Specimens.

Dr. McCann: Sarcoma of the Cervix Uteri.—Dr. Robert Wise: (1) Abortion Sac, with hæmorrhage into the fœtal membranes; (2) Pregnant Horn from the uterus of a cat.—Dr. John Phillips: Ruptured Uterus, treated by intraperitoneal hysterectomy. The patient was in the sixth month of pregnancy, and the breech presented. All attempts at artificial extraction under an anæsthetic failed. Rupture occurred during the passage of the vertex. The laceration extended from the fundus to the level of the internal os uteri on the left side. On opening the abdomen several ounces of fluid blood escaped, the uterine arteries were tied, and the torn uterus removed. The pedicle was treated intraperitoneally. The patient when last heard of, 48 hours after operation, was doing well.—Remarks were made by the President, Drs. Griffith, Herman, Heywood Smith, Spencer, and Mr. Doran.

The Management of True and False Capsules in Ovariotomy.

Mr. Alban Doran read a paper on this subject. He distinguished a false capsule formed of mesentery, omentum, or inflammatory deposit (Pawlik), a true anatomical capsule consisting of the mesosalpinx alone, and a false anatomical capsule, where the lower part of the broad ligament, the parietal peritoneum, or the parametrium was involved. The management of the first variety was simply a question of breaking down adhesions. The treatment of the second and third was a less simple matter. The author discussed when a capsule should be cut away, when it should be let fall into the pelvis, and when it should be stitched to the lower end of the abdominal wound and drained. The first course should always be followed, if possible, when the capsule was healthy. The second was necessary when the base of the capsule was too broad to be made into a pedicle, or wherever for any other reasons no pedicle could be formed, the tissue of the capsule being healthy, and hæmorrhage under control. Fixation of the capsule and drainage were needed when hæmorrhage under similar conditions was hard to control, and in all cases where the capsule showed advanced inflammatory changes associated with suppuration of the tumour. In the latter condition oozing of serum increased the danger of septic infection. A case was related where there was free general oozing from the capsule of a large suppurating cyst. The capsule was therefore fixed to the parietes, and plugged with sterilised iodoform gauze, which was removed on the third day. Thus hæmorrhage was stopped and sepsis averted. The author discussed the advantages and dangers of iodoform plugs. He also dwelt on the prejudice of many surgeons against the practice of

fixing the capsule to the wound. The danger of strangulation from a loop of intestine slipping beneath the capsule was theoretical.

Dr. Eden asked for a fuller explanation of the difference between the true and the false anatomical capsules. A pediculated broad ligament cyst opened up the mesosalpinx, but not the lower part of the broad ligament, which remained as the pedicle, and its capsule would therefore be, according to the author, a true anatomical capsule. But many broad ligament cysts burrowed right down into the floor of the pelvis, and possessed no pedicle. According to the author's classification, the capsule of such a cyst would be true in its upper part and false in its lower part.

Dr. Herman thought that the author had completely disposed of the theoretical objection to stitching the capsule to the wound.

Dr. Herbert Spencer agreed with all the main points of the paper, but did not think that intestinal obstruction from adhesion of intestine to the stump in ovariotomy was a rare occurrence. These cases did not go to special hospitals, but the surgeons attached to general hospitals knew that this accident was far from being a rare cause of intestinal obstruction. Cases in which the intact sac could be stitched to the abdominal wall did well with the drainage tube, but cases in which the sac had been torn or which could not be fixed to the wound and suppurative cases should be treated by gauze drainage. He had employed iodoform gauze for the last four years with very satisfactory results. In the last three years he had only once at a laparotomy used a drainage tube, and then it was unnecessary. He thought we had in this material an excellent means of checking hæmorrhage, averting sepsis and blocking out intestines from torn capsules and infected areas.

Dr. Ewen Maclean remarked that, in addition to those mentioned in Mr. Doran's paper, an ovarian tumour developed within a distending and complete ovarian sac would present a true anatomical capsule of peritoneum which did not involve either the mesosalpinx or the lower portion of the broad ligament.

After remarks by Dr. Drummond Robinson, Mr. Butler-Smythe said his usual practice with regard to the treatment of capsules was as follows: All ordinary thin capsules would be tied and dropped into the pelvis. Where portions of the cyst wall were unavoidably left attached to the capsule, rendering it thick and likely to suppurate, the capsule would be stitched in the lower end of the womb wound, and a glass tube inserted. In those rare cases where the broad ligaments had been enormously separated, and where adhesions had been formed high up in the abdomen, previous to the enucleation of the tumour, and where a large bleeding surface was left exposed, the cavity would be plugged with iodoform gauze, which would be left in for three or four days. He had frequently seen cases of iodoform poisoning, and the first symptoms usually appeared about the fourth day, and were unmistakable—rapid pulse, sudden rise of temperature, headache, giddiness, and in bad cases vomiting.

The President expressed a general concurrence in the views advocated in the paper. With regard to gauze packing he had not had a large personal experience. The removal of the gauze was so formidable a matter, and was apt to produce so much distress both bodily and mental in the patient, that he had never had recourse to it unless he was compelled. At the same time he recognised its immense value in certain cases, as for instance in hæmorrhage from vessels to which it was impossible to apply the ligature, owing to their lying so deeply in the pelvis.

Mr. Doran, in reply, observed that he had discussed the anatomy of the subject at length in his article on Capsules Real and False in Ovariotomy, with notes of six cases, published in the British Medical Journal, April, 1896. The complicated form of tumour of which the President and Dr. Eden had reported cases was Pawlik's cyst, where the broad ligament was not invaded by the new growth, but was adherent to it and stretched over its surface, the false capsule being completed by adherent omentum or mesentery. Mr. Doran was interested in Dr. Spencer's remarks on the frequency of intestinal obstruction caused by an old ovarian pedicle. He would like to know whether in most of these cases the raw surface of the pedicle had been left exposed or sewn over. He made a necropsy many years since on a case of obstruction where the operator had closed the raw surface by suture as a precaution against the very complication that occurred. Mr. Doran used the drainage tube much less now than formerly. But he found that patients did not object to it, whilst he agreed with the President that packing and abstracting iodoform gauze often gave them great annoyance. He maintained that a pulse of 144 or 156 in a case where Mikulicz's treatment was adopted, all other symptoms being favourable, clearly signified iodoform poisoning. In reference to Mr. Butler-Smythe's remarks Mr. Doran mentioned a case where he removed a large cystic myoma of the uterus. The pedicle fixed by the *serre-nœud* was hard to keep dry, so it was freely treated with tannin and iodoform powder. The pulse became very rapid, and did not fall until the powder was discontinued.

Forfarshire Medical Association.—At a meeting held in the University College, Dundee, on September 30th, Dr. Alex. Campbell, President, in the chair, Mr. Greig showed two cases after Fracture of the Neck of the Humerus: (1) Boy, aged 13, fractured his humerus six months ago. Mr. Greig wired the fragments, owing to the difficulty in these cases of keeping the ends in apposition with splints. The result showed free movement at the shoulder-joint. (2) Boy, aged 13, fractured his humerus seven years ago, when it was treated with splints. The movement was impaired, due chiefly to contraction of the latissimus dorsi and teres major muscles, which Mr. Greig recently divided. Mr. Greig also showed a patient after Pyæmic Arthritis, with free movement at the joints which had been affected.—Dr. Whyte showed a specimen of Carcinomatous Tumour, pressing on the superior vena cava and right bronchus.—Mr. Greig showed two specimens of Tuberculous Bursæ, removed from under the quadriceps exterior tendon in both cases, pointing out that by early removal of these bursæ tuberculous arthritis might be prevented.—Dr. Dickson (Carnoustie) read notes of a case of Vesical Calculus illustrating the action of piperazin on vesical calculi. The patient, a man, aged 72, had passed small calculi at intervals, and suffered severe pain. He refused operative treatment, but was treated with piperazin, with the result that he improved, passing numerous small calculi at frequent intervals. Dr. Dickson suggested that the piperazin caused disintegration of the calculi by acting on the uric acid.—Dr. Templeman read notes on the Disinfection of Rooms by Spraying. He recommended for the purpose formalin 40 per cent. used with the Equifex sprayer. Several specimens of wall paper which had been sprayed that morning were exhibited, and the sprayer was explained and used before those present.—Dr. Dickson and Dr. Miller said they were not prepared to give up sulphur without further proof.—Dr. Mackie Whyte read notes of a case in which Chyle had transuded into the pleural, pericardial, and peritoneal cavities. The patient, a girl of 21, had been under treatment previously for tuberculous glands in the neck. Between 500 and 600 ounces in all were drawn off from the various cavities, reaccumulation quickly taking place. There was no *post-mortem* examination, but it was believed that the condition was due to obstruction of the thoracic duct near its termination. An analysis by Dr. Lockhart Gillespie showed 4 per mille of fat. The literature of the subject was reviewed, and the case commented on in this light.—Dr. Mackness showed a Placenta from a case of triplets in which labour was induced at the sixth month.

REVIEWS.

Dr. Mendini's Hygienic Guide to Rome. Translated and edited by J. J. Eyre, M.R.C.P., etc. London: The Scientific Press, Limited. 1897. (Cr. 8vo, pp. 208. 2s. 6d.)

Anyone reading the *Hygienic Guide* must confess that Rome takes a good place amongst large cities in regard to healthiness, and this is exactly what the author and translator wish to prove. In proving this they have done a service to many persons wishing to spend a winter there, but deterred by vague ideas that Rome is the hotbed of typhoid fever, malaria, and infectious diseases.

The Italian General Direction for Statistics shows that of the five Italian cities—Rome, Naples, Milan, Turin, and Florence—Rome has now the lowest rate of mortality, notwithstanding that this has been notably raised by the inclusion of the deaths of peasants from the Agro Romano, who came to be treated in the civic hospitals, and died there. The statistics for the decennium 1884-93 show that in the great capital cities the mean annual death-rates per 1,000 are as follows: London, 20.4; Berlin, 22.3; Paris, 23.3; Rome, 24.7; Vienna, 25.1; New York, 25.2; St. Petersburg, 29.3. In 1894 Rome had the lowest mortality (19.4) of all these cities, excepting London (17.8) and Berlin (18.2). The relative healthiness of different portions of Rome are discussed, and the quarters of the Porta Pia outside the Aurelian Walls are mentioned amongst the most healthy. Popular prejudice alludes to excessive humidity and danger of fever in the public gardens in the evening; but the author thinks that the Pincio, planted and drained as it now is, is absolutely healthy.

The annual mean relative humidity of Rome is 65 per cent., not at all a high one. The climate, on the whole, is allowed to be a very variable one, so that flannel underclothing is recommended to be always worn. The keeping of bedroom windows shut during the night is advised. In respect of the water supply, the Acqua Marcia, as in ancient times, is now the best in Rome, and one of the best in any European metropolis. Space is devoted by the author to the question of malaria, to the drains, to the conditions of habitability, and to the foods and drinks of Rome; likewise to the mineral waters near Rome, the hospitals, charitable institutions, etc. Not the least important chapter is that on Rome as a Health Resort, added by the translator, Dr. EYRE.

MANUAL OF GYNÆCOLOGY. By D. BERRY HART, M.D., F.R.C.P.Edin., F.R.S.E., Lecturer on Midwifery and Diseases of Women, Surgeons' Hall, Edinburgh, etc.; and A. H. FREELAND BARBOUR, M.A., B.Sc., F.R.C.P.Edin., F.R.S.Edin., Lecturer on Midwifery and Diseases of Women, School of Medicine, Edinburgh, etc. Fifth Edition. Edinburgh and London: W. and A. K. Johnston. 1897. (Demy 8vo, pp. 743. Thirteen Lithographs and 381 Woodcuts. 21s.)

SEVEN years have elapsed since the issue of the fourth edition of this well-known and popular manual. Hence much new matter had to be added, and the task of condensation must have proved heavy. That it has been well done becomes evident when we note that the present edition contains only twenty-one more pages than the last, whilst owing to the quality of the paper it is much less bulky. Hence we need no more feel any dread that as edition followed edition, a day would come when HART and BARBOUR would, like so many other "hand"-books, grow into volumes, very inconvenient even for two hands. The harder task of introducing new matter without neutralising the effects of condensation, has been equally well done. We may single out for honourable mention the paragraphs on deciduoma malignum. The authors have prepared a diagram throwing light on the nomenclature, or rather misnomenclature, of histological structures found at placental sites. The clumsy Græco-Latin-German expressions which infest the literature of deciduoma are a great barrier to clear demonstration of an obscure subject. The sceptical attitude of the London Obstetrical Society as to the existence of the disease has not been overlooked, and there is an instructive table of 55 cases. More importance is attached to tumours of the tube, on which much has been written in Martin's and in Allbutt and Playfair's systematic works published recently, but it is stated with some reason that tubal growths "are of more interest to the specialist than to the student and practitioner." In respect to the latter, however, some mention might have been made of the frequency of bloody discharge, without signs of disease of the cervix or endometrium, in primary tubal cancer. The practitioner on the look-out for this symptom may diagnose a case in time for successful extirpation of the tube.

The epitome of recent learning and experience in relation to uterine fibroids is particularly good. The authors still maintain that the electrical method of dealing with these tumours is a treatment of symptoms, and since their previous edition was issued many other authorities have come over to their side. The intricate modifications of hysterectomy have been made comprehensible. The authors might have laid down the law that nearly all are fairly easy and fairly safe in an uncomplicated case where the cervix and broad ligaments are free, whilst none are either easy or otherwise than dangerous when these parts are extensively invaded. Doyen's operation, for example, is very showy when a big tumour is removed within a few minutes, but quite otherwise when ureters and arteries are displaced, so that the speedier the operation the greater chance of serious damage being overlooked. In conclusion, we have said enough to show that this *Manual of Gynæcology* has reached its prime, and deserves the confidence of learners and teachers.

DIE FARBENBLINDHEIT UND IHRE DIAGNOSE. [Colour Blindness and its Diagnosis.] Von Dr. M. OHLEMANN, Minden. Brunswick: J. H. Meyer. 1897. (Cr.8vo, pp. 22. M.10.)

THIS little work of eighteen pages is intended, the author informs us, "for the use of medical men and the authorities." It deals with the history of the discovery and investigation of colour blindness, the testing of the colour sense, and the "diagnosis of colour blindness." This is rather an extensive programme to be dealt with in the brief compass of eighteen pages. Dr. OHLEMANN classifies, or rather the authorities to whom he refers classify, all cases of congenital colour blindness as either total or partial. The existence of a condition in which the colour sense is weakened is duly recognised; the patient, while quite able to discriminate between colour in a good light, fails to do so in a deficient light or when the colour tones are weakened by admixture of the neutral grey. The writer further calls attention to the necessity of discriminating between colour ignorance, or rather ignorance of colour nomenclature, and colour blindness or the possession of an imperfect colour sense.

Dr. Ohlemann classifies partial colour blinds as red blinds and green blinds. He, however, simply enumerates the various methods or tests advocated by Continental experts. As to which of these the medical man or authority is to pin his faith we are left in doubt.

As affording a brief summary of the various tests and views regarding colour blindness put forward by Continental, mainly German, experts, Dr. Ohlemann's pamphlet may be of some service, but we question whether the "medical man or the authority" can find among these contradictory and conflicting views and suggestions a guide for the detection of colour blindness. The researches of English and American experts are altogether ignored, nor does the writer seem to be at all aware of the work which the British Medical Association has done on this subject.

We have also received, in continuation of *Colour Blindness and its Diagnosis*, a supplement by Dr. Ohlemann consisting of two pages of letterpress and twenty-six coloured slips of cardboard. With these slips the author suggests a method of detecting colour blindness, using them to make matches after the manner of Holmgren's wool test. He further suggests as an alternative or additional test that the candidate shall make from the set of coloured slips spectra as nearly as possible identical with the pattern plate above alluded to. Interesting though this suggested scheme may be, we fear its obvious defects will render it of little practical value.

MANUAL OF BACTERIOLOGY. By ROBERT MUIR, M.A., M.D., Lecturer on Pathological Bacteriology in the University of Edinburgh, and JAMES RITCHIE, M.A., M.D., Lecturer on Pathology, Oxford University. Illust. 108. Edinburgh and London: Young J. Pentland.

THE requirements of a good students' bacteriological text book have at last been met, and in this volume Drs. MUIR and RITCHIE have given an admirable summary of the science in its medical aspects. Bacteriology has now become so vast a subject that in making his way through many of the existing treatises the student is apt to be confused with the multitude of facts and to forget, in an interest for the more general results of the science and in its multitudinous commercial and economic applications, the special

pathological applications which it is of prime importance he should know. In this volume, which would perhaps be more appropriately called a Manual of Pathological Bacteriology, all matter extraneous to the purpose in hand is avoided.

The first quarter of the book is devoted to a consideration of the practical methods and technique of the science. The directions given are in all cases concise and adequate, and should prove amply sufficient to guide the beginner through the maze of staining, sterilisation, and inoculation. Then follow *seriatim* the accounts of the various diseases with which bacteria have been so far distinctly associated.

Chap. XIX is an excellent one, and perhaps at the present day the most important in the book. It gives a full account of the all-important subject of immunity and an excellent summary of its practical issues, antitoxic and serum therapeutics. In an appendix are, in addition, short accounts of small-pox, vaccination, hydrophobia, malarial fever, and dysentery.

The volume is well illustrated for the most part by micro-photographs, and a full bibliography enhances its value to the more advanced reader.

BRITISH MEDICAL JOURNAL REPORTS.

REPORTS ON THE HYGIENIC CONDITION AND ADMINISTRATION OF METROPOLITAN DISTRICT AND SEPARATE SCHOOLS.

BASED ON THE EVIDENCE LAID BEFORE THE DEPARTMENTAL COMMITTEE.[1]

(By Our Own Commissioner.)

XIII.—CHILDREN IN THE WORKHOUSES.

By those who defend the present system of rearing metropolitan pauper children it is generally said that one of its advantages is that the children are entirely removed from inmates of the workhouses by being placed in the district or separate schools. It was therefore with surprise that the public learnt that there were nearly 2,000 children in the London workhouses (16111) exclusive of another 1,200 in the infirmaries (8691). Of these, 2,151 were over 2 years of age (8698). As the poor can apply at any time for relief by admittance it follows that into the workhouse the parents and their children must be received, but, as many witnesses point out, the evils of retaining them there can hardly be over-estimated. In most workhouses there is (*a*) inadequate classification, (*b*) no separate wards, (*c*) provision of little or no education, while (*d*) employment or interests for the children are necessarily absent. In many workhouses, says the Medical Inspector of the Local Government Board, "all these points are very defective" (8703-4); and for these deficiencies the guardians can hardly be blamed (7899) (8195), for it must be remembered that the schools exist, and being maintained at large cost it is hardly reasonable to expect that similar provision for child life and health should be made also in the workhouses.

Children sometimes Two Years in Workhouse.

The causes which keep the children in the workhouses are various, and can be grouped under four heads:

1. Because the school belonging to the union is either full or closed to fresh comers on account of an outbreak of disease.

2. Because the school managers, reasonably fearful of the introduction of unhealthy children into the school, refuse to admit any who have not a perfectly clean bill of health.

3. Because there is an epidemic amongst the children in the workhouse, rendering it unsafe to send any to the school.

4. Because the parents belong to the "in and out" class, who take their discharge before the necessary time has elapsed for the children to be sent to the school (par. 276, p. 68, vol. i).

Either one or all of these reasons are sufficient to prevent the transference of the children from the workhouse to the schools, but the result is that sometimes they have to remain months and even years in the workhouses (10416). It will be interesting to look more closely into their condition when there, a task made possible by the close cross-examination of some of the witnesses by members of the Commission who had evidently seen and personally investigated conditions which they were anxious to have either explained away or brought into the reforming light of public knowledge.

Children in Greenwich Workhouse.

In the Greenwich Workhouse we find (10443) 60 children, 40 of them over school age (10346), ranging from 4 to 15 years of age (10347). Some had been there for months, others only for a few days, the majority (30 out of 40) being affected with measles (10354), from whom the healthy ones were not able to escape owing to the fact that the Sutton Schools were closed to them on account of the presence of an epidemic of ophthalmia. These children were in the workhouse (10458), mingling both night and day with adults, of whom there were as many as 257 (10465) over the certified number. For the care of the boys (10448) there was no regular attendant; they were supervised by paupers, and getting occasional attention from an already over-occupied nurse. The girls were somewhat better off. For 43 of them a small dayroom was (10446) provided, and one nurse, who was assisted by pauper attendants. To none had instruction been given until a few days before the date, when (10374) the master of the workhouse appeared before the Committee as a witness, when a teacher had been appointed to give a minimum of education for two or three hours to groups of children who would be taught together regardless of age, standard, or ability (10454). Until the appointment of this new teacher the children had had no education, the guardians having been content to keep, feed, and clothe children until their parents chose to remove them—an event that in some cases occurs with amazing frequency. "There are" (10369) "about 40 children who are continually coming in and going out," explained the workhouse master, who then proceeded to illustrate his point by individual cases. One man, the father of four boys, had for three months lived at the ratepayers' expense, his children remaining uneducated (10383). His habit was to enter the workhouse on the evening of the day when the batch of children were sent to Sutton. As this takes place but once a fortnight he was then safe for 13 days. At the end of that time he look his discharge and went out with his four lads, only to return the next day after the hour when the other children had been despatched to the schools. A labourer (10390) with a wife and three children, carried on the same plan, and a woman had successfully in the same way defied the national law on (10416) education, and kept her child for two years without instruction. This condition of things the guardians had made no effort to change, or to amend the law which permitted its continuance.

Children in the Hackney Workhouse.

We would not have it thought, however, that the state of affairs found in the Greenwich Workhouse was unique. We would it were so, but certainly the evidence goes to prove that with a few notable exceptions—Whitechapel, Wandsworth and Clapham—the condition of the children in the London workhouses is "most deplorable." "The whole thing is extremely bad," acknowledged the Clerk to the Shoreditch Board (7222), while a workhouse chaplain of 27 years' experience (9865) "deprecates above everything the retention of the children in the workhouse," where "they meet with crime, and pauperism with them is the normal state of things" (9873).

Certainly, in the Hackney wards they have every opportunity for absorbing these lessons, for (8822) according to the evidence of Dr. Downes, the Medical Inspector of the Local Government Board, "there is practically no separation from the other paupers" for boys (8225), and for the girls it is but little better (8832). The children eat and sleep with the adult paupers (8827), passing both day and night in their company, unprovided with either separate yard for exercise, or suitable play rooms when within doors. They are looked after by paupers, and evidently so imbued were the guardians

[1] The previous articles appeared in the British Medical Journal of January 2nd, p. 39; 9th, p. 90; 16th, p. 163; 23rd, p. 214; February 6th, p. 340; March 13th, p. 667; March 27th. p. 812; April 10th, p. 935; May 1st, p. 1102; July 31st, p. 285; August 14th, p. 413; and and September 11th, p. 647.

with the notion that nobody above the pauper class was needed for the development of pauper children, that for their teacher they had taken off the relief list a man who was himself a pauper, and given to him the duties of a schoolmaster (8829).

CHILDREN IN THE INFIRMARIES.

It may be difficult in all cases to keep the children from contact with the adult paupers, but every effort should be made to that end, because it is reasonable to suppose that the children will be ever unable to shake off the pernicious influences of early days spent within the walls of the workhouses. These efforts have certainly failed, even if they have been tried in some of the infirmaries. In Hackney, out of (9059) 121 children, there were 51 boys and girls under 9, and 36 boys over 9 and under 16, besides 34 infants (9059). These children are freely mixed with the adult sick in the wards night and day, and, owing to the overcrowded condition, Sir John Gorst stated he had found the children "sleeping two in a bed, head and tail" (8859); a fact which, while unable to confirm it, the medical inspector acknowledged to be "quite probable" (8860). The Greenwich Infirmary shows but little better management. In that building there were 92 children (10470)—27 boys, 49 girls, and 16 infants—all, with the exception of the babies, unseparated from the adult invalids; many of them had been there for a considerable time, others had been sent owing to the overcrowded state of the workhouse (10,458) (72) (8864). There is no need to dwell on the difficulty of adequate classification in the case of children afflicted with different diseases. It is known to every medical man and to all mothers of large families, but that there should not have been some attempt to separate the children from the adults is to us a source of surprise only equalled by astonishment at the frequency with which the medical inspector had to acknowledge that the Committee were better informed than himself. "I cannot answer you definitely" (8839); "I cannot tell you" (8844, 8858, 8854, 8857); "No, I am not aware of it" (8861); "I do not remember that;" "As a matter of fact, I cannot tell you" (8867), are answers again and again given to questions which showed knowledge or experience on the part of the Committee—a knowledge which could only have been gained during the few months of their appointment on matters which had been the sole work of the inspector for the last two years (8612).

Once more we would ask, Did or did not the inspector know of this condition of things? If he did not, why not? and if he did, why for years has it been allowed to go on wholly unremedied, if not countenanced and approved?

"INS AND OUTS."

We have already said that one of the reasons why so many children are in the workhouses is because they belong to the class technically known as "ins and outs." These unhappy children are brought in by their parents, who are usually worthless people, only to be taken out again before the short period of probation is over which it is necessary to observe in order to avoid the transmission of disease into the schools. It is almost past credence that this class should have been allowed to have enjoyed the liberty it has at the ratepayers' expense, and for the ruin of the State-supported children. Mr. Lockwood showed a table by which it was seen that the Marylebone Guardians had housed one family of three children, who had been admitted and discharged 62 times in a little over one year. "Another family of four were in and out 43 times in that same period," while a third had paid 16 visits in four months to this free hotel. According to the evidence of Mr. Carter, the Greenwich master, such persons avowedly took their discharge in order to avoid sending the children to school, and their lives during the periods when they were "out" are of the lowest, and among the most degraded of our refuse population. They show little or no consideration for the health of the children, removing them when suffering from ophthalmia or ringworm, a danger alike to themselves and the community. It is impossible to overestimate the damage these children do, or how much disease and moral contamination they spread, as when idle in the workhouse they associate with those about to go into the schools. At present the law does not touch all the classes, and even those who can be reached by its arm are frequently neglected by the guardians, who, either from apathy or economy, are content to let these evils exist, and paupers continue to be bred unchecked.

VACCINATION IN JAPAN.

THE recommendation of the Royal Commission on Vaccination in favour of the adoption of the calf lymph, and the steps which the Local Government Board are taking to facilitate its provision, give special interest to the experience of Japan in this particular subject. A concise and interesting account of the progress of vaccination in the Japanese empire is to be found in the report of the centennial celebration of Jenner's discovery of vaccination held in Tokyo, May 14th, 1896, lately published. The greater portion of this work is in Japanese, and includes some amusing woodcuts, but there is an introduction in English, which includes a translation of the closing address at the commemoration ceremony by the Hon. Dr. S. Nagayo, Vice-President of the celebration. From this account it appears that vaccination was first introduced into Japan in 1849 by Dr. Mohnike, a Dutch physician, who brought some vaccine lymph to Nagasaki. Prior to this some interest had been felt in the subject by some of the feudal princes of the empire, and especially by the Prince of Hizen, who, as soon as he heard of the introduction of lymph by Dr. Mohnike, sent his private physician to obtain a supply of it. From this source vaccine lymph, of human origin, was rapidly diffused throughout Japan; and we are told that "within two or three years vaccination became generally known throughout the whole empire."

In 1871, after the great political cataclysm by which the whole organisation of the country was transformed, the first step in the official recognition of vaccination was taken by the establishment of a vaccination bureau in connection with the Medical College of the University of Tokyo. This bureau was empowered to confer a licence authorising the holder to vaccinate, and also to sell vaccine to the public. Up to this time the lymph used had been human, and was derived from Dr. Mohnike's original stock. But a suspicion had arisen that it had lost its original power, and a Commission which was sent to Europe in 1873 to inquire into educational matters was also instructed to report on the subject of vaccination, and more particularly on the preparation of calf lymph. On the return of the Commission to Japan, and on its advice, an institution for the production of this variety of lymph was established in connection with the Medical Bureau of the Education Department, where it was regularly prepared twice a year, in the spring and autumn, and thence was distributed all over the empire. Between 1875 and 1892 further changes were made in the machinery for vaccination thus established, in transferring vaccination from the Education to the Home Department, and in providing the means for preparing calf lymph in such a way as to protect it from all risks of infection by pathogenic microbes. For the work done in this direction the Japanese are largely indebted to the researches of their distinguished countryman Professor Kitasato, who, on the resignation of Professor Hirota, was appointed Superintendent of the Vaccination Bureau. But prior to his appointment the Japanese Government had become so impressed with the expediency of using only calf lymph, that the use of human lymph had been abolished by law. The large demand for calf lymph thus created necessitated increased resources for its production, which, under Professor Kitasato's energetic direction, have been gradually provided.

Thus, as Dr. Nagayo points out, there have been three stages in the experience of Japan in regard to vaccination during a period of nearly half a century: First, the stage of arm-to-arm inoculation with lymph obtained from a European source; secondly, the introduction of calf lymph and its use indiscriminately with arm-to-arm vaccination; and, thirdly, the abolition of this latter procedure and the sole use of calf lymph aseptically prepared. It is also interesting to note that in 1876 vaccination was for the first time legally prescribed under a pecuniary penalty for default. We are not told to what extent this law was actually enforced, nor whether it applied only to infant vaccination; but presumably it did, as in 1885 a more stringent law was adopted which not only requires that every newborn child shall be vaccinated, but that revaccination shall be enforced every five years. Further legislation also for the purpose of facilitating

the production and distribution of calf lymph was introduced into Parliament in 1896, and, we are told, was "almost unanimously passed." Thus, as Dr. Nagayo remarks, "this beautiful agreement between the Government and people for the prevention of small-pox has, by a strange coincidence, taken place in the year of the centennial commemoration of Jenner's discovery of vaccination." He adds that it is impossible to estimate the benefits which the people of Japan have derived during the past forty-eight years from this discovery. Amongst these benefits it is curious to find expressly recognised the influence which the introduction of vaccination has had on the progress of civilisation in Japan.

It is difficult for those who are not intimately acquainted with the political history of the empire during this period fully to appreciate this recognition, which appears to have formed what may be called one of the "planks" in the general platform of national improvement adopted by the progressive party in Japan. "Therefore," as Dr. Nagayo assured his audience, "if vaccination had not been introduced as it was, we should never have seen such progression in our country as we observe to-day; and Dr. Jenner's merits for our country are not only of the highest order for the preservation of our health, but also for the progression of our civilisation." As these sentiments were addressed to an assembly presided over by Count Hijikata, one of the leading Japanese statesmen, who was authorised to express the interest taken in the festival by the Emperor and Empress, we may assume that they represent the views of this enlightened and progressive empire. And thus in one of the oldest civilisations of the East, at a period of the world's history when we, after a century's experience of the benefits of vaccination, have scarcely even begun to discuss revaccination as a necessary element of any system that can be claimed as really national, this interesting people, whose readiness to assimilate Western ideas is so remarkable, has solved the vaccination problem by the adoption of the exclusive use of antiseptically prepared calf lymph and the enforcement of quinquennial revaccination.

THE WEST INDIES AS A HEALTH RESORT.

MEDICAL NOTES OF A SHORT CRUISE AMONG THE ISLANDS.

III.

Jamaica.

Three quiet days at sea between Dominica and Jamaica were not all disagreeable or unwelcome after the fatigues inherent on our visit to the Windward Islands and Dominica.

The approach to Jamaica is very fine, as the Blue Mountains are seen to rise above the sea. After passing the ill-fated and now deserted city of Port Royal we entered the Palisades when the city of Kingston was dimly seen in clouds of driving dust. While waiting in the harbour on board the *Lusitania* till it was cool enough to land, several members of the Jamaica Branch of the British Medical Association called to give me the kindest of welcomes, and to proffer cordial hospitalities, an account of which has already appeared in the pages of the British Medical Journal.

On landing I went first with Dr. M. Grabham to see the Victoria Jubilee Lying-In Hospital. This institution was built in commemoration of the Queen's Jubilee of 1887, the funds for which were raised in a great measure by small contributions from the people of Jamaica; but it is maintained by an annual vote from the Legislature. This charming little hospital stands in a garden ablaze with tropical flowers; it is built with open verandahs, which allow of free ventilation through the wards. There is accommodation for 16 patients and 7 pupil nurses; the former are of every shade of colour, but the nurses are generally brown. They are trained to be midwives, and to undertake simple cases of labour.

The town of Kingston is not recommended as a winter health resort, for it is hot and dusty; but an ascent, by good driving roads, of a few hundred or a thousand feet above the sea to the hills beyond Kingston, places one at once in a cooler, fresher air. The Constant Spring Hotel, at an elevation of 600 feet, is that most frequented by visitors. From here the beautiful and interesting Castleton Botanic Gardens can be visited, or Newcastle, where the cantonment for the British troops is pitched at an elevation of nearly 4,000 feet, the white tents and houses of which look from below (as has been said) like pocket handkerchiefs spread out to dry on the mountain side.

In an exceedingly interesting and permanently instructive paper by the late Brigade-Surgeon S. E. Maunsell (which was read before the Jamaica Branch of the British Medical Association), the story is told why the troops were relegated to the clouds, and how Jamaica, from being regarded as the most unhealthy, has become a healthy station for troops, and how a death-rate which once reached the appallingly high figure of from 100 to 300 per 1,000, has been reduce d to11 per 1,000.

When in the last quarter of the eighteenth century it was considered necessary to keep a large body of white troops in Jamaica, Dr. John Hunter, Physician to the army, drew attention to the then terrible loss of life. To quote some of the facts and figures he gives: The 79th Regiment arrived at Jamaica in July, 1779, 1,008 strong, and were quartered at Kingston. In four years they had lost 910 men. The 60th Regiment landed 387 strong in February, 1780, 155 of whom died during the year. The 88th Regiment arrived in March, 1780; in two years they had lost 550 men out of 791. The 93rd Regiment lost half their number in the first six months, and of the remainder only 73 were fit for duty. And of the 94th Regiment only one-seventh remained fit for duty at the end of two years and four months.

In 1782 Jamaica was threatened with attack, and of the 7,000 men who had been sent from home for its protection during the previous three years only 2,000 were forthcoming for service. Dr. John Hunter declared, with no uncertain voice, that the causes of this cruel waste of life, this colossal amount of untold suffering, to be "bad quarters and neglect of sanitary precautions," and he also averred that healthy stations for the troops could be found in Jamaica. He spoke, however, words of wisdom to the winds. The slaughter from preventable disease went on, so that service in Jamaica was looked upon as almost certain death. It was not till 1817 that we have vital statistics on which to base accurate data. From these we learn that for twenty years between 1817-36 the average annual mortality of the white troops was 121 per 1,000, but that during the same period the mortality of the black troops was only 30 per 1,000, and of the slave population 25 per 1,000. Deaths from fever reached the high figure of 101.9 per 1,000. The fatal fevers were either yellow or remittent, the one being often confounded with the other. These diseases were always endemic, and often epidemic, in the stations for the troops. Of all these stations, that of Up Park Camp was the most unhealthy, and earned the name of "The graveyard of Europeans," but only too justly, for in 1819 the mortality here reached 501 per 1,000.

It is useless going over the dreary records of mortality; whole regiments were wiped out by preventable disease within a few years of landing, and where death did not claim its victims invalidism rendered life a burden and a heavy cost to the State. As is often seen when despair gains possession of a community, drunkenness and insubordination were rife, and added to the miseries and dangers of the soldier's life in Jamaica. At last two facts began to dawn upon the authorities: first, that the troops stationed at high elevations, such as Maroon Town, Mandeville, etc., did not suffer from fever in anything like the same proportion as the troops quartered on the swamps by the sea or in the lowlands; and, secondly, that the most obvious sanitary precautions were being neglected. The troops were overcrowded; in the best barracks, hammocks 22 inches wide, packed as closely as possible, were considered good sleeping accommodation; the uniforms worn by the men were the same as those used in temperate climes; and the sanitary appliances were simply large open cesspits, near the barracks, and were seldom emptied. Nevertheless for many years the phantom of "miasma," "the need of acclimatisation," were adduced as sufficient explanations of an abnormal high rate of disease and mortality, instead of the true causes—foul drinking water, foul air and filth.

At length the Inspector-Generals reported to the War Office that there were perfectly healthy districts in the highlands of Jamaica, where yellow fever was unknown. After some hesitation Newcastle, situated at a height of 3,800 feet above Kingston, was selected as a camp. A working party was des-

patched in the midst of a severe epidemic of yellow fever in 1841 to provide an experimental barrack. Before the barracks were completed the 2nd Battalion of the 60th Rifles were landed, and distributed among the forts. In one week 36 of the regiment died. In all haste the survivors were removed to Newcastle, and encamped among the coffee plantations. The fever immediately ceased. Other troops were then moved up and put under canvas. The mortality fell from 301 per 1,000 in the first six months of the year to 30 per 1,000 in the latter six months. Newcastle soon became crowded; every available ledge of its steep precipices was used for tents. The doctrine of "miasma," and the belief that the troops were now above the reach of yellow fever, bred carelessness which quickly bore fruits. Foul cesspits were allowed to remain close to the tents, and the attempts made at drainage were the most crude and imperfect. Yellow fever was carried to Newcastle, and in 1857 there was an epidemic among the troops which resulted in 47 deaths. This was a deathblow to the theory that yellow fever did not occur above a height of 2,500 feet.

Disease and death did not only attack the unfortunate troops: the civil population suffered as severely, if not more so, and from the same causes, or rather cause—filth. The town of Kingston was like an open cesspool; in its vile lanes and filthy streets the microbes of yellow fever, dysentery, and cholera found a congenial nidus, and flourished exceedingly. There was indeed no occasion to make elaborate distinctions between "civic miasma" and "marsh miasma," and it was simply blasphemous to ascribe epidemics to the "hand of God," when in 1850 the grand jury reported thus:

"The streets and lanes of Kingston are disgraceful to the community, not only from their dangerous condition, but from the filth permitted to accumulate in them. There is not a drain or sewer in the city, and the streets consequently become the depôt for all the filth and garbage ejected from the dilapidated premises with which the city abounds." It is not, therefore, to be wondered at that when cholera was introduced it swept through the island, decimating the population; 4,000 died in Kingston alone, and it is estimated that 35,000 people perished in the epidemic of 1850. The black race, who had remained immune from the ravages of yellow fever, were slain in thousands in a few weeks from cholera. Despair took possession of the people. In Kingston fatuous counsels prevailed. The Board of Health borrowed cannon from the ordnance stores and the service of gunners, and for some days blank cartridges were fired in the streets of Kingston to destroy the morbific power that lurked in the dark alleys of the pestilence-stricken city.

The Commission of Inquiry into the causes of the heavy mortality among the British troops in the Crimea in 1855, and the sanitary recommendations made, had some effect in influencing opinion on similar subjects in Jamaica; but still too much reliance was placed on "elevation." Newcastle became overcrowded and its sanitary condition deplorable, with the result that it suffered from another severe outbreak of yellow fever in 1867. A War Office Commission was appointed to inquire into the cause, and recommended the closing of the cesspits and the introduction of dry earth latrines, and that each soldier should have 75 square feet and 800 cubic feet of breathing space in his barrack room. These recommendations were disregarded, and in 1874 and 1878 Newcastle suffered from enteric and yellow fever. These facts incontestably proved the futility of the old fallacies of "atmospheric influences" and "pandemic waves," and established the fact that so long as sanitation is neglected "elevation" will give no immunity from filth diseases.

Sanitation, however, eventually succeeded in doing great things for Jamaica. In 1868 the Government Medical Service was established, and hospitals and doctors are now to be found in every district of the island; the quarantine law of 1893 is enforced, and a lazaretto, abundantly supplied with good water, was opened in 1881.

But, what is more important still, Kingston and the other towns of Jamaica have been provided within the last 10 or 15 years with good and abundant water, the supply of which is in many cases constant. The Board of Health is armed with powers to enforce isolation in the case of infectious or contagious disease.

The substitution of steam ships for sailing ships has also had the most beneficial result on the causation of epidemics. In former times the sailing ships remained many weeks in harbour, fouling the water, and becoming, by their insanitary condition, sources of danger and centres of infection. Steam ships now stay the shortest time possible in harbour, and their sanitation is also much more perfect than was possible in the old order of sailing vessels. The first cases of yellow fever used always to appear among the sailors. It is a curious fact that though yellow fever is not contagious directly from a patient, soiled linen or articles will, if kept, convey the contagium. Thus, if a ship has once had yellow fever aboard, and it be cleansed and disinfected, yellow fever will again break out in it if it returns to the tropics.

The outbreak of yellow fever in the family of the Lieutenant-Governor in 1880 is instructive. Yellow fever broke out in the Governor's house in the plains, and was thought to be due to a badly-constructed watercloset. Lieutenant-Governor Rushworth caught the disease and died, as well as his nephew. The family removed to a house in the hills. They were succeeded in this house by another family, who contracted yellow fever from some soiled linen which had been left forgotten in a press, and had been disturbed. Another small epidemic, confined to the military at the Apostles Battery, occurred about eight years ago, in which one case died. This was thought to be due to the disturbance of an old centre of contagion, yellow fever having been present in the barracks some years previously. In the decade preceding the last there were as many as 50 cases of yellow fever in Kingston, but during the last 10 years the dreaded "yellow jack" has been seldom seen in Jamaica, and in the medical reports of the last two years it is distinguished by its absence.

Improved sanitation, obtained by providing Kingston with a good water supply and by removing the sewage beyond the Palisades, has resulted in changing the condition of this city. Kingston called in first Colonel Waring and then Mr. Chadwick to advise in this great reform. The sewage is now carried five miles along the Rock Fort Road, and turned into the Atlantic outside the Palisades. The surface water, carried in open conduits down the streets of Kingston, does not give an agreeable first impression to the visitor; but this method of disposing of the surface water is maintained on the theory that in the tropics, if the conduits be kept clean, it is healthier to expose surface drainage to the fierce heat of the sun than to conduct it by underground pipes.

The influence of improved sanitation was seen at once in the army of occupation; in the ten years ending in 1889 the mortality from all causes was only 11.36 per 1,000, and from fever 4.30 per 1,000, and in 1889 from all causes 8 per 1,000, and for fever *nil*. Intermittent and remittent fever have almost ceased to exist in places they formerly ravaged. With proper care cholera and yellow fever should never be allowed to set foot again in Jamaica.

With preventable disease banished from its shores by sanitation the climatic advantages of the island become at once sources of attraction and prosperity to Jamaica. The island has one great advantage as a health resort, namely, that a variety of climate can be obtained at different elevations. In Kingston the mean temperature is 78°, but as there is a fall of 1° for every 300 feet ascended, a refreshingly cool climate can be obtained in the coffee plantations and orange groves of the mountain slopes. At Newcastle the mean temperature is 60°. Fogs and frosts are unknown in Jamaica. The humidity is less than would be expected, the mean being about 65° for Kingston. There is a marked difference in the temperature of day and night. I was much struck by this when at the Constant Spring Hotel, at which elevation the nights were delightfully cool and refreshing. In the mountains of Jamaica the climate is like that of a fine summer in England, but with a clearer and more exhilarating air. Dr. Phillipo says: "In these mountains, and indeed all through Jamaica, Europeans live to a green old age, as is shown in the tables of the Jamaica Mutual Life Insurance Society, from which it appears that their lives after a certain age are even longer than the lives of insured natives." In the annual report on the Medical Department of Jamaica for 1896-97 it is stated "European residents in this country, when ordinarily prudent, experience almost complete immunity from

climatic disease. The beneficial results secured and the favourable comments by health seekers have placed our island in the foremost rank of health resorts." Hotels and boarding houses for the accommodation of visitors and invalids are increasing. At Moneague in St. Anne's a fine hotel has been built at an elevation of 950 feet above the sea. The country around is beautiful and interesting, and for the climate perfection is claimed. At Mandeville, a charming village, situated on a mountain 2,200 feet above sea level, are to be found a good hotel and comfortable boarding houses. Mandeville can, moreover, be reached by rail, and the invalid, while enjoying a dry bracing climate, is not removed from the comforts and pleasures of civilised life.

Jamaica possesses many medicinal springs. The Milk River Bath is a warm saline spring resembling somewhat the waters of Carlsbad springs. After long neglect it is being used in the treatment of gout, rheumatism, sciatica, eczema, and liver troubles. At Bath is a sulphurous spring, which issues at a temperature of 130° from the face of a perpendicular rock. These waters are considered to be of special value in rheumatic, scrofulous, and skin diseases. There is accommodation for invalids at both these health resorts, but it is believed that if their medicinal qualities were better known Jamaica might be resorted to for its mineral springs by the English and Americans in the same way as is done in Germany and Bohemia. In this as in many other things the Jamaicans should bestir themselves.

A rich soil, a beautiful country, a climate of great variety, salubrious health resorts at considerable elevations, valuable mineral springs, an efficient, well-organised, and widely-distributed medical staff, should all combine, now that sanitation has overcome and banished the reproach of the island, to make Jamaica one of the most popular as well as one of the most efficient winter health resorts for those suffering from rheumatism, lung trouble, and nervous depression. Let but Jamaica say it shall be, and it will be.

Ernest Hart.

OPENING OF THE MEDICAL SCHOOLS:
INTRODUCTORY ADDRESSES.

ST. VINCENT'S HOSPITAL, DUBLIN.

By Michael Francis Cox, M.D.R.U.I., F.R.C.P.I.,
Physician to St. Vincent's Hospital.

THE ARMY MEDICAL SERVICE.

The revolution of the wheel of time, and of fortune, has carried me hither, for the fourth quadrennial period, to inaugurate another session of our hospital. Time has wrought its changes; but I am glad to state that it has dealt kindly with this hospital, and brings to it apparently ever renewed youth and strength. Not the least of its good fortune is that, during its last session, as during the previous sessions, it had the services of an able and zealous resident staff—nurses as good as humanity is capable of, and a devoted following of students. I am glad to be able to chronicle the brilliant success of two of our past students during the last year: of Mr. M'Ardle, who attained a high place in the Army Medical Service; and of Mr. Delany, who attained first place in the Indian Medical Service. We rejoice at their success, as students of this hospital and as Irishmen, and I am thereby reminded of similar successes of Vincent's men in the past, such as my old friend, fellow-student, and countryman, Terry Sweeny, who passed first into Netley and first out of it, as I hope Mr. Delany will. We may claim here, too, the successes of our colleagues—Mr. Tobin, Mr. O'Devaine, and of our late colleague, Dr. Adye Curran—of whose ripe experience and matured judgment St. Vincent's Hospital has been so ready to avail itself. And thus we may legitimately claim a peculiar and intimate connection with the Army Medical Service; whilst in the navy an old fellow resident of mine, Mr. Geoghegan, has also attained to distinction. And so, when more or less puzzled as to the selection of a subject for discussion to-day suitable to the occasion, I have been driven not unwillingly to the consideration of the Army Medical Service as a career for our students. I come to it the more willingly because other subjects are worked threadbare. I will not advise beginners, for I am sure they are tired of advice, and have already decided that they are entering the noblest of professions and the best of hospitals. My colleague, Dr. M'Hugh, dealt ably last session with the question of isolation hospitals, which must soon be settled, whilst Poor-law reform is following with halting and measured pace in the steps of prison and asylum reform. If I might venture further afield for a moment to refer to a question in which we are all deeply concerned—the university question; it is only to remind Mr. Balfour, who is a man of letters as well as a statesman, of a suggestion made more than a century and a half ago, by one of whose works he is a student and an admirer, by the great and excellent Bishop of Cloyne, of whom it was said, not unjustly, that "to Berkeley every virtue under Heaven belonged." In the *Querist* he put this question—Whether it would not be possible to have within the University of Dublin a college for Catholics equal to Trinity College, following, he observed, the liberal example of the Jesuits in the University of Paris towards the Protestants. But this I record merely as a pious opinion worth taking account of, and I pass on to my subject. To-day's papers contain anew the announcement of the death at Datta Khel, on June 18th, of Surgeon-Captain Cassidy from wounds received on June 10th in the Tochi disaster. This brave officer, who, according to the late and the present commander-in-chief, was only "a civilian" with inherited military instincts engrafted on an older medical stem, for the Cassidys were ancient physicians to the M'Guires of Fermanagh, joined the army as he believed in which his maternal uncle and grandfather had attained distinction; but because he laboured under the disability of being a non-combatant and a civilian, although a brave one (he gave his life for his fellows, and died the death of a hero); yet, will it be believed, in the *Gazette* which contained an account of the Tochi disaster, whilst the services of the combatant officers were highly eulogised, no reference was made to the services or death of Surgeon-Captain Cassidy, who was mortally wounded when attending Colonel Bunny? The genesis and development of the Army Medical Service is, as I conceive it, this—that from having been regimental and attached in every sense, it was, as it is, detached or unattached. It needs but one step more to be constituted, like the Engineers, into a Royal corps. Deprived of rank and power it needs and demands them. Given relative rank, which is an evasive shadow, it needs substantive rank, with limited power of command, absolute within its own sphere. Blamed for the faults of others, and unrewarded for their meritorious deeds, the system is at fault, not the men. Excellent units, they need to be knit into solidarity and homogeneity. Soldiers have their autumn manœuvres, and are sent abroad to study the battlefields of Europe at the expense of the State, whilst army medical men cannot, except at their own expense, and surreptitiously, during their vacation, visit Continental hospitals to study disease. The army medical officer wears a sword and carries a revolver, but is not taught to use them, even to defend his own life or the lives of others. He must ride, but is not taught how. In the army they are treated like pariahs, as if they belonged to an inferior caste, and are exposed to various indignities and insults, social and official. Denied the privileges of their supposed rank, they are held responsible for the duties which rank imposes; as in the case of Surgeon-Captain Fowler, who a few years ago was summarily removed from the service because he did not put a combatant officer under arrest for an offence committed at the mess of a militia regiment where he was a guest! The following instance illustrates the practical disabilities under which army medical officers labour: A surgeon-captain of a few months' standing being invalided home, and having exhausted his resources, sought a free passage, but was refused, as lieutenants only were entitled. Then he sought an advance for passage money, to be repaid later on, as captains are entitled to, on medical certificate, but was refused on the ground that the regulation applied to captains, not to surgeon-captains. The captain who churlishly refused was enabled to avail himself of the privilege, soon after, of travelling at one-fourth what the invalided and impoverished army medical officer had to pay. This is a good instance of

what rank means, and it is such treatment as this from petty despots dressed in a little brief authority which makes some men regret having ever entered the service, or, perhaps, leads them to dissuade others from entering. The spirit of militarism is rampant and aggressive. The Duke of Cambridge, who was rescued from Russian infantry at Inkerman by Assistant Surgeon Wilson, declared that his military instincts forbade the idea of giving medical officers military rank or title. Hence, the Director-General of the Army Medical Department was made civil C.B., not military C.B. The Duke spoke of him as "a brilliant civilian." Sir Redvers Buller did not hesitate to libel Surgeon-General O'Niall, repeating a false and idle story, which he had afterwards to retract and apologise for. Lord Wolseley, at a parade here in Dublin, ordered the Army Medical men to remove their arms, as if they had been guilty of some dishonourable action. I tell Lord Wolseley that no unknightly deed has tarnished their escutcheon; no stain rests on their banner. "Be they cowards or traitors, go! ask the shade of England's foe." Ask the Crimea's snows! Ask the sands of Egypt! Ask the plains of India! Ask the heights of the Himalayas! And who are the men thus slighted? Some of them we know; some are amongst us here to-day. Are they less able, less educated, less honourable, less brave than their compeers? Let the list of killed and wounded answer for their danger. Let the Victoria Cross speak for their courage. Let the death-roll tell of their sacrifice. What is the rate of their relative mortality? Nearly two to one, or thirteen to seven, as compared with combatant officers.

Having given the names of the medical officers killed or wounded in recent wars, Dr. Cox proceeded: At Majuba Hill a surgeon shot through the spine died in the very act of attending a wounded soldier, and many other instances no less heroic are recorded. We know that Surgeon-Major Parke saved the life of a brother officer, at the risk of his own, by sucking the wound inflicted by a poisoned arrow, and led a troop as well. When Surgeon-General Sir Anthony Home received the Victoria Cross for his heroic defence of the wounded in a street at Lucknow, he was the only officer decorated on the occasion who was not afterwards invited to the palace; he felt the slight so keenly that for years afterwards he refused to wear the decoration which he had so honourably won. Again, when Surgeon Reynolds received the Victoria Cross for his gallant conduct at Rorke's Drift his companion, an officer of engineers, was afterwards invited to the palace, but Surgeon Reynolds was passed over unnoticed. He did not belong, one might infer, to the same caste, and he was therefore unfit to sit with any combatant officer above the salt. It has been said well that

> Rank is but the guinea's stamp,
> The man's the gowd for a' that.

That is precisely the point—we all like the guinea's stamp, without which even the gold of Klondyke is of less value. Would Lord Wolseley, shorn of his rank and honours and authority, seem quite the same man as he does now? We demand for the Army Medical Service equality and justice—nothing less and nothing more, no tinsel titles, no mock rank, no borrowed plumes. They ask that they shall be no longer officers of comic opera. They may cry out in the words of Richard Lalor Sheil, appealing on behalf of Irish Catholics: Participators in every danger, in the glory alone shall we not be allowed to participate, and are we to be told in requital that we are estranged from the noble band for whose salvation our life blood has been poured forth?

Sir CHRISTOPHER NIXON said all were unanimous that the Army Medical Service had been treated badly, and that reform in it was urgently needed. He would be satisfied to put before them the reforms that had been suggested by Sir Andrew Clark. He would put aside the points about extra pay, extension of leave, and term of foreign service. But he would take three cardinal points—first, the question of rank to the medical officer from the first moment he entered the service, that it should be equivalent to that of the combatant officer; secondly, that the Army Medical Department should be consolidated into one corps; and, thirdly, the abolition of those composite titles which helped to bring ridicule on the Army Medical Service. There was in connection with this an amount of almost inexplicable petty jealousy with reference to these titles, which could not be better described than in the words of Lord Roberts, who said, "The cordial relations which used to exist between the combatant and medical officers, and which was so conducive to good fellowship in the army, are unfortunately a thing of the past." Was that sort of thing to be continued? Assuming they had a great European war, with two army corps in the field, what became of the Medical Department? There would be a recurrence of the disastrous things that occurred in the Crimea, and how were these things to be remedied? They had a great statesman's authority that whenever they had a great or grave grievance their only plan was to agitate. He (Sir Christopher) went further still, and would introduce that very old and economic precept of supply and demand, and was of opinion that they in the hospitals ought to advise their students not to present themselves for the army medical examinations until the reforms they demanded were granted. If that policy were carried out he did not see, in the face of their asking merely what was right and just, in face of their adopting a principle of *esprit de corps* over the whole service, by which all would work in harmony, how any resistance could be given to a demand so imperative, just, and unanswerable.

Sir WILLIAM THOMSON said it was his privilege to propose a vote of thanks to Dr. Cox for his inaugural address. Dr. Cox had brought before them in a vivid way one side of this most important subject, which for many years had agitated the medical world. But he thought that it was one that went beyond the interests of medical men in the army and in civil life. It affected the interests of the army itself, and was, therefore, a question of great public importance, because the medical men in the army had not alone the charge of the army in times of war, but they were further responsible in their duty to keep it equipped in health and to be fit for war in times of peace. Unless, therefore, they had the Army Medical Service working in harmony with the combatant side of the service, things would not fall out as they wished. The Chairman had said that this was a subject on which they ought to be prepared to give advice to the student. He was naturally, of course, in sympathy with any agitation against hardship and injustice to his colleagues of the profession. But for himself he did not feel at liberty to say to any medical student, or any young medical man just qualified, "Do not go into the army." He would rather be inclined to tell him that as it at present exists it was a most unattractive profession, but then if he stood out in the hope that in one, two, or three years there might be reforms, and if he then found his time of eligibility for the service had lapsed what had he (Sir William) or anyone else to offer him? Therefore he thought that it was the duty of every teacher to tell the student how the case really stands, and to throw on the student the responsibility of making his choice. That was, after all, dealing fairly as between teacher and student, and relieved the teacher of a responsibility which he should not undertake and could not properly fulfil. The Chairman had indicated to them the three great principles of reform which they were seeking for in the Army Medical Service. He could not understand why there should be any hesitation in accepting these. It was well known that in other countries the same cause of complaint did not exist. Why was it that the Engineer officers, who really had to deal in a great measure simply with maps, making plans, fortifications, and so on, and who in strictness were non-combatant, were formed into a separate corps and had their own control? What objection was there to give to the medical officers the same privileges, seeing especially that it would vastly increase the value of the Army Medical Department, particularly in times of war? The combatant part of the army seemed to have a decided objection to give any purely military rank to the medical branch of the service. What was to be said of the Army Pay Department, in which the officers had simply to arrange matters of accounts, of requirements, and the payment of officers? Yet there was no such disability in their case as the Medical Service complained of. There was, in fact, a real grievance in this matter which struck at the interests of the whole army and of the public. He had had himself to act on a deputation to the Minister of War on this question, and his opinion on leaving was that he was sympathetic on the subject. There were suspicions as to certain influences being at work, but his belief was that if the claim

now made, supported by the whole body of the profession and the great majority of the people, was put forward as it should be, it would be granted, and that the medical officers would be placed in the position their services and merits so thoroughly deserved.

Professor Birmingham seconded the motion, and said that when students came to him and asked his advice on the subject of entering for the Army Medical Service, his disposition was to give *Punch's* famous reply on another subject and say, "Don't." But what he really did was, to put on the one side the small number of advantages in favour of, and on the other the large number of disadvantages, and say, "Choose for yourself." He had felt that the Army Medical Service was such, as now constituted, that no spirited young fellow should join. No great reform was ever brought about without some sacrifice. Inside the service they could not agitate. The grievance must be remedied by agitation, therefore, from outside. It was said that the grievances were sentimental; but even so, such grievances were as much felt as any other, especially by young men of spirit, and with the world before them. It was their duty to say "Don't" in a modified way to those about to enter the department, and to urge them to withhold until they got proper treatment from their brethren in the army.

The resolution was passed amidst applause.

Dr. Cox expressed his thanks.

SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION

Held in MONTREAL, August-September, 1897.

EXCURSIONS.

The British practitioner, as a rule, is pretty much of a stay-at-home individual, thoroughly wedded to his native isle, and it is seldom that he strays beyond the boundaries of a "Continental" tour; therefore to a large extent the voyage across the Atlantic must have been almost formidable, necessitating as it did a certain expenditure of time and money, not to mention the possible fatigue incidental to a protracted journey. But what has the experience practically demonstrated? That the trip, even during ordinary non-excursion seasons, can be made at a comparatively moderate cost, and without any risk whatsoever to life or health. The voyage across to Quebec, far from exhausting either the mental or physical energies of the visitors, only spurred them on to further efforts; and no sooner had the members of the Association transacted their official business in Montreal, than they were ready to accept the invitations of their Canadian brethren, and take advantage of the many trips here and there so carefully and wisely mapped out by the Excursion Committee. There were, of course, during the week of the meeting little jaunts by electric tramcars, which enabled the visitors to obtain a good idea of Montreal and its suburbs, but, when the meeting had finally terminated its labours, much longer flights were taken. It was natural, perhaps, that the excursionists, most of whom were denizens of crowded centres in the old country, should seek a little change when visiting Canada, and, to use an Americanism, "take to the woods." By so doing, they of course missed many opportunities of noting the rapid progress and wonderful development of the larger towns and cities; but in travelling through the less settled districts they were largely compensated by the rich panorama of scenery on all sides, for at this particular season Nature was at her very loveliest.

To those who visited Ottawa, the capital of the Dominion, was given the opportunity of seeing a city which largely owes its wonderful prosperity to Canada's great natural source of wealth, the lumber industry, while the magnificent Government buildings were an architectural revelation to many. The country, too, in the vicinity of Ottawa, abounding as it does in lakes, rivers, and forests, proved too tempting for lovers of the rod and gun to resist, and successful by-excursions were made thereto. The triplet provinces by the sea—Nova Scotia, New Brunswick, and Prince Edward Island—also drew within their borders many who enjoyed to the utmost the run by rail through the beautiful Metapedia Valley, and along the coast of the Baie des Chaleurs, while those who preferred making the trip by steamer appreciated in no less degree the wild scenery which marks every cape and headland skirting the ocean line. Niagara, the Mecca of the average European tourist who visits America, attracted to its shrine a large quota of worshippers; and Toronto, the so-called "Queen City" of the Dominion, also demanded more than passing notice. The various hunting and fishing organisations, notably the Laurentian and Saint Maurice Clubs, had generously thrown their territories open to the visitors, and not a few availed themselves of their kindly hospitality, meeting with more or less success, according to the time occupied and skill displayed in the use of rod and fowling piece.

A very interesting excursion, which was taken with much pleasure by many of those who attended the annual meeting, was that from Montreal by way of Quebec to Lake St. John. It afforded an opportunity of seeing Quebec itself, so romantically situated and so full of historic memories, for it was on the heights of Abraham that the gallantry of Wolfe won for the British Empire the Dominion of Canada. The railway to Lake St. John runs through the Laurentides Mountains, which give to Eastern Canada its peculiar features, and the return journey by way of Chicoutimi brought the traveller by boat through the grand and rugged scenery of the Saguenay River to the broad stream of the St. Lawrence, and so back to Quebec.

Whether journeying alone or in small battalions, kindly words of welcome greeted the guest from the "old" land, and wherever he went he was made to feel that in the Greater Britain beyond the seas English speech and British birth were the only passports necessary to gain the hearts and confidences of the Canadian people, and it must have been apparent even to the most politically obtuse that the sturdy races inhabiting our vast northern possessions will in the future form no small factor in the great common Imperial nationality.

Any account of these Canadian tours would be most imperfect if it did not refer to the admirable manner in which the members of the Excursion Committee performed the duties imposed upon them, and to thank those gentlemen, but especially Dr. G. E. Armstrong, the chairman, and Dr. H. S. Birkett, the secretary, most heartily for the many acts of kindness and advice rendered the visitors from Great Britain and elsewhere.

Excursion to Ottawa.

The party which visited Ottawa, about 300 strong, was met at Alexandria by Dr. Prevost, President of the Local Branch of the Association, and Drs. Dewar and Powell, who presented each of them with badges and a souvenir in the shape of a handsome little guide to Ottawa. At the station the visitors were met by his Worship Mayor Bingham and the City Council, nearly all the local doctors, and a large number of citizens. The Ottawa Electric Company had placed seven open cars at the disposal of the Reception Committee, and these were quickly filled by the visitors, who were then given a run over the road, visiting Rockliffe, West End Park, and other points of interest, and being shown through the Parliament buildings, which they greatly admired. Luncheon at the Russell House was next in order, and the large dining room of the hotel was crowded to its utmost capacity, about 350 being seated at the four long tables. Dr. Prevost presided, having on his right the Mayor, and on his left Dr. Roddick, President of the Association. After the toast of "The Queen," the Chairman proposed the toast of the "British Medical Association" in a very neat little speech, in which he expressed pleasure that the capital was honoured by the presence of so distinguished a body of men, and regret that their visit was to be so brief. Dr. Roddick, in replying, expressed the pleasure which it gave him to be able to show the British Medical Association "the beautiful capital of Canada;" and that, great as had been the success of the meeting in Montreal, the Association would remember with pleasure its delightful trip to Ottawa. As to the Montreal meeting, he said that he considered it the greatest immigra-

tion scheme which ever had been devised, for the Dominion would now have a thousand energetic and able agents telling a million people what a fine country Canada was, and how good a place it was to live in. He thanked Sir Wilfrid Laurier for the readiness with which he had responded to the suggestion that an appropriation be made towards the entertainment of the British Medical Association, and regretted that the Premier had other duties which necessitated his absence from Ottawa that day, as he was sure it would have given him great pleasure to be present. Mr. Fowke, Secretary of the Association, also replied, after which Dr. Baynes proposed the toast of "The Mayor and Corporation of Ottawa" in a short but effective speech, in which he said that the trip to the capital of the Dominion was a fitting termination of the meeting in Montreal, which was without parallel in the history of the Association. Sir James Grant, in an eloquent little speech, proposed the health of Dr. Armstrong, Chairman of the Excursion Committee in Montreal, who briefly responded, and the luncheon terminated. The electric cars were again called into requisition, and the party conveyed to Hull, where private cars had been provided by the Hull Electric Railway Company, and a quick run out to the park at Aylmer was made, the party returning to Ottawa in time for their train to Montreal.

ACROSS THE CONTINENT TO VANCOUVER.

THE excursion from Montreal to Vancouver is without doubt the longest which has ever been arranged in connection with the annual meeting of the British Medical Association. The distance traversed is 2,906 miles, and the time occupied by the traveller who does not pause on the way is a little more than five days and five nights. To spend so long a time in the train may not seem an agreeable way of taking a holiday, but the permanent way of the Canadian Pacific Railway is so well laid, and its sleeping cars are so well constructed and ventilated that even the least experienced travellers, even ladies and children, make the journey without undue fatigue, and the traveller finds himself fresher in body than when he started, while the eye has been rejoiced and the mind stimulated by an infinite variety of impressions.

Of the surpassing interest of the journey it is difficult to give any adequate idea. Each day brings a change of scenery. Canada, in fact, lays bare her heart to the traveller. He sees her waterways, her orchards, her forests, her wheatfields, and her mountains. He may draw what conclusions he may on matters of detail, but he cannot fail to perceive that the resources of Canada have not yet been adequately understood in the mother country, and that the Dominion will, for some generations to come at least, be able to offer to men of energy opportunities to make for themselves homes in a country which is proud to fly the Union Jack.

The through train leaves Montreal daily at 9.50 A.M., and arrives at Vancouver on the sixth day at 1 P.M. Thus if the start is made on Monday, the traveller who sticks to the train finds himself on the Pacific coast on Saturday.[1] In the interval the Canadian Pacific Railway takes him completely in charge, and provides him with food, with sleeping berths, smoking rooms, news-telegrams, and all the appurtenances of civilisation. The speed of the trains is about thirty miles an hour, and twice or thrice a day the train stops at one of the divisional stations long enough to allow a short constitutional to be taken.

MONTREAL TO FORT WILLIAM.

From Montreal the line runs through a smiling country settled chiefly by French Canadians, to Ottawa, where the Parliament buildings look down on the river and lumber yards. Beyond Ottawa the railway follows the course of the Ottawa river, upon which are seen great quantities of sawn logs collected in booms for the supply of the lumber mills below. Gradually the character of the forest changes, and whereas the elm and the maple have been the characteristic trees, every hillside is now clothed by pine and larch, though here and there the bright berries of the rowan make up in part for the absence of the brilliant autumn tints of the maple. Down from the hills come fine rivers running brown, which look like Scotch salmon rivers, and do contain maskinonge, trout, and bass. The whole aspect of the country recalls the less mountainous parts of Scotland, and the speech of the sturdy weather-beaten farmers at the roadside stations maintains the impression, for the country is settled mainly by Scotchmen, who, as is customary, have brought prosperity with them. Further up the valley the country grows wilder, and the chief industry of the villages passed is lumbering. At Mattawa the railway strikes up the valley of the same name through a forest country, famous for the sport which it affords, to Lake Nipissing, a lumbering and sporting district, as yet very partially settled, but capable, it is believed, of sustaining a large population in the future. At Sudbury, near the confines of the Nipissing district the line strikes away north-west to the northern shore of Lake Superior. It traverses a wild broken country of forest, rock, and lake, which may one day become the home of a hardy population, but while rich lands remain beyond calling out for cultivation it will probably remain an incomparable "playground" for the sportsman and the tourist. The line winds its narrow way through the woods and scattered clearings, often in a cutting in the living rock, the scanty herbage on whose sides afford studies in green and orange and yellow. The mineral riches of the country here about have as yet been very little exploited, but are known to be very considerable. Finally, Lake Superior is reached at Heron Bay. The scenery of this northern shore is of extraordinary beauty. The railway is carried along the rugged coast by a series of engineering feats, and the journey round the great sweep of Jackfish Bay affords enchanting views of the broken frowning cliffs with the blue waters of the inland sea sleeping beneath. Finally, at Thunder Bay the train runs out on to a broad plain stretching away to north and west, and reaches Fort William, the northern port of Lake Superior, from which lines of passenger steamers run to Windsor, opposite Detroit, and to Owen Sound on Lake Huron. Here the wheat and flour of the North-West finds an outlet, and a large number of boats are constantly circulating south and east. Here also terminates the eastern division of the Transcontinental line, 998 miles from Montreal, or a little more than a third of the whole journey to Vancouver.

FORT WILLIAM TO WINNIPEG.

Leaving Fort William the line soon again enters a wild broken country, which grows wilder and wilder, by lake, and rock, and scanty forest, until the Lake of the Woods is reached, where, at Rat Portage, are evidences of thriving industry, for it is the port supplying the mining districts of the Rainy Lake and Seine River, while a few miles further on, at Keewatin, a serious and successful attempt has been made to utilise the water power which everywhere along our route has been running to waste. To the sportsman and tourist the steamboats on the lake afford many opportunities for delightful excursions. About 150 miles further on the character of the country begins to change, and shortly before Winnipeg the outskirts of the prairie are reached. We follow the Red River for a short distance, and then cross it to enter the capital of Manitoba. Winnipeg is a great railway centre, and to this owes its rapid growth. In 1871 it was a small post and fort with some 100 inhabitants; now it is a well laid-out town with wide streets, handsome buildings, electric tramcars, and a mud which is famous throughout Canada for its black colour and tenacious characters, but which is nevertheless regarded with complacent toleration by the inhabitants, for it is an evidence of the cause of their prosperity.

WINNIPEG: ITS UNIVERSITY AND HOSPITALS.

Winnipeg is the seat of the University of Manitoba, which was incorporated in 1877. Its Council comprises representatives of St. Boniface College (Roman Catholic), St. John's College (Anglican), Manitoba College, Wesley College, Manitoba Medical College, the College of Physicians and Surgeons of Manitoba, and of Convocation. The College of Physicians and Surgeons is composed of every registered medical practitioner in the Province of Manitoba, and is the sole licensing body, but by the Manitoba Medical Act of 1886 all the examining powers which previously belonged to the College were vested in the Manitoba University, and the licence to practise is now granted upon the certificate of he Manitoba

[1] It is understood that the train will be accelerated next year, so that the journey will be completed in a rather shorter time.

University that the holder is a graduate of that University by examination, or is a licentiate of a college of physicians and surgeons or of any other incorporated body of medical men exercising similar powers in a province of the Dominion of Canada, where reciprocal rights are granted to the graduates of Manitoba University.[2] The Manitoba Medical College began its fifteenth winter session on September 15th, 1897. The curriculum is four years, and the usual courses are given in the College buildings, a handsome new structure, while clinical instruction and practice can be followed at the Winnipeg General Hospital (150 beds), and the St. Boniface Hospital (130 beds). The Winnipeg General Hospital is situated on the outskirts of the town in a very open and airy situation. It consists of a central block containing general and private wards, administrative offices, and out-patient department; of isolation wards for infectious disorders, maternity wards, and a nurses' home. There are two operating theatres, the one for general purposes and the other for special and private cases. The report for 1896 shows that a great deal of excellent work is done in this hospital. There are, for instance, from 150 to 200 abdominal sections done annually. While it is clear that the benefits which the hospital confers on Winnipeg and the adjacent country can hardly be measured, it must at the same time be added that a visit to the hospital cannot fail to impress on the medical observer the fact that this work is done under somewhat serious disadvantages owing to the crowded state of the wards. That such good results are attained proves that the medical and surgical staff of the hospital know how to make the most effective use of the most modern methods of preventing the origin and dissemination of infection. But an experiment of this kind ought not to be continued, and it is satisfactory to find that the directors of the hospital are alive to the necessity of building a new wing. We may perhaps express the hope that when this is done the amount of cubic space allowed to each patient in all the wards of the hospital will be very materially increased. The new wing is to contain, in addition to new wards, an operating theatre and its accessory rooms. The medical and surgical staff of the hospital are in nearly all instances also professors or lecturers in the Manitoba Medical College. St. Boniface Hospital is officered on a different principle, any qualified medical practitioner being at liberty to treat patients of his admitted to its wards. It is a new building, erected on modern principles, in an excellent situation.

Manitoba: Health Influences.

Winnipeg is at the apex of a great fan-shaped tract of more or less rich country stretching over 800 miles westward through Manitoba, Assiniboia, and Alberta westward to Calgary at the foot of the Rocky Mountains, and northward to Prince Albert in Saskatchewan and Edmonton in Alberta. For 600 miles the railway follows very closely the 50th parallel of latitude, the latitude of the Land's End. But Winnipeg is nearly the geographical centre of the North American Continent, and its climate has all the characters of a continental climate little, if at all, modified by any great body of water. It resembles that of central Russia to no small extent, but the conditions are modified by various circumstances, especially by the fact that there is a gradual rise from Winnipeg, which is only 700 feet above sea level to Calgary, which is at an altitude of 3,388 feet. The barren plains in the northern States across the international boundary line lay it open to severe storms, which are the cause at irregular intervals of great discomfort. The wheat-growing country begins about 40 miles west of Winnipeg, and extends along the line for something like 100 miles, but also to the north and west.

The winter is extremely cold, but owing to the dryness of the air and the clearness of the atmosphere, which gives the sun full power, the cold is on ordinary days not severely felt, and the general effect on the healthy organism is stimulating and exhilarating. The climate appears to be well adapted to emigrants from Scotland and England. The birth-rate is high, and the general standard of health seems to be excellent. As in most other quarters of the globe the real danger to health lies not in extremes of heat or cold, but in the consequences of the neglect of those elementary sanitary precautions which are little less necessary on a prairie farm than in a crowded city. Typhoid fever is much more common than could be wished throughout the West, and it is to be feared that there is commonly great carelessness about water supplies, which are too often allowed to be exposed to risk of contamination. The summer temperature of Manitoba is high, and the question of water supply is in many districts a serious one for settlers owing to its scanty quantity. It is, therefore, all the more essential to protect it from surface impurities.

[2] The fee for registration and licence is 75dols. (about £15 10s.).

The Prairies: Climatic Characters.

A little west of Brandon, after passing through the districts at present under cultivation, we enter on the great prairie country, grass-covered and at first rolling, but gradually becoming more level until in the neighbourhood of Moose Jaw the land is as flat as a billiard table, and the smoke of a distant train is seen like the trail of a steamer at sea. This is a fine grazing country, and in 1896 some 45,000 head of cattle were sent eastward, some of them eventually to reach the London market. This level tract, the bed of an ancient lake, is, however, of no great breadth, and we are again soon traversing an undulating prairie, covered with grass containing patches of grey "sage," and scattered ponds, most of them in the autumn covered with a growth of rich cardinal-coloured weed, or completety dry and offering a white expanse of alkaline deposit. Here and there are the wallows where the buffalo, now practically extinct, was wont to disport himself, and at each side of the line is the "fire guard"—four ploughed furrows which serve to protect the permanent way from the prairie fires which are one of the great dangers of this open country, where the vegetation in the heat of summer tends to become excessively dry. For some 300 miles we run through this rolling prairie, where the prospect is extensive, but the horizon is always bounded by low swelling hills.

Climate of Alberta.

At Calgary we have insensibly reached the very considerable elevation of 3,388 feet, and this rising city is the centre of a district which presents climatic conditions of a very remarkable kind. The winter is less cold, the summer less hot than at Winnipeg, and the annual rainfall very low; this, added to the absorbent nature of the soil, renders the air very dry, while the proportion of sunny days is very high. Over all the North-West the winter is long—from November to March—but the number of fine days in the Calgary District both in December and January is about twenty-five, so that an out-of-door life need hardly be intermitted even by the most sensitive. The snow, moreover, does not accumulate to the same extent as further east, so that the early spring is less trying, and then, to quote the eloquent words of Professor Bryce: "Spring glides superbly into summer, summer into fine autumn weather, which, during the equinox, breaks up in a series of heavy gales of wind, accompanied by rain and snow. They are followed by that divine aftermath, the Indian summer, which attains its true glory only in the North-West."

Dr. Roddick, in his Presidential Address to the Association, stated that the cases which have been most benefited by residence in Alberta have been those of early pulmonary tuberculosis, and in the district of which Calgary is the centre both the climate and the outdoor life appear to be wonderfully well calculated to restore to health those who have yet a sufficient reserve of strength to take a share in the pastoral life of the inhabitants.

The Rocky Mountains.

At Calgary the Rocky Mountains are already in sight. A long line of summits, some fifty miles away, closes the horizon, and in a couple of hours' time the traveller finds himself entering the mountains by the great Gap through which flows the Bow River. At once there come into view the beautiful triple summits of the Three Sisters, and the railway winds through the valley, rising slowly to Banff, the centre of the Rocky Mountain National Park, where are hot sulphur springs. There is here an excellent hotel, and also a sanitarium; the surrounding scenery is beautiful, and the place is well adapted for a prolonged rest or summer vacation. We have here risen 1,100 feet above Calgary. In the next 40 miles we rise nearly 800 feet more to Stephen, near the foot of Mount Stephen, the summit of the pass traversed by the

railway in crossing the Rocky Mountains. Before reaching Stephen, however, we have passed Laggan, where two miles away up a lateral valley is a châlet hotel on the beach of Lake Louise, a singularly lovely sheet of water surrounded by lofty hills with rugged mountains at its further end, from whose slopes a magnificent glacier sweeps down. To the lover of the mountains no more enchanting region could be offered, and mountaineers are already beginning to earn laurels by making ascents of the lofty and difficult peaks in this district.

From Stephen the line descends the Wapta or Kicking-horse river, and the eye is bewildered by the succession of magnificent views as the train winds along the base of Mount Stephen, disclosing alternately the bare sides of this great mountain and the more distant summits of the Ottertail, Beaverfoot, and Van Horne Ranges. At Field, ten miles from Stephen, we have already descended 1,200 feet, and the descent continues until we enter the narrow canyon of the lower Wapta, and finally run out into the broad valley of the Columbia River at Golden, a mining town which is one of the points by which the Kootenay Mining District may be entered. Less than twenty miles further on we reach Donald, the terminus of the Western Division of the Transcontinental Line, 2,448 miles from Montreal.

THE SELKIRK MOUNTAINS.

Here the Selkirk Mountains are in view, and the line shortly turns abruptly to enter them by the valley of the Beaver river, at first a mere gorge which can be spanned by a single fallen tree. The beauty, grandeur, and interest of the scenery from here to Revelstoke, where the Selkirks are left, can hardly be exaggerated. It is ill comparing one piece of fine scenery with another, but probably nowhere in Europe does a railway so take the traveller into the absolute heart of the mountains as here. In a distance of 22 miles we rise 1,800 feet. The railway is carried along the side of the mountain in cuttings, over bridges at a giddy height above the mountain torrents, here and there through snow sheds which protect the line from the avalanches of spring. Soon after passing the summit we sweep round a curve and come into sight of the great Glacier of the Selkirks. At this point a hotel has been built, and half an hour's walk by the side of a glacier stream leads us to the foot of the ice. A longer walk to the west leads to the Alaskan glacier, which comes down from a great amphitheatre of mountains. The views at and near Glacier House are superb, the peaks Sir Donald, Cheops, Ross, and those of the Hermit Range being of singularly bold and striking form. The line next descends by a series of loops to the Illecilliwaet Valley, and a little lower the train stops to give travellers the opportunity of looking down into the Albert Canyon, where the river foams through a narrow passage 300 feet below. Presently the railway forces its way into the gorge, and soon emerges on to the broad plain of the Columbia at Revelstoke, which stands at an elevation of 1,475 feet. There has thus been a descent of over 2,800 feet in the 46 miles from the summit of the pass.

The climate of the Rocky and Selkirk Mountains presents the usual characters of that of mountain districts at a moderate elevation, or of the Alpine climate so-called. At such elevations as Laggan (5,000 feet) and Glacier House (4,122 feet) the summer is short, the days warm, the nights cold. The diathermancy of the air is remarkable, and these localities possess the invigorating qualities and restful charm characteristic of the higher Swiss mountain resorts. They will no doubt in time become sanitoria for the warm districts south and east, and possibly also for Europeans in China and Japan.

THE SHUSWAP LAKE AND THE DRY BELT.

From Revelstoke to Yale—a distance of some 270 miles—the railway traverses a most striking and remarkable country. It is carried through Eagle Pass, along the river of the same name, to a district made beautiful by many rock-bound lakes, to reach the great Shuswap Lake, which sends its winding arms in among the mountains to every point of the compass. The district is reported to be the best sporting country touched by the railway; and not far off is a district capable of high cultivation, where Lord Aberdeen has established a large fruit farm, which yields all kinds of fruits of the temperate zone to perfection. Beyond the lakes we reach the remarkable "Dry Belt," of which Kamloops is the principal town. The rainfall here is very low and the climate extremely dry. The principal occupation is ranching, and outdoor life is possible at all seasons of the year. It is probable, as Lord Strathcona and Mount Royal observed in his address at the Middlesex Hospital the other day, that a sanitarium for consumption may be established in this district at no distant day. So far as can be judged from the limited experience already obtained and from the climatic conditions which prevail no district in the world can afford a drier or more aseptic air, more continuous sunshine, or more occasions and temptations to outdoor occupation. At present, however, it can only be recommended to those consumptives who are still in the earliest stage, and have sufficient strength and energy to live an active life, to which the invigorating climate, indeed, offers every inducement. Kamloops can be reached from London in less than a fortnight.

THE CANYONS.

From Kamloops the railway follows the Thompson River, and passes through its canyon to the junction with the Fraser River, and then almost at once plunges into the great Fraser Canyon. The river—a splendid body of rushing water—has found a way for itself through a narrow valley between precipitous hills, and the railway clings to one side, sometimes high above, at others close to the foaming stream. The valley narrows, until finally it becomes an enormous gorge through which the river tears between nearly perpendicular cliffs. The railway perforce follows every winding, and for the last twenty miles the eye rests upon nothing but rock and foaming water, with the curving line ahead, and the old disused mule road now on the one, and now on the other bank. At length, at Yale, we run out into a broad valley bordered by distant hills, which recalls the scenery of the lower Inn, above Innsbruck. The valley, like that of the Inn, is fertile, though as yet imperfectly occupied, and at Agassiz is a Goverment experimental farm, where many varieties of fruit and grain are grown in great perfection. Running on through this great rich valley we begin to see the giant trees for which British Columbia is famous; we pass many fine side valleys, and reach more populated country, where orchards and fields of maize delight the eye. At last, after catching a glimpse of the snowclad slopes of Mount Baker, forty miles away to the south, we find ourselves on the beach of Burrard Inlet, and so reach Vancouver, the terminus of the Transcontinental Railway, 2,906 miles from Montreal.

VANCOUVER.

Vancouver, though only 11 years old, is a bright, well-built town of some 20,000 people. In its harbour are fine passenger steamers which run to Japan and China, and to New Zealand, while there is a frequent service to Victoria and Nanaimo on Vancouver Island, which lies on the opposite side of the Straits, here about 70 miles wide. In Stanley Park, a wooded peninsula which the town has had thus early the wisdom to reserve as a place of recreation, are to be seen some of the "big trees" which have been and will long continue to be one of the chief sources of wealth to British Columbia.

HOSPITALS.

In the sparsely settled country beginning about 100 miles west of Winnipeg, three hospitals have been established on the long line of the Canadian Pacific Railway, at Medicine Hat, Field, and Kamloops respectively. These hospitals afford collectively accommodation for between 100 and 200 patients, and are in part supported by contributions on the provident system. Nurses are trained at Medicine Hat and at Kamloops, and are on occasion supplied to private cases in the neighbourhood.

THE GREAT LAKES.

An alternative route between Montreal and Fort William is afforded in summer by the Lake Route. The journey is made by train through Toronto to Owen Sound on Lake Huron, where very well-appointed Clyde built boats await the traveller. The steamer passes down Georgian Bay, traverses Lake Huron, and ascends the beautiful St. Mary River to Sault St. Marie. It there enters the short Soo Canal by

large locks, and is lifted to the level of Lake Superior. All day the traveller is on this great inland sea, often out of sight of land, and early next morning enters Thunder Bay through a broad channel between lofty hills, and in another hour or two is at Fort William, from whence to Winnipeg is a run of fifteen hours by train.

GENERAL MEDICAL COUNCIL.

ELECTION OF DIRECT REPRESENTATIVE FOR ENGLAND.

The result of the election is that

HORSLEY, Victor A. H., London,

is the successful candidate.

The following were also candidates:

Foster, Sir B. Walter, Birmingham.
Rigby, James Arthur, Preston.
Diver, Ebenezer, London.

The official figures cannot yet be obtained, nor will they be made public until Saturday, when the official announcement will be made.

We understand that Mr. Horsley's majority is about 600 on a total poll of about 13,300.

Meeting of Corporate and Medical Reform Committee.

This Committee arose from endeavours to promote the reforms indicated in the series of questions addressed to all candidates at the recent General Medical Council election. As at first Sir Walter Foster alone replied unreservedly in favour of the measures submitted, it was constituted with the same object a subcommittee of Sir Walter Foster's Committee. The Committee met on Monday, by permission, at the Offices of the Society of Members R.C.S.England, 11, Adam Street, Strand. On the motion of Dr. Gabe, Dr. T. Granville Hockridge took the chair pending the arrival of the Chairman, Mr. Joseph Smith. The further proceedings advisable now that the election contest is concluded were considered and discussed.

An unreserved and favourable reply from Mr. Victor Horsley on all the reforms and measures dealt with in the questions to candidates was reported, to which every publicity had immediately been given by its communication to the lay and medical papers and the Press Association, and for which the thanks of the Committee were expressed. A letter addressed to the four direct representatives on the General Medical Council, which has already been furnished to the press was brought up and read, together with replies from Mr. Brown and Sir William Thomson, which are appended.

The Chairman here entered and took his seat. The Honorary Secretaries were requested to thank Mr. Brown and Sir W. Thomson, and in consideration of the short time available before the next meeting to ask the favour of early replies from Dr. Glover and Dr. William Bruce. In reply to a letter of the Executive Committee to the President of Council of the British Medical Association, intimating that a memorial would be presented to be laid before the meeting of October 20th, and the Council be asked to receive a deputation in support of it, a letter was read from the General Secretary of the Association inquiring, by direction of Dr. Saundby, if it is the wish of the Committee that a deputation be received.

It was resolved that a reply be sent in the affirmative.

The following resolutions were unanimously adopted:

(1) That a memorial (which was laid on the table and referred to be settled by the Executive Committee) be presented to the Council of the British Medical Association, together with a form of petition to the General Medical Council, and that a deputation be arranged in support of such memorial, requesting the Council to take the lead in organising concerted action throughout the profession in support of the petition and the measures therein expressed.

(2) That the Association and the Society of Fellows and the Society of Members of the Royal College of Surgeons of England be invited to co-operate with this Committee in support of the measures proposed to promote corporate medical reform (*vide* "Questions to Candidates" at recent election, British Medical Journal, October 2nd, p. 934), and especially in the memorial and deputation to the Council of the British Medical Association, requesting it to take the lead in organising concerted action of the profession in favour of the reforms desired.

(3) That the Medical Defence Union, the London and Counties Medical Protection Society, the Incorporated Medical Practitioners' Association and their divisions or Branches; the Branches of the British Medical Association and other societies be invited to unite in the memorial and deputation requesting the Council of the British Medical Association to take the lead in organising concerted action of the profession in support of corporate medical reform as set out in the memorial and in the form of petition to the General Medical Council thereto appended.

(4) That inasmuch as the reforms which it is the object of this Committee to advance are not limited to the Royal College of Surgeons of England, all members of the profession be eligible, and be invited to join it as an emergency committee intended to be limited in duration to he special work it has undertaken, and that this Committee be called "The Corporate and Medical Reform Committee."

Mr. Anderson reported the names of Dr. Thomson (Plymouth), Dr. J. Wheeler O'Bryen, Dr. Melville Green, and Dr. Milner Brown, all of Sydenham, as having joined the Committee.

With a vote of thanks to the Chairman the meeting adjourned to Tuesday, October 19th, at 3.30 P.M.

We are requested to publish the following letter, which has been addressed to the direct representatives for England, Scotland, and Ireland respectively on the General Medical Council by the Executive Committee on Corporate and Medical Reform, consisting of Joseph Smith, M.R.C.S., President of the Society of Members of the Royal College of Surgeons of England (Chairman); J. Rees Gabe, M.D., M.R.C.S.: George Jackson, F.R.C.S.; T. Granville Hockridge, M.D., M.R.C.S.; W. G. Dickinson and R. B. Anderson (Honorary Secretaries):—

Offices Society of Members R.C.S. England,
11, Adam Street, Strand, London, W.C.,
October 7th, 1897.

Dear Sir,—We beg leave to enclose copy of letter and questions addressed to candidates for a seat on the General Medical Council, and to invite attention to the favourable replies of Sir Walter Foster, M.P., and Mr. Victor Horsley, F.R.S., and resolution (2) in report of meeting of our Committee.

It is proposed to present to your Council a memorial or petition to which signatures will be generally invited in support of the views and measures indicated in the questions.

It would be a great source of strength and assurance of success were the five direct representatives unanimous on the points included in the petition or memorial, and a proportionate source of weakness and defeat were their views divergent or opposed.

We should therefore be greatly obliged if, in order to facilitate the preparation of a memorial or petition on which we might hope for the united action of all direct representatives, and that moral support of the profession the absence of which has afforded just ground of complaint, you would inform us if there is any, and which, of the reforms indicated in the questions, to which you would be unable to afford your individual approval and support.

Our Committee meets on Monday, these measures being irrespective of the result of the election, and it would confer an additional favour if you could conveniently enable us to place before the meeting a reply, which will be awaited with much concern.

On the ground of public interest, this letter will be furnished to the press.

We have the honour to be, Dear Sir,
Your obedient servants,

(Signed)
Joseph Smith,
Chairman.
W. G. Dickinson,
R. B. Anderson,
Hon. Secretaries.

The questions referred to in the above letter were published in the British Medical Journal of October 2nd, p. 934, and the following are the replies from Sir William Thomson and Mr. George Brown:

54, St. Stephen's Green East, Dublin,
October 9th, 1897.

Gentlemen,—I have to acknowledge receipt of your circular on medical reforms. It is almost unnecessary to say that I will support in the Council such proposals as I believe will be advantageous to the general body of the profession. I have already indicated my opinions regarding some of the questions which you raise, and I think it will be found that I am at one with you on these points. As to others which are complicated, I can only promise that they shall have my most attentive consideration.

Believe me,
Faithfully yours,
(Signed) W. Thomson.

To J. Smith, Esq.
W. G. Dickinson, Esq.
R. B. Anderson, Esq.

6, Gibson Square, N.
October 11th, 1897.

To Joseph Smith, Esq., M.R.C.S.Eng.,
Chairman of the Committee on Corporate and Medical Reform.

Dear Sir,—In reply to your letter of the 7th inst. inquiring as to my views in regard to the questions you recently addressed to candidates for

a seat on the General Medical Council, I have pleasure in stating that for the most part I agree with the reforms indicated in the two questions, indeed it has been my privilege for many years past to advocate, both in the medical journals and on the platform, the most important of the reforms you and your colleagues desire to see accomplished.

To consider the questions in their numerical order, I desire to give a decidedly affirmative reply to Nos. 1 and 2. To No. 3, I can give an affirmative reply subject to slight modifications. Sub-sections I, III, IV, V, VIII, X, and XI are important, and call for early legislation. The cases covered by Subsection II appear to me to have been already provided for by the legislature. With regard to No. 4 I am in favour of the "measures" marked (*a*), (*b*), (*c*), and (*d*), and of the "rulings" numbered 3 and 4. The suggested "rulings" numbered 1, 2, 5, and 6, although apparently desirable, are too indefinitely expressed to permit of my giving an opinion as to their practicability. To questions numbered 5, 6, 7, and 8, I can give distinctly affirmative replies.

I have the honour to be,
Your obedient servant,
(Signed) GEORGE BROWN.

SIR WALTER FOSTER AND THE "YOUNG MAN."

SIR,—As an answer to the footnote appended by yourself to my letter in the BRITISH MEDICAL JOURNAL of October 9th, I beg to be allowed to make a quotation from a communication sent me by Sir Douglas Powell, dated October 10th: "I took the opportunity at the Clerical and Medical Life Office Board meeting of speaking to him (Sir W. Foster), as I told you I would do. I might not have met him; it was, I think, 2.20 P.M. when I spoke to him, and the meeting of the Board was over at 3.15. I think his meeting was held at 5 P.M." *Qui facit per aliium, facit per se.*—I am, etc.,

Devonshire Street, W., Oct. 12th. A. G. BATEMAN.

SIR,—With the permission of Sir R. Douglas Powell I send you a copy of a letter which he has addressed to Dr. Bateman.—I am, etc.,

October 13th. WALTER FOSTER.

[Copy.]

62, Wimpole Street, October 10th, 1897.

DEAR DR. BATEMAN,—So far as I recollect, your statement of what passed between us is substantially accurate, but I did not understand that you regarded me as your messenger to Sir W. Foster. I took the opportunity at the Clerical and Medical Life Office Board meeting of speaking to him, as I told you I would do if I met him there (I might not have met him). It was, I think, 20 minutes past 2 o'clock when I spoke to him, and the meeting of the Board was over at 3.15 (I think the meeting was held at 5 P.M.). I observe in your speech at Sir Walter's meeting you commence the direct part of your reference to the *Young Man* article by saying, "I have recently had placed in my hands by a well-known Fellow of the College of Physicians a pamphlet entitled the *Young Man*," etc. Now this does not convey quite an accurate idea, the fact being that, on your asking me about the matter, I knew nothing whatever about it. I only remembered the *Young Man* having come by post that morning, and my butler rescued it from the waste paper basket to verify the reference which you had brought to me to look at.—Yours faithfully,

(Signed) R. DOUGLAS POWELL.

UNQUALIFIED PRACTICE.

SIR,—Sir Walter Foster places first in his programme of reform, "Higher education for medical men." The urgent need of the profession is for more bread, but we are to be given more books. Now when, as here, graduates of London and Cambridge are forced to accept remuneration that would be refused by the bonesetter or prescribing chemist, I fail to see how higher education is to help the profession.

Mr. Horsley has hit the right nail on the head when he says, "Practice for gain should be illegal for anyone but registered medical men." This is an object worth an effort, worth many efforts, and one which a united profession may possibly achieve. The bonesetter and the patent medicine vendor have a monopoly of the papers, and by advertising draw into their nets vast multitudes of foolish people. The imposition is immense, but it pays, and the profession suffers terribly in pocket and reputation. But the Council does not see its way to help us.

The question of the moment is, Cannot we send to the Council men of greater vigour and more generous initiative? Mr. Horsley is such a man, and the one at present available.—I am, etc.,

October 12th. F. FAULDER WHITE.

MR. VICTOR HORSLEY AND MR. COLIN CAMPBELL.

SIR,—Mr. Victor Horsley has thoroughly assimilated Talleyrand's famous advice, "*L'audace, l'audace, toujours l'audace.*" It was a brilliant piece of audacity when he—a teacher, an examiner, the arch-abettor of overcrowding—grasped the reins of the government of the "Medical Defence Union," the principal work of which is provided by the same overcrowding. He showed his audacity by his accusations against Sir Richard Quain; again in attributing to Sir Walter Foster the agitation in favour of midwives' registration, whilst the twin arts of medicine and surgery are indebted to him for the audacious manner in which he has wrested secrets from Nature herself.

He falls foul of me in the *Lancet* and BRITISH MEDICAL JOURNAL of October 9th—accuses me of all sorts of evil doing; but when he says, "It is due to your readers that he should at once withdraw the misrepresentations he has made of my views and my answers to his questions," Mr. Horsley becomes a trifle "too previous." It is another small example of "*l'audace.*"

His charges against me are under two heads—"midwives' registration" and "overcrowding in the medical profession."

With reference to the first, I said in the BRITISH MEDICAL JOURNAL of October 2nd: "Mr. Horsley is in favour of a draft Bill which seeks to register midwifery nurses to attend confinements." Referring to this observation, Mr. Horsley says it is a "distortion of his statements." Well, Mr. Horsley's "statements" are legion. I will therefore take his latest, and compare it side by side with his definite proposals.

STATEMENT.

"No one is more resolutely opposed than myself to any registration of unqualified women, whatever they be called, whether midwives or midwifery nurses, enabling them to practise midwifery."—BRITISH MEDICAL JOURNAL, October 9th, 1897.

PROPOSED "MIDWIVES' REGISTRATION BILL."

As drafted by a Subcommittee of the Parliamentary Bills Committee (Chairman, Mr. V. Horsley).

Clause III, Registration (see opposite).

Clause IV, Privileges of Registration.—A certificate under this Act shall not confer any right or title on any woman to be registered under the Medical Acts of 1858 . . . or to assume any name, title, or designation implying that she is by law recognised as a licentiate or practitioner of medicine, surgery, or midwifery, *except in cases of natural labour.*"

I wonder if Mr. Horsley will have the courage to assert that "natural labour" is not "midwifery;" and, if not, how otherwise he will get himself off the horns of this dilemma?

And now we come to the question of "overcrowding." My questions and Mr. Horsley's answers were reported in the BRITISH MEDICAL JOURNAL of October 2nd. Questions and answers were simple enough, but probably seeing the mess his answers had got him into, Mr. Horsley, in the JOURNAL of October 9th, supplements his replies by a series of statements which would mystify a Q.C.

I must, therefore, ask you to reprint my questions, together with Mr. Horsley's replies: (Q) You asked in 1891[1]—speaking to students: "What number of the population is able to support a medical man?" and you replied: "This, I believe, is usually supposed to be 1,200.....If the population is increasing, then the certainty of your success is assured. If it be stationary there is always the chance that some day there will come someone mightier than yourself."

"Applying this to Manchester, with a population of 305,638 and 322 registered medical men (all included—which gives 1 doctor to every 1,569.5 of the population—(1) are you prepared to advise students and intending students that Manchester will support 99 more doctors, thus bringing the proportion up to 1 doctor to each 1,200 of the population? (2) How much per annum do you consider sufficient to support a medical man? (3) Do you derive any of your income from the fees paid by medical students?"

Answers: (1) Yes. (2) £400 a year. (3) Yes, about £25 a year.

[1] BRITISH MEDICAL JOURNAL, 1891, vol. ii, p. 730.

Mr. Horsley does not deny that I have correctly given his reply to No. 1. The meaning of question and answer and reply will be made clear in this way: Either overcrowding exists in Manchester or it does not. If he believes it exists, how does Mr. Horsley justify his advice that there is still "support" for 99 more doctors there? Whilst, if he believes it does not exist, his talk about his "well-known views on overcrowding," and "what is felt by the profession is not so much an increase in the number of medical practitioners (?) as the severe and rapidly-increasing competition of aid societies," etc., recalls to mind Mr. Brudenell Carter's expressive word, "Balderdash."

Mr. Horsley bitterly complains of my "omission of almost the whole of his reply to Question 2." I at once plead guilty. I asked a very simple question, and Mr. Horsley gave a distinct (?) answer, "£400 a year is sufficient to support a medical man."

I also refrained from suggesting that it was the answer rather than the question which was "obviously absurd." That if Mr. Horsley meant a gross income of £400 a year (as medical incomes are usually estimated), it means a net income of about £280; whilst if he meant to suggest that £600 a year (to yield £400 net) could be extracted from the pockets of each 1,200 of the population, he must have imagined that he was addressing a class of students inexperienced in the realities of medical life.

From whatever cause "overcrowding" exists, that it is rendered more severe by causes other than overproduction of doctors, is a truism; but that Mr. Horsley should fail to realise that a vast increase in the number of medical practitioners, as suggested by himself, would intensify the evil, passes comprehension.

The final paragraph in his letter to you, Sir, suggests that the truth is dawning upon him, and when he becomes possessed of it we may feel assured that he will be foremost in the effort to check a condition of things which has already made the lot of a practitioner a "struggle for existence," threatening to strangle alike intelligence and honour.—I am, etc.,

Saddleworth, Oct. 12th. COLIN CAMPBELL.

Mr. Horsley's Candidature.

Meeting at Liverpool.

An influential meeting of the medical profession of South-West Lancashire and Cheshire in support of Mr. Victor Horsley's candidature was held in the Liverpool Medical Institution on the afternoon of Thursday, October 7th, Mr. Mitchell Banks being in the chair. Amongst those present were Drs. and Messrs. Barr, Leslie Roberts, Dickinson, Adam, Brassey Brierley, Harvey, Bradshaw, Hunt, and Macfie Campbell. Letters and telegrams of apology were received from Dr. W. Carter, Dr. McClelland, and a number of other practitioners in Lancashire and Cheshire.

Mr. Victor Horsley explained his views and received a hearty vote of confidence from the meeting.

ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD, 1896-97.

Finance.

The twenty-sixth annual report of the Local Government Board—that for the twelvemonths ended with March last—is, like its predecessors, a ponderous tome, and treats of a large variety of subjects. The main features of the volume are, of necessity, much the same as in preceding reports, but there are always evidences of a widening scope of duty. In this volume there is shown to be, not only increase in amount of work of long standing, but additional responsibility in the shape of newly-devolved functions. Thus we find no little space devoted to agricultural rating, the Act of 1896 having shifted the burden of some £1,500,000 from local rates to Imperial revenue; and the change, its effects, and its method of operation are discussed at length. Then, again, questions of superannuation of Poor-law officers and servants under the Act of 1896 find place in the volume, which deals also with matters pertaining to canals and their floating population, vaccination in its public aspects and generally in summary form, medical inspections as to prevalent disease, inspections of chemical works, and a host of data as to local expenditure too voluminous to be more than named.

The million and a-half of money sanctioned as loans by local authorities in 1874 had grown to upwards of seven millions in 1893, the amount for 1896 having been £5,545,403, and seventy-eight millions in all since 1871. Loans for sanitary improvements last year in urban areas were sanctioned for upwards of five million pounds, and for water supply and sewerage works £498,352 and £1,259,204 respectively. Under local Acts, without the Board's sanction, powers were granted in 1896 for the raising of £2,697,777 for various sanitary purposes. The outstanding loans of local authorities at the close of last year amounted to £235,335,049, having nearly trebled in the last two decades. Waterworks are credited with £43,970,490, sewerage and sewage disposal with £23,734,738, hospitals with £1,141,654, whilst large items appear against the Manchester Ship Canal Company, electric lighting, Blackwall Tunnel, tramways, etc., so that remunerative use of loans is in many cases shown to be made.

Infectious Hospitals.

In the matter of hospitals there is still ground for disappointment at the slow progress made in the direction of adequate isolation provision for infectious diseases throughout the country, and this the more since the operation of compulsory notification among all but some million and a quarter persons in England and Wales should have shown the necessity for preparedness to treat first cases promptly. The strides made in the adoption of the notification system suggest, again, the desirability of enforcing the system in the remaining districts which have so long stood out. Nearly 800,000 persons came under the system last year. Returns of notified cases were circulated weekly by the Board among the health officers of 217 districts having an aggregate population of 15,446,680 persons at the last census. In comparing deaths with cases in these districts as a whole, the per case mortality was found to be for scarlet fever, 4.0 per cent.; diphtheria and membranous croup, 22.1; typhoid fever, 17.7; puerperal fever, 54.9; erysipelas, 3.3; and small-pox, 17.2 per cent. It seems a pity that such a scheme of return circulation cannot be made general throughout the country. The matter would be easy of arrangement.

Adulteration.

The working of the Sale of Food and Drugs Act is fully reported on, milk forming upwards of one-third of the total samples analysed, butter coming next with one-sixth of the total, the percentages of adulterated samples of these two commodities being 11.1 and 8.8 respectively. In London the rate of adulteration of milk samples was 17.7, against 9.1 per cent. in the provinces, though many large towns had rates quite as unsatisfactory as the metropolis. Sunday samples seem to be much the worst, and hence the trade needs special watching on this day of all others. The Act is very unevenly enforced, and very partially administered, in different parts of the country.

Pauperism.

The ratio of paupers per 1,000 of estimated population was last year 27.2, the south-western group of counties having a rate of 40.7, and the north-western group 19.8 Norfolk held worst place of the counties, with a rate of 46.0, whilst York, West Riding, had only 18.6 per 1,000, and Middlesex was highest in repute with a ratio of 18.4. The reports of the general inspectors of the Board have much to say about local Poor-law administration, and discuss such matters as workhouse infirmary nursing, the boarding-out system, the domestic training of girls, and the amusement of the pauper young. Starvation is held to have caused 71 deaths in the year, but no blame attached to any guardians or their officers, and in but few instances had relief been applied for. The more stringent and uniform enforcement of the law and regulations relating to vagrants would be productive of benefit apparently, since it would seem as though unequal methods of treatment lead to undue avoidance of, and preference for, one and another locality by this class of individuals, one-fifth of whom have been in the army.

London Water.

Major-General Scott, R.E., furnishes a detailed report on

the London water supply, and again reverts to the matter of insufficient storage accommodation possessed by the companies generally. Floods accordingly result in the delivery to the mains of impure water. But the companies are moving in this as in other respects, such, for example, as the deeper laying of pipes as a guard against the action of severe frost.

LITERARY NOTES.

Among the books which Mr. H. K. Lewis announces for early publication are the following:—Dr. Charles E. Beevor, *A Handbook of Diseases of the Nervous System for Students and Practitioners*, with numerous illustrations (one of Lewis's Practical Series); a translation by Dr. Henry J. Curtis of *Mastoid Abscesses and their Treatment*, by Drs. A. Broca and F. Lubet-Barbon, with coloured plates from original drawings and preparations by Mr. R. J. Godlee; a fifth edition of Dr. A. H. N. Lewers's *Practical Textbook of the Diseases of Women:* and a fourth edition of Professor Corfield's *Dwelling Houses; their Sanitary Construction and Arrangements.*

The September number of the *Canadian Practitioner* is a "Special Lister Number," and contains an excellent portrait of Lord Lister, and articles and addresses illustrating his scientific works.

Among the medical poets is Dr. Frederick Petersen, an American alienist who has already published two volumes of verse, each of them containing a number of charming lyrics, and some clever translations from the Swedish. His last volume, entitled *In the Shade of Ygdrasil*, was published some time ago by the Putnams.

The October number of the *Phonographic Record of Clinical Teaching and Medical Science* contains, among other papers, an article on The Toxic Action of Coal Tar Derivatives by Mr. Norman Porritt, and one on a Case of Acute Rheumatism followed by Pericarditis and Double Pneumonia with Recovery, by Dr. P. G. Griffith. It may be mentioned that Sir William Gowers has been elected Patron of the National Federation of Shorthand Writers' Association in succession to the late Sir Isaac Pitman.

Dr. Weir Mitchell, as is well known, has won distinction in literature as well as in medicine. Of his powers as a poet more than one specimen has been given in the British Medical Journal. He is also a successful novelist, and has given fresh proof of his power as a writer of fiction in a novel entitled *Hugh Wynne, Free Quaker*, which has just been published by Mr. Fisher Unwin. Hugh Wynne is described as "some time Brevet-Lieutenant-Colonel" on General Washington's staff. The Free Quakers separated themselves from the orthodox body on the ground that active resistance, even to bloodshed, was justifiable under the circumstances of the war.

The Smithsonian Institution of Washington has undertaken the publication of a comprehensive work embodying all the facts relating to the employment in medicine and in therapeutics of the plants indigenous in the United States.

In January, 1898, will be published the first number of a new periodical entitled *Archives de Parasitologie*, which is to be devoted to the subject of living agents having the property of exciting diseases in men and in animals. The new *Archives* will appear at irregular intervals in fasciculi of about 160 pages, with illustrations, four fasciculi making up a volume. The editor will be M. M. Raphael Blanchard, and the offices of the publication will be at 15, Rue de l'Ecole de Médecine, Paris.

Mr. Fisher Unwin has just published a life of "John Hunter," by Mr. Stephen Paget, to which Sir James Paget has contributed an introduction. This volume is the first of a series to be published under the title of "Masters of Medicine." The series, which is edited by Mr. Ernest Hart, will comprise the following among other biographies of men who have extended the limits of the healing art: William Harvey, by Mr. D'Arcy Power; Sir James Simpson, by Dr. H. Laing Gordon; Claude Bernard, by Professor Michael Foster; Hermann von Helmholtz, by Professor McKendrick; William Stokes, by his son, Sir William Stokes; Sir Benjamin Brodie, by Mr. Timothy Holmes; Sydenham, by Dr. J. F. Payne; and Andreas Vesalius, by Mr. C. Louis Taylor. Mr. Hart himself will contribute a life of Edward Jenner. The life of Harvey will be published within the next few weeks, that of Sir James Simpson is in the press, and the others will follow at short intervals. The scope and general character of the series may be gathered from the following extract from the prospectus: "The want of readable biographies of medical discoverers constitutes a gap in our literature which it is the object of the present series to fill. The masters of medicine will be shown in their habit as they lived, and in the social and intellectual environment in which they moved and had their being. At the same time the general scope of their work, the difficulties which they had to encounter, and the general results of their discoveries will be set forth in sufficient detail to enable the reader to understand what they accomplished for science and for humanity. It is not always those who bulk largest in the public eye that are the real masters of medicine. Accordingly, it is not proposed to include in the series men who were merely fashionable physicians or successful surgeons, but only such as were, in the strictest sense, master builders of the Temple of Hygiea." It is probable that a further series will be published later, in which other "masters of medicine," whose names are not included in the foregoing list, will find a place.

Most of the stories about Abernethy are so common that they have passed into the category of "chestnuts," which are by general consent tabooed everywhere but in remote country districts. The following, however, which is told in the life of Tennyson by the late Laureate's son, published last week, may be new to some readers:

This is a story of Dr. Abernethy which Tennyson used to tell. A farmer went to the great doctor complaining of discomfort in the head, weight and pain. The doctor said, "What quantity of ale do you take?" "Oh, I taaks my yaale pretty well." Abernethy (with great patience and gentleness): "Now then, to begin the day—breakfast, what time?" "Oh, at haaf-past seven." "Ale then; how much?" "I taakes my quart." "Luncheon?" "At eleven o'clock, I gets another snack." "Ale, then?" "Oh yes, my pint and a haafe." "Dinner?" "Haafe-past one." "Any ale then?" "Yees, yees; another quart then." "Tea?" "My tea is at haafe-past five." "Ale then?" "Noa, noa." "Supper?" "Noine o'clock." "Ale then?" "Yees, yees; I taakes my fill then. I goes asleep arterwards." Like a lion aroused, Abernethy was up, opened the street door, shoved the farmer out, and shouted out, "Go home, sir; and let me never see your face again; go home, drink your ale, and be damned!" The farmer rushed out aghast, Abernethy pursuing him down the street, with shouts of "Go home, sir, and be damned."

As deep calleth unto deep, so one story brings forth another. The following is not new, seeing that it may be found in Sam Slick's *Clockmaker*, but it is not threadbare, and the manner of its telling may perhaps be held to justify its repetition:

The Honble. Alden Gobble was dyspeptic, and he suffered great oneasiness arter eatin'; so he goes to Abernethy for advice. "What's the matter with you?" said the Doctor, jist that way, without even passing the time o' day with him. "What's the matter with you?" says he. "Why," says Alden, "I presume I have the dyspepsy." "Ah," said he, "I see; a Yankee swallowed more dollars and cents than he can digest." "I am an American citizen," says Alden, with great dignity; "I am Secretary to our Legation at the Court of St. James." "The devil you are!" said Abernethy; "then you'll soon get rid of your dyspepsy." "I don't see that are inference," said Alden; "it don't follow from what you predict at all; it an't a natural consequence, I guess, that a man should cease to be ill because he is called by the voice of a free and enlightened people to fill an important office" (The truth is, you could no more trap Alden than you could an Indian. He could see other folks' trail, and made none himself; he was a real diplomatist, and I believe our diplomatists are allowed to be the best in the world.) "But I tell you it does follow," said the Doctor; "for, in the company you'll have to keep, you'll have to eat like a Christian."

It was an everlasting pity Alden contradicted him, for he broke out like one ravin' distracted mad. "I'll be d——d," said he "if ever I saw a Yankee that didn't bolt his food whole like a boa constrictor. How the devil can you expect to digest food, that you neither take the trouble to dissect nor time to masticate? It's no wonder you lose your teeth, for you never use them; nor your digestion, for you overload it; nor your saliva, for you expend it on the carpets, instead of your food It's disgusting, it's beastly. You Yankees load your stomach as a Devonshire man does his cart, as full as it can hold, and as fast as he can pitch it with a dung fork, and drive off; and then you complain that such a load of compost is too heavy for you. Dyspepsy, eh! infernal guzzling you mean. I'll tell you what, Mr. Secretary of Legation, take half the time to eat that you do to drawl out your words, chew your food half as much as you do your filthy tobacco, and you'll be well in a month."

"I don't understand such language," said Alden (for he was fairly ryled, and got his dander up, and when he shows clear grit he looks wicked ugly, I tell you). "I don't understand such language, sir; I came here to consult you professionally, and not to be ——." "Don't understand," said the Doctor, "why it's plain English; but here, read my book"—and he shoved a book into his hands and left him in an instant, standing lone in the middle of the room.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, OCTOBER 16TH, 1897.

THE PATHOLOGICAL STUDY OF INSANITY.

At the present day the advance of medicine in this country is seriously retarded by the absence in too many instances of any adequate provision for the systematic study of pathology in relation to clinical medicine. If the best advantage is to be taken of the many opportunities which arise for extending our knowledge of the nature of diseased processes—and it is upon such increase of knowledge alone that we can hope to build up better methods of treating disease—it is essential that the inquirer should have leisure to prosecute the necessary researches, and the means provided in a suitable laboratory for carrying them on to the best advantage. Of no department of medicine is this more true than of that which is concerned with the treatment of insanity, and it was therefore a great step in the right direction when the Asylums Committee of the London County Council in July, 1895, appointed Dr. F. W. Mott their pathologist, at a salary of £700 per annum. That this practical wisdom has already borne good fruit is shown by his first report to the Asylums Committee.[1] The Asylums Committee have further, by voting funds to complete the equipment of the laboratory, and yearly grants to keep it in a state of active efficiency and to provide the necessary books of reference, done all in their power to complete the success they have begun.

Advances in neurology and mental science of theoretical interest and practical value may be confidently expected from Dr. Mott's laboratory, and in proof of this we may turn to the highly original and suggestive researches on general paralysis of the insane and its relation to syphilis described in his report. General paralysis of the insane is often fatal without any definite organic naked-eye disease to account for death. In investigating this point Dr. Mott discovered that in about 70 per cent. of the cases there was fatty degeneration of one or more muscles, especially of the heart, which was compared with and found to be more marked than that seen in diphtheritic paralysis. The cause of this change was further shown not to be due to degeneration in the corresponding nerves. In all probability the explanation lies in a toxæmic condition of the blood, which affects directly either the motor end plates in the muscles or the muscle substance itself. This toxæmia might well be due to the terminal infections, such as bedsores, ulcerative colitis, and so forth, not uncommon in general paralysis, but routine bacteriological examinations made after death prove that this will not account for all the cases of fatty degeneration. The toxæmia is, it appears, due to the products of disintegration of nervous tissue. As a result of the breaking up of protagon various products, of which cholin is one, are formed; cholin has a degenerative action on muscle, and Dr. Mott and Professor Halliburton have demonstrated its presence in the cerebro-spinal fluid of general paralytics.

Great stress is laid on the important relation of syphilis to general paralysis; the two factors which render the syphilitic poison especially dangerous to the nervous system are the absence of adequate specific treatment in the early stages of the disease and alcoholism. It is unnecessary to point out the important bearing which this has on the question of the Contagious Diseases Acts. The lesions of general paralysis are to be regarded not as an active inflammation of the membranes and brain substance, but as a primary degeneration of the nerve cells, with secondary increase in the amount of neuroglia.

The degeneration is not a specific lesion of syphilis, "but a primary progressive decay of nervous structures brought about by the existence in the system at some previous period—it may be twenty years before—of a toxin which, acting on a suitable soil, has lowered the vitality and durability of the nerve elements, by which at a later period stress in the form of worry, anxiety, loss of work, drink, sexual excesses, blows on the head, etc., determines the commencement of the process of degeneration and wasting; and the process once started becomes progressive and cumulative."

But in cases of congenital syphilis, where worry and such factors can be fairly eliminated, the lesions in the brain may exactly resemble those of general paralysis. This shows the dominant *rôle* that syphilis plays in the latter disease. Clinically the early brain lesions of acquired syphilis closely simulate those of general paralysis, but there is this all-important difference, that if treated early enough they can be cured or arrested.

The good effects of mercury and iodide of potassium in such cases are brought about not so much by removing the obliterative endarteritis as by preventing its extension, and thus enabling healthy vessels to dilate and provide a collateral circulation.

Dr. Mott is, we are glad to see, organising around him a school of workers in neuro-pathology, and intends publishing *Archives* from his laboratory, which will contain in detail much that he has given in outline in this valuable report.

[1] The Eighth Annual Report of the Asylums Committee, County of London. Printed by order of the London County Council.

THE CHEMISTRY OF LIFE.

The tragic death of Professor Drechsel, of Leipzig, struck down in his place at the Naples Laboratory, removes one of the foremost exponents of a branch of medical science already sorely suffering from the recent loss of Hoppe-Seyler and of Baumann. Physiological chemistry in its modern aspects is one of the youngest and most abstruse of the studies ancillary to medicine; and it must be admitted, without disrespect to the earnest and capable workers who remain, that many years will elapse before it can recover from the removal of three such mighty leaders, one a veteran and its virtual founder, the others cut off in their fruitful prime. But the science to which they devoted their labours

and their lives must continue to advance, for all indications point to it as the probable means by which some of the ultimate problems of biology will be solved, if their solution ever comes within the range of human possibility.

The object of this science is to bridge the hiatus which at present exists between physiology and chemistry. The physiologist investigates the products obtained by chemical reagents or ferment action from living matter. Starting from protoplasm, Huxley's "physical basis of life," he finds first as special to it certain groups of bodies having a fairly constant average composition, and giving a fairly definite and typical series of reactions. To these the generic name of proteids has been given; the unravelling of the complex maze of their molecular structure is a problem at present unsolved, but which will no doubt eventually yield to the progress of scientific method. With its elucidation the first great platform in the study of vital chemistry will have been gained. Further analysis breaks down these proteids into other bodies less elaborate in structure, but still of great chemical intricacy, and these again are easily resolved into simpler compounds, and eventually into their primary constituents. The method of the chemist is exactly the reverse. Starting from the elements he combines them into "inorganic" bodies, and synthetically interweaves these till he at length succeeds in reproducing substances actually formed by animal or plant activity. The synthesis of the sugars by Emil Fischer marks as distinct an epoch in the advance of science as Wöhler's manufacture of urea from ammonium cyanate had done sixty years previously.

The physiologist and the chemist meet on common ground in the study of certain compounds immediately resulting from the decomposition of proteids. Thus leucin, tyrosin, and other similar bodies can be formed from proteids in the body or the test tube, by ferment or chemical action. Analysis shows them to be amidoacids, acids in which part of the hydrogen of the base is replaced by the ammonia radical amidogen, and they can be formed in the chemical laboratory from their elemental constituents. The real gulf is between these substances and proteids, and it is across this that the chemist and the physiologist should eventually join hands; if we knew the chemical processes intervening between proteids and amidoacids we should have an invaluable clue to the chemical structure of the former. Even the synthesis of lecithin, a compound phosphorised fat of extreme complexity, has led us practically no further in this study. We fear that in this matter there is a certain want of *rapport* between physiologists and chemists. The former perhaps sometimes approach their task without previously fortifying themselves with a sufficient knowledge of the more difficult branches of chemistry, and the latter, misjudging the many from the inexpert efforts of the few, somewhat scornfully refuse to advance beyond the position in which they are already entrenched.

Hence progress has hitherto been mainly from the side of physiology, and has been made along two chief lines, the followers of which may be styled physiological chemists and chemical physiologists respectively. The former, among whom were numbered the three great investigators already referred to, proceed in the manner which has just been described, subjecting the tissues and organs of animals and plants to rigorous and exact laboratory analysis. Professor Drechsel would accept no reaction which could not be demonstrated to him in a test tube, and viewed his own work and that of others in the light of the most critical materialism. But this view is obviously wanting in breadth, for as soon as one comes to apply chemical reagents to a living tissue it incontinently ceases to live, and we cannot predicate that living and dead protoplasm are identical in chemical composition. Nor do we know that the bodies into which proteids are resolved in test tubes really enter into the structure of their radicals; for aught we can tell to the contrary they may be mere "artifacts" resulting from the more or less violent action of the added chemicals. Still it must be freely conceded that but for this line of inquiry our knowledge of the chemical constitution of the animal body would have been practically non-existent. Among the most brilliant of its later results may be cited Baumann's already historical discovery of the presence of iodine in the thyroid gland.

If this method of research is open to the charge of narrowness its alternative is not free from that of over-speculativeness. This, of which Professor Pflüger, of Bonn, is among the most distinguished adherents, aims at the more intimate study of the chemical changes actually taking place in the living organism, and is obviously based upon the views of vitalism rather than materialism. Absolute chemical exactitude can hardly be expected of work done in a laboratory consisting of a single cell, but many of the results so obtained are of far-reaching physiological and chemical significance. Of particular interest are those relating to the chemical differences between living and non-living protoplasm, as to which numerous experiments have been made during the last few years. Thus it is well-known that the saturation of a tissue with a salt of silver leads to the deposition of the metal in the intercellular cement substance, while the cell protoplasm is unaffected, and may hence be considered to have no chemical action upon the salt. But Loew and Bokorny have shown that if an alga be grown in a solution of silver nitrate of the strength of 1 in 100,000 the silver is deposited within the cells and not in the cement substance; if the strength of the solution be increased so as to kill the alga the deposition occurs in the latter. It is hence inferred that living protoplasm contains a substance which reduces silver salts, and which is not found in dead cells; this is believed to be of the nature of an aldehyde, which is decomposed into more stable bodies at death. Such are the directions along which physiological chemistry is advancing. Its present chief aim is the discovery of the composition, the structural formula, of the proteid molecule; thence it will pass to the study of protoplasm, and so to that of its ultimate goal, the chemistry of life. This looms before us like a huge and inaccessible mountain; when we have discovered the nature of proteids we shall not have climbed it, but we shall at least have cleared away the brushwood from around its base, and may perhaps be enabled to discern the path to its summit.

THE "VACCINATION PROBLEM."

WE have received from the Jenner Society an advance copy of a pamphlet to be issued by it on "The Vaccination Problem," in which the various points are discussed which will have to be taken into account in arriving at a solution of the question. Some of these points have the more interest

for us because they include a number of considerations which have been discussed in the Journal in a series of articles in which we dealt with the new Vaccination Law; and it is these which now call more especially for comment. The Society in the forefront of the pamphlet does well to recall the fact that what is termed the "vaccination problem" has for more than half a century been accepted as solved by the enormous bulk of the medical profession in every part of the world; and this alone suffices to show that a subject which affords such innumerable facts and data on which an intelligent opinion can be founded cannot have been decided in a sense adverse to the anti-vaccinists except as the result of an honest conviction on the part of a body of men who cannot be regarded as incapable of forming an intelligent judgment, and who can hardly be looked upon as capable of having entered into a dishonest conspiracy in a matter so vital to the lives and well-being of their fellow creatures. The Society, however, admits that the existing statutory provisions as to vaccination are not altogether satisfactory, and that they have not always been wisely administered. To secure a remedy for these defects is the main purpose of the pamphlet; and, coming as it does from a body of thoughtful and intelligent men, it deserves consideration on the part of all who will be concerned in compiling and passing any new vaccination law, and on the part of the public generally.

Passing over a number of the points discussed, we come to the proposal of the Royal Commission that some means should be found of meeting the views of the "honest" objector to vaccination. This proposal was not based on any doubt as to the value of vaccination as a preventive of small-pox; quite the contrary, for never was its value in this direction set out in more forcible or trenchant language; and the Commission distinctly lay it down that a parent can have no inherent right to neglect or prevent the vaccination of his or her child. How, then, can these two positions be reconciled? The Society would, in the first place, require that any statement of objection should be made before a judicial body, such as a Court of Petty Sessions sitting, if possible, for the purpose of hearing vaccination cases, and assisted by the medical officer of health as assessor. It next demands that any relief granted to a really conscientious and honest objector should be for a definite period—a term of years—only. There is very much to be said for this, because half of the objections to vaccination are identified with the extreme infancy of the subject of the operation, and with the trouble and anxiety by night as well as by day of a temporarily ailing child. The consequence is that if the term of immunity granted lasted up to the school age, and if the public vaccinator then acquired the right to vaccinate such children as he found in school to be unvaccinated, and concerning whom he had received no written statement of the parents' objection to vaccination, much of the difficulty in which the State might otherwise find itself would be removed. If a hundred objectors could be found when their infants were only a few months old, these would probably have dwindled down to one or two by the time the age of 6 years was attained. The conviction, however "honest" in infancy, would have waned with the growth of the child. Hence this point is one that should receive prompt consideration when the Bill comes before Parliament next session.

Incidentally the same question arises in connection with revaccination. The important and imperative use of revaccination at about the age of 10 to 12 years could hardly be more emphatically set out than it is in the report of the Royal Commission. We have already urged that it should be as compulsory as primary vaccination; that it should be carried out with the aid of the education authorities; and that any exemption should only be granted on precisely the same terms as apply to the primary operation—namely, by means of a statutory declaration. The Society takes much the same ground, and we hope it will use its influence in inducing members of both Houses of Parliament to insist on this point. Such a requirement as to revaccination will go far to make it possible to secure the protection of a number of children whose parents had conscientious scruples when the children in question were at the breast or in arms.

The aid and goodwill of the educational authorities transpires at another point which the Jenner Society deals with. It endorses the opinion of the Royal Commission that it is desirable to extend the age before which primary vaccination becomes obligatory "preferably to twelve months," or even, as in Germany, to any term before the expiration of the second year of life. The difficulty as to this in England is that we have no State organisation which keeps an account of every change of residence of every member of the community, and under which a child is transferred from the care of one commune or district with its officials to that of the next one into which it has been moved. Any extension of the period should therefore be associated with an opportunity of repairing losses effected by removals when the children reach the school age and when the age for revaccination arrives; and this, as we have already stated when formerly discussing the question, can only be effected provided arrangements be made to secure the co-operation and assistance of the authorities of elementary schools in the matter.

The Jenner Society is evidently of opinion that the changes which it recommends, including some to which we have not adverted, "would not involve any essential alteration of the law." We assume from this that it would not alter the constitution of the vaccination authority, a matter which is sure to be an important one in any new vaccination law. But, quite apart from this, we are of opinion that it will be difficult to deal with the "vaccination problem," as it is called, unless an entirely new Bill is drafted. There is much in the present Vaccination Acts that is certain to be altogether unnecessary in a new Act, and the clauses which will have to be repealed affect nearly every official appointed to administer the Acts. Take one point only—namely, the abandonment of the system of arm-to-arm vaccination, and the substitution for it of a system of vaccination with lymph derived direct from the calf, or with calf lymph which has been glycerinated. Such a change at once does away with the need for vaccination stations subject to the conditions under which they are now organised under statute. The governing principle of the present system is to secure at one and the same moment a sufficient number of infants to take lymph from, and a sufficient number to be vaccinated without resort to stored lymph.

But if stored glycerinated lymph is to supersede fresh lymph either in part or in whole the present organisation has no reason to justify it; and the question must then arise as to

how far it will be practicable to arrange that public vaccinators shall vaccinate from house to house under conditions much the same as those which govern ordinary medical visits which are paid at the homes of the sick.

On the whole, we find that the views held by the Jenner Society have been formed after a most careful study of the whole question. They are, in the main, in agreement with the views that have been already expounded by the JOURNAL; and we trust that all medical practitioners will make a point of studying the pamphlet, and that its perusal may assist in securing for the public, and above all for our infant population, the best prospect of protection from small-pox which is compatible with the introduction into a new Act of some exemption to tide the "honest" objector over that period of the life of his infant in which his—and, above all, her—anxieties are necessarily more real and more acute than they are likely to be later.

THE Lettsomian Lectures before the Medical Society of London will be given by Mr. John H. Morgan, M.A., F.R.C.S., on February 7th and 21st and March 7th, 1898. The subject of the lectures will be the Affections of the Urinary Apparatus of Children. The annual Oration will be delivered on May 16th, 1898, by Dr. Frederick T. Roberts, and a *conversazione* will be held on the same evening.

SIR JOHN CHARLES BUCKNILL, M.D., F.R.S., who died on July 19th, has by his will left one third of the residue of his estate, after paying various legacies, to the President and Treasurer of University College, London, for the purpose of founding a medical scholarship to be called the Bucknill Scholarship, and to be awarded at least once in three years. The personalty was sworn at £48,274 16s. 9d. gross, and £47,619 19s. 1d. net.

THE HEALTH OF MR. ERNEST HART.

WE are glad to learn from Mr. Lockwood and Dr. Mitchell Bruce that Mr. Ernest Hart continues to convalesce steadily. He is now taking carriage exercise, and has this week left town for Brighton.

CHOLERA AT SITAPUR, OUDE.

A SERIOUS outbreak of cholera has occurred among the Shropshire Light Infantry, at Sitapur, Oude, and 29 deaths are reported to have taken place in two days. The number of cases which occurred is not notified.

DIPHTHERIA IN LONDON.

THERE was a further increase last week in the mortality from diphtheria in London. The fatal cases of this disease, which had been 25, 35, 45, and 49 in the four preceding weeks, further rose to 53 during the week ending Saturday last, October 9th; this is a higher number than has been recorded in any week since March last, and exceeded the average in the corresponding weeks of the ten preceding years. Of the 53 deaths from diphtheria registered in the metropolis last week, 6 were of persons belonging to Hackney, 5 to Poplar, 5 to Lambeth, 4 to Kensington, 3 to Bethnal Green, and 3 to Wandsworth. None of the deaths recorded last week were of infants under 1 year of age, while 37 were of children aged between 1 and 5 years; and 16 (nearly all of which were under 10 years of age) between 5 and 20 years. No death occurred among persons aged upwards of 20 years. The number of notifications of diphtheria in London, which had been 275, 316, and 299 in the three preceding weeks, rose again to 315 during the week ending Saturday last. The increase in the prevalence of diphtheria last week in the metropolis was almost confined to North London, the new cases in Central and East London actually showing a slight decline. Among the sanitary areas of North London the increase was most marked in St. Pancras and in Islington; in the former sanitary area the notified cases of diphtheria, which had been 7 and 9 in the two preceding weeks, further increased to 17 last week; and in Islington the new cases numbered 18, against 9 in each of the two preceding weeks. Among the sanitary areas of South London the most marked increase was in Lambeth; where the new cases further rose to 26, having been 15 and 20 in the two preceding weeks. In Camberwell, on the other hand, there was a very considerable decline in the prevalence of diphtheria; the notified cases, which had steadily risen from 16 to 35 in the four preceding weeks, fell last week to 17. The admissions of diphtheria patients into the Metropolitan Asylums Hospitals during last week were 153, against 156, 162, and 164 in the three preceding weeks; and 1,040 cases remained under treatment in these hospitals on Saturday last.

CHEWING GUM.

THE question has been raised whether there is any reason for supposing that the practice of gum chewing, so prevalent in the United States, is on the increase in this country. We have made some inquiries, and have ascertained that many young women—students, actresses, and others—appear to have acquired this disgusting habit, and are inveterate chewers. We have examined specimens of chewing gum obtained from various fashionable sweet shops in London, and find that, as a rule, it consists of rubber, flavoured with aniseed or peppermint, or some other aromatic substance. Some kinds are made with resin, and some are advertised as containing pepsin, or as being peptonised. They are all absolutely insoluble, and if constantly chewed produce an increased flow of saliva, which is either expectorated or swallowed. A few days ago an inquest was held at Lincoln on a child 8 years of age, who died from the effects of eating a pellet of the substance. The symptoms preceding death were those of gastritis, and at the *post-mortem* examination it was found that the mucous membrane of the stomach was inflamed, and that there was much local peritonitis. The coroner pointed out that the distribution of such dangerous stuff to young children was a very improper proceeding, and the jury in endorsing his remarks, added that in their opinion its sale should be absolutely prohibited. The danger seems to us to be in the fact that children who buy sweets are often too young to read, and cannot be made to understand that something bought at a sweetstuff shop, and having all the appearance of a candy, is "not to be eaten." A bolus of resin or of india-rubber, coloured perhaps with aniline dye, would remain undissolved in the stomach, and would undoubtedly act as an irritant.

ASTHMA FROM ASPARAGUS.

AMONG the curiosities of medical literature are the stories, many of them well authenticated, of the peculiar susceptibility of some unfortunate individuals to certain odours and emanations. Among the substances which have been known to produce attacks of spasmodic asthma are roses, musk, tea, ipecacuanha, the odour of a cat, fried fish, the dust of oats, malt, rice, feathers, wool, and that caused in the demolition of old houses. Dr. Eugène Deschamps has added asparagus to this long list. He has published a full clinical report of a victualler over 40 years of age, who suffers from severe spasmodic attacks of coughing whenever he attemps to prepare raw asparagus for the cook. He is arthritic and nervous. Twenty years ago he became a cook, and remained so for a long time, but was temperate, and hence suffered little general ill-health, except from slight anæmia. From the first, however, he found that whilst trimming asparagus in the kitchen violent sneezing, coryza, and running of the eyes set in. Within half an hour dyspnœa followed, with cough and expectoration. All these symptoms used to vanish within an hour or two. Hence he

managed to continue at work, and rose to be *chef* in large hotels. But whenever he assisted the under cooks in dressing asparagus the fits returned worse than before. He now owns a restaurant. Last spring he helped his own cooks on a busy evening, and plucked a few stalks of asparagus. The fits of asthma came on at once with unusual violence, and he was ill for several days. There was free expectoration, and much coryza troubled the patient for some time. Dr. Deschamps gave iodides and bromides, with morphine in infusion of senega, cocaine and borax lozenges, and inhalations of steaming solutions of marsh mallow and poppy. Neither fever nor albuminuria was observed. The increase of intolerance of asparagus is remarkable, as the patient is better off in every respect than he was twenty years since—prosperous, contented, and strong. He can peel onions, carrots, turnips, and other roots with perfect comfort, but after plucking a considerable amount of salsify mild sneezing and coryza set in, but without dyspnœa. He has all along been able to eat asparagus freely, as the meal is never followed by any of the troublesome symptoms. Dr. Deschamps dwells on hay asthma, and states that he has seen a marked case of ipecacuanha asthma, a disorder, as has been said, noted by other observers.

PLAYING WITH PANIC.

At times when no special topic is attracting general attention, and when the march of events is slow, it is now unhappily becoming the fashion to threaten the public with visitations of epidemic disease. The vogue which this form of excitement is beginning to obtain suggests that there must be a peculiar fascination attaching to it. The cholera scare has now become a matter of course at the beginning of the slack season. When that has served its turn it appears to be deemed essential to satisfy the cravings of morbid appetite by prophesying the advent of some new scourge. When cholera was used up this year London was threatened with the "diphtheria fiend," though, oddly enough at the time, diphtheria in the metropolis was, having regard to the experience of recent years, at a comparatively low ebb. Now, the terrible experience of Maidstone has made typhoid fever loom large on the public imagination, and the attempt is being made to convince Londoners that they have reason for profound apprehension on this score. Typhoid, with its peculiarly little marked tendency to spread from person to person, seemed ill-suited for the purposes of the alarmist, but much has been made of the fact that certain imported cases have occurred, and by a somewhat abrupt transition attention has then been directed anew to the vexed question of London's water supply. The fact that it is possible for a sufferer from typhoid fever to travel from Maidstone to London has been borne in upon the mind of the reader so insistently that he is almost inclined to accept without criticism the suggestion that he is in the habit of drinking "typhoid soup." Just at a critical movement, however, came to hand the information as to the barge *Lothair*, which was said to be laden with "rotten beds, poultices and bandages, pill boxes, and phials," and which, it appears, did actually contain street sweepings and dustbin refuse. Fuel was added to the flame by the interviewer, and under the heading, "The Dreaded Typhoid Threatened in Our Midst!" appeared the views pitilessly extracted from a medical expert, while beneath "Handshakes with Death!" were set out "gloomy opinions" anent "London's constant invitations to the spread of disease." The truth is that there has recently been an increase in the prevalence of typhoid fever in London, but this is hardly more than usually takes place at this season. The mortality always reaches its maximum during the fourth quarter of the year, and during September last the deaths referred to typhoid fever in London were slightly below the average. Although there was a further rise last week in the number of fatal cases of this disease recorded in London, and the deaths (twenty-four) exceeded the average; this total has been equalled or exceeded during the last quarter of each of the four preceding years. It is true that it is necessary to profit by the teaching of experience, and that there is no time more suited for pointing a moral than when a disastrous outbreak of disease occurs, inasmuch as at such a time men's minds are open to receive the lessons which the outbreak may teach. Moreover, some of the "horrors" described have a certain amount of foundation in fact, and call urgently enough for remedy. The unfortunate circumstance to be noted in connection with these glowing descriptions and "awful warnings" is the absence in them of all sense of proportion. The "man in the street," moreover, grows so familiar with these threatenings of visitations that he becomes altogether sceptical, and loses, under spasmodic stimulation, that interest in the quiet and reasoned study of the problems in connection with the health of the city he lives in, which it is so desirable that he should cultivate.

PROFESSOR STOCKMAN.

On the occasion of his appointment to the chair of Materia Medica in the University of Glasgow Dr. Ralph Stockman was entertained at dinner by a number of his friends in Edinburgh in the Hall of the Royal College of Physicians on the evening of Friday, October 8th; the President of the College (Dr. Batty Tuke) occupied the chair, and Drs. George Gibson and Alexander James were croupiers. More than seventy gentlemen were present, including Professor Sir Thomas Grainger Stewart, Professor A. R. Simpson, Dr. Phillips (London), Dr. Geo. W. Balfour, etc. After dinner the toast of "The Queen" was given from the chair. Then followed the toast of the evening, also from the chair. The President of the College referred to Dr. Stockman's career and work, to the satisfaction all felt at his well-merited promotion, and to their regret in losing him. After Dr. Stockman's reply songs were given by Drs. James, Aitken, and others, and some remarks were made by Dr. Phillips, of London.

LIVERPOOL MEDICAL INSTITUTION.

The inaugural meeting of the session 1897-98 of the Liverpool Medical Institution was held on the evening of October 7th. The President (Dr. Caton) delivered an inaugural address, the subject of which was Notes of a Visit to Poland and Russia on the Occasion of the Twelfth International Medical Congress. Dr. Caton gave a most interesting account of the countries visited, and of the arrangements for the Congress. The address was copiously illustrated by lantern slides. The members were afterwards entertained by the President to refreshments *à la Russe*, followed by a smoking concert.

THE ADMINISTRATION OF CHLOROFORM.

When the merits and demerits of chloroform as an anæsthetic are being so much discussed both by clinicians and by physiologists, it is interesting to hear the experience of a member of the veterinary profession. In the *Veterinary Record* of September 25th is a report upon 250 consecutive administrations of chloroform to dogs by Mr. F. Hobday, of the Royal Veterinary College. In all cases the drug was administered for operations, in many cases for severe operations, to dogs in all kinds of conditions, a large number being "very fat" or "fat and asthmatical;" and yet in only three cases was it necessary to resort to antidotal measures, and only one of these proved fatal. This animal, a fat aged pug, died from a rupture of the portal vein, probably due to to struggling and not to the effect of chloroform. The apparatus used for the administration consisted of a mask placed over the animal's face into which air, which has been sucked or forced over the surface of chloroform, is pumped. By this means there was a plentiful supply of air, and the proper dilution of the chloroform vapour was assured. In cases where the animals had to be killed the

author found that such chloroform-carrying air might be pumped into the mask for half an hour without the desired result, but that when access of air was prevented, and the chloroform applied in an irregular and concentrated manner, death was quickly produced. This experience of a veterinary surgeon agrees entirely with that of physiologists, who often keep dogs and other animals under chloroform for hours without danger by taking similar precautions, never letting the vapour become too concentrated, and stopping the inhalation whenever any struggling occurs, or the respiration becomes irregular. Physiologists will agree with Mr. Hobday that chloroform administered in this manner can be used as a general anæsthetic for the dog without appreciable risk. When restorative measures have to be applied Mr. Hobday places 2 minims of Scheele's hydrocyanic acid at the back of the tongue, and performs artificial respiration by pressing the ribs of the left side in a sharp jerky manner. This manœuvre, as Dr. Leonard Hill has pointed out, is of service in so far that it tends to relieve a distended heart of blood and so assist it to resume an effective beat.

THE RISKS OF PATHOLOGICAL INQUIRY.

WE regret to learn that Surgeon-Major Semple, Assistant Professor of Pathology at the Army Medical School at Netley, is suffering from an attack of Malta fever. He was indisposed when he went to Maidstone to undertake anti-typhoid vaccination, and after fighting against his illness for some days he was obliged to return to Netley on October 9th. Examination of blood serum showed that Surgeon-Major Semple was suffering from Malta fever. It appears that he had scratched his hand with a hypodermic needle on September 17th when immunising a horse for the preparation of serum protective against Malta fever, and his blood when examined had a typical reaction on the micrococcus of Malta fever in 1,000-fold dilution. The horse which has been immunised for Malta fever for the last eight months was immediately bled, and we are informed that Surgeon-Major Semple has now had two injections, each of 30 c.cm, of the serum. He is doing well, and it is hoped that the attack has been cut short. We may add that Professor Wright now has at his disposal a supply of this serum, and would forward the necessary quantity to any practitioner who has at present any naval, or military, or other patient from the Mediterranean.

THE EVOLUTION OF THE PUBLIC HEALTH SERVICE.

THE evolution of the Public Health Medical Service is advancing by leaps and bounds. This is clearly seen in the interesting presidential address given by Dr. Seaton to the Conference of Medical Officers of Health, at the recent Leeds meeting of the Sanitary Institute. It is shown still more strikingly in the concrete instance of public health medical administration with which Dr. Hermann Biggs delighted the Montreal meeting of the British Medical Association. There is probably no other city besides New York which has brought the resources of the most recent medical science so immediately and so thoroughly into relation with the practical administration of public health. In this country Bristol has probably been first in securing the advantages of bacteriological science in local health administration, though other large towns like Manchester, Liverpool, St. Helens, Croydon, and Brighton have rapidly followed in its wake. It is not surprising that in connection with this advance in one particular line, though not in consequence of it, it is being mooted in Bristol whether some of the duties of the Sanitary Committee should not be simplified and in part devolved to a separate Health Committee. It seems somewhat strange that this committee should have charge of such matters as the collection of the general district rate, the public gas lighting, the granting of certificates for dancing and music, and so on. In most towns such-like duties would belong neither to a Sanitary nor to a Health Committee. Incidentally, the question arises as to whether such duties as road scavenging and the removal of house refuse should be under the supervision and control of the medical officers of health. Scavenging and the removal of house refuse are sanitary works of the greatest importance to the public health, but most medical officers of health would doubtless prefer to be called in as consultants and critics than to be engaged as administrators in these capacities. It is of equally great sanitary importance that plans of new dwelling houses, bakehouses, etc., should be submitted to the medical officer of health before being passed by whatever Committee they are considered. The house is the unit of the hygienist's care, and if the mistakes of the past as to air-space, both as regards minimum size of bedrooms and size of backyards, are to be repeated in the future, as they are being repeated, for instance, in Leeds, where back-to-back houses are still being erected in large numbers, there remains a heritage of retribution, which not the most active supervision and inspection in detail can evade. To sum up: the medical officer of health is first and foremost a medical practitioner. The only difference between him and the general medical practitioner is that he has to deal with a community rather than with individuals, and that the preventive treatment of disease is of greater importance to him than its curative treatment. His duty is to look at his duties from a medical standpoint. He is concerned with scavenging and with house sanitation because the neglect of these causes injury to health. But his work is much wider than this. It involves the higher problems of the spread of infectious diseases. It brings into action every preventive measure, whether it be supplied by bacteriological science, by serum-therapeutics, or by chemistry, or by the application of the knowledge of the architect, the surveyor, and the engineer. And it dovetails all the different branches of knowledge which can operate on the public health, in the attempt to secure the maximum good of the entire community.

TYPHOID FEVER AND DUST.

AN interesting communication on the Pathogeny of Dust was made by MM. Kelsch and Simonin to the meeting of the Paris Académie de Médecine on October 5th. Their attention was directed to the matter by the occurrence of certain outbreaks in barracks at Bourg, not far from Mâcon, St. Dié, and other places. In some introductory observations they report how a trooper, laid up with a sore heel, suffered from fatal general general tuberculosis. A patient had died of tuberculous phthisis in the same ward a year earlier. A second trooper was laid up with a sore heel; tuberculous adenitis set in. Some inguinal glands were excised, he recovered, but phthisis developed a few months later, and he had to be discharged. In the summer of 1896 18 cases of typhoid occurred in cavalry barracks in a small garrison town. The water supply was found pure; but it was ascertained that in the autumn of 1895 3 cases of typhoid—2 fatal—were laid up in the room where the more severe epidemic began nine months later. Those furthest from the beds and the room suffered least. Hence it was believed that the floor around the beds had been contaminated with fæces. The flooring was taken up, the rooms disinfected, and no more typhoid appeared. A few months later 22 cases of typhoid occurred in barracks in a little southern French town; 6 proved fatal. The building was small, the rest of the town free from disease. This time some dust was carefully collected from the floor of the barracks and examined. Eberth's bacillus and the bacterium coli were discovered. About the same month typhoid broke out severely in two rooms only, in large barracks. The soldiers in the rest of the building remained perfectly exempt from fever. The water supply was absolutely free from specific germs. The dust in the two rooms was subjected to close scrutiny. This time the bacillus coli and Eberth's bacillus in every condition were

found in abundance. A valuable report of the bacteriological analysis of the two samples of dust is given by Drs. Kelsch and Simonin. Taken as a whole the best preventive for rooms in barracks, schools, and hospitals is tarring of the floors, each plank being tarred on both sides and on the edges. M. Laveran contended, at the Academy, that this method is ineffective, though very general in French and Austrian barracks. The tar dries slowly, and often sticks to the boots, clothes, sheets, and furniture, and thus gets removed from the floor. It also gives a very gloomy aspect to the dormitories. Hence the tarring has fallen into disuse in many barracks, and scrubbing and the broom remain the sole agents for keeping the floors clean. Laveran, however, insists that brooms and dusters actually increase danger of disseminating disease. No doubt this fear is very reasonable, and an appliance for destroying the dust and the typhoid bacillus which it contains, at the same moment that it is dislodged by the broom or duster, is a desideratum. M. Laveran dreads chinks between planks, as they allow of a hotbed of germs under the floor. The microbes lie there latent for months, protected from oxidation in sunlight, and ready to be active directly they get blown upwards into the ward.

HOSPITAL REFORM.

The conference which has been arranged by the Hospital Reform Association will be opened at St. Martin's Hall, Charing Cross Road, London, on Thursday, October 21st, at 4.30 P.M., under the presidency of the Earl of Stamford. The main question for discussion will be "The Administration of Medical Relief in the Out-patient and Casualty Departments of Hospitals and Dispensaries." It is suggested that the discussion should deal more especially with the following points: (1) Subscribers' letters; (2) patients' payments; (3) limitation of number of new cases; (4) means to be employed to restrict relief to fit and proper cases. It is hoped that among those who will take part in the debate will be: (1) hospital managers; (2) members of the medical staff; (3) general practitioners; (4) representatives of supporters of hospitals. Among those who have promised to attend and speak are Sir William Broadbent, Bart., M.D., Sir Henry C. Burdett, K.C.B., Dr. Isambard Owen, Mr. C. S. Loch, Mr. Victor Horsley, Dr. Lovell Drage, and Mr. Timothy Holmes. It has been arranged that the conference shall adjourn at 6.30 and meet again at 8 P.M.

UNIVERSITY COLLEGE, LIVERPOOL.

At the annual meeting of governors of University College, Liverpool, held on October 9th, the report of the Council was read. It referred to the establishment of a school of sanitary science instituted by concerted action with the Technical Instruction Committee, the Health Committee, and the School of Science, Technology, and Art. Besides strengthening the medical school for training in public health, it would meet the requirements of sanitary inspectors, surveyors, and others interested in sanitary matters. Partly in connection with this movement the lectureship in hygiene had been converted into a professorship of public health, which would be held by Dr. E. W. Hope, the Medical Officer of Health, who for eleven years had held the office of Lecturer. The College had received from Mrs. Gee, widow of the late Dr. R. Gee, for twenty-nine years a lecturer in the School of Medicine, the residue of his estate, amounting to over £7,000, and it had been resolved to establish side by side with the George Holt Scholarships in Physiology and Pathology a Gee Fellowship in Anatomy of the annual value of £100 and four medical school entrance scholarships each of the value of £25. On the same day the medals and prizes gained by the students of the Medical Faculty were distributed by Sir John Brunner, M.P. It was reported that Mrs. S. Holt and Miss Holt had renewed for five years the Holt Scholarships founded by the late Mr. S. Holt. Reference was also made to the progress of the new laboratories, towards the equipment of which Mr. Thompson Yates had, during the past year, given nearly £10,000. The completion of the laboratories had been delayed by a strike, but a strenuous effort would be made to complete the interior and fittings by Easter, when Lord Lister had consented to take part in the opening ceremony.

RURAL NURSING.

The scheme which has been formulated for the nursing of the rural population in Bedfordshire provides three grades of nurses—the fully trained certificated nurse, the district nurse, and the village nurse. Such a plan as this offers a solution of the problem of dealing with the difficulties of country nursing. The base of operation, if we may say so, should be the cottage hospital, which would provide the central home and the place where the village or cottage nurse might acquire the instruction necessary to fit her to undertake such elementary duties as are within her powers, and also be a place for refreshing her knowledge when it became rusty. Those who are acquainted with village life are quite aware that it offers no field for the services of the highly trained nurse unless there is some serious illness; but all the same the skilled nurse should be within reach when necessary. One point to be carefully considered will be to define the sphere of operation for the two trained nurses, so that they shall not clash, and if there are expert advisers on the Committee, the scheme can be well organised; but it should not be left in amateur or unprofessional hands.

MEATH HOSPITAL, DUBLIN.

Sir Philip Smyly delivered the introductory address at the Meath Hospital, Dublin, on October 11th; Lord Holmpatrick in the chair. The address was mainly devoted to a narrative of the work which had been done by the General Medical Council in regard to the curriculum and to great improvements which had been secured through its action. The vote of thanks was proposed by Viscount Powerscourt, seconded by Mr. V. Browne. The second chair was taken by Sir George Duffey, President, Royal College of Physicians.

A MEDICAL SACK RACE.

One of the joys of an athletic festival is the sack race. The competitors certainly do not arrive quickly at their goal. Tumbling about tied up in sacks or as a variety hopping on one leg or handicapped in some other ridiculous fashion, they wobble along slowly and laboriously. But at least they provide amusement for the onlookers. And much as the public laugh at sack races, one-legged cricketers, and such-like buffoonery, may not we also find amusement in those modes of cure in which certain professors of the healing art show themselves so confident of their powers that they deliberately tie their hands and limit their efforts to some single fad? The one-legged cricketers are not in it with the one-cure doctors, the men who cure everything by hydropathy or send all their consumptives to one place, who pin their faith entirely upon massage, or electricity, or oxygen, or whatever may be the fashion of the moment. But there is another type of medical sack racing which is almost equally ridiculous, that, namely, which is patronised by those enthusiasts who are so convinced as to the truth of some special fad or other as to diet that they cannot be content till they have tried it on the sick. Abstinence from animal food is one of these fads, abstinence from alcohol is another. We have not yet heard of a hospital founded on the principle of abstaining from the use of opium, but there ought to be one if all that has been said about that drug is to be accepted; while certainly the prophets and prophetesses of a pure meat diet should establish for the benefit of their poorer brethren an institution for the popularisation of the "beefsteak cure." We have heard also of a diet of fruit and nuts which might well have a hospital for its adherents, for is it not hard that even a vegetarian at

a vegetarian hospital may have to eat cereals? Among the most recently-established institutions for the exhibition of medical sack racing is the Oriolet Hospital. At this institution sick people are taken in ostensibly for purposes of cure, but apparently on the condition that during the process they shall live on a strictly vegetarian diet. We have no doubt that the medical treatment which they receive is perfectly good, but why should the doctor tie his hands, and instead of trying how quickly and how thoroughly he can cure his patients, using for the purpose every means within his reach, why should he devote his energies to the experiment of whether he can cure them on a particular diet? According to the report of the Oriolet, one of the great advantages possessed by the site on which it is built is the fence by which it is surrounded; another is the size of the grounds, which makes it unnecessary for the patients ever to leave the premises. No patient is allowed to go out except on very special occasions, and then only with written permission. No patient is allowed to possess any money, and any that he may bring in with him must be immediately deposited with the Sister. Lastly we note the beneficent rule that no patient is allowed to grumble. If, then, we read between the lines, it is not difficult to see that even the patients at the Oriolet are not all regenerate, and that there is still among them a strong hankering after the flesh pots. All these one-legged institutions are tarred with the same brush in this respect, that the patient in choosing his hospital chooses his treatment, which is ethically wrong. If there is a place for such hospitals—and we do not say that there is no place—it must be left to the doctor to decide to which institution each case must go, and such special institutions must lower their pretensions and become mere administrators of lines of treatment prescribed by independent physicians. We can quite believe that it would be an advantage to have a series of institutions at which different lines of treatment should be exclusively carried on, so that whether steaks or starvation were prescribed they should be done in first-class style. But for a patient to ask a physician to cure him with certain reservations as to means is much like asking a surgeon to cut a leg off with one hand in his breeches pocket.

THE OUTBREAK OF TYPHOID AT UNIVERSITY COLLEGE HOSPITAL.

AN outbreak of enteric fever—the alarm occasioned by which is, of course, magnified by the contemporaneous epidemic at Maidstone—has, we regret to say, occurred at University College Hospital. It has been confined to the nurses and ward maids, of whom 12 and 6 respectively had been attacked down to Tuesday last. The subject has now been fully investigated by Professor Corfield, and the following statement may be taken as representing the true facts of the case: The demolition of buildings prior to the reconstruction of the hospital involved the nurses' dining room, and a new one was consequently fitted up in the basement of the hospital. A fresh source of water supply had also, of course, to be used, and it is to this that the infection has been traced. All the persons attacked had drunk of this, and no one who had not done so has been attacked; the nursing sisters and the resident staff have entirely escaped, and no case has occurred amongst the patients in the hospital. On following up the water pipes in question, they were found to communicate with a cistern in the slop closet belonging to Ward I, and on further investigation it was discovered that the contents of this were contaminated by means of a connection with the tank in which the soiled linen of typhoid patients was soaked before being boiled. A full explanation of the outbreak is thus afforded, and, unfortunate as the occurrence is, it obviously gives no ground for widespread apprehension. The fears of a general epidemic, so carefully fostered by certain of our daily contemporaries, can derive but little support from an outbreak such as this, due to a constructional defect in an old building, and one already doomed to destruction. We desire to express our sympathy first with the unfortunate sufferers, and secondly with the hospital authorities who have been unexpectedly exposed to this calamity. The question of closing the hospital entirely was for some time under discussion, but we believe that with the solution of the problem as to the origin of the infection it has been deemed unnecessary to do so.

ELECTION OF A DIRECT REPRESENTATIVE.

As will be seen from an article in another column, the figures of the poll for the election of a direct representative on the General Medical Council in the room of Dr. Rentoul (resigned) cannot yet be given, but it is known that Mr. Victor Horsley has been elected by a majority which is believed to amount to 500 or 600 votes. The total poll is estimated to have been about 13,000, so that on this occasion again the number of abstentions has been very considerable—a result which, for reasons we have already pointed out, is much to be regretted. In Mr. Victor Horsley the profession will have a representative who will certainly bring to his duties the greatest energy and enthusiasm, and we trust that any acerbity which may have been introduced into the contest may quickly be forgotten. Unfortunately a personal matter has been introduced in connection with the attack made by Dr. Bateman on Sir Walter Foster at his meeting which cannot be altogether passed over in silence. From the correspondence published in another column it would appear that Dr. Bateman did not, in accordance with the universal custom in such matters, personally give Sir Walter Foster notice of his intention to attend an election meeting and attack Sir Walter Foster's character as a candidate. Dr. Bateman appears to have trusted to a contingent promise by Sir R. Douglas-Powell to mention the matter to Sir Walter Foster should they chance to meet at a Board meeting. Very naturally Sir R. Douglas-Powell did not regard himself as having undertaken to act as Dr. Bateman's messenger, and Dr. Bateman cannot be acquitted of having failed to make, in accordance with the ordinary courtesies of public life, a direct communication to Sir Walter Foster of his intention to raise a personal matter at a public meeting.

THE PLAGUE IN INDIA.

WE understand that thirteen British medical men have been selected for temporary duty in the plague-stricken districts of the Bombay Presidency. Eight of these gentlemen started last week, and five others are leaving this week. In addition, Miss K. M. Hunter, L.S.A., D.P.H.Camb., has been selected for similar duties, and will leave this week for Bombay. This lady was chosen in preference to other lady candidates because she possessed the diploma in public health. Ten more nurses started for Bombay on October 14th, and two others will start next week. There is in addition a strong reserve list of competent nurses to draw upon. It is probable that a special plague commission will be appointed at an early date, but its composition is not yet definitively settled. The excellent work already done by Dr. Lowson has been fully appreciated, and the staff of thirteen men and one lady now on their way to India will be employed in detailed work in the various districts. The importance of continuous action is thus fully recognised, and cannot fail to have the best effects.

A TELEGRAM from the *Times* correspondent at Montevideo, dated October 10th, announces that Professor Sanarelli, director of the Institute of Experimental Hygiene of the University of Montevideo, whose paper on the identification of the bacillus of yellow fever was recently published in the BRITISH MEDICAL JOURNAL, has succeeded in preparing a curative serum. Professor Sanarelli will shortly publish the results of his experiments.

EPIDEMIC OF TYPHOID FEVER AT MAIDSTONE.

[Further Report from Our Special Commissioner.]

III.

We are glad to see that our suggestion, made now some two weeks ago, has borne fruit. It will be remembered that in our first report we advised the disinfection of the whole system of water reservoirs and mains that had conveyed any of the Farleigh water. The Maidstone Water Company have now retained the services of Dr. Sims Woodhead with a view to advising in the technical details of the operation. The main difficulties to be encountered are, however, rather of an engineering nature. It is proposed to use chloride of lime. This is to be added to the water in the Barming reservoir, from which it is to be allowed to fill the mains by gravitation. The question as to how the town is to be supplied with water in the meantime is the most difficult one to solve. It is estimated that at least forty hours will be required to fill the mains with the chloride of lime solution, and to subsequently wash it out with pure water, after having allowed the solution to remain for three hours. The other difficulty arises from the need of having a constant pressure in case of fire. No doubt both these difficulties can be satisfactorily overcome.

The New Supply.

As we stated last week, arrangements were being made to obtain an additional supply of water from the Mid-Kent Company. The junction between the two systems will be effected at Eccles. The work is in active progress, and it is hoped that the additional supply will be available at the end of the week. Arrangements are being made to get more than the 100,000 gallons at first promised. In the meantime a constant supply for household use has been satisfactorily maintained from the Cossington and Boarley springs. Sufficient water has, however, not been available for flushing purposes. Water for this purpose is being pumped from the Medway into water-carts. The Barming Asylum authorities are considering whether it is possible to obtain a fresh supply of water for that institution, in which there are 1,600 patients. It was found impossible to cut off the whole of the Farleigh supply in the case of the asylum, as the patients would have been without any water at all. The water is, however, filtered by the asylum authorities before being used. It is taken from the Ewell Manor spring, which has been above suspicion of pollution.

Progress of the Epidemic.

It certainly seems as if the epidemic, judging from the daily case incidence, was beginning to wane. Taking the end of last month as the highest point of the curve of incidence, and assuming that the fall in the number of cases will take approximately the same time as the rise, the latter part of next week should see the end of the lamentable incident. Appended is the corrected list of cases.

Daily Summary.

Date.	Daily Notifications.	Total.	Date.	Daily Notifications.	Total.
Sept. 11	2	2	Sept. 28	64	915
,, 12	4	6	,, 29	124	1,039
,, 13	1	7	,, 30	112	1,151
,, 14	3	9	Oct. 1	50	1,201
,, 15	1	10	,, 2	51	1,252
,, 16	27	37	,, 3	40	1,292
,, 17	26	63	,, 4	66	1,358
,, 18	66	129	,, 5	43	1,401
,, 19	76	205	,, 6	50	1,451
,, 20	121	326	,, 7	35	1,486
,, 21	68	394	,, 8	18	1,504
,, 22	78	472	,, 9	33	1,537
,, 23	59	531	,, 10	15	1,552
,, 24	88	619	,, 11	19	1,571
,, 25	104	723	,, 12	34	1,605
,, 26	74	797	,, 13	25	1,630
,, 27	54	851			

Complete mortality returns are not available, but it is known that at least 75 deaths have so far resulted.

The medical officers in charge of the various hospitals say it is too early to judge of the severity of the prevalent type of the disease, but the general impression seems to be that it is not a severe one. Many of the earlier cases are convalescing well, and some fifty will be able to leave the hospitals by the end of the week.

Vaccination against Typhoid.

Surgeon-Major Semple, the Assistant Professor of Pathology at the Army Medical School, Netley, who, as we stated last week, proceeded to Maidstone with a supply of anti-typhoid serum prepared by Professor Wright and himself at Netley, was enabled to vaccinate eighty-three persons at the Barming Asylum, and one person in the town of Maidstone. Unfortunately, he was then taken with an attack of what turned out to be Malta fever, contracted under circumstances stated elsewhere. Professor Wright has deputed Surgeon-Captain Leishman to take Surgeon-Major Semple's place at Maidstone, so that the method is still at the disposal of those who may be willing to resort to it.

Relief Stores.

The Central Relief Stores which have been opened at the Corn Exchange Buildings already contain an extensive collection of goods. Here are a few items: Mineral waters, 30,000 bottles; Mellin's Food, 2½ tons; arrowroot, 1 ton; Scotch whisky, 35 dozen bottles; port wine, 20 dozen bottles; linen and woollen garments, etc., between 7 and 8 tons. All this and much more will be required to meet the needs of the many hundreds of poor sufferers of the town who are unable to provide for themselves. With regard to the Relief Fund, it has been decided by the Committee that 50 per cent. of the amount subscribed shall be put aside for convalescent cases requiring removal. The remaining half of the fund will be divided into two equal parts, one to be used to meet calls for immediate relief, and the other to be held in reserve.

Mansion House Fund.

In response to the Lord Mayor's appeal several donations have already been received. In addition to Messrs. Glyn, the London and County Bank (and its branches) and the London and South-Western Bank (and its branches) have volunteered to receive donations for the fund.

Report by Medical Officer of Health.

At a meeting of the Urban District Council held on Wednesday, Mr. Adams presented a report, in the course of which he stated that the events of the past week connected with the typhoid epidemic tended to show that things were taking a normal course. He was thankful to be able to say that there was abundant evidence to show that the crisis was passed, that a rapid decline was now taking place, and that the extinction of the epidemic was in view. Since October 6th, a week ago, he had received 185 notifications, increasing the total since the commencement of the epidemic to 1,614. The average per day for the past week was 26 4; in the previous week ended October 5th the increase was 486, equal to 69.4 per day. In the week before that the notifications numbered 521, equal to 74.4 per day, and the rate of increase during the four days between September 18th and 21st was 82.7 per diem. He was quite certain that the disease would soon absolutely disappear if they had only to reckon with the original cause of the epidemic. Unfortunately, that was not the case, and the disease was spreading now through a variety of causes, such as ignorance or carelessness in nursing patients, handling infected clothes, etc. In connection with the number of cases arising through these causes, it had to be remembered that no epidemic of typhoid of such magnitude as that at Maidstone had ever occurred before in England. On the subject of the disinfection of the water company's mains and reservoirs, mentioned by Mr. Morling, Mr. Adams said he had discussed the matter in all its bearings with several persons eminently qualified to speak with authority on the subject, including Dr. Sims Woodhead, who had been employed by the water company to advise them in the matter. Dr. Woodhead agreed with him that practically there was no risk of infection incurred by the Cossington water passing through the mains within the area of the town formerly supplied with Farleigh water. Nevertheless, as an act of prudence, it was deemed desirable that steps should be taken to set at rest any dread of infection from this cause that might exist, and it was intended on Saturday next to thoroughly disinfect the town reservoir and the mains of the company with a solution of chloride of lime. Mr. Adams explained that it was intended to first fill the reservoir with the disinfecting solution, and afterwards to allow it to pass through the service mains.

ON THE APPLICATION OF SERUM DIAGNOSIS TO THE INVESTIGATION OF THE ORIGIN OF EPIDEMICS AS EXEMPLIFIED BY THE MAIDSTONE OUTBREAK.

By Surgeon-Captain Smith, A.M.S.,
From the Pathological Laboratory, Army Medical School, Netley.

It is a common experience that outbreaks of typhoid fever are not infrequently accompanied by the prevalence of cases which, as far as their clinical characters go, are simply diarrhœas, and it has been surmised that these attacks of diarrhœa are in reality due to infection by the typhoid bacillus.

Obviously, it is of great importance that the question as to whether such cases are typhoid fever or mere diarrhœa should be settled by any means in our power, as it is otherwise impossible to trace with certainty the origin of an epidemic.

Professor Wright, with the aim of throwing light on this question, and believing, moreover, that in the serum test will be found a method of deciding cases of this nature, commissioned me to proceed to Maidstone and endeavour to establish the point. Attention was specially directed to this matter by the perusal of a special article in the British Medical Journal,[1] in which reference was made to a row of houses known as "Mill Cottages" at West Farleigh, where the occupants had suffered from diarrhœa, which the British Medical Journal Commissioner suggested was in reality due to typhoid infection.

At "Mill Cottages," therefore, the first inquiries were made, and it was found that diarrhœa had been prevalent, as stated in the British Medical Journal. Samples of blood were taken from the persons said to have suffered from diarrhœa, and the serum was tested both in sedimentation tubes and under the microscope as to its reaction on typhoid bacilli. The following are the results of the examinations:

1. Mrs. C. had severe diarrhœa for a few days in August. Serum diluted 1 in 10 has marked reaction on the typhoid bacillus, but 1 in 50 has no reaction.

2. Mrs. M. had diarrhœa for two or three days in July. No reaction.

3. Mrs. G, twelve years in residence, used to have bad diarrhœa every hop-picking time, but for the last three years has been less troubled with it. No reaction.

4 Mr. C., twelve years in residence. Diarrhœa at this year's hop-picking not so bad as usual, but two of his children had it. Tested sera of husband, wife, and the two children. No reaction.

5. Mr. P., ten years in residence. All the family subject to colicky pains and diarrhœa in summer. The man himself was fourteen days on the sick list with diarrhœa in July and August of this year. Tested sera of husband, wife, and two children. No reaction.

6. Mr. C. Husband, wife, and one child had severe diarrhœa at intervals during two months this summer; the child was ill for five weeks. Tested sera of all three. Husband, marked reaction 1 i n 10 dilution, but 1 in 50 no reaction; wife and child no reaction.

In the total of 14 cases examined, the result is negative in 12 cases and positive in 2 cases. The positive reaction, however, is not present in a high degree, and does not warrant, and at the same time does not negative, the conclusion that the diarrhœas which occurred this year were due to the operations of the typhoid bacillus. There were severer cases of diarrhœa in the group which did not give the reaction. Moreover, the blood changes due to typhoid fever persist for a considerable number of years in some cases, and in people of the class under examination the records of disease are not very accurately kept.

Having completed the examination of "Mill Cottages," and having failed to get any positive evidence that the diarrhœa which had occurred there had any connection with the epidemic at Maidstone, and hearing at the same time that diarrhœa had been epidemic at another group of cottages which derived their water from the Farleigh supply, the inquiry was extended to these. Evidence was obtained that diarrhœa had been prevalent in this group of cottages at a period some months antecedent to the epidemic. Examinations were made as follows:

1. Mr. C. Had to take to bed with diarrhœa and influenza for five weeks in April and May last. Wife and daughter also had diarrhœa badly about the same time. Tested sera of all three. No reaction.

2. Mr. Cr. Laid up for fourteen days with diarrhœa in April last, and was unwell for some time afterwards. Mrs. O. in in the same house was very ill with diarrhœa for some weeks about the same time. Tested serum of the man only. No reaction.

The results in this group of cases are entirely negative, and we may deduce from this that these diarrhœas had nothing to do with typhoid fever.

Conclusion.

The results of the examinations which have been detailed above show that it is unsafe, without a controlling bacteriological examination, to infer that cases of diarrhœa which occur either before or in the course of epidemics of typhoid fever are in any way cause or consequence of the prevailing epidemic.

[1] Typhoid Fever at Maidstone, British Medical Journal, October 9th, 1897.

THE LONDON ASYLUMS.

Administration.

The eighth annual report of the Asylums Committee to the the London County Council shows that the total number of pauper lunatics in asylums, workhouses, and with relatives and friends, under the care of the Committee on January 1st, 1897, was 19,954, which is an increase of 607, according to the previous annual return, but the Committee explain that they are aware there were some 40 or 50 lunatics who were, failing accommodation, waiting removal to asylums, and that the increase may fairly be put down as over 700. The Committee, however, come to the conclusion in a letter addressed to the Commissioners in Lunacy by Mr. Partridge, their Secretary, that occurring insanity has not increased so greatly out of proportion to the population furnishing it as appears at first sight.

The question of providing the necessary accommodation to cope with an increase of between 600 and 700 lunatics per annum is an exceedingly serious matter, and the Committee can see no prospect of any diminution in this number so long as the population increases as it is now doing. Much of the time of the Committee during the past year has been devoted to the question of accommodation, and strenuous efforts have been made to cope with the existing deficiency in beds. Unfortunately, not only has the present deficiency to be met, but the immediate future promises in three years an increase equal to the population of an asylum with 2,000 beds, so that by the time the Bexley Heath Asylum is finished there will be sufficient patients to fill both it and the Horton Asylum "about to be commenced." Having purchased the Horton Manor Estate of 1,060 acres at Epsom, the County of London is now in possession of several eligible sites on this one estate, and it is a question whether it would not be better policy to erect two asylums at once there rather than go tinkering on with temporary accommodation for a few hundred patients here and there, who will ultimately have to be permanently accommodated. The more speedily the deficiency in accommodation is overtaken the sooner will the present expenditure of from 3s. to nearly 5s. per head per week be saved upon the 1,126 patients who are now boarded out in the various asylums throughout the kingdom—a charge upon the ratepayers which, calculated at 4s. per head per week, amounts to between £11,000 and £12,000 per annum. The weekly cost per head per week for patients chargeable to parishes and unions in the county remains at 10s. 2½d.

Clinical teaching is now provided at Colney Hatch Asylum, for the London School of Medicine for Women; for St. Bartholomew's at Banstead: Westminster at Cane Hill; and for St. George's at Hanwell.

The percentage of recoveries stands at 32.66, calculated upon the total number admitted.

The Pathological Department.

Under this head, the Committee refer to the equipment of the laboratory, the establishment of a scholarship in neuropathology, and the appointment of two labora-

tory assistants. The exceedingly able and interesting report of Dr. F. W. Mott, F.R.S., the pathologist, is referred to elsewhere. It denotes an immense step in the right direction, and amply justifies Dr. Mott's appointment.

Dr. Mott has already commenced more than one important inquiry which, as will be seen, promises to yield results of great clinical and practical importance. He has also been successful in enlisting the services of several willing workers who will doubtless by their labours contribute not a little to the value of the results to be attained in the laboratory. One point only may be noted here as illustrating the thoroughness with which the inquiries are directed.

The necessary delay which supervenes between the death of the patient and the removal of the central nervous system for histological examination has interfered with pathological research, and has at times given rise to fallacies. At the London County Lunatic Asylum, Claybury, a cold chamber with a constant temperature of 32° F., has been provided, and the bodies are placed in it as soon after death as possible, and kept there until examined. A proof of the utility of this plan has been provided by Mr. A. T. White's routine bacteriological examination of blood from the superior longitudinal sinus and of the cerebrospinal fluid of 83 bodies. In those examined before the cold chamber was in use, micro-organisms were found in 40 per cent., while in those which had been kept in the cold chamber cultures of micro-organisms were obtained in 15 per cent., a very material difference.

We are glad to note that it is intended to issue full reports of the laboratory in the form of *Archives*, which will be edited by Dr. Mott.

OPENING OF THE WINTER SESSION IN THE MEDICAL SCHOOLS.

King's College.

The opening of the session was, as reported in the British Medical Journal of October 9th, formally marked at King's College by a *conversazione* and distribution of prizes by the Rev. Dr. Robertson, the recently-elected principal, but in the evening the more popular and informal gathering of old students of King's College Hospital met at Limmer's Hotel for the annual dinner, with Mr. F. Richardson Cross, F.R.C.S., of Clifton, in the chair. This gathering, both by numbers and enthusiasm, was most successful. The Chairman proposed the toast of "The Queen," "The Navy, Army, and Reserve Forces," and the toast of the evening, "King's College Hospital and its Medical School." In the course of his speech he gave an interesting account of the foundation of King's College, and he touched lovingly upon the work which had been done by such men as Partridge, Ferguson, Lister, Kelly, Baxter, Johnson, Garrod, Bowman, Todd, Beale, Rutherford, and Ferrier, and his remarks were greeted with frequent bursts of applause, which perhaps became most enthusiastic when the speaker, turning from the past, spoke of the present and the future prospects of the school. Replies to this toast were made by the Rev. Dr. Wace, late Chairman of the Hospital Committee, and by the Rev. Dr. Robertson. Amongst those who proposed or replied to other toasts were the following: Dr. Burney Yeo, Dr. Walters (Reigate), Dr. Shingleton Smith (Bristol), Dr. Wynter Blyth, Surgeon-Captain Valentine Matthews, Professor McHardy, and Dr. Tirard. Mr. Herbert Schartau and Mr. Percy Webster enlivened the evening by numerous songs. The following Entrance Medical and Science Scholarships have been awarded:—Medical Entrance Scholarships, 60 guineas, W. E. Blackall. Sambrooke Medical (Science) Scholarship, £50, J. A. Drake and M. R. C. MacWatters. Warneford Medical (Arts) Scholarship, £25 for three years, H. B. Day; £25 for three years, A. A. Myers. Worshipful Company of Clothworkers (Science) Scholarship, £30 for two years, E. Hinks; £20 for two years, A. E. Ruffhead. Engineering Entrance Scholarship, £15, G. H. Lovegrove.

Middlesex Hospital.

At the Middlesex Hospital Medical School the First Broderip Scholarship has been awarded to Mr. H. F. Hine and the Second to Mr. G. H. Lucas. The First Entrance Scholarship has been awarded to Mr. Wm. Gillitt, and the Second to Mr. Rees Phillips.

Yorkshire College, Leeds.

On the evening of the day (October 1st) of opening of the winter session of the medical department of the Yorkshire College, Leeds, Mr. T. R. Jessop, who, as stated in the British Medical Journal of October 9th, delivered the introductory address, was entertained at dinner by the members of the medical profession in the city and district at the Queen's Hotel. Dr. Coleman, in proposing the health of the guest of the evening, referred to the distinguished position to which Mr. Jessop has attained as a provincial surgeon. Professor C. J. Wright, as an old fellow student, supported the toast. Mr. Jessop replied in a speech containing many interesting personal reminiscences, which were much appreciated by his professional brethren. Mr. F. H. Mayo proposed "The Medical Department of the Yorkshire College," coupled with the name of the Dean. Mr. Scattergood, in responding, spoke of the vastly improved condition under which, in the new school, students can receive their education, and said that one of the most gratifying features is the increasing number of qualified practitioners who come to the school to carry on post-graduate studies. During the evening the Lyric Quartet gave musical selections, and Dr. Holt, of Malton, and others contributed to the enjoyment of an exceedingly pleasant evening. About eighty members of the profession were present.

Edinburgh.

The University and extra-mural classes were opened for the winter session on Tuesday, October 12th. In some cases more or less formal introductory lectures were given. Thus Sir Thomas Grainger Stewart referred to the imperfection of our knowledge of medicine despite the astounding progress of recent years, to the necessity there was that the country should be roused to put into practice the precautions which medical science had taught them. He referred to cholera at Hamburg, small-pox at Gloucester, and typhoid fever at Maidstone as examples of calamities which might perfectly well have been prevented if the known facts of science had been fitly applied.

BATTLE OF THE CLUBS.

Coventry Provident Dispensary.

Sir,—Under the head of the "Battle of the Clubs," two paragraphs appear in the British Medical Journal of September 18th and October 2nd referring to Coventry, which the medical staff of the Coventry Dispensary desire to correct.

The paragraph which you refer to on September 18th as appearing in the local press was read at the monthly meeting of the Committee of the dispensary held on September 14th by the Chairman. Great indignation was expressed, and it was characterised by the members as an attempt to create discord between themselves and the staff. A resolution was proposed, carried unanimously, and sent to the medical staff as follows:

> That the Committee very much regret that such a paragraph should have appeared, as it was without their knowledge or approval, and was untrue.

We would add that no final reply to our memorial has yet been received. The matter is still under discussion. The whole staff has recently met the Committee, and discussed some of the points in the memorial, and a further meeting will shortly be held. The members of the Committee have expressed their desire to discuss the question in a friendly and amicable spirit.

Meanwhile, we think it a matter for regret that such a paragraph (evidently emanating from an individual who has no desire to see the question amicably settled between the staff and the Committee) should so promptly be sent to your Journal and the *Lancet* without some steps being first taken to ascertain the truth of it. Such action is, in our opinion, not calculated to bring about that "united action" of which you speak.—I am, etc.,

(Signed for the medical staff) W. J. Pickup,
Secretary Medical Staff of the Provident Dispensary.

Coventry, Oct. 11th.

East Anglian Branch of the British Medical Association.

At a general meeting of the members of the East Anglian

Branch, held at Aldeburgh, on September 16th, 1897, the President (Mrs. Garrett Anderson, M.D.) in the chair, it was unanimously resolved:

That in future no medical men belonging to the medical aid associations be elected members of the East Anglian Branch of the British Medical Association.

Also:

That this resolution be forwarded to the Council of the Association, with a request that the Council should take similar action, and that copies of these resolutions be sent to the secretaries of each Branch of the British Medical Association in Great Britain and Ireland.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A MEETING of the Council will be held in the Council Room of the Association, at No. 429, Strand (corner of Agar Street), London, on Wednesday the 20th day of October next, at 2 o'clock in the afternoon.

The following Committees also will meet:

Tuesday, October 19th, 1897.—2.0 P.M. Premises and Library Committee.—2.30 P.M. General Practitioners and Ethical Committee.—3.30 P.M. Parliamentary Bills Committee. 4.0 P.M. Arrangement Committee. *Wednesday, October 20th 1897.*—10 A.M. Journal and Finance Committee.

FRANCIS FOWKE, *General Secretary.*

October, 1897.

BRANCH MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.—The first meeting of the session will be held at the Town Hall, Hackney, on Thursday, October 21st, at 8.30 P.M. The chair will be taken by Mr. Frederick Wallace, President of the Branch. Mr. Howard Marsh, F.R.C.S., will read a paper entitled, Operative Surgery of the Present Day in its application to Affections of the Joints, with Cases.—HERBERT E. POWELL, Honorary Secretary, Glenarm House, Upper Clapton.

NORTH OF IRELAND BRANCH.—The autumn meeting of this Branch will be held in the Museum, College Square North, Belfast, on Thursday, October 28th, at 12 at noon. Members who wish to read papers, show patients, or bring other business before the meeting, will kindly communicate, on or before Wednesday, October 20th, with JOHN CAMPBELL, Honorary Secretary, 21, Great Victoria Street, Belfast.

WEST SOMERSET BRANCH.—The autumnal meeting of this Branch will be held at the Railway Hotel, Taunton, on Friday, October 29th, at 5 o'clock. It being the intention of Dr. Kelly to resign the office of Hon. Secretary and Treasurer, the appointment of his successor will be considered at this meeting. The subject as settled by the Council for discussion (before dinner) will be: Nervous Depression and its Treatment; and the discussion will be opened by the President, Mr. Hayes. Dinner at 6.30 (5s. a head, inclusive of waiters, but exclusive of wine) will be provided for gentlemen who give previous notice to the proprietor of the Hotel, or to Mr. Rigden, 2, Billet Street, Taunton.—W. M. KELLY, M.D., Honorary Secretary, Taunton.

OXFORD AND DISTRICT BRANCH.—The next meeting of this Branch will be held at the Radcliffe Infirmary, on Friday, October 29th, at 3 P.M. Agenda:—Dr. Freeborn; A Case of Purpura Hæmorrhagica. Mr. S. A. Hayman: A case of Acute Myelitis. Dr. Elsmore: Hepatic Intermittent Fever. Mr. Doyne: Exophthalmos and other Eye Cases. Mr. W. L. Morgan: A Case of Intussusception. Dr. Collier: A Severe Case of Chorea. Dr. Mallam: Malignant Disease of the Suprareual Capsules. And other business. Notice of further communications should be sent to the Secretary before Tuesday. October 19th.—W. COLLIER, St. Mary's Entry, Oxford, Honorary Secretary.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—The autumn meeting will be held at the Imperial Hotel, Malvern, on Friday, October 22nd, at 3.15 P.M. Dr. H. E. Dixey will speak on the subject of The Contagious Diseases (among Soldiers) Acts, and on The Position of the Association with regard to Medical Defence, and move resolutions thereon. Members are requested to exhibit patients. pathological specimens, etc., at the commencement of the meeting.—GEO. W. CROWE, Honorary Secretary.

STAFFORDSHIRE BRANCH.—The annual general meeting will be held at the George Hotel, Walsall, on Thursday, October 28th, at 4 P.M., when an address will be delivered by the President-elect, Mr. G. A. Phillips. Agenda:—Correspondence. Election of new members: Dr. J. A. Codd (Wolverhampton), Mr. A. H. W. Hunt (Wolverhampton), and Dr. Arthur J. Martin (Bloxwich), are proposed. Address by the President. Report of the Council and Ethical Committee, and financial statement. Election of officers and Council for the ensuing year. The dinner after the meeting is fixed for 6 P.M., 5s. each. Members desirous of reading papers at the Stoke meeting in November are requested to communicate the title to the General Secretary, F. MILNES BLUMER, Stafford.

SOUTHERN BRANCH: SOUTH-EAST HANTS DISTRICT.—The next half-yearly meeting will be held at the Medical Library, Portsmouth, on Tuesday, October 26th. Members desiring to make communications, or to exhibit patients or specimens, are requested to communicate with the Honorary Secretary, C. C. CLAREMONT, M.D., 57, Elm Grove, Southsea.

BORDER COUNTIES BRANCH.—The autumn meeting of the Branch will be held in the County Hotel, Carlisle, on Friday, November 5th. Members intending to read papers, etc., are requested to communicate with the Honorary Secretaries, R. DUNDAS HELM (Carlisle), W. HALL CALVERT (Melrose).

SOUTH-EASTERN BRANCH: WEST SURREY DISTRICT.—The next meeting of the above District will be held at the Royal County Hospital, Guildford, on Friday, October 29th, at 4 P.M. Dr. Russell will preside. Agenda: Minutes of Farnham meeting. To decide where the next meeting shall be held, and to nominate a member of the Branch to take the chair thereat. The following paper has been promised: Dr. Washbourn (London): The Serum Treatment of Disease. Members desirous of exhibiting specimens or reading notes of cases are invited to communicate at once with the Honorary Secretary. Dinner at the White Lion Hotel at 6 P.M.: charge, 6s., exclusive of wine. All members of the South-Eastern Branch are entitled to attend, and introduce professional friends.—ALEX. HOPE WALKER, Honorary Secretary, Cranleigh.

SOUTH MIDLAND BRANCH.

THE autumnal meeting of this Branch was held at the General Infirmary, Northampton, on October 7th, 1897, under the presidency of Mr. R. A. MILLIGAN.

Luncheon.—About thirty members and visitors were present, and were entertained at luncheon by the President previously to the meeting.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

President's Address.—The PRESIDENT delivered an introductory address on the Advance in Surgery during the last twenty years, comparing the past with the present, and he was accorded a hearty vote of thanks for the same.

New Members.—Mr. H. C. Addison (Bedford) and Mr. T. P. Greenwood (Stamford) were elected new members of the Branch.

Proposal as to Annual Dinner.—A letter and proposal from Mr. De'Ath on the subject of the annual dinner was, in the absence of the writer, not taken into consideration.

Medical Ethics.—A letter was read from Dr. P. M. Braidwood, suggesting the publication and distribution among the members of the Branch of a leaflet, in which they could record their opinions on medical ethics and other such matters. It was ordered to lie on the table.

Medical Aid Associations.—A circular was read from the secretaries of the East Anglian Branch containing resolutions passed by that Branch on the subject of medical aid institutions. The Secretary was requested to acknowledge the same, and in reply to forward a copy of the resolutions passed by this Branch on the same subject.

Communications.—Dr. WM. NEWMAN exhibited a series of *x* Rays Pictures taken by himself of various injuries of bones and joints, etc.—Dr. MAGUIRE read a case of Phenomenal Gestation.—Dr. ALLISON read a paper founded on a case of Pernicious Anæmia, going fully into the details of the subject. An interesting discussion ensued, in which Drs. JONES, GOLDSMITH, HEMMING, NASH and others joined, and Dr. ALLISON replied.—Mr. ALFRED LINNELL read notes on an Unusual Cause for Otorrhœa, namely, the presence of a nest of maggots.

The Montreal Meeting.—Mr. H. CROPLEY gave a brief summary of his experiences at the Montreal meeting as the representative of the Branch, and received a hearty vote of thanks for the same.

Votes of Thanks.—Votes of thanks to the President for his conduct in the chair, and to the readers of papers, etc., brought the meeting to a close.

NORTH OF ENGLAND BRANCH.

THE autumnal meeting was held at Bishop Auckland on October 7th.

Communications.—Dr. WARDLE showed (1) a child, aged 3 years, from whose belly he had removed a hatpin (swal-

lowed); (2) a man on whom he performed enterostomy in July, 1893; (3) a Malignant Growth removed from the Inguinal Region.—Dr. Murphy exhibited a Skiagram of a Bullet Wound.—Dr. Murphy laid before the meeting a summary of the Report of the Subcommittee appointed by the Parliamentary Bills Committee to consider the question of advancing Army Medical Reform, when it was unanimously resolved that the Branch supports the action of the Parliamentary Bills Committee.

Dinner.—The dinner, after the meeting, took place at 6.30 P.M. at the Talbot Hotel.

SOUTH-EASTERN BRANCH: EAST KENT DISTRICT.

The 144th meeting of this District was held at Folkestone, on September 23rd, Dr. Henry Lewis, of Folkestone, in the chair. Twenty-nine members and visitors were present.

Confirmation of Minutes.—The minutes of the last meeting (annual) at Canterbury were read and confirmed.

Chairman of Next Meeting.—Dr. Schön, of Bridge, was appointed Chairman of the next meeting, to be held at Canterbury in November.

Cholecystotomy for Obstructive Jaundice.—Dr. Colville (Ashford) read a paper on a case of cholecystotomy for obstructive jaundice: duodenal ulcers. He maintained that the operation was neither difficult nor severe, and was far preferable to the dangers incurred from impacted gall stones in those subjects to repeated attacks of biliary cholic. The case was related of a man, aged 62, whose first attack of biliary colic had occurred a month before he came under Dr. Colville's care. The attack recurred, and was accompanied by jaundice, distended abdomen, ascites, and distended gall bladder. He was relieved by operation, and the gall bladder emptied, but no gall stones were found. He recovered well from the operation, but he died a month subsequently, and *post-mortem* examination revealed two duodenal ulcers, not involving the entrance of the gall duct and inflammatory matting of parts round the duodenum and head of the pancreas. The liver was normal and the ducts patent, and there was a constriction of the pylorus, probably spasmodic. Dr. Colville dwelt upon the absence of evidence of duodenal ulceration, and the necessity of remembering that peritonitis, pancreatitis, and more chronic symptoms such as biliary, portal, and pyloric obstruction, may result from ulceration of the duodenum.

The Cure of Lateral Curvature.—Dr. Percy Lewis (Folkestone) contributed a paper on the Means of Cure in Lateral Curvature. After reviewing different methods of treatment, he argued that a different method might be required for each case of lateral curvature. Carefully-prescribed muscular exercises were useful in every stage, whether supports were used or not. The intelligent use of a medical gymnasium very much hastened the cure. He strongly advocated Mr. Barwell's method of stretching resisting ligaments with pulleys, a treatment which he considered more rational and safer than mere suspension. Dr. Lewis deprecated the wholesale condemnation of spinal supports, and showed that they might be required in some cases for reasons other than the gravity of symptoms. All very bad cases required supports, at least until the muscles had been so far strengthened as to prevent increase of deformity. He briefly reviewed the influence of certain games in the causation of curvature, and pointed out how they might be so modified as to become not only harmless but positively curative. The action of "good and bad positions" was briefly described. Dr. Lewis's paper was illustrated by a large number of photographs, showing the results obtained by different methods of treatment.

Radical Cure of Hernia.—Mr. Sidney Wacher (Canterbury) read a paper on the radical cure of hernia. He related 7 cases in which he had operated, 2 of them after herniotomy for strangulation, the others under circumstances usually considered suitable for radical cure. The methods of operating in femoral and inguinal hernias were demonstrated, a slight modification of Mr. Davies-Colley's operation being adopted. It was urged for this method that it was as successful as others, and more easy and safe than most. In 2 cases the buried silk ligatures had acted as foreign bodies at varying times after operation, and it was held that a more satisfactory material than any at present in use for buried sutures might still be found. Mr. Wacher recommended that trusses should always be worn after the operation in femoral cases, on account of the size of the ring and the difficulty of closing it by deep sutures; also that men engaged in hard work should wear a light truss for the first six to twelve months, until the deep cicatrix should be firmly consolidated. Finally, it was urged that in nearly all operations for strangulated hernia radical cure was a safe and desirable procedure.

SPECIAL CORRESPONDENCE.

PARIS.

Mismanagement of the Army Sanitary Service.—Alcoholism in France.—The Night Service in Paris Hospitals.—Proposed Abolition of Naval Medical Schools.—Municipal Schools for Nurses.—General News.

The mismanagement of the sanitary department of the army is attracting the attention of the daily press. Typhoid fever has appeared recently in many garrison towns. An inquiry into its origin has shown faulty water supply to be the originating factor. In order to render this supply potable certain measures had to be taken. This fact had been established some time since, but excuses were not wanting for not taking the necessary steps. The municipalities are accused of making promises when it is a question of having regiments garrisoned in their towns, but when the unfortunate troops are quartered in them all the improvements promised are found to be wanting and typhoid fever and other dangerous epidemic diseases strike down the defenders of French soil. This is not the only danger they have to brave. The Commissariat Department has allowed meat unfit for food to be bought and rationed out to the men. The vendors of the diseased meat admitted that they knew its condition. Love of gain made them dishonestly trifle with the health of the troops. Their sentence was a light one, notwithstanding the public indignation aroused by their offence.

Dr. Legrain, director of the journal called *Alcohol*, the organ of the Sociétés Féderées contre l'Usage des Boissons Spiritueuses, energetically denounces the increase of drunkenness. At Roubaix in 1892, 296 drunkards were sent to prison; in 1894, 356; in 1896, 642. It is not uncommon to see at funerals relations of the deceased who have drowned their grief in the bottle, and are present at the ceremony in a state of inebriation.

The faulty night service at the Paris hospitals has again been brought to light by the following incident: Dr. Picqué, attached to the Dubois Maison de Santé, was summoned there at midnight to see a patient who had suddenly become worse. It was necessary to have him removed to the operating room, but there was no one on duty to help the house-surgeon to do so. Dr. Picqué sent a letter to the Director of the Public Assistance in which he protests "against the insufficient night organisation and the negligence prevalent in the management of the Dubois Hospital which is countenanced by certain officers in the Director's department." Dr. Picqué has been interviewed, and states that the affair has terminated satisfactorily, and all the *chefs de service* have promised to create a night service. It is to be hoped that Dr. Picqué has special reason for believing that these promises will bear better fruit than those that have preceded them.

The question of suppressing the navy medical schools will be shortly discussed at the Conseil de Perfectionnement de l'Ecole Principale du Service de Santé. In consequence of the complete separation effected between the Colonial Sanitary Service and that of the navy by the State Council, and the Council refusing to accord to Colonial medical men the grade of officer, recognising only military rank conferred by the Minister of the Marine, the several navy medical schools have very few pupils. As the Colonial medical men are simple civilians, there is no reason for recruiting them from military schools and expending annually a considerable sum on their education. Candidates in abundance could be found among the medical men who graduate in the ordinary way in one or other of the French faculties. The wants of the naval sanitary service are limited to ten doctors a year. The expense incurred by the five naval medical schools is out of

proportion with the number of doctors whom they turn out. These schools are liberally officered; there are a director, a medical subdirector, and twenty-eight officers of different ranks performing the duties of professors. These establishments cost the country £20,000 a year. The education of each pupil costs the State £2,000. It is proposed to recruit the medical officers of the navy from the Lyons military school. The Lyons curriculum would then be completed in a special school where naval sanitation and the treatment of diseases of hot and tropical climates would be taught. A distinguished medical officer of the navy considers that the only satisfactory solution of the question lies in the amalgamation of the Colonial sanitary staff and that of the navy.

The municipal schools for nurses have commenced their sessions. The lectures are given at the Salpêtrière and at the Pitré and Lariboisière hospitals. The following subjects are taught: Administration (the directors of the several hospitals undertake this instruction); elementary anatomy and physiology; dressing of wounds; the care of women during confinement and that of newborn children; hygiene and elementary pharmacy (the medical staff of each hospital lecture on these subjects). The public can attend without payment. Persons wishing to do so are called upon to enter their names in a register.

A birth which has recently taken place in a Paris omnibus furnishes another occasion for returning to the charge concerning the organisation of urban ambulances. The woman in question had been to the Necker Hospital to apply for admission. That hospital does not possess a maternity ward. The patient was advised to go to the Hôtel Dieu. She was on her way there when the child was born; mother and child were placed in a cab and taken to the Charité Hospital.

M. Brousse intends asking the Seine General Council to appoint a technical commission composed of members of the Council and medical specialists for the purpose of studying the reforms necessary to obtain well-organised asylums for the treatment of nervous diseases and insanity.

Dr. Calot will visit Russia next December to lecture on his system of treating Pott's disease. His lectures will be given at the Moscow University.

The General Secretary of the Public Assistance has publicly stated that the *Bureau de Bienfaisance* of the twenty Paris districts have a surplus of £32,000.

A bust of Professor Verneuil has been erected at the Marine Sanatoria in the Department of the Loire Inferieure. The expense is defrayed by the Sanatoria.

BERLIN.

The Leprosy Conference.—Jubilee of the Bethanien Hospital.

THE International Leprosy Conference was officially opened on October 11th in the large hall of the Imperial Board of Health. The new Secretary of State, Count von Posadowsky, represented the Government of the German Empire; Cultus-Minister Dr. Bosse, with two heads of department (Althoff and von Bartsch), the Prussian Government; while General-Staff-Army-Surgeon Dr. v. Coler and Surgeon-General Dr. Gutschow appeared for the Prussian army and navy. Delegates from almost all civilised States were present, as well as from many municipal bodies, corporations, scientific societies, etc. In the name of the Preliminary Committee, Professor Lassar welcomed all who had come to take part in the labours of the Conference, which, he said, was the first international one for the discussion of a specialised medical problem. Professor Virchow was then elected President of the Conference amid loud applause. He expressed his thanks in a short speech, and on his proposal Professor Lassar (Berlin) and Dr. Armauer Hansen (Bergen) were elected Vice-Presidents, and Dr. Ehlers (Copenhagen), Secretary-in-Chief. Count von Posadowsky then bade the Conference welcome in the name of the Imperial Chancellor, and in a short speech pointed out the great importance of the Conference for humanity in general. In former times the struggle against leprosy had been confined to a mechanical prophylaxis, lepers having been cut off and considered as dead, but of late a new departure had been made in the study of the disease itself, and hope was beginning to dawn that the disease might be effectually battled with. In the consciousness that the greatest wealth of mankind was in mankind itself, and that our first aim should be to keep man healthy, and thus fit for his work in life, the German Federal Governments welcomed the conference with the assurance that its debates would meet with their liveliest interest and most active furtherance. Minister von Bosse greeted the conference as delegate of the Prussian Government. He said that Prussia had special reasons for receiving gratefully every assistance that science could give in the struggle with leprosy, since Prussia was the most threatened State in the German Empire, the disease having already passed its frontier. In East Prussia (Memel) more than thirty-four cases had occurred, and a leprosy hospital was in course of construction. Herr Dr. von Bosse closed his speech with the assurance that Prussia's warmest sympathies were with the conference. After a short speech from the secretary-in-chief, Dr. Ehlers, of Copenhagen, the investigator of leprosy in Iceland, the conference began its scientific work. The introductory addresses had been allotted to Dr. Besnier (Paris), the delegate of the French Académie de Médecine, Dr. Hansen (Bergen), Mr. Jonathan Hutchinson (London), Geheimrath Neisser (Breslau), Professor Neumann (Vienna), and Dr. von Petersen (St. Petersburg). Professor Besnier began by thanking the German Government for its initiative, and proceeded to give an account of the French researches on leprosy. He dwelt on the important *rôle* which the nasal secretion probably plays in the spread of the disease. The nasal secretion contained a large number of leprosy bacilli, and—where there are careless and untidy habits of life—no doubt forms a serious danger for the *entourage*. As a corroboration of this view he mentioned that many cases show the first symptoms at or near the nose. Dr. Hansen (delegate of the Norwegian Government), the discoverer of the leprosy bacillus, was received with loud applause. He advocated proposals for more humane isolation of lepers, though, of course, he firmly upheld the principle that they must be removed from all dangerous contact with the healthy population. In Norway, he said, the large sums spent on leper homes, etc., have proved, even financially speaking, a sound speculation, as the result was that the number of lepers decreased yearly, and the State was able to profit by the existence and labour of a large healthy population. Mr. Jonathan Hutchinson, the celebrated English leprologist, was prevented by indisposition from reading his paper, but it was read by another English member. Mr. Hutchinson's theory is that the exclusive use of fish as food is a prime cause of leprosy. Special pathological questions were discussed in the remaining introductory addresses, at the close of which several lepers who had acquired the disease abroad, but were at present living in Halle and Berlin, were demonstrated to the Conference.

At the second meeting, on Tuesday, October 12th, microscopical demonstrations were given by Drs. Blaschko, Doutrelepont, Musebold, Riehl, Schäffer, and Unna, and the questions of the day were then discussed:

1. How far are we sure that the Lepra Bacillus is the Cause of the Disease?
2. How does the Bacillus gain Entrance into the Body?

Among those who spoke on the subject may be mentioned Drs. v. Virchow, Kaposi, Neumann, Neisser, Petersen, Hansen, Blaschko, Unna, Arning, Doutrelepont, Darier, Abraham, Hallopeau, Jeanselme, and Amado.

The Imperial Chancellor, Prince von Hohenlohe, gave a *soirée* in honour of the members of the Leprosy Conference.

An imposing jubilee has this week been celebrated by the Berlin hospital Bethanien in honour of the fiftieth anniversary of its existence. The Bethanien is not only a hospital, but also a training school for nurses; in fact it is the mother house for Protestant sisters ("Diakonissinen," as they are called in Germany), and this explains the great interest taken in the jubilee proceedings by the Empress, the Grand Duchess of Baden, and many leading ladies of the German aristocracy. A solemn religious service was held on the jubilee day, followed by a banquet. Official speeches were delivered, and decorations were conferred on the chief physician and chief surgeon of the hospital. The Grand Duchess of Baden sent a beautiful wreath as a token of her sympathetic feeling, and from the Empress came a telegram with warm words of regret that she was unable to be present,

and ending with the words: "Many delegates of new Protestant sisterhood houses, erected since the foundation of Bethanien, are assembled with you to-day. My greeting goes to you all; God bless Bethanien, and the work of the Protestant sisterhoods."

ROME.

Jubilee of Professor Durante.—A Forthcoming Congress in Rome.—Professor Sanarelli.—Foundling Hospitals and Syphilis in Italy.

The former and present pupils of Senator Durante, Professor of Surgery of the University of Rome, intend to celebrate his scientific jubilee in February, 1898. For this purpose an influential executive committee has been formed, with Professor D'Antona, of Naples, as chairman. It is the intention of the Committee to present Professor Durante with a large *Pergamena* bearing the record of the date, and a special volume, richly printed and bound, which will contain contributions, not only from the leading scientists in Italy, but also from some of those of Europe and America. Dr. Roncali, coadjutor at the Royal Surgical Clinic, Rome, is the foreign secretary.

On October 25th the First Congress of the Ordini e Giurie dei Sanitari del Regno will meet in Rome, where many important questions in relation to the profession in general will be discussed.

Professor Sanarelli, the discoverer of the yellow fever microbe, will soon pay his native country (Italy) a brief visit. It is said that he will make further communications before some of the medical societies here in relation to his important discovery.

In a previous communication the condition of the foundling hospitals in Italy was described, and it was stated that the Minister of the Interior had ordered the various provincial physicians (they correspond to the county health officers in England) to report on the *brefotrofi* (foundling hospitals) in their provinces. Two of these reports have been already published, one for Cuneo and the other for Padua. In the former Dr. Thea states that, besides the serious defects in the reception and nursing of the exposed, the mortality is about 50 per cent., and about Cuneo itself it is as high as 59 per cent. Moreover, there is no defence against the spread of syphilis by means of the foundlings, as they are only kept for a few days, and even sometimes for a few hours, in the institution before they are placed out to nurse in the *campagna*, in which time it is often impossible to discern if the infants are syphilitic or not. The increase of syphilis in Italy generally has been very marked within the last few years, so much so that the attention of the Government is being called to it by many leading members of the profession, among them Professor Durante, who has lately published an important article in *Il Policlinico*. Dr. Natali in his report on the Padua *brefotrofi* especially deals with the condition of the *locali*, which are altogether unsuitable for the purpose. He also states that the wet nurses are badly treated, as they are not permitted to leave the institution excepting by special permission in exceptional cases and accompanied by a custodian. Artificial feeding, he says, has given most disastrous results.

ST. PETERSBURG.

Trade Diseases connected with the Petroleum Industry.—New Psychiatric and Neurological Museums in St. Petersburg.

Among the papers read in the Section of Hygiene at the recent Congress in Moscow was an interesting one by Dr. Leo Berthenson, of St. Petersburg, upon the Sanitary Aspects of the Petroleum Industry. The paper began with a short description of the trade processes as carried on at Baku (the great petroleum centre on the shores of the Caspian Sea). The industry comprises two essentially different processes: (1) The extraction of the naphtha; and (2) its industrial elaboration, furnishing the petroleum of lighting, benzine, fatty oils, and other derivatives. There are two modes of boring wells for naphtha: (1) Boring with a shaft (*forage à la tige*), and (2) boring with the aid of ropes (*forage à la corde*). When the boring is finished the naphtha either comes to the surface by its own pressure, or is artificially extracted by a process called *vidage*. The "rope boring," as adopted in the United States, is rarely employed in Baku. It is, however, safer; it is accompanied with fewer accidents, and the workman is less exposed to the fumes of naphtha than in the "shaft-boring" method, in which his head is constantly over the orifice of the well. The pathogenic influences of this industry may be divided into two groups: (1) Those connected with the mechanical processes of extraction and refinement; (2) those connected with the direct action of the naphtha on the organism. Among the first accidents due to fire are common. Burns and scalds, caused by fire, steam, by some of the products of the distillation of naphtha, by the burning *mazut* (or waste products), or by the chemical action of sulphuric acid and caustic alkalies used in the processes are frequently met with. Lesions due to this direct action of naphtha are various. Cutaneous affections occupy the first place. Men exposed to the prolonged action of crude petroleum, particularly those who work almost naked in the wells or in cleaning out the reservoirs and cisterns, suffer specially from various affections of the skin and subcutaneous cellular tissue. The gravest form of organic disease, affecting the respiratory and other organs, are met with in men working at the naphtha fountains, and who are thus exposed to the direct action of the naphtha, its spray and gases. In badly-managed petroleum refineries cases of acute poisoning are met with. Workmen employed for any length of time in such places are affected by depressed nutrition, anæmia, dyspepsia, and various nerve troubles. Intoxication by the gases of naphtha is often seen in men employed in cleaning out the cistern trucks used on the railways for the transport of *mazut*, mineral oils, and the petroleum used for lighting. Chronic skin affections are frequent, and are followed by general symptoms, such as irritability, insomnia, weakness, and depressed nutrition. The sanitary conditions of petroleum refineries, so far as they consist in the proper management of stills, boilers, and other apparatus, in no sense differ from those of other factories where the same apparatus is employed. The specific action of the industry is only felt where the workmen are made to work in an atmosphere loaded with the vapours of naphtha or its derivatives. *The elaboration of naphtha into illuminating oils or fatty oils has no sensible action on the workmen, if the process is carried on in the open air or in well-aërated buildings.* (The italics are the author's). The industries accessory to the production of petroleum are peculiarly unhealthy, and in this respect the first place is taken by the regeneration of sulphuric acid used up in the chemical processes. Among men employed in this work severe forms of laryngitis and bronchitis, with hæmoptysis and dyspnœa, are met with; caries of teeth, and their almost complete destruction, are common phenomena. Dr. Berthenson concluded his paper with the following recommendations: (1) "Rope-boring" should be substituted for the other forms of boring wherever possible. (2) Work at the process of extracting the naphtha (*vidage*) should be limited to eight hours daily. (3) Risks of fire should be specially guarded against. (4) Protective clothing (leggings, mittens, spectacles, respirators, etc.) should be worn in the workshops when sulphuric acid is recovered from the waste products, and also at the "fountains" and elsewhere. (5) All proprietors of factories should be compelled to provide adequate baths, lavatories, and water supply for their men, as cleanliness is of the first importance in prophylaxis. (6) Above all, ventilation should be abundantly provided in the workshops; this should be made compulsory by law. (7) As the process of recovering the sulphuric acid is particularly dangerous, the following measures should be enforced by law: (*a*) Special means should be provided for capturing and confining the sulphurous vapours as soon as they are formed; (*b*) perfect aëration should be ensured; (*c*) the work in these workshops should not exceed a normal of eight hours.

In connection with the new clinic for nervous diseases recently opened in the St. Petersburg Army Medical Academy it is proposed to institute two new museums, a psychiatric and a neurological. The first will contain a collection of objects illustrating the construction and management of asylums, and the pathology and treatment of insanity; while in the second the objects exhibited will illustrate the structure and growth of the nervous system, and the pathology and treatment of nervous diseases in general.

BRISTOL.

The Sewage Question.—St. John Ambulance Association.—The Royal Infirmary.

THE question of the disposal of the sewage of the city appears to be likely to be settled shortly, and certainly not before it was required. At the present time the whole of it is discharged unchanged and undiluted into the Avon, with the not unnatural result that the banks of the river at low tide give off an odour which, to say the least, is far from savoury. For some time residents near the banks of the river and new cut have complained of the smells, and have attributed, rightly or wrongly, many of their illnesses to the sewage pollution. It is, however, not easy to prove that they have really suffered in health, though it is certain that the value of property near the river has depreciated in consequence of the disgusting smells that at times come from the mud and water. Some time ago a committee was appointed by the Sanitary Committee to make preliminary investigations and report what plan appeared most feasible and easily adapted to the special features and difficulties in connection with the Bristol system and the tidal river. The report which was recently sent in states that, after examining the details of sewage works at other towns, the committee came to the conclusion that the simplest plan—as undoubtedly it was—was to continue the present drains to the Severn and discharge the sewage into it, trusting that the immense body of moving water there would soon render it unobjectional. The question then arose, In which direction shall the drains be carried, and where shall be the outfall? and this the committee left undecided, but mentioned that three sites appear possible—namely, near Avonmouth, between Portishead and Clevedon, or between Clevedon and Weston-super-Mare. Only the first of these places is in the city boundary, so that it is not improbable that some objection may be taken by Clevedon and Weston inhabitants to having the sewage of over 300,000 persons discharged near to such popular watering places. The distances the mains would have to be carried would be from five to fifteen miles, according to which plan is adopted. The erection of a sewage farm did not commend itself to the committee.

The Bristol Branch of the St. John Ambulance Association held its annual meeting at University College on October 1st, and a new set of rules regulating the centre was passed. In consequence of the change of officers, the number of classes held in the previous twelve months was slightly less than in former years, but from the applications received already it is probable that a considerable increase will be noticed in future. Till this year the Watch Committee have refused to pay the lecturer to the City Police, but this difficulty having been removed, several classes have already been arranged, and it is expected that every member of the force will qualify for a certificate within the next twelve months. The Committee, half of which is composed of medical men, are making strenuous efforts to prevent persons able to pay attending gratis classes, as several instances came under their notice last year. It is hoped that the alteration in the rules will prevent abuse in future. The chairman announced at the meeting that Mr. Beavis had promised to present a challenge cup to be competed for, and a Subcommittee was appointed to draw up the necessary rules. The accounts were passed, and new omcers elected.

At the half-yearly meeting of the Royal Infirmary the Treasurer was authorised to sell £2,000 stock to meet the exceptional outlay necessary for the reconstruction of the operating theatre and other matters.

CORRESPONDENCE.

THE LATE PROFESSOR ROY.

SIR,—Perhaps you will allow me to mention one or two facts relating to the late Professor Roy, whose early death we must all deeply deplore. In the summer session of 1872, while conducting the class of practical physiology in the University of Edinburgh, I was attracted by the earnestness of a fine healthy, rosy-cheeked lad who sat at the end of one of the benches; and one day, as we were working at muscular fibre, I discovered that this lad, then about 18 years of age, was familiar with its structure, and had a large collection of preparations of the muscular fibres of various animals prepared by his own hand. He invited me to pay a visit to his humble lodging, and there I found that he possessed a large collection of microscopical preparations, and that he was, in fact, an accomplished histologist. I still possess preparations of the muscular fibres of insects prepared by Roy in those early days. Further, it is most interesting to know, as showing how early his mind was directed to the special methods of research which he afterwards used to such good purpose in physiology and pathology, that at that early time he had conceived a new sphygmograph, and had constructed a rough model. This model was on the principle afterwards carried out in the construction of the beautiful recording apparatus associated with Roy's work on the heart and vessels. Thus a lad of 18 had already laid the foundations of his life's work.

The morning was full of promise, and all who knew him will deeply regret that his working day was so short. One other fact may be mentioned. Roy was not the first physiologist contributed by the old town of Arbroath. In the shadow of its grand old abbey rests a greater physiologist, almost forgotten by the younger generation, William Sharpey. Not long since I visited Arbroath, and with some difficulty found his grave. In the evening I had the opportunity of telling some of the townspeople of Arbroath that their town had given two distinguished names to science, those of William Sharpey and Charles Smart Roy.—I am, etc.,

University of Glasgow, Oct. 9th. JOHN G. MCKENDRICK.

DR. LONG AND THE DISCOVERY OF ANÆSTHETICS.

SIR,—In your annotation in the BRITISH MEDICAL JOURNAL of October 9th, p. 1017, on the Discovery of Anæsthesia, you say of Dr. W. C. Long, "He died in poverty in 1878." You should have said, "He died in comparative poverty." Your readers will be glad to hear that he left no less than 40,000 dollars to his family; but even this large sum was comparative poverty to the Longs of Georgia.

With your permission I will add that Dr. W. C. Long's grandfather, Captain Samuel Long, was an Ulster man. He married a Miss Williamson, and with his bride started to seek his fortune in the New England colonies. Dr. William Crawford Long was called after the great Georgian statesman William Crawford, who was Secretary of State, Minister to France, and a candidate for the Presidency. Dr. Long secured the respect of all who knew him. During the civil war he had charge of the Military Hospital in Athens, Georgia, where thousands of Federal prisoners passed under his care; and such was the high opinion formed of his skill and humanity, that, on the conclusion of the war, the Federals asked him to become surgeon to the Military Hospital which they erected there. How he was loved and honoured by the Georgians is shown by the statue in marble which they erected in his honour in the Capitol.

Dr. Young is deserving of thanks for supplementing the articles of Dr. Marion Sims in the *Virginian Medical Monthly*, May, 1877, and Dr. Luther B. Grandy's article in the same journal. Great credit is also due to Dr. Landon B. Edwards, who induced Dr. Marion Sims to write the biography of Dr. Long, and for the expense which he incurred in producing the beautiful steel engravings with which it was illustrated.

I beg to enclose a photograph from a crayon portrait of Dr. Long, sketched very soon after he administered ether to Mr. James Venables, by Miss Frances Long, who not infrequently acted as his amanuensis.—I am, etc.,

Dublin, Oct. 11th. GEORGE FOY.

THE FUTURE OF THE A.M.S.

SIR,—In the BRITISH MEDICAL JOURNAL of October 9th you publish a suggestion from "An Experienced Correspondent" how to revert to a regimental system. Permit me briefly to point out that it will be perfectly impossible to revert to even a modified form of regimental medical officers without a large increase in their number, and a consequent expense to Government. The late Sir William Muir stated officially that to attach one medical officer to each unit at home would cost £22,000, and if abroad as well, £40,000.

Will any Secretary of State propose such an increase to the

Estimates for a doubtful advantage? The proposal of your correspondent to form a true "technical or medical corps" to be composed of officers of from 10 to 25 years' service, and to attach officers from entry up to 10 years' service to corps could not possibly answer. In the first place the juniors would not have the necessary training or experience in sanitary matters, and being cut off from hospital work would be useless fossils, so far as their medical knowledge went, when they would be required to join the "Technical Corps." Again, if none but senior officers were to work in the station hospitals, we would have surgeon-majors and surgeon-lieutenant-colonels on perpetual orderly duty—a *rôle* now filled by the juniors, and properly so.

Permit me to say there is but one solution of the difficulty. Form the A.M.S. and M.C.S. into a Royal Corps, giving substantive army rank with limited command to the officers. Increase the Department to its necessary strength; treat it fairly, and let the Secretary of State take steps to have the social position of the officers put on the same footing as that of other officers. This could be done, first, by having medical officers, particularly "H.M.'s Honorary Surgeons and Physicians" invited to Court functions, as Her Majesty's A.D.C.'s are now, and by taking steps to prevent class blackballing in military clubs. This latter could be stopped at once if the "military advisers" chose to use their influence. At present the Medical Department of the Army is falling to pieces rapidly, and if the process of decay be not arrested it must soon cease to be efficient.—I am, etc.,

X.

October 11th.

INDIAN ADMINISTRATION.

Sir,—A paragraph headed "Abolition of Surgeon-Generalcies" appears in your issue of October 9th, in which it is stated that "by the change Bombay has been brought to the same status in this regard as the North-West Provinces and Bengal." However much to be regretted from a service point of view, no reasonable objections can be brought forward against this course if the entire administration of the Presidency be placed on the same footing as the above-mentioned provinces and the Punjab, which have always been economically and efficiently governed by men of experience, without the expensive and superfluous trappings of bands, body guards, councils, revenue commissioners, etc. If economy and reform are not carried out from the top it is a mistake to begin by reducing a department whose services are not less indispensable now than they have ever been in the history of our empire, notwithstanding the indifference with which their suggestions for sanitary improvements are generally received.

When the true official story of the Bombay plague is published—if it ever sees the light—it will be interesting to know whether the authorities gave immediate effect to the recommendations of their medical and sanitary advisers, and, if not, whether anyone is to be decorated, or held responsible for the delay in taking active steps, and its disastrous consequences.—I am, etc.,

C. W. MacRury,
Brig.-Surg.-Lt.-Col. I.M.S.(Retired).

Earl's Court Road, W., Oct. 11th.

GENERAL TUBERCULOSIS.

Sir,—The letter of "D.P.H." in the British Medical Journal of October 9th, p. 1031, raises an important point in regard to the classification of deaths from general tuberculosis, and by classifying these as phthisis pulmonalis we are no doubt doing an injustice to our districts. General tuberculosis is, to my mind, an unfortunate term when used as a cause of death, and although it may be a correct one in many cases, I venture to think that it is not so in children under 2 years of age. In many of these cases the cause of death is due to malnutrition, commonly in bottle-fed children, and may or may not be tuberculous. When they are tuberculous a more defined cause should be certified. I am in the habit of classifying cases certified as general tuberculosis in children under 2 years of age under the head of "wasting diseases of infants."

It is a pity that a little more attention is not paid to the manner in which a death certificate is made out, and to medical officers of health who have to classify the causes of all deaths it is very important. One or two lectures either by the Professor of Pathology or the Professor of Medicine in his usual course of lectures would be of great service to young practitioners, many of whom have never had an opportunity of seeing a death certificate filled up till they are qualified. I trust the letter of "D.P.H." may help to call attention to this.—I am, etc.,

Wm. Berry, D.P.H.,
M.O.H. for Wigan.

Wigan, Oct. 11th.

HOSPITAL ABUSE.

Sir,—My object in writing to you was to suggest that the present abuse of the hospital out-patient room was bad for everybody. Two general practitioners have shown that the fault does not lie with them, though it seems to me that the latter has by no means cleared himself, for his first statement to be true requires that most hospital out-patients are liars, for a note from a general practitioner is a very great rarity. That operations with anæsthetics at less than a guinea do not pay I cannot quite see. They give me experience; they would give additional credit to the general practitioner. That I should do them for the well-to-do is of course ridiculous, and so far as I am concerned I try to rub a few sarcastic remarks into the well clad, but their clothes are too good to let much through. That the risks are greater for the out-patients than for the clients of ex-house-surgeons the latter would, I suppose, admit at once; if so he has an additional pull over the out-patient room, and why he does not use it I cannot see. I am loth to believe that my old fellow students, so ready to help a brother in trouble or difficulty, can by the acquisition of a diploma be converted into jealous and suspicious competitors. Nor are the lay staff more or less than human. We have all of us influence, we can all combine, and the better we treat each other the better will the public treat us, while if we cannot trust each other how can we expect strangers to behave any better?—I am, etc.,

Clinical Assistant.

October 5th.

INSOMNIA.

Sir,—The discussion on the treatment of insomnia at the recent meeting of the British Medical Association is of great interest to the general practitioner, to whom the complaint, "I sleep very badly," is all too familiar. May I call attention to a manner in which I believe the habit of insomnia is occasionally acquired?

It appears probable that healthy, hard-working people who spend but few hours in bed, take their sleep in a more concentrated form than those who, with ample time at their disposal and no weariness to speak of, drag out their nine or ten hours in half-hearted naps. The sleep of the labouring man is sweet. A farm hand, who spent at harvest time but four hours in bed, stated that he frequently went to sleep while undressing for the night, and that on awaking refreshed in the morning the interval of unconsciousness appeared to him but momentary. Such an experience must represent sleep in its ideal form, but the man who habitually goes to bed before Nature demands sleep, and who rises hours after body and mind are fully rested, must not be surprised if he acquires a habit of insomnia. It is possible that the individual who dozes for nine or ten hours may derive as much benefit as the man who spends but half the time in the profound unconsciousness of healthy sleep. Unless the hour for rising is proportionately early it would seem that too early to bed may be as likely a cause of sleeplessness as the opposite extreme. Women in easy circumstances are more prone to indulge in too much bed than others, and in these cases, and where no other cause of insomnia could be discovered, I have suggested the obvious remedy, and fixed the limit of six hours' repose until such time as the patient shall find the natural appetite for sleep return.—I am, etc.,

Frank Elvy.

Eastbourne, Oct. 8th.

THE USE OF THE FORCEPS IN MIDWIFERY.

Sir,—I have been anxiously looking for a protest from the young members of the profession against the slur cast upon them by Dr. Sinclair in his presidential address at Montreal, and it was in the hope that some young practitioner would speak out that I have not written before.

Although I do not for a moment doubt but that there are

locum tenentes and assistants, and may be also men in practice, whose knowledge of forceps is so limited as to result in the terrible cases described by Dr. Sinclair, yet I maintain that these practitioners must be isolated exceptions, and in no way representative of the great body of men licensed every year by the General Medical Council. Dr. Sinclair complains of the method of education of the student in midwifery. When a student I took out my cases at the Southern Hospital over which Dr. Sinclair has control, and during that time I was never allowed to introduce even one blade of a pair of forceps. How then could I be expected to know when qualified how to avoid "lacerated vaginal walls" and "dislocated uteri"? All my practical knowledge of forceps I have had to learn during the last few years from general practice, and I have not yet had to call in any specialist to repair injuries inflicted by me on the mother. Moreover, from careful inquiries of men of my own year, I can find no individual case of such accidents as Dr. Sinclair describes.

Forceps in general practice I have no doubt are often applied when Nature and long hours of weary waiting would dispense with them, but to condemn the practitioner who in a favourable case applies them to the relief of the mother is, I venture to say, taking the case beyond the boundary of modern teaching. For Dr. Sinclair I have the greatest respect, but to pass over without notice the terrible indictment he brings against the young school would be to acquiesce in his opinions, and this I cannot do.

With the scarcely-tarnished little wedding presents before his mental eye, I venture to say that not one medical man in ten thousand would put on forceps before they were needed, neither would he when they were on use such culpable and terrible carelessness as spoken of by Dr. Sinclair in the cases he mentions. With the warning against the too frequent use of the forceps everyone will agree most cordially, but to brand every newly-qualified man with the badge of incompetency is so unjust that I wonder the columns of the BRITISH MEDICAL JOURNAL have not been crowded with protests.—I am, etc.,

Manchester, Sept. 27th. WILLIAM J. HOYTEN, M.R.C.S.

"COUNSELS OF PERFECTION."

SIR,—Your leader with this heading. on the Maidstone epidemic, suggests effectual means of cutting short a visitation of fever, but the difficulty in provincial towns is to set efficient machinery in motion.

A practical question is with whom responsibility rests in ascertaining risk to health and in staving off disaster? A water company naturally looks to the interests of its shareholders, but the sanitary authority should, by itself or with the backing of the Local Government Board, insist on all necessary means being used to keep pure the water supply, and to discover the first evidence of its fouling. The representatives of the sanitary authority should surely be aware of the danger resulting from an encampment of hop-pickers over superficial springs, and should ascertain whether those springs are effectually isolated, and, if there were any doubt, should require a constant and carefnl analysis of the water.

The weak point in the Maidstone case appears to be that, while the medical officer of health advised a more frequent analysis, the sanitary authority did not insist on it, and nobody seems to have been found to call in any compulsion from the Local Government Board to counteract the apathy of the sanitary authority.—I am, etc.,

Rochester, Oct. 12th. J. VINCENT BELL.

THE "SELECTION" OF IDEAS.

SIR,—By far the most important of the introductory addresses you publish in the BRITISH MEDICAL JOURNAL of October 9th is Sir J. Crichton Browne's discourse on Ethics and Individualism in Medicine. I do not presume to criticise it in detail, but there is one passage to which I take serious objection, because, as I understand it, it seems to me to imply a quite erroneous view as the nature of thought and science. "Within certain limits," says Sir James Crichton Browne, "we can regulate our own brain crop. We can weed it and fertilise it, and we can do this by an exercise of that voluntary power which is our proudest attribute. Thousands of ideas shoot up in the mind for one that survives and becomes operative, and the one that survives does so because it is selected by the will."

Now, if there be any meaning in the progress of science or knowledge in general, it is that in the long run those ideas which are found to correspond with the facts of Nature necessarily displace those which do not. And I maintain with Schopenhauer (for Sir J. Crichton Browne has appealed to the authority of his master, Kant) that the will has, or ought to have, practically nothing to do with the act of thinking. It ought not to come in at all except in a mechanical way to set and keep the thinking process going, impersonally, as one may say, for if it does interfere it will invariably prejudice the result.

Thinking should be purely objective (I do not mean to imply that it is, but it should be), and the activity of the subjective personal will should meanwhile be suspended, just as, in conducting some delicate experiment, we isolate, so far as possible, our apparatus from extraneous disturbing influences, for example, magnetic currents, and so forth.

Thought is really a kind of vision, and it is as absurd to talk about the will in connection with one as with the other. For instance, I look at a house, and see that it is red in colour, its walls oblong in shape, so many feet long, so many feet high, and so many feet broad. I may, of course, choose to observe one set of facts apart from the others: for example, to abstract the question of form and attend merely to that of colour; but if I wish to form an adequate notion of the house I shall first methodically observe as many facts as possible, and then allow the resultant percepts to combine spontaneously in my mind. No effort of will is needed to decide that a house is red, and not brown or yellow, nor can I by any effort of will persuade myself to think it other than red while I am looking at it, or after I have once observed its colour.

And if we wish to form an adequate or proximately adequate idea of life our business is to observe as many facts as possible, and then to submit to the sway of those facts. Whether the conclusions we reach are favourable or otherwise to existing social conditions, established prejudices and conventions, is no business of ours, as thinkers. The function of the will in respect to contending ideas is that of the onlooker, who sees fair play, and awards the palm to the victor.—I am, etc.,

October 11th. C. J. W.

OBITUARY.

PROFESSOR EDMUND DRECHSEL,

University of Berne.

THE news of the sudden death of Dr. Drechsel, Professor of Physiological and Pathological Chemistry and of Pharmacology in the University of Berne, will come as a great blow to his numerous friends and acquaintances both at home and abroad. Dr. Drechsel went to Naples to work at the Zoological Station at some of those problems in chemistry of the invertebrates which have recently absorbed much of his attention. On September 22nd he died there suddenly of disease of the heart at the age of 54.

Born in Leipzig in 1843, he studied chemistry at the university there with such success, from 1863 onwards, that in 1865 he became assistant to Kolbe, who was then Professor of Chemistry. He took his Doctor's degree in Philosophy in 1865. In 1872 Ludwig appointed him his assistant in the Chemical Department of the Physiological Institute, where he carried on many researches, and aided Ludwig and his numerous pupils when they required assistance in matters chemical.

In 1878 he was elected Extraordinary Professor in the Medical Faculty, and remained at Leipzig under Ludwig until he was called to Berne to fill the Chair of Physiological Chemistry there. In 1883 the University of Leipzig conferred upon him the degree of M.D. Much to his regret, Drechsel did not follow a medical career. He entered upon the study of physiology purely from the chemical side, so that his work —always of the highest class and carefully done—dealt rather with problems of a distinctly chemical nature. He was a laborious and painstaking worker, and whatever he did was done thoroughly.

Drechsel made many contributions to physiological chemistry, and he was a perfect encyclopædia of knowledge

regarding chemical problems. For many years Drechsel wrote the "Annual Report on Diet, Respiration, and Metabolism" in Hofmann and Schwalbe's *Jahresbericht*. To the *Centralblatt f. Physiologie* he also contributed numerous articles and abstracts. He contributed the article "Chemie der Absonderung und der Gewebe" to vol. v of Hermann's *Handbuch d. Physiologie*. There are also numerous articles from his pen in Beilstein's *Organische Chemie*, and in Ladenburg's similar work. One of the best articles on "Albuminates" is that by Drechsel in Beilstein's *Chemie*, vol. iii, p. 1258. He also published a small and handy guide for the preparation of organic substances of importance to the physiologist (*Anleit. z. Darstell. phys. chem. Präp.*, 1889). His work on the formation of urea by the electrolytic decomposition of ammonium carbonate marked an important era in the theory of urea formation in the body, his view being that it was formed from ammonium carbamate. A few years ago he discovered the phosphorus-containing substance "jecorin" in the liver of the horse.

Dr. Drechsel leaves a widow and two sons to mourn his untimely death.

FREDERICK W. BARRY, M.D., D.Sc., F.R.S.Ed.

We regret to have to record the death, which took place suddenly on October 12th, of Dr. Frederick William Barry, the Senior Medical Inspector of the Local Government Board. Dr. Barry, about a year ago, met with a serious accident whilst engaged in the Board's work in Yorkshire, striking his head with such force against a low-pitched stone doorway as to strain severely the tissues and the ligaments connecting the spinal column with the base of the skull, with probable rupture of vessels in the neighbourhood. Dr. Barry, with that indomitable perseverance which was one of his most marked characteristics, endeavoured to pursue his official duties despite the blow, but had at length to give in, and took to his bed through what were to be many weeks of weary lying in a fixed position; and, with a display of wonderful patience and the untiring assiduity of his wife, he finally returned to office business after an absence of seven months. How far he had absolutely recovered from the damage sustained it is difficult to say; but, with all his old cheerfulness and unswerving attention to work, he resumed and carried out his official duties, and left home only as recently as the afternoon of Monday last for Birmingham, to take up the task of inspecting public vaccination work there. He retired to rest before midnight, with instructions that he be called at 7.30 next morning; but it would seem that he must have fainted and fallen in the act of preparing for bed, as he was found lying dead on his back on the floor on Tuesday morning, the bed unslept in, and the electric light still burning in the room. An inquest was held on October 13th and a verdict of "Death from natural causes" returned.

Dr. Barry was born in Scarborough, and his parents are still living. He was a distinguished student of the University of Edinburgh, where he graduated M.B. and C.M. in 1874. Two years later he took his M.D., obtained his B.Sc. in 1877, and the same year secured the D.P.H. at Cambridge. He had been the Edinburgh University Medallist in Practical Physiology and Histology in 1871-72; and in 1884 he took the degree of D.Sc. at that university. He read for the law some few years ago, and was called to the bar of the Middle Temple; being about the same time elected F.R.S. of Edinburgh. Still later he was appointed examiner in Medical Jurisprudence and Public Health for the University, and at the time of his death was acting in the same capacity for the University of Aberdeen.

During 1878-79 he held the responsible post of Medical Officer of Health for the Craven combination of sanitary districts in Yorkshire, from which he was called to Cyprus, where he laboured for two years as Chief Superintendent of Quarantine and Sanitary Commissioner, writing reports on the sanitary condition of the island, and preparing the census of Cyprus in 1881. In the next succeeding year the President of the Local Government Board appointed him to the vacant post of Medical Inspector in the Medical Department of the Board, under the chieftainship of the late Sir George Buchanan, a position for which his work and training had shown his special fitness. He was early entrusted with duties of a high class, and quickly made his mark among his fellows as a painstaking and trustworthy expert in medico-sanitary matters.

In addition to inquiries and reports which have had an important bearing on localities more particularly concerned, Dr. Barry has contributed many papers of high excellence and wide significance on matters touching the public health generally. We may instance his joint report with Mr. Gordon Smith, the Board's principal architect, on Back-to-back Houses; his investigation and report on the Sheffield small-pox epidemic of 1887-88; his elaborate inquiry and detailed report on the Tees Valley enteric fever epidemic of 1890-91; his work in connection with the appearance of cholera in England in 1893, and the special sanitary survey made in consequence; and his collated data and papers on the Western Diffusion of Cholera in Europe during 1893. Dr. Barry had a special facility for the acquirement and arrangement of data as to exotic diseases, giving evidences in this respect of having the special gift which his predecessor, the late Mr. Netten Radcliffe, possessed in so remarkable a degree.

In Dr. Barry the Medical Department has lost one of a staff which the country can ill afford to spare; and, in addition, they are the losers of one who, by his unvarying cheerfulness, his great kindliness of heart, and his readiness to do anything for the benefit of others, endeared himself to his chiefs and his colleagues in no small degree. He has held a place in their affections which cannot be quickly filled. He leaves a widow and two children—a son, whose recent successes at Oxford were only known at the moment of his father's death, and a daughter aged 10 years. He was a devoted husband and father, carrying into his public life just those qualities of heart and mind which rendered him so beloved in his home.

WILLIAM MUIL, M.D.,

Kirbymoorside.

Dr. Muil died somewhat unexpectedly on September 30th at the comparatively early age of 54. He was a native of Aberdeen, and graduated in 1868 at the University of his native town. Subsequently he studied in London. In 1870 he purchased a general practice at Kirbymoorside, a market town situated on the edge of the north-eastern moorlands of Yorkshire. There he worked till his death, carrying on an extensive practice which required considerable physical strength and endurance, since some of his sick calls were to the distant and sequestered dales that traverse this thinly populated and mountainous district. He soon acquired a considerable reputation, more especially in surgery, in which department of medicine he speedily made his mark, performing the major operations amidst surroundings and difficulties that would have deterred any but the most skilled and self-reliant. He was unwearied in his efforts to relieve suffering, and his unselfish character and devotion to his patients were readily recognised. His sturdy independence of character and his high ideals of duty soon made him a personality in the district where his memory will long be cherished.

For some years back he had been suffering from glycosuria, but notwithstanding the increasing weakness and exhaustion caused by his ailment he struggled bravely on, never remitting one fraction of the attention and care bestowed upon those under his charge. He toiled on for the benefit of others, seeking not for himself the ease that was within his reach, and dying in harness at the last.

Beneath a somewhat stern and reserved exterior he carried a kind, warm, and tender heart. A recent well-known and popular writer has given to the world a sketch of a country doctor whose sayings and doings have touched the hearts and stirred the finer feelings of not a few. The writer in question might very well have had in his eye the character and actions of William Muil when he delineated the "Drumtochty doctor" and his doings in the Perthshire glen. It would be well for the country if there were more men of this stamp content to toil in comparative obscurity for the benefit of suffering humanity, leading simple lives marked by brave deeds full of self-denial and generosity.

Dr. Muil was laid to his rest in the churchyard at Kirby-

moorside on October 2nd. His remains were followed to the grave by a large crowd of sorrowing friends and patients. He leaves a widow and three children—a daughter and two sons; one of the latter is now studying medicine at Cambridge, but has not yet completed his curriculum.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are: Dr. Francesco Vigna, Senior Surgeon to the Civil General Hospital, Venice, aged 67; Dr. Hjalmar Heiberg, Professor of Pathological Anatomy in the University of Christiania, aged 60; Dr. L. Auerbach, Professor of Histology in the University of Breslau, aged 68; Dr. Hermann Welcker, sometime Professor of Anatomy in the University of Halle, and a distinguished anthropologist, aged 75; Dr. Rudolf Berlin, Professor of Ophthalmology in, and sometime Rector of, the University of Rostock, aged 64; Dr. Rafael Branchat, of Vime-Prada, Professor of Hygiene in the Medical Faculty of Granada; Dr. Max Burchardt, Professor of Ophthalmology in the University of Berlin, and successor of von Graefe in the charge of the ophthalmic clinic of the Charité; Dr. Joseph Brasseur, Editor of the *Gazette Médicale dé Liége*, and formerly President of the Fédération Liégeoise des Syndicats Médicaux, and of the Cercle Médical Liégeois, aged 57; Dr. F. Castells y Ballespi, Editor of the *Revista de Higiene* of Barcelona, and a leading sanitarian in Spain; Dr. Lombard, formerly Deputy for the Jura Department, and Vice-President in the French Conseil Général, aged 73; and Dr. Louis Camuset, Medical Director of the Lunatic Asylum of Bonneval in the department of Eure et Loire, author of essays on general paralysis and other subjects connected with diseases of the nervous system, aged 55.

NAVAL AND MILITARY MEDICAL SERVICES.

ARMY MEDICAL STAFF.

Surgeon-Major Horatio R. O. Cross, from the Royal Horse Guards, is appointed Surgeon-Major 1st Life Guards, *vice* Surgeon-Lieutenant-Colonel J. S. Forrester, F.R.C S.Edin., who exchanges, October 13th. Surgeon-Major Cross entered the service, August 4th, 1878, and became Surgeon-Major, August 11th, 1897. He was appointed to the Grenadier Guards, December 17th, 1884; was transferred to the Scots Guards, May 4th, 1892; and thence to the 1st Life Guards, September 26th, 1894. He was in the Zulu war in 1879, with the Mounted Infantry of the Flying Column, and with the Cavalry Patrol until the capture of King Cetywayo (medal with clasp), and in the Boer war of 1881 with the Mounted Infantry of the Natal Field Force.

Surgeon-Lieutenant-Colonel James S Forrester, F.R,C.S Edin., from the 1st Life Guards, is appointed Surgeon-Lieutenant-Colonel Royal Horse Guards, *vice* Surgeon-Major H. R. O. Cross, who exchanges, October 13th. Surgeon-Lieutenant-Colonel Forrester was made Surgeon, September 30th, 1874; Surgeon-Major, October 25th, 1894; and Surgeon-Lieutenant-Colonel, October 25th, 1894. He was appointed to the Royal Horse Guards, January 18th, 1885, and transferred to the 1st Life Guards, October 25th, 1894, when he was promoted to be Surgeon-Major and Surgeon-Lieutenant-Colonel. He was in the Egyptian war of 1882, being present at the engagement at Tel-el-Mahuta, in the two actions at Kassassin, and at the battle of Tel-el-Kebir, receiving a medal with clasp and the Khedive's bronze star.

Surgeon-Lieutenant W. A. Ward is under orders to embark for India in December.

Brigade-Surgeon-Lieutenant-Colonel Frederick Lyons, M.D., retires on retired pay, October 13th. Entering the service as Assistant-Surgeon, October 1st, 1867, he became Surgeon, March 1st, 1872; Surgeon-Major, October 1st, 1879; and Brigade-Surgeon-Lieutentant-Colonel, November 4th, 1893. He served in the Afghan war in 1878-80, and has the medal granted for that campaign.

Brigade-Surgeon-Lieutenant-Colonel R. Blood has been appointed to officiate as Principal Medical Officer Sirhind district, *vice* Surgeon-Colonel E. Townsend, appointed Principal Medical Officer Mohmand field force.

ARMY MEDICAL RESERVE.

Surgeon-Major R. M. P. Low, M.B., has resigned his commission, October 13th.

Surgeon-Captain F. W. Gibbon, Surgeon-Captain A. B. Wade, M.B, and Surgeon-Major W. S. Cheyne, M.B. (of the 2nd Volunteer Battalion the Gordon Highlanders) are appointed Surgeon-Majors, October 13th.

INDIAN MEDICAL SERVICE.

Brigade-Surgeon-Lieutenant-Colonel G. McB. Davis, M.D., D.S.O., Bengal Establishment, Principal Medical Officer Peshawur district, has been appointed to officiate as Principal Medical Officer Lahore district, *vice* Surgeon-Colonel G. Thomson, C.B., Indian Medical Service, appointed Principal Medical Officer Malakand field force.

The undermentioned probationers for the Indian Medical Service are appointed Surgeon-Lieutenants from July 28th:—J. G. P. Murray, Bengal; S. Anderson, Punjab; F. H. G. Hutchinson, Bombay; J. L. Marjoribanks, Bombay; A. Fenton, Madras; J. A. Dredge, Madras; R. W. Knox, Madras.

THE VOLUNTEERS.

Surgeon-Lieutenants L. E. Shore, M.D., 4th (Cambridge University) Volunteer Battalion the Suffolk Regiment, and F. C. Rogers, 4th Volunteer Battalion the Cheshire Regiment, are promoted to be Surgeon-Captains, October 13th.

MILITIA MEDICAL STAFF CORPS.

We are requested to call attention to the fact that under recent regulations an officer on joining can have five or six months' employment if desired during his first year of service. The terms of service, pay, and allowances are fully set out in the Military Regulations, 1897. Owing to increase of establishments there are now three vacancies. Application should be made to the Officer Commanding Militia Medical Staff Corps, Aldershot.

CHANGES OF STATION.

The following changes of Station amongst the officers of the Army Medical Staff have been officially notified to have taken place during last month:

		From.	To.
Brig.-Surg.-Lt.-Col.	J. M. Beamish, M.D.	Woolwich	Bombay.
,,	W. J. Fawcett, M.B.	,,	,,
,,	J. McNamara, M.B.	Fermoy	Malta.
Surg.-Lt.-Col.	J. C. Dorman, M.B.	Cork	Fermoy.
,,	M. R. Ryan, M.D.	Aldershot	Malta.
,,	W. T. Johnston, M.D.	Okehampton	Devonport.
Surg.-Major	G. F. A. Smythe	Woolwich	Egypt.
,,	A. P. O'Connor	Tipperary	Dublin.
,,	A. Asbury	Malta	York.
,,	S. J. Rennie	Ross	Hulme.
,,	R. H. S. Sawyer, M.B.	Dublin	Egypt.
,,	R. P. Bond	Altcar	Bury.
,,	E. H. Lynden-Bell, M.B.	Maryhill	Malta.
,,	W. C. Beevor, M.B.	Scots Guards	Punjab.
,,	G. B. Russell, M.B.	Dublin	Tipperary.
,,	J. M. F. Shine, M.D.	Malta	Crete.
,,	B. A. Maturin	Tower of London	Colchester.
,,	A. P. H. Griffiths	Hulme	Chester.
,,	H. R. O. Cross	1st Life Guards	R. H. Guards.
Surg.-Capt.	T. H. Corkery	Cork District	Spike Island.
,,	A. R. Aldridge, M.B	Netley	Malta.
,,	C. J. W. Tatham	Woolwich	Mauritius.
,,	R. W. Wright	,,	Malta.
,,	D. Hennessy, M.D.	Dublin	Bengal.
,,	R. J. Windle, M.B.	Aldershot	Bombay.
,,	G. Scott, M. B.	Jersey	Jamaica.
,,	W. H. Horrocks, M.B.	Colchester	Netley.
,,	T. McCulloch, M.B.	Dover	Punjab.
,,	C. W. Reilly	Woolwich	Hong Kong.
,,	A. L. Borradaile, M.B.	Eastern District	Weedon.
,,	W. W. O. Beveridge, M.B.	Western District	Devonport.
,,	G. A. T. Bray	Madras	Colchester.
,,	J. T. Clapham	Weedon	,,
,,	G. W. Tate, M.B.	Punjab	Woolwich.
,,	C. W. Duggan, M.B.	Dublin	Curragh.
,,	W. S. Harrison, M.B.	Bury	Chester.
Surg.-Lieut.	R. Fawssett	Portsmouth	2nd Life Gds.
,,	F. E. Gunter, M.B.	Netley	Madras.
,,	J. A. Murison, M.B.	Dublin	,,
,,	J. Grech	Curragh	,,
,,	F. S. Brereton	Chester	Scots Guards.
,,	E. T. F. Birrell, M.B.	Worthing	Dover.
,,	R. W. Clements, M.B.	Cork	Limerick.
,,	M. M. Rattray, M.B.	Edinburgh	Glasgow.
,,	S. L. Cummins, M.B.	Aldershot	Cork.
,,	J. McArdle, M.B.	,,	Dublin.
,,	C. H. Hopkins	,,	Portsmouth.
,,	L. J. C. Hearn, M.B.	,,	Dublin.
,,	P. McKessack, M.B.	,,	Netley.
,,	J. McD. McCarthy	,,	,,
,,	E. Brodribb	,,	Dover.
,,	J. Poe, M.B.	,,	Curragh.
,,	H. L. W. Norrington	,,	Chester.
,,	H. G. F. Stallard	,,	Colchester.
,,	R. D. Jephson	,,	Curragh.
,,	A. W. N. Bowen	,,	Woolwich.
Quartermastr.	C. Crawley	Malta	Crete.
,,	H. G. Hasell	Netley	Malta.

Brigade-Surgeon-Lieutenant-Colonel T. J. P. Holmes, M.B., retired pay, has been posted to Kingston, and Surgeon-Lieutenant-Colonel J. F. Brodie, M.D., retired pay, to Seaforth.

OUR ARMY DEPARTMENTS.

The *Court Journal*, usually well informed in army matters, remarks: "Indeed, throughout the entire army we are notoriously short of Army Service Corps and Medical Staff Corps companies. The regular units do not suffice to supply the needs of the line, and even in our mobilisation scheme for home defence many of the divisions have to rely for medical aid on the Volunteer Medical Staff." That is quite true, and a real scandal. The volunteers are denuded of their own medical officers to make up a fictitious reserve, and the system of robbing Peter to pay Paul is unblushingly encouraged. A purely paper and bogus mobilisation is thus effected, and between the two stools both regulars and volunteers are bound to come to grief should they ever be put to the ultimate test of their existence.

MEDICAL ARMY DISCONTENT.

In an article with the above heading the *Times of India* lately observes: "At the present moment, as if so grave a matter were capable of concealment, a miserable device is resorted to in order to throw dust in the

public eyes, by advertising only thirty-six vacancies in the Medical Staff, while there are much more than twice that number. In the Indian Medical Service, for eighteen vacancies only nineteen candidates offer, an occurrence which is probably unprecedented in this distinguished service. Thus the canker works through the whole profession. Unless Parliament interposes and compels the employment of common sense and business principles in dealing with the Medical Department, the deterioration it is undergoing must end in effacement. Whenever it suits the clap-trap of the moment the Horse Guards echo the wishes of the country about 'good doctors' for the army, while they persist in every effort to keep a good self-respecting, highly qualified stamp of men from coming in."

This is an admirable summary of the present situation.

MILITARY REVIEWERS AND ARMY MEDICAL WRITERS.

One cannot but be struck with the unreasoning and loose methods with which reviewers in the military press deal with articles on military medical matters. Surgeon-Major Foreman contributes an article to the *United Service Magazine* for October on the A.M.S. in war, and in dealing with certain statistics as to sickness and mortality alludes to the need of homogeneity in the Medical Staff and army rank for the medical officers, pointing out also that the Medical Staff is insufficient, and that civilian aid would be, in the main, valueless. The reviewer in our military contemporary says that the contention for army rank is "nonsense. Military command next, we suppose." Now, where or when does the army surgeon ask for military command outside his corps? The reviewer in another military contemporary says: "Civilians in proper proportion should be able to help most efficiently and more economically in dealing with sickness." Has this reviewer studied the expense entailed in former wars by the employment of civilians?

MALARIAL FEVER ON THE INDIAN FRONTIER.

News from Kohat at the end of September reports that malarial fever of a mild type has appeared among the troops at Doaba and Sadda.

THOUGHTS IN INDIA.

A correspondent writes: The ignoring of the recent Army Order regarding Mixed Boards is much commented on. It is deliberate. The increase of pay in India to medical officers is regarded as pure moonshine. The grade pay *plus* the extra staff pay takes all the gilt off. It is held that the great reason why the War Office ignores complaints from medical officers is the system of volunteering for the so-called Army Medical Reserve.

THE ARMY MEDICAL RESERVE.

We are reluctant to reopen this question, but to prevent misunderstanding must reply to a correspondent whose criticism we value. Under a misapprehension he applies a remark of ours to the actual members of the Army Medical Reserve, and takes strong exception to the statement that we always regarded the institution of the reserve as "a medical betrayal of the regular Army Medical Staff." We were not in this referring to the members of the reserve, but only repeating an old argument urged on its author, a former Director-General, that its inception would probably prove a betrayal of his own department. This was based on the forecast that the mere existence of such a volunteer reserve would be made the ground of refusal by the War Office of reasonable concessions to medical officers; after ten years' experience, it can hardly be said this prophecy has been belied.

Again, our correspondent asks whether we construe the acceptance of War Office "contract rates" as improper professional conduct. Certainly not. But we regard these rates as so inadequate and even shabby that, if there was less readiness to accept them, they would soon be materially raised. So much money is saved by the working of these rates that they form a financial inducement to those who have little regard to efficiency towards keeping the regular Army Medical Service in the wretchedly undermanned condition it is now in. Of course the rates and the reserve are not necessarily bound up, because the former existed long anterior to the inception of the reserve, and still operate where it does not exist, as in Ireland. But the members of the reserve have a "prior claim" on these rates, and the War Office regard it as part of the bargain that they should accept them. The bargain is such a good one (financially) for the War Office that we wonder what it would say if the reservists should as a body—and as our correspondent says he means to do when next asked to take charge of troops—demand the "regular" pay of their rank in the reserve. They argue, If they do the duty for why should they not get the pay of the regular officer whose place they fill? The argument is logically unassailable, but, if translated into action, would end, we venture to say, in the "prior claim" of the reservist getting the go-bye.

The truth is that under present conditions the medical reservist seems to have placed both his private and public professional services at the disposal of the War Office to an extent no other class of volunteer officer has done or is likely to do. A lawyer colonel of volunteers, for instance, is not asked to place his professional services at the disposal of the State at contract legal rates; it is enough if he gives his time and money to the service of his corps, which is his sole military *raison d'être*; but a medical volunteer is expected not only to give his time and money to his corps, out of which he holds no military status, but to do duty with regular troops, not as an officer, but as a pure civilian at a purely civil rate.

Our correspondent further mentions that he joined the reserve upon the chance—forlorn, he admits—of seeing "active service;" but while his zeal and patriotism are commendable, how could he ever cherish such a hope? If ever called up in "great national emergency" it can only be with his corps, to which he must stick, or leave it in the lurch; for when he ceases to belong to a corps he also ceases to be a reservist. Herein lies the gross anomaly of the so-called reserve, which is truly none at all; all its members are part and parcel of the volunteer establishment, and yet are somehow supposed to be available, even in the field, it seems, with regular troops. We defy a medical volunteer, more than any other "bird," to be in two places at once. They may be counted as efficients twice in the *Army List*, but only towards an unreal paper reserve.

We have always maintained that the proper place of the medical volunteer is with his corps, from which he can no more be spared for duty with regular troops in "great national emergency" than can volunteer majors, captains, and subalterns.

MIXED BOARDS.

Observer suggests that our correspondents on this matter should quote the exact order assembling such Boards. In this way a basis would be given to those who mean to bring the matter before Parliament for fixing the responsibility upon those who take upon themselves the deliberate evasion of army orders. Here is one:

"District Orders by Lieutenant-Colonel F. G. T. Welch, Commanding Poona District, August 30th, 1897.—Board will assemble at Kirkee on certain men of the Bombay Sappers and Miners. President: Major C. T. Robinson, R.A. Members: Major L. A. Gordon, 2nd Bombay Lancers. 2. Surgeon-Lieutenant F. Kiddle, A.M.S., will attend the Board.

THE ARMY SANITARY COMMITTEE.

Lex writes: It would be interesting to know how many of the nine members of this body attended to select the site of the new military hospital at Portsmouth. In not a few cases only one member and the secretary have been in attendance in similar instances. Worked as it is, the Committee often serves as a shield for War Office muddling. When a medical officer points out a sanitary defect, he is often shut up by the Royal Engineers declaring that the Sanitary Committee had approved of so-and-so, although he may have his doubt if the matter has ever been properly before that body.

TITLES.

Precedent objects to our questioning the value of the new titles in a rumoured new warrant, surgeon and captain, etc. He says there are many precedents for such titles, such as quartermaster and captain, captain and brevet-major, in which case the person is always addressed as major. Where precedent is so marked, there would be no difficulty in applying the military portion of the title to medical officers. What has killed the compound titles is their novelty, and consequent absence of precedent.

COMBINED EXAMINATION.

A correspondent wants to know whether candidates under the new combined Medical Staff and Indian examination will be allowed to compete more than three times for either of these services provided, of course, they are not over the age limit.

*** We cannot say; no orders we know of have been issued on this point, but we presume the "many tries" hold good. The scheme seems framed to meet two points: 1. To cloak the scandal of a deficiency of candidates for the Army Medical Service; 2. To obtain by hook or by crook for that service the leavings of the Indian service. To what subterfuges is the War Office driven!

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF GLASGOW.

First Professional Examination for the Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.).—The following have passed this examination in the subject or subjects indicated (B., Botany; Z., Zoology; P., Physics; C., Chemistry):

T. Anderson (B., C.), W. Archibald (B., C.), W. Armitage (B.), J. S. Barr (B., P.), T. T. Bathgate (Z.), G. T. Bogle (B., P.), W. Macalister-Brown (B., C.), J. J. Burke (B.), H. C. Cameron (B., P.), R. D. Campbell (B.), D. L. Carmichael (Z.), E. S. Chapman (B., Z., P.), W. B. Chapman (B., P.), G. H. Clark (B., P.), J. B. W. Cook (B., P., C.), S. C. Cowan (B., P.), J. Craig (B., Z.), E. H. Cramb (Z., C.), A. Currie (B., C.), J. S. Dale (Z., P.), D. B. Davidson (B., P., C.), G. H. G. Davie (B., Z.), J. Dick, M.A. (B., C.), H. M'M. Donaldson (P.), A. R. Dow (B., Z.), G. H. Downie (B., C.), R. N. Dunlop (B., C.), G. Ferguson (Z., P.), G. Garrey (Z., C.), D. G. S. Gartshore (P., C.), W. Gemmill (B., Z., C.), W. W. George (Z.), J. R. Gilmour (B., Z.), W. Girvan (C.), G. Gordon (B., P.), J. M. Gordon (B.), A. Gow (B., C.), A. P. Granger B., C.), J. Guthrie (B., P.), G. P. Harlan (B., P.), S. H. Harris (P.), F. J. Henry (B., C.), C. M. Hope (B., P.), D. W. Hunter (B., Z., P., C.), N. M'C. Hutchison (Z.), W. J. Isbister (B.), G. R. Jeffrey (B., P.), D. R. Kilpatrick (P., C.), A. King (B.), J. Lambie (B., Z., P.), R. Lauder (Z.), A. Linn (B., Z., P., C.), F. Lochrane (B., P.), J. Lockhart (B., C.), A. Logan (Z., C.), W. J. Logie (B., C.), J. P. Lusk (Z., P.), E. Magoveny (B., C.), W. A. Masson (B., Z., P., C.), R. Menzies (B., P.), J. G. Millar (B., C.), R. J. Mills (B., C.), W. A. Milne (B., C.), J. Morison (P., C.), A. H. Muir (B., C.), J. Muir (B. Z.), C. Macdonald (B.), D. D. M'Dougall (B.), W. F. M'Glashan (B. Z., P., C.), T. M'Laren (B., Z.), A. Maclean (P., C.), H. A. M'Lean (B.), A. McG. M'Millan (P., C.), J. M'Pherson (Z., P.), J. R. M'Vail (B., P.), J. D. Nisbet (C.), J. Paton (C.), A. M'M. Pollock (P.), J. N. Prentice (P.), T. H. Rankin (P.), P. M. Reid (C.), T. Richmond (Z., P., C.), W. Robertson (B., C.), T. R. Rodger (B., Z.), W. G. Rodger (B., C.), N. C. Rogers (B., Z.), A. T. Ross (B., C.), C. J. Ross (Z., C.), D. Sandler (B., P.), F. D. Scott (Z.), J. J. Sinclair (B., Z.), M. B. G. Sinnette (B., C.), D. Steel (B.), J. Strathearn (B., C.), R. R. Swan (C.), J. N. Todd (B., C.), J. G. Tomkinson (B., C.), J. W. Turner (B., C.), J. Unsworth (Z.), R. W. Valentine (B., C.), W. D. Walker (B.), G. S. Wallace (B., C.), T. I. Wallace (B., P.), H. F. Warwick (Z., P.), J. F. Weston (Z., C.), D. A. Wilson (Z., C.), D. W. Wilson (C.), J. Wilson (B., C.), T. W. Wilson (P., C.), W. W. W. Wilson (P., C.), W. R. Wylie (Z., P., C.), J. Wyper (Z.), J.

Young (C.), J. Young (B., C.), W. Young (B., P.). Women: M. E. Bryson (B., Z.), M. Edgar (B., Z.), H. M. Gordon (C.), I. Hill (Z.), J. T. Miller (P., C.), A. Moorhouse (B., Z.), J. S. M'Ewen (B., Z.), M. J. Pirret (B., Z.), M. A. T. Ritchings (B.), E. N. MacB. Ross (B., Z., P., C.), M. H. Scott (B., Z.), A. B. Sloan (B., Z.), E. M. Sloan (B., Z.), E. C. Wallace (B., Z.), H. F. Young (B., Z., P.).

First Professional Examination for the Degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.).—The following have passed this examination:

R. Cumming, B.D.; W. H. Ferra.

Second Professional Examination for the Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.).—The following have passed this examination in the subject or subjects indicated (A., Anatomy; P., Physiology; M., Materia Medica and Therapeutics):

J. F. Bennett (M.), W. Broad (A., P., M.), A. Brownlie (M.), T. B. Calland (A., M.), T. Carruthers, M.A. (A., P.), J. R. Chalmers (M.), D. M. Cowan (A., P.), J. Craig (A., P., M.), G. M. Crawford (A., P.), W. Crerar (P., M.), C. P. G. Crichton (A., M.), C. C. Cumming (M.), J. A. Dickie (P.), F. L. Dickson (M.), D. C. Douglas (P., M.), J. Drummond (M.), H. C. Ferguson (M.), G. Gardner (A., P.), J. Gardner (A., P.), G. Garry (M.), W. Gibson (M.), H. Goodman, M.A. (M.), A. W. Harrington (A., P., M.), I. M. Huey (M.), T. Inglis (A., M.), N. Jamieson (M.), A. Kerr (M.), A. Love (A., P., M.), R. Millar (P., M.), H. Miller (M.), N. M'L. Miller (M.), E. Mitchell, M.A. (A., P.), D. Morrison (A., P.), A. MacCulloch (A., P., M.), J. H. MacDonald (M.), P. M'Fadyen (M.), J. M'Gilchrist (M.), A. G. M'Kendrick (A., P.), C. F. Maclean (P., M.), G. T. Maclean, M.A. (A.), N. F. MacLeod (M.), W. J. Maclure (A., P.), J. M'Millan (M.), T. Neill (A., P.), J. Patton (M.), T. S. Picken (A., P.), J. Reid, (A., P., M.), R. Rennie (A.), W. A. Riddell (M.), A. Robin (M.), J. Scott, M.A. (M.), J. Shearer (M.), A. J. Smith (A.), D. J. Smith (M.), W. S. Stalker (P., M.), P. A. Steven (M.), A. G. Stewart (M.), F. R. Stewart, M.A. (A., M.), J. D. B. Stewart (M.), R. Taylor (A., P.), C. P. Thomson (M.), W. B. Thomson (P., M.), T. B. Tierney (A., P., M.), J. S. Townley (A., P.), A. Vost (A., P., M.), A. L. Watson, M.A. (A., P., M.), A. S. S. Wells, M.A. (M.), R. O. Whyte, M.A. (A., P., M.), A. Wilson (A., P.), W. Wright (P., M.), J. D. Young (M.). Women: A. Boyes (M.), S. Davidson (M.), M. K. H. Fleming (M.), M. Hardie (M.), J. S. B. Hunter (A.), I. L. M'Neill (M.), S. M. Robertson (P., M.), M. Spencer (M.), G. F. F. Taylor (P.), E. M. S. Walker (A., P.).

Second Professional Examination for the Degree of Bachelor of Medicine (M.B.), and Master in Surgery (C.M.)—The following have passed this examination:

T. Holmes, R. H. Hunter, J. J. Lowell.

Third Professional Examination for the Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.).—The following have passed this examination in the subject or subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health):

R. F. Ballantyne (P., M.), J. Barrowman (P., M.), W. Bennett (M.), J. G. W. Boleyn (M.), J. Brunton (P., M.), J. J. Buchan (P., M.), R. D. Campbell (P., M.), J. Carruthers, M.A. (P., M.), R. Carswell, M.A. (P., M.), J. R. Currie, M.A. (P., M.), J. F. Findlay (P., M), R. Fullarton, M.A. (M.), A. Garrow (M.), J. G. Green (M.), D. S. Harvey (P., M.), H. S. Heap (M.), E. F. L. de Jersey (P., M.), E. W. R. Jones (P., M.), A. Jubb (P., M.), A. S. Lang (P.), J. W. Leitch, M.A. (P.), P. A. Mitchell (P., M.), A. T. Macewan (P., M.), D. M'Kinlay (P., M.), A. D. Macnair (P., M.), W. G. Neill (P., M.), P. L. Pearce (M.), W. H. Steel, B.A. (P.), F. Stevenson (P.), F. E. Stokes (P., M.), T. M. Strang (P., M.), A. Taylor (P., M.), H. N. Turner (P., M.), R. A. H. Watson (M.), and W. Webster (P., M.). Women: M. Gardner (P., M.), J. Lorimer (P.), M. W. H. M'Neil (M.), M. E. M'Neill (P., M.), and J. E. Prowse (P.).

Third Professional Examination for the Degrees of Bachelor of Medicine (M.B.) and Master in Surgery (C.M.).—The following have passed this examination:

A, Including Pathology.—W. K. Hutton, M.A.; C. E. S. Stanford, B.Sc.

B, Not Including Pathology.—L. M. Mackay, W. Shearer.

SOCIETY OF APOTHECARIES OF LONDON.

Primary Examination, Part II.—The following candidates passed in:

Anatomy.—W. P. Allen, Birmingham; J. R. Bentley, Middlesex Hospital; M. B. Dawson, Middlesex Hospital; J. D. Graham, Belfast and Glasgow; A. T. Harvey, London Hospital; N. Hodgetts, Birmingham; B. Holroyd, Leeds; F. J. F. Jones, Guy's Hospital; H. G. Lewer, Edinburgh; A. D. Nicolson, Glasgow; J. Notley, Birmingham; S. Page, Birmingham; L. W. Roberts, Cambridge; H. M. Serjeant, Royal Free Hospital; L. S. Shoosmith, St. Mary's Horpital.

Physiology.—N. C. Beaumont, St. Bartholomew's Hospital; T. Burdekin, University College Hospital; J. D. Graham, Belfast and Glasgow; K. E. Gregg, Royal Free Hospital; N. Hodgetts, Birmingham; B. Holroyd, Leeds; A. D. Nicolson, Glasgow; J. Notley, Birmingham; L. W. Roberts, Cambridge; H. M. Serjeant, Royal Free Hospital; L. S. Shoosmith, St. Mary's Hospital; F. W. Whyte, Belfast.

Primary Examination, Part I.—The following candidates passed in:

Biology.—H. M. Huggins, St. Bartholomew's Hospital.

Chemistry.—J. Freeman, Bristol; F. B. Hargreaves, Manchester; K. Heanley, Royal Free Hospital.

Materia Medica and Pharmacy.—A. E. Gilford, Royal Free Hospital; R. Gillett, Royal Free Hospital; C. Hind, Royal Free Hospital; H. M. O. Jones, Royal Free Hospital; D. E. Lockwood, Royal Free Hospital; L. R. Marshall, St. Mary's Hospital; L. S. Molony, Royal Free Hospital, F. M. Payne, Royal Free Hospital; H. F. Stilwell, St. Bartholomew's Hospital; R. Storrs, St. Bartholomew's Hospital.

Medical Magistrate.—On the recommendation of the Lieutenant of the County of Sligo, the Lord Chancellor has appointed Effingham C. Macdowel, M.D., F.R.C.P.I., of Mall House, Sligo, a magistrate for the county of Sligo.

MEDICO-LEGAL.

PROCEEDINGS IN BANKRUPTCY.

The first meeting of the creditors of Dr. George John Wilson, of 14, St. Giles's, Oxford, was held in Oxford on October 5th. From the observations of the Official Receiver it appears that the debtor attributes his insolvency to payments in connection with the *Medical Magazine*, and to interest on borrowed money. The debtor did not attend the meeting, and the Official Receiver stated that his whereabouts was not known. It appeared that he had at various times borrowed money from several persons, among others from a money lender named Isaac Gordon. From this man, the Official Receiver stated according to the report in the *Oxford Journal*, that Dr. Wilson had received in cash £2,442 10s., that he had repaid principal moneys amounting to £3,234 8s 6d., and that there still remained due to Gordon on judgments obtained the sum of £1,443 11s. 6d. The Official Receiver said that he could not ascertain that the debtor had been guilty of any breach of the criminal law, and in his opinion he had left Oxford because he did not wish to face his public examination and the exposure of his affairs in the money-lending transaction. A trustee and committee of inspection was appointed, and the meeting closed.

PROFESSIONAL SECRETS AND THE LAW.

Mr. Bertram Thornton, J.P. (Margate), sends us the following opinion expressed by the *Justice of the Peace* in regard to questions raised by him in the British Medical Journal of September 11th, 1897, page 687: "There is nothing to prevent police authorities from requesting medical practitioners (other than police surgeons) to give them information which they may have obtained in their professional capacity in medically attending a person who had committed a crime. But their doing so has no legal authority attached to it, and the duty of the practitioner will be regulated by the ordinary rules of professional conduct. The same observation applies in the event of a medical practitioner who definitely knows that a crime has been committed by his patient failing either to volunteer information to the police authorities or to give this information at their request. The question of being an accessory need not be entertained, for 'if a physician or surgeon professionally attend a felon sick or wounded, although he knows him to be a felon' (1 Hale, 332); or if one 'know of the felony and do not disclose it' (1 Hale, 371, 618), 'none of these acts would be sufficient to make the party an accessory after the fact.' The case of a medical practitioner subpœnaed to appear as a witness differs from the above. He is not protected by the plea of privilege."

CRITICISM RESENTED.

M.O.H.—It is extremely doubtful if any legal proceedings by the persons referred to would be successful, assuming, of course, the accuracy of the statements made. We think it would be necessary for them in such a case to prove that the words were spoken maliciously (that is, without lawful occasion); also that they had actually suffered pecuniary loss. It is always desirable, however, that words of the kind should only be spoken on a privileged occasion, for example, in the performance of a duty.

LIABILITY OF MASTER FOR MEDICAL ATTENDANCE ON SERVANT.

Carmel (writing from Scotland) asks the following question: Is the trustee of the estate of a gentleman who died about mid-term bound to pay for medical attendance and medicines supplied to the housekeeper after his death?

*** According to the law of England, it may be taken as a general rule that a master is not liable for medical attendance on his servant unless such attendance is made at his express request. In the present case, assuming the attendance was made on the master's request, we doubt extremely if a claim on the executors could be successfully established for attendances made and medicines supplied after the master's death, unless the executors in some way expressly or implicitly authorised the attendance to be continued.

FEE FOR CERTIFICATION OF LUNATIC.

A.M.—If by "lunacy form" our correspondent means medical certificate, the plan adopted was not in regular course, and "A.M." appears to have no legal claim. If and when done in regular course, the magistrate may order payment of fee to the medical practitioner.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

ENGLISH URBAN MORTALITY IN THE THIRD QUARTER OF 1897.

[Specially Reported for the British Medical Journal.]

The vital statistics of the thirty-three large English towns dealt with by the Registrar-General in his weekly returns are summarised in the accompanying table. During the three months ending September last 85,141 births were registered in these thirty-three towns, equal to an annual rate of 31.1 per 1,000 of their aggregate population, estimated at 10,992,524 persons in the middle of this year. In the corresponding periods of the three preceding years the birth rates in these towns were 29.8, 31.1, and 30.1 per 1,000 respectively. In London the birth-rate last quarter was 30.3 per 1,000, while it averaged 31.6 in thirty-two provincial towns, among which it ranged from 23.6 in Huddersfield, 23.8 in Halifax, 24.9 in Bradford, and 25.1 in Croydon to 34.6 in Wolverhampton, 34.9 in Salford,

Analysis of the Vital and Mortal Statistics of Thirty-three of the Largest English Towns during the Third Quarter of 1897.

Towns.	Estimated Population middle of 1897.	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Zymotic Diseases.	Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Fever.	Diarrhœa.	Deaths of Children under one year of age to 1,000 Births.	Rate per cent. of Uncertified Deaths.
33 Towns	10,992,524	85,141	58,194	31.1	21.2	5.73	15,747	3	1,452	490	720	896	499	11,687	278	1.1
32 Provincial Towns	6,529,355	51,419	36,634	31.6	22.5	6.58	10,712	1	1,150	274	232	523	355	8,177	301	1.4
London	4,463,169	33,722	21,560	30.3	19.4	4.52	5,035	2	302	216	488	373	144	3,510	243	0.6
West Ham	273,682	2,204	1,305	32.3	19.1	5.34	364	—	32	6	19	24	12	271	296	2.3
Croydon	121,171	757	434	25.1	14.4	3.39	102	—	—	2	2	5	2	91	225	—
Brighton	121,401	776	536	25.6	17.7	3.64	110	—	—	5	1	8	5	91	245	0.7
Portsmouth	182,585	1,217	861	26.7	18.9	6.72	306	—	6	4	11	11	17	257	306	0.5
Plymouth	97,658	728	473	29.9	19.4	3.49	85	—	—	—	—	11	3	71	265	0.4
Bristol	232,242	1,663	887	28.7	15.3	2.32	134	—	2	3	10	4	5	110	164	1.6
Cardiff	170,063	1,347	671	31.8	15.8	3.46	147	—	4	3	17	6	5	112	206	0.7
Swansea	100,309	731	328	29.2	13.1	1.20	30	—	4	1	2	5	3	15	127	0.6
Wolverhampton	87,287	753	629	34.6	28.9	10.07	219	—	17	11	11	13	7	160	418	0.3
Birmingham	505,772	4,198	3,319	33.3	26.3	8.88	1,119	—	152	18	26	41	22	860	373	2.1
Norwich	110,554	793	556	28.9	20.2	5.72	157	—	—	2	3	12	16	124	317	1.8
Leicester	203,599	1,540	1,127	30.3	22.2	7.99	406	—	1	18	22	23	4	338	379	1.7
Nottingham	232,934	1,714	1,262	29.5	21.7	6.59	382	—	1	4	5	8	12	352	342	1.0
Derby	103,291	722	455	28.0	17.7	4.42	114	—	5	—	2	5	10	92	251	—
Birkenhead	111,249	921	579	33.2	20.9	5.23	145	—	18	6	6	10	10	95	277	1.2
Liverpool	633,078	5,648	4,547	35.8	28.8	8.37	1,323	—	70	48	26	89	46	1,044	329	2.7
Bolton	121,433	1,003	639	33.1	21.1	5.56	169	—	8	8	1	7	8	137	228	—
Manchester	534,299	4,500	3,458	33.8	26.0	7.65	1,019	—	226	29	11	55	17	681	305	0.8
Salford	213,190	1,856	1,493	34.9	28.1	9.64	513	—	107	15	4	22	14	351	355	1.9
Oldham	145,845	964	701	26.5	19.3	4.68	170	—	30	5	—	23	4	108	222	0.1
Burnley	106,122	850	534	32.1	20.2	6.80	180	—	46	1	16	5	8	104	266	1.3
Blackburn	131,330	921	649	28.1	19.8	5.40	177	—	39	3	1	10	6	118	250	1.5
Preston	115,103	933	973	32.5	33.9	16.43	472	—	261	1	1	2	10	197	449	1.7
Huddersfield	101,454	597	348	23.6	13.8	2.02	51	—	4	11	4	4	1	27	132	1.4
Halifax	95,747	568	315	23.8	13.2	1.63	39	—	1	5	2	2	4	25	129	1.6
Bradford	231,260	1,433	1,153	24.9	20.0	5.54	319	—	2	1	—	13	5	298	320	1.0
Leeds	409,472	3,167	2,239	31.0	21.9	6.48	660	—	23	14	8	17	16	582	319	0.6
Sheffield	351,848	3,062	2,288	34.9	26.1	8.50	745	—	56	17	5	43	42	582	342	2.3
Hull	225,045	1,957	1,406	34.9	25.1	9.39	527	1	3	19	9	8	21	466	347	0.9
Sunderland	142,107	1,310	783	37.0	22.1	5.34	189	—	13	3	1	18	12	142	232	1.1
Gateshead	101,270	879	517	34.9	20.5	4.37	110	—	1	4	1	10	3	91	253	0.8
Newcastle-on-Tyne	217,555	1,707	1,169	31.5	21.6	4.22	229	—	18	7	5	9	5	185	266	1.1

Sheffield, Hull, and Gateshead, 35.8 in Liverpool, and 37.0 in Sunderland.

During the quarter under notice 58,194 deaths were registered in the thirty-three towns, corresponding to an annual rate of 21.2 per 1,000, against 16.4, 20.2, and 19.1 in the corresponding periods of the three preceding years, 1894-5-6. In London the rate of mortality was 19.4 per 1,000, while it averaged 22.5 in the thirty-two large provincial towns, among which it ranged from 13.1 in Swansea, 13.2 in Halifax, 13.8 in Huddersfield, and 14.4 in Croydon to 26.3 in Birmingham, 28.1 in Salford, 28.8 in Liverpool, 28.9 in Wolverhampton, and 33.9 in Preston. The 58,194 deaths registered in the thirty-three towns last quarter included 15,747 which were referred to the principal zymotic diseases, equal to an annual rate of 5.73 per 1,000; in London the zymotic death-rate was equal to 4.52 per 1,000, while it averaged 6.58 in the thirty-two provincial towns, among which it ranged from 1.20 in Swansea, 1.63 in Halifax, 2.02 in Huddersfield, and 2.32 in Bristol to 8.88 in Birmingham, 9.39 in Hull, 9.64 in Salford, 10.07 in Wolverhampton, and 16.43 in Preston. The 15,747 deaths referred to the principal zymotic diseases in the thirty-three large towns during the quarter under notice included 11,687 from diarrhœa, 1,452 from measles, 896 from whooping-cough, 720 from diphtheria, 499 from "fever" (principally enteric), 490 from scarlet fever, and 3 from small-pox. The fatal cases of diarrhœa, which had been 3,441, 8,989, and 6,762 in the third quarters of 1894-5-6, were as many as 11,687 last quarter, and were equal to an annual rate of 4.26 per 1,000; in London the diarrhœa death-rate was 3.15 per 1,000, while it averaged 5.02 in the thirty-two provincial towns, among which this disease showed the highest proportional fatality in Sheffield, Liverpool, Leicester, Birmingham, Preston, Wolverhampton, and Hull. The deaths referred to measles, which had been 893 and 1,507 in the two preceding quarters, declined to 1,452 during the three months ending September last, and were equal to an annual rate of 0.53 per 1,000; in London the death-rate from this disease was equal to 0.27 per 1,000, while it averaged 0.71 in the thirty-two provincial towns, among which this disease was proportionally most fatal in Derby, Blackburn, Manchester, Birmingham, Burnley, Salford, and Preston. The fatal cases of whooping-cough, which had been 1,380 and 1,247 in the two preceding quarters, further declined to 896 during the three months under notice, and were equal to an annual rate of 0.32 per 1,000; in London the whooping-cough death-rate was equal to 0.34 per 1,000, and slightly exceeded the mean rate in the thirty-two provincial towns, among which this disease showed the highest proportional fatality in Plymouth, Leicester, Sheffield, Sunderland, Liverpool, Wolverhampton, and Oldham. The deaths from diphtheria, which had been 1,205, 956, and 646 in the three preceding quarters, rose again to 720 during the three months ending September last, and were equal to an annual rate of 0.26 per 1,000; in London the rate of mortality from the disease was as high as 0.44 per 1,000, while it averaged 0.14 in the thirty-two provincial towns, among which diphtheria was proportionally most fatal in West Ham, Cardiff, Leicester, Wolverhampton, and Burnley. The deaths referred to different forms of "fever" (including typhus, enteric, and simple and ill-defined forms of fever), which had declined from 663 to 280 in the three preceding quarters, rose again to 499 during the three months under notice, and were equal to an annual rate of 0.18 per 1,000; in London the "fever" death-rate was 0.13 per 1,000, while it averaged 0.22 per 1,000 in the thirty-two provincial towns, among which "fever" showed the highest proportional fatality in Portsmouth, Norwich, Derby, Birkenhead, Sheffield, and Hull. The fatal cases of scarlet fever, which had been 733, 469, and 410 in the three preceding quarters, rose to 490 last quarter, and were equal to an annual rate of 0.18 per 1,000; in London the rate was 0.19 per 1,000, while it averaged 0.17 in the thirty-two provincial towns, among which the highest scarlet fever death-rates were recorded in Salford, Wolverhampton, Leicester, Liverpool, Huddersfield, and Hull. Two fatal cases of small-pox were registered in London and 1 in Hull, but no death from this disease occurred last quarter in any other of the thirty-three large English towns.

Infantile mortality in the thirty-three towns, measured by the proportion of deaths under 1 year of age to registered births, was equal to 278 per 1,000 last quarter, this high rate being due to the excessive fatality of summer diarrhœa. In London the rate of infant mortality was equal to 243 per 1,000, while it averaged 301 in the thirty-two provincial towns, among which it ranged from 127 in Swansea, 129 in Halifax, 132 in Huddersfield, and 164 in Bristol to 342 in Nottingham and in Sheffield, 347 in Hull, 379 in Leicester, 418 in Wolverhampton, and 449 in Preston.

The causes of 646, or 1.1 per cent., of the deaths in the thirty-three towns during the three months ending September last were not certified either by a registered medical practitioner or by a coroner. The proportion of uncertified deaths in London did not exceed 0.6 per cent., while it averaged 1.4 in the thirty-two provincial towns. The causes of all the deaths in Croydon, in Derby, and in Bolton during the quarter were duly certified; in the other towns the lowest proportions of uncertified deaths were registered in Plymouth, Wolverhampton, and Oldham, and the highest in Norwich, West Ham, Birmingham, Liverpool, Salford, and Sheffield.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 6,349 births and 3,414 deaths were registered during the week ending Saturday last, October 9th. The annual rate of mortality in these towns, which had declined from 29.5 to 16.8 per 1,000 in the eight preceding weeks, further fell to 16.2 last week. The rates in the several towns ranged from 9.4 in Portsmouth, 9.9 in Croydon, 10.9 in Halifax, and 11.5 in Blackburn to 21.3 in Sunderland, 21.7 in Manchester, 25.1 in Wolverhampton, and 26.2 in Bolton. In the thirty-two provincial towns the mean death-rate was 16.7 per 1,000, and exceeded by 1.2 per 1,000 the rate recorded in London, which was 15.5 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.1 per 1,000; in London the rate was equal to 2.0 per 1,000, while it averaged 2.1 in the thirty-two provincial towns, among which the highest zymotic death-rates were 3.1 in Newcastle-upon-Tyne, 3.3 in Sunderland, 3.6 in Preston, and 7.2 in Wolverhampton.

Measles caused a death-rate of 1.1 in Sunderland, and 2.0 in Burnley; scarlet fever of 1.5 in Huddersfield; whooping-cough of 1.0 in Gateshead and 1.1 in Plymouth; "fever" of 3.6 in Wolverhampton; and diarrhœa of 1.8 in Preston, 2.1 in Oldham, and 2.4 in Wolverhampton. The 86 deaths from diphtheria in the thirty-three towns included 53 in London, 6 in Cardiff, 5 in West Ham, 3 in Leicester, and 3 in Liverpool. No fatal case of small-pox was registered last week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in the Metropolitan Asylums Hospitals and in the London Fever Hospital, which had been 3,653, 3,697, and 3,677 at the end of the three preceding weeks, had risen again to 3,692 on Saturday last, October 9th; 400 new cases were admitted during the week, against 376, 358, and 349 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, October 9th, 983 births and 590 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 17.8 and 19.4 per 1,000 in the two preceding weeks, further rose to 19.8 last week, and was 3.6 per 1,000 above the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 8.5 in Perth and 15.9 in Leith to 22.0 in Greenock and 24.2 in Dundee. The zymotic death-rate in these towns averaged 2.4 per 1,000, the highest rates being recorded in Dundee and Paisley. The 288 deaths registered in Glasgow included 15 from diarrhœa, 7 from "fever," 7 from whooping-cough, 5 from scarlet fever, 2 from measles, and 2 from diphtheria. Three fatal cases of scarlet fever were recorded in Edinburgh and 3 in Aberdeen, and 2 deaths from diphtheria occurred in Dundee.

MEDICAL NEWS.

WE are informed that the War Office has determined to give an extensive trial to Aymard's sterilising apparatus. In describing this invention in the BRITISH MEDICAL JOURNAL of October 10th, 1896, we expressed the opinion that it was well suited for dealing with large quantities of milk which were required for immediate consumption, and we are glad to find that the War Office are giving attention to this important subject.

SUSPENSION OF AN IRISH DISPENSARY DOCTOR.—The Longford Board of Guardians have suspended their medical officer, Dr. Robert Cochrane. He had made a report about the mother of an illegitimate child, and expressed a hope that an inquiry would be held as to the ability of her relatives to pay, and he alleged that some of the guardians were aware of this but had passed the matter over in silence. The Local Government Board then ordered an inquiry into the suspension. All the guardians admitted that Dr. Cochrane had done his duty as medical officer, without fault, but some complained that the language in his letter was insulting. Dr. Cochrane declared that he had not intended to offend. The decision of the Local Government Board has not been communicated.

CHARTERHOUSE SCIENCE AND TECHNICAL SCHOOLS AND ROGERS MEMORIAL INSTITUTE.—The winter session of this, one of the largest science schools in the United Kingdom, commenced on Saturday, October 2nd, under the presidency of the Rev. Henry Swann, M.A. During the late session upwards of 1,000 students, mostly elementary teachers, availed themselves of the privileges afforded by this Institution, and of this number upwards of 700 presented themselves for examination. The students prepared for the Lond.B.Sc. (Int.) Examination highly distinguished themselves. Instruction of a practical character is given in most of the sciences at a very nominal fee. Those who have leisure can attend, at a very moderate charge, the day science classes. Day classes will also be held to prepare candidates for matriculation (London), clerical, medical (including dental), legal, and other examinations. Students who aim at becoming proficient in physics and chemistry have the opportunity of working in well-fitted laboratories. Full particulars of the classes may be obtained from Mr. C. Smith, organising secretary.

MEDICAL VACANCIES.

The following vacancies are announced:

BIRMINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Appointment for six months. No salary, but residence, board, and washing provided.—Surgical Casualty Officer. Appointment for one year, but eligible for re-election. Salary, £50 per annum (non-resident). Applications to Howard J. Collins, House-Governor, by October 30th.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—House-Surgeon. Appointment for six months. Honorarium of £21 on completion of appointment, and board, lodging, and washing. Applications to the Honorary Secretary of the Medical Committee by October 20th.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—Additional Out-patient Surgeon. Applications to the Honorary Secretary, John S. Nettlefold, Beechenhurst, Selly Hill, Birmingham, by October 23rd.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon; doubly qualified. Salary, £150 per annum (with an allowance of £30 per annum for cab hire) and furnished rooms, fire, lights, and attendance. Applications to E. W. Forrest, Secretary, by October 18th.

BRADFORD EYE AND EAR HOSPITAL.—Surgeon. Applications to the Chairman of the Committee of Management by November 1st.

BRIDGWATER INFIRMARY.—House-Surgeon. Salary, £80 per annum, with board and residence. Applications to Mr. John Coombs, Honorary Secretary, Bridgwater Infirmary, Bridgwater, by October 28th.

BRIGHTON THROAT AND EAR HOSPITAL, 23, Queen's Road, Brighton.—Non-resident House-Surgeon. Salary at the rate of £52 per annum. Applications to the Secretary by October 30th.

CALCUTTA, CORPORATION OF, Bengal, India.—Health Officer for the Town of Calcutta. Salary not less than Rs.1,200, and not more than Rs.1,500, a month. Also reasonable horse allowance for outdoor inspection, not exceeding Rs.100 a month. Must be a duly qualified practitioner, and hold diploma in Public Health from the University of Cambridge or similar qualifications. Applications to W. R. Macdonald, Secretary to the Corporation, to be received in Calcutta by November 10th.

CHELTENHAM GENERAL HOSPITAL.—Resident Surgeon for the Branch Dispensary; unmarried, or, if married, without family. Salary, £180 per annum, with partly furnished house, coal and gas. Applications to the Honorary Secretary and Treasurer, General Hospital, Cheltenham, by October 30th.

CHESTER GENERAL INFIRMARY.—Visiting Surgeon, doubly qualified. Appointment for six months. Salary at the rate of £90 per annum, with residence and maintenance in the house. Applications to the Chairman of the Board of Management, Secretary's Office, 29, Eastgate Row North, Chester, by October 25th.

DEVON AND EXETER HOSPITAL, Exeter.—House-Surgeon, doubly qualified. Salary, £120 per annum, increasing £10 per year till it rises to £150, with board and lodging. Applications to Albert E. Boyce, Secretary, by October 25th.

DUNDEE ROYAL LUNATIC ASYLUM.—Medical Assistant. Salary, £100 per annum, with board, lodging, and washing. Applications to Dr. Rorie, Royal Asylum, Dundee.

GATESHEAD UNION.—Assistant Medical Officer (resident) at the Workhouse, unmarried, and doubly qualified. Salary, £100 per annum, with furnished apartments, rations, and washing valued at £52 per annum. Applications to George Craighill, Clerk to the Guardians, Poor-law Union Offices, Prince Consort Road, Gateshead, by October 19th.

INFIRMARY FOR CONSUMPTION AND DISEASES OF THE CHEST, 26, Margaret Street, Cavendish Square, W.—Physician in Ordinary. Applications to William Henry Johnson, Secretary.

KENT AND CANTERBURY HOSPITAL, Canterbury.—Assistant House-Surgeon, unmarried. Salary, £50 a year, with board and lodging. Applications to the Secretary by October 29th.

KING'S COLLEGE, London.—Sambrook Surgical Registrar. Applications from King's College students only, to Walter Smith, Secretary, by November 1st.

LANARK, COUNTY OF (Districts of the Lower and Middle Wards).—Resident Physician for Lightburn Joint Hospital for Infectious Diseases, Shettleston, near Glasgow. Applications to William H. Hill, Clerk to the Joint Committee, 194, Ingram Street, Glasgow, by October 22nd.

NEW HOSPITAL FOR WOMEN, 144, Euston Road, N.W.—Three female Clinical Assistants, must be qualified. Applications to the Secretary by October 27th.

NEW SOUTH WALES, LINNEAN SOCIETY OF, Sydney.—Macleay Bacteriologist. Salary, £400 per annum. Full particulars to be obtained of Messrs. Dulau and Co., 37, Soho Square, London, W. Applications to the Council of the Society by mail not later than November 12th.

NORTH-WEST LONDON HOSPITAL, Kentish Town Road.—Resident Medical Officer and Assistant Resident Medical Officer. Appointments for six months, but junior officer is eligible for election as senior. Salary at the rate of £50 per annum is attached to the senior post. Applications to Alfred Craske, Secretary, by October 30th.

ROYAL PORTSMOUTH HOSPITAL.—Assistant House-Surgeon. Appointment for six months, and renewable for a further period of six months. Board and residence provided, and an honorarium of £15 15s. Applications to J. A. Byerley, Secretary, by October 28th.

ROYAL SEA BATHING INEIRMARY, Margate.—Assistant Resident Surgeon. Salary, £52 per annum, with board and residence. Applications to the Secretary, 30, Charing Cross Road, by October 23rd.

RYDE: ROYAL ISLE OF WIGHT INFIRMARY AND COUNTY HOSPITAL.—House-Surgeon, doubly qualified. Will be required to act as Secretary to the Institution. Salary, £60 per annum, with board, lodging, and washing. Applications to F. H. Blatchford, Secretary, by November 2nd.

ST. GEORGE'S AND ST. JAMES'S DISPENSARY, 60, King Street, Regent Street, W.—Surgeon; must be F. or M.R.C.S.Eng., but must not practise midwifery or pharmacy. Applications to the Secretary by October 25th.

STOKE-UPON-TRENT UNION.—Resident Medical Officer of the Workhouse; must undertake dispensing and instruct probationer nurses in their duties. Salary at the rate of £100 per annum, with board, washing, and furnished apartments. Applications to C. Daniel, Clerk to the Guardians, Union Offices, Stoke-upon-Trent, by October 22nd.

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House-Surgeon. Salary, £100 a year, with board, lodging, and washing. Applications to Henry Bonner, Secretary, by November 16th.

SYDNEY, UNIVERSITY OF, N.S.W., Australia.—Demonstrator of Physiology. Salary, £350. Passage money allowed, £60. Applications to the Acting Agent-General for New South Wales, Westminster Chambers, 9, Victoria Street, Westminster, by October 31st.

WESTERN OPHTHALMIC HOSPITAL, 155, Marylebone Road, W.—Secretary and Registrar. Salary, £40 a year, with a commission on subscriptions and donations. Applications to the Visitors, 155, Marylebone Road, W., by October 20th.

WIGAN ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £80 per year, with apartments and rations, exclusive of wines, spirits, and washing. Must be doubly qualified. Appointment for one year. Applications to Will Taberner, General Superintendent and Secretary, by October 27th.

WINDSOR ROYAL INFIRMARY.—House-Surgeon, unmarried. Salary commencing at £100 per annum, with residence, board, and attendance. Applications to George P. Cartland, Secretary, 13, High Street, Windsor, by October 20th.

MEDICAL APPOINTMENTS.

CAMERON, A. G. R., M.B., B.S.Durh., M.R.C.S.Eng., L.R.C.P.Lond., D.P.H.Camb., Assistant Medical Officer to the Gore Farm Hospital, Metropolitan Asylums Board, appointed by the Government of India to act temporarily as Medical Officer in the Sanitary Department.

DAVIES, John E. H., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer of Health to the Wrexham Rural District Council.

DE BUTTS, Stanley B., M.D.Brux., M.R.C.S., L.R.C.P., appointed Medical Officer to Messrs. J. Cook and Son's (Egypt) Nile Steamship Service.

EWENS, H. L., M.D.Durh., M.R.C.S.Eng., appointed Medical Officer for the St. Pero District of the Maldon Union.

FARRANT, —, reappointed Medical Officer of Health to the St. Thomas Rural District Council.

HEWLING, Dr. W. F. McA., appointed Medical Officer of the Third District of the Leicester Union.

JELLETT, John C., B.A.Dubl., L.R.C.P., L.R.C.S.Irel., reappointed Medical Officer for the Swinhope District of the Caistor Union.

KERR, —, appointed Medical Officer for the Stallingborough District of the Grimsby Union.

KNAPP, E. M. M., L.R.C.P.Edin., M.R.C.S., reappointed Medical Officer of Health to the Hereford District Council.

LONG, T. F., M.R.C.S., L.R.C.P., appointed Medical Officer for the No. 8 District of the Aylesbury Union.

MCDONALD, Stuart. M.B., C.M Edin., appointed House-Surgeon to the Cumberland Infirmary, Carlisle.

MORTON, Hugh M., M.B., C.M.Edin., appointed Assistant House-Surgeon to the Cumberland Infirmary, Carlisle.

MURRAY, J. H., M.B.Lond., M.R.C.S., L.R.C.P., appointed Assistant Medical Officer to the North-Eastern Fever Hospital, Metropolitan Asylums Board.

PATCH, Winifred S., M.B., appointed Junior House-Surgeon to the Infirmary, Huddersfield.

PEARCE, John P., M.R.C.S.Eng., L.S.A., reappointed Medical Officer of Health for Lewes.

PEATLING, A. V., L.S.A.Lond., appointed Clinical Assistant to Out-Patients at the Chelsea Hospital for Women, Fulham Road.

PRIOR, Samuel, M.B., appointed Non-resident House-Surgeon to the Western Infirmary, Glasgow.

SANDERS, Thomas, F.R.C.S.Eng., L.S.A., reappointed Medical Officer to to the Workhouse of the South Molton Union.

SCOTT, J. G. C., M.B., appointed Medical Officer for the Brafield District of the Hardingstone Union.

SEYLER, Clarence A., B.Sc., F.I.C., F.C.S., appointed Public Analyst to the Glamorgan County Council.

SHACKEL, George A., M.R.C.S., L.R.C.P., appointed Medical Officer of Health to the Ludlow Rural District Union.

SHIRREFFS, Wm., M.B., C.M.Aberd., appointed Medical Officer to the Employés of the Water Department of the Aberdeen Town Council.

SNELL, E. H., M.D.Lond., D.P.H.Camb., appointed Medical Officer of Health for the City of Coventry.

SPICER, Frederick, M.D.Durh., appointed Surgeon to the Metropolitan Ear, Nose, and Throat Hospital.

TAYLOR, Dr. F. H. A., appointed Medical Officer for the Kidlington District of the Woodstock Union.

TEMPLETON, P., M.R.C.S., L.R.C.P., appointed Medical Officer for the Pirbright District of the Guildford Union.

THORP, C. W., L.R.C.S., L.K.Q.C.P.Irel., reappointed Medical Officer of Health to the Todmorden Town Council.

DIARY FOR NEXT WEEK.

MONDAY.

LONDON POST-GRADUATE COURSE, London Throat Hospital, 204, Great Portland Street, W., 8 P.M.—Dr. Herbert Tilley: Examination of the Throat and Nose.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall, S.W., 4 P.M.—The Harveian Oration by Sir William Roberts.

TUESDAY.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Dr. Ferrier, F.R.S.: Clinical Lecture.

LONDON POST-GRADUATE COURSE, Bethlem Royal Hospital for Lunatics 2 P.M.—Dr. Craig: Melancholia and Hypochondriasis. Hospital for Diseases of the Skin, Blackfriars, 4.30 P.M.—Dr Abraham: Abnormalities and Pigmentation.

PATHOLOGICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 P.M.—Introductory address by the President, Dr. J. F. Payne. Dr. G. F. Still: The Bacteriology of the Simple Posterior Basic Meningitis of Infants. Mr. Charles Spurrell: Specimens from a Case of Multiple Spontaneous Fracture.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W., 4.30 P.M.—Dr. T. D. Savill: On the Clinical Investigation of Diseases of the Nervous System.

WEDNESDAY.

LONDON POST-GRADUATE COURSE, Parkes Museum, 74A, Margaret Street, W., 4.30 P.M.—Professor Wynter Blyth: Construction of Dwelling Houses, etc.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W., 4 P.M.—Dr. Habershon: Angina Pectoris.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover Square, W., 8 P.M.

WEST LONDON POST-GRADUATE COURSE, West London Hospital, W., 5 P.M.—Mr. S. Paget: Surgical Cases.

NORTH-WEST LONDON CLINICAL SOCIETY, North-West London Hospital 8.30 P.M.—Annual address by Sir William Broadbent.

THURSDAY.

LONDON POST-GRADUATE COURSE, British Institute of Preventive Medicine, 3.30 P.M.—Dr. Allan Macfadyen and Mr. A. G. Foulerton: On the Clinical Significance of Proteid Substances in the Urine of Disease, etc. Central London Sick Asylum, 5.30 P.M.—Dr. Patrick Manson: Diagnosis and Treatment of Dysentery.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C. 4 P.M.—Dr. Voelcker: Demonstration of Selected Cases.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos Street, Cavendish Square, W., 8 P.M.—Card Specimens will be shown by Mr. Adams Frost, Mr. Arnold Lawson, and Dr. Rayner Batten. 8.30 P.M.—Introductory address by the President (Mr. Henry R. Swanzy): On some Congenital Anomalies of the Eye, as illustrated in the *Transactions* of the Society. Papers:—Mr. Ernest Clarke: Some Experiments on the Union of Corneal Wounds. Mr. Thomas Bickerton: Spontaneous Dislocation of Lens into the Anterior Chamber: Replacement by operation.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne Street, W., 8.30 P.M. Dr. Clifford Beale: Recent Experience of the Use of Creasote in Phthisis. Clinical Cases.

HOSPITAL REFORM ASSOCIATION, St. Martin's Town Hall, 4.30 P.M.—Conference on Hospital Reform, the Earl of Stamford in the chair.

FRIDAY.

LONDON POST-GRADUATE COURSE, Bacteriological Laboratory, King's College, W.C., 3 to 5 P.M.—Professor Crookshank: Examination of Air, Soil, and Water, etc.

CLINICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 P.M.—The following cases will be shown:—Dr. StClair Thomson: (1) Very Distensible Nævus of the Frontal Region, with defect in the subjacent bone, in a man, aged 50. (2) A young Woman with Primary Tuberculosis of the Interior of the Nose and Secondary Infection of the Pharynx; with microscopic specimens. Dr. Bertram Abrahams: Hemiplegia in a Child of Two Years. Dr. J. K. Fowler: A Case of Functional Tremor. Patients in attendance at 8 P.M.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTH.

DONALD.—At Sutton Lea, Bowdon, Cheshire, on October 10th, the wife of James Donald, M.B., C.M.Glasg., of a daughter.

MARRIAGES.

SIMMONS—HIGGINBOTHAM.—At Christchurch, Sutton, on Saturday, October 9th, by the Rev. J. R. Courtenay Gale, Gerald Allpress Simmons, M.D., B.S.Lond., to Ann, third daughter of the late John Edwards Higginbotham, of Glasgow, and Mrs. Higginbotham, of Meadowcroft, Sutton, Surrey.

WOOD—CRAWFORD.—On October 5th, at Cockburn Hotel, Glasgow, by Rev. Dr. Ewen, minister of Kinning Park Parish, Robert Tait Wood, M.B., C.M., Dennistoun, to Jennie Colquhoun, only daughter of the late James Crawford.

BLUMER—KITCHING.—October 7th, at St. Maurice's Church, York, by the Rev T. L. Brashaw, M.A., vicar of Wortley, brother-in-law of the bride, assisted by the Rev. H. Robinson, M.A., rector of the parish, Frederick Milnes Blumer, B.A., M.B., of Stafford, third son of Luke Blumer, M.D., of Sunderland, to Isabel, eldest daughter of the late Rev. Robert Kitching, M.A., vicar of Westow, Yorks, and of Mrs. Kitching, West View, Bootham Crescent, York.

MACKINTOSH—MCKENZIE.—At Free Church, Cults, Aberdeenshire, on October 6th, by the Rev. Hugh Morrison, F.C., Cults, assisted by the Rev. A. H. Moir, M.A., Aboyne, Duncan D. Mackintosh, M.B., C.M., Aboyne, to Elizabeth, eldest daughter of Archibald McKenzie, Esq., J.P., Dunmail, Cults.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 12.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are directed will be found under their respective headings.*

QUERIES.

M.B. desires to know whether Ceylon is likely to suit a young man with aortic regurgitation and a history of rheumatism. He would go in for tea planting.

POST-GRADUATE, who is desirous of doing six months' work in Vienna, wishes to know if there would be any risk in taking his wife, who, though well herself, has a strong family history of phthisis.

E. H. S. desires to hear of an institution that would take in for the winter months an ex-schoolmistress, aged 30, suffering from lateral curvature of the spine and chronic phthisis. She is at present able to get out of doors for a short time each day. She could pay about 10s. per week.

B. G. would be glad to know what is the most useful handbook on teeth extraction.

*** Our correspondent might consult *Extraction of the Teeth*, by J. F. Colyer, L.R.C.P., M.R.C.S., L.D.S. London: Ash and Sons. 3s.

PROVIDENT DISPENSABIES AND DISTRICT NURSING.

DR. JAMIESON B. HURRY (Abbotsbrook, Reading) will be glad to hear of any provident dispensaries which provide district nursing as well as medical attendance for their members, or which contract with district nursing associations for the supply of such nursing.

EDUCATION OF FEEBLE-MINDED CHILDREN.

A MEMBER asks for information regarding an institution for the training to a useful trade or occupation of a boy who is mentally weak—approaching to imbecility.

*** The large English institutions for imbeciles—Earlswood (Redhill), Royal Albert (Lancaster), and Western Counties (Starcross)—make excellent provision for training such of their inmates as are capable to useful trades or occupations. Tailoring, shoemaking, carpentering, basket making, gardening, and farm work are thus taught. In Scotland, tailoring and outdoor work are taught at the Larbert Institution, and garden work at Baldovan. Application as to terms should made to the respective Secretaries; they vary from 25 guineas to 100 or more, according to the accommodation required. A small farmhouse for feeble-minded (not imbecile) boys has recently been opened at Braintree, Essex, by the Society for the Promotion of the Welfare of the Feeble-minded, Honorary Secretary, Miss Cooper, 8, Ashley Place, S.W.

"CHRONIC GENERAL PERIOSTITIS"?

DR. GEORGE STEELE-PERKINS (Wimpole Street, W.) writes: The above is the name I have given for want of a better to a case that has been under my care since April, 1896, the symptoms of which are unlike any that I can find recorded, and which being unable to permanently benefit I am now describing in the hope that some medical man who has or has not come across a similar case would be kind enough to give me the benefit of his advice.

The patient is a young lady, aged 20, with a family history of rheumatism, gout, and neuroses. Since childhood, if not since infancy, she has suffered from pain and tenderness in every bone of the body without exception, and she is gradually getting worse. There is no perceptible thickening of any bones except slight thickening of bones and joints of the fingers. There is no pain in any of the joints of the body or extremities except that produced by pressure on the bony parts similar to what is produced by pressure on the shafts of all the long bones. Exercise increases pain, as also does cold weather, whether dry or wet; the pain is always better in warm weather even if wet. The patient has not lost weight and all the organs are healthy; the urine is normal except that at times it is over acid. During the last eighteen months she has had the following treatment, and many of the remedies have apparently relieved her for a time, but in no case have I felt certain that the temporary relief was due to the treatment adopted: Alkalies, iodide of potassium, mercury, arsenic, salicylate of sodium, bromide of potassium, gelseminum, hot baths, soda baths, general massage daily carried out for a month by an experienced masseuse (this did no good whatever), and counter-irritation by means of small mustard plasters over the most painful bones—this undoubtedly relieved. Warm clothing has duly received attention, and the effects of a warm climate have been tried as far as possible, but climatic treatment, owing to certain difficulties, has not been thoroughly carried out. I hope to receive some suggestions.

ANSWERS.

ALPHA.—The matter is one for the police, and our correspondent might bring the circumstances to the notice of the Chief Commissioner of Metropolitan Police, Scotland Yard.

VERAX.—The rule which guides the medical profession in such matters is that it is undesirable to recognise in any way remedies the nature of which is not disclosed to the profession at large.

M.B.—We cannot say what would be a "fair offer" where an assistant wishes to purchase a bicycle supplied by his principal to assist him in doing the work of the practice. Our correspondent might consult a reputable cycle agent.

LOSS OF HAIR.

DR. GEORGE STEELE-PERKINS (Wimpole Street, W.) writes: In answer to "M. T." in the BRITISH MEDICAL JOURNAL of October 9th, p. 1036 I would suggest the application to the scalp twice a week of the co

tinuous current, applied by means of the wire brush, and further the following lotion, to be rubbed in daily or every other day till it produces slight redness: Tr. cantharidis, ℥ss; ammon. carb., gr.xl; sp. rosmarini, ℥ss.; aq. ad ℥viij.

Serumtherapy of Leprosy.

Andover Arbor.—As far as we are aware, the serum can be obtained only from Dr. Juan de Dios Carrasquilla, of Bogotá, Colombia, South America. The treatment has been tried in the St. Louis Hospital, Paris, under the supervision of a committee of the French Academy of Medicine. The preliminary report of this committee, which was presented to the Academy on September 28th, is on the whole unfavourable.

Closet Accommodation for Factories.

Dr. Charles Sanders (Medical Officer of Health for West Ham), writes: In reply to "Certifying Factory Surgeon and Medical Officer of Health," it is amusing to note that the answer to his very simple question is contained in seven Sections of six Acts of Parliament, namely: A. Factory and Workshops Act, 1878, Sec. 4; B. Factory and Workshops Act, 1891, Sec. 2; C. Factory and Workshops Act, 1895, Sec. 3; D. Factory and Workshops Act, 1895, Sec. 35; E. Public Health Act, 1875, Sec. 38; F. Public Health Acts Amendment Act, 1890, Sec. 22; G. Public Health (London) Act, 1891, Sec. 38. Briefly stated these provisions are:

A. Where a nuisance is remediable under the Public Health Acts but not under the Factory Acts the factory inspector shall give notice in writing to the sanitary authority.

B. Where action is not taken by the sanitary authority after aforesaid notice the factory inspector is empowered to take proceedings himself and recover his expenses from the sanitary authority.

C. Sanitary authority shall inform factory inspector what action has been taken in response to aforesaid notice within one month.

D. In every place where Section 22 of the Public Health Acts Amendment Act, 1890, is not in force every factory shall be provided with sufficient, suitable, and separate sanitary conveniences for both sexes.

E. Where it appears to a sanitary authority on the report of their surveyor that a factory is without sufficient sanitary conveniences for separate use of each sex the sanitary authority may, if they think fit, require the owner or occupier to provide a sufficient number, etc.

F. Where F is in force, every factory shall be provided with sufficient and suitable sanitary conveniences for both sexes. The sanitary authority, on the report of their surveyor that the provisions of this section are not complied with, may, if they think fit, require the owner or occupier to make such alterations and additions, etc.

G. Similar provisions to F, applicable only to London.

D and F, taken together, compel provision of sufficient waterclosets in all factories.

In the absence of legislative enactment on the subject, Her Majesty's Inspector of Factories has fixed upon one watercloset for each twenty-five persons as a sufficient number.

E, F and G enable the sanitary authority (in any specific case dependent upon the situation of the factory, whether it be in London or in a place where F is not in force, or where F is in force) to require, if they think fit, the provision of such sufficient numbers.

In each case, however, the "report of the surveyor" is a condition precedent to the proceedings, and it is possible that the surveyor might consider a less number than one watercloset to twenty-five persons necessary. Failing the report of the surveyor, the sanitary authority would not take action, and the factory inspector could thereupon proceed under B. Under these circumstances, the medical officer of health, although not directly concerned, should use his good offices with a view to the adoption by his surveyor of the not excessive standard suggested by Her Majesty's Inspector.

R. John Brown, D.P.H.Vict. (Bacup) writes: In reply to "Certifying Factory Surgeon" in the British Medical Journal of October 9th, p. 1039, I may state that I am not aware of any law on the question of the number of closets to workers. Custom, however, is very divergent. From inquiries which I have made in Lancashire in connection with cotton mills and factories, I find that in fourteen mills and factories, employing 4,518 persons, there were 112 closets or privies. This gives an average of one privy to 37⅛ workers. The extremes were as follows: One closet to 17½ workers to one to 47 11/18 workers. It is desirable that there should be uniformity of action. One should be tolerant to those factories now in use if the privies are kept in a fairly good sanitary condition. For new mills legislation should decide the number. Probably one closet to 25 to 30 workers would be sufficient if on the water carriage system.

NOTES, LETTERS, Etc.

William Clowes.

R. F. William Cock (London) writes: I think Dr. Burnside Foster must be right. I do not know of a Robert Clowes of the sixteenth century, but William Clowes is a very well-known character in the profession of that time. He was Surgeon to Queen Elizabeth and to St. Bartholomew's. It may interest Dr. Burnside Foster to know that I possess what is believed to be the only known autograph of Clowes. It is on the title page of a copy of Vigo's *Surgery*, printed by Thomas East, 1586, and is as follows: Guliel. Clowes, fil. generosi et chirurg. Londiniens.

"Midwifery Branch."

General Practitioner calls our attention to an advertisement in the *Borough of Marylebone Mercury* of October 2nd, which appears under the above heading. The advertisement continues as follows:

"Ings House.—Nurses' Corporation, 81, New Bond Street, W.
"Ladies are attended by Certificated Midwives at fees from 7s. 6d.
(London Obstetrical Society.")

Our correspondent in commenting on this writes: "Is the Obstetrical Society aware of the way in which its name is used for the purpose of advertisement by the holders of its certificates? It would be interesting to know to whom these certificated midwives look for assistance in cases of emergency, and what connection, if any, such person or persons who render assistance have with the Nursing Institution in question."

*** We should not have thought that this advertisement would attract medical men to send to Ings House for nurses. Nor should we have thought that the class of ladies likely to send to Bond Street for a nurse would have been satisfied with the attendance of a midwife at 7s. 6d.

The Halfpenny Postage Rate.

Dr. Massiah (Didsbury) writes: After filling up my voting paper for the election to the General Medical Council I sent it to the postmaster at Manchester and asked if it could be sent by post in an open envelope for a ½d. I enclose his courteous reply, that it can go for ½d., thus:—"Manchester, October 5th, 1897. Sir,—In reply to your letter of the 3rd inst., I beg to inform you that the enclosed voting-paper is admissible at the ½d. rate of postage being in conformity with the conditions at paragraph "J," Book Post Regulations, page 5, of the *Post Office Guide*.—I am, Sir, your obedient servant, J. Meals, for Postmaster.—B. J. Massiah, Esq." Now the voting paper says that it must be returned prepaid, but does not say that a ½d. stamp will suffice, and as it must be returned in the numbered envelope, which has a gummed flap, the presumption is that the envelope is to be closed and a 1d. stamp put on. I believe 22,000 voting papers were sent out, postage 1d. each equals £91 13s. 4d. Suppose 11 000 returned, the postage at 1d. each is £45 16s. 8d., but at ½d. each £22 18s. 4d. So that the difference in the cost of postage of 33,000 voting papers amounts to £68 15s. Double this for the two elections this year you get £137 10s., which represents the sum presented by the medical profession to the Post Office, and for which it gets in return just the flavour of gum from the flap of an envelope, which is certainly dear at the price.

Why is this sum wasted by a profession suffering from poverty, and why are we not told that the postage of the voting paper is ½d.? The probability is that it would travel as safely for ½d. as for a 1d.; other circulars do so—would that they did not! Individually it matters little whether a ½d. or 1d. stamp is put on, but collectively the difference is large, and now when we are complaining of poverty we should economise. I wonder how many of us send our bills and receipts out under ½d. stamps, which we can do. This problem of cheap carriage is of great national importance, and our prosperity depends largely on its solution. Manchester has lately spent £15,000,000 in making a ship canal in order to cheapen transit, and has consequently revived its languishing trade. Let us lose no chance of economising, and so in helping ourselves help the national prosperity.

Safe Administration of Chloroform.

Messrs. Krohne and Sesemann (London) write: The great care and minuteness with which Snow studied the action and effects of inhaled chloroform is shown by the correctness of his estimate of the quantity of chloroform required to be progressively absorbed by the blood to cause, in an average adult, the various degrees of narcotism. According to Snow, the second degree of narcotism is induced with 12 minims of chloroform at one time in the blood. If induced in 10 minutes, this gives 1.2 minim on an average per minute = 0.06 minim for each inspiration. In the second degree of narcotism there is no correct consciousness. There is generally a considerable amount of anæsthesia connected with this degree of narcotism, and Snow believed that it is scarcely ever necessary to proceed beyond it in obstetric practice, not even in artificial delivery, unless for the purpose of arresting powerful uterine action. The loss of sensation is indeed sometimes so complete in this degree, especially in children, that the surgeon's knife may be used without pain; Snow has, indeed, seen a child unconsciously handling its toys all the time that the operation of lithotomy was performed on it. Commonly, however, the use of the knife, when the narcotism has not proceeded further than this degree, occasions expressions indicative of pain, which are either not remembered or are recollected as having occurred in a dream. The patient is generally in this degree during the greater part of the time occupied in protracted operations; for although in most cases it is necessary to induce a further amount of narcotism before the operation is commenced, it is not usually necessary to maintain it at a point beyond this. (See Partial Anæsthesia with Chloroform, by Surgeon-Lieutenant-Colonel Edward Lawrie, British Medical Journal, July 31st, 1897.)

To induce the third degree of narcotism, or the condition in which surgical operations are usually commenced, requires that about 18 minims should be absorbed by an adult of average size and health. Snow also directs, to ensure the patient's absolute safety, that this degree of narcotism should not be induced in a less length of time than in 4, 5, 6, and occasionally more minutes, If anæsthesia is induced in 4 minutes, this gives on an average 4½ minims per minute = 0.22 minim for each inspiration; if induced in 5 minutes, 3.6 minims per minute = 0.18 minim for each inspiration; if induced in 6 minutes, 3.0 minims per minute = 0.15 minim for each inspiration. According to the above method of calculation, the use of from 1 to 2 minims on an average per minute = from $\frac{1}{20}$, $\frac{1}{10}$, and not exceeding $\frac{1}{8}$ minim given at each inspiration, should, as a rule, suffice to sustain anæsthesia on an even level with between 12 and 18 minims of chloroform in the blood.

Owing to the imperfection of his inhaler, Snow was unable to verify the correctness of his estimate by the quantity of chloroform used in practice. He believed that the 18 minims required might be absorbed from 36 minims administered, half of this amount being thrown out again at expiration, not absorbed; but numerous results obtained with K. and S.'s regulating inhaler show that Snow's estimate is not only surprisingly correct, but that he rather over than underestimated the amount sufficient when uniformly diffused in the blood for inducing and sustaining perfect anæsthesia. For instance, Carter has demonstrated that 20 minims of chloroform administered in 10 minutes sufficed in a lady of 40 years for painless tooth extraction. This gives 2 minims on an average for each minute = $\frac{1}{10}$ minim given at each inspiration = 0.46 per cent. of vapour in the normal amount of air breathed. Cases of severe and prolonged operations can be quoted by the thousand in which the air adults were breathing contained on an average not more than from 0.24 per cent. upwards to 0.44 per cent. of vapour, as

shown by Holloway's results, published in the *Medical Magazine*, June, 1896, of which we enclose a copy.

It is, indeed, difficult to understand why administration of chloroform should be commenced with 1, 2, and 3 drachms, and even unmeasured doses, when it has been shown that, on an average, $\frac{1}{4}$ minim given exactly at the commencement of each inspiration never fails to cause perfect anæsthesia in adults in four or five minutes divided in 80 or 100 separate doses, of which $\frac{1}{3}$ minim doses are given at the commencement and $\frac{1}{2}$ minim doses at the end of inhalation, when only normal anæsthesia can result, lasting in young vascular adults from 5 to 15 minutes, and in elderly less vascular adults not less than 5 minutes.

These considerations evidently show that no one can be considered to do his bounden duty to the patient nor to the operating surgeon, if he does not do his utmost to limit the administration, and therefore the action of inhaled chloroform to the smallest amount capable of causing and sustaining perfect anæsthesia, as each fraction of a minim unnecessary in the blood can produce no other effect than of lowering the vital capacity of the patient, the maintenance of which is so essential for ensuring a successful result of prolonged operations.

THE MEDICAL REGISTER: AN OBJECT LESSON.

M. S. writes: For the guidance of other unthinking members, may I draw their attention to my case? I was surprised at not receiving a voting paper at the recent election, and on making inquiries found that my name had been erased from the *Register*. I left here in 1890 for twelve months, duly informing the Registrar of my change of address. On my return here I forgot to do this. According to Section xiv, a letter was sent to my late address and returned through the Dead Letter Office. Although my name has always been on the *Directory*, I now find my name is not on the *Register*, and I have the satisfaction of paying 5s. to have it restored.

THE POSTERIOR INTEROSSEOUS NERVE.

DR. ARMSTRONG TODD (Monkstown, co. Dublin) writes: I read in your issue of October 2nd, page 884, a very interesting communication from Professor McMurrich on the subject of the gangliform enlargement on the posterior interosseous nerve. When a student doing dissections I noted the fact that in the cases where the enlargement was well developed there were well developed hairs on the back of the hands and fingers, and when the enlargement was little if at all marked there were few visible hairs. I should like to know whether this was a mere coincidence or whether we are to regard the enlargement as a rudimentary sense organ of these hairs. The point is an interesting one and deserves notice.

"METROPOLITANISM."

MR. W. D SPANTON (Hanley, Staffordshire) writes: It is not often that one has to differ in opinion from the views expressed in the very able leading articles in the BRITISH MEDICAL JOURNAL But there is an expression in your article of October 9th on "The Prevailing Ignorance of Tropical Diseases," from which I not only beg to differ, but to enter a protest. In laying the blame of the want of suitable teaching of London students in the matter of tropical diseases, you say the fault is "what one may call the 'provincialism' of English teaching.....that is at the root of the matter." I think you might more properly term it "metropolitanism," for if it were in one of the provincial portions of the Empire—as, for example, India, or Netley even—such a result would be impossible. It is the narrow metropolitan teaching which is at the root of the mischief—that centre from which the most perfect medical wisdom is assumed to emanate.

THE D.P.H. OXFORD.

DR. GEORGE PEACHEY (M.O.H. Wantage Rural Sanitary Authority) writes: Permit me to point out that with regard to the Diploma of Public Health granted by the University of Oxford, it is essential that before admission to the examination the candidate shall produce evidence of having spent after registration a period of six months studying under the medical officer of health of a county or a city or town of at least 50,000 inhabitants, or under two or more such medical officers of health. This regulation does not apply to those who have themselves held the office of medical officer of health to a county or urban district of more than 20,000 inhabitants, but this is the only exception; consequently any present medical officer of health of a district under 20,000, or of any rural district, is disqualified unless he may choose to go through a six months' course of study. I do not think this is made clear in the Educational Number, and it may prove useful.

LETTERS, COMMUNICATIONS, ETC., have been received from:

(**A**) Mr. R. B. Anderson, London; Dr. P. Abraham, London; Dr. F. H. Alderson, London; Mr. W. J. Addison, Glasgow; Messrs. Adlard and Son, London. (**B**) Sir J. C. Browne, London; W. T Brooks, M.B., Oxford; B G; Dr. Bond, Gloucester; Dr. J. W. Ballantyne, Edinburgh; E. M. Bonar, M.B., Probus; Dr. A. G. Bateman, London; Mr. J. B. Brown, Newcastle-on-Tyne; Dr. R. Baker, London; W. Broadbent, M.B., Brighton; Mr. W. Berry, Wigan; Mr. W. Bacque, Bath; Dr. J. Brown, Bacup; P. Baker, M.B., Dublin; Dr. M. Beverley, Norwich; Dr. J. V. Bell, Rochester; Mr. H. L. Barnard, London. (**C**) Dr. J. Cagney, London; Mr. G. Culver, London; Dr. W. Collier, Oxford; Mr. J. A. L. Calder, Longholm; Dr. E. McD. Cosgrave, Dublin; Dr. J. Craig, Dublin; Dr. F. W. Cock, London; Dr. H. Cane, Belvedere; Mr. B. F. C. Costelloe, London; Carmel; Mr. G. E. Corlett, London; A. G. R. Cameron, M.B., Dartford; Contagium; T. D. Cook, M.B., Torquay; Dr. C. C. Claremont, Southsea; Mr. C. P. B. Clubbe, Sydney, N.S.W.; Mr. T. S. Cotterell, Bath; Mr. J. L. Callaghan, Coventry; C. Campbell, M.B., Saddleworth. (**D**) Miss D'Orsey, London; Dr. H. M. Dancy, Belvedere; W. W. Don, M.B., London; Dr. C. R. Drysdale, London; Dr. S. De Butts, London; Dr. L. Durno, London. (**E**) Dr. F. Elvy, Eastbourne; Mr. G. Eastes, London; W. McA. Eccles, M.B., Glasgow; Mr. T. Evans, Hitchin; Enquirer; Mr. P. Eden, London. (**F**) Mr. W. S. Fincham, Brentford; Mr. G. M. Foy, Dublin; For the Defence; Mr. J. B. Footner, Tunbridge Wells; Dr. G. Frederico, Milan; Falona Food and Cereal Company, London; Dr. M. Fletcher, London. (**G**) Messrs. Charles Griffin and Co., London; Dr. L. Guthrie, London; E. Greville, M.B., Edinburgh. (**H**) G. Harvey, M.B., Dundee; Mr. A. E. Harris, London; Mr. J. Hutchinson, London; Mr. V. Henrotin, Chicago; R. R. Harvey, M.B., Norseman, West Africa; Dr. T. G. Horder, Cardiff; Dr. J. B. Hurry, Reading; Dr. R. D. Helm, Carlisle. (**I**) I R.P. (**J**) Mr. H. H. Jennings, London; Mr. J. B. James, London; Dr. H. F. Jones, Dumbrack; J. W. H.; Mr. J. W. Jones, Manchester; Dr. A. James, Edinburgh; Dr. C. M, Jessop, Redhill. (**K**) King's College, The Secretary of, London. (**L**) Messrs. Sampson Low, Marston and Co., London; Mr. H. K. Lewis, London; Dr. A. P. Luff, London; Mr. C. S. Loch, London; R. M. Low, M.B., London; Dr. J. F. Little, London; Dr. H. L. G. Leask, Glasgow; Lotion. (**M**) Member; Dr. P. M. Macdonald, Hassocks; Mr. H. Maturin, Winchfield; M O.H.; M.B.; J. H. Murray, M.B., London; Dr. J. G. McKendrick, Glasgow; M B., C.M.; Dr. J. H. Musser, Philadelphia; Mr. L. Mackenzie, Tiverton; Messrs. Oscar Moenich and Co., London; Dr. W. Murrell, London; Mr. J. C. Martin, Letterkenny; M.S. (**N**) Messrs. G. Newnes, Limited, London; Dr. D. Newman, Glasgow. (**P**) G. L. K. Pringle, M.B., Bridgwater; Mr. W. Pirree, London; Post-Graduate; S. Prior, M.B., Glasgow; Dr. G. S. Perkins, London; Dr. W. J. Pickup, Coventry; H. C. Phillips, M.B., London; Perplexed; Dr. R. C. Purdon, Belfast; Mr. R. B. Popham, London; Dr. W. Permewan, Liverpool; W. S. Patch, M.B., Huddersfield. (**Q**) Quid pro Quo. (**R**) Mr. W. S. Richmond, London; Mr. C. Roebuck, Shelley Woodhouse, Mr. S. Rideal, London; Mr. T. F. Raven, Broadstairs; S. J. Ross, M.B., Bedford; Dr. B. Rogers, Bristol. (**S**) Dr. E. Seaton, London; Dr. F. Spicer, London; Messrs. Street Brothers, London; Mr. W. D. Spanton, Hanley; Dr. F. H. Spooner, London; Dr. W. H. Symons, Bath; Mr. F. W. Savile, London; Messrs. Southall Brothers and Barclay, Birmingham; C. Sanders, M.B., London; Sydney and New South Wales Branch of the British Medical Association, The Secretary of the, Sydney; Mr. I. Streathly, Folkestone; Mr. E. H. Sweet, Tenby. (**T**) Dr. N. Tirard, London; Mr. S. P. Trood, London; Dr. E. S. Thompson, London; Mr. A. J. Thomas, Stoneycroft; Dr. C. Templeman, Dundee; Mr. B. Thornton Margate. (**U**) University College, The Secretary of the, London. (**V**) Verax. (**W**) Dr. D. Walsh, London; Professor C. J. Wright, Leeds; Mr. W. A. Ward, Liverpool; G. E. Williamson, M.B., Newcastle-on-Tyne; Dr. H. Woods, London; Dr. G. S. Woodhead, London; Mr. D. S. Wylie, Manchester; Dr. J. B. Ward, Oxford; etc.

BOOKS, ETC., RECEIVED.

Textbook of Medical and Surgical Gynæcology. By R. W. Garrett, M.A. M.D. Toronto: J. A Carveth and Co. 1897. 2.50 dols.

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SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

W. Japp Sinclair, M.D., President.

A DISCUSSION ON HYPEREMESIS GRAVIDARUM.

I.—J. A. Temple, M.D.,
Toronto.

In the ten minutes allotted to me to lay this subject before you, it is not expected that I should do anything more than outline it. I trust others who follow me will deal with the subjects of diagnosis and treatment.

I will confine myself briefly to the various views regarding its etiology.

In looking over the literature of this subject on this particular point, I find we have made but little progress towards clearing up the causes of this very distressing and, not infrequently, fatal complication of pregnancy.

Almost every writer who reports a fatal case advances his own views as to the possible cause, but it is only in those fatal cases in which a necropsy has been made that we can accept statements of any value to us. A great majority of the statements made as to the probable cause are simply speculative, and not proven.

It is admitted by every writer, and is the experience of most of us who have had to deal with the pernicious vomiting of pregnancy, that it is much more common in primæ gravidæ. I also believe it is much more frequently fatal than some authorities would lead us to beiieve.

The ordinary morning sickness which generally accompanies pregnancy may be looked upon, I think, as physiological, and not dependent on any special pathological condition, purely sympathetic, but in the pernicious form it is invariably, I believe, accompanied by some pathological condition; and if the cause is carefully sought for an explanation of the fatal result, if it so terminates, will be found. As to its frequency, there is a great difference amongst authorities. Robert Barnes reports 9 fatal cases. Guéniot out of 110 cases reports 46 deaths; Howitz 13 cases and 5 deaths; Joulin reports 121 cases and 49 deaths; McClintock reports 50 fatal cases; Doe 48 cases and 18 deaths. While Carl Braun, with his enormous experience of 150,000 obstetrical cases, has never known a single fatal case from hyperemesis. Kaltenbach, in discussing the treatment, has gone so far as to deny the propriety of artificial abortion. This discrepancy of opinions as to the fatality of this complaint, as reported by German and other writers, is explained by Faggard, who says: "It is not at all improbable that the difference of opinion depends in a large measure upon the difference in diagnostic criteria insisted upon by the respective schools.'

In the majority of fatal cases reported by writers other than the Germans, there is a notable absence of reliable records of *post-mortem* examinations. In the few cases collected by the Germans the diagnosis during life has almost invariably been confirmed or negatived by a *post-mortem* examination. Horrocks, writing on this point, makes a very excellent statement. He says: "Where there has been no *post mortem*, I do not think one is entitled to say that pregnancy caused the fatal vomiting. It may have been the cause, and the only cause, or it may have been an aggravation of some other cause, or it may have had nothing to do with it."

The theories regarding the etiology of this complication of pregnancy are numerous and various. The large majority of theories ascribe the pathogenesis to reflex phenomena, originating in conditions present in connection with the pregnant uterus, but exactly how the conditions about the uterus give origin to peripheral irritation is variously explained.

Graily Hewitt laid great stress on flexions and versions in the growing uterus, which, by irritating the nerves from the cervical ganglion, originate the peripheral impulses, and explained the more frequent occurrence of vomiting in the morning by the change of position on rising, when the superimposed viscera, by pressing on the uterus, increase the flexion or displacement. J. H. Bennett laid special stress on the inflammatory conditions of the cervix, such as an abrasion, laceration, adhesion, or adulteration. Howitz draws attention to the frequency of metritis and cellulitis.

F. Veit has drawn attention to the frequency of endometritis as a factor, and reports three cases in which he was obliged to interrupt pregnancy, and in which he found inflammatory processes in the decidua vera and serotina. Ebell adds his testimony on this point, and thinks that from his researches the dependence of hyperemesis on endometritis is positively proven, and that as a rule the endometritis existed prior to pregnancy.

Brettoneau suggests that the peripheral irritation originates in the stretching of the fibres of the growing uterus, and the pressure upon the nerves occasioned thereby. Dr. Copeman takes much the same view, so does Dr. Gill Wylie, who advised and practised stretching of the external and internal os, with relief in certain cases. Dr. E. H. Grandin suggests ovarian irritation as a cause, pressure on supersensitive ovaries by the growing uterus.

Nervous temperament and hysteria, which is so frequently met with in young, highly-bred women pregnant for the first time, is also possibly not an infrequent factor in this complaint. Disease of the gastric intestinal canal, especially gastric ulcer, is insisted upon by various writers.

Hadra's toxic theory as a cause of pernicious vomiting has also many adherents.

Recently Tumas has located a vomiting centre in the medulla, in close relation to the centre which presides over the generative organs. The growing uterus giving origin to numerous peripheral impulses, originating in physiological or pathological conditions, these impulses expend themselves in nerve waves, which virtually involve the centres adjacent to the generative centre. This involvement of the vomiting centre gives rise to efferent impulses along the pneumogastrics which result in persistent nausea or vomiting.

In reviewing these causes that I have mentioned, it appears that many ascribe this affection to reflex phenomena. We are well aware that pregnancy is accompanied by changes in almost every tissue of the body, as well as a hydræmic condition of the blood, and a generally exalted excitability of the nervous system; and my own experience would lead me to a similar conclusion.

Race, social conditions, and temperament undoubtedly exercise a powerful predisposition, and while many cases can be explained as dependent on some of the causes I have mentioned, there still remain many cases in which no apparent organic change can be demonstrated to account for the severity of the symptons. If bringing this subject before your notice will stimulate someone to take it up and work up the subject, it will be of benefit to us all, for it seems to have been entirely forgotten for many years past.

II.—A. E. Giles M.D.,
London.

Dr. Arthur Giles said that some years ago it occurred to him that some light on the subject of hyperemesis gravidarum might be derived from an examination of the causes of the ordinary vomiting of pregnancy. For this purpose he analysed the records of 300 cases in the General Lying-in Hospital in London. The results were recorded in the *Obstetrical Transactions* for 1893. He found that in 33 per cent. of cases there was no vomiting at all during the whole pregnancy, consequently he could regard the ordinary vomiting of pregnancy as physiological. Further, in 50 per cent. of the cases there was no vomiting during the first three months of pregnancy. Among primiparæ there was a close and constant relation between sickness of pregnancy and previous dysmenorrhœa. Vomiting during the later months was frequently associated with hydramnion, twins, or an unusually large child. He came to the conclusion that vomiting must be regarded as

due to a combination of three factors, namely, (1) the exalted nervous tension which is found constantly in pregnancy; (2) the presence of a source of peripheral nervous irritation, namely, the enlarging uterus; (3) an easy channel of outlet for this exalted tension, namely, the vagus. By the exaggeration of any one or two of these factors vomiting may be produced. As regards hyperemesis proper he would divide the cases into two distinct classes: (*a*) Cases associated with organic disease, and which are to be considered as accidentally complicated by pregnancy; (*b*) cases in which there is no organic disease. He could not agree with Horrocks's view that a *post-mortem* examination was necessary in order to establish a case as one of hyperemesis gravidarum. For it was found that patients might be going rapidly down hill, whilst on terminating the pregnancy the patient recovered and showed no further signs of disease. As regards treatment, he held the view that if the health and life of the patient seemed to be seriously threatened the pregnancy should be terminated; naturally they must always hesitate before resorting to so serious a step. Dilatation of the cervix had been advised, and in this connection he might mention a case he saw a few months back. He was asked to see a patient whose health was suffering gravely from vomiting; she was in the eighth month; and so, the child being viable, he hesitated the less in advising premature induction of labour. For this purpose he dilated the cervix digitally till three fingers could be introduced through the internal os and separated the membranes for some distance round. Labour did not however supervene, but the vomiting ceased from that time and the patient went her full term.

III.—William Gardner, M.D.,
Professor of Gynæcology, McGill College, Montreal.

Dr. Gardner did not believe there was evidence to support Dr. Horrocks's statement that unless a necropsy had been made the case could not properly be considered as one of hyperemesis gravidarum. Young women in perfect health might conceive; in some cases immediately, in others in a few weeks symptoms were presented which rapidly became serious. As soon as the uterus was emptied the patients promptly recovered completely. In others speedy recovery took place spontaneously or as a result of minor local treatment or medication. Dr. Gardner had seen dilatation of the cervix relieve the symptoms; in some cases very promptly, in others within a few days. As regards the ultimate procedure of emptying the uterus he thought that the tendency was to delay too long the operation, one which in itself was not without danger, especially in patients whose vitality was very low from inanition. The principal reason for delay was, of course, the natural repugnance of a conscientious physician to taking a life unless this was indicated in the clearest possible way. In some others the delay was caused by an intense desire for offspring on the part of the patient and her husband.

IV.—R. B. Maury, M.D.,
Memphis.

Dr. Maury said that he had had the misfortune to see a considerable number of cases of hyperemesis gravidarum. A careful examination had failed to show any pathological condition in the pelvis which would explain the vomiting. In his observations there had been neither versions nor displacements, nor had dysmenorrhea been a feature in the previous history. He had tried the various methods recommended for relief—the application of nitrate of silver to the cervix, the full dilatation of the cervix with the steel dilator, but without avail. Sedatives, hypnotics, careful feeding by stomach and rectum had been used. When the patient showed signs of exhaustion by the rise of the pulse to 115 or 120, and the vomiting became dark brown, or blackish, he felt constrained to induce abortion without further delay. The induction of abortion was a serious procedure. It should be done under anæsthesia in most cases. The cervix was dilated, and the ovum removed by curette and forceps in a few moments; then the lower portion of the uterus was tamponned and also the vagina. On the day following, the tampon was removed, and the uterus completely cleansed with a dull curette. The vomiting had already ceased, and the case was practically ended. Convalescence was rapid. In the few fatal cases, the result had been evidently due to delay. Death supervened from inflammation of the stomach as well as he could judge, though no necropsies were made.

V.—A. J. C. Skene, M.D.,
Brooklyn.

Dr. Skene thought vomiting in pregnancy while it remained a nervous functional derangement was not serious. There was likely to follow the nervous derangement some organic disease of the pelvic organs, liver, or stomach. The liver was often involved and the stomach secondarily. Gastritis was often present in severe cases (as shown by the material thrown off. The treatment should be based upon the complications present.

VI.—Horace Tracy Hanks, M.D.,
New York.

Dr. Hanks observed that the subject was very important owing to the great number of women who suffered from the condition. Every case must be treated on its own merits. The indications were to quiet nervous irritability, use suitable medicaments, feed judiciously by mouth or rectum, and to allay all irritating outside conditions. Then every abnormal displacement of the uterus should be looked for and treated—all erosion of cervix, all contraction of the internal os, all excessive distension of the uterus, dropsy of amnion, all congestion around the site of the placenta, all congestion of the liver. The stomach should be thoroughly washed out if the gastric juice was defective and deficient. He would suggest as a general rule for the pregnancy for the first two or three months to dilate and deliver the ovum by forcible means, gently used, while the patient was under ether; for the pregnancy of four to eight months to fill the lower zone of the uterus with iodoform gauze, leaving the internal os well filled with this gauze. Labour would then come on and the cervix would dilate kindly, and no danger would result.

VII.—Charles Jewett, M.D.
Brooklyn, N.Y.

Dr. Jewett alluded to one or two points in the treatment of hyperemesis of pregnancy. Very much could often be done by keeping the patient at rest in bed for several days and coddling the digestion by dietetic methods and by digestive helps. This was frequently possible, except in the worst cases. Of many measures for subduing the reflex disturbance among the most useful in his hands had been choral and the bromides. He administered them by the rectum in maximum doses of 120 grains a day. Locally he had found satisfaction in the application of cocaine. The vaginal portion was saturated with cocaine, and the drug was applied freely within the canal. Of late, however, he had combined with this Copeman's method, or rather a modification of it. He dilated with a branched steel dilator the entire length of the canal, even though the membranes were slightly separated about the os internum. This was, of course, liable to be followed by abortion, and the method was therefore withheld as one of the last resorts. Very much the same results might be had by packing the cervix with gauze. Evacuation of the uterus was, he thought, often too long delayed. The heart became dangerously weak, imperceptibly, and he had known patients to die most unexpectedly. It was imperative, therefore, in his judgment, to terminate the pregnancy before the grave gastric and other lesions alluded to by some of the speakers had been established.

VIII.—J. Chalmers Cameron, M.D.,
Professor of Obstetrics and Diseases of Infants, McGill College, Montreal.

Dr. Cameron said that to those who saw much of hyperemesis gravidarum it became more and more evident that no precise rule could be formulated as regards treatment. In this disease, perhaps more than in any other, it was essential to treat the patient rather than the disease. Strong, healthy women living in country districts recovered sometimes, even from the most desperate conditions, whereas delicate, nervous, ill-nourished women living in insanitary conditions might drift rapidly into a hopeless state, although the symptoms might not have been grave enough to arouse anxiety. Rules for treatment formulated for the one class of cases would manifestly be inapplicable to the other. Dr. Giles had

clearly pointed out that the three chief factors in hyperemesis were (1) increased nerve tension, (2) a peripheral irritant, (3) an easy channel for the discharge of nerve force, especially the vagus. A rational treatment should proceed along these lines. Most obstetricians endeavoured to relieve centric irritability by nerve sedatives, and to seek out and remove, if possible, peripheral irritants, but perhaps sufficient attention had not been paid to local treatment for the purpose of making the discharge channel less facile. Some years ago Kaltenbach classed hyperemesis with hysteria, and hypnotic suggestion had been suggested and practised for its relief. Gauthier and Larat had obtained good results from the downward sedative voltaic current of low tension applied for fifteen to thirty minutes, the positive pole being placed between the clavicular insertions of the sternoid-mastoid and the negative over the umbilicus. More recently Pozzi had reported excellent success with Tibone's method of the local hypodermic injection of cocaine. These good results from local treatment seemed to show that sufficient attention had not been directed hitherto to this matter. In every case the important question to decide was, When is it time to interfere and empty the uterus? In order to answer this it was essential to estimate the personal factor (the strength, vitality, staying power, etc.), then to make sure that treatment had been fairly tried along the three lines already mentioned; if such treatment had failed and the patient's life was being imperilled by delay, then the uterus should be emptied as soon as possible. Of course, it must be decided that the vomiting was uncontrollable, not merely uncontrolled. He agreed with Dr. Gardner that there was a tendency to err by excessive timidity, and the delay continued until the patient's life was in serious peril; interference might come too late. Of the two evils it was better to choose the less: it was better to operate too early.

IX.—W. Japp Sinclair, M.D.,

Professor of Obstetrics, Victoria University, Manchester; President of the Section.

Dr. Sinclair thought the discussion had been excellent, and said that he would only deal with one or two points in the treatment which had been mentioned incidentally. It was well enough to employ adjuvants to sedation of the stomach and to aid its functions, but it was essential in cases which could come under the definition of hyperemesis to apply sedatives with a firm hand. He trusted chiefly to bromide of potassium administered first by the rectum and then by the mouth until hebetude was produced similar to that with which all were familiar in epilepsy from the use of the same drug. If the conditions did not improve under bromide with adjuvants, it was best to interrupt the pregnancy. He mentioned a case of hyperemesis in a young unmarried woman in which the patient died while the doctors were temporising owing to the social circumstances. It was however of course essential to take every precaution to avoid the appearance of evil. The cases were difficult both from the professional and social point of view.

X.—J. F. McDonald, M.D.,

Hopewell, Nova Scotia.

Dr. McDonald observed that blistering the cervical vertebræ had been in his own experience useless. Unmarried women were not so often afflicted with vomiting. Limited sexual intercourse or absolute abstention should be recommended. Pathological vomiting was not the vomiting of pregnancy, but vomiting in pregnancy.

LABOUR COMPLICATED BY ABNORMALITIES OF THE CERVIX UTERI AND VAGINA.

By John Campbell, M.A., M.D., F.R.C.S.Eng.,

Surgeon to the Samaritan Hospital for Women, Belfast, and Assistant Surgeon to the Belfast Maternity Hospital.

Although abnormalities of the uterus and vagina rarely cause any serious complications during labour, yet their very rarity makes them interesting to those who are engaged in obstetric practice, since they may be a source of confusion and anxiety to the practitioner, who, meeting one of them for the first time, may be at a loss for diagnosis and treatment.

In the following paper I shall dwell chiefly upon the practical aspect of the subject, and I shall limit myself to the consideration of those conditions of which I have seen examples, and which I am able to illustrate from my own cases.

I.—Atresia of the Cervix.

This may occur either in primiparæ or multiparæ. In all cases it is due to inflammation of the cervix, which, in the early stages of pregnancy leads to adhesion of the granulating surfaces of the lower end of the cervical canal. When labour begins the upper part of the cervix yields and thins out, while the lower portion remains undilated and the os is not to be discovered by digital examination. As labour advances the cervix descends and finally appears at the vulva or even protrudes beyond the orifice in the form of a dark red, thick walled, fluctuating tumour, which becomes tense with every pain. The os is concealed by the perineum and is to be sought for on the posterior aspect of the presenting mass. It may be median or to one or other side of the middle line. It can in some cases be recognised by the finger, but in many it cannot be detected until the perineum has been well drawn back by a Sims's speculum so as to allow the surface of the cervix to be inspected. Its position is then indicated by a small circle of brighter hue than the rest of the surface.

Diagnosis.—The condition may be mistaken for (1) a persistent hymen, (2) a transverse vaginal septum, or (3) an os which is simply displaced. The presence of the carunculæ myrtiformes excludes the possibility of persistent hymen. The apparent shortness of the vagina and the presence of an aperture through which the finger can reach the upper portion of the vaginal canal will help to distinguish a transverse septum. The presence of a normal os high up posteriorly or laterally settles the question of the os being simply displaced without being occluded.

Treatment.—Pains of great force and frequency are present in these cases of occluded os, and there is considerable risk of injury to the uterus. This may take the form of extensive lacerations of the cervix, or of complete tearing off of a portion of the cervical tissues, or even of rupture of the uterus itself. Relief is therefore required at an early period. The first thing is to determine exactly by palpation or inspection the site of the os, and to do so it may be necessary to draw the cervix forward or to one or other side with a volsella. When the position of the os is found scratching with the finger nail is all that is required to define its margins. The membranes can then be seen, but as they are usually very firmly adherent around the margins of the os, they will not protrude into it until they have been separated. Hence it is necessary to steady the cervix with the volsella and insinuate the finger through the os so far as to allow it to be swept around the cervix separating the membranes for a distance of half an inch or so. Nothing further is needed as the membranes will then descend and cause rapid dilatation. Puncture, incision, or the use of dilators will be very seldom required if a careful search is made for the os. In the few cases in which it cannot be found a crucial incision into the posterior aspect of the presenting tumour will allow the membranes to be separated. As the incision is made any bleeding which may occur should be arrested by silkworm gut sutures. Rupture of the membranes should in all cases be delayed as long as possible.

The following are typical cases:—

Case I.—A vigorous young primipara was seen on May 21st, 1894, at 11.30 A.M. She had been in labour all the preceding night, and the pains becoming very strong during the morning her attendants began to fear rupture of the uterus. A large red swelling protruded from the vulva and was forced down with each pain. Examination under chloroform proved it to be the cervix uteri, though the os could not be felt. *Per speculum* a red spot was detected on the posterior aspect of the tumour. Scratching with the finger nail proved this to be the occluded os, and as soon as the membranes had been separated a little, rapid dilatation took place and delivery was effected by forceps before the patient was allowed to come out of chloroform.

Case II.—A multipara seen on May 23rd, 1897, gave a history of having had six children, the last having been born six years before. She was having strong pains. Examination showed the head to be well down in the pelvis, the anterior vaginal wall prolapsed, and the anterior wall of the cervix thinned out. High up behind and to the right of the distended cervix a faint ridge was felt, which was found by scraping with the finger nail to be the margin of the os. *Per speculum* the membranes were

demonstrated, and when they had been separated delivery took place naturally.

II.—Septa in the Vagina.

These may be transverse or longitudinal.

1. *Transverse septa.*—Very strong transverse septa are occasionally found. They have usually a central aperture, which may require to be enlarged by dilatation or incisions. During labour these septa may simulate atresia of the cervix.

Case.—Some years ago I prepared a well-marked specimen for the Anatomical Museum of Queen's College, Belfast. It was situated about halfway up the vagina and had a central aperture large enough to admit a No. 12 catheter. There was no evidence that the woman had ever been pregnant.

2. *Longitudinal septa* are more common and more likely to cause perplexity during labour. They may be confined to the lower half or two-thirds of the vagina or may extend throughout its entire length, being then continued into the uterus.

ne compartment of the vagina is larger than the other as a rule, and in the cases I have seen the right side was the larger. These septa can hardly interfere with the progress of labour, but they are important to the obstetric surgeon because they may puzzle him when making his vaginal examinations. When the septum is complete it is the rule for its upper end to give way during labour, leaving an opening between the upper parts of the two vaginal canals.

Case I.—Mrs. S., aged 25, married 5 years, had a miscarriage at the sixth month after marriage and no pregnancies since. When seen on September 30th, 1896, there was a median septum present in the lower three-fourths of the vagina. In the upper fourth and in the cervix there was evidence of the former existence of a continuation of the septum, and with the uterine sound it was found that the corpus uteri was double, the right cavity being much the larger. Apparently the cervical and upper vaginal portions of the septum had been destroyed during the birth of the child.

Case II.—Mrs. W., aged 29, married 3½ years, had an abortion six months after marriage, when three months pregnant. When seen on August 5th, 1897, there was a septum extending throughout the lower two-thirds of the vagina. The right compartment was roomy, while the left would only admit the forefinger. There was no trace of there having ever been continuation into the upper third of the vagina or into the uterus.

III.—Abnormalities of the Hymen.

These as a rule cause no serious obstacle to delivery, but a persistent hymen may lead to considerable difficulty in diagnosis and to a certain amount of harm to the patient. In all cases where during labour the condition of the vaginal orifice is peculiar, a very careful examination, both digital and visual, should be made before any treatment is attempted. As a rule the aperture in the hymen can be found, and then dilatation with the finger is all that is required.

The following case illustrates the importance of careful examination:—

Case.—A primipara was examined while in labour and the apparent vaginal orifice was found to be smaller and situated further forward than usual. It was dilated somewhat, with the result that pretty free bleeding occurred. Examination then caused a good deal of pain and failed to detect the os or the presenting part. The patient was then brought to hospital, where it was noted that the "waters" were dribbling away, that examination caused pain and free bleeding, and that though the pains were strong the os could not be made out. The head could be felt in the pelvis with a thick membrane between it and the finger. Chloroform was given and the patient placed in the lithotomy position and douched. It was then apparent at a glance that the supposed vagina was the dilated urethra. On further search being made there was found to be a persistent hymen with a single small central aperture. When this opening had been dilated with the finger it was at once plain that the vagina was normal and that the unruptured bag of membranes was descending in front of the head through a well-dilated cervix. The urine dribbling away had been mistaken for liquor amnii. On inquiry afterwards it was found that early in her married life she had suffered a good deal, and that the urethra had probably been dilated by being used for intercourse. She has never fully regained the power of retaining her urine, though two years have elapsed since the birth of the child.

In conclusion I would emphasise the importance of a careful examination in all cases where abnormality is suspected during labour.

Dr. R. A. Murray, M.D. (New York) regretted that Dr. Campbell had not discussed the abnormally hypertrophied cervix causing atresia, and an undilated cervix. This sclerosis of the cervix was caused by the application of astringents in a chronically inflamed cervix causing cicatrisation. The treatment he had found most useful was by manual dilatation, kept up for some time and under thorough antiseptics, the patient being under the influence of chloroform. Where forceps and other means of delivery were employed without thorough dilatation, laceration laterally occurred, or even the rim of the cervix might be torn off.

Professor Howard Kelly (Baltimore) congratulated Dr. Campbell upon so carefully differentiating several conditions which the ordinary superficial observer was apt to confuse with under one head of membranous septum. Such careful clinical reports are the great need of English and American literature. The treatment of the transverse septa was simple and clearly indicated. The cases which required the most careful consideration were those in which there were extensive cicatrices narrowing or almost obliterating the lumen of vagina; the present tendency in these cases was to perform grave operations, such as the Porro, without testing Nature's powers to overcome the obstruction either with or without aid. Several brilliant cases in the English literature showed the possibility of overcoming in this way obstructions at first sight apparently insuperable. The most extreme case he had ever seen was one in which he had performed the first successful Cæsarean section after a period of fifty-one years in Philadelphia. The patient had been long in labour, and, the waters drained off, he found the vaginal canal almost obliterated by the surrounding dense, inflamed, connective tissue. A conservative Cæsarean operation was performed, at which the child's head was found fixed in the pelvis below the contraction ring. The mother recovered and the child lived a week.

Professor Jewett (Brooklyn, New York) said that three labours had occurred in his practice in which the cervix was the seat of a large amount of cicatricial tissue resulting from treatment of cervical endometritis, with applications of the solid stick of nitrate of silver. The women were all delivered without interference, but the cervix was torn in two. With reference to treatment, in the presence of much scar tissue, he preferred multiple incisions to manual dilatation. This could be followed, if time permitted, by the use of water-bags. He had had a considerable experience with rapid manual dilatation, and, though he still employed it, he was inclined to use it with more caution than formerly. In the presence of rigidity of the kind referred to, multiple incisions and gradual dilatation with water-bags was a safer procedure than forced and rapid dilatation with the hand.

TWO CASES IN WHICH PORRO'S OPERATION WAS PERFORMED FOR IMPACTED PELVIC TUMOURS PREVENTING DELIVERY.

By Mayo Robson, F.R.C.S.,

President of the British Gynæcological Society, Senior Surgeon to the General Infirmary at Leeds, and Professor of Surgery in the Yorkshire College of the Victoria University.

The following cases of Porro's operation for obstruction produced by tumours present so many points for consideration, that a report of them may, I trust, prove of sufficient interest to warrant my having brought them to the attention of the Gynæcological Section.

Case I. *Pregnancy at term: Pelvis completely blocked by suppurating ovarian cyst complicated with a large septic abscess bounded by uterus, ovarian cyst, and intestines: Porro's operation: Recovery of mother and child.*—For the notes of the following case I have to thank Dr. Radcliffe Husband, Hon. Surgeon to the Ripon Hospital, under whose care the patient was.

A. W., 24, had always enjoyed good health, began to menstruate when 15, and had been quite regular. She was married in November, 1895. A fortnight after, and following on a menstrual period, she was seized with sudden and violent pain in the lower part of the abdomen, chiefly at the left side. Under rest and treatment this subsided in two or three weeks, and she had had no illness since, menstruating regularly, the last period on May 2nd, 1896. She had a slight appearance of menses on August 21st, following, but it only lasted two days, since which she had seen nothing, and had been quite well until January 18th, when she began, as she thought, in labour about 1 P.M., and sent for the midwife, who stayed with her all night. The following afternoon (January 19th), getting no better, Dr. Collier was sent for, and, after examining her, he asked me (Dr. Husband) to see the case with him. On arriving at the house we found the woman somewhat exhausted and suffering from pain of a

periodic nature in the back and body. The abdomen presented all the appearances of normal pregnancy, and the fœtal heart could be plainly heard. On examining *per vaginam* the finger at once came upon a hard round substance very much like the fœtal head at full time, well engaged in the cavity of the pelvis as in the second stage of labour; but this it clearly was not, for it was covered by the posterior vaginal wall, and on passing the finger along the front of the tumour. the cervix could with difficulty be reached high up and above the symphysis, and tracing it backwards, the fœtal head was just perceptible through the uterine wall. The os was not in the slightest dilated, and would not admit the finger tip. It was probable that labour had not commenced, and as it seemed impossible that delivery could be accomplished except by abdominal section, we gave her morphine to relieve the pain, and recommended that she should be removed to the Cottage Hospital. She was taken there the same evening. Gradually the pain disappeared, and she had no further symptoms until January 30th, when she had a rigor and her temperature went up to 102.6°, but fell the next day to normal. During the next two days she had two more rigors, and on one occasion the temperature was 105°. On the morning of February 2nd she had another severe rigor, passing at that time 1½ pint of greenish fluid, but the os remained undilated, and she had no proper labour pains, though the whole abdomen was swollen, tender, and painful. The fœtal heart could be distinctly heard.

NOTES OF THE OPERATION.

On January 25th 1897, I received a letter from Dr. Husband, saying that he had a patient advanced in pregnancy whose pelvis was blocked up by a tumour.

On January 30th I received a second letter to say, "At a consultation of the staff of the hospital this morning it was the wish of everyone that you should be asked to come and see the patient, and, if you think it advisable, perform the operation."

On February 2nd I went to Ripon, and found the patient, a woman of 23, extremely ill, with a temperature of 103°. She had had a rigor on the 31st, and the temperature had reached 105°. The pulse was very rapid, the abdomen enormously distended, the face pinched and anxious, and the condition generally extremely unsatisfactory. A pelvic examination revealed a soft tumour present in the pelvis, and as high as the finger could reach behind the pubes could be felt the os uteri. The fœtal heart could be heard. Delivery *per vias naturales* was manifestly impossible, and the patient if left must certainly die as well as her child. In the presence, and with the consent of the whole staff of the hospital, all the members being present, abdominal section was at once performed, and the uterus incised by a vertical incision. Dr. Husband grasped the incised edges of the uterus to prevent bleeding, and I extracted the child and handed it over to Mr. Collier. I then passed my hand behind the uterus and drew it forward, and immediately the abdomen was flooded with most offensive pus, which had been confined in a cavity formed by intestines above, by the uterus in front, and by the ovarian cyst, itself full of pus, below.

As it was manifestly unsafe to perform Cæsarean section, I passed the wire of a *serre-nœud* around the uterus as low as I could safely apply it, after detaching adherent omentum and intestine. I then amputated the uterus and the ovarian tumour together, washed out the abdomen with hot boracic lotion, and sutured the wound in the ordinary way, leaving a long glass tube in the pelvis. I had regular reports on the after-progress from Dr. Husband, to whose skill in the after-treatment the patient's recovery is in a great measure due. The drainage tube was removed the next day. The wire of the *serre-nœud* came off early, soon after the week, and the stump was kept dry. The chart shows that the temperature fell to normal immediately, and remained so. Both mother and child are now well. When she called to see me in Leeds two months later she and her child were pictures of health.

CASE II. *Pregnancy at term: Pelvis completely blocked by myoma of posterior and inferior segment of uterus: Porro's operation: Recovery of mother and child.*—Although this case was reported in the *Lancet* for February. 1893. as I had the opportunity of seeing the patient recently, it may be of interest to state that the mother and child were both well, and that all trace of pelvic tumour had disappeared. It thus demonstrates the fact that even where a considerable myomatous mass is left, if the appendages and upper segment of the uterus be removed, the same atrophic effect may be expected to follow as after oöphorectomy for smaller fibroids of the uterus.

REMARKS.

Where from any cause delivery cannot take place naturally, there are no fewer than six operations which may be performed in order to save both mother and child:—

1. Symphysiotomy; 2. Ischio-pubiotomy; 3. Complete hysterectomy; 4. Laparo-elytrotomy; 5. Cæsarean section; 6. Porro's operation.

In the cases related, where the pelvis was completely blocked by tumours, the two former methods were inapplicable. Total hysterectomy during advanced pregnancy would probably only be resorted to in case of cancer of the uterus, on account of the longer time occupied in the technique.

Laparo-elytrotomy would have been unsuitable in either, as in one the lower segment of the uterus was involved in the tumour, and in the other the tumour could not have been dealt with had that operation been done.

The only methods available, therefore, were Cæsarean section and Porro's operation.

Cæsarean section is the operation *par excellence* for obstructed labour depending on pelvic deformity, but in these cases it was out of question, as, in the first instance, the tumour so completely blocked the pelvis that drainage of the uterine cavity could not have been effected; and in the second, had the uterus been left, septic trouble must have followed, as the posterior wall of the womb was actually forming the anterior boundary of the abscess sac, and was itself thoroughly involved in the septic process.

Porro's operation was therefore the only procedure left, and it answered so well, that had I other similar cases I should not hesitate to employ it. Moreover, it must be borne in mind that Porro's operation can be very rapidly performed, and requires only a small armamentarium—important factors in cases of urgency, and in emergencies at a distance from a surgical centre.

A CASE OF PROCIDENTIA UTERI WITH NUMEROUS VESICAL CALCULI.

By WILLIAM GARDNER, M.D.,
Professor of Gynæcology, McGill College, Montreal.

Dr. GARDNER (Montreal) exhibited a collection of vesical calculi, large and small, the largest being of the size of a chestnut, of which there were nine examples. From this latter size to grains of the minutest sand there were quantities of every size. The patient was a woman of 73, who had suffered from procidentia uteri for twenty years, with comparatively few symptoms until recently, when she had suffered from severe pelvic tenesmus. On grasping the protruded pelvic organs the mass gave the sensation of a bag of marbles. The calculi were removed by incision through the anterior vaginal wall and base of the bladder. The opening was not sutured, so as to permit of rest and irrigation of the inflamed organ. The procidentia tended to recur until the simple device of maintaining within the vagina a Sims's vaginal rest held in position by a T-bandage was resorted to.

A FURTHER REVIEW OF THE TREATMENT OF FIBROID TUMOURS OF THE UTERUS BY VAGINAL LIGATION OF THE BASE OF THE BROAD LIGAMENT.

By FRANKLIN H. MARTIN, M.D.,
Professor of Gynæcology in the Post-Graduate Medical School, Chicago; Surgeon to the Woman's Hospital; Gynæcologist to the Post-Graduate and Chaitty Hospitals; President of the Chicago Gynæcological Society (1895); Chairman of the Section of Diseases of Women and Obstetrics of the American Medical Association (1895), etc.

VAGINAL ligation of the contents of the base of the broad ligaments for the cure of fibroids of the uterus was devised and performed by me as a new and original operation on November 15th, 1892, and was described and published in the April number of the *American Journal of Obstetrics* in 1893 and several periodicals from time to time since, and described in the author's work on the *Treatment of Uterine Fibroids*, published in 1897. Priority claims in the discovery of this operation have been made by Dr. Walter B. Dorsett, of St. Louis, U.S.A., and Professor S. Gottschalk, of Berlin, Germany. As these claimants failed to demonstrate that the operations described by them, and published without my knowledge, were similar operations to the one described independently by me, I cannot admit the justice of their claims. In the January number of the *American Journal of Obstetrics*, 1894, I reported six cases treated by the new operation, and in my little work on *The Treatment of Fibroids of the Uterus* I reported thirteen cases.

The operation as originally described by me is as follows: The ligation of more or less of the broad ligament of the uterus, with its vessels and nerves, the extent of the ligation depending upon the result sought, from a simple ligation of the base of the ligament, including the uterine arteries and branches of both sides, without opening the peritoneum, to the complete ligation of the ligament of one side, including both uterine and ovarian arteries, with partial ligation of the opposite ligament without opening the peritoneal cavity, if possible, but by doing so if necessary.

The results sought in the operation are, first, to check uterine hæmorrhages by cutting off blood channels, and, secondly, to produce atrophy of the fibroid by (1) depriving it of nourishment through the blood vessels, and (2) by

changing the nutrition of the uterus by interfering with its nerve supply.

Technique of Operation.

Ether is used as an anæsthetic, and the patient is placed on the operating table in the exaggerated lithotomy position, with buttocks brought to the end of the table, with an assistant on either side to support the limbs and hold the vaginal retractors. A broad, short vaginal retractor above and below exposes the cervix, which is transfixed with a strong silk ligature to be employed in handling the uterus. The uterine canal is dilated and the uterine cavity curetted with a dull curette and thoroughly irrigated with 1 in 1000 bichloride solution, and then loosely packed with iodoform gauze. This procedure cleans the uterus and makes it impossible for the vaginal wounds to become infected by a septic uterine discharge. The uterus is now drawn down in order to put the broad ligaments on the stretch and then drawn to the right side so as to expose the left vaginal vault. The mucous membrane of the vagina at the utero-vaginal fold on the left side is then caught with a tenaculum and incised with a pair of curved scissors. One blade is allowed to enter beneath the mucous membrane and a curved incision 1½ to 2 inches long is made over the broad ligament and at right angles to it. By means of the index fingers of the two hands the operator now separates the vaginal tissue from the broad ligament and carefully separates the broad ligament in front from the bladder for a height of 2 inches and laterally for nearly the same distance. The bladder should be carefully separated in this way in order to avoid the danger of wounding the organ, and by pushing the separation laterally the ureter is forced out of danger. One then carefully separates the broad ligament posteriorly to the same height as in front, without, if possible, penetrating the peritoneum. Now, by passing one finger behind the other in front, the whole base of the broad ligament, representing two-thirds of its bulk, can be grasped for the distance of 1 inch to 1½ inch from the uterus. In this grasp one can easily feel the throb of the main trunk of the uterine artery and occasionally several branches. The curved pedicle needle is then passed, armed with strong pyoktaninised catgut or kangaroo tendon, and, guided by the index finger of the left hand, is made to penetrate through the broad ligament. The ligature is drawn through, the needle removed, and the base of the broad ligament is thoroughly ligated at a distance of 1 inch or more from the uterus. Close to the uterus another ligature of the same material is placed, and tied securely in the same manner as the one first applied. The ligament is then severed between the two ligatures in order to completely sever the nerve and blood connection between the uterus and its broad ligament. The ligatures are cut short, leaving them buried in the tissues. The other broad ligament is treated in the same manner; the vagina is well sterilised with bichloride solution and the vaginal incision accurately approximated with fine antiseptic catgut so as to completely bury the broad ligament ligatures. The handling string is now removed from the cervix, and the end of the gauze strip packed in the uterus is tied to another strip, and the vagina is filled loosely with a gauze drain.

The after-treatment of these cases is very simple. The vaginal and uterine gauze is removed the second or third day, and twice a day thereafter a bichloride vaginal douche, 1 in 2000, followed by plain douche, is given.

Five years would be a short time in which to test an operation for cure of fibroids of the uterus at any time, while at this time, with hysterectomy developing to perfection, it seems entirely inadequate. There is no doubt that the fascination of radical removal has well-nigh obscured what seems to me one of the most rational, effective, and life-saving operations that has been devised in these late days.

But when the cool survey is made in the end, when the statistics are all in, when we learn how to cure best, when safe conservatism becomes once more fashionable and wipes out the dramatic in surgery, then, I believe, this operation will have won a place in surgery and will occupy an honourable position in the books.

The operation has a few valuable points in its favour which must be obvious to the most indifferent.

1. Reckoned from the standpoint of mortality it is a minor operation. Except in rare instances where it would seem necessary to open the peritoneal cavity in order to reach the ovarian artery, the peritoneum is not opened. If it should seem necessary to open the peritoneal cavity, the fact that nothing is removed would make the procedure practically free from danger in clean hands. Patients can leave their bed at the end of the first week after operation. There is no shock. There is no long period of convalescence like we get after the removal of the uterus, or even after removal of the appendages. In case the operation should prove a complete failure it can do no harm.

2. From a domestic standpoint the operation possesses advantages of importance. It does not unsex the woman. One of my cases conceived two years after her operation. True, her fibroid was comparatively small when the operation was performed, but too large to make pregnancy possible, or safe. I believe many small interstitial fibroids might, in their early stage, be starved out by the timely application of this simple procedure. My thirteenth case demonstrated a complete cure of an intramural fibroid with two well-marked centres of development. This woman could easily have borne children after this time had elapsed.

3. This operation is applicable in those desperate hæmorrhagic cases where the depletion is such that more radical measures are positively prohibited. It provides a prompt means of depriving these bleeding tumours of two-thirds their blood supply instantly, and with so little shock that the weakest patient need not hesitate to accept its benefits. Afterwards, when recuperation has occurred as a result of the blood-saving of the operation, more radical measures become safe, should they be deemed necessary. My first, fourth, sixth, ninth, thirteenth, and fourteenth cases were of this description, all excessively hæmorrhagic and cases desperately depleted. The first, fourth, thirteenth, and fourteenth were cured by the operation. Hæmorrhage ceased immediately and tumour rapidly reduced and practically disappeared, in first, fourth, and thirteenth, and was reduced so that a symptomatic cure was effected in the fourteenth. In the sixth and ninth improvement was immediate, and the patients recuperated rapidly. The sixth, after two years, partially relapsed and submitted to other treatment. The ninth ceased to bleed, gained in flesh, tumour reduced in size; but neuralgic pains of a severe character persisted, which failed to yield to other forms of treatment, so that I advised, and she accepted, a hysterectomy. My friend, Dr. Humiston, of Cleveland, utilised this operation as a last resort in a fibroid woman, nearly moribund from loss of blood, in which the result was very gratifying and permanent.

4. This operation can be resorted to in cases of fibroids of the uterus in which complications are such that the mechanical difficulties in the way of a radical operation are so great as to materially increase the risk of such operation or, in desperate cases, to make an operation entirely impossible. With our present experience inoperable cases, from a radical standpoint, are few in number. The cases in which the risk is unusually great are not so few. In these cases the risk need not be assumed by the surgeon with his sensitive statistics or the patient with her love for life, if the surgeon counts among his resources the operation of which I am speaking. My fourth case was an inoperable fibroid of the worst character—one in which one of Chicago's most brilliant abdominal operators, besides myself, had each, at separate times, made heroic attempts at removal. At that time, four years ago, the case was inoperable. The woman was literally bleeding to death with a large fibroid. With great difficulty I succeeded in ligating the base of the broad ligaments, including the uterine arteries, through the vagina. The cure was magical. There are many similar cases in our great countries which this simple procedure would cure, as this one was cured. The more frequent application of this operation in such cases, too, would lessen the death rate of hysterectomies.

5. This operation should be given preference in all interstitial fibroids of a bleeding character which are discovered, because of their rapid growth and increased hæmorrhage, just as the menopause is approaching. In these cases without this operation, or the slower and troublesome electricity, we are almost driven to advise a hysterectomy. At the same time we realise that if we could tide the woman over a dozen

months or more, the fibroid would shrink and the bleeding cease spontaneously. It almost chokes a conscientious surgeon to advise a poor woman, who has been comparatively healthy up to within a few months, to submit to the removal of her womb and ovaries in order to cure her, when he is reasonably certain that nature, after a year or so, will be able to do a better job. In these particular cases I have not had any experience with my operation. Some of my colleagues have. However, from my experience with it in other cases in noticing the prompt relief of menorrhagia and metrorrhagia, in the rapid shrinking of the growth, and the tendency of these results to permanency, I am convinced that the operation has one of its most rational applications here.

6. This operation may be employed as a substitute in all cases of growing and bleeding fibroids where patients, from fear or prejudice, absolutely object to radical operations. An abdominal scar; the horrors of preparation for an abdominal operation; the fear of innumerable imaginary and actual sequelæ supposed to follow the removal of the uterus and appendages; the strong sentiment against losing the womanly attributes, as a result of parting with the essential organs of generation; the utter hopelessness of future childbearing; these, with other equally good and erroneous reasons, succeed in determining a certain percentage of cases irrevocably against a radical procedure. In the vaginal ligation of the base of the broad ligaments we have an operation which can be urged in these cases which promises a rational means of immediate relief, and which successfully meets many of these seemingly unsurmountable objections to the more radical operation.

7. Finally, it seems to me that the operation should become more of a routine practice in all bleeding or growing fibroids in which the tumour has not become a burden from its size, and in which the tumour is sufficiently interstitial so that it receives a bulk of its blood supply from the portion of the uterus supplied by the uterine arteries. The performance of the operation does not interfere in the slightest with the performance of a later operation, with more radical intent, should the minor procedure fail to cure. In the few cases in which I have adopted the operation as a means of temporary relief of desperate symptoms, in order that the patient might recuperate sufficiently to bear radical methods, the radical methods, because of the minor operation, have ceased to become necessary.

Summary.

1. The operation of vaginal ligation of a portion of the base of the broad ligament, including the uterine arteries and their branches, may be considered a minor operation from the standpoint of mortality.

2. The operation has for its objects (*a*) the reduction of the tumour by starvation; (*b*) the cure of uterine hæmorrhage by depriving the uterus of two-thirds of its blood supply.

3. The operation does not remove the essential organs of generation in effecting a cure and, therefore, does not make future childbearing impossible.

4. The operation is particularly applicable in those desperate hæmorrhagic cases where the depletion is such that radical measures are positively prohibited.

5. It may be resorted to in cases of fibroids of the uterus in which complications are such that the ordinary radical procedures become too dangerous, or in more desperate cases in which such operations are practically impossible.

6. The operation is specially indicated in all small bleeding fibroids of interstitial character which are discovered because of their rapid growth and increased hæmorrhage just as the menopause is approaching.

7. The operation may be employed as a substitute in all cases of growing and bleeding fibroids in which patients, from fear or prejudice, absolutely object to radical procedures.

8. The operation may become a routine practice of great value in all bleeding or growing fibroids in which the tumour, or tumours, have not become a burden because of size, and in which they are sufficiently interstitial so that they receive their principal blood supply through the uterine arteries.

9. In fourteen cases of excessively hæmorrhagic fibroids in which two or more years have elapsed since the operation, there has been but one relapse of hæmorrhage and one of pain.

10. The operation is not applicable in cases of pediculated tumours of the submucous or subperitoneal variety.

Dr. Vineberg (New York) said: I have performed the operation, not following the technique described by Dr. Martin, but tying off the uterine arteries very thoroughly, in five cases of interstitial fibroid with hæmorrhage, and in all the results were either temporary or entirely *nil*. That the uterine arteries were completely tied off was evident from the extensive sloughing of the cervix that took place afterwards. The cases were in women approaching the menopause with tumours varying in size from a double fist to that of the adult head. Another objection to the operation is that in many cases of fibroids there is serious disease of the adnexa, which is only disclosed at the time of operation, because they are not palpable on account of the growth. In all of my cases when a curetting was feasible I have carried it out. In some curetting is impossible, owing to the canal being tortuous and narrow.

Dr. Jones (Rochester, U.S.) asked the following questions: Does the size of the tumour modify the indications for the operation? Would a tumour the size of an infant's head probably become small enough to admit of safe parturition? What of possibility of sloughing of tumour after operation?

Professor Skene (Brooklyn) said: Most of us have little patience with any treatment of fibromata of the uterus except hysterectomy. And yet at the present time, with our remarkable results, more women die after removal of the uterus than from uterine fibroma. Therefore any treatment that may relieve a patient from the suffering caused by a fibroid and at the time save the pelvic organs, is a subject that should claim attention. I favour ligation of the uterine arteries in young women because they may be relieved, in fact cured; and if the operation fails, the uterus can be removed and the patient relieved in that way. It appears to me that one in every five properly selected cases can be cured in this way; the operation is not only justifiable but called for. The application of the operation is limited, of course. Those who are near the menopause are candidates for hysterectomy, and when the locations of the tumour or tumours displaces the broad ligaments the operation is sometimes unpractical, and hysterectomy is preferable. In all cases curetting, as suggested by Dr. Martin, is very necessary. The menorrhagia continues if the endometritis, which accompanies fibromata, is not cured. The operation is more difficult than would appear to one who has not tried it, especially so in cases in which the ligaments are displaced or not easily reached. I have found that the arteries can be closed by means of the compression forceps and electric head. This method of treating or closing blood vessels has proved so superior in vaginal hysterectomy, and, indeed, all surgical work, that I presume it would be of great service in Dr. Martin's operation now under consideration.

OBLITERATION OF THE CERVIX UTERI.

By J. Lippé, M.D.,
St. Ambroise de Kildare, Quebec.

At four o'clock in the morning of September 25th, 1893, I was summoned to deliver Madame A. P., six miles away from my house. I found her to be a woman aged 38, of medium build, and in her first confinement. She had been suffering from labour pains since the previous evening. The paroxysms were powerful and followed one another almost without interruption. On palpation nothing abnormal was noted in the external genitals, except that the labia minora were unusually developed and reminded me of those of a Hottentot. They were not less than an inch in width and two in length. This was the second woman I had come across with nymphæ of these dimensions. In the vagina there was nothing abnormal and I felt the fœtal head through the uterine walls, but could detect no orifice.

I thought at first that I had to do with an extrauterine pregnancy. After examination I satisfied myself that the child was naturally enclosed in the uterus, but I could discover no outlet; all that I found was a slight depression or at most a little groove in the left anterior region towards the iliac fossa. Persuaded that I was dealing with a stenosis of the external

os, I attempted to break it down with my finger in this little groove. In spite of repeated efforts I could not succeed in this. Seeing that it would be necessary to make an artificial opening I sent for my colleague, Dr. Riberdi.

After being informed of the nature of the case and having examined the patient he also came to the conclusion that the case was one not of stenosis but of complete obliteration of the cervix, and that it would be necessary to make an exit for the child through the uterine wall.

The woman, learning that there was no opening and not being able to explain how conception could have taken place, said to her husband, in spite of her agonising pains, "But whatever can you have done to beget it?"

It is so rare to meet with complete obliteration that we were loth to resort to cutting instruments, at least to commence with. I suggested to Dr. Riberdi that he should begin with blunt instruments. The paroxysms continued to be very strong and very frequent. Dr. Riberdi chose a tool and tried in vain to penetrate the orifice; he then gave way to me. I armed myself with a sort of blunt stylet and pushed it right into the centre of the vaginal vault; after a few digs with the instrument I had the satisfaction of feeling that it had effected an entry, and I noticed at the same time that I had just happened to hit fairly upon the cervix uteri.

Thenceforward dilatation went on gently, and at ten o'clock in the evening we were able to extract with forceps a little girl weighing about 7 lbs. which was extremely vigorous and is still alive. The rest of the puerperium was natural.

Madame A. P. told us that she commenced to menstruate at 13 and that her courses had always been normal. I remembered that in the May preceding I had given this patient some opiates for pains which I attributed to the pressure exercised by the uterus upon the pelvic viscera; these pains disappeared in a few days. It was at this time probably that the inflammation which obliterated the cervix took place.

I have thought this case worthy of record, since obliteration of the cervix uteri is excessively rare and very few examples of it are quoted in the literature; further, because it is stated that when there is obliteration of the cervix there is always some indication by which its site can be discovered. Here however there was absolutely nothing to indicate where it could be found. There was no irregularity of the surface and the only place where there was a slight depression was on the left near the anterior insertion of the uterus into the vagina, while it turned out that the orifice was exactly in the centre of the pelvic axis.

A DISCUSSION ON THE DIAGNOSIS AND TREATMENT OF INTRAPELVIC TUBERCULOUS DISEASE.

I.—James F. W. Ross, M.D.,

Surgeon to Toronto General Hospital, St. Michael's Hospital, and St. John's Hospital; Associate Professor of Gynecology, University of Toronto.

I propose to put before you a few observations regarding a somewhat rare and but little known disease—primary tuberculosis of the internal genital organs and intrapelvic peritoneum.

In connection with this disease it is necessary to state that we may be setting out with a false hypothesis when all intraperitoneal disease accompanied by the presence of small fibroid nodules is considered to be tuberculous when operative interference cures these cases it is impossible for us to prove that the disease is of tuberculous origin. When death occurs as a consequence of secondary implication of the lungs or other organs we are convinced that the primary affection was tuberculous. I have removed portions of tissue for microscopical examination, and the pathologists have informed me that they were unable to say that the nodules were undoubtedly tuberculous.

It is not to be wondered at that the peritoneum should be the seat of tubercle when we note the frequency with which the pleura is affected. If tuberculous disease is contracted by inhaling the tubercle bacilli, it is but natural to suppose that the lungs and pleura will be more frequently affected than any other organs of the body. If it is true that tuberculosis may result as a consequence of the ingestion of milk from infected cattle it is easy to believe that the intestines may frequently become the port of entry for the large serous cavity of the peritoneum. . The only other openings into the peritoneal cavity are below. The opening of the rectum is but a continuation of the alimentary canal, and needs no further consideration. The opening into the bladder is constantly washed by the urine, and even though this washing is complete and thorough there are some germs that find their way through the urethra into the interior of the organ. The opening through the vagina and uterus is one readily entered by other germs. The only direct communication with the peritoneum is through the vagina, uterus, and Fallopian tubes.

If the peritoneal cavity is invaded by tubercle from the rectum, the intestines, or bladder, the tubercle is found to be present in these organs themselves. It is reasonable to suppose that if the direct contamination takes place through the vagina, the uterus, and the Fallopian tubes these organs will be found affected by the disease. This is the exception and not the rule. It has been stated that direct contamination from coitus is a cause of intraperitoneal tuberculosis. The following case, from my own practice, is one of many that might be related from the practice of others in which the disease had no such origin.

E. D., aged 23, single. Menstruation was regular until three months ago. The flow lasted as a rule from four to five days. After missing two months, menstruation came on profusely and continued for three weeks. After that there was a week's interval, and the flow again returned. Some leucorrhœa has always been present. Patient was considerably emaciated. During the period of the flow pain came on in the lower abdomen; this was accompanied by diarrhœa and cramp. When I saw her in 1891 she was confined to bed owing to the severity of the pain. There was a burning sensation in the pelvic region. The pain was fairly constant on the right side, and was greater on the right than on the left. It became worse at intervals. Both parents died of phthisis. On examination the hymen was found untorn. It was necessary to tear the hymen in order that the finger might be passed into the vagina, and it was quite evident that no complete coitus could have taken place. There was no evidence of any inflammatory trouble in the vagina or about the external genitals; slight thickening was noted on either side of the uterus, but nothing could be found that indicated the necessity for operative interference. She was watched for a time, and the temperature taken twice daily. The chart had the usual characteristic picture noted in cases of salpingitis with pelvic peritonitis. To those accustomed to deal with these cases this picture is typical. For instance, on the 19th, the temperature was normal, on the 20th, elevated to between 99.5 and 100, on the 21st, remaining about the same point, and on the 22nd, falling to normal, and continuing normal for some days with occasional subnormal drops. The pulse rate varied between 70 and 108. The history of the case was similar to one of gonorrhœal contamination and its resulting salpingitis. But, owing to the condition of the hymen, it was thought advisable to exclude gonorrhœa as the exciting cause. Exploratory operation was decided on.

On opening the abdomen the left ovary was found to be cystic, the omentum thickened and congested, and there were evidences of recent subacute peritonitis. A slight quantity of serum was present in the cavity of the pelvic peritoneum. The ovaries and tubes were drawn up and found studded with tubercle though they were scarcely larger than normal. The fimbriæ of the tubes were thickened and velvety in appearance, and the tubes patulous. No tuberculous nodules were to be seen in the wall of the intestine or in the omentum. The posterior surface of the broad ligaments were studded with small tubercular nodules; the ovaries and tubes were removed.

After the operation the patient menstruated until October, 1892, a period of about twelve months. In July, 1892, she married. When last heard from was in as good health as her frail constitution and phthisical tendency would permit.

In the case just related I had no reason to believe that coitus had ever been attempted. Taking into consideration the family history, the delicate constitution of the patient herself, and the condition of the hymen, the deposit of tubercle in the tubes and ovaries and peritoneal covering of broad ligaments can reasonably be assigned to some other cause than that of infection through the vagina.

Tuberculous disease of the uterus and vagina are extremely rare. I have never yet seen a case of primary tuberculosis of either uterus or vagina. Profuse leucorrhœa has frequently been noted in phthisical patients, but no pathological lesion could be made out. It seems to me to be very improbable that the intrapelvic tubercle originates from bacilli introduced into the vagina. If this were so we would expect to find the wives of men suffering from tuberculous disease of the testis soon infected with tuberculous disease of the uterus, ovaries, Fallopian tubes, and pelvic peritoneum.

Strangely enough intrapelvic tuberculosis, though a rare disease, most frequently affects virgins. It is rather remarkable that the disease is more common in women than in men—the periodical menstrual congestion is perhaps accountable for this fact. At first sight one might think it curious that, in a young woman with the hereditary tendency to phthisis,

tuberculous deposit should, without apparent cause, take place in ovaries, tubes, and pelvic peritoneum. But the deposit of tubercle here is no more curious than the deposit of tubercle in other parts of the body. Tubercle is frequently deposited in the brain and in the joints, parts of the body entirely cut off from the external air. In one patient I saw a distinct tuberculous ulcer of the peritoneum; the history is as follows:

Mrs. B., aged 28, married for seven years. Her last child was born three years ago. Menstruation has become more profuse during the last three months, and although there has been no flooding a great number of clots have passed. Menstruation has been more painful, and pain has continued in the interval during the last three months. The menstruation has been regular. She has never been laid up with any illness except what was supposed to be "*la grippe*" in the spring. At this time she had a cough, and was ill two weeks but made a good recovery. Her chief complaint was pain, and also a discharge from the bowels. After the motions had been watched in the hospital no abnormal discharge could be found. The pain in the pelvic region was increased by any jarring motion. She was so tender that a glycerine tampon placed in the vagina had to be removed within an hour. In the doctor's letter he stated "I have been preparing her for pus tubes although I must admit I cannot make them out clearly." No phthisical taint could be found in the family history. The father and mother are both living.

On palpation a definite area of tenderness was found midway between the umbilicus and the crest of the ilium on the left side. On examination nothing could be felt through the vagina or rectum to indicate any definite intrapelvic peritoneal disease, except a slight thickening about the *cul de sac* of Douglas over the left utero-sacral ligament. The patient was extremely tender to the touch. She was placed under very careful observation; the temperature was taken and found elevated. The temperature chart presented the typical appearance found in cases of subacute salpingitis. At first she declined to submit to an exploratory operation and returned home, but, owing to the increased pain and tenderness, returned.

I opened the abdomen and found the tubes and ovaries freely movable; there were no adhesions. On the left side over the left utero-sacral ligament a roughened nodular raw surface, about the size of a silver dollar, was discovered. This was carefully inspected with the aid of a throat mirror and reflected light. The right mesosalpinx was studded with tuberculous nodules; tubes were patulous and healthy in appearance, as were the ovaries. Nothing was removed. No tuberculous nodules were to be found in the wall of the intestine. The intestine was carefully inspected throughout a large portion of its extent. The omentum was also free from any tuberculous nodule. Kidneys normal in size, appendix vermiformis normal. This one isolated roughened tuberculous erosion was all that could be found, except the few nodules studding the right mesosalpinx. Notwithstanding the fact that no tuberculous nodules could be discerned with the eye on the wall of the intestine, there was an unusual velvety feeling noticed when the wall was pinched up by the fingers. The intestine felt as if its mucous membrane was thickened.

For some time after the exploratory operation the patient remained fairly well, but in the fifth week another rise of temperature supervened, a severe chill came on, and temperature reached 102°. Wound had long since healed by first intention. A pink flush now appeared on each cheek and the patient looked as if the disease was about to proceed with great rapidity; but improvement again took place and she again returned home. The last report, August, 1897, states that she is about as bad as ever, that the soreness and tenderness still continue in the pelvic region and that she is unable to do anything that is likely to jar her. Notwithstanding the administration of iron, anæmia still continues. She has increased very slightly in weight.

This case I am satisfied is one of tubercle in the peritoneum showing the disease at a very early period. A diagnosis could not have been made without an exploratory incision, and the ill-health of the patient would have remained shrouded in obscurity. I have one other case to report, exemplifying the importance of early diagnosis in these cases.

Mrs. M., aged 35, suffering a great deal from pelvic pain for some months past. The pain was accompanied by slight elevation of the temperature similar to that observed in the two former cases. Her condition was puzzling. On abdominal examination nothing could be made out except that there was an apparent increase of tenderness on pressure over the hypogastric region. Walking about jarred her and gave her pain. Examination through the vagina revealed a small fibroid tumour about the size of a walnut growing from the posterior wall of the uterus. I could not make up my mind that this small fibroid was the sole cause of the great amount of pain she suffered.

After watching the case for some weeks I decided to perform an exploratory operation. This was done and the fibroid tumour inspected, together with the tubes and ovaries; nothing unusual was to be noted about the fibroid. The ovaries were studded with sago-like nodules feeling gritty and cretaceous; tubes and their mesenteries were in the same condition, as well as the peritoneum covering the posterior surface of the broad ligaments and uterus. Some fluid was found in the pelvic peritoneum, and there were no adhesions. No nodules were noticed elsewhere. The tubes were patulous. Both ovaries and tubes were removed and sent to the pathologist for a report. The patient is still under observation.

These three cases are the only ones I have met with early in the disease, when tubercles were confined to the tubes and ovaries and adjacent peritoneum, when there was no occlusion of the lumen of the tubes, and no pus present. We have all of us operated on a large number of cases of advanced tuberculous peritonitis. Such cases are frequently seen and easily recognised. It is not my intention to deal with such cases in the present paper, but with cases of primary tuberculosis of the internal genital organs and intrapelvic peritoneum. Primary tuberculosis of the internal genitals and pelvic peritoneum is a disease that is puzzling to the attending physician, irritating and invaliding the patient, and simulating other conditions. The diagnosis of the condition is of the utmost importance. We should be less willing to resort to exploratory operation as a means of diagnosis; but, in order that we may do so, our knowledge of these obscure intrapelvic diseases must be augmented and the symptoms produced by the disease be better understood.

When tuberculous disease is found in the rectum, it can be diagnosed by examination of the organs by the senses of touch and sight. When tuberculous disease invades the bladder, it can be distinguished by methods of examination now so well recognised and so successfully practised. But when tuberculous disease invades the tubes and ovaries and the adjacent peritoneum, our sense of sight is of no avail without a preliminary cœliotomy, and our sense of touch helps us but little in coming to a conclusion. All such cases must be carefully studied and observed. Tuberculosis of the tubes, ovaries, and pelvic peritoneum may be mistaken for three conditions, namely, salpingitis of some other origin, hysterical neuralgia, and hyperæsthesia; and pelvic peritonitis of the subacute variety due to the presence of ovarian or uterine growths.

In salpingitis, whether of tuberculous or other origin, we have the definite periodical rises of temperature, pelvic tenderness, and some slight thickened feeling on one or both sides of the uterus. However, the history of the case will assist us in coming to a conclusion as to the origin of the disease present. But causes of salpingitis are: the introduction of sepsis after miscarriage, labour, or instrumental interference, the infection of the genital track with gonorrhœal poison, or the deposit of tubercle. In many cases it may be impossible to obtain a history of sepsis or gonorrhœal infection. In many cases a careful search will reveal the true origin of the disease. In tuberculous cases there will be a blank in the information, and when, after making full inquiries and making a full study of the case, the blank remains unfilled, we must suspect that the disease is in all probability of tuberculous origin. This is particularly so if the case under consideration is one of a young virgin. The family history may in some cases assist us, and in others lead us far astray. In the early stage of the disease, bimanual examination is of no value in either subacute salpingitis or primary tuberculosis of the ovaries, tubes, or pelvic peritoneum. The thermometer will be found of very great value. In the later stage of the disease, not at present under consideration, the tubes become filled with pus, and may be enormously enlarged. A tumour can then be felt on either side of the uterus, and the uterus will be found bound down and fixed as in cases of pyosalpinx from any other cause. On opening the abdomen, in these cases, the intestines and abdominal peritoneum are found to be in an advanced stage of tuberculous disease.

Hysteria.

Like tuberculous disease of the cerebrum, tuberculous disease in the pelvis may produce symptoms that are liable to be attributed to a nervous hysterical condition. The cerebral tubercle produces hysterical attacks as a consequence of its situation. When in cranium or pelvis the disease is hidden. When a disease is hidden and ill-understood, we are apt to diagnose the disease under the head of hysterical affections. It is a serious matter to mistake either tubercle for hysteria, or hysteria for tubercle; in either case an injustice is done to the patient. The nervous symptoms produced by irritation of the internal genitals can easily be classed under the heading "hysteria." The patients do become hysterical, but, underlying all this, there may be actual disease. The only method of differentiating between the hysteria accompanying intrapelvic tuberculosis and the hysteria accompanied by pelvic pain and tenderness, without actual intrapelvic disease, is by using the clinical thermometer. To eliminate error, it is needless to say that the thermometer must be placed in different positions, and that the patient must be watched while the temperature is being

taken. If the temperature shows the elevations above referred to and the patient fails to improve, an exploratory operation should be performed. Though intrapelvic tubercle, in its early stage, may be suspected, it is only by cœliotomy that its presence can be definitely determined.

Subacute Peritonitis due to Tumours.

In the third class of cases a definite tumour will be made out. The tumour may be very small in size and it will be difficult for the observer to explain why such a small tumour should give rise to so much tenderness. In these cases of subacute pelvic peritonitis we have the periodical elevations of temperature and the pain. We are all accustomed to examine the peritoneum when operating for these conditions, and we do not find the tubes, ovaries, and pelvic peritoneum studded with fibroid nodules. As in the case above reported, however, the two conditions may be found to coexist in the pelvis. It has been stated by some that there are two separate and distinct conditions in which the deposit of fibroid nodules takes place in the peritoneum. One of these is of tuberculous origin and the other of inflammatory origin. If this is so it is strange that we do not meet with these fibroid nodules in all cases of subacute inflammation of the peritoneum. It is not difficult to explain the coexistence of tuberculous disease and tumour of the ovary or uterus. If a tuberculous diathesis exists in the patient, tuberculous deposits are liable to take place in parts in which irritation is present. If a growth is present irritation is present and it is but natural to suppose that tuberculous deposit is all the more liable to occur in cases in which there is a growth than in cases in which there is no growth. The fibroid of the uterus or the cyst of the ovary acts as the exciting cause of the deposit just as the inhalation of dust acts as the exciting cause of the deposit of tubercle in the lungs.

Treatment.

Tuberculous disease of the lungs is sometimes cured by encystment of the tuberculous mass. In the pelvic peritoneum no such encystment takes place, and yet the disease is frequently cured. It is a question whether the small collections of pus in tuberculous tubes can be looked upon as truly encysted masses or not. I have met with the two following cases:—

Miss R., aged 30. The menses have been suppressed six weeks at a time. Has had frequent floodings. The last time she menstruated she used about thirty diapers; the period continued for four days. Of late she has suffered from constant pain on the right side. If she walks the jarring hurts her. Was ill for some time in the country and her nervous system was supposed to be affected. She was looked upon as a hysterical young woman. Was constipated, suffers from sickness at the stomach and feverishness; is tender to the touch over the hypogastric region. Pulse rather rapid. She was ill for several months and all her trouble seemed centred in the pelvis. Father died of phthisis. Mother died young from pneumonia. Patient has had several attacks of hæmoptysis. Has also the scars of two or three tuberculous abscesses over the ribs; one of these sinuses reopens at intervals.

I opened the abdomen and drew up what appeared to be a dermoid cyst of the hydatid of Morgagni, the size of an English walnut. This was filled with old cheesy pus. Both tubes were club-ended and closed, and though little larger than normal were filled here and there with deposits of cheesy pus. The ovaries appeared healthy; one ovary and both tubes were removed, the other ovary was left behind in accordance with the expressed wish of the patient. There were two small cysts beneath the left tube in the mesosalpinx, and each of these was filled with cheesy pus. They were as large as small marbles. Left tube was slightly adherent. The patient made a slow recovery. Her health improved. During the two years since operation she has been under observation, and though the tuberculous disease in the pelvis has been cured she is battling against the tendency to phthisis. The ovary left behind gives rise to a slight pain and keeps up menstruation. I regret that it was not removed.

The other case is that of Mrs. P., aged 35, married, but sterile. The patient never menstruated. A slight leucorrhœal discharge was occasionally noticed; she had pelvic pains for many years. There is no history of consumption in the family. Under chloroform the tubes could be made out about normal in size but nodular in places, as if they were filled with small beans.

On opening the abdomen the tubes were found clubbed and closed, and showed no evidence of any fimbriæ. They were filled with masses of inspissated pus; these masses were about the size of white beans and were entirely shut off from one another. Each tube contained three or four of them; ovaries also showed evidence of tuberculous disease. The uterus was found to be fibroid and atrophic. Both ovaries and tubes were removed.

On making close inquiry the patient stated that as a girl she had had a severe illness, pelvic pain and slight fever. Hot poultices and mustard plasters were applied to the lower abdomen. Her health varied for a year then gradually improved. The operation would never have been performed had it not been that the condition was an obscure one and exploratory operation was advised. The condition in the pelvis could never have been ascertained without an exploratory operation.

In the five cases related two were practically cured before the true nature of the disease was discovered. One was cured after ablation of the ovaries and tubes, one is still under observation after removal of ovaries and tubes, and one is as yet unbenefited by exploratory operation, though the ovaries and tubes were not removed and were apparently healthy. In two of the cases the disease was arrested in an early stage. In none of them had the disease advanced to what is considered the late stage, namely, general tuberculous peritonitis in which the internal genitals, omentum, and intestines are invaded by the disease.

Why is it that we have two forms of the disease? Has its origin anything to do with its subsequent progress? The entrance of air is not a necessary factor in the cure of the disease as evidenced in the last two cases reported. And, moreover, if air is the curative factor the lungs ought never to be destroyed by tubercle bacilli. Again, the irritation produced by the operative procedures cannot be regarded as the curative agent. Many cases of advanced tuberculous disease of the intestines and peritoneum fail to improve after the abdominal cavity has been washed out with water, after air has been introduced, and after the internal parts have been submitted to the irritation produced by sponging. Those cases in which a large amount of fluid is present have, in my hands, improved the most after cœliotomy.

When patients suffering from intraperitoneal tubercle reach our hospitals they are generally so far advanced in the disease that surgery offers them but little chance for relief. From an early experience, when I removed a pair of large pus tubes from among intestines studded with tuberculous nodules, I have decided never again to attempt salpingo-oöphorectomy under such circumstances. I had proceeded so far with the operation that it was impossible to retrace my steps. Nothing short of complete removal of the organs would stop the hæmorrhage. During the separation of the adhesions the intestines tore in two or three places owing to the friable, inflamed, and thickened condition of their walls, and it was almost impossible to reunite these torn edges. As a consequence fæcal contamination took place, fæces were passed out through the drainage tube, and the patient died. On several occasions since I have closed the abdomen, feeling that operation had been too long delayed and that the patient, and not the surgeon, should take the responsibility of the delay.

Will early operation save such cases and prevent the progress of the disease? If late operation is advisable surely early operation is still more advisable. Removal of the ovaries and tubes from a case such as the first one related produces a cessation of the monthly congestion and loss of blood, and prevents the propagation of a tuberculous progeny. In such an operation advisable? If the tubes are not removed the enormous pus tubes alluded to may form, or, on the other hand, the disease may cure itself in isolated cases; a caseous degeneration of the pus may take place, and sterility will be produced without the surgeon's aid. From the limited experience I have had, as primary tuberculosis of the tubes, ovaries, and pelvic peritoneum is a rare disease I believe that it is wise to remove the tubes and ovaries as soon as they are found to be affected with the disease, or as soon as the peritoneum in the neighbourhood is found affected, even though the ovaries and tubes themselves remain to the naked eye apparently healthy.

Even when the disease is latent or cured in a certain sense, as in the last two cases reported, the patients continue to suffer from menorrhagia or metrorrhagia, and they can ill afford to sustain this loss of blood. In the one case mentioned above the patient suffered from hæmoptysis from an active sinus over one of the ribs and menorrhagia. Owing to the fact that one ovary was left behind the loss of blood continues.

I am a great believer in conservative surgery, but I fail to perceive its application in this connection. You must attribute the imperfect manner in which the subject has been presented to the rarity of the disease and the consequent meagreness of the experience of any single observer.

The Board of Agriculture has issued an order for the muzzling of dogs in parts of the county of Durham and the North Riding of the county of Yorkshire.

II.—Thomas More Madden, M.D., F.R.C.S.E.,
M.A.O. Honoris Causâ, Royal University, Ireland; Obstetric Physician and Gynæcologist, Mater Misericordiæ Hospital, Dublin; Consultant and ex-Master National Lying in Hospital; Consulting Physician to the Children's Hospital, Dublin, etc.

THE CONSERVATIVE AND OTHER TREATMENT OF DISEASES OF THE FALLOPIAN TUBES.

The successful results which modern surgeons have proved may be obtained in cases of hydrosalpinx and pyosalpinx by the complete removal of the affected tubes have apparently driven into unmerited neglect the more conservative methods of treatment which the etiology of these and other diseases of the Fallopian ducts might *a priori* suggest, and which clinical experience has convinced me may be no less usefully employed in many instances of this kind. From the latter standpoint, therefore, I submit a few observations, chiefly designed to recall attention to the less heroic measures that may be thus found available in some of those cases of tubal disease in which salpingotomy or salpingo-oöphorectomy are now commonly advocated.

Bearing in mind that in the majority of instances chronic salpingitis leading to local, purulent, or serous collections is the result of bacteriological infection, originating either from gonorrhœa or from puerperal sepsis, it may, I think, be premised that the general principles of treatment which are recognised in other manifestations of such infection are not wholly inapplicable in the conditions now referred to. And, secondly, that in these, as in all other cases, the gynæcologist should set before himself, not only the removal of disease, but also the restoration of the functional and structural integrity of the affected organ, as far as these objects can possibly be combined and accomplished, and that only where the latter is impracticable should he be content with the former. With this view several methods of dealing with the cases under consideration have been suggested—namely, first, the removal of the contents, whether purulent or serous, of the distended tube by aspiration, as recommended by myself and others. Some years ago in papers, of which I may here avail myself, read before meetings of the Royal Academy of Medicine in Ireland, the British Medical Association, and elsewhere, as well as in my work on *Clinical Gynæcology*, I discussed the expediency, and showed the possibility, of catherisation of the Fallopian tubes in certain instances. Secondly, in such cases has been recommended free incision *per vaginam* and subsequent washing out of the emptied tubes. Thirdly, curetting the endometrium around the uterine ostium of the tube and Emmet's operation. Fourthly, employment of electricity by the method of Apostoli. Fifthly, what may be termed conservative laparotomy—that is, abdominal section, with the view either of aspiration of the distended ducts or as advocated by Mr. Alban Doran in some instances for the purpose of breaking down adhesions and "freeing the diseased appendages." Sixthly, may be here mentioned the resection of the tube by Pozzi's or Skutche's operations. Seventhly, and lastly, in this connection is massage as employed by Brandt in such cases.

I shall not here waste time by referring in extent to any of these procedures, save those that I have myself proved the practical utility of. This is not the case with regard to resection, concerning which, as well as other operations that may more safely be demonstrated on a lecturer's diagrams than in a patient's body, I would re-echo Dr. Goodell's criticism: "The diseased parts cannot be handled in abdominal section without great risk. The tube is often tensely distended, and adhesion to neighbouring structures are usually intimate. Hence the tube may be ruptured, intestines torn, and circumscribed collections of pus diffused."

As to massage, even if harmless, it would be objectionable, for the general reasons I have elsewhere mentioned. In cases such as those under consideration, even that negative merit can hardly, I think, be attached to a procedure like that with which Brandt is credited—namely, the attempt to empty a distended tube into the uterus by rolling it gently between the fingers of both hands, a manœuvre that, as is admitted, often causes an escape of secretion into the peritoneal cavity, which gives rise to septic peritonitis.

Turning to the sober realities of practical gynæcology, we may now consider the rational treatment of pyosalpinx and hydrosalpinx, in regard to which there appears to me no reason to depart from the traditionally recognised first principles of surgery by an indiscriminate resort to such measures as the complete extirpation of the uterine appendages. If the mammary gland, for example, become the seat of a purulent collection, or if, as the late Sir Spencer Wells suggested, the tunica vaginalis testis is the location of a hydrocele, would it not be more advisable to open the abscess or to tap the hydrocele than to amputate the breast or remove the affected testicle? And must we then necessarily adopt an entirely different course as a matter of general practice in dealing with analogous conditions in other no less important organs?

Acting on these principles, therefore, for several years past, I have, in the first instance at least, treated a considerable number of cases of pyosalpinx and hydrosalpinx by aspiration and other conservative measures. The successful results so obtainable in many, though by no means in all, instances of this kind have been proved in my wards in the Mater Misericordiæ Hospital, where the majority of cases of this kind were thus treated, and this method, even if not as certain in its radical results as salpingotomy, is quite as successful in that class of cases to which its employment should be restricted, and at least contrasts favourably, as far as facility of performance and safety from danger with the latter operation which in other cases and after its failure may become expedient. Hence I shall venture for an instant to dwell on the details of the less serious method, which, as I believe, will in not a few instances be found to afford satisfactory results whenever tubal collections are accessible *per vaginam*.

In the first place, to permit the necessary manipulation, the patient should be put under some anæsthetic, and placed in the left lateral gynæcological position. Then the operator introduces the index and first fingers of his left hand through the sphincter ani upwards and forwards along the outlines of the posterior uterine wall, the fundus being pressed down by his assistant's hand over the hypogastrium.

In this way the tubes and ovaries can be readily palpated, and if there be any inflammatory or cystic enlargement of the former, it may be distinctly recognised as a tortuous, elongated, sausage-shaped or rounded fluctuating tumour, extending "from the side of the uterus outwards to the broad ligament and backwards into Douglas's fossa." Having thus ascertained the position of the pyosalpinx or hydrosalpinx, the next step is to carefully introduce *per vaginam* on the point of the right index finger a long fine needle, affixed to the aspirator up to the roof of the posterior vaginal *cul-de-sac*. Through this the needle is to be passed, into the retrovaginal fossa, and thence, guided by the operator's left index, from the rectum, up to the most prominent presenting part of the tubal swelling, into which it is to be plunged. The tap of the aspirator is then to be turned, so as to give exit to the contents of the dilated tube, the expulsion of which may be assisted by the steady pressure of the assistant's hand from about the hypogastrium down into the pelvic cavity, and continued until the tube is completely evacuated. After this, the cyst cavity should be washed out with an antiseptic, and the vagina should be rendered aseptic by insufflation with iodoform.

Then, no further local treatment beyond hot carbolic irrigation will generally be required, unless the tube should, as sometimes happens, again fill, though probably to a lesser extent, when the same procedure may be again repeated until the oviduct has become reduced to its normal size.

Curetting Fundal Orifice of Tubes: Treatment by Electricity.

The most common immediate cause of cystic accumulations in cases of chronic salpingitis is mechanical obstruction of the uterine orifice of the oviduct, due either to chronic follicular endometritis, flexion, or, in some instances, supra-involution of the uterus. Under such circumstances, the tubal obstruction is most likely to be relieved by dilatation, followed by curetting of the diseased proliferating endometrium in the first instance, or by the rectification of the flexion in the second, and by faradisation in the last-named

cases. The faradic current has not only in these, but also in other forms of chronic salpingo-oöphoritis, been in some instances successfully employed by Dr. Apostoli, of Paris, who generally employs in such cases the faradic current of tension applied in moderate doses, and for only a few minutes at a time, for which he claims the most remarkable curative results in such cases. Another authority on this subject—Dr. Milne Edwards, of Edinburgh—does not believe, however, that the galvanic current is suited to cases where there is definite organic change in the ovaries, but considers that here faradism may possibly be of service.

Removal of Uterine Appendages.

In those graver and somewhat more exceptional cases than is generally supposed, in which, from the extent of Fallopian disease, or from the implication in its course of adjoining structures, the urgency of the symptoms attending its progress or other causes, it becomes impossible to deal satisfactorily or safely with such cases by the methods already referred to, there then only remains for our adoption the complete removal of the uterine appendages.

That operation has, however, come into vogue under other circumstances than these, being supported by a large number of modern gynæcologists, as not only the most efficient, but also in the cases in which it is required, the safest method of dealing with the tubal diseases referred to; and hence the procedure, which should be generally adopted in such cases. This doctrine I cannot myself accept, believing, as I do, that in some instances the results of salpingitis are curable without any active treatment, and that in other cases they are amenable to the minor measures I have described. Nevertheless, in my hospital and elsewhere, I have met with cases in which the only apparent alternatives were either the speedy death of the patient from Fallopian tube disease, or else the complete removal of the affected appendages, by what is generally known as "Tait's operation." In the following observations I shall therefore very briefly describe that operation, or at least that method of performing it which I have practised, premising that, regarding, as I still do, the ovaries and tubes as both essential factors in the menstrual function, it follows that when the latter are removed, salpingotomy should also be combined with oöphorectomy, to obviate the possible consequences of an abortive or abnormally-accomplished process of ovulation. Nearly all the preliminary successive steps of this procedure being identical with those of ovariotomy, I shall merely allude to those points in which these operations may be contrasted. The first and most obvious of these is the smaller size of the abdominal wound required for removal of the appendages. This incision is just sufficient to allow the introduction of the two first fingers of the operator's left hand, which should be passed down to the fundus uteri, by the position of which he will be readily guided to the contiguous tubes and to the ovaries. In such cases the often widely-distended oviduct must be most tenderly handled to avoid extravasation into the peritoneal cavity of a pyosalpinx or hydrosalpinx, which may occasionally be prevented by aspiration of the diseased tube before any attempt to draw it out through the abdominal wound, as must be the next step in this operation when not rendered impossible by extensive inflammatory adhesions.

Having thus drawn out as far as can be safely done the affected tube and ovary so as to form a kind of pedicle from the broad ligament through the centre of which, carefully avoiding injury to blood vessels as far as possible in so doing, a blunt-pointed needle, carrying a double ligature of stout silk is to be passed. This ligature may next be secured by a double "reef knot," which I have found sufficiently reliable and easier to make than the "Staffordshire knot." Whatever ligature be employed it should secure the pedicle, from which the ovary and oviduct are next to be separated by a blunt scissors curved on the flat a little above the point of ligation, which may be then dropped back into the peritoneal cavity. A similar procedure may then be adopted with regard to the remaining ovary and tube, after which the abdominal cavity may be washed out with boracic or carbolised warm water, the wound closed, and the patient treated on the same general principles as an ovariotomy case.

This operation, although under ordinary circumstan
feasible enough to any surgeon, is occasionally one that
might puzzle the most dexterous specialist to carry into
effect. The difficulty of removing a Fallopian tube that may
possibly be distended to the point of bursting without
risk in so doing of rupturing the thin tensely stretched
walls of the purulent sac into the peritoneal cavity
is obvious. But where, as occasionally happens in such
cases, the ovaries and tubes are matted together and to
the ligaments, uterus, and other adjoining structures in one
inextricable mass by inflammatory exudations and adhesions,
that difficulty may be converted into an impossibility in
some instances. I have had occasion to remove the
uterine appendages in several cases, and, as I believe, have
generally obtained results neither better nor worse than the
average of other ordinary gynæcologists. But at the same
time I think it not improbable that such other practitioners,
as well as myself, may have sometimes regretted that they
had not either operated earlier or that they operated at all in
those exceptionally unpromising cases to which I have
referred.

The immediately successful results now obtained from the removal of the uterine appendages in the majority of cases and the very small mortality consequent on its performance in suitable cases in the hands of skilled specialists has been proved beyond any possibility of question by the statistics of Mr. Tait's cases, as well as by those of Dr. Bantock and many other eminent surgeons. Of the ultimate curative results of removal of the uterine adnexa, however, a less hopeful view is taken by some authorities whose opinions on this subject are entitled to consideration. Thus Mr. Alban Doran observes: "As a rule oöphorectomy for chronic disease of the appendages is followed by speedy convalescence. Unfortunately a permanent cure is not so frequent. Mental symptoms occasionally follow a double oöphorectomy. The cases where the stump suppurates are particularly unsatisfactory. Fistulous tracts open, close, and reopen in the abdominal wound for months, discharging thin pus. Such cases find their way to the consulting-rooms of others or to other hospitals than the institution where the operation was performed. The operator hears no more of them, and he or the hospital registrar records them in perfect good faith as 'cured.' A larger minority suffer from a continuance of the pains which preceded the operation, probably on account of intestinal adhesions or through irremovable inflammatory products which press on the nerves. The ligatures certainly set up trouble in some cases."[1]

Somewhat similar views have been previously expressed by other writers. Thus Dr. H. C. Coe, in the *Proceedings* of the New York Academy of Medicine, observed: "There are not a few women now attending the various clinics of New York who have had their ovaries and tubes removed and yet who complain of precisely the same pain as before; in fact, I can recall cases in which, although the menstrual disturbance is wanting, the pain is more severe than it was before."

I therefore think that, without in any way questioning the necessity of these operations in many instances or the success and small mortality which has attended their performance in the hands of some distinguished surgeons, the great body of medical practitioners who must meet with cases of Fallopian tube disease should be slow to adopt operations the success of which can only be assured by exceptional skill. Moreover, even where the circumstances of the case preclude the possibility of transferring the responsibility to specialists possessing that capacity the majority of surgeons should, before attempting to imitate their practice, at least fairly and fully try the less heroic, but yet often successful, methods of treatment to which I have already alluded. I have had clinical reason to know that the repetition of this recommendation is not superfluous at the present time, having in my hospital met with the effects of its disregard.

A few years ago I brought the increasing frequency in surgical practice of operations for the removal of the uterine appendages, and by no means only when rendered necessary by Fallopian disease or for uterine myoma, under consideration in papers read before the Obstetric Section of the British Medical Association and elsewhere, to which I have already referred. As the general accuracy of my opinions on this subject has been confirmed by my more

recent experience I may here recapitulate the views I then expressed and still hold.

I of course fully recognise the fact that the first duty of the surgeon is to save his patient's life; and therefore if in a case of Fallopian tube disease this can only be done by removing the uterine appendages that this operation should then be at once resorted to. But under any other circumstances it should never be lost sight of that the uterine appendages are as essential to reproductive capacity in women as are the testes in men, and that by their complete removal the patient is practically unsexed or incapacitated for the chief function and primary object of woman's married life. Nor does it seem to me justifiable to perform such operations without the patient's concurrence and knowledge of the consequences—a rule the propriety of which is obvious, and is now generally recognised and acted on. Moreover, it also appears to me that the removal of the ovaries and Fallopian tubes is even yet occasionally somewhat too readily resorted to in non-organic disease as a possible means of benefiting neurotic and hysterical symptoms. It may be well to repeat that other operations and methods of treatment have ere this been for a time as generally accepted, and then, having perhaps been carried beyond their judicious application, have fallen into desuetude. We have, therefore, no guarantee in the present frequency of resort to the removal of the uterine appendages that the same may not in the course of time happen also with regard to these operations, which, unquestionably valuable and successful as they have proved in the hands of some eminent surgeons in cases of absolute necessity should, in my humble judgment, never be lightly regarded as measures of election.

The question of election or necessity I regard as the cardinal point to be decided in considering the expediency of removing the uterine adnexa in the treatment of Fallopian tube disease. In many instances unquestionably, as I have already said, that course becomes an unavoidable necessity, and is then the obvious duty of the surgeon. But it should not be forgotten, however, that in probably a no less large number of cases tubal disease may also be successfully treated by some of the less heroic, but equally effectual, remedial and conservative measures to which I have now referred.

REFERENCE.

[1] On the Treatment of Chronic Diseases of the Uterine Appendages, *Lancet*, 1891.

III.—A. PALMER DUDLEY, M.D.,

New York.

I HAVE for years been interested in the study and practice of conservative surgery upon the uterine appendages. If we hastily review the history of what is commonly called modern gynæcology, dating from the early work of Sims to the present time, I think we shall be able to aptly apply the recommendations set forth in the address of our President with respect to the reforms becoming necessary in modern obstetrics, as justly applicable to our own speciality. I mean to say by that, judging from my own experience, the pendulum has swung too far, and with the aid of our modern antiseptic methods, men in our speciality have in the past removed many organs from the pelvis of woman that should never have been taken from her. The discussion in my judgment made it sufficiently clear to all that the operation of hysterectomy for pelvic disease has become nearly perfect, and it has also developed the fact that the operation was to a certain extent stimulated by fashion. The French surgeons particularly have become so expert in doing the operation that before long they will become a large factor in the decrease of the population, from diminishing childbirth. The Government has become obliged already to offer a pension to its women as an inducement to childbearing. It would seem to me under such circumstances better if the Government would pension the doctors and take their business from them. It is a difficult matter to discuss a paper that one has never heard read, and also an unpleasant task to criticise a man's opinions when he is not present to defend himself. If, therefore, in the discussion of the paper, which should have been read, I by chance differ from the writer, or disagree with his conclusions, it is his fault, and not my own. Therefore, in order to confine myself strictly to the title of the paper, let me do so by asking a question, and as far as I am able, give my own answer. To what extent can we do conservative surgery upon the uterine appendages with safety to the patient? In my attempt to answer such a question I will simply give you the results of my own experience, having long years ago seen the removal of what I considered healthy and fat ovaries, so far as the eye could tell, for the relief of apparently trivial pelvic disease, and the patients recover. Also various forms of surgery upon the uterus itself with the same good result. I determined, if possible, should a case present, to test the recuperative power of the ovary itself, and in the fall of 1887 I was consulted by a woman who required laparotomy, but begged that her ovaries might not be sacrificed. I gave her my promise, and did the work, removing portions of the ovaries, and bringing the remainder together with fine, silk suture. This patient made an uninterrupted recovery, and a few months later became pregnant. Fearing the pregnancy would undo what I had done for her, in spite of my advice to the contrary, she induced an abortion upon herself by injecting the uterus with hot water. Such cases as I am speaking of are not of every-day occurrence, and it was some time before I secured another. Time will not allow me to give a description of the many cases I have had since; suffice it to say that up to the present time I have records of 68 cases where I have removed portions of the tubes and ovaries and returned the appendages to the pelvis. I have not been able to trace them all in their after-history, but I have secured the record of 12 cases where a pregnancy has followed, and of these 12 8 have borne children and 4 have aborted from one cause or another. In the whole 68 cases I have never seen inflammation follow in the appendage that could be detected by careful bimanual touch in a single case. In many of these cases I have cut the ovary completely in two, longitudinally, removed cysts from its centre, and sewn it up again. I have cross-sectioned it and sewn it together. I have taken V-shaped pieces out of it and closed the remainder, and for cystic degeneration I have punctured it through and through in many cases many times. I have even removed almost the entire ovary, leaving a portion possibly not larger than a pea, and fastened that to the extremity of the tube. I will say that in all this work I have never used animal suture of any kind, but always the finest embroidery silk sterilised and applied with a cambric needle. I have curetted the surface of the ovary with a sharp curette and touched it with pure carbolic acid. I have removed pus cysts from the ovary, and left the remaining apparently healthy portion, and as I previously said have yet to see the first case of inflammation follow that in anyway endangers the patient's life, or that I could make out by bimanual examination. I have never treated the ovary with the cautery as described and recommended by Pozzi, because it is an unnecessarily harsh treatment in cystic degeneration of the ovary, and because just as good results can be obtained by puncturing the cysts with a needle, scratching the cyst sac sufficiently to cause it to fill with fresh blood, and the latter being organised will obliterate the sac. I also believe it impossible for the operator to tell just how far beyond the cyst sac the healthy ovarian structures are destroyed by the action of the heat. In doing any form of ovarian surgery, if we intend to save any of it, we should save all we possibly can. In discussing Dr. Madden's paper, Conservative Treatment of the Fallopian Tube, I can only say that I have treated it in a conservative manner for many forms of disease. I have opened up an occluded tube, and returned it to the pelvis. I have removed half of the tube in many cases, but when doing so I always treat it in the following manner. I make a phimosis operation on the remaining healthy portion by slitting it up a half inch or more on the upper surface, rolling out the cut surfaces as we would the prepuce, and then with fine silk and running suture stitch the mucous lining of the tube to its peritoneal covering all about, in this way preventing an occlusion of the tube, and allowing the ciliated epithelium to act in the place of the fimbriæ which have been removed. In these cases I invariably fasten the remaining portion of the tube by fine silk suture. In none of the cases, so far, that I have chosen for this kind of work, have I had cause to regret it. I have even gone further than this—I have operated upon

tubes distended with pus, washed out the latter with an asceptic solution, after having passed a fine probe through the tube into the uterus, and reopened the tubo-uterine stricture, and had my patients recover without the first signs of peritonitis. I qualify this statement with the one that I never treat a tube thus affected in such a manner, if there be any odour to the pus, showing evidence of recent gonorrhœal or septic infection. I have on my records several cases of pyosalpinx treated in such a manner, whose after-history I have carefully followed up to the present time, and as yet they have had no recurrence of inflammation, and have menstruated regularly every month without trouble. My reasons for having devoted myself to such work are these—first, that I believe that no surgeon can anticipate just what effect an early induction of the menopause by ovariotomy will have upon a woman's nervous system. Some it will affect in one way, some another, some will put on flesh, others will lose it, some will be cheerful and contented, others will be melancholy. In many cases the domestic relations are destroyed by the knowledge of husband and wife that she is not a perfect woman, and that what every woman holds dear, and should preserve if possible, she has been deprived of. They all suffer, more or less, from hot flushes, and in many cases the latter becomes a very troublesome condition—the heart palpitation, cold perspiration, and hot flush, creating a constant fear of future evil. Many times in the past I have had my patients return to me, and complain that these nervous symptoms were dreaded much more by them than the condition for which I did the operation, while expressing a regret that they had ever undergone the same. Another reason for my work is a belief that pelvic surgery should not be compassed about, by the opinion even of a majority of the profession, that hysterectomy is the last resort in order to effect a cure. We must progress, if possible, for the design of surgery from the beginning, was to save, and not to mutilate the human body. This should be constantly borne in mind by every fair-minded surgeon, and I predict that if any advance is made during the next ten years, it will be along this line of conservative surgery upon the appendages.

IV.—D. Berry Hart, M.D.,
Edinburgh.

Dr. Berry Hart agreed with Dr. Dudley that the conservative treatment of appendage disease had a future. Of course there might be incomplete operations in some cases and recurrence of disease might take place. He did not agree with those who advocated tapping *per vaginam* in tubal disease.

V.—Dr. Gordon,
Portland, Me.

Dr. Gordon, in discussing these papers, said: I may say that I may possibly be classed by my friends, and certainly by my enemies, as a Radical. While I have been in times past a teacher to some extent of Dr. Dudley, I am sure that some of the things I tried to teach him have remained, yet he has acquired much that I did not teach him, and while I approve of most of his views I may differ in others. I most fully endorse his conservative work and teaching in his treatment of ovaries and tubes. I know from much observation of it and from my own experience that this is work in the right direction, and too much of it cannot be done when done as well as he does it. It is only a question of judgment as to what cases require it and what cases may need ablation altogether. My idea of conservatism is that which conserves not the organ but the health of the woman. Men talk freely of what they call conservatism, but they seem to apply the term to the organ and not to the health of the woman. These patients come to us for restoration to health, to be relieved of their suffering that they have endured for years, and if they have confidence in us they are willing to do whatever we advise and if necessary to sacrifice any organ or forego any function in order to obtain good health. I think men are apt to look upon women and their functions from a man's point of view and not from a woman's point of view. This function of menstruation when attended by severe suffering is not so "dear to women" as some seem to believe. I have had a large experience with women and their sufferings, and when you fully comprehend the years of agony and invalidism that they have endured through this class of cases alluded to in the papers read this morning you will find that this monthly crisis is one they dread, and if by any means reasonable they could avoid it they would do so only too gladly. In this extremity they often wish they had been born of the other sex. Often have they wished themselves men. Menstruation is not such a great boon as many men seem to think, and most gladly would women dispense with it if thereby they can be made healthy and be able to discharge their various duties in life and enjoy what they can enjoy only by perfect health. Now, while I am fully in accord with any and every operation that gives health and at the same time conserves any organ or function, I am sure that much is done in the name of conservatism that conserves only a seriously diseased organ, retains a horribly distressing function, and leaves the woman in a "last state as bad as the first." What I do protest against is a conservatism that leaves a uterus in the pelvis after removing pus tubes and ovaries that have become affected through the uterus, which itself still contains germs of infection and may and often does keep up a congested condition of the pelvis, giving the woman pain and suffering until it is removed. The criticism I have to make upon Dr. Ross's paper is that he should leave the uterus after removing tuberculous appendages. While not so bad as a uterus that has been the medium for conveying gonococci or less pernicious germs, yet I can see no object in conserving an organ which is near the disease, if not a part of it, and which has no function whatever. The organs which are the important ones in the function of menstruation and conception are gone, while the uterus at its best estate is but a receptacle during gestation. In many such cases a second operation is necessary to complete the cure, and this is what the patient should not be subjected to. Such a condition of things cannot be "dear" to any woman. In all this class of cases I believe that true conservatism, that which conserves and restores the woman's health, demands that the pelvis should be cleared from all the organs concerned in the evil. My own experience convinces me that this is the only method that accomplishes the result aimed at, namely, curing the patient. I have seen many such instances and therefore I am thus emphatic in my opinions on this subject. I am also satisfied that many others in the profession are fully convinced of the truth of this proposition, but have not the courage to stand up and say so. They are deterred by this cry of conservatism (so called) from doing what in their best judgment they know to be best. I choose rather to be called radical, and am willing to face whatever of opprobium attaches to my acts. I am not disposed to act contrary to my convictions, founded upon a very large experience. There is only a question of individual judgment that determines just what is necessary and what is not necessary to be done in this class of cases, and time, care, and skill settle definitely the true course to be followed. We must have no theories, unless founded upon careful observation, large experience and honest consideration of facts.

VI.—James Perrigo, M.D.,
Montreal.

Dr. Perrigo expressed his pleasure at the courage of Dr. Dudley's remarks, and reported a case in which he had removed a typical right ovarian abscess, the left being healthy. The result of such conservatism was that he had twice since confined his patient, who was now three months pregnant with her third child.

VII.—A. E. Giles, M.D.,
London.

Dr. Arthur Giles said that the ultimate test of the value of conservative or radical procedures in dealing with disease of the ovaries and tubes must be the after-histories of these cases. If, as the result of conservative procedures, the patient's health was completely restored, with the preservation of the functions natural to a woman, they could not but feel that Dr. Palmer Dudley was doing good work in breaking up this comparatively fresh ground. He did not think it was mere sentiment to wish to preserve to women their normal functions. They, as physicians, were not really concerned whether in the abstract women wished to menstruate and

bear children or not. Their aim should be to secure the normal working of every organ. This ought to hold as true in gynæcology as in other branches of medicine. On the other hand, conservative procedures might result in the patient not being cured. It was after all a serious thing to have to perform a second abdominal section on a woman. In England it was at present an unwritten rule that in all cases of pyosalpinx both tubes should be removed, even if one of them appeared healthy, because of the great probability of such a tube showing signs of disease later on if left. It was possible in some cases to combine conservative and radical procedures—for instance, in a case of myoma of the uterus, it was sometimes possible to remove the diseased structure, the uterus, and leave the ovaries and Fallopian tubes, organs in themselves healthy. By this means patients were saved all the unpleasantness of the premature menopause. He would urge that the after-histories of these cases should be carefully inquired into, and more generally recorded, so that some criterion might be set up, to serve as a guide in deciding on the course of treatment to be adopted in each individual case.

VIII.—William Gardner, M.D.,
Montreal.

Dr. William Gardner said that in the matter of the symptoms of tuberculosis of the pelvic organs, his experience had not been quite similar to that of Dr. Ross. Pain had not been invariably present, neither had there been always elevation of temperature. Dr. Ross in one of his cases had spoken of an ulcer on one of the utero-sacral ligaments; and in another of cheesy pus in the Fallopian tubes of a girl who had never menstruated, as evidences of tuberculosis in these respective cases. Without confirmatory evidence, microscopic or otherwise, he (Dr. Gardner) ventured to think the evidence was not conclusive. In his experience, nothing was more difficult than to diagnose genital tuberculosis from the symptoms, so closely did they resemble those of other infective diseases of these organs. In most cases he had stumbled on the disease quite apparent to the naked eye, and in others careful microscopic examination revealed unsuspected giant-cells and other characteristic elements. He was strongly in sympathy with judicious conservatism in the surgery of the pelvis, and believed that, if at all possible, even if relief to symptoms was not complete, the functions of the sex should be preserved.

A DISCUSSION ON THE PALLIATIVE AND RADICAL TREATMENT OF UTERINE FLEXIONS AND DISPLACEMENTS.

I.—A. Lapthorn Smith, B.A., M.D., M.R.C.S.Eng.,
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THE DIAGNOSIS AND TREATMENT OF RETROVERSION OF THE UTERUS, WITH FIXATION, AND THE RESULTS OF 147 OPERATIONS FOR RETROVERSION.

During the last few years many able operators and writers have so well defined the indications for each of these operations that little more need be said. We are nearly all agreed that ventrifixation is contraindicated in every case in which there is simply falling back of the uterus, without any disease of the tubes and ovaries, and consequently without any adhesions. It is not contraindicated, because it would not cure such cases; on the contrary, it gives excellent results; results so satisfactory and so certain, that some operators advocate this operation as the sole and only one for retroversion or prolapse, even when the uterus is easily replaced and the appendages are healthy. The great majority, like the author, consider that it is unjustifiable to open the abdomen, even though this entails no death-rate, if the abnormal condition can be cured by any other means. That it can be cured by some other means has been thoroughly proven by experience, and that, too, by an operation which, while having no primary mortality at all, is even devoid of the two or three objections which can fairly be made against ventrifixation. In the hands of the skilled aseptic abdominal surgeon, both operations are equally devoid of danger to life; but should a slight break in the aseptic chain occur, the danger of death would be much greater in ventrifixation than in Alexander's operation, because the peritoneal cavity is not opened in the latter operation at all. There are two or three rare but real dangers in ventrifixation which cannot be denied: one, that the bowels may get caught between the uterus and abdominal wall, as happened in a case of Dr. Farrell's, of Halifax, the patient having narrowly escaped death from obstruction of the bowel. She was saved by putting her in the Trendelenburg posture and shaking her, when the symptom of obstruction suddenly ceased. The other dangers are inherent to abdominal sections in general, namely, obstruction of the bowel from the latter being caught in a stitch, or becoming adherent to the abdominal incision. Although both the accidents are comparatively rare, nevertheless numerous instances have been reported, and their possibility must be recognised, if not in the hands of the expert, at least in the cases of the average operator. There is a third objection—ventral hernia; but as it should never happen, and as there is an equal possibility of inguinal hernia after Alexander's operation, we must put the risk on each side of the scale in weighing the *pros* and *cons* of the two operations. On the other hand, Alexander's operation is positively contraindicated in every case of retroversion in which the uterus is adherent; and in the inability to diagnose adhesions lies the commonest cause of failures of the operation to relieve. Anyone, of course, can recognise then when the uterus is retroverted and absolutely immovable. But in many cases the uterus is apparently movable, and by the aid of the sound, and even by manual palpation, it can be brought up to the symphysis; but when the sound or the fingers are removed, it immediately springs back into its abnormal position. Such a condition absolutely contraindicates shortening of the ligaments; for if we were to open the abdomen we would find one or many layers of adhesions, which are put upon the stretch the moment we attempt to draw the fundus forward, and the steady pulling which they would keep up would pull the shortened ligaments out of their anchorages. So that it may be laid down as a good rule never to attempt shortening of the ligaments unless the uterus can be easily put up, and unless it will stay up, for a few minutes, at least. The question has often come up for discussion, whether Alexander's operation is suitable for prolapse, and some have taken the ground that it was not. The writer's experience, however, shows that it gives a very satisfactory result in these cases, especially when combined with amputation of enough of the cervix to reduce the uterus to its normal weight, and with operations on the anterior and posterior walls to close and strengthen the pelvic outlet. It would be a mistake to call upon the ligaments to carry a heavy uterus; they were only originally intended to draw the fundus forwards during powerful contractions of the abdominal muscle, so that the intestines might be forced behind instead of in front of the uterus. Therefore, in twenty-two out of the fifty-three Alexander's operations, the uterus was dilated and curetted, the cervix amputated, the anterior vaginal wall narrowed by Stoltz's operation, and the perineum repaired by Emmet's, Tait's, or Hegar's method. In four of the cases Alexander's operation was performed for procidentia and for retroversion; in one case it was done for anteflexion with very good results. The writer resorted to Alexander's operation once for anteflexion, with the idea that if we could hold the fundus up, the vagina would pull the cervix down, and thus straighten out the uterus. There may possibly be a great future for these two operations for this most intractable condition, the treatment of which is beset with so many dangers and difficulties. The writer's experience with the stem pessary has been most unpleasant; straightening the bent uterus by pulling on its two ends would seem to be the most reasonable method of all.

We now come to the question of ease or difficulty of performing the two operations, an important factor in coming to a decision as to which is preferable. On this point the author now takes the ground that, given the same case to operate upon—that is, one uncomplicated by adhesions—either operation is as easy as the other. Two years ago his position was quite different; for at that time, while ventrifixation only

required twelve to fifteen minutes from the first incision until the last stitch was tied, Alexander's operation sometimes required as much as an hour, and even then be abandoned, while he has been present at many operations by distinguished surgeons who were in the same mortifying position. One surgeon, who is afraid of nothing in general surgery, has such a horror of this operation that he has decided never to attempt it again owing to failure to find the ligaments even after an elaborate dissection. Another, the pioneer in gynæcology and abdominal surgery in Canada, attempted the operation only once, but failed to find the ligaments or to sew up the external pillars of the external inguinal ring, with the result that the woman soon after had two enormous inguinal hernias, which she refuses to have repaired. The writer has tried Kellogg's beautiful method without success, although he can corroborate the testimony of Edebohl, having, like him, made a journey to Battle Creek especially for the purpose, and has seen Kellogg shorten the ligaments under cocaine in nine minutes. It was only since the discovery of a method, which will now be described, that he has been able to find the ligaments invariably and quickly. After an experience of about forty operations performed according to this method the writer is able to find the ligaments and draw them out in from half a minute to a minute and a half each. He believes this method to be original, never having seen it described in any of the journals nor witnessed its performance by any operator. It is, however, exceedingly simple and easy, so much so indeed that it can almost be performed with the eyes shut or by the sense of touch alone.

OPERATION.

The skin is shaved and carefully disinfected in whichever manner the operator prefers. The tip of the index finger is then pressed firmly down on the spine of the pubes, when in most cases the latter can be felt. An incision directly over this spot is then made, diverging at its outer end about 35° or 50° from Poupart's ligament. The incision must go through the skin, superficial and deep fascia, but no further; and even, for fear of severing any of the fibres of the intercolumnar fascia, the last part of the incision should be made with the handle of the scalpel. The pearly glistening fibres of the external oblique will then be seen, with the intercolumnar fibres running across them, holding the pillars of the ring together; some fat will appear bulging up between the pillars, and if the finger-tip be pressed upon this fat the latter will recede into the ring. The secret of success now lies in putting aside the knife and not cutting through this fat down to the spine of the pubes, but in keeping it intact, for if this fat be caught up in a Péan's forceps and pulled upon the round ligament will be drawn up. With the tip of the left index finger covering the ring a pair of closed Péan's forceps is slipped into the canal under the finger and opened, when the only things in the canal—namely, the round ligament and the nerve running with it—are caught in the forceps and gently drawn out. All instruments are now laid aside, the separation of the ligament from the nerve and from the fascia which connects the ligament to the canal being accomplished by the fingers, which are quite strong enough to pick out the ligament, but not sharp enough to cut it. No matter how small it may be at the ring, on drawing it gently out it will be found to be of good size. The ligament is drawn out until the peritoneal covering appears, and this is stripped back with the fingers. The ligament on the opposite side is then found and drawn out in the same way. In forty-nine of the author's fifty-three cases the ligaments were anchored in the following manner: While gentle traction of the ligament is made by an assistant a fine silkworm gut suture is passed through the transparent anterior wall of the canal, taking in half of the round ligament and tying it. The next stitch takes in Poupart's ligament, half of the round ligament, and then the superior pillar of the ring, and this, when tied, brings together the pillars as well as fixes the round ligament. If any opening can still be felt another stitch can be placed. If the wounds in the skin are brought together with silkworm gut interrupted sutures, the cut end of the ligament is included in one of these, but a much prettier result is obtained by closing the skin with a subcutaneous silkworm gut suture fastened at each end. Primary union is the rule, and there is no scar nor stitch hole. The advantages claimed for this method are:—

1. A 1-inch incision in the skin is sufficient.
2. There is no need of dividing the fibres of the intercolumnar fascia, which is the sole support of the external inguinal ring.
3. The round ligament can be quickly found, as the natural position of the structures of the ring is not disturbed.
4. The ligament can invariably be found, although it is maintained by some that the round ligament is sometimes absent; it is more probable that it is always present, but, being split up, it becomes so weak that it breaks, or in some cases some other structure is mistaken for it. There is nothing in the inguinal canal except the round ligament and the nerve, and if the knife and scissors be laid aside as soon as the deep fascia has been cut through and neither the canal nor the ligament be wounded, then in grasping whatever is in the canal we are sure to find the round ligament.
5. By the method above described, hernia would be impossible, at least as a result of the operation, for not a fibre is cut that supports abdominal pressure. Even if the woman had a hernia before it would be radically cured by Alexander's operation performed according to this method. Silkworm gut is employed because catgut does not last long enough to give permanent strength to the ring. One relapse occurred in Case XIV which was due to the employment of silkworm gut sutures which were only left in two weeks instead of permanently; but in this case there was no hernia, and she was subsequently cured by ventrifixation.

In Case II, both ligaments broke during the Alexander's operation, which was a failure. Five months later ventrifixation was performed with perfect results. Case XIX was also a failure, owing to breaking of the ligaments, but the canals were carefully closed up so that no hernia occurred. Indeed, inguinal hernia has not occurred in any case. In Case L the left ligament broke whilst stripping back the peritoneum, but the right ligament was strong and was trusted to hold the uterus forward, which it has done satisfactorily. Case LIV was peculiar, because she was sent to the author for operation for fibrocystic tumour of the uterus. On careful examination retroversion with some disease of the adnexæ was diagnosed. The abdomen was opened with the intention of performing ventrifixation, but on introducing the hand into the abdomen, the uterus was found to be pregnant a few weeks, and sharply retroflexed and locked under the promontory of the sacrum. Under the circumstances it was deemed advisable to perform Alexander's operation instead, which was done in the manner described. The left ligament broke whilst stripping off the peritoneum, but a Péan forceps was slipped into the canal and through the internal ring between the layers of the broad ligament, where the round ligament had been; the cornu of the uterus was reached, and the stump, about half an inch long, was brought up to the internal ring and stitched there. When the other side had been anchored, the position of the uterus, as seen from the abdominal opening, was excellent. In two other cases, Nos. XLI and XLVIII, the ligaments were crossed under the skin of the pubes, and each one fastened to the external rings of the opposite side, as well as being fastened to its own canal. In both of these the result was all that could be desired, the strain being taken off the canal and divided over a larger area. Cases III, VII, XIII, and XXI have had children since with perfectly normal labours and no return of retroversion.

Nearly all of the 53 cases have been seen since, and with the exception above noted the uterus was in good position. A few of them are no better for the operation, because ovaries remained which would have been removed if ventrifixation had been chosen instead of shortening of the ligaments.

VENTRIFIXATIONS.

Of the 94 cases thus treated, the first was performed on March 18th, 1890, on a Caughnawaga squaw, aged 62, whose uterus had been out of her body for some years. Six years later she was in good condition with the uterus up, and she was able to do hard work. In 47, or just one-half of the number, one or both ovaries and tubes were removed. In 21 both ovaries and tubes were removed; in 26 one ovary and tube was removed. In most of the cases the uterus was retroverted and fixed in the hollow of the sacrum, owing to leaky

pus tubes having set up repeated attacks of pelvic peritonitis, forming layer upon layer of adhesions binding down the ovaries and tubes under the uterus, and formed of inflammatory exudation, which in time becomes organised. The condition of many of these women was pitiful, as working or walking, or performing their marital duties caused excruciating pain, and was often followed by peritonitis, which confined them to bed for several weeks. The ovaries were generally fixed about two inches from the entrance to the vagina, and the uterus about three inches. Owing to their faulty position, the circulation of these organs was very bad, causing them to be exceedingly congested and tender. Becauses the ovaries and tubes had been diseased for a long time, they were removed; but there was another reason for doing so, for in order to lift the uterus up it was absolutely necessary to dig the ovaries out of their bed of adhesions, and in doing so they were frequently torn and bruised very seriously. In fact, in some of the cases, the writer's strength was exhausted in doing so; while in one case neither he nor his colleague was able to break the adhesions, so that ventrifixation was not performed. In one case, however (No. xv) the lady refused permission to remove her ovaries, so they were left in, much against our judgment, covered with peritoneal adhesions and considerably torn. To our surprise this lady, who had been under the best of treatment which Montreal affords for several years and still remained a sufferer, is now in perfect health, menstruation is regular and painless, and coitus is also painless. She is now a great walker, and has testified to her gratitude by collecting a large amount for one of our charities. Cases VII and XLI also refused permission to remove the ovaries; accordingly, although cirrhotic and cystic, they were left in. Both of these have regretted this ever since, and one of them has stated that we should have disregarded our promise when we saw what the result would be.

Case XXXVI, although her uterus was dilated, curetted, and had its cervix repaired as well as the perineum, and the uterus was fastened to the abdominal wall, says she is no better for all our trouble. Her physician intended that we should remove the ovaries, which had pained her for years, and before her operation we had diagnosed them as diseased, being very small and hard, yet when we came to remove them one of our colleagues on the staff of the hospital pleaded strongly for conservative surgery, kindly promising to be responsible for the consequences if they were left in. It was finally decided to do so, and the result is that the patient has reproached both her physician and the operator ever since.

In Cases XVII and XXXV the result has been perfect, although the ovaries, not being diseased, were not removed. In these cases Alexander's operation could have been performed, but we felt more sure of ventrifixation. Case XVII has been in a situation as housemaid ever since two months after operation in January, 1895; and Case XXXV rides long distances on the bicycle and is in perfect health, although for years previously she was an invalid. In Case XVI the patient was suffering severely from dysmenorrhœa; her uterus was dilated and curetted, one ovary and tube were removed and the uterus was suspended from the abdominal wall. It is to be regretted that the other ovary was not removed, as she was employed in a factory, and she has lost her situation because she is laid up in bed every month with dysmenorrhœa. Cases XVIII and XIX were both working women who supported themselves and their families by hard work. In both cases the womb had been out of the body for several years; as no pessary would stay in, it was only by wearing a tight perineal band that they could accomplish their work. In both cases the cervix was ulcerated; one was aged 45 and the other 58. In such cases most gynæcologists in Europe and some in America advocate vaginal hysterectomy; but this seems a serious operation for a condition which can be cured by ventrifixation. Nothing could have been better than the results in these two cases; although in one of them the buried silk sutures suppurated for a time, this did not prevent her going to work five weeks after the operation and working hard ever since, with, she assures her doctor, great comfort and satisfaction. In both cases the perineum was at the same time repaired. In Case XXXIII there was no retroversion, but ventrifixation was performed after the removal of a large papillomatous mass from Douglas's *cul-de-sac*; the uterus dropped into the hollow, and lest this might have interfered with the satisfactory results, the uterus was fixed to the abdominal wall. Her operation took place nearly a year ago, since which she has been heard from frequently and always in the best of health. In Case LIII two large pus tubes of 17 years' standing were removed, leaving a large cavity which the uterus might have dropped into had it not been stitched up. She has also been seen frequently in excellent health. Cases LIX and LXXII have been under my care for a long time for retroversion, but would not consent to ventrifixation; while attending them they became pregnant, and as they were examined twice a week an enlargement of one tube was soon noticeable, and was diagnosed as tubal pregnancy; and in fact the treatment seemed to have improved them enough to enable them to become pregnant, as they had been sterile for many years. In each case a fœtus 4 inches long was taken out of each abdomen, together with several quarts of blood, and both made good recoveries. One case was followed by a ventral hernia, so a year later the abdomen was reopened during which operation the uterus was seen to be connected to the abdominal wall by a fibrous cord of the thickness of a lead pencil, but no trace of the silk stitches could be seen. This shows that the connection is not always an immovable one, and that it may be more properly termed the suspensio uteri.

Another, Case XCV, had been suffering ever since the week of her marriage 10 years ago, when she had contracted gonorrheal salpingitis and pelvic peritonitis. The uterus was found to be firmly held down in the hollow of the sacrum. The omentum was adherent to the brim of the pelvis and was much lacerated in separating it. Great force was required to dig the ovaries out of their bed. The ovaries were torn in shreds and had to be removed. Ventrifixation was performed, special care being taken that the intestine was not caught between the uterus and the abdominal wall, nor in any of the stitches of the wound. All went well until the ninth day, when the patient, who had been eating heartily of light diet, suddenly refused her food. On the tenth day she began vomiting and kept it up steadily until the eleventh day, when the vomiting became fæcal. An obstruction of the bowel was diagnosed. Although the day was Sunday she was immediately reopened, when the bowels were found to be adherent to the stump of the omentum and an inch lower to the brim of the pelvis, thus causing a kink, above which they were distended and below which they were collapsed. The adhesions were freed, the raw surface was closed, and the patient is making a good recovery for so serious an operation. A good opportunity was afforded to see how the uterus was fixed. In this case the union was very firm, and it would have been impossible to have torn it away from its anchorage in its new but normal position.

A few words should be said about the stitches for fastening the uterus to the abdomen. The writer is now using a very fine size of silkworm gut, which appears to be much less liable to cause suppuration than silk. The results have been most gratifying in all cases when at the same time the tubes and ovaries have been removed. If they are healthy there will be no adhesions, and ventrifixation should not be done at all; on the other hand, the results of the Alexander's operation have been satisfactory in all cases in which the tubes and ovaries are healthy. When they are not healthy Alexander's operation should not be done.

The writer is frequently asked what would be the result if pregnancy occurred in a woman whose uterus had been ventrifixed? and for a long time he was unable to answer from actual experience until Case XVIII, then 45 years of age, became pregnant soon after her ventrifixation, and although the child was born dead this was not in any way due to the confinement, which her physician tells me was a perfectly normal one in every way. The mother suffered no inconvenience while pregnant, and went out washing by the day up to the very last. One other Case, No. LVIII, had a normal pregnancy absolutely without inconvenience, and was easily delivered of a healthy child still alive. As a rule, however, the author has removed ovaries in nearly every case in which the patient was bad enough to require ventrifixation, and if the operation were only performed in those cases, reserving all others which could possibly become pregnant for Alexander's operation, the question of pregnancy after ventrifixation would never occur.

II.—J. Inglis Parsons, M.D.,
Physician to the Chelsea Hospital for Women.

A NEW METHOD OF TREATMENT FOR PROLAPSE OF THE UTERUS.

The large number of poor women of the working classes who are more or less incapacitated from earning their living by prolapse of the uterus will always render the treatment of this affection a matter of great interest to the medical profession, and is a sufficient excuse for placing these views before you.

Perhaps the most potent factor in the production of this complaint is the erect position of the human race during locomotion. According to the Darwinian theory of evolution prehistoric man and woman for thousands of years went about on all fours before they gradually attained the erect position. However great an advantage the latter may have been in enabling the human male to vanquish his opponents, it was a distinct disadvantage to the pelvic arrangements of the human female. The heavy end of the uterus was raised up in the place of hanging down, and directly it passed the perpendicular, gravity helped to retrovert it. Again, in the erect position any downward pressure causes a relaxation of the broad ligaments, but on all fours they were put in extension and acted to the best mechanical advantage, while the vagina became a strong suspensory ligament instead of a weak supporting column.

In the modern woman natural selection has evolved a type, able in a large majority to retain the uterus in position, even under considerable muscular exertion in the erect position, but not as a rule strong enough to resist any alteration in the balance of forces at work within the pelvis.

Weakness of the uterine ligaments from old age or a severe strain may alone lead to complete prolapse. A strong, healthy, single woman, aged 35, recently came to see me with the uterus outside the vulva, and the hymen ruptured by its descent. The perineum was firm and quite intact. These cases are rare; as a rule, before descent takes place, the general health has suffered, pregnancy has occurred, followed by subinvolution, the increased weight of the uterus stretches the ligaments beyond their elastic limit, or involution may have taken place satisfactorily but the perineum is ruptured, and the vaginal column, deprived of its foundation stone, commences to sink, and brings the uterus with it. Work, which under ordinary circumstances would cause no ill-effects, is now found to produce backache and bearing down.

There are many degrees of prolapse, but for clinical purposes we may divide them roughly into two classes:—

1. The minor, where the uterus can be kept up by a suitable pessary, and the patient is able to work.
2. The major degrees, when in spite of rest, astringent douches, and pessaries, etc., the uterus persists in coming down as soon as the patient sets about her work.

It is with the latter class that I am now concerned. Some operative procedure becomes necessary. Up to the present this has practically resolved itself into one of two methods. Either to build up the supporting column by a plastic operation, or to suspend the uterus from above by fixing it to the abdominal wall. There is one other alternative which I venture to bring forward, namely, to strengthen and produce new ligaments for the uterus. When an attack of parametritis, or, as Simpson called it, pelvic cellulitis, has occurred, the uterus is fixed. After a variable time the effusion is more or less absorbed, but in most cases there remains some thickening of the pelvic cellular tissue, which is quite sufficient to prevent prolapse. Why not then produce a limited pelvic cellulitis sufficient to hold up the uterus? Twenty, or even ten years ago, one would have hesitated to do this for fear that the inflammation might run riot and lead to unexpected consequences. This bogey of inflammation that we used to be so afraid of can now be regarded with equanimity as a latent protective process produced by natural selection. Modern pathology, with its extended knowledge of bacteriology, has also helped to dissipate this fear. We have every reason to believe that in all forms of cellulitis, which are extensive and spreading, bacteria are the cause. When, on the contrary, no germ has found an entrance, and the cellulitis is of traumatic origin, the amount of inflammation will be in proportion to the amount of injury after allowing for slight variations caused by the age and idiosyncrasy of the individual. If this be allowed, there could be no objection to producing a traumatic inflammation sufficient to cause an effusion of lymph and yet stop short of suppuration. It would be necessary to use strictly antiseptic precautions so as to avoid bacterial infection. The ordinary cases of pelvic cellulitis that are usually caused by septic infection are not very often in my experience followed by suppuration. It would therefore be much less likely to occur in the case of inflammation produced under scientific control.

Pelvic cellulitis must be carefully distinguished from pelvic peritonitis or perimetritis. The latter is to be distinctly avoided because it might cause adhesions of the intestines and matting together of the tubes and ovaries. In pelvic cellulitis the areolar tissue round the cervix uteri between the folds of the broad ligaments is alone involved. This space has been well described by Luschka as the cavum pelvis subperitoneale. Pregnancy rarely, if ever, occurs in severe cases of prolapse, but should it happen, adhesions formed in this region would not in any way interfere with the expansion of the uterus.

The next step was to decide on the best means for producing a limited inflammation, which should be quite local in character, and not deleterious to the patient. A toxalbumin would produce too much constitutional disturbance. A caustic solution of one of the various antiseptics, strong enough to produce some cell destruction, and consequent inflammatory reaction, seemed the best means. I finally chose quinine as the most suitable agent. It has the advantage of being strongly antiseptic, acting as a tonic to the individual, and producing sufficient local irritation for the purpose required. I am indebted to my friend, Dr. Aikman, of Guernsey, for suggesting this agent. On describing my ideas to him and the difficulties of finding a suitable irritant, he told me that after injecting quinine subcutaneously for malaria he had noticed that for some months a thickening of the cellular tissue followed, so I determined to try it.

Another difficulty to consider was the alteration, if any, in the relative position of the structures concerned caused by an old standing prolapse. I have never been able to dissect a case of this kind, but it seemed to me quite likely that some atrophy of the pelvic cellular tissue would have taken place, and the peritoneum might be much nearer to the vaginal wall than normal, and the uterine artery might also bulge outwards after the uterus was replaced, having been stretched by the procidentia.

The following are the abbreviated notes of a severe case of procidentia treated in this way:—

M. H., aged 61, came to see me with the uterus hanging outside the vulva, and a large ulcer on the cervix from friction. She was admitted into the Chelsea Hospital for Women on May 11th, 1897. Complains of procidentia, which occurred five months ago, and of pain on micturition. Has had three children. Menstruation ceased at the age of 50. Is fairly well nourished, but rather anæmic. Heart and lungs normal. Urine no albumen. Suffers from femoral hernia.

Examination: Cystocele well marked. On straining procidentia occurs. The cervix is rather enlarged, and on its left side is a large ulcer. The sound passes the normal distance. The perineum is partly ruptured, but is fairly good. The vaginal discharge slightly offensive. She was kept in bed for a month, until the ulcer on the cervix was healed up by applications of carbolic acid and vaginal douches.

I then explained to her the method I had in view, and told her she would be my first case. She gave her written consent.

June 11th. Under ether, having pushed the uterus well up into its normal position, I injected into the pelvic cellular tissue 15 minims of a solution of quinine on each side. An exploring syringe with a long needle was used, and a small cannula with the shield reversed was slipped over the needle so that it could not penetrate more than ¾ of an inch. The site of puncture through vaginal wall was 1 inch from its junction with the cervix and midway on each side. The needle was directed outwards so as to avoid the uterine artery. The strength of the solution was 15 grains of sulphate of quinine dissolved in one drachm of water with dilute sulphuric acid. A pessary was placed in the vagina to pre

vent the uterus from coming down before the inflammatory reaction had taken place.

June 12th. Uterus in position, some tenderness in both fornices, but none in abdomen. Temperature 99.9°.

June 13th. Evening temperature, 99.9°.

June 14th. Temperature rose in the night to 102.7°. No rigors, but had a good deal of pain in pelvis; easier in the morning.

June 15th. Evening temperature, 99.9°. Complains of backache. On examination a moderate amount of effusion can be felt in each broad ligament, and the uterus does not come down in the least when she strains. Pessary removed.

June 16th. Evening temperature, 99°.

June 17th. Temperature normal.

June 18th. No pain or discharge. To get up a little.

June 21st. Feels very well. Uterus keeps up.

June 25th. Has no pain. Examination. The uterus, when she bears down, does not move; only the anterior vaginal wall bulges a little. At the site of each puncture a depression can be felt, and on the left side a small slough has occurred, leaving an ulcer about the size of a shilling, and on right side a much smaller ulcer can also be seen. Temperature normal. To remain in bed.

June 30th. No pain. Temperature normal. Ulcer healing. Uterus keeps up.

July 13th. About two-thirds of the exudation into broad ligaments is absorbed, but the uterus still keeps up when she tries to force it out. The ulcer has nearly healed. No rise of temperature since June 14th. Feels very well.

Remarks.

The result so far in this case has answered my expectations, and, with the exception of the small slough at the point of injection everything went well, and if permanent adhesions are formed I shall hope the uterus will keep up. Even with the exudation present the patient experienced no discomfort, but, on the contrary, was much relieved by the cessation of the prolapse. In my next case I shall be inclined to use the same amount of quinine, but dissolved in more water, so that the area of the reaction would be extended a little, but would be less acute. A very important point for consideration is how to obtain permanent adhesions from the inflammatory exudation. Unfortunately, we do not know what determines this. In the ordinary cases of pelvic cellulitis following pregnancy and miscarriage there is sometimes complete absorption, in others extensive adhesions are formed. Physiologists so far have not been able to tell us why there should be absorption in one case and organisation in fibrous bands in another. Empiricism helps us by the observation of what follows after injuries to joints. A severe sprain to shoulder, knee, or ankle of a healthy man or woman causes lymph to be thrown out around it, and after the subsidence of the inflammatory reaction, unless passive movements and massage are commenced within a few weeks, permanent adhesions are formed which impede the movements of the joint; while, on the other hand, the longer the joint is kept at rest in a splint the more adhesions form and the stiffer it becomes. I think most surgeons will admit this. If this lesson be applied to the pelvis the indication would be to keep the patient in bed if we want adhesions, and get her up and moved about if we want the lymph absorbed. This, however, is entirely opposed to the method of treatment at present pursued by most authorities who wish to produce absorption of an unnecessary pelvic cellulitis. It remains to be seen whether in the case I have described permanent adhesions will be formed, but I think the best way to induce them will be to keep the patient on her back for a month or two so as to diminish the circulation through the pelvis as much as possible.

Of the other methods of treatment for prolapse that which I have found most effective is the operation of kolpo-perineorrhaphy. The ordinary flap-splitting operation on the perineum is carried out and a triangular flap with its apex upwards is excised from the posterior vaginal wall. The margins of the vaginal wound are brought together with superficial chromicised catgut sutures, and then four or five deep sutures, either silver or silkworm gut, unite the perineum. When the operation is completed the gaping vagina has been reduced to the size of a virgin, and quite grips the examining finger. The chief element of success is to carry the apex of the new perineum as high up as possible between the vagina and rectum, and another is to keep the patient in bed for two or three months until the new tissues are thoroughly consolidated. If she is allowed to get up before that the new tissue stretches and annuls the benefit of the operation. I find that since 1892 I have operated on 19 cases; all of these suffered from procidentia, and since kolpo-perineorrhaphy has been done the uterus has not come outside again, but they have to wear a pessary in most cases, and, although they get on much better than before, one leaves untouched the structures most at fault—namely, the ligaments of the uterus. The new method of treatment which I have ventured to bring forward offers a much better prospect of a solution to the question if permanent adhesions can be formed. Although I have only brought forward one case, I hope the publication of this paper will induce other gynæcologists who are not afraid to pioneer to give it a fair trial, and thus determine at an early date the success or the failure of the method.

III.—Robert A. Murray, M.D.,
New York.

In my remarks I will not touch on the radical treatment by ventrofixation and Alexander's operation, but confine myself to what I deem of the utmost importance—the preventive treatment. Displacements and dislocation of the uterus are, excepting the anterior flexions and versions, which are generally due to non-development, due to the results of gonococcal or septic infection. After abortion, or confinements at full term, non-development of the uterus is to be treated by rest, with proper exercise and tonics. In the early years of menstrual life by dilatation of the cervix, electricity, attention to food digestion, and the action of the bowels. Displacements due to the pregnant state are to be treated by the treatment of the sepsis, due to lacerations of cervix and perineum, and by the treatment of the endometrium to prevent involvement of the tubes and ovaries, and subsequent fixation of the uterus by adhesions. To this end I strongly advocate the immediate repair of the lacerations of cervix and perineum, extreme asepsis during confinement, douches of hot water, and rest for some time in the puerperium, with, if necessary, the tampon of wool or cotton soaked with glycero-ichthyol 1 to 4, applied with the patient in the knee-chest position, repeated every second or third day, until the uterus becomes normal in size, and the vagina and ligaments have regained their tone. We should not hasten to extirpate uteri that are septic after miscarriage or confinement, but curette, tampon with gauze, and arrest the spread of septic infection to the tubes. In a report of cases to the American Gynecological Society I have shown that in many cases this will be thoroughly efficient in preventing pelvic peritonitis, which binds the uterus down in the pelvis and causes such symptoms that ventrifixation and Alexander's operation become necessary. When dilatation and curetting with packing and drainage of the uterus are performed, we find ofttimes that with the production of involution of the uterus, and lightening of the womb, the canal is straightened, the malposition is cured—even a pessary not being required. Pessaries may be necessary and used to advantage for a short time, but they will do no good, but rather harm, if the tubes and uterus are already infected. The wool tampon is of service by holding up all the pelvic organs, correcting pressure, and restoring the circulation and proper nutrition. I would, in conclusion, put in a strong plea for preventive treatment of the malpositions of the uterus.

IV.—J. Riddle Goffe, M.D.,
New York.

This subject of the displacements of the uterus embraces the entire discussion of the dynamics of the female pelvis. In order to understand the forces that must be overcome in restoring organs in the pelvis to their normal condition, it is necessary to understand—first, what the forces are that have displaced these organs, and, secondly, what means we have of overcoming or resisting these forces. Let me direct your attention, therefore, to the relation of the female pelvis to the abdominal cavity, and the normal position of the genera-

tive organs when the woman is upon her feet. It is important to carry a mental picture of the pelvis and its organs in the position which they assume when the woman is in an upright posture, because it is then that a woman makes her greatest exertions and brings into play those forces that tend to displace the pelvic organs. [The speaker then drew a sketch upon the board presenting his idea of the relation of the pelvic to the abdominal cavity and the normal positions of the pelvic organs]. The principle that the uterus is sustained normally by the ligaments and not by the floor of the pelvis is undoubtedly the correct one. Nature's plan of holding organs in place is by suspension through ligaments—the uterus is no exception to this rule. We must therefore look to the ligaments to support the uterus in its normal position, and make use of them in retaining a uterus in the position to which we have restored it. [The various displacements of the uterus which are generally recognised were then discussed in succession.] Practically, uncomplicated anteversion has been struck from the list of pathological conditions. Whenever a patient suffers from symptoms referable to the pelvis, the source of the difficulty must be found elsewhere than in the uterus, provided the uterus is an anteverted position. Anteflexion no longer indicates to the pathologist a deformed organ, but simply means a lack of development. No violent treatment should therefore be applied, but only such treatment given as tends to gradually and persistently develop the organ. This consists in the use of a steel dilator under antiseptic precautions, and in extreme cases the use of the curette under an anæsthetic and the packing of the uterus with iodoform gauze. The condition of anteflexion is found in women who have unfortunately passed the period of puberty at a time when their general health was below par—attention should therefore be given to the general condition of the patient. In considering the subject of retroversion, attention should be given primarily to preventive measures—these consist of prompt and persistent treatment, directly following parturition, to hasten and effect thorough involution not only of the uterus but also of its ligaments; all lesions, such as lacerations of the cervix and perineum, should be repaired and attention given to the general health of the patient. Palliative measures, such as the use of hot water, glycerine tampon, and appropriate pessaries are always indicated in these cases. For a permanent cure of chronic displacements the round ligaments are the chief resource and the most available structures for retaining the uterus in its normal position. [Without going into the discussion of the relative merits of ventral fixation and Alexander's operation, the method of shortening round ligaments by an incision through the anterior vaginal fornix was described and advocated.] This operation permitted of conservative treatment of the appendages or their complete ablation, as was indicated by the condition. The operation gives promise of wide application, and avoids the objectionable features of both ventrifixation and Alexander's operation.

V.—WILLIAM GARDNER, M.D.,

Montreal.

DR. GARDNER wished to emphasise the remarks of a previous speaker as to the importance of healthy nutrition of the pelvic organs from the point of view of both the prevention and the cure of displacements. He had very little experience of the methods of vaginal fixation, and it was not very favourable. Of the other procedures, shortening of the round ligaments and ventrifixation or suspensio uteri he had a very large experience, and it was so favourable that he meant to continue to practise them till he had learnt a more excellent way. They were not however to be considered as alternative except in a small percentage of cases. He had found the method by hysteropexy much the least liable to relapse. In estimating the results of those procedures for the relief of displacements, it must be remembered that most cases of pelvic disease in women were complex and that displacement was one of a number of elements, the only one which could be directly remedied by such operations. There could, however, be no doubt that a normal position of the uterus favours its recovery from certain morbid conditions.

NOTES ON METHODS AND RESULTS IN THE BURNSIDE LYING-IN HOSPITAL, CONNECTED WITH THE TORONTO GENERAL HOSPITAL, TORONTO, CANADA.

By ADAM H. WRIGHT, B.A., M.D.Tor., M.R.C.S.E.,

Professor of Obstetrics, University of Toronto; Obstetrician and Gynæcologist, Toronto General Hospital.

THE Burnside Lying-in Hospital was amalgamated with the Toronto General Hospital in 1877. The new building erected on the grounds of the General Hospital is entirely isolated, and was opened for the reception of patients October 1st, 1878. It contains 22 "public" and 4 "private" beds. In addition there are rooms for medical assistants, nurses, servants, a waiting room for students, sitting rooms, dining rooms, kitchen, and pantries, store rooms, etc., all under one roof. The mortality rate was high before the amalgamation took place and became considerably less after the erection of the new building.

In giving some notes as to results I will deal with the records of the last eight and a half years, and in the first place will refer especially to septicæmia. Since October 1st, 1888, we have had 1,250 deliveries, with 5 deaths from septicæmia, that is, 4 per cent. I do not consider this satisfactory, but I am glad to be able to say that our results are improving, practically, from year to year. The Burnside is a part of the General Hospital, and there is to some extent constant intercommunication between the lying-in department and other portions of the hospital. The head nurse resides in the Burnside, and has sole charge as far as the nursing is concerned. Miss MacKellar has been the head nurse or matron during the period referred to, and her intelligent appreciation and conception of the virtues of practical asepsis and antisepsis have had much to do with the good features of our results. Our nurses are trained in the Hospital Training School under the superintendence of Miss M. A. Snively, who is well known as one of the best superintendents of training schools on this Continent. The nurses after they come into the Burnside are under the control of the matron, who is the most skilful midwife and the best teacher of aseptic and antiseptic nursing in midwifery that I have ever met. I consider that our nurses and our nursing are as nearly perfect as possible.

We have, however, one weak spot in our system. The resident assistants have charge of all normal deliveries. Of these there are eight appointed annually to the General Hospital, and each of these takes his turn at the Burnside for the short term of six weeks. They are carefully chosen by the hospital authorities, who consult the professors of the two medical colleges, and are generally the best men in our graduating classes. As a general rule they give eminent satisfaction in the lying-in department; but occasionally we get a bumptious or careless assistant who causes trouble. The doubtful methods of such a one sometimes causes great anxiety to the matron and the members of our staff. In all our efforts to keep things right we have the active co-operation of our able and energetic superintendent of the General Hospital, Dr. Charles O'Reilly. When anything abnormal arises before, during, or after labour, a member of the visiting staff is summoned.

I will divide the eight and a half years (which I have taken because they include Miss MacKellar's term of residence, and the period I know most about in the history of the institution) into three portions, and will give the general results as follows:—

		Mortality.		Per cent.	
Years.	Deliveries.	Total.	From sepsis.	Total.	From sepsis.
1888 to 1891	519	5	3	0.96	0.58
1891 to 1893	240	3	2	1.25	0.83
1893 to 1897	500	0	0	0	0
Total.....	1259	8	5	0.74	0.47

Without going too much into details I may say that during this whole period we have adopted the ordinary precautions as to cleanliness, and have depended chiefly on the bichloride of mercury as an antiseptic. In 1891 we were not satisfied with our results and considered it advisable to formulate certain rules, which were placed on the walls of the labour and wash rooms. These rules were taken largely from those of Leopold and certain obstetricians in Great Britain and the United States, and are as follows:—

Before vaginal examination.—Wash hands four minutes in hot water, using soap and nail brush; clean nails with a penknife; wash hands two minutes in hot bichloride solution 1 in 2,000, using nail brush; immerse hands in hot bichloride solution 1 in 1,000 immediately before making an examination; use carbolised vaseline for lubricant when required (generally not used).

We use an ordinary minute glass such as is found in a kitchen for cooking eggs. Our glass is attached to the wall near the delivery bed. It is reversible and takes six minutes to empty from one side to the other. There are on the glass notches to indicate three and four minutes. At the same time the accoucheur has taken off his ordinary coat and put on a clean white apron. Our best apron is one that goes round the body with sleeves which go to the elbows. Both hands and forearms are bare.

Instruments.—Forceps, etc.: Keep in boiling solution of carbonate of soda, 1 per cent., for ten minutes before and after using. Glass or rubber catheter: Pass half a pint of water solution of carbonate of soda through the catheter after using, and then place it in a bichloride solution, 1-1000.

Vulva.—After labour wash the vulva with warm soda solution, then use a bichloride solution, then apply freely a powder composed of boric acid and acetanilid, then cover vulva with a thin layer of absorbent cotton which has been taken from a bichloride solution, and place over this a sterilised absorbent pad.

The patient has been prepared for the delivery table by the matron or nurse in accordance with fixed rules, which however are not printed. During labour the vulva is covered with a bichloride pad.

The printed rules and the homely cooking minute glass were not popular at first. The resident assistants sometimes ignored them or obeyed the directions in a half-hearted way. I consider the two years, from 1891 to 1893, as the transitional period during which the rules did little or no good. The results were certainly discouraging, as we had a death from septicæmia in each of those years. Since November, 1893, our results have been better, as we have had 500 deliveries without a death from any cause. Excepting in two cases, to which I will refer again, the patients have gone out well, so far as they can be at that time. In no single instance since November, 1893, has a patient, transferred to another part of the hospital, died from pneumonia or any such disease. It happens that most of those women who died during the nine years were transferred to the General Hospital during illness, but these deaths are included in this record.

Before giving any further particulars as to mortality or morbidity I desire to refer to certain details relating to matters which have given us much anxious thought. In my private practice I have not used the vaginal douche either before, during, or after labour as routine practice for fifteen years. When I first commenced work at the Burnside eleven years ago, I found certain members of our staff using the vaginal or uterine douche to a considerable extent. This has gradually become less common until it has almost gone out of fashion. For some time a vaginal douche was given immediately before and after labour, and an intrauterine douche was given when the temperature went up. During the last two years no douche has been given either before or after labour unless there seemed to be some special indication for it. When there is evidence of a foul condition of the interior of the uterus causing sapræmia, or something worse, the intrauterine douche is sometimes used. The "rinsing" curette with the douche is employed occasionally. My own preference is to have the patient anæsthetised, introduce my hand into the vagina, clean out the interior of the uterus with my finger tips, and then wash out with a 1 per cent. solution of creolin.

Forceps.—We discourage the use of the forceps. No resident assistant is allowed to apply the forceps without permission of the medical superintendent or a member of the visiting staff. We have a forceps delivery about once in 20 cases. The patient is generally placed on her back and delivery accomplished by the resident assistant. The forceps used is either the Elliott or the Simpson axis traction. Chloroform or ether is sometimes administered.

Catheter.—Catheterisation is considered an evil. The nurse is expected to get along without it. We want no catheter epidemics. We have had no cases of cystitis due to the use of the catheter in 1,250 cases recorded. The catheter is used about once in 50 cases (not including catheterising before operative procedures or in cases of eclampsia). The bed pan is in certain cases placed under the patient and left there for some time, the nurse going to another part of the ward. It frequently happens that the patient is unable to micturate while the nurse is watching her, but does so after she is left alone. The last resource is to administer a copious enema, after which the urine generally comes while the bowels are being evacuated.

Third step of labour.—The placenta is generally expressed by the modified Credé, or what is commonly known here as the Dublin method. The uterus is watched for 15 minutes with the left hand over the fundus. Efforts are then made to squeeze the placenta out by grasping the fundus with thumb and fingers of one hand, or sometimes with two hands. This, I think, can generally be better accomplished with the patient on her back. If the placenta cannot be expelled in 30 to 45 minutes the hand is introduced into the vagina or uterus and the placenta is extracted. The operator is again expected to thoroughly cleanse his hand before such introduction. In the cases under my care a douche is not administered after such procedure unless some bad symptoms appear.

Care of the breasts.—In the whole number of cases reported we have had only one instance of mastitis with suppuration; and in this patient it was thought that mastitis existed before labour. The nipples are carefully watched, and if they become sore are washed after the child nurses with a carbolic solution, 1-40, after which the following is applied, as recommended first, I think, by Hirst, of Philadelphia: Castor oil and bismuth subnitrate, equal parts. If the breasts become uncomfortable or painful from distension a binder is carefully applied. We use what is generally known in New York as the "Murphy binder" or the Snively modification of the same. We are now introducing the Y-bandage (Boston Lying-in Hospital), which I have found in private practice to answer very well in certain cases. Where we wish to prevent the secretion of milk, as, for instance, when the babe is stillborn, we depend entirely on the Murphy binder, which is applied rather tightly, generally the day following labour.

We are pleased with our record of the last 500 deliveries without a death (the exact number at the time of writing is 505), but not altogether satisfied. We had among these six patients that "went wrong." Five had probably septicæmia. Of these one had a severe attack of phlegmasia alba dolens; another had pneumonia followed by phlegmasia dolens; two had mild attacks of phlegmasia dolens; one had ordinary septicæmia, which was not sufficiently severe at any time to cause much anxiety; the sixth patient had high temperature and rapid pulse, commencing the fourth day and lasting about four days, when somewhat suddenly the temperature and pulse became normal, and the patient went out well in fourteen days after labour. The case caused great alarm, and the rapid change for the better was to us as unexpected as it was satisfactory. Four of these patients were quite well when they left the Burnside; two of those who had phlegmasia dolens were to some extent crippled when they left us. These are the two to whom I have previously referred.

We have adopted the rule observed by others of calling all cases normal when the temperature does not exceed 100°—that is, we consider a case abnormal when the temperature has once reached 100.1°, although it has been quite right in all other respects. Our results from this point of view are not altogether satisfactory. The following table will show the proportion of normal and abnormal cases in the last 500 cases:—

1893-4.—Normal, 65 per cent.; abnormal, 35 per cent.
1894-5.—Normal, 69 per cent.; abnormal, 31 per cent.

1895-6.—Normal, 75 per cent.; abnormal, 25 per cent.
1896-7 (portion of year).—Normal, 73 per cent.; abnormal, 27 per cent.

In the last portion of a year we had chiefly the winter months, November to May. This will probably account for the slightly increased morbidity in 1896-7 as compared with 1895-6. The relation between winter and summer is about 30 to 20 per cent. in morbidity rate. Our best results thus far have been 20 per cent. abnormal cases in the summer months. In view of the fact that a morbidity of only 6 per cent. has been reported by Merriman, our showing is in this respect not satisfactory. We find that very trifling causes will produce in certain cases elevations of temperature, which are generally only temporary, and not followed by any bad results. The following charts are fair examples of our average abnormal cases. In each instance the patient left the Burnside on the fourteenth day after delivery. I am sorry to say that, in accordance with the prescribed rules of the hospital authorities, our patients are only kept in the Burnside for two weeks after delivery, excepting in cases where serious illness exists.

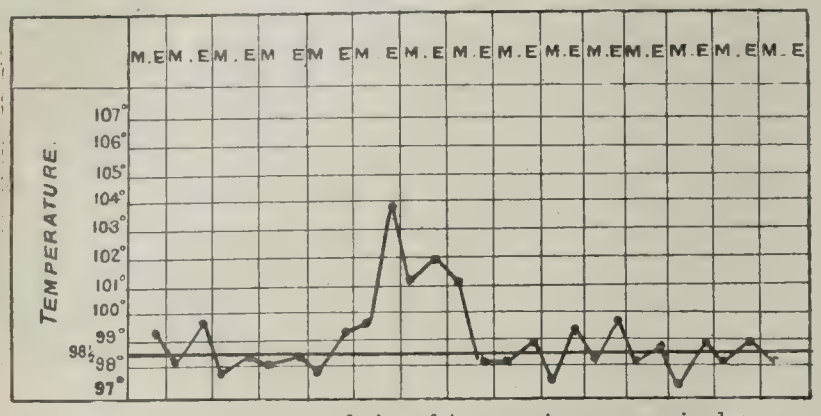

Chart 1.—Case 1; cause of rise of temperature, sore nipples.

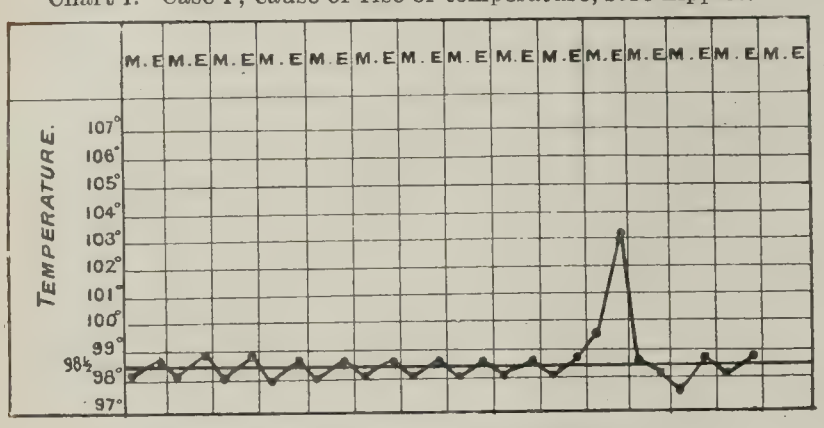

Chart 2.—Case 2; cause, acute indigestion.

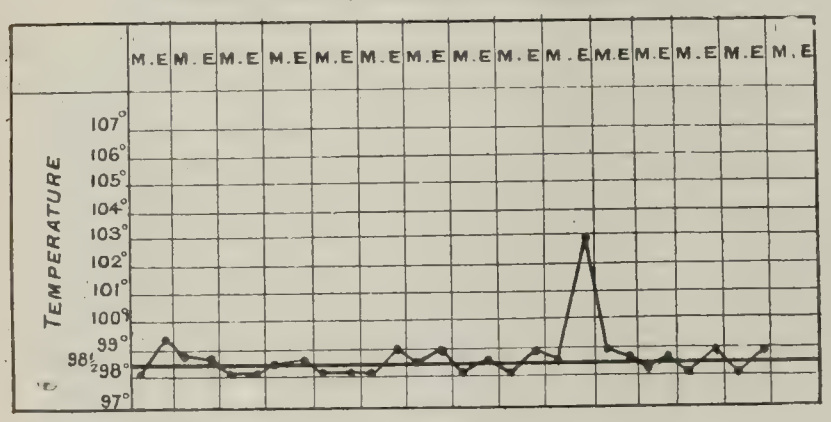

Chart 3.—Case III; cause, constipation.

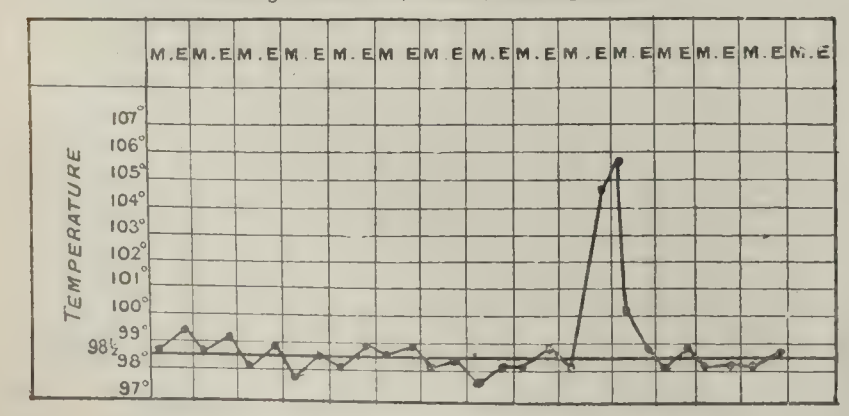

Chart 4.—Case IV; cause, emotional excitement.

In Case IV (Chart 4), on the tenth day after delivery, the mother called to see the patient (unmarried), and remained with her only a few minutes. After the mother left Miss MacKellar noticed that the girl looked excited and ill, and ordered her to go to bed. The temperature was found to be 104.8°, pulse 130. Next day the patient was well.

In connection with the work of the visiting staff I desire to say that Dr. J. Algernon Temple, Professor of Obstetrics and Gynæcology, Trinity Medical College, has seen some of the patients, and has frequently given me valuable advice and assistance in serious cases, but his work is chiefly confined to gynæcological and abdominal operations in the Pavilion for Diseases of Women. I have done little or no work in this Pavilion for some years, and on that account have had more time to spend in the Burnside. In all the cases of septicæmia connected with the 1,250 deliveries I have attended the patients, except in one case of pneumonia, which was placed under the care of Dr. John L. Davison, Professor of Clinical Medicine, Trinity Medical College; I thought the case was septic, but Dr. Davison did not agree with me, and examination of the blood gave negative results. The patient, however, developed phlegmasia dolens, and I have included it among the five cases of septicæmia that recovered.

Apart from septicæmia and some slight ailments, the chief abnormal conditions have been albuminuria and eclampsia. In patients waiting for labour the urine is examined regularly at certain intervals, but especially if symptoms appear, such as headache, dropsy, etc. When albumen is found the nurse at once places the patient under our routine treatment. Epsom salts is given every hour, a tablespoonful for three or four doses, and then a dessert-spoonful until the bowels are freely moved, and thereafter the administration of the salts is continued in quantities sufficient to produce from four to twelve watery motions in twenty-four hours. In making further remarks on the treatment of albuminuria and eclampsia I will have to speak for myself alone, because I am not sure that my colleagues will agree with all my views. It also happens that I have had charge of all the cases of this class for the last nine years.

I do not believe, with Charpentier and a number of others, that an "exclusive milk diet is the preventive treatment *par excellence* of eclampsia," nor do I think that tincture of perchloride of iron is a good medicine in the majority of such cases. A modified milk diet such as I have prescribed for several years includes the following: Milk, buttermilk, koumiss, plain water in abundance, white fish, bread and butter, rice, tapioca, and the like; greens, such as lettuce, watercress, etc.; limited amounts of fruit, such as oranges and bananas. My preventive treatment may be described in a few words: Epsom salts administered as I have indicated, modified milk diet, plenty of water, sometimes injections of saline solutions, occasional hot water baths. The history of the following case will show my general plan of treatment:—

April 14th, 1897.—Burnside. I. S., aged 18. Primipara, seven months pregnant. Headache in afternoon. Urine heavily loaded with albumen, became nearly solid on heating. Epsom salts and enema administered.

April 15th.—Convulsion in morning. Morph. sulph. gr. ½ administered hypodermically. Convulsions every hour during day. After second convulsion (11 A.M.) morph. sulph. gr. ¼ and tinct. verat. virid. ♏ xx (*B.P.*) injected. At 2 P.M. morph. gr. ¼ and verat. virid. ♏xv injected. Pulse still rapid. 2.45 P.M. Venesection by Dr. Graef, the resident physician, 15 oz. 4.50 P.M. Saline enema, 1 pint, high up. A few doses of Epsom salts during day, but could not swallow after 5 P.M. 6.30 P.M. Morph. gr. ¼ and verat. virid. ♏x injected. 9 P.M. Morph. gr. ¼ injected. 9.30 P.M. Os commencing to dilate. 9.30 P.M. Cervix partially dilated with fingers, version performed, leg brought down, child dead, watched during night.

April 16th.—9 A.M., body delivered. After some delay the aftercoming head was delivered with forceps. No convulsion

after 9 P.M. April 15th. Unconscious two days, involuntary evacuations from bowels during April 16th and 17th. After version on night of 15th chloral hydrate grs. 45 administered *per rectum* every six hours for two two days. Also occasional saline enemata.

April 18th. Became conscious and able to swallow. Recovered. Left Burnside May 17th.

Urine.—For three days after convulsions commenced did not collect any. We thought a good deal came away with the involuntary evacuations of the bowels. When we could collect it we found albumen, about 50 per cent. at first. It disappeared somewhat rapidly. The albuminous precipitate was composed almost entirely of paraglobulin, with only a small proportion of serum albumen (sometimes apparently none). Amount of urea excreted reduced at one time to nearly one half the normal amount.

In considering the nature of puerperal eclampsia I accept the opinion that it is simply a symptom of systemic toxæmia, due to the entrance into the blood from the intestinal tract of a certain poison, the nature of which is somewhat obscure. Whether this poison be carbamic acid, or leucomaines, or some other substance which may be more definitely separated and examined in the future, I know not; but I think it speedily affects the nerve centres and certain organs, such as the liver and kidneys. With these opinions as to causation I think that washing out the intestinal canal is "the preventive treatment *par excellence* of eclampsia." To accomplish this I have found nothing so effective as the administration of Epsom salts in fairly large quantities for several days, and sometimes weeks. In addition a few doses of calomel will occasionally assist in getting rid of the poison.

Treatment of convulsions.—In my experience I have found that morphine administered hypodermically subdues most quickly the excitability of the nerve centres.

I think that chloral hydrate is the best remedy to prevent recurrence of convulsions after they are to some extent brought under control. It is also sometimes useful as a preventive remedy when the symptoms of toxæmia are severe and convulsive seizures are feared, but have not yet appeared. I sometimes combine the two remedies for severe convulsions, giving the morphine hypodermically and the chloral by enema.

Chloroform sometimes has a good effect on the convulsions, but its administration has frequently disappointed me.

I have no doubt that bleeding in properly selected cases has a good effect. Do we neglect it too much in these modern days?

I have had but little experience with veratrum viride, and where I have seen it administered have not been favourably impressed with the results. I will only mention pilocarpin to give it an unqualified condemnation, as I consider it both uncertain and dangerous.

I have not space to discuss the important subject of the induction of abortion or premature labour. I object strongly to the former (except in extreme cases), and I do not hurriedly resort to the latter.

In the 500 patients to which I have specially referred we had 21 cases of toxæmia, with 5 of eclampsia. We induced premature labour twice and assisted labour by digital dilatation of the cervix and the use of forceps in three instances.

THE OPERATION OF CHOICE IN SEPTIC PELVIC DISEASE, WITH ESPECIAL REFERENCE TO THE EARLY VAGINAL INCISION.

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Invasion of the genital tract and the pelvic peritoneum by septic material follows certain more or less well defined channels, and a proper understanding of these routes is necessary to an intelligent discussion of the clinical conditions which form the basis for rational surgical treatment. The object of this paper is a discussion of the management of septic pelvic disease outside of the uterine cavity.

General Infection, Phlebitis, Thrombo-Phlebitis.

Blood contamination without pelvic localisation is not amenable to surgical treatment, and hence does not come within the scope of this paper. In certain cases septic infection is effected by the formation of a thrombus. This thrombus, when infected, gives rise to phlebitis and periphlebitis. This condition may be extended so as to involve all the periuterine veins. As a result of clinical experience I am led to believe that if suppuration does not ensue the foundation is thus laid for atrophic sclerosis by interference with the tortuous circulatory apparatus of the uterus. If the thrombosis is limited to the uterine sinuses without involvement of the periuterine venous circulation and without suppuration, hyperplasia and hypertrophic sclerosis frequently result. When the process is general and involves the entire venous circulation of the uterus, uterine gangrene may result if the process is sufficiently prolonged, even if suppuration does not take place. If suppuration takes place and the thrombophlebitis is limited to the uterine sinuses, and the patient escapes general infection, evidently the only treatment is to follow the general surgical rule of cleaning and draining.

If, on the other hand, suppuration occurs in periuterine thrombosis, peritoneal infection is almost certain to follow. If in such a case a doughy mass can be felt, anterior or posterior to the uterus, it is evident that early vaginal incision and drainage of the infected locality or localities may avert an impending calamity. It is also evident that when a mass can be felt through the abdominal wall which cannot be outlined on vaginal palpation, and when the constitutional symptoms demand surgical interference, the best course to pursue is to operate through a suprapubic incision. When, as a result of pelvic infection, a large doughy uterus is felt with most grave symptoms, gangrene of the uterus may be suspected, but cannot be positively diagnosed, as the cervix does not participate in the destructive process. Under these circumstances, an abdominal incision is advisable for two reasons: (1) To establish the diagnosis. (2) The diagnosis being established, hysterectomy is the only resource, and this can best be done by the abdominal route by reason that the more perfect hæmostasis thereby secured.

The presence of pelvic phlebitis or thrombophlebitis without suppuration can probably not be established, although it may give rise to serious symptoms. These symptoms are, I believe, due to general infection from the local cause. The diagnosis can be established only by an abdominal incision. The incision having been made, if in the opinion of the operator hysterectomy is demanded, it is more quickly and simply accomplished by this route. The surgical treatment of this class of patient is still *sub judice* and demands the greatest diagnostic skill and the most delicate judgment.

Primary Uncomplicated Pelvic Peritonitis.

This term is undoubtedly a misnomer. It is very questionable whether such a condition exists or can exist. There is reason to believe that there is no way in which the peritoneum can be reached and infected in what are known as septic pelvic diseases without other prominent lesions, except by extension through the Fallopian tubes. It is incredible that the disease can travel through the tubes and affect the peritoneum, leaving the former healthy. Clinically speaking, however, it is a fact that I have in several instances opened the *cul de sac* early in the disease, evacuated several ounces of serum from the peritoneal cavity, and have seen patients recover promptly in a few days without untoward symptoms, the recovery being apparently complete, and the patient remaining under observation for several months. In such cases, it is almost certain that some other pathological condition existed. For example, a thrombophlebitis may have existed in the veins underlying the pelvic peritoneum, and a consequent periphlebitis may have caused the peritoneal effusion, or more probably, infectious material travelling up the Fallopian tubes at a rapid rate may have produced the peritonitis by direct contact. But the cavity being drained, as a consequence of this, the tubes may have drained also, resulting in a cure of the disease. Such cases are rare, but I believe they exist, because at the time of the operation intrapelvic exploration with the fingers through the vaginal incision failed to reveal any pronounced lesion, while recovery took place promptly. Therefore, when a patient exhibits acute febrile symptoms with pelvic pain, and

evidence of accumulation of fluid in the *cul de sac* of Douglas, without other evidence of trouble, I advise and practise vaginal incision posterior to the cervix and drainage of the cavity.

ACUTE SALPINGITIS.

When this disease travels at a rapid rate and reaches the peritoneal cavity before the ostium abdominale is closed, peritonitis will result with an accumulation of fluid in the *cul de sac* of Douglas, and if the patient is seen sufficiently early, the treatment has already been outlined. If, however, the patient is not seen early, in a very short time the tubes become agglutinated to the adjoining peritoneum or to the surface of the ovary, and we have then pus in the tube eventuating in the double condition of pyosalpinx and pelvic peritonitis; or it may be that the sepsis travels so slowly up the tube that closure of the latter takes place almost simultaneously with the disease reaching its abdominal end; or a pre-existing stricture may be present and the invasion stopped at that particular point, or the disease may be in a tube, so closely in contact with an occluding surface ovary, bowel, or peritoneum, that adhesions may form at once and the peritonitis be only of slight extent, when, for all practical purposes, the condition may be recognised as a pyosalpinx, pure and simple, or as a tubo-ovarian abscess.

The treatment of this form of disease varies according to its peculiarities and location; clinically by manual palpation will reveal a rather elongated, sausage-like swelling in the immediate vicinity of and more or less connected with, the uterus. If such swellings present themselves clearly above the pelvis minor, they should be almost invariably uncovered and managed through the abdominal incision. Particularly is this true when we are dealing with a young woman in whom it is imperative to do, if possible, what is called a conservative operation. If at such operations either ovary is found even only partially healthy, an attempt should be made to preserve the sexuality of the woman complete by annexing such an ovary or portion of an ovary to even a small portion of a tube that may remain healthy towards its uterine end; the opening of such tube being widened by splitting up with a scissors; or such ovary or portion of an ovary may even be implanted into the split cornu of the uterus opposite the opening left after exsection of the diseased Fallopian tube, particularly when the disease apparently affects only one side, and can be well outlined.

I believe the abdominal method in young women to be particularly applicable, for such cases can be operated on so expeditiously and with so little disturbance that if the other side is healthy the most brilliant results frequently follow. When dealing with a large pyosalpinx forming a well-defined tumour, high up and well out of the pelvis, and close to the abdominal wall, common sense dictates the superior operation as being the best adapted for the complete eradication of the disease. It should be borne in mind that I am speaking now of simple pyosalpinx of large size situated high up, for later on I propose to mention complicated cases where sometimes a vaginal operation is safer for the patient. A pyosalpinx that has not burst its walls, even when of large size, does not necessarily exhaust the strength of the woman, and operation upon this through the abdomen is frequently a very admirable method.

When the pyosalpinx, however, is situated behind the uterus and is adherent in Douglas's sac, and plainly to be felt in the bottom of the pelvis, it can usually not be differentiated from ovarian abscess, and is ordinarily attacked to the best advantage through the vagina. I have removed such a tube filled with pus through a short vaginal incision without perceptible contamination of the abdominal cavity, and have seen such a patient recover perfectly and bear a child within three years.

LYMPHATIC INVASION.

So much has been written upon this subject and such lurid discussions have occupied the attention of medical men as regards the presence and frequency of so-called pelvic cellulitis, that it is only necessary to state in this connection that it is very generally conceded (and the examples have been too numerous of late to contradict this) that cellulitis can exist in the form of suppuration—anterior, posterior, and lateral to the uterus without the presence of either tubal disease proper, or invasion of the peritoneum; originally cellulitis was supposed to be the common form of septic pelvic disease. Operations and *post-mortem* examinations eventually demonstrated that such a condition was apparently extremely rare. Later work, however, made it evident that infection of a lymphatic type was not so infrequent an occurrence. The facts are simply these: Tubal disease by extension of the infection along the mucous line may remain indefinitely limited to the tube and pelvic peritoneal with or without involving the ovary, but seldom extends downward into the cellular spaces around the uterus. It is true that in advanced cases the cellular elements have disappeared from their normal anatomical location, but this disappearance has been brought about largely by reason of compression and absorption resulting from pressure of the adjoining and superimposed diseased mass. The offending element is usually the gonococcus which thrives and multiplies, often mixed with the staphylococcus. The tube enlarges and develops toward the peritoneal cavity, and often produces terrible ravages by mechanical rupture, though the micro-organism itself, when unaccompanied by rupture, only possesses slight penetrating tendencies.

On the other hand, cellular infection, which is the usual form of lymphatic invasion, results generally from the streptococcus virus, and after the cellular tissue, its first habitat, is thoroughly permeated, the adjoining tube (and ovary, if the last was not first affected) becomes in turn a prey, and the disease presents itself in the form of a general miscellaneous suppurating mass involving all the contiguous organs and tissues, not even sparing in all cases the more dense and resisting uterus. As we are dealing here only with sufficient of pathology to establish the basis for rational treatment, it is impossible to elaborate more fully. I only desire to say that I hope at an early date to establish the fact that in many severe cases of septic pelvic disease, the original channel of infection was by way of the lymphatics, and the subsequent destructive processes were the result of the well-known characteristic, penetrating, virulent march of the streptococcus, as can be proven in the bacteriological laboratory.

Bernutz and Goupil, and their followers, frequently found disease of the appendages on the *post-mortem* table, and when they found serious disease with miscellaneous suppuration beyond the tubes, they supposed such patients were always victims of pre-existing disease of the tubes which had ruptured. Operations up to a few years ago went far to support this view, because patients were seldom operated on at an early date. In later years, the futility of general medical treatment being established, patients are operated on much earlier, and operators more and more frequently report broad ligament suppuration and ovarian abscess with patent and apparently healthy Fallopian tubes. It should also be borne in mind that salpingitis, pyosalpinx, and peritonitis are universally admitted to be of more frequent occurrence than cellulitis. Twice in the last four years, in the presence of a number of physicians, I have diagnosed cellulitis with probably healthy patent tubes, previous to opening of the abdomen, and in both cases my diagnosis proved correct.

The treatment of pelvic cellulitis depends greatly upon the stage of the disease, its general characteristics, and its location. It will sometimes present itself in the form of a mass behind the uterus in Douglas's sac, and in such cases the vaginal incision will dispose of it very quickly. A broad ligament phlegmon when suppurating, if it presents low down, can also be reached by the same route, as can also a cellulitis in the space between the bladder and uterus. In other cases, where the disease is plainly unilateral and not distinctly palpable through the posterior vaginal fornix, an extraperitoneal inguinal incision may prove most advantageous. It is evident that a true cellulitis with healthy Fallopian tubes and ovaries, without extensive suppuration, is essentially not a disease to be treated by abdominal section. There is nothing to be removed, and abdominal drainage of the pelvis is almost certain to result in injury to the tubes, and often fails to cure the disease. I have twice opened the abdomen and found cellulitis completely encircling the uterus, the pelvic cavity being apparently as completely filled as if effused tissues had been poured in and hardened, and were covered with peritoneum, the two Fallopian tubes

lying on the surface patent, and, to all appearances, perfectly healthy. In one case, five years ago, in a girl of only 15, very seriously ill, and who had before evacuated a large abscess about the rectum, I dissected up between the bladder and uterus, and also behind the uterus up to, but not into, the peritoneal cavity, packing thoroughly with gauze. In the other case I started from above and dissected downward into the vagina very carefully, both in front and behind, and drained with gauze, closing the abdomen. The second case was puerperal, two months after delivery in a woman only 18 years of age. Both these patients are still under observation, and I defy any surgeon who takes no notice of the abdominal scar to demonstrate that they have any lesion remaining, though on operating on the patient last mentioned I encountered several small abscesses the size of a hazel nut. These patients are in perfect health, menstruate painlessly and regularly, have perfectly soft, movable uteri, and do not show the least adhesion or infiltration in any part of the pelvis.

In treating these cases of general pelvic cellulitis, it must be remembered that cases are occasionally met with in which, without interference, the patient recovers completely, and one or two years later again bears children. It is in such cases that the question comes up, whether temporising is not the best course to pursue, and the answer is found in a rational analysis of the general symptoms present. Where a patient is not seen until abscesses have formed and broken in various directions, the case becomes one of diffuse or secondary pelvic abscess, of which more will be said later.

Ovarian Abscess.

When a surgeon operates on an old case of suppurating pelvic disease and enucleates from the general mass of exudate what he terms an abscess sac, in a very large proportion of cases, if he looks at it closely and investigates it thoroughly, he will find that he has removed the ovary. There are many pus sacs that are not ovaries, but ovarian abscesses are of more frequent occurrence than is generally supposed. After removing one of these sacs, if he will examine the corresponding Fallopian tube, he will frequently find that the tube is only slightly thickened and infiltrated, and its abdominal end sealed down and bound down, but that it does not show the same proportionate amount of alteration as the ovary, or that would be seen had that tube been the original seat of the disease. That ovary had become infected by way of the lymphatics, thickening of its walls by a process of lymph thrombosis had prevented the escape of the pus, and the adjoining tube had simply become agglutinated and slightly affected by contiguity. All the adjacent tissues also became infiltrated, there being an effort on the part of nature to reinforce the surrounding structures and prevent destructive processes.

Now, when that same surgeon enucleates a very large old pyosalpinx he will not often find a perfectly healthy ovary, but one swollen with cysts and altered in structure, but not suppurating. I do not mean to say that we do not have tubo-ovarian abscess, but I desire to convey the opinion that ovarian abscess is often overlooked when it is frequently the original and only serious pathological condition, and that other lesions present are often secondary to it. I say this because I have opened forty or fifty ovaries containing pus in patients who had been ill from one to six weeks only, and was unable to find any other lesion present, and because such women in almost every case recovered promptly, and such of them as I have heard from remained well even several years later.

Certain lymph channels carry streptococci straight to the ovary without materially affecting the adjacent tissues. The ovary becomes adherent to the adjacent peritoneum and sometimes a pus collection forms between it and the pelvic wall; adhesions also form at the end of the tube and some infiltration takes place in that part of the broad ligament to which the ovary is attached, but these are only changes secondary to the ovarian disease. They are very slight at first, and if the ovary is opened and properly drained in the incipiency of the disease, nine out of ten, and I really believe nineteen out of every twenty, will recover completely, barring the condition of the uterus that may have been the first starting point. Other uterine conditions sometimes remain of the hyperplasic type that cannot be consistent with complete recovery to the normal type; but such women will recover from their illness at once and remain free from symptoms.

A diagnosis of simple uncomplicated ovarian abscess seems difficult, but I will venture the following as a guide to the diagnosis of a considerable number of these cases. If a woman who has had a miscarriage in the early months or has been subjected to uterine trauma has fever, pelvic pains, and the usual signs of acute pelvic infection; if on bimanual examination the uterus is found sensitive and only partially movable, and if to the side of the uterus and not too high or behind is found a mass about the size of a hen's egg, slightly movable or immovable and sensitive on pressure, that woman has ovarian abscess, and if this abscess is opened in a proper manner she will almost to a certainty recover. The completeness of her recovery will be proportionate to the early date of the operation as compared with the date of beginning of infection. Pus forms in the ovarian sac within five or six days from the beginning of any acute infection of the kind described, and the proper treatment is incising and draining the abscess. Ovarian abscesses are almost always within reach of an incision behind the uterus, and that route is almost always the one of choice.

This brief description of the channels of septic infection in the female pelvis, the primary localisations of septic material and the simple outlines of treatment gives but a faint idea of the clinical picture presented in the cases which come to us for relief. It presupposes a perfection of diagnosis which in actual practice is often difficult of attainment. Let us discuss, for example, the management of incipient septic pelvic disease which has extended beyond the confines of the uterus in a woman previously healthy. The march of symptoms differs greatly in different forms of infection, and in the same form of infection in different patients. The gonorrhœal virus will in one woman pass in a few days to the peritoneum and light up a peritonitis, in some cases limited to the pelvic peritoneum, in others involving the general cavity. Infection by the same virus in another woman will result in the formation of a large thick-walled pyosalpinx, which gives rise to such trivial symptoms that relief is not sought until adhesions have formed or there is pressure upon neighbouring organs.

Streptococcus invasion from a miscarriage or trauma to the uterus may result in any of the venous or lymphatic forms of disease heretofore mentioned, or the micro-organisms may penetrate through and through tissues irrespective of distinct channels and produce the most varied and complicated conditions.

To describe these protean forms of disease and to detail the measures advised for their relief would require far more space than is at our disposal. I will therefore confine myself to a discussion of the merits of methods which in a large practical experience have seemed to me to be of special value.

Early Vaginal Incision.

A woman, apparently in perfect health, develops pelvic pains accompanied by high fever; within three or four days the uterus becomes more or less fixed in the pelvis, and examination reveals a mass behind or lateral to the uterus. A week later an incision is made behind the uterus penetrating Douglas's pouch and a certain amount of serous fluid escapes. Digital exploration through the incision reveals a fluctuating enlargement the size of a hen's egg agglutinated to the pelvic wall behind the broad ligament, which proves to be the enlarged ovary. This is penetrated by the finger or blunt scissors, and 2 or 3 ozs. of pus evacuated. After mopping all pus from the inside of the ovary and from the adjoining peritoneum the finger is reintroduced and the remainder of the pelvic cavity explored, the other hand pressing down from above as in the ordinary bimanual palpation. No other diseased conditions being discovered, a wick of gauze is so placed that its distal extremity lightly packs the cavity of the ovarian abscess, and another wick is placed so as directly to drain the general cavity. If the other ovary has also been opened a gauze drain must lead from it also. If within two or three days the patient has no fever and no pain, if a week later she gets up, and if from that day on she remains well, the woman being under observation and examined one, two,

and three years later the most vehement protestations of the most experienced laparotomist cannot for a moment erase the conviction from the mind of the unbiassed rational surgeon that the result in this case was ideal, and he must endorse the future employment of this method if it can be proven to be of no greater danger than the methods at present in vogue, for the latter are undoubtedly uncertain and do not cure.

I have made at least 125 vaginal sections without exsection. Fully 100 of these were for incipient pelvic sepsis or acute exacerbations of the old disease. I have not had any deaths, and although all did not progress in the ideal manner described above, the great majority did, and eighteen out of twenty are well to-day without having had any further trouble.

Pus forms in the pelvis much more rapidly than most surgeons believe. I have evacuated it five or six times within eight or ten days. I have done so fifty times within six or eight weeks of the beginning of the disease.

Where does septic material do more damage than in the female pelvis? If there is reason to believe that pus exists in a given locality, is there any surgeon who will shoulder the responsibility of saying that we should not evacuate it, unless the operation can be proven to be more dangerous than non-surgical treatment? Why should not pus in the ovary be evacuated as early as pus in a felon? Is not the ovary more valuable than the finger? I would like to ask those who object to early intervention how they treat and cure acute pelvic peritonitis so-called, which in my opinion is so often ovarian abscess. If they can cure the disease with poultices or hot douches, or rest in bed before great damage is done, then I will retract, for I believe personally that such temporising is not only worthless but harmful, and that although in most cases after a variable time, from a month to a year, the patient may be able to get about, the cure is almost invariably delusive and the patient is liable to return later, and this time in a much more serious condition.

Let me put this question fairly before you. When septic infection has extended beyond the uterus, what can we do? When a patient is found with a mass of exudate in the pelvis the result of recent infection, who can tell whether she will be ill one month or ten years; whether she will recover or die, or how far the destructive process will extend? Are we justified in resting content to pursue the temporising, and to my mind worthless, methods so ordinarily employed; or should we adopt a procedure which, practically devoid of danger, cuts short the march of the disease, and cures 90 per cent. of the patients?

The early vaginal incision, intelligently practised, will accomplish this result, and should unhesitatingly be performed. It fulfils definite surgical indications and is based on true surgical principles. Therefore, as soon as the diagnosis of septic pelvic disease with local manifestations outside of the uterus is established, I advise and practise immediate incision posterior to the vaginal fornix and thorough drainage of the affected area.

An explanation of the technique of this operation will give a better understanding of the method. An incision is made, following the contour of the posterior face of the cervix at its vaginal junction, but not going so high at the sides as to provoke hæmorrhage from the larger vessels. This incision is made by scissors, knife, or the Paquelin cautery.

When the indications point plainly to pus and long drainage, the cautery should be used, as the edges being seared will not show a tendency to contract so quickly. From the centre of this incision, parallel to the axis of the vagina, another incision is made of variable length to give free access. Of course, the proximity of the rectum must be taken into account. The retro-uterine connective tissue should be detached, always working against the posterior uterine surface. During the operation the uterus is held steady by downward moderate traction, the posterior or both lips of the cervix being held by a tenaculum. If the proximity of the peritoneal cavity can be determined, the tissues in that direction should be first detached. This penetration and detachment of the tissues is done with the finger, alternated, if desirable, by small nicks of the scissors. When working in dense or infiltrated tissues the finger should occasionally be withdrawn and pus looked for.

When the peritoneum is reached and no pus is discovered the general cavity should be opened at once. This is a most important step, as almost the only source of danger in the operation results from its neglect. The reason of this is obvious: the manipulation may cause a leakage into the general cavity of pus from the fragile sac within; even if but little force is used the traction upon the uterus may be sufficient to cause this leakage. Pus in the dependent portion of the cavity does no harm if wiped out and drained. But retained pus, without bounds, will almost certainly kill. It is a great advantage, moreover, to explore the pelvis before doing anything further. Therefore, if the cavity is opened, the hands should again be washed, the vagina redisinfected by placing a gauze sponge in the wound and irrigating, and the pelvis explored from the inside, the uterine volsella being held by an assistant and the left hand being placed over the pubes as in bimanual examination, the assistant relaxing or increasing the traction on the cervix as best suits the operator.

If pus is found before the general cavity is opened it should be followed up, the hand placed above indicating the traction by marking the mass and the finger within feeling the way of least resistance and resilient tissue characteristic of exudate. If the finger penetrates a well-defined cavity of pus, or the pus is behind or lateral to the uterus, and it is evident on bimanual examination that this constitutes the whole disease (and to be reasonably sure of this the result of examination at this time, *minus* the exudate of pus, must correspond with the conditions found on examination of the patient under anæsthesia just before the operation) and the operator is certain that he has not opened the general cavity, he may then stop, and, after introducing drainage and packing the vagina, the patient may be put to bed. If any doubt exists on these points the whole field should be thoroughly cleansed, the vagina and hands disinfected, a light gauze packing put through the hole made by the fingers into the abscess, the cavity of the peritoneum opened behind, the right hand again cleansed, one or two fingers reintroduced and exploration made from within. If nothing is found Douglas's sac should be drained and an efficient drain placed in the abscess cavity.

If the cavity is opened before pus or abnormal tissue has been encountered it may be that immediately upon entering the cavity there will be a gush of blood, serum, or sero-pus. In such cases the opening should be enlarged, if necessary, the containing cavity thoroughly emptied and mopped out with gauze, and exploration then made for further trouble. If this exploration is negative, the cavity should simply be drained. In these cases the intestines will usually be held aloof by more or less exudate, and careful consideration is necessary to determine whether or not they should be further disturbed. If any doubt exists, the tactile bimanual sense of the operator will indicate to him how to proceed. There should be no hesitancy, however, about insinuating the fingers between bowel and exudate or in any direction that seems to be still thickened, freely separating all adhesions in all directions. There is more danger in doing too little than in doing too much, and with the finger guided by intelligent experience serious damage seldom occurs.

The cavity may be opened and nothing may escape. Exploration should now be made where it has been before to ascertain that disease exists. This may be extraperitoneal, intraperitoneal, or both. There may be broad ligament phlegmon without peritoneal communication. In such a case a mass will be found at the side bulging into the cavity outside the peritoneum, but nearer the tip of the finger thrust in the tissues in the direction of the cavity. In such cases a large wide strip of gauze is packed into Douglas's sac, carefully closing its opening, the tissues separated by the finger and the mass penetrated, taking care to keep beneath the peritoneum. If only exudate is found, it is thoroughly penetrated in all directions and drained, and the protecting gauze is then taken out of the peritoneal cavity and replaced by a simple gauze drain.

An intraperitoneal mass may be found on one or the other side. This may be a pyosalpinx or ovarian abscess, or a tubo-ovarian collection or an abscess of the free cavity walled off by exudate. In such cases the long gauze pad is arranged in such a manner as to shut off to the best advantage the healthy side, the mass is penetrated, and the pus, if present,

is emptied. The cavity is cleansed and the fingers are reintroduced to determine the presence of other pus cavities, which must all be opened. An ovarian abscess can sometimes be separated from adhesions and coaxed down very close to or into the opening and there opened.

In a number of cases, particularly those characterised by a posterior exudative mass, the different organs cannot be thoroughly individualised; the finger penetrates the exudate and separates adhesions, and the operator feels that he is in the peritoneal cavity, but not by any sense of having felt the peritoneum. These cases, of course, make him feel that he is working blindly, but what matters it, after having opened and drained an abscess if he has not known exactly where that abscess was? Let everything be disentangled to the best of his ability. He will cure a large majority of the cases, and with experience, the landmarks will be more clear. In a reasonable proportion of the patients he will fail to find pus, and will be met at the outset by a mass containing no liquid, but difficult to distinguish. This may be extraperitoneal or intraperitoneal. When intraperitoneal, it will soon be recognised when the finger is working back the intestinal folds, that they are agglutinated by exudate. When extraperitoneal, the greater density of the tissues and the difficulty of getting very close to the opposing abdominal usually establishes the fact. The fibrino-plastic character of the exudate does not prevent its absorption, if thoroughly penetrated and drained. No fear need be entertained of going too far; the principle involved is that all parts of the inflamed area must be reached, and good and efficient drainage established. If it can be determined that infection exists anterior to the uterus, an incision can also be made anterior to the cervix and drainage established there. In all cases the operation must be preceded by thorough and efficient dilatation, curettement, and packing of the uterus.

Although it has taken so long to explain these details, the performance of the operation requires a comparatively short time. After the uterus has been curetted, it requires only a few minutes to complete the operation in simple cases.

If the procedures just described are proved by test of time to be innocuous, as there is reason to believe, and if their value receives the endorsement of the profession, in the near future, when a physician curettes the uterus and finds a suspiciously dense area in its proximity, he will simply make an incision as described and drain the infected area, thereby often aborting extrauterine disease in its very incipiency.

Regarding drainage after the operation, it may be said that the opening through the vaginal wall is usually the first to contract, and must be made to correspond to the character and peculiarities of the particular case. If a large abscess is found, or much disturbance in breaking up has been necessary, surgical common sense dictates the necessity of a large drainage tract, and the vaginal button-hole incision should be enlarged. If Douglas's pouch tips backward to a sufficient extent to threaten obstruction of pus, the vaginal structures must be incised sufficiently to make an easy descent, the proximity of the rectum being, of course, not forgotten.

One of the drawbacks to drainage by gauze is the tenacity with which it adheres to contiguous parts when removed, and the pain which removal of the dressings gives the patient. This may be obviated to a great extent by draining with gauze wrung out dry, after soaking it in sterile iodoform glycerine emulsion.

The time of the removal of the drain varies according to the conditions under which it has been applied. If a serous effusion and nothing else has been found in the *cul de sac*, after forty-eight hours the gauze is removed, and a very small wick left in, or in such cases the opening may be partially closed by sutures, and only a wick of gauze left in from the beginning. If pus has been found and a large exudate is present and no signs of retained secretions have become evident, the packing may be left in for five or six days and then removed. In this regard surgical experience should guide the surgeon. Renewal of the dressings always causes pain and should be avoided, and frequent re-application of dressings should, as far as possible, be avoided. Generally, after three or four dressings, the vaginal opening will remain patent sufficiently long to allow the case to come to a successful close.

A short wide retractor to retract the perineum, in making the primary incision, and two extra long and narrow retractors to push into the peritoneal cavity, when the operator desires to look in and wipe out after the opening is made, are of advantage. Most of the manipulations in exploring and penetrating are, however, made with all of the retractors withdrawn.

The main points of importance in this operation which are essential to its success are the following:

The incision through the vaginal wall must be adequate for the manipulation required.

The operator must be absolutely certain that every portion of the diseased area has been explored and drained.

I have stated above that this operation would cure 90 per cent. of the cases to which it is applicable; I now desire to state further, that it is applicable to 90 per cent. of all early cases of septic disease of the variety mentioned, that is, to those in which there is local manifestation of infection outside the uterus.

It must be remembered, before passing judgment on this radical assertion, that the first examination of the patient may disclose an old disease. A woman will suffer from backache and sideache for years before she consults a physician, who discovers an old pyosalpinx. The same rule applies to certain hyperplasic forms of tubal and uterine disease. It is evident, therefore, that the procedure will be most frequently applicable in those forms of pelvic infection where the streptococcus is the noxious element; in other words, where we have a sharp, well-defined onset of febrile symptoms, early development of exudate, and formation of pus.

It is about five or six years since I first made what I have here called an early incision, and in the spring of 1895 I reported my experience before the American Gynæcological Society. Since that time numberless papers have been read and published on the subject, but the important point in the operation which was and is constantly overlooked, and was emphasised in my report, is the early date of the interference.

From time immemorial abscesses have been opened and drained in the pelvis through the vaginal vault, the same as in other localities, with the knife, scissors, cautery, trocar, etc., but always late in the disease after fluctuation was felt or pus discovered by the exploring needle. My proposition is, that as soon as the disease can be felt, the peritoneal cavity should be opened by the vaginal route, the diagnosis made, and drainage established, no matter what the character of the localisation, or whether pus is or is not present. In fact, the most brilliant successes have been the cures obtained when the operation has been made before pus has formed.

The objection may be raised, that some of these cases would have made equally good recovery without operation. My answer is, not counting those who die, 90 per cent. of the patients do not recover except after much suffering, many relapses, indefinite invalidism, and irreparable injury to their pelvic organs. One-half of these cases are seen in their incipiency, and nine out of ten of these women can be cured by early vaginal incision, intelligently performed.

Chronic and Complicated Cases.

Many patients are not seen until the disease has become chronic or complicated. A simple pyosalpinx may rupture into the free abdominal cavity. If the pus is small in amount, the symptoms may not become acute until, several days later, sudden pain and abdominal tenderness being the only perceptible signs of the accident. The disappearance of a pre-existing tumour may be the main reason for interference. Under these circumstances, the proper treatment is immediate abdominal incision, thorough irrigation of the general cavity and gauze drainage, both of the lower end of the abdominal wound and through the posterior vaginal *cul de sac*. The abdominal drain is removed at the end of forty-eight hours, and the vaginal drain allowed to remain for five or six days.

In another variety of cases, rupture into the free abdominal cavity is immediately followed by the most serious symptoms, namely, excessive shock, high temperature, and rapid small pulse. In the face of such a calamity it is difficult to advise what course to pursue. In two cases I have seen

death promptly follow immediate laparotomy with abdominal drainage. Several other patients, however, who were in a most desperate condition, rallied, and were afterwards saved by draining large cavities, circumscribed by bowel and omentum. In the latter class of cases, therefore, I would advise waiting for a while, and, if the improvement continues, would wait several days until the pus is walled off in a circumscribed area, whereupon drainage can be practised. Extreme care must be taken in manipulations when the adhesions are recent, slight and extremely friable. I have recently lost a patient by the neglect of this precaution. Abdominal or vaginal incision, or both, may be made according to the location of the accumulation.

In most cases of rupture of pyosalpinx the contents escapes slowly, or in a very minute quantity, resulting in a circumscribed pelvic peritonitis, and this process often occurs repeatedly in the same patient. As a result, we have a large conglomerate mass on one or both sides of the uterus or at the bottom of the pelvis, or rising above so as to touch the abdominal wall, this mass being made up of one or several abscess cavities agglutinated to the diseased tube and adherent to the adjoining viscera.

The treatment of this variety of complicated pyosalpinx commands the most careful consideration. No man admits more frankly than I the value of the work done by Lawson Tait in developing the treatment of these cases and upon his work, with slight modification, is based all the modern work of that kind up to the day that the uterus was also removed, which in my mind was an advanced step on the development of the treatment of chronic complicated septic pelvic disease.

In the same way that removal of tubes and ovaries was formerly condemned, so is hysterectomy now condemned by a large portion of the operating brethren. As the first mentioned operation was overdone by non-discriminating operators, so will this last be overdone. Moreover, the field of discussion was further widened by the partisans of the abdominal in contradistinction to those who favoured the vaginal route.

I must insist that hysterectomy is a most valuable acquisition to our methods of cure, but I am most willing to admit that it has been most shamefully abused. The fact is that all these complicated cases need the most careful consideration and discrimination before the method of operating is decided upon, and every surgeon must be able and willing to change his methods in any given case at any time during an operation, if he has not gone too far. The surgeon who would be called modern in the higher sense of the word must be competent in all the methods which may prove of value.

Intelligent vaginal section and vaginal hysterectomy and intelligent abdominal section and abdominal hysterectomy are but lessons to be learned which may at any moment become applicable to a given case, and the education of the operator in technique is not near completion until he is competent to perform either of them with average skill. If a large conglomerate mass of irregular outline, the diagnosis of which is difficult to determine, surrounds the uterus, and if it presents in the upper pelvis more prominently, its nearness to the abdominal wall invites intervention from that direction. Yet I have seen several patients who have been lost by the very choice of method. I have seen patients cured by a vaginal incision when I feel certain death would have resulted from an abdominal operation.

It is insisted on by the abdominal enthusiasts that the diseased tissues must always be entirely removed. Why can they not be cured instead of being removed? We do not remove the leg, but open the abscess when it is on that member, and yet we must always remove the ovary when the abscess is there. I have repeatedly cured abscesses of the ovary when they were ruptured, and complicated and chronic, and when I have failed, I simply knew that my judgment had not guided me properly, or that my technique had been at fault, but I did not discard the method.

A large septic mass may so present above the pubes that it seems impossible to cure it without operating by the abdominal method. The patient is so very weak and exhausted that we simply make an incision from below and succeed in draining a considerable amount of pus. It may even be that we do not know exactly where, anatomically speaking, the pus came from. Further operating is postponed until the patient has gained strength. As long as she is gaining we do not like to interfere, and before we realise it, the patient is cured, while we were waiting to have her decide when the radical curative operation shall be done; and she remains cured. This you have all seen; but it does not not mean that radical operations are not often necessary. I learned to operate on these chronic complicated tubal and ovarian diseases through an abdominal incision and do a large proportion of them in that manner. Still, I believe I was the first in America to do vaginal hysterectomy for bilateral suppurative periuterine disease, but I have not been carried away too far by French enthusiasm, for I know full well the success and advantage of clean abdominal work.

In the last two or three years I have come to realise how many patients can be cured by intelligent vaginal section, which aims to open and drain, not one, but all, the abscess cavities, which involves the thorough disentanglement and breaking up of all adhesions in the lower pelvis.

If the subject is approached without prejudice or bias born of habituation to particular procedures, the complete cure of patients afflicted with chronic complicated ovarian and tubal septic disease with the least possible mutilation and suffering in the shortest possible time, can be accomplished only after a careful consideration of the advantages in each case of the recognised methods.

Vaginal incision and drainage without exsection, abdominal section with resection or exsection of the appendages, abdominal hysterectomy and vaginal hysterectomy all have a field in the treatment of the varied forms of the disease under consideration, and the most successful operator will be the one who can apply the greatest skill guided by the most efficient judgment into their application.

ON GAUZE PACKING OF THE PELVIS IN GYNÆCOLOGICAL OPERATIONS.

By T. Johnson-Alloway, M.D.,

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Gauze packing of the pelvis, for the relief of hæmorrhage in abdominal section, was first practised by me in the year 1893.

By gauze packing I do not mean drainage, but the filling of the pelvis with gauze for the arrest of otherwise uncontrollable hæmorrhage. This hæmorrhage is generally of an oozing character where dense adhesions have had to be separated between the mass to be removed and the posterior face of the uterus, the broad ligament, and the floor of the pelvis. These parts, as you know, are covered by peritoneum, and when an enlarged pus tube, tubo-ovarian abscess, or tubal pregnancy becomes lodged in the pelvis, adhesions take place between the opposing peritoneal surfaces, and in separating these surfaces large portions of the peritoneum are sometimes stripped from the pelvis, leaving an extensive oozing surface which cannot be controlled by ligature, as in the case of a torn vessel. The broad ligament on one or other side of the uterus, and close to it, is often extensively torn from the uterus, and, although such a tear can be closed by suture, still there remains extensive bleeding from this part. These are the cases in which gauze packing comes into play by pressure being exerted upon the oozing surfaces. In applying the gauze, it can be understood, great difficulty is encountered on account of the intervention of loops of the intestines slipping down in the pelvis over these oozing surfaces, and preventing the gauze being applied so that direct pressure would be brought to bear upon the hæmorrhagic surfaces.

This is accomplished best by pulling the intestines forwards out of the pelvic well with the left hand, while the gauze strips are placed with the forceps so as to come directly in contact with the bleeding surfaces. Great care has to be exerted in this manœuvre so as not to include any of the folds of the intestines in the loops of gauze forced into the pelvis; otherwise the hæmostatic object is frustrated and intestinal obstruction may follow. The counter points of pressure are formed in front by the posterior face of the uterus and the broad ligaments, on each side of the obturator muscles and bony walls of the pelvis; behind, by the

curve upwards of the sacrum. Speaking of these boundaries, it is understood that the patient lies in the Trendelenburg position.

The quantity of gauze introduced will depend upon circumstances. Sometimes as much as three or four yards are used, but generally from one to two will suffice to fill the pelvis with a fair amount of pressure upon the bleeding points.

When the pelvis has become filled, I introduce a rubber tube, 1 cm. in diameter, by making a channel for it with the forefinger of my left hand between the posterior face of the uterus and the gauze pack. About 1 in. of the gauze is left outside the wound alongside the end of the rubber tubing. The wound is then closed: first, by applying a running suture to the divided peritoneum, and then the closure is completed by passing interrupted silkworm gut sutures through the skin, fatty tissue, and aponeurosis. Muscle tissue is never included. This gauze is allowed to remain all the way from forty-eight hours up to thirty days, and I have never yet been able to make a culture from the fluid it contained; and it should always be so, provided it is introduced thoroughly aseptic. If the gauze is withdrawn within eight or nine days following its insertion, it gives some pain, but after that it becomes completely surrounded by serum in its tract, and is withdrawn with ease. The tract seems to close very rapidly round the rubber tube which has been left in. This tube is withdrawn, and half an inch to an inch removed every day until the wound closes from the bottom upwards and no more discharge follows. The cases in which this method of treatment has proved successful in my hands are those in which constant oozing went on, and in many instances the patient died from hæmorrhage or exhaustion.

During the convalescence of the patient it is remarkable how little pain is complained of from the pressure of this gauze in the pelvis; also it does not interfere with the action of the bowels, either when moved unaided or by medicine. The principle upon which it acts, I think, depends upon the rapid formation of blood clot between the bleeding surfaces and the layers of gauze. This clotting seems to arrest further bleeding by occluding the mouths of the small vessels. This thin layer of blood clot is afterwards absorbed or becomes organised, being aseptic.

The following is a summary of some of the cases in which gauze packing has been used in my clinic:

2	cases of pus tubes	in which it was removed in	24	hours.
7	,,	,,	48	,,
2	,,	,,	on the 3rd	day
4	,,	,,	,, 4th	,,
1	,,	,,	,, 8th	,,
1	,, cystic ovaries	,,	,, 3rd	,,
1	,, ovarian tumour	,,	,, 3rd	,,
1	,, hæmatomata ovarii	,,	,, 2nd	,,
1	,, double pus tubes	,,	,, 7th	,,
1	,, ,, ,,	,,	,, 2nd	,,
1	,, ,, ,,	,,	,, 8th	,,
1	,, ,, ,,	,,	,, 10th	,,
1	,, ,, ,,	,,	,, 8th	,,

1 case of ectopic gestation. In all 25 cases.

In the last case the abdomen was opened a second time for hæmorrhage within two hours of the first operation. The pelvic cavity was found filled with blood from general oozing. This was cleaned out, a gauze packing inserted, and no more hæmorrhage took place. The patient made a good recovery.

Society for the Study of Inebriety.—At a meeting held on October 14th, the President, Dr. Norman Kerr, in the chair, Surgeon-Major G. K. Poole, M.D., read a paper on The Etiology of Inebriety. He presented the opinion of a large number of clergy, laymen, and medical practitioners. With the exception of one medical man the testimony was affirmative of heredity as a predominant factor, and of business and domestic distress and worry being causative in a substantial proportion. Some non-medical reporters attributed up to 50 per cent. as being consequent on "doctors' orders"; but Drs. Hare, Morton, Aydon Smith, Longhurst, Paramore, and the President repudiated the accusation, the President stating that in not more than ½ per cent. of over 2,000 cases could he trace anything of the kind. Dr. William Bode, of Hildersheim, stated that in January, 1900, the new German code would operate for interdiction and compulsory dealing with inebriates.

A CASE OF PERFORATION OF THE APPENDIX VERMIFORMIS AND PERITONITIS: OPERATION: RECOVERY.*

By OSMUND STEDMAN, M.D., B.S.Lond.

L.M., female, aged 23, first came under my care in December, 1895, suffering from a severe attack of appendicitis; a considerable mass formed on the right iliac fossa, and extended so far that it could be felt *per vaginam*, filling up the right side of the pelvis. On that occasion I was much inclined to operate, thinking that pus formation had occurred, but after some time the symptoms gradually improved under medical treatment, namely, opium, enemata, hot fomentations, and counter-irritations, till after an illness extending over six weeks the patient appeared to be completely recovered, and the whole of the exudation round the appendix had disappeared.

In June, 1896, she had a second attack similar to the first, although not so severe. Her illness on this occasion lasted about three weeks; this time, also, the right iliac fossa contained a mass of exudation, but it did not extend down into the pelvis, as in the first attack. In addition to these two severe attacks she was on three other occasions laid up for three or four days with pain and tenderness in the right iliac fossa, which passed off without the formation of any inflammatory thickening, the last such attack occurring in Christmas week of last year.

On March 23rd, 1897, having been apparently in her usual health the day previous, she woke up at 7 A.M., and felt some pain in the anal region. She took a dose of aperient mineral water, and returned to bed and slept till 10 A.M. She then had a cup of coffee, after which the bowels were moved twice; she then proceeded to dress, and while walking across her room was suddenly seized with violent pain in the right side of the abdomen. She returned to bed, but the pain was so severe that she was unable to take off her clothes. Again before doing so, about ten minutes later, a severe attack of vomiting came on.

I saw the case at midday; she then had a temperature of 97·5°, pulse 72, small and thready; there was great tenderness all over the abdomen, the knees were drawn up, the patient was continually groaning with pain, and a severe attack of vomiting occurred while I was there, the vomit consisting of bile-stained fluid.

I administered a third of a grain of morphine hypodermically. At 5 P.M. one of my colleagues saw the case with me; the symptoms were unaltered, except that the pain was not quite so severe, and reaction had set in; the temperature was 99.5°, the pulse 96, full and running. She had had another attack of vomiting during the afternoon. I decided to send the case to hospital, with a view to operating early the following morning.

On arrival at the hospital the patient had another severe attack of vomiting, the temperature being then 100°. Meanwhile all instruments, etc., likely to be required were boiled for three quarters of an hour, and put into stoppered jars ready for use.

The following morning, March 24th, the symptoms were much the same, the temperature 100°, the pulse 96. There had been no more vomiting during the night, the patient having been kept under the influence of morphine. A vaginal examination was made by Dr. Hartigan, but nothing abnormal was found.

The operation was commenced at 9 A.M., that is, twenty-three hours after the occurrence of perforation. Dr. Hartigan administered chloroform, and Dr. Rennie assisted me.

The skin was first washed with soap and water, and afterwards with a 1 in 1,000 biniodide solution. A three-inch incision was made along the right border of the rectus muscle, the centre of the incision being opposite the anterior superior iliac spine. On opening the peritoneum both parietal and visceral layers were seen to be brightly injected and inflamed. The incision not being large enough, it was extended downwards for half an inch, and, in so doing, a

* Read before the Hong Kong Branch of the British Medical Association.

branch of the deep epigastric artery was divided, which gave rise to some trouble.

The small intestine presented at the wound, and some two feet were drawn with a view of reaching the cæcum, but failing to find it the bowel withdrawn was returned and drawn out in the opposite direction; almost directly the ileo-cæcal junction came into view, and as it was being drawn out a few flakes of yellowish lymph escaped. The ileum, cæcum, and appendix were matted together by adhesions, the appendix being bound down into the angle between the ileum and cæcum; with considerable difficulty the appendix was separated, and a perforation was then seen at about the middle of its length, and in the base of the ulcer a small piece of hard fæcal matter, about the size of a hemp seed, was lying; on the surface of the cæcum was some yellow lymph where the appendix had been adherent, making it appear that the ulcer in the wall of the appendix had first perforated into a small closed space surrounded by adhesions between the appendix and the cæcum, and that this cavity, containing a few flakes of pus, had ruptured into the general peritoneal cavity at the time of the onset of the acute symptoms. The whole appendix was not more than an inch in length, so that there did not seem to be room to cut it off entirely clear of the perforation; the appendix was therefore divided through at the seat of the ulcer. The muscular and peritoneal coats were then stripped back like a glove from the mucous membrane, the latter was tied as close up to the cæcum as possible and cut off close to the ligature, the muscular and peritoneal coats were then brought down and stitched over the stump of mucous membrane. The bowel was then washed and returned into the abdomen. The abdominal cavity was then well washed out with plain boiled water at a temperature of 100°. A large rubber drainage tube was put into the upper angle of the wound, its lower end resting in the angle between the ileum and cæcum, the abdominal wound was closed with four deep sutures going through all the layers, and two or three superficial skin sutures. There was hardly any shock from the operation, the temperature only falling to 99°; a fifth of a grain of morphine was given hypodermically, and nothing allowed by the mouth except occasional teaspoonfuls of hot water to relieve the thirst. The same evening the temperature rose to 100.4°, the highest point it reached, the dressings were changed, as there had been a considerable amount of blood-stained oozing from the tube; 7 ozs. of urine were drawn off by the catheter.

The following morning (March 25th) the patient twice vomited some bile-stained fluid. The temperature was 99.4°; the dressings were again soaked and had to be changed. The abdomen was not distended, and there was very little tenderness except round the wound; passed urine naturally during the night; was given Brand's essence every three hours during the day.

March 26th. The dressings had to be again changed yesterday evening, but this morning there was no oozing from the drainage tube, which was therefore removed, that is, 48 hours after the operation. Patient does not seem so well, looks dusky, vomited once yesterday and eight or nine times during the night; still the abdomen is not tender or distended, and the wound appears doing well. A soap and water enema, with a tablespoonful of turpentine, was ordered, which brought away several large scybala, after which improvement rapidly occurred, and there was no more vomiting; on the evening of this day, that is, 60 hours after operation, the temperature reached normal, but rose again on the evening of the 27th, and continued between 99° and 100° for three days more, owing to some suppuration in the stitch holes; it again reached the normal line on the sixth day, and there was no further rise. An enema was given every day for ten days, after which the bowels acted daily without any artificial stimulus. The superficial stitches were removed on the 29th, five days after operation, one deep stitch was removed on the 30th, and the remaining three on the following day. There was unfortunately a considerable amount of suppuration from the three lower stitch holes on the outer side of the wound, and although the wound itself healed well the stitch holes were not entirely healed till ten days later, that is, 21 days after the operation.

Fortunately, in this case the symptoms of perforation were sufficiently acute as to leave little doubt as to the diagnosis; and also the former attacks of appendicitis pointed unmistakably to that region as the seat of trouble. In both these respects the case contrasts strongly with one I reported in the *Lancet*, May 6th, 1893, where a fæcal concretion escaped from the appendix, and yet the patient continued to go about during the two following days, so slight was the peritonitis excited, and also there had been no previous attacks of appendicitis.

I have reported the case, as it is another instance that a successful issue may be obtained after perforation and the onset of peritonitis, provided operation be undertaken sufficiently early; yet one cannot help feeling that it would have been better to have removed the appendix in the quiescent period after the second severe inflammatory attack, and thus avoided the extra risk of having to do so after perforation had occurred and peritonitis actually commenced.

CEREBRAL SINUS THROMBOSIS.

By EDGAR TREVITHICK, M.D.Cantab.,
Physician to the Cheltenham General Hospital.

A girl, aged 19, in October, 1896, underwent abdominal section for supposed abdominal cyst, the case in reality being one of tuberculous peritonitis. The abdominal wound never thoroughly healed.

The patient, however, got well enough to leave the hospital, but was readmitted on December 24th, 1896. There was then a sinus at the site of the operation wound discharging curdy pus, and she was reported to be strange in her manner. Early in January she developed very decided "head symptoms," and there was some question about removing her to an asylum. As an alternative, however, she was sent into a medical ward, and came under my care.

There was then very marked want of facial expression, but there was no actual palsy. The mental condition was deranged. The patient was occasionally very noisy and somewhat violent. In the intervals she was placid while left to herself, but very intolerant of any interference. She generally refused her food, which had eventually to be administered, in spite of her active resistance, through a tube. She was very frequently to be found repeating (sometimes singing) hymns and other evidently very familiar songs. She would often appear to be fixing her gaze upon some distant object intently and sometimes rapturously.

She died on March 24th, having continued in much the same condition mentally until the end. There was never any marked palsy of any particular muscle or set of muscles, but towards the end I noticed rigidity of the flexors of the arms.

At the necropsy, in addition to advanced chronic tuberculous peritonitis, I found a firm decolorised thrombus in the superior longitudinal sinus. The main cerebral veins turning in the sinus also contained firm, decolorised, wormlike plugs. The thrombosis did not extend into the jugular veins, and there was evidence that some blood had always been able to pass between the thrombotic cave and the sinus wall. The brain showed a symmetrically-placed patch of hæmorrhagic softening on each side, involving the angular and supramarginal convolutions. The rest of the brain appeared normal. There was no evidence of tuberculous meningitis. The kidneys were unaffected.

The case is of some interest, I think, on account of the cerebral symptoms which attended the thrombosis.

I may just add that there was considerable enlargement of the post-thoracic glands, which may have exercised some pressure on the superior vena cava.

A Veterinary Congress.—The third National Veterinary Congress will be held in Paris from November 10th to 14th. Among the questions to be discussed are the generalisation and organisation of meat inspection throughout France; tuberculin and the duty of the veterinarian as regards the sale of animals suffering from tuberculosis; and mallein.

The annual general meeting of the Incorporated Society of Medical Officers of Health will be held this day, Saturday, October 23rd, at the Holborn Restaurant, W.C., at 5 P.M. The President (Dr. E. Seaton) will deliver his presidential address on Medical Societies and the Public Health Service.

THE HARVEIAN ORATION
ON
SCIENCE AND MODERN CIVILISATION.

Delivered before the Royal College of Physicians, October 18th, 1897.

By Sir WILLIAM ROBERTS, M.D., F.R.S., F.R.C.P.,
Formerly Physician to the Manchester Royal Infirmary, and Professor of Medicine, Victoria University.

I.

Mr. President and Gentlemen,—We have met to-day to commemorate a great name and a great discovery. By his demonstration of the true motions of the heart and blood Harvey laid the foundation of animal physiology as a department of exact science. This work is memorable not only from its historical relation to physiology and practical medicine, but perhaps still more so from its constituting the earliest example of the solution of a biological problem of the first rank by an orderly process of observation and experiment, conceived and carried out on the lines of modern scientific research.

Harvey flourished at the dawn of exact science. Indeed, he was himself one of the heralds of that dawn which in our own time has broadened out into such marvellous day; and I propose on our present anniversary to consider Harvey's life and work, not so much as they concern our special studies, but as symbolising the commencement of a new era in human progress—the era of exact science—which, in the present age, is slowly but surely transfiguring the aspects and prospects of civilised society.

I need not long detain you over the particulars of Harvey's life. He was the eldest son of an opulent Kentish yeoman,[1] and was born at Folkestone in 1578.

Harvey passed his schoolboy days at the King's Grammar School in the pleasant city of Canterbury. From thence he migrated, at the age of 16, to Caius College, Cambridge. Harvey spent some three years at the university, and graduated as Bachelor of Arts in 1597, just three hundred years ago. At the age of 20 he proceeded to Padua to pursue his medical studies. At that period Padua was one of the foremost universities in Europe, and was especially famous as a school of anatomy. Harvey passed four years at Padua, and had for teachers the most celebrated anatomists of the day, namely, Fabricius of Aqua Pendente and Casserius, names which are still embalmed in our anatomical nomenclature. It was obviously of the greatest advantage to Harvey, in view of his future work, that his attention was thus early fixed on the solid data of descriptive anatomy, which could be directly verified by eye and hand in the dissecting room, rather than on the pedantic aphorisms and cloudy speculations which constituted so large a part of the medical learning of that time. At the end of his course of study at Padua he obtained the degree of Doctor of Medicine, and returned to England in 1603. In the same year he received his doctor's degree from the University of Cambridge. The young Harvey now settled in London, and entered on his professional career amid the most favourable surroundings for commanding success, whether as a fashionable physician or as a scientific investigator. He was in easy circumstances, and he had the prestige attaching to the highest education the time afforded. In his 26th year he married a daughter of Dr. Lancelot Brown, who had been physician to Queen Elizabeth. This alliance must have brought him in touch with the nobility and Court circles. In addition, he was endowed with a brilliant intellect, a sound character, good health, and indomitable industry. To crown all, he was inspired with an enduring passion for original research, a passion which persisted throughout his long life of close on 80 years.

With these manifold advantages, intrinsic and extrinsic, it is not surprising that Harvey made rapid way. At the age of 29 he became a Fellow of the College of Physicians; at 31 he was elected Physician to St. Bartholomew's Hospital; at 37 he was chosen Lumleian Lecturer on Anatomy to the College of Physicians. About the same time he was appointed Physician Extraordinary to James I, and subsequently Physician in Ordinary to his successor, Charles I. These latter appointments gave Harvey command of the herds of deer in the Royal parks, for the purpose of the vivisections and dissections which he practised in the course of his researches on the motions of the heart and blood, and in his investigations on animal generation and embryology.

Harvey delivered his first course of Lumleian lectures in 1616, when he was 38 years of age. It was in these lectures that he first propounded his views concerning the motions of the heart and blood, and demonstrated before the Fellows of the College the anatomical and experimental evidence on which he based his conclusions. These demonstrations were, as he tells us, annually repeated at the Lumleian lectures for nine or ten successive years, no doubt with ampler and ampler proof of the truth of the new doctrine of the circulation of the blood. It was only after this long and searching probation that Harvey ventured to give his discoveries to the world. This he did in the form of a little treatise, printed at Frankfort in the year 1628. Before proceeding to analyse this remarkable work I will conclude what I have to say, and very briefly, concerning the other work and the rest of the life of Harvey.

After the publication of his treatise on the circulation, Harvey seems to have concentrated himself, as regards physiological work, on his investigations concerning the generation of animals. He bestowed long years and an immense amount of labour on this subject. Over and over again he minutely dissected the organs of generation in various kinds of animals. He watched with patient observation the slow growth of the embryo, from its earliest inception to its full maturity and birth. In this way he gradually accumulated an enormous mass of information which he embodied in fragmentary disquisitions, composed apparently at irregular intervals, as leisure and work permitted. These disquisitions were eventually collected together and printed towards the close of Harvey's life in a separate volume, under the supervision of his friend, Sir George Ent, with the title of *Exercitationes de Generatione Animalium*. This work, though many times larger than the treatise on the motions of the heart and blood, is incomparably less satisfying and conclusive. To the modern reader of these disquisitions the reason of their shortcomings is plain enough. Harvey was stopped—and stopped absolutely—at every critical point by his want of a larger magnifying power. He had at his disposal only a pocket lens, which magnified perhaps four diameters. The ovum must have appeared to him as a structureless mass of material, and the seminal discharge as a homogeneous fluid. He knew nothing, and could know nothing, of the cellular elements of the ovum, nor of the motile filaments which constitute the "vital spark" of the spermatic fluid.

The later years of Harvey's life were passed in peaceful retirement. The civil troubles of the time had broken up his household and scattered his patients, but had left his private fortune unimpaired. At the age of 68 he relinquished his appointments and practice, and went to reside with one or other of his brothers, who were wealthy London merchants. He still continued the studies he loved so well, and maintained his interest in the College of Physicians. Sir George Ent gives us a touching glimpse of him as he appeared in his seventy-third year at the house of his brother Daniel at Combe. "I found him," says Dr. Ent, "with a cheerful and sprightly countenance, investigating, like Democritus, the nature of things. Asking if all were well with him, 'How can that be,' he replied, 'when the State is so agitated with storms, and I myself am yet in the open sea? And, indeed, were not my mind solaced by my studies and the recollection of the observations I have formerly made, there is nothing which should make me desirous of a longer continuance. But thus employed, this obscure life and vacation from public cares, which would disgust other minds, is the medicine of mine.

Harvey had the satisfaction of living to see his great discovery of the circulation of the blood generally accepted as true. In his old age he was known and honoured throughout the learned world. The College of Physicians erected a statue in his honour. In his seventy-sixth year he was elected President of the College, but declined the honour on the plea of the infirmities of age. He accepted, however, the office of Councillor, which he held for two years. He enriched the

College with many gifts; he furnished the library with books, and filled the museum with "simples and rarities," as well as with specimens of instruments used in surgery and obstetrics. Finally, in the year preceding his death, Harvey made a transfer to the College of his paternal estate of Burmarsh, in Kent. In the deed of gift conveying this property to the College there is provision for a salary to the College Librarian, and for the endowment of this annual Oration. The Orator is directed to exhort the Fellows "to search out and study the secrets of Nature by way of experiment, and also for the honour of the profession to continue mutual love and affection among themselves." This double injunction of our venerated saint and apostle has, I venture to believe, been fairly observed, according to the measure of their abilities, by successive generations of the Fellows of this College, even to the present day.

Harvey made a peaceful ending in his eightieth year, and was buried, full of years and honour, in his brother Eliab's vault in the parish church of Hempstead, near Saffron Walden, in Essex. Seventeen years ago, on October 18th, 1883, by the piety of this College, his remains were removed from the dilapidated vault, and, with befitting solemnity, reinterred in a marble sarcophagus in the Harvey Chapel attached to the same church.

II.

Harvey's activity as an investigator ranged over a wide field, but his fame as a discoverer and his rank in the hierarchy of science must always depend on his researches on the motions of the heart and blood. These researches were published in 1628 in the form of a small Latin quarto of only seventy-six pages. This little volume embodies the results of some twenty years' work, carried on during Harvey's prime, when his inventiveness and receptivity were at their highest. The book is in several respects a remarkable one. It presents to us the earliest record we possess of a really scientific investigation in the domain of biology, based on observation and experiment. Although written 270 years ago, the work is essentially modern in tone and method. It is, in fact, the prototype of the scientific "paper" or "monograph" of our own day; and for clearness of demonstration and conclusiveness of proof stands favourable comparison with the most renowned masterpieces of recent times.

Harvey begins with an account of the state of knowledge on his subject at the time he wrote. He describes the confusion and contradiction reigning in men's minds concerning the actions and offices of the heart and movements of the blood. He then sets forth in a series of chapters the dissections, vivisections, observations, experiments, and reasoning by which he proved that the blood flows in a continuous stream along its now well-known route. He shows that the motor power for the movement of the blood resides in the heart, that the heart is a muscular organ, and that the auricles and ventricles are hollow muscles which contract in action and forcibly expel their contents. He demonstrates that the disposition of the valves within the heart, and at the roots of the aorta and pulmonary artery and along the veins is such that the blood expelled by the contractions of the heart must of necessity flow onward in the direction indicated, and that any reflux in a contrary direction is a mechanical impossibility. He argues that the blood stream must be continuous throughout its whole course, because, wherever you tap the channel, whether in an artery or in a vein, the whole of the blood contained in the body is drained away in a few minutes. He fortifies his argument by a number of collateral proofs, all converging and pointing to the same unavoidable conclusion. Especially ingenious and original is the following argument, which has a curiously modern ring about it. If you estimate the charge of blood delivered into the arteries of each stroke of the ventricle at 1 or 2 drachms, and calculate the rate at which the heart is beating at 60 to 70 per minute, you arrive at a volume of blood passing through the heart in the course of every half-hour which is greater than the aggregate ingesta of a whole day, and greater than the total sum of blood contained in the body. The inference is therefore irresistible that the whole of the blood, and the same blood, must be incessantly passing and revolving through the heart.

Harvey was much exercised as to the precise way in which the blood found its way from the terminal arteries to the commencing veins. He had absolute proof before him that it did somehow find its way, but how? He was able, by minute dissection of the organs and tissues, to satisfy himself that it was not, as some of his contemporaries supposed, by coarse anastomosis between the arteries and veins. "I have myself," he tells us, "pursued this subject of the anastomosis with all the diligence I could command, and have given not a little both of time and labour to the inquiry; but I have never succeeded in tracing any connection between arteries and veins by a direct anastomosis of their orifices. Neither in the liver, spleen, lungs, kidneys, nor any other viscus is such a thing as anastomosis to be seen; and by boiling I have rendered the whole parenchyma of these organs so friable that it could be shaken like dust from the fibres, or picked away with a needle, until I could trace the fibres of every subdivision, and see every capillary filament distinctly."[2] Harvey had only a simple lens to aid his vision. With this he could not detect the delicate capillary network which united the minute arteries and veins into a closed vascular system; and he was reduced to the conjecture that the blood percolated the organs and tissues as water percolates the earth and produces springs and rivulets. It is almost pathetic to contemplate this eager earnest inquirer, looking with wistful, straining eyes for the communicating channels which he knew must exist, but could not see, and to remember that the solution of the puzzle was almost within his grasp; for hardly had he closed his eyes than the improvements in the microscope enabled Malpighi and Leeuenhoek to demonstrate the completion of the circuit of the blood through the capillaries in the web of the frog's foot.

It is singular that Harvey in all his writings nowhere betrays any consciousness of his sore want of a higher magnifying power. He did not, apparently, divine that it was possible to enlarge objects beyond the power of the common lens which had been in use from antiquity; yet it was precisely this want which foiled him at almost every step in the prosecution of the studies to which he devoted his life.

III.

When Harvey was entering on his career as an investigator, in the early years of the seventeenth century, the great movement of the Renaissance had produced its full effects. Starting in Italy in the fourteenth century, it spread during the fifteenth and sixteenth centuries and permeated the rising nationalities of Western Europe. It was through the zeal engendered by this movement that the priceless literary and artistic treasures of Greece and Rome were rescued from oblivion and made the secure heritage of all time. The study of these monuments of ancient genius, and the inspiration communicated by them, saved mediæval Europe from barbarism, and created a new civilisation not inferior in polish to that of the classical ages. Upon literature and the fine arts the spirit of the Renaissance reacted with the happiest possible effects. It inspired the masterpieces of poetry, painting, architecture, and sculpture, which constitute the glory of the fifteenth and sixteenth centuries, and compel the admiration and challenge the rivalry of the nineteenth century. But, as regards natural knowledge, the influence of the Renaissance was at the first, and even for a long time, distinctly unfavourable. The writings of Hippocrates, Aristotle, Ptolemy, Galen, and other masters were studied and searched, not for inspiration to new inquiry and higher development—but these great names were erected into sacrosanct authorities, beyond whose teaching it was vain, and even impious, to seek to penetrate. The result of this perversion was that the pursuit of natural knowledge degenerated into sterile disputations over the words of the masters. This numbing despotism of authority comatosed the intellect of Europe during many generations. It received the first rude shocks from the discoveries of the great anatomists of the sixteenth century; and it was finally overthrown by the force of the demonstrations of Galileo and Harvey, powerfully aided, no doubt, by the philosophical writings of Bacon and Descartes.

These four men—Galileo, Harvey, Bacon, and Descartes—were the dominating spirits of their epoch in the sphere of natural knowledge; they were contemporaries; and three of

them must have had more or less personal acquaintance with each other. Harvey was Bacon's friend and physician; and we can easily believe that much talk went on between the investigator and philosopher concerning the studies in which they were mutually interested, and that Bacon imbibed his enlightened notions respecting the importance of experiments in the pursuit of knowledge from the precepts and practice of Harvey. It does not appear that Descartes was personally known to Harvey, but he was one of the earliest to accept the doctrine of the circulation, and to write in its defence. When Harvey was a student at Padua, Galileo occupied the chair of mathematics in that university. These two men take rank as the twin founders of modern science, the one in the domain of biology and the other in the domain of physics. Their lives largely overlapped; they were contemporaries for sixty-four years, and both nearly reached the patriarchal age of four-score. Roughly speaking, their period of activity covered the first half of the seventeenth century. They were, each in his respective department, pioneers in the method of searching out the secrets of nature by observation and experiment, and in proclaiming the paramount necessity of relying on the evidence of the sense as against the dicta of authority.

IV.

The present year is the 300th anniversary of Harvey's graduation at Cambridge, and of the commencement of his career as a student and investigator of nature. That date, 1597, corresponds roughly with the birthtime of modern science. The occasion is, therefore, not inappropriate for a survey of the changes impressed upon civilised society by science after three centuries of expansion and growth. The lapse of time is sufficiently long, and the advance made is sufficiently great, to enable us to estimate approximately the scope and strength of this new factor in our environment, and perhaps even to appreciate the influence which the cultivation of science is likely to have on the future of modern civilisation.

All the older civilisations have issued either in extinction or in permanent stagnation. The civilisations of Egypt and Chaldæa, and of Greece and Rome, after a phase of progressive decline, eventually perished by military conquest. The ancient civilisations of the Far East—those of India and China—still persist, and have a semblance of life, but it is a life of helpless torpor and immobility. Is our modern civilisation doomed to share a kindred fate? There are, I think, good reasons for believing that in this respect history will not repeat itself. Special features are observable, and special forces are at work, in contemporary civilisation which differentiate it profoundly from all its predecessors.

It may be said, broadly, that the older civilisations rested essentially upon art and literature (including philosophy), and that modern civilisation rests, in addition, upon science, and all that science brings in its train. This distinction is, I think, fundamental, and connotes a radical difference as regards stability and continuance between ancient and modern society. A comparison of the mode of growth of the fine arts and literature on the one hand, with the mode of growth of science and its dependent useful and industrial arts on the other, brings out this point very clearly.

The evolution of literature and art displays the following well-marked characteristics. Starting from some rude beginnings, each branch of literature and each branch of the fine arts grows by a succession of improved ideals until a certain culminating level of excellence (or phase of maturity) is attained. When this level is reached no further growth takes place, nor even seems possible. The level of excellence attainable by any nation depends presumably upon the measure of the original endowment of the race with artistic and literary faculty. When and after this summit level of excellence is achieved, all subsequent expansion, if any, is quantitative rather than qualitative—and consists in modifications, variations, repetitions, and imitations—but without any real advance in artistic and literary excellence. It may be further noted that there is observable in the past annals of literature and the fine arts a fatal tendency to a downward movement. The variations are apt to show meretricious qualities, which indicate, in the judgment of critics, a degradation from the high standard of the earlier masters. The life of each of the fine arts seems, as Professor Courthope has expressed it, to resemble the life of an individual in having periods of infancy, maturity, and decline. The witness of history bears out this view.

It is almost startling to consider how long ago it is since most branches of art and literature had already reached their highest known pitch of excellence. The Homeric poems are supposed to have been composed a thousand years before the Christian Era, and no one doubts that as examples of epic poetry they still stand in the front rank. In the fourth and fifth centuries B.C. there occurred in Greece an extraordinary outburst of artistic and literary genius—such, perhaps, as the world has never seen before nor since. During this epoch sculpture was represented by Phidias and Praxiteles, architecture by the builders of the Parthenon, painting by Apelles and Zeuxis, dramatic poetry by Sophocles, Euripides, and Aristophanes, and speculative philosophy by Plato and Aristotle. Greece maintained her political independence for two centuries after this period; but she did not produce anything superior, nor apparently even equal, to the masterpieces of this golden age.

A parallel sequence is observable in the history of Ancient Rome. Art, literature, and philosophy, and all studies that may be grouped under these headings, attained their culmination in the Augustan age; and no advance thereupon took place, but rather a falling off, during the subsequent centuries of imperial Rome's political existence.

If we turn our eyes to the Far East we see that the masterpieces of architecture and ornamental metal work, and of poetic and philosophical literature, are all old—many of them very old. Neither in India nor China nor in any other Far Eastern country are there any indications of advance for many centuries in the domain of artistic and literary culture.

The history of Western Europe tells a similar tale. The finest examples of Gothic and Norman architecture date from the twelfth and thirteenth centuries. Painting culminated in Italy during the fifteenth and sixteenth centuries with Raphael, Da Vinci, Correggio, Titian, and Paul Veronese. The same art reached its highest level in the Low Countries with Rembrandt and Reubens; in Spain with Velasquez and Murillo; in France with Claude Lorraine and Poussin—all artists who flourished in the seventeenth century. In England nothing greater than the works of Reynolds, Gainsborough, and Turner has been produced by later artists. Similarly with literature: most of the masterpieces belong to a past age. Italy can show no higher examples of poetry than the creations of Dante, Petrarch, Tasso, and Ariosto. The most ardent admirers of the Victorian poets would scarcely contend that any of them stand on a higher pedestal than Shakespeare and Milton; nor would any German critic claim equality for any recent poet of the Fatherland with Goethe and Schiller. In the delightful art of music, the masterpieces of Haydn, Handel, and Mozart, judging by their popularity at the present day, are not surpassed by the works of any of the later musical composers.

I need not pursue the subject in greater detail. Wherever we look—in all ages, among all peoples—we encounter the same story with regard to that large and varied and most precious outcome of the human mind which may be grouped under the categories of the fine arts and literature. There is a history of improvement and growth up to a certain culmination or phase of maturity. Beyond that point no further growth seems possible, but rather, instead, a tendency to decline and decadence.[3]

The evolution of science differs fundamentally from that of literature and the fine arts. Science advances by a succession of discoveries. Each discovery constitutes a permanent addition to natural knowledge, and furnishes a post of vantage for, and a suggestion to, further discoveries. This mode of advance has no assignable limits, for the phenomena of Nature—the material upon which science works—are practically infinite in extent and complexity. Moreover, science creates while it investigates; it creates new chemical compounds, new combinations of forces, new conditions of substances, and strange new environments, such as do not exist at all on the earth's surface in primitive nature. These "new natures," as Bacon would have called them, open out endless vistas of lines of future research. The prospects of the scientific inquirer are therefore bounded by no horizon, and no man can tell what ultimate issues he may reach.

The difference here indicated between the growth of art and literature and the growth of science is, of course, inherent in the subjects, and is not difficult to explain. The creation of an artist, whether in art or literature, is the expression and embodiment of the artist's own mind, and remains always, in some mystic fasbion, part and parcel of his personality. But a scientific discovery stands detached, and has only a historical relation to the investigator. The work of an artist is mainly subjective—the work of a scientific inquirer is mainly objective. When and after a branch of art has reached its period of maturity, the pupil of a master in that art cannot start where his master ended, and make advances upon his work; he is fortunate if at the end of his career he can reach his level. But the pupil of a scientific discoverer starts where his master left off; and, even though of inferior capacity, can build upon his foundations and pass beyond him. It would seem as if no real advance in art and literature were possible except on the assumption that there shall occur an enlargement of the artistic and literary faculty of the human mind. No such assumption is required to explain and render possible the continuous advance of science. The discoverer of to-day need not be more highly endowed than the discoverer of a hundred years ago; but he is able to reach further and higher because he stands on a more advanced and elevated platform built up by his predecessors.

V.

The fatal weakness of previous civilisations lay in the absence of any element which had inherent in it the potentiality of continuous growth and unlimited expansion; and this is precisely what exact science supplies to modern civilisation. A sharp distinction must be drawn between the so-called science of antiquity and the science of to-day. The ancients had a large acquaintance with the phenomena of Nature, and were the masters of many inventions. They knew how to extract the common metals from their ores; they made glass; they were skilled agriculturists; they could bake, brew, and make wine, manufacture butter and cheese, spin, weave, and dye cloth; they had marked the motions of the heavenly bodies, and kept accurate record of time and seasons; they used the wheel, pulley, and lever; and knew a good deal of the natural history of plants and animals, and of anatomy and practical medicine. This store of information had been slowly acquired in the course of ages, mostly through haphazard discovery and chance observation, and formed a body of knowledge of inestimable value for the necessities, conveniences, and embellishments of life. But it was not science in the modern sense of the word.[4] None of this knowledge was systematised and interpreted by co-ordinating principles, nor illuminated by generalisations which might serve as incentives and guides to further acquisitions. Such knowledge had no innate spring of growth; it could only increase, if at all, by casual additions—as a loose heap of stones might increase—and much of it was liable at any time to be swept away into oblivion by the flood of barbaric conquest.

It is quite obvious, from the subsequent course of events, that their came into the world of natural knowledge about three centuries ago, in the time of Galileo and Harvey, a something—a movement, an impulse, a spirit—which was distinctly new, which Bacon, with prophetic insight, termed a "new birth of time."

This remarkable movement did not originate with any startling revelation; it consisted rather in an altered mental attitude, and a method. There arose a distrust in the dicta of authority, and an increasing reliance on ascertained facts. These latter came to be regarded as the true and only data upon which natural knowledge could be securely founded and built up. Doubt and question took the place of false certainty. The hidden meaning of phenomena was sought out by observing them under artificially varied conditions—or, to use the words of Harvey, "The secrets of Nature were searched out and studied by way of experiment." *A priori* reasoning from mere assumptions, or from a few loosely observed facts, fell into discredit. Observations were repeated, and made more numerous and more exact. These were linked together with more rigid reasoning to stringent inductions. Hypotheses (or generalisations) were subjected to verification by experiment; and their validity was further tested by their efficacy in interpreting cognate problems and by their power to serve as guides to the acquisition of fresh knowledge. Instruments of precision were devised for more accurate observation of facts and phenomena—for weighing and measuring, for estimating degrees of temperature, the pressure of gases, the weight of the atmosphere, and for recording time. The sense of sight was aided by means of the telescope and microscope. The invention of instruments and appliances for assisting research was an essential and invaluable feature of the "new philosophy." It is singular that so little progress in this direction was made by the quick-witted Greeks of the classical period; and their neglect or incapacity in this respect largely accounts for their conspicuous failure in science as contrasted with their brilliant success in art and literature.[5]

VI.

The new method soon began to yield fruit—at first slowly, then more and more rapidly as the workers increased in number, and the method was more fully understood. Discoveries were no longer solely stumbled on accidentally, but were gathered in as the fruit of systematic observation and purposive research. It is not necessary for me, even if I had the time and ability, to trace the history of scientific discovery from the time of Harvey onward. I will only mention a few particulars by way of illustration. You all know how, as time passed on and knowledge expanded, the primary sciences became divided into separate departments for more minute study—how new sciences have arisen, some of which have now grown to vast proportions—how improved instruments and appliances of infinite delicacy have been invented to aid research—and how, in the present age, the gains of pure science have been turned to innumerable channels of practical utility.

The advances made in physics and mechanics during the seventeenth and eighteenth centuries prepared the way for the invention and perfection of the steam engine in the nineteenth century. The introduction of the steam engine increased at a bound the power of the human arm many-fold. Through its instrumentality the land has been covered with railways, and the sea with ocean steamers. Electrical science has given us the telegraph and telephone, a new illuminant, and a new motor. The steam printing press, the telegraph, and the railway together, have made it possible to produce that perhaps most wonderful of all the indirect outcomes of the growth of science—the modern newspaper. The great science of chemistry has revealed the composition of the material world; has originated vast industries, which give work and wages to millions of the population; and has placed all kinds of manufacturing processes upon a basis of scientific precision. Under cover of chemistry have sprung up the subsciences of photography and spectroscopy, which have given a new and unexpected development to our knowledge of the heavenly bodies. The revelations of palæontology and embryology have led to the establishment on a firm basis of the theory of organic evolution. This theory—by far the most penetrating generalisation of our time—has not only thrown a flood of light upon the deepest problems of natural history, but has also revolutionised the whole domain of speculative thought. Physiology and practical medicine have profited immensely by the general advance of the sister sciences, and by the adoption of scientific methods in the prosecution of research. Optical science gave birth to the achromatic microscope. The microscope has laid bare the minute structure of plants and animals, and introduced zoologists and botanists to a vast subkingdom of minute forms of life, previously undreamt of. The microscope also, in conjunction with chemistry, founded the new science of bacteriology. Bacteriology has inspired the beneficent practice of antiseptic surgery; it has also discovered to us the parasitic nature of zymotic diseases—and opened out a fair prospect of ultimate deliverance from their ravages.

Thus have the several sciences advanced, and are still advancing, in concert, step by step, by mutual help, at an ever-increasing speed—pushed on by that irrepressible forward impulse which has characterised the scientific movement from its inception. This movement has now become the dominant factor in civilisation.

VII.

There is no doubt that, under the reign of science, a striking

amelioration in the state of society has taken place. The mass of the people are better housed and fed—and, above all, better educated. Their sanitary surroundings are improved, and the death-rate has fallen. Crime and pauperism have diminished, and there is greater security for person and property. The amenities and enjoyments of life are on the increase, and the average scale of comfort is markedly raised. Moreover, this amendment is not confined to the material and physical well-being of the population. There is some evidence that the complex of conditions we term "modern civilisation" is acting favourably in the direction of making people more reasonable, and better conducted. Peace is now the normal condition between civilised states; and there is a growing trend of opinion in favour of settling international differences by the more rational method of arbitration, rather than by war. Political morality approximates more nearly to that recognised as proper in private life. The duel has almost been laughed out of court. Industrial quarrels are conducted with more order; and there is an appeal to facts and reason on both sides, and more readiness to adjustment by compromise.

The whole environment of modern life seems in several ways calculated to foster habits of correct thinking and acting. The inclusion of science in the scope of general education is a very important innovation. This extends the range of subjects in regard to which precise reasoning is possible; and tends to promote the application of scientific modes of thinking and reasoning to all the problems of life. We may be quite sure that exact thinking leads in the main to correct conduct; an evil deed is not only a crime, but also a blunder. The periodical press must, one would think, be a good training-school for thinking and reasoning. The discussion of all sorts of questions in its columns can scarcely fail to have an educating effect. The disputants must perforce read one another's arguments and be, consciously or unconsciously, influenced thereby. It may be assumed, or at least hoped, that there is in arguments, as in organic forms, a tendency to the survival of the fittest—and that in the long run the better argument carries the day. The blaze of publicity amid which we live, through the ubiquitous newspaper, lends an additional motive to right doing. The "fierce light which beats upon a throne" beats nowadays also upon the citizens, and doubtless helps to keep them in the straight path.

"But," say the prophets of evil: "This will not endure; modern civilisation, based on science, will in time go the way of all its predecessors, and end in extinction or in decay and stagnation." It is proverbially unsafe to dogmatise about the future; and in all human affairs, even those termed scientific, there is nothing so certain as the unexpected. This, however, may be affirmed: that if modern civilisation is to come to an end, it will not perish in the same way, nor from the same causes, as previous civilisations.

One of the standing perils of civilised communities in ancient times was the risk of being subjugated by less civilised neighbours, or of being overwhelmed by hordes of barbarian invaders. This danger no longer threatens us. Power has passed for ever into the hands of the nations which cultivate science, and invent. The appliances of war are now placed on a scientific basis; and the issue of battle is decided in the laboratories of the engineer and chemist. The late C. H. Pearson argued that the dark and yellow races, in virtue of their greater number and fecundity, might in time come to dispute the supremacy of the white races—that they would learn the drill and copy the armaments of European armies, and thus equipped would be able, by their superior mass, to hem in and curb, if not to subjugate, the Western nations. But the march of science and invention never stops; and it is inconceivable that the scientific nations shall not always be many stages in advance of the unscientific nations in the destructiveness of their weapons and the perfection of their military equipments—and this would give them an advantage which scarcely any disparity of numbers could neutralise. The "yellow terror" can never be more than a phantom until these races begin to show capacity for scientific discovery, and the further (and somewhat different) capacity for turning their discoveries to practical uses.

Against the more insidious peril of decay and stagnation the scientific movement seems also to offer effective safeguards. We sometimes hear complaints of the hurry and bustle—the stress and strain—of modern life; this unrest may incommode individuals, but it is the antiseptic of society. Probably the deadliest predisposing factor in the decline of former civilisations was the mental inanition arising from deficiency of fresh and varied intellectual pabulum. Physiological analogies lead us to the inference that an idle brain, like an idle muscle or an idle gland or nerve, would deteriorate in function; and, conversely, that a well-exercised brain would tend to reach its possible best. I conceive that our forefathers and the ancients, for the most part, led somewhat monotonous lives. They had but little fresh and varied food for thought. The generality could not, for lack of "news," take a sustained interest in the course of public events. The world of science was an unopened book. Intercommunication was slow and difficult; and the whole current of existence flowed sluggishly. Contrast this with the vivid abounding life of the present day. Veins of interest are greatly multiplied, to meet and satisfy the infinitely varied individual aptitudes of men and women. A considerable number of persons of both sexes now busy themselves, either as amateurs or something more, with the study of some branch of science or natural history. Those whose bent is to politics, art, letters, sport, or fashion, find in the daily newspaper and the periodical press an unfailing fresh supply of the mental food they love. Business and pleasure are carried on with a briskness formerly unknown, and the pulse of national life is quickened through every part. It seems impossible that decay should invade the body politic while such conditions of all-pervading activity prevail, and there is no valid reason why such conditions should not continue to prevail. It has often been remarked that periods of national upheaval, when men's minds are deeply stirred—like the rise of Islam, the Protestant Reformation, and the French Revolution—were exceptionally prolific of able men. It does not appear altogether unreasonable to suppose that the stir and movement of modern life may be similarly favourable to the production of "men of light and leading" for the service of the community. The proximate cause of the downfall of states seems always to have been a defective supply of strong and capable men at the head of affairs, and in positions of trust. The *dolce far niente* is not conducive to the formation of strong characters; and those who sigh and yearn for social quietism may find comfort in the reflection that the hum and buzz which disturbs them is a sure token of the health and strength of the common hive.

It is given to few to deliver a stroke of work like that of Harvey. But many of those before me have done something, and some a great deal, to forward the beneficent march of science. To lift the veil from even the smallest corner of the unknown in Nature is not only a pure delight but is surely also doing a service in the cause of humanity. We are here to-day all disciples of Harvey, paying willing homage to his great name. And though we cannot pretend to his genius, we can all of us take to heart the lesson of his life, and seek to emulate his gentleness, his patient industry, his single-minded devotion to a high purpose, and his unswerving loyalty to truth.

NOTES AND REFERENCES.

[1] In those days the yeomen of Kent were persons of consideration. There is an old rhyme which runs:

A knight of Cales,
A squire of Wales,
And a laird of the North countree;
A yeoman of Kent
With his yearly rent
Will buy them up all three.

[2] Works, p. 103. [3] If we take a wider view of the constituent elements of organised society—and embrace in our consideration the religious systems, the political and civil institutions, the military organisations, the commerce and the miscellaneous disconnected mass of natural knowledge existing in the older civilisations we look in vain for any constituent which had more than a limited scope of expansion, and was not subject to decay. [4] "It is not a collection of miscellaneous, unconnected, unarranged knowledge that can be considered as constituting science."—*Whewell.* [5] Whewell observes (*History of the Inductive Sciences*, vol. i, book 1, chap. iii): "The Aristotelian physics cannot be considered as otherwise than a complete failure. It collected no general laws from facts; and consequently, when it tried to explain facts, it had no principles which were of any avail." Whewell argues that this failure was not due to the neglect of facts. He goes on to say: "It may excite surprise to find that Aristotle, and other ancient philosophers, not only asserted in the most pointed manner that all our knowledge must begin from experience, but also stated in language much resembling the habitual phraseology of the most modern schools of philosophising, that particular facts must be *collected;* that from these general principles

must be obtained by *induction*; and that these principles, when of the most general kind, are *axioms*." Then he quotes passages in proof from Aristotle's writings. It is, however, pretty evident that Aristotle's reverence for facts was no more than a pious opinion, which he habitually ignored in the actual handling of questions of natural knowledge. His treatise "On the Parts of Animals" bristles with errors of observation which a very moderate amount of painstaking would have rectified. Had the ancient Greeks, and their successors in the Middle Ages, been more accurate observers of facts, and had they sought for and invented instruments for the more exact observation of facts, they would not have so conspicuously failed to establish at least the foundations of exact science. The historian of the inductive sciences, however, will have it otherwise. He sums up his argument thus: "The defect was that, although they had in their possession *Facts and Ideas, the Ideas were not distinct and appropriate to the Facts.*" Is it not rather the case that the "Ideas were not distinct and appropriate to the Facts," precisely because the "Facts" were indistinctly seen and imperfectly apprehended? [6] Mr. Mulhall calculates that "our steam power in the United Kingdom is equal to the force of 169,000,000 able-bodied men, a number greater than the whole population of Europe could supply.—*National Progress during the Queen's Reign*, p. 22.

AN EXPERIMENTAL INVESTIGATION OF THE CERVICAL AND THORACIC NERVE ROOTS IN RELATION TO THE SUBJECT OF WRY-NECK.

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[Abstract*]

There is an abundance of evidence to show that in a large proportion of cases of spasmodic wry-neck, surgical measures, such as division of muscles and stretching of the spinal accessory nerve, are useless, and that there must be few cases in which even excision of a portion of the nerve can be expected to lead to permanently good results, in that in the majority of cases which come under observation, muscles beyond its control take part in the spasm. Further, in that the sterno-mastoid has a double nerve supply, the spinal accessory and the posterior branches of certain cervical spinal nerve roots, even in those cases in which the spasm appears to be limited to this muscle, it scarcely seems reasonable to suppose that severance of only one of its paths of connection with the central nervous system is likely to do more than lessen the spasm in the muscle, while another path by which impulses can reach it from the nerve centres is still intact. Complete section of both of these paths of connection with the central nervous system can alone be expected to result in complete arrest of spasm in the muscle. If this be true with regard to the cases in which the sterno-mastoid alone appears to be involved, how much more unlikely is it that any such surgical measures directed to the spinal accessory nerve can influence the spasm in muscles, over which this nerve has no control, and which are obviously involved in so many cases of wry-neck.

The only surgical procedure which offers a reasonable prospect of permanent relief in such cases is division (with excision of portions) of the posterior branches of the upper cervical spinal nerve roots, an operation devised by Gardner in Melbourne and Keen in America, and which has been practised by Horsley in this country. This being the case, it seems of no small importance that we should accurately determine by experiment (1) The exact number of nerve roots, electrical excitation of which results in contraction of muscles which bring about movements of the head on the trunk; (2) The precise position in which the head is placed by contraction of the group of muscles supplied by each individual nerve root; (3) In how many roots a given muscle is represented; and (4) The muscles represented in each nerve root.

The necessity for such an investigation will be obvious if the results which I have obtained in the present research are compared with the statements made in the standard text books on Anatomy in this and other countries.

The experiments on which the present paper is based have been conducted in monkeys, macacus rhesus chiefly, and also a few macacus sinicus being used. In all the experiments the first point investigated was the position assumed by the head on excitation of the motor portions of the individual cervical and thoracic roots. The investigation was further conducted so that a given root was excited in some instances, and all the muscles which responded were noted, while in other instances a given muscle was kept under observation, while each nerve root of the series investigated was in turn excited, and a note made of those, stimulation of which evoked contraction in the muscle.

On comparing the results of this research with those I obtained when the limb plexuses were under investigation, there appears to be considerably more individual variation with regard to the nerve root supply of the neck muscles than of those of the limbs.

As in the case of the limb muscles, so in those of the neck, it was abundantly evident that different segments of any given muscle responded when one or other of the nerve roots supplying the muscle was excited electrically.

This differentiation of one part of a muscle from another by means of its nerve root supply served as a means of differentiating different parts of a complex muscle, such as the erector spinæ in a most interesting manner, and not less interesting was the way in which segmentation of the diaphragm was thus shown. On comparing the combined movement which results on excitation of a given nerve root with the individual muscles actually represented in the same root it becomes obvious that the resulting combined movement must depend on the preponderance of certain muscles over others which if acting alone would bring about a very different movement.

The muscles deriving their nerve supply from any given nerve root occupy both the dorsal and ventral aspects of the neck and trunk.

Despite the variations met with as regards the precise muscles represented in a given root, or the roots supplying a given muscle, the movement resulting on excitation of each root remains wonderfully constant, such variations as are met with being so slight as not to alter materially the predominating movement characteristic of each root.

In the case of such small short muscles as the posterior recti and obliques, the nerve supply appeared to be derived from a single nerve root in most cases, but this is quite exceptional, as all the other muscles of the neck and back investigated derived their nerve supply from two, three, or more nerve roots.

Practical Bearing of the Results on the Treatment of Wry-Neck.

A knowledge of the precise muscles innervated by any given nerve root cannot fail to be of great advantage in any consideration as to the nerve roots, division of which is most likely to be attended with the relief of spasm in wry-neck. This is, of course, of special value with regard to those muscles sufficiently superficial in position to allow of their being seen or felt to be in a state of spasm. But the knowledge is also of use to us with regard to muscles too deeply seated to be seen or felt with certainty, for a knowledge of the movement brought about by the action of this or that muscle enables us to ascertain fairly satisfactorily which muscles are probably in a state of spasm.

Important as is this knowledge of the precise innervation of the various muscles responsible for the movements of the head on the trunk, no less important is the information which we derive from those experimental results in which the position assumed by the head in relation to the trunk was noted. The results obtained in this connection point clearly to the fact that in the most common forms of torticollis surgical treatment must be directed, chiefly at all events, to one or all of the four upper cervical nerve roots. It is further evident that where the lateral inclination of the head by which the shoulder and side of the head and face are approximated, exists, the first and second cervical nerve roots are those to which attention should be directed, while in those instances in which the chief movement of the head is one in which the occiput is drawn backwards, so that the face looks more or less upwards, the third and fourth cervical nerve roots should engage our attention.

* The full text of the paper giving details of the experimental methods employed and the results obtained appears in the current number of *Brain*.

The results further point to the fifth and sixth cervical nerve roots being the least likely, of the cervical series, to conduct impulses from the central nervous system, the cutting off of which is likely to be followed by any material relief in any muscular spasm which may be present causing wry-neck.

It is also important, with a view to prognosis after such operations, that even muscles supplied by the seventh and eighth cervical nerve roots may by their spasm bring about movements of the head on the trunk indirectly, in which connection the trivial indirect movement of the head resulting on excitation of the upper thoracic nerve roots may not be altogether without a certain amount of importance.

One class of cases of wry-neck, happily not common, is placed beyond the possibility of surgical relief, as far as division of nerve roots is concerned, by a consideration of the results obtained in this investigation. I allude to those cases in which the spasm is limited to, or chiefly involves the scaleni muscles, which are innervated from the sixth or seventh cervical to the third or fourth thoracic nerve roots. Apart from the obstacle to interference with the lower cervical and first thoracic nerve roots owing to the innervation of the upper limb being derived from these roots, that accelerator and augmentor fibres of the heart are contained in the upper thoracic roots[1] may be a point not to be altogether neglected in any operation directed to these roots.

A not unimportant consideration in prognosis after such operations for wry-neck is the question whether, in those cases, for instance, in which a muscle is represented mainly in two nerve roots, but also to a lesser degree in a third, the full force of nervous discharge may reach the muscle by this comparatively insignificant path now that it can no longer reach it by the main paths. That this is not probable, is suggested by the fact that any given nerve root only supplies a portion of a muscle and not the whole of it, as I have shown in this and in previous papers, and that in a case such as that supposed above the portion of muscle would be very small, and therefore, even if receiving the full force of the discharges from the central nervous system, the muscular fibres capable of responding are too few to give anything like an adequate exhibition of the full force of the central disturbance. As further supporting this view may be instanced the fact that in investigations in which the spinal nerve roots which contribute to the formation of the limb plexuses were the subjects of experimentation,[2] I showed that division of one or more nerve roots altered the position assumed by the limb during general convulsions subsequently induced, by the intravenous injection of absinthe, in a manner directly proportional to the amount of this or that muscle excluded from taking part in the convulsions, in consequence of the division of one or more of the nerve roots from which it is innervated.

But as opposed to these considerations must be borne in mind the fact that in the investigations dealing with the limb plexuses, I further showed that the power of recovery after division of a nerve root was wonderful, and that this occurred when all possibility of reunion of the divided ends of the roots taking place was placed beyond question. The immediate effect of the division showed itself in the altered position of the limb in standing or of its movements in progression, weakness of one or more movements of the limb being evident; but in a wonderfully short time all traces of these defects passed off, and it became difficult to detect any abnormality in the position of the limb in standing, or of its movements in progression. That the provisions for compensation were great was evident, but it was not so easy to explain how this compensation was brought about. Of the theories that might be advanced in explanation of the fact, two appeared to me to be worthy of consideration. The first of these supposed it possible that certain cells of the cerebral cortex were responsible for impulses which could reach the same muscle by different nerve roots, and that the division of one of these nerve roots by which such impulses pass might produce a reflex inhibitory effect[3] on the cortical cells from which the impulses it conducts are derived, so that the amount of actual loss of motor power in the first instance is more than that resulting from the exclusion of the parts of the muscles innervated by the divided root, and that as the cerebral cells recover from the inhibitory action so power is restored to the parts of the muscles still in connection with the central nervous system. The second hypothesis supposed no such inhibitory effect on the cells of the cerebral cortex: these cells were regarded as being capable of discharging the same amount of energy as before, but the impulses meet with a block owing to the division of the fibres along which they formerly passed. Gradually, however, the impulses are diverted, it may be through the anterior horn cells of the spinal cord along other channels, and thus in time the fibres of the muscle which are supplied by an intact root receive almost the same amount of stimulation as did the whole muscle formerly.

Between these two hypotheses there seemed little to choose when dealing with the limb muscles, most of which received their innervation from two roots, and the difference of the amount supplied by the two roots was not too great to make either of these theories untenable.

A third possibility suggests itself to me as worthy of passing consideration. Is it possible that the normal stimulus reaching the fibres of the part of a muscle still in connection with the central nervous system is capable of inducing secondarily a contraction of other fibres of the same muscle, no longer indirectly connected with the central nervous apparatus? In this connection it is worth remembering that even after complete section of all the nerve fibres to a muscle, the muscle fibres do not become fattily disintegrated, but undergo a very slow process of atrophy. It is not unreasonable, therefore, to suppose that when only part of the nerve fibres of the muscle are divided the muscle fibres connected with them may be prevented from undergoing any great amount of this simple atrophy even, owing to their being brought into physiological action indirectly through the agency of some influence derived from the muscle fibres which are still in connection with the central nervous system.

References.

[1] *Cf.* Bradford and Dean, *Journal of Physiology*, vol. xvi, 1894, p. 34. [2] *Phil. Trans.*, vol. clxxiv, 1893, p. 41 and *Proc. Royal Soc.*, vol. liv. 1893, p. 243. [3] *Cf.* Bubnoff and Heidenhain, *Pflüger's Archiv.*

THE PTERYGO-SPINOUS FORAMEN FROM A SURGICAL STANDPOINT.

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Almost immediately after its exit from the skull by the foramen ovale the inferior maxillary nerve divides into two parts, the larger division forming the auriculo-temporal, inferior dental, and lingual nerves; the smaller one, the masseteric, external pterygoid, and buccal branches. In the angle formed by these two primary divisions lies the pterygo-spinous ligament, which is a fibrous band extending from the root of the external pterygoid plate to a spot on the great wing of the sphenoid a little in front of the foramen spinosum. Thus at the point of division of the inferior maxillary nerve the smaller branch is encircled by the pterygoid plate of the sphenoid above and the pterygo-spinous ligament below, and in the event of the pterygo-spinous ligament being ossified a complete foramen is formed, the pterygo-spinous foramen, from which this branch makes its exit. With regard to the comparative frequency of the existence of the pterygo-spinous ligament, and of its ossification, the following table

	Number of specimens.	Percentage (approximate).
Ligament absent	30	14
Ligament imperfectly formed and described as membranous	13	6
Ligament present and unossified	141	67
Ligament partly ossified	21	10
Ligament completely ossified	6	3
Total	211	100

is supplied in the report of the Committee of Collective Investigation of the Anatomical Society published in the *Journal of Anatomy and Physiology* in 1894.

Out of eight subjects which I examined a complete bony pterygo-spinous foramen was present in one. In this case it was present on both sides. I have also met with it once in operating. Thus I have met with this variation in two out of nine cases.

The question of the possible existence of the pterygo-spinous foramen deserves consideration in consequence of the impediment it is liable to prove to the successful performance of certain operations. In the operation of excision of the inferior maxillary nerve at the foramen ovale, if a pterygo-spinous foramen is present, that portion of the nerve which passes through it will be protected and probably preserved from division, and thus the object for which the operation was undertaken, namely, the complete removal of the nerve below the foramen ovale, will be defeated. In the case of partial ossification of the pterygo-spinous ligament, the efficiency of the protection afforded to the above-mentioned portion of the inferior maxillary nerve, and the chance of its escaping division in this operation, will of course vary with the amount of ossification present.

In Rose's operation for the removal of the Gasserian ganglion, should there be a pterygo-spinous foramen, this will be the foramen first arrived at in exposing the edge of the foramen ovale by scraping off the pterygoid muscle from its attachment to the sphenoid. When operating it is extremely difficult to distinguish the pterygo-spinous foramen from the foramen ovale. The operator will probably conclude that he has reached the foramen ovale, and will apply his trephine to the edge of the pterygo-spinous foramen. This mistake will much increase the difficulties of the operation, and may give rise to complications which will prevent its successful completion.

The following case illustrates the points to which attention has been called above:—

Mr. P. A. first came to me at the beginning of 1890, at which date he was 54 years of age. He had been a sufferer from trigeminal neuralgia for ten years. The case was a typically severe one. It was confined to the right side.

Two diagnostic points localising the disease to the third branch of the fifth nerve deserve notice.

The patient stated that when his complaint first began the pain was always brought on by movements of the jaw, and was felt just behind the articulation of the lower jaw, from whence it spread over the side of the head and face. It would appear from this that the auriculo-temporal branch was first affected, and that pain was set up by traction on the fibrous sheath derived from the dura mater, in which the inferior maxillary nerve is enveloped, and whose tubular prolongations over the auriculo-temporal and masseteric branches are blended with the capsule of the temporo-maxillary articulation, and are exposed to a certain degree of traction during the movements of the lower jaw. Secondly, I noticed that during very severe and prolonged attacks of pain the right side of the tongue became thickly furred, while the left side appeared natural, or only slightly affected in this way. This appearance seemed to suggest trophic changes resulting from nervous disturbance.

As the patient stated that he had derived benefit from an operation on the auriculo-temporal nerve performed by Dr. Greathead, of Grahamstown, in 1886, I decided to remove the terminal ends of the inferior dental and lingual nerves. This was done in March, 1890. I divided the inferior dental nerve in the dental canal immediately in front of the masseter muscle after exposing the canal by means of a small trephine and dragged out the terminal end of the nerve through the mental foramen. About two inches of the lingual nerve was removed by dissecting it out at the base and side of the tongue. This operation gave perfect rest for one year. During the next six months the patient had occasional twinges. During the following six months the pain increased and began to resume its old character.

In June, 1892, I excised the inferior maxillary nerve at the foramen ovale, reaching the nerve by deepening the sigmoid notch. I removed all that left of the inferior dental nerve by dragging up the part that was left in the inferior dental canal through the dental foramen. This operation gave rest for about two years and a half, after which time the pain began to return.

I then tried the effect of the *percuteur*. During the first six months of 1895 I gave the patient 100 sittings, each lasting half an hour. During this period the attacks of pain gradually increased in severity. I was not able to satisfy myself that this treatment affected the course of the disease.

In November, 1895, I operated on the Gasserian ganglion by Rose's method. At the time of the operation the possible existence of a pterygo-spinous foramen was present to my mind in consequence of my having met with this variation only a few days previously in the course of a dissection. Nevertheless I decided (wrongly, as it turned out) against this condition. I mention this in order to show how difficult it is to recognise the pterygo-spinous foramen when operating. It was not until the plate of bone cut out by the trephine had been removed that I became aware that what I had taken to be the foramen ovale was really a pterygo-spinous foramen. The trephine hole was therefore wrongly situated, the trephine having been placed against the edge of the pterygo-spinous foramen instead of against that of the foramen ovale. The distance between the outer edge of the foramen ovale and the nearest point of the trephine hole was about $\frac{3}{16}$ inch. There was, therefore, a considerable thickness of bone to be removed before the ganglion could be reached, and in doing this with the chisel the cavernous sinus was unfortunately opened. This accident was, of course, a most formidable obstacle to the successful completion of the operation. The end of the nerve which had been divided at the foramen ovale at the previous operation was fixed to the bone and neighbouring tissues by firm adhesions, while that part of the nerve issuing from the pterygo-spinous foramen appeared to have escaped division altogether. The adhesions were broken down and the superior maxillary nerve divided behind the foramen rotundum, but at this stage I found I must abandon my original intention of dissecting out the ganglion in consequence of the profuseness of the hæmorrhage, and was forced to content myself with cutting through the ganglion and removing the remains of the inferior maxillary nerve together with that part of the ganglion in immediate connection with it. When I last heard from my patient, eighteen months after this operation, he had been absolutely free from pain since its performance.

The practical conclusions to be drawn from the above case may be summed up as follows:—

1. The possible existence of a pterygo-spinous foramen is a point against the performance of excision of the inferior maxillary nerve at the foramen ovale.

2. It is a point in favour of the Hartley-Krause operation on the Gasserian ganglion as compared with Rose's operation.

PERFORATE SEPTUM VENTRICULORUM, WITH INFECTIVE ENDOCARDITIS OF THE PULMONARY VALVES.

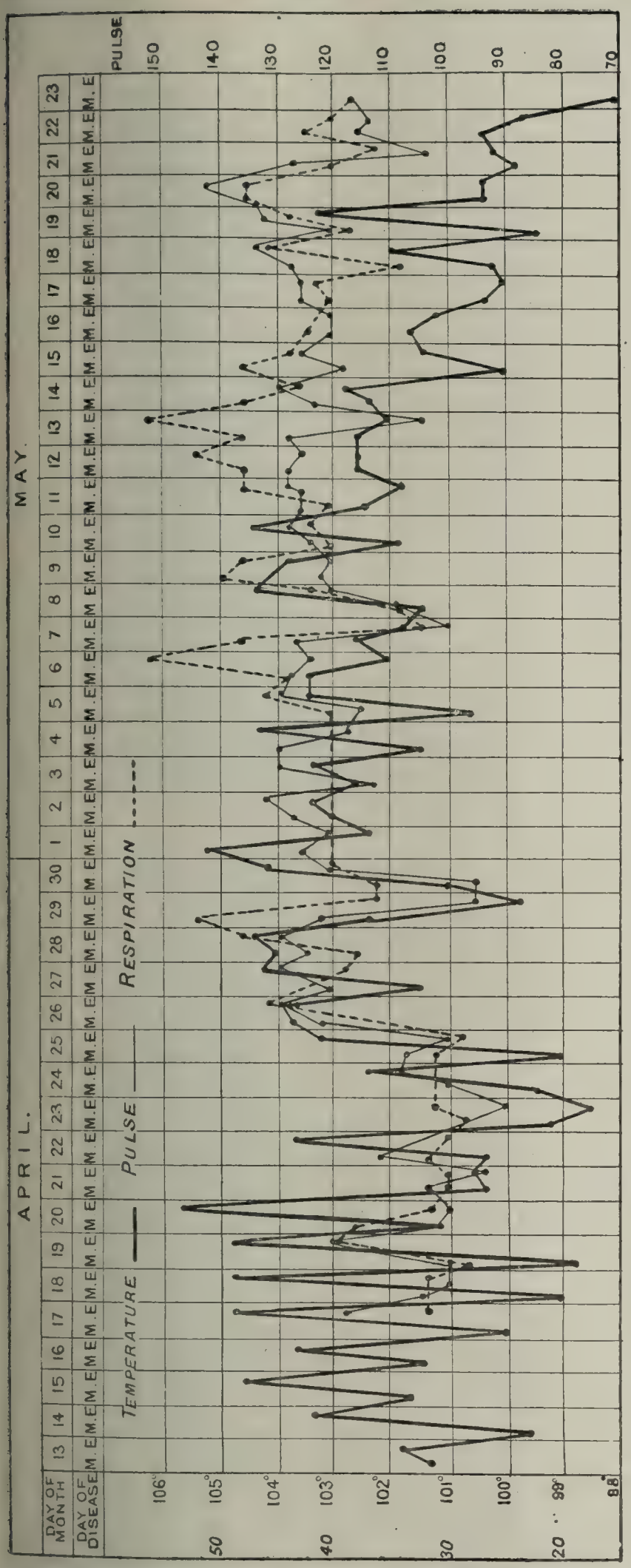
By WILLIAM GORDON, M.D., M.R.C.P.,

Physician to the Devon and Exeter Hospital and to the West of England Eye Infirmary.

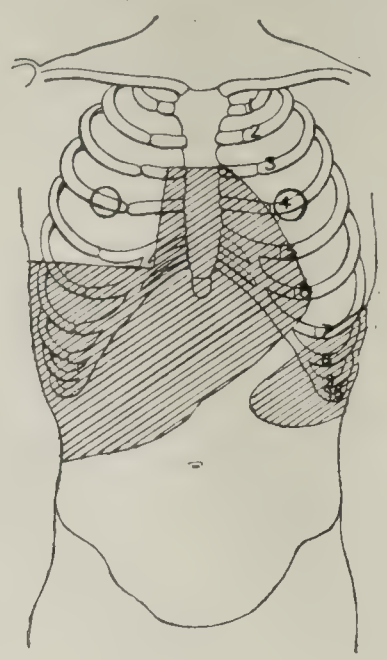
THE following case presents, perhaps, some points of interest from (*a*) its bearing on the intracardiac blood-currents of malformed heart; (*b*) the difficulty of diagnosis caused by the limitation of the endocarditis to the right side; (*c*) the assistance rendered in this difficulty by alterations in the area of cardiac dulness, (*d*) a few other features in the course of the case.

The patient, W. F., a small boy aged 5, was admitted to the Devon and Exeter Hospital under my colleague, Mr. Harris, on April 13th, 1893, complaining of pain round the left heel and in the cervical spine, evidently very ill, and with a high temperature. Nothing definite being discoverable at either seat of pain—the pain in the cervical region indeed soon disappearing—and the condition of the heart suggesting infective endocarditis, he was transferred to my care on April 17th.

History.—The history, which was not forthcoming till late in the case was rather scanty. The boy had been subject, since the age of 10 months, to attacks of palpitation, and a doctor who examined the chest when he was 12 months old said that "he never could be reared." Till three weeks before his admission he had been in his usual health, but then began to complain of pain in his left heel. No cause for this could be assigned. Four days later he said his neck hurt him, and his mother noticed that he was very feverish.



Present State, April 17th.—The fever when I saw him was high and oscillating, with profuse perspiration at each fall of temperature. He was a very pale, thin, pigeon-breasted child, looking extremely ill, but without any trace of cyanosis. Nothing definite could be made out in the cervical region, but about the left heel there was some slight puffiness and tenderness, especially under the os calcis and between its posterior upper surface and the tendo Achillis. There was, however, no fluctuation. On placing the hand over the heart, one became at once aware of a very marked thrill, systolic and palpable over the whole cardiac area to the right of the apex beat. At the apex beat itself, which was in the sixth space and left mammary line, it was not palpable. The area of cardiac dulness extended from the apex beat upwards to the third left costal cartilage, and rightwards as far as a finger breadth to the right of the right edge of the sternum. A very loud and harsh systolic murmur was heard over the whole front of the chest, loudest at the junctions of the third and fourth left costal cartilages with the sternum. This murmur could not be said to be conducted especially in any one direction. The



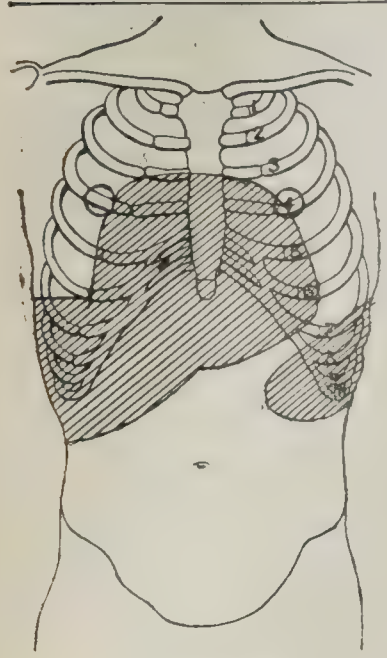
second sound was scarcely audible anywhere. The pulse was regular at 118 a minute. The respirations were 32 a minute, and there was some cough. The tongue was perfectly clean, the stools natural, only rather dark; there were no spots or petechiæ on the abdomen or elsewhere; the spleen came down below the ribs with a soft edge, and the liver was considerably enlarged. A largish tender gland was found in the left axilla and a few small glands over the left clavicle. The urine was 1020, clear, and contained no albumen.

The character and position of the murmur were strongly suggestive of perforate septum ventriculorum, and, as we had then no history of importance, the diagnosis became a matter of considerable interest. The problem was: Had one to do with an ordinary case of infective endocarditis and an unusual murmur, or with some other infective disease *plus* a malformed heart, or with a malformed heart *plus* infective endocarditis? With regard to the murmur, this was difficult to associate with any ordinary valvular defect, and although the anæmia was very pronounced the murmur was not the least like any hæmic murmur one had heard, and it was, moreover, associated with a pronounced thrill. As to other infective diseases, one's choice practically lay between local suppuration, typhoid, general tuberculosis, and pyæmia other than cardiac. There was no evidence of any local collection of pus. There were no symptoms justifying the diagnosis of typhoid. There was no cerebral disturbance, no choroidal tubercles, no definite signs (then) in the lungs, and no evident old tuberculous lesions anywhere. Every part of the surface was searched for wounds, the bones were gone over with a view of possible osteomyelitis, the ears were examined, the muscles, and the throat with negative results, the only doubtful part being the left heel. In respect of infective endocarditis, however, there was also no certainty; in neither retina, skin, vessels, brain, nor kidney was there any evidence of embolism, and the spleen was not tender as an infarcted spleen would be. Altogether it was felt impossible to make a decided diagnosis at once. Meanwhile large doses of quinine, with abundant food and stimulants, were ordered.

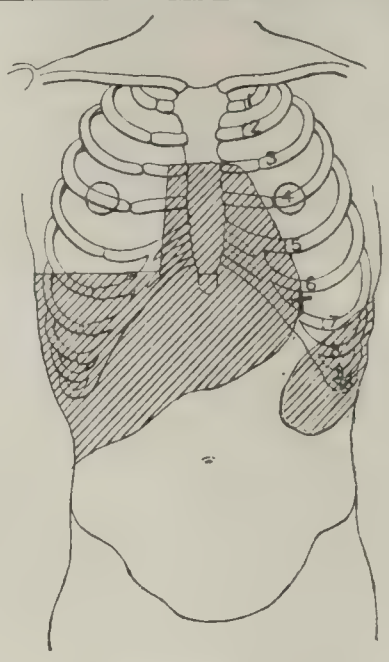
Course.—Naturally attention was mainly directed to the heart and to the tender part of the left heel. The tenderness of the heel persisted, but did not increase, and the swelling remained about the same—very slight; an exploring needle discovered nothing.

On April 19th the right side of the heart was noted to be dilating, the right margin of dulness moving rightwards without any change in the position of the apex beat. At the same time the cough became more troublesome. The spleen was increasing in size, but the liver decreasing.

On April 21st the right side of the heart was greatly dilated, the dulness reaching to the right mammary line. Spleen still larger, liver two finger-breadths below ribs in the right mammary line.



April 21st.

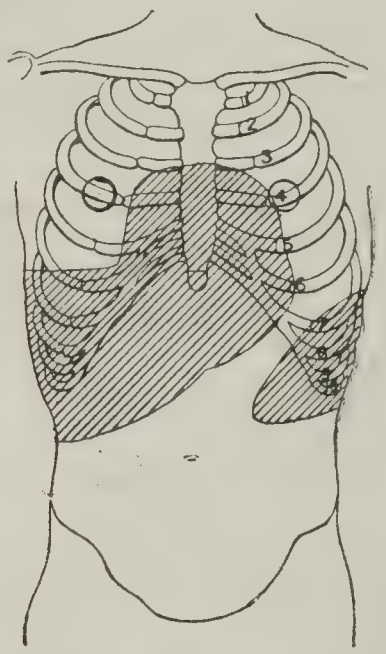


April 24th.

On April 24th the patient's condition had improved. The cardiac impulse was stronger, the second sound audible for the first time. The cardiac dulness had receded, and its right edge was now only a finger-breadth to the right edge of the sternum, as it had been on the 17th. The spleen was, however, still larger, and the liver now reached three finger-breadths below the ribs in the right mammary line; the cough was worse, there were rhonchi at both bases, and harsh breathing and *râles* could be heard at the apex of the right lung.

On 27th all improvement had ceased, the heart was once more dilating, cough was increasing, the temperature, which had somewhat fallen, was again high and swinging with profuse sweating.

On May 1st, as the quinine seemed useless, it was abandoned, and large doses of steel substituted.



May 5th.

On May 9th the pulmonary second sound was very marked; the second aortic unheard. The pulse felt "almost like that of aortic regurgitation."

On May 16th, for the first time, a very faint diastolic murmur could be made out at the lower end of the sternum.

On May 18th œdema of both feet set in, and on May 23rd death took place.

Necropsy.—The accompanying photographs (kindly taken for me by the house-surgeon, Mr. H. Andrew) show the condition of the heart. The pericardium was normal. The opening between the ventricles was congenital and of fair size, easily admitting an ordinary lead pencil. The aortic, mitral, and tricuspid valves, and the walls of the left cavities, were free from disease. The pulmonary valves and neighbouring walls of the right ventricle displayed a number of large grey-green vegetations, most of them rather friable; of these the largest was situated on one of the pulmonary cusps, and a small calcareous nodule at its apex had scored the adjacent arterial wall. They extended below the level of the interventricular opening. There were many recent infarcts in the lungs, especially the right, but no other infarcts anywhere. The os calcis and the bones about the left ankle were carefully examined, but no osteomyelitis was discovered.

REMARKS.

1. *Bearing on the Intracardiac Currents of a Malformed Heart.*—One generally assumes that, in cases of perforate septum ventriculorum, a blood current during systole of the ventricles sets from left to right, from the stronger ventricle to the weaker. And judging by the thrill, that was what occurred in this heart; but I do not know that we possess any information with regard to currents set up at other periods of the cardiac cycle. Consequently it adds, I think, to the interest of the case that we seem to have here an opportunity

of deciding whether a current at any period sets in the reverse direction, from right to left. A fair-sized, smooth-walled opening existed between the ventricles, large enough to permit a strong jet to be thrown through it in systole, as proved by the thrill; round this opening and close above it were masses of friable vegetation, actually throwing off emboli and producing pulmonary infarcts. Yet no extension of disease to the left side of the heart occurred, nor did emboli find their way into the systemic circulation. One can scarcely escape the conclusion that no current of any importance, at any period of the cardiac cycle, set from right to left.

2. *The Difficulty of Diagnosis.*—In dealing with infective endocarditis, the textbooks lay stress very rightly on the importance of the evidence afforded by embolism in various parts of the systemic circulation. But though they allude to pulmonary embolism, the distinction is not drawn, I venture to think, quite so clearly as it might be between the symptoms of right-sided and left-sided disease. In those cases where murmurs are absent, or doubtfully recent, the difficulty of diagnosing infective endocarditis is decidedly increased if the left side of the heart is not implicated.

3. *The Assistance rendered in this Case by Changes in the Area of Cardiac Dulness.*—When the patient is old enough to expectorate, hæmoptysis would, no doubt, help to set one on the right track. But failing hæmoptysis I would suggest that help might sometimes be derived from a daily mapping out of the area of cardiac dulness. In the present instance the rapid changes were probably largely due to the jet of blood shot through the congenital opening against the right ventricle wall, and the patient's age made the wall more yielding. But an inflamed heart wall dilates more readily than a sound one, and rapid cardiac dilatation in a doubtful case would be, to my mind, suggestive of intracardiac inflammation. At all events, rightly or wrongly, it was the rapid alteration in the cardiac dulness that led us in the above instance to a definite diagnosis of infective endocarditis.

4. *Other Points.*—The age of the patient was unusual. Of Professor Osler's 209 cases, only 3 or 4 occurred in children.[1] The odd way in which heart dulness and liver dulness varied in opposite directions is difficult to explain. The pulse-rate for a considrrable time moderate in proportion to the temperature deserves notice; also the low pulse-tension to which Dr. Sansom has drawn attention.[2] Pronounced anæmia is common in the disease. Uncommon as is the association of infective endocarditis with congenital heart disease, it would seem to be less so than one might imagine. Similar cases were described by Dr. Turner and Dr. Hector Mackenzie at a meeting of the Pathological Society on January 19th, 1892, in both of which, however, the left ventricle also was affected. At a meeting of the same society in November, 1892, Mr. Jackson Clarke described a case, and alluded to another, where right-sided ulcerative endocarditis co-existed with congenital pulmonary stenosis. If with Dr. Peacock we assume that intrauterine endocarditis is a cause of cardiac malformation, it is reasonable to consider that a valve so damaged should be prone to infective endocarditis, just as valves damaged in after-life by ordinary endocarditis are prone to become infected. At all events, such a case as the above is apparently not such a curiosity that one need hesitate to diagnose it when the indications are reasonably clear.

References.

oulstonian Lectures, British Medical Journal, 1885, vol. i, p. 467.
[2] *The Diagnosis of Diseases of the Heart and Thoracic Aorta*, p. 450.

DIPHTHERIA TREATED WITH SERUM.

THE FIRST 300 CASES OF DIPHTHERIA TREATED WITH SERUM, COMPARED WITH THE LAST 300 CASES TREATED WITHOUT IT, AT THE DIPHTHERIA BRANCH OF THE SYDNEY CHILDREN'S HOSPITAL.

By CHARLES P. B. CLUBBE, L.R.C.P.Lond., M.R.C.S.Eng.,
Hon. Surgeon to the Sydney Hospital for Sick Children.

As there is still a doubt in the minds of many men (even at this date), both in England and America, as to the efficacy of the serum treatment of diphtheria, it seems to me to be the duty of those who have the opportunity of watching this form of treatment in a special hospital to publish their results. It has been argued that a comparison of results is often valueless because the cases have not been treated in the same place, by the same man, and are not numerically the same. These arguments will not apply to the cases now under review. All these 600 cases have been treated in the same hospital,[1] and have been under my care. They have been treated exactly in the same way as to food, stimulants, drugs, and local applications. They have all been examined bacteriologically. Cases in which the Klebs-Loeffler bacilli were not found are not even included. The only difference in the treatment is that the last 300 had serum injected.

Table I.

Last 300 without Serum. Females, 169. Males, 131.

		Cured.	Died.	Death-rate.
Tracheotomies	199	64	135	67.8
Simple diphtheria... ...	101	78	23	22.7
Total	300	142	158	52.7

First 300 with Serum. Females, 158. Males, 142.

		Cured.	Died.	Death-rate.
Tracheotomies	129	80	49	37.9
Simple diphtheria... ...	171	160	11	6.4
Total	300	240	60	20.0

It will be noticed from this table that the total death-rate is diminished by 32 per cent., so that in the 300 cases 96 lives may be said to be saved.

There were 70 fewer tracheotomies in the last series, so that the serum treatment lessens the necessity for operation in 23 per cent. of cases. The death-rate in the tracheotomy cases is decreased by 30 per cent.

The following table shows that the ages were very much the same in the two series:—

Table II.

Last 300 without Serum.

Cases.		Cured.	Died.	Tracheotomy.	Cured.	Died.
Under 1 year	12	5	7	8	3	5
From 1 to 3 years ...	108	37	71	84	21	63
,, 3 ,, 5 ,, ...	106	55	51	78	33	45
,, 5 ,, 10 ,, ...	59	35	24	25	6	19
Over 10 years	15	10	5	4	1	3
Totals	300	142	158	199	64	135

First 300 with Serum.

Cases.		Cured.	Died.	Tracheotomy.	Cured.	Died.
Under 1 year	13	5	8	10	2	8
From 1 to 3 years ...	83	60	23	46	28	18
,, 3 ,, 5 ,, ...	105	88	17	52	37	15
,, 5 ,, 10 ,, ...	88	76	12	21	13	8
Over 10 years	11	11	—	—	—	—
Totals	300	240	60	129	80	49

[1] A cottage, containing twelve beds, in connection with the Children's Hospital.

Table III shows that the earlier the antitoxin is given the better are the results obtained. But it also shows that it is of value even when given late in the disease.

TABLE III.—*Day of Disease Antitoxin was given.*

No. of Cases.		Cured.	Died.	Death-rate.
1st day	9	9	—	*Nil.*
2nd ,, ...	43	41	2	4.6
3rd ,, ...	62	49	14	22.2
4th ,, ...	57	42	15	26.4
5th ,, ...	31	27	4	12.9
6th ,, ...	20	17	3	15.0
7th ,, ...	48	34	14	29.1
8th ,, ...	9	7	2	22.2
9th ,, ...	6	4	2	33.3
10th ,, ...	6	6	—	—
11th ,, ...	3	1	2	—
14th ,, ...	5	3	2	—
Totals	300	240	60	

An erythematous rash appeared in 100 out of the 300 cases. It varied very much in form, position, and severity. Sometimes it produced no symptoms, sometimes it gave rise to considerable elevation of temperature and much discomfort for a few hours. The shortest time for its appearance after the injection of serum was 3 days, the longest time 15. Average time, 7 days. Joint pains were very seldom noticed.

The Kind of Serum Used:	Cases.
Ruffer's (British Institute of Preventive Medicine) ...	167
Behring's	114
Pasteur Institute	19
Total	300

Out of the 60 fatal cases, 10 died within 24 hours of admission; and I find that, taking an average, it was not until the fifth day of disease that those cases that proved fatal came into hospital. In these cases then, the serum treatment cannot be said to have had a fair trial. 5 cases died of toxæmia; 36 of asphyxia from extension of membrane; 8 of bronchopneumonia: 6 of post-diphtheritic heart failure.

CONCLUSIONS.

A reliable antitoxin must be used. It must be given in sufficient quantity. It should be given early in the disease. Given under these conditions we may confidently expect a favourable result. Given almost at any period in the disease it lessens the mortality.

In about 20 per cent. of laryngeal cases, even where there is dyspnœa, it obviates the necessity for tracheotomy. The membrane disappears from the throat on or about the third day. No ill-effects were noticed in any of these cases, even after the injection of very large quantities (6,000 units have occasionally been used).

Since the above was written another 100 cases (the fourth hundred) have been treated in this hospital with serum; 81 were cured; 19 died.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

DEATH FROM LIGHTNING STROKE.

ON April 28th, 1897, about 4 P.M., during a thunderstorm of unusual severity, I was called out to see G. C., farmer, aged 54, who, it was stated, had apparently been struck dead by lightning about half an hour before. On arrival about half an hour later I found the man dead, and lying on the kitchen floor where he had been placed when brought in. I was told that at the commencement of the storm he had said to his wife that he would go out to the field just behind the house to drive in some cattle to shelter. Shortly afterwards he was found about thirty yards from the house lying dead at full length with his face downwards, his right hand in his trouser's pocket; a small pool of blood was under his head, his hat (a black felt one) was lying about a yard away, and was torn almost to pieces. Both cloth leggings were torn almost from top to bottom, and a small piece of one was lying near.

On proceeding to examine the body, I found over the situation of the upper anterior angle of the left parietal bone a wound the size of a penny, the soft structures of which were quite disorganised down to the bone, but the bone appeared uninjured. The hair round the wound was burnt, and a good deal of blood was coagulated in the hair around. From the direction of this wound a red line of hyperæmia about a quarter of an inch broad could be distinctly seen running in an oblique direction down the neck and over the middle of the clavicle to the epigastrium. The hair of the neck and body was burnt and singed along this line, and there was a strong smell of burning when the clothes were removed. At the epigastrium this line merged into a diffused hyperæmia, which involved the whole of the lower half of the trunk and both the thighs. The hyperæmia ended at the knees, but a red line similar to that above described ran down the outer side of the right leg and foot to the little toe (the inner surface of the right boot was torn along a line corresponding to this). On the under surface of the left foot, just below the instep, was a fresh bleeding wound the size and shape of a threepenny piece. There were two bullæ about the size of a man's thumb in the left groin. On removing the body upstairs the wound on the head began bleeding again, so freely, that a considerable pool of blood (about half a pint) was formed on the floor; this would appear to indicate an abnormally fluid state of the blood. The face was very livid. There was no watch or any other article whatever found in the pockets. There was an iron wire round the brim of the hat, apparently used for stiffening purposes; the hat itself was torn to pieces, leaving this exposed.

Hatherleigh. C. F. GLINN.

COMPLETE INVERSION OF UTERUS WITH COMPLETE PROCIDENTIA OF THE ORGAN.

A. S., aged 27, somewhat anæmic, fair and thin, very active habits, was confined of her third child on January 13th, 1896. In both previous confinements there was marked uterine inertia, with a tendency to *post-partum* hæmorrhage, the first confinement being in January, 1893, the second in July, 1894; in the latter delivery forceps were necessary. The present and third confinement passed off normally though it was tedious; the placenta being easily removed, there was little hæmorrhage, and the uterus was well contracted.

The patient was seen by me daily, and everything progressed satisfactorily until the afternoon of the fourth day, when I was suddenly summoned by the nurse. I ascertained from her that the patient had been slightly raised to defæcate, and whilst straining a mass had descended external to the vulva, with profuse hæmorrhage. Constipation was not marked.

On careful examination, I found this to be the uterus completely inverted. Examination was made *per rectum* and a catheter also passed. The patient was markedly collapsed, very pale, with quick thready pulse, dilated pupils, and cold sweats, the general appearance and condition denoting grave mischief. I may here add that the patient was seen on the morning of this date, January 16th, when her condition appeared to be quite satisfactory.

I attempted reduction, but the uterus was very friable, and considering the very grave condition, I decided carefully to place the inverted uterus inside the vagina (after careful antiseptic treatment), and plug with boracic wool. This was successfully done, the patient being placed on her back, with the nates well raised and the head dropped.

On the following morning (17th) I requested Dr. Brown, of Preston, to see the case with me; when he confirmed my diagnosis, and the condition having materially improved, with stimulants, position, and rest; it was considered advisable to give chloroform and attempt reduction by taxis. This was unsuccessful, for the uterus was found very friable and inclined to lacerate under moderate pressure. The condition being very grave, it was considered unwise to attempt any further present operative interference. From this date, January 17th, to February 22nd, the patient was regularly dieted, position maintained, vagina washed out daily with

antiseptics and afterwards plugged, iron with stimulants and tonics being freely administered. The general condition was now much improved, and the inverted uterus much less. I decided to try Aveling's apparatus (sigmoid repositor). This I found most difficult to keep in position, to maintain a steady and uniform pressure on the inverted organ. After a careful trial for twenty-four hours, I decided to replace the sigmoid repositor by a straight-stem repositor; this I found with elastic rings and tapes to answer splendidly, and after replacing three different-sized cups, the uterus was successfully replaced, after steady pressure, in forty-eight hours, the patient being kept with the head low and the nates raised, the rectum and bladder being kept well empty. The patient soon regained strength, and is now able to follow her employment as a farmer's wife. The condition of the uterus is normal, both as to position and size, but as yet the menstrual functions have not been resumed.

General Remarks.—The above rare case is interesting, more especially as the complete inversion did not take place until the fourth day, and that during defæcation. Knowing the predisposition of my patient I administered ergot after the birth of the child, and also compressed the uterus and applied the binder and pads myself. There being no reason to examine the uterus *per vaginam* until the fourth day I did not do so. This case rather confirms the opinion that it is not wise to attempt to reduce an inverted uterus in its early stage unless such reduction is at once successful, and done immediately after it has taken place. Considering the very grave symptoms attending such a case, very careful immediate treatment is required lest increased shock should result and possible death. With regard to the cause of the inversion in this case, evidently the patient is predisposed by lax uterine muscular fibre, and, in my opinion, the fundus of the uterus had no doubt relaxed, resulting in a cup-like depression, and in this predisposed state the muscular effort of defæcation brought about the mishap. There was no rise of temperature and no definite constitutional symptoms except those of shock and loss of blood, and a constant feeling of dragging and bearing down.

Garstang. THOMAS FISHER.

PNEUMONIA TREATED SUCCESSFULLY WITH INHALATIONS OF OXYGEN GAS.

A. W., a well-nourished girl of 18, was taken ill on February 26th, 1897. She gave a history of cough lasting about four or five days, and, just previous to being seen, she had had a bad shivering attack. Her temperature then was 102°, and there was slightly impaired resonance at the base of the right lung, with a few scattered *râles* over both sides of the chest.

The next day there was complete dulness with well-marked bronchial breathing over a large area of the right chest behind. On the third day nearly the whole of the right lung was involved, and by the end of the sixth day the lower lobe of the left lung was affected.

The physical signs continued more or less the same for a month, the temperature during this time ranging for the first fortnight between 101° in the morning and 104.5° in the afternoon, and during the second fortnight between 99° in the morning and 103° in the afternoon.

The pulse at times ran up to 150, and the respirations kept from 30 to 60 per minute. During this time the patient varied considerably; at times she was very ill with delirium, especially at night, at others she was quite bright. The cough was very severe, with profuse muco-purulent expectoration. There was no rusty sputum at any period of the illness.

Treatment.—Milk diet, with occasionally a little raw meat juice; from 1 to 4 ounces of brandy per diem. Quinine was the only drug used. Inhalations of oxygen gas were given every three hours (after the first four days), and certainly proved very beneficial. Each time it was used it had a markedly good effect on the respirations and on the patient herself; in fact, it is probable that her ultimate recovery was in a great measure due to the gas.

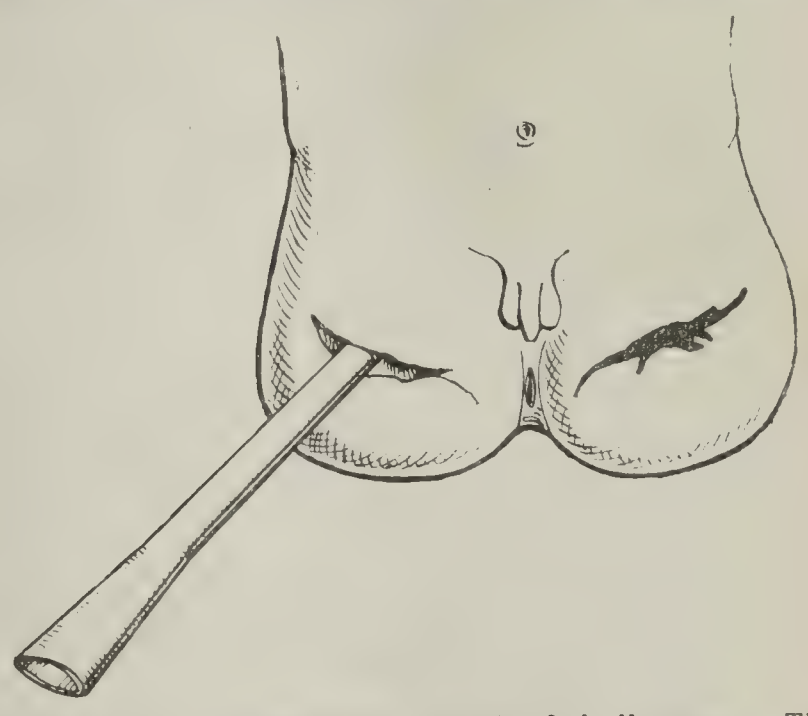
The acute trouble was at an end by the thirty-second day, and the patient then made a rapid and complete recovery, and is now, six months later, in perfect health. The chest is in every way perfectly normal.

Lewes. FRANK LOUD.

CASE OF SPONTANEOUS AMPUTATION OF BOTH LOWER EXTREMITIES IN A NEWBORN INFANT.

In July, 1896, a healthy-looking young Burmese woman, aged about 22 years, brought her male child, aged 2 months, to the General Hospital. She said that the labour was natural, and the child healthy and well-formed. The day after birth she noticed some black and blistered blotches on the backs and fronts of both thighs, and the lower extremities were very cold. The lower extremities swelled and became black, and "the smell was like that of a dead body some days old." The lower extremities gradually separated, and there was no hæmorrhage. She had had three children before, and all were healthy.

The child was healthy and well nourished, but both lower extremities were wanting. On the left side there was an oblique, firm, depressed scar over the face of the stump. On the right was a similar scar, but projecting from its centre and surrounded by a small area of ulceration was the black shaft of the femur, which was easily separated by twisting. The rough diagram shows the state of affairs. The heart sounds were normal, and all organs were apparently healthy.



I am not able to discover any reports of similar cases. The case is probably one of moist gangrene resulting from sudden obstruction of the lower end of the inferior vena cava, occurring either during labour or soon after delivery; but further explanation seems difficult. Unfortunately the mother was not asked whether the child moved its legs. The natural separation of two fully developed lower limbs without a fatal result is also worthy of note.

C. DUER, Surg.-Capt. I.M.S., M.B., F.R.C.S.,
Rangoon. Junior Civil Surgeon.

TONSILLITIS WITH PERICARDITIS WITHOUT ARTHRITIS OR OTHER RHEUMATIC SIGNS.

In the British Medical Journal of January 2nd, 1897, I reported a case of this kind, one of a condition of which Dr. Cheadle, in his Harveian Lecture (1888), on Rheumatism in Childhood, stated that he had no certain knowledge. The following are notes of another:

P. S., aged 6¼ years. March 18th, 1897: She is a pale nervous child, but not anæmic; complains of being tired and cold. Temperature 100.6°, axilla, 5 P.M.; pulse rapid (nervous), tonsils enlarged, pharynx hyperæmic, as also is the uvula, which is also elongated. No secretion seen at mouths of tonsillar crypts, and none on palate. There is no complaint of pain, no cough, no rash. She was put to bed and given sodii salicyl. gr. iij every four hours. Next morning the throat was a little better; temperature normal. At the base of left lung there are heard a few *râles*, but no pleuritic friction. There is no pericardial friction detectable; no increase in cardiac dulness.

March 21st. Throat better; uvula retracts now. Pericardial

friction heard over a large area. Pulse 132; no pleurisy; no pain in joints on rough manipulation. This sudden supervention of pericardial friction heard over an area which excludes endocarditis as the cause of the *bruit* associated with tonsillitis of a very moderate degree should lead to the heart being examined as a routine duty, so that the early detection of pericarditis may give the patient the best chance.

June 30th. The area of friction sound had diminished but a little from its size of March 21st. The child has now no palpitation on exercise, and feels well.

W. Campbell M'Donnell,
Medical Officer Sixth District Hackney Union, etc.

CASE OF SPINA BIFIDA: ULCERATION: ESCAPE OF CEREBRO-SPINAL FLUID, AND RECOVERY.

H. B., born on December 26th, 1895, was a full term child, large, and well above the average size. There was nothing noticeable about the confinement. The mother was over 40, and had had a large family, all well and healthy.

The baby had a lumbo-sacral spina bifida, about the size of an ordinary orange. It was oval in shape, very tense, covered with normal skin, and presented a certain degree of transparency. Increased tension could be distinctly recognised at the anterior fontanelle on pressing the tumour.

From the first the spina bifida rapidly increased in size until it was nearly as large as the child's head, the skin becoming thinner and redder. The parents would have nothing done in the way of tapping or injection. Bathing with carbolic lotion and a dressing of boric lint spread with boric ointment was applied, with a certain amount of pressure. The skin finally ulcerated and gave way, the tumour collapsing. The same treatment was continued, and the greatest care exercised to prevent septic meningitis.

The cerebro-spinal fluid continued to be discharged for about ten days in large quantity, and then gradually ceased. After the first forty-eight hours the collapsed mass became very red and inflamed, and gradually thickened. The child's temperature went up to 102.5°, and remained up more or less until the day following the cessation of the excessive flow of cerebro-spinal fluid. The opening amid the thickened tissue granulated, and at the end of the tenth day had almost completely closed.

For the next few weeks the swelling remained the same size, and then began to get smaller and paler, and at the end of three months had contracted into a hard corrugated mass.

From this time the child began to improve in health, and now at the age of a year and a-half is well and healthy in every respect. There were no symptoms of convulsions or paralysis at any time, and the child now attempts to walk. The cerebro-spinal fluid escaped in large quantities and soaked the dressings in spite of the pressure applied to the tumour, and when pressure was removed would trickle from the opening.

When the child was 4 months old my attention was directed to the large size of the child's head, and the parents feared that it had water on the brain. The head had certainly enlarged, but did not continue to do so, and now appears almost normal.

W. Sydney Fincham, M.R.C.S.Eng., L.R.C.P.Lond.
Brentford.

INCISED WOUND OF THE MEMBRANA TYMPANI.

The following case seems worthy of record because of its medico-legal interest. A few months ago I was called one evening to see a man who was said to have been injured in a fight. On getting to the house I found the patient—a young working man aged 18—in bed. He was bleeding from the right ear, and there was a bloodstain, about the size of a dinner plate, on his pillow. The blood was dripping at the rate of two or three drops a second. Although dazed, the patient was able to give a clear account of the occurrence. He said that half an hour before, he was fighting, when he suddenly saw, in his opponent's upraised right hand, a white-handled knife. He turned towards his left to run away, and then felt something strike him on the right ear. He at once became unconscious, and had to be carried home. I syringed the ear with an antiseptic lotion, and plugged it with cyanide gauze.

The next morning I removed the dressing and examined with the otoscope. I then found an incised wound of the tympanum, about a fifth of an inch in length, just posterior to the handle of the malleus. The edges were in contact. There was no injury of the external ear or meatus.

The man with whom the patient had been fighting was arrested and charged at the police court with committing an assault with intent. In my evidence I said: "The wound must have been caused by some sharp instrument such as a fine-bladed knife. It is possible for this to have happened without there being an external wound."

The points which led me to this opinion were the character of the wound, the fact of its edges being in apposition, and the amount of bleeding. The only other evidence in the case was that of the friends of the accused, who swore that no knife was used nor could any be discovered. On this, and considering the improbability of the wound being caused by a knife without injury to the meatus, the Bench discharged the prisoner.

Now comes the sequel. A few weeks after the occurrence, a policeman found under a stone, within a few yards of the scene of the fight, a small white-handled knife with an old blade ground down very fine, so that at the end it was not more than a-quarter of an inch in width. No further action was taken.

A. Stanley Barling,
Honorary Surgeon to the Royal Lancaster Infirmary.

REPORTS
ON
MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

JULLUNDUR CIVIL HOSPITAL, PUNJAB.

NOTES OF SURGICAL CASES.

(By Surgeon-Captain Henry Smith, M.D., I.M.S.)

Horsehair as a Suture and as a Ligature.—I am not aware that this substance has been used as a suture material or as a ligature material except in single hairs. I would like to advocate the use of it in bundles of two, three or more hairs for those purposes according to the strength required. In a hospital here I have used this substance extensively; in fact, I now use no other suture, and when a ligature more enduring than catgut is required I use no other ligature. When one hair seems to me not strong enough I have threaded in the needle two, three, four, or five, as the case may require, untwisted for either a buried or an unburied suture; used so it is as well to be relied on for tying an ovarian stump as the best whipcord as far as strength and tying qualities are concerned. Bulk for bulk it is at least as strong as silkworm gut, and for tying qualities it is much superior; any number of hairs tie as well as a single hair. Used as a suture untwisted it ties as a band, and hence it has less tendency to cut through the tissues when tension is put on it than any other material of an enduring nature I know of. If four or five hairs in an untwisted bundle be tied round the finger this band-like quality will at once be evident. It is not absorbed by the tissues, and consequently is valuable when a more enduring material than catgut is required. It does not absorb the fluids, and when left long *in situ* it does not act as a seton or as an irritant. It has all the good qualities of silkworm gut; it ties better, it has less tendency to cut through the tissues when tension is put on it; it is cheaper, and is to be had in any out-of-the-way place, which latter in itself is a consideration of no small importance. It requires no preparation more than to be washed and steeped in an antiseptic solution.

The Douche versus the Sponge in Certain Operations.—I wish to suggest the use of a constant stream of water to clear away the blood during the performance of certain operations instead of the sponge. I am not aware that a stream of water has yet been used for this purpose. The operations in which it is most useful are in tumour excisions and other dissecting operations in the neck region, also in operations on bones, in the operation for ligature of arteries in cases of

aneurysm, etc. Take, for example, excision of tumours of the neck. An assistant can keep a small stream of water playing on the exact part being operated on. He is thus able to keep the area clear of blood, and as well in view as if the dissection were being performed *post mortem* in a water bath. If a vessel be cut which requires to be secured there is no difficulty in seizing it, it is so easily seen. If veins be opened there is no danger of air getting into them, a consideration of no small importance. The assistant using the douche is not in the way of the operator, as he would be if he were using a sponge, and hence in this respect it shortens the duration of the operation. It also does away with the danger of septic infection from a doubtful sponge. I have used the douche extensively, especially in dissecting operations on the neck, and am of the opinion that it is a method which only requires to be tried to be approved of.

Cataract in Microphthalmic Eyes.—From the comparative rareness of the case the following may be of interest. A girl of 10 years was brought to me with eyes of infantile size. In each eye there was a strong internal squint; the anterior chambers were very shallow; there was a cataract in each eye, with a calcareous capsule; she had a sense of light, and the pupils reacted to light. I made an upper incision in each eye, iridectomy size, ruptured the capsules, pressed out the fluid lenses, and tore out the capsules at one sitting. The result was satisfactory. The child got good sight in each eye, but not so good as occurs in the normal cataractous eyes of children after operation. On the tenth day after operation I was about to examine the eyes ophthalmoscopically, but to my disappointment I found that she had been removed by her friends without giving any intimation. The people in this country often do this sort of thing; when they think that all is right they slip away of their own accord.

Rhinoplasty.—It fell to my lot to perform Keegan's operation on six patients during the past spring. Keegan's flaps are about as perfect as they can be, except that neither Keegan, nor anyone else that I am aware of, makes any provision for a new septum in place of the one which has been removed by the knife or by disease. Keegan's columella, like all others, leave a space behind wanting in the septum. To remedy this it struck me, instead of dressing the inner borders of Keegan's two reflected flaps—reflected from the nasal bones—where they overlap one another, to invert them as a scroll, having previously split well the old septum from the insertion of the original columella upwards, and to stitch each one into its respective side of the split septum, and to steeple them together with a horsehair. The tissues are ample and constitute, not only a lining membrane for the new nose, but a substantial septum, leaving wide-open nares. I then twist the end of this under part of the nose to my fancy. When this is done there is no columella required from the forehead. It will at once be seen that this is in reality an effort to imitate the natural lateral nasal cartilages. The result has been in my cases exceedingly satisfactory. There is not such a tendency to flattening of the nose afterwards as when such provision for a septum is not made and the exposed part of this new septum is less coarse than is the case when a columella has been removed from the forehead. The frontal flap I put on exactly as Keegan describes.[1] Once this operation is tried on the dead subject it will be seen how perfect an imitation of a septum can be produced as I describe. In all such rhinoplastic operations it will be observed that the tissues covering the nasal bones of the new nose are very much heavier than in the case of a normal nose. To remedy this, when dressing the stump of my frontal flap, I incise the tissues along the median line over the nasal bones, and with small blunt-pointed scissors I dissect out the frontal aponeurosis element and as much fat as possible where the frontal flaps cover the bones and unite the edges with a horsehair suture. This I consider a great improvement, as it renders the new nose much less coarse looking than it would otherwise be.

Double Bladder.—The following case may be of interest as an anatomical curiosity. A man was admitted to hospital having both hip-joints ankylosed at a right angle. On sounding his bladder the instrument passed easily and a stone was detected. There was a urinary sinus between the middle of the right Poupart's ligament and the umbilicus. There was another urinary sinus in the flexure of the left side between the thigh and the pubes, and still another over the middle of the left thigh about 3 inches below Poupart's ligament. Though the urethra was of full size, as there was something strange about the case, and as the bladder was in a very bad condition and the patient's general health also, I preferred to cut him in the breech to litholapaxy, and removed a large mass of phosphatic stone. On douching out the bladder water came in small quantity from all the sinuses, though a probe passed by any of the sinuses could not be felt in the bladder with the finger inserted from the perineal wound. The probe originally passed into the abdominal sinus detected a stone, which I at first thought was the stone detected *per urethram*, but as the probe passed by that sinus still detected a stone I opened up the sinus in question, and removed about 2 ounces of phosphatic stone and of what turned out to be a second bladder. On passing the finger now into the left bladder—the one into which I cut from the perineum, and which communicated with the urethra—with a sound passed by the urethra and another finger by the abdominal wound into the right bladder I found that there was a septum of normal tissue separating the two, with a small opening which with difficulty admitted the tip of the index finger between the bladder proper and the septum in the abdominal aspect, or apex, as it is termed. The sinuses in the left thigh communicated with this right bladder suprapubic. The right bladder did not communicate with the urethra except through the above-mentioned opening. It appears to me that it was originally a malformation, and that a ureter emptied into each bladder, and that all went well until stone developed in the right bladder, which caused obstruction to the urine getting from the right ureter and right bladder into the left bladder, and hence the sinuses. I wanted him to allow me to clamp the septum and convert his two bladders into one, but he was quite happy with the result, and left hospital well as far as urinary matters went. I would have clamped the septum at the time of operation but that he was a patient of whose life there was very little hope from a general health point of view, and I considered what I had done enough at one sitting in his interests. The septum was normal tissue, not scar tissue. We know that the bladder is developed from the stalk of the atlantois, but I am not aware of any plan on which a double bladder is developed. The plan of development of a bicornate uterus is plain.

Uterine Polypus in a Child Aged 1½ Year.—A child aged 1½ year was brought to me from the city having a uterine polypus, in part outside the vulva, about the size of a large walnut. I incised the perineum to make room. I found that the uterus was to all appearance the size of an adult one. The polypus was projecting out of the os. I dilated the os and removed it with an *écraseur*. I then found that the whole interior of the uterus was studded over with a polypoid growth, each one being about the size of a pea. These I scraped out with a curette and swabbed out the uterus with pure carbolic acid. The child left hospital well. It is now a year since, and the child has not come back. The case, I presume, is interesting from the age of the patient. I did not examine the polypi microscopically, as at the time I was very busy; but they seemed ordinary mucous polypi.

Nævus.—Some time ago a child, aged 1 year, was brought to me having a large nævus covering the whole temporal region of one side of the ear and in front above the zygomatic arch, and covering half of the frontal bone, same side, and also the upper eyelid. It had another nævus about the size of half an orange on the back of the neck. The former one was ulcerated in spots and bleeding freely. I had the child chloroformed, and thrust acupuncture needles at cautery heat through their bases in several directions, and also into them elsewhere than the base. After a few days many of the punctures sloughed, and the nævi shrunk with the minimum possible of scar. From what I have seen of operations on nævi I am of opinion that the cautery needle freely used is at once the simplest and most successful of all operations. Dissecting out large nævi in children is, in my experience, one of the most formidable operations in surgery.

Urethral Strictures.—I wish to suggest the use of a tapered urethral stricture dilator. I have had an instrument made in a few sizes with the curve of an ordinary silver catheter, and with a handle about the size and shape of an ordinary litho-

[1] *Vide* Treves's *Handbook of Surgery.*

trite left-hand piece. Each size is about three sizes larger at the bend than at the point. The size I use at the point is a No. 5. The point requires to be very blunt; ordinary silver catheters are too sharp. With this instrument I have dilated a good number of strictures through which no urine passed, and through which no instrument could be passed by any means short of force, and in which the urine had been passed by perineal fistulæ for years. I have not yet failed to make my way into the bladder at the first effort. When the penis is firmly grasped in the left hand, and the instrument is firmly pressed against the front of the stricture—considerable force being required—it will be found that the stricture gives way, and that the instrument follows the original passage. I am not now speaking of spasmodic strictures, or strictures of a minor nature, but of those in which there is no alternative operation but perineal urethrotomy. I do not for a moment say that every novice can use such an instrument efficiently, but I think that in the hands of those skilled in the art of passing large instruments, such as litholapaxists usually are, will find no difficulty in the use of this instrument. I believe the results are incomparably better than in any urethrotomy operation. The dilatation of ordinary strictures through which a small instrument can be passed is with this instrument a simple matter. It should, I think, take the place of all those ingenious devices, consisting of small instruments either with a slide dilator or a sheathed knife for cutting in the dark, instruments so small in the point that with the least force they will go in any direction as fast as the right one.

STROUD GENERAL HOSPITAL.

REMOVAL OF A SPINDLE-CELDED SARCOMA WEIGHING 4 LBS. 4 OZS.

(Under the care of Mr. Storry.)

Mr. Storry first saw this case in his private practice. He was called early one morning, and found the patient lying on the floor of his sitting-room considerably blanched and sweating profusely. The blankets in which he was wrapped were soaked in blood. On removing these a large tumour was discovered, situated on the left chest beneath the

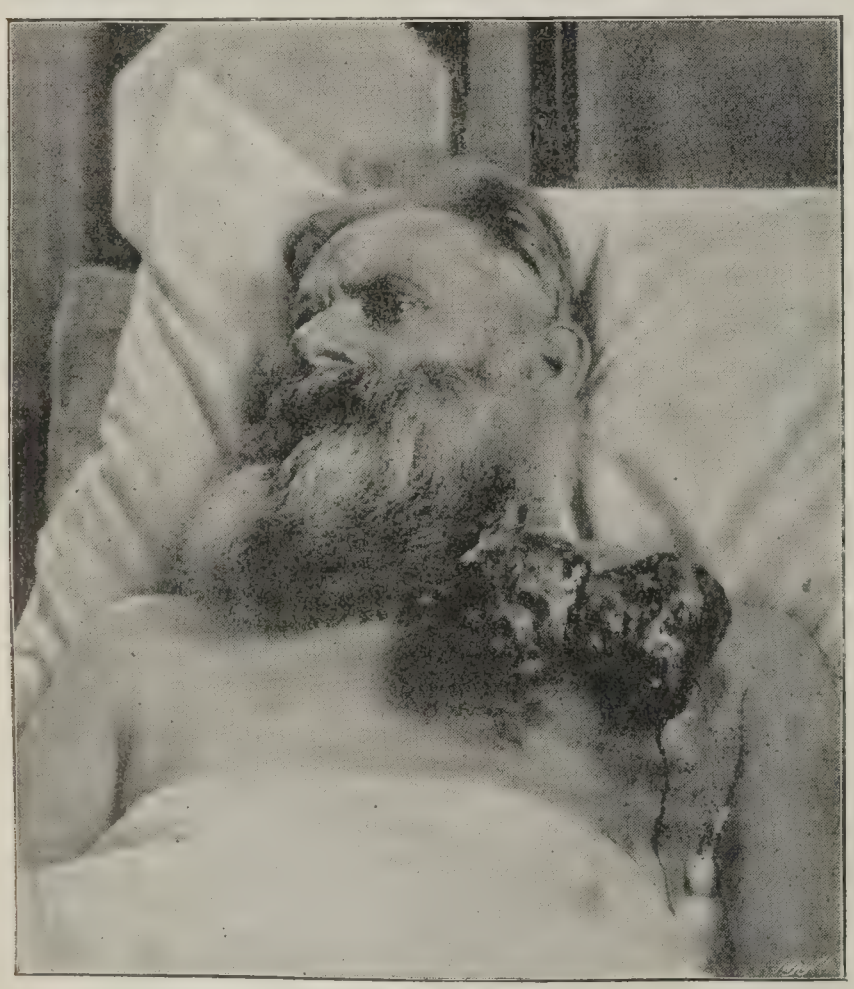


Fig. 1.—Before Operation.

clavicle. The most prominent part of the tumour was broken down, and from it blood was flowing freely. Mr. Storry stopped the hæmorrhage, and two days later had the patient removed to the Stroud Hospital for the purpose of removing the tumour.

The patient was admitted on August 13th, 1896. His age was 52; he was well nourished and of fair physique. On the left chest there was a large tumour, extending from the level of the clavicle almost to the nipple. It was not pedunculated, but was fairly movable on the pectoral muscle. The most prominent part was broken down and ulcerating. The skin over the rest of the tumour was purple in colour and traversed by many large veins. The left shoulder was pulled down by the weight of the tumour.

The history the patient gave was as follows: Twenty-five years ago, in South Wales, he had a tumour removed from his left chest wall. At that time it weighed 11½ ozs., and was about as big as his closed fist. There had been no recurrence till two years before admission to the hospital.

On August 20th the patient was put under ether, and the tumour was removed in the following manner: An incision was made all round the tumour in the sound skin. The hæmorrhage was very free, and was controlled with catch

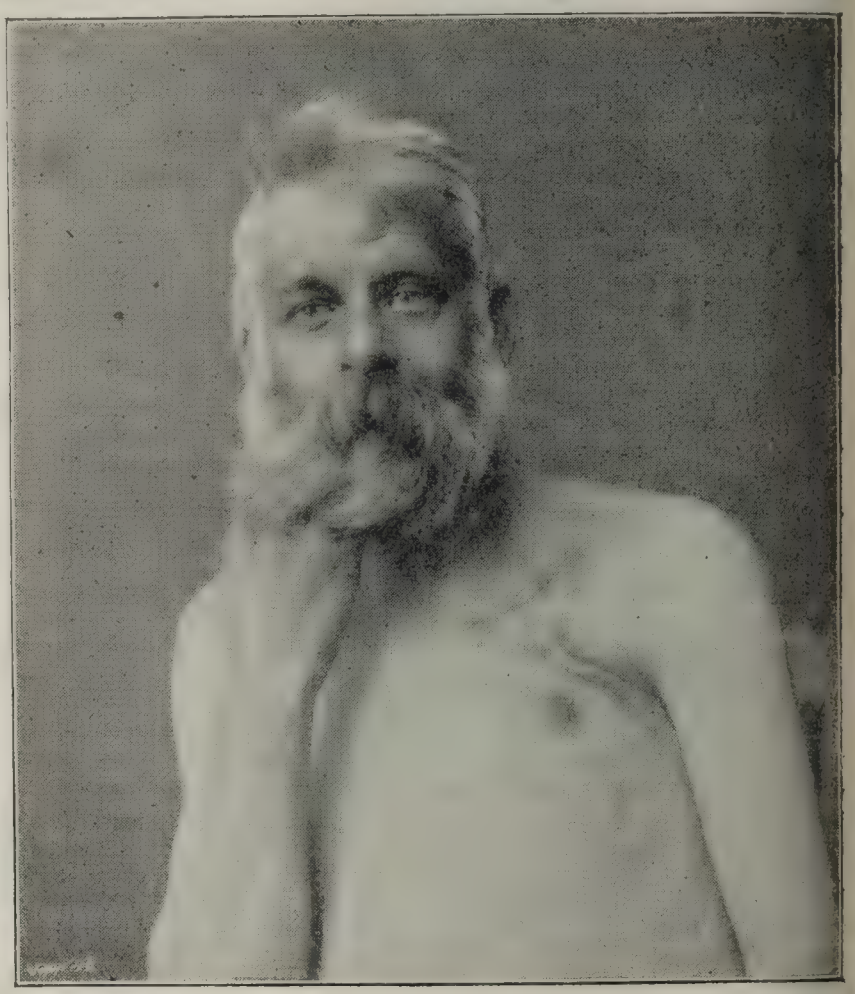


Fig. 2.—After Operation.

forceps. Some of the veins divided were of large size. The tumour, which was thickly and firmly encapsuled, was then easily removed from the pectoral muscle, the bleeding during this part of the operation being trivial. The tumour weighed 4 lbs. 4 oz. The wound had to be allowed to granulate up, as no skin could be drawn together over it.

The patient was very collapsed after the operation, but he rallied well in a few hours. He made an uninterrupted recovery, and was discharged with the wound quite healed seven weeks after the operation.

On September 15th, 1897, thirteen months after the operation, there was no recurrence, and the man was hard at work.

This case appears to be of interest on account of the rarity of meeting with such large tumours in accessible positions in these times of surgical enterprise; also on account of the curious history of the growth of the tumour.

The address of the President of the Roentgen Society (Professor Silvanus Thompson) will be delivered at 8.30 P.M. on November 5th at St. Martin's Town Hall, and the exhibition of apparatus and photographs will be open from 9 to 12.

REPORTS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF LONDON.

J. F. Payne, M.D., President, in the Chair.

Tuesday, October 19th, 1897.

The session of the Society was opened by an address from the President, after which the ordinary business was proceeded with.

The Bacteriology of the Simple Posterior Basic Meningitis in Infants.

Dr. G. F. Still observed that the condition classed under his title was chiefly met with during the first year of life. Attention had been drawn to it in this country by Dr. Carr, and by Drs. Barlow and Lees in a forthcoming article in Allbutt's *System of Medicine*. The morbid anatomy was distinct from suppurative forms of meningeal inflammation. It was a specific inflammatory lesion due to a specific microbe, prevalent in England and America, and commonest during the spring. The cases observed by the author were sporadic, and seven in number. They were all more or less alike, the chief symptoms being convulsions, retraction of the head, rigidity, opisthotonos, and hydrocephalus. The anatomical lesion found after death was thickening of the arachnoid about the base of the brain and spinal cord; in recent cases there was a softer exudation—lymph rather than pus; in later stages fibrous thickening alone was to be observed. The microbe might be absent in certain stages from the membranes, and would then be discoverable in the fluid of the ventricles. It was a diplococcus, with flattened or concave faces of apposition, smaller than the pneumococcus; no lanceolate forms were encountered, as in the latter; it closely resembled, however, the gonococcus. It did not stain by Gram's method, was devoid of capsule, and occurred free in the exudation or cerebro-spinal fluid, or in the cells; it could be stained with a saturated solution of aniline blue. No growth took place at the room temperature. Cultures might readily be made on agar, glycerine agar, blood agar, or in broth or milk. Milk was not coagulated; in this behaviour it differed from the pneumococcus. The author thought that the microbe was identical with the diplococcus intracellularis of Weichselbaum, although it was more hardy in its growth. Nevertheless, the last-named coccus varied much in this respect; it might live as long as fourteen days. It was seldom present in large numbers, hence fluid should be withdrawn from the ventricles of the brain by means of a sterilised pipette; or a piece of the meningeal exudation, as large as a pea, should be removed on the loop inserted through a hole in the dura mater. The author had not found it in the blood. There was no affection of the viscera accompanying the meningitis, but a periarthritis was at times observed, and possibly the exudation found about the joints arose from a metastasis of the microbe to these situations. Experimental inoculations made beneath the skin or into the peritoneal cavity of mice, rabbits, and guinea-pigs gave negative results, or at most produced only a transient general illness. The author, in conclusion, expressed his opinion that such slight differences as existed between the microbe and the diplococcus intracellularis were probably naturally acquired ones, and that the disease in question was etiologically allied to epidemic cerebro-spinal meningitis.

Multiple Spontaneous Fracture.

Mr. Charles Spurrell exhibited the bones from a case of multiple spontaneous fracture. The patient was a married woman, who broke her right femur whilst in bed. She suffered from increased asthenia, and, whilst bedridden, fractures occurred without pain, and even without her knowledge. Examination revealed three fractures of the left femur and fractures of both tibiæ and fibulæ, and of the right radius and ulna. Much shortening of the limbs followed. The temperature remained normal throughout. After death all the bones were found soft, reduced to mere shells, and easily cut with a knife. There were cystitis and pyelitis, but the viscera otherwise were normal. Histologically the osseous substance was found in process of decalcification, and being replaced by fibrous tissue.

Mr. Edgar Willett showed specimens of multiple fractures from a case reported by Mr. Langton at the Clinical Society. Both femora and the left humerus exhibited past fractures. The fractures ensued on ordinary muscular exercise or slight violence. Ultimately a large spindle-celled sarcoma developed in the upper end of the humerus; recovery ensued after amputation, but death followed later from internal infection.

Mr. J. R. Lunn expressed the opinion that Mr. Spurrell's case was interesting in that there were no nerve symptoms.

Mr. D'Arcy Power regarded the sarcomatous growth as an epiphenomenon, and as related to the condition of the bones in the same way that similar tumours are met with in some cases of osteitis deformans.

Card Specimens.

Dr. James Calvert and Mr. Strangeways Pigg: A case of Melanotic Sarcoma.—Mr. D'Arcy Power: Empyema of the Antrum in a child.—Dr. F. Voelcker: (1) Extensive Metastatic Carcinomatous Deposits in the Heart; (2) Ulcerative Colitis with Ulceration of the Ileum: (3) Uterus Bicornis; (4) Carcinoma of the Pylorus from Case 1.

BRITISH GYNÆCOLOGICAL SOCIETY.

Professor Mayo Robson, F.R.C.S., President, in the Chair.

Thursday, October 14th, 1897.

Specimens.

Dr. Macnaughton Jones showed a Uterus the seat of both Carcinoma and Fibroid, removed by vaginal hysterectomy. The patient, a nullipara, aged 53, had had no symptom except hæmorrhage. Microscopic examination demonstrated the malignant character of the growth. While the operation was in progress, the fibroid of the fundus offered considerable difficulties, being left behind owing to the tearing away of the friable lower portion of the uterus. It was delivered by compression and extraction with Doyen's forceps.—Mr. Tenison Collins (Cardiff) showed (1) a Foreign Body removed from a woman's bladder, and consisting of a pencil holder round which a stone had formed. It had been *in situ* for $2\frac{1}{2}$ years without causing symptoms, and was discovered accidentally while dilating the uterus for stenosis. (2) Two Uteri removed by vaginal hysterectomy for carcinoma.—Dr. Clement Godson showed a Glass Buttonhole Flower Holder which he had recently removed from a bladder. It had caused retention of urine. The patient came of a neurotic family, and apparently suffered from nymphomania.—The President, Dr. Purcell, and Messrs. Bowreman Jessett, Skene Keith, and O'Callaghan joined in the discussion on the specimens.

Dysmenorrhœa.

Mr. Skene Keith read a paper on this subject. His remarks were limited to the treatment of uterine dysmenorrhœa. It was pointed out that the pain was caused not by a stricture but by the bending of the uterus *plus* the thickening of the mucous membrane and the congestion naturally present at the commencement of menstruation. The necessity of thoroughly trying general treatment before thinking of anything local was insisted on, and the general treatment recommended was chiefly with the view of keeping the patient warm, and thus preventing internal congestion. For the bad cases, where all remedial measures had failed, local treatment by stem pessaries, dilating in its various forms, division of the cervix, division with stitching, Dudley's operation, and Apostoli's treatment were considered. Special attention was directed to the two last as being newer and less known than the others.

The President had had a very satisfactory experience of Dudley's operation; it was simple and effective. He related a case in which it was very successful after other measures had been tried without result, and stated that he had not yet had a failure. He employed chromicised catgut sutures, which did not require removal.

Dr. William Travers had performed the operation in four cases with most gratifying results; like the President he had learned it from Dr. George Keith. One patient, a neurotic, sterile woman, had been almost bedridden for seven years. After operation the first two periods were painless; at the third there was some return of pain; after this she got quite well, and became pregnant.

Dr. Heywood Smith thought that a combination of incision, dilatation, and a stem pessary often answered very well in the treatment of dysmenorrhœa. The incision should not be too free, and the pessary should be of glass, sterilised, and left in only for a few days.

Mr. Tenison Collins had had good results from Dudley's operation in three cases in which he had tried it; one of the three patients had since become pregnant.

Dr. Arthur Giles had performed this operation in about a dozen cases. In nearly all the result had been most satisfactory; in one or two there had not been much improvement, probably either because constitutional disorders had become established, which took some time to subside; or because the dysmenorrhæa was partly of central nervous origin. One case closely resembled the one related by Dr. Travers. She had tried all kinds of treatment, and though married twelve years, was sterile. Pregnancy occurred three months after operation, the two intervening periods being quite free from pain. He agreed with Mr. Skene Keith as to the importance of preventive hygiene in early years.

Dr. Schacht thought it would be very useful if all who had had experience of the operation would tabulate their results at some future date. He would gladly analyse and summarise such records for publication.

Mr. Bowreman Jessett deprecated a too ready resort to operation for dysmenorrhea, especially in early years. Many girls of 13 to 17 were cured of their pain by medical means. It would be a pity if the impression was created that the Society countenanced this or any other operation for dysmenorrhœa without due discrimination.

The discussion was adjourned to the following meeting.

West Kent Medico-Chirurgical Society.—The first meeting of the forty-second session of this Society was held on Friday, October 8th, at the Royal Kent Dispensary.—The annual report having been adopted, the following were elected officers for the ensuing year:—*President:* W. Arbuthnot Lane, M.S., F.R.C.S. *Vice-Presidents:* Morgan Dockrell, M.A., M.D.; Edward H. Ezard, M.D., D.Sc. *Council:* R. Scholefield, M.A., M.B.; George Herschell, M.D.; John Mackern, B.A., M.D., F.R.C.S.; Thomas C. Meggison, M.D.; C. J. Parke, M.R.C.S.; P. C. Scott, B.A., M.B.; Septimus Sunderland, M.D. *Treasurer:* J. P. Purvis, M.R.C.S. *Secretary:* J. P. Henry, B.A., M.D. *Librarian:* H. Bowen Williams, M.D.—Dr. G. H. Savage delivered the Purvis Oration. Having pointed out the immense progress which had resulted from the recognition of the facts of evolution, he proceeded to consider the mental disorders associated with evolution and dissolution. The so-called ethnic division of idiots was suggested by the late Dr. Langdon-Down. Some European idiots resembled Malays, Tartars, Mongols, or negroes. These cases happened to be human "sports," and did not in any way indicate that we Europeans were pinnacles of all civilisation. The Chinese might be able to return the compliment, and say that certain Chinese idiots resembled Europeans. In idiot asylums one could meet with defects ranging from the slighter moral, intellectual, or sensory defects, to complete absence of all but the organic nerve reflexes. A few children came into the world simply reflex machines, and not always good at reflex acts. Some seemed without hunger, and were quite unable to feed themselves or seek for food. Other children seemed never to develop beyond the eating stage. Such seemed to be morally defective from the first, and might become adroit thieves. The young animal whose centre was his stomach was essentially egotistical. The deficient development of any altruistic feeling arose from defective development of the reproductive function. In another set of cases there was not complete arrest of development, but there was retardation of evolution. Some of these seemed to be developed on one side at the cost of the others. They might be mechanical inventors or distinguished athletes, while reading, writing, and spelling might be almost impossibilities. There were moral idiots and moral imbeciles, children to whom truth, honesty, and any regard for others could not be taught. Some such were brilliant musicians, calculating boys or infant prodigies of one kind or another. It was at the adolescent period that the neuroses truly so-called were most evident, such as hysteria and hypochondriasis, which almost always had a sexual basis. The patient thought he had ruined his health by self-indulgence or exaggerated some personal peculiarity. If so much fuss were not made about masturbation fewer disastrous effects would be seen. The most delicate, most sensitive, and conscientious were those most likely to indulge to their own injury. More harm followed the moral than the physical trouble. In some cases the worry rather than the physical effect led to melancholia, which was often suicidal. In general paralysis of the insane the reduction of mental power proceeded from the last and most specialised acquirement to the less developed, and in the end might leave little beyond a reflex machine. The inability to judge of one's own condition was very striking. As few old men recognised their failing powers till they were gone, so the general paralytic was quite unable to recognise his state. Dissolution was the complement of evolution, and was equally instructive. The mind gave way in different manners according to its physical environment, more rapidly in the city than in the country. Some nervous systems were calculated to work for a certain time, and then break down. Neurotic heredity in many cases showed itself in this tendency to break down prematurely. Dissolution was the reverse process to evolution, and it followed the same lines in the reverse order, the most highly specialised functions failing first. In many cases the memory of recent events was lost, while that of long past events was made more clear. With early signs of dissolution, hysteria and sexual desire long absent seemed to flicker up and often lead to trouble. In some cases there was marked sensory disorder and hallucinations of sight and hearing and a tendency to dwell on supposed defects of the sexual organs. Correlated to this was the strange reversion which was often met with, so that the tastes, habits, and ways of youth reappeared with age. In both evolution and dissolution disorders were met with due to want of power, and others depending on loss of control. King Lear and Don Quixote represented the very poles of senile dissolution. The lecture was illustrated by a number of cases representing the different types of disease described.—Drs. Ezard, Taylor, Bowen Williams, Miggison, and Roberts having spoken, votes of thanks to lecturer and out-going officers were passed, and Drs. Savage and Purvis replied.

Association of Registered Medical Women.—The opening meeting of the session of 1897-98 was held in the Library, New Hospital for Women, on October 5th; Miss Cock, M.D., President, in the chair. There was a large attendance of members, including some home on furlough from India and China. After some preliminary business had been transacted, the following papers were read: A Fatal Case of Meningitis, probably Tuberculous, lasting Four Months, by Miss Anderson, M.D.Lond. (Manchester), read in her absence by the Secretary. The patient was a child, aged $3\frac{1}{2}$ years, and was not seen for a month after the beginning of the illness, so that no notes of the early symptoms were obtainable, and no *post-mortem* examination was allowed. The diagnosis had therefore to be made from the clinical aspect of the case only, and the significance of the various signs and symptoms observed was discussed.—A Visit to Aix-les-Bains, by Miss Helen Webb, M.B.Lond., who dwelt specially on the excellence of the arrangements made in connection with the administration of the baths, and on the attention paid to the comfort of patients in many important respects. The paper was illustrated by photographs and charts prepared by Dr. Forestier, showing the changes produced in renal secretion by the different forms of treatment.

Pathological Society of Manchester.—At the annual meeting of this Society, held on October 13th, 1897, the following were elected officers for the ensuing session:—*President:* C. E. Richmond, F.R.C.S. *Vice-Presidents:* H. A. G. Brooke, M.B., R. B. Wild, M.D. *Treasurer:* T. A. Helme, M.D. *Secretary:* T. N. Kelynack, M.D. *Committee:* A. Brown, M.D., J. Collier, F.R.C.S., J. E. Platt, M.S., E. T. Milner, M.B., E. S. Reynolds, M.D., J. W. Smith, F.R.C.S., W. P. Stocks, F.R.C.S., R. T. Williamson, M.D. *Auditors:* F. C. Moore, M.B., W. E. Fothergill, M.B.

REVIEWS.

Twentieth Century Practice. By Leading Authorities in Europe and America. Edited by Dr. Thomas L. Stedman. Vol. X. Diseases of the Nervous System. London: Sampson Low, Marston, and Co., Limited. 1897. (Roy. 8vo, pp. 868.)

Of the six contributors to this volume Dr. Joseph Collins deals with the greatest number of subjects, including the introductory matter. After a short account of the structure and functions of the brain he proceeds to describe encephalitis, distinguishing four forms of that disease—acute hæmorrhagic, purulent, interstitial or chronic, and syphilitic. As the author shows, most of what is known concerning acute hæmorrhagic encephalitis has been gleaned during the present decade by German workers. Its occurrence in connection with influenza and other acute infectious diseases points both to its etiology and its importance in practice. When speaking of syphilitic encephalitis the author controverts the old view that exudative luetic nervous lesions are a late manifestation of syphilis; he maintains that the liability to syphilitic nervous disease is immeasurably greatest during the first five years after infection. He adopts the convenient plan of classifying the nervous affections arising from syphilis into syphilitic and parasyphilitic, the lesion in the latter being degenerative from the commencement, as in tabes dorsalis and general paralysis.

The next two subjects, infantile cerebral palsies and multiple sclerosis, are treated in a most lucid and interesting manner. Hydrocephalus, parasites of the brain, and thrombosis of the dural sinuses are then severally described. After these come diseases of the cerebellum and bulbar diseases, prefaced by an account of the anatomy and functions of the parts. The diseases of the bulb are described under eight headings, one of these being the so-called asthenic bulbar paralysis, or bulbar paralysis without anatomical basis, upon which much has been written in Germany during the last few years. A comprehensive account of diseases of the meninges completes the portion of the work undertaken by Dr. Collins.

Professor Dana writes on intercranial hæmorrhage, embolism, and thrombosis. He does not favour tying the carotid in cases of cerebral hæmorrhage, but approves, under given circumstances, of compressing the vessel on the affected side. Neurasthenia is also dealt with by this author in his usual effective style.

Professor Sachs contributes an excellent article on tumours of the brain. In discussing treatment he emphatically warns against lumbar puncture in cases of cerebellar tumour.

Hysteria, epilepsy, and the spasmodic neuroses are very fully and ably treated by Dr. Charles S. Féré.

The disorders of speech form the subject of a highly instructive contribution by Professor Pershing. One instance, however, is noticeable in which the author fails to help his readers much: he does not make clear the evidence upon which he bases his statement that congestion without hæmorrhage or partial occlusion of an artery not sufficient to occasion softening, is the cause of some very transient aphasias.

Professor Sanger Brown, writing on the disorders of sleep, adopts, "as a working hypothesis," the theory of Lépine and Duval regarding amœboid movements of the protoplasmic processes of the neurons. The non-speculative considerations set forth by Professor Brown are eminently sound and useful.

With respect to the merits of this volume there can be but one opinion—the authors have produced a most valuable addition to the literature of nervous diseases.

Surgical Pathology and Principles. By J. Jackson Clarke, M.B.Lond., F.R.C.S. London: Longmans, Green, and Co. 1897. (Demy 8vo, pp. 440. 194 illustrations. 10s. 6d.)

This book is plainly the achievement of a man who is a good teacher: from beginning to end it is clear, concise, orderly; independent of other men's work, yet acknowledging their influence. Altogether it is an excellent piece of writing, the outcome of continued, patient, hard work. Moreover, the illustrations are admirable. Best of all, Mr. Jackson Clarke knows the value in pathology of clinical observation: that "experimental investigations require for their direction the experience of the sick room."

The book, however, has "the defects of its qualities;" it is somewhat too full; the author's love of surgery makes him so afraid of omitting surgical facts that he prefers an imperfect statement of them to none at all. For example, he touches on the surgery of sarcoma of the long bones, but does not speak of the removal of myeloid sarcoma without amputation. Again, there are certain difficulties in the writing of a book on surgical pathology that are unavoidable and insuperable. In such diseases as gout, typhoid fever, and syphilis—to take three instances at random—the distinction between things medical and things surgical is impracticable: gout is still gout, though its results may call for the good offices of the surgeon. Again, he who writes on surgical pathology may be unable to avoid what is called "regional surgery;" yet the regional classification of diseases makes it hard for him to be a pure pathologist. Thus, though Mr. Clarke's teaching is definite, yet the range of his book is ill-defined; every word is to the point, but he cannot be sure what he can afford to leave out. And, that we may make an end of criticising, he should have made a glossary of those words that are of Greek derivation, instead of putting the Greek immediately after them in English characters; which vexes a man who knows Greek, and is lost on a man who does not.

But the book remains a most admirable piece of work, of permanent value, original, lucid, thoughtful. The chapters on Diseases of Bone, on the Infective Granulomata, and on Diseases of the Rectum, are excellent. Of that most difficult question in pathology, whether cancer is a parasitic disease—the question over which Mr. Clarke worked so hard—he speaks with such a spirit as it is impossible to honour too highly. "I may at once admit that in many points I have modified the views I formerly expressed. The parasitic origin of malignant growths is not proven." Men often talk of devotion to science, and of truth for truth's sake: here is an example they may do well to observe.

Finally, we take leave to congratulate Mr. Clarke on his work; it should be carefully studied by all men who have any care for pathology, and know good teaching when they see it.

The Diseases of Women: A Handbook for Students and Practitioners. By J. Bland Sutton, F.R.C.S.Eng. (Surgeon to the Chelsea Hospital for Women; Assistant Surgeon, Middlesex Hospital); and Arthur E. Giles, M.D., B.Sc.Lond., F.R.C.S.Edin. (Assistant-Surgeon, Chelsea Hospital for Women). London: The Rebman Publishing Company, Limited; Philadelphia: W. B. Saunders. 1897. (Demy 8vo, pp. 436; 115 illustrations. 14s.)

Manuals on the diseases of women are tolerably abundant at present, but this new work has the sanction of being written in part by a well-known authority, and in part by a younger writer who has already distinguished himself in the field of gynæcological pathology. Hence it is sure to be read with interest. The first point in its favour is its form; being eminently portable it is a handbook in fact as well as in name. The binding is stout, and the type—American by the way—is clear. The illustrations are above the average of "manual" art. Of course, we meet with some very old acquaintances amongst the chapters on ovarian and uterine tumours, but they are indissolubly associated with their author, who knows what to select when he teaches. Dr. Giles furnishes some really admirable photogravures of the normal and diseased cervix as seen through the speculum. They are specially fit for instructing the student, as they really resemble what they are designed to represent. Thus the appearance of the distended follicles around the os in Fig. 56 is remarkably like nature. Dr. Giles also supplies some good photomicrographs.

As a brief sketch of gynæcology for students the *Diseases*

of Women has been very well prepared. Passing over matters relatively easy to teach, we may note that judgment has been shown about uncertainties and novelties. All will agree that the precise nature of the changes which affect the mucosa alone in menstruation has been much disputed. The paragraphs on ovarian neuralgia and allied disorders, where the symptoms seem purely subjective, are particularly good, and the authors wisely admit that nothing is so prejudicial as local treatment, and that surgical measures are equally hopeless, whilst anodynes and alcohol should be strictly forbidden. Extrauterine pregnancy, a field familiar to Mr. Sutton, is ably handled, and classed amongst the uncertainties. It is rightly taught that "concerning the cause or causes of tubal pregnancy nothing is known, and this uncertainty will continue until reliable evidence is forthcoming in regard to the situation in the genital passages where ovum and spermatozoa normally meet." Clarence Webster's theory on the tubal decidua ought to have been noted. We need hardly say that the treatment of extrauterine pregnancy in its different stages is clearly laid down. Lucidity is most to be expected where the writer is on ground most familiar to him. As to diseases said, not always on firm grounds, to be rare, the authors devote over a page to kraurosis vulvæ, and certainly it is a malady sufficiently well known to deserve a place in a students' manual. Many believe that it is much more common than suspected. Tubercle of the genital tract is also well prepared for the mental digestion of the student. More should have been said about tumours of the tube; one of the authors has himself had two under his care, and there is reason to suppose that some cases of very rapidly growing malignant disease of the pelvis, where the parts become quickly fixed without enlargement of the uterus, morbid change in the cervix or development of an abdominal tumour are instances of primary tubal cancer or sarcoma. The reader is rightly warned against accepting all that has been said about deciduoma malignum as a special new growth.

The work is professedly a manual on diseases, but the subject does not allow the writers to omit major surgery, never the most satisfactory feature in a gynæcological work. The description of ovariotomy and after-treatment is very clear, but from the chapter on "Operations on the Uterus" it would appear that hysterectomy is an easy operation. The first paragraphs on page 414, at least, would give that impression to the student, and the special risks are dismissed in two and a-half lines. Something should have been said about the difficulties which must be faced when the broad ligament is involved, and in the summary at page 415 it ought to have been stated that the modifications described by various surgeons are all easy when the cervix is long, the broad ligaments free, and the operator fairly competent, whilst they are all difficult and some impracticable in more complicated cases. The paragraphs on perineorrhaphy are profitable reading, and the authors rightly state that the operation must be witnessed in order to be understood. We should have liked, however, to find a diagram illustrating the flap operation when the rectum is involved; it would have aided the description at the bottom of page 345. A teacher, again, should, in commending Tait's flap operation, which is widely adopted, admit that some believe that it does not always give the strong supporting perineal body obtained by some of the older and lengthier methods—Simon's, Hegar's, etc. The manner of suturing the abdominal wound after ovariotomy described at page 383 is not universally adopted nor commended, opposite practices giving the desired immunity from hernia. At page 368 there is a description of trachelorrhaphy, but far from its "base," the account of the pathology of lacerated cervix, pages 160 to 163. Turning back to the latter, we find that the operation is indicated when certain "serious results above described" are present. It might have been added that, thanks to better midwifery, these results are very rare now, so that Dr. Emmet himself seldom finds a suitable case. In concluding our essentially critical remarks, we will remind the authors that there is some danger of confusing the student if terms hitherto restricted to morphology such as "coelom" be introduced into our art. "Hydrocholecyst" (page 285) is rather a barbarism.

In conclusion, it may be said that the teaching part of the *Diseases of Women* is on the whole very satisfactory, and the work, for reasons which we have given, is certain to be well received by the medical public.

Atlas and Essentials of Gynæcology. By Dr. Oscar Schaeffer, Privat-Docent in Obstetrics and Gynæcology at the University of Heidelberg. London: Baillière, Tindall, and Cox. 1897. (Demy 8vo, pp. 306, 173 coloured plate illustrations and 54 woodcuts. 15s.)

Dr. Schaeffer's work is the fourth of the "Hand Atlas Series" in course of publication. They are prepared on Horace's well-known principle that men's minds are best stimulated through their eyes. The task of ocular demonstration may in special cases be difficult; thus drawings are not always satisfactory as agents in teaching the medical student. Pictorial art, however, is useful in gynæcology, for the uterus, tubes, and ovaries are easily drawn and schematic diagrams of the pelvic viscera in their normal and abnormal positions may be at the same time both correct and instructive.

This *Atlas* is a favourable sample of its kind. It is eminently portable, yet the drawings do not suffer from being too small. The pages measure about 7 by 4 inches, nevertheless the plates are bold and clear. The work is really of two types combined. The diagrammatic tutorial element exists, and is not the best feature of the *Atlas*. Interspersed with sketches purely for the instruction of the student are some really fine original coloured drawings of vulvar and pelvic disease after the excellent model of atlases prepared by Jonathan Hutchinson and others who have compiled similar publications after they have become experienced authorities as well as successful school teachers. Thus Plate 56 is really a fine art production, and there are some excellent plates representing diseases of the cervix. The *Atlas* is thus at the same time a students' manual and a clinical guide for the practitioner and specialist. In its first character it is best if used indirectly by the teacher who can dole out instruction from its pages. The student using it without advice might not be able to distinguish matter very essential for elementary learning from clinical curiosities. In its second aspect the *Atlas* is of the highest class. We hope that the tutor will not allow his pupils to make use of terms like "syphilidology," and as a German noun-substantive *anlage* is introduced as untranslatable; the first letter should have been made a capital, for *anlage* is neither German nor English.

The Relief and Cure of Spinal Curvatures. By Dr. Percy G. Lewis, Honorary Medical Officer to the Victoria Hospital, and Surgeon to St. Andrew's Convalescent Home, Folkestone, etc. London: John Bale Sons and Danielsson, Limited. 1897. (Crown 8vo, pp. 208; 97 Illustrations. 7s. 6d.)

This recent addition to the abundant and somewhat ephemeral literature dealing with a difficult and complex branch of practical surgery, differs in some respects from most of its predecessors. It is intended not so much to give the results of fresh research and expert treatment with regard to spinal curvature, as to elucidate much of the obscurity attending the causation, pathology, and general management of this class of deviations. The author asserts that he has written as a general practitioner for general practitioners, and that it has been his object not to advocate any single method of treatment, but to give the indications for and to describe the special adaptations of, the different systems which are now in vogue.

The preliminary chapter on the etiology and pathology of spinal deviation which in this work is dealt with mainly in its scoliotic forms, contains, amongst much that is elementary and almost needless, some points of interest. The writer contests a frequent assertion that spinal curvature has an inevitable tendency to increase from bad to worse, and never remains stationary. He also maintains that spinal rotation can exist without curvature, a conclusion which probably many of his readers will hesitate to accept without careful analyses of the recorded evidence in favour of this view. In the remarks on diagnosis importance is justly attached to the

fact that the severity, and, indeed, the actual existence of lateral curvature as a *morbid* condition and one needing treatment, depend as much on subjective as on objective indications. Very few persons, it is stated, present good examples of the normal curves of the spine, and many of the spinal deviations observed in examining large numbers of individuals are not to be regarded as truly pathological.

Dr. Lewis, though a recent convert to the necessity of instrumental treatment of lateral curvature, and to the use of spinal supports in certain cases, attaches much importance to muscular exercises, which he regards as indispensable. The chapters on the principles and details of such treatment, which occupy a considerable portion of this book, will be found useful and instructive.

Vaccine et Vaccination. Par J. Delobel et P. Cozette. Paris: Masson et Cie. 1897. (Pp. 208. 2s. 3d.)

This work, which is one of the series of the *Encyclopédie des Aide Memoire*, issued under the editorship of M. Léauté, of the Institute, by MM. Masson and Gauthiers Villars, is an excellent epitome of all that has been published on the subject with which it deals in France. It is somewhat humiliating to our national pride that though the name and work of Jenner are referred to in terms of the highest eulogy, and the investigations of some of the earlier English inquirers are passingly alluded to, the record of British inquiry is meagre in the extreme. It is only fair to state, however, that the work of MM. Delobel and Cozette helps to fill a gap which is very conspicuous in our own language, especially in the want of a compendium of information on the practice of vaccination, as distinguished from its controversial or administrative aspects. After a brief summary of the history of vaccination the authors proceed to deal with the varied phases of the vaccine eruption, its complications, the biological characters of vaccine lymph, and the bacteriological conceptions of its action, both as a preventive and a therapeutic agent. A very full and explicit account is then given of the conditions under which vaccination should be performed, and we have no doubt that many of our public vaccinators, to say nothing of medical practitioners generally, might with much advantage read the chapter on the precautions prescribed for observance by those who undertake the duty of vaccination.

The second part of the work is devoted entirely to the preparation of calf lymph, which, in accordance with the practice that has for some years obtained everywhere outside the British Isles, is almost exclusively used for vaccination in France. The whole process of the preparation of calf lymph is minutely described, and especially that of the glycerinated modification of it. It is stated that the practice of mixing glycerine with human lymph was suggested by E. Müller as far back as 1866, but the treatment of calf lymph in this way was first authoritatively recommended by the Milanese Vaccine Commission in 1882. This mode of preparing calf lymph was rapidly adopted by other Continental countries, to which we have had to have recourse for such information as we have needed for the purpose of carrying out the recommendations recently made by the Royal Commission on Vaccination.

Atlas der gerichtlichen Medizin [Atlas of Forensic Medicine]. Von Hofrath Professor Dr. E. Ritter von Hofmann. München: J. F. Lehmann. 1898. (Demy 8vo, 56 coloured plates with letterpress, and 193 plain illustrations. M.15.)

This work contains 249 excellent illustrations of medico-legal subjects, with a brief descriptive account appended to each illustration. Practically, every section of legal medicine is illustrated in this atlas, the illustrations including various forms of so-called hermaphroditism, abnormal varieties of hymen, uterine and fœtal abnormalities, effects of various head wounds, injuries inflicted by weapons, burns, hanging, and strangulation, the effects of various poisons on the mucous membrane of the stomach, and abnormal *post-mortem* stains. The illustrations seem to us to be the best that have ever been published in connection with this department of medicine, and they cannot fail to be useful alike to the medical jurist and to the student of forensic medicine.

Le Lavage du Sang. Par le Dr. Felix Lejars. Monographies Cliniques. Paris: Masson et Cie. 1897. (Roy. 8vo, pp. 42; 7 figures. Fr.1.25.)

Under this heading a compact account is given of what is, perhaps, most nearly rendered into English by the term "transfusion of saline solution," but it also includes its introduction into the circulation by means of injection into the subcutaneous tissues, the peritoneal cavity, and the rectum. The conditions for which this treatment is adopted fall into two categories: (*a*) When it is necessary to keep the circulation going in order to maintain life, as in hæmorrhage, shock and collapse, the effect of the added fluid being largely mechanical; and (*b*) where owing to intoxication or infection it is desirable to produce increased elimination.

After an historical summary, the technique of the treatment is described and well illustrated by drawings introduced into the text. The composition of the fluids recommended by various authors is given; the most convenient one, and the one recommended, is a solution of common salt in the proportion of 8 to 10 grammes to the litre of boiled water, injected at the temperature of the body. Subcutaneous injection into the loose tissues of the thigh, abdominal wall, buttock, or axilla, is the method that should ordinarily be employed, and not more than 250 to 300 grammes of fluid should be introduced at a time. Intravenous injection acts more rapidly, allows of much larger quantities being given, and is therefore more suitable for the grave emergencies of severe hæmorrhage. Much stress is laid on the importance of repeating the operations under these conditions, and its good effects are shown by illustrative cases.

An account of the experimental results obtained in healthy animals and in animals rendered anæmic by bleeding, poisoned by strychnine and by diphtheritic toxin, and infected with the colon bacillus, is given, but further investigations are required to make our knowledge of lavage of the blood completely satisfactory.

The results obtained in man are gone into at considerable length. As might be expected, success is more marked in traumatic anæmia than in the diseases of toxic and septic origin.

In conclusion, the author deserves our thanks for having collected into a concise and readable form all that is known of this interesting and promising form of treatment.

NOTES ON BOOKS.

The Student's Guide to Medical Diagnosis. By Samuel Fenwick, M.D., F.R.C.P., and W. Soltau Fenwick, M.D., M.R.C.P. Eighth edition. London: J. and A. Churchill. 1897. (Cr. 8vo, pp. 500, 135 illustrations. 9s.).—Since the first edition of this handbook was published twenty-eight years ago medicine has undergone little less than a revolution, and the present edition has been practically rewritten and much enlarged. A new feature is that a succinct account of the morbid anatomy has been prefixed to the sections dealing with the diagnosis of disease of each of the organs, and a number of good illustrations of the microscopic appearances taken from Sims Woodhead and others have been introduced into these portions of the book. The object that the authors have in view is to provide the student on the threshold of clinical medicine with an introduction into the elements of diagnosis, and considerable care has evidently been taken to render the explanations as free from technicalities and as clear as possible. It is an extremely difficult thing to write an elementary book on medicine that shall include all that is essential, and not introduce unnecessary matter. Perhaps the danger lies chiefly in the latter direction, and at the present day, when new ideas and fresh methods are treading on each other's heels, an author may, from fear of being behind-hand and not sufficiently up to date, go to the other extreme and admit too much. To take an example: on page 182 a passing reference is made to the valuable assistance of auscultatory percussion—a subject which, at the present time, is not in our opinion one for the student beginning the study of medicine. There are other criticisms as to details that might be made, but our desire is not to find fault, for on the whole the authors have accom-

plished with success the task they set before them of presenting the elements of diagnosis of medical diseases. That this has been the case in past years is abundantly proved by the fact that so many editions have been called for.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

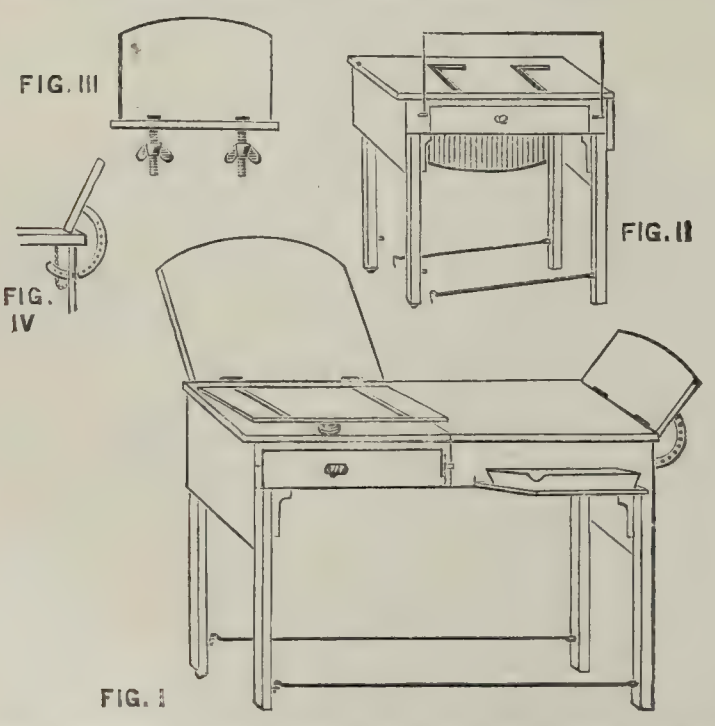
ICHTHYOL AND GLYCERINE SUPPOSITORIES.

DR. J. LESLIE CALLAGHAN, of Coventry, writes that, believing the application of ichthyol and glycerine to be of general use and to be of great value in uterine diseases, he has had made for him by Messrs. Wyley, of Coventry, suppositories for vaginal application containing 10 per cent. of ichthyol in glycerine. He has found them much handier than the cotton-wool tampon, and easier of application; moreover they do not require the use of the speculum.

AN OPERATION TABLE FOR THE GENERAL PRACTITIONER.

MR. R. BROOKS POPHAM, M.R.C.P.Ed., L.R.C.P.Lond. (Camden Road, N.W.) sends us the accompanying diagrams which depict a table devised by him some few years back, and made by a local carpenter. The advantages claimed for the table are that it can be made almost anywhere and at a very small cost, that it occupies but a very small space, and when taken to pieces that it can easily be transported from place to place. Mr. Popham writes: The table is light, firm, and neat-looking, and by removing the flaps or supports, and winding up into half its length, it can be pushed away into a corner, or by folding up the legs it will occupy still less room.

The length is 60 inches, 68½ with terminal flap, and 30 when wound up. Width, 20 inches. Height, 34½ inches. Fig. 1 shows the table with two flaps or supports, the one at the head, the other at the side, both of which can be placed on a plane with the table, raised to any angle, lowered 4), or



removed entirely. The larger flap can be moved backwards and forwards across the table by means of grooves, and fixed by screws and nuts (Fig. 3), and can be slid along the side of the table for a limited distance also by grooves, as seen in Fig. 2; and hence a patient can be put in the lithotomy position and brought well up to the edge of the table, or can be placed in the left lateral, a position not easy to obtain in the ordinary consulting room couch. The half of the table corresponding to the larger side support can be elevated, and two drawers are seen at the side, one for douching purposes, the other side for holding a tray of instruments. The other half can be drawn out entirely, and the table screwed up into half its original length, as shown in Fig. 2. To obtain a rest for the legs in the lithotomy position two uprights, capable of being raised, lowered, or removed, support a padded horizontal bar and straps, which is shown only as a straight line in the block for the sake of clearness.

PNEUMATIC VAGINAL SPECULUM.

DR. R. H. HODGSON (Rye Lane, S.E.) writes: It must frequently have been observed by operators that the introduction of a plug through a speculum causes more distress of mind to nervous patients than anything else the operator may do through that speculum. Again, most medical men have at times experienced annoyance by the patient stating that she had not long reached home before the plug was suddenly shot out, and perhaps at some awkward time. Now, it appears clear to me that these unnecessary alarms could be prevented if the 8 or 10 ounces of air which are forced up the speculum with the introduction of each plug were allowed to escape as it is forced up. Therefore I had made by Messrs. Down Bros. a Fergusson's speculum with an open channel upon its upper or shorter surface. The object of the channel being open is that it may be more easily cleansed. As the plug is pushed up the air escapes through the channel without imparting any sensation to the patient, a result not to be obtained by any other speculum I have seen.

GLYCERINATED CALF LYMPH.

SUPERIORITY is claimed for the vaccine lymph supplied by the Jenner Institute for Calf Lymph (73, Church Road, Battersea, S.W.) on the ground that it is issued only when bacteriological tests have shown it to be completely free from the pus-producing and other saprophytic micro-organisms which can usually be isolated from samples of calf lymph.

It is obviously a matter of no little importance to ensure, as far as may be, the purity of lymph employed for purposes of vaccination, and we therefore submitted samples of the glycerinated calf lymph received from the Jenner Institute to bacteriological examination, the results of which corroborate the statements advanced as to its aseptic nature. Agar-agar plates inoculated with the lymph and then incubated at body temperature for several days showed no sign of growth whatever. We have had no opportunity of testing this preparation on the human subject, but we learn from an independent source that the results of a series of vaccinations in which it was used have been entirely satisfactory.

It is sent out in amber-coloured non-actinic glass tubes of convenient size and well sealed.

DIASTOL.

DIASTOL is stated to be a powerful digestive preparation of malt, and owing to the process adopted in its manufacture it is free from excessive fattening properties. It is a dark coloured liquid preparation, having a pleasant flavour and free from the large excess of saccharine material which is usually present in malt extracts. It has good digestive action on amylaceous substances, converting, according to our examination of the sample submitted to us, two and a half times its own weight of gelatinised starch in ten minutes at a temperature of 70° C. It can be obtained from the Standard Malt Extract, Limited, 23, Billiter Street, E.C.

ALBENE.

ALBENE, "a pure, highly refined vegetable fat," has been submitted to us by Messrs. Broomfield and Co., of 83, Upper Thames Street, E.C. It is claimed for albene that it contains no animal fat or admixture whatever, and that it is solely a vegetable fat which has been rendered by a special method of treatment adapted for all cooking purposes. The examination of the sample sent to us showed it to be a white and inodorous fat, having a melting point of about 80° F. Its specific gravity at 100° F. was 911.3, and it was perfectly neutral in its reaction, showing the absence of free fatty acids. In these and other respects albene corresponds with highly purified cocoanut fat, and should be serviceable for all culinary operations on account of its purity and palatability, especially when the use of animal fat is objected to.

NOTES ON HEALTH RESORTS AND SANATORIA.

Grand Canary[1] *and Las Palmas.*—The island of Grand Canary lies at about the latitude of Luxor in Upper Egypt, part of the Sahara and Arabian deserts, Florida, Southern California, and the Northern Bahama Islands. The climate is equable, like that of Madeira, but warmer and drier. The differences are, however, naturally considerable in different parts of the island, for more than half the island is over 2,000 feet above sea level, and the centre reaches to 6,000 feet and more. The western part of Grand Canary and the more western Canary Islands come under the influence of the recurved branch of the Gulf Stream, and consequently their climate is moister and more approaches that of Madeira. The average annual rainfall at Palma, the chief town of Palma Island, is 25 inches; that of Las Palmas on the north-east corner of Grand Canary is only 9 inches, and the climate and vegetation are almost African; at Orotava, in Teneriffe, the annual rainfall is between the two preceding—namely, 14.7 inches. The dry northerly trade winds are the prevailing winds throughout the year. Las Palmas is many miles away from the "parasol" of clouds which gird the central mountains of Grand Canary; the clear sky, free radiation, and abundance of sunlight cause this place to be preferred to some other health resorts in the island for the winter treatment of early phthisis and rheumatism. There are golf links and a cricket ground, and satisfactory hotel accommodation. Seven miles inland of Las Palmas, in the Monte district, at an elevation of 1,000 to 1,500 feet, the rainfall increases considerably, the shade temperatures are 4° or 5° cooler, and the country becomes green and fertile even where not irrigated, affording a contrast to the bare hills surrounding Las Palmas. A warm damp atmosphere only occurs very occasionally at Las Palmas (with a south-west wind); taking a series of winters the average percentage of humidity may be put down at about 67. The dry easterly or south-easterly desert wind, when it blows during summer, is admittedly disagreeable. It must not be supposed either that visitors never feel cold in Canary; this may occur when the north wind blows hard, though the shade temperature be 63° or 65° F. At such times invalids must dress warmly, take as much exercise as possible, and may be in the open air on a verandah sheltered from the north. Dr. Melland states most emphatically that it is not hot, as a rule, in Las Palmas in the summer, even at sea level, though English people would suppose it to be. He thinks that the green winter and spring are the most charming time for a healthy tourist to visit Canary, though he believes that the dry, rainless, summer climate in the highlands of Canary is far more efficacious in the treatment of lung disease. It is above the clouds, he says, that the invalid whose strength allows of his doing so should spend the months of May to October; though the inhabitants themselves prefer to live under the shade of the mists due to the trade wind. The invalid may remain for months in the dry, genial climate above the clouds, under a rainless blue sky, with a view which extends to the limit of the horizon. Two mineral waters of the island should be mentioned: (1) The Agaete water, a gaseous chalybeate, containing, according to Ogle and Wanklyn, over 0.1 per mille ferrous carbonate; (2) the Firgas water, a weakly mineralised, alkaline-earthy "table water," much used in the island.

Eaux Bonnes, and several other French spas, are much visited by invalids with chronic pulmonary affections, and Dr. M. Cazaux,[2] of Eaux Bonnes, has recently endeavoured to distinguish the various classes of emphysematous patients in respect to their treatment by mineral waters. He concludes that mineral waters possess a valuable therapeutic action in many cases where ordinary pharmaceutical remedies are of no avail, but his distinctions must often offer clinically considerable diagnostic difficulty. Cases, he thinks, of subpleural and interlobular emphysema, and those where the emphysematous spaces are large (including many acini), are not suitable for spa treatment, but cases are more suitable where the emphysematous spaces are small (including only a few acini), and a good deal of elasticity is preserved. He believes that amelioration, and even cure, may be hoped for from repeated spa treatment, in most cases where the pulmonary alveoli and infundibula are only dilated, especially if the emphysematous condition in these cases is the result of bronchitis. The treatment in such cases, he maintains, has active effect on the bronchial mucous membrane, and strengthens it against the influence of subsequent chills; the effect is moreover, according to the author, the restoration of the contractile power of the elastic fibres. In "herpetic" cases arsenical waters, such as La Bourboule, are recommended; in arthritic cases waters such as Mont Dore. Sulphide of sodium waters (Cauterets, Luchon), and waters containing sulphide of sodium and lime (Eaux Bonnes), are recommended for catarrhal conditions in arthritic and asthmatic subjects.

Ilfracombe.[3]—This, the chief watering place of North Devon, has peculiarities of its own. As Charles Kingsley said, its climate combines the soft warmth of South Devon with the freshness of the Welsh mountains. It has not the extent of sands so loved by children which some seaside places boast of, but it has its "tors" overhanging the sea, and the undulating uplands in the immediate neighbourhood provide a fresh and bracing climate difficult to obtain at the south coast resorts of that part of England. The daily range of temperature at Ilfracombe is only 8.4°, whilst that of the neighbouring town of Cheltenham is 15°. The winter average temperature is 44.9°, and its mean yearly temperature (51.1°) is only surpassed in Great Britain by the Channel Islands. The rainfall (30.63 inches) is not high for its geographical position, and the number of rainy days of the year (189) is likewise not excessive. The walks, excursions, and amusements for visitors are numerous, and the scenery is peculiarly beautiful. If visitors be excluded and the population of Ilfracombe be estimated at 8,500, the net death-rate for the year 1896 is only 10.3 per 1,000, which may be favourably compared to the average death-rate (17.1 per mille) of England and Wales for 1896. The zymotic death-rate of Ilfracombe was only 0.9 per 1,000, whilst that of the whole of England and Wales was 2.1.

Sevenoaks is visited by many people for the health-giving qualities of that neighbourhood. Mr. W. W. Wagstaffe's charts[4] relating to the temperature and rainfall of this place have, therefore, considerable interest to those concerned in its climate. They embrace a period of ten years, from 1886 to 1895, and give monthly curves of actual highest and lowest temperatures, of average maximum and minimum temperatures, of the highest average maximum and the lowest average minimum temperatures for each month, as well as the rainfall curves. We observe that the average maximum and minimum curves are both included between the temperature lines 30° and 70° F. The highest actual temperature was 90° (in July, 1887), and the lowest actual temperature was 5° F. (February, 1895). During the ten years the average total annual rainfall is 32.06 inches, of which two-thirds fell at night and one-third in the day, and the average number of days in the year on which rain was recorded is 170. No rain at all fell in February, 1891, and hardly any in April of 1893, and May and June of 1895. The highest monthly rainfall is the extraordinary one recorded for October, 1891 (about 7.7 inches), which gives October a somewhat greater average rainfall (nearly 4 inches) than any of the other months.

Russian "House-Sanatoria" for Consumptive Soldiers.—Dr. S. Unterberger[5] advocates the establishment in connection with military hospitals of what he calls "house-sanatoria." This term is chosen because he holds that they may be established not only in special buildings but also in ordinary houses. He gives the results of treatment at the House-Sanatorium which he has arranged in connection with the military hospital of Zarskoye-Selo, near St. Petersburg. Up to August of the present year 128 men have undergone treatment; of these, 11 (8.6 per cent.) have been discharged as relatively recovered, 49 were fairly improved, 58 were not improved, and 10 died. He maintains that 46.9 per cent. of the patients

[1] Climatic Treatment in Grand Canary. By Brian Melland, M.Sc., M.B. Reprinted from the *Medical Chronicle*, 1897.

[2] *Les Eaux Minérales dans l'Emphysème pulmonaire.* Paris: Carré et Naud. 1897.

[3] *Ilfracombe* (Ilfracombe: Twiss and Sons); and the Medical Officer's Report of the Urban Sanitary District of Ilfracombe for the year 1896.

[4] *The Climate and Weather of Sevenoaks*, by W. W. Wagstaffe, B.A., F.R.C.S.Eng.

[5] In an English pamphlet, 1897.

have derived benefit from the treatment; and in the future, when earlier diagnoses are made, and when more house-sanatoria have been established, he hopes to obtain better results. The patients, he says, should be kept eight weeks in the hospital, where they will learn the method of treatment and imitate it in their own homes. In this way a knowledge of the proper hygiene for such cases will be spread throughout the country. The sanatorium consists in a set of large rooms facing south, the rooms being provided with fir trees set up in tubs filled with wet sand. These trees must be changed when they lose their needles, and in the evenings are sprinkled with a solution of oil of pine to maintain the aromatic odour. The method of treatment includes fresh air and nourishing food on the Brehmer-Dettweiler principles, dry and wet rubbings of the patient's skin, deep respiration in freshly-ventilated rooms, and destruction of expectoration to prevent infection.

Oban,[6] Dr. Baily's account of which is readable and well illustrated, is most beautifully situated and easily reached by land or water. As it is a starting point for tours in the Western Highlands and for visiting the groups of islands scattered along the coast, it is not surprising that both the resident inhabitants and the annual visitors have enormously increased in number since the Queen visited the place fifty years ago. Oban is exposed to the south and south-west, being sheltered by the surrounding hills from the easterly and northerly winds. The air is not contaminated by factories or injurious trades, and contains a relatively high amount of ozone. The climate is influenced by the warm ocean currents, and the mean daily range of temperature for the past ten years has averaged only 10.3° F., the mean daily range given for Torquay being 12.1° F., for Bournemouth 12.2° F., and for Colwyn Bay 12.6° F. The mean temperature for the year at Oban is 48.2° F., whilst that at Torquay is 50.2° F., at Bournemouth 49.4° F., and at Colwyn Bay 48.7°. It may be noted that the mean daily temperatures for July and August, the hottest months of the year, are both 57.3° F. at Oban, whilst that for July is 60.6° F. at Torquay and 60.3 F. at Bournemouth. Oban, with the rest of the West Highlands, receives its good share of rain, the rainfall being 52 inches, whilst that of Torquay is 34.7 and of Bournemouth 27.2. Thanks largely, however, to the inclination of the land, the sandy subsoil, and free drainage, the annual relative humidity of Oban is only 74.8 per cent., and therefore decidedly less than that of Torquay, Bournemouth, Brighton, and Southport.

Franzensbad,[7] in Bohemia.—This spa has perhaps become chiefly celebrated in England for its moor-baths and the treatment of anæmic conditions and chronic complaints of the pelvic organs in women. It lies in a flat and rather uninteresting moor country, not far from the ancient town of Eger, with which it is connected by railway. The peat used for the moor-baths is obtained from the moor close to the town, and when ready for use, according to the analysis of Dr. Paul Cartellieri, contains 25 parts per cent. soluble in water, 9.7 per cent. consisting of sulphate of iron. The moor-baths act like a huge warm poultice enveloping the abdomen and lower limbs, the upper part of the thorax not being included. They are employed in various catarrhal conditions of the alimentary canal; in many functional nervous complaints; in lumbago, sciatica, and chronic rheumatism; in chronic affections of the skin; and in the remains of pelvic inflammation in women. The various springs yield (1) gaseous sulphated alkaline waters, similar, though cold, to those of Carlsbad, and employed in a similar class of cases, often after being preliminarily warmed; (2) waters like these, but containing a fair amount of bicarbonate of iron, and therefore preferable in many anæmic conditions; (3) the "Stahlquelle," which contains as much as 0.079 per mille bicarbonate of iron, and a total solids of only 3.1 per mille, so that it may be used in cases likely to be benefited by ordinary gaseous chalybeate waters. Gaseous or effervescent baths can be employed in suitable cases.

Bad Weilbach,[8] in the Prussian Province of Hesse-Nassau, is situated at an altitude of 440 feet, between Frankfurt and Wiesbaden, not far from the railway station of Flörsheim Its sulphur spring contains about 5.2 c.cm. sulphuretted hydrogen in the litre. Besides this there is a muriated alkaline spring, containing a little over 1 part of both common salt and bicarbonate of sodium in the 1,000, and 0.009 parts bicarbonate of lithium. The affections treated at this spa include chronic catarrhal conditions of the bronchi and respiratory passages, enlargements of the liver, hæmorrhoids, syphilis, and some skin eruptions. The muriated alkaline spring is employed for cases of gravel and the uric acid diathesis, etc. The action of sulphur waters on the liver and other organs has been carefully studied at Weilbach by former doctors practising there, including H. Roth and H. Stifft. Roth attributed some of their effect to the action of sulphuretted hydrogen on the iron of the hæmoglobin, forming a sulphide of iron, which he believed caused the peculiar colour of the stools observed in some patients while under treatment. Stifft considered the coloration of the fæces in these cases to be due not to sulphide of iron but to bile pigments (especially biliverdin), and held that in many cases the secretion of bile was increased by the use of sulphur waters, an opinion definitely held by Dr. Stern, who thinks that this accounts for improvement in digestion and a laxative action, as well as for the peculiar colour of the fæces when observed.

Adirondack Cottage Sanatorium,[9] Saranac Lake, New York.—As the result of the past year's treatment, Dr. Trudeau reports that of 105 patients who were treated for phthisis, 23 were discharged apparently cured, 37 were discharged with the disease arrested, 21 were discharged in an improved condition, and 24 were unimproved by the residence. Of the 105, there were 88 patients who remained under treatment from 3 to 25 months (average residence, eleven months and ten days), and of these 20 were apparently cured, in 32 the disease was arrested, 18 were improved, and 18 remained unimproved (no deaths in this class). Besides the above mentioned 105 cases, there was 1 non-tuberculous case, a patient with pulmonary abscess, cured when he left the sanatorium. Fourteen patients have been treated by injections of "modified" tuberculin, in conjunction with the usual open-air and climatic plan, and of these, 3 were incipient and 11 advanced cases; 6 of the 14 were apparently cured, in 6 the disease was arrested, in 1 case the treatment led to improvement, and in 1 case it failed; there were no deaths. During the year extensive additions were made to the sanatorium. The old main building was torn down and replaced by a permanent structure, modern in its construction and sanitary arrangements. The sanatorium is situated on a plateau about 100 feet above the Saranac River, and 1,750 feet above sea level; it is about one mile from the Saranac Lake Village, and can be reached in about ten hours from New York.

Nordrach in the Black Forest (Baden). Dr. Otto Walther has pointed out to us some errors in the description of the Nordrach sanatorium for consumptives given in the BRITISH MEDICAL JOURNAL for August 7th. The height of the sanatorium itself is 1,500 feet above sea level, whilst the surrounding hills, covered with pines, reach to 3,000 feet. He notes that he is not, any more than other medical men, a special colleague of Professor Koch. He objects to the term "over-feeding," which is of course in reality always wrong, for what patients thrive best on cannot be strictly termed "over-feeding," though it is often thus alluded to. Dr. Walther adds the following interesting details: The diet is a mixed one; there is rather restriction of meats than abundance. The meals are three a day, just enough to ensure a regular gain of say $\frac{1}{4}$ or $\frac{1}{2}$ lb. per week. The amount of walking is prescribed to each patient for the morning and afternoon separately. He considers a patient cured and fit to go home, and gradually take up work again after the sputum has been found in about twenty microscopic examinations to contain no tubercle bacilli, or when 1 c.cm. of sputum inoculated into a guinea-pig does not produce tuberculosis in three to six weeks. A book says that two pounds of meat are given daily at the sanatorium; this would be an enormous quantity, and really the amount of meat or fish given varies, he says, according to individual wants between a quarter and three-quarters of a pound a day.

[6] *Oban: a Health and Holiday Resort.* By Edwin Baily, M.B., C.M.Edin., Medical Officer of Health for the Burgh. (Oban: H. McDonald.)
[7] *Franzensbad, its Baths and Springs.* Franzensbad: Published by the Health Committee, 1897. English Edition.
[8] *Bad Weilbach und seine Mineralquellen*, von Dr. Stern, Wiesbaden, 1896.
[9] Twelfth Annual Report, by Dr. E. L. Trudeau, November, 1896.

ARCHÆOLOGICA MEDICA.

XXXVI.—STEPHEN HALES, A PIONEER IN MODERN PHYSIOLOGY.

The name of Stephen Hales is known to every medical student in connection with the first experiments upon blood pressure, but there are few students or teachers who know more of him than that he was in the Church and that he was a pioneer in the physiology of the vascular system whose discoveries were secondary only in importance to those made by Harvey himself. Yet Hales was a most remarkable man, and his physiological work filled only a small part of his interesting life.

Hales was born at Bekesbourne in Kent in September, 1677, graduated at Corpus Christi College, Cambridge, in 1696, and was created D.D. of the University of Oxford in 1733. He was appointed perpetual curate of Teddington, Middlesex, in 1708, but he soon became a pluralist, for he held the living of Porlock in Somersetshire, which he vacated for that of Farringdon in Hampshire. He was elected a Fellow of the Royal Society November 20th, 1718, receiving the Copley medal in 1739, and in 1753 he was elected one of the eight foreign members of the French Academy. He was proctor for the clergy of the diocese of Winchester, and he was one of the trustees for the colony of Georgia, then newly founded. He married Mary, daughter of Dr. Richard Newce, of Much Hadham, Hertfordshire, but had no children. He died January 4th, 1761, and is buried at Teddington. The Princess of Wales, mother of George III, put up a monument to his memory in Westminster Abbey.

Hales had so scientific a mind that it is said "he could look even upon wicked men and those who did him unkind offices without any emotion of particular indignation; not from want of discernment, but because he considered them only like those experiments which, upon trial, he found could never be applied to any useful purpose, and which he therefore calmly and dispassionately laid aside." His work falls naturally into two parts, says Professor Francis Darwin, (1) physiological and chemical, (2) inventions and suggestions on matters connected with health and agriculture. As he was a pioneer in the physiology of the vascular system, so he was equally foremost as a botanical physiologist. In his second character he invented artificial ventilators for ships, prisons, and granaries, and he manufactured an instrument for taking deep sea soundings. Yet he did not neglect his more purely spiritual duties, for he wrote against the mischief of dram drinking, and he made his female parishioners do public penance for irregular behaviour.

Hales's blood-pressure experiments were as simple as they were effective, and he describes them in the plainest and shortest manner. He gives the following account of his first satisfactory experiments:

"In December [1732?] I caused a mare to be tied down alive on her back. She was 14 hands high and about 14 years of age, had a fistula on her withers, was neither very lean nor yet lusty. Having laid open the left crural artery, about 3 inches from her belly, I inserted into it a brass pipe whose bore was one-sixth of an inch in diameter, and to that, by means of another brass pipe which was fitly adapted to it, I fixed a glass tube of nearly the same diameter, which was 9 feet in length; then, untying the ligature on the artery, the blood rose in the tube 8 feet 3 inches perpendicular above the level of the left ventricle of the heart.....Then I took away the glass tube and let the blood from the artery mount up in the open air, when the greatest height of its jet was not above 2 feet.

"Experiment II.—In January I caused a gelding to be tied down fast on his back, in the same manner as the mare was in the foregoing experiment. He was 13 hands high and 10 or 11 years old, but very lame by reason of a canker in his hoof; he was lean, but somewhat lustier than the mare and much more lively. I fixed the same brass pipe and glass tube as above to his left crural artery. The blood rushed up the tube at once to near two-thirds of its greatest height, and then more leisurely. It would rise and fall commonly 1 inch at each pulsation of the heart, but sometimes 2 or 3 inches. The blood rose to a height of 9 feet 8 inches. The horse's pulse beat 40 strokes in a minute before he was disturbed or tied down, but when the glass tube was fixed to the artery it beat 65 in a minute; and as the horse grew fainter (from loss of blood) the pulse was more and more accelerated so as to beat 100 times or more in a minute.

"Experiment III.—In December I laid a common field gate on the ground with some straw upon it, on which a white mare was cast on her right side, and in that posture bound fast to the gate. She was 14 hands and 3 inches high, lean, though not to a great degree, and about 10 or 12 years old. Then laying open the left jugular vein, I fixed to that part of it which comes from the head, a glass tube which was 4 feet and 2 inches long. The blood rose in it in 3 or 4 seconds of time about a foot, and then was stationary for 2 or 3 seconds; then in 3 or 4 seconds more it rose sometimes gradually and sometimes with an unequally accelerated motion, 9 inches more on some small strainings of the mare. The diameter of the brass pipe and tube which were fixed to the vein were nearly one-seventh of an inch: the diameter of the jugular vein nearly half an inch. Then, laying bare the left carotid artery, I fixed to it, towards the heart, the brass pipe, and to that the windpipe of a goose, to the other end of which a glass tube was fixed, which was 12 feet 9 inches long. The design of using the windpipe was by its pliancy to prevent the inconveniences that might happen when the mare struggled, if the tube had been immediately fixed to the artery without the intervention of this pliant pipe."

Hales killed each of the three animals by bleeding, taking away the blood quart by quart, and noting the alteration in the column of blood as each quart was removed. He says, "We may observe that these three horses all expired when the perpendicular height of the blood in the tube was about 2 feet, the number of quarts of blood lost being respectively 16, 15, and 15."

But the whole of the *Statical Essays* containing Hæmastatics well repay perusal even at the present day. They have twice been translated into French, and once into German, Italian, and Dutch. A note at the end of the preface to the third edition of the first volume is interesting, as it gives us an insight into the amount of education possessed by our ancestors even as late as 1769. It runs, "Whereas some complain that they do not understand the signification of these short signs or characters which are here made use of in many of the calculations, and which are usual in algebra: this mark + signifies 'more,' or 'to be added to.' Thus 6 ounces + 240 grains, is as much as to say 6 ounces more by or to be added to 240 grains. And this mark × or cross signifies 'multiplied by'; the two short parallel lines signify 'equal to"—thus 1820 × 4 = 7280 : 1 is as much as as to say 1820 multiplied by 4, equal to 7280 is to 1."

THE SERUMTHERAPY OF YELLOW FEVER.

A Reuter's telegram from Monte Video announces that Professor Sanarelli gave a lecture at Monte Video on October 13th on the Serumtherapy of Yellow Fever, and expressed the hope that serum obtained from vaccinated animals would be efficacious for the cure of yellow fever in human beings.

In *Il Policlinico* of September 15th and the *Annali di Medicina Navale* for September-October Professor Sanarelli published a paper on the Production of Immunity to Yellow Fever by Injection of Protective Serum, in the course of which he describes his experiments on animals, including those on a horse, from which, it would appear, he has obtained the curative serum for human yellow fever. The paper is dated Monte Video, July 24th, 1897.

The Serum of Cadavers and Convalescents from Yellow Fever.

The author first describes his experiments with the serum of cadavers from yellow fever taken very soon after death from the blood of the heart, but it had no preventive power in respect to the specific bacillus. He also obtained a considerable quantity of the serum of a convalescent from the disease which produced the Grüber-Durham reaction with great slowness, and manifested a weak protective action in animals in respect to the bacillus icteroides. The simultaneous injection of the serum and the virus did not prevent the death of the guinea-pig, but death did not occur in the greater number if the injection of the serum in a dose of at

least 2 c.cm. was practised twenty-four hours before that of the virus.

Immunisation of Animals against Experimental Yellow Fever.

As yellow fever after recovery leaves the patient, at least for a certain time, well vaccinated against a subsequent attack, Professor Sanarelli thought it probable that a similar condition might be obtained artificially in animals. Owing to the excessive sensibility of rabbits, goats, and sheep to the living virus, he found it necessary to confine his experiments in immunisation to guinea-pigs, dogs, and horses.

The mortality produced by the vaccination of guinea-pigs, however slowly it was conducted, was very considerable; in fact, it was only after six or eight months that a guinea-pig could be considered well vaccinated against the bacillus. In them, as in all the other animals vaccinated against the disease, time was gained by proceeding with great slowness.

The dog could be immunised against minimum mortal doses of the bacillus icteroides much more quickly than the guinea-pig, but it never becomes altogether accustomed to multiple doses of the toxin; in fact, directly after the endovenous injections, especially when broth cultures were used, vomiting was always induced, and the animal remained very prostrate for some hours.

The Vaccination of Horses.

Professor Sanarelli observes that the ox has a notable advantage over the horse in tolerating subcutaneous injections of the icteroid culture without preventing the enormous swelling and prolonged febrile reactions, followed by ulceration of the part, which in the horse are the rule, and which impede subcutaneous vaccination.

On the other hand, apart from the technical difficulties, the ox has the disadvantage of not tolerating, without serious inconvenience, endovenous injections of the toxin and the sterilised virus. As a rule, these endovenous injections are also badly tolerated by the horse, and require a series of precautions, so that only long practice and experience can prevent disappointment.

He performs the vaccination of the horse in the following manner: Selecting a young and healthy half-bred animal, he first injects subcutaneously small doses (5 to 10 c.cm.) of the filtered cultures. These injections are regularly followed by febrile elevations, which at first last for several days. This period being passed, the use of subcutaneous injections must immediately be abandoned, because, besides producing almost continuous fever and ulcerations difficult of cure, they provoke a notable wasting. The endovenous injections (in the external jugular) are begun with small doses of the filtered culture, which generally are well tolerated, as they cause only a slight elevation of temperature for a few hours. However, when the dose is increased, or a culture sterilised with ether, which is much more active, is substituted, the animal exhibits signs of such grave indisposition that very frequently its life is in danger. Usually, soon after injection, the horse shows the general action of the poison. A first period of profound *malaise* is followed by fever, which lasts about 12 hours, and is accompanied by loss of appetite, dejection, and general weakness. For this reason the injections can be repeated only at long intervals, depending on the state of the animal after each injection. It is also absolutely necessary to avoid injecting the virus outside the vein, otherwise very extensive and deep œdemas of the sides of the neck are produced.

After about two months of the treatment by means of the filtered cultures, cultures simply sterilised with ether can be used; but it is not until five or six months after the commencement of the treatment that the first injection of a small dose of the living culture can be attempted. This first injection determines a general reaction, which is characterised by loss of appetite, wasting, and fever, lasting for about eight to ten days.

This period having elapsed, the injection of the virus can be repeated, the quantity of broth culture injected in twenty-four hours being gradually increased from 5 to 10 c.cm. The bacillus icteroides leads to the production in the animal organism of immunising substances very slowly.

The Serumtherapy of Experimental Yellow Fever.

Professor Sanarelli finally describes his experiments in relation to the serumtherapy of experimental yellow fever. After noting the effect of the serums of vaccinated guinea-pigs and dogs, he describes the results produced by the horse's serum, and his statements as to the second horse—which, it would appear, is the animal from which he obtained the serum for the treatment of human yellow fever—are as follows:

The first horse subjected to treatment was a robust half-bred, which I began to vaccinate subcutaneously with 2 c.cm. of the filtered culture on July 24th, 1896. On September 15th it had received altogether 760 c.cm. of filtered toxin, and the endovenous injections of cultures sterilised with ether were immediately begun; on November 21st 2,040 c.cm. had been injected, and on November 24th the first endovenous injection of the living culture was practised. Each injection of 10 to 20 c.cm. was regularly followed by a febrile attack, which usually disappeared after twenty-four hours.

On February 14th, 1897, after having received altogether in the space of about seven months 760 c.cm. of filtered culture, 2 litres of sterilised culture, and 240 c.cm. of living culture, this horse suddenly died, although it was in excellent condition and had never been bled.

The second horse, which already furnished a serum endowed with a good preventive power in guinea-pigs, was placed under treatment on October 1st, 1896. On March 3rd, 1897, when the first bleeding of a litre of blood was made, it had received by intravenous injection 29 c.cm. of filtered culture, 2,640 c.cm. of culture sterilised with ether, and 35 c.cm. of living culture. This serum had a weak preventive action against the yellow fever infection in guinea-pigs, but to save a guinea-pig from the consecutive injection of a mortal dose it was necessary to inject twenty-four hours before the enormous dose of at least 5 c.cm. of the serum. The serum was not sufficiently powerful to cure the disease when it had already developed.

From March 3rd to May 4th injections of broth cultures were practised at intervals of four to five days, aiming at the inoculation in one injection of 35 c.cm. of broth culture. The febrile reaction following each injection was always less, and did not last more than twelve hours. On May 10th the first endovenous injection of one gelatine culture was practised, on May 17th two cultures, and May 22nd and 29th three cultures.

This last dose, however, was considered excessive on account of the febrile reaction, and the grave general *malaise* presented by the animal after each injection. Consequently the maximum dose of each injection was reduced anew to two cultures, and the injections given five times a month.

On July 1st a second bleeding of 500 grammes was practised, and the serum was immediately tested on guinea-pigs against mortal doses of virulent cultures. This serum conferred immunity if given twenty-four hours before in a dose of 0.5 c.c.m, and succeeded in saving guinea-pigs already ill even when inoculated forty-eight hours after in a dose of 2 c.cm. These doses are still very far from representing the preventive and curative powers of the anti-amarylligenous serum, above all if we take into consideration that possessed by other preventive and curative serums prepared up till now. These results showed that to obtain a good vaccination against the bacillus of yellow fever in animals is much more difficult and requires a much longer time than is ordinarily required with other species of known virus.

Professor Sanarelli concludes by expressing the opinion that very probably this same serum which saves animals that are destined to succumb almost without exception to experimental yellow fever will be of use in the treatment of spontaneous yellow fever in man; but he adds that it will be possible to verify this fact only when the more intensive immunisation of the horse, then undergoing advanced treatment, should have furnished a serum more active in quantities sufficient to warrant the serumtherapeutic method being tested on diseased man.

In a footnote Professor Sanarelli states that the mortality from yellow fever varies from 13 to 90 per cent. according to the different epidemics and places. In a second footnote he states that in the institute he has a second horse and two oxen which have been undergoing treatment for some months but whose serum he has not yet tested in animals.

THE VALUE OF VACCINATION.

DECLARATION BY MEDICAL OFFICERS OF HEALTH.

'HE Jenner Society has issued under date of October 7th, 897, a declaration as to the relative merits of vaccination and sanitation" as preventives of small-pox. In a brief introuction prefixed to the declaration by the Honorary Secretary f the Jenner Society, Dr. F. T. Bond, of Gloucester, it is ointed out that such an expression of opinion will be the ıost effective answer to the views to which the statement of he two dissentient members of the late Royal Commission n Vaccination have given so much currency, to the effect, amely, that "sanitation" can be safely relied on not as an djunct to, but in the place of vaccination. It is pointed out ırther that the declaration, whilst affirming the report of he late Royal Commission that "sanitation" cannot be elied on as a substitute for vaccination, also confirms two ther conclusions contained in the report—that vaccination, specially by the use of calf lymph, is free from any serious anger, and that, to perpetuate the protection against small-ox afforded by vaccination in infancy, it is expedient to reeat the operation at a later age.

The declaration, we are informed, has already been signed y upwards of 850 medical officers of health in Great Britain, ndia, and the Colonies. It is further pointed out that nearly 50 of the signatories are those of men who have no pecuniary ıterest of any kind in vaccination, and include those of fficers of a number of English, Welsh, and Scotch counties, he metropolitan and many combined provincial districts, nd nearly all the large towns. It is still in process of signaature, and will, it is believed, be endorsed by medical fficers of health in all parts of the world. The following is he text of the declaration:

"We, the undersigned, actually or recently medical officers f health, think it right, in view of assertions which have een published, with some appearance of authority, as to the fficacy of "sanitation" as a substitute for vaccination in ealing with small-pox, to make the following statement:

"1. As responsible sanitary officials, to whom the care of ıe health and lives of the community is especially entrusted, e have every inducement to give due weight to the value of sanitation" in the widest sense of the term, for the prevenon of small-pox, as of other forms of infectious disease. We ıclude in that term good drainage, the removal of refuse, ıe supply of pure air and water, and all other conditions hich are calculated to fortify the body against disease in eneral.

"2. We are no less alive to the importance of those special recautionary measures which experience has shown to be so aluable, when effectively used, to arrest the spread of inctious disease, such as the immediate notification of lness, the efficient isolation of the sick and of those who ave been exposed to infection, and thorough disinfection of ersons and things.

"3. Whilst thus fully appreciating the value of these gencies for such purposes, we unhesitatingly declare our elief that they cannot alone be relied on either to prevent or stamp out epidemics of small-pox.

"4. We believe that the only trustworthy protection at preent known against small-pox, alike for the individual and ıe community, is efficient vaccination in infancy and subequent revaccination, and that the only effective way of amping out epidemics of this disease lies in the free use of ıese agencies.

"5. We are so thoroughly convinced that the dangers alleged gainst vaccination are, as the Royal Commissioners have serted "insignificant," even without the additional safeıards which the Commissioners have recommended that, common with nearly the whole of the medical profession, e not only prescribe it generally, but use it for ourselves, ır families, and others in whose welfare we are personally terested.

"6. We repudiate the calumny which has been freely circuted that either we or other members of the medical prossion have been influenced in forming or expressing our elief in vaccination by any consideration other than that of e public health, but we think it well to add that a conderable number of us derive no emoluments of any kind om the practice of vaccination."

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary quarterly Council was held on October 14th, Sir William Mac Cormac, Bart., President, in the chair. The minutes of the preceding meeting were read and confirmed.

Mr. C. H. Golding-Bird was admitted a member of the Court of Examiners.

The newly-appointed Librarian, Mr. Victor G. Plarr, was introduced to sign the required declaration on his admission as Librarian.

A sum of £24 was voted for the restoring of the picture of Henry VIII granting the Charter to the Barbers and Surgeons, and a sum of £10 for glazing and varnishing the portraits of Sir Astley Cooper, Sir Anthony Carlisle, Sir Cæsar Hawkins, Percival Pott, and Lord Lister.

Mr. T. Bryant was re-elected a member of the Committee of Management.

Sir William Mac Cormac and Mr. Henry Morris were elected members of the Laboratories Committee in the vacancies occasioned by the retirement by rotation of Mr. Henry Power and Mr. A. A. Bowlby.

A vote of thanks was accorded to the President and Mr. Jessop for their representation of the College at the Moscow Congress.

The Chairman of the Annual Report Committee submitted for the consideration of the Council a draft copy of the report to be presented to the Fellows and Members at the annual meeting to be held at 3 o'clock on November 18th, 1897.

Mr. R. J. Godlee was elected a member of the Court of Examiners' Section of the Board of Examiners in Dental Surgery, in the vacancy occasioned by the retirement of Sir William Mac Cormac, Bart.

The President reported that he had accepted on behalf of the Council a portrait of Frère Jacques, presented to the College by Mr. Sharon Grote Turner, who was thanked for his presentation.

A memorial signed by medical practitioners resident in Great Yarmouth was read. Amongst the questions submitted for the consideration of the Council was the following: Is the holding of appointments such as are herein described compatible with the conditions under which your diploma is granted and held? To this question the following answer was made: That there is no provision in the charters or by-laws of the College prohibiting Fellows and Members of the College from acting as medical officers to medical associations. The Council in answer also stated that, while not prepared to express an abstract opinion on the question raised by the memorialists, it was willing to consider any evidence which might be submitted to them respecting canvassing for patients, either directly or indirectly, by any individual Fellow or Member of the College, with a view to determining whether or not such Fellow or Member has been guilty of a breach of the by-laws.

DEATHS UNDER ANÆSTHETICS.

Ether.

We have been favoured by Dr. Edward Rice, of Oxford, with the following particulars of the case in which a lady died while undergoing an operation under ether:

"Mrs. P. suffered from a large semisolid malignant tumour of the ovary, and was advised by Mr. Sankey against surgical interference a year ago unless the growth increased so as to be intolerable, or cause danger to life by pressure. On this occurring she again consulted him, and the risks were fully explained to her. However, she and her friends were urged to have something attempted even though it might be regarded as more or less of a forlorn hope, and the probability of her not surviving the operation was explained. She, however, preferred the chance, as she said, to otherwise certain death after much suffering, and as a result of their persistence the operation was attempted. The anæsthetic chosen was ether, given through Clover's inhaler. She took it well, and from first to last the anæsthesia caused no anxiety. A very free incision was made from above the umbilicus to the pubes, and the growth, which was very vascular, was freely exposed to the air for about an hour, as also some coils of intestine which were firmly adherent to it, and were with difficulty separated. There was rather free hæmorrhage from

breaking down of the tumour. About a quarter of an hour before death I warned Mr. Sankey that there was considerable shock and collapse from the exposure and hæmorrhage, and told him the patient had had as much as she could stand, but it was impossible then to terminate the operation at once. It was quickly proceeded with, and under hot bottles and warm blankets she rallied slightly for a time, but in about a quarter of an hour she collapsed again, the pulse became imperceptible, and the heart stopped. It was made quite clear at the inquest, and the jury agreed that death was in no way attributable to the anæsthetic, but she died from the severity of the operation."

ETHER OR CHLOROFORM?

Dr. JAS. A. L. CALDER (D.M.O. Black River Hospital, Jamaica), writes: I have observed some correspondence on chloroform *versus* ether in the BRITISH MEDICAL JOURNAL, and as facts and figures are better than theories I submit the former. The relative value I am incapable of expressing an opinion upon, having very slight experience in the use of ether, but of chloroform I have had a varied experience; for 13 years I have employed it in surgical work of all kinds, and with an average of over 200 administrations a year, in any and all varieties of cases. I have had but two cases which gave any anxiety; and I found that both these cases, which occurred within a short time of one another, had taken place under the use of a new make of chloroform, and a further use of that brand was always attended with unusual excitement on the part of the subjects, and great difficulty in obtaining anæsthesia, or with dangerous depression. On obtaining a supply of our usual chloroform we had no further trouble. I have administered chloroform in cases where there were heart and lung complications without any dangerous symptoms whatever, and have had but one case in which I did not feel justified in the use, and abstained. The administration is made by the dispenser of the hospital on the antiquated towel method. In my experience the administration of chloroform in the tropics is as absolutely safe a procedure as can be reasonably expected; at the same time it is readier, and, with the assistance obtainable the most suitable. The only danger attending the use of chloroform is the unreliability of some makes, the more so those of a cheaper kind. Chloroform is almost universally used in Jamaica, but I have not heard of any deaths from its use.

OPENING OF THE WINTER SESSION IN THE MEDICAL SCHOOLS.

EDINBURGH.

So far as can yet be ascertained the numbers at the various classes—University and Extra-mural—show comparatively little difference from last year. There does appear, however, to be a greater approximation to equalisation between the two great schools. Thus, in the subject of midwifery the Extra-mural School shows no fewer than 160 students, a material advance on last year. In surgery and pathology, too, the Extra-mural School has a strong following. The advance is not so marked in medicine. Definite figures cannot be given till the beginning of November at the earliest.

Formal introductory lectures were given in a few cases, for example, in Zoology, Anatomy, Surgery, and Medicine. Sir William Turner reverted to his British Association subject, while Professor John Chiene discussed the place and function of imagination in the study and practice of surgery. Some were inclined to cavil at the too abundant use of imagination suggested, but the lecture was interesting, suggestive, and characteristic.

Referring to the Maidstone epidemic, Professor Sir Thomas Grainger fitly enough took the *Spectator* to task. That usually fair journal in a leading article on The Lesson of Maidstone on October 9th says: "The calamity which has befallen Maidstone may well compel reflection on the supposed capacity of science to deal with the problem of disease. Here is a small and pleasant country town, with no deleterious local industry, with every condition favourable to health, within easy reach of the world's greatest city, with all its manifold scientific agencies, and yet hundreds of the inhabitants are stricken down by one of the most insidious of all diseases. To look at the capital of Kent, surrounded by its cherry orchards, one would say that a healthier spot for human habitatation could not easily be found. But as a matter of fact it is a plague camp, and at present the rage of the fever does not seem to have reached its limit, notwithstanding all that medical science has done. We remember to have heard a very eminent man of science, addressing a private gathering of physicians and physiologists, make the confession (which he admitted he would not dare to utter *coram populo*) that three-fourths of our medical science is little more than pure quackery. We should not care to make such an assertion on our own responsibility; but, in view of the typhoid ravages at Maidstone, and of the recent mysterious visitations of the influenza pest which followed one another in waves across Europe and America, we are bound to question the alleged power of science to grapple with the physical conditions of life," and so on. Commenting on this Sir Thomas said he would like just to say that such statements were unfair, inaccurate, and abounding in error. The difficulty was not that science had failed. Their profession was maligned, and their science and art was spoken of as an imperfect thing. Of course it was; nobody would say that it was not. But their science had discovered that there was such a disease as typhoid, and had urged upon the community the taking of precautions. If the public would learn to act upon the discoveries made they would escape the mortality in many places, as Maidstone had not escaped it; and he thought that great journals might be better employed than saying that the great lesson of an outbreak like that which had taken place in Maidstone was that the medical science of the day was ineffective or incapable.

GLASGOW.

The winter session of the medical schools of Glasgow opened at the end of last week, and work is now in full swing. Formal opening addresses are not now given, and at the University the leading ceremony was the induction of the recently appointed Professor of Materia Medica and Therapeutics. Professor Stockman was introduced to the students by Principal Caird and Professor Gairdner, and delivered an introductory address on the present position of the studies of materia medica and therapeutics. He drew attention to the great advance during the last few decades in the exactitude of our knowledge of the action of medicines. This he explained as due, first, to the advance in our knowledge of the symptomatology and the pathology of disease; and secondly, to the development of pharmacology, the importance of which, as an auxiliary to medicine, he dwelt on at some length. In introducing the new professor Dr. Gairdner took great delight in assuring the students that though he had studied in Germany, Dr. Stockman was a true Scotsman, and in spite of any reports to the contrary, was not "made in Germany." We regret that Professor Coats is not to be at his work in the Pathological Department this winter. Though he has not been in very good health since spring, he has now considerably recovered. However it has not been considered prudent that he should resume his duties yet; and he has received leave of absence from the University Court for six months, and will start for Australia in a few days. We trust that he will greatly benefit from this rest and change, and will return in perfect health. In the meantime the duties of the chair have been assigned to Dr. Coats's able assistant, Dr. Lewis R. Sutherland. The Medical Schools of St. Mungo's College, and of Anderson's College have also resumed work. At the former an introductory address was delivered by Dr. Workman on the History of Pathology. There are important changes in process at the Western Infirmary which are of special interest to the students, coming, as they are, at the beginning of another session. After many years' service Dr. Gavin Tennent has resigned his post of Visiting Physician, and the directors, in recognition of the good work he has done, have appointed him an Honorary Physician of the infirmary—the first appointment, indeed, of that kind to be made. On account of the increasing demand for surgical beds in the infirmary as compared with medical, the directors have arranged to appoint a new visiting surgeon instead of physician. Moreover, arrangements have been made for

giving extra facilities to the gynæcologists, and for placing a certain number of medical beds at the disposal of the Professor of Materia Medica and Therapeutics.

University College of South Wales and Monmouthshire.—The medical school at the University College opened on Monday, October 4th, an increased number of students enrolling in the books. This session the teaching staff has been increased by the appointment of Alfred William Sheen, M.D., as Demonstrator of Anatomy, and by S. C. Mahalanobis, B.Sc., as Demonstrator of Physiology. Professor Francis Dixon commenced his first course of winter lectures at the College, and he has to face the difficult task of refilling in great part the anatomical museum. The specimens being the private property of the late occupant of the chair have for the most part been removed, but will be more than replaced from funds placed at the disposal of the College by the generosity of Professor Alfred Hughes. In the physiological department a large work bench has been constructed at which a class of students may pursue their studies in experimental physiology; it is provided with a shaft run from an electromotor, and from which a series of revolving drums can be run independently of each other within a wide limit of speed. It is with regret that we learn that Professor Haycraft, Dean of the Medical Faculty, has been dangerously ill. He is, however, in a fair way to recovery, and it is hoped will be able to resume his duties in the course of a few days. The following students of medicine have obtained entrance scholarships and exhibitions: William S. Hughes (entrance scholarship), Joseph William Evans (Glamorgan free studentship), David Morgan Hughes (Monmouth free studentship), Arthur Edward Fiddian (Cardiff free studentship).

ENTRIES AT THE MEDICAL SCHOOLS AND COLLEGES IN ENGLAND:

By the courtesy of the Deans, Wardens, or other officers of the various medical schools, we are enabled to publish the following returns of the number of students who have entered at the various medical schools in England this session, and of those who have joined for various special courses. The first column (A) shows the number of those who have joined the several schools for the full curriculum. The returns are liable to subsequent correction, but it is not probable that any corrections will be of such a nature as materially to alter the general effect of these statistics.

	A.	B.	C.	D.	E.
St. Bartholomew's Hospital	97	91	—	—	188
Charing Cross Hospital	21	36	20	6	77
St. George's Hospital	49	4	—	—	53
Guy's Hospital	86	26	44	24	156
King's College	15	140	—	4	155
London Hospital	68	47	—	10	115
St. Mary's Hospital	54	61	2	13	117
Middlesex Hospital	14	17	15	—	46
St. Thomas's Hospital	52	19	—	10	71
University College	37	40	—	30	77
Westminster Hospital	9	10	—	—	19
London School of Medicine for Women	28	3	1	—	32
Cambridge University	—	—	—	—	—
Oxford University	27	—	—	—	27
University of Durham College of Medicine	23	32	5	—	60
Bristol University College	15	1	2	7	18
Owens College, Manchester	62	66	16	67	144
University College, Liverpool	57	11	11	24	79
Yorkshire College, Leeds	29	13	2	25	44
Mason College, Birmingham	—	—	—	—	—
University College, Sheffield	—	—	—	—	—
University College of South Wales, Cardiff	19	—	—	11	19
London School of Dental Surgery	—	—	—	—	—
National Dental Hospital	—	—	13	—	—

A. Number of students who have joined for the full curriculum.
B. Number of students who have joined for special courses.
C. Number of dental students.
D. Number of students who have joined classes for preliminary instruction.
E. Total, excluding students who have joined classes for preliminary scientific instruction.

The total number of new students who have entered for the full curriculum at the medical schools in London is according to these figures 502. This shows a small increase upon last year, when the total was 478.

THE LEPROSY CONFERENCE IN BERLIN.

The proceedings of the first two days of the Leprosy Conference, which was opened in Berlin on October 11th, were reported by our special correspondent in the British Medical Journal last week, page 1122, and in his communication this week he gives some account of the hospitality extended towards members of the conference by the Emperor, the Chancellor, Prince Hohenlohe, and other distinguished members of Berlin society.

At the second meeting on October 13th Professor Besnier and Dr. Hallopeau gave an interesting demonstration, before the regular proceedings began, on a number of the St. Louis models of leprosy. Two casts particularly excited interest, of the face of a leper with extensive tuberosities, which was taken several years ago, and again recently; the latter showed that the case had become actually cured.

The questions of the day were then discussed:

1. The Pathological Anatomy and Histology of Leprosy.
2. The *Rôle* of Heredity.
3. Emigration and Immigration in their Relation to the Spread of the Disease.

Many interesting facts were brought forward in connection with the bacillus of leprosy, but the chief interest seemed to centre in the question whether these bacilli existed within or without the cells, as maintained respectively by Professor Neisser and Dr. Unna. Many of the preparations, as, for instance, those of Dr. Lawrence Herman, indicated that both views were at times correct. Dr. Unna showed several microscopical preparations of the bacilli in the tissue of the skin, partly stained by osmic acid of a black colour, which reaction, he thought, proved that the bacillus contains a great deal of fat, which he had already proved in 1894, and partly stained by a new differential colouring method, showing the deeply stained red bacilli in a blue translucent mass of glœa, while the true protoplasm was in the same sections stained a grey colour. These specimens show, according to him, not only that the so-called "lepra cell" is indeed nothing than a mass of "strong degenerated bacilli," but furthermore that this mass, which he calls "glœa," and which has been always confounded with cell-protoplasm, is composed of rod-like, somewhat swollen, dead bacilli, which take colours badly and are therefore only stainable by the new process of double staining as described by him.

With reference to the second question the majority of the speakers discarded the view that leprosy is hereditary, although one or two seemed inclined to accept Zambaco Pasha's ideas on that point.

At the commencement of Thursday's proceedings, Dr. Abraham, on behalf of Dr. C. Lawrence Herman, gave a lantern demonstration of the latter's important observations on the bacilli of leprosy. The main points brought out by Dr. Herman's investigations are (1) That the bacilli may occur in large masses lying in the lymph and blood vessels, and that they also can be occasionally demonstrated as lying within cells and even within their nuclei; and (2) that there is a younger stage of the bacillus which does not retain the red stain after treatment with acid, and which therefore has been hitherto overlooked by other observers.

The questions of the day were:

1. The place of leprosy among infectious diseases, and its relations with syringomyelia, Morvan's disease, and ainhum; and
2. The treatment of leprosy—especially the serumtherapy.

Drs. Dyer, Arning, Hansen, Kalindero, Babes, v. Düring, and others spoke on the first question, and it was generally agreed that leprosy was distinct from the other diseases mentioned. It was suggested that the symptoms might be simulated when lesions of different origin occurred in identical parts of the spinal cord.

There was a lengthy discussion on the treatment of leprosy in which Drs. Laverde, Hallopeau, Besnier, Dyer, Abraham, Alvarez, Arning, Ehlers, Carrasquilla, v. Petersen, and Neumann and others took part. Dr. Hallopeau showed that the Carrasquilla serum had been extensively tried in Paris with no good result, and Dr. Alvarez gave a similar report from Honolulu. Dr. Abraham had also tried it in a case without effect, and he mentioned the negative results which had been reported from the Cape of Good

Hope. He alluded to experiments which Dr. Herman and himself had made with a serum prepared in a different manner from that of Dr. Carrasquilla; the results so far had been not conclusive, although in one case at least somewhat encouraging.

The following resolution supported by Professors Besnier (Paris), Ehlers (Copenhagen), Hansen (Bergen), and Neisser (Breslau), was proposed and carried:

That the Conference on Leprosy assembled in Berlin in 1897 should appoint a commission composed of twenty members, with powers to increase its numbers, which shall confer and prepare the way for an international leprosy society.

The following were subsequently elected members of the Commission: Professor Virchow, Honorary President; Professors Besnier (Paris), Hansen (Bergen), Neisser (Breslau), Ehlers (Copenhagen), v. Düring (Constantinople), v. Petersen (St. Petersburg), Campana (Naples), Kalindero (Bucharest), and Lassar (Berlin); Mr. Jonathan Hutchinson and Dr. Phineas Abraham (London); Drs. Glück (Serajevo), Dyer (New Orleans), Engel Bey (Cairo), Falcao (Lisbon), Alvarez (Honolulu), and Köhler (Berlin).

Two interesting cases were shown, one of supposed Syringomyelia, the other of Morvan's Disease. With regard to the former, considerable difference of opinion was expressed, many of those present regarding it as one of anæsthetic leprosy.

On Friday, October 15th, the main question related to the isolation of lepers, and an extensive and warm discussion ensued. Dr. Armauer Hansen's propositions, as modified by M. Besnier, were eventually carried with practically no dissentient.

At the final meeting, the following condensed report of the proceedings, drawn up by the Secretary, was read in German, English, and French, and agreed to by the Conference:

The Honorary Secretaries' Report.

At the close of the discussions of the International Leprosy Conference, Berlin, 1897, the Secretaries have the honour to present the following short report of the general conclusions of the Conference. They believe that this summary will be especially desirable for those members who are delegated by their respective Governments, and who will have to make reports on the subject.

1. As might be expected, a considerable portion of the proceedings has been in connection with the bacillus of leprosy, which the Conference accepts as the virus of the disease, and which has been now known to the scientific world for upwards of twenty-five years through the important discovery of Hansen and the able investigations of Neisser.

2. The conditions under which the bacillus grows and develops are still unknown, as well as the way of its invasion into the human system; but from the discussions at the Conference it seems probable that a unanimity of opinion will soon prevail with regard to the modes of its dissemination throughout the body.

3. Very interesting observations have been brought forward concerning the large quantities of bacilli which are eliminated from the bodies of lepers through the skin and the buccal and nasal mucous membranes. It is desired that these observations be confirmed where opportunities occur. This question is important to those who are entrusted with the care of the public health, as we have to acknowledge that leprosy is a contagious disease.

4. Every leper is a danger to his surroundings, the risk varying with the nature and extent of his relations therewith and with the existing sanitary conditions. Although in the poorer classes the leper is especially a source of danger to his family and fellow workers, it cannot be denied that cases frequently occur also in the higher social circles.

5. The theory of the heredity of leprosy has lost ground in comparison with the now generally-accepted opinion of its contagiousness.

6. The treatment of leprosy up to the present time has only had palliative results. Serumtherapy, so far, cannot be said to have been successful.

7. In view of the virtual incurability of leprosy and the serious and detrimental effects which its existence in a community causes, and considering the good results which have followed the adoption of legal measures of isolation in Norway, the Leprosy Conference, as a logical issue of the theory that the disease is contagious, has adopted the following resolution, proposed by Dr. Hansen and amended by Professor Besnier:

1. In countries where leprosy forms *foci* or has a great extension, isolation furnishes the best means of preventing the spread of the disease.

2. The system of obligatory notification, observation, and isolation as carried out in Norway is recommended to all nations with local self-government and a sufficient number of physicians.

3. It must be left to the administrative authorities, after consultation with the medical authorities, to take such special measures as are applicable to the special social conditions of the districts.

The Honorary Secretaries' Report was signed by Phin. S. Abraham (London), Ed. Arning (Hamburg), E. von Bergmann (Riga), Dubois-Havenith (Bruxelles), J. J. Kinyoun (Washington), G. Thibierge (Paris).

Dr. Phineas Abraham (London) while expressing his general agreement with Dr. Hansen's resolution, took occasion to point out that where lepers are numerous, and their friends still more numerous and not desirous of being separated from them, harsh means of isolation and segregation become impossible, their chief result being the concealment of cases. This had been well exemplified in the case of South Africa, where the recent Leprosy Commissions came to the conclusion that the attempt to send all lepers to Robben Island only led to many cases being hidden throughout the country. The same thing, as they had heard from Dr. Alvarez, took place at Hawaii. Many medical authorities of eminence strongly disapproved of stringent legislation, and until medical opinion became unanimous and our knowledge of the pathology and etiology of the disease more complete, the question of legislation would continue to be decided according to the views of individual Governments. This was especially true as regards the British Empire, where social and political conditions in the different colonies and dependencies differ widely from one another. If the Government had had any serious difficulty in enforcing simple sanitary precautions in the case of such an acute and fatal malady as the plague in India, how much more difficult would it not be to insist upon harsh measures in the case of leprosy. The narrower experience of England herself was noteworthy. Within the last ten years there had been at least 56 known cases of leprosy in England. In all these cases, with one exception, the disease was acquired by residence in leprous countries. With one exception, which occurred twenty-five years ago, the disease had never been known to spread to other persons in England. It must not be supposed that the various Governments of the British Colonies and dependencies had done nothing in this matter. For many years it had been under their most careful consideration, and in the paper on Leprosy in the British Empire, which he had had the honour to submit to the Conference, he had printed as an appendix no fewer than sixteen legislative Acts which had been passed in India and the British Colonies.

The proceedings concluded by votes of thanks to Dr. Köhler, chief of the Imperial Department of Public Health, Professor Lassar, and to the President of the Conference, Professor Virchow, the "earliest investigator of the subject of leprosy." Three hearty cheers were also given for the German Emperor.

The Middlesex Hospital has received a donation of £500 in aid of the Cancer Fund from a lady who wishes to remain unknown.

Society for Relief of Widows and Orphans of Medical Men.—A quarterly court of the Directors of the Society was held on Wednesday, October 13th, Dr. Pollock (Vice-President) in the chair. A new member was elected, and the deaths of four reported. Two widows in receipt of grants had died since the last court. A fresh application for assistance from a widow for herself and daughter was read, and grants made at the rate of £50 per annum to the widow and £12 per annum to the daughter. It was resolved to distribute at the next meeting a sum of £1,167 among the forty-eight widows, twelve orphans, and six recipients from the Copeland Fund. The treasurer recommended that a present of £8 should be made at Christmas to each widow, £3 to each orphan, and £5 each to those on the Copeland Fund, in all £434. The treasurer's recommendation was adopted.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

SUBSCRIPTIONS to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, OCTOBER 23RD, 1897.

THE INTERNATIONAL LEPROSY CONFERENCE, BERLIN.

As will be seen from the report published at another page, the various aspects of the leprosy question were considered more or less exhaustively by the Conference which met in Berlin last week. It consisted of experts from all parts of the world, called together practically on the invitation of the German Government. Even if their deliberations had no other result, the *Transactions* now in course of publication will doubtless always take rank with the celebrated Report of the Royal College of Physicians (1867), the *Journal* of the Leprosy Investigation Committee (1890-91), the Report of the Indian Leprosy Commission (1890-91), and the Report of the South Africa Leprosy Commission (1894-95), as one of the most important contributions yet made to the literature of the subject. On that account alone the thanks and congratulations of all scientific men would be due to the organisers of the Conference. It is sometimes hinted that science is not much advanced at modern congresses, but it must be admitted that the results on this occasion have been noteworthy from a scientific point of view, and will have very great practical importance in reference to the management of lepers in countries where the disease is endemic. Many new points with regard to the pathology of the disease have been brought forward for the first time, and the air has been much cleared in reference to the burning question of what should be done with lepers. On the one hand, some who held very strong views as to the contagious nature of the disease, founded generally on a theoretical or laboratory acquaintance with it, clamoured for the absolute isolation and segregation of all lepers; and, on the other hand, there were many medical men whose practical experience had convinced them that the disease was in no way contagious, and that, as Mr. Hutchinson said, harsh measures of seclusion would be not only cruel but futile.

The main result of the Conference has been the adoption of a middle course. While acknowledging leprosy to be a bacillary disorder, and in the category of the infective diseases, it recommends only such legal measures as have proved serviceable in Norway—such as the notification of cases, detention of vagrant lepers, and the isolation as far as possible, in their own homes, of such lepers as can be maintained with proper sanitary precautions by their own families. Such measures, indeed, have already to a large extent been recommended by the Indian and Cape Leprosy Commissions.

The leprosy question is one which is of greater importance to the British Empire than to any other European nation, and we are glad to see that Dr. Abraham was able to show that the matter has not been by any means neglected by the Government of India or by the British Colonies. The very different social and political conditions prevailing among the heterogeneous peoples which constitute the British Empire naturally render it impossible for identical legislation to be everywhere enforced, and this the Conference seems to have recognised.

A striking and gratifying feature in connection with this meeting is the fact that the German Government, which has comparatively little to do with leprosy, should have taken up the question with such interest, and received the Conference in such a splendid manner. Not only was a large Government institution, with unlimited microscopes and appliances, placed at the disposal of the Conference, but the reception of the members by the Emperor and Empress and by the Imperial Chancellor was of a singularly cordial character. Their Majesties and Prince Hohenlohe took the warmest interest in the proceedings of the Conference, and conversed with every guest individually.

The strong interest shown in the highest political circles in Berlin in this scientific Conference cannot but suggest the reflection whether a similar Conference in London would have aroused a similar interest. Past experience makes us fear that this would not have been the case. In this country, politicians, whether in or out of office, are apt to look upon anything not directly or indirectly appertaining to party politics or to trade as of quite secondary importance to the State, and to assume that investigation may be left to individual effort. The time may come, however, when the wise and enlightened example of the German Government in such matters may be followed, and when perhaps the important results which accrue from the fostering of scientific investigation may be appreciated as they already are in Germany.

THE SANITARY CONTROL OF WATER SUPPLIES.

THE unhappy experience through which the borough of Maidstone is even now passing, and which has plunged the town in suffering, death, and all the untold miseries of want in many cases, is one which has attracted the sympathetic attention of the whole country. The daily press has given much space to the recital and discussion of the epidemic of enteric fever and its causes and effects, and Queen and people alike have taken great and practical interest in the matter.

That polluted water has been the main and prime cause of fever prevalence there seems to be no shadow of doubt. Indeed, the distribution of the fever attacks has been such as to correct suppositions as to one and another line of dwellings being upon this or that service, the absence or undue preponderance of attacks in a given street having led in some instances to minute inquiries which have resulted in the finding that absence of fever where the suspected service was deemed to be the supply was accounted for by the distribution of water from one of the two remaining services, and that abundance of attacks in streets deemed safe was the

result of the supply of the suspected water unknown to the authorities. Further, there seem to be no grounds for doubt as to the presence in the vicinity of certain springs of casual fruit and hop-pickers with undeniable opportunities for bringing about the contamination of the water sources close at hand.

A large question is thus at once opened up, namely, whether any water company should be permitted to derive its supply in any part from gathering grounds or springs so situated as to render possible the entry of filth, especially of human origin. Experience has shown over and over again the danger which attaches to water services which are fed from open gathering grounds whereon there are either aggregations of populations, or scattered farms, or manured fields.

The bad sanitary conditions in which hoppers and the like are placed during their work should speedily bring about a much-needed reform in the direction of adequate and proper housing of the casual populations which collect each autumn in our hop-gardens. There is at present in only too many places an utter absence of decent housing and sanitary appliances, with resulting litter of filth about the camping ground, and it only needs the adjacent farm well, the hamlet spring, the parish pump, or the public service source of supply, with one or more cases of fever in the families of the hoppers, to place consumers of the water in a position of very serious risk after the first heavy rainfall. The annual immigration now in question demands the enforcement of stringent regulations to secure the proper housing and sanitation in respect of these outdoor hands, and the safeguarding of all water supplies against possibility of fouling.

It would seem to be desirable that all water companies should have the power of purchasing, if they are not indeed constrained to purchase, at reasonable cost the ground within the catchment area of their works, so that the drainage area may be protected from all possible cause of danger to the supply. Furthermore, local authorities should have greater facilities for purchasing existing companies' undertakings at a fair valuation, and thus have a direct incentive to maintain the purity of the supply. It should be the first duty and aim of every medical officer of health to make himself personally acquainted with each and every source of water supply, its possibilities of harm from without, its method of collection and plan of distribution, the state of water mains and all adjacent sewers, the condition of the water at regular and frequent intervals at one and another point in the process of delivery to consumers, by competent analysis at the hands of an expert, the adequacy and efficiency of methods of filtration, storage, and the like, and all this by virtue of powers which cannot be gainsaid at the whim of a local body bent on the false economy of the moment. Full power of entry upon all waterworks and gathering grounds should be accorded to health officers, and every facility assured in carrying out their duties in the matter. Even where the adoption of preventive measures would fall unduly hard upon ratepayers in circumscribed areas, there need be no difficulty in the appointment by county councils of experts qualified and empowered to act for the general weal. But when county councils still hesitate to secure even the services of a medical officer of health of their own, the judicious employment of rates in the way indicated seems to be far from secured by other than statutory powers. All along the line the spirit of false economy prevails and persists at the cost of life and suffering.

Perhaps, in conclusion, it is not necessary to do more than point to a deficiency in local sanitary administration, only too frequent still, as having a decided bearing on the protection of water supplies. We refer to the matter of the provision of isolation hospital accommodation. Specifically polluted privies and cesspools, the fouling of local leaky drains, the home-nursing of infectious disease in farmhouses, the absence of means of isolation when infectious illness appears among nomadic groups—these are some of the fruitful causes of disease dissemination, and demand the attention of county councils and Parliament to see that the want of isolation accommodation be no longer a blot on our vaunted sanitary administration.

VENTILATION OF UNDERGROUND RAILWAYS.

THE report of the Board of Trade Committee on Ventilation of the Metropolitan Railway Tunnels issued recently is a document of great interest, not only in its application to the special problem put before the Committee, but to many questions of more general application. The Committee, which consisted of Sir Francis Marindin (Chairman), Earl Russell, Sir Douglas Galton, Sir Charles Scotter, and Dr. John Haldane, was appointed "to inquire into the existing system of ventilation of tunnels on the Metropolitan Railway, and report whether any, and if so what, steps can be taken to add to its efficiency."

It appears that it was originally intended to work the traffic on the railway by means of what are described as "hot water locomotives," and that therefore no special provision was made for ventilation. When these failed, and it was found that ordinary locomotives were necessary, the state of the air along certain parts of the line became very bad, and has continued so up to the present time, in spite of various partial remedies introduced from time to time as the traffic increased. As regards the parts which are specially bad, the Committee find that "the air between Baker Street and Gower Street is commonly thick with smoke and steam, and very unpleasant. Between King's Cross and Gower Street, and between Edgware Road and Baker Street it is also frequently in a similar condition, though to a less degree; and the same is true of the air in the tunnels on the St. John's Wood section."

Concerning the composition and effects of this atmosphere and the means of dealing with it, a large amount of more detailed information is collected in the minutes of evidence and in an appendix by Dr. Haldane. Samples of the air were examined for carbonic acid by Professor Armstrong and for carbonic acid, oxygen, carbonic oxide, and sulphurous acid by Dr. Haldane. It was found that in the parts of the tunnel (including stations) just mentioned the proportion of carbonic acid was commonly as high as 60 or 70 volumes per 10,000. Carbonic oxide and sulphurous acid could not merely be detected and estimated, but were found in quantities sufficient to produce most distinct effects. Carbonic oxide was present in the ratio of about 1 volume for every 13 of carbonic acid, and sulphurous acid in the ratio of 1 for every 440 of carbonic acid. On Gower Street platform on one occasion, 89.4 volumes of carbonic acid and 6.5 volumes of carbonic oxide per 10,000 were found; and Dr.

Haldane mentions that both he himself and the men with him experienced distinct symptoms of slight carbonic oxide poisoning after being in the tunnel for an hour.

It appears, however, that the exposure of both passengers and employees on the railway is too short for distinct symptoms of carbonic oxide poisoning to manifest themselves, save under exceptional circumstances, and that it is really the sulphurous acid which is responsible for most of the discomfort caused by the air. One part or more per 100,000 was often present in the air; and according to the researches of Lehmann this proportion would suffice to produce the bronchial irritation, coughing, sneezing, etc., which are so easily produced in many persons that they altogether avoid travelling on the Underground Railway.

The statistics submitted on behalf of the railway company seem to show clearly that the vitiated air has no ill-effects on the health of the employees, who appear quickly to become so inured to the sulphurous acid that they cease to perceive its presence.

From a consideration of the effects of the air on passengers and the proportion of carbonic oxide present in it, the Committee recommended that 15 to 20 parts of carbonic acid per 10,000 should be regarded as the maximum measure of permitted impurity. This recommendation, taken along with the analyses, amounts to a distinct condemnation of the present system of ventilation (by "blowholes") along the Metropolitan and District Railways.

Of the remedies proposed, ventilation by fans placed midway between the stations so as to extract the air is first considered. Fans arranged in this way are already in use, but with indifferent success, near Whitechapel and Monument stations, while, as in the Severn Tunnel, the ventilation of which was also investigated by the Committee, the fan system answers admirably, and the air is exceedingly pure. The evidence elicited by the Committee showed that in the former case the fans were badly arranged, the horse power of the engine being from one cause or another almost totally wasted; and the conclusion is drawn that, although the action of the wind causes some difficulty, fan ventilation, properly designed, would give satisfactory ventilation on the Underground Railway. The cost would, however, be considerable.

As regards the plan of further extending the "blowhole" system, as proposed last year in Parliament by the railway company, the Committee conclude that, although the air would be improved by the proposed new openings, the standard of purity recommended could not be attained.

The conclusion chiefly emphasised, however, is "that pure air can be best obtained with certainty in the tunnels of the Metropolitan Railway, with its large traffic, by means of electric working." There can be no doubt that this would be by far the best solution of the whole difficulty. With the abolition of the steam locomotive the carbonic oxide and other objectionable impurities would once and for ever be got rid of; and with them would go most of the dirt which is at present almost as great an annoyance to passengers as the bad air. From the statement before the Committee of the Chairman of the Metropolitan Company it appears that in all probability electric traction will now be introduced within a very short time. With its introduction an end will be put to a state of matters which is at present anything but a credit to London.

THE HARVEIAN ORATION.

Among the many Harveian orations not the least interesting is the most recent, delivered on Monday last by Sir W. Roberts. Harveian orators have represented Harvey in many lights. Some have spoken chiefly of the man himself; others have shown him as the father of English medicine; others again have dwelt upon his work as a pioneer of physiology, and now Sir W. Roberts, taking still a wider flight, sees in him the type of that marvellous spirit of natural science which, as he truly observes, makes the real difference not only between the Eastern and Western civilisations, but also between the Europe of the fifteenth century and the Europe of to-day.

Nor did the orator lay more stress upon this change than it deserves. To anyone conversant with the history and writing of the Middle Ages, the spirit which came over Europe in Harvey's time represents a change so vast and so profound that no ordinary words can fitly describe it. Of its effects we need not speak. The "conquests of science," to use the usual phrase, are sufficiently obvious to need no comment, and so often boasted that to tell them again would be tedious. It is difficult, indeed, to estimate the effect of science applied to our daily life; but greater still, by far, is its effect on the thought and the temper of men.

Imagine what it is to have acquired the idea of a world, even of a universe, in which one great system of law obtains, to have conceived and gone far to prove one vast force which working on living matter has ceaselessly produced new forms, and by whose operation all living things exist and are connected, to have learnt that we ourselves too are, in spite of that lawless self or spirit which each feels that he possesses, yet in all our body subjects to the same great power as we see elsewhere. Of life, of death, of things beyond, we know indeed as little as our ancestors. To these great verities our attitude has not changed. But between ourselves and the man of mediæval Europe the difference is almost that between one who knows himself the subject of a vast Empire whose laws never fail to reach to the uttermost parts of its boundary and to the minutest circumstance of life, and one who finds himself in a chaos ruled by terror, love, and chance.

Nor is the change in temper less. If men have learnt nothing else in these three hundred years, this at least they have learnt, that, in matters of the senses at any rate, truth is hard to come at, and that many a man with the best intentions, and with the best powers, has been wrong in the past, and may be wrong again. We laugh at each other sometimes for conceit and intolerance, but that which we show now is humility and charity compared to the temper of the world of those times.

Sir W. Roberts, while insisting on the magnitude of the change which began about Harvey's time to appear, seeks not to pry into its causes. In Europe, indeed, the subject is fraught with difficulty. But we may with less uncertainty examine the Eastern world of to-day and compare it with the Western. If we ask why this spirit of inquiry, this necessity of knowledge, has failed to sway men whose art, whose literature, nay, whose mechanical skill was as great as our own, the answer that presents itself is clear. These men failed to ask the reason of things because they were bound and tied by superstition. So long as lightning was hurled

by Zeus, or small-pox dealt out by an angry goddess, there was no desire to know any other reason for them. In these nations superstition has outlived the strength of the people; in Europe it was not so. We may say with good show of reason that Alexander VI and Leo X, by provoking men to shake themselves free from their rule and all that it meant, liberated a spirit of inquiry which in the spiritual world produced the Reformation, in the material has built up that wonderful edifice which we call natural science.

DR. D. C. MCVAIL has been reappointed by the Queen in Council a member of the General Medical Council for another term of five years.

A REUTER'S telegram from New York states that up to October 20th there had been 951 cases of yellow fever, and 110 deaths at New Orleans. At Mobile there have been 23 deaths.

THE Vice-Chancellor of the University of Cambridge, Dr. Alex Hill, will distribute the prizes at St. George's Hospital Medical School on Friday, October 29th, at 3 P.M.

DR. FREDERICK ST. GEORGE MIVART has been appointed by Mr. Chaplin a Medical Inspector of the Local Government Board in the vacancy caused by the death of Dr. F. W. Barry.

WE regret to have to record the death, on October 19th, of Surgeon-General Cornish, C.I.E. He retired from the Indian Medical Service in 1885 with the rank of Surgeon-General. From that date until 1895 he represented the South Indian and Madras Branch on the Council of the British Medical Association.

BRITISH MEDICAL BENEVOLENT FUND.

THE British Medical Benevolent Fund has received from the executors of the late Dr. Robert Gee, of Liverpool, a bequest of £200, less duty, to be invested and added to the capital, the dividends on which are appropriated to the payment of the 107 annuitants now on the books. We regret to hear that the other branch of the fund—the grants department—is much in need of further subscriptions or donations to enable the Committee to relieve the many urgent cases which, at their last monthly meeting, they were obliged to postpone for want of funds.

DIPHTHERIA IN LONDON.

THERE was a slight decline in the mortality from diphtheria in London last week, although the prevalence of this disease, judged by the notifications, showed a marked increase. The fatal cases, which had steadily risen from 25 to 53 in the five preceding weeks, fell to 45 during the week ending Saturday last, October 16th, and were within 1 of the average number in the corresponding weeks of the ten preceding years. Of these 45 deaths from diphtheria registered in the metropolis last week, 4 were of persons belonging to Kensington, 4 to St. Pancras, 4 to Lambeth, and 3 each to Westminster, Islington, Bethnal Green, Newington, and Plumstead. The number of notifications of diphtheria in London, which had been 299 and 315 in the two preceding weeks, further rose to 356 during the week ending Saturday last. The increase in the prevalence of diphtheria last week in the metropolis was very marked in West, North, and Central London, while it remained almost stationary in East London; in South London there was a decline, the new cases being fewer than in any of the three preceding weeks. Among the sanitary areas of West London the increase in the prevalence of diphtheria was most marked in Chelsea, where 12 new cases were notified, against 3 in the preceding week. In North London there was a very marked increase in the prevalence of diphtheria, especially in St. Pancras and in Hackney. In the former sanitary area the notified cases which had been 7, 9, and 17 in the three preceding weeks rose to 36 last week; and in Hackney the new cases rose to 29, against 16 and 17 in the two preceding weeks. In Islington also the 23 new cases showed a further increase upon those recorded in recent weeks; and in Clerkenwell and Bethnal Green the prevalence of diphtheria showed a further increase. On the other hand, in most of the sanitary areas of South London there was a decline in the number of new cases, especially in Southwark, Rotherhithe, Lee, and Lambeth; in the last-mentioned sanitary area the new cases declined to 13, having been 15, 20, and 26 in the three preceding weeks. The admissions of diphtheria patients into the Metropolitan Asylums Hospitals during last week numbered 153, against 162, 164, and 153 in the three preceding weeks; and 1,035 cases remained under treatment in these hospitals on Saturday last.

THE PECULIAR PEOPLE.

IT is very satisfactory to find that the Treasury has seen its way to prosecute in certain cases recently brought before the police magistrates, in which members of the sect spoken of as the Peculiar People have been charged with causing the death of their children by neglecting to provide them with proper medical aid. As the prisoners in question were committed for trial to the Central Criminal Court, it would obviously be improper to say more on the subject than to express a hope that no technical difficulties will intervene to prevent a definite decision being arrived at as to how far a person who is able to obtain medical attendance for his child and fails to do so is to be held guilty of such criminal neglect as to bring himself within the law. There is, however, one aspect of the question with which we may presume the courts will not trouble themselves, and as to which we may therefore say a word, namely, the assertion so often and so glibly made that prosecutions such as this savour of religious persecution. The importance of this point lies in the fact that if it were once admitted that people could escape from the ordinary law of the land under the plea of some religious scruple or conviction, all proceedings under the Public Health Acts would become of no avail. Nothing could be simpler than to incorporate among the tenets of various sects one in favour of faith in Providence instead of trust in the sanitary inspector; and if this were once to be admitted it is clear that sanitary law would become a by-word.

PLAGUE IN INDIA.

PLAGUE is causing the people in India more trouble at the present moment than ever it did. There is a constant dread that it will break out somewhere in an epidemic form, and the necessity for active intervention occur. A telegram from Madras under date October 16th reports: "Three fresh cases 1 has terminated fatally." The appearance of plague at Madras is interesting epidemiologically, as we have no previous record of plague there. The cases, as far as we can learn, are imported cases, merely and in accordance with what we now know of plague we should not anticipate an outbreak there in an epidemic form. A telegram of October 19th from Jullundur, a town in the Punjab, states that 23 deaths have occurred there from "what is believed to be plague." We should be much more inclined to take serious alarm at this news, as Jullundur is directly in the track northwards from Bombay, of the course the plague has followed prievously. Whilst Poona is relaxing her efforts by as far as possible annulling the severe segregation rules enforced when plague first appeared, Bombay is strengthening hers by imposing quarantine upon new arrivals. The period of detention will extend to six days, and accommodation will be provided for about 6,000 people. With the quarantine arrangements surveillance tickets are issued, whereby well-known people can avoid the quarantine on the understanding that they present themselves for ex

amination on the third and sixth days after arrival. As well-nigh a third of the cases occurring in Bombay are imported, these regulations have shown excellent results. The inspection is rigid, and no person passed out has been known to have become subsequently attacked.

"NON-COMBATANTS."

The following incident is reported by the *Pioneer* as having occurred during the fighting at the Ublan Pass, North-West Frontier: "About half-way down Captain Baird Smith and Lieutenant North, both of the R.S.F., were severely wounded. Surgeon-Captains Beyts and Bawfield, A.M.S., rendered prompt and efficient aid to the wounded, the former with the aid of a sepoy carrying a wounded officer for some distance down the hill under a heavy fire where the ground was too bad for doolies to be used." This is only one of innumerable instances in this and other campaigns of heroism on the part of medical officers; yet "our military advisers," while bestowing definite military titles on pure civilians such as paymasters, who never go under fire, deny military recognition to medical officers who share all their dangers in the field, and on numerous occasions have saved the lives of the very men who do not hesitate to "pill" them when proposed as members of the "Rag" or Naval and Military clubs.

THE NEW GENERAL HOSPITAL, BIRMINGHAM.

Work in the new General Hospital commenced on Monday last, and the patients of the old institution have now been nearly all transferred to the new building. It had been hoped that the actual transfer of patients from the old to the new building would have been accomplished before the end of September, so as to enable students to begin work there at the beginning of the winter session; but a succession of small delays rendered this impossible, and it was not until Saturday, October 16th, that the actual transfer of patients was begun. This was continued on Monday and Tuesday last, and by that day about 100 patients had been moved by means of ambulances, leaving in the old building only 1 medical and 6 surgical patients, whose condition was such as to preclude their removal with safety at present. Great care was exercised in the removal, and it reflects the highest credit on all concerned that there was not the slightest hitch or mishap during the removal, and that no single patient appears to have suffered any ill-effects from it. The out-patient department was opened on Monday, October 18th, and during the morning 6 urgent accident cases were admitted into the hospital. The various departments were crowded to their utmost, many of the patients evidently having come, impelled almost as much by a laudable curiosity to view the interior of the building as by want of medical or surgical advice. Only four of the ten large wards are at present opened; it was found quite impossible to have them all ready at the same time, and it will probably be quite three or four weeks before the hospital is really in full swing with its more than 300 patients.

THE ARMY MEDICAL SERVICE AND THE SCHOOLS.

We published in the British Medical Journal of October 16th an able and eloquent address by Dr. Michael F. Cox at the opening of St. Vincent's Hospital, Dublin, for which he chose, "not unwillingly," the army medical question for his theme. This he did on the ground not only of its importance, but because of its interest to Ireland and to Dublin, which have furnished heretofore so many able officers to the department. He declared the position of the service to be extraordinary, during what he took to be an evolution from an old regimental to a new corps organisation. The position of the army medical officer at present was an impossible one; on the one hand, we had the highest authorities in the army holding the medical officer to be only a "civilian," and the very same authorities depriving Surgeon-Captain Fowler of his commission for not exercising the strongest military authority and command not only in the presence of, but over the heads of combatant officers. Of course such a position is an outrage on common sense, and we wonder any man could gravely defend it without laughter. In such a positively comic position, Dr. Cox declares that army medical officers are often "treated like pariahs, as if they belonged to an inferior caste, and are exposed to various insults, social and official," in proof of which he cites examples from among the recipients of the Victoria Cross. When Reynolds got it for Rorke's Drift, he was deliberately excluded from invitation to the Palace to be decorated, although his combatant companion was duly invited. Although Burns had well said; "The rank is but the guinea stamp; the man's the gowd for a' that;" nevertheless, the stamp is necessary, for without it even the gold of Klondike is of less value. "Would Lord Wolseley," he asks, "shorn of his rank, honours, and authority seem quite the same man as he now does?" Certainly not. Therefore, medical officers require and must have the genuine military stamp to give them due army and social currency, and must "no longer be officers of 'comic opera!'" The address was ably seconded by Sir Christopher Nixon, who said that all were "unanimous that the Army Medical Service had been treated badly, and that reform in it was urgently needed." Sir William Thomson said he could not understand the opposition to giving medical officers a similar defined military status as freely conceded to such pure non-combatants as the Pay Department. The grievances of medical officers "struck at the interests of the whole army and the public." Professor Birmingham said that when consulted by students as to whether they should enter the Army Medical Service his inclination was to say "Don't," yet, that no illegitimate pressure should be exercised, he put before them the advantages and disadvantages, and said, "Choose for yourself." We are glad of these plain-spoken and timely utterances; they show that the army medical question is thoroughly understood in the schools; they also prove the falsity of the charge that the service is "boycotted" by the "Professors." Nothing of the sort; they merely show both sides of the shield, and say to the students "Choose for yourselves." If candidates hang back it is because they know too much, and decline to become officers of "comic opera."

"HOW TO REMEDY THE WRONG OF ARMY DOCTORS."

Such is the title of a light but convincing article, by Mr. T. H. S. Escott, in the October number of the *New Century Review*. It is an important and welcome review of the controversy, by a writer at once able and unbiassed. In a few happy touches he shows not only his grasp of the subject, but its inevitable solution in favour of the doctors. He says truly that Lever, himself a doctor, was the first to exhibit to the public the importance of the medical officers in the economy of the army; but even yet "much of the excellent work done by army practitioners is only known to those behind the scenes;" in proof of which he cites the testimony of Miss Nightingale. Would that, like her, some of our high-placed military officials who well know, yet are silent, would bear similar generous testimony! Army medical officers, the writer says, have been most unfairly accused of "pushfulness"; but it is just in that they are deficient; for had they pushed more, and had a cheap press to back them during the Crimean period, they would have got what they needed long ago. He makes the general affirmation that "in the professional history of our day, few features are more noticeable than the increase of social importance conferred on the members of the healing art. The despotism of the doctor has, in fact, superseded that of the priest." The first we can endorse, although it has unfortunately stirred up jealousy of the profession in certain directions; but to the second we demur; if medical despotism there be, it is in no way parallel to that of the priest,

and never seeks to trammel the conscience of mankind. But he cites strong proofs of the "penetrating omnipotence of the medical profession" in every-day life, and in applying that to the army medical controversy, remarks: "It cannot, therefore be said that, judged by the accepted canons of professional usage, the army doctors are committing any solecism in calling attention to the disadvantages of their position." Further: "Rightly or wrongly the doctors believe their position would be improved by their military rank being made absolute, instead of, as is now the case, being qualified by a medical prefix indicative of the healing profession." In this claim he is quite aware of the opposition of the combatant officers to it, but recognises that the present compound titles, unknown in other branches of the army, are held to be, and he might have added are openly paraded, by a section of military officers as a "stigma of inferiority." The obvious and only way to remove this unjust "stigma" is in conferring titular equality, towards which he sums up; "Let a medical corps be formed like that of the Engineers; let medical men in that corps have substantive, not relative, rank; the entire difficulty will be surmounted without any residue of heartburning, and without the cost of an additional sixpence to the country." He avows that there is good reason to believe Lord Lansdowne sees this, and is personally prepared to enter its adoption. Towards such an end he says: "Let Lord Lansdowne meditate the composition of a small Royal Commission, which from its formation will be assured of the confidence not only of all those whose professional interests are more primarily concerned, but of their combatant comrades as well." Such is the substance of this sensible contribution to the daily waxing more exigent army medical question.

ANATOMICAL DEPARTMENT, KING'S COLLEGE, LONDON.

Old King's men would have some difficulty in recognising the dissecting room of their Alma Mater. Thanks to the energy of Professor Hughes, the newly appointed Professor of Anatomy at King's College, the somewhat dingy dissecting-room has been thoroughly renovated, and looks bright and cheerful. Electric light has been laid on, so that dissections can go on through the thickest of London fogs. A valuable anatomical collection belonging to the Professor has been removed from Cardiff and installed in the dissecting room and its annexes. A series of beautifully executed dissections are displayed in window cases. Other tables are set apart for the study of mounted and painted bones; the walls are adorned with well-selected anatomical diagrams, and a very complete series of models is ready to hand in other cases. King's College is to be congratulated on the acquisition of the collection, which will be of much value in teaching.

THE RECENT OUTBREAK OF TYPHOID FEVER AT UNIVERSITY COLLEGE HOSPITAL.

We are glad to be able to state that the hope expressed in our issue of October 16th has proved to be well founded, and that, with the discovery of the cause, the outbreak of typhoid at University College Hospital has been stopped. As soon as the careful investigations of Dr. Sykes and Professor Corfield had revealed the source of infection, the faulty service pipes were hammered up, and the part of the building where the nurses and servants had been temporarily dining was closed, the staff being accommodated elsewhere. Since this has been done the epidemic has ceased, and no further cases of the disease are reported. We are now in possession of more ample details relative to the arrangements of the pipes, and it will be seen from them that although the place from which the typhoid bacillus escaped is pretty certainly known, the exact mode of infection of the water system is more or less, to use Dr. Sykes's own expression, a matter of guesswork. It appears that on August 23rd the change in the dining quarters of the nursing staff was made, and that just previous to this a new sink, with hot and cold water taps, was fixed in the temporary pantry. The service pipe came from a large store cistern in the lobby adjoining; in the lobby was also a sink supplied with hot and cold water, the service pipe of the cold water tap being supplied from the same cistern. The water from this tap was used solely for cleansing utensils from Ward I, and never for drinking purposes. A third service pipe from this cistern supplied two taps which fed some vats in which soiled linen from typhoid patients was placed to be soaked and disinfected previous to boiling. There can be little doubt that from these vats the infection started; the manner in which it reached the cistern is however uncertain. Careful inquiry showed that the majority of the patients must have contracted the disease in the course of the third week in September. Now, the cistern in question was emptied and cleansed on the 13th of that month, and the possibility is that when it was run dry by the opening of all the taps leading from it, some infective material must have been aspirated into it from the vats already mentioned. Beyond this nothing can be said for certain; but the measures taken on the facts elicited have led to the cessation of the epidemic, and removed any cause there may have been for local or general alarm.

EDINBURGH GRADUATES IN THE MIDLANDS.

On Thursday evening, October 14th, a large number of the graduates in medicine of the University of Edinburgh residing in the Midlands dined together at the Grand Hotel, Birmingham. Dr. Robert Saundby presided, and Dr. Thomas Chavasse occupied the vice-chair. In every way the dinner was a most enjoyable one. The toast of the evening—"The University of Edinburgh"—was proposed by Dr. Saundby, and was drunk with enthusiasm. It was unanimously decided to form a "Midland Club of Edinburgh Graduates," the members of which will be asked to meet and dine together at least once a year. A committee, with Dr. Christopher Martin and Dr. Douglas Stanley as honorary secretaries, was appointed to make the necessary arrangements. It is hoped that not only all the medical graduates, but also those of the other faculties residing in the Midlands, will join the club which has been so successfully inaugurated.

COUNTY MEDICAL OFFICERS.

We have before us the report of the sanitary committee of the county council for Cornwall in respect of the month of September, a perusal of which document and former ones of a similar character leave upon the readers the impression that the sanitary needs of the constituent districts are neither few nor trivial. There seems to be still large scope for activity even in regard of the prime elements of sanitation, and the deficiencies reported from month to month and year by year point to a very slow growth of education among the local bodies when the disbursement of rates comes in question. The efforts put forth by the sanitary committee to bring about a better state of things are worthy of praise; but the county council suffer loss of power on account of their non-appointment of a county medical officer of health. When the county council have failed—for what other reason than that of a "false economy" we cannot surmise—to secure to themselves the services of a medical expert in matters sanitary, what can it say with effect to smaller local authorities when they plead poverty? The experience of other county councils demonstrates the great desirability of such an appointment.

THE ALLOCATION OF BEDS FOR INFECTIOUS CASES.

We see it asserted that so numerous are the cases of infectious disease in London that for the past four weeks the sanitary inspectors of the various parishes have had to go to the Metropolitan Asylums Board Offices and compete with each other for the vacant beds in the hospitals. In a sense this is true, although it does not indicate any condition that is new

nfortunately at this time of year, and, in fact, up to the d of November, the cases of scarlet fever and diphtheria ve for some years past considerably exceeded the number beds available; and we are very glad to hear that the spectors do take the trouble to go the Asylums Board fices. The very thing that the officer at the head of the mbulance department most requires, so that he may distrite the beds at his disposal to the best advantage, is comete and correct information as to the comparative urgency the various cases making application. The system used to "first come first served," but some time ago (perhaps ged thereto by our own remonstrances as to the injustice d wastefulness of this arrangement) this was done away with, d for some time back the various sanitary authorities have ch morning furnished to the central office the names of, d certain specified details regarding, every case which they shed to be removed. The head of the ambulance department has then, acting on the information thus received, lotted the beds, giving priority to the most urgent cases, king into consideration their social surroundings, especially in regard to the possibility of home isolation. It has en a most responsible task, and mistakes must almost initably have been made, but the system has worked initely better than the old arrangement. The great difficulty has been the supineness of some of the sanitary thorities and their carelessness in making applications, metimes after the patients were dead, sometimes after ey were snugly tucked up in the hospitals. This has ain and again led to wasted journeys by the ambulances, d in the meantime to refusal of urgent cases, and there n be no doubt that anything which will give the ambuce officer more prompt and accurate information in regard the various cases will greatly facilitate the proper distrition of the beds during the weeks of high pressure which ways recur at this time of year.

THE POLLUTION OF THE RIVER LEE.

EFORE people make assertions, they should at least take re that they are based on facts. We find that at a conferce of members of Parliament and others interested which is held in the Town Hall at Hackney on October 13th—at hich, by the way, the conservators of the River Lee were nspicuous by their absence, and to which they probably re not invited—it was asserted by one speaker that "the oselle river at Tottenham, the sewage works in the same strict and other places, even above the intakes of the East ndon Waterworks Company, contributed pollution." The wage of Tottenham, as is well known, was taken into the in drainage system of London years ago; for this the dist pays a considerable contribution to the London County uncil annually; the sewage works are disused, the Moselle comparatively speaking a pure stream, and is only liable infinitesimal pollution; and, as to "other places" above akes, we must have some detail before we can accept this tement, which is unfortunately made just at a time when e public mind is sorely exercised on the question of water pply by reason of the epidemic of typhoid at Maidstone. e speaker has probably been reading Major Lamorock ower's presidential address to the Conference on River llution at Leeds, and desires to call "fear to his aid as a ur to prick the sides of his intent." Another speaker made e unqualified statement that "his own opinion was that e river was in a horrible state." We fail to find justification for such a positive statement; remarks of so damaging character must be received with caution. We are not surised to find the Chairman of the Main Drainage Committee the London County Council commenting on the discharge of the sewage of West Ham. He did not l us, however, the well-known fact that by Act Parliament the sewage of that borough is to be ceived, under certain specified conditions, into the in outfall sewers of his Council as soon as the cessary works—which are in progress—are completed. The result will be that the 8,000,000 gallons, if the conditions aforesaid do not operate adversely, will go to add to the "diluted sewage" at Barking, on—as at Tottenham—a money contribution being paid by West Ham to his Council. This will replace the arrangement by which it flows into Bow Creek after it has been deodorised, and then discharged only on the ebb tide, and mixed with the ample volume of the Thames, a process which has been going on for years, comparatively speaking, without offence, and without injury to the public health. If a main intercepting sewer had been constructed in the Lee Valley to receive all the sewage from Hertford to the Thames, which was proposed long since by the late Sir Joseph Bazalgette, and revived by Major Lamorock Flower in conjunction with him and others some few years ago, there would have been no cause for complaint, and a Local Government Board inquiry need not have been suggested; perhaps the outcome of the Hackney conference may be a revival of the project; but if it is to be carried out there must be unanimity of opinion and a combination of all the sanitary authorities in the districts affected. These bodies would not combine when they had the chance of doing so, and what has been the result? In one case injunction in the High Court; in another a Bill in Parliament; and now we are to have an "inquiry." May we not say, as was said twenty-five years ago in the same district and on the same well-worn subject: "Pity the poor ratepayer"?

GLASGOW MEDICAL SOCIETIES.

The two premier medical societies of Glagow—the Medico-Chirurgical and the Pathological and Clinical—have resumed work for the winter, and there is good prospect of a successful season. Dr. George S. Middleton gave his presidential address to the Medico-Chirurgical on the Difficulties of Abdominal Diagnosis, illustrated by several most instructive cases. The Pathological and Clinical was opened by an able paper on Hysteria as a Psychosis, by Dr. Fraser, of Paisley, the President of the Society.

THE NEW UNION HOSPITAL AT HALIFAX.

The memorial stone of the new Union Hospital at Halifax was laid with due ceremony on October 9th by the Rev. G. E. Aspinall, Rural Dean, and Chairman of the Halifax Board of Guardians. The site on which the new hospital stands has an area of twelve acres, and is situated in the best part of the outskirts of the town. Provision will be made for 400 beds, with nurses' residence and other necessary premises, at an estimated expenditure of £96,000. If it should be found necessary, the accommodation can be further increased to 642 beds, the estimated cost of the whole scheme being £130,000. Much credit is due to Dr. Dolan, the medical officer of the present hospital, for the encouragement and guidance which he has consistently given to this scheme for entirely separating the sick poor from the able-bodied paupers.

THE LIMITS OF THE VALUE OF WATER ANALYSIS.

Mr. C. E. Cassal, the public analyst for St. George Hanover Square, Kensington, and Battersea, in a recent paper has discussed at some length the value of the information afforded by chemical and bacteriological examination considered separately and in combination as to the presence of absence of sewage pollution taken in and about an estuary where oysters were cultivated. He contends that "the bacteriological method is essentially one which is liable to yield uncertain and misleading results, and all experience shows that a water yielding bacteriological results which in themselves would justify its condemnation, will also yield results by chemical and analytical methods supplemented by microscopic examination which would necessitate absolute condemnation." These remarks hardly express the facts as they would be generally admitted. It is usually the case that examination for specific organisms does not occur until

there has been time allowed for their disappearance. This is, however, by no means always the case. The work, for instance, of Mr. Hankin is full of examples in which the cholera organism has been discovered in water suspected for other reasons to have caused disease. It is, in fact, as much a matter of accident whether the chemical vehicle of an infective organism happens to have been present in sufficient quantity to cause a suspicious variation in the analysis as it is a matter of accident whether in a contaminated water some isolated specific organisms should happen to turn up on the plates. Mr. Cassal's criticism of the total value of analysis is temperate, and appears to sum up the present position with far more accuracy and candour than is usual. He admits that bacteriological processes may be valuable; while he considers also that "the application of chemical processes only in the examination of water may be of doubtful issue in certain cases, and the results obtained, when considered alone, may mislead the investigator." It is from the application of both processes, as well as of microscopical examination, that he considers really valuable results are to be obtained; but he agrees that a negative result from both chemical and bacteriological examination does not in any case indicate freedom from risk, nor is it to be presumed would this be otherwise if microscopical examination threw no further light on the case. He condemns as inadmissible in any case the passing of water as "perfectly pure," "absolutely safe," and "excellent in quality," on the ground of either method of examination. This position must be clearly recognised if the value of analysis is not to be discounted by the mischief which may arise from its unwarranted application. Analysis may give evidence of the utmost value in directing suspicion to a supply or in establishing its pollution. It can never give an assurance of its safety, nor exonerate the authorities concerned from taking the most complete precautions for protecting the sources of their water supply from pollution.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

The annual meeting of the Royal Academy of Medicine in Ireland will be held on Friday, October 29th. The office of President will be vacated by Dr. James Little, and Dr. E. H. Bennett, Professor of Surgery in Trinity College, will be elected his successor without opposition. Presidents of the various sections will also be appointed.

ANOTHER PASSMORE EDWARDS CONVALESCENT HOME.

The first convalescent home for members of Friendly Societies established at Dover, through the benevolence of Mrs. C. R. Rusher, some eight years ago, has been carried on with great success, the only difficulty being that the number of applications has frequently been in excess of the accommodation. During the first nine months of the present year nearly 500 patients received the benefits of the Home, but this number might have been considerably greater had the Home been larger. The insufficiency having been brought under the notice of Mr. J. Passmore Edwards, he has, through Mr. C. J. Drummond, of the Labour Department of the Board of Trade, offered to build another Home "to be dedicated to the perpetual use of the members of the principal registered friendly societies of the country, at a cost of not less than £6,000," the property to be vested in trustees. Steps have already been taken to secure a site near the town of Herne Bay, and a few minutes' walk from the sea. The site, which is on high ground, comprises about 7½ acres, and the trustees have secured the option of purchasing additional land of about the same area and adjoining that purchased, if sufficient funds are forthcoming within a year to justify them in so doing. It is hoped and believed that, as is the case with the Dover Home, the Herne Bay Home will, after the initial expense has been met, be self-supporting, but to ensure this it must start free of debt. It is hoped that Mr. Passmore Edwards will lay the foundation stone on Saturday, November 6th, and an appeal is made by the trustees for donations towards the necessary expenses of the site. The advantages which such a home will afford can hardly be exaggerated, and that they are fully appreciated is shown by the great number of applications for admission to the Dover Home. We anticipate that the various friendly societies will not hesitate to contribute and encourage their members to contribute towards a scheme which is perhaps the most effective means which could be devised of assisting their members who may be temporarily incapacitated to recover their health. Of the practical philanthropy of Mr. Passmore Edwards we have so often had occasion to speak that little more can now be said, but the trustees in the appeal they have issued draw special attention to the important part which Mr. Drummond has taken in bringing the new scheme to its present advanced state. The honorary treasurer is Mr. J. E. Nichols, 30 and 31, New Bridge Street, E.C.

THE DEATH OF HENRY III OF FRANCE.

The French are conspicuous for the zeal with which they search into the sidelights of history, and Régis, Cabanès, and others have done good service in throwing light on historic medical questions. Recently some interesting facts have been made known in regard to the assassination of King Henry of Valois at St. Cloud, August 1st, 1589. It would appear that the King was slain by a man who was, like himself, intensely neurotic. Henry III is one of the best-known historical bad characters. His face was small and unsymmetrical; his tastes varied between violent exercise in the worst weather and effeminate coddling of himself in midsummer. Abject superstition made him walk barefoot at the head of a procession, and a few days later he would delight in swearing complicated oaths with intent to ensure his final reprobation. He rouged his face, and wore kid gloves in bed to keep his hands white, and was subject to the worst perversions of instinct. But Jacques Clément his assassin, was also, it would appear, a being who lived on the borderland of crime and insanity. The religious monomania, undeniably the immediate cause of the crime, followed a life of licence alternated with extreme mortification of the flesh. It was said at the time that a court ecclesiastic had hocussed him to cause him to dream, and to fancy that he heard voices. The truth is that his mind, weakened by vice and bigotry, was thoroughly unhinged by the horrors of the religious wars of his time, and he sincerely believed that Heaven had ordered him to slay a man who, both from a medical and a moral point of view, was his perfect counterpart. Acting on that belief Clément made history by extinguishing the line of the Valois.

ENTRANCE SCHOLARSHIPS AT THE MEDICAL SCHOOLS.

St. George's Hospital Medical School.

The following entrance scholarships have been awarded. Entrance Scholarships in Arts of the value of £50 to Armi Gascoigne Vavasour Elder, Edward William Dewey, Georg Arthur Jones (Pauline Scholar). Entrance Scholarships i Science of the value of £85 to Edmund de la Fosse Bond B.A., of Keble College, Oxford; Norman J. McCaskie, B.A of Caius College, Cambridge; Charles John Nepean Long ridge, of the Owens College, Manchester.

Munificent Bequests.—Lady Jane Dundas, who died i August last, has by her will bequeathed £1,000 each to St George's Hospital, King's College Hospital, the Longmor Hospital for Incurables, Edinburgh, and the Convalescen Hospital, Edinburgh; £500 each to Middlesex Hospital an the London Fever Hospital; £5,000 to the Royal Infirmary Edinburgh; £200 each to the Asylum for Idiots at Earls wood, the Royal Hospital for Incurables, the Metropolita Convalescent Institution, the Belgrave Hospital for Childrer and to the Society for the Relief of Destitute Sick in Edi burgh.

EPIDEMIC OF TYPHOID FEVER AT MAIDSTONE.

[Further Report from Our Special Commissioner.]

IV.

The Farleigh Water.

We are able this week to present the report of our special commissioner on the Fairleigh water system. It will be remembered that it is the Farleigh water that has been proved to be the contaminated supply to which the epidemic was due. It is hoped that the description following will be of use and interest.

The Farleigh system may be divided into three sections—well springs, Tutsham springs, and Railway springs. Reference to the sketch map in the British Medical Journal of October 2nd, p. 936, will serve to identify these and to indicate their relative positions. It will be best to describe these three sections in order.

The Ewell Springs.

Of these there are three. They are situated on the steep declivity of a bank some 200 feet above the level of the Medway. This bank is a lower greensand formation, consisting of Kentish ragstone. The surface of the ground is grass land. The area is carefully enclosed with wooden palings, and no human habitation is within one sixth of a mile of the springs. From the bank the ground slopes towards the Medway in a northern direction. The surface drainage of the slope and neighbouring declivities passes to the river in a small brook—Ewell brook—which also takes water from other springs in the vicinity. It is estimated that the water rises in the rock at a point about 40 feet below the surface of the ground. From this point it passes through fissures in the rock until it issues from the side of the bank in the form of a spring. The actual spring is enclosed in a brick chamber with an iron lid cemented down. From this it is taken in iron pipes to the collecting main; these pipes are jointed with lead and are in good condition. The pipes are laid along the course of the well brook. Such is briefly the arrangement. On such an arrangement criticism can be made on the following points: Although the actual origin of the water may be far away in the deep rock, yet it is conveyed to the collecting boxes along channels which of necessity get nearer the surface of the ground, until in the neighbourhood of the boxes some feet only of soil and superficial strata overly the water. The ground, it is true, is only used as pasture land, yet that is no guarantee against pollution. If the spring were followed back into the side of the hill by tunnelling, and iron pipes laid to carry the water through what may be called the dangerous area, the possibilities of contamination would be minimised, although, remembering the history of the Worthing outbreak, the contingencies of cracks and fissures in the rock must not be lost sight of. These three springs have, it is only fair to say, been above suspicion throughout the present epidemic. Their purity receives support from the fact that Ewell Manor, which is supplied from them by means of a hydraulic ram, has remained quite free from the disease.

The Tutsham Springs.

These, of which there are three, are of a different nature to those just described. They may be divided into two groups—Tutsham-in-Field and Tutsham-in-Orchard.

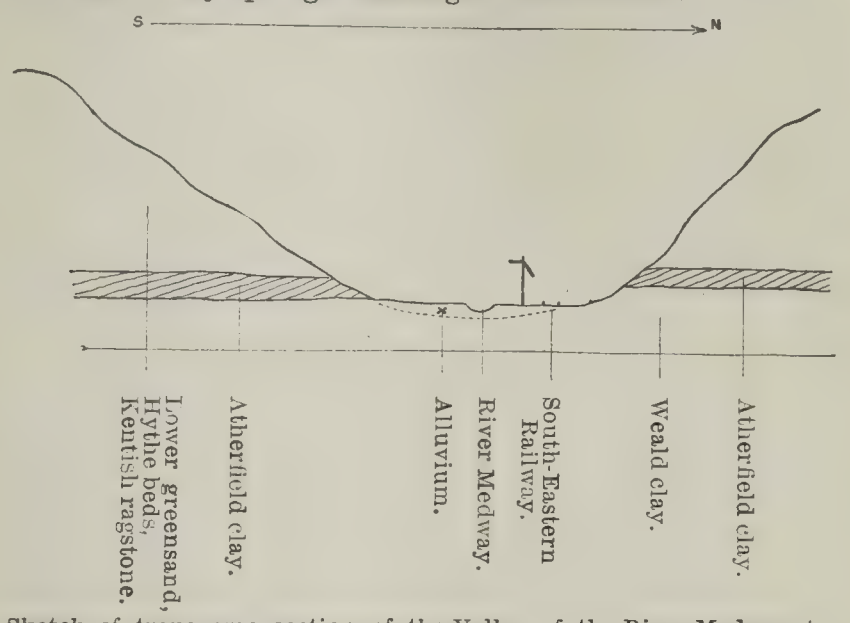
Tutsham-in-Field Spring.

This is the spring that Mr. Percy Adams, the deputy medical officer, considers to have been the seat of infection to which the epidemic has been due. It is quite superficial, the cover of the collecting box not being more than a foot at most below the surface of the soil. It is situated in a grass meadow, which slopes at a slight angle towards the Medway. Through the meadow passes a road, which is not protected by either hedge or fence. It was in this meadow that the hoppers' camp was situate. The spring issues from the side of the hill above the impermeable layer of Atherfield clay, which here crops out as it underlies the greensand strata, owing to the impermeable layer and to the slight slope of the hill, there can be very little doubt that the water is largely mixed with the actual surface water. Such surface water would consist of drainage from hop fields which here are plentiful. Hence all varieties of manurial and surface washings are possible in this spring. It certainly ought to be condemned, for no boring operations could render it safe. Under the Atherfield clay lies the weald clay.

Tutsham-in-Orchard Springs.

Of these there are two. They are situate in one orchard, and are of a similar nature to the last. The ground has here a steeper slope, and so surface drainage admixture would not be so likely, although of course by no means impossible. These springs are also deeper than the Tutsham-in-Field spring. It was in connection with these springs that the watercress bed episode occurred. Within 150 yards of one of them are habitations, and in one case—that of a blacksmith's shop—a drain from a privy has been traced in the direction of the springs. This arrangement has now been altered by the intervention of the medical officer. There can be no doubt that the circumstances and situation of these springs are such as to render them unsafe for the supply of drinking water.

From these three Tutsham springs the water is conveyed in iron pipes to the collecting main, which, going in a north-easterly direction, passes under the Medway, and turning eastwards follows the course of that river on the south side of the railway as far as East Farleigh. It is in this course that the railway springs discharge into the main.



Sketch of transverse section of the Valley of the River Medway, to show the geological formations and water-bearing strata. Note that these are *above* the impermeable clay layers.

The Railway Springs.

Of these there are eleven in all. They arise in the side of a hill which here slopes southwards towards the Medway. They are formed in the greensand and issue from the hillside above the impermeable Atherfield clay. Along the course of the spring adits have been driven for about 30 feet, at the end of which the water is collected in open-jointed pipes. The surface of the ground is much occupied in fruit growing, and the fruit-pickers who congregate in the neighbourhood in the autumn are described as being of equally dirty habits with the hoppers. In all the springs, then, similar conditions prevail. The presence of the impermeable stratum of Atherfield clay *underlying* the water-bearing strata is the key to the danger of the whole supply. Had this layer been above the water origin, possibly all might have been well. With such an arrangement the water, however good and pure it may be itself, is always liable to admixture with surface water. In view of these facts the whole of the Farleigh supply presents elements of danger of contamination of such a nature as to render its further use for public supply undesirable. For flushing and watering purposes it is amply good enough, and the existing plant might be utilised to supply the town with water for such purposes.

The following are the recent daily notifications and totals:

Daily Summary.

Date.	Daily Notifications.	Total.	Date.	Daily Notifications.	Total.
Oct. 10	15	1,553	Oct. 16	9	1,663
,, 11	19	1,572	,, 17	10	1,673
,, 12	34	1,606	,, 18	6	1,679
,, 13	25	1,631	,, 19	6	1,685
,, 14	9	1,640	,, 20	18	1,703
,, 15	14	1.654			

Up to the present the deaths have been:

For the week ending	Sept. 25	...	...	...	13 deaths
,, ,,	Oct. 2	...	...	...	30 ,,
,, ,,	Oct. 9	...	...	...	28 ,,
,, ,,	Oct. 16	...	...	...	22 ,,

Owing to the amount of water used in the process of disinfecting the Barming reservoir and the Farleigh mains on Saturday and Sunday, and the subsequent waste by consumers in getting rid of the taste of chloride of lime remaining in the water, the supply at present available to the town is only a partial one. Much inconvenience is the result, a constant supply having been generally looked for.

GUILD OF ST. LUKE.

A service arranged by the Guild of St. Luke took place at St. Paul's Cathedral on Tuesday evening last, the thirty-third anniversary of the Guild's existence. The whole of the vast area outside the choir was filled with an attentive congregation; whilst a considerable portion of the space under the dome was reserved for members of the medical profession, of whom between 2,000 and 3,000 were present. Some hundreds of these wore academical costume, the gown and hood of their degree; and these garments consisting chiefly of red or scarlet gowns, made a brave show in front of the congregation. Dr. Symes Thompson, Provost of the Guild; Mr. C. D. Marshall and Dr. S. Russell Wells, Honorary Secretaries of the Service Committee, and very many well-known physicians, surgeons, and general practitioners, chiefly of London, with some from the provinces, together with ten or a dozen lady doctors, were present.

The musical portion of the service was rendered by over 200 members of the London Gregorian Choral Association, under the direction of Dr. Warwick Jordan, Honorary Organist to the Association. A quartet of brass instruments assisted with much effect where accentuation of the music was demanded. The long procession of choristers, clergy, and doctors in their robes, filed up the centre of the nave to their seats, the choir singing a processional hymn. The service was intoned by Minor Canon Kelly. The first lesson (Ecclesiasticus xxxviii to verse 15) was read by the Rev. T. W. Belcher, M.D., Vicar of Frampton Cotterill; the second lesson (St. Matthew viii to verse 17) by Dean Gregory.

The Archbishop of York preached the sermon, selecting as his text, St. Matthew ch. viii, v. 17. "Himself took our infirmities and bare our sicknesses." Having shown how the fall of man had brought with it pains and evils which would not have been known had he maintained his original and perfect state, the preacher argued that, inasmuch as Christ took upon Him our sicknesses and infirmities, and had announced to the world "Lo, I am with you always," He was necessarily still with us, not only in His saving grace but in His healing power. There was consequently a priesthood of healing as well for the body as the soul, and it was to this high vocation that those belonging to the Guild of St. Luke had been set apart. It was indeed a high vocation, for it was Christ who sent them forth to carry his healing gifts to those who were committed to their care. Day by day, as they went on with their professional work, they carried with them His commission and His power. Above all others, save the ministers of His Church, theirs was a religious calling. It might not always be followed in a religious spirit, but it was nevertheless a religious ministration. He rejoiced to know that the Guild of St. Luke was seeking to revive that ideal. The medical profession had never been wanting in its contribution towards religious literature, and theirs was indeed a noble calling and a blessed work. It was a practical expression of the mind and will of Christ, and it was His work they had given to them to do. With how much reverence, faithfulness, and thankfulness ought it to be done! It was only by carrying it on in this spirit and on these principles that they would most surely magnify their office, and attract to it more and more the admiration and reverence of the whole family of God.

After the sermon a collection was taken, the amount of which was £66 3s. 6d. The whole of this offertory, after deduction for the expenses of the service, will be devoted to the proposed Medical Mission College.

BATTLE OF THE CLUBS.

Medical Aid Associations and the Daily Press.

In a leading article on the recent election of a direct representative to the General Medical Council, the *Morning Post*, in its issue of October 9th, strongly denounces the "attack" which is being made upon what are known as medical aid associations, and especially the attempt to render a practitioner liable to have his name removed from the *Medical Register* for professional connection therewith.

Our contemporary argues that admitting these associations to be in the nature of clubs for the provision of cheap medical attendance, and that they are recruited by touts and canvassers, and that the medical officer is poorly paid, and that occasionally a profit is made out of his services. and returned to the members in the shape of a dividend, all this does not constitute an indictment which would justify the remedy proposed.

Our contemporary is no doubt right when it says that "patients and practitioners alike are free men," and that it is only natural the former should desire to obtain medical services as cheaply as possible. But the question is not one of merely cheap medical attendance; it is rather a question whether it is ethical, or even whether it ought to be legal, for a medical man to accept remuneration for undertaking work which it is obvious to all his professional brethren he cannot honestly perform. It is easy to say *caveat emptor*, that it is the patient's concern if he chooses to pay for medical work of this kind, and is satisfied with it; but the same argument would apply to the authorisation of quack practice and the sale of adulterated articles, which have been wisely curtailed by legislation. If it is well to protect the poorer members of society from their passion for cheapness in the sale of the ordinary necessaries of life by putting a penalty on adulteration, is it less necessary to protect them from insufficient medical attendance? The fact that abuse of this kind flourishes at some of our public institutions is no extenuation of the practice.

Does our contemporary imagine that such a state of things would be tolerated in the sister profession of the law? How long would a barrister who undersold his brethren by means of legal aid associations remain a member of the Bar? Yet it is difficult to see why it would be more unjust for the General Medical Council to remove from the *Register* a practitioner for such an offence than for the Benchers of an Inn to disbar a barrister.

Far from regarding medical aid associations as merely "disagreeable incidents of professional competition," we consider them altogether outside fair competition, and, further, that they who accept service in them do so more through the pressure of circumstances than from any honest feeling of approbation of the work. Their poverty and not their will consents. Little benefit to the public or honour to the profession is likely to spring from the cheap medical attendance, as provided by the so-called medical aid associations.

Coventry Provident Dispensary.

Sir,—Referring to the letter of Dr. Pickup, published in the British Medical Journal of October 16th, may I point out that there has been no correction of the paragraph in the local press, either by the editor of the paper or by the medical staff of the dispensary?

As far as I understand, the statement was not sent by any individual, but was an expression, by the representatives of the paper, of what he considered to be the sense of the meeting.

Considering that the profession in Coventry has been actively urging upon the dispensary medical staff the reform of their institution since 1892, it is useless to speak of the matter as being still under discussion, for we are of opinion that it would indefinitely remain there unless the influence of the British Medical Association were brought to bear upon them to insist upon the resignation of their appointments or the reforms asked for in their memorial to the Dispensary Committee.—I am, etc.,

Edward Phillips,
Hon. Secretary of the Coventry Public Medical Services.
Coventry, Oct. 19th.

THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

St. Luke's Day.—The Harveian Oration.—Presentation of the Baly, Parkes-Weber, and Moxon Medals.

A large assemblage of Fellows of the College of Physicians and other members of the profession was present in the Library of the Royal College of Physicians on Monday last to hear the Harveian Orator, Sir William Roberts. Sir S. Wilks, President, was in the chair, and was supported by nearly all the office-bearers of the College clad in academical costume, by the President of the Royal College of Surgeons (Sir W. Mac Cormac), Lord Lister, and many other well-known surgeons. The address (which is printed *in extenso* in another portion of the Journal) was listened to with marked attention.

At its close the President presented the Baly Medal to Professor Schäfer, F.R.S., Jodrell Professor of Physiology in University College. This medal is given every third year to the person who has distinguished himself the most in physiology during the interval. It has already been awarded to Sir R. Owen, Lionel Beale, W. Sharpey, Claude Bernard, Carl Ludwig, Charles Darwin, J. Burdon Sanderson, C. E. Brown-Séquard, W. K. Parker, David Ferrier, R. Heidenhain, Michael Foster, M. Schiff, and W. H. Gaskell.

The President, in presenting the Weber-Parkes medal, said that Dr. Hermann Weber had invested £3,000 to form a prize to be given every third year to the writer of the best essay on Consumption and its Treatment. A prize of the value of 150 guineas would go with the medal; and Dr. Weber, the intimate friend of the late Dr. E. A. Parkes, had desired that the name of Parkes should be associated with that of Weber; hence the name which the prize now bore. It was awarded this year for the first time. There had been considerable competition for it; and some of the essays sent in were very valuable. The medal and prize had been awarded to Dr. Arthur Ransome; and a second medal to Dr. Peter Paterson, of Glasgow. Both these gentlemen came forward and received their medals.

Dr. S. Gee, Senior Censor, then stood before the President, and stated that the Moxon medal was given every third year to a person who had distinguished himself in clinical medicine. It had already been awarded to Sir Alfred Garrod and Sir William Jenner; and this year the Fellows of the College had decided that it should be given to Sir Samuel Wilks. He thought that after the President's fifty years of clinical work, the fact that he was regarded with so great esteem by the physicians of England would not be a matter of indifference to him. Sir Samuel Wilks accepted the medal, and the meeting ended.

THE BATHS OF BATH.

Opening of New Building.

On October 18th the Duke of Cambridge visited Bath, and after receiving the freedom of the city and laying the memorial stone of the Victoria Art Gallery about to be erected, he formally opened the buildings which have been added to the Pump Room.

The new buildings comprise two sections—the new promenade with its subsidiary rooms and certain additions to the old Roman bath. The promenade is a hall placed at right angles with the great Roman bath; it has a domed ceiling, carried by arches resting on marble columns, with Devonshire marble bases. It is lighted by a skylight and by windows high in the side and end walls; it is floored with wood blocks. The corridors include a terrace overlooking the Roman bath, and run all round the promenade. The corridors are vaulted and domed throughout. A prolongation from the north corridor leads directly into the east vestibule of the old Pump Room, thus connecting the new buildings with the old. In the north corridor also is a separate entrance from the Abbey churchyard. Along the east corridor are the ladies' parlour, gentlemen's smoking room, cloak rooms, and attendants' rooms. These corridors and the terrace are paved with marble. From the west corridors a hydraulic lift descends to the basement of the old Pump Room for the convenience of invalids in chairs. The space under the building will be used as a museum for Roman and other antiquities. The general design of the building externally is in accord with the architecture of the west front of the old Pump Room. The basement is of rusticated work, and the main block and the promenade stand high above the general level. In the north front, which is adorned with six Corinthian columns, is the main entrance leading into the north corridor.

The Roman bath has been left uncovered; it has been treated upon the model of the atrium of a Roman house. The bath is in a hall about 110 feet by 68 feet, and on each side of the waters stand the remains of the piers which carried the vaulting of the roof. These remains are about four or five feet high. The new external walls are carried up from the old walls to form a court, and Doric columns placed on the piers round the water carry the flat roofs over the scholæ. On the north side is a terrace covered by a roof carried on arches springing from the cornices of the columns. The roof is covered with red tiles designed after Roman originals. This terrace is level with the floor of the promenade, and a pavilion at one angle contains a staircase affording an entrance from York Street. Over the columns, on three sides, eight statues of emperors and generals concerned in the conquest and occupation of Britain by the Romans, have been placed. The exterior of the bath is simple, care having been taken to avoid the introduction of any elements which would destroy the repose of one of the most interesting remains of the Roman occupation in Britain. The Duke of Cambridge, in declaring the new buildings open, commented on the handsome manner in which the undertaking had been carried out, and commended the judicious and wise policy of the city in thus considering the needs and comfort of the invalids who sought health from those renowned baths. Subsequently the Duke and a large company were entertained at luncheon by the Mayor.

A NAVAL MEDICAL MEMORIAL.

A memorial is about to be placed in the chapel of the Roya Naval Hospital, Haslar, to the memory of two surgeons of the Royal Navy—Surgeon Charles J. Fyfe and Surgeon Richard H. Way—who perished during the recent Benin expedition. The subscribers were brother medical officers who had been associated with the two deceased surgeons when under instruction at Haslar on entering the Naval Medical Service. The subscriptions were limited to these officers, including Inspectors-General Duncan Hilston, M.D., and Walter Reid, M.D., late of Haslar Hospital, the surgeons contemporary on entry with the deceased, the present medical staff of Haslar, and surgeons under instruction on entry in June last.

The memorial consists of a brass tablet measuring 1 foot by 2 feet, mounted in an oak frame measuring 20 inches by 32 inches, with hawser pattern border. The devices at the corner of the tablet are: A naval crown; anchor capstan; a seaman bearing a wounded comrade to Britannia with trident in one of her hands, the other resting on an altar with the staff of Æsculapius on the side of it, and herbs on the top. Motto: *Mente manuque.*

The devices are encircled by a hawser pattern, which also borders an inscription, in Gothic type, with red capitals, black letters, to the following effect:

IN MEMORY OF
SURGEON CHARLES J. FYFE, R.N.,
AGED 30,
WHO WAS KILLED IN ACTION 18 FEBRUARY, 1897,
WHILE ATTENDING A WOUNDED COMRADE.
AND
SURGEON RICHARD H. WAY R.N.,
AGED 29,
WHO DIED OF HEAT STROKE 21ST FEBRUARY, 1897,
DURING THE
BENIN EXPEDITION.
ERECTED BY NAVAL MEDICAL OFFICERS.

THE CHAIR OF SURGERY IN GLASGOW AND THE WESTERN INFIRMARY.

A PARAGRAPH in the daily press as to rumoured difficulties between a distinguished Glasgow surgeon and the authorities of his hospital renders it desirable to refer to a matter as to which, but for that paragraph, it might have been preferable to remain silent about, meanwhile, in the hope that the negotiations in progress would be satisfactorily adjusted; but the facts are that a crisis has arrived in the relations between Professor Macewen and the managers of the Western Infirmary.

Since Dr. Macewen moved from the Royal to the Western Infirmary in consequence of his appointment in 1893 to the Chair of Surgery in the University (the Professorship of Surgery carrying with it the Senior Surgeoncy to the Western Infirmary) his work has been surrounded by hindrances and annoyances. The infirmary is not old: it was opened in 1874; but anyone who knows anything of the history and progress of aseptic surgery is aware that any hospital the surgical arrangements of which are of that date already belongs to the antique. The operating theatre was used on Sundays as a chapel, and was filled with a promiscuous gathering, and on Monday morning, without preparation unless by domestic broom and duster, operations were carried on in it. Here, therefore, Professor Macewen refused to operate, preferring to use the corridor on one of the landings from which his wards open, which he had fitted up as suitably for the purpose as was possible. As he had to undertake the conversion of the managers to perceive the necessity of new operating theatres when he had accomplished this task and plans were prepared under his supervision, so also he had to use his influence to find the money for their construction. It is a well-known fact that one of the most distinguished and generous of the citizens of Glasgow put down £3,500 of the £10,000 required for three theatres in order that Dr. Macewen might have a theatre for himself, where he might carry on his brilliant surgical work under the best conditions and with everything under his own control. Now that the theatres are approaching completion the managers decline to place one under Dr. Macewen's own control, and wish him to share his with others. Difficulties of other kinds connected with the nursing arrangements of the house, facilities for the clinical instruction of his students, and other things have beset him so that since his appointment his work has been retarded and his energies taxed by a continual struggle for the fulfilment of requirements that ought to have been freely accorded to him. Finally, without warning or consultation it is intimated to him that within a week he must vacate one of his wards of twelve beds to provide part of the material for a new appointment which has just been advertised.

This is a very brief outline, as we have received it, of the controversy between Dr. Macewen and the managers of the Western Infirmary. We do not know on what authority our contemporary states that Professor Macewen proposes to resign and return to the Royal Infirmary. The mere possibility of such an occurrence is a reproach to the Western Infirmary authorities, but we should not be surprised to learn that a surgeon of Dr. Macewen's standing should refuse longer to submit to the hindrances and petty annoyances of men who may be authorities on finance and trade, but are obviously ignorant of the requirements of modern surgery. It is scarcely conceivable that a man like Dr. Macewen should have to ask twice for a thing he deems necessary for his work. Certainly in no country in the world except our own would a surgeon of his eminence be treated as he has been. If the Western Infirmary authorities do not know how great a man they have at the head of their surgical house, let them send abroad for information, let them inquire in Berlin, or in Chicago, or in Moscow, or in Rome, and when they have learned let them set themselves to find what they can do to further and facilitate the work of one of the greatest living surgeons.

PRESENTATION.—Mr. Richard Turner has, on the occasion of retiring from the office of medical officer to both the civil and naval prisons at Lewes, been presented by the officers, past and present, with a solid silver salver, bearing a suitable inscription. The wives of the subordinate staff also presented him with a silver cigarette case.

THE M'KELVIE ISOLATION HOSPITAL, OBAN.

ON October 18th, an admirably-planned and arranged small isolation hospital was opened by Mr. James Patten McDougall, of Gallanach, a member of the Local Government Board for Scotland, for the Burgh of Oban. For some years past the Notification Act has been enforced by the local authority, but for all practical purposes the enactment was of little value so long as isolation and disinfection could not proceed along with it. Thanks to the parochial authorities the burgh have been allowed, when urgent necessity demanded, the use of the hospital in connection with the poorhouse, but this was a condition the parochial authority wished terminated as quickly as possible. The local authority faced the question, and secured a most desirable piece of ground four acres in extent, situated about a mile out of Oban. The question of expense was, however, a stumbling block when estimates for the building came to be considered.

Dr. M'Kelvie, of Oban, at this juncture came forward and offered to erect at his own cost the building, the plans for which had already been passed by the Local Government Board. This generous help at once solved the difficulty, and the buildings are now completed and ready for use. They comprise four wards, built upon the pavilion principle, and an administrative block, and situated some little distance from the main buildings, a very complete department for the purposes of disinfection, etc. There are an infected and a disinfecting chamber, and these are fitted with a double-doored Washington Lyons steam disinfector, with the Alliott Paton hot-air vacuum apparatus, The machinery has been erected to Messrs. Manlove, Alliott and Co., of Nottingham, and one of the most interesting features of the opening ceremony was a demonstration of the working of the disinfector by their engineer, Mr. Wright. The entire cost of the buildings will be about £2,000.

Oban may indeed be proud of the fact that she is now so well equipped, and prepared to meet that class of disease which can be prevented by adopting the means now placed at the disposal of her local authority. We feel a particular pleasure in congratulating this rising health resort upon possessing, as one of her sons, a member of the medical profession who, after many years of active work in the district, now devotes so generously a handsome sum of money for the good of his own countrymen, and puts thereby to the practical test the doctrine he has spent his life in teaching—that prevention is better than cure.

SMALL-POX AT LEICESTER IN 1892-93.

DR. SIDNEY COUPLAND'S REPORT.

THE public are at length being favoured with the reports of the experts appointed by the Royal Commission on Vaccination, to inquire into prevalences of small-pox at one and another place, and to-day we have before us the report of Dr. Sidney Coupland, on his investigation of the outbreak of small-pox at Leicester during part of 1892 and throughout 1893.

THE NATURE OF THE OUTBREAK.

Dr. Coupland's report, which is styled Appendix VI to the final report of the Commission, takes cognisance of 357 cases of small-pox occurring during the seventy weeks from August 21st, 1892, to December 23rd, 1893, during which period cases never exceeded 21 in any one week, while only five weeks were free from fresh cases. Of the 357 cases, the initial attack and 11 others were heard of by the sanitary authority only after they had led to other cases. A detailed tabular statement of each case is given. Of the total number, more than one-fifth seem to have derived infection from the very means adopted to stay the spread of disease, the hospital being put down as the cause of dissemination of the malady in at least 77 instances, inclusive of scarlet fever patients, hospital attendants, and residents near the institution in the Newfound Pool district of the borough. Dr. Priestley's observations on this aspect of the outbreak are quoted at some length.

QUARANTINE AND "HOME QUARANTINE."

On the subject of the system of quarantine adopted at Leicester, Dr. Coupland has a good deal to say, and he details

ıe *modus operandi*, with which we have long been familiar. The ıitial method of placing the infected in the hospital wards ıd the suspected in adjacent buildings was abandoned in ıne, 1893, as it proved impracticable to carry it out success-ılly and completely, in view especially of the immense risk ın by the quarantined individuals by reason of the contiguous ards being occupied by small-pox patients. "Home ıarantine" was substituted, under which system families ı invaded houses were, after due treatment of the infected wellings, kept under observation for a specified time, but lowed reasonable freedom. But the whole system, on hichever method, was a comparative failure, the removals ıly having been partial whilst the disease prevailed; and e learn that of 211 persons removed to quarantine on the ospital site, 15, or 7.1 per cent., were attacked by small-pox ıring their period of detention, and that other 4 gave evi-ence of infection either from the hospital itself, or because f their quarantine detention. Of the 45 invaded houses om which 211 of the 314 inmates were removed into quaran-ne, the removals were effected in 8 instances after the inth day following invasion of the house; and only in 5 rior to the fourth day. It is significant that in anti-vaccina-on Leicester we read in Dr. Coupland's report of "vac-nation on removal of case" in not a few instances; and that ıe Sanitary Committee of the Town Council were "of ɔinion that *all persons* who are frequently brought into ɔntact with small-pox patients should adopt *all* protective ıeasures known to science." The italics are ours.

The Incidence in Childhood.

Dr. Coupland tells us that 96.1 per cent. of all who were tacked in the first decenniad of life were unvaccinated ıildren. In the 193 invaded houses there resided 1,234 in-ividuals, among whom 91 per cent. of the infants aged under year were not vaccinated, and 21.2 per cent. were attacked, ıe not vaccinated class furnishing 85.6 per cent. of the tacks. But in the age-period, 1-10 years, whilst the un-ıccinated were 74 per cent. of the whole, and the attacks 28.9 er cent., the rate of attack of the not vaccinated was 95.8 per ent. of cases. Speaking generally, 1.9 per cent. of total attacks ere of infants under 1 year of age, and 28.5 per cent. were of ıildren aged 1-10 years. Persons aged 10-30 years formed 5.1 per cent. of the total attacks. Children aged 1-10 years rnished 61.9 per cent. of the total deaths (21) from small-ox. Of the 357 patients, 55.4 per cent. were vaccinated, and 3.1 per cent. unvaccinated; some few (5) being "under" or doubtful" as to vaccination. The mortality among the ıccinated was 0.8 per cent. of attacks; that among the un-ıccinated was 12.3 per cent., or more than fourteen times reater, at all ages. Under 10 years of age, vaccinated children ı invaded houses were 26 per cent. of all children at that age-eriod, and furnished 2 cases of small-pox with no deaths. nvaccinated children were 74 per cent. of all such children, ıd furnished 104 cases, with 15 deaths. The 2 vaccinated ıses were 0.6 per cent. of total cases, and 1.01 per cent. of tacks among the vaccinated. The 104 unvaccinated cases ere 29.1 per cent. of total cases, and 67.5 per cent. of attacks mong the unvaccinated; whilst the 15 deaths (14.4 per cent. unvaccinated attacks) were 71.4 per cent. of all deaths, ıd 78.9 per cent. of deaths among the unvaccinated. Surely ıese data speak volumes. We are told of the 193 invaded ouses that the majority of those inspected were in good sani-ry state, and that but few were overcrowded. The vacci-ıted inmates of all ages were 681 per 1,000, and were at-cked at the rate of 202 per 1,000; the unvaccinated inmates all ages were 300 per 1,000, and were attacked at the rate of 3 per 1,000.

Influence of Vaccination on Subsequent Attack.

Touching the question of vaccination in relation with ıaracter of attack, we find that the 2 cases in vaccinated ıildren were mild, whilst of the 104 cases in unvaccinated ıildren of a like period, 51.9 per cent. were confluent and alignant, and other 22.1 per cent. were coherent. Vacci-ıted patients at ages 10-30 years had 67.5 per cent. mild and 4 per cent. confluent; but unvaccinated patients at these ges had only 6.5 per cent. mild, and 50.0 per cent. con-ıent and malignant. At all ages, vaccinated suf-rers (no matter how vaccinated) had 8.0 per cent. confluent, and 56.5 per cent. mild; attacks in persons having four or more vaccination cicatrices had 2.8 per cent. confluent, and 65.7 per cent. mild; but unvaccinated sufferers had only 7.7 per cent. of attacks mild, and 51.3 per cent. of confluent and malignant character. Of the 193 invaded houses, 127 had each only a single case; 33 had each two cases; 19 had each three cases; and 14 had 4 and more (up to 8) cases. Dr. Coupland would regard the liability of a household to further infection from an initial case as greater in proportion to the youth of the person primarily attacked.

Conclusion.

Much more does the report tell in its closely printed 66 pages, and by means of its tables, maps, charts, and diagrams, it demands careful study by all who have the leisure necessary for its careful perusal. But its unbiassed conclusions in favour of vaccination, and especially in favour of vaccination of the best class, cannot be gainsaid.

GENERAL MEDICAL COUNCIL.

ELECTION OF DIRECT REPRESENTATIVE FOR ENGLAND.

The result of the election for a direct representative for England in the room of Dr. R. R. Rentoul (retired) was declared as followed at the meeting of the Branch Council for England on October 16th:

Mr. VICTOR HORSLEY	6,946
Sir Walter Foster	6,112
Dr. Rigby	197
Dr. Diver	81

The report as to the election of a direct representative (1897), presented to the English Branch Council on October 16th, showed that the number of voting papers sent out was 22,576, the additions to and removal from the *Register* having so counterbalanced each other as to bring the total within 1 of the number sent out in 1896.

Of these—

13,466 (or 59.64 per cent.) were returned by the voters within the proper time according to the regulations;

227 (or 1.01 per cent.) were returned by the voters, but received at too late a date to be lawfully reckoned in the enumeration;

822 (or 3.64 per cent.) were returned through th Dead Letter Office; and

8,061 (or 35.71 per cent.) did not come back in any way.

22,576

The percentage of voters on the present occasion was 5.42 greater than in 1896, 59.64 per cent. in 1897 as against 54.2 per cent. in 1896.

Of the 13,466 voting papers duly returned, 130 (or 0.9 per cent.) were invalid owing to the following various causes:

4 were entirely blank;
11 were signed but not marked;
82 had no signatures;
28 were improperly marked;
3 voters were stated to be dead;
2 voters were stated to have gone to the colonies.

130

It may be noticed in this connection that although there was but one member to be elected, in two cases the voters selected two candidates, and in two other cases voted for three candidates.

The number of valid votes remaining after these deductions was 13,336.

Letters from Candidates to the Electors.

To the Registered Medical Practitioners of England and Wales.

Ladies and Gentlemen,—I beg to thank you sincerely for the honour you have conferred upon me by electing me as one of your direct representatives on the General Medical Council.

In the confidence thus extended to me, I fully recognise that you have desired to give expression to your approval of the reforms initiated and already in part effected by the Medical Defence Union, and your wish to see them extended and furthered by the same methods. If it should prove that I am able to carry out your wishes in this respect, any success achieved will be due to the Council and members of that Union, as it is to their support, assistance, and teaching that I owe the training for the work you have decided to place in my hands.

There is one point more upon which I should like to say a few words. Under the Medical Acts as they now stand Dr. Rentoul's resignation would entail upon the profession a series of double elections. The costliness and inconvenience of this arrangement are obvious.

To restore as far as lies in my power the normal condition of affairs I shall resign my office when the term of the representatives elected in 1896 expires—that is, after I shall have served for four years instead of for the full period of five years for which you have elected me.

Again thanking you,

I am,

Yours faithfully,

Victor Horsley.

To the Registered Medical Practitioners of England and Wales.

Ladies and Gentlemen,—I beg to return my most heartfelt thanks to the 6,112 registered medical practitioners who, with only a few days' notice of my candidature, voted for me in the recent election. When I consider that many of my friends were unable to assist me on account of pledges given before my candidature was announced, I feel very grateful for this remarkable expression of confidence on the part of so large a number of my profession.—I am, your obedient servant,

B. Walter Foster.

Birmingham, Oct. 18th, 1897.

To the General Practitioners of England and Wales.

Ladies and Gentlemen,—It is with a full—indeed, a keen—appreciation of the firm adherence to my cause of many of my professional friends that I address myself to you with earnest thanks at the close of this election wherein I appear in the last place; for it must have been apparent to those of you who voted for me, so soon as the two rivals, Mr. Victor Horsley and Sir Walter Foster came upon the field with their powerful organisations and the glamour of their names that they would attract all the interest of the election, and would strongly draw such a following that the rush would detach a large number of adherents from the other candidates, and sweep their voting papers into the scamper with the rest. That this was so was exemplified upon a large scale by what happened in the grouping about Mr. Jackson. There the mass was disintegrated with the assent of its central figure, who hailed his constituents to gather with him in the wake of the particular rival he selected.

But the polling is over and its results declared. What now is its practical outcome? A man of capacity has been chosen, but from whence? From the ranks of the consulting men of London; and thus our distinctive representation, the increase of which we are earnestly demanding, has been reduced by ourselves from 5 to 4. That Mr. Victor Horsley has much information of the needs of the medical practitioner is notorious, and that he will work honestly for his new clients goes without saying. But mark! It is information which he possesses, not experience. In his London meeting he admitted that no one in the Council had done more for the profession than Dr. James Glover; and we all know that Dr. James Glover is a general practitioner of long standing and experience. And Mr. Horsley had before said that there were two gentlemen of our body, friends of his own, who are worthy of the office he himself was seeking, and that if either of these would stand he would not. Otherwise he would compete in the interests of us all. Ingenuousness does truly mark men in their earlier days.

Well, the electorate have taken Mr. Horsley at his own estimate, and have opened wide the portals for his entry whilst thoughtful men have looked on with wonder and concern. But when the dust of contest shall have settled on the field, and the sunlight and the fresh air of truth and common sense make our vision and our retrospect clear, we shall perceive that the profession has uttered to itself a stern rebuke. It has made in the darkness a lash for application to its own body, and at the same time has given a chance to the ill-natured critics of our profession to smile and say "It serves you right."

Adieu for this time; and with thanks once more, heartfelt and respectfully tendered—I remain, your faithful servant,

Devonshire Street, W., Oct. 20th. E. Diver.

Corporate and Medical Reform Committee.

Dr. J. G. Glover requests us to publish the following letter which he has addressed to Mr. Joseph Smith, Chairman of the Corporate and Medical Reform Committee, in answer to the letter a copy of which was published in the British Medical Journal of October 16th, p. 1105:

"25, Highbury Place, N.,
"Oct. 18th, 1897.

"Dear Mr. Smith,

"I hope you will forgive me for not sooner replying to a letter from a body calling itself the Executive Committee of Corporate and Medical Reform, of which you are the chairman, in which letter are enclosed some thirty or forty questions with a request that I should give a reply to each.

"I hope you will not think me guilty of any personal discourtesy if I ask you to excuse me complying with this request. Such elaborate heckling is bad enough during an election, and from gentlemen in whom one recognises some authority to speak for the profession, or for a considerable section of it. The present is not such an occasion. In spite of the opposition of most of the gentlemen whose names I see in your circular, I am by the favour of the profession now your delegate, as you seem to think, but its representative now for the third time. I claim to be treated with some trust and not examined like an uncertain witness by gentlemen who have constituted themselves, very superfluously, as I think, into a new association.

I do not think it is in the interest of the profession that any half a dozen gentlemen should meet in a small room and dub themselves a new association. Surely we have enough societies already. In a paragraph in the *Times* of October 12th having clear internal evidence of being supplied by your executive committee (in course of formation) mention is made of the Association of Fellows of the College (Royal College of Surgeons?), the Society of Members of the College, the Incorporated Medical Practitioners Association, the London and Counties Medical Protection Society, the Medical Defence Union, various other societies, and the British Medical Association. What can be the excuse for another medical association, and what its function? The answer is to be gathered from the same paragraph. It is to push them all on and energise them—to be a sort of goad, a *vis a tergo*. The modesty of this function, self-assumed by a few gentlemen who are by no means silent members of the other associations, strikes me as does their happy belief that this last brand-new association is necessary to move the greater ones into use and activity. These associations are doing their best. Two or three of them would do all the profession needs if they were loyally supported and not distracted by little competitive bodies whose vanity seems to be in the inverse ratio of their age and numbers. I must therefore respectfully decline to recognise the need of your association or its right to question me elected and trusted by the profession of England and Wales as members of the General Medical Council.

"But my chief reason for declining to answer your numerous questions, which remind me of a celebrated long programme which brought its authors to grief, has yet to be stated. It is not that I do not sympathise with some of your chief objects, but that I lack confidence in your judgment in your impartiality, and that I disapprove of the methods by which you propose to realise your objects. You propose

memorialise the Medical Council—a perfectly legitimate procedure; but you intimate in the *Times* an intention, in the event of your appeal to the General Medical Council being unsuccessful, of petitioning Parliament, and being heard at the Bar of both Houses. I seem to see in this proposal a development of a threat made by one of my colleagues in a celebrated speech, of shaking the General Medical Council to its centre, and, this failing, 'of going to Parliament.' Whether your Committee could claim the privilege of appearing at the Bar is perhaps open to question; but the proposal seems to me dramatic and ridiculous. Were I to join you in attempting to carry it out we should not only make ourselves ridiculous—which might be a small matter—but we might bring direct representation itself, and even the great profession of which we are all proud to be members, into discredit. It is not thus that the many grievances of medical practitioners are to be redressed, or the constitution of the General Medical Council improved. I must therefore ask to be severely and entirely dissociated from the authors of such a proposal.—I am, Sir, your obedient servant,

"James Grey Glover."

"Joseph Smith, Esq., M.R.C.S.Eng., etc.
"Chairman of Corporate and Medical Reform Committee."

[Copy.] "The Castle, Dingwall, N.B.,
"Oct. 17th, 1897.

"Corporate and Medical Reform Committee.
"To the Hon. Secretaries.

"Dear Sirs,

"I have to thank your Committee for the compliment they have paid me in addressing me on the subject of their memorial and in doing me the honour to ask me to sign it. I trust they will not suppose for one moment that I do not sympathise with the feelings which prompted them to issue and for support for their memorial, when after full consideration I refuse to adhibit my name to the document.

"If the Committee carry out their intention of presenting it to the next meeting of the General Medical Council I shall frankly and freely express my views, which I hope will be such (as far as they go) as to merit the Committee's approval.

"It humbly seems to me an expression of opinion at this time would be both premature, and, let me add, in my personal and unadvised judgment, somewhat discourteous to my colleagues of the General Medical Council.

"Please excuse haste, as I must write now to catch the post so as this may reach you on Tuesday, and believe me to be yours very truly,

"(Signed) William Bruce.

"To Messrs. Dickinson and Anderson, London."

On completing the twenty-fifth year of his reign the King of Sweden has given 2,200,000 kroner to be applied towards the abatement of tuberculosis by the erection of sanatoria and other means.

Medical Men and the Transference of Disease.—An inquest is reported upon a woman who died from scarlet fever after delivery. Her husband accused the doctor of having conveyed scarlet fever to the patient; and it came out in evidence that the doctor was living in the house of, and had several times seen, another medical man who was suffering from scarlet fever. The report does not state fully what means of disinfection the doctor who attended the woman used. The only ones mentioned are that "Sanitas disinfectant was used" and "a basin of Jeyes' fluid also;" but it is not stated what was done with these. The finding of the jury was that "as to how the scarlet fever is contracted there is not sufficient evidence to show, and the jury are of opinion that medical men who undertake midwifery cases should cease attendance on, and not come in contact with, contagious cases." The latter part of the verdict is of course impracticable, for how is the doctor to know that a case is contagious until he has seen it? But the case may well call the attention of medical men who are obliged both to see cases of contagious disease and attend midwifery to the necessity of careful precautions against making themselves bearers of infection. No doctor who is engaged in midwifery and general practice should without necessity bring himself into personal contact with a case of scarlet fever.

ASSOCIATION INTELLIGENCE.

BRANCH MEETINGS TO BE HELD.

Metropolitan Counties Branch: North London District.—A meeting of this District will be held at the Hampstead Infirmary on Wednesday, November 3rd, at 4.30 P.M. Dr. Morton will preside. Mr. C. Ballance, M.S., F.R.C.S., will read a paper on Some Cases of Abdominal Disease operated upon during September. Dr. A. H. Cook will show cases of interest in the wards of the infirmary. The District Committee will meet at 4.15 P.M.—H. J. Macevoy, Honorary Secretary, Brondesbury, N.W.

Stirling, Kinross, and Clackmannan Branch.—The autumn meeting will be held at Larbert on the afternoon of Thursday, October 28th. Dr. Linton, President of the Branch, will preside. Members desirous of showing cases and specimens are requested to do so at this meeting. A circular with details of business, etc., will be issued to each member.—C. J. Lewis, Honorary Secretary, Stirling, N.B.

Bath and Bristol Branch.—The first ordinary meeting of the session will be held at the Medical Library, University College, Bristol, on Wednesday evening, October 27th, at 7.30, F. Richardson Cross, M.B., President, when the attendance of members is requested. The following communications are expected:—The President will show some cases of interest. Mr. C. H. Walker: Two cases of Tumour in the Macular Region (one patient to be shown). Dr. J. Lacy Firth: A case of Coxa Vara (patient to be shown). Mr. C. A. Morton: Resection of Gangrenous Intestine and Immediate Union with Murphy's Button: Recovery. Dr. Henry Waldo: The Prognosis in cases of Hemiplegia. Dr. J. Michell Clarke: (1) Two cases of Aphasia and a case of Amnesia Verbalis (patients to be shown); (2) specimen from a case of Duodenal Ulcer in a Child.—J. Michell Clarke, Clifton, and W. M. Beaumont, Bath, Honorary Secretaries.

North of Ireland Branch.—The autumn meeting of this Branch will be held in the Museum, College Square North, Belfast, on Thursday, October 28th, at 12 at noon. Members who wish to read papers, show patients, or bring other business before the meeting, will kindly communicate, on or before Wednesday, October 20th, with John Campbell, Honorary Secretary, 21, Great Victoria Street, Belfast.

West Somerset Branch.—The autumnal meeting of this Branch will be held at the Railway Hotel, Taunton, on Friday, October 29th, at 5 o'clock. It being the intention of Dr. Kelly to resign the office of Hon. Secretary and Treasurer, the appointment of his successor will be considered at this meeting. The subject as settled by the Council for discussion (before dinner) will be: Nervous Depression and its Treatment; and the discussion will be opened by the President, Mr. Hayes. Dinner at 6.30 (5s. a head, inclusive of waiters, but exclusive of wine) will be provided for gentlemen who give previous notice to the proprietor of the Hotel, or to Mr. Rigden, 2, Billet Street, Taunton.—W. M. Kelly, M.D., Honorary Secretary, Taunton.

Oxford and District Branch.—The next meeting of this Branch will be held at the Radcliffe Infirmary, on Friday, October 29th, at 3 P.M. Agenda:—Dr. Freeborn: A Case of Purpura Hæmorrhagica. Mr. S. A. Hayman: A case of Acute Myelitis. Dr. Elsmore: Hepatic Intermittent Fever. Mr. Doyne: Exophthalmos and other Eye Cases. Mr. W. L. Morgan: A Case of Intussusception. Dr. Collier: A Severe Case of Chorea. Dr. Mallam: Malignant Disease of the Suprarenal Capsules. And other business. Notice of further communications should be sent to the Secretary before Tuesday, October 19th.—W. Collier, St. Mary's Entry, Oxford, Honorary Secretary.

Worcestershire and Herefordshire Branch.—The autumn meeting will be held at the Imperial Hotel, Malvern, on Friday, October 22nd, at 3.15 P.M. Dr. H. E. Dixey will speak on the subject of The Contagious Diseases (among Soldiers) Acts, and on The Position of the Association with regard to Medical Defence, and move resolutions thereon. Members are requested to exhibit patients, pathological specimens, etc., at the commencement of the meeting.—Geo. W. Crowe, Honorary Secretary.

Staffordshire Branch.—The annual general meeting will be held at the George Hotel, Walsall, on Thursday, October 28th, at 4 P.M., when an address will be delivered by the President-elect, Mr. G. A. Phillips. Agenda:—Correspondence. Election of new members: Dr. J. A. Codd (Wolverhampton), Mr. A. H. W. Hunt (Wolverhampton), and Dr. Arthur J. Martin (Bloxwich), are proposed. Address by the President. Report of the Council and Ethical Committee, and financial statement. Election of officers and Council for the ensuing year. The dinner after the meeting is fixed for 6 P.M., 5s. each. Members desirous of reading papers at the Stoke meeting in November are requested to communicate the title to the General Secretary, F. Milnes Blumer, Stafford.

Southern Branch: South-East Hants District.—The next half-yearly meeting will be held at the Medical Library, Portsmouth, on Tuesday, October 26th. Members desiring to make communications, or to exhibit patients or specimens, are requested to communicate with the Honorary Secretary, C. C. Claremont, M.D., 57, Elm Grove, Southsea.

Border Counties Branch.—The autumn meeting of the Branch will be held in the County Hotel, Carlisle, on Friday, November 5th. Members intending to read papers, etc., are requested to communicate with the Honorary Secretaries, R. Dundas Helm (Carlisle), W. Hall Calvert (Melrose).

South-Eastern Branch: West Surrey District.—The next meeting of this District will be held at the Royal County Hospital, Guildford, on Friday, October 29th, at 4 P.M. Dr. Russell will preside. Agenda: Minutes of Farnham meeting. To decide where the next meeting shall be held, and to nominate a member of the Branch to take the chair thereat. The following paper has been promised: Dr. Washbourn (London): The Serum Treatment of Disease. Members desirous of exhibiting specimens or reading notes of cases are invited to communicate at once with the Honorary Secretary. Dinner at the White Lion Hotel at 6 P.M.; charge, 6s., exclusive of wine. All members of the South-Eastern Branch are entitled to attend, and introduce professional friends.—Alex. Hope Walker, Honorary Secretary, Cranleigh.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH.

The first ordinary meeting was held on Thursday, October 14th, 1897, the President (Dr. Saundby) being in the chair.

The Army Medical Service.—The following resolution, proposed by Mr. Barling and seconded by Mr. Marsh, was carried unanimously:

That this Branch views with grave concern the present condition of the Army Medical Service, inasmuch as such a state of things must, sooner or later, entail serious injury to the health of our troops, if not actual disaster in war. That this Branch considers the state of the service to be the natural result of the refusal of the military authorities to carry out reforms which are absolutely necessary; and would urge the medical profession, in the national interest, to make clear to the public the nature of these reforms and the need for them; to point out the serious consequences which may attend their postponement, and to make every effort to secure their speedy adoption.

Copies of this resolution, together with further information on the subject, were sent to the editors of the local papers.

Large Parotid Tumour.—Mr. T. Vincent Jackson exhibited a married woman, aged 35, from whom a very large parotid tumour of the left side, weighing nearly 5 lbs., was removed in August, 1897. The tumour, which had been growing for twelve years, occupied the whole of the left side of the neck, extending upwards above the level of the ear, and downwards much below the left clavicle, in front, to the angle of the mouth, and under the chin to the right, considerably overlapping the sternum and passing beyond it to the other side and backwards to the trapezius. Measurements from top to bottom 15¼ inches, and from front to back 13¼ inches. During the operation, which was of an extensive character, the left external carotid artery was ligatured; the parotid duct necessarily required division, and a few branches of the cervico-facial division of the facial were cut through. The report of the microscopic examination of the tumour stated that "it may be called a myxosarcoma—the present specimen is rather more cellular than is usual in such specimens." Photographs of the patient and the tumour were shown.

Renal Calculi.—Mr. T. Vincent Jackson exhibited a collection of four calculi weighing 440 grains, removed by nephrotomy from the right kidney of a young unmarried woman aged 24, who had suffered from lumbar pain and vesical irritation for a long time previously. Two days afterwards she miscarried of a four or five months' fœtus, and died from uræmia ten days after the operation. The *post-mortem* examination revealed the left kidney entirely filled with eleven calculi of various sizes, weighing 920 grains.

Papers.—Mr. Vincent Jackson read a paper on the Modern Treatment of Simple Fracture of the Patella.—Dr. Kauffmann read a paper on some cases of Delayed Lead Poisoning.

ABERDEEN, BANFF, AND KINCARDINE BRANCH.

The annual general meeting of this Branch was held in Marischal College, Aberdeen, on October 16th; Dr. Trail (Strichen) in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and approved.

Installation of New President.—Dr. Trail introduced the new President, Professor Finlay, who took the chair, and thanked the members for the honour they had done him in appointing him President for the ensuing year.

Report of Council.—The Council's annual report was then read, and was of a very satisfactory character. The work done at the meetings during the past year had been of an interesting nature, and the attendances had considerably increased. There had been a large addition to the membership.

Balance Sheet.—The Treasurer's balance sheet showed that the financial condition of the Branch was also very satisfactory.

Election of Officers.—The following office-bearers were then elected for the ensuing year: *President:* Professor Finlay, M.D. *Vice-Presidents:* G. Trail, M.D., Strichen; Mr. J. M'Hardy, Banchory. *President-elect:* J. Osbert Wilson, M.D., Huntly. *Treasurer:* J. J. Y. Dalgarno, M.B. *Secretaries:* C. Thiselton Urquhart, M.B., and J. Scott Riddell, M.B. *Council:* Town: George M. Edmond, M.D.; Thomas Milne, M.D.; J. C. Ogilvie Will, M.D. County: J. Barclay, M.D., Banff; C. Cran, M.D., Banchory-Ternan; P. Mitchell, M.D., Old Rain.

Summer Meeting.—The summer meeting was fixed to take place at Huntly.

Demonstration by President.—The President gave a very interesting demonstration of Illustration in Medicine, showing how superior the new methods are when aided by the camera and electric lantern compared with the old diagrams which used to crowd and adorn the walls of the lecture room. Professor Finlay received a hearty vote of thanks for his interesting demonstration.

Dinner.—The members afterwards dined in the Palace Hotel, when Professor Finlay was in the chair, and Dr. Trail acted as croupier. A very pleasant afternoon was spent.

Changes of Address.—The Honorary Secretaries (C. Thistleton Urquhart and J. Scott Riddell) will be greatly obliged by the intimation of any change of address, as the lists for the next year will have to be printed immediately.

DORSET AND WEST HANTS BRANCH.

The autumn meeting of this Branch was held at the Avon Castle Hotel, near Ringwood, on Wednesday, October 13th, Dr. James Davison (President) in the chair. Twenty-seven members were present.

Election of Officers.—The following were elected office-bearers for the ensuing year: *President:* Dr. Allan McLean (Weymouth). *Vice-Presidents:* Mr. Alfred John Henry Crespi (Wimborne) and Dr. Henry Knight Hitchcock (Bournemouth). *Honorary Secretaries and Treasurers:* Dr. William Vawdrey Lush (Weymouth) and Mr. Charles Henry Watts Parkinson (Wimborne).

New Members.—Mr. Arthur Augustus Pim (Beaminster) was elected a member of the Branch.

Next Meeting.—It was resolved that the May meeting should be held at Dorchester.

Deceased Members.—It was resolved unanimously that

The members of the Dorset and West Hants Branch of the British Medical Association desire to record their sense of the great loss they have sustained by the deaths of their two distinguished members—Sir John Charles Bucknill, M.D., F.R.S., and John Braxton Hicks, M.D., F.R.S.

Grants.—A donation of £10 10s. was voted to the British Medical Benevolent Fund. and a like sum to a fund about to be raised for the benefit of an indigent medical man, a former member of the Branch.

Reinfection by Scarlet Fever.—A discussion on Reinfection in a case of Scarlatina was opened by Mr. Hartford (Vice-President), and taken part in by Mr. Parkinson, Mr. Graham, Dr. Bagot, Dr. Rooke, Mr. J. R. Philpots, and Dr. MacDonald.

Communications.—The following communications were made: Dr. H. G. Dyer: Notes on a recent Surgical Case. Dr. MacDonald: Case of Malignant Disease of the Throat. Specimen shown.

Proposed Home for Nurses at Dorchester.—A discussion took place on the proposed county home for nurses at Dorchester.

Dinner.—The members partook of an excellent dinner at the hotel.

Birkenhead Medical Society.—The annual meeting was held on October 8th, 1897, Dr. Marsden, President, in the chair. The following gentlemen were elected office bearers for the ensuing year 1897-98, namely:—*President:* R. Sydney Marsden, M.B., D.Sc., F.R.S.Edin. *Vice-President:* Thomas S. Floyd, M.A., M.D. *Secretary:* William Leask, M.B., C.M. *Treasurer:* James Pinkerton, M.D., C.M. *Librarian:* S. Wilkinson, M.R.C.S. *Council:* Joseph Blood, M.A., M.D., C.M.; W. R. Floyd, B.A., M.B., Ch.B.; J. H. Fardon, M.R.C.S.; Francis Johnston, M.B., C.M.; H. Nazeby Harrington, M.R.C.S.

SPECIAL CORRESPONDENCE.

PARIS.

Leprosy in Paris.—The Clothing of Army Reserve Men.—The Detection of Bullets in the Body.—A Criminal Lunatic at Large.

Dr. Hallopeau utters a note of alarm as to the increase of lepers at the St. Louis Hospital. This year the number of sick patients is five times more numerous than it was the preceding year. Nearly all of them come from the French colonies. Some few are persons who have been contaminated at Nice or in Brittany. One case of infection came from Normandy. Dr. Hallopeau declares that all lepers should be prevented from entering France. The cases existing in Paris should be notified. This notification should be compulsory, and the dwellings and linen of the lepers should be disinfected. Isolation of lepers in the hospital is also urged.

The following statement appears in one of the most important and most moderate of the daily papers: "A more heartrending sight was never seen; more than 1,500 reservists in my regiment are dressed in rags impossible to describe. Formerly such stores of regimentals would have brought on the colonels of the regiments storms of reproaches at the general inspections. One hundred thousand reservists are now under military orders in the different regiments; to them are distributed clothes which, when not positively rotten, are considered wearable; the harlequin suits of many colours, the greasy collars soiled by deposits of succeeding generations, repugnant to the sight, exhaling a smell *sui generis*, have decided æsthetic drawbacks, but the *képi* is a source of danger; the manner of cleansing this article of clothing capable of transmitting different skin diseases, has no effect on the infective germs which it may in many instances harbour. The unpleasant fact that skin diseases have broken out in a regiment of reservists is not astonishing when all the facts just mentioned are taken into account. The administration of the War Office cannot be justly incriminated. The army clothing fund has been more and more reduced. In 1888 this misplaced economy represented a sum of £80,000; it now reaches £280,000, and it is predicted that this perilous reduction will continue. The constant skin epidemics so much talked of, and, what is still worse, bronchitis cases capable of threatening and even causing death, are not to be combated by this criminal economy. The threadbare clothes allotted to the reservists would endanger the lives of hardened soldiers, still more those of men and youths accustomed to the comforts of ordinary life. It is suggested that the *képi* should not be common property; every reservist should take his *képi* home and appear with it when summoned to join his regiment. The daily press calls for an immediate remedy, and recommends economising among the staffs and different services which would not affect either the dignity of the nation or the health of its soldiers.

M. Marey, Professor of Experimental Physiology at the Collége de France, and Member of the Institute, demonstrated to the Academy of Medicine last April the plan of an instrument invented by M. Rémy and M. Contrémoulins, for seeking and fixing the position of bullets lodged in the human body. M. Marey exposed the poverty of the French laboratories, and said that unless public generosity furnished the funds, the apparatus could not be constructed. M. Dessaux, of Nice, read an account of the meeting in the *Temps*, and sent the necessary sum of money. Last Saturday the apparatus was tested at the Faculty of Medicine, and pronounced to be a success by a large number of scientists.

The trial of Vacher, the criminal lunatic, known as the *tueur de bergers*, furnishes tragic proof of the danger of liberating insane persons because their disease seems to have passed into a stage of tranquillity. Up to the present time he confesses to have killed ten victims to satisfy his lust for slaughter. Vacher was treated in the asylum at Dôle after trying to murder a young woman who rejected his offer of marriage. At this time he was a soldier. His colonel reported of him as follows: "Good conduct, perfectly honest and moral, reserved and self-centred; he has the monomania of persecution; he sees spies everywhere; considerable muscular force; feels the necessity of exercising it. He takes a savage pleasure in lifting up with outstretched arm chairs and benches tied together." He talked to himself; threatened to cut the throats of his comrades who excited him by their jokes; he was so much feared by them that those near him put their bayonets in their bed. Vacher often expressed his desire to see "blood run." Dr. Garnier, of the Dôle Asylum, stated in his report: "Vacher is mad; very dangerous and irresponsible." After remaining a few months at Dôle Vacher was sent to the Departmental Asylum of Saint Robert. M. Dufour, the director of the asylum, stated to the Juge d'Instruction that he remained in it for several months. He left the asylum in virtue of a prefectoral decision. At this asylum Vacher was not considered to be mad. He was calm, submissive, and respectful. He frequently insisted by letter and by word of mouth on being sent to the Hôtel Dieu Hospital to have the bullet he believed to be in his head extracted. After attempting to murder the girl who refused him he attempted to shoot himself, but escaped. M. Dufour's certificate described Vacher as quiet and inoffensive. He apparently does not show any signs of madness. He realises his former condition, and demands his liberation, which may be ordered. A month after his liberation Vacher met a young factory girl, whom he strangled; nine other murders have been discovered. With one or two exceptions his victims are shepherds and shepherdesses.

BERLIN.

The Leprosy Conference.

The Leprosy Conference has been the event of the week in Berlin. On Friday afternoon a special train conveyed the delegates to Potsdam, where they were received by the Emperor and Empress at the new palace. Their Majesties expressed the deep interest they both felt in the work of the Conference, and asked for information on several subjects connected with it.

Prince Hohenlohe's *soirée* at the Foreign Office was very animated. Besides the chief medical and scientific celebrities of Berlin who had been invited to meet the members of the Conference, many leading diplomatists and politicians were present, and all were anxious to hear as much as possible of the probable results of the Conference. A group, of which Professor Virchow was the centre and animated speaker and Prince Hohenlohe an apparently deeply-interested listener, was much noticed.

A third official function in honour of the Conference was Thursday evening's *Fest-sitzung*—or honorary meeting—of the Dermatological Society in the Langenbeck House. Here, too, many distinguished physicians and surgeons had been invited, and the Prussian Government was represented by the Minister of State, Dr. Bosse, and one of his under-secretaries. Professor Lassar, the President of the Dermatological Society, greeted the company in French, English, and German, and asked permission of Professor Virchow, Professor Neumann (Vienna), Professor Kaposi (Vienna), and Professor Besnier (Paris) to enrol them as honorary members of the Society. Professor Lesser read a paper on Venereal Diseases and the spread of syphilis; a series of dermatological photographs were thrown on the screen; microscopical preparations were exhibited; and finally the *Fest-sitzung* concluded, as a festive meeting should, with a banquet.

In a closing speech Professor Virchow expressed his hope that the example of this Conference would prove fruitful for other problems of public health. He thanked the German and Prussian Government, and specially the Director of the Imperial Board of Health, for the assistance given to the Conference, and thanked the Vice-Presidents, Secretaries, and all members for their efforts in the great cause. Professor Kirchner made a short speech for the Prussian Government; and the Director of the Imperial Board of Health—Dr. Kochler—in the name of the Imperial Government, assured the delegates that Germany felt it an honour that the first International Leprosy Conference had met in Berlin, and had inaugurated the new building of the Board of Health. With a vote of thanks to the President, Professor Virchow, the oldest living leprosy investigator, the Conference came to a close.

During the Conference an interesting collection of objects bearing on leprosy was exhibited in a room of the Imperial Board of Health. A reproduction of a picture by Holbein, one of the figures on which is a leper, was one of the exhibits, and Virchow contributed some ancient Peru clay figures, bearing representations of skin disease, which tally exactly with the leprosy of our own day.

MANCHESTER.

Destiny of Recent Donations to Owens College; Opening of Session: Medical Dinner: Entries at the Medical School: Lectureship in Public Health.

WE have already recorded the magnificent donations announced at the last meeting of the Court of Governors to Owens College. In all probability the larger sum of £50,000, or thereabouts, will be utilised to erect a hall suitable for College ceremonies, and for the conferring of degrees in connection with Victoria University. This will lead to the completion of the College quadrangle, and very materially increase the beauty of the aspect of the building towards Oxford Road. The sum of £10,000 given for a physical laboratory will be spent in the erection of an entirely new physical institute, not under the same roof as the present College. The plan so frequently adopted in Germany will be carried out, namely, to erect a separate building, with class room and laboratory, on ground where additions can be made to the buildings as they are required. The new institute will be erected on ground belonging to the College, in close proximity to the original College buildings. Thus ample space will be afforded not only for laboratories for original work, but also for the instruction in practical physics for candidates, medical or otherwise, preparing at Owens College for the degrees of Victoria University.

The medical winter session at Owens this year was begun without any formal introductory address to the students as a whole. Professor Stirling, however, gave an introductory address to his students, on the subject of exhaustion and fatigue from a physiological point of view, illustrating the lecture by numerous experiments.

The usual annual medical dinner was held shortly after the opening of the session, and was presided over by Mr. Southam. It was well attended, both by the students and members of the College and Infirmary staff.

It would appear that the number of entries is very considerable, not only for Universities' degrees, but also for the Conjoint Board, and especially for the dental qualification. On the whole we believe it will compare favourably with that of recent years. For Victoria University the number of beginners is, we believe, considerably larger than in some previous years.

The appointment of Mr. Paget, medical officer of Salford, to a more important post in a neighbouring county will deprive both the College and Victoria University of the services of one who has done much to advance the teaching of public health in the College. The Council of the College will by-and-bye have to appoint a successor as lecturer on this subject in the College.

CORRESPONDENCE.

SALOL IN TYPHOID FEVER.

SIR,—At the present time, when an epidemic of typhoid fever is causing so much distress, any method of treatment which has proved of undoubted value may be worthy of a short notice in your columns.

During the last ten years the use of salol in typhoid fever has afforded me the most gratifying results. When steadily given in frequent small doses, either alone or combined with diaphoretics or astringents, or other drugs, as indicated, until the urine has become slightly tinged, marked benefit has invariably been obtained. Cases which appeared of a severe type and promised to result in a long and dangerous illness have been so modified by its use as to pass through mild and uncomplicated courses of three to four weeks' duration.

In several mild cases of undoubted typhoid, as proved by the typical rash, the progress of the attack has been completely aborted and convalescence established in the course of two to three weeks.

The drug should be used in the powdered form, and not compressed, as in the latter case it frequently passes through the intestinal tract completely unchanged. It should be given in 5 to 10 gr. doses (according to age) every four hours until the urine is tinged, when the amount and frequency of the dose must be diminished, giving only sufficient to maintain the faint coloration of the urine. Used in this manner it has, in my experience, invariably checked the increasing fever, and brought about a slow but steady defervescence, and improvement in all the other symptoms.

During the first few days of treatment cold packs and sponging is usually required in severe cases, but only until the drug has had time to affect the development of the poison.

The present epidemic would afford an excellent opportunity of thoroughly testing the efficacy of the drug in typhoid fever.—I am, etc.,

Cheltenham, Oct. 19th. HERBERT BRAMWELL, M.D.

TYPHOID FEVER AMONGST NATIVES OF INDIA.

SIR,—Whether typhoid fever prevails amongst natives of India or not, 17 years' service with regiments and their families have shown me that it is a disease that can be nearly disregarded as far as they are concerned. In all that time I have only once had reason to diagnose a case as enteric fever, and as that diagnosis was based solely on symptoms it may easily have been wrong. I give an extract from the register of my regiment for five consecutive years. The regiment is composed of Sikhs, Rajputs, Mahrattas, Jats, and Mohammedans (Punjabi and others):

Average Yearly Strength Present.	Average Yearly Strength under 25.	Total Admissions and Deaths during 5 Years for Fevers.		
550	251	Ague	Admitted 1,032	Died 1
		Remittent fever and simple continued fever ...	" 20	" 2
			" 13	" 0
		Enteric fever	1	" 0

As regards women and children, I can give reliable records for three years only. For that time an average yearly strength of 200 women and 220 children gives total deaths 11 women and 28 children, of whom 3 women and 5 children died of "all fevers." I am unable to give the total number attacked, as they only consult me when very ill.

On the whole I am of opinion that typhoid fever is found amongst natives of India, but, with very rare exceptions, only in childhood, and that the symptoms are generally so unobtrusive, and the parents so ignorant that the medical officer is not able to observe cases sufficiently long or closely enough to be sure of a diagnosis; and that when severe cases do come under observation the time for anything more than suspicion has gone by.

The idea of some writers that many of the untreated fever deaths amongst natives of India may be due to typhoid is not borne out by a study of the fatal cases that come under observation. As regards typhoid fever amongst British troops experience has led me to the conclusion that the poison exists in every place, its virulence being determined by the time of year, and that an attack is due to temporary individual susceptibility.

The researches of Drs. Remlinger and Schneider point clearly in the same direction, though it seems impossible to say that the poison exists in Nature apart from previous cases of the disease or from human agency, as the blown dust of human excrement and urine pervades all lands. At any rate, if there is a specific bacillus it must have the power of living in soil and water for an indefinite time, or of reproducing itself independently. This being so it is obvious that all excreta ought either to be mixed with a proportion of

nicklime when burial is the method of disposal, or to be cinerated.—I am, etc.,

C. B. Maitland,
Surgeon-Major I.M.S.

Central India, Sept. 20th.

THE VACCINATION PROBLEM.

Sir,—In the appreciative notice which you have been good nough to give of the proposals on this subject issued by the nner Society there is a misconception which it is desirable ould be cleared up. The suggestion that these proposals would not involve any essential alteration of the law" rerred only to the subject which the pamphlet was intended discuss—namely, the question of the extent to which it is pedient to modify compulsion. Other aspects of the vacnation question, of great but of secondary importance to is one, were explicitly omitted, because they are only conntious in a very limited degree. Amongst these is the quesion of the future vaccination authority. That the maintence of Boards of Guardians in this position would be an nomaly and an anachronism is generally admitted, and the guments in favour of transferring vaccination to the health thority, under proper control, are as generally accepted. or this, as well as for other objects which are necessary to lace the administration of vaccination on a proper basis, esh legislation is unquestionably necessary. But what was tended to be suggested in the pamphlet was that, in deal-g with the objections of antivaccinators, it is not expedient modify the present law more than is absolutely necessary, ut to meet the difficulties which it has created by a more dicious administration of it than has been hitherto pracsed. It will probably be found desirable to codify the whole bject in a new Bill; but, so far as the provisions of the isting Acts in regard to the enforcement of vaccination are ncerned, they might almost be transferred in their entirety such a Bill without any serious alteration, except as to the tails of the machinery by which the provisions of the law e to be carried out. The questions of the employment of lf lymph and the modes by which it shall be made avail-le will, as you suggest, require entirely new legislation.—I n, etc.,

Francis T. Bond, M.D.,
Honorary Secretary Jenner Society.

Gloucester, Oct. 16th.

THE AACHEN TREATMENT OF SYPHILIS.

Sir,—In his letter to the British Medical Journal of ptember 25th Surgeon-Major Lambkin extols the so-called achen treatment of syphilis, and gives his opinion that "it far and away superior to any of the internal methods of ving mercury which are so general in England"—a statement with which most will agree. He seems, however, to fer that a certain quantity of mercurial ointment applied to e skin in Germany is more efficacious than if it were plied in this country.

I am in perfect accord with Mr. Arthur Cooper's letter in e British Medical Journal of September 11th, and cannot o strongly protest against the practice—now somewhat ploded—of sending patients to Aachen, who could receive actly the same treatment in this country. Inunction can carried out here in just the same manner as in Germany, d is so carried out in a considerable number of suitable ses, and if sulphur water be considered desirable as an junct the waters of Harrogate can be resorted to.

In an experience of the treatment of syphilis extending er fifteen years I have never had occasion yet to send a tient to Aachen, nor do I contemplate such a contingency the future. If, as Surgeon-Major Lambkin stated in 1891, the great majority" of the cases treated there are English, seems strange that such a shrewd people as the Germans ould be ignorant of the virtues of one of their own health sorts.

As Mr. Arthur Cooper points out, the results of the inction treatment would be exactly the same in this country the patient would submit to the necessary restrictions in et and mode of living generally.

Surgeon-Major Lambkin tells us that he has discarded inctions for the treatment by hypodermic (presumably intrauscular) injections, which somewhat discounts the value of his statement "that the skin is the true channel for the administration of mercury."—I am, etc.,

J. Ernest Lane, F.R.C.S.,
Surgeon to the London Lock Hospital.

Queen Anne Street, Sept. 24th.

OBITUARY.

RUDOLF HEIDENHAIN,

Professor of Physiology, University of Breslau.

One by one the possessors of the great names in physiology are passing away. Within the last year or two we have had to deplore the loss of Brücke, Helmholtz, Ludwig, and Du Bois-Reymond, and now we have to chronicle the death of Professor Rudolf Heidenhain, which took place at Breslau on October 13th. Professor Heidenhain had for some time been laid aside from active work owing to an intestinal affection, to which he ultimately succumbed.

Heidenhain belonged to a Prussian medical family. He was the eldest and most distinguished of six sons, all of whom were members of the medical profession. Born in Marienwerder on January 29th, 1834, he was thus just over 63 years of age at his death. He studied medicine at Berlin, Königsberg, and Halle. In Berlin he attended the lectures of Du Bois-Reymond, and in Halle those of F. W. Volkmann. He graduated at Berlin in 1854, and in 1859 he was called to to the Chair of Physiology and Histology in Breslau, a post which he held throughout his life. His dissertation for the degree was entitled *De nervis organisque centralibus cordis cordiumque ranæ lymphaticæ* (1854). In Halle he worked at the question of the quantity of blood in the body, and embodied his researches in his Habilitationsschrift, *Disquisitiones criticæ et experimentales de quantitate sanguinis in corpore mammalium extantis* (Halle, 1857). This is published in quarto, and goes on the lines of Welcker's method, Welcker at that time being Professor of Anatomy in Halle. It is still a standard work of reference on the subject. The early fruits of his labours and that of his pupils in Breslau appeared in his *Studien des physiologischen Institutes zu Breslau*, in four vols. from 1861 to 1868. We have histological and physiological papers by himself, by R. Krause, L. Meyer, Solger, etc.

Before that time, however, he had published his *Physiologische Studien* (1856). There are several papers of his in *Müller's Archiv:* Historiches und Experimentelles über Muskeltonus (1856), Tonus d. Blasenschliessmuskels und Bewegung d. Froschherzens (1858); in 1859, Anatomy of Peyer's Glands; in 1860, Mittheil a. d. phys. Institut. zu Breslau, by several of his pupils, for example, v. Friedländer, and Jürgensen. In 1864 he published his *Mechanische Leistung, Wärme-entwicklung und Stoffumsatz bei der Muskelthätigkeit* (Leipzig, 1864). This was dedicated to his "teacher and friend" Du Bois-Reymond. In it we have his researches on the heat produced in muscle during a single twitch and during tetanus. It contains a good plate of Heidenhain's ingenious thermopile. In 1879 appeared his vindication of vivisection, published under the title *Die Vivisection im Dienste der Heilkunde*, and reproduced in 1884 by direction of the Prussian Minister of Education.

The first volume of *Pflüger's Archiv für d. gesammte Physiologie* appeared in 1868. In this *Archiv*, from the second volume onwards, we have numerous papers from his laboratory, by himself, by his pupils, and by his assistants, including such diverse topics as the Influence of the Nervous System on Temperature, Metabolism in Muscle, Arhythmical Activity of the Heart, Action of Drugs on the Nerves of the Submaxillary Gland, for example, Atropine, Calabar Bean, Nicotin, Digitalin; his classical experiments (with Neisser) on the Secretion of Urine—histological observations on the structure of the pancreas wherein he showed the changes in gland cells that accompany secretion; the Action of Stimulation of Sensory Nerves on Blood Pressure, both by himself and and in conjunction with his pupil Grützner, now Professor of Physiology in Tübingen; Spinal Reflexes; the Innervation of Blood Vessels, a continuation of Ostroumoff's work on the same subject. Later still, when his attention was still more intently directed to the question of secretion, we have his

Experiments on Trophic and Secretory Nerves, the Formation of Pepsin in the Pyloric Glands and in those of the Fundus, and his Method of Isolating the Cardiac End of the Stomach in Order to Collect its Secretion. Together with Bubnoff he published Observations on Motor and Inhibitory Phenomena in the Motor Areas.

In 1883 appeared his classical essay, Physiologie der Absonderungsvorgänge, in vol. v of Hermann's *Handbuch d. Physiologie*. This is still a standard essay on this subject, and it contains an account of his researches on the salivary, pancreatic, gastric, and other glands. The whole series extends to over four hundred pages. His results are incorporated in every textbook on physiology. These essays record a masterly array of work dealing both with the physiological and the histological aspects of the question, and there stands out the pre-eminent fact that in all glands secretion is accompanied by characteristic structural changes. These essays embody the work he published on this subject in *Pflüger's Archiv* and in *Archiv für mik. Anatomie*. All students of physiology know how his researches on secretion have revolutionised our ideas on that subject. His researches on the kidney with indigo-carmine led to a material modification of the theory of urinary secretion.

About 1880 "animal magnetism," as it was then called, attracted his attention, and in that year he published his observations on the subject—*Der sogenannte thierische Magnetismus* (Leipzig. 1880). This work was translated into English under the direction of the late Dr. Romanes. Heidenhain was not aware when he wrote this work of the researches of Mr. Braid, of Manchester; and, in fact, many of Heidenhain's observations were confirmatory of those of the Manchester surgeon.

In later years came his now well-known researches on Lymph Formation (*Pflüger's Archiv*, vol. xlix, 1891), in which he attributed such great importance to the activity of the capillary wall as secretory organs. With this is linked his discovery of a very heterogeneous group of bodies, to which he gave the name of "lymphagogues." Although Heidenhain's secretory theory of lymph formation has been attacked by many observers—and even by one of his own pupils—the impulse which his remarkable observations gave to the reinvestigation of this subject has led to a great increase of our knowledge on this point.

Closely akin to this are his equally well-known researches on the Structure of Intestinal Villi (*Pflüger's Archiv*, vol. xliii, 1888), and Absorption from the Small Intestine (*Pfluger's Archiv*, 1894) and from the Peritoneum (*Ibid.*, 1896).

From his laboratory also have appeared that long and important series of studies, published in *Pfluger's Archiv*, on Hæmodynamics, by his assistant, K. Hürthle, while from the chemical department under Professor Rohmann has come a whole series of important memoirs, also published in *Pflüger's Archiv*, many of them dealing with ferment action, which at present is attracting so much attention.

Throughout the whole of Heidenhain's researches we have exemplified the value of conjoint histological, chemical, and more purely physiological work, the one serving to elucidate the other.

It is easy to trace in the series of investigations above quoted how Heidenhain was led step by step to the study of the successive problems which he attacked so successfully. An interesting parallel might be drawn between the work of Ludwig and that of Heidenhain. At one time it might almost have seemed as if the mechanical theories of Ludwig on the secretion of urine and on lymph formation could no longer hold the field, but we are still far from being able to decide absolutely for the one theory or the other. Both attacked similar problems and by similar methods, but the inferences from the results obtained were as diverse as the personalities of the two observers.

Nor was the chemical side of physiological problems neglected. Heidenhain was an admirable example of an "all-round" physiologist who did not work in a limited groove, but had a wide and comprehensive grasp of his subject and directly by his own work and indirectly by that of his pupils added innumerable stones to the stately building of physiological science. He has left behind him numerous pupils in Germany, Russia, and England. Several of the younger English physiologists, for example, Starling and Shore, studied under him, and some of them are carrying out investigations on problems which they commenced in hi laboratory.

The loss of Heidenhain is a severe blow to physiological science, while to his numerous friends the loss will be felt as a very personal one, for he was of a loving kindly disposition, and attracted men unto him, not only by the admiration which his great abilities excited in younger men, but also by the genial traits of his fine and noble character.

EDWARD STAMER O'GRADY, M.B., F.R.C.S.I.,

Dublin.

IT is with very deep regret that we record the unexpected death of this well-known surgeon. He died at his residence, Merrion Square, on Monday, October 18th, after a few days' illness. He complained of a cold on the previous Thursday, and was attended by Dr. Magrath, who was a neighbouring friend. He, however, was strong enough to go out each day, and even on Sunday paid visits in spite of a prohibition. He was so ill on Monday morning that he consented to see Sir George Duffey; but even then he almost refused to go to bed or to be confined to his room. He was found to be suffering from pneumonia, and he had in addition a very badly ulcerated throat. The heart was extremely weak, and as the day wore on he grew rapidly worse in spite of the most assiduous care of his physicians, and he breathed his last at 5 o'clock in the afternoon.

Mr. O'Grady's name has been much before the public of late in connection with the Mercer's Hospital troubles. It will be remembered that he and the rest of the staff were dismissed by the governors, and that he refused to seek re-election. He disputed their powers, and the whole question would have come before the courts at the next sittings.

Mr. O'Grady, who was the son of the late Edward Stamer O'Grady, of the 4th Dragoons, was born in Dublin in 1838. He studied in Trinity College, and graduated M.B. in the University of Dublin. Then he went to Paris, Berlin, Dresden, and Vienna, for the purpose of increasing his experience. He became Fellow of the Royal College of Surgeons, Ireland, in 1863, and was soon afterwards appointed a lecturer on anatomy in the Carmichael School of Medicine, Dublin. Later on he was appointed an examiner in the College, and he filled that position for many years.

Mr. O'Grady entered the profession in opposition to the wish of his relatives, and the ardent love of it which he then exhibited marked his subsequent career. When he became a hospital surgeon he threw himself into the work with great energy. He was a bold operator, and earned a high reputation throughout Ireland for his skill in this department. He did not enjoy a large practice, and indeed was independent of it, but he spent much time in his hospital, sometimes visiting the wards three or four times a day. No one who knew anything of him could fail to recognise his high sense of right and honour; and his dogged persistence in holding to the view which he believed to be right had much, perhaps, to do with the opinion of those who looked at him askance. He was a generous friend of the poor, and if his friendships in the profession were not many they were very true. The disputes at his hospital worried him a good deal, but he was full of confidence that when he got into court he would establish his right, and show that he at all events had done his duty fully. His death puts an end apparently to the legal side of the Mercer's trouble; but, however that ending may be desired, the public and the profession have lost a good surgeon and a man of high and unswerving honour.

LESLIE MILNE, M.D.

WE regret to have to record the death of Dr. Leslie Milne, at Tulbagh Road, in South Africa. He was the eldest son of the Rev. A. J. Milne, LL.D., Fyvie, Aberdeenshire, was born in Kingston, Jamaica, in 1859; was educated at Fettes College and Edinburgh University (M.A., 1882), and Aberdeen University (M.B. C.M. 1886, M.D. 1890). For some years he practised in Forres, and on his leaving Forres for Rome he was entertained at a public dinner, and presented with a very valuable testimonial. For over four years he devoted himself in Rome to his profession, and was most successful; but his health failing him, he went to Cape Colony to try the benefi

the climate there. In addition to professional work he ught a small fruit farm, and everything seemed to augur ll for a full return of health and strength. Unfortunately, er a hard day's work, he was seized with an attack of intes- al obstruction, which carried him off in three days, at the ly age of 38.

Dr. James Bunton Barr, M.B., C.M., of Port Glasgow, d there on October 10th, in his fifty-third year. He was son of a Lanarkshire farmer, and at first studied for the nistry, for which, indeed, he qualified before finally ting to medicine. He was a prominent citizen of Port asgow, of the School Board and Parochial Board of which had been a member. He was also Surgeon to the local mpany of Rifle Volunteers. He is survived by a widow d family. At the funeral, which took place on October h, representatives from the various societies and orders th which the deceased was connected, were present.

NAVAL AND MILITARY MEDICAL SERVICES.

ARMY MEDICAL STAFF EXCHANGE.

charge for inserting notices respecting Exchanges in the Army Medical epartment is 3s. 6d., which should be forwarded in stamps or post office der with the notice, not later than Wednesday morning, in order to ensure sertion in the current issue.

Surgeon-Captain, on leave in England from Hong Kong, will hange, to remain at home.—Gib, 2, Victoria Mansions, Western ade, Southsea, Hants.

THE NAVY.

e following appointments have been made at the Admiralty: Her- rt P. Shuttleworth, Staff-Surgeon, to the *Daphne*, October 21st; es J. Walsh, M.B., Staff-Surgeon, to the *Edgar*, October 21st, and to *Archer*, undated; Richard L. Price, M.B., Surgeon, to the *Edgar*, tober 21st, and to the *Linnet*, undated; Patrick W. MacBean, M.B., rgeon, to the *Edgar*, October 21st, and to the *Peacock*, undated; omas C. Meikle, M.A., M.B., and Hugh Burniston, M.B., Surgeon, to ng Kong Hospital, October 21st; Charles J. E. Cook, Surgeon, to the *tive*, October 21st; Jerome Barry, M.D., Surgeon, to the *Impregnable*, tober 21st; William L. Martin, Surgeon, to the *Northampton*, October t; Moyle Breton, Surgeon, to the *Spider*, October 21st; John C. G. ed, Surgeon, to the *Rodney*, October 21st; M. John C. Michell to be rgeon and Agent at Lynmouth, October 14th.

ARMY MEDICAL STAFF.

igade-Surgeon-Lieutenant-Colonel R. Blood is appointed to ciate as Principal Medical Officer Sirhind district, *vice* Surgeon-Colonel Townsend, M.D., appointed Principal Medical Officer Mohmand Field rce.

INDIAN MEDICAL SERVICE.

igade-Surgeon-Lieutenant-Colonel F. A. Smyth, Bengal Establish- nt, is appointed to officiate as Principal Medical Officer, Peshawur strict, *vice* Brigade-Surgeon-Lieutenant-Colonel G. McB. Davis, D.S.O. Brigade-Surgeon-Lieutenant-Colonel G. McB. Davis, D.S.O, Bengal tablishment, P.M.O. Peshawur District, is appointed to officiate as M.O. Lahore District, *vice* Surgeon-Colonel G. Thomson, C.B., M.B., ap- nted Principal Medical Officer Malakand Field Force.

ll the medical officers belonging to the Indian Medical Service now on ve at home have been recalled to duty, with the exception of those o are about to retire on the completion of their leave.

t is announced from the India Office that an examination for appoint- nts to the Indian Medical Service will be held in London in ruary.

THE VOLUNTEERS.

rgeon-Lieutenant E. M. Callender, 12th Middlesex (Civil Ser- e) Rifles, is promoted to be Surgeon-Captain October 20th.

THE TIRAH EXPEDITIONARY FORCE.

ce the Afghan war 1878-80 no such complete or extensive medical bilisation has taken place as that for the Tirah Field Force. The angements made by the Principal Medical Officer of Her Majesty's rces have received the approval of his Excellency the Commander-in- ief, and are published in pamphlet form at headquarters for general culation. The force consists of (*a*) the main column, consisting of the st and Second Divisions, each division having two brigades and divi- nal troops; (*b*) the Peshawar Column; (*c*) the Marai-Zera Force; (*d*) the rram Movable Column; (*e*) the Rawal Pindi Reserve Brigade. The fol- ing Principal Medical Officers are sanctioned: For the Army Staff, rgeon-Colonel (with temporary rank of Major-General) G. Thomson, .. I.M.S., with Surgeon-Major W. A. Morris, A.M.S, as Secretary. For First Division, Surgeon-Colonel E. Townsend, A.M.S. For the Second ision, Surgeon-Colonel G. McB. Davis, D.S.O., I.M.S. The Line of mmunication, Brigade-Surgeon-Lieutenant-Colonel W. E. Saunders, I.S. The Peshawur Column, Brigade-Surgeon-Lieutenant-Colonel R. Thomsett, A.M.S. With the Marai-Zera Force the Senior Medical icer will conduct the duties of Principal Medical Officer. The Kurram Movable Column has Brigade-Surgeon-Lieutenant-Colonel W. R. Murphy, D.S.O., I.M.S. The Pindi Reserve Brigade, while at Rawal Pindi, will have the medical administrative duties carried out by the Principal Medical Officer of the district; and, if the Brigade moves forward, the administration will come under that of the Principal Medical Officer of the force to which it may be attached. Most of the field hospitals have already been equipped, with the exception of a few to be mobilised at various Indian stations. General hospitals are to be established as follows:

No. 1	British of	500	beds at	Rawal Pindi.
No. 3	,,	100	,,	Nowshera.
No. 2	Native of	500	,,	Pindi.
No. 4	,,	150	,,	Nowshera.
No. 5	,,	200	,,	Kohat.

The general hospitals at Pindi will receive the sick and wounded, British and native, from the First and Second Divisions, and the British sick from the Kurram Column. The general hospitals at Nowshera will receive the sick and wounded from the Peshawar Column, and the Native General Hospital at Kohat will receive the native sick and wounded from the Kurram Column and the Marai-Zera force. Various hospitals are established on the line of communications and a rest depôt hospital (European privates' tents) is to be formed at Kushalgur, and also one at Gumbut if deemed necessary, to receive both British and native troops and followers. Field medical store depôts. No. 1, already equipped and attached to the Malakand field force, will supply the medical units of the First Division; and No. 2 Field Medical Store Depôt, mobilised at Meean Mir, will supply those of the Second Division. Both depôts will be provided with a special reserve of 100 lbs. of quinine, and will be moved forward under orders issued by the Quartermaster-General. All field hospitals detailed for the expeditionary force, with the exception of those on the lines of communication and in the reserve brigade which will be supplied with tongas and dandies, will be equipped with riding mules or ponies (with saddles) and dandies. The force will move along Pindi, Kushalghur, Kohat, Haugu, and Thul. There is a tonga road to Kohat some thirty miles. The line of communications will be some fifty miles beyond Kohat to the foot of the Samana range. Tirah is a high plateau of very difficult access. The passes are difficult, and wheeled transport cannot go much beyond Kohat.

No. 11 British Field Hospital mobilised at Lucknow proceeded to Kohat on September 30th; the following officers of the Army Medical Staff are attached for field service: Surgeon-Lieutenant-Colonel S. H. Carter, in medical charge, and Surgeon-Captains Trotter, Withers, and Morphew.

THE NEW WARRANT.

Qualis ab Incepto writes: I have always maintained that the fixed policy of the War Office is to keep the Medical Department in an undefined, anomalous, and, if possible, ridiculous position. The titles foreshadowed in a supposed new warrant show a continuance of this unworthy policy: such a title as Surgeon and Captain is preposterous. Imagine a man announced as Surgeon and Colonel Jones! Two individuals would naturally be looked for. The messes would be delighted with the fun of it. Truly the fatuity of the authorities should be knocked out of them by an indignant public. What ought to be a flourishing department goes begging for recruits. The Secretary of State for War should think for himself, and not with the brains of his military advisers. The cry goes forth, Make the "good doctors" the butt of all and sundry at the sweet will of the heaven-born combatant! I have seen the surgeon of a regiment treated in the anteroom of a mess with the utmost indignity by a bumptious subaltern, who was all deference to the captain of his company. So much for rank. I maintain that what is needed is the resignation of the so-called "Reserve," which would bring the matter before the public, and the authorities to their senses.

MEDICO-LEGAL.

RECOVERY OF CHARGES.

R. P., writing from Ireland, inquires as to the best course to be taken by him for the recovery of fees for attendance on the wife and family of a gentleman who resides in India.

*** Our correspondent, we gather, expects some difficulty in the matter, the gentleman declining to recognise his responsibility for the debt. We have no doubt that the practice in Ireland is similar to that in England, and that our correspondent might commence proceedings in the proper court in Ireland, and make application, which will be of a special nature, for service of the writ on the defendant out of the jurisdiction. If and when judgment is obtained, such judgment could, we believe, be enforced in India in a summary manner. It is not impossible that the defendant may defend the action on the ground which we understand he has taken up; but, unless he had given sufficient notice that he would not be responsible for his wife's debts, we doubt if such defence could be successfully maintained.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBDIDGE.

Professorship of Pathology.—The Electors to this Chair will meet on Saturday, November 6th, at Downing College Lodge, for the purpose of filling up the vacancy caused by the death of Professor Roy.

Addenbrooke's Hospital.—Mr. E. H. Douty, M.B., having found it necessary on account of the state of his health to resign the office of Assistant-Surgeon to the hospital, a vacancy has been declared. The nomination of candidates, of whom four or five have already announced

themselves, will take place at a special Court of Governors, to be held on Monday, November 8th.

ANATOMY.—Mr. Hubert Higgins has been reappointed a Demonstrator of Human Anatomy for a period of five years.

UNIVERSITY OF GLASGOW.

UNIVERSITY COURT.

Portrait of Lord Lister.—At the last meeting of the University Court it was announced that Dr. James Finlayson and Dr. Hector C. Cameron had presented to the University a replica of the portrait of Lord Lister, painted in 1895. The Court directed a formal expression of its thanks to be conveyed to the donors.

Queen Margaret College.—The resignation of Dr. Hawthorne from his Lectureship on Materia Medica at Queen Margaret College was received with regret.

The Course in Pathology.—Leave of absence was granted to Professor Coats, and arrangements sanctioned for the carrying on of the class of Pathology during the winter.

Honours in Medicine: Grant by the Bellahouston Trustees.—The suggestion of the General Medical Council that regulations regarding honours in Medicine should appear in the *Calendar* was approved. The Court also considered another representation of the Council as to honours in connection with the medical degree, and it was intimated that the Bellahouston Trustees had been approached, and had intimated that they were willing to give a sufficient sum annually during their pleasure to provide suitable gold medals, not exceeding three in number in any one year, to be awarded to such candidates in the medical faculty as should prove themselves by thesis, or otherwise, as may be arranged, worthy of such special honour and distinction. The Secretary was instructed to convey the cordial thanks of the University Court to the Bellahouston Trustees.

Examiner in Anatomy.—The Secretary was instructed to advertise for an additional examiner in Anatomy for the period from December 31st, 1897, to December 31st, 1899.

ROYAL UNIVERSITY OF IRELAND.

M.B. DEGREE EXAMINATION.—The following candidates have passed this Examination:

J. B. Coleman, M.B., W. D. Donnan, M.B., Queen's College, Belfast; D. Sommerville, B.A., M.B., King's College, London, and private study.

M.B., B.CH., B.A.O. DEGREES EXAMINATION.—The following candidates have passed this Examination:

Upper Pass Division.—N. J. Blaney, Catholic Union School of Medicine; *M. Henry, Queen's Colleges, Galway and Belfast, and Edinburgh School of Medicine; *G. A. Hicks, Queen's College, Belfast; *C. E. McDade, B.A., Queen's College, Belfast; C. J. Moore, Catholic University School of Medicine; *P. M. O'Meara, B.A., Catholic University School of Medicine; *E. C. T. Smith, Mason College, Birmingham; R. W. G. Steward, Queen's College, Belfast.

Those marked with an asterisk may present themselves for the Further Examination for Honours.

Pass.—M. Burke, Queen's College, Cork; W. Canning, Queen's College, Belfast; J. H. C. Daly, Queen's College, Galway, and Catholic University School of Medicine; D. Fleck, Queen's College, Belfast; B. P. Healy, Catholic University School of Medicine; W. G. Jordan, Catholic University School of Medicine; J. McCartley, Queen's College, Cork, and Catholic University School of Medicine; F. J. McGlade, Catholic University School of Medicine; R. R. McLean, Queen's College, Belfast; A. Montgomery, Queen's College, Belfast; H. J. Monypeny, Queen's College, Belfast; M. T. Moran, Queen's College, Belfast; T. P. O'Carroll, Catholic University School of Medicine; J. K. O'Kane, Catholic University School of Medicine; E. T. O'Sullivan, Catholic University School of Medicine; R. S. Ryce, B.A., Queen's College, Cork; T. H. Scott, Queen's College, Belfast; J. Shinkwin, Queen's College, Cork; J. R. Sinton, Catholic University School of Medicine; G. K. Smiley, Queen's College, Belfast; C. Turner, Queen's College, Cork.

CONJOINT BOARD IN ENGLAND.

SECOND EXAMINATION.—The following gentlemen have passed this Examination in the subjects indicated:

Anatomy and Physiology.—S. E. Atkinson, B. Holroyd, J. E. Bolton, E. J. Crawshaw, and T. C. Mitchell, students of Yorkshire College, Leeds; C. Price, of University College, Cardiff, and St. Mary's Hospital; M. Arango, of Bogota University, Columbia, and St. Mary's Hospital; R. J. Harbinson and W. S. Dickie, of St. Mungo's College, Glasgow; W. M. Hunter, of Queen's College, Belfast; L. A. Moore, of University College, Bristol; M. F. Foulds, of Owens College, Manchester; G. A. Carter, of Surgeons' Hall, Edinburgh; H. M. Cory, of Mason College, Birmingham; F. G. Quinby, of University College, Liverpool; R. E. Hodgson, of St. Mary's Hospital; J. Valérie, of St. Bartholomew's Hospital; C. E. Van Rooyan, of Ceylon Medical College; T. Young, L. E. Whitaker, G. W. Stone, and W. E. L. Davies, of St. Bartholomew's Hospital; J. S. Clarke, of Cambridge University and St. Thomas's Hospital; W. E. Denniston and C. J. E. Edmonds, of St. Thomas's Hospital; E. M. W. Hearn and G. S. Ward, of London Hospital; C. A. F. Hingston and H. V. Swindale, of Middlesex Hospital; W. Johnson, of Guy's Hospital and Mr. Cooke's School of Anatomy and Physiology; K. V. Trubshaw and F. C. Wetherell, of Guy's Hospital; J. W. Lawson, of Charing Cross Hospital; H. A. Colwell, H. N. Marrett, E. V. Lindsey, R. C. Bowden, D. S. Sandiland, and R. Bigg, of St. Bartholomew's Hospital; C. M. Heanley, of St. George's Hospital; J. C. J. da Silva, A. C. Lewis, and H. A. Higgens, of Guy's Hospital; H. B. Carr, of Firth College, Sheffield, and Guy's Hospital; G. L. Parsons, of Westminster Hospital and Mr. Cooke's School of Anatomy and Physiology; W. A. Steen, G. Griffin, E. McL. Perkins, and F. Challans, of London Hospital; E. H. Hogg, of Middlesex Hospital; E. P. Mitchell, of Guy's Hospital; P. D. Hunter and H. V. Bagshawe, of Guy's Hospital and Mr. Cooke's School of Anatomy and Physiology; C. H. Francis-Williams, of St. George's Hospital; W. S. Armstrong, of St. George's Hospital and Mr. Cooke's School of Anatomy and Physiology; F. G. Bowen, G. O. Taylor, and T. F. G. Mayer, of London Hospital; H. E. D. Lloyd, C. Fisher and J. E. Griffith, of St. Bartholomew's Hospital; F. J. Gómez, of King's College, London; C. I. Grabtree and E. H. Bullen, of St. Mary's Hospital; E. C. Foster, of University College, London; G. O. Hughes, of University of Virginia and Mr. Cooke's School of Anatomy and Physiology; R. J. Johnstone, of Queen's College, Belfast.

Anatomy only.—E. R. L. Thomas, of London Hospital; O. S. Kellett, of London Hospital and Mr. Cooke's School of Anatomy and Physiology; F. A. Hort, of Mr. Cooke's School of Anatomy and Physiology and Middlesex Hospital.

Physiology only.—A. Farrington, of St. Bartholomew's Hospital; H. J. Butler, of St. George's Hospital H. Charles, of Middlesex Hospital.

Sixty-two gentlemen were referred back to their professional studies in both subjects for three months and one for six months, and two in Physiology only for three months.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following gentlemen, having passed the necessary examinations and having now conformed to the by-laws and regulations, have been admitted Members of the College:

Welch, W. B., L.S.A.Lond., St. Bartholomew's Hospital.

Wood, C. R., M.B., B.S.Durh., University of Durham and University College Hospital.

From the report of the Council about to be issued to the Fellows and Members of the College it appears that the names of 34 Fellows and 23 Members have been removed from the list published in the College Calendar during the past collegiate year in consequence of death.

During the past year the supply of new books and periodicals has been well kept up. Several old books have been presented by Mr. R. H. Lucy, F.R.C.S. Mr. Longmore has presented an engraving of Bransby Cooper which had formerly belonged to Sir Thomas Longmore. During the past year the Library has been open 271 days, during which time the number of readers has been 10,965.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

AT the annual stated meeting of the Royal College of Physians of Ireland held on St. Luke's Day, the following officers were elected for the ensuing year:

President: Sir George Duffey. *Vice-President:* Wallace Beatty. *Censors:* Wallace Beatty, E. E. Lennon, S. T. Gordon, R. A. Flynn.

Examiners for the Licence to Practise Midwifery.—W. J. Smyly, Andrew J. Horne.

Additional Examiners to take the Place of an Absent Censor or Examiner.—Medicine: A. K. F. M'Cutcheon. Medical Jurisprudence and Hygiene: H. C. Tweedy. Midwifery: Ernest H. Tweedy.

Additional Examiners under the Conjoint Examination Scheme.—Biology: E. MacDowel Cosgrave. Chemistry and Physics: Henry T. Bewley, Edwin Lapper. Materia Medica and Pharmacy: Ninian Falkiner, Francis J. B. Quinlan. Physiology: John Mallet Purser. Pathology: H. T. Bewley. Medicine: John Murphy, H. C. Drury. Hygiene and Forensic Medicine: Conolly Norman.

College Examiners for Conjoint Diploma in State Medicine.—Meteorology and Climatology: John William Moore. Hygiene; F. J. B. Quinlan. Chemistry: Edwin Lapper.

Examiners in Preliminary Education.—Languages: E. J. Gwynn. Science: C. Joly.

Representative on the General Medical Council.—Lombe Atthill.

Representatives on the Committee of Management under the Conjoint Examination Scheme.—John Magee Finny, Sir Christopher J. Nixon, James Craig. Treasurer: Lombe Atthill. Registrar: James Craig.

In the evening the annual banquet of the President and Fellows was held in the College Hall.

CONJOINT BOARD IN IRELAND.

FIRST PROFESSIONAL EXAMINATION.—Candidates have passed this Examination as undernoted:

Completed the Examination.—H. L. A. Barry, C. H. Browne, H. A. Cecil, P. L. Crosbie, M. T. Donovan, J. J. Harty, M. J. Loughry, R. P. McDonnell, R. F. MacMahon, A. J. Nicolls, C. J. O'Connell, C. R. M. Pattison, G. H. Powell, and J. C. Ryan.

In Anatomy.—T. Archdeacon, F. W. Brunkes, F. H. Cooke, W. L. Day, P. Donnellson, Miss H. A. Driver, Miss M. E. M. Logan, J. Nash, and C. F. P. Plunkett.

In Biology.—F. W. Brunker, F.H. Cooke, W. L. Day, C. F. P. Plunkett, Miss Driver, Miss Logan, J. Nash, and C. R. Richardson.

In Chemistry and Physics.—F. J. Cahill, P. Donnellson, C. F.P. Plunkett, S. H. Raverty, and T. J. Wright.

In Pharmacy.—F. W. Brunker, F. H. Cooke, W. L. Day, Miss Driver, Miss Logan, J. Nash, and R. K. Taylor.

SECOND PROFESSIONAL EXAMINATION.—Candidates have passed this Examination as undernoted:

Completed the Examination.—G. Canilla, A. L. Darby, A. D. Dunwoody, C. H. Falvey, A. Fitzgerald, J. L. Jones, G. W. Little, D. J. F. O'Donoghue, J. J. O'Halloran, J. O'Leary, C. J. Sullivan, H. J. Westropp, J. Whelan.

In Anatomy.—J. S. Lane, J. P. Ryan, T. D. Sullivan.

In Physiology.—W. F. Cormack, G. Downing, C. W. Holden, J. S. Lane, J. Roberts, T. D. Sullivan, A. L. Tyndall.

In Materia Medica.—W. Adrian, A. J. C. Connolly, W. H. Dodd, P. A. Frazer, J. J. Gibney, C. W. Holden, T. F. Kennedy, E. R. Townsend.

In Histology.—W. F. Cormack, G. Downing, A. H. W. Ganderton, C. W. Holden, J. S. Lane, J. Roberts, T. D. Sullivan.

THE Mercers' Company has sent a donation of fifty guineas to the Royal Chest Hospital, City Road, E.C.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

thirty-three of the largest English towns, including London, 6,345 rths and 3,566 deaths were registered during the week ending Saturday st. October 16th. The annual rate of mortality in these towns, which had :lined from 29.5 to 16.2 per 1,000 in the nine preceding weeks, rose ain to 16.9 last week. The rates in the several towns ranged from 9.2 in rdiff, 9 9 in Swansea, 10.9 in Halifax, and 11.6 in Croydon, to 21.5 in olton, 22.4 in Liverpool, 23.6 in Preston, and 23 7 in Birmingham. In e thirty-two provincial towns the mean death-rate was 17.5 per 1,000, id exceeded by 1.4 per 1,000 the rate recorded in London, which was .1 per 1,000. The zymotic death-rate in the thirty-three towns averaged) per 1,000; in London the rate was equal to 2.0 per 1,000, and corre- onded with the mean rate in the thirty-two provincial towns. No motic deaths were recorded last week in Brighton; in the other towns ey caused the lowest rates in Bradford, Croydon, Oldham, and Swansea, id the highest rates in Birmingham, Sheffield, Burnley, and Preston. easles caused a death-rate of 1.1 in Birmingham and in Manchester, id 1.5 in Burnley; whooping-cough of 1.0 in Derby; "fever" of 1.0 in ateshead; and diarrhœa of 1.5 in Salford and in Sunderland, 2.0 in ackburn, and 3.6 in Preston. The mortality from scarlet fever showed) marked excess in any of the large towns. The 73 deaths from diph- eria in the thirty-three towns included 45 in London, 4 in Liverpool, in Plymouth, and 3 in Leicester. No fatal case of small-pox was regi- ered last week, either in London or in any of the thirty-two large pro- ncial towns; and no small-pox patients were under treatment in any the Metropolitan Asylums Hospitals. The number of scarlet fever tients in the Metropolitan Asylums Hospitals and in the London Fever ospital, which had been 3,677 and 3,692 at the end of the two preceding eeks, had risen again to 3,725 on Saturday last, October 16th; 440 new ses were admitted during the week, against 358, 349, and 400 in the ree preceding weeks.

HEALTH OF SCOTCH TOWNS.

URING the week ending Saturday last, October 16th, 938 births and 568 eaths were registered in eight of the principal Scotch towns. The nual rate of mortality in these towns, which had risen from 17.8 to 19.8 er 1,000 in the three preceding weeks, declined again to 19.1 last week, it was 2.2 per 1,000 above the mean rate during the same period in the irty-three large English towns. Among these Scotch towns the death- tes ranged from 12.8 in Aberdeen and 13.3 in Paisley to 21.7 in Edinburgh id 23.7 in Greenock The zymotic death-rate in these towns averaged 2 8 er 1,000, the highest rates being recorded in Paisley and Dundee. The 7 deaths registered in Glasgow included 13 from whooping-cough, 5 om measles, 4 from scarlet fever, and 3 from diphtheria. Seven fatal ses of scarlet fever, 2 of diphtheria, and 3 of "fever" were recorded Edinburgh, and 4 deaths were referred to scarlet fever in Paisley.

CHAMPAGNE FOR WORKHOUSE PATIENTS ORDERED BY A NURSE.

E learn from the *Staffordshire Sentinel* that at a recent meeting of the oke Board of Guardians a report was made by the master of the work- ouse that he had supplied eight pints of champagne to one of the female tients, and this because it had been ordered by a nurse, who had been ecially procured from Derby to attend upon the patient in question. his very unusual supply of stimulants appears to have given no dissatis- ction to the Board, as no comment was made in reference to it by any of ie guardians present. Had the same supply of stimulants been ordered the medical officer of the house, we apprehend that surprise would ave been expressed, and even indignation aroused. If this account is ally correct, it is difficult to understand how it happened that the aster of the workhouse supplied this quantity of stimulants without ie usual order of the medical officer, as in the absence of such order it as not his duty to provide any stimulants whatever. We apprehend iat if the medical officer does not think fit to furnish the master with the sual formal order for the stimulants given to the patient, the auditor ill not allow the cost to fall upon the ratepayers of the union, and in ich case it is possible that both master and nurse may learn a useful sson, as by the regulations of the Local Government Board even a Board Guardians has no power to provide stimulants for any paupers without ie order in writing of a medical officer.

CONTAMINATION OF WATER SUPPLIES.

wo instances of the dangers which are liable to arise in connection ith water supplies have been afforded during the last few days. At a eeting of the Farnham Rural District Council the medical officer, Dr. orimer, reported that he had discovered that a main belonging to the arnham Water Company had been interfered with, a pump attached had een broken, and the stone slab over a catchpit in connection with the ain had been removed, so that people fetched water therefrom in ckets. It was stated that the Farnham Water Company had already sued notices with the view of stopping the practice, which must viously lay the supply open to pollution. At Rochester a very curious ate of things has been brought about. It appears that the corporation iginally purchased land near the public water works at Strood in order ensure that the water should be kept pure. This land was let out in lotments, and the "grave mistake," to use the words of the ex-Mayor, as made of sanctioning the erection of pigstyes and the keeping of pigs the tenants. It is stated that one of the allotment holders devotes the hole of his ground to pigs. The Rochester Town Council have decided give notice to the allotment holders to discontinue keeping pigs, and is reported that the holders have determined to claim compensation om the corporation for the value of their pig-styes.

A SANITARY INSPECTOR ADMONISHED.

The commissioners of a Scotch burgh have had occasion, after inquiring into certain complaints, to admonish their assistant sanitary inspector to be careful in discharging the duties of his office, to confine himself strictly to his statutory powers, and not to use language calculated to give offence to the medical attendants of patients. This is an admonition that might well be addressed to many sanitary inspectors, but specially to those of small burghs, many of whom are wont to magnify their office and stretch their authority to a degree apt to provoke a conflict with the medical practitioners of the district.

MEASLES NOTIFICATION AT DUNDEE.

In the British Medical Journal of October 9th we referred to the contemplated distribution by the Town Council of Dundee of a circular relative to the treatment of measles. Dr. Templeman, the health officer, has kindly furnished us with a copy of the leaflet of *Hints to Parents*, which invites notification of all cases of the disease, but wherein is no mention of any suggestion as to requisitioning his services in complicated cases, which a newspaper report had stated was to be incorporated.

AT CROSS PURPOSES.

We have before us the annual report of the Vestry of the Parish of Plumstead for 1896-97, which contains, *inter alia*, the report of the medical officer of health. But, in addition, there are statements by the Health Committee and the Surveyor, touching a divergence of opinion on the part of the Committee and Surveyor on the one hand, and the Medical Officer of Health on the other, matters which have been dealt with by the latter official. We are sorry to see this display of internal differences in the Vestry's administrative department. We will only say of Dr. Davies's report that it carries with it the impression of careful writing upon subjects closely studied and details completely mastered.

FEES FOR INSPECTION AND EVIDENCE.

M.O.H. asks if £5 5s. is an excessive fee for: (1) Examining a nuisance at 10 P.M.; (2) interview and getting evidence taken at solicitor's office; (3) correcting evidence twice, and writing two letters; (4) giving evidence eight miles from home at assizes. He has charged for the several items 10s. 6d., 10s. 6d., £1 1s., and £3 3s. respectively.

*** Assuming that the work was done in our correspondent's private capacity, and not as a paid official for his sanitary authority, the charges seem exceedingly reasonable.

DUTIES OF M.O.H. IN INFECTIOUS CASES.

Rusticus is M.O.H. in district of 2,000 to 3,000 inhabitants, and asks if he ought to visit personally, either alone or along with a brother practitioner, infectious cases certified to him by the latter, in order to give directions as to isolation and disinfection.

*** In the majority of cases a visit to the house by the sanitary inspector to see that general rules laid down by M.O.H. as to isolation are being carried out is advisable. Should he report that such is not the case, M.O.H. might see his brother practitioner and talk the matter over with him, if necessary seeing the people of the house and even the patient with him. M.O.H. should not visit the patient alone except at the request of the medical attendant, and would doubtless wish in every case to treat the latter as he would like to be treated by him were their positions reversed. Not only evil but the "appearance of evil" has to be avoided. There should, for instance, be no omission of the visits of the sanitary inspector or disinfecting staff to M.O.H.'s own patients, even where such seem to him unnecessary. Such omission might "appear" due to favouritism.

NOTIFICATION FEES IN HUDDERSFIELD.

Contagium.—The notification of cases of infectious disease in Huddersfield is not enforced under the Infectious Disease (Notification) Act of 1889, which is not in operation in the borough; but under the Huddersfield Improvement Act of 1880, Section 64 (5) of which lays down that a medical practitioner shall be paid the fee of one shilling for each certificate, with the reservation that the same practitioner need not notify and will not be paid in respect of other cases of the same disease occurring in the same house during an interval of thirty days from the date of the first certificate.

The Medico-Psychological Association.—The autumn meeting of the South-Western Division of this Association will be held at Brislington House (three miles from Bristol) on Tuesday next, October 26th, at 2.45. The following communications will be made:—Dr. Goodall: The Systematic Collection of Anthropometrical Data in Asylums. Dr. Morton will read notes of a case and open a discussion on the Making of Wills by Certified Patients, and the Duties of Medical Men in regard to this. Dr. Blachford: Notes on the Order of Disappearance of Rigor Mortis from the Body as observed at Necropsies on the Insane. Dr. Briscoe: Notes on a Case of Fracture of the Fibula in a Melancholic, with Remarks on Fracture in Insane People. Dinner will be held at the Royal Hotel, College Green, Bristol, at 6 P.M.

On the recommendation of the Lord Lieutenant of Carnarvonshire Dr. R. Langford Jones, of Bangor, who was two years ago mayor of the city, has been placed on the Commission of the Peace for the county.

MEDICAL NEWS.

Medical Magistrate.—Dr. J. Comyns Leach, of Sturminster Newton, Coroner for North Dorset, has, on the nomination of the Lord Lieutenant, been appointed to the Commission of the Peace for the county of Dorset.

Nursing Emergencies at Maidstone.—Now that the attention of the charitable public has been directed to the wants of Maidstone we may hope that the terrible distress which the epidemic of typhoid fever is causing there will be in some degree mitigated. The loyal co-operation of all the inhabitants of the stricken town in their efforts to help the sufferers is beyond all praise, and they are now being well supported by money from outside. Typhoid fever is a malady which is full of emergencies, and the very fact that the charity and monetary help which are now being dispensed are considerable in amount involves the necessity for organisation, for certain formalities, and thus for a certain amount of delay in obtaining things which may be absolutely necessary at the moment. A sudden necessity will arise for a change of linen when none is to be had without obtaining a signature to an order. Urgent symptoms may arise requiring extra crockery, thermometers may be broken and require to be replaced immediately, and water pillows or macintosh sheeting may be wanted so urgently that to obtain an order may take away half the benefit of the gift. Under these circumstances, someone with absolute power, someone who knows all the nurses, and is able without asking anybody's leave to give out of hand the thing that is required, is an enormous assistance. There can be no doubt that in this way the Nurses' Stores which has been established in Maidstone is doing a large amount of good, for by its means the nurses are able in emergencies to obtain many things at once and without question which are immediately necessary in the management of the sick. The ladies who manage these stores have been entrusted with certain moneys absolutely, and have used them to the best of their ability in providing for the emergencies which must arise in the nursing of a disease which of all others is most full of urgent and sudden complications; and amid the stream of charity flowing to Maidstone a little may usefully be turned into the already exhausted coffers of the Nurses' Stores. Contributions of clothing and money will be thankfully received by Miss Gethen, the Nurses' Stores, Maidstone.

MEDICAL VACANCIES.

The following vacancies are announced:

BIRMINGHAM GENERAL HOSPITAL.—Assistant House-Surgeon. Appointment for six months. No salary, but residence, board, and washing provided.—Surgical Casualty Officer. Appointment for one year, but eligible for re-election. Salary, £50 per annum (non-resident). Applications to Howard J. Collins, House-Governor, by October 30th.

BRADFORD EYE AND EAR HOSPITAL.—Surgeon. Applications to the Chairman of the Committee of Management by November 1st.

BRIDGE OF WEIR: CONSUMPTION HOSPITAL AND ORPHAN HOMES OF SCOTLAND.—Resident Medical Officer; knowledge of Bacteriology. Salary, £80 per annum, with furnished apartments, board, etc. Applications to the Honorary Secretary, D. Hill Jack, 194, St. Vincent Street, Glasgow, by November 15th.

BRIDGWATER INFIRMARY.—House-Surgeon. Salary, £80 per annum, with board and residence. Applications to Mr. John Coombs, Honorary Secretary, Bridgwater Infirmary, Bridgwater, by October 28th.

BRIGHTON THROAT AND EAR HOSPITAL, 23, Queen's Road, Brighton.—Non-resident House-Surgeon. Salary at the rate of £52 per annum. Applications to the Secretary by October 30th.

CALCUTTA, CORPORATION OF, Bengal, India.—Health Officer for the Town of Calcutta. Salary not less than Rs.1,200, and not more than Rs.1,500, a month. Also reasonable horse allowance for outdoor inspection, not exceeding Rs.100 a month. Must be a duly qualified practitioner, and hold diploma in Public Health from the University of Cambridge or similar qualifications. Applications to W. R. Macdonald, Secretary to the Corporation, to be received in Calcutta by November 10th.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Assistant Surgeon. Applications to the Secretary.

CHELTENHAM GENERAL HOSPITAL.—Resident Surgeon for the Branch Dispensary; unmarried, or, if married, without family. Salary, £180 per annum, with partly furnished house, coal and gas. Applications to the Honorary Secretary and Treasurer, General Hospital, Cheltenham, by October 30th.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY, Chesterfield.—Resident Junior House-Surgeon and Dispenser. Salary, £50 per annum, with board, apartments, and laundress. Applications to the Secretary the Hospital by November 4th.

CHESTER GENERAL INFIRMARY.—Visiting Surgeon, doubly qualifi Appointment for six months. Salary at the rate of £90 per annu with residence and maintenance in the house. Applications to t Chairman of the Board of Management, Secretary's Office, 29, Ea gate Row North, Chester, by October 25th.

CHORLEY DISPENSARY AND COTTAGE HOSPITAL.—House-Surgeo doubly qualified. Commencing salary, £80 per annum, with boa and lodging. Applications to the Rev. Thomas Lund, Honora Secretary, by October 30th.

DEPTFORD MEDICAL MISSION.—Medical Officer and Superintende Applications to the Rev. F. A. Pring, M.R.C.S., St. Luke's Cle House, Deptford, S.E.

DEVON AND EXETER HOSPITAL, Exeter.—House-Surgeon, doul qualified. Salary, £120 per annum, increasing £10 per year till rises to £150, with board and lodging. Applications to Albert Boyce, Secretary, by October 25th.

DONCASTER GENERAL INFIRMARY AND DISPENSARY.—Ind Dispenser and Assistant to the House-Surgeon. No salary, but boa lodging, and washing provided. Applications to the Honorary Sec tary, the Infirmary, Doncaster, by November 6th.

DUNDEE COMBINATION POORHOUSES.—Resident Medical Offic Salary, £80 per annum, with board and furnished apartments. App cations to James Kyd, Clerk to the Council, Parish Council Chambe Dundee, by November 11th.

DURHAM COUNTY ASYLUM.—Pathologist and Assistant Medi Officer. Salary to commence at £150 per annum. Applications Dr. Smith, Durham County Asylum, Winterton, Ferryhill, October 27th.

KENT AND CANTERBURY HOSPITAL, Canterbury.—Assistant Hou Surgeon, unmarried. Salary, £50 a year, with board and lodgi Applications to the Secretary by October 29th.

KING'S COLLEGE, London.—Sambrook Surgical Registrar. Applicatio from King's College students only, to Walter Smith, Secretary, November 1st.

LIVERPOOL DISPENSARIES.—Assistant Surgeon; unmarried. Sala £80 for the first year and £90 per annum afterwards, with apartmen board, and attendance. Applications to R. R. Greene, Secretary, Moorfields, Liverpool, by October 26th.

LIVERPOOL STANLEY HOSPITAL.—Junior House-Surgeon. Sala £70 per annum, with board, residence, and washing. Applicati to the Chairman, Medical Board, by October 29th.

NEW HOSPITAL FOR WOMEN, 144, Euston Road, N.W.—Three fem Clinical Assistants, must be qualified. Applications to the Secret by October 27th.

NEW SOUTH WALES, LINNEAN SOCIETY OF, Sydney.—Macl Bacteriologist. Salary, £400 per annum. Full particulars to be tained of Messrs. Dulau and Co., 37, Soho Square, London, W. Ap cations to the Council of the Society by mail not later than Novem 12th.

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Ha hill, Stoke-upon-Trent.—Assistant House-Surgeon. Appointment six months. Board, apartments, and washing provided; no sala Applications to Ralph Hordley, Secretary, by October 25th.

NORTH-WEST LONDON HOSPITAL, Kentish Town Road.—Resid Medical Officer and Assistant Resident Medical Officer. Appo ments for six months, but junior officer is eligible for election senior. Salary at the rate of £50 per annum is attached to the sen post. Applications to Alfred Craske, Secretary, by October 30th.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields.—Ho Surgeon. Applications to the Secretary by November 3rd.

ROYAL PORTSMOUTH HOSPITAL.—Assistant House-Surgeon. pointment for six months, and renewable for a further period of months. Board and residence provided, and an honorarium £15 15s. Applications to J. A. Byerley, Secretary, by October 28th.

RYDE: ROYAL ISLE OF WIGHT INFIRMARY AND COUNTY H PITAL.—House-Surgeon, doubly qualified. Will be required to ac Secretary to the Institution. Salary, £60 per annum, with boa lodging, and washing. Applications to F. H. Blatchford, Secret by November 2nd.

ST. GEORGE'S UNION.—Second Assistant Medical Officer at the firmary, Fulham Road, S.W. Appointment for one year. Sal £50, with board, residence, and washing. Duties may be learnt personal application to Dr. H. W. Webster at the Infirmary.

ST. GEORGE'S AND ST. JAMES'S DISPENSARY, 60, King Street, Re Street, W.—Surgeon; must be F. or M.R.C.S.Eng., but must not p tise midwifery or pharmacy. Applications to the Secretary by tober 25th.

ST. THOMAS'S HOSPITAL.—Physician; must be M.R.C.P.Lond. Ap cations to Mr. E. M. Hardy, Treasurer's Clerk, by October 30th.

SHREWSBURY: COUNTY ASYLUM.—Junior Assistant Medical Offic not over 27 years of age. Salary to commence at £100 per annum £8 in lieu of beer, etc.), with board, lodging, and washing, risin £120 at the end of two years' service. Appointment for four ye but eligible for re-election. Applications to the Medical Supe tendent of the Asylum by October 23rd.

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House-Surge Salary, £100 a year, with board, lodging, and washing. Applicati to Henry Bonner, Secretary, by November 16th.

SYDNEY, UNIVERSITY OF, N.S.W., Australia.—Demonstrator of P siology. Salary, £350. Passage money allowed. £60. Application the Acting Agent-General for New South Wales, Westminster Chamb 9, Victoria Street, Westminster, by October 31st.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Assistant P sician; must be F. or M.R.C.P.Lond. Applications to R. J. Gill Secretary-Superintendent, by November 3rd.

WIGAN: ROYAL ALBERT EDWARD INFIRMARY AND DISPENSARY.—Junior House-Surgeon. Salary, £80 per year, with apartments and rations, exclusive of wines, spirits, and washing. Must be doubly qualified. Appointment for one year. Applications to Will Taberner, General Superintendent and Secretary, by October 27th.

WREXHAM INFIRMARY AND DISPENSARY,—House-Surgeon. Salary, £80 per annum, with furnished rooms, board, gas, coal, and attendance. Applications, which must be made on forms to be obtained from the Secretary, to Mr. George Wheelhouse, Secretary, 27, Regent Street, Wrexham, by October 30th.

MEDICAL APPOINTMENTS.

BERKELEY, Comyns, M.B., B.C.Cantab., M.R.C.P., M.R.C.S., appointed Out-patient Physician to the Chelsea Hospital for Women.

CROWTHER, Thomas, M.D, M.R.C.S., L.S.A., reappointed Medical Officer of Health to the Midgley Urban District Council.

DIXON, Dr. T., appointed Medical Officer of Health to the Earsdon Urban District Council.

GARDINER, H. Bellamy, M.R.C S.Eng., L.R.C.P.Lond., appointed Assistant Anæsthetist to Charing Cross Hospital, and Anæsthetist to the Male Lock Hospital.

HAMILTON, William R., L.R C.P., L.R.C.S.I., appointed Medical Officer to the Workhouse of the Edenderry Union.

HANCOCK, G. C., L.R.C.P.Lond., M.R.C.S., appointed Assistant Medical Officer to the Port of London Sanitary Authority.

HARRIS, Dr. F., appointed Medical Officer of Health for the Borough of St. Helens, *vice* J. Robertson, M.D., resigned.

HOPE, George, L.R.C.P., M.R.C.S., L.S.A., D.P.H., appointed Medical Officer of Health for the Hanwell Urban District Council, *vice* Dr. R. G. Burton, resigned.

KENYON, G. A., M.B.Lond., L.R.C.P., M.R.C.S., appointed Medical Officer of Health to the Malpas Rural District, *vice* W. N. Thursfield, M.D. Edin., resigned.

LECHE, Arthur V., L.R.C.P.Edin., M.R.C.S.Eng., appointed Medical Officer of Health to the Axbridge Rural District Council.

MARTIN, F., M.R.C.S., L.R.C.P., appointed Medical Officer of Health for the Borough of Brighouse, *vice* M. Young, M.B., C.M.Edin., resigned.

PAGET, C. E., M.R.C.S.Eng., L.R.C.P.Lond., D.P.H.Eng., appointed County Medical Officer of Health for Northampton.

POTTER, E. Furniss, M.D.Brux., M.R.C.S., L.R.C.P., appointed Assistant Surgeon to the London Throat Hospital.

STOTT, Hugh, L.R.C.P.Lond., M.R C.S.Eng., appointed Medical Officer of Health to the Seaford Urban District Council.

SWINDALE, John Aston, M.B., B.S.Durh., appointed Assistant House-Surgeon to the Guest Hospital, Dudley, Worcestershire, *vice* H. A. Belbin, resigned.

WAGGETT, Ernest, M.B., appointed Assistant Surgeon to the London Throat Hospital.

WIGIN, G. W., M.R.C.S.Eng., L.S.A., appointed Medical Officer of Health to the Methley Urban District Council.

WRIGHT, William Henry, L R.C.P.I., M.R.C.S.Eng., reappointed Medical Officer of Health to the Alvaston Urban District Council.

DIARY FOR NEXT WEEK.

MONDAY.

LONDON POST-GRADUATE COURSE, London Throat Hospital, 204, Great Portland Street, W., 8 P.M.—Dr. George Stoker: Chronic Glandular Disease of the Nose and Naso-pharynx.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8 30 P.M.—Dr. T. Churton (Leeds): Some Observations on the Localising Factors in Rheumatism and Chorea, with cases.

TUESDAY.

LONDON POST-GRADUATE COURSE, Bethlem Royal Hospital for Lunatics, 2 P.M.—Dr. Craig: Stupor, Katatonia, Dementia, and Senile Insanity. Hospital for Diseases of the Skin, Blackfriars, 4.30 P.M.—Dr. Abraham: Alopecia.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 20, Hanover Square, W., 8.30 P.M.—Dr. Sidney Phillips: A case of Calcareous Metamorphosis of Tracheal Glands; formation of Mediastinal Abscess and Bronchial Fistula; subsequent perforation of the arch of the aorta, with long-continued hæmoptysis and death. Dr. George Thin: A further contribution towards the Pathology of the Pernicious Malarial Fevers of Sierra Leone and our knowledge of the Parasite with which they are associated. Demonstration at 8 P.M. of Microscopic Specimens, showing the Infection of the Capillaries of the Brain, and illustrating the pathological changes in the Liver which are caused by the *débris* of the parasites.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W., 4.30 P.M.—Dr. Harry Campbell: Cases of Hemiplegia.

WEDNESDAY.

LONDON POST-GRADUATE COURSE, Parkes Museum, 74A, Margaret Street, W., 4.30 P.M.—Professor Wynter Blyth: House Drainage, etc.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W., 4 P.M.—Dr. Symes Thompson: Phthisis in relation to Life Assurance.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Dr. Ormerod: Clinical Lecture.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND, 20, Hanover Square, W., 4.30 P.M.—Council meeting. 5 P.M.—Cases and papers.

WEST LONDON POST-GRADUATE COURSE, West London Hospital, W., 5 P.M.—Dr. Drummond Robinson: Metrorrhagia.

EVELINA HOSPITAL, Southwark Bridge Road, S.E., 4.30 P.M.—Dr. George Carpenter: On Infant Feeding. Post-Graduate Course.

HUNTERIAN SOCIETY, London Institution, Finsbury Circus, 8.30 P.M.—Clinical evening: Dr. Cotman: Disease of the Ankle. Dr. F. J. Smith: Osteitis Deformans. Sir H. Beevor: Congenital Heart Disease. Mr. A. H. Tubby: Cases. Patients will be shown by Dr. J. H. Sequeira and others.

THURSDAY.

LONDON POST-GRADUATE COURSE, Central London Sick Asylum, 5.30 P.M.—Mr. Jonathan Hutchinson, F.R.S.: Clinical Lecture.

NEUROLOGICAL SOCIETY OF LONDON, 11, Chandos Street, W., 8.30 P.M.—Pathological Meeting: Dr. Sanger Brown and Dr. Adolf Meyer: Morbid Anatomy in a case of Hereditary Ataxy of the type described by Sanger Brown. (Communicated by Dr. J. A. Ormerod.) Dr. Samuel Gee and Dr. H. H. Tooth: A case of Hæmorrhage in the region of the pons Varolii almost entirely on the right side. Dr. W. A. Turner: Symmetrical Softening of the Pyramids and Interolivary Strata. Dr. F. E. Batten: The Effect of Marchi's Fluid on Nervous Tissue which has undergone *post-mortem* change. Dr. James Taylor and Mr. C. A. Ballance: A case of Tumour of the right Lateral Lobe of the Cerebellum. Dr. Risien Russell: Contributions to the Study of some of the Tracts in the Spinal Cord.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C. 4 P.M.—Dr. Batten: Muscular Atrophy.

FRIDAY.

LONDON POST-GRADUATE COURSE, Bacteriological Laboratory, King's College, W.C., 3 to 5 P.M.—Professor Crookshank: Anthrax and Malignant Œdema.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION, 11, Chandos Street, W., 3.15 P.M.—Exhibition of Throat and Nose Cases by Dr. Pegler, Mr. Wilkin, the President, and others. Papers: Dr. Tresilian: Throat Lesions in Enteric Fever. Dr. Pegler: Post-septal Lymphoma (with microscopical preparations). Presidential Address: Some Lines of Progress in Laryngology, Rhinology, and Otology. Exhibition of Ear Cases by the President, etc. Mr. F. Marsh: Notes of Five Cases of Cerebral Abscess due to Ear Disease. Mr. Mayo Collier: Nasal Stenosis and Tinnitus. Mr. Wyatt Wingrave: Tuberculous Disease of Middle Ear complicated by Optic Neuritis. Mr. St. George Reid: Traumatic Rupture of Tympanic Membrane.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

ABRAM.—On October 12th, at 106, London Road, Reading, the wife of G. Stewart Abram, M.B.Cantab., M.R.C.S.Eng., of a daughter.

COUPER.—On October 18th, at South Shore, Blackpool, the wife of Sinclair Couper, M.B., C.M.Aberd., of a son.

HILL.—On September 3rd, at Pak-hoi, South China, the wife of Leopold G. Hill, M.R.C.S., L.R.C.P., Church Missionary Society, of a son.

MARRIAGES.

MUSGRAVE—PRENTIS.—On October 16th, at All Saints, Kensington Park, Cecil Musgrave, M.D., of Cromer, elder surviving son of the late Colonel Walter Musgrave, formerly of the Cape Mounted Rifles, H. M.'s 81st Regiment, also of the 15th Bengal Lancers, and the 5th Bengal Cavalry, to Ethel Combe, only daughter of the late Surgeon-Major Charles Prentis, B.M.S., and of Mrs. C. Prentis, 29, Colville Terrace, W.

PEAKE—JAMES.—On October 14th, at the Parish Church, Hendon, by the Rev. C. Hose, William Harland Peake, M.D., B.S., of Marden, Kent, to Etheline, youngest daughter of the late Robert James, Esq., and Mrs. James, of Hendon, Middlesex.

SPACKMAN—NEWTON.—On October 12th, at St. Saviour's, Paddington, by the Rev. Marshall Tweddell, M.A., vicar, Coniston Spackman, M.R.C.S., L.R.C.P., of Gloucester House, Faringdon, Berkshire, to Ada, third daughter of Frederick Newton, of 9, Warrington Crescent, Warwick Road.

STANFORD—PRINCE.—On October 7th, at St. Peter's Church, Ealing, by the Rev. Canon Blagden, uncle of the bride, assisted by the Rev. W. Bedell Stanford and the Rev. E. B. Prince, W. Bedell Stanford, M.R.C.S., L.R.C.P., to Lucy Gertrude, second daughter of the late T. T. Prince, of Laurel Lodge, Barnet, and of Mrs. Prince, Cornwall House, Ealing. New Zealand papers please copy.

DEATHS.

BARRY.—On October 12th, suddenly, at the Grand Hotel, Birmingham, aged 46, Frederick William Barry, D.Sc., F.R.S.E, of Trowmers, Down, Kent, Chief Medical Inspector of the Local Government Board, London.

FOSTER.—On October 5th, at 58, Horton Lane, Bradford, aged 69, John Foster, M.D., F.R.C.S.Eng.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

Cancer, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

Central London Ophthalmic. *Attendances.*—Daily, 1. *Operations.*—Daily.

Central London Throat, Nose, and Ear.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

Charing Cross. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

Chelsea Hospital for Women. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

City Orthopædic. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

East London Hospital for Children. *Operations.*—F., 2.

Great Northern Central. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

Guy's. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

Hospital for Women, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

King's College. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 12.

London. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric. M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

London Temperance. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

Metropolitan. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

Middlesex. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

National Orthopædic. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

New Hospital for Women. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

North-West London. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

Royal Eye, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

Royal Free. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

Royal London Ophthalmic. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

Royal Orthopædic. *Attendances.*—Daily, 1. *Operations* —M., 2.

Royal Westminster Ophthalmic. *Attendances.*—Daily, 1. *Operations.*—Daily.

St. Bartholomew's. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

St. George's. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

St. Mark's. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

St. Mary's. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30: Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

St. Peter's. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

St. Thomas's. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

Samaritan Free for Women and Children. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

Throat, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

University College. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

West London. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

Westminster. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M. Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

Communications for the Current Week's Journal should reach the Office not Later than Midday Post on Wednesday. Telegrams can be Received on Thursday Morning.

Communications respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the Journal, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

Authors desiring reprints of their articles published in the British Medical Journal are requested to communicate beforehand with the Manager, 429, Strand, W.C.

Correspondents who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

Correspondents not answered are requested to look to the Notices to Correspondents of the following week.

Manuscripts forwarded to the office of this Journal cannot under any Circumstances be Returned.

In order to avoid delay, it is particularly requested that all letters on the editorial business of the Journal be addressed to the Editor at the Office of the Journal, and not to his private house.

Public Health Departments.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

QUERIES.

G.H. would be glad to know what is the best method of treatment in cases of redundant hair growth on the upper lip and chin in young women.

Spero desires to hear of a district where a retired invalid member could without much difficulty rent a cottage, with stable, etc., and attached paddock, in a bracing climate. If within a mile or two of a good market town in England preferred. Rent not to exceed £18 to £20.

A. T. has a patient with incipient phthisis, and it is decided that he should winter in the South of England. Could he be informed as to the most suitable locality for such a case (aged 30), whether he should live in a boarding house, and if there is any special line of treatment he ought to follow besides a medicinal one?

Mr. C. C. Weeks (Pinchbeck, Lincolnshire) asks if any reader can lend him Harris's American (second edition) of Playfair's *Midwifery*, or refer him to a library where it can be seen.

*** The fifth American edition from the seventh English is in the Library of the British Medical Association.

Enquirer wishes information as to the laws under which chemists and druggists dispense medicines in Scotland, with special reference to the penalties to which "prescribing chemists" render themselves liable by dispensing signed prescriptions to others than those for whom they were ordered, by prescribing for trivial ailments—headaches, insomnia, hæmorrhoids, etc.—by dressing wounds, and by extracting teeth under cocaine.

*** We are informed that there are no legal penalties under the Scottish law except in the case of poisonous drugs. The person, of course, runs the risk of civil action.

Is Acquired Deafness Hereditary?

A Member of the B.M.A. would be much obliged for the opinion of any member on the following case: Would a young lady who is very deaf, and whose deafness was acquired after birth, and is not hereditary, in the event of marrying be likely to have deaf children?

Education of Deaf Child.

M.D. wishes to know what should be done with a girl, aged 5½ years, who lost her hearing about six months ago through post-scarlatinal suppuration of both ears. She can read and write words of one and two syllables, but her speech is beginning to be impaired. Expense would be an object to her parents.

Treatment of Psoriasis.

Cutis asks for suggestions as to the treatment of a case of chronic simple psoriasis in a girl, aged 18. Arsenic in large doses internally and tarry preparations externally seem to be of little service. Latterly there has been some improvement under Donovan's solution internally, and pin. sylvestris externally, but the progress is very slow and unsatisfactory.

Monthly Nurses.

Fleam writes that a patient of his has made a mistake of a fortnight or three weeks in the probable date of her confinement, and has engaged an obstetric nurse later than it is now expected she will be required. He asks what compensation, if any, should be paid to the nurse.

*** The custom is, we believe, to give the nurse half the fee agreed upon.

Proposed New Club.

W. B. writes to say that he has been asked to start a private club by a member of one of a medical neighbour's clubs, who states that their doctor is disliked by nearly all the members. If he were to start such a club, most of the members would probably be recruited from his neighbour's club. Would such conduct on his part be a breach of professional etiquette?

*** To start a private club under such circumstances would be very unneighbourly.

Microscopes.

M.R.C.S. writes: What is the best moderate-priced English microscope to give to a young student? One that will be of use to him afterwards in his work as a general practitioner. Price, £8 to £12.

*** "M.R.C.S." cannot do better than get a good firm stand by a well known maker—one that can be added to as occasion demands. Messrs R. and J. Beck, of Cornhill, supply in their biological microscope all that is necessary at a moderate price. The Edinburgh Students' Microscope as made by Messrs. Watson is also a reliable instrument. It should be obtained with the English form of foot. We should advise "M.R.C.S." to get Leitz's lenses; a No. 3 and No. 7 will be ample. A 1/12th oil immersion can be added when required for bacteriological work.

Death Certificates for Insurance Companies.

Quid Pro Quo wishes to be informed what is the usual fee charged for filling in death certificates for life insurances. In the present case all connected are in good circumstances, and the life offices well-known ones.

*** We understand that the usual fee for filling in death certificates for life assurance is one guinea. Most offices have a stipulation that death certificates must be supplied free of cost to the office, hence it is to the representatives of the deceased that application for the fee should be made.

ANSWERS.

Dr. W. A. Wannan (Arbroath) writes, in reply to "M. T." (British Medical Journal, October 9th, 1897, p. 1039), to suggest the use of the

ollowing in the case of the patient whose hair has always been thin and veak, and is now falling out: ℞ Pilocarpinæ nit. gr. ½; ol. amygdal. mar. c. acid. miij; lanolin ad ʒj. Misce. Or: ℞ pilocarpinæ nit. r. j; glycerini ʒss; aq. ad ʒviij. Misce. Fiat lotio. Apply a little f either of the above every other night, which will make the hair grow n. I would recommend a little white rum, with or without a drop of il of lavender, to be applied to the head twice a week, which strengthens he hair and prevents it from falling out.

. Mackenzie.—The lying-in hospitals nearly all train monthly nurses. he Midwives Institute (12, Buckingham Street, Strand, W.C.) also supplies information as to direct training for monthly nurses.

Closet Accommodation for Factories.

e Honorary Secretaries of the Incorporated Society of Medical Officers of Health (197, High Holborn, W.C.), write, in eply to "Certifying Factory Surgeon and Medical Officer of Health," hat "a discussion on 'The Standard of Sanitary Conveniences for Factories and Workshops' will take place at the November meeting of he Society. The discussion will be opened by Dr. Sykes, M.O.H. for St. Pancras."

Exalgine.

. T. W. Sproulle (Eastthorpe Grove, Mirfield) writes, in answer to 'D. M.'s" query in the British Medical Journal of October 2nd, with eference to the bad effects produced by the use of exalgine, he has prescribed exalgine largely during the last few years, generally in 1½-grain loses, and at first he had many cases in which the first dose produced npleasant symptoms, such as faintness and vertigo, sometimes severe, nd in one case, a man of neurotic tendency, it caused a severe epileptiform fit, immediately after taking the first dose of 1¼ grain; but, on ontinuing the mixture in this case as in all others, he had no further npleasant symptoms. He now always orders half a dose to be taken rst, followed by another half dose in half an hour, then to continue ith the full dose every two or three hours according to the severity of he case; and since he commenced this line of treatment he has never ad any unpleasant symptoms arising from its use. Of course, the ½-grain dose is for an ordinarily strong adult.

Estimation of Fat in Milk.

otus is probably thinking of one of the many "centrifugal" methods of stimating fat. Of these, perhaps the Leffmann-Beam process is the implest and most often used. The procedure is as follows: 15 c.cm. of ilk are run into a special form of bottle (capable of being whirled in a achine), and 3 c.cm. of a mixture of fusel oil and hydrochloric acid are dded, and the bottle carefully shaken; 9 c.cm. of strong sulphuric cid are then added. The milk will turn brown or purple, and the fat egin to separate. More sulphuric acid is then added to bring the contents of the bottle up to the zero mark. The bottle is now placed in the rame of a special centrifugal machine, and rapidly whirled. After being centrifugalised, the amount of fat which has been forced to the top s read off. For this process, which is very accurate and easily manipulated, a whirling or centrifugal arrangement, together with the necesary graduated bottles and chemicals, will be required. The apparatus an be obtained from any of the large chemical apparatus dealers, or rom the Dairy Outfit Co., King's Cross. (*Analysis of Milk.* Pearmain and loor. London: Baillière, Tindall and Cox. 1897).

The Examination for F.R.C.S.Eng.

sticus.—The examinations required before election to the Fellowship f the Royal College of Surgeons of England are: (1) The Primary in natomy, Histology, and Physiology. Both subjects must be passed at he same time. The standard is high, and though the candidate is not equired to dissect or to perform any physiological manipulations, he s required to give evidence of his ability to do so. Questions in elementary comparative anatomy and elementary comparative physiology re liable to be asked. We are advised that works of Quain and acalister should be read as anatomical textbooks; those of Foster, tewart, and Halliburton for physiology and physiological chemistry; nd that a person of rather more than average intelligence in an easy ountry practice should be able to pass the examination if he has been horoughly grounded in the dissecting room and physiological laboratory when he was a student. The Second Examination in Surgery, athology, and Operative Surgery is a very fair and not unduly difficult xamination. The surgery and surgical pathology are easily attainable rom the works of Erichsen, Treves, Keen and White, or other textooks. The operative surgery, the clinical examination, and the surical anatomy require at least a month's residence in some large teachng centre. Both examinations may be passed consecutively.

NOTES, LETTERS, Etc.

ratum.—In our account of the excursion after the annual meeting at ontreal to Ottawa it should have been stated that the toast of "The ayor and Corporation of Ottawa" was proposed by Dr. Henry Barnes, he retiring President of the Association. The name was erroneously rinted in the article in question.

The Stopping of Running Bicycles.

are informed that the method suggested by our correspondent was use ten years ago when safety bicycles were first invented, and that was then found both difficult and dangerous.

School Disinfection: "Scarlatinal Puerperal Fever."

. A. J. Newell (Cymmer, Glamorgan), writes: In connection ith the subject of the prevention of infectious diseases, I may tate the following facts: From May 19th, 1897, up to August 7th there ere 28 cases of scarlet fever in this district. The school was closed for ix weeks and reopened on August 9th, during which period 10 cases ccurred. From August 10th to August 26th there were 19 cases, all mongst school children, thus proving to me that the school was the eat of infection. I found out to my surprise that the school had not een disinfected before being reopened, and on my writing to the Glyncorrwg Urban District Council to have the whole school thoroughly washed with carbolic and disinfected, they very wisely consented to follow out the proposal. The whole flooring of the school was washed out with carbolic, as also the floors, etc., of the closets adjoining, and all benches and desks were likewise treated. That evening all the schoolrooms were disinfected with sulphur till 6 o'clock next morning, when the windows and doors were opened; thus the Sunday was spent in airing the school. This was done on August 28th, and though 7 cases have arisen since that date up to the present, and of these 7 cases 5 are easily explained as to their origin; and as regards the 2 doubtful, the probabilities are against the school having had much to do with their origin. I thus think that the disinfection of schools could often replace closure; at any rate, it must go far to lessen the period of closure.

In extension of this subject I might say that I agree with Dr. Malcolmson (Middlesbrough) and Dr. Mickle (New Zealand) when they say that the dangers of attending obstetric cases after visiting scarlet fever cases have been greatly exaggerated, and in support of this might give the following case: On July 3rd last I was called to see a child who I found was suffering from scarlet fever. The child was fairly bad, and the mother, who I could see was near her confinement, slept with the child. On July 7th I was surprised to find that the mother was confined the evening before in the same bed, and found her with her scarlet fever child on the right side, and the newborn babe on the left. She was attended by a midwife, whom I prohibited from attending other cases till six weeks were over. All progressed favourably, and up to this date neither the mother nor the newborn babe have had scarlet fever infection. I have also had to attend a midwifery case with a case of measles in the same bed. It would be interesting to know in these cases of puerperal fever supposed to be due to scarlatinal contagion, how many vaginal examinations were made, and what aseptic precautions were used? In a colliery practice where one medical man resides, and none near for three or more miles, it would be criminal to my mind for a medical man to refuse to go to an obstetric case (especially if it turns out to be abnormal like one I was called to lately) simply because he had for some short time previous attended a scarlet fever case. To my mind the so-called puerperal fever (more properly termed, I think, maternal septicæmia) is only due either to imperfect aseptic and antiseptic precautions previous to vaginal examination or to an excessively septic vagina.

The Water Supply of Hastings.

Mr. Ben. F. Meadows (Town Clerk Hastings) writes: In view of the importance at the present time of the question of water supply, especially for health resorts, I am requested by the Water Committee of the Council for the Borough of Hastings (which includes St. Leonards-on-Sea) to state that samples of the water supplied to the whole of the Borough have just been submitted to the eminent analyst, Dr. Dupré, who reports that the waters are of very high organic purity, and show no signs of pollution by sewage or surface drainage, and that they are in every respect admirably adapted for a town's supply, both as drinking water and for general domestic use.

The Alleged Heredity of Consumption.

Dr. C. R. Drysdale (Consulting Physician to the Metropolitan Hospital of London) writes: I was much interested in an editorial note on the above subject contained in the British Medical Journal of September 25th (p. 831). In 1865 Dr. Villemin, the discoverer of the contagiousness of phthisis, strongly protested against the view that consumption was truly a hereditary disease. In the case of syphilis, a child was as syphilitic at birth as it ever would be. It did not gradually develop syphilis in after-years; whilst congenital tuberculosis is all but unknown. Infants become tuberculous long after birth, and the disease may not arise for five, ten, twenty, thirty, or even sixty years after birth. If it were hereditary, he urged, what has become of the disease all that time? The only thing that can be contended for is that there is a greater aptitude in children of consumptive parents to contract the disease; but that aptitude could never engender the disease unless another agent were present. The belief in the heredity of consumption has greatly impeded the prevention of the disease, because it has led to fatalism and resigned acquiescence in the "inevitable."

Statistics are opposed to the popular belief in the heredity of consumption. Louis said that only one-tenth of the cases he had noted had a hereditary taint. Rilliet and Barthez gave the figure of one in seven; and other observers have differed from each other in a notable manner; and, said Villemin, as 160,000 deaths in France were in 1865 caused by consumption, it is not surprising that any given patient should have some consumptive relative. He added that the troops in Paris were terribly attacked by this disease, although these men rarely had any hereditary history of the malady.

The cohabitation and similar surroundings of patients with their relatives must be taken into account, and many of us know cases where mothers have died of consumption, whilst their children have yet attained to old age if comfortably settled in life. In Paris, in 1890, of 56,660 total deaths, 11,093 were due to phthisis—that is, nearly one-fifth of all deaths in Paris are caused by that pest. That death-rate was about 500 per 100,000 inhabitants annually, whilst in London last year the figure was only about 170 per 100,000 inhabitants. Again, in certain comfortable quarters of London and Paris (Hampstead and Champs Elysées) the death-rate from consumption is about 100 in 100,000 inhabitants; whilst in poor districts (St. Luke and Plaisance, Lagneau) the figure rises to 300, and even 1,000, per 100,000 inhabitants. About 60 per cent. of the healthy young Catholic nursing sisters of Berlin succumb to that terrible contagion (Cornet), and the mortality among waiters in cafés in Brussels and poor Italian students is similar to that.

These statistics should prove to all who have not made up their minds that crowding into the slums of cities, and the consequent spread of contagion, is infinitely the most important factor in causing phthisis. And, as we can do little or nothing to prevent hereditary disease, whilst consumption, like syphilis, is far more preventable than measles or scarlet fever, we ought, I submit, to imitate New York in making phthisis

a notifiable disease, which will enable patients attacked to easily prevent the infection of their near relatives and their own reinfection by simply destroying their sputum. Whether or not the disease be hereditary is of little importance. It is contagious, and that is all-important, because it is therefore preventable.

PUBLIC AND PRIVATE VACCINATION.

A PUBLIC VACCINATOR writes: There is a matter which it seems should receive the attention of the General Medical Council. I refer to the most unfair working of the Vaccination Act. Public vaccinators, in the instructions issued by the Local Government Board, are strictly directed "when vaccinating to make not fewer than four insertions," and, of course, their work is periodically inspected, while it is a notorious fact that there are men in the profession who do not hesitate to make three, two, or even one insertion only, according to the caprice of the parents, as I am constantly asked whether I will not vaccinate "in one or two places only as Dr. —— does," and on my refusal the child is taken elsewhere.

Surely it is high time that anyone who is authorised to give a certificate of successful vaccination should be bound to conform to the Local Government order; and if also proved to be guilty of such conduct should be censured by the General Medical Council, for not only is the public vaccinator mulcted of his fees for doing his duty, but the vaccination must be in many cases inefficient, and hence calculated to bring it into greater disrepute.

*** Our correspondent will see that the subject engaged the attention of the Vaccination Commission, and that a reference to their recommendations was made in the BRITISH MEDICAL JOURNAL of December 12th, 1896, p. 1729.

BERI-BERI AND THE SEAMEN'S HOSPITAL REGISTER.

DR. JOHN CURNOW (Senior Physician to the Dreadnought Seamen's Hospital) writes: In Dr. Manson's address at St. George's Hospital, as reported in the BRITISH MEDICAL JOURNAL of October 9th, are the following paragraphs: "The cases (beri-beri) are often brought to the Seamen's Hospital. They come on written medical recommendation, and are sent as cases of heart disease, kidney disease, and almost anything but beri-beri.....Anasarca, rheumatism, pericarditis and fits, dyspnœa, cardiac disease, debility, asthma and anasarca, Bright's disease, locomotor ataxy, myelitis, tachycardia, apoplexy, paraplegia, progressive muscular atrophy, and of course hysteria. I transcribe these diagnoses from the admission register."

The obvious inference from these paragraphs is that they refer to cases admitted at the Seamen's Hospital. This is assumed by the writer of your editorial article in the same number, and many members of the profession have spoken to me with the same idea. They are not taken from the registers of this hospital, and Dr. Manson is not a member of its staff.

*** We understand that the Seamen's Hospital Society have two hospitals—the one is the Dreadnought Seamen's Hospital at Greenwich, the other the Branch Seamen's Hospital at the Royal Victoria and Albert Docks, on the other side of the river. Dr. Curnow is one of the physicians to the former, while Dr. Manson is physician to the latter.

PREVALENCE OF FOWL ENTERITIS IN IRELAND.

SANITATION is no less necessary in the poultry yard than in the city—that is to say, if poultry keeping is to be made a profitable occupation. The disease known as fowl enteritis is now prevalent in certain parts of Ireland, notably in the Dublin and Wicklow Mountains, and has caused much havoc in Meath, Louth, and Kildare. It is an acute infectious disease, the course and symptoms of which are regarded by Klein to be distinct from fowl cholera. Diarrhœa is the most urgent symptom, and death occurs in from one to two days. Instructions for stamping out the disease have lately been issued by the Congested Districts Board. The disease is in all probability waterborne, and thus in its own way serves to teach, although not decisively and with such dire results as its congener typhoid, the primary importance of a pure water supply.

LETTERS, COMMUNICATIONS, ETC., have been received from:

(**A**) Mr. R. B. Anderson, London; C. A. Anderson, M.B., Burnley; Dr. McC. Anderson, Glasgow; Mr. H. E. Allen, London; Professor T. C. Allbutt, Cambridge; C. J. H. Aitken, M.B., Edinburgh; Dr. F. J. Allan, London; A. T.; Aberdeen, Banff, and Kincardine Branch, The Secretary of the, Aberdeen. (**B**) Mr. W. Boyd, Grenada; British Gynæcological Society, The Secretary of the, London; R. D. Booth, M.B., Cape Colony; Mr. A. S. Barling, Lancaster; Mr. J. Barber, Rochester; Mr. H. J. Berkley, Baltimore; Dr. J. B. Brierley, Manchester; Mr. H. Bateman, York; Blondeau et Cie, London; Mr. Blackett, London; Dr. H. Bramwell, Cheltenham; E. Bailey, M.B., Oban; Messrs. Alfred Bishop and Son, London; Dr. R. M. Bucke, London, Ontario; Dr. C. Beale, London; Dr. J. W. Ballantyne, Edinburgh. (**C**) Dr. W. Collingridge, London; Dr. H. Cane, Belvedere; Professor W. H. Corfield, London; Mr. J. S. Clarke, Ealing; G. W. Crowe, M.B., Worcester; Mr. J. D. Costine, London; Mr. R. H. Cox, Shanghai; Miss J. Crosfield, London; Dr. A. Cadell, Kimberley; J. Carslaw, M.B., Glasgow; Miss Cazenove, Betchworth; Dr. J. S. Cameron, Leeds; Mr. J. Clark, Doncaster; Dr. J. Curnow, London. (**D**) Mr. J. W. Davies, Ebbw Vale; R. A. Dove, M.B., Brigg; Dermatological Society of London, The Secretary of the, London; F. A. Davis Company, Philadelphia; Dr. A. Daurier, Paris; Dr. C. R. Drysdale, London. (**E**) Mr. O. Eckstein, London; Enquirer W. McA. Eccles, M.B., London. (**F**) W. E. St. L. Finny, M.B., Kingston Hill; Dr J. Farquhar, Marlborough; Major Lamroc Flower, London; Mr. G. M. Foy, Dublin; Mr. W. B. Fuller, London. (**G**) R. J. Godlee, M.B., London; Dr. J. F. Goodhart, London; Dr. A. W. Gilchrist, Nice; Mr. R. Gibson, Edinburgh; Mr. H. B. Gardner, London; Dr. J. G. Glover, London; G. H.; F. Godfrey, M.B., Scarborough. (**H**) Mr. G. C. Hancock, Gravesend; Dr. F. de H. Hall, London; Mr. F. R. Humphreys, London; Mr. J. Hunter, Macclesfield; Dr. G. Herschell, London; Mr. S. G. Harrison, Sheffield; Dr. de la Harpe, Bex; Mr. J. W. Harris, Cranbrook; Mr. R. H. Hodgson, London; Howard Association, The Secretary of the, London; Dr. J. P. Henry, London; Dr. J. B. Haycraft, Cardiff; Mr. W. F. Haslam, Birmingham; Dr. De Vere Hunt, Cardiff; Mr. G. Hope, London. (**I**) Incorporated Society of Medical Officers of Health, The Secretary of the, London; Ignotus. (**J**) Mr. H. H. Jennings, London; Dr. W. R. Jefferiss, Chatham; Mr. A. C. Jones, Davos Platz; Dr. R. Jardine, Glasgow; J. C.; Dr. Lewis Jones, London. (**K**) Dr. T. N. Kelynack, Manchester; A Kerryman. (**L**) Dr. J. C. Leach, Sturminster Newton; Dr. F. Little, London; Dr. W. G. V. Lush, Weymouth; L. P.; Mr. H. F. Lawrence, London; Dr. C. J. Lewis, Stirling. (**M**) Medical Society of London, The Secretary of the, London; Mr. B. F. Meadows, Hastings; Dr. C. Munro, Paisley; Messrs. Oscar Mœnich and Co., London; Mr. E. Merck, Darmstadt; Mr. E. W. Marshall, Mitcham; Dr. J. W. Moore, Dublin; Mr. A. D. Milne, Fyvie; Dr. V. A. Moore, Ithaca; M.B.; C. Martin, M.B., Edgbaston; Dr. P. H. Mules, Gresford by Wrexham; Dr. H. Monteagle, Manchester; Dr. H. J. Macevoy, London; Mr. F. P. Munday, London; Mr. C. R. N. Mackie, Collumpton; Dr. C. R. Marshall, Cambridge; M.D.; Member B.M.A. (**N**) Mr. P. Newell, Crowborough. (**O**) Obstetrical Society of London, The Secretary of the, London; Dr. I. Owen, London; Mr. E. O'Connor, Gorey. (**P**) Public Vaccinator; Messrs. Palmer and Co., London; Mr. D'Arcy Power, London; Pathological Society, The Secretary of the, London; Dr. E. F. Potter, London; Provincial Member; E. Phillips, M.B., Coventry. (**Q**) Quæro. (**R**) Rusticus; Mr. W. K. Rix, Burley-in-Wharfedale; J. S. Riddell, M.B., Aberdeen; A. C. Robertson, M.B., Musselburgh; Dr. J. S. R. Russell, London. (**S**) Mr. H. Stuart, London; Dr. J. O. Symes, Clifton; L. E. Shore, M.B., Cambridge; Mr. W. D. Spanton, Hanley; Mr. T. W. Sproule, Mirfield; Mr. A. L. Saunders, King's Lynn; Spero; Mr. W. D. Severn, London; S. H.; Dr. Savill, London; Dr. J. F. J. Sykes, London; Mr. F. Spicer, London; Mr. S. B. Siddall, Northam, Devon. (**T**) E. Trevithick, M.B., Cheltenham; Mr. H. G. Turner, Manchester. (**W**) Mr. F. F. White, Coventry; Mr. F. Wilson, London; A. H. Walker, M.B., Cranleigh; Mr. W. A. Wannan, Arbroath; Dr. A. H. Watkins, Kimberley, Cape Colony; Messrs. W. W. White and Son, Glasgow; Dr. E. F. Willoughby, London; Mr. S. R. Wills, London; Mr. D. F. Williams, Liverpool; E. Waggett, M.B., London; Mr. F. C. Wood, Ripley; Dr. S. West, London; etc.

BOOKS, ETC., RECEIVED.

Fevers and Infectious Diseases, their Nursing and Practical Management. By W. Harding, M.D., M.R.C.P. London: Scientific Press. 1897. 1s.

A Manual of Hygiene. By J. Glaister, M.D., D.P.H. London: The Scientific Press. 1897. 3s. 6d.

The Practitioner's Handbook of Treatment: or the Principles of Therapeutics. By J. M. Fothergill, M.D., M.R.C.P. Fourth edition, edited and in great part rewritten by William Murrell, M.D., F.R.C.P. London: Macmillan and Co. 1897. 15s.

Perityphlitis and its Varieties: their Pathology, Clinical Manifestations, and Treatment. By Frederick Treves, F.R.C.S. London: Macmillan and Co. 1897. 2s. 6d.

Masters of Medicine: John Hunter, Man of Science and Surgeon (1728-1793). By Stephen Paget. London: T. Fisher Unwin. 1897. 3s. 6d.

The Ritual of Health for the Grown. By H. Cooper Pattin. Third edition. London: Jarrold and Sons. 1897. 1s.

Die Stricturen der Harnröhre. Von Dr. H. Wossidlo. Leipzig: C. G. Neumann. M.2.

*** In forwarding books the publishers are requested to state the selling prices.

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SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF MEDICINE.

Stephen Mackenzie, M.D., President.

INTRODUCTION TO A DISCUSSION ON THE RELATION OF RHEUMATOID ARTHRITIS TO DISEASES OF THE NERVOUS SYSTEM, TUBERCULOSIS, AND RHEUMATISM.

By James Stewart, M.D.,
Professor of Medicine and Clinical Medicine, McGill University; Physician to the Royal Victoria Hospital, Montreal.

Rheumatism in its acute and subacute arthritic and general manifestations is a very common disease in this country; while rheumatoid arthritis is comparatively rare. I have been unable to collect any evidence as to its comparative frequency in Canada and the United States, and it is doubtful whether our more rigorous Canadian climate especially predisposes to it or not. It is well known that both in the United States and Canada gouty arthritis is extremely rare. Of the few cases that I have met with, the great majority were in people who had previously lived in England, and who had suffered before coming to this country, or had a very strong gouty predisposition.

Owing to the kindness of many of my fellow practitioners in this city and the surrounding country, I have had an opportunity of studying during the past three and a-half years in the wards of the Royal Victoria Hospital upwards of 40 cases of rheumatoid arthritis. An analysis of these cases is the chief foundation for the remarks that follow:

The number is small as compared with the experience of many physicians in England and the Continent of Europe, but as far as I know it is the largest number that has been reported on from any one hospital on this continent.

Of the 40 cases, 20 were males and 20 females. Usually the proportion between males and females is about 5 to 1.

There was a family history of some form of rheumatic affection in 8 cases, of tuberculosis in 5, and of a neuropathic tendency in 4 cases. Unfortunately, little stress for useful medical work can be laid on the family history obtained from hospital patients. Even well-to-do and educated people often give, although unconsciously, misleading information on such matters.

As to the exciting causes of rheumatoid arthritis the following were noted. There was a history of gonorrhœa in more than 30 per cent. of all cases occurring in males, and in 3 of the male cases there was a history of two or more attacks of gonorrhœa. In the female patients, however, there was, with the exception of one case, an entire absence of symptoms pointing to a past genito-urinary disturbance. For a long time it has been taught that there is an intimate connection between uterine disease and rheumatoid arthritis. In fact, a very ingenious theory as to the nature of the disease has been built upon this alleged connection. But, next to gonorrhœa, exposure to cold was considered as the most likely exciting cause. It appeared to be the sole or chief cause in 5 of the 40 cases, which may account for the fact that in Canada the disease is rather frequently met with in lumbermen. The next most frequent cause was worry. It was said to have been present in 4 cases. In all 4 cases the worry was of an unusually severe and prolonged character. In 3 cases alcoholism was at least a predisposing factor. Three patients had had subcutaneous abscesses, 2 had double otitis media, 2 influenza, and 2 tonsillitis. Typhoid fever, whooping-cough, and diphtheria were each in 1 case considered as being the chief cause.

In several cases two or more of the above-mentioned causes were present, while in about 15 per cent. no cause could be ascertained. It will be noticed that in fully 50 per cent. of the cases the patient had previously some infectious trouble, the most frequent being gonorrhœa, but in only 2 of the gonorrhœal cases was there a history pointing to gonorrhœal rheumatism. In both cases the gonorrhœal arthritis was confined to a single joint, but there afterwards developed a polyarticular rheumatoid arthritis. It appears as if the infection of one joint predisposed to a general joint affection. It is worthy of note that 3 patients had recently had subcutaneous abscesses and 2 had double otitis media.

I will now take up the consideration of the more immediate object of this paper, namely, a discussion of the relations existing between nervous disease, tuberculosis, rheumatism, and rheumatoid arthritis.

I.—The Relation between Rheumatoid Arthritis and Nervous Disease.

The peculiar joint affection met with in cases of tabes dorsalis, first fully described by Charcot, presents many features both clinical and anatomical similar to those of rheumatoid arthritis. It was, I believe, Remak who first, in 1863, drew attention to this striking resemblance, and who suggested the possible spinal origin of rheumatoid arthritis. Much has been written lately on the similarity. In the great majority of standard medical works of the present day the favourite theory for the explanation of the disease is that it is brought about by changes in the spinal cord. But when the whole subject is carefully considered, it is difficult to understand why such a view has become so popular. It certainly has no sufficient groundwork to entitle it to be generally accepted as a full and true explanation of the nature of rheumatoid arthritis. The reasons usually advanced for adopting the nervous origin of rheumatoid arthritis are these:

1. The fact that in certain diseases of the spinal cord—as tabes, syringomyelia, progressive muscular atrophy—joint changes of a somewhat similar character are met with.

2. The very frequent early and pronounced muscular atrophy observed in cases of rheumatoid arthritis.

3. The history frequently obtained of causes having a marked effect in lowering the resisting power of the central nervous system to disease.

4. The frequent onset of rheumatoid arthritis with symptoms of a nervous character, symptoms pointing to a central or peripheral nerve disturbance, and there can be no question that in a certain proportion of cases about the first symptoms complained of are tingling and numbness in the extremities. In 10 out of my 40 cases such an onset was described, and simultaneously with this perverted sensory disturbance, or soon subsequent to it, stiffness of the joints supervened.

First, the neuropathic arthropathies. In a number of well-recognised lesions of the central nervous system marked joint changes are occasionally met with. They are probably more frequently seen in syringomyelia than in tabes dorsalis. They are rare in progressive muscular atrophy, hemiplegia, and ataxic paraplegia.

The joint changes in tabes may take the form of atrophy or hypertrophy of the structures entering into its formation, or there may be atrophy of some parts and hypertrophy of others. Usually the onset is very sudden and painless, and a characteristic feature is sudden distension of one of the larger joints, the knee generally, from fluid effused in the synovial sac. This effusion may disappear after a time without permanently damaging the functions of the joint. More frequently signs of disorganisation become apparent. The cartilage is destroyed. The heads of the bones waste and sometimes bony overgrowths spring from the ends, and they are also met with in the periarticular structures.

Occasionally the limb becomes enormously enlarged from the excessive growth of bone, and as soon as the changes in the bones set in there is no tendency to repair. Clinically there is little or no difference between the joint affections of tabes and syringomyelia. Anatomically they also correspond. In a few cases of tabes the joints have been opened early in the disease, and in several cases of syringomyelia, where surgical interference was considered

necessary early in the disease, good opportunities were presented of ascertaining the exact changes present in the joint before the destructive process had made much progress. The cartilage is found to be more or less destroyed and covered here and there with polypoid growths. In several cases the ends of the bones were diseased, there being usually a considerable increase in the cortical substance and a wasting of the spongy structure. The capsule is found greatly expanded from the accumulation of the polypoid growths, which vary very much in size, the smaller ones being soft and vascular and the larger ones hard in consistence and containing but little blood. Bony plates are also to be met with on the internal surface of the capsule. The above intracapsular changes are precisely like those met with in cases of rheumatoid arthritis that have been operated on early in this disease. There has been for some time a difference of opinion as to the structures first involved in rheumatoid arthritis, some contending that it first shows itself in the cartilage, while others think that it arises primarily in the synovial membrane. Early changes, however, are met with in both structures, which are indistinguishable from those seen in syringomyelia and in tabes. In nervous arthropathies effusion into the joints is more common and reaches a greater degree than it does in rheumatoid arthritis. The destructive process reaches a greater degree and runs a much more rapid course in the former than it does in the latter. The clinical difference between the two is much greater than the anatomical. Rheumatoid arthritis is attended by great pain, while the nervous arthropathies usually run a painless course. The limbs in the latter can be bent in all directions without causing any pain, the extreme flexibility of the joints being due to the stretching of the ligaments and other structures by the copious effusion into the joint.

Two different views are at present held as to the nature of the nervous arthropathies, one being that they are brought on by interference with the function of the so-called trophic centres for the joints in the spinal cord. It is claimed that the degenerative process in tabes and syringomyelia involves such parts in the spinal cord. The other view, and one that is steadily gaining ground, is that owing to the lessened or disturbed sensation so frequently met with in both tabes and syringomyelia, traumatic influences have much to do with setting up the inflammatory action, and according to this view it is not necessary to assume the presence in the cord of centres having a trophic influence over the joints, the destruction of which brings about the changes. In the great majority of cases of both tabetic and syringomyelic arthritis, a history of a fall or injury is obtainable. There is nothing special in the joint changes that could not be explained by an inflammatory action excited by an injury. The clinical difference is accounted for by the sensory disturbance in the joints, and all things considered, it appears more consistent with observed fact to explain the arthritis on the assumption of an injury than that it is brought about by the involvement of certain definite parts of the spinal cord.

The question of the cause and nature of the joint changes in tabes, syringomyelia, etc., is still a matter of doubt. It is unwise to speak too positively on this matter. There is, however, very strong ground for taking the view that the joint changes in rheumatoid arthritis are not due to disease of the spinal cord. Should such changes be brought about in that way, it is hardly conceivable that they should not present evidence of not only microscopic, but macroscopic changes in the spinal cord. In several cases the spinal cord has been examined in rheumatoid arthritis after death, and no abnormal appearances have been discovered. Folli in 2 cases saw some wasting of the cells of the anterior cornua, but elsewhere nothing. Changes in the peripheral nerves have also been met with in a few cases, but neither the slight changes described by Folli nor the nerve changes are constant, and, therefore, cannot be considered as sufficient causes of the joint changes in rheumatoid arthritis.

It is difficult to explain the marked and comparatively early atrophy of the muscles that occurs in rheumatoid arthritis. It does not correspond clinically to that met with in anterior poliomyelitis, for we do not meet with any marked reaction of degeneration. The electric reaction is often normal, and is rarely more than slightly lowered. The view commonly held at present is that the wasting is brought about in a reflex manner. This theory receives support from the experiment of Ramond that division of the posterior spinal roots prevents wasting from taking place in joint disease. It must be remembered that atrophy of the muscles takes place in all forms of chronic arthritis, and even in subacute cases; syphilitic and tuberculous and haemophylic arthritis are frequently attended by atrophy. No matter what the cause is then, it must be due in the first place to some change in the joint, and not to any supposed changes in the spinal cord. It is in the first place an arthritic affection.

The fact that causes that are well known to bring about a lowered resisting power of the nervous system are often prominent in rheumatoid arthritis does not directly prove the involvement of the nervous system. Such causes act as well on the general nutrition as on the joints.

The not infrequent perverted sensory disturbance preceding the onset of rheumatoid arthritis has been advanced as tending to prove the nervous origin of the disease. I have never been able to ascertain that there was an objective disturbance of sensation in rheumatoid arthritis. No matter how extreme the muscular atrophy, it is not attended with any loss of sensation. Subjective disturbance of sensation is a frequent symptom of many general conditions, due generally to autointoxication from the intestinal canal, and its frequent presence in rheumatoid arthritis does not, as far as I can judge, lend much support to the neuropathic origin of this disease. On the whole, it must be considered that the evidence pointing to a nervous origin of rheumatoid arthritis is very meagre.

II.—The Relation of Rheumatoid Arthritis to Tuberculosis.

Pulmonary and other forms of tuberculosis appear to be more frequent in the families of sufferers from rheumatoid arthritis than in other non-tuberculous diseases. In the series of 40 reported cases such a history was only obtained in 3 cases, a proportion not greater than, if as great as, in people in good health. Fuller, in a report on 119 cases of rheumatoid arthritis, found a history of phthisis in 23 cases. Charcot and several other observers have found tuberculosis of the lungs and lymphatic glands not infrequent antecedents in their experience. A few cases have been published in which both diseases were apparently present at the same time, one joint being tuberculous while others resembled the joint lesions of rheumatoid arthritis.

There is, however, nothing in common between the two diseases, although in some respects there is a similarity between them. Tuberculosis is an infectious disease, prone to attack those who have an inherited predisposition to it. There is every reason to believe that rheumatoid arthritis is also of an infectious nature, nor is there any doubt that there is an inheritance of what we call an arthritic diathesis—that is, an inheritance which involves a tendency to inflammation of joints and fibrous structures. Indirectly a tuberculous tendency may, by lowering the resistance, tend to bring about a rheumatoid arthritis, and it is only in this sense, as I understand it, that there is a connection between the two diseases.

III.—The Relation of Rheumatoid Arthritis to Acute, Subacute, and Chronic Rheumatism.

Is rheumatoid arthritis a frequent or an occasional continuation or result of an attack of acute, subacute, or chronic rheumatism? This question is constantly being forced on every physician who sees much of this disease. In a very considerable proportion of all cases a history of acute or subacute rheumatism is forthcoming, but the vagueness with which the word rheumatism is generally employed renders the clinical history of such cases far from exact. Making a certain allowance for this, there can be no question that a certain, even a very considerable, number of cases that are indistinguishable in the beginning from acute rheumatism develop afterwards—it may be gradually or more or less suddenly—into rheumatoid arthritis. In 4 of my 40 cases of rheumatoid arthritis there was a very clear history of acute rheumatism. In 2 of the 4 cases there were found the physical signs of organic disease of the heart.

In thirteen cases, the onset resembled that of an ordinary

subacute rheumatism, pain and swelling of the joints being the first and only prominent features of the early stage. The rule in such cases being that after lasting a few days the intensity of the symptoms subside, but only for a short time. Repeated attacks occur, till finally we have a fully established case of rheumatoid arthritis. In 12 cases the onset was very slow, with stiffness and swelling of one or more joints, coming and going till finally the condition was one of undoubted rheumatoid arthritis. In the great majority of the cases of chronic onset a ceotain time passed before the characteristic changes of rheumatoid arthritis were developed.

It will be observed that in a very large proportion of the cases the beginnings of the disease were the same as in ordinary rheumatism. In at least 30 per cent. the onset was either that of acute or subacute rheumatism—the unavoidable inference being that a very intimate connection exists between rheumatoid arthritis and acute and subacute rheumatism. How is it that the great majority of cases of both acute and subacute rheumatism recover perfectly, and that a few cases do not, but eventually go on to destructive changes in the joints? It is a well recognised fact that irrespective of the cardiac changes neither acute or subacute rheumatism are followed by any permanent damage of the structures involved.

There is no recognised well marked dividing line between chronic rheumatism and rheumatoid arthritis.

We meet with all possible grades of difference from slight paroxysmal pain and stiffness of one or more joints, up to cases in which nearly all the joints of the body are practically useless from destruction of their tissues and the formation of new bony tissue. We characterise the cases at one end of this scale as chronic rheumatism, and at the other end as rheumatoid arthritis. But the naming of the cases that we meet in the borderland between these two extremes is a difficult matter. One and the same case may be called by competent observers chronic rheumatism or rheumatoid arthritis. This goes to show that there is nothing distinctive about the clinical features of these cases. It is only in marked types of rheumatoid arthritis that a diagnosis is easily made, and accepted universally.

In Germany and France it is the custom to call cases chronic rheumatism which in England would be called rheumatoid arthritis. There are no anatomical differences between borderland cases of chronic rheumatism and rheumatoid arthritis. In both we find distension of the capsule from polypoid growths and the accumulation of serum.

There are grounds for hoping that the bacteriological examination of the joints may help to clear up the difficulties surrounding the nature of chronic rheumatism and rheumatoid arthritis.

As yet, we have no absolute proof of acute rheumatism being due to a micro-organism; there are strong reasons, however, for believing that such is the case. Riva, of Parma, in a recent paper has made a very important contribution tendfng to prove the infectious nature of this disease. Until comparatively recently there was no evidence pointing to the microbic origin of rheumatoid arthritis, but from the bacteriological researches of Schüller of Berlin, of Bannatyne and Blaxall, and of Chauffard and Ramond, it is highly probable that we have here to do with an infectious disease. The acute and subacute polyarticular forms of rheumatoid arthritis haveall the clinical characters of aninfection. Schüller, who has practised arthrectomy in many cases of rheumatoid arthritis, has examined the tissues for micro-organisms, and has constantly found a small bacillus present, and occasionally an agglommeration of micrococci. He has also made cultures from the fluid in the joints removed by tapping. He found bacilli develop on various media. The best stain is carbolised fuchsin. Inoculation into a knee of the rabbit produced an arthritis resembling that of chronic rheumatism, but without any changes in the cartilages or bones.

Chauffard and Ramond have found, on examining the synovial fluid in cases of rheumatoid arthritis, a diplobacillus. They also found the same organism in the swollen lymphatic glands in the neighbourhood of the diseased joints, but did not succeed in cultivating the bacillus.

Much work must yet be done in the bacteriology of this disease before a true estimate can be made of the value of the researches referred to. In some points they are all lacking in the extreme care that such work demands, and before they can be accepted the work must be repeated by different observers.

Professor Bäumler, of Freiburg, the most recent writer on this subject, considers that it is highly probable that the disease is of an infectious nature. At the recent meeting in Berlin of the Congress for Internal Medicine he read a very able paper on the subject.

I will conclude with the following summary of the chief points in this discussion.

1. Rheumatoid arthritis is a disease prone to occur in people of a rheumatic tendency, and who have suffered from subacute rheumatic attacks. The presence of infectious disease of any kind tends to increase this tendency, as does also the operation of all causes having a depressing influence on the resisting power of the nervous system (worry, exposure to cold, and traumatism).

2. There is no sharp dividing line between certain cases of chronic rheumatism and the earlier stages of rheumatoid arthritis.

3. There is not sufficient evidence to support the views commonly held as to the nervous origin of rheumatoid arthritis.

4. There is no direct relationship between tuberculosis and rheumatoid arthritis.

5. The polyarticular forms of rheumatoid arthritis have clinically the features of an infectious disease.

6. The result of recent investigations point very strongly to its infectious nature.

I have only few words to say on the treatment of the disease, especially on the treatment by superheated air baths.

It is universally recognised that the medicinal treatment is very unsatisfactory. Whether surgical interference will ever become practically applicable is difficult to say. There appears to be a field for surgery in these cases. Schüller, of Berlin, and other German surgeons, have published results which certainly tend to make one think that much may be accomplished in this way. Something also may be accomplished by the injection into the diseased joints of various antiseptic agents. Reports by Schüller and others on this way of dealing with the disease are more or less satisfactory.

At the present time the most universally applicable and successful method of dealing with early rheumatoid arthritis is by means of baths of various kinds.

The Scotch douche is in certain cases a very valuable means. It consists in the direct application of an alternating stream of hot and cold water. It promotes the absorption of the exudations in the joint, and it also relieves pain.

Dry baths are, however, generally more effective than moist ones. The dry sand bath has for a long time been used with more or less success. But in my opinion the most valuable of all methods of treatment is the use of baths of superheated dry air, after the Tallerman method. It has been used in 20 cases of rheumatoid arthritis in the Royal Victoria Hospital during the past nine months with gratifying results.

The apparatus consists of a copper cylinder, of various shapes and sizes. The model usually employed is sufficiently long to admit a lower limb to some inches above the knee. By means of valve taps the moisture from the limb is expelled, so that the air in the chamber is kept dry. The temperature in the chamber is kept usually from 240° to 300°. The first marked effect is copious perspiration all over the body. The pulse is increased from 15 to 30 beats, and the temperature is usually elevated from 1° to 2°.

In all we have treated 20 cases with the hot air bath. In 14 of the 20 cases pain in the affected joints was present and of a severe character. In the great majority of the cases the relief was marked even after the first bath, and after several baths the patient, except on movement, was practically free from pain. As a result of this relief, sleep, which usually before was greatly disturbed, was possible. In addition there was some apparent change for the better in nutrition. In spite of losing daily more than a pound in weight from the loss of fluid by perspiration, the patient usually steadily gains in weight. Gains of from three to four pounds weekly have been common. As regards the effect on the affected joint it is various, depending on the amount of effusion and the degree of ankylosis.

Generally a considerable increase in the mobility follows after the use of a few baths.

It cannot be expected that restitution can take place in advanced cases, but before much actual destruction takes place, there is every reason to look for a decided check to the progressive character of the disease.

Dr. SHINGLETON SMITH (Bristol) questioned whether the term rheumatism should ever be used in connection with this disease, and he preferred the term rheumatoid arthritis to that now advocated in Germany by Dr. Bäumler, chronic polyarticular rheumatism. He believed that the ordinary theories of the disease failed to give a satisfactory explanation of its phenomena, that it had no connection with tubercle, syphilis, or nerve disease, and that probably it had little connection with ordinary acute and chronic rheumatism. One fact mentioned by Dr. Stewart, that 30 per cent. of the male cases had a history of gonorrhœa, gave a clue to a more satisfactory view of the nature of the malady; it had been abundantly shown that gonorrhœal rheumatism was due to infection from the urethra, and was a form of pyæmic infection due to the gonococcus. Was it not probable that rheumatoid arthritis was also due to some microbic infection, and that the coccus described by Drs. Bannatyne and Wohlman, of Bath, and cultivated by Dr. Blaxall, might be the real cause of the polyarthritis in its early stages, whereas the subsequent phenomena were only the sequelæ of the arthritis itself? This theory gave a more hopeful view of the possibility of a more successful treatment before the incurable deformities and other sequelæ had occurred.

Dr. LINDSAY (Belfast) would base his remarks on twelve or thirteen years of hospital practice in Belfast, where the disease was frequent. He had seen nothing to justify the theory of any special connection between rheumatoid arthritis and tuberculosis. He had been much struck with the nervous symptoms present in rheumatoid arthritis, especially the atrophy of muscles. He was inclined to suspect that these symptoms were due to changes in the peripheral nerves, possibly due to some toxic influence. He thought there was a real and frequent connection between rheumatoid arthritis and chronic articular rheumatism. He had seen many cases where the former had supervened upon the latter, and had seen other cases in which he found it quite impossible to draw the line between the two diseases. He thought the two conditions presented considerable analogy as regards their etiology. As regards treatment, he had not found much advantage from the ordinary antirheumatic remedies. He thought cod-liver oil and a general tonic line of treatment offered the greatest prospect of benefit.

Dr. A. JACOBI (New York) said: In his very concise and comprehensive paper Dr. Stewart has omitted one thing—namely, to tell us what he meant or we are to mean by arthritis deformans or rheumatoid arthritis. We have been told about boundary lines and gradual transitions, but I have been unable to learn his opinion of the pathological anatomy. One thing is certain: it is not acute articular rheumatism and not a sequela of it. The latter is an affection (anatomically speaking) of the synovial membranes, never of the cartilage. Arthritis deformans is an affection (again anatomically speaking) of the cartilage, which while at first exhibiting proliferation, terminates in atrophy and absolute loss, and finally in circular hypertrophy and eburnation round the atrophic cartilage. From gout it differs by the absence of uratic deposits. I cannot tell what arthritis deformans is; the presence of cocci in a few cases does not prove the latter to be the cause. May be that in the future it will be best to study the cases of arthritis deformans in childhood, where it may be expected to be primary and uncomplicated. Two such cases in girls of 10 and of 6 years were published here in Montreal by Dr. Nichols; one was published by H. Koplik (girl of 7). In none was there acute rheumatism or any rheumatism previously. As far as the latter is concerned, we should not use the term except in acute rheumatism. The best treatment in his hands had been arsenic in increasing doses, continued months and months with occasional interruptions, and the galvanic current.

Dr. J. C. WILSON said: The use of the term rheumatism is a stumbling block in the way of our knowledge of diseases of the joints. It should be restricted to the disease known as acute rheumatism, or better as rheumatic fever. Such a restriction would clear the way for a better understanding of the medical arthropathies. There are various forms of joint diseases, very different in their clinical manifestations, which must be regarded as arthritis deformans. Many cases in their early course progress by successive attacks resembling subacute rheumatic fever. These cases suggest a resemblance to that disease which is only superficial, but lend support to the view that the disease may be of microbic origin.

Dr. FREDERICK C. SHATTUCK (Boston) said: I rise with some diffidence, having unfortunately been prevented from hearing Dr. Stewart, but venture to touch briefly on several points. In the first place, I cordially concur in the opinion which seems to be generally held that our ignorance with regard to this disease is lamentable. Pathologically and therapeutically alike it is one of the opprobria of medicine. Since the appearance of the observations of Smith and Lindsay, Dr. J. E. Goldthwaite, of Boston, has been carefully studying the fluid obtained from joints affected with arthritis deformans where such could be had. Thus far he has not confirmed Smith and Lindsay's observations, having found no organisms of any kind. Some eight years ago my attention was forcibly arrested by an article in the *American Journal of the Medical Sciences* by Blake. He relates several cases which seem to show conclusively that suppuration, especially if concealed, may have the most intimate relation with arthritic disease, non-rheumatic, similar to arthritis deformans in some respects. One of these cases was that of a clergyman of middle age who became the subject of severe, intractable, advancing arthritic disease. Blake found a nasty condition of things beneath a tooth plate, careful attention to which was followed by complete recovery. Since then I have carefully sought for concealed suppuration in all cases of chronic and obstinate arthritis which have come under my observation. I have failed to find such save in one case—one of advanced and severe arthritis deformans and psoriasis. In this patient I found neglected Riggs's disease. The teeth were thoroughly treated by a competent dentist, and a very sharp acute exacerbation of the arthritis promptly followed. There would seem to be an analogy between Blake's cases and those of gonorrhœal synovitis. I trust that any gentleman whose attention may have been called to this point will speak of it.

Dr. MOORHOUSE said: I believe that there is an intimate relationship between arthritis deformans and ordinary rheumatism, but that the disease has advanced a step farther in attacking the substance of the synovial membranes and cartilages. I am quite in accord with Dr. Lindsay (Belfast) both as to cause and treatment, believing that tonic treatment is the better plan, never having seen any benefit from the ordinary antirheumatic treatment, tonics such as iron, quinine, arsenic, cod liver oil, etc. I do not think that any causative germ has as yet been discovered.

Dr. J. E. GRAHAM (Montreal) said: The diagnosis between gout and chronic rheumatic arthritis has given me the greatest difficulty. This, I suppose, was not referred to by Dr. Stewart because the differentiation between chronic rheumatism and arthritis deformans is quite sufficiently extensive for one discussion. I agree with Dr. Jacobi that we should have a clear idea of the pathology of the disease; the hyperplasia and destruction of cartilage, and the eburnation of the ends of bones are marked characteristics which differentiate this disease from those affections of joints which are usually placed under the head of chronic rheumatism. It is unfortunate that the term "rheumatism" should be given to a number of joint affections arising from causes altogether distinct from those of acute and subacute rheumatism. I have found arsenic one of the most valuable remedies in the treatment of this very obstinate disease.

Dr. GIBNEY (New York) expressed his inability to contribute to the differential diagnosis between arthritis deformans and rheumatism, or even to the etiology and pathology. He had not heard Dr. Stewart's paper, but learning that this paper included a discussion of the treatment by superheated dry air, believed that he might contribute his experience, which was in general terms satisfactory. He had found the hot-air treatment specially valuable immediately after surgical means, such as breaking up adhesions or improving the position of the limb. He called attention to the importance of protecting the joint in exacerbations by absolute immobilisation, and of affording a limited amount of protection on the

subsidence of the exacerbation, especially in the management of the knee, the ankle, and the elbow. This he did by an appliance limiting the range of motion to that allowed by Nature herself. He found valuable assistance in arsenic and cod-liver oil.

Dr. Tyson (Philadelphia) thought the subject thoroughly covered by what had been said. Personally he inclined to the view that in a certain number of cases the true rheumatic condition, or that generally conceded to be it, had at least a predisposing, and possibly through its specific cause a direct causal relation to rheumatoid arthritis. However this might be, he considered that an infectious nature must be conceded in other cases, as attested by the large proportion (30 per cent.) in which there was previous presence of an infectious disease reported by Dr. Stewart. As to treatment, his experience, like that of others, had been most unsatisfactory—no cures, but simply palliation, followed in most cases by relapse. His method of treatment had invariably been by general restorative measures, among which he included especially cod-liver oil, arsenic, the best food, and hygiene. Massage, too, he thought was sometimes an efficient palliative.

The President (Dr. Stephen Mackenzie) commenced by paying a tribute of respect to Dr. Stewart for his very able handling of such a difficult subject as arthritis deformans. He indicated that in his experience arthritis deformans was a disease distinct from rheumatism, acute and chronic, and had nothing whatever to do with gout. He especially drew attention to the cases in which the primary arthritic attack could not be distinguished from rheumatic fever, and recovery took place without any appreciable deformity of the joints, but which subsequently came under observation in an attack of ordinary and undoubted subacute or chronic arthritis deformans. The late Dr. H. G. Sutton drew attention to the association of osteo-arthritis, rheumatism, and insanity in families. He also pointed out that though in a considerable proportion of cases of arthritis deformans there was a history of rheumatic fever, yet in not 1 per cent. of cases of arthritis was heart disease found on *post-mortem* examination. He quite agreed with some previous speakers, especially Dr. J. C. Wilson, that under the term arthritis deformans there was probably a number of groups of cases which would ultimately be separated as clinical entities.

NOTE ON THE USE OF TERMS TO INDICATE MYOCARDIAL CHANGES.

By James Tyson, M.D.,
Philadelphia.

It is doubtless known to most members of the Association that we are indebted to the studies of one of your members, Professor Adami, and his co-worker, Professor Roy, of Cambridge, for a demonstration of the proposition that the hypertrophy which invariably succeeds upon increased work in a well-nourished heart is preceded by a dilatation of the corresponding cardiac cavity. The probability of such dilatation, we are told by Dr. Adami, was suggested by the late Hilton Fagge, but the demonstration, I believe, rests with him and his *confrère*. This dilatation or distension may be due not only to valvular disease, causing either obstruction or insufficiency, but also to the resistance of increased arterial pressure, however caused. It enables the heart to avail itself of two conservative acts, first, that as a hollow sphere increases its circumference, its cubic capacity grows out of all proportion to such increase, and that if such sphere contracts on its contents, its discharge or output is proportionally increased. Applying the fact to a dilated heart whose circumference is 10 inches, a diminution in circumference of 1 inch will produce a reduction of volume or output of 45 cubic inches, while if the circumference were but 5 inches, a reduction of 1 inch would result in an output of only 1.027 cubic inches. The second conservative law which obtains is that the greatest amount of work is done by a muscle, and by the heart as such with a medium load, though with that medium load the muscular fibres contracting do not shorten to the same degree as with a lesser load.

Now such dilatation, or distension, as I prefer to call it, is not associated with any degree of degeneration. It is rendered possible by the extensibility which resides in all normal muscular structure, easily shown by the experiment described by Adami of attaching different weights to the gastrocnemius of the frog. It is therefore a very different thing from the dilatation which succeeds hypertrophy in a heart whose nutrition has commenced to fail, and which is the direct result of fatty metamorphosis of the muscle. The latter is the usual and well-known termination of chronic valvular disease, but may also occur acutely in severe forms of any of the infectious diseases.

The former, or physiological dilatation, precedes and stimulates hypertrophy, producing, first, simple hypertrophy and, later, eccentric hypertrophy, or hypertrophy with dilatation, as it is also called.

It has appeared to me that this discovery necessitates that, at least for the sake of convenience in teaching, pains be taken to distinguish the two conditions, since both enter into the mechanism of the production and termination of hypertrophy, while it is of the greatest importance in teaching that uniformity of nomenclature be observed by all English-speaking teachers. Hence my reason for bringing this seemingly small matter to the attention of the Section. I would suggest, therefore, that the term dilatation be reserved for the pathological change or enlargement of the heart cavity associated with degeneration of its muscular wall. Indeed, I think such change has commonly been in mind when this term has been used.

For the physiological dilatation, either expansion or distension might be employed, but distension appears to me preferable, because it conveys, to me at least, more the idea of a passive state, which is the actual condition, while the word expansion implies an active state. We come at once in this connection to the known dilatation as associated with hypertrophy in defining eccentric hypertrophy, which, as is well known, is spoken of as hypertrophy with dilatation; that is, the walls are overgrown, and the cavity is proportionately enlarged. Yet I believe it is commonly held that such a heart muscle is not at all degenerated. It is simply numerically hyperplastic, and associated with a proportional enlargement of its cavity. Yet this same cavity at a later stage, when nutrition begins to fail, acquires a disproportional enlargement associated with fatty degeneration of its muscle, when it is also know as a dilated heart. It is for this condition that I would retain the term dilatation.

But how shall we designate the heart with simple hyperplastic muscle and cavity correspondingly enlarged? In no other way does it occur to me at present than by hypertrophy with expansion, as contrasted on the one hand with simple hypertrophy where the wall is hyperplastic while the cavity retains its normal size, and on the other with dilatation where the wall is fatty, and although it may be thicker than normal is still relatively thin as compared with the size of its cavity. I would have the term expansion imply not only that there is no structural degeneration, but also that there is an activity in function, while dilatation would imply degeneration and passiveness.

Dr. J. T. Whittaker said: There are many alterations in the action of the heart which may not be explained by anatomical change. Thus the orifices of the valves are not closed merely by the mechanical adaptation of the valves under the action of the blood current, but are adjusted by muscular action so that the circular or oval orifice is changed to a button-hole slit. When the muscle is fatigued or rendered irregular, this muscular action is incompetent, and temporary failures result. The suggestions of the essayist to adapt the nomenclature to the valuable results of modern study constitute a timely contribution to our knowledge, especially as the terms hypertrophy and dilatation are so much misused.

Dr. N. S. Davis, jun. (Chicago) said: Dr. Tyson's paper is extremely interesting. The distinctions which he makes and the nomenclature which he suggests are of much practical importance. There are two expressions which I have been led to use with great frequency in teaching and think are of importance. I refer to the descriptive words "cardiac fatigue" and "exhaustion." These represent the two extremes of cardiac weakness. They do not refer to the anatomical state of the heart, but to the physiological state. Cardiac fatigue describes those cases in which there is short-

ness of breath on exertion or constantly, general feebleness, from cardiac weakness, quickened action of the heart on exertion or constantly, sometimes irregularity. There is no or trifling passive congestion or œdema. The other extreme of cardiac weakness described as cardiac exhaustion is characterised by more or less persistent quickness of heart's action and often irregularity; usually dilatation; constant shortness of breath of varying degree of severity; passive congestion of many tissues and usually œdema. Cardiac fatigue is often curable, cardiac exhaustion can commonly only be relieved. The distinction between fatigue and exhaustion is of much importance from the standpoint of prognosis and therapeutics. I have no doubt these expressions are frequently used by the profession, although they have not to any extent crept into the literature of the subject.

TWO CASES OF HÆMOPHILIA.

By M. Howard Fussell, M.D.,
Philadelphia, U.S.A.

The writer desires simply to report the following cases as two more instances of the curious disease hæmophilia, and, so far as he is able to ascertain, another new bleeder family, neither the children here reported nor the uncle who was a bleeder have been previously reported. The subjects are two brothers, E. and H. C., natives of Camden, N.J., U.S.A., with the following family history. The maternal parents were healthy, with no known tendency to bleeding. Paternal grandfather died of phthisis pulmonalis, at the age of 45, with hæmoptysis. No other bleeding known. Paternal grandmother is still living and healthy. A paternal great-uncle was subject to hæmorrhages, and when young was found dead in bed from hæmorrhage from some unknown point. The father was subject to epistaxis, which was especially marked when young. The mother is a brown-haired, healthy woman of 40, without any tendency to bleed. No hæmorrhages among uncles or aunts. They have one sister, a child two years old, who has never had any tendency to bleed.

Case I.—E. C., 10 years old, white, native of U.S.A. Never been ill except measles, chicken-pox, and whooping-cough. These attacks were very light. When a baby, was cut with a bottle, bleeding a long time. Just before 3 years of age had epistaxis, frequently bleeding without cause. About the same time cut knuckle of right index finger, which bled for one week, hæmorrhage had to be treated by a physician. A small abscess was cut in the forehead, and bled for a long while. At 5 years old, fell, cut forehead on a stone (slight cut) which bled rather profusely, was controlled by a bandage; the next morning was bleeding through the bandage. In a day or two this was sewed up; these stitches ulcerated through. When stitches were put in the blood spurted through the needle holes. It was finally controlled by harelip pins. About 6 years of age had a cut on lip which was controlled by sewing. He had a tooth pulled a week ago (milk tooth) which has continued to bleed ever since.

May 18th. Every time he has an attack of bleeding he has a pain in left ankle. At present there is a clot occupying the seat of first molar, which bleeds very readily on being touched. Weight, 56 lbs.; height, 4 ft. 1½ in. Patient rather pale. The chest somewhat pigeon-shaped, the right costal border more prominent than the left. There is a slight beading of the cartilages. Heart dulness normal; apex beat in normal position. At base of heart first sound rather weak; the second sound is loud; slight murmur with second sound at pulmonary cartilage. Hum in vessels both sides of neck, louder at left. No abnormal dulness over lungs. Breath sounds normal. Splenic dulness from seventh rib to margin. Midway between anterior axillary line and nipple line to a line let fall from the middle of scapula posteriorly. The top of the spleen can be felt just below the ribs; when he takes a long breath can be felt to move beneath the fingers. Teeth: He has second incisors; the cutting edge is irregular. Six-year molars are present, and the left bicuspids, Post-cervical glands are enlarged; inguinal glands are enlarged; epitrochlear and axillary are not. Liver dulness: Upper dulness sixth rib extending to the edge of the rib. The edge cannot be felt below the ribs.

The abdomen is not distended. The superficial vessels are rather prominent over chest. There is a slight bowing of tibia. The right ankle-joint is not especially enlarged, although it is a large joint. The left ankle-joint is larger than right, though the bony prominences are not much enlarged. The knee-joints are normal; wrist-joints are not enlarged; child has bled profusely at times, and been very weak therefrom. Numerous subcutaneous bruises in the legs. Very slight œdema of the skin over both tibiæ. Eyes normal. Was given 5 gr. calcium chloride and 3 gr. Blaud's pill. Scar about 1½ inch long, and showing cross marks from harelip needles, directly over the right eye.

May 25th. A diastolic and also a systolic murmur at pulmonary cartilage and a loud hum in vessels of neck. The tooth stopped bleeding three days after last visit.

June 1st. Drew a tooth yesterday, and it bled very little. Has a better colour. Careful examination of blood by Dr. A. E. Taylor, of the Pepper Clinical Laboratory, shows hæmoglobin 50 per cent.; red corpuscles 4,500,000, white corpuscles 14,000.

July 13th. Bled from nose for three days. This bleeding began after a blow on the nose. He has had fever all last week. Over the second rib on the anterior part of right chest is a large subcutaneous hæmorrhage.

August 2nd. Since last visit had purulent discharge from both ears. To-day he seems to be in excellent condition: hæmoglobin is 40 per cent. There has been no severe bleeding in the past three months.

Case II.—H. C., aged 4 years. Catarrh of bowels when 2 months old; marasmus, no bleeding. When 11 months old fell out of bed and struck his head; head was swollen to a large size ("as large as a water bucket") first on one side and then on the other. He became unconscious in about twelve hours, and remained so for about twenty-four hours. He became rapidly better, but was left with a cystic condition of left side of scalp for three months, which has now entirely disappeared. Had chicken-pox slightly. When about 1 year old he fell and knocked a tooth loose, which bled for one week; then bled from nose from a fall. Has had a continued epistaxis without any cause, which lasts sometimes for twenty-four hours. About two years ago had bleeding from a bruise on head, but the blood came from nose. Then bled from another cut on forehead. During an attack of bleeding from nose had an attack of palpitation of heart, which lasted a few days and disappeared (mother thinks his heart often beats hard). Two years ago cut on forehead, which bled for ten days, and was controlled by "powder," and then finally by harelip needles; bled six hours after needles were used. At present nose is bleeding; pale; post-cervical and inguinal glands are enlarged; right epitrochlear enlarged. Chest good shape, no beading of ribs. Heart sounds: light systolic whiff over body of heart; no murmur. Splenic dulness slightly increased. The anterior axillary extends to eighth rib; posterior axillary to eighth rib. The edge can be felt at edge of ribs. Liver dulness normal. There is a subcutaneous hæmorrhage on the inner aspect of left arm, size of half a dollar and quite hard. Over the legs there were a number of old hæmorrhages subcutaneous, which are still hard. The tibiæ bowed, especially the right. Joints normal. Head large, superficial veins of head enlarged, fontanelles closed, teeth normal. Hair light-brown and quite thin. Abdomen normal. Gastro-intestinal disorders, as a rule. The child has bled so much at times that he has as a result been excessively weak.

May 25th. Double murmur at the pulmonary cartilage. This boy did not take iron, and the hæmoglobin is 40 per cent.

June 1st. Better; no more bleeding.

June 15th. Hæmoglobin 40 per cent. Red corpuscles, 3,450,000; white corpuscles, 15,000. No change in the appearance of the leucocytes.

July 13th. One week ago the nose bled for forty-eight hours; it began during the night. On the extensor surface of the right foot is a large subcutaneous hæmorrhage, otherwise the child is in good condition.

August 2nd. On July 29th had a fall which hurt the right side. On the right side reaching from the axilla to the margin of the ribs, and from the nipple line to the scapula is a large subcutaneous hæmorrhage which extends one inch above the level of the chest. It is of a dark red colour. At the edges it is of a greenish colour It gives a sensation of fluctuation. Temperature 99·5°. Hæmoglobin 40 per cent. Red corpuscles, 3,600,000.

August 16th. The subcutaneous hæmorrhage has entirely disappeared, leaving only a bruised spot. Has had no bleeding since last visit. For past two days has had toothache. Alongside of the last right molar is a clot of blood reaching halfway to the crown of the tooth. Both children have been continuing on 5-gr. doses of chloride of calcium given three times a day, together with 5 gr. Blaud's pill. The mother thinks their tendency to bleed is about the same as before they began treatment. There has been no severe external bleedings, and except for the evident anæmia they both seem to be in good condition. No acute joint lesions have occurred during the observations.

Dr. Allen A. Jones (Buffalo, N.Y.) said: I merely wish to ask Dr. Fussell if any report was made by Dr. Taylor, who examined the blood of his cases, as to the size and shape of the red blood cells; also whether or not there was present an increase of lymphocytes as compared with polymorphous white corpuscles, more especially as the spleen was somewhat enlarged. It would be interesting to determine more definitely the cause of the leucocytosis, as an increase in the number of white cells is so uncommon without inflammatory, infectious, ulcerative, or suppurative affections being present, provided, of course, that we eliminate leukæmia.

ATONY OF THE RECTUM.

By Geo. Acheson, M.A., M.B.Tor.,
Galt, Ontario.

The act of defæcation is partly voluntary, partly involuntary. The voluntary part consists in making pressure on the colon by contraction of the abdominal muscles, and in relaxing the anal sphincter by inhibition of the sphincter centre in the lumbar cord. It is to be noted that the position of the sigmoid flexure prevents it from being affected by any contraction of the abdominal muscles, therefore voluntary efforts alone would never empty it. The involuntary mechanism is somewhat complicated. Peristaltic movements of the colon force the fæces along to the sigmoid flexure, where they are lodged for a time until their accumulation sets up peristaltic waves which drive them on into the rectum and against the sphincter. The presence of fæces in the rectum acts as a stimulus to the sensory fibres distributed to the mucous membrane and muscular coat, by which impulses are conveyed to

the ano-spinal centre in the lumbar region of the cord; from this motor impulses are conducted to the unstriated muscles of the intestine, and stronger peristaltic action is excited in the colon, sigmoid flexure, and rectum, at the same time the sphincter is relaxed by inhibition of its lumbar centre, and then the contents of the rectum are expelled. Under other conditions, however, the whole process may be an entirely involuntary one, and purely reflex. For the proper performance of this function the nervo-muscular mechanism of the rectum and anal sphincters must be intact. Loss of sensibility in the nerve fibres or of tone in the muscle fibres will make normal defæcation impossible, and it is highly important that we should recognise this atonic condition and its appropriate treatment if we would avoid the error of mistaking the effect for the cause, and treating the symptom rather than the pathological condition.

Causation.

Atony of the rectum is commonly spoken of as chronic constipation, or sometimes rectal constipation, but the terms are not at all synonymous. Impaired muscular contractility may be either a cause or an effect of constipation. Constipation means literally a cramming together—that is, an impaction of fæcal matter in any part of the intestine. When from any cause this impaction of fæcal matter takes place in the rectal pouch, the normal nervous sensibility of the rectal mucous membrane and muscular coat is obtunded, resulting in prolonged and progressive distension of its walls. Atony is here the result of constipation. On the other hand, constipation may be the direct result of atony produced by some other cause. A sedentary mode of life and generally relaxed muscular system are predisposing causes of rectal atony. Habitual disregard of natural calls is perhaps the most common cause; for, when the stimulus supplied by the presence of fæces in the rectum is voluntarily disregarded or overcome, after a time the sensory nerves cease to respond, and the result is an accumulation in the organ which distends and paralyses its muscular coat, as already stated. Another very common cause of atony is the continued use and abuse of large enemata of warm or hot water, the effect of which is to soften and relax the muscular fibres, while the bulk unduly distends the rectal walls. Cold water is not so objectionable, cold acting as a tonic, if not too long continued; but the daily use of cold water enemata will also tend to dilate and paralyse the organ. Other causes of rectal atony are gaseous distension, due to fermentation or to the too frequent use of effervescing waters; displaced uterus; pressure of child's head during prolonged labour; and pressure of pelvic tumours.

Symptoms.

The subjective symptoms are a sensation of fulness and weight in the pelvis, with frequent desire but inability to evacuate the bowels; sometimes tenesmus, with passage of blood-streaked mucus, or thin watery matter which has been forced past the scybalous mass in the rectum; sometimes there is no desire to go to stool at all, and when the bowel is emptied there is a feeling of faintness and distress, until it is moderately filled again.

Effects.

The effects produced are both local and general. The absorptive power of the mucous membrane of the large bowel is considerable, and hence there is an auto-intoxication from the absorption of the liquid and gaseous contents of the bowel, and the ptomaines developed there by fermentation or microbic action. This produces depression of the nervous system, headache, migraine, vertigo, hysteria, hypochondriasis, and other sensory and psychical disturbances; also derangements of the stomach and assimilative organs. Defective elimination may cause such diseases as gout and rheumatism, while the mechanical effect of a constantly loaded rectum may be uterine displacement, with its accompanying disturbance of the pelvic circulation, and various reflex neuroses; or it may be irritability of the bladder and prostate, or perhaps ovarian disease. Degenerative changes take place in the walls of the rectum; the functional lesion becomes an organic one; there is atrophy of the muscle fibres, with dilatation and thinning of the wall, and the mucous membrane is thrown into large loose folds, which may prolapse with every attempt at defæcation; and there may be also an intussusception of the upper portion into the more dilated lower portion.

Diagnosis.

The diagnosis of rectal atony is based on the recognition of most of the foregoing signs and symptoms, confirmed by digital exploration which finds the organ distended and filled with fæcal matter. A simple enema will often be retained without desire or ability to expel it.

Treatment.

The first thing in the treatment is to discover, and, if possible, remove the cause, as by correcting a displacement of the uterus, removing a pelvic tumour, etc. Much may be accomplished by a hygienic mode of living, regular habits, attention to diet, using more of the coarser foods (vegetables, fruits, and fats), exercise in the open air, cold bathing, massage, drinking plenty of water (preferably hot) before breakfast, above all, regularity in going to stool at a certain time every day. Purgatives should not be administered as a routine, though an occasional gentle laxative may be of use to stimulate peristalsis. A general nervo-muscular tonic is indicated, such as nux vomica or strychnine, either alone or combined with iron, aloes, belladonna, and ipecacuanha. A pill such as the following will be found very useful: ℞ Aloin., ⅛ gr.; strych. sulph., $\frac{1}{50}$ gr.; ext. belladon., ⅛ gr.; pulv. ipecac., $\frac{1}{100}$ gr.; M. ft. pil. j. Sig. One or two pills night and morning. This, with the use of a small injection of cold water at the time of going to stool, will act as a tonic to the weakened muscles, and excite contraction. A small injection or suppository of glycerine may be substituted for the water.

In more obstinate cases it may be necessary to use more powerful astringent and tonic injections, such as 30 grains of tannin, dissolved in 4 or 5 ounces of cold water, or Brétonneau's injection: ℞ Ext. rhataniæ, ℥ij; sp. vini rect., ℥v.; aq. destil., ℥iv.; M. ft. enema. These injections should be given once a day, and retained if possible a few minutes. In any case medicinal treatment should be gradually diminished, and discontinued as the organ recovers its tone.

In cases in which the distended rectum is filled with indurated fæcal matter it will sometimes be necessary to empty it by mechanical means. The sphincters must be dilated, under an anæsthetic if necessary, and the fingers and rectal curette or scoop used to break up the impacted mass, and remove it piecemeal, after which the cavity should be washed out by an astringent enema.

A CASE OF OSTEOMALACIA.

By Henry M. Lyman, A.M., M.D.,
Chicago, Illinois.

The following history is presented not as an effort to explain the genesis of osteomalacia, but rather as an illustration of the effects produced by a gradual transformation of the liver into a ductless gland.

Early one morning in November, 1896, I was summoned in haste to visit a lady whom I had known for at least a quarter of a century. I found her dead in her bed, where her family had been caring for her during the night without thought of any immediate danger requiring the services of a physician. She was 59 years old, of healthy parentage, married, the mother of four children; had always been free from disease or illness, other than the confinement incident upon normal parturition; absolutely without malarial, tuberculous, arthritic, or venereal taint, passing the menopause at the usual time without any pathological difficulty. She had lived free from care and sorrow until 51 years of age. She then made the tour of Europe with her husband and children, returning to Chicago in good health during the latter part of the summer of 1888. Two weeks after her arrival at home she was attacked with typhoid fever of more than ordinary severity. During the first week of the fever there was a high temperature, considerable diarrhœa, and some blood in the stools. With the appearance of the rash all symptoms were ameliorated; there was no further hæmorrhage, and nothing worthy of note transpired during the second and third weeks of the fever. The fourth week brought no change for the better, and at the beginning of the fifth week it was evident that the case was complicated with difficulties in the region of the liver. The temperature did not fall; the tongue continued red, dry, and covered with a ragged, yellowish fur; there was no diarrhœa, and no appearance of convalescence. The patient complained of constant discomfort under the liver. Mercury and chalk were now administered for a week in doses of 3 gr. every four hours. Under this treatment the tongue softened, the coating gradually disappeared, and convalescence began in the sixth week. Recovery was slow but progressive, so that in the course of three months the patient resumed many of the duties of active life. It was evident, however, that she was not fully restored to health. The countenance exhibited a sallow hue that was

not the natural colour of the patient before her illness. She complained of slight discomfort in the region of the gall bladder, where she was somewhat intolerant of pressure. There was no appreciable enlargement of the liver, nor was the gall bladder palpable. The other organs of the body were perfectly normal.

I expressed the opinion that there had been an infection of the common bile duct, hepatic duct, and biliary passages, through bacterial invasion from the intestines during the course of the fever. But this belief did not suffice to cure the patient, who was well enough to resume a rather active social life, which led to the neglect of the warnings of her advisers, and considerably interfered with the regularity of her treatment. After about two years she ceased to consult me, and went to Europe to drink the waters at Carlsbad. Returning home no better than she went, she resumed her former cheerful mode of life, from time to time calling upon a number of excellent physicians, both male and female; spending large sums of money upon notorious quacks; sojourning in various sanitariums; and finally settling down into a state of fatalistic indifference denominated "Christian science."

During these years I occasionally met my former patient in a social way, and was pained to note the evident progress of disease. For several years the pallid sallowness of the skin was the most conspicuous symptom; but, about the beginning of 1895, it was evident that a change was taking place in the osseous structure of the spinal column. When we casually met at some social function, I could not but note a diminution in her height and a bulging of the sternal region. After a time this change became so conspicuous that it was remarked by our unprofessional acquaintances, of whom several asked me what it could be that made our friend "look so short and squatty." Though without opportunity for examination of the case I felt convinced that osteomalacia must have supervened.

In this way the time passed until the early weeks of the winter of 1896. Though evidently growing weaker, the patient rode out frequently, and sometimes went to church as she had been accustomed to do. A day or two after her last attendance upon divine service she awoke in the morning with a diarrhœa. For several weeks previously she had experienced similar attacks of short duration, so she paid no attention to the matter, saying that it would soon subside. But it continued during the entire day, and through the night—still without medical attendance—until 5'clock in the morning, when her family were roused to action by the occurrence of pain of such severity that she could not suppress her groans. I was then summoned, and hastened to her bedside, but it was too late; she was pale and silent in death.

The course of her illness and its sudden termination had by this time so far excited the curiosity of the family that I found no difficulty in procuring a necropsy, which—twelve hours after death was made by my friend, Professor Ludwig Hektoen, of Rush Medical College. He has kindly furnished me with the following notes of his examination of the case:

The Anatomical and Histological Examination.
By Dr. Ludwig Hektoen.

Synopsis: *Chronic Biliary Obstruction.—Icteric Necrosis of the Liver Cells.—Chronic (Microscopic) Miliary Tuberculosis of the Liver, Spleen, and Adrenals—Senile Osteomalacia.—Death from Hæmorrhage from Peptic Gastric Ulcer.*

The *post-mortem* examination was made on the same day the patient died.

Anatomical Diagnosis.—Osteomalacia of the ribs, sternum, and spinal column; simple gastric ulcer, erosion of artery, and hæmorrhage; general anæmia; fibrous pericystitis and cholecystitis and cholangitis; hydrops of gall bladder, dilatation of the intrahepatic biliary ducts, diffuse biliary pigmentation of the liver, biliary cirrhosis; chronic adhesive pleuritis; arterio-sclerosis of the aorta; chronic nephritis; cystic softening in left adrenal. The body is that of an old woman, poorly nourished; the skin is of a light dirty-yellow colour; neck thin; there is an irregular forward bulging of the middle piece of the sternum; the abdomen is prominent, and there is a backward curvature in the dorsal region of the spine. Rigor mortis is present. Undertaker's abdominal puncture, and incision over the femoral artery present. The abdominal cavity is empty except for some undertaker's fluid; the vermiform appendix is 3 cm. long, imbedded in adhesions; there are firm adhesions in the region of the gall bladder, between the omentum, gall bladder, duodenum, and the colon; the diaphragm reaches to the third rib on each side. Pleural cavities are empty; there are some adhesions in each. The lungs are anæmic and compressed, both chest cavities being smaller than normal. The pericardium is empty, its layers smooth. The heart lies more horizontally than normal; its cavities contain small amounts of blood; endocardium smooth; myocardium quite firm, and uniform in colour. The entire aorta shows a rough intima, with yellow spots of thickening and occasional plates. The œsophagus is normal. Upon the posterior wall of the stomach, near the lesser curvature, is a small, oval ulcer, 2 c.cm. in its longest diameter. It extends into the submucosa, its margins being sharp and clear-cut; near the centre there projects a small mass of clotted blood, which corresponds to the opening into a small artery whose lumen can be recognised. In the stomach and intestines is much dark, semi-solid, viscid blood; the mucous membrane is otherwise normal. The adrenals are small; in the left is an empty cavity. The kidneys are small; capsules free, but the surface is irregular, cortical markings indistinct; here and there are small cysts. In the superficial layers of the cortex are occasional small circumscribed yellowish areas, which project somewhat above the surface. The uterus and ovaries are small and atrophic. The wall of the gall bladder is whitish-yellow, and the fluid contents clear and viscid; cystic duct is occluded, the common duct also apparently completely closed and walls thickened. Throughout the liver the bile ducts are filled with thick bile, pigment granules and masses, and in many places are distinct cystic dilatations. The liver surface is nodular, colour deep green with yellow spots; the consistency of the liver is quite firm. The spleen is of usual size and quite fibrous. The sternum shows a marked curvature of the middle piece, with the convexity forward; the bone is very soft, easily cut, reddish, and very porotic throughout. The ribs are similar, also the vertebræ, but the femur and pelvic bones are normal as regards their consistency. The brain was not examined. Upon arriving at the laboratory with the organs (the *post-mortem* examination was made in a private house) cultures were made from the different tissues upon glycerine agar, and placed in the incubator, but nothing grew; bacteria were not found in the cover-glass preparations.

Microscopical Examination.—The tissues were hardened in Müller's fluid, containing 5 per cent. formalin, and in alcohol containing a like amount of formalin. Adrenals: In the cortex of the adrenals are found small areas of focal necroses. In the centre of such areas there is a homogeneous district, stained light reddish with eosin; outside of this district is a zone of nuclear disintegration, and then comes a circle of deeply-stained cells that are very closely aggregated. Bile pigment is not present in the adrenal; giant cells are not present; tubercle bacilli were searched for thoroughly but not found. The cavity in the left adrenal, mentioned in the *post-mortem* report, appears to be due simply to a separation of the adrenal substance through the centre of the medullary part of the organ. There is nothing in the structure of the wall to indicate the existence of this cavity during life. Otherwise the adrenals present a typical structure, with characteristic brownish or golden-yellow pigment in the cells of the innermost zone of the cortex. Liver: In the liver there are many areas in which the nuclei of the cells refuse to stain. There are also circumscribed, as well as more diffuse, areas of infiltration of cells, with round, deeply-staining nuclei. These districts usually correspond to Glisson's capsule. In many places the cells as well as the intracellular spaces contain a brownish or yellow granular pigment. The bile ducts throughout the liver are dilated; the epithelial lining is very indistinct, and the walls more or less hyaline, with round cell infiltrations; or, the ducts may be completely filled with round cells containing masses of pigment granules as well as yellow scales. In addition there are also found in the liver smaller foci, with a red, granular centre, strewn with nuclear fragments and containing more or less typical multinucleated giant cells. In these areas no pigment could be found, and the areas resemble very much miliary tubercles in certain stages, but they do not contain demonstrable tubercle bacilli. Cross sections of the common, hepatic, and cystic ducts show the lumina to be very small, filled with yellowish pigment masses, and usually without any distinct epithelial lining at all. Or—and this is the case in the common duct—there may be scattered among the pigment masses a large number of desquamated cylindrical epithelial cells. The wall of the duct is thickened, composed largely of hyaline tissue, with more or less round cell infiltration; the vessels in the walls are also thickened, and there may be pigment in the connective tissue as well as in the fat outside the ducts. In some places the cross sections of the bile ducts look somewhat like cross sections of biliary calculi. Kidneys: The small areas seen with the naked eye in the cortex of the kidneys are composed of a loosely-meshed network of fibrous tissue, containing very many thin-walled larger and smaller spaces (fat cells), and occasional uriniferous tubules and blood vessels. The tubular epithelium is very granular and disintegrated; the cells are low. There are occasional hyaline glomeruli, and some pigment is found in the tubules. Spleen: The connective tissue of the spleen is hyaline, staining yellowish-red with the van Giessen method. In some places there is a great perivascular as well as some endovascular thickening. Scattered throughout the spleen are found numerous areas of necrosis, with nuclear disintegration and typical giant cells; sometimes there are two or three giant cells in each area. Tubercle bacilli and other bacteria were searched for in many slides. Finally, occasional tubercle bacilli were found. Distinctly scaly masses of brownish or yellowish typical biliary pigment were found occasionally in the spleen. Bones: Pieces from the sternum, the spinal column, and the ribs were decalcified in a mixture of 1 c.cm. nitric acid to 250 parts of Müller's fluid, frequently changed, embedded in celloidin, and stained with hæmatoxylin and eosin, van Giessen method, picrocarmine, and a weak solution of saffranin. There is very little true bone tissue left in all of the bones studied, the interior containing but a very few narrow and imperfect trabeculæ, and the cortex being extremely thin and in places broken through. The principal part of the bones consists of a quite cellular medullary tissue in which is but little fat but many marrow cells, red-blood corpuscles, and quite a few giant cells. In some places the marrow is quite fibrous in its structure, but this is mostly near bone trabeculæ that are being absorbed. There is no pigment present in any of the sections, and the giant cells found all correspond in shape to normal osteoclasts. The bone tissue shows in the first place, and very conspicuously, the changes characteristic of halisteresis; the surface of the trabeculæ very generally presents a seam or border composed of homogeneous or fibrillated tissue, which is sharply separated from the more central unchanged part of the trabeculæ by an undulating or more or less ziz-zag line or border along which is often arranged a finely granular material; the peripheral seam stains red with diluted van Giessen's picric acid-acid-fuchsin mixture, the central part more yellowish; in picrocarmine the seam stains reddish, the central part a light greenish yellow, giving a picture of great distinctness. The seam does not contain any distinct bone corpuscles, while the central part contains the normal number of corpuscles, but these are also rather indefinite. The peripheral seam may remain fibrous for some time, the fibrillæ being more or less typically parallel, but sooner or later, however it would seem that the fibrous tissue becomes disarranged into an intricate network, and finally replaced by marrow cells, although, as already stated, there are some rather large districts of fibrous-like tissue in the marrow. Occasionally perforating canals, as described by W. Volkmann, are found passing directly through fragments of trabeculæ, but the amount of spongy bone tissue is so limited that a good opportunity is not presented for the study of these canals. Lacunar absorption by means of typical osteoclasts is also present, and in all probability to a greater extent than can be regarded as wholly physiological. Howship's lacunæ containing osteoclasts are found in the surface of irregular islands of bone tissue in the interior as well as, and probably more frequently, upon the surface of the bones. New osteoid tissue does not seem to have been produced at all in the interior of the bones. Upon the surface, however, and more particularly on that of the vertebræ, are moderately extensive areas of a quite distinctly fibrillated, typical, noncalcified osteoid tissue. In the sections stained with van Giessen's method the nerves near the bones are seen to be normal.

Remarks.

There are one or two points in connection with this case that deserve special mention on account of their pathological and anatomical interest.

In the first place, the bone lesions correspond quite closely to those described generally in senile or rheumatic osteomalacia; the absorption of the bone seems to have occurred largely by means of halisteresis or decalcification resulting in the formation of typical osteomalacia seams or borders staining deeply with carmine; perforating canals are also undoubtedly present. Lacunar absorption is also observable, but it does not play nearly so important a *rôle* as the process of halisteresis. In contradistinction to puerperal osteomalacia, in which the formation of new osteoid tissue is a prominent feature, the amount of such tissue found here is very small.

In the second place, special attention is directed to the icteric necrosis of the liver cells on account of the biliary obstruction due to the fibrous thickening of walls of the bile ducts and the surrounding tissue.

Finally, the existence of a chronic microscopic miliary tuberculosis in the liver, the spleen, and probably the adrenal, without any demonstrable relation to chronic tuberculous foci, is not without interest. The production of the focal necrosis is most likely to be regarded as the result of the circulation in the blood of biliary acids and other toxic substances reabsorbed on account of the obstruction to the outflow of the bile, although the absence of a bacteriological examination before the injection of the undertaker's antiseptic embalming fluid does not allow one to exclude wholly septic and other infections. Tubercle bacilli or other bacteria could not be found in the foci; but they might, in the case of some infections, have been caused by toxic substances. Their relation to biliary substances is, however, rendered very evident by the demonstration in the interior of some of the giant cells of typical biliary pigment, showing that the giant cells are most likely plasmodial masses acting as phagocytes and attempting to remove the foreign pigment deposited in the tissues. The presence of necrosis and giant cells may be interpreted as demonstrating that at the same time as the pigment masses are deposited these substances, or more likely others closely associated with them, cause typical focal necrosis with karyorrhexis and peripheral cell accumulations, associated, probably later, with the formation of giant cells for the purpose of removing the pigment; according to circumstances the extent of the necrosis may va y much.

While the degenerative and necrotic action of biliary retention products upon the cells of the kidney and other organs has long been known, the production of focal necroses has not, I believe, attracted any attention, and the formation of giant cells for the removal of biliary pigment in the organs in chronic icterus is certainly a new observation.

NOTES ON BERMUDA AS A WINTER RESORT.

By Eldon Harvey, M.R.C.S.Eng., L.R.C.P.Lond., L.M.

Bermuda.

The Bermudas, next to Gibraltar the smallest dependency of Great Britain, are a beautiful and interesting group of islands possessing one of the most equable and healthful winter climates.

Situated about an equal distance, some 700 miles, from New York, Halifax, and the West Indies, the steamship lines connecting these places have Bermuda as a centre in their route. A direct line of freight steamers taking passengers leave London every five or six weeks, and steamers conveying pleasure tourists from England and the United States call at Bermuda. Persons coming from Great Britain may reach Bermuda in about nine to twelve days, by the regular Atlantic liners either to New York or Halifax, making connection with the Bermuda line at either place. Invalids or persons wishing to avoid the cold of a northern journey may take the royal mail steamer to Barbadoes or Jamaica. The island is connected with Halifax, Nova Scotia, by submarine cable, which is not an unalloyed blessing; nor is the network of telephone wires, although at times very convenient, conducive to the peace and restfulness for which the place has been so famous in the past.

History.

The islands were discovered in 1515 by Juan Bermudez. In 1610, which may be taken as the starting point in the history of Bermuda as an English colony, Sir George Somers was wrecked on the coral reefs which extend out some nine to eleven miles from the mainland—hence the name Bermuda or Somers' Islands, and the claim to be one of the oldest colonies now under British rule. The first settlers were English, and they were afterwards added to by persons driven out of Great Britain by religious wars, or desperadoes in the pursuit of adventure. These people were for the most part of a superior sort, full of vitality, vigour, and masterfulness, bold and daring enough in conception or design to strike out fresh industries when old ones had failed. The cultivation of tobacco was the first industry tried, and it failed. The old British stock then built cedar ships and raked salt on the Bahama Islands. Their ships became the sea traders—the ocean tramps of those days. Towards the end of the eighteenth century some colonial vessels were engaged in carrying logwood and mahogany from Honduras to Great Britain, and when Captain Cook visited Ascension in 1775 he found that a Bermudan sloop had just left with a cargo of turtles on board (Lucas). The vigour of this old English stock was truly wonderful, and it is not surprising that a number of families in the island to-day—the tenth and eleventh generation—are descended from settlers of 200 years ago. The individuals are as strong and active as the average European. Persons who have interested themselves in the genealogy of Bermudan families can bring forward most voluminous evidence to show that certain families have been and are now remarkably prolific in children. Again, if the number of persons who attain to the age of 80 can be taken as a fair criterion, it would seem to be an eligible place for the middle-aged and old.

Ireland Island was purchased in 1810 for a dockyard, and some 9,000 convicts were sent out from England between 1824 and 1863 for the purpose of carrying out the work. Bermuda was never a penal settlement, the convicts all being returned to England. Numbers of the clerks and guards, however, married and settled in the Colony.

The health of the convicts is said to have been very good, but during the yellow fever epidemic they suffered a loss of 101 men per 1,000, which was attributed in a great measure to the insanitary condition of the old wooden hulks in which they were quartered.

A generation back the whale fishing was profitable, but at present the real industry of the people is the cultivation of onions, potatoes, arrowroot, lilies, flowers, and green vegetables of all kinds for the New York market.

The Bermudas were the second British Colony to receive representative government, the first being Virginia. Its Legislature is—next to the House of Commons in England—the most ancient and characteristic legislative body now in existence in the Queen's dominions (Lucas).

The law is, speaking generally, the common law of England supplemented by local Acts. For example: An alien can now buy or hold land in Bermuda under certain restrictions of the Colonial law.

Fevers in Bermuda.

Intermittent fever (ague) has never been known to arise spontaneously in the island; moreover, persons who have contracted malarial fever elsewhere resort to Bermuda as a restorative, and in a very short time recover (Christopher Harvey, R.N.).

The periodic, bilious, continued, and typhus fevers so commonly met with in the old reports at the hospital have no place in the Registrar-General's recent returns. The number of cases of enteric or typhoid has absorbed all, or nearly all, these fevers, and there is little doubt that enteric was the fever chiefly prevalent in former times, and it is at present the one disease to be stamped out, and this is being done.

Dengue and yellow fever are acknowledged exotics, and have both been at various times introduced into the island. The last epidemic of yellow fever was brought in during the American Civil War in 1864 by persons connected with blockade running.

CLIMATE OF BERMUDA.

Latitude 32° 17′ *North.* *Longitude* 64° 47′ 00″ *West.* *Period of Observations, January* 1*st*, 1893, *to December* 31*st*, 1896. *Elevation of Place of Observation above the Sea Level*, 151 *Feet.* *Observations Taken Three Times Daily—at* 8.41 A.M., 3 P.M., *and* 8.41 P.M. *Observatory, Prospect Hill.*

—	A.			AA.	B.		C.	D.	E.		F.		G.	H.	J.	K.	L.	M.	N.	O.	R.	S.
Month.	Mean Temperature of Months at the Hour of			Average Mean Temperature Deducted from Column A.	Mean Temperature for Period of Observation.		Average Maximum Temperature for Period.	Average Minimum Temperature for Period.	Absolute Maximum Temperature for Period.		Absolute Maximum Temperature for Period.		Greatest Number of Days in any Single Month on which the Temperature was below the Mean Monthly Minimum Temperature.	Greatest Number of Days in any Single Month on which the Temperature was above the Mean Monthly Maximum Temperature.	Mean Monthly Range of Temperature for Period.	Mean Relative Humidity.	Average Number of Fair Days.	Average Number of Clear Days.	Average Number of Fair and Clear Days.	Average Rainfall.	Prevailing Direction of the Wind.	Average Velocity of Wind in Miles per Hour.
	A.M. 8.41	P.M. 3 0	P.M. 8.41		Highest.	Lowest.			Highest.	Lowest.	Highest.	Lowest.										
	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.								Ins.	From	Miles
January	62.7	64.5	60 5	62.5	69.2	53.8	67.0	57.5	74 0	55.1	66.0	46.2	15	14	9.5	76	18	2	20	6.26	N.W.	10.8
February	62.6	64.1	60.1	62.2	70.9	53.4	66.4	56.9	74.6	54.7	66.1	45.8	14	15	9.5	78	19	3	22	3.98	N.W.	1 8
March	63.6	65.5	62.7	63.9	71.8	53 4	67.8	56.8	79.9	58.9	66.0	52.2	15	21	10.0	80	21	3	24	6.53	N.W.	10.2
April	66.1	67.8	64.3	66.1	72 7	58.9	69.4	59.2	77.3	56.1	66.6	48.2	15	17	10.2	79	24	2	26	3.08	S.W.	7.9
May	73.5	74.1	66.8	71.4	76.8	62.3	76.0	64 0	81.6	63.5	70.2	55.5	17	18	12.0	82	21	2	23	4.86	S.W.	7.2
June	77.4	79.3	76.3	77.7	80.6	68.9	80.9	70.0	85.5	73.3	74.0	63.0	12	17	10.9	82	22	3	25	5.59	S.	6.9
July	80 9	82.9	75.5	79.8	83.2	73 9	84.5	73.1	89 3	77.0	77.0	69.8	15	18	10.4	83	25	2	27	5.10	S. & S.W.	6.8
August	82.1	83.8	77.2	81.0	84.4	75.5	85.6	74.0	90.9	78.9	77.5	64.5	15	20	11.6	81	22	3	25	4.23	S. & S.W.	5.0
September	79.5	80.8	73.7	78.0	83.4	71.6	83.2	72.3	89.1	74.1	77.4	64.0	13	19	10.9	80	23	3	26	7.11	S.	5.9
October...	75.0	75 9	70.2	73.7	79.9	68.3	77.5	69.3	85.6	69.3	76.5	60.2	19	17	8.2	80	23	2	25	6.07	N.E.	8.7
November	70.3	71.3	64.1	68.6	75 5	63.9	73.5	65.3	80.5	60.8	72 0	55.5	13	16	8.2	81	19	1	20	3.89	N.E.	9.1
December	65.4	66 9	62.2	64.8	71.4	58.0	69.0	60.8	76.1	59.3	70.0	50.8	14	18	8.2	81	18	1	19	5.84	N.	11.0
Spring				67.1	73.8	58.2										80	66	7	73	14.47	N. & S.W.	8.4
Summer				79.5	82.7	72.8										82	69	8	77	14 92	S. & S.W.	6.2
Autumn				73 4	79.6	67.9										80	65	6	71	17.07	S. & N.E.	7.9
Winter				63 2	70 5	55.1										78	55	6	61	16.08	N.W. & N.	7.2
Year				70.8	76 6	63.5										80	255	27	282	62.54	S. & S.W.	8.4

NOTE.—In the months of August and September there are a considerable number of calms, that is, force of winds not exceeding 3 miles an hour.

This table was compiled by CHAS. H. SMITH, Sergeant, Medical Staff Corps, Meteorological Observer, under the direction of Brigade-Surgeon-Lieutenant-Colonel GEORGE H. LEAKE, Army Medical Staff, Senior Medical Officer Her Majesty's Forces, Bermuda.

HYGIENIC CONDITIONS.

The hygienic conditions under which the troops now serve in Bermuda have infinitely improved since 1864. New stone barracks have been built, an excellent system of sewers laid down, with outfall into the Atlantic Ocean. The water supply is from rain water stored in large tanks practically inexhaustible, and its quality unimpeachable when reasonable care is taken with the tanks. The hotels and houses of the civil population have, with very few exceptions, one and sometimes two or more tanks for rain water. No new house is allowed to be built and occupied until the sanitary inspector is satisfied that the tank has been constructed as directed by law.

As an outcome of the Commission appointed by the governor in 1893 to inquire into the working of the Quarantine and Public Health Acts, with a view of rendering these Acts better suited to the requirements of the Colony, the Quarantine and Public Health Acts have been revised by the Colonial Parliament, a medical officer of health appointed, by-laws based on Knight's annotated model by-laws passed and put in force by the local Boards of Health. A ten-bed cottage hospital has been built, and is now running with trained nurses and modern equipment; and, moreover, a Washington Lyon steam disinfector is held in readiness should any infectious materials pass the rigid guard kept at the quarantine station.

CLIMATE.

The climate is exceedingly pleasant, and notwithstanding a few chilly and stormy days, may be classed as a most equable winter climate.

The south and south-west wind coming over the ocean is more or less charged with moisture, and the north wind is dry. If we proceed to judge by meteorological standards, and take the amount of sunshine, the warmer temperature dependent on it, the number of rainy days, and the atmospheric humidity, the winter climate of Bermuda gives little to displease. The inhabitants live the greater part of their lives in the open air. There is no special rainy season, and hardly ever an entirely wet day. The rain comes in heavy showers, and in a few minutes has soaked through the earth and oölite rock, of which the whole island is formed, leaving the roads dry and free of mud or dust. It is, however, dusty in very dry weather; sometimes there is a strong wind blowing, but there are numerous and good roads well protected by the oleander and tamarisk hedges, so that a sheltered walk can always be found.

Area, Population, and Revenue.

Bermuda has an area of 19½ square miles, a civil population estimated in 1896 of 16,000, and a public revenue of about £33,000 to £35,000 per annum, principally derived from a duty of 5 per cent. on imports. The condition of the civil population is, on the whole, very comfortable: lazy contentment with a little, real poverty is hardly known. There is no Government Medical Service, as in some of the West India islands. The rates and taxes are very low indeed; in some of the parishes they have been reduced to the vanishing point. The white population is constantly being recruited by a number of discharged soldiers, and some few sailors from the Royal Navy, who marry and settle. Soldiers are not credited with being the most successful colonists. Of 291 men from the army and navy that have taken their discharge in Bermuda during the last 50 years, and whose names and history could be obtained, 108 are dead, 25 went back to England, 13 went to Canada, 19 went to the United States, 122 are in the colony, and 4 are not satisfactorily accounted for.

The coloured population is more numerous than the white; the proportion stands as 3 to 2. The two races seldom intermarry or mix together in a social way, consequently race problems and animosities are reduced to a minimum. The average intelligence, character, and orderly behaviour of the coloured race, more or less mulatto, is admitted to be superior to any ex-slave population. The percentage of illegitimate to the total births among the coloured population in Bermuda has fallen from 29.2 per cent. in 1871-81 to 24.8 per cent. in 1881-91, and these are the most encouraging statistics of a similar kind to be met with.

What they have gained, however, in one direction they seem to have lost in another. They are less able and less willing to work, and consequently are being replaced on the farms by Portuguese from the Western Islands. There are 100 small farms in Bermuda worked by Portuguese labour. They are also being replaced at the most laborious callings by blacks from the West Indies. It has been estimated that there are over 500 of these people recently settled in the island. About five-eighths of them come from Barbadoes, two-eighths from Saba, and one-eighth from the other West Indian Islands.

The number of insane persons under official cognisance on December 31st, 1896, was 43; this represents 2.6 per 1,000 of population. This number would seem remarkably low in a small community where there is constant intermarriage of the same families.

The admissions for venereal disease per 1,000 of strength of the army is also remarkably low, being only 43.9 per 1,000.

The death-rate of the civil population ranges about the same as that of England. In 1896 the death-rate for the whole civil population was 19.8 per 1,000, the death-rate for the same year amongst the resident white population 16.8 per 1,000, and amongst the coloured resident population 21.6 per 1,000. The infant mortality, more particularly amongst the coloured, is high. Adults are long lived.

The number of men, women, and children connected with the army and navy, and classed as garrison population in 1895, was approximately 3,500, with 38 deaths. This may be taken as an average, so also may the ratio of between 400 and 500 be taken as the average admissions to the Mary Hospital per 1,000 strength of the army.

From these figures it can be deduced that Bermuda is the most healthy of the foreign stations in Her Majesty's dominions.

Social Amusements.

The amusements are eminently of the social order. Theatricals and even horse races are conducted without the assistance of the professional. Yachting under the auspices of the Royal Bermuda Yacht Club has from the earliest times been the sport *par excellence* of the Colony. Golf is the most recent game introduced, while lawn tennis has had a large number of devotees for years. The ladies have a rifle club, and practise with the small Remington rifle. There are cricket, football, and sometimes a game of American baseball. There are two pastimes that may be had to great advantage—bicycling and dingey boat sailing; the roads are good for bicycling, and the harbours are more or less landlocked, picturesque, and safe for small boats. Bathing and sea fishing are to be had all the year round. Bermuda ranks next to Gibraltar and Malta as a naval and military station, and yet it is a land of peace and rest. If one cares for society and amusement, plenty of it is to be had; but there is also beauty, cleanliness, comfort, and rest for the nervous invalid.

The class of invalids most benefited are persons in want of mental or bodily rest, or those who should spend much of their time in the open air, walking or otherwise; cases of mental diseases with excitement; the neuralgic, hysterical, hypochondriacal, *habitués* to opium or insomnia, and chronic disease of brain or cord will find rest and benefit. The rheumatic and gouty patients do well; rheumatic fever is almost unknown in the island. The winter climate will benefit the convalescent from acute, and act as a prophylactic and curative in chronic, forms of lung disease, but it is not suitable for phthisis, chlorosis, general anæmia or functional debility, angina pectoris, or palpitation associated with chlorosis. Hepatic abscess, rickets, or hydrophobia do not occur. Asthma, dyspepsia, hepatic diseases are examples for personal experience, and should benefit by being able to get in the open air for exercise every day. Renal disease is especially benefited.

The largest and most elegant hotels are open from December to May, but every accommodation and comfort can be found all the year round, and the invalid need fear no hardships, provided he can pay his way.

Furnished houses are scarce, and should be arranged for in advance of the winter season. Good servants are also difficult to find. The hotel managers bring their help with them from America.

Children and Schools.

Young children do well in Bermuda for a few years, but the long summers are too enervating for a continuous residence. There are hardly any diseases of children to be feared, except summer diarrhœa in infants. Measles and whooping cough has been introduced several times by American visitors, but these diseases take on a very mild form, and seldom cause death.

There are good schools, both for boys and girls, conducted by English graduates from the London University and Cheltenham Ladies' College; also a convent school.

Clothing.

It is never cold enough for heavy underwear and heavy winter clothing, but persons who need wool underwear in the north should be ordered to keep it on during their stay in Bermuda. A light overcoat is sometimes useful. The felt or straw headgear can be worn during the whole year.

Money.

The currency is British sterling, but American money will pass at full value.

A DISCUSSION ON CHOLELITHIASIS: CAUSATION, SYMPTOMS, DIAGNOSIS, AND TREATMENT.

I.—William Hunter, M.D., F.R.C.P.,

Curator and Pathologist, Charing Cross Hospital; Senior Assistant Physician, London Fever Hospital.

ON THE CAUSATION OF CHOLELITHIASIS.

The subject of cholelithiasis, which it is my privilege to bring before this Section, is one well fitted for discussion: A common disease affecting no fewer than 7 to 10 per cent. of cases, and yet in its mode of origin still exceedingly obscure; running a very varying clinical course, sometimes without symptoms, at other times the cause of the most intense suffering: presenting in its course problems in diagnosis and treatment baffling at times physician and surgeon alike. No portion of the subject presents greater difficulties than that of causation. And it is with this portion I am deputed by our President specially to deal.

What are the conditions, general or local, that determine the formation of biliary concretions within the bile passages? At the outset I would remark how slowly our knowledge of this subject has advanced; how limited it still is; how little,

except in one or two particulars presently to be noted, it differs from that possessed 50 or even 150 years ago.

Stagnation and inspissation of bile contributed to by advancing age, sedentary habits, inactive life, slowing of circulation, interference with movements of chest and abdomen by such causes as lacing and pregnancy, consequent greater liability of women to suffer than men (five times greater)—all these were recognised and pointed out so long ago as 1757 by Thomas Coe.[1] In great part they represent the amount of the knowledge we have till recently possessed. Yet the inadequacy of these various factors to account for the formation of gall stones was then, as now, fully recognised, the presence of gall stones in the young and active, their absence in the old and inactive.

Did this represent all the knowledge we at present possess regarding the causation of cholelithiasis I confess I should have little satisfaction in discharging my present task. Fortunately it does not, thanks to observations of the last few years which have introduced to our notice a new class of facts. Up to the present these observations are chiefly interesting from their extreme suggestiveness rather than from their conclusiveness. They are only conclusive in one direction, namely, in pointing to local conditions within the bile passages and gall bladder as the immediate cause of gall stone formation.

The general result is to show that in cholelithiasis we have to do with a local disease affecting the bile passages or gall bladder, or both, and not with any general constitutional disturbance affecting nutrition or metabolism.

The result of the observations to which I refer has thus been to confirm in the amplest way the view held by Budd (1857). The relation of events in the formation of gall stones Budd held to be diseased condition of mucous membrane, increase of cholesterin in solid form, deposit of this around any small particle of inspissated bile that may be present. A similar view was held by Bristowe. But the observer, to whom more than other we are indebted for establishing this on a basis of facts, is Professor Naunyn of Strassburg, whose elaborate and valuable monograph on *Cholelithiasis*, published in 1892, gives the fullest and clearest account of the subject we possess.

PHYSIOLOGICAL CONSIDERATIONS.

Before passing to consider what these local conditions are let me preface with a few remarks as to the bile itself and the conditions which in health determine its quantity, quality, and secretion.

We have to do with a watery secretion of low specific gravity, excreted in quantity of about two to three pints daily, containing some 1 to 2 per cent. of solids; these consisting of certain specific constituents—the bile pigments and bile acids—formed by the liver cell itself; certain inorganic salts, the most important of which in the present relation is calcium; a constant percentage of the insoluble body, cholesterin, held in solution by the salts of the bile acids and by the traces of fats and fatty acids present; and, lastly, a considerable amount of mucoid material formerly regarded as mucin, now shown to be of more complex character—a mucoid nucleo-albumin—which is added to the bile during its passage along the bile passsges, and especially during its sojourn in the gall bladder.

This fluid is secreted constantly—more abundantly four to five hours after food under the direct stimulus of the food products conveyed to the liver during digestion; less actively and more concentrated during the night when digestion is in abeyance. During active digestion and secretion it flows into the duodenum, expelled in a series of jerks by peristaltic action of the muscular fibres in the walls of the larger bile ducts. In the intervals between digestion its passage is temporarily arrested by the sphincter-like contraction of the wall of the duodenum through which the common bile duct obliquely passes; and it then collects in the gall bladder, where it lies till the next period of active digestion to be again expelled, partly by the peristaltic movements of the intestines pressing upon it, but probably in great part by peristaltic movements of the walls of the gall bladder itself.

The pressure at which the bile is secreted is very low, so that the rapidity with which it flows is greatly influenced by outside influences, notably two:—1. The amount of resistance it meets with in the long line of narrow bile passages through which it passes. So that an increase of mucus hardly appreciable in itself may nevertheless considerably retard the flow of bile. 2. The freedom of movement of the diaphragm. Free movement of the diaphragm by compressing the liver is probably one of the most important factors in promoting expulsion of bile from the bile passages and from the gall bladder, and any cause which interferes with such movement, for example, tight lacing, pregnancy, sluggish habits of life, will correspondingly tend to retard proper expulsion of bile from the gall bladder.

GENERAL ETIOLOGY.

Age.—The most recent information is that given by Schröeder of Strassburg, 1,150 cases examined, of which 141 (12.25 per cent.) showed gall stones, and Brockbank of Manchester, 742 cases, 49 of which (6.6 per cent.) showed gall stones.

Table Showing Influence of Age.

Age.	Schröeder.	Brockbank.
0—20	2.4	2.9
21—30	3.2	5.3
31—40	11.5	3.3
41—50	11.1	7.4
51—60	9.9	9 3
61 and over	25.2	13.6

The increase with advancing years, especially after the age of 60 is well seen in both tables, especially those of Schröeder (over 25 per cent. of cases).

The relatively larger percentage of cases (over 8 per cent.) observed by Brockbank below the age of 30 is probably connected with the fact noted by him that all his cases below 30 were the subject of heart disease; in which condition there seems to be a special tendency to the formation of gall stones.

Sex.—The female sex is about five times more subject than the male, for example, 4.4 per cent. in men, 20.6 per cent. in women (Schröeder).

Pregnancy.—Out of 115 women in whom gall stones were found, no fewer than 90 per cent. had borne children (Schröeder).

Tight-lacing.—The same observer found gall stones in more than one-half of women whose livers showed any evidences of tight-lacing transverse furrows.

Laxity of Abdominal Walls.—By allowing the liver to fall down, so that the fundus of the gall bladder is considerably below the level of the junction of the cystic duct with the hepatic duct, this condition favours the retention of bile in the gall bladder.

Diminished Movements of Diaphragm.—The expulsion of bile is at all times greatly influenced by movements of diaphragm, and any restriction in the range of its movements correspondingly favours its retention. This is probably the way in which pregnancy operates in favouring the production of gall stones; as also tight-lacing, and sedentary habits.

Sedentary Habits.—It is this factor which probably induces the liability to gall stones seen with advancing age, also seen in inmates of lunatic asylums.

Heredity is regarded as a factor by some; on insufficient evidence, however, I consider. Out of 165 cases, Bouchard found a parental history of gall stone in 36.

Gout is also regarded as favouring cholelithiasis. In 95 out of 166 cases Senac found a history of hereditary or acquired gout (1895). On the other hand Bouchard only found it in 13 out of 165 cases.

Influence of Food.—Habits of life as regards character of food and water have been regarded as factors in producing gall stones; also as serving to explain the greater frequency of cholelithiasis in different countries and in different parts of the same country. On this point no definite data are, I consider, forthcoming. We are dealing with impressions rather than with facts. As a matter of fact cholelithiasis occurs in every rank and class of society; in the poor and sparely nourished as much as in the obese and over-fed.

Influence of Disease.

Insanity.—Inmates of asylums are prone to gall stones: doubtless in consequence of the sluggish apathetic habits so characteristics of many forms of insanity.

Heart Disease seems to favour occurrence of gall stones. Out of 49 cases, no fewer than 27 were found to suffer from cardiac lesions (Brockbank).

Chronic Rheumatism.—29 out of 165 cases.

Diabetes.—16 out of 165 cases observed by Bouchard.

Renal Lithiasis.—A relation has been said to exist between occurrence of gall stones and renal calculi. Thus Kraus found the two associated in 42 cases. On the other hand the statistics of others lend no support to this view. Thus Naunyn has only observed the association once.

Conclusion.

General etiology thus throws but little light on the causes underlying the disease. It only brings out one fact—that anything which favours stagnation of bile in the gall bladder favours the occurrence of cholelithiasis.

Special Etiology.

Biliary Concretions.—In cholelithiasis we have to do with a precipitation of certain of the biliary constituents in insoluble form. (1) Cholesterin normally held in solution in normal bile by the bile salts and the traces of fats and fatty acids present in the bile. (2) Bile pigment normally in solution, now thrown down as an insoluble compound in combination with another normal constituent of the bile calcium.

The problem of the causation of cholelithiasis thus narrows itself to the question—What are the conditions, general or local, that determine the formation and precipitation of these normal biliary constituents in the mass, and in the form they are met with in gall stones?

Characters of Gall Stones.

On the characters of these gall stones I need not dwell: their variation in shape, number, and size; their peculiarities in shape from pressure against each other; their amorphous or crystalline character.

They have been variously classified according as one or other constituent—cholesterin, bilirubin, calcium, carbonate of lime—predominates; according to the relation of the constituents to each other, the cholesterin surrounding a nucleus of bilirubin calcium, or itself forming a nucleus, or both intermixed; or according to the crystalline or amorphous character of the cholesterin present.

The following classification of Naunyn will illustrate the various forms met with:

Varieties of Gall Stones.

1. *Pure Cholesterin.*—Oval or round, rarely facetted, crystalline consisting of almost pure cholesterin.

2. *Laminated Cholesterin*, resembling the foregoing in form and size, but more often facetted, on section more or less distinctly laminated; outer layers amorphous, becoming more and more crystalline towards the centre, consisting chiefly (90 per cent. or more) of cholesterin with a constant trace of bilirubin calcium and calcium carbonate.

3. *Common Gall Stones* from gall bladder, comprising the great bulk of gall stones of the most varying size, shape, and colour, usually facetted with a central nucleus of bilirubin calcium, surrounded by amorphous cholesterin and bilirubin calcium in varying proportions.

4. *Mixed Bilirubin Calcium.*—Size of a cherry or larger, met with singly or at most two or three in number, in gall bladder or larger bile ducts, dark in colour, the greater mass formed of layers of a dark or rusty brown colour, made up in great part (75 per cent. or more) of bilirubin calcium, the remainder cholesterin.

5. *Pure Bilirubin Calcium.*—Small, black, irregular, size of a pea, non-facetted, found in gall bladder, but frequently also in intrahepatic bile ducts, consisting almost entirely of bilirubin calcium with a constant trace of humin substances.

6. *Rarer Forms.*—(*a*) Amorphous and imperfectly crystalline stones of cholesterin, often of pearl-like colour, seldom laminated, with a central nucleus of bilirubin calcium; with this exception consisting of pure cholestrin.

(*b*) Chalk stones, composed of calcium carbonate recognisable by their extreme hardness.

(*c*) Conglomerate stones, the body consisting of mixed bilirubin calcium stone, the nucleus of pure cholesterin, in many cases two or more nuclei surrounded by a common body; or the nucleus formed by a foreign body—for example, a needle, plumstone, piece of round worm, of a distoma, or cast of intrahepatic bile duct.

(*d*) Stones having the shape of the larger bile ducts, consisting of bilirubin calcium, not seldom in cattle, very rare in man.

From the point of view of causation, I prefer a simpler classification. From that point of view, it appears to me to be of relatively little importance in what proportions the constituents are present, or in what form, crystalline or amorphous, or the degree and character of the lamination or stratification.

What impresses me is—

1. In the vast proportion of gall stones the two chief constituents are cholesterin and bilirubin calcium.

2. While in exceptional cases cholesterin may form the nucleus of the stone, in the vast majority the nucleus is made up of bilirubin calcium. This latter must therefore have been the earlier formed, and around this the cholesterin is deposited pure, or intermixed with more bilirubin calcium, as the case may be.

3. Almost equal in frequency to this mixed gall stone is the biliary concretion formed of bilirubin calcium alone, without any cholesterin; the small dark brittle concretions one so frequently finds, not only in the gall bladder, but also not infrequently within the intrahepatic bile ducts themselves. These characters I can demonstrate to you in the lantern slides I now show.

These two facts—the frequency of concretions of pure bilirubin calcium without any cholesterin, and of nuclei formed of this material, denote that the conditions underlying the formation of gall stones are, in the large majority of cases, primarily such as favour the precipitation of bilirubin with calcium.

Seat of Formation of Gall Stones.

In this connection there appear to me to be three outstanding facts:

1. Within the intrahepatic bile ducts the concretions have nearly always the character of pure bilirubin calcium. The conditions, whatever they be, which lead to the precipitations of bile pigment and calcium in insoluble form, must thus occasionally exist high up within the liver, and be entirely independent of anything prevailing in the gall bladder, or common bile duct. We can conceive of such small concretions, for they are always of small size, being carried down with the bile into the hepatic duct, and thence into the gall bladder (and this is probably the source in many cases when present in the gall bladder); but we cannot conceive the reverse, namely, such concretions having been formed low down and carried up in the absence of obstruction into the liver against the direction of the bile flow.

2. In the common bile duct and hepatic duct the stones usually met with have a special character of their own—such as I now show you. They are usually large, round, or oval, dark in colour, and either single or at most in groups of two or three. They are found in cases of obstruction of the common duct, in which the duct become widely dilated, its walls thickened and inflamed. On section the bilirubin calcium element is found to predominate. It forms the nucleus and the greater mass of the stone, only a small proportion of cholesterin surrounding the central mass. The original source of this kind of gall stone is doubtless in most cases the gall bladder, a smaller stone derived from the gall bladder having become impacted on its way down. But there can be hardly any doubt that the large size which such stones attain to is due to further formation and deposition of its constituents within the walls of the inflamed common duct. And it is interesting to note that just as in the case of the concretions formed higher up within the intrahepatic ducts, the bilirubin calcium element is here the prevailing constituent. Cholesterin is in relatively small quantity.

3. It is, however, the gall bladder that is the chief seat of formation of gall stones, and it is in this situation—a sort of *cul-de-sac* or back eddy where the bile can lie for varying periods of time undisturbed—that the chief conditions are to

be sought favouring the formation of gall stones. The stones here formed have in general this distinction: that, differing from the two classes just considered, the chief constituent is cholesterin, albeit that, as I have already pointed out, in the vast majoritythere is a darker central nucleus of bilirubin calcium.

SOURCE OF THE CONSTITUENTS OF GALL STONES.

We are now in a position to approach more closely the problem which cholelithiasis presents us, namely, What is the source and mode of origin of the cholesterin and bilirubin calcium which make up the great bulk of gall stones?

1. With regard to cholesterin. Is it formed *in situ*, the product of a diseased mucous membrane of gall bladder or bile passages; or is it precipitated from the bile by deficiency of its chief solvent agent, the bile salts; or, lastly, is it due to an increased excretion by the liver?

The evidence on this point although not conclusive is, I think, all in one direction, namely, in favour of it being entirely of local origin—a product of secretion or disintegration of the epithelium of mucous membrane and glands of gall bladder, and of larger bile ducts. It is a product widely distributed throughout the body. It occurs not only in bile, but also in nervous tissues, blood corpuscles, spleen, seminal fluid, testes, ovary, yolk of egg. Hence it has been thought that its presence in the bile is solely due to its excretion by the liver from the blood. There is, however, no actual evidence, in my opinion, that such is the case.

On the other hand, there is conclusive evidence that it is a frequent product of degenerative conditions, being found in atheromatous, cancerous, tuberculous products; in ovarian less frequently in ascitic and pleuritic fluids; in pus; thyroid cysts, and more especially in the secretions of mucous membranes, for example, sputum of bronchitis, phthisis, etc. This latter fact appears to me to be one of great significance in relation to our present subject—strongly suggesting that if it can be formed in quantity by mucous membranes elsewhere, it probably has a similar origin in cholelithiasis. In bile it is present in the small proportion of about 0.7 per 1,000; in the bile from gall bladder in much higher amount, namely, 3½ to 11 per 1,000.

In the sputum of catarrhal bronchitis it has been found in proportion of 0.9 per 1,000; in the sputum of bronchiectasis in even higher proportion—1.5 per 1,000 (Naunyn)—2.2 and 2 per cent. of the solid constituents respectively. In pus it has been found in still higher proportion, namely, 7 per cent. of the solid constituents. Cholesterin then appears to be pre-eminently a product of cellular degeneration, especially of epithelium degeneration. And such appears to be its source in the bile. The evidence appears to me to point to its local origin in the bile passages, both in health and disease.

Naunyn indeed has been able to trace the origin of this product from the degenerating epithelium. It is formed as viscous myelin globules within the degenerating epithelial cell. It escapes in this viscous condition and can be seen floating about, and on the addition of a few drops of acetic acid it can be seen solidifying into a mass of cholesterin crystals. Conversely, similar myelin masses can be produced by the action of a solution of soap on cholesterin as described by Brockbank. The formation of viscous masses by the mucous membrane of gall bladder, consisting almost solely of pure cholesterin, I have also been able to observe; these viscous masses by pressure against one another and adjacent gall stones already possessing the characteristic shape of gall stones. The important conclusion is thus led up to, that the cholesterin which goes to form gall stones has never really been in solution in the bile, but has been in a more or less solid viscous form from the beginning, formed as a product of degeneration of the epithelium of bile passages.

2. With regard to the insoluble compound, bilirubin calcium. In normal bile these two constituents are not combined. Nor can they be made to combine by any mere concentration of bile. Bilirubin itself may deposit under such circumstances, but not in combination with calcium. Nor can the two be made to combine by any mere excess of lime, at least in the first instance. But if further excess be added a deposit of bilirubin calcium finally takes place, till finally the whole of the bilirubin is thus precipitated. There appear then to be substances in the bile which prevent the precipitation of bilirubin calcium, even when the amount of lime is considerably increased (Naunyn). The bile salts seem to exercise some such function. Thus it only requires the addition of a few drops of limewater to a weak ammoniacal solution of bilirubin to precipitate the whole of the latter as bilirubin calcium (Naunyn). But if such a solution contains 2½ per cent. of glychocolate of soda, precipitation only begins when five times the quantity of limewater is added. The lime is seized upon by the bile acid. It is probable then that a certain reaction of bile is necessary for the formation of this bilirubin calcium compound.

Apart from mere reaction, or proportion of bile salts present, there is another observation of interest in this relation, namely, that just as egg albumen favours the precipitation of calcium carbonate from solutions of bile salts, so also egg albumen favours the precipitation of bilirubin calcium (Naunyn). This suggests, then, that the presence of albumen in the bile passages and gall bladder may favour the formation of bilirubin calcium concretions. Albumen derived from the disintegration of epithelium, that is catarrh which promotes such disintegration, is thus in all probability the factor which determines the precipitation of bilirubin calcium within the bile passages and gall bladder.

CATARRH OF GALL BLADDER AND BILE DUCTS AS THE IMMEDIATE CAUSE OF CHOLELITHIASIS.

It thus appears that the conditions leading to increased formation and deposition of cholesterin in solid form, and to the precipitation of the insoluble body—bilirubin calcium—are essentially local; and are of the kind—increased epithelial degeneration and presence of albumen—that prevail in a special degree in catarrhal and inflammatory conditions of the lining membrane of gall bladder and bile ducts. I have now to consider what it is that sets up this catarrh.

Among the various factors which have been held responsible for the formation of gall stones—the influence of age, sex, heredity, gout, rheumatism, etc., the only one whose influence is undoubted is stagnation of bile. In the list of conditions I have noted under "general etiology" it will be seen that the degree to which any one of them favours the incidence of cholelithiasis may safely be regarded as in direct proportion to their liability to favour stagnation of bile in the gall bladder. Hence the greater frequency of the condition in advancing age, in women, especially in pregnant women; in those of inactive habits of body from gout, rheumatism, etc.

Frérichs taught that stagnation of bile alone might of itself in time excite a catarrhal condition of the mucous membrane by favouring decomposition of the bile itself. With the knowledge we now possess this view cannot be accepted. It may, I think, be taken as certain that such a decomposition does not occur in the absence of micro-organisms. Stagnant bile, if kept sterile, does not deposit bilirubin calcium, or cholesterin. Normal bile is aseptic, as shown by Netter for rabbits (1884); by Naunyn for dogs and rabbits. Human bile is also sterile. Gilbert and Girode found it so in 6 out of 8 cases even as long as twenty-four hours after death; Naunyn in 2 cases examined one, and five hours after death, and in 2 cases punctured during life; and myself in 2 cases examined fourteen hours after death. In a third case examined by me twenty-two hours after death, *post-mortem* infection had already occurred. the bile contained a gelatine liquifying organism.

CAUSES OF CATARRH.

As causes of catarrh there are, I consider, two possible factors to be considered.

Infection as a Cause of Catarrh.—As one of the commonest causes of catarrh and inflammatory conditions of gall bladder and bile ducts, we have now to recognise infection of the bile and bile passages with organisms; and in favouring such infection no single factor is more important than stagnation of bile. This is very well brought out by certain experiments made by Naunyn. In five cases of gall stones he obtained the bacillus coli communis by puncture of the gall bladder during life. The injection of this organism into the gall bladder of the dog excited no trouble; but if the common bile duct were previously ligatured so as to bring about a stagnation of bile, then the injection set up the most violent inflammation (cholecystitis and cholangitis).

The organisms which have been found as causes of inflammation of the gall bladder in individual cases include the pyogenic organisms: staphylococcus and streptococcus; the common bacillus of the intestine—B. coli communis—and the typhoid bacillus.

The observations in this relation are so far but few. But they are likely to be rapidly added to now that attention has been drawn to the subject, and especially now that opportunities are afforded by the surgeon for more frequent examination of the gall bladder. For the present chief interest attaches to the B. coli communis and the B. typhosus. The former is the organism that has been found in the majority of cases of cholecystitis and cholangitis. The connection between the latter organism and inflammatory conditions of gall bladder is of peculiar interest. Dufort (1893) has described a case of cholecystitis and gall stone following at a few months' interval an attack of typhoid fever, and he found the typhoid bacillus in the gall bladder. Up to 1876 18 such cases were collected by Hagenmüller from the literature. In a recent case I found a marked inflammatory condition of the whole mucous membrane of the gall bladder in a case of typhoid fever. On microscopic examination the mucous membrane showed thickening and recent acute inflammatory changes.

The question as to the connection between such an infection and cholelithiasis is of still more interest. In a certain number of cases the first attack of gall stones has followed at an interval of two or three months an attack of enteric fever, as in Dufort's case above noted. A similar case has been described by Gilbert and Girode (1893). In no fewer than 19 out of 22 cases of enteric fever the presence of the typhoid organism has been demonstrated in the contents of the gall bladder by Chiari (1893); in 15 of these cases in pure culture. In all these cases the common bile duct and cystic duct suggest themselves as the channel of infection by which the organism has found its way upward from the duodenum. This would be in accordance with Sherrington's results. Sherrington has shown for a large number of organisms investigated by him that it is the exception for them to pass into the bile after their injection into the general circulation. So that this source of infection may in general be excluded. And yet certain interesting observations made by Professor Welch, of Baltimore, and published in the *Bulletin* of the Johns Hopkins Hospital in 1891, would indicate not only that infection of the gall bladder with the typhoid organism may occur from the blood, but that this infection may persist there after it has disappeared from every other organ of the body. He found the typhoid bacillus in the gall bladder of rabbits as long as three to four months after its intravenous injection at a time when it could not be found in any other organ of the body, even in the spleen and intestine.

Such, briefly, are the chief facts. Here I must caution against any too hasty generalisation from them as to the frequency of the connection between cholelithiasis and typhoid fever. That remains a problem still to be worked out.

At the present time the facts are, I think, chiefly interesting from their suggestiveness. In whatever way the infection occurs, whether through the bile passages, as is probably the most common, or through the blood, the important fact I wish to bring out is that infection of the bile and gall bladder with organisms is of no infrequent occurrence; that under favourable circumstances, the chief of which is stagnation of bile, such infection can set up catarrhal and subacute inflammatory conditions of the lining membrane of the gall bladder and bile ducts, in certain cases even intense suppurative conditions.

In the etiology of gall stones, where, as I have shown, catarrhal inflammation plays such an important part, infection thus comes to rank as a possible and most important factor. I do not speak here of the part it plays in producing the symptoms of acute attacks—the fever, the swelling, and tenderness over the gall bladder, possibly the ague-like attacks—from which the subjects of gall stones suffer, or the suppurative conditions of gall bladder and bile ducts met with in severer cases. I am only concerned with the earlier and gentler *rôle* played by infection as a catarrh-producing factor, setting up a catarrhal inflammation sufficient to lead to a largely increased formation of cholesterin and to the precipitation of bilirubin calcium.

A temporary infection of this kind, whether the organism be the colon bacillus, or the bacillus of typhoid fever, or other organism extending over a few months, may, without causing any symptoms, excite a catarrhal inflammation of gall bladder sufficient to produce a crop of gall stones, and then pass off completely, leaving the latter as a permanent legacy to the patient. It is probably in this way that gall stones usually arise and why they are met in such numbers. If the infection passes off the stones may remain quiescent for years without causing any symptoms, probably undergoing but little increase in size. But even so they are always liable to excite trouble. Their mere presence may serve mechanically to keep a certain moderate degree of congestion of the mucous membrane of the gall bladder. But a more important danger is that a subsequent infection may occur and induce a cholangitis or a cholecystitis, or one of the stones may pass down and become impacted.

Excretion through the Liver as a Cause of Catarrh.—So far the only factor I have spoken of as a possible catarrh-producing agent has been infection. And in speaking of it, I have had specially in mind the gall bladder as the chief seat of formation of gall stones. In general it may be stated that what applies to the gall bladder in this relation applies also to the cystic and common bile ducts. Stones found in the latter situation have originally come from the gall bladder, although they attain the large size so commonly met with in stones in this situation by subsequent increase. I have, however, now to refer to another class of stone, the seat of whose formation is not necessarily the gall bladder or the common bile duct, but higher up within the intrahepatic ducts. In speaking of the possible seats of formation of gall stones, I pointed out that small dark calculi consisting of bilirubin calcium are not infrequently met with high up within the liver, lying within the smaller intrahepatic ducts. The presence of these calculi in this situation appears to me to be of particular interest. They consist usually of bilirubin calcium—the insoluble body for whose formation catarrh of the bile passages is as important as for that of cholesterin itself.

How is this intrahepatic catarrh set up? Infection may, I consider, here be set aside. It is highly improbable that an infection may travel up along the bile duct and excite catarrh in the higher intrahepatic ducts without affecting the lower. The more probable cause of such intrahepatic catarrh appears to me to be one pointed to by certain observations of my own, namely, the excretion of products through the bile, exerting an irritant action on the bile passages.

That the bile has an excretory function for substances injected into the blood or administered by the mouth or intestine has been shown for quite a number of drugs and medicinal substances, for example, ferrocyanide of potassium (Claude Bernard); iodide of potassium, cane and grape sugar, sulphate of copper, oil of turpentine (Mosler); iodide of potassium, bromide of potassium, iron, lead, nickel, arsenic, silver, bismuth, and antimony (Wichert); iodide of potassium, salicylate of soda, carbolic acid (Peiper); oil of turpentine, salicylic acid (also after administration of salol) bromide of potassium, iodide of potassium, chlorate of potash, arsenic, iron, lead, mercury (Prevost and Binet).

The excretion through the bile may begin very early; for example, salicylate of soda is detected in the course of half an hour after administration, iodide of potassium after some six to eight hours (Peiper).

In the case of the above substances there is no evidence that in the course of their excretion they exert any injurious action. On the contrary, the action of some of them is beneficial, causing an increased secretion and flow of bile.

Very different, I find, is the result with another class of substances, of which toluylenediamine may be taken as a type. This body has the power of producing intense jaundice in dogs, the jaundice being obstructive and caused by intense concentration and viscidity of the bile.

When the jaundice is at its height, the smaller bile ducts are found plugged with thick viscid bile, while lower down in the common duct only thick viscid colourless mucus is found.

The particular observation of my own I have referred to is that this change in the character and viscidity of bile is due to inflammatory catarrh of the whole system of bile ducts

extending from above downwards, set up by the excretion of the poison itself (or derivatives of it) through the bile. I found the drug in the bile as early as half an hour after its injection into the blood. In large doses it exerted an intense irritant action, not only on the bile passages, but also on the duodenum in cases.

From the opening of the bile duct downward the most intense inflammatory condition was produced, the mucous membrane, as determined by actual measurement, being swollen to $3\frac{1}{2}$ times its normal thickness, reddened and inflamed, and covered with tenacious colourless, inflammatory mucus, and similar mucus was seen exuding from the opening of the common bile duct.

The intrahepatic catarrh, I would ask you to note, is secondary to the duodenal catarrh, but precedes it. It is produced even when the common bile duct is ligatured, and the bile is allowed to flow out through a fistula.

It is thus no question of a catarrh of bile ducts secondary to a duodenal catarrh. The relation is the other way: the catarrh has spread down the bile ducts from their origin.

The significance of these observations in relation to the pathology of jaundice caused by poisons, and in relation to catarrh of the intrahepatic bile ducts, I have discussed in full elsewhere.[2] Tney establish to my mind the great importance of this excretory function of the liver in relation to intrahepatic catarrh. The liver is constantly being called on to deal with products more or less harmful carried to it in the portal blood from the intestines. It deals with them in two ways, either by destroying them, or by excreting them—most usually by both.

If these products possess any irritant qualities, this continuous excretion will tend to set up and maintain a certain degree of intrahepatic catarrh in direct proportion to any irritant qualities they possess.

And this is precisely the state of things favoured in the chronic dyspeptic, in those who lead a sedentary life, in the "bilious" subject generally.

I consider it possible, then, that under the conditions just referred to, a state of intrahepatic catarrh of excretory origin may be induced, and that in certain cases this may suffice to lead to the precipitation of the bile pigment and lime of the bile in the form of the insoluble bilirubin calcium compound.

In this way small biliary concretions may, I think, be produced independent altogether of infection. It is conceivable even that in certain cases, such intrahepatic concretions, carried downwards and lodging in the gall bladder, may form the starting-point of a moderate and non-infective stone formation in the gall bladder itself.

Such, I conceive, may well be the mode of origin of the gall stones so often met with in the gall bladder of old people that have never caused any symptoms. Such also I consider to be the nature of the cholelithiasis met with in the subjects of heart disease. Here the catarrh of bile passages and gall bladder is set up and maintained by the passive congestion prevailing in the liver generally. In a recent case of this kind I found the mucous membrane of gall bladder chronically congested and thickened, producing thick viscous clumps of material which lay between the individual stones, many of the clumps already showing the shape of stones. On the addition of a few drops of acetic acid they threw down cholesterin crystals in abundance. I regard them as gall stones in their earliest stages.

Conclusions.

1. In cholelithiasis we have to do with a local disease affecting the bile passages or gall bladder or both, and not with any general constitutional disturbance affecting nutrition or metabolism.

2. General etiology—the influence of age, sex, pregnancy, sedentary habits, food, heredity, etc.—throws but little light on the immediate causes underlying the disease. It only brings out one important fact: that anything that favours stagnation of bile in the gall bladder favours the occurrence of cholelithiasis. Yet stagnation alone is not sufficient to cause the condition.

3. The two chief constituents of gall stones are cholesterin and bilirubin calcium.

4. The conditions that determine the presence of these constituents in insoluble form are entirely local. The cholesterin found in gall stones has never been in solution in the bile, but is formed as viscous masses as a product of degeneration of the epithelium, chiefly of the gall bladder; and the combination of bilirubin with calcium to form the insoluble compounds—bilirubin calcium—is determined by the presence of albumen, such as is derived from degenerating epithelium in the bile passages or gall bladder. The favouring conditions in both cases are thus such as specially prevail in catarrhal conditions of bile passages and gall bladder.

5. As causes of catarrh, two factors are to be recognised: (*a*) Infection of gall bladder with micro-organisms, an occurrence specially favoured by stagnating bile. The chief organisms hitherto found are B. coli communis and the typhoid bacillus. An infection of this kind is probably a common cause of the gall-stone formation so common in the gall bladder. (*b*) Excretion of irritant products through the bile. The catarrh so set up is always in the first instance intrahepatic, and may be entirely confined to the intrahepatic bile ducts; it leads to the formation of bilirubin-calcium concretions. The concretions so formed may be afterwards carried to the gall bladder, and there form the nuclei of larger stones.

6. Whether the immediate cause of the catarrh be of an infective or a non-infective character, the indications for treatment are in the main the same: (*a*) We cannot prevent accidental infection of the gall bladder, but a certain sojourn within the gall bladder is a necessary condition for organisms to set up catarrh; and by preventing stagnation of bile (by proper exercise, avoidance of tight-lacing, etc.) we can render the conditions unfavourable to their action. (*b*) In the case of the catarrh of non-infective origin, we can hope by appropriate treatment to do away not only with the catarrh itself, but with its causes, by promoting an absolutely healthy gastric and intestinal digestion, so as to avoid the formation of any products which may possibly excite any degree of catarrh in the event of their being excreted through the bile; and, secondly, by promoting a free flow of bile by diluents given between meals by exercise, by suitable diet, of which the chief is meat, and by drugs, the chief of which is salicylate of soda.

References.

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THE SYMPTOMS AND DIAGNOSIS OF CHOLELITHIASIS.

The success of surgical interference in gall-stone disease renders it incumbent upon the practising physician to make an early diagnosis, so that calculi may be removed before serious damage is done by their presence either in the gall bladder or in the large bile ducts, and before the system is irreparably injured by poisons circulating in the blood, the result of obstructive jaundice, of the absorption of toxins produced, and by microbes.

Cases of gall-stone disease are often divided into two classes, those without and those with jaundice. Although this classification has been of great use clinically it is at best an artificial one, since bile pigment may be found in the urine when the calculi are situated in any part of the gall bladder or bile ducts, although its presence is of course much more marked when they are arrested in the hepatic or common choledoch duct.

It is impossible in the time allotted to me to give all the symptoms of biliary calculi. My intention is to describe briefly the course of the disease and to dwell more particularly upon symptoms which are of diagnostic importance as well as those which have been of special interest to me in practice. The symptoms of cholelithiasis are influenced to a greater degree perhaps than we suppose by the length of time required for the formation of the calculi. It is generally thought that they grow very slowly, but Naunyn is of the opinion that ordinary gall stones of the soft variety may form in a few days, even in a few hours. Biliary concretions may exist in the gall bladder a number of years without producing

ny symptoms, at least any sufficiently marked to lead the patient to consult a physician.

The frequent discovery of gall stones in *post-mortem* examinations of patients in whom they had not been suspected is a proof of this. They have been found in one-tenth of all cases and in one-fourth of all elderly women.

A number of indefinite symptoms have however been noticed, for instance, frequent bilious headache, bilious attacks without headache, and a feeling of pressure over the stomach after certain articles of food. I am strongly of opinion that if a frequent and careful examination of the urine was made bile pigment would be found in a number of these cases, especially when catarrhal cholecystitis is present. This latter condition in the chronic form may end in contraction and atrophy of the gall bladder. Courvoisier has collected 13 such cases, in 7 of which the biliary passages were not in any way obstructed.

I had for a number of years a patient under observation who had xanthomata of the eyelids and who suffered from frequent attacks of biliousness but with no local sign. She died of intestinal hæmorrhage and the gall bladder was found filled with calculi. Fremitus has occasionally been noticed, and the stones have been detected by sounding. This is not a safe procedure especially if cholecystitis is present. When in addition to the presence of calculi there is an invasion of pyogenic organisms a series of symptoms of very grave character rapidly supervene. Pain and tenderness over the region of the bladder often set in suddenly. The pain is not of the nature of colic unless the cystic duct has been entered. Symptoms of localised peritonitis and irregular night temperature together with marked disturbance of the digestive functions, anorexia, nausea, and vomiting.

I saw a very interesting case of this kind some years ago. The patient, a man of full habit, was in ordinary health, when while walking on the street he felt a pain in the right hypochondrium, which was accompanied by much tenderness in the hepatic region and by tension of the right rectus muscle. Symptoms of a remitting fever following with irregular exacerbations sometimes amounting to rigor. Death took place about six weeks after the commencement of the attack. At the *post-mortem* examination the gall bladder was found filled with calculi and the whole mucous surface was separated by ulceration. Pyæmic abscesses existed in the liver and kidneys. In some cases of suppurative cholecystitis the infective agent is the typhoid bacillus, and death may result from rupture and infective peritonitis. Several cases of the kind have been reported. Dr. Anderson of Toronto has described one in which at the *post-mortem* examination suppurative cholecystitis and typhoid lesion of the bowels were found. The amount of ectasia of the gall bladder varies in different cases. When there is an occlusion of the cystic duct from thickening of the lining membrane the distension may be very great. Biliary calculi may find their way out of the gall bladder either through the cystic into the common bile duct or through the walls of the viscus into surrounding connective tissue into the liver or into the peritoneal cavity.

Cases have been reported in which during a paroxsym the gall stone has been driven through the thin and tense wall of the gall bladder into the peritoneal cavity. Death from hæmorrhage followed in one case, and in another the bile flowed into the abdominal cavity and was removed by successive tappings. The aseptic bile did not produce any inflammatory action and the patient recovered. In such cases it is difficult to understand how a sufficient amount of force is generated thus to expel a gall stone. The force is generally supposed to be produced by spasmodic contraction of the muscular fibres of the gall bladder and of the muscles of the abdominal walls. When the cystic duct is obstructed it is probable that the accumulation of fluid acts also as an expelling power. In the great majority of cases of rupture there has been a previous ulceration of the gall bladder wall and the calculi find their way into surrounding connective tissue.

When the gall bladder contains a number of calculi diverticula are frequently formed. These are really herniæ in which the serous membrane alone remains. If suppuration takes place under these circumstances, abscesses are formed containing gall stones, and having direct communication with the cavity. Hour-glass contraction of the gall bladder existed in 15 cases collected by Courvoisier. Cicatrices of the wall of the gall bladder have been found by Schloth in 14 out of 343 gall stone cases. With the exception just mentioned, calculi do not give rise to any special symptoms until they pass into the cystic duct, when the well known symptoms of biliary colic supervenes. Biliary colic occurs in less than half of all gall-stone cases. An attack may be brought on by error in diet, emotional disturbance, by active movements of the body. They occur during menstruation, during or after confinement, and after the removal of abdominal tumours. They also supervene after marked intestinal irritation in typhoid and other fevers.

Hayem has collected 18 cases occurring during the course of typhoid fever. The seat of the pain is usually in the gall-bladder region but it may also exist in the epigastrium, the left hypochondrium, and in the right shoulder. It is sometimes referred to the right inguinal region, and in one case I have mistaken gall stone for appendicitis. An elongated appendix may extend upwards towards the liver. The severity of the pain does not depend so much upon the size of the stone as upon its shape. The angular projections produce greater irritation to the sensitive mucous membrane, and cause more severe pain.

The ordinary symptoms of biliary colic need not be mentioned as they are all so familiar to us. I would like to refer to some of the less frequent phenomena. Death has occurred during an attack. Two or three cases have been reported by French authors in which symptoms of shock were shortly followed by death. Potain is of opinion that acute dilatation of the right ventricle may take place as evidenced by *bruit de galop*, and by pulsation in the epigastrium. This he thinks is due to a spasmodic contraction of the pulmonary capillaries, and consequent obstruction of the circulation. Convulsions have supervened in neurotic subjects. A case of paraplegia has been reported by Trousseau, and another by St. Cyr. Hepatic cough has been mentioned by the older writers, and functional troubles of the heart, as palpitation and irregular action, have also been reported. The diagnosis of biliary colic without jaundice is often not easily made. Many of the conditions resembling it may be excluded by careful examination and by attention to the history of the case.

Here I would like to refer to one condition—the differentiation of which has given me more trouble than any other, that is, spasmodic closure of the pylorus accompanied by painful distension of the stomach. If the patient is seen during an attack the gastric distension may be made out. The presence of an increased amount of free hydrochloric acid in the gastric juice would lead one to believe that the stomach is the seat of the pain. An elevation of temperature is present in a greater number of cases of biliary colic than one would suppose from medical literature. Rigors with high fever and perspiration have been occasionally observed. These symptoms have been especially referred to by Dr. Osler under the the head of "hepatic intermittent." This condition resembles urethral fever, and probably results from the absorption of toxins. It is important to remember that it may exist without the presence of suppuration.

Cases of biliary colic and spasmodic contraction of the gall bladder have been described in which calculi were not found. This is not uncommon. In some of these the calculus has already passed through. On the other hand, calculi sometimes pass through the cystic duct without pain or spasm. Jaundice does not take place in more than half the cases of biliary colic. Trousseau mentions a case in which jaundice did not occur until after four years, during which the patient had a great number of attacks of colic. Murchison has also reported a case in which daily attacks occurred for four months without the appearance of jaundice. Another case is given in which jaundice did not appear until after eight years had passed.

In many cases the calculus becomes engaged in the entrance of the cystic duct, and again falls back into the gall bladder. It is also probable that in some the stone remains in the same situation and only at times sets up a spasmodic contraction. The passage of the calculus is no doubt assisted by peristaltic action of the duct itself. The solution or breaking down of calculi does not often take place. Naunyn has in some cases observed evidences of the solution of concretions. It is quite probable, as has been mentioned by Dr. Adle

(New York), that although marked jaundice is not present, in cases of occlusion of the cystic duct, a small amount of bile pigment may be detected by careful examination of the urine. This I am convinced is a valuable diagnostic sign. The urine should be examined not once but on several successive days, and if bile pigment is frequently found, the hepatic origin of the trouble is made more obvious. In such cases the bile is probably absorbed through ulcerated surfaces, the result of the presence of calculi.

When the stone is arrested in the cystic duct, the completeness of the obstruction will sometimes depend on the direction of the axis of the stone. The change of axis may produce a decided change of symptoms. The question of the possibility of the formation of calculi in the cystic duct might be here referred to. Cases have been reported in which the concretions have increased in size after they passed into the duct, but none which would prove the origin of stones in that situation.

When the calculus becomes lodged in the cystic duct, a distension of the gall bladder takes place. If the obstruction is complete so that there is neither entrance nor egress for the bile, the viscus becomes distended with mucous and the bile staining gradually disappears. In some cases the calculi form a ball valve allowing the entrance, but not the exit, of bile. According to Courvoisier's statistics, in 91 cases of distension of the gall bladder, due to calculous obstruction of the cystic duct, bile was found in 12 cases and watery fluid in 72.

The distended gall bladder may reach the size of a child's head. A case is mentioned from which ten pints of fluid were removed. It is often larger than the kidney, and of a somewhat similar shape. In other cases it is narrow and tense, somewhat sausage-shaped, but very rigid. A few years ago a case of this kind came under my observation, in which the extremity of the gall bladder pressed against the abdominal walls producing a tumour not unlike a hernia. A cholecystotomy was done by Dr. Ross, a calculus removed, and the patient recovered.

It might be mentioned here that distension of the gall bladder sometimes takes place from atony of the walls when there is little or no obstruction. When from any cause ectasia of the gall bladder is present, an invasion of pyogenic organism will produce a suppurative cholecystitis, and this may end in rupture or in general pyæmia. Again a simple catarrhal inflammation may take place, followed by contraction and atrophy. Atrophy occurs more frequently in calculous obstruction and distension in cases of carcinomata. In some such cases when pigment and bile salts are absent, cholesterine has been found, and the contents vary in consistence, being sometimes serous, mucous, or even of a cheesy character. Degenerated blood has also been found.

The diagnosis between a distended gall bladder and a displaced right kidney is often a matter of some difficulty. The points usually given are:

1. The history of biliary colic.
2. The movement of the tumour with respiration.
3. That the lower extremity is movable, whereas the upper is fixed.
4. That the kidney may be felt behind the distended gall bladder.
5. That the colon lies in front of the kidney and behind the gall bladder.
6. In pyonephrosis the urine may contain pus, and in distended gall bladder bile pigment may be present.

I shall now take the liberty of relating briefly two cases illustrating this difficulty of differentiation.

1. The patient, a married woman 52 years of age, had suffered during the summer from occasional attacks of pain together with general *malaise*. In October a tumour was discovered below the liver, extending downwards nearly to the crest of the ilium. It was large, smooth, elastic and tender. The right kidney was displaced, as shown by absence of kidney dulness.

The patient was examined under chloroform, when the kidney could not be found separate from the tumour. The latter did not move with respiration, nor was the lower extremity any more movable than the upper. The urine was free from pus, and contained a small quantity of bile pigment. Symptoms of suppurative fever were present.

Dr. Temple operated, and found a distended suppurating gall bladder and a stone in the cystic duct. The patient made a good recovery.

2. A second case was seen by me last winter. The patient, a female, complained of severe pain in the gall bladder region, which was accompanied by a swelling immediately below the margin of the ninth and tenth ribs on the right side. The pain occurred irregularly at intervals of weeks or months, and was nearly always relieved by pressure over the region of tumefaction. The tumour, which was thought to be an enlarged gall bladder, was found to be a distended cystic kidney. The urine did not contain bile pigment nor any abnormal deposit. The length of time—eight years—during which the patient suffered from the pains should have decided against distended gall bladder. The patient was operated on by Dr. Ross, and recovery followed.

When the calculus has passed through the cystic duct, it usually finds its way through the larger bile duct without difficulty until it is obstructed by the narrow duodenal outlet. In many cases, however, owing to the narrowing of the duct, the calculus is found in different parts of the canal.

Courvoisier has collected 123 cases in which the situation of the gall stone was noted. In the part near the liver, 17 cases; in the middle part, 19 cases; near the duodenum, 20 cases; close to the outlet, 41 cases; the whole tube obstructed, 26 cases.

The symptoms caused by the passage of calculi through the common bile duct are similar to those already described in connection with the cystic duct. Obstructive jaundice is the marked differential sign between the two conditions. The severity of the pain is equally great. Mayo Robson has reported a case in which death took place at the height of a paroxysm. A calculus was found partly extruded into the duodenum surrounded by some tense fibres of the sphincter.

On the other hand, calculi may pass through the natural channels without producing any special symptoms. Many such cases have been reported. It is probable that in some the ducts were dilated by the previous passage of a gall stone.

In cases of complete obstruction, the biliary ducts and gall bladder become very much distended with bile. The colouring matter is taken up by the lymphatics and jaundice supervenes. Harley has in recent years demonstrated that in such cases of obstruction the bile always finds its way into the blood vessels through the lymphatics. After a time the contents of the distended bile ducts loses the bile stain and becomes watery. The stagnation of bile often results in the precipitation of the bile pigment and the formation of pigmentary calculi.

The gall bladder is not so frequently distended in calculous obstruction of the common bile duct. In 87 cases collected by Courvoisier, ectasia of the gall bladder was present in 17, and contraction in 70. This is partly explained by the changes already described, which take place in chronic cases. In recent cases, however, the bile does not always flow back into the gall bladder, owing to a peculiar formation of Heister's valve. It is therefore quite possible to have a case of recent calculous obstruction of the choledoch ducts without enlargement of the gall bladder.

Cholelithiasis is now given as one of the causes of cirrhosis. Hanot in his classification gives two subdivisions of biliary cirrhosis—hypertrophic and calculous.

In many cases in which cirrhosis is found with cholelithiasis the increase of fibrous tissue may be due to other causes—alcohol, for instance. It has, however, been demonstrated that cirrhosis may be produced by cholelithiasis alone The pressure of the bile in the distended ducts, as well as the irritation due to calculi in the extra and intrahepatic ducts, are probably the principal agents. In many cases the microbes and their products are an additional source of irritation.

Calculi are sometimes carried back from the choledoch into the hepatic duct, when we may have obstructive jaundice without distension of the gall bladder.

The writer has noticed that in some cases the cystic and common hepatic ducts lie close together for the distance of one-half to one inch. In such patients, a calculus in one duct might cause obstruction of the other. Calculi may form in the intrahepatic biliary passages. These are usually of a pigmentary character. Tait was of opinion that these pigmentary calculi passed down into the gall bladder and formed the nuclei of the ordinary gall stone. The symptoms of intrahepatic calculi are indefinite. In 22 cases out of 87 pain was present (Courvoisier). Disturbances of the digestive functions were present in almost all cases, and in 26 there was an enlargement of the liver. In 6 jaundice was well marked, and in 35 it was present, but not intense.

In all cases of biliary obstruction from calculi there is a danger of the introduction and growth of pathogenic germs,

ding to suppurative cholangitis and cholecystitis with the companying symptoms. Schroeder found purulent hepatis in 9 out of 144 gall stone cases.

The pain in this condition is usually not severe, and though an abscess may form, it is not so large that it can made out during life. Intrahepatic calculi are often found large numbers in the abscess cavity. The abscesses may small and multiple. There may be one large cavity, ne, or surrounded by smaller deposits of pus.

The bacteria most frequently found in such cases are the cillus coli communis, streptococcus, the staphylococcus reus, and the diplococcus pneumoniæ.

Naunyn gives the following ways in which abscesses of the er are formed as a result of cholelithiasis:

. Empyema of the gall bladder may rupture into the liver.
. In purulent cholangitis an ulceration of the walls of the cts may perforate and spread into the surrounding hepatic sue leading to abscess formation.
. In Schüppel's hepatitis sequestras, a necrosis of hepatic ls takes place at the periphery of a lobule followed by puration at the edge of the necrosed portion.
. The abscess may be of a metastatic or embolic character.

The diagnosis of calculous abscesses of the liver is always matter of difficulty. The presence of rigors, with perspiran and sudden elevation of temperature, are not sufficient, these may occur in gall-stone cases when there is no puration, or they may be caused by suppurative cholang- when there is no collection of pus. Loss of strength is ally more rapid, and the enlargement of the spleen is re marked when abscess is present. The hepatic tenders, pain, and swelling are usually not sufficiently marked lifferentiate abscess from cholangitis. Although all forms suppurative disease of the liver are dangerous, when the cess is confined to the bile ducts a complete recovery may e place after the removal of the obstruction.

he development of jaundice after biliary obstruction takes e in two or three days, and often the pigment may be nd in the urine when there is no discoloration of the n. Is there any method whereby the jaundice of chronic iasis may be distinguished from that due to other forms bstruction?

aunyn gives the following points in cholelithiasis: The continuous or occasional presence of bile in the es. 2. Distinct remissions in the intensity of the jaun-. 3. Normal size or only slight enlargement of the liver. bsence of distension of the gall bladder. 5. Presence of ile disturbances. 6. Duration of jaundice for more than ar.

ne presence of fever is not always a differentiating sign ween cholelithiasis and carcinoma. I had a case under rvation a little more than a year ago in which rigors e on irregularly every few days, followed by hot and ting stages. The patient, a man over 60 years of age, suffered from malaria when young. The plasmodium sought for and not found. No cause for the fever could iscovered. A few months later a carcinoma of the pylorus me apparent. Calculi in the common bile duct may give to many symptoms apart from those of obstruction. A nepatitis may be produced, which, if pus germs are present, end in a perihepatic abscess. Bands of adhesion may ound and occlude the pylorus and result in gastrectasis.

eculiar case of gastrectasis and gastric ulcer resulting abscess came under my observation last winter:—

patient, a woman of 50, had had several attacks of biliary colic, which she made a good recovery. In the month of May she had one n lasted longer, and from which she did not recover so completely. ugust of the same year, after more than usual exertion, she was d with obstinate vomiting, which continued until the time of her in November. The vomited matter sometimes contained blood. ng the last few weeks she was unable to retain even a teaspoonful of and toxic symptoms occurred shortly before her death.'

the *post-mortem* examination a calculus was found in the ampulla ter, which partially obstructed the flow of bile and to some extent ned the calibre of the duodenum. A duodenitis was produced, n extended through the pylorus, involving the left third of the us membrane of the stomach. An ulcer about the size of a large 7 existed in the inflamed portion, not far from the pyloric opening.

lculi in the gall bladder and biliary canals are often the e of carcinoma. The very large proportion of cases of er of the gall bladder in which calculi are found is an uce of this. Courvoisier found them present in 74 out cases, and Brodowski in every one of 40 cases.

In the bile ducts the most common seat of carcinoma is the duodenal end of the choledoch duct, which is also the part most frequently obstructed by gall stones. It is, therefore, not surprising that symptoms of cancer of the gall bladder and biliary ducts are often preceded by those of cholelithiasis. The frequency of the combination of cholethiasis with diabetes has been referred to by Ord. Sometimes sugar in the urine follows an attack of biliary colic. This latter circumstance has given rise to the theory that cholelithiasis is a cause of diabetes. It is, however, more probable that the pathological conditions which give rise to diabetes may also tend to the development of biliary concretions. Naunyn observes that the absence of glycosuria previous to the attack has not been proved in any of the cases in which sugar was found after an attack. It is, therefore, quite possible that these have been really cases of diabetes.

Pernicious anæmia has been known to follow biliary obstruction in a number of circumstances. This may arise from bile circulating in the blood or more likely from the presence of toxins, the result of microbes in the biliary passages. It is also probable that the function of the liver as a guard against the introduction of intestinal poisons is much impaired, and that the presence of these in the general circulation results in a destruction of red corpuscles.

Hintze has mentioned a case of cholelithiasis in which gas was found in the liver. This may have resulted from the presence of bacillus coli communis or from the bacillus aërogenes capsulatus. Gall stones are occasionally the cause of gastric and intestinal obstruction. Cases of pyloric obstruction have been reported by Pepper, Fiedler, and others. In most of these a diagnosis of carcinoma had been made.

In 1889 Schreiber of Königsberg operated on a case of pyloric stenosis in which a calculus was found at the base of an ulcer. A complete recovery followed.

Biliary concretions which pass through the common duct are usually too small to produce obstruction unless they remain in the intestine and become increased in size by additional deposit. Calculi may exist in the intestine a number of years before producing symptoms. A case is recorded in which in all probability a gall stone passed into the bowel fifteen years before signs of obstruction appeared. Calculi which pass through fistulous openings are often large enough to cause obstruction at once. On the other hand, very large stones may pass through the bowel without producing any marked symptoms. A case is given by Naunyn (Blackburn's) in which the calculus measured $3\frac{9}{16}$ by $1\frac{9}{16}$ inches. In some cases either because the ulceration into the intestine takes place without pain or the stone has remained for a time in the intestine, an attack of acute intestinal obstruction takes place when a patient is in good health. Dr. Draper of New York has reported two such cases. The patients were seized with acute abdominal pain when in the enjoyment of good health. The diagnosis was made in both cases. In one an early operation saved the patient. In the other surgical interference was delayed at the solicitation of friends until it was too late to effect a cure.

Gall stones in the ileum are five times more frequent in women than in men. In Lobstein's 66 cases 46 were women and 74 per cent. were women in Schiller's cases. In Schiller's 108 cases 4 were under 30 years, 5 between 30 and 40, 99 were over 40.

The seat of obstruction in 10 out of 75 cases has been the ileo-cæcal valve or a little above it. In 13 it was within an inch of the valve, whereas in 6 it was found in the large intestine either at the sigmoid flexure or below it. In the small intestine the stone may first obstruct the circulation and then ulcerate through, either producing a fatal inflammation, an abscess, or an appendicitis. A small calculus has been known to find its way into the appendix producing fatal inflammation. In most cases the symptoms of obstruction are of an acute character, but in some the development is chronic. The diagnosis from other forms of obstruction is made from close attention to the history of the case. Flatus more often passes this than other forms of obstruction. The situation in the small intestine may be diagnosed by the more persistent vomiting and by the presence of an excess of indican in the urine. The presence of a tumour near the cæcal valve is often noticed. The mortality of gall-stone ileus is very great, about 40 per cent.

Having described the passage of gall stones through the ordinary channels, I shall now refer to the various kinds of fistula which are sometimes produced. (Naunyn.)

—	Roth	Schroeder.	Schloth.	Total.
Total of Necropsies	5403	1150	4313	10866
Gall stones present in	535	151	343	1029
Perforations into the peritoneum :	—	1	2	3
(*a*) of gall bladder	—	—	2	3
(*b*) of cystic duct (rupture) ...	—	1	—	1
Fistulæ:				
(*a*) between the several bile ducts	—	—	1	1
(*b*) between gall bladder and liver	—	—	1	1
(*c*) between gall bladder and stomach	—	1	—	1
(*d*) between the gall bladder and duodenum	12	1	6	19
(*e*) between the gall bladder and colon	8	5	3	16
(*f*) between common duct and duodenum	5	—	—	5

The calculus usually passes through the walls of the gall bladder by ulceration. Adhesive inflammation precedes the exit, so that the stone when it leaves the viscus is surrounded by connective tissue. An abscess may form or the process may be accompanied by little suppuration. When abscesses occur the symptoms are similar to those of suppuration elsewhere, for instance, to those following appendicitis.

Biliary fistulæ may extend upwards, perforate the diaphragm into the pleural cavity or into the lung, forming in the latter case a broncho-biliary fistula. Bile may then be coughed up in large quantities, and in some instances calculi have been expelled in this way. These fistulæ may connect directly with the gall bladder or may arise from an abscess in the liver itself connected with dilated bile ducts.

A case has been recorded of perforation into the left pleura, into the mediastinum, and then into the pericardium. Perforation may take place into the stomach, when the calculi may be expelled by vomiting. In most cases when calculi are vomited they are regurgitated into the stomach from the duodenum. Fistulous openings into the duodenum and colon are comparatively frequent. These may originate in the intrahepatic and extrahepatic ducts and in the gall bladder, generally in the latter. The entrance may take place in any part of the intestine, and occasionally there are two openings communicating with one sinus. An opening into the portal vein occasionally takes place, resulting in fatal hæmorrhage.

Biliary fistulæ perforating the abdominal walls usually originate in the gall bladder, and are the result of a suppurative cholecystitis. When the cystic duct is obstructed a mucous or purulent discharge takes place from the opening. When the cystic duct is open and the common bile duct obstructed large quantities of bile may pass through the fistulæ. These passages are usually tortuous, and may open in the right hypochondriac region, but more frequently in the vicinity of the umbilicus. Richet has described an umbilical channel commencing at the entrance of the obliterated umbilical vein into the liver and ending in the navel. It is from $1\frac{1}{4}$ inch to $2\frac{3}{8}$ inches in length. Fistulæ often follow this course.

Calculi are often discharged in large numbers. The fistulæ may last for years, but in the majority of cases a deterioration of health or tuberculosis supervenes. It was formerly thought that this debility was due to absence of bile in the intestines. It has, however, been found that animals with external biliary fistulæ thrive well, and cases have been recorded of patients living many years after their formation. In Harley's case the patient died at 74, and during the last eight years an external biliary fistula had existed. The deterioration of health is probably due to the absorption of toxins from the fistulous surface. Fistulous communication may exist between the gall bladder and the pelvis of the kidney, so that a gall stone may give rise to renal colic. Openings into the uterus and vagina have also been reported.

When a gall stone is arrested for a long time in the duct ulceration of the mucous surface may take place, which, after the stone has passed out, may produce a permanent stricture. When the hepatic and common bile ducts are involved chronic, obstructive jaundice may result.

III.—HENRY HANDFORD, M.D.,
Physician Nottingham General Hospital.

DR. HANDFORD was much interested to hear of the observations which had been related as to the causal relation of typhoid fever to cholelithiasis. In Nottingham typhoid fever was very prevalent, but out of 300 hospital cases of which the speaker had notes no single case of jaundice was recorded, nor any instance of biliary colic sufficient to attract the notice of the attending physician. Dr. Hunter's description of the method of formation of gall stones explained their not infrequent occurrence in young people, a matter which had caused much surprise. A few months ago a case of perforated gastric ulcer in a girl of sixteen was operated upon by a surgical colleague and died at the end of a mouth. *Post mortem*, a single gall stone the size of a small walnut occupied the contracted gall bladder. There had been no symptom whatever of the presence of gall stones. A point which had not been alluded to was the occurrence in some cases of persistent jaundice of intense toxæmia leading to hæmorrhages, unusual susceptibility to morphine, and death; whereas in other instances jaundice might continue for years without any such blood disorganisation. As an illustration the speaker mentioned the case of a lady, 60 years of age, who had suffered from deep jaundice without intermission for four and a-half years, and at the end of that time was in better health than at the beginning, and able to walk and drive about, the jaundice notwithstanding. The rarity with which gall stones were found in the evacuations of the alimentary canal, even when properly searched for in well managed hospitals, compared with the frequency of hepatic colic had convinced the speaker that many cases of colic could not be due to gall stones, but to some simpler form of mechanical obstruction. The only other explanation was that the stones disintegrated in the alimentary canal, and of that there was little or no evidence.

IV.—JOHN A. MULLIN, M.D.,
Hamilton, Ont.

DR. MULLIN referred to 2 cases in which surgeons in operating had failed to find gall stones which *post mortem* examinations made soon afterwards disclosed. Reference was also made to his clinical experience which did not show any case of cholelithiasis occurring in patients who had suffered from typhoid fever, and he expressed doubt respecting the propriety of tracing pathological conditions to the typhoid bacillus even though that organism were present.

V.—GUSTAV BAUMGARTEN, M.D.,
St. Louis.

DR. BAUMGARTEN said: I shall refer only to two points. The connection between malignant disease and cholelithiasis has not been alluded to. While it is granted that the presence of gall stones may become the proximate cause of cancer of the gall bladder or ducts, there are also cases which, by clinical evidence, give the impression that the carcinoma may be the primary condition, that is, may be one of the causes of the formation of gall stone. The second point refers to rupture of the gall bladder in cholelithiasis; this is attributed to distension of the cystic walls, or to ulceration at the site of the calculus. But I have observed a case in which neither of these conditions was present to account for the rupture. A gentleman, aged 55, careless of his health had had many most violent attacks of gall stone colic. He died of acute general peritonitis two days from its sudden incipiency in the midst of health. The diagnosis of peritonitis from perforation was verified at the necropsy, and the cause was found to be a perforation of the gall bladder by

pin-point opening. The gall bladder showed no marks of undue distension, nor of any inflammation or ulceration whatever. In a spot the size of a pea, of which the perforation was the centre, the muscular coat of the gall bladder was absent, but the parts around the opening were not roughened nor thickened, and showed histological evidence of neither inflammation nor rupture. The common duct was thickened, dilated in parts, and at the distal side of the largest dilatation was a stricture due to previous ulcerations. In the dilated portions of the duct and in the cystic duct were found several gall stones.

VI.—Angus Mackinnon, M.D.,
Guelph, Ontario.

Dr. Mackinnon expressed a great interest in the discussion of this subject, and felt pleased that attention was drawn to the relation of typhoid fever to cholelithiasis. During the past year two cases of suppurative inflammation of the gall bladder had occurred in his practice, one a woman, aged 27, six weeks after recovery from typhoid. The second, in a woman aged 40, and within four months of an attack of typhoid. In both there were a number of calculi in the gall bladder. It was only within the past few years that this relation of typhoid fever to gall stone had been observed. They had all had more or less experience with typhoid fever, but until recently no cases of gall stone were known to follow it.

VII.—W. Pasteur, M.D., F.R.C.P.,
Assistant Physician, Middlesex Hospital.

Dr. Pasteur wished to illustrate the great difficulty attending the diagnosis of some cases by referring to a patient recently under his care. He felt convinced that the greater frequency and safety of exploratory operations of the abdomen would largely increase the accuracy of diagnosis in cases of this nature. The patient in question was a man of 50 years of age, with good antecedents, who had lived a fairly active, sober life. Of late years there had been a decided tendency to obesity. He was seized some four months before with acute pain in the region of the gall bladder with vomiting of a considerable quantity of blood. The attack passed off in a few hours, and was not followed by jaundice. In the course of the next six weeks the patient suffered from many attacks of a similar nature, gradually increasing in frequency and in severity. He lost weight rapidly, and was unable to take any solid foot without determining an attack of colic. There was never any jaundice. When seen by Dr. Pasteur some weeks after the onset no enlargement of liver, gall bladder, or spleen could be made out. The history of the attacks seemed to leave no doubt that the trouble lay in or near the gall bladder. An exploratory incision made by Mr. Pearce Gould revealed the following condition: The liver was small and drawn up behind the ribs so that it was only reached with much difficulty. There was some thickening at the site of the gall bladder, but no calculi could be felt, nor could the viscus be made out. The pylorus was surrounded by adhesions and fixed to the under surface of the liver. These were divided with much difficulty and the pylorus relieved. The patient made an excellent recovery and was in perfect health and gaining weight steadily more than two months after the operation.

VIII.—Edmund Rogers, M.D.,
Denver.

Dr. Rogers mentioned a case (reported elsewhere) of an operation on a woman, aged 35, who suffered over a long period from attacks generally giving symptoms of suppurative cholecystitis. These attacks were frequent and terrible in their severity—repeated chills, very high fever, local pains, tenderness, jaundice, etc. The gall bladder was found empty and contracted to about one-third its ordinary size; the liver was small and high up, but no stone was present. Cholecyst-duodenostomy was performed with a Murphy button. The patient died a few days after in an acute attack, when the necropsy showed a local atrophy, but no stone. There was, however, a stricture of the ileum, which caused incomplete obstruction. There was no peritonitis, and the condition at the seat of operation was surgically satisfactory.

IX.—George Acheson, M.B.,
Galt, Ontario.

Dr. Acheson said that as regards etiology, he thought that the presence of lime salts in the drinking water had an important bearing. He asked Dr. Hunter whether he had noticed this connection.

X.—W. J. Campeau, M.D.,
Harrow, Ontario.

Dr. Campeau emphasised the difficulty of diagnosis in many cases and the necessity of calling in the aid of a surgeon.

XI.—Stephen Mackenzie, M.D., F.R.C.P.,
Physician to the London Hospital, President of the Section.

The President alluded to the great value of the papers of the introducers of the discussion. To Dr. William Hunter the Section was greatly indebted for an exceedingly able exposition of the chemico-pathology of gall stones, largely the results of his own original work. To Dr. Graham they were indebted for a most complete and valuable consideration of the causes and effects, clinical and pathological, of gall stones. One of the most interesting points brought out by the discussion was the relation of enteric fever to jaundice and suppurative inflammations of the biliary passages, which, he thought would prove, now attention was drawn to it, more common than appeared at present. He thought there was a danger in assuming that biliary colic might occur without calculus or other mechanical obstruction, and he narrated a case in which cholecystotomy had been performed for repeated attacks of biliary colic, but no calculus was discovered. Later the patient had another and equally severe attack of biliary colic and jaundice. She came some months after in triumph with a calculus she had passed.

The Meath Home, Godalming.—The epileptic girls who have made use of this Home seem, according to the report, to have derived a certain amount of benefit from residence there. In some cases there is record of "satisfactory progress towards recovery." Industrial occupation and recreation, arranged under medical supervision, is a great feature of the treatment, and this in conjunction with the fine air of Surrey has given these satisfactory results. We congratulate the hard-working lady superintendent, Miss Anderson (who, we regret to learn, has been compelled to retire owing to ill-health) and her colleagues, whose intelligent co-operation has contributed to the happiness of a sadly neglected class.

The Arbitrament of Chance.—At a recent meeting of the Essex County Council, the three selected candidates for the coronership of the metropolitan portion of the county were balloted for as follows: Dr. Charles H. Wise, 30 votes; Dr. Alexander Ambrose, 24; and Dr. Major Greenwood, 11. As there was not an absolute majority of the 65 members voting, a second ballot was taken, with the result that Dr. Ambrose and Dr. Wise each received 30 votes. Upon this the Chairman, Mr. Alderman A. Johnston, resorted to the extraordinary expedient of tossing to determine his own vote, and, owing to the turn of the coin, gave it finally to Dr. Ambrose. A correspondent writes to us to call attention to what he considers to be the indecorous character of the Chairman's method of decision, and we apprehend that it will be felt that he showed considerable levity in arriving at a decision upon a matter of no little importance.

Charitable Donations.—Messrs. Barnato Brothers, in pursuance of an expressed intention on the part of the late Mr. B. I. Barnato, have forwarded the sums mentioned below as donations to the following medical charities: The London Hospital, £2,000, to endow two cots (B. I. Barnato cots); St. Mary's Hospital, £1,000, to endow one cot; the City Orthopædic Hospital, £1,000, to endow one cot; Charing Cross Hospital, £1,000, to endow one cot; Hospital and Home for Incurable Children, £250, to endow one cot; St. George's Hospital, £1,000, to endow one cot; the Free Cancer Hospital, £1,000, to endow one cot; Metropolitan Hospital, £1,000, to endow one cot; Home and Hospital for Jewish Incurables, £1,000, to endow one cot; Jewish Convalescent Home, £500.

AN ADDRESS
ON
THE STUDY OF MORBID ANATOMY.

Delivered at the Meeting of the Pathological Society of London, October 19th, 1897.

By JOSEPH FRANK PAYNE, M.D.,
President of the Society.

Gentlemen,—In taking the chair of this Society for the first time, I must thank you for the honour you have done me in electing me your President. The remembrance of the eminent names which have previously conferred distinction on this office, while it adds to the honour, increases also the responsibility of filling it. I can only say that I will do my best for the prosperity of a Society in which I have always taken the warmest interest, which it was formerly my privilege to serve as Secretary, and which I have always regarded as standing in the first rank of medical societies.

The past history of our Society was so fully dealt with by our retiring President, Mr. Butlin, in his able address of last year, that it would be superfluous for me to dwell upon that theme.

But the occasion seems an appropriate one for reviewing the position of our Society, which, like many other great institutions, does not lack its critics; and for considering what are rightly to be comprised among the main objects of our activity.

Now, to begin with our critics: The first point which often falls under the censure of our critics is our name. We are often told that the name pathology is much too wide for us, and that we use this great name while we confine our attention to certain limited branches of this vast subject.

Now it must be admitted that if we were bound strictly by name, there is some truth in this stricture. Pathology and therapeutics include the whole of medicine and surgery; and if we omit therapeutics and prophylaxis, or the science of health, which, though closely related to the art of healing, is not strictly a part of it, there is no department of medical science which this name does not cover.

But the blame for this error, if it is an error, does not rest with this Society. It falls upon a great part of English medical literature. We use the word in a more limited sense than that in which it is used in the medical literature of other countries. We mean, generally, morbid anatomy or morbid histology. And it is, I think, to be regretted that some of our excellent textbooks, dealing exclusively or chiefly with pathological histology, have been entitled treatises on "pathology," whereas the corresponding works in the literature of France and Germany limit themselves to the title of "pathological histology." This conception of pathology has become so widely spread that a candidate at an examination, if asked about pathology, thinks he has to answer about something which is seen through a microscope.

Let me say, however, that this mistaken idea of the all-importance of pathological histology is not confined to students in our own country. I remember when I was studying at Vienna the great clinical teacher, Oppolzer, having to speak of a case of pneumonia, and looking about for some peg on which to hang his discourse, asked a student the fundamental question, "Well, then, what is pneumonia?" The student, under the glamour of the mysteries then lately revealed in Virchow's cellular pathology, began to repeat something about "proliferation of connective tissue," till the professor burst into a hearty laugh. "Well, I dare say that is quite true, but at the same time there is something more." And then he went on to show how much besides this was included in the conception of a disease like pneumonia. Now, though the word pathology was not, I think, mentioned, the Vienna student exhibited in a concrete form the very error of which I am speaking.

No one really thinks that anatomical changes, whether gross or minute, make up the whole of pathology. But words are, as Bacon said, not vain things, and the use of them in a wrong sense tends in the end to bring about some confusion in ideas. Allowing all this, I do not see that the fault is to be attributed to our Society. It is difficult to see what other name could have been given to the Society by its founders, since they certainly did not intend to include—except therapeutics—the whole of medical and surgical science. It would not have been any better to call it the Society for the Study of Morbid Anatomy, which would have limited its scope far too narrowly. Nor could anyone reasonably propose that the name of the Society should now be changed, even if a more appropriate one could now be found. We must agree that this Society is now, and always will be, called the Pathological Society of London. Our only question is, What branches of the science of medicine rightly belong to our province?

The limitation of topics characteristic of our Society, whether it be spoken of with praise or blame, has been brought about to a large extent by one of its fundamental rules, which I think has constituted its great strength, and to which the prosperity and utility of the Society have been very largely due. I mean the regulation that no communication should be received which is not accompanied by a material specimen of some kind. This law the Society has lately thought proper to modify—and no doubt rightly, since any such law may be pressed with pedantic rigour. But it will, I expect, in the main be still the custom of the Society to make demonstration of specimens of some kind its chief work. I think the occasional exclusion of valuable communications by this rule has been more than compensated for by the greater authenticity and trustworthiness ensured by it in the communications which have been admitted. It is something like the rules for admission of evidence in courts of law, which, though sometimes excluding material useful for arriving at a verdict, yet ensure that the evidence which is admitted shall be unchallengeable. There is a vast difference between the statements of any observer, however competent and veracious, about an object, and the view, handling, or examination of the object itself. The subject matter of science is not statements about things, but the things themselves. Till we see the object we may often be in doubt exactly what the observer meant by his description, and, though a careful description may be accepted when the object is inaccessible, if the object is accessible so much the better.

The importance of this practice of our Society may be judged of by the fact that many other societies have adopted similar rules. The Clinical Society, younger than our own, was the first systematically to encourage the exhibition of living patients in place of mere reports of cases. The Physiological Society makes its chief business the demonstration of experiments; and all the special medical societies are mainly, or in some cases exclusively, concerned with the exhibition of patients and specimens.

So much for our methods. I will now speak of our objects. The study of disease, or pathology in its widest sense, has always rested upon two main foundations—namely, the study of the material changes in organs or tissues which are associated with disease, whether as cause or effect, on the one hand; and the study of the functional or dynamical changes associated with disease on the other hand. These two lines of investigation have always been followed, though sometimes the one, sometimes the other, has had the preponderance, while the other part of medicine has fallen into the background. The two schools or lines of investigation concerned with these two sides of medical science may be more or less clearly distinguished through the whole of the history of scientific medicine. The one may be called the anatomical school, the other the functional or physiological. The subject matter of the anatomical school is of course pathological anatomy in its widest sense; the subject of the other might be called pathological physiology. It would be a great mistake to distinguish them as pathological and clinical, especially if by pathological we understand only the study of changes in the body observed after death.

The great object of our Society, though never explicitly defined as such, I take to be the study of material changes associated with disease in the tissues and organs of the body. Functional or physiological disturbances we do not absolutely exclude as such, but it is clear that the methods of our Society make it very difficult that they should be brought

before us. In fact, we belong to the anatomical school. The great question as to the utility of our Society, is whether the study of material morbid changes in the body is really important and helps the study of disease in a wide sense.

Now, it may be thought that the importance of this study could not be doubted; nevertheless, some eminent men, both in ancient and modern times, have seriously called it in question. Even lately I have read statements such as these—that morbid anatomy can never throw any true light on the real nature of disease; that the state of the organs after death shows us only the relics of disease—the *débris* of injured cells and tissues, not the process by which these changes have been effected. Now, to have the objections to morbid anatomy put fairly and fully let us quote no obscure names, but choose one of the greatest clinical physicians that ever lived, Sydenham, for he stated those objections in a manner not very different to those words which I have referred to, and with great force.

Sydenham, it should be stated, while rejecting authority or the dogmatic method in medicine, and also repudiating the chemical and mechanical theories of disease current in his day, was equally in opposition to, or at least out of sympathy with, another school which flourished in his time—the anatomical. Men like Lower, Glisson, Wharton, and many others, rightly regarded as the successors of Harvey, were labouring to advance medicine by means of anatomy. Sydenham took little interest in their pursuits, and thought they were on the wrong track. He avows that he had never devoted himself to minute investigations in anatomy, which, though they were unknown to the past age, yet had no application to the art of healing. (MS. in College of Physicians.) He allowed that a physician ought to know anatomy, though he thought no very profound knowledge was necessary. But of morbid anatomy he speaks with something like contempt.

There is a curious MS. fragment of a projected treatise, to be entitled *Anatomica*, on the relations of anatomy to medicine, in the handwriting of Sydenham and his friend Locke (also an accomplished physician as well as a great philosopher), first published in Mr. Fox Bourne's *Life of Locke*, which gives their views on this subject.

The first sentence is in Sydenham's handwriting, and is as follows: "Others have more pompously and speciously prosecuted the promoting of this art (medicine) by searching into the bowels of dead and living creatures, as well sound as diseased, to find out the seeds of (disease) destroying them; but with how little success such endeavours have been and are likely to be attended, I shall here in some measure make appear." Locke follows in the same strain: "All that anatomy can do is only to show us the gross and sensible parts of the body, or the vapid and dead juices; all which after the most diligent research will be no more able to direct a physician how to cure a disease than how to make a man." The gist of the whole is, says Mr. Fox Bourne, to show that anatomy can never show the cause of any disease or the means of its cure.

Sydenham and Locke never published this projected treatise, and perhaps may have thought, after all, that their assertions were a little too sweeping. But the negative evidence derived from Sydenham's published works shows, I think, that he thought very little of morbid anatomy.

It may be said that in Sydenham's time morbid anatomy was in a very rudimentary stage, and had not effected much. This is, no doubt, partly true; but still, some important observations had been made, such as the discovery that apoplexy was caused by the bursting of a blood vessel in the brain (to which Sydenham himself refers). This surely threw more light on that disease than would have been thrown in course of centuries by the most skilful clinical physicians who never made a *post-mortem* examination. Wepfer, of Schaffhausen, had written fully on this subject in 1658.

Harvey, as is well known, began the study of morbid anatomy, and thought it of great importance, though his observations on that subject are unfortunately lost. Riva, a physician, at Rome, contemporary with Sydenham (he died in 1677) is said by Haeser to have founded a society for the promotion of pathological anatomy, and to have formed a museum. Even in London many *post-mortem* examinations were made in Sydenham's time. There are fragmentary records of some made at St. Thomas's Hospital, which I have had the pleasure of bringing to light, but they cannot be said to have been very fruitful.

These sayings of Sydenham are not quoted with any intention of detracting from his fame, which would be as absurd as unworthy. A man of great original genius, as Sydenham was, engaged in prosecuting science by one method, earns the right of neglecting, or even of slighting another method, which seems to him less valuable. It is the privilege of genius to be one-sided. But to be one-sided without the excuse of genius is less justifiable.

Sydenham, we can only say, did not belong to the anatomical school, though that was the school of Harvey. He belonged to the school of which he was himself the founder. Had he lived in this century, he would probably have thought very differently of morbid anatomy.

Perhaps Sydenham's example had something to do with the neglect of anatomy by English physicians in the eighteenth century, when his influence became supreme. The anatomical school came to an end for the time. William Hunter was the only great physician of that period who was also a great anatomist; and there was no morbid anatomist till we come to Matthew Baillie.

Without further entering into history we may say that there has been, in spite of the triumphs of morbid anatomy, a certain undercurrent of disparagement or neglect, sometimes silent, sometimes avowed, which has not ceased even in our time. It would be needless to make other quotations; but the feeling was put in a concise and witty form by my late much-honoured friend Dr. Octavius Sturges, who, in trying to show that chorea could not be explained by morbid anatomy, asked this question, "Why seek ye the living among the dead?"

This, gentlemen, is the case against morbid anatomy. Let us see what can be said on the other side.

In speaking of morbid anatomy I do not use the word as restricted to *post-mortem* examinations. I understand it in the wide sense formerly defined as the investigation of the material changes of disease, by whatever method this investigation may be carried out.

Pathology is so far from being exclusively a *post-mortem* study that in one sense it ends with death, when its subject—disease—also comes to an end.

> The first dark day of nothingness,
> The last of danger and distress,

is also the last of disease. But the evidences of disease remain. We study them only so far as they are not accessible during life. The human body is, unfortunately for our purpose, not transparent, and this defect has only partially been remedied by the discovery of the *x* rays.

Again, we cannot dig and delve into the living body as we can when life is extinct. But if specimens can be obtained from the living body, they are still better adapted for our purpose. Modern surgery has helped us in this matter. For instance the morbid anatomy of the ovaries is now founded more on surgical than on *post-mortem* specimens. This is equally true of the pathology of the vermiform appendix, and I need not point out that the study of tumours is now not even predominantly a *post-mortem* investigation. Living patients, again, often teach us more morbid anatomy than we should learn from a *post-mortem*. All these methods of study belong to our subject, and it would be a great mistake to call all that is observed during life clinical, and only that which is observed after death pathological.

Further, to show the inadequacy of the distinction between so-called clinical and pathological medicine, I will venture to affirm that one important branch of what is called clinical medicine at the present day is really a study of morbid anatomy. I mean what is called physical diagnosis, not merely that effected by auscultation, but also the simpler investigation of abdominal organs, and indeed partly that of the nervous system also.

Nothing important which happens is really the result of accident. It cannot, therefore, have been an accident that these methods of research were not invented till morbid anatomy had become to a large extent a systematic science. When the morbid changes of internal organs became known, the attempt to detect these changes during life naturally followed.

Thus physical diagnosis grew out of morbid anatomy. Good evidence of this is afforded by the practice of Dr. Matthew Baillie, our first systematic writer on morbid anatomy, and an eminently successful practical physician. His friend, Sir Henry Halford, says that the attention which Baillie paid to morbid anatomy enabled him to discriminate between symptoms and distinguish diseases nearly resembling one another. Baillie, he says, laid a great stress upon the information which he might derive from the external examination of his patient, and was much influenced in the formation of his opinion upon the case by this practice, which he adopted from the peculiar turn of his earlier studies, that is, in morbid anatomy. Sir H. Halford's acuteness detected the novelty in Baillie's method of external examination and the knowledge on which it was based; though he had doubts about its utility. He thought this method of examination might be a valuable adjunct to others, and, in the hands of one so skilful as Baillie might prove successful, but was an example of dangerous tendency to anyone who had not his knowledge and experience.

This is, however, at the present time the method universally practised. We consider physical diagnosis the foundation of all diagnosis in diseases of the internal organs. Nothing could show more clearly the change in clinical methods which morbid anatomy has brought about. But physical diagnosis as practised by Baillie was in its infancy. He knew nothing of auscultation, nor, I think, of percussion. Had he lived a little later he would doubtless have welcomed these discoveries with enthusiasm.

Auscultation was the invention chiefly of Laennec, though Avenbrügger's invention of percussion preceded it by many years. These methods, especially that of Laennec, are based upon morbid anatomy, but the intimate relation between the two subjects has, I think, been inadequately appreciated. Laennec, though generally known as a clinical physician, was also a profound pathological anatomist; one of the most accurate and enthusiastic that ever lived.[1] Had he never invented the stethoscope, he would still be a name in the history of medicine. Laennec was the successor and indeed a pupil of Bichat, who is reported to have said: "Take away some fevers and nervous troubles, and all else falls to the domain of pathological anatomy." His striking original merit was, it seems to me, that he first showed how the facts of morbid anatomy known by *post-mortem* examination could be detected and studied in the chest of a living patient. The physical diagnosis which we owe to him is essentially a study of morbid anatomy from the outside and during life. It is a clinical method in the sense that it is practised at the bedside, but to call it clinical as opposed to pathological is a misnomer.

It is, of course conceivable that a certain number of physical signs might have been detected and empirically connected with certain diseases, without their actual causes being known. But this could not have led to any general system, as is shown by the fact that no important consequences flowed from the scattered facts relating to auscultation known before the time of Laennec. It was only when such signs were systematically connected with known changes in the internal organs that they became significant. Moreover, only by *post mortem* examination could the physical signs observed during life be verified. Thus morbid anatomy and physical diagnosis are different aspects of the same study, indissolubly connected, sometimes the one, sometimes the other coming first in development.

Historically this is, I believe, a true account of the relations of clinical and pathological medicine as applied to diseases of the chest. It might be shown, if I had time, that morbid anatomy has contributed equally to the diagnosis of the diseases of other parts, as of diseases of the nervous system and of the specific fevers formerly massed together as typhus till morbid anatomy disentangled them.

But the connection of morbid anatomy and diagnosis is closer than that of a merely historical sequence; it is a relation almost of identity. Our physical diagnosis is not immediately the diagnosis of a particular disease, but immediately that of certain physical conditions, which, if occurring in certain parts and in a certain order, are known by experience to be indicative of a certain disease. Consolidation or excavation of the lung, blocking of air tubes, presence of fluid in the pleura, and so on, are the conditions recognised. Experience and associated symptoms teach us that they indicate pneumonia, phthisis, or bronchitis, etc., as the case may be. This kind of diagnosis is really a study in morbid anatomy, anticipating the result of *post-mortem* examination.

Equally true is it that auscultation and percussion of the heart do not indicate disease directly, but only mechanical and physical conditions which follow or cause disease—that is, facts of morbid anatomy. Equally true is it in diseases of the abdomen that by physical diagnosis we endeavour to ascertain the morbid anatomical condition of organs which we cannot see. All this is pathological anatomy; and in many diseases, as Bichat said, the morbid anatomical condition is the determining one. By combining our knowledge of it with observation of functional changes we make a complete diagnosis. In acute fevers and some other diseases where the functional element predominates our diagnosis is not an anatomical one. We may know by experience the state of the organs, but that is not our immediate object of research. Still in all cases where anatomical or so-called pathological diagnosis is possible, that constitutes the most exact and trustworthy part of clinical diagnosis.

It is not too much to say that in diseases of internal organs (of which alone I am speaking) that physician's diagnosis is likely, other things being equal, to be most exact, who can form to himself the most precise mental picture of the state of a diseased organ, and who knows also how to infer the existence of that state by observations during life. For this purpose a mere textbook knowledge of morbid anatomy is insufficient. It is necessary to have seen, handled, weighed, and examined diseased organs for oneself. Need I recall the names of those eminent men who in our time have been and are masters of this pathological diagnosis? It is or was the distinguishing feature in the practice of men like Sir William Jenner, Sir Samuel Wilks, and my departed colleagues, Dr. Murchison and Dr. Bristowe, all names well known in this Society. Nor would it be difficult to enumerate many more did time permit. No doubt there are other means of diagnosis, the functional, the symptomatic, and the personal—also the method of common sense. It is only claimed for morbid anatomy that it supplies the most solid and fundamental facts, and that without it modern clinical medicine could not exist.

I have now spoken of morbid anatomy in relation to clinical medicine, so far as both are concerned with the study of cases; and much more might be added to show the debt which the art of medicine owes to pathology. But I must pass on to speak of the services of pathology or morbid anatomy to the science of medicine, which services are perhaps more called in question.

Now though, as I have urged already, the anatomical side is only one of the two aspects of medical science, it is one of enormous importance, and is intimately concerned even in the most recent phases of medical progress.

To speak only of one branch of scientific investigation—bacteriology; let us consider what part morbid anatomy, including, of course, histology, has played in its advancement.

Bacteriology is, strictly speaking, a branch of biology, or specially of botany, but it has many sides. We deal with it only as concerned with disease. The bacteriologist, when he makes cultivations, is a botanist; when he detects bacilli in diseased tissues or in tubercles produced in animals by inoculation, he is a pathological anatomist; when he studies the production of immunity in living animals, he is rather a clinical investigator. But he can seldom dispense with pathological anatomy or histology. There are two main lines of activity in pathogenic bacteria. One is the injury or destruction of cells and tissues; the other diffuse poisonings, or functional disturbances produced by their products. The first kind of pathogenic activity is shown by the bacillus of tubercle, which is chiefly injurious by its destructive action on the tissues, though no doubt its products are also injurious. The second kind is seen in such organisms as the tetanus bacillus, which is injurious chiefly by functional poisoning through its products, the tissue changes being subordinate.

Different means of research are required in each case, but as regards the tissue-destroying bacilli, the investigation is almost entirely pathologico-anatomical. Even in the study

of such organisms as the tetanus bacillus, morbid anatomy plays an important part. Indeed, without morbid anatomy there could have been little bacteriology of disease.

Bacteriology, therefore, is a subject strictly belonging to the field of this Society. Even on its botanical side it is a part of the science of parasites, which has always received attention here. All this is part of the science of pathology.

Pathological chemistry is so closely connected with material changes in the body that it has always accompanied pathological anatomy, and is one of our recognised subjects.

With regard to pathological physiology or pathology studied by experiments in the physiological laboratory the case is not so clear. It has been said that physiology and pathology are one, which seems something like saying that virtue is the same thing as vice. But still there is a certain partial truth in the statement, as virtue and vice both come under the purview of one science—that of ethics; so both physiology and pathology may be studied by the same scientific methods, and are subject to the same laws. But pathology is too wide a subject to be made a mere province of physiology. To a certain extent they are coterminous territories, but to confine the term pathology to that part where it is in contact with physiology would be a most injurious limitation—one quite as erroneous as that too narrow definition of pathology which has been made a reproach to English medicine and to our Society. After all, Where would physiology itself be without anatomy? Where pathology without morbid anatomy?

These pathologico-physiological studies are pursued by special investigators, and would perhaps be more properly brought before a Society of specialists than before this Society, which has more general interests. Perhaps, after all, this particular aspect of the science is better understood by physiologists. It is better, I think, that we should limit ourselves to a subject wide enough to absorb all our interest, namely, the study of structural or anatomical medicine in its most general sense.

I have now touched upon the main objects which our Society has had in view, and which it ought still, I think, to pursue. Our communications and methods have in recent years become more complex than they formerly were, but, in the main, our objects are the same as they always have been.

At the present time it seems as if there were two courses open to the Society. It might develop into a Society composed only of those engaged in special pathological research. In this case we should have some communications which would not be interesting, or perhaps intelligible, to many of our present members. Hence the numbers of the Society would dwindle, even supposing that the average work were of higher quality.

It may, on the other hand, continue in its present course of bringing the results of pathological research into relation with practical medicine, and stating them so as to be intelligible to all who take an interest in pathology, even if they are unable themselves to take part in original research.

For my own part I hope that this will be the course adopted. Pathology ought not to lose touch of practical medicine. It can both aid and profit by the daily experience of those who are carrying on the great practical work of our profession. It would be a loss rather than a gain were pathology to live in laboratories and museums like a cloistered recluse, not breathing the common air of the whole medical world. Specialism in science there must be, for it is only one form of the division of labour on which all progress depends, and an experiment may save a thousand lives where a prescription or an operation saves only one. But a concrete and practical science like pathology cannot flourish if cut off from the everyday experience of disease.

We can, indeed, conceive that there might be, and to some extent there already is, a science of disease, as a branch of biology without any direct relation to the art of healing. But such a science, if not recognising the great ethical principle of our profession to relieve human suffering and minister to the welfare of mankind, would lose its mainspring of action. It is, at all events, not such a science of pathology that we cultivate here. Our science is one which is always ready, at need, to come to the aid of those engaged in the keen and perpetual conflict with our one enemy, disease.

REFERENCE.

[1] See *Encyclopædia Britannica*, 9th edition, Article, History of Medicine.

AN ADDRESS
ON
SOME OF THE CONGENITAL ANOMALIES OF THE EYE,
As Illustrated in the "Transactions" of the Society.

Delivered before the Ophthalmological Society of the United Kingdom at its First Meeting in the Session, 1897-98.

By HENRY R. SWANZY, M.B., F.R.C.S.I.,
President.

Gentlemen,—In electing me to be President of this great Society you have conferred on me the highest honour at your disposal, an honour of which anyone in our profession might well feel proud. In placing me here, moreover, you have added my name to a list which commences with William Bowman, and continues with Jonathan Hutchinson, John Whitaker Hulke, Hughlings Jackson, Henry Power, Argyll Robertson, and Edward Nettleship—names to be brought into association with which is in itself a high distinction. Again, in making me your President you have made me, for the time, the titular head of the profession of ophthalmology in these countries, and I may say in Greater Britain also, for our membership extends to most of those who practise ophthalmology in India and the Colonies. And when I remember the great men who in years now long gone by, were the pioneers of that profession, and of the no lesser men who in more recent years, added by their good work to its fame and reputation; when I think, too, of the many able and well-known men who fill the ranks of that profession at the present time, I feel that to be its titular head is indeed a distinguished position. These considerations, or any of them, would be enough to render this office one which might well satisfy ambition. And yet its greatest charm is to be found in something else. The greatest charm of this office for me, as it has been for those who have gone before me, and as it will be for those who may follow after me in the long vista of future years, the greatest charm of this position lies in this, that the constituency which elects to it is composed of the very men, the fellow workers, the special colleagues, who must be deemed the most competent to discern whatever of good there may be in any of their brethren. That being so, why your choice has fallen on me I know not. Nor is it for me to criticise your action, even could I do so dispassionately. My duty is a pleasanter one, for it is to thank you most gratefully for your goodness and generosity to me, and were I to give you an all-night sitting, I could not say more than that I thank you with all my heart.

One word more before I leave this part of my address. There is a point of view from which, without egotism, I can sincerely rejoice at the selection you have made; for that selection shows, for the second time and in the same marked manner, that this Society is conducted in no narrow spirit of metropolitan exclusiveness, but rather in that wider and wiser spirit, which recognises at least the possibility of there being some merit to be found outside the four-mile circle.

I should be glad to close here and to allow the Society to proceed with the other agenda of the meeting, which includes some important communications. But it has been customary for an incoming President to devote part of his opening address to the consideration of some subject of professional interest, and I am not prepared to assume the responsibility of breaking away from this custom. At the same time I confess I think that in these days, when there is so much bad writing and so little good reading, an introductory presidential address is apt to promote the former vice, for its intrinsic difficulties are well-nigh insuperable.

I propose this evening to pass in short review some of the congenital anomalies of the eye as illustrated in the *Transactions* of the Society. I had hoped to draw attention to most, if not all, of the communications which have been made in this department, but I soon found that this would

be impossible within the compass of my address, and I shall therefore confine myself to congenital anomalies of motions of the eyeball, coloboma of the iris, and a unique case of microcephalus and proptosis.

An exceedingly interesting class of communications in our *Transactions* are those which treat of

The Congenital Anomalies of Motion of the Eyeball.

These are of two kinds—the so-called associated motions of the eyeball, and the congenital defects of motion of the eyeball. Of communications which treat of associated motions of the eyeball there is one by Mr. Marcus Gunn (vol. iii, p. 283), one by Mr. Browning (vol. x, p. 187), and two by Mr. Sidney Phillips (vol. vii, p. 306).

Mr. Marcus Gunn's case was a remarkable one. In it there was ptosis of the left eyelid, but when the external pterygoid of the same side was put in action, as in the act of chewing, the relaxed levator contracted, and the left lid was raised quickly and powerfully, this position being maintained so long as the jaw was kept drawn to the right. Notwithstanding the ptosis, the patient could but imperfectly close the eye. The committtee of experts appointed to examine Mr. Gunn's case consisted of Sir William Gowers, Dr. Stephen Mackenzie, Mr. Lang, and Dr. Abercombie. They reported their opinion to be that the levator was innervated both from the third nerve nucleus and from the external pterygoid portion of the fifth nerve nucleus. Inasmuch as innervation of the levator was imperfect, the committee held it might be assumed that some of the fibres of the levator palpebræ portion of the third nerve arose, not from the third nerve nucleus, but from the fifth nerve nucleus. This would explain the action of the levator in association with the external pterygoid, as well as the ptosis. The fact that the levator did not relax perfectly when the eyelids were closed might, the committee thought, be accounted for by its partial innervation from the fifth nerve nucleus. This theory of the case seems a reasonable one; it is, at the least, the best working hypothesis, out of several which have been offered, and an hypothesis we must have, so long as we have no means of attaining a definite knowledge of the cause. I know of only one other case of precisely the same kind on record,[1] although there are are a good number of cases reported in which, not merely with lateral motions of the jaw but also with certain other motions of the jaw, the drooping eyelid was violently raised.

In Mr. Browning's case, when the patient looked either to the right or to the left, the upper lid of the side towards which he looked drooped, while that of the opposite eye became slightly elevated. On convergence both upper eyelids were raised above the horizontal; in short, contraction of either external rectus was accompanied by drooping of the upper eyelid of its own eye, while contraction of either internal rectus, in lateral motions or in convergence, caused elevation of the upper eyelid of its own eye.

Mr. Sidney Phillips's two cases were brothers. In them, on looking to either side, it was the upper lid of the eye away from the side towards which the eyes were directed which drooped to almost complete ptosis, while the upper lid of the other eye remained raised. Mr. Phillips thought that there was here an usually close commissural connection between the nuclei of origin of the two third nerves, as a consequence of which simultaneous relaxation of the internal rectus and of the levator palpebræ superioris, took place, instead of relaxation of the former alone. In the *Ophthalmic Review* for October, 1895, there is a paper by Mr. Walter Sinclair on Abnormal Associated Movements of the Eyelids which is well worth reading, and in which the author gives a summary of all such cases published up to that date, and to these he adds 5 hitherto unpublished cases.

In the foregoing cases we see there was no want of power in any of the orbital muscles. We now come to the other class of cases in our *Transactions*, in which such want of power is the leading feature; of these there is one by Mr. Mackinlay (vol. vii, p. 281), five by Mr. Lawford (vol. viii, p. 262, and vol. xii, p. 172), one by Mr. Donald Gunn (vol. xiii, p. 150), and one by Mr. MacLehose (vol. xvi, p. 299).

Mr. Mackinlay's case was one of complete paralysis of each external rectus. The position of each eye was convergence, and there was no diplopia. It is not stated whether or not there was binocular vision in any part of the field.

Mr. Lawford's 4 cases, which appear in our eighth volume, were a father, one son, and two daughters, out of seven children. In the father there was complete bilateral ptosis, no upward and very little downward motion in either eye, restricted lateral motion, and no action of the obliques. The interni acted better for convergence than in lateral motions. In one of the children there was complete bilateral ptosis, and no upward or downward motion of the eyeballs. The usual position of the eyeballs was conjugate deviation to the right. On an attempt to look up, the eyes were turned inwards and the vertical axis rotated outwards. On an attempt to look downwards slight outward movement is produced, but without rotation of the axis such as would accrue from action of the superior oblique. There was moderate outward movement of both eyes, and convergence was possible to some extent. The most extraordinary effect was produced when he was told to look to the left, for then, while he did succeed in turning his left eye outwards, its fellow, instead of turning inwards, turned outwards also; in short, both external recti were thrown into action simultaneously. This meant, as Kunn points out, that the muscles were normal but the co-ordination of the motions deranged. In another child there was almost complete bilateral ptosis, and complete loss of upward motion in both eyes. In the right eye the lateral motions were fair, and there was slight downward motion. In the left eye there was slight inward motion, no outward motion, and no downward motion. The power of convergence was fair. In the third child there was complete bilateral ptosis, total want of upward and downward motion, and no lateral motion either conjugate or separate, yet there was a moderate amount of power of convergence. On an attempt to look either up or down, slight convergence was produced. There was no diplopia in any of these cases, but there is no statement as to whether binocular vision in any part of the fields was present. In none of them was there any other congenital defect in the system.

Mr. Lawford quotes several writers on the subject, amongst others Heuck, whose cases were very similar to his own, and in one of which a *post-mortem* examination was obtained. This *post-mortem* showed that the orbital muscles, with the exception of the internal recti, were all inserted into the sclerotic in abnormal positions. In addition to this displacement, nearly all the muscles were too short, but, with the exception of the internal recti, they were well developed. The orbital nerves were in all respects normal.

Mr. Lawford says the abnormality, both in length and in the sites of their insertion, which the ocular muscles may present in these cases, renders it impossible to give any reasonable explanation of the curious movements noticed in some of them, such as the rotation of the eye which occurred in his second case, when presumably the internal rectus alone should be acting. Dr. Carl Kunn, in his admirable monograph,[2] offers the following explanation of this phenomenon in Mr. Lawford's case: In the normal upward motion of the eyeballs the superior rectus and the inferior oblique become innervated. In Mr. Lawford's case the superior recti were powerless, but the inferior obliques were active, as were also the internal recti. A desire to look up produced a nervous impulse which could not be expended on the defective superior rectus, and therefore it was concentrated on the normal muscles; hence the convergence (action of the internal rectus) combined with the outward rotation of the corneal axis (action of the inferior oblique).

In our twelfth volume, Mr. Lawford records another congenital case in which there was ptosis of the left eye, the eyeball being divergent and rotated down. The right eye was normal. He noted that when the right eye was covered the left eye came to fixation by an upward and inward motion. The eye could be turned inward almost fully, but upwards only to the horizontal position. When the normal right eye was screened and the left was turned up to the utmost, the right eye, under the screen, was found to be rotated upwards in an extreme position. There is no statement as to the presence or absence of the power of convergence, or of binocular vision. Mr. Lawford diagnosed a defect of the superior and internal recti of the left eye and slight defect of the levator palpebræ, and proposed to tenotomise the inferior rectus and to advance the superior rectus.

Mr. Donald Gunn narrates the case of two brothers with almost complete ophthalmoplegia externa, slight power of upward and downward motion being the only one present. There was incomplete ptosis.

Mr. MacLehose describes a case of paralysis of the left external rectus. In the same eye the motion was not perfect, while the upward and downward motions were full. The right eye was normal. When the patient looked to the right a phenomenon occurred which, so far as I know, is unique. The left eye, namely, became retracted into the orbit to such an extent that a clear intervening space was left between the globe and the posterior surface of the lower lid at the outer part, while the palpebral fissure became narrowed by contraction of the orbicularis. Mr. MacLehose adds: "Although I have spoken of paralysis of the sixth nerve, yet it is quite possible the limitations of movement may depend on an anomalous nerve distribution, or possibly an absence of the muscle itself. I can offer no satisfactory explanation." In the discussion which followed Mr. Holmes Spicer mentioned a case under his care in which the right eye was on a higher level than the left, and when the patient looked to the left the right eye went completely upwards. There was disturbing diplopia, and it was decided to divide the superior rectus. The insertion of the tendon was not found in its normal position, but far to the outer side towards the external rectus. If the same abnormal attachment had been present in the inferior rectus Mr. Holmes Spicer said the effort of both muscles acting together would doubtless have been to pull the eye backwards into the orbit, and he suggested that some such arrangement may have existed in Mr. MacLehose's case.

We should like to know what the nature of the congenital lesion may be which causes these defects of movement of the eyeballs. Besides Mr. Holmes Spicer's case and Heuck's case, quoted by Mr. Lawford, there are many others in the literature, in which, mainly during operations designed to correct the defect, or else *post mortem*, irregularities in the musculature of the eyeball were found, which were adequate to account for its defective mobility; and Mr. Lawford, too, states that, so far as published records up to 1888 showed, these defects of motion are almost always due to developmental anomalies affecting the ocular muscles, which are found to be either quite absent, or ill-developed, too short, or abnormally inserted, and that, except in cases in which there is gross defect in the nervous system, the nerves supplying these muscles are not at fault. This, he also says, is the opinion expressed by our standard textbooks; in fact, but few authors mention the possibility of absence or incomplete development of these nerves. Well, I am not myself prepared to give place to any one in my profound respect for textbooks on diseases of the eye, whether standard or otherwise; and I see gentlemen here this evening who will, no doubt, join me in this attitude of mind. I am therefore glad when I hear a kind word said for the textbooks. It is more common, indeed it is quite common, to hear it stated, "This or that is not mentioned in the textbooks," and even our friend Mr. Lawford, who called the textbooks to witness for him, could not completely emancipate himself from the phrase. The textbooks notwithstanding, it is certain that while many of these cases are due to irregularities in the orbital muscles, they are not by any means all due to them, for instances of congenital motor defects of the eye are on record in which those muscles were found to be absolutely normal in every particular. We are, then, in such cases thrown back on the nervous supply for the cause. Moebius, Siemmerling, and other distinguished neurologists regard an intrauterine atrophic degeneration of the nuclear origins of the nerves as the primary cause, and in those cases where orbital muscles are imperfectly developed, or wholly wanting, such authors ascribe their condition as a consequence of the nuclear alteration.

But nuclear degeneration has been actually found in but one case of Siemmerling's, and even that one is open to criticism. In a case of Uhthof's the nuclei were found to be absolutely normal. It is true that in but a few cases was the opportunity offered of a microscopical examination of the nuclear region.

As regards the trunks of the nerves I know of no observation indicating them as the site of the lesion, but we may not yet dismiss from our minds the possibility of its occasionally being there. That the lesion may be in the cortex, or in the path between it and the nuclear centres, will have to be considered in any case in which muscles, nerves, and nuclei are found normal; and the evidence to hand shows that such cases are likely to turn up. There are many exceedingly important points in connection with the diagnosis of these congenital defects of motion, which the time at my disposal will not permit me to go into. Anyone who is interested in the subject should read Dr. Carl Kunn's monograph, which I have already mentioned. But I may be permitted to refer to one or two peculiarities of these defects of motion; it is hardly correct to call them paralyses. Let us take one of the most common and simplest cases—congenital loss of power in the external rectus. In acquired paralysis of the externus the eye is invariably found convergent; this is not always so in congenital loss of power of the external rectus, for the eye is often found, in the primary position, to be quite straight. In such a case, too, if the good eye be covered and the patient be required to look towards an object to the side of the affected eye, he of course cannot rotate the latter in the desired direction; but it will be found that the covered eye, too, has not moved in that direction, as it would do in the case of an acquired externus paralysis. No conjugate motion of the eyes towards this side having ever been acquired, the sound eye in this experiment had no incentive to direct its visual axis towards the object once it had been deprived of the power of seeing the latter. As soon as it is uncovered it is directed straight at the object, and then it will be found there is no tendency to over-action in its internus, as there would be in an acquired case. Again, in some cases of bilateral loss of power in the externus, but without loss of power in either internus, the eye will not be moved from side to side at all, the interni never having learned to be associated with the externi in this action, although the interni do act together to bring about convergence. Furthermore, even in cases of congenital loss of power in each external rectus, there may be parallelism of the optic axes, and not convergence.

I shall now pass on to the papers on

Coloboma of the Iris.

In Mr. Arthur Benson's case (vol. iv, p. 351) there was a coloboma of the iris below in one eye, a bridge of iris tissue connecting its pillars halfway down. There was also a coloboma in the lens corresponding to that in the iris, and a coloboma of the choroid.

Mr. Phillips's case (vol. xi, p. 219) was one of complete coloboma of the iris in the right eye, with a small coloboma of the choroid and lens, and cataract. The left eye was of small size, and in it there was incomplete coloboma of the iris, and a large coloboma of the lens, which was partially opaque. There was a large coloboma of the choroid and of the macula lutea.

In Mr. Doyne's case (vol. xi, p. 220) there was coloboma of the iris and choroid, with a curious bulging of the corresponding part of the lens.

Mr. Work Dodd (vol. xiv, p. 210) gives a case of coloboma of the iris and choroid in one eye, which was of small size, with remains of the hyaloid artery. The iris coloboma was downwards and inwards, and was incomplete, there being some fenestrated iris in the angle of the cleft. There were some remains of the pupillary membrane. Except in the coloboma the reaction to light of the pupil was good, but it did not react on accommodation. There was a large choroidal coloboma below, which included the optic disc.

Mr. Lang in vol. x, p. 106, and Mr. Treacher Collins in vol. xiii, give us important papers on one and the same case. The patient was under Mr. Lang's care. He was aged 36, and was almost blind from glaucoma in each eye. In the right eye there was a coloboma of the iris horizontally outwards, involving one-fourth of the iris. The lens was notched opposite the coloboma. Mr. Lang mentions that Manz lays stress on the fact that the fœtal iris, unlike the choroid, has no cleft, and consequently cannot retain one; and that Manz points out that where, as in a case of his, a choroidal coloboma is found on the temporal side, as well as on the nasal side, some explanation, other than the failure to close the fœtal fissure, must be sought for, and Mr. Lang thought

that Deutchmann's hypothesis of an intrauterine inflammation becomes applicable in many cases. The glaucoma in this eye, Mr. Lang said, was difficult to explain; the theory that iridectomy is a safeguard against glaucoma being apparently negatived by it. A possible explanation, he thought, might be that the trabecular tissue constituting the spaces of Fontana may have been absent in this case at the coloboma, and the available space for filtration of lymph would therefore have been smaller here than in a normal eye, and hence the liability to glaucoma greater.

This eye subsequently became painful, and Mr. Lang was obliged to excise it, and he gave it to Mr. Treacher Collins for pathological examination. Mr. Collins found the iris absent on the outer side, but the ciliary body was present in that position. On the inner side the root of the iris was in contact with the posterior surface of the cornea, blocking the filtration angle. The case, Mr. Collins said, presented some points for consideration. First, the unusual position —namely, outwards—of the iris coloboma. It is frequently, and Mr. Collins thinks wrongly, assumed that a congenital deficiency on the iris must necessarily bear some relation to the ocular cleft. But, in another remarkable paper on irideremia in this same volume (vol. xiii, p. 128), Mr. Collins showed that the development, not merely of a part of the iris but of the whole of that organ, may be arrested by abnormal adhesions or late separation of the cornea and lens, preventing the ingrowth of the iris; and if this abnormal adhesion or late separation happened to be confined to a portion of the circumference in one or even in two directions, a coloboma, or even two colobomata, might be produced in any direction.

The occurrence of glaucoma in an eye with congenital iris coloboma is remarkable. But here at the coloboma there was a rudimentary iris, as also in Mr. Collins's case of aniridia, which was intimately adherent to the ligamentum pectinatum, and Mr. Collins is of opinion that this adherence was congenital. It then only remained for the root of the iris in the rest of its circumference to become pushed forward in order to bring on high tension. Mr. Collins states he does not agree with Rindfleisch in ascribing intrauterine inflammation beginning in the choroid and extending forwards, and causing perforation near the corneo-scleral margin and escape of aqueous, as the primary cause of the abnormal contact. In this specimen no sign of perforation was present. Again, the corneo-scleral margin is an unusual seat for a perforation. Furthermore, it is unlikely that a bilateral condition, such as aniridia usually is, would be caused in this way. And, finally, it is unnecessary to resort to this explanation, for at the period when the iris is developing, there is no anterior chamber, and hence the lens capsule and the cornea are in contact, the anterior fibro-vascular sheath alone intervening.

In these papers we have examples of Mr. Treacher Collins's admirable pathological work, and it affords me much pleasure to take this opportunity of saying that, highly as that work is valued by us in this country, and especially in this Society, it is esteemed, as I very well know, equally highly in another country, where pathological anatomy is perhaps more at home than with us. It was, therefore, not without a pang of regret that I, for one, heard of the translation of Mr. Collins from the post where he did such good and useful work, to another, which we hope will lead him on to fame in a second direction. And now, in conclusion, I desire to direct your attention to a remarkable case of Mr. Henry Power's in vol. xiv, p. 212, under the title of—

A Case of Microcephalus and Proptosis.

The case was that of a female child born at full term, after an easy delivery, and you will remember the remarkable picture given of the infant's face and head. It died when about a month old. The head was misshapen, and the eyes were both projecting to so great an extent that the margins of the lids were far behind the equator of the globes. The globes could not be pushed back, but the eyelids could be pulled forwards, and made to meet in front of the eyes. The head was very short in the antero-posterior direction, but of considerable height, especially in the frontal region, where it became cone-shaped. After hardening in spirit, a sagittal section of the head was made passing through the vertical meridian of the right cornea. The right orbit, which was thereby opened, was found to be extremely shallow, its depth being only 2.5 c.cm. from its interior border to the optic foramen. The height of the orbit, on the other hand, was increased, measuring 32 mm. at its most anterior part, while 20 mm. is the normal measurement at this period. The corpus callosum was absent, and in certain localities the surface of the brain presented a microgyrous condition. After removal of the brain, a photograph of the skull was taken by Dr. D. J. Cunningham, Professor of Anatomy in the University of Dublin, who, like myself, was much interested in the specimen. The floor of the orbit was horizontal, but the roof was almost vertical in position, being directed upwards and forwards at an angle of 45°, and becoming continuous with the vertical plate of the frontal bone, into which it passed with only a small projection to mark the orbital edge. A perpendicular line from the front of the vertical portion of the frontal bone would fall entirely behind the globe. The optic nerve, from its entrance at the optic foramen, ascended sharply and remained in close relation with the displaced roof of the orbit, till it bent downwards to enter the sclerotic. A complete explanation for these extraordinary conditions is not given in Mr. Power's communication, and as I was particularly desirous to have one for a special purpose, I applied to Dr. Kanthack, late Curator to the Museum of St. Bartholomew's Hospital, and he in the kindest manner lent me the specimen for further examination, and I then submitted it for that purpose to Professor Cunningham. He ascertained that with the single exception of the joint between the ex-occipital and the basi-occipital, every suture and synchondrodial joint in the skull was firmly ossified. The consequence of the solidification of the base, and the ossification of the vault into a continuous bony sheet, was the general uplifting of the front part of the roof of the cranium by the growing brain, and the simultaneus dragging up with it of the orbital plates, to which is due the extreme shallowness of the eye sockets.

It was also found that the convolutions of the brain had pressed so hard against the ossifying cranial vault, that the normal dimples had become deep bony pits, and the floors of these pits had become exceedingly thin and diaphanous. The case affords a valuable instance of the effect of premature synostosis in producing such deformities, and their resulting displacements of the eyeballs.

References.

[1] Schapringer, *New York Med. Monats.*, January, 1893. [2] *Die angeboren Beweglichkeitsdefecte der Augen*, p. 45; Deutschmann's *Beit. z. Augenhlk.*, xix Heft, 1895.

CASE OF BRADYCARDIA WITH RAPID REMISSION AND FATAL RECURRENCE.

By J. M. RATTRAY, M.A., M.D.,
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Much has yet to be learned as to the pathology of bradycardia, and I venture to think that the case I now record is not without special points of interest. My determination to publish these notes was prompted by the perusal of an important and interesting account by Dr. Watson Williams, of Clifton, in the June number of the *Bristol Medico-Chirurgical Journal*, of the whole bearings of paroxysmal tachycardia. Both in this and in its opposite, bradycardia, Dr. Watson Williams draws special attention to the suddenness of onset and decline, and shows that the one condition may suddenly pass into the other. This occurred in my patient's case, and I think it worth noting, so that in any future similar condition under observation a careful continuous record of the pulse-rate may be taken.

In the early part of this year I saw the last of Mrs. C., a farmer's wife, aged 70, whom I had attended intermittently for twelve years. She suffered from paroxysms of pain in the left lumbar region. These came on suddenly and so intensely that nothing but a stiff injection of morphine, administered the moment I entered her bedroom, would quiet her or enable her to resign herself to giving details of the onset of her attacks. No information was obtained by physical examination of the affected area, but the urine was scanty, over-acid, and loaded with lithates. With recoveries that were pretty sudden, and sometimes long-sustained, a diagnosis of neuralgia was given to the patient and her

iends; but it was constantly in my mind that a renal calculus might be ıe source of the mischief, and that further developments would sub-antiate this suspicion.

I saw little of my patient during 1896 until the last week of the year, ıe was then suffering from dyspepsia, and I could not help noticing that ıe had become considerably thinner and altered in appearance. On :amination in bed I detected a slight musical murmur, which was per-stently heard a little to the right of the apex beat. Her pulse-rate was)out 48 a minute at the outset of my attendance, and her symptoms ere headache, restlessness, and insomnia. Later on fainting attacks ıpervened, which soon became frequent and very alarming, and I consi-ered a great change for the worse had come over her. I had very little ıccess in the management of the case during the very dull wet days of te January and early February of this year; rest in bed, occasional)ses of antipyrin and bromide of ammonium to relieve headaches, and course of treatment aiming at checking acidity were the means mainly lied on. Later on free heart stimulation by digitalis, alcohol, and sub-ıtaneous injections of strychnine with ether were employed to remedy .e faintings, which were incessant. With the warmth of bed and a ıpervised diet the attacks of lumbar pain completely ceased. One day ı exposing her chest for stethoscopic examination I was surprised to ıd an eruption of herpes zoster extending round the same region where ıe had suffered previously from the neuralgic attacks.

During the whole course of my patient's last illness her temperature ıs subnormal and pulse abnormally slow, ranging about 40 per minute. fortnight before her death on counting the radial pulse and comparing ith the beat at the apex the rate did not rise above 35. The character of e pulse was that of moderate tension, the rhythm was regular, and, ith the exception of its curious behaviour on one day, its course was at of gradually increasing slowness.

As the condition was obviously serious the case was seen with me by a ighbouring practitioner, a careful observer, to whom I had sent details r letter. We had some distance to go to meet at the house, so I had not en the patient previously during the day. I was much surprised when ı auscultation the consultant said to me in an undertone: "Your brady-rdia is gone." On examining for myself I then found that the slow boured action of the heart had disappeared, being 128 beats per minute. ır conjoint prognosis was a grave one, the consultant agreeing with me at the patient's condition was very serious. How the changes in the ılse-rate took place I am unable to say, but on my subsequent visits e bradycardia was again pronounced. In a day or two the pulse had turned to the 35 per minute rate, and on the tenth day after the con-ltation the radial pulse and the heart beat, counted together, registered . On the evening of that day, while the nurse and daughter were pre-ring some article of food in the room, the patient suddenly died.

It was a matter of extreme regret both to the consultant and myself at the relatives would on no account permit the patient's body to be bjected to a *post-mortem* examination.

The clinical facts in this case were:

1. Old age and degenerated blood vessels; uric acid dia-ıesis. The patient had enlarged small joints, and the urine as habitually acid, with deposit of lithates. One brother ıd suffered from gout severely.

2. Intercostal neuralgia, the climax of the foregoing con-tion. The cycle of habits previous to her last illness was: ıtense pain, doctor, morphine, examination of urine, treat-ent for acidity, recovery, care for a time, less care, no care all, recurrence of pain, etc.

3. Cardiac dilatation, with probably diseased semilunar ılves. The patient exhibited short breath and had a ightly cyanosed appearance with blue lips. My patient ffered from headache and vertigo towards the last, but had) convulsive seizures.

Bradycardia, as is generally known, is coupled with tachy-rdia, as the extremes of aberration from the pulse-rate of ealth; 40 beats per minute and anything under may be con-dered as morbid, and bradycardia established. It has been ld that the cause of the affection is the application of an itant to the ends of the vagus in the heart, and that the hibition of the heart is increased by the presence of certain orbid matters circulating in the blood which act directly on e heart muscle. In the case I have recorded one would rtainly have found some gross pathological condition asso-ıted with the abnormal cardiac rhythm. Probably the anges on which bradycardia depends are degeneration of the art walls, fatty heart, and depression of the nervous system rough the action of poisons, bile, urea, etc., which are pre-nt in the blood in certain conditions. In my case the velopment of the slow pulse was simultaneous with the anges in the heart and system, evidenced by the symptoms ıd physical signs of progressive cardiac dilatation. Neuritis ıd acidity were present during many years of intermittent ffering, but not until definite structural changes in the art appeared was the bradycardia distinctly pronounced.

I have related the case mainly on account of the interest tached to its unexpected termination. Its lesson is the ave significance of the onset of the very slow pulse, com-ned with the symptoms of fainting, sufficiently alarming at st, but not enough to lead one to predict that treatment)uld be altogether ineffectual, and that the patient's end was so very near. Again, the sudden interruption in the course of the bradycardia is to be noted. This is difficult to explain. Emotional excitement of a patient submitted to a consultation between two medical men is scarcely a strong enough reason; but nevertheless its occurrence corresponded with that transaction.

PEMPHIGUS CONTAGIOSUS.

By GERALD SICHEL, F.R.C.S.Eng.,
Surgeon R.N.

[Communicated by the Director-General of the Medical Department of the Navy.]

Under this name, Dr. Patrick Manson (in Davidson's *Hygiene and Diseases of Warm Climates*) describes a skin disease of damp tropical countries. It is unaccompanied by any constitutional symptoms, and the elementary lesion is described as a large, hemispherical, clear, tense vesicle or bulla; these vesicles become flaccid and burst. Two forms are described, according to their distribution: an axillary form, met with in adults; and a diffuse form, mostly seen in infants. As the name implies, Dr. Manson considers it a contagious disease.

This description more or less tallies with a series of cases which occurred on board H.M.S. *Gibraltar* during the first three or four months that the ship was at Zanzibar (arriving there during the "lesser" rains or "vuli"); cases also occurred on board H.M.S. *Sparrow;* she had just recommissioned, so that the men were new to the climate. The disease does not appear to be met with on shore, so that I take it to be more or less special to newcomers.

The disease as I observed it appeared to occur in three forms, two of which were met with as sequelæ to lichen tropicus, and the third in which the eruption appeared on previously healthy skin. By far the most common was a pustular rash, following closely on "prickly heat." The following case is a typical one:

D., aged 29, a chief stoker, who had been suffering from an attack of fever (from which he had entirely recovered), had also had an extensive outbreak of lichen tropicus, especially on his legs, the remains of which still lingered both on these and on the trunk. The following rash then appeared: flat-topped, bright yellow pustules, surrounded by a narrow, well-marked, hyperæmic ring, varying in size from a pin's head to half an inch in diameter, for the most part discrete but closely set, with nothing noticeable as to arrangement. These burst after a few hours or a day or two, the contents and covering collecting in a semilunar or circular scab around the edges of very well-defined circular scars, at first pink and shining, soon becoming pigmented stains which persisted for about three weeks, looking like syphilitic pigmentation. The rash was roughly symmetrical, being limited to the lower extremities and the lower part of the trunk. It itched very much. His urine was free from albumen, and there was no constitutional disturbance.

Many other cases occurred, identical in character, except as to distribution, the rash occurring not only on the legs, but also on arms, axillæ, face, neck, and upper part of trunk. The most troublesome were those which attacked the inner side of the upper part of the thighs.

In one case of a man who was suffering from a very severe attack of fever, to which he ultimately succumbed, the rash was mixed with numerous boils, and was also peculiar, inasmuch as many of the spots were umbilicated almost like small-pox. In no case could contagion from other cases be definitely traced. In some patients the disparity in size of the pustules was well marked, but in others they were much more uniform, generally about the size of a split pea, sometimes two or three small ones ran together to form a large irregular pustule.

Another class of cases may be described as follows: A rash appears—on the face and neck especially, but also on the trunk and limbs—in patients who have suffered for some time from prickly heat; spots come as scattered vesicles, at first clear, but soon opaque and milky-looking, surrounded by a narrow pink areola; the size varies from a pin's head to a small split pea; these soon burst, either by being scratched or naturally, without becoming pustular, leaving dry, pink stains, with a circular or semicircular border of dried secretion and cuticle of the vesicle; the colour of these stains does not entirely disappear on pressure, and, although discrete at first, they rapidly become confluent, and then present large pink patches surrounded by sinuously-curved, well-defined borders. The rash itches slightly; it is not symmetrical, but occurs in irregular patches. If neglected and much scratched it becomes almost impetiginous in

appearance. There is no constitutional disturbance. The contents of the vesicles are not acid, so that they are not simply full of retained sweat. Moreover, it differs from hydroadenitis, inasmuch as it is a much more superficial disease. These vesicular rashes were chiefly observed in the earlier cases, not when the disease had become a regular epidemic.

The third variety occurs in persons who have not suffered from prickly heat, or at any rate not to any great extent; the spots are vesicular or pustular, and, when coming out, are accompanied by a sharp stinging pain, like in herpes zoster, another point of similarity to this disease being that they remain strictly local and are arranged in small groups. There is little or no itching in this variety. In one case, which occurred on the right thigh, the vesicles were arranged in groups just where the middle and external cutaneous nerves and the cutaneous branch of the obturator pierce the deep fascia to become superficial.

Manson's axillary form of the disorder also appears to me to belong to the same class, its localisation possibly being explained partly by the excessive perspiration in this region and partly by the distribution of branches of the intercosto-humeral nerve. In all other characteristics this form was identical with one or other of the first two varieties.

There is no doubt in my mind that the disease depends primarily upon excessive sweating. This over-action of the functions of the skin gives rise to inflammation, and whereas in lichen tropicus we get a papular form of eruption, in these cases we see a further advance to the vesicular and pustular varieties.

Contagion and auto-inoculation are not marked features, and pemphigus is a bad name, inasmuch as the characteristic lesion is a flat-topped, flaccid vesicle or pustule, instead of being raised, hemispherical, and tense. Moreover, whereas nothing definite is known as to the etiology of pemphigus here, it seems to me we have a very definite sequence of events. The term sudoral dermatitis (dermatitis sudoralis) would be better, as naming the disease from its cause; its varieties could be further described as pustular, vesicular, and herpetiform respectively.

I had no staining reagents on board, and so was unable to make any conclusive microscopical examination of the contents of the pustules. All I could make out were pus cells and a few scattered epithelial cells.

The most important part of the treatment is to keep the patient quiet, so that he sweats as little as possible. Warm baths are cleansing and soothing, after which a powder of zinc oxide and starch may be applied, or sublimed sulphur in the pustular form, to check the ingress of micro-organisms. In other cases applications of vaseline or lead lotion give great relief.

It is seldom necessary to diet the patient, or to give other internal remedies than an occasional mild purgative.

Note.

[1] Four experimental cases—two of inoculation in other persons and two of auto-inoculation—failed.

PERFORATED GASTRIC ULCER.*

By WALTER BROADBENT, M.D., M.R.C.P.

Perforation of a gastric ulcer is a subject on which much has been written, especially in the last few years, since the operations undertaken have been more successful; but the difficulties that may attend the diagnosis of perforation, and the different conditions resulting, if the diagnosis is not at once made, have led me to investigate the subject since the time when, as a resident at St. Mary's Hospital, I had under my care two cases of subphrenic abscess due to this cause, one under the left wing and the other under the right wing of the diaphragm. For this purpose I have made an analysis of the notes of 50 cases, as well as seeing several necropsies and operations.

As regards the proportion of gastric ulcers which perforate, I find that in St. Mary's Hospital during the last five years, there were 18 cases of perforation, while 308 patients were admitted suffering from gastric ulcer as indicated by pain, vomiting, and hæmatemesis, omitting in this number many with pain and vomiting not sufficient to make the diagnosis probable. This gives 6 per cent., and Willigk[1] having searched specially for ulcers in 3,440 *post-mortem* examinations, finds scars or ulcers 221 times, but perforation only 6 times, a proportion of only 3 per cent. Another fact which comes out in the St. Mary's statistics is that two-thirds of the cases are admitted to the wards in the six months October to March, and 11 of the 18 cases of perforation occurred in these six months. This is probably due to the greater prevalence of anæmia during the winter.

* A paper read before the Brighton and Sussex Medico-Chirurgical Society.

Sex.

The percentage of perforations is greater in females affected with ulcer than in males; in these 50 cases of perforation there are 43 females to 7 males. Crisp[2] found 39 females to 12 males, but Brinton collected 74 males to 164 females.

Situation.

The position of the perforated ulcer was in 31 cases the anterior surface, in 15 the lesser curvature, and in 3 the posterior surface, which corresponds roughly to Brinton's 70 per cent. on the anterior surface, 21 per cent. on the lesser curvature, and 9 per cent. on the posterior surface. But in my cases, 5 of those on the anterior surface were within 1 inch of the lesser curvature, and 7 more within 2 inches, so that the ulcer was most frequently near the lesser curvature. Three cases had ulcers on the posterior surface as well with their bases formed by the pancreas, 2 others had an ulcer on the posterior wall only through the mucous membrane, and in 1 case a perforation occurred in an ulcer on the posterior surface after the anterior one had been sewn up.

Appearance.

The perforated gastric ulcer has in most cases the appearance of an ulcer of some standing; the size varies from that of a farthing to a half-crown, or rarely larger, and the perforation is from one-eighth to three-eighths of an inch in diameter. The edge of the ulcer is raised and thickened with inflammatory infiltration, and the base is less supple and more easily lacerated than the rest of the stomach from the same cause, so that an ulcer is usually readily felt by the finger as a stiff and thickened patch in the stomach wall; also for a couple of inches round the perforation on the serous surface there is a quantity of flaky adherent lymph if more than about six hours have elapsed since the accident. In a few cases the ulcer is found to be of quite recent formation, with no inflammatory reaction in the edges, and then has the characteristic "punched out" appearance of Rokitansky, the serous membrane being punctured at once. Again, on the other hand, the necrosis of the serous membrane may take place slowly enough for a protective peritonitis to glue the ulcer to a neighbouring organ, so that one finds after death from other causes ulcers adherent by their bases to the pancreas, liver, diaphragm, and even to the abdominal wall; in most of these cases there is no further trouble, but in some the gastric juice gradually erodes a sinus into the tissue to which the ulcer is adherent; this has been the cause of abscess in the liver and in the spleen, of gastro-colic fistula, of perforation of the abdominal wall, and by working through the diaphragm, of pyopneumothorax, pericarditis, and perforation of the heart itself.

Subdiaphragmatic Abscesses.

When the ulcer has perforated there is not necessarily general peritonitis; out of these 50 cases 23 had subdiaphragmatic localised collections of lymph or pus, and it is probable that in some of the others operated on by surgeons the spread of fluid over the whole abdomen did not occur till the free incision was made. Mr. Victor Horsley reports this as occurring in one of his successful cases, and it occurred in an unsuccessful case at St. Mary's. Leyden pointed out this not infrequent result of perforating gastric ulcer in his paper on Pyopneumothorax Subphrenicus in 1880; and it is interesting also that the first case recorded in medical literature, by Grassius in 1696, had caused a subphrenic abscess containing food and pus. In the 14 *post-mortem* examinations at St. Mary's the peritonitis was localised in 8, and in examining

hese for a cause I find that in all the 8 the ruptured ulcer ras within 1½ inch of the lesser curvature, while in the 6 cases f general peritonitis the ulcer was on the anterior surface inches or more from the lesser curvature. On going through ne reported cases I find the ulcer was in 16 cases on the lesser urvature or within an inch of it, and in 15 on the anterior urface 2 inches or more from the lesser curvature. Of these utter all but one had general peritonitis; but of the 16 near ne lesser curvature 11 had localised collections only, and om the reports 3 more seem to have been very possibly local efore the operation, the liver dulness being noted as being resent, and the flakes of lymph as being only in the upper bdomen. It seems therefore that in nearly a half of the ases there is not general peritonitis.

The cavities formed in these cases have as their boundaries ne diaphragm above, the upper surface of the left lobe of the ver and the upper surface of the stomach below; they are mited to the right by the falciform ligament of the liver, and the left by the spleen and gastro-splenic omentum, and nferiorly by adhesions between the abdominal wall and the ont of the stomach and great omentum, the line taken being st above the transverse colon.

The attachment of the great omentum to the greater curva-ure of the stomach from its pyloric end to the gastro-splenic nentum, of which there is also a prolongation into the great nentum, and the manner in which this lies over the small testines, seem to be potent factors in limiting the effusion. he colon, almost invariably distended from chronic constipa-on in the anæmic girls, who form the large majority of the bjects of perforating gastric ulcer, is pressing the great nentum closely against the abdominal wall, so that when an cer perforates near the lesser curvature peritonitis has every portunity of shutting off the small intestines.

The spleen held up by the costo-colic ligament below, and ith the gastro-spenic omentum joining it to the stomach and en passing over the colon into the great omentum, forms an fective block to the spread of peritonitis to the left; while e falciform ligament of the liver stretching down towards e umbilicus becomes adherent to the pyloric end of the omach and to the omentum, and so forms the limit to the ght.

If the ulcer is on the posterior surface a peritonitis localised the cavity of the lesser omentum glues the stomach to the ncreas, and as in three of these cases the ulcer often grows size, the pancreas forming its floor, and there is only the k of hæmorrhage. A much rarer event is for an abscess to m in the cavity of the lesser omentum; the foramen of inslow closes and prevents general peritonitis, the abscess s the stomach in front, the colon and mesocolon below, e pancreas behind and the liver above. In one case[3] this scess opened into the transverse colon, but in two other ses I have found recorded[4] it spread forward behind the er, between the œsophagus and the vena cava along the rface of the diaphragm, pushing the coronary ligament of ritoneum in front of it, so that in one of these cases it tended at one time nearly over the whole upper surface of e liver, pus being found in the right anterior axillary line operation as well as in the left, and when the patient imately died from exhaustion, the right upper surface of e liver was adherent to the diaphragm, and only an abscess 4 ounces capacity remained on the left side between e diaphragm and liver and stomach. In the other case phtheria cut short the process ten days after the onset, and e abscess was found to have spread nearly over the whole per surface of the left lobe of the liver, I have found no se recorded of an ulcer of the posterior surface perforating ich has led to general peritonitis.

When the ulcer is close to the pyloric end of the stomach d ruptures, it usually causes general peritonitis, but in y rare cases it takes the course, which is less rarely taken perforating duodenal ulcers, one which would be difficult imagine but for the evidence of *post-mortem* examination. e gall bladder and also the falciform ligament become ed by peritonitis to the duodenum and colon, and the on to the abdominal wall, a channel being so formed, with e gall bladder and falciform ligament on either side, and the er and colon above and below, up which an abscess spreads nd the margin of the liver on to the surface of the right e, and forms a subphrenic gas-containing abscess.

If the ulcer is on the anterior surface more than 1½ inch from the lesser curvature and perforates, general peritonitis is the almost invariable result, I have only found one case recorded of a subphrenic limitation (Mason) and then the adhesions were not strong enough to prevent a general peritonitis a few days later.

Symptoms.

Premonitory symptoms to perforation of a gastric ulcer are as a rule very scanty. In many cases even the existence of a gastric ulcer cannot be diagnosed beforehand with certainty, and in others it may be suspected, but is not thought to be serious in the absence of hæmatemesis or severe pain and vomiting. This was well brought out in Mr. Jowers's paper in the *Lancet* in 1895.

In these 50 cases, taken from the records of St. Mary's Hospital and the medical journals, hæmatemesis or coffee-ground vomiting only occurred in 9 within three months of the perforation, and in 4 others had taken place a year or more before, in the other 37 it had never occurred.

Pain and vomiting after food had been present for from three weeks to three months in 21 cases, and pain after food without vomiting in 7 more. Simple dyspepsia without definite pain or vomiting was all that had been noticed by 19 others, while in 3 no symptoms at all had pointed to the stomach before the onset of the attack of peritonitis; in these and some of the cases with simple dyspepsia the ulcers were of recent formation without any reactionary thickening of the edges, and it is probable that the necrosis affected all the coats of the stomach at once, so that the pain and vomiting of the less deep ulcer were absent.

Immediate warnings occasionally do occur. In 3 of these cases the patient had an attack of intense pain in the left epigastrium at from six hours to a day before the true onset. The pain lasted only for about half an hour, but was much more severe than that the patients had usually experienced after food, and was presumably due to a slight peritonitis round the base of the ulcer. Twice in cases of gastric ulcer supposed to be convalescent I have seen similar acute attacks of pain, with rigidity and very marked tenderness in the left epigastric and hypochondriac regions, which, being treated by the withholding of all food by the mouth and the administering of opium suppositories, have recovered without further untoward symptoms, and it seems probable that the bases of the ulcers became adherent to adjacent viscera.

Symptoms of Perforation.

1. The symptoms of perforation vary according to the seat of the ulcer. In a severe case the first symptom is usually a very acute pain in the left epigastric and hypochondriac region, so intense as to lead to fainting or even immediate death.[5] In the majority of cases also there is vomiting and retching. This is followed by a state of shock, with rapid wiry pulse, low temperature, and a pale, clammy condition of the skin, which lasts for from two to six hours. Then reaction sets in and the symptoms of peritonitis supervene, the abdomen becoming rigid, motionless, and tympanitic; the liver dulness is replaced by resonance if there is much escape of gas from the stomach. The legs are sometimes drawn up, but this is not the case as frequently as in peritonitis starting in the lower part of the abdomen, and never occurs when the effusion is localised above the transverse colon. The pulse is rapid, but loses the wiry feel of the initial stage of collapse; the temperature varies between 102° and 104°. There is vomiting if food is given, the tongue becomes dry and thickly furred, and the face is anxious, pale, and thin-looking, and the eyes sunken, while the cheeks are flushed. If nothing is done, the patient lapses into a typhoid state and death occurs in a week or less.

2. If the ulcer is close to the lesser curvature and the peritonitis is localised, there is severe pain in the epigastrium and shock at the onset, but not of so intense a character; in the majority of cases there is vomiting also. When the reaction sets in the abdomen is motionless in respiration and becomes rigid on palpation, and may be tender all over, but the pain is greatest and the tenderness most marked in the left hypochondriac region. The legs are not drawn up. Occasionally there is pain above the left clavicle similar to the referred pain in the right shoulder in liver disease. The abdomen soon becomes somewhat distended, and tympanitic

resonance may rise as high as the fifth space on the left side, and extend over the right margin of the sternum at the sixth cartilage within a few hours of the attack, liver dulness in the vertical nipple line remaining normal. Instead of getting rapidly worse, as in general peritonitis, the condition of the patient remains about the same—the pulse keeps between 110 and 120, the temperature between 102° and 103°, and the tongue remains thickly furred but does not for some days begin to turn brown. Vomiting usually ceases in two or three days. The subphrenic abscess increases in size, tympanitic resonance rising as high as the fourth rib level or third space, and extending to right and left of the sternum while the heart is pushed upwards and outwards, the apex being in the fourth space an inch or more outside the nipple, and the liver dulness is encroached upon between the vertical nipple line and the sternum, being replaced by the tympanitic resonance. The left lung is compressed, and there is usually some pleurisy with effusion. Bulging may be noticed in the left epigastric region, and rigidity and tenderness are more marked there than over the rest of the abdomen; slight movement of the right side in respiration returns in a few days but it is always slight. An area of diminished resonance on light percussion can sometimes be made out running parallel to the left rib margin just above the umbilical level, which is due to the thickness of the lymph forming the lower limiting adhesions. The *bruit d'airain* can be obtained from just above this level to the upper limit of tympanitic resonance. These cases when not operated upon may survive a fortnight or longer, dying slowly of sapræmia, or the end may be hastened by gangrene of the lung or septic empyema.

3. If the ulcer is on the posterior surface and perforation occurs into the lesser omental cavity, the symptoms at first are similar to those just described; there is shock, with intense pain in the epigastrium, tenderness with rigidity, some distension of the abdomen. and, at first, absence of movement in respiration; but after the first day vomiting is a marked symptom, pus and shreds of lymph being found in the vomit. Apparently the abscess by stretching the posterior wall of the stomach keeps the ulcer open, and the offensive pus, entering the stomach, causes the vomiting; whereas, in the subphrenic abscesses, in front of the stomach the ulcer is usually found closed after the first two days, and vomiting is often absent. A tumour may be felt in the epigastric and hypochondriac regions, though in the first few days the rigidity of the abdominal walls makes its recognition very difficult. Its transverse position and the colon resonance lying below it distinguish it from a perinephric abscess. As already mentioned in the account of the pathology, these cases may lead to subphrenic abscesses by extension upwards between the vena cava and the œsophagus, or may perforate into the colon, causing the vomiting to become fæcal, and pus to be found in the motions.

4. In the exceedingly rare cases where an ulcer near the pylorus causes a right subphrenic abscess, the first symptoms are not intense; presumably the extravasation of stomach contents is small. or general peritonitis would result. There is a severe cramping pain in the epigastrium without much shock, and there is vomiting on taking any food; the pain spreads towards the right hypochondrium on the second and third days. The patient feels and looks worse, and the temperature rises to 102° or 103°, and the pulse to about 120. One finds tenderness and rigidity of the abdomen below the right costal margin, and no movement in respiration. A tympanitic area develops above the liver and soon extends from the fourth rib level down to the abdominal resonance, entirely replacing the liver dulness. The liver itself cannot be made out owing to the rigidity of the abdominal walls. Bulging is noticeable in the right hypochondrium also.

Above the tympanitic area there is diminished resonance in the second and third spaces, and breath sounds are weakened owing to compression of the lung, but above that is skodaic resonance, and the breath sounds are exaggerated. The tympanitic resonance extends an inch to the left of the sternum at the fifth cartilage, and the heart is displaced outwards and upwards, the apex being in the fourth space 1 to 2 inches outside the nipple.

Pleurisy and compression of the lung cause dulness of the right back below the middle of the scapula.

The *bruit d'airain* and succussion splash may be obtained over the tympanitic area, and the second sound of the heart is heard echoed over it.

DIAGNOSIS.

If the perforation occurs directly after a meal, when the stomach is full, the onset is more acute and the shock very great. The pain in these cases is often not referred to the gastric region, but to the umbilical or even to the lower abdominal region, so that without a previous history pointing to gastric ulcer a diagnosis of perforation of some part of the intestine unknown or of ruptured ovarian tumour is all that can be arrived at before operation. In one of these cases, also, during the first state of shock there was no rigidity of the abdomen, and palpation caused no special pain, but there was no movement of the abdomen in respiration, and the liver dulness was replaced by resonance, and as soon as the patient rallied a little from the shock rigidity of the abdomen came on. In these as in other cases of peritonitis a reversed movement of the abdomen in respiration due to complete inhibition of the diaphragm might prove deceptive if the alternate movement of the chest and abdomen was not noticed.

Whenever a subphrenic abscess is formed there is a raising of the diaphragm, which leads to collapse of the base of the left lung. Inflammation also rapidly spreads through the left lung. Inflammation also rapidly spreads through the diaphragm and pleurisy results, but the effusion does not in most cases become purulent. In some cases the lung becomes adherent and an interstitial pneumonia spreads for some distance from the base, while in others gangrenous pneumonia may result; in rare instances purulent pericarditis has been caused. Each of these complications has been mistaken for the primary disease, for the gastric symptoms may be so slight beforehand, and even at the time of perforation, if the stomach was nearly empty and the escape of its contents occurred slowly, that the pain and shock may not be more severe than is consistent with simple pleurisy, and there being no abdominal symptoms to point to the real origin of the mischief, with the exception perhaps of a slight amount of swelling, a mistake is easily made. In this condition, however, as compared to simple pleurisy, on careful observation it will be noticed that the patient appears more ill and has the drawn and grey-looking face of an abdominal or septic case; also that the apex of the heart, if displaced at all, is to the left of the normal position, and in most cases the tympanitic resonance on the left side reaches higher than normal, and then rigidity and some amount of swelling in the epigastric region and possibly a bell note with two coins over the tympanitic area may point out the true nature of the case.

From empyema the diagnosis would be more difficult were it not for the fact that gas is always developed in these abscesses due to ruptured gastric ulcer. More than once an exploring needle has been inserted into the left pleural cavity, and the finding of clear fluid where pus was expected from the condition and look of the patient, has led to a careful examination and correct diagnosis. By the time that a secondary empyema does form in these cases, so much gas has been evolved under the diaphragm that the difficulty of diagnosis is between this condition and pyopneumothorax instead of empyema.

With a subphrenic gas-containing abscess there is extension of the tympanitic note as high on the chest in some cases even as the third intercostal space, and metallic tinkling and succussion splash may be heard in the cavity, also the *bruit d'airain* can be obtained, but if the abscess is under the left wing of the diaphragm, as is most common in cases due to gastric ulcer, the heart will be found displaced upwards to the left instead of being pushed over to the right as in pneumothorax, and if the abscess be under the right wing the heart is pushed upwards as well as outwards, the apex being usually in the fourth space. In subphrenic abscess on either side, at the apex of the lung, there is pulmonary resonance on percussion, and normal breath sounds extending down to within one or two inches of the tympanic area, then there is a band of diminished breath sounds with vocal resonance and fremitus still present due to compressed lung, and finally the tympanitic area with sounds very similar to those of pneumothorax. In a localised pneumothorax the apex of the lung would have tuberculous cavities in it or other signs of

disease. Another point of difference from true pneumothorax is found on examining the back; in the subphrenic cases dulness is always present to a certain height from the base from compressed lung and pleurisy, and the line of dulness does not shift on changing position, and the tympanitic note is never obtained. But it must not be forgotten that true pyopneumothorax may be caused by perforation of the diaphragm by an ulcer which has become adherent to it, or by the bursting of a subphrenic abscess into the thoracic cavity.

Pericarditis has been simulated in two recorded cases by pleuro-pericardial friction due to the pleurisy excited, and pericarditis, simple and purulent, have been caused by spread of inflammation through the diaphragm from a subphrenic abscess. An absence of a rheumatic history would probably raise suspicion, and the accurate mapping out of the precordial dulness and of the tympanitic resonance below, with the bulging and rigidity in the left epigastric and hypochondriac region, would in most cases lead to a correct diagnosis, when there is a subphrenic abscess; but in cases where the ulcer has some time previously become adherent to the diaphragm and has eroded its way through, a diagnosis of the cause seems impossible. Dr. Finney[6] describes such a case. A man, aged 19, had a slight attack of pericarditis, clearing up in a fortnight, then for the next three weeks he had a hectic temperature and considerable pain under the left ribs, not affected at all by food and relieved by pressure. At the end of that time he passed some liquid blood, and fainted and died in half an hour; it was found that the pericardium had become adherent recently, and the left ventricle was perforated by a sinus from a gastric ulcer. Dr. Finney collected from various sources three cases of similar perforation of the heart, in only one of which were vomiting and gastric pain marked symptoms, and also two cases of pneumo-pericardium, in one of which there was first a subphrenic abscess, and in the other only a diagnosis of pleurisy had been arrived at.

When there is a slow leak of stomach contents from an ulcer close to the pylorus, the acute pain to the right of the epigastric region with vomiting and fever has to be distinguished from an attack of biliary colic due to a stone in the cystic duct. This was the diagnosis made by the doctor who saw at the time of attack my case of right subphrenic abscess, but as a rule the patient is younger than the usual age for gall stones, and the abdomen does not move in respiration, and the pain is constant, not spasmodic.

Suppuration of an infarct of the spleen or rupture from injury may cause subphrenic abscesses on the left side; these contain no gas, and are associated with swelling and tenderness in the hypochondrium or loin. On the right side abscess of the liver or suppuration of a hydatid cyst causes subphrenic abscesses without gas, which closely simulate empyema owing to the presence of the liver. Gas containing abscesses under the left wing of the diaphragm seem to be invariably due to gastric ulcer, but those under the right wing are much more commonly due to duodenal perforation than to gastric, so that without a definite history of gastric ulcer one may conclude the cause is duodenal ulcer or perityphlitis, of which latter cause there are several cases recorded, the spread of the abscess being retroperitoneal in some cases, but in others intraperitoneal between the ascending colon and abdominal wall, these sometimes containing pus only. Dr. Osler records also a case of perinephric abscess perforating the colon, which gave rise to a gas-containing right subphrenic abscess.

Treatment.

There is no doubt, from a study of the reports of these cases, that the earlier an operation is undertaken the more likely is the result to be favourable, so that the surgeon depends greatly on the promptness of diagnosis of the medical man who first sees the case. I should be going beyond my province in discussing the operations, but I would suggest, if there is a subphrenic peritonitis localised by adhesions of two days' standing at least, that the best incision would be one close along the rib margin, as a vertical or oblique one would not give room enough without cutting into the adhesions below; in these cases also it seems better not to risk damaging the adhesions by a determined search for the ulcer, which is almost certainly safely closed by lymph, but to be content with cleansing the cavity, especially above the liver, and then to leave in a large drainage tube. If such a case is met with within two days of the onset, it seems to me it would be better treated by a median incision, with removal of all the lymph and sewing up of the ulcer; but the surgeon might only open the peritoneum at the top of his wound at first, and let as much as possible of the fluid and lymph be got rid of before the general peritoneal cavity is opened; and considering that in 23 of these 50 cases the peritonitis was localised above the colon, I think it would be advisable in all cases where the liver dulness has not disappeared for surgeons to take this precaution of opening into the upper part of the peritoneum only at first, so as to avoid an unnecessary spread of the effusion.

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[1] *Prager Vierteljahresschrift*, vol. ix. [2] *Lancet*, August, 1843. [3] British Medical Journal, May 8th, 1886. [4] Dr. Mason, *Journal of American Physicians*, 1893, and *Lancet*, March 7th, 1891. [5] British Medical Journal, October 20th, 1894. [6] British Medical Journal, June 12th, 1886.

A CASE OF PUERPERAL SEPTICÆMIA TREATED BY ANTISTREPTOCOCCUS SERUM: RECOVERY.

By LESLIE DURNO, M.D.,
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A primipara, aged 25, was confined on May 2nd, 1897. The labour, though somewhat tedious, was perfectly natural in every respect.

On the third day, May 5th, she had a rigor; the evening temperature was 104°, the pulse 140. She complained of pain, and had marked tenderness over the uterus. The lochia were abundant and fœtid. The vagina was douched with 1 in 20 carbolic lotion, and the uterine cavity with 1 in 2,000 perchloride. Quinine and opium were given internally.

On May 6th the morning temperature was 105°, the pulse 140. She had passed a bad night. Pain and tenderness in the abdomen were much increased, and there was considerable tympanites and sickness, in fact, signs of peritonitis. The uterus was again douched with 1 in 2,000 perchloride, and the vaginal douches of 1 in 40 carbolic were used every three hours. She was sponged with lukewarm water every four hours, and antipyrin 30 gr. given in three doses at two hours' interval. The evening temperature was 106.2°, the pulse 150. She looked very ill, and sickness was incessant; 10 c.cm. of antistreptococcic serum were injected under the skin of the right side of the abdomen.

On May 7th the morning temperature was 101.5°, the pulse 120, and she had passed a fairly good night. She had had diarrhœa in the early morning. The uterus was douched. Pain, tenderness, and sickness were all much improved; 10 c.cm. of serum were again injected. At 3 p.m. the temperature was 101°, and the pulse 110. She was feeling much better, and sickness had stopped. At 10 p.m. the temperature was 103°, and the pulse 120. All the symptoms were aggravated, and sickness and diarrhœa had recurred. A morphine suppository, gr. $\frac{1}{4}$, relieved the diarrhœa very much.

On May 8th the morning temperature was 105.5°, and the pulse 130. She had had a bad night, and looked very ill. Vomiting was incessant, and tenderness and tympanites very great, 10 c.cm. of serum were injected, and the uterus douched. At 3 p.m. she was feeling better; the temperature 102°, the pulse 118; and sickness stopped. At 10 p.m. the temperature was 102°, the pulse 120. The general condition much improved; 10 c.cm. of serum were injected.

On May 9th the temperature was 101.5°, and the pulse 110. She had passed a good night, and the general condition was much improved. The evening temperature was 101°, the pulse 102, and she was feeling comfortable; 10 c.cm. of serum injected.

On May 10th the morning temperature was 101°, the pulse 106; the evening temperature 102°, and the pulse 106. She was feeling fairly comfortable; 10 c.cm. of serum were injected.

On May 11th the morning temperature was 100°, the pulse 105; the evening temperature 102°, pulse 112. She was feeling fairly well; 10 c.cm. of serum injected.

During the next two days the temperature did not exceed 99.5°. On the morning of May 14th it was 99°, but there was a very severe urticarial rash all over the body. The irritation was intense. In the afternoon the patient had a rigor, followed by acute pain in the abdomen and sickness. The temperature was 104°, pulse 120. Three 6-gr. doses of quinine were given at two hours' interval.

On May 15th the morning temperature was 98.5°, the pulse 84. She had passed a good night; the rash was much better and the pain practically gone. The evening temperature was 100° and the pulse 90.

On May 16th the morning temperature was 101° and the pulse 106. She complained of pain and tenderness over the left hip-joint. In the evening the temperature was 102°, the pulse 110, and the left hip, ankle, and right wrist-joints swollen and very tender.

On May 17th the morning temperature was 103°, and several of the other joints were swollen and tender. The evening temperature was 104°, and the pulse was 140. The heart and lungs were apparently healthy.

On May 18th the morning temperature was 103.5°, the pulse 140, and almost every joint was affected. The evening temperature was 104°, the pulse 140. There was thrombosis of the right femoral vein.

On May 19th the temperature was 103.5, the pulse 140. The right femoral vein was very tender and painful. Dr. T. Stevens, who saw the patient with me, agreed to the injection of 20 c.cm. of the serum, and at 6 P.M. this was given.

On May 20th the morning temperature was 104°, the pulse 145. For about 12 inches on either side of the site of the last injection the skin was hard and infiltrated, and presented the signs of phlegmonous erysipelas. In the evening the temperature was 104.5°, the pulse 140. She complained of much pain in the inflamed wall of the abdomen, and great tympanites and sickness.

On May 22nd the temperature was 101°, the pulse 108, and the general condition was greatly improved.

On May 25th a large abscess in the wall of the abdomen was opened, and the patient continued to make a splendid recovery.

REMARKS.

Although no culture was made I think the virulence of the symptoms left little doubt as to the presence of streptococci. The cause has not to be far sought for. The nurse in attendance, though provided with a new syringe, preferred to use an old one, the gift of some kind friend, and with a history of having been used for washing out an abscess some twelve months previously.

It was not till two days after 70 c.cm. of the serum had been injected that any uncomfortable symptom was noticed. This was a very severe attack of urticaria, which rapidly disappeared after two or three large doses of quinine.

The abscess which followed the injection of 20 c.cm. I am quite unable to explain. The same strict antiseptic precautions were taken as on the seven previous occasions. The cause, I think, must be sought for either in some default of the serum itself or from the fact that the tissues under the skin were already too much taxed, as all the injections were made within 1 inch of the same spot. Altogether 90 c.cm. were injected. The serum was supplied by Burroughs, Wellcome and Co.

CASES OF OBSTRUCTION OF THE SMALL INTESTINE BY GALL-STONES.

BY W. J. CANT, L.R.C.P., M.R.C.S.,

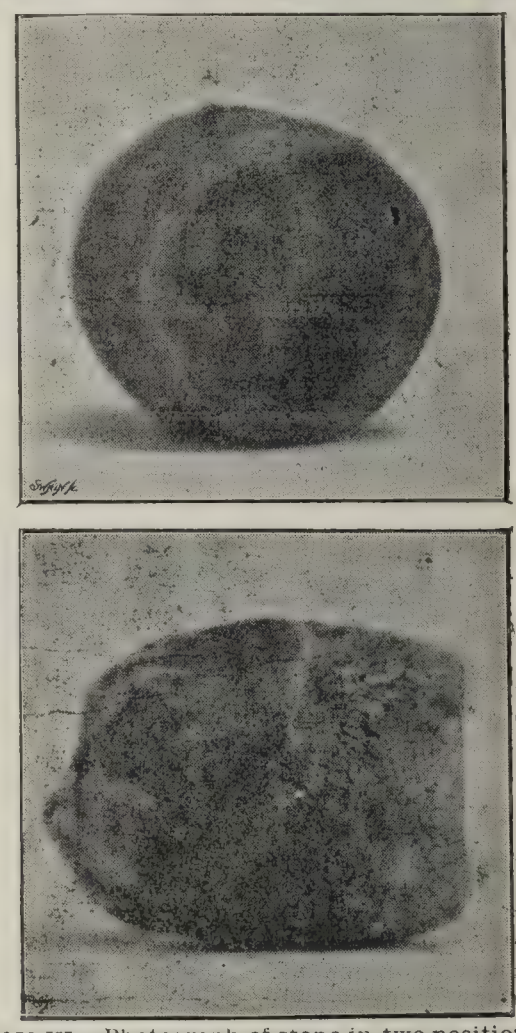
Consulting Surgeon, Lincoln General Dispensary; Hon. Surg on Lincoln County Hospital.

IN the BRITISH MEDICAL JOURNAL of September 25th Dr. Bradbury records two interesting cases of intestinal obstruction from gall stones, and remarks on the rarity of this cause of obstruction. Since December, 1894, I have seen three such cases, and as I have heard of others it seems to me probable the disease is not so uncommon as is generally supposed. The following is a short record of the three cases.

CASE I.—On December 5th, 1894, I was called in consultation to see a woman of about 65 years of age, suffering from intestinal obstruction of some days' duration. She had stercoraceous vomiting, and was suffering great pain with exhaustion. I decided to perform laparotomy. On examining the intestine I found a hard concretion low down in the ileum. I brought this to the surface, made a longitudinal incision in the intestine, and removed a large gall stone. The wound in the intestine was united by Czerny-Lembert sutures, the intestine returned, and the operation completed. The sickness stopped, and for some days the patient seemed to be going on favourably; but her strength gradually failed, and she died in about a week after the operation. A *post-mortem* examination was not granted, but as there was no peritonitis, vomiting, or pain it seems probable the wound of the intestine had healed and death was caused by the bruising and distension of the bowel by the passage of the gall stone.

CASE II.—On August 13th, 1897. I saw in consultation a man, aged about 48. He was collapsed, and his condition almost hopeless, having had complete obstruction for some days, with stercoraceous vomiting. At the urgent request of the patient I performed laparotomy, and removed a large gall stone from the intestine. The operation was completed as before, but the man died shortly after.

CASE III.—On March 1st, 1897, I saw a woman, aged about 50. She had had obstruction for a few days with severe vomiting, but its stercoraceous character was doubtful. The patient was in a fair condition. Laparotomy was performed, and the operation completed as in the other cases. She made an uninterrupted recovery, the temperature never rising above the normal, and all symptoms disappearing after the operation.



Case III.—Photograph of stone in two positions.

In two of these cases I attempted to break up the concretion with a needle as suggested by Mr. Teale, of Leeds, but this I failed to effect. None of these patients had previous symptoms of gall stones but only bilious attacks, nor had they previous to the obstruction suffered, so far as I could ascertain, from severe pain. The vomiting at first was markedly of a bilious character, and gradually became stercoraceous.

In my opinion in these, as in most cases of acute intestinal obstruction, it is advisable to operate as soon as obstruction is diagnosed. By waiting, the condition of the patient becomes worse, and the rough stone being forced down by peristaltic action causes damage to the intestine, and so very much diminishes the chances of recovery. As the intestine diminishes in size towards the ileo-cæcal valve the obstruction only increases as the stone advances.

THE SUSPENSION OF A POOR-LAW MEDICAL OFFICER.—The Local Government Board of Ireland, having received the report of their inspector, have removed the suspension of Dr. Robert Cochrane, medical officer of the Longford Workhouse hospital.

TREATMENT OF MENINGOCELE, HYDROCELE, ETC.

By Brigade-Surgeon-Lieutenant-Colonel T. H. HENDLEY, C.I.E.

The successful treatment by operation of two large meningoceles by Mr. Spanton, which are reported in the British Medical Journal of October 9th, indicates that the rate of mortality is not so high as has been usually stated. I can confirm this from my own practice. Last year I performed two such operations on Hindu infants at the Mayo Hospital, Jeypore (Rajputana, India). In each case the tumour was about the size of a turkey's egg, and had a neck which protruded through an aperture into which a finger could be introduced for a short distance into the cranial cavity in the course of the operation. The skin over the tumours was thick and covered with hair, but was thin and distended at the base. I operated in both cases in the same manner.

After shaving off the hair I made an incision and dissected off the skin until I reached the bluish-looking sac, which I opened and allowed the contents (in both cases quite fluid) to escape. I then passed a needle armed with a doubled piece of silkworm gut through the pedicle, and tied the divided portions firmly round the neck of the sac twice over so as to securely plug the opening in the skull, and with the same object as Mr. Spanton had, or as I have in view in a case of hernia, to close up the inguinal canal. I then cut off the portion of the tumour outside the sac, as well as the superfluous skin, and dressed the wound with iodoform and boric lint. In each case recovery was rapid, without increase of temperature or trouble of any kind.

The above were the only cases of meningocele I have operated upon, and I was induced to undertake them by my success in dealing with large inguinal herniæ and hydroceles. One case of hydrocele is worthy of notice. After dissecting out the sac from the scrotum, and evacuating its contents, I found that my finger could be passed up within the sac into the abdomen as far as the umbilicus. I was at first somewhat puzzled, but soon had no difficulty in drawing down the intrapelvic part of the sac so as to ligature the neck of it. I was then able to pass the ends of the catgut thread through the pillars and walls of the abdominal ring, thus firmly cutting off all entrance into the peritoneal cavity. I used silkworm gut to close the large incision in the scrotum, and made a drain of catgut threads. Recovery was rapid and complete.

I take this opportunity of referring to a case in which I removed an ovarian cyst (unilocular) as large as a football, in December last. My friend Surgeon-Colonel Warburton kindly assisted me. It was interesting from the fact that, with the exception of a few trifling adhesions, its only connection with surrounding structures was by a pedicle 6 inches long, which was only as thick as a pencil. This was attached to the right ovary. The woman was soon convalescent.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

A CASE OF GLYCOSURIA IN THE INSANE.

In recording the following case I desire to draw attention, first to the low specific gravity, ranging usually from 1010 to 1020, and only once reaching 1035. Secondly, to the recurrence of the glycosuria coincident with the fall of the weather temperature, and the recovery with the break of the frost, which I have noticed each winter since 1893. The patient has not appreciably lost weight (about 7 lbs.) or strength, and has suffered very slightly from thirst. He has had neuritis of the frontal nerve on the right side, accompanied by a crop of herpes, and had pain and some loss of power in the right arm; both these have, however, passed away.

H. B. is a stout gentleman (present weight, 13 st. 11 lbs.), aged 56 years, who has been insane since the age of 36 years; and mentally is an ordinary case of chronic insanity, such as may be found in every asylum. On November 9th, 1893, he complained of feeling "seedy" and of thirst. He was not losing flesh, as the periodic weighing showed, but sugar was discovered in his urine. He was put on a modified diabetic diet.

From November 9th to 15th the specific gravity ranged from 1008 to 1018, only once reaching 1026. November 15th. Total amount of liquid taking during the day 190 ounces. Total amount of urine passed 100 ounces, containing a total of 1,000 grains of sugar.

After this the sugar gradually declined in amount until November 29th, when the note says: Patient drank 4½ pints, and passed 5 pints of urine containing no sugar; specific gravity, 1010. He continued well until December, 1894, when sugar was found in the urine after having been absent all the summer. The urine was frequently tested. The diet was again modified without effect on the sugar, and the glycosuria continued until February 28th, 1895, the specific gravity ranging from 1015 to 1018, the quantity of urine about normal, and sugar from 6 to 11 grains per ounce. The patient suffered no inconvenience except from the dietetic treatment. On March 5th the sugar fell from an average of 5 grains per ounce to nothing, the weather, which had been cold, having become much warmer, and it was noticed during this attack that less sugar was passed on warmer than on cold days.

Sugar was again found in the urine on January 2nd, 1896, lasting again through the cold weather to April 1st, 1896. Reappeared on December 25th, at the same time as the commencement of the frost. Specific gravity 1034 (the highest recorded), sugar 3 grains per ounce. Codeia was ordered, as he was too much excited by the attempt to modify the diet, and it had failed to give relief on previous occasions.

The glycosuria continued until the return of warmer weather in March, 1897. He had an attack of influenza in May, followed by a rather sharp attack of bronchitis, on recovering from which he had a slight return of glycosuria, which, however, rapidly passed off without special treatment, leaving him in his usual health after about two weeks.

E. H. O. Sankey, M.A., M.B., B.C.Cantab.,
Resident Licensee of Boreatton Park Licensed House, Baschurch, Salop.

CASE OF ACUTE NECROSIS OF ALVEOLAR PROCESS OF SUPERIOR MAXILLA IN A BABY TWO DAYS AFTER BIRTH.

On September 25th I attended Mrs. B., aged 28, in her first confinement, which was quite normal though somewhat tedious. Two days after birth the nurse called my attention to the baby, who had not yet opened its eyes. There was slight chemosis of both eyelids, which I thought might have been due to injury during birth. The next day I was requested to examine its mouth, and on doing so I found the alveolar process of the left superior maxilla much swollen. The day following there was extensive sloughing, and after having removed the slough with a pair of forceps, I extracted two pieces of bone. The child progressed favourably under treatment until the twelfth day, when an erysipelatous eruption appeared on the abdomen, subsequently spreading to the genitals and nates. The baby died on the fifteenth day, apparently from sapræmia. That I have never heard of necrosis coming on so soon after birth must be my excuse for reporting this case. I could get no history of syphilis, struma, etc.

Frederic C. Wood, L.S.A.Lond. (Triple Qual.).
Ripley, Derby.

A CASE OF TYPHOID FEVER TREATED BY THE INJECTION OF PURE FERMENTS.

L. R., aged 13 years, residing at Camberley, was first seen on June 5th. She had then been ill a few days with pains in her limbs and back, headache, sickness, and diarrhœa.

Physical Signs.—General feebleness, accompanied with a bright malar flush, face rather anxious, skin hot, pulse quick and compressible, some dulness of comprehension as to questions; abdomen full, with tenderness and gurgling on pressure over the right iliac region. The morning temperature was then 100° F. The stools were of the typical pea-soupy, typhoid character. Typhoid fever was diagnosed.

Progress.—Succeeding symptoms tended to confirm this opinion; the stools became tinged and streaked with blood,

and a low form of delirium set in. Unfortunately, no nurse being at first available, the temperature was only taken at each visit, and not at regular times. The patient gradually got worse, the feebleness and delirium increasing, with steady rise of both morning and evening temperatures. On June 14th, for the first time, typical typhoid spots were observed on the back, but none on the abdomen, which was tumid, causing increased frequency of respiration. The tongue became very dry and brown, sordes appeared on the teeth, the weakness being extreme. On June 16th the afternoon temperature was 103.4° F., pulse quick, soft, and dicrotic, tongue dry, sordes on teeth and lips, and she was very delirious. The abdomen was distended and somewhat resistant to the feel; she lay with the knees drawn up, had considerable dyspnœa, but could be roused; the face was pinched, and she appeared moribund. Having heard of a successful issue in a similar condition, I asked my colleague Horace Manders to see the case with me. Ordinary measures having been exhaustively tried, with the limited means at our disposal, and found futile, pure ferments[1] were then injected into the left flank by my colleague about 9 P.M. On the following morning, after a better night, the patient had certainly rallied, the arterial tension was increased, she was stronger, and the temperature had gone down to nearly normal; it was quite so in the evening. From this time she made an uninterrupted recovery.

Remarks.—The interest in this case consists in the sudden change from an imminent danger (perforation?) into a perfect convalescence within a few hours. We may expect this with typhus or pneumonia, but such a transition in typhoid is sufficiently rare as to make this case well worth recording.

Camberley. N. P. Cadell, L.R.C.P.

THE WHITE SPECKS IN NAILS.

Mr. Malcolm Morris, in his excellent little work on *Diseases of the Skin*, writes concerning the diseases of nails (chap. xx, p. 478): "Sometimes white spots become developed owing to the presence of air between the lamellæ." This may or may not be the explanation of the histology of these white spots; but I have satisfied myself by personal experiment that they are of traumatic origin and caused by injury to the nail in scraping, pressing back, and cutting the skin over the lunula at its base. Let anyone who has at times these white specks give his nails a thorough dressing, pressing back the superfluous skin at the base, scraping its remains away, and when necessary cutting it off. In a few days he will notice white specks and patches, of larger or smaller size, on some of his nails. As the nails grow these grow with them, advancing gradually to the centre of the nail, then past it, coming finally to its free edge, and being cut off in the ordinary course of nail shortening. Let the same observer now permit his nails to remain for a month or two untouched at their bases, merely being cut short at their free extremities by way of necessary dressing, and he will perceive that they are quite speckless except for the old spots, and that they remain so as long as he does not meddle with the skin over the lunula at their bases. In fact, he can produce the presence or absence of these spots at his will.

It is quite possible that Mr. Malcolm Morris may be correct in attributing the specks to air between the lamellæ, in which case it is probably introduced by the traumatic lesion of nail cleansing. At the same time, I cannot help suspecting—though I advance this view with diffidence—that they are rather of the nature of scar tissue, and analogous to the corneal opacities which follow injury or ulceration.

I make no apology for noting this apparently unimportant observation, since all facts in medicine, if veritable, deserve a corner in its literature. It is only theories which for the most part require suppression.

Gosport, Hants. William Sykes, M.D.

EXTERNAL RUPTURE OF ONE CORPUS CAVERNOSUM.

C. P., a healthy boy, aged 15, while cycling up a steep hill on September 18th, felt a sudden sharp pain of a "cutting nature in the penis. The saddle had become somewhat loosened and tilted backwards, with the result that the penis was nipped between the saddle peak and one of the thighs. The pain was of but a few seconds' duration, and had entirely subsided before the summit of the hill was reached. An hour and a half later, when about to pass water, the patient noticed that his penis was much swollen, but there was no difficulty in micturition, and the stream was natural in size and colour. As the urine flowed the swelling was noticed to increase rapidly, and before the bladder was emptied the sensation was experienced as of a "snap," blood immediately spurting about the room, the swelling therewith subsiding to a great extent.

On arrival about an hour after the bleeding had occurred I found that a good deal of blood had evidently "spurted" over the washstand and carpet with some force. The patient was slightly collapsed. Locally, situated over the right side of the dorsum of the penis, and extending for 1½ inch from the situation of the corona towards the base of the penis, was a clean-cut gaping wound, surrounding which and extending to within an inch of the os pubis was a diffused swelling due to effused blood; from an opening in the centre of the wound blood was rapidly welling up. Through this opening a probe could be passed upwards for about 3 inches in the cavity that had been made by the effused blood. The patient on being requested to pass water did so painlessly and without effort, no urine escaping by the wound, and no blood being passed in the urine.

Operation.—Chloroform was administered, and a temporary ligature placed around the root of the penis; by the passage of a catheter along the urethra, and a probe along the cavity, the non-implication of the former was assured. After several ineffectual attempts had been made to secure what appeared to be numerous bleeding points, the wound was enlarged upwards for about 2 inches, and it was then seen that in the deepest part of the wound there was a slit about half an inch long through a thick, white, firm fibrous coat leading into a rough-walled cavity, from which blood flowed rapidly on relaxation of the ligature. This slit was sutured with a continuous horsehair suture and the hæmorrhage thus arrested. The skin wound was treated similarly, and a perchloride gauze dressing applied. Both before and at the operation a considerable quantity of blood was lost but there was little shock. The urine passed easily after the operation.

On the third day bruising discoloration was marked; a week after the stitches were removed, and the patient made an uneventful recovery, some slight induration only remaining for a few days.

This case seems of interest from two or three standpoints. In the first place, the importance and the extent of the damage sustained were in marked contrast to the slightness and indefiniteness of the injury, and it may here be stated that the patient denies any erection having occurred during the ride. Secondly, it seems strange that instead of the blood, coming as it did from the ruptured corpus cavernosum, extravasating in the loose subcutaneous tissue as one would naturally expect, it should rupture the skin and escape externally. In the third place such an accident must be of rare occurrence, for I find no mention of it in Erichsen's latest edition, in Quain's *Dictionary*, or in Walsham's *Theory and Practice of Surgery*, and I cannot remember ever hearing of any case at all resembling this one.

I can suggest no theory to explain adequately the state of things found. It is clear that the only injury was pressure between the thigh and saddle peak; that the patient's attention was not drawn to the seat of injury for some considerable time after the accident; and that, until the escape of blood from the penis, there was no wound present to facilitate the escape of blood externally.

Kingston Hill. Norman O. Wilson, F.R.C.S.Eng.

ABSENCE OF ONE KIDNEY.

While cases of entire absence of one kidney are not unknown, the following presents some features of special interest:

The case was that of a carter, aged 64, who died comatose from diabetes mellitus in the Victoria Infirmary on September 16th, 1897. At the *post-mortem* examination it was found that there was no kidney or suprarenal body on the left side, and an entire absence of the corresponding artery, vein, and ureter. The right kidney was enlarged (weighing

[1] British Medical Journal, September 25th, p 802

9¾ ounces) and was normal to the naked eye and on section. The right ureter ended in the bladder in the usual way, but there was no corresponding opening at the left posterior angle of the trigone.

Another interesting abnormality in this case was that the sigmoid flexure took a sharp, almost right-angled, bend at its lower extremity across the body of the last lumbar vertebra and entered the pelvis about an inch to the right of the right sacro-iliac synchondrosis, thus giving the rectum a direction upwards and to the right.

Hugh Galt, M.B.Glasg., D.P.H.Camb.,
Pathologist to the Victoria Infirmary, Glasgow; Assistant to the Professor of Forensic Medicine and Public Health, Glasgow University, etc.

REPORTS
ON
MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

THE COLONY HOSPITAL, GRENADA.

NOTES OF SIX CASES OF HYSTERECTOMY.

(By Walter Boyd, L.R.C.S.Ed., etc., Medical Officer in charge.)

Though the operation of hysterectomy is not such an unusual one in the West Indies, as suggested in the record of a case from San Fernando Hospital in the British Medical Journal, February 13th, 1897, p. 393, the following extract from the Official Register may be of interest as representing the number done in this island since 1893, all being successful.

No.	Name.	Age.	Pregnancie	Disease.	Operation.	Chloroform.		Time.		Result.	No. of Days.
						3	m	Hrs.	Mins.		
1	A. B.	36	Multipara	Multiple fibromata and myoma uteri	Hysterectomy, partial	8	—	1	20	Cured	28
2	M. P.	33	,,	Large myoma uteri	,, ,,	3	30	—	55	,,	29
3	M. A.	30	Nullipara	,, ,,	Pan-hysterectomy	6	20	1	45	,,	18
4	L. L.	50	Five abortions	Myoma uteri and large cyst of broad ligament	,,	8	40	1	35	,,	18
5	A. R.	40	Primipara	Large myoma uteri	,,	7	15	1	24	,,	24
6	C. L.	36	Multipara	Carcinoma uteri	,,	8	—	1	40	,,	12

Case 1.—Vomiting lasting four days, caused much distress to patient. Subsequent improvement rapid.

Case 2.—Recovery uneventful.

Case 3.—Operation much interfered with by vomiting, and future progress by an attack of diarrhœa on seventh day.

Case 4.—Recovery uneventful.

Case 5 was unfortunately somewhat complicated by the use of a ligature which had not been properly prepared. On the seventh day temperature 101°, accompanied by severe pain in vagina and rectum, a free discharge of clear mucus coming from the latter viscus. On examination a fluctuating tumour was felt pressing on the rectum and springing from the region of the right uterine artery. On the ninth day temperature 102°, and after douching with warm creolin solution a sudden discharge of bloody serum took place from the rectum. On the tenth day temperature was normal, and much relief experienced by patient, whose recovery was now rapid and uninterrupted, the rectal opening apparently closing without trouble. There is no doubt as to the ligature—a gut one—being accountable for the abscess, as it was taken by mistake from an old and unused trough by an assistant. and only recognised after it had been applied to the stump of the uterine artery.

Case 6 was only remarkable for severe shock, lasting six hours after operation, and vomiting for two days.

Remarks.—In each case the organ was removed through an abdominal incision on the lines practised by Smyly, of Dublin, to whom I am indebted for the privilege of closely observing one of these operations in his excellent operation room at the Rotunda Hospital. Sterilised water only was introduced into the abdominal cavities and used for instruments, sponges, etc., and gut ligatures employed throughout. Union of the abdominal incision by first intention took place in every instance. The usual external antiseptic cleansing was strictly observed, internal asepsis being maintained by the use of sterilised water, sponges, and ligatures.

DONEGAL DISTRICT LUNATIC ASYLUM.

A CASE OF MELANCHOLIA WITH CALCIFICATION OF THE DURA MATER.

(By J. C. Martin, L.R.C.P.& S.I., Assistant Medical Officer.)

H. C., aged 51, single, was admitted on September 4th, 1895, suffering from acute melancholia and actively suicidal. She was in fairly good bodily health at the time, but had a self-inflicted contused wound on the scalp.

After admission she remained very depressed, constantly lamenting and crying, and at times refusing food, having to be fed by the nasal tube. She was in the habit of pulling out her hair. At times she would become violent and dangerous; sometimes she would be fairly settled and would do some knitting. For the last five months previous to her death she had been confined to bed suffering from phthisis. She died on August 15th, 1897.

On *post-mortem* examination both lungs were found far advanced in tuberculous disease; the remaining organs were fairly healthy. On opening the skull there was some slight congestion of the membranes. On closer examination a hard substance could be felt beneath the dura mater between the posterior part of the parietal lobes. On removing the dura mater three large spiculæ of bone were found adherent to its under surface. These were very irregular and serrated in outline, and of a very hard consistence. The largest measured 1⅝ inch in length and ½ inch at its broadest part. It projected down between the two hemispheres. The interior of the skull was normal, but the dura mater was slightly thickened over the spiculæ.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

W. H. Dickinson, M.D., President, in the Chair.

Tuesday, October 26th, 1897.

Calcareous Metamorphosis of Tracheal Glands: Mediastinal Abscess and Bronchial Fistula.

Dr Sydney Phillips related this case. The patient, aged 26, was seized with sudden intense pain in the intercostal region, and subsequently had repeated rigors and long-continued intermittent pyrexia; pleurisy with copious effusion supervened, requiring immediate aspiration, which was repeated ten times. After long-continued spasmodic cough there were evidences of free air in the chest cavity, and a small quantity of pus was expectorated; repeated syncopal attacks threatening life occurred, and a free incision was made

into the pleural cavity. The symptoms then gradually subsided, and the opening in the chest gradually closed. The patient was fairly well except for some wheeziness of breathing, but eighteen months later had sudden copious hæmoptysis. This recurred again and again during a period of sixteen months, till the patient died of hemiplegia. The necropsy showed the presence of a small tumour in the trachial bifurcation, formed by adherent calcareous glands. In the substance of this tumour an abscess had formed and discharged through the right bronchus, leaving a fistulous opening in it; a perforation of the arch of the aorta had subsequently formed from erosion by the calcareous glandular tumour. The author, in commenttng on the case, drew attention to the position of the pain; to the difficulty in diagnosis of the seat of suppuration, owing to the mediastinal abscess being encysted; to the clinical results of the bronchial fistula, and to the long-continued profuse hæmorrhage from an opening into the aortic main trunk.

The President commented on the unique character of the case, which accounted for the inability of the Society to discuss the author's interesting paper.

Pernicious Malarial Fevers of Sierra Leone.

Dr. George Thin read a paper, entitled, A Further Contribution towards the Pathology of the Pernicious Malarial Fevers of Sierra Leone, and our Knowledge of the Parasite with which they are associated. In February, 1896, he contributed to the Society a note on the appearances found in the tissues in a fatal case of pernicious malaria at Sierra Leone. Since then he had examined tissues in three additional cases of pernicious malaria occurring at Sierra Leone, and a case of pericarditis not complicated with malaria. In the case of pericarditis no parasite, and none of the effects produced by the parasite of malaria, were found. He described in detail the condition of the tissues in the three additional cases of malarial poisoning, and gave a summary of the results found in these and the previous case. In the pernicious malarial fevers of Sierra Leone the disease was caused by the development of very great numbers of parasites in the capillaries of the brain. The parasite in its earliest stage was a very minute, round, nucleated, protoplasmic structure, the diameter of which was about a fourth or fifth that of the red corpuscle. As it developed, three to five, and sometimes a greater number, of spores were formed. The sporulating parasite was comparatively small, in sections of hardened and shrunk tissue not filling more than a third to one-half of the red corpuscle, and with a disproportionately large amount of central pigment. Small cerebral hæmorrhages were sometimes found surrounding a blood vessel which contained parasites, the wall of the vessel being probably weakened as a result of the degeneration of the endothelium, which was associated with the absorption of pigment. Very few parasites were found in other organs, and these only in the early stage. The veins of the brain and pia mater contained large numbers of white corpuscles loaded with pigment and *débris* of the parasite. The splenic pulp contained great numbers of pigment-laden white corpuscles, which were also found in considerable numbers in the splenic veins and perivascular lymphatic spaces. The lymphoid tissue of the spleen contained very few, and the Malpighian corpuscles none. The blood vessels of the liver were more or less congested. In one case the capillaries were very greatly distended with blood. The endothelial cells of the capillaries in the liver contained much pigment, and those that contained pigment were degenerated and broken up. Pigment was found outside the capillary wall accumulating in blocks, and very large blocks were found in the interlobular perivascular spaces, presumably partly or entirely in lymphatic vessels, although the walls of such vessels were not seen in the sections. Pigment was also taken up by the liver cells, and the liver cells so affected underwent changes. The first stage in the morbid process was an enormous production of parasites in the brain. The last stage was an accumulation of pigment in the interlobular tissue of the liver, where, in cases that recovered, it was probably destroyed and absorbed. Morphologically the parasite of these fevers was distinct from the parasites of the quartan and tertian fevers, and resembled that described by Marchiafava in the summer-autumn fevers of Southern Italy. The appearances in the spleen and liver corresponded with those described by Bignami in fatal cases of malarial fever in Italy, but in the Sierra Leone cases no formation of crescent bodies had taken place up to the time of death, and none of the characteristic appearances in young parasites which were associated with a sudden development of crescents was observed. Nothing was seen that would indicate that the blood in the spleen was more infected than the peripheral blood, or that the splenic tissue was a special nidus for the parasite. In the four cases examined, the breeding place was the brain, which accounted for the symptoms observed during life. In connection with the special selection of the brain by this parasite, the author called attention to the comparatively small size of the cerebral capillaries. their calibre not being much more than half that of the capillaries of the other parts of the body, and being scarcely equal to that of a red corpuscle. It was known that the infected red corpuscle adhered to the vascular wall, as was seen in the small veins. This tendency to adhere to the capillary endothelium, in conjunction with the small calibre of the cerebral capillaries, must favour their being blocked by the infected corpuscles. He suggested that the arrest of the infected corpuscles in these fevers in the brain capillaries, while the infected corpuscles in tertian and quartan fevers were not arrested in them, might be due to the greater toxicity of the parasite in these fevers, which affected the red corpuscles more severely and rendered them more adherent to the endothelium. The blocking once begun would be furthered by the short cycle of development of the parasite. The paper was illustrated by diagrams and numerous microscopic specimens.

Dr. Dalton, being interested in the question whether malaria could ever give rise to hepatic cirrhosis, had shown at the Bristol meeting of the British Medical Association in 1894 sections of a liver from a young man aged 22, who after having malarial fever died of pneumonia. The appearances in the liver seemed to show that a pericellular cirrhosis might be expected to result. He thought that the blocking of the vessels might play a considerable part in the production of the high-tension pulse not infrequently seen in people who had lived in the tropics, quite apart from kidney disease.

Dr. John Anderson thought the chief interest in the paper was the question why the parasites chiefly selected the brain capillaries. Since the parasite was indistinguishable from that of Marchiafava's æstivo-autumnal malarial parasite it was difficult to say why cerebral symptoms did not occur in all these irregular fevers. In India he had seen many of the irregular malarial fevers which were not relieved by quinine, and had noted that cerebral symptoms were not infrequent. These irregular forms of malaria were prone to resist quinine but would yield to arsenic, as large a dose as a drachm of Fowler's solution three times a day being given with good results, and in this he had the support of authorities such as Sir A. Home and Surgeon-General Taylor.

Dr. Thin, in reply, said that the consensus of experience was that in pernicious cases of malarial fever where death occurred within forty-eight hours large doses of quinine, 20 grains every two hours, were necessary. Subcutaneous injection or intravenous injection might be required, as there was no time to be lost in these cases. The ordinary preparations for subcutaneous injections gave rise to much pain; he was at present trying to find some more convenient form in which to inject the drug. In cases of irregular fever that returned to this country he found that the combined administration of arsenic and quinine, together with good feeding, worked satisfactorily. The most troublesome were the cases without any fever. In three cases of persons invalided home with "climatic debility," but no fever, he had found the malarial parasite in the blood, apparently only in a certain stage of development, never as crescents and in small numbers. These cases improved on arsenic and quinine.

Entries at the Medical Schools and Colleges in England.—It should have been stated that the 91 special entries at St. Bartholomew's Hospital Medical School included 22 for the Preliminary Scientific Class. Students in this class now count a year's attendance at it as one of the five years of compulsory study.

CLINICAL SOCIETY OF LONDON.

John Langton, F.R.C.S., President, in the Chair.

Friday, October 22nd, 1897.

Clinical Evening.

Multiple Congenital Dislocations.

Mr. W. H. Battle showed a well-developed female child, aged 12 months, who was born after breech presentation, but he could not state whether any injury was received at birth. The child always lay on her back with the thighs abducted and everted. Both hips were dislocated on to the pubes, and there was very little difference in the appearance of the two limbs. The groins appeared full, and when the child was turned both buttocks appeared flat. When lifted up the thighs remained flexed and everted. On the right side the thigh could be brought into position with slight manipulation, and then moved smoothly and easily. On the left side the femur could be reduced, and the head remained on the pubes and was apparently ill-formed. The right arm was rotated inwards, the shoulder was atrophied, and the head of the bone, which was under the coracoid process, was ill-developed. The child was otherwise healthy, but had a slight internal squint.

Mr. Jackson Clarke said that in dissecting such cases he had found an acetabulum, but a small one. The case seemed a promising one for Lorenz's method of treatment, but, if adopted, should be tried at once whilst the child was still very young.

Mr. Makins said that, although it was a breech presentation, it was difficult to see how trauma could have caused the dislocation.

The President asked the author if most of these cases were not in female rather than male infants?

Mr. Battle thought the suprapubic dislocation in infants was extremely rare. The dorsal dislocation was much more common, and was more frequently seen in females than in males.

Primary Tuberculosis of the Nasal Cavities.

Dr. StClair Thomson showed a woman, aged 25, who two years ago began to suffer from nasal discharge and blocking of the right nasal passage. She then presented a smooth, bluish-pink, sessile growth, the size of half a filbert, on the right nasal septum, which was removed, and was found to be a tuberculous growth, though no bacilli were discovered. The growth had begun to caseate. A year ago the tuberculous deposit had spread through to the left side, as a pale pink uneven outgrowth. She was treated with repeated curetting and application of lactic acid to the septum and inferior turbinal on either side, and had three injections of Koch's tuberculin. The patient came under his care six months ago. She then had perforation of the cartilaginous septum, pale indolent ulceration of both inferior turbinals, and in the centre of the buccal pharynx a flat swelling, about the size of a shilling, with an ulcerating surface. There was an adhesion between the left inferior turbinal and the septum, and the perforation in the septum was surrounded by pale hypertrophic tissue covered by crusts. Sections of the tissue showed it to be infiltrated with tubercle, the giant-cell systems being well marked with foci of caseation; but no tubercle bacilli were detected. He again applied lactic acid, but it set up some reaction, and he abandoned everything locally except cleansing alkaline lotions. The upper part of the pharynx, which was atrophied, under daily applications of Mandl's solution of iodine and iodide of potassium, considerably improved; the tuberculous thickening shrunk considerably, while the abraded surface was not as large as a threepenny-piece. The improvement to the pharynx was so decided that he advised the application of the same iodine preparation to the inside of the nose, pledgets of cotton wool being soaked in it, and left *in situ* on either side for five to ten minutes. The patient was healthy-looking, and there was no trace of trouble in her lungs. She had admitted being addicted to the habit of picking her nose, and he suggested that this opened the door to infection.

Dr. Scanes Spicer said he had examined the nostril and found much hypertrophic growth about the septum. He doubted if this was more than granulation tissue, and would advise its removal.

Dr. Kingston Fowler stated that no growth could be described as tuberculous unless the tubercle bacillus was found in it. Further, he doubted if every one took tubercle bacilli into their lungs every day, as had been stated.

Dr. Whitfield suggested a trial of Koch's new tuberculin, under which he had seen great improvement in many cases of tuberculous ulceration.

Dr. Thomson, in reply, reiterated his opinion as to the tuberculous nature of the case.

Hemiplegia in a Young Child.

Dr. Bertram Abrahams showed a child, aged 2, who was admitted on July 20th with a history that, previously healthy, she had a week before suffered from sickness and cough, which in hospital developed into whooping-cough. On the evening of July 19th she had an attack of convulsions without becoming absolutely unconscious, but the temperature rose to 103° F., and the respirations to 68 per minute. A day or two later there was right-sided hemiplegia, but no aphasia. There had been slight albuminuria throughout. Although the cough prior to admission had not been very violent, he was disposed to think the paralysis was due to hæmorrhage, and not to embolism. Recovery had taken place in the leg to some extent.

Dr. Sutherland said the last case of the kind he remembered occurred in a child aged 3. It was one of complete hemiplegia, with evidence of breaking down at the base of the left lung. He had attributed the symptoms to the development of a tuberculous focus in the brain, and that diagnosis was verified after death. He called attention to the fact that these cases of hæmorrhage in the brain often occurred in patients in whom the cough was moderate.

Dr. Abrahams, in reply, said that in his case the paroxysms of coughing before the paralysis supervened were quite moderate. Some of these patients had purpuric spots before the brain symptoms occurred.

Paraplegia with Multiple Subcutaneous Nodules.

Dr. James Collier (for Dr. Buzzard) showed a man suffering from spastic paraplegia, beginning with weakness and stiffness in the left leg. Soon after the onset of the paralysis tumours the size of a Spanish nut had developed in various situations. He had suffered from delayed micturition, with offensive urine and occasional incontinence of fæces. The paraplegia had steadily progressed. Six months ago he had been treated by iodide of potassium, when some of the tumours disappeared, but the others over the trochanters, etc., persisted. In addition to great rigidity and weakness of both legs there was exaggeration of the deep reflexes and double foot clonus. He also had anæsthesia over areas corresponding to the fourth and fifth sacral and the fifth lumbar nerves on the left side, probably caused by pressure on the spinal cord. The special senses were not involved, but there was evidence of past iritis in one pupil.

The President believed the case to be one of long-standing syphilis especially involving superficial bursæ. Small doses of iodide were of no use in such cases. Possibly doses of 30 or 40 grains given three times a day would produce much benefit, but even with them the symptoms would probably not quite disappear.

Sir Dyce Duckworth also thought the case one of late syphilis, which he would treat with large doses of iodide, possibly with some mercury as well. If improvement did not then occur, he would search for some other explanation of the symptoms.

Dr. Collier, in reply, stated that iodide had lately been given in large doses, followed by inunctions of mercury, with very little improvement.

Localised Sweating and Blushing on Eating.

Dr. Parkes Weber showed a young man who exhibited a curious localised blush over the left parotid gland on eating, associated with sweating over the corresponding area. The blush involved the ear, which, however, did not perspire. Mere masticatory movements did not produce the blush, but putting vinegar into the mouth, without moving the jaws, brought it out. The patient two years ago had a suppurating

gland below the ear, and he presumed that some of the vasomotor branches of the cervical sympathetic were involved in the scar, so that when the parotid gland became distended under the stimulus of mastication it dragged upon or compressed these branches.

Pylorectomy for Cancer of the Pylorus.

Mr. L. A. Dunn showed a man, aged 50, who was admitted with an enormously distended stomach, and on palpation a tumour was felt in the region of the pylorus. On cutting down, they found and removed a growth the size of a small orange, which was quite free, and then, closing the divided end of the stomach, they established a communication between the anterior wall of the stomach and the duodenum by the aid of a Murphy's button. This was passed without difficulty on the eighteenth day, and the patient recovered without causing anxiety. The operation was done on October 9th, 1896, and the patient had since gained 3 st. in weight, and was apparently in perfect health. The case was reported at page 185 of vol. lii of the *Guy's Hospital Reports*.

Symmetrical Deformity of Hips in a Youth.

Mr. Abbott showed a lad, aged 16, a patient of Mr. Clutton, who presented nothing peculiar in his gait until about a year ago, when, a few days after a fall from a van, which did not give rise to any obvious pain or injury at the time, he began to experience some difficulty in walking. The stiffness in the hips had increased equally on both sides, so that in the course of three months he had to give up work. He now only complained of stiffness, and he walked with a kind of waddle, with everted knees. There was symmetrical eversion of the lower limbs, with great limitation of inversion, flexion, and especially of abduction, while adduction had remained quite free. The great trochanters were not above Nélaton's line. There was no creaking in the joints, no osteophytic growths, and no pain on palpation or movement. Skiagrams seemed to show shortening of the neck of each femur. He thought there was symmetrical bending of each neck as well, and that the head of each bone was in its acetabulum.

Mr. Makins considered the case very rare, and that the diagnosis would be best made by a process of exclusion. The treatment also was difficult. If the case became much worse an operation might be necessary. He thought the condition was probably similar to that found at an early stage of adolescent genu valgum, when the bone was very soft, although afterwards it might become even more dense than usual. But even then, given that condition, the shape of the deformity was difficult to explain.

Distensible Nævus of Frontal Region, with Defect in the Subjacent Bone.

Dr. StClair Thomson showed a man, aged 50, in the centre of whose forehead was a vertical, depressed, bluish, cicatrix-like surface about half an inch in length and a quarter of an inch in width. To the left of this, for an inch and a half, the skin was bluish and wrinkled, with a central puckered depression. The bone beneath the nævus was hollowed out, the rough floor of the hollow being some depth below the ordinary level of the frontal bone, and very tender to the touch. When the patient talked this blue depressed surface gradually unfolded itself, and rose above the level of the adjoining skin; if he strained in any way, or blew his nose, it swelled out into a round blue tumour as big as a pigeon's egg. It was always very prominent if he got in a passion. The smaller central nævus also became prominent, but to a less degree. There was no pulsation or thrill over the nævus. There was no tympanic resonance over the swelling, nor was it possible to distend it with air inflated into the nose with a Politzer's bag while the patient swallowed or held his breath. Consequently, either the whole of the anterior wall of the frontal sinus was not affected, or else the defect in the bone was not situated over the frontal sinus, but involved only the outer table of the frontal bone higher up than the situation of the sinus.

The Committee of Management of Queen Charlotte's Lying-in Hospital, Marylebone Road, have received a donation of £1,000 from Mr. Henry L. Raphael, to name a bed in perpetuity in memory of the late Mrs. H. L. Raphael.

MEDICAL SOCIETY OF LONDON.

Arthur Ernest Sansom, M.D., F.R.C.P., President, in the Chair.

Monday, October 25th, 1897.

The Localising Factors in Rheumatism and Chorea.

Dr. Churton read a paper on this subject. Nearly 600 cases were tabulated, and the state of health before the attack, the assigned causation and the joints first affected, the occurrence of acetonuria, indicanuria, and constipation were noted. The previous health was decidedly not good in a great majority of cases; when alleged by the patient to be good it was far from perfect, and usually meant that he was not absolutely incapable of work. The causes assigned were chiefly wettings and injuries; in some cases in which no causation could be assigned indicanuria was found. It was constantly observed that the joints of those limbs which were chilled or injured were the first to suffer. There was no positive exception to this rule, although in a few cases, probably owing to imperfect information, there were apparent exceptions. But a case which recently occurred showed the necessity for caution. A girl, aged 20, whose disease began with pain in or about the right lower ribs, was quite unable to give any reason for this until repeated examinations of herself and her friends elicited the fact that, after four weeks of unusually hard work at a mill three miles from her home, she had hurriedly washed her head and chest one morning at 6 o'clock, dried her hair very imperfectly, had no time for breakfast, ran most of the way to the mill, worked from 7.30 A.M. to 2.30 P.M. without food, and then walked home, extremely tired. The same evening pain in the side and all over the head began; afterwards her shoulders and other joints were affected. In 21 cases of rheumatism in 1896, when more care was taken in sifting the evidence obtained, 14 clearly displayed the relation; in 7 it was not precise. In 3 there was a damp house; in 1 damp clothing; in another case the patient was a negro circus rider; in another case a miner; in the seventh the patient was a child addicted to eating sweets and ices; she had rheumatism in the lower limbs; acetone was abundant in the urine. The "toxin *plus* local injury" theory of rheumatism had been held by Sir Dyce Duckworth and others. The toxin might perhaps be glycocin (Latham); if so, the micro-organism would not be found where it has been sought in the blood, joints, etc. Moreover, disorder of the digestive epithelia and muscles might well be caused by shock to the brain; hence the rheumatic toxin might hereafter be found to be caused indirectly, and the localisation of its effects directly, by the same shock; or the latter by simultaneous or subsequent chills or injuries. In 150 cases of chorea tabulated, it was with respect to most of them impossible to reply to the questions—How is the connection of the chorea with rheumatism shown? And even when the patient was admittedly rheumatic, why was the action of the toxin diverted to the brain? A few of the cases showed the localising power of shock in rheumatic patients, thus bringing chorea more sharply into line with arthritis in this respect. (1) A man, aged 23, had chorea when 11 years old; in June, 1896, rheumatism of the knees. After a quarrel, chorea began. (2) A boy, aged 14, ill ten weeks with rheumatic fever. A School Board officer hurried him to school during convalescence; in a fortnight chorea appeared. (3) A boy, aged 9, had had rheumatic fever twice. On December 1st, 1891, he was startled by a man leaping out of an ashpit in the dark, and seizing his arm; chorea began next day; two or three days afterwards, arthritis. (4) A man, aged 18, in October, 1895, had subacute arthritis in the knees after kneeling in wet sand. He had nearly recovered when he quarrelled violently with a relative; next day chorea in right face and limbs; three days after this the right hand was painful and swollen for five days, when the chorea and pain were nearly gone. Another quarrel then occurred; next day chorea returned in the right hand, and quickly spread through all the limbs. In a girl, aged 18, child of an alcoholic father, overwork in an insanitary house was followed by chorea and arthritis; she became sullen and apparently insane, but recovered under the free administration of port wine, after failure of other means, including inhalation of chloroform with morphine given at the same time hypoder-

mically. In the cases tabulated there was no instance of chorea primarily caused by chill, and no case of arthritis primarily caused by fright.

Dr. Stephen Mackenzie observed that the time had come to work out the history of rheumatism by the attentive study of individual cases, and the author had done good service in this direction. Dr. Cheadle had adopted that method in the researches embodied in his work on *Rheumatism in Childhood*, in which he showed that in children rheumatism was a very different disease to the disease as it presented itself in adults. In the latter the joints were usually affected, whereas in children it affected the brain. He admitted that the existence of a determining localising factor imposed itself, and this had been foreshadowed by most writers on the subject. He insisted upon the importance of age as one determining localising factor, and he pointed out that anæmia had very rarely been mentioned as a predisposing cause, so that it must be regarded as an effect rather than a cause of the disease. He called attention to the fact that in not a single instance had the author come across chorea as the result of of wetting, or of arthritis as the result of fright.

Dr. Garrod pointed out that certain rheumatic lesions went together, from which he assumed that if one lesion were determined it was likely to induce certain others. He pointed out that chorea was a disease of the emotions, and he argued that the fright or other emotional disturbance regarded as the cause of the attack might be merely an early expression of this emotional condition.

The President read a letter from Sir Dyce Duckworth, who was unavoidably absent, setting forth his views. He regarded chorea as rheumatism, and he said that he had always taught that chorea was a manifestation of rheumatism. Chorea was an indication that the peccant matter of rheumatism had alighted on the brain, fright or shock being a determining cause. The brain was peculiarly sensitive and vulnerable in young children, which might account for the preference exhibited by the poison of rheumatism for the brain when it attacked young children. He had found a family history of rheumatism in about 75 per cent. of the cases under his care, but he suspected that the proportion was really even higher.

Dr. Fletcher Little referred to twin sisters exposed to the same adverse conditions, one of whom developed neurasthenia and the other arthritis. He commented on the tendency of cases of chorea to occur as a sort of epidemic, and on the fact that while one year cases of scarlet fever were free from arthritic manifestations, in another year these complications were frequent and severe.

Dr. Chapman mentioned the case of a man who died of chorea developed after having been garotted.

Dr. Churton, in replying, mentioned a case in which right brachial monochorea followed a blow on the left side of the head. Dr. Mackenzie's reference to anæmia as a post-rheumatic symptom suggested that anæmia might be one of the signs of pre-existing rheumatic poisoning in choreic children. The cloudy swelling of the pyramidal brain cells mentioned by Sir Dyce Duckworth was strongly suggestive of irritation by a toxin. Probably the urine would hereafter supply further evidence. In heredity the patient's proclivities to disease did not follow those of the parents at random, but only the proclivities of the parent whom the patient most closely resembled.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

H. R. Swanzy, M.B., F.R.C.S.I., President, in the Chair.

Thursday, October 21st, 1897.

President's Address.

The President delivered the address which is published at page 1249.

Some Experiments on the Union of Corneal Wounds.

Mr. Ernest Clarke related experiments consisting of various operations on the cornea of rabbits whereby the anterior chamber was completely emptied of aqueous with the view of ascertaining the time taken by these wounds in uniting sufficiently to allow the anterior chamber to be reformed. Description of the methods adopted in operating and preserving the specimens were given. Two classes of experiments were performed. In the first class the animal was kept under an anæsthetic and killed. The anterior chamber was found to be present in two minutes, and fully re-formed in twenty-five minutes. In the second class the animal was allowed to recover, and, after varying intervals, ranging from half an hour to two hours and a-half, again placed under an anæsthetic and killed. The movements of the animal caused delay in the re-formation of the anterior chamber. The average time was an hour and a-half. Wounds at the upper margin united most rapidly with less scar. Wounds across the centre of the cornea and at the lower margin took longer to repair and made a larger scar. The rapidity with which the anterior chamber was re-formed suggested that if, during an operation on the eye where the presence of the aqueous was necessary, this aqueous were accidentally lost, the eye should be bandaged, and the continuance of the operation postponed only for half an hour at the outside instead of postponing it until the next day, as was generally done. The experiments also showed the great influence that rest had on the process of repair, and emphasised the importance of keeping patients absolutely quiet for the first few hours after an eye operation.

The President thought that the value of these interesting experiments would have been increased if it could have been determined how soon a wound in the cornea which had closed became impervious to the entrance of infective organisms.

Remarks were made by Messrs. Batten, Argyll Robertson, and Marshall; and Mr. E. Clarke replied.

Dislocation of Lens: Couching: Recovery.

Mr. T. H. Bickerton related a case of congenitally misplaced lenses. The patient was a male, aged 28. He had been short-sighted since infancy; at 14 years of age he had attacks of giddiness, which caused him to fall and injure his forehead. At the age of 19 he began glasses: R.—6.5 D., L.—6 D. He was first seen in December, 1887. At that time the iris was tremulous; the lens was dislocated into the vitreous in each eye: V. R c.+10 D.=$\frac{6}{6}$; L.c.+10 D.=$\frac{6}{24}$. On reading the refraction was entirely different: J. 1 at $3\frac{1}{2}$—4 in.; he looked through the displaced lens. In 1893 he suddenly went blind in the left eye, but the vision was restored next morning. He had two more attacks of the same nature after; during the last one eserine was used, and the eye did not recover as it had previously done. When seen after this occurrence in December, 1893, there was pain and congestion, and the clear lens nearly filled the anterior chamber. The unsatisfactory results obtained from extracting such lenses, and the knowledge that these lenses had been tolerated so long in the vitreous suggested to the author the alternative of reposition. On December 30th, 1893, this was done; the pupil was dilated, an incision at the margin of the cornea was made with a keratome to evacuate the aqueous, it was attempted to press the lens back through the pupil by the finger applied to the closed lid; this could not be done, and a spatula was introduced into the anterior chamber; the lens then slipped back into the vitreous. Perfect recovery followed, and in June, 1897, three years after, the vision of the eyes was R.c. +12D $\frac{6}{5}$ ptly, $\frac{\text{L.c.}+12\text{Ds.}}{-.75\text{D cyl.}}=\frac{6}{5}$. The interest of the case lay in the fact that blindness followed the use of eserine, which prevented the lens from passing back again into the vitreous, and the fact that the eyes had remained perfectly healthy, although the lenses had been dislocated into the vitreous nearly four years.

Card Specimens.

The following were the card specimens: Mr. Adams Frost: Odell and Porter's Centreing Instrument for Ophthalmic Lenses. Mr. Arnold Lawson: Leuco-sarcoma of the Choroid. Dr. Rayner Batten: (1) Foreign Body found impacted on Optic Disc after removal of Traumatic Cataract; (2) Pulsating Tumour of Orbit, (? Meningocele). Dr. J. F. Bullar: Case of Deficiency of the Choroid.—Mr. Lang: Primary Syphilitic Lesion of Inner Canthus.

HARVEIAN SOCIETY OF LONDON.

Thursday, October 21st, 1897.

R. H. Milson, M.D., President, in the Chair.

Creasote in Consumption.

Dr. Clifford Beale read a paper on Recent Experience of the use of Large Doses of Creasote in Consumption Cases, and gave an account of a series of cases of incipient tuberculous disease of the lung, and another series of the more chronic forms of the disease. The patients had been treated with doses of pure beechwood creasote dissolved in cod-liver oil, beginning with 3 to 5 minims, the same amount being added to the previous dose every alternate day until a maximum of 160 to 180 minims a day was reached. He had found that of all the methods of giving the drug, this appeared to be the least objectionable to the patient. The results achieved had been highly satisfactory, and in some cases most striking, the most marked effects being produced when the larger range of dose was reached. The fall of temperature, gain of weight, and general subsidence of symptoms had in many instances been surprising, and seemed to be more definite and lasting than the degree of improvement commonly observed as the the result of hygienic treatment only. Contrary to expectation, no complaint was made by the large majority of patients of the smell of the drug, and it was probably both from clinical observation and chemical experiment that the creasote was very rapidly broken up in the stomach, possibly forming a more stable compound, in which form it was very freely and rapidly excreted by the kidneys. Its presence could only be detected in the urine after further distillation with strong sulphuric acid. In many instances the patients passed blackened or greenish urine, but it could not be ascertained that either the quantity or the chemical composition of the urine was otherwise materially altered, and there were no unpleasant symptoms attending the altered colour of the excretion. Further chemical investigation was, however, necessary to explain some of the changes which the drug underwent in the body. As a result of purely empirical use it appeared that an amount of success was to be obtained by its employment, especially in early cases, which was quite equal to, if not better than, the results obtained by the more specialised preparations, such as guaiacol and its carbonate. and it was evident that it could be well tolerated when dissolved in cod-liver oil, and hence the painful and unpleasant methods of introduction, such as subcutaneous or rectal or tracheal injection, were rendered unnecessary. The drug was not to be regarded as in any sense a specific remedy for the disease, but rather as a useful adjunct to the many existing methods of hygienic treatment at present in use.

Dr. StClair Thomson's personal experience was limited, and if he were to quote it it would doubtless show that every case which had recovered or improved had taken creasote. But whether such patients recovered because they were taking creasote, or in spite of having had that drug prescribed,would be a very difficult question to answer. However, he was able to quote the much more valuable experiences which he had heard of this summer when visiting Dr. Dettweiler's sanatorium for consumptives at Falkenstein, in the Taunus mountains. The patients in this institution belonged to the well-to-do classes, and the resident physicians had most exceptional opportunities for observing the effect of any drug. Creasote had there been given a thorough trial, and had now been completely abandoned, along with tuberculin and all other specific remedies. Small doses were occasionally given, but merely for their effect on the digestive system. Treatment at Falkenstein was entirely symptomatic, and general dietetic and hygienic influences were the only remedies relied on. He suggested that in Dr. Beale's cases the improvement might be due to the rest and good food which the patients obtained in the well-ventilated wards of a chest hospital. Before attributing any virtue to the creasote, it would be necessary to see the results obtained in an equal number of similar cases, treated in exactly the same way, but with the creasote omitted.

Dr. Stamford G. Felce inquired whether Dr. Clifford Beale used creasote of any particular manufacture, as he had found the results vary greatly with different specimens of the drug, which, in a large percentage of cases, was not tolerated by the stomach. As commercial creasote was a more or less variable mixture containing toxic cresols, paracresols, and pyrogallol, it seemed to him more rational to use a drug which, possessing equal efficiency, was of a definite chemical constitution, a condition fulfilled by guaiacol carbonate; in a fairly large series of phthisical patients he had found this drug well tolerated, and in suitable cases frequently beneficial.

Drs. Squire, Cleveland, Manders, and others took part in the debate.

Cases and Specimens.

Mr. Edgar G. Bulleid showed a young man, aged 23, from whom he had removed from the right axilla an unusually large mass of Tuberculous Glands.—Dr. Alfred Eddowes showed a bad case of Varicose Veins in both legs, complicated with Eczema.—Dr. Knowsley Sibley showed a Case of Arthritis in a man aged 59, who had been sent to him at the North West London Hospital by Dr. Macevoy for the Tallerman hot air treatment. As a small child the patient suffered from scrofulous disease of both hip-joints, which had left scars of healed sinuses over both great trochanters. When 7 years of age he went to work in a brickfield, and was able to run and jump as well as any boy of his age. He continued at heavy labourer's work until last spring, when he found his hips were becoming stiff, and he was unable to bend down as formerly; he was soon compelled to give up work, and had been getting gradually worse ever since. At the present time the patient had little or no pain, but he could only just raise his feet from the ground; he walked with the back bent forward from the lumbar region, and was unable to cross his legs when sitting down. He had only had three baths, but said his movements were already much freer, and he was able to get about better. Dr. Sibley also showed a new apparatus called called a Massage Chain, which had been sent to him by a friend in Germany some six months ago, and he had given it a good trial at the hospital. The chain consisted of a series of small wooden balls which revolved, with a handle at either end. It was used by holding one handle in each hand, and giving a to-and-fro movement over any part of the body it was desirous of massaging.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Henry Briggs, M.B., F.R.C.S., President, in the Chair.

Friday, October 15th, 1897.

The Diagnosis of Cancer of the Uterus in Its Early Stages.

The President, in his inaugural address on this subject, dealt with the causes of delay in gynæcological and general practice in completing the diagnosis in cancer of the uterus. He observed that the argument of the senior gynæcologists against the introduction of vaginal hysterectomy into this country, appeared still to be valid—namely, the difficulty in making a diagnosis in the early stages of uterine cancer. The mortality of operations had diminished, but the fact still was that the cancerous disease had advanced beyond the uterus before the radical operation was performed. The surgeon, he held, must deplore the haphazard methods of treatment, the attempts at cure by the curette, before the diagnosis could be complete, and the consignment of curettings to the sink, rather than to the pathological laboratory. The utility of the microscope could not seriously be doubted, except in a few of the adenomata; the ordinary carcinomata could be detected earlier by the microscopical than the clinical methods. By way of illustrating his address thirty microphotographs of adenomata and carcinomata were shown by the lantern. The gradation in the structural characteristics between the malignant adenoma and the normal glands was shown. The corresponding clinical histories were related, and in several instances years had elapsed, malignant cases had died, non-malignant cases had been tested by time. He drew attention to the one solitary stratified squamous carcinoma of the body of the uterus; similar cases had been described by others from time to time. Then he pointed out in another carcinoma the gradation from glandular columnar cells to stratified squamous patches,

according to the cancerous alveoli. There seemed to be no good reason for retaining the term "adeno-carcinoma," which was often used for malignant adenoma, and for ordinary carcinoma of glandular origin, and difficulties of comparison were introduced. Sections of glandular and papillary erosions in suspicious cases were also exhibited. Naked-eye water-colour drawings from the recent specimens showed in most instances advanced cancerous growths of the body of the uterus and of the cervix; two of the latter were examples of cancer, starting first below the internal os. One of the latter had been twice curetted, and "villous" endometritis was believed to exist. In many other instances the curette had been used, but not for an exploratory purpose, which from the point of view of all concerned was to be regretted.

Dr. Lloyd Roberts (Manchester) proposed, and Dr. Macfie Campbell (Liverpool) seconded a vote of thanks to the President, which was carried with acclamation.

Specimen.

Dr. T. B. Grimsdale (Liverpool) showed a Uterus, with large soft rapidly-growing fibroid, removed by abdominal hysterectomy.

LIVERPOOL MEDICAL INSTITUTION.

Richard Caton, M.D., F.R.C.P., President, in the Chair.

Thursday, October 21st, 1897.

Ileum Strangulated through a Congenital Mesenteric Hole.

Mr. Stanley Kellett Smith related the above case. The patient, a young girl, was suddenly seized with pain when walking in the street. She had pain and vomiting, the abdomen was flaccid and flat. There was some dulness in the right iliac region. There was no tumour. Four days later the pulse was 140, respiration 30. No flatus had passed since the first attack of pain. The abdomen was tympanitic, but there was some dulness in the right iliac region. The abdomen was opened, the distended bowels allowed to escape and eventually a dark purple portion of the ileum found strangulated by passing through a hole in the mesentery. The strangulation was relieved and the wound closed. The patient made a good recovery.

Excision of the Kidney for Primary Carcinoma.

Mr. Thelwall Thomas exhibited a patient from whom he had removed the right kidney for primary carcinoma. The man, aged 39, said his urine had been coffee-coloured two years ago. Occasional attacks of hæmaturia occurred in the last twelve months, and he steadily lost weight. A month before the operation he fell, striking his right side. He immediately passed half a pint of bloody urine and clots; after this he passed no urine for three days. His temperature oscillated suggesting suppuration. The tumour was large, and occupied the kidney area and the right iliac fossa. A transverse incision was made immediately under the last rib, exposing the kidney, and rapidly enlarged forwards, peeling the peritoneum off the kidney. The tumour, which weighed 2 lbs. 2 ozs., was removed. The microscope showed a carcinoma with large cells as seen in suprarenal rests. The patient had gained about 2 stones in weight since the operation.

Dr. E. T. Davies remarked that by the transperitoneal incision it was possible to examine the condition of the other kidney, which was a matter of the greatest importance.

Mr. F. T. Paul said the microscopical characters of the tumour were those usually observed when cancer commenced in the glandular structure of the kidney. He thought the character of the cells, their arrangement, and the presence of cysts pointed to origin in the true renal tissue rather than in adrenal rests.

Mr. Rushton Parker related a case of carcinoma of the kidney in which he removed the kidney, the patient making an easy recovery. Recurrence occurred, however, in about two months.

Dr. Alexander also made some remarks.

The Typhoid Serum Reaction in Doubtful Cases of Fever.

Dr. Carter related two cases of fever, both thought when first seen to be cases of typhoid. The serum in each gave with a solution of 1 to 30 a markedly positive reaction with Widal's test. Yet both terminated on the sixth and eighth day respectively in recovery. The results showed either that, as he believed, we must enlarge our conceptions of typhoid fever, or that the test was applicable to other febrile conditions. In another case there was no reaction on the seventh day, but a marked one on the ninth, after the introduction of typhoid antitoxin. Yet the serum of a patient suffering from appendicitis into whom a similar dose of typhoid antitoxin had been injected was entirely negative in its reaction, as was also Dr. Carter's own blood when mixed out of the body with a small proportion of the antitoxin and diluted.

Professor Boyce said that the vast majority of cases of typhoid fever gave the reaction. There were two important questions: (1) Did absence of reaction preclude typhoid? and (2) did a positive indication always signify typhoid? In answering the first question he mentioned (1) retarded reaction; (2) one or two cases of typhoid had given reaction when the absence of the typhoid bacillus had been proved; (3) absence of reaction had been justified by necropsies. The answer to the second question was an almost unqualified affirmative.

Dr. N. E. Roberts said that it was disappointing to the physician to come across cases in which the serum test did not answer. He had four such cases at present in the wards of the City Hospital. Three were undoubtedly typhoid fever, and he believed the fourth was, yet the result of the serum test was entirely negative. In the large majority of cases, however, the results were highly satisfactory, and the test a valuable acquisition.

Dr. Caton, Dr. Barr, and Dr. Stanley Gill also discussed the subject.

The Value of Antitoxin in the Treatment of Diphtheria.

Dr. E. P. Manby read a paper dealing with the clinical and statistical evidence as to the value of diphtheria antitoxin. He had tabulated about 10,000 cases, which had been treated at the Metropolitan Asylums Board Hospitals. He drew attention to the early experiments of Behring and Wernicke with antitoxins, and quoted from Roux's paper at the Buda-Pesth Congress on the antitoxin treatment of diphtheria. He then mentioned the introduction of the treatment into the metropolitan hospitals, and drew attention to the death-rate before and after the introduction of the antitoxin. He then discussed the question of dosage, and drew attention to the fact that the amount of the antitoxin to be used must be gauged by the severity of the disease, and not by the size or age of the patient. He then mentioned how the ordinary course of the disease was modified and how the sufferings were mitigated by the antitoxin injections. He also mentioned the dangers of the injections themselves. The statistical examination of the subject was highly favourable to the treatment.

Dr. N. E. Roberts remarked on the relatively small number of cases of diphtheria in Liverpool hospitals as compared to London. He agreed that the serum treatment had reduced the mortality, especially in laryngeal cases. His figures, although too small to be of much value, supported Dr. Manby's views.

Dr. Hope attached greater importance to careful observation than to deductions drawn from statistics. Although, happily, diphtheria was relatively much less prevalent in Liverpool than in London, the Hospitals Committee of the City Council had made provision for a gratuitous supply of diphtheria antitoxin.

Dr. Carter, Dr. Hugh Jones, Dr. Macalister, Dr. Permewan, Dr. Blakeman, Dr. P. Davidson, and Dr. Logan joined in the discussion; Dr. Manby replied.

West London Medico-Chirurgical Society.—The first meeting of the sixteenth session of this Society was held at the West London Hospital on Friday, October 8th, 1897. Dr. H. P. Potter, the President, read the opening address, entitled Some Aspects of Heredity, which was received with much appreciation. A vote of thanks was proposed by Mr. C. B. Keetley and seconded by Dr. Symons Eccles, and carried unanimously. Dr. Potter replied in a few appropriate words.

—The officers for the ensuing year are: *President:* H. P. Potter, M.D., F.R.C.S. *Vice-Presidents:* C. Wells, M.D.; Swinford Edwards, F.R.C.S.; Donald Hood, M.D., F.R.C.P.; R. J. Banning, M.D.; A. Symons Eccles, M.B.; Bruce Clarke, F.R.C.S.; R. Lake, F.R.C.S.; W. H. Lamb, M.B.; A. G. Wells, M.R.C.S.; C. M. Tuke, M.R.C.S. *Council:* L. A. Bidwell, F.R.C.S.; H. Des Vœux, M.D.; William Hunter, M.D., F.R.C.P.; F. Lawrence, M.R.C.S.; Herbert Menzies, M.R.C.S.; Seymour Taylor, M.D., M.R.C.P.; Andrew Elliot, M.D.; F. H. Low, M.B.; G. H. D. Robinson, M.D., M.R.C.P.; James Harper, M.D.; C. Andrews, M.R.C.S.; Neville Wood, M.R.C.P. *Treasurer:* T. G. Alderton, M.R.C.S. *Secretaries:* F. J. McCann, M.D., M.R.C.P.; W. McAdam Eccles, M.S., F.R.C.S. *Librarian:* C. B. Keetley, F.R.C.S. *Editor of Journal:* H. Percy Dunn, F.R.C.S.

SOUTH-WEST LONDON MEDICAL SOCIETY.—The first meeting of the session of the South-West London Medical Society was held at the Infirmary, Wandsworth, on October 13th, under the presidency of Mr. T. IVES HOWELL.—Dr. SMYTH gave a lucid outline of the Serum Treatment of Disease, and showed a case of Tetanus in a woman, aged 60, which had been successfully treated by antitoxin; also a case of Congenital Pulmonary Stenosis in a child, aged 4; and *post-mortem* specimen of a case of Malignant Disease of the Œsophagus penetrating into the Aorta.—Dr. STARES read a practical paper on the Use of Peroxide of Hydrogen as a Dressing for Ulcers, etc.; showed a case of advanced Progressive Muscular Atrophy; and also photographs of a case of Acromegaly, with *post-mortem* notes.—There was, in addition, an excellent demonstration of various micro-organisms and cultures which was much appreciated.—The meeting closed with votes of thanks to Dr. Neal, by whose courtesy the resources of the infirmary were placed at the disposal of the Society, and to the gentlemen who read the papers.

MIDLAND MEDICAL SOCIETY.—The annual meeting was held in the Medical Institute, Birmingham, on October 13th; Dr. ALFRED CARTER, the President, being in the chair.—Mr. J. W. TAYLOR was unanimously elected President for the ensuing year.—The report of the Council and the Treasurer's report were received and adopted. It was resolved to add £10 to the deposit account.—Votes of thanks were passed to the retiring President (Dr. Carter), the Treasurer (Mr. Garner), the retiring Secretary (Mr. Heaton), and the Auditors (Mr. Marsh and Mr. Haynes) for their valuable services during the past year. Mr. John Garner was re-elected Treasurer, Dr. Kauffmann and Mr. Christopher Martin were appointed Secretaries, and Mr. Marsh and Mr. Haynes Auditors for the ensuing year. The following gentlemen were elected to fill the vacancies on the Council, namely, Mr. Eales, Mr. Barling, Dr. Foxwell, Mr. Marsh, and Mr. Heaton.—Mr. Greenwood and Mr. Wood were elected members of the Society.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—At the meeting on October 14th, 1897, the PRESIDENT, Dr. Sinclair White, after thanking the Society for electing him to be President, gave an address on the Progress of British Surgery during the Victorian Reign. In the sixty years under review remarkable strides had been made in almost every branch of knowledge, and surgery had participated in the general advance to a greater extent perhaps than the majority of other arts and sciences. This was all the more gratifying because in no field had the incentives to the labourer been less selfish. When the Queen ascended her throne Liston and Syme were the rising stars of British surgery—the harbingers of a period of surgical activity which had lasted until now. The introduction of anæsthetics in the Forties and of antiseptics in the Seventies were the two most notable features of the period. The former extended enormously the field of surgery, but it was accompanied by at least one drawback; it deteriorated the standard of manipulative dexterity, which had probably attained perfection in the early Victorian years, and opened the door to bungling surgeons. Lister's discovery of antiseptics was without exception the most important in its results in the history of surgery. It substituted definite knowledge for dark mystery, and revealed the character of "septic infection," the surgeon's ubiquitous and much-dreaded foe. Step by step the methods of controlling sepsis had been simplified and perfected, and, almost imperceptibly, antisepticism had given place to asepticism, which was now the aim of every intelligent surgeon. By reason of Lister's discovery surgical operations had assumed the nature of laboratory experiments, in the performance of which it was possible to control the conditions, and if failure resulted it would in nine cases out of ten be due to ignorance, or worse still, to neglect of well-known principles. The recent advances in surgery had been with few exceptions possible only because of Lister's work. Of these the most brilliant concerned the cerebro-spinal system; while for variety and the frequency with which they were performed abdominal operations still held the first place. Every region of the body had been diligently prospected by the surgeon and made to yield its tribute to his invincible energy. The vast majority of these new operations had been of real service to suffering humanity; but occasionally, in the opinion of the lecturer, surgical enterprise had over-reached the bounds of prudence.

PATHOLOGICAL SOCIETY OF MANCHESTER.—The annual meeting of this Society was held on October 13th, Dr. THOMAS HARRIS, President, in the chair. The officers for the ensuing year were ballotted for, and two alterations in the laws were made. The rest of the evening was devoted to card specimens, etc. The following preparations were shown: Dr. ASHBY: 1. Congenital Syphilitic Disease of Brain; 2. Mediastinitis.—Mr. S. BISHOP: Preparations illustrating Abdominal Lesions.—Dr. BROOKE and Mr. LANCASHIRE: Photographs of Diseases of Skin.—Dr. BURGESS: Collection of Sequestra.—Professor DELÉPINE: A Series of Specimens illustrating the Pathogenic Effects of Bad Milk.—Dr. DOCKRAY: Experimental Calcification of Kidney; Nephritis following Poisoning by Mercury.—Dr. FOX EDWARDS: Specimens and Drawings of Morbid Blood.—Mr. T. JONES: Ruptured Bladder showing Surgical Repair.—Dr. LEA: Gynæcological Specimens.—Dr. LEDWARD: Series of Photographs.—Dr. MILLIGAN: Microscopical Preparations of Nasal, Laryngeal, and Aural Growths.—Dr. MOORE: Specimens illustrating Forms of Lardaceous Disease.—Mr. SOUTHAM: Series of Drawings illustrating Diseases of the Bladder.—Mr. PETER THOMPSON: Ruptured Aneurysm of Left Common Iliac Artery.

REVIEWS.

HEART DISEASE, WITH SPECIAL REFERENCE TO PROGNOSIS AND TREATMENT. By Sir WILLIAM H. BROADBENT, Bart., M.D., F.R.S., F.R.C.P., and JOHN F. H. BROADBENT, M.A., M.D.Oxon., M.R.C.P. London: Baillière, Tindall, and Cox. 1897. (Roy. 8vo, pp. 332. 10s. 6d.)

NOT only his immediate pupils, to whom he dedicates the book, but also the wider circle of those who have from time to time profited by his teaching will welcome this work, the collected writings of Sir W. BROADBENT on disease of the heart. At the Harveian Society in 1884, and at the Royal College of Physicians 1891 the subject of Prognosis in Heart Disease was treated in a masterly manner by the author, and in the present volume this all-important branch of the subject receives the fullest attention. But it does not stand alone. Ably seconded by his son, Dr. JOHN BROADBENT, Sir William has produced a well-arranged and thorough treatise on *Heart Disease*.

The work is divided into twenty-one chapters, of which the earlier are devoted to the description and diagnosis of valvular disease, followed by observations as to its general treatment. Passing in review the relative values of the treatment by graduated exercise, as advocated by Oertel, of Munich, and Schott, of Nauheim, the author expresses himself with the reserve which is born of practical experience and observation of results. While admitting the fact that much good may be done where tonic treatment is required, he gives a timely word of warning in an appendix, specially devoted to a description of the details of the Schott treatment, as to the trustworthiness of some of the alleged changes produced in the heart's shape. He roundly

rts his belief that the best results will be obtained in s of functional or imaginary heart disease in neurotic ividuals.

om consideration of valvular disease in general he turns ffections of individual valves. Especially interesting are observations on the course and prognosis of mitral conction, though some of the explanations here and elsere would perhaps be more convincing if backed by the cription of a few illustrative cases, followed from the ds to the *post-mortem* room.

is to be feared that the promiscuous use of digitalis in y practice is responsible for a great deal of unnecessary ering in cases of heart disease, and the clear and definite s laid down in the chapter devoted to the subject would ar towards reducing such suffering to a minimum if only y could be more generally applied. To know why and n the drug should be withheld requires careful thought observation, and these are supplied by the author in a nner that commands respect and attention as the embodint of study and experience welded together by common se.

his latter quality shines out in every chapter of the book, especially in those dealing with treatment. The value of esection, the use of calomel and of vaso-dilators, such as ro-glycerine, are discussed and their use advocated, with a dness that might alarm the more cautious class of practoner, but in every case the reasons for and against such asures are set forth with unmistakeable precision.

he chapters on structural diseases and dilatation are of at value as making clear and intelligible a class of cases ich are too often either overlooked or misunderstood, ecially in their earlier stages.

Throughout the whole book the mind of the observant nical physician is manifest, and the easy and natural style which it is written cannot fail to secure for the work a minent and permanent place among the greater clinical atises on diseases of the heart.

E MEDICAL ASPECT OF FASTING. By a Committee of Clergy. London: W. Knott. 1897. (8vo, 38 pp. 6d.)

is almost impossible to review this pamphlet, unless the iewer is of the same thought as the author. We know shing of *jentacula* and *lacticiniz*, of the "rigorism" and the nagisterium" of the Church. We are not sure that those ristian folk who do not go quite so far as the author are radually feeling their way from an amorphous self-regued Christianity to the acceptance of Catholic faith and cipline." We propose therefore to take for granted every rd as to theology in this pamphlet, and to force ourselves speak only of the physiology and pathology.

The Committee do not say that they got the help of our fession in writing the pamphlet, nor is there any clear ernal evidence on this point. They speak of "rheumatoid hritis, commonly known as rheumatic gout, because it is ther rheumatism nor gout." They say of "heart disease" it it is of two kinds, and that "it is of course incurable." you have only mitral disease, then "the Church's rule of ting accords remarkably well with your physical requirents." And if you have "true rheumatism," or if you have it or Bright's disease, then "fasting steadily through Lent uld be found most beneficial physically, and morally also." Again, they say, "We have to distinguish those cases ich must be left entirely in the doctor's hands and those in ich clergy can decide for themselves." Yet among the dises which they describe to guide the clergy whether to ain or to remit the rules of fasting and abstinence are ncer, phthisis, "heart disease," syphilis, and diabetes. It said that old people stand fasting very well; and that urgical patients who are lying idle in bed, suffering from uries such as fractured limbs, or after operations which do t interfere with their general health, and who have no contutional disease, are perfectly well able to fast strictly."

Such a phrase as "persons whose fast is beyond suspicion" curious, and we feel great doubts as to the wisdom of the mmittee when we read, "Of course care should be taken to nsult physicians (as to fasting or not fasting) who are in vout communion with the Church, and so less likely to ve an unnecessarily lax opinion." But what most puzzles us is this, "Few epidemics are likely to occur in Lent, the only practically probable one being epidemic influenza."

Let us be fair. There is plenty of shrewd sense in the pamphlet, which we have not quoted; and it is true that the clergy who enjoin fasting on others are hard enough on themselves—unsparing of their comfort and their health

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HYGIENE AND PUBLIC HEALTH. By L. C. PARKES, M.D., D.P.H. Fifth Edition. London: H. K. Lewis. 1897. (Demy 8vo, pp. 572, 80 illustrations. 10s. 6d.)

GOOD wine needs no bush, and a textbook which has reached a fifth edition needs no commendation. All that it is necessary to say, in a general way, is that this last edition of Dr. PARKES'S manual exhibits all the excellencies of the original work, and has been carefully posted up to date. Space is found for a sufficient account of the "septic tank" process of sewage purification, now on its trial at Exeter. Sewage purification by means of nitrifying filter beds, however, receives somewhat scant notice. In dealing with mechanical ventilation the modern view of the superiority of propulsive, as compared with extractive, methods is adopted. Many engineers, however, will hardly concur in the statement that no special exit shafts are required, although doubtless these should be relatively of small calibre. The chapter on Communicable Diseases is exceedingly good. Modern methods of serum treatment and serum diagnosis receive due attention. The section on small-pox lacks any reference to the results of the inquiry of the Royal Commission on Vaccination; and in dealing with measles nothing is said of the influence of school attendance on the spread of the disease. These are minor points. The book as a whole is worthy of the popularity it has attained.

THE VALLEY OF ZERMATT AND THE MATTERHORN: A GUIDE. By EDWARD WHYMPER. London: John Murray. 1897. (Demy 8vo, pp. 228. 3s.)

THIS excellent little book is written as a pendant to the *Guide to Chamonix*, published last year by the same author. In general arrangement, and in the style in which it is written it leaves nothing to be desired. Newcomers to the district will find in its some 200 pages all that they are likely to want to know, and, in addition, what is rare in guide books, most excellent and often very entertaining reading. It is difficult, when work is so uniformly careful and accurate as this, to single out particular points for praise, for a careful perusal of all the routes described failed to discover a single instance of a slip, still less of anything that might be called an error. In one point only could an improvement be suggested for the second edition, which is sure to be soon called for. The map at the end of the volume has marked on it a number of routes. But the principle which guided their selection has not been consistent. In one case (that of the Dent Blanche) the route of the first ascent has been marked; that route is now only of historical interest, and never taken. The Dom route, again, is not the one usually taken. But these are very small blemishes in a book which can hardly be too highly praised. It will certainly be found upon the shelves of everyone interested in the district.

LE CERVELET (THE CEREBELLUM). ETUDE ANATOMIQUE, CLINIQUE, ET PHYSIOLOGIQUE. Par le Dr. ANDRÉ THOMAS. Paris: G. Steinheil. 1897. (Roy 8vo, pp. 366. Fr. 14).

THE elucidation of the functions of the cerebellum has of late been the object of several important memoirs. The renewed interest which has been manifested regarding this organ was aroused mainly by the appearance in 1891 of Luciani's monograph upon the subject. Until that time it had for the most part been accepted by physiologists that the conclusion arrived at by Flourens was correct, that the cerebellum is the organ endowed with the faculty of co-ordinating muscular contractions, and in this manner serves therefore as an organ of equilibration. This conclusion was arrived at as the result of the effect produced by lesions of the organ of a more or less extensive character, and was not materially affected, except

that it appeared to be strengthened, by the results obtained by Ferrier in consequence of his adoption of a new method of investigating the organ, the method of faradic excitation.

Luciani was of opinion that some of the results due to operative interference with the cerebellum were excitatory, these having a more or less temporary character; others, the more permanent, being of a paralytic nature. Of the first-named, the principal are the well-known "forced movements" of rotation; the second produce symptoms of asthenia, atonia, and ataxia, which manifest themselves in weakness of muscular action, a general lack of tone in the muscular system, and a deficiency of co-ordination of the contractions of different muscles. He compared the cerebellum in function to a spinal ganglion or a mass of spinal ganglia, and supposed that the results of its partial or complete destruction were due to an interference with the afferent impulses by which the sequence and strength of the contraction of the muscles are ordinarily governed. This conclusion is not in reality very different from that which was arrived at by Lussana in 1862 as the result of the observation of animals which were kept for a long time after removal of the cerebellum, namely, that the cerebellum is essentially a central organ for muscular sense, by means of which it co-ordinates the voluntary movements concerned in locomotion and equilibration.

Since the appearance of Luciani's work the most important contributions to the subject have been those of Ferrier and Turner, and Risien Russell. Many of the results of these authors have been confirmatory of the observations of Luciani. Risien Russell was, however, able to show that removal of a cerebellar hemisphere has the effect of increasing the excitability of the opposite cerebral cortex; of increasing the tonus of the limb muscles of the same side, and of producing exaggeration of tendon reflexes, more marked on the same side as the lesion.

This is in brief the condition of the subject at the time of the appearance of the memoir we are dealing with. M. THOMAS gives us in it the results of his own observations, which are partly clinical and partly experimental, and the conclusion at which he arrives is mainly identical with that of Flourens—that the cerebellum is a reflex centre of equilibration—the seat of a special reaction set going by excitation, either of peripheral or central origin, not a centre of muscular sense, although developed upon the paths of sensory impressions.

M. Thomas has the gift, in common with most French writers, of putting things clearly without redundance of detail. The historical accounts with which he introduces the several subjects are very well done, and define, in an interesting manner, the position of each previous worker in relation to the particular part dealt with. Nothing is added regarding the anatomy, gross or microscopic, of the organ except so far as concerns the tracts by which it is connected to other portions of the central nervous system. These are very thoroughly treated of, and a number of original observations upon the course of degenerations resulting from lesions of the cerebellum are given. The author agrees with Marchi and differs from Ferrier and Turner and Risien Russell in positively affirming the existence of a descending degeneration in the antero-lateral tract of the cord following removal of one of the cerebellar hemispheres, quite independent of any injury to the nucleus of Deiters. He also confirms the almost complete degeneration of the superior cerebellar peduncle as the result of removals which include the dentate nucleus.

Like most other writers upon the central nervous system, M. Thomas falls into the error of assuming without further evidence that the course of degeneration (ascending or descending) and the course of conduction are identical. He adopts the term neuron, but apparently does not use it in Waldeyer's sense as the equivalent of the whole nerve cell, but employs it in a somewhat loose manner to indicate in one place such part of a tract of conduction as joins one cell body with another, and in another to express the cell body itself. This shows what confusion may arise from the unnecessary introduction of a new term to express what would be much better designated by an old and familiar one.

One other piece of criticism upon what is on the whole an excellent book. Like many other writers upon the central nervous system the author represents sections of the spinal cord the wrong way up—that is, with the ventral surface uppermost. The wrongness manifests itself at once when a series of sections is traced up through the medulla oblongata to the brain. With the spinal cord it seems not to matter much which way up the section is represented; but when the medulla oblongata is reached it begins to look awkward to see the fourth ventricle at the bottom of the section, and authors generally then begin to reverse their sections. But the result is that all the tracts of degeneration come to lie on the wrong side. Some, therefore, go on turning the sections upside down until they get to the pons Varolii, or even the mesencephalon. But few have the boldness to go as far this, and none beyond it. It should be clearly recognised that there is a right and a wrong way to represent such sections, and the importance of selecting the right way has been lately urged by Stieda.[1] It has usually been treated as if it were a matter of indifference, but it is far from being so. As Steida has pointed out, no one ever thinks of representing a vertebra with its body uppermost and its neural spine lowermost. The part of the nerve axis which is posterior in man is uppermost in all other animals, and should be so represented; to represent it otherwise only tends to confusion—much more is this the case when one principle is adopted for one part of the axis and another for the remainder.

GYNÉCOLOGIE CLINIQUE ET OPÉRATOIRE. Par le Dr. SCHMELTZ (de Nice); avec une Préface de M. le Professeur AUGUSTE REVERDIN de Genève. [Clinical and Operative Gynæcology.] Avec 84 figures intercalées dans le texte. Paris: Société d'Editions Scientifiques. 1897. (Demy 8vo, pp. 156. Fr. 5.)

THIS short manual is a fair sample of many that are now issued on the Continent. It has received the sanction of Professor Reverdin, and we agree in part with that authority when he states in the preface that the practitioner will find, without any difficulty, in this work much useful and reliable information, and also the description of the newest procedures. The latter part of this encomium cannot be disputed. Dr. SCHMELTZ gives an excellent account of Doyen's hysterectomy, of vaginal operations for uterine disease, and of technical details, new operating tables, etc. The drawings, too, though rather roughly executed, are clear. On the other hand, we must question the reliability of such information for the novice. The author states that the difficulties which hysterectomy offered no longer exist, thanks to the Trendelenburg posture, Reverdin's suspenders, and a considerable number of other novelties. The truth is that certain forms of uterine tumour cannot be removed with ease by any method, and even an operator of high authority, such as M. Reverdin, could not call hysterectomy in such a case "easy." Whilst excellent directions and clear sketches explain Doyen's remarkable operation, the account of a simple ovariotomy is far less commendable. Twelve lines are devoted to the *premier temps* of the operation, headed "Ouverture rapide de l'Abdomen." The experienced need shorter directions, whilst to the beginner a desire to be *rapide* means premature opening of the cyst or even wounding of omentum or intestine. Further on, we find less than three lines granted to a subject which it would be frivolous to speak of as "of some importance." *On applique sur le pédicule un lien de soie; on sectionne la tumeur au-dessus et on le réduit dans le ventre.* Comment is needless upon such *renseignements utiles et précis*, as M. Reverdin would call them. Let it not be supposed that similar works in our own language are free from the discrepancies which we have indicated. Works on gynæcology nearly all tend to be mere illustrated descriptions of brand-new operations. We must admit, in conclusion, that Dr. Schmeltz describes these new proceedings very well. His *Gynécologie* is a handbook for the experienced, and is not suited for the novice.

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[1] *Verhandl. d. anat. Gesell.*, 1897.

DR. CONOLLY NORMAN, in his fortnightly report to the governors of the Richmond Lunatic Asylum on October 19th, stated that one fresh case of beri-beri had occurred, in a male patient.

NOTES ON BOOKS.

Our Baby: For Mothers and Nurses. By Mrs. Langton Hewer. Fifth Edition. (Bristol: John Wright and Co. 1897. Cr. 8vo, pp. 148. 1s. 6d.)—We are glad to see that this excellent little book has reached its fifth edition. The subject of the rearing of babies is dealt with throughout in the simple and clear manner, which is absolutely essential in a book such as this, intended for mothers and nurses. The chapters on dietary are very carefully written, and contain concise tables for mixing cow's milk for hand-reared infants, and many useful formulæ for special preparations for delicate babies. We heartily agree with the authoress in the excellent chapter on the clothing of infants, in which she urges the use of warm and rational garments rather than of those ordained by custom or fashion, to the wearing of which so many ailments in infancy or in later life may be attributed. In the short appendix we notice the caution which is wisely given against the exclusive use of sterilised milk and the risk of thereby incurring scurvy rickets. We can heartily recommend this book to those who are responsible for the health and happiness of infants.

A Handbook of Diseases of the Eye. By Henry R. Swanzy, A.M., M.B., F.R.C.S.I. Sixth edition. With illustrations. (London: H. K. Lewis. 1897. Cr. 8vo, pp. 620. 12s. 6d.)—The need of a new edition of this handbook after so short a period as about fifteen months is a striking witness to its excellence and usefulness. The present volume, revised by the author himself, has undergone many changes. The parts dealing with elementary optics have been omitted to make room for other matter, it being assumed that the student should bring to the study of diseases of the eye a sufficient knowledge of the laws of optics to enable him to understand the refraction and accommodation of the eye and the theory of the ophthalmoscope. By this means, without material enlargement, the chapters dealing with affections of the eye in relation to diseases of the central nervous system, with functional derangements of vision, and with tumours of the orbit, have been amplified. The general standard of excellence which has characterised the previous editions is fully maintained; the illustrations are numerous and well executed, although, perhaps wisely, no attempt is made to represent diseases of the fundus. The descriptions are concise and excellent, and are a summary of the most modern views, English and foreign, on the nature and treatment of the diseases of the eye, rather than a record of the author's personal experience. For this reason the handbook will especially recommended itself to the student and practitioner anxious to know all that should be known without unnecessary detail.

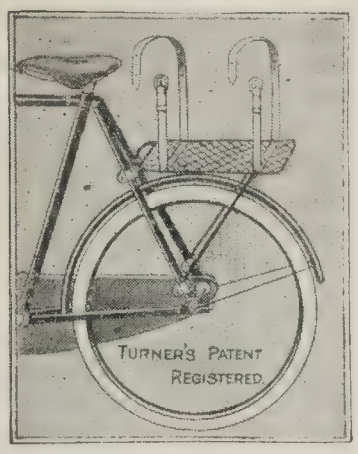
Practical Muscle Testing and the Treatment of Muscular Atrophies. By W. S. Hedley, M.D. London: H. K. Lewis. 1897. (Demy 8vo, pp. 136. 3s. 6d.)—This book is an introduction to the methods of practical electrical testing. Plates are given of the motor points and of the areas of distribution of the cutaneous nerves, also some good photographs to illustrate the action of certain important muscles or the deformity produced by their paralysis. There are also some diagrammatic sections to illustrate the topography of the spinal cord. In the second part the various clinical types of muscular atrophy are enumerated and briefly described, and the electrical methods to be followed in their treatment are given minutely and in the form, so to speak, of prescriptions. We should have been better satisfied if cases had been quoted to show what results have been obtained from the treatments laid down. A few pages are also given to the treatment by massage and exercises.

Lehrbuch der physiologischen Chemie [Textbook of Physiological Chemistry]. By Professor Richard Neumeister. Jena: G. Fischer. 1897. (Roy. 8vo, pp. 978, 1 lithographic plate. M. 17).—Professor Neumeister's work, though one of the most recent textbooks on physiological chemistry, has already established its reputation as a trustworthy guide to the important branch of science of which it treats. We have already spoken highly of the book when it appeared a few years ago, and we now congratulate the author on the second edition. The book is now published in one volume, and has been brought up to date; the very full bibliography given will prove of much assistance to those engaged in research. We should have preferred to have seen the title given as Chemical Physiology, for it is as a physiologist and not as a chemist that the author has treated his subject.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

A BICYCLE BAG CARRIER.

Dr. J. Williams Jones (Chorlton Road, Manchester) writes: Cycling having become very much in vogue amongst general practitioners, I thought it would not be out of place to mention a little luggage carrier which I obtained from the inventor, Mr. Turner, Eldon Grove, Manchester, about three months ago to carry my midwifery bag. I am pleased to say that it has answered the purpose admirably; in fact, it is the best I have seen or heard of. I believe it was originally intended for ladies' bicycles, but I think when it is better known it will be in great request by gentlemen riders, especially those of the medical fraternity who use bicycles for visiting. The carrier is an exceedingly neat device, and consists, as may be seen from the drawing, of a wire frame with diamond pattern top, measuring 14 inches long by 4 wide, weighing about 1 lb., and is fixed over the rear mudguard to the back stays by means of hinged clips, which are secured by finger nuts, making spanners, etc., unnecessary; the attaching or detaching takes about a minute, and bags are secured by straps. This position I consider by far the best for a bag, as it neither interferes with steering or action of the knees, and forms no obstacle to mounting or dismounting. The carrier is scarcely noticeable when not in use, and therefore need not be taken off.



A SANITARY ASHBIN.

Quines's sanitary ashbin is designed to supersede the existing arrangements for dealing with house refuse. It is claimed that over the pail and ashpit systems of scavenging it possesses distinct advantages. It consists of a galvanised steel hopper hung on pivots in a wooden frame placed in an opening in the wall of a backyard or other convenient place. It is so arranged on the pivot that while normally in position for being filled from the house side, it is capable of being tipped over and of so discharging its contents into a collecting cart or other receptacle in the street side of the wall. The advantages claimed for this arrangement are, among others, the following: It is cheaper than building ashpits, and involves less labour, time, and cost than any of the usual methods of scavenging. Perhaps the most important advantage claimed for it is that it does not permit of pollution of walls and ground, and consequent soakage of sewage into the ground. We consider the arrangement to be a substantial advance. The Pendleton Sanitary Engineering Company, Manchester, are the agents for the apparatus, which is protected by letters patent.

THE "BALLANTINE" INSTANTANEOUS WATER HEATER.

This is an arrangement for heating water by steam. The steam and cold water are mixed in a chamber under such conditions as to abolish noise, and so to remove one of the greatest drawbacks of an otherwise very convenient system. The appliance can be fixed in any position to which the

equisite steam and water can be brought. It takes very little room, is very simple in construction, and easily worked. It is likely to prove of use in hospitals and other institutions where steam is available. It is stated to have been in constant use in the Manchester Workhouse, with the most satisfactory results for some time. The apparatus is the invention of Major Ballantine, the head of the Manchester Workhouse, and may be obtained from Robert Ballantine, Crescent Road, Manchester.

COMBINED STETHOSCOPE, MIRROR, AND EAR SPECULUM.

Dr. H. E. Jones, of Dumbreck, sends us a description of a useful stethoscope he has designed. It is of the ordinary monaural form, but the earpiece provides a convenient concave mirror pierced in the centre, while the chestpiece unscrews, and contains an aural speculum. This combination is one that we remember to have seen before, and should be useful to those to whom economy of space is important. Dr. Jones tells us that in his instrument the hearing power is not at all impaired by the additions.

FALONA.

The Falona Food and Cereal Company, of 15, Seething Lane, E.C., has sent us a sample of Falona, which, as a preparation of highly ground and roasted vegetables and cereals, is said to be a perfect food for old and young, and especially suitable for invalids and those of weak digestion. Falona is a finely ground and cooked flour, and our analysis of the sample essentially agrees with the results stated by the manufacturers, showing the composition of the food to be 3.5 per cent. fat, 13.1 per cent. albuminoids, and 72 per cent. carbohydrates. It differs, therefore, from ordinary wheat food in containing nearly 2½ per cent. more fatty material, and it is evidently an admixture of finely divided nutritious flours. Falona makes a palatable porridge and similar preparations, but it can be hardly regarded at suitable "for very young infants," for whom it is also suggested.

BISMUTH OXYCHLORIDE.

Much yet remains to be learnt as to the changes which the salts of bismuth undergo in the system, and of their behaviour in the stomach and intestines. The official carbonate and subnitrate are the salts in general use: the oxychloride is preferred by some, from the fact that, being very much used as a cosmetic, manufacturers take a great deal of trouble to make the powder very fine, and probably this powder is more finely pulverised than any of the other preparations of bismuth. Messrs. Thompson and Co., pharmaceutical chemists, 157, Lodge Lane, Liverpool, have sent a sample of their "crem. bismuth et magnes. co.," which contains in each fluid drachm 5 grains oxychloride of bismuth with 5 grains magnesium carbonate. The mixture has a creamy appearance, the suspension of the ingredients is excellent, and the taste agreeably aromatic.

The Kingston-on-Thames Jubilee Hospital Committee have accepted a tender for the erection of a building to cost £3,580. It was decided that the foundation stone should be laid by the Mayor on November 6th, and that the Duke of Cambridge, who gave the site, should be asked to open the building when completed.

The twentieth annual dinner of the past and present students of Charing Cross Hospital was held at Holborn Restaurant on Friday, October 22nd. Over 150 were present, and the chair was occupied by Surgeon-Major James, F.R.C.S., himself an old student. After-dinner speeches were made by the Chairman, Dr. Watt Black, Dr. Murray, Dr. Woollett, Mr. Cantlie, and Mr. C. T. Bishop. The latter, as Secretary of the Students' Club, humorously appealed to the old students present for donations towards improving the decorations of the refreshment room now owned by the Club. Cheers having been given for the chairman the dinner terminated after a pleasant evening.

HOSPITAL REFORM.

A conference, convened by the Hospital Reform Association, was held at St. Martin's Town Hall, on October 21st, for the purpose of discussing the question of hospital abuse, especially with regard to subscribers' letters, patients' payments, limitation of number of new cases, and the means to be employed to restrict relief to fit and proper cases. The Right Hon. the Earl of Stamford presided, and amongst those present were Sir William Henry Broadbent, Bt., M.D., Sir Henry Burdett, K.C.B., Dr. Ward Cousins, Dr. Glover, Mr. Victor Horsley, F.R.S., Mr. Timothy Holmes, Dr. Lovell Drage, and Mr. C. S. Loch (Charity Organisation Society).

In opening the procedings the Chairman said the subject for discussion was the administration of medical relief in the out-patient and casualty departments of hospitals and dispensaries. The Hospital Reform Association was an Association which sought to concentrate medical opinion upon the question of the reforms which were needed in hospital administration. Few would deny the fact that some reform was necessary. Other societies with which he was connected—the Charity Organisation Society and the Society which aimed at establishing a Central Hospital Board—were interested in the question, and it was felt that they might work side by side and help each other, and perhaps might assist each other all the better if they were not brought under any one control. Mr. Garrett Horder had made careful tabulations as to the numbers treated in the out-patient and casualty departments of the London hospitals, and had found that in the year 1895 there were no fewer than 897,000 out-patients treated in the 22 general hospitals in London. In the special hospitals, 68 in number, the number of out-patients treated was 67,500. Adding to these the persons receiving attendance at the non-provident dispensaries, quite a million of the population were in receipt of medical relief in the out-patient departments in one form or another. It was scarcely possible to believe that all those persons were appropriate subjects for such relief, and inquires made from time to time bore out the belief that a large number of them were perfectly able to pay the fees either of a provident dispensary or of a general practitioner. The Charity Organisation Society by inquiries they made a few years ago established the fact that out of the whole number of people treated in the out-patient and casualty departments only about a quarter were suitable recipients for that form of relief. He was aware that there was considerable difference of opinion amongst the different classes who were interested in the question, but public interest had been stirred in the matter and it was the object of the present Conference to arrive at some clear conclusion upon which a scheme for reform might be founded.

Mr. T. Garrett Horder (Hon. Secretary of the Hospital Reform Association) read a paper dealing with the necessity for hospital reform. He said it appeared evident that the present system of administering medical relief could not go on much longer, and for the following cogent reasons: Because the governing bodies of hospitals found it increasingly difficult to provide sufficient accommodation for the large number of out-patients that applied for treatment; because the medical staffs found the work too onerous and too exhausting; and because the general practitioners found it more and more difficult to obtain a bare livelihood in consequence of ever-increasing competition of hospitals. He had pointed out from time to time the urgent necessity of making the public—and by the public he meant the members of it who were habitual supporters of hospitals—thoroughly acquainted with the present condition of affairs. Hard words were often used about statistics, and when the numbers of patients that had received free medical relief, apart altogether from the Poor Law, in London and some of the provincial towns, had been given, people had doubted the truthfulness of the figures. They asserted that the figures related to the attendances of patients, and not to individual patients. In England and Wales it was now the custom for the officials of hospitals to definitely state in their annual reports that the numbers did not refer to the attendances; in fact in many reports the number of attendances made by the patients was given in a separate table. In the year 1892, in London, with a population of over four millions, there were over 1,562,000 out-patients—that was to say, in

every 1,000 of the inhabitants there were 371 persons who had free medical relief at hospitals. Liverpool, with a population of 517,980, had 206,698 out-patients, or 399 for every 1,000. Bristol, with a population of 221,578, had 78,953 out-patients, giving 356 for every 1,000. In Birmingham, with a population of 561,000 odd, there were 163,000 out-patients, or 291 per 1,000 inhabitants. Manchester, with a population of 505,000, had 125,809 out-patients, or a proportion of 249 per 1,000, and Leeds, with a population of 367,000, had 81,836 out-patients, or 222 to every 1,000. In the smaller provincial towns it was found that a very large proportion of the population availed itself of hospital relief. In the year 1894, in Bath and Shrewsbury, one-third of the population were out-patients; in Exeter nearly one-third, in Oxford nearly one-fourth, in Gloucester over one-fifth, in Cheltenham nearly one-fifth, in Chester over one-sixth, in Bournemouth and Cambridge over one-seventh. With regard to the various remedies that had been from time to time proposed for the cure of the long-standing disease of hospital abuse, there appeared to be a pretty general consensus of opinion among hospital consultants that payments by patients and subscribers' letters should be absolutely dispensed with. Speaking generally, he thought they should aim at making the out-patient rooms more of a consultative nature than they were at present, and to effect that desirable object they would have to bring about a closer union between hospitals and provident dispensaries. There was no necessity for admitting people suffering from ordinary chronic ailments to the out-patient departments. Such cases wasted the time of the medical officers, and caused the great overcrowding which was so detrimental to the well-being of other patients. He quoted the statement made by Sir William Fergusson's subcommittee nearly thirty years ago as bearing out what he had said. It appeared to him more and more urgent that in all large towns where there were several hospitals there should be a Hospital Board whose functions should be to advise and direct the public as to the conditions of medical relief, to co-operate with the various individual hospital boards as to the necessity of enlarging or extending their operations, and to assist the hospitals generally in maintaining their position. In conclusion, he expressed a hope that all interested in the question would help the Hospital Reform Association to bring about some practical scheme for its solution.

Mr. Timothy Holmes then moved the following resolution:

That this conference is of opinion that reform is urgently needed in the methods of administering out-patient and casualty relief in the hospitals and dispensaries of the United Kingdom, and that it be referred to the Council of the Hospital Reform Association to form a committee to draw up a scheme for the better administration of such relief for the consideration of a future meeting of the conference.

He said he did not think he could add much to what was so ably stated by Sir William Fergusson's committee thirty years ago, but there was no doubt that the abuse which existed then was now much greater. A new abuse had been added to those that existed at that time, namely, that an enormous casualty department had grown up. At the present time at many hospitals every person who applied was seen. He did not mean to say that no inquiry was made, because a good many hospitals did make an inquiry, but the person who applied got relief at the time. On the previous day, in company with other gentlemen in connection with the Charity Organisation Society, he had visited the Royal Free Hospital, where they had a talk with regard to the out-patient department, and they made out perfectly clearly that every person who applied was either made an out-patient or was prescribed for and attended to, and made one of the casualty patients. That struck him as being a rather remarkable state of things. But, more than that, some of the medical officers of the hospital who were present said that that, in their opinion, was the best plan that could be devised, although they allowed that a large majority of the casualty patients were perfectly trivial cases with no urgency about them, and that there was no difficulty on their parts in procuring medical relief elsewhere. He did not think anybody could deny that it must be a very serious incubus on the general practitioners in the neighbourhood if it was known that every person, whether his complaint was trivial, whether he was able to pay for a doctor's services or not, that every body, in point of fact, would get attention and relief. That was a plan which prevailed very extensively, not only at that hospital, but at many much larger hospitals, and which was, so far from being looked upon as an abuse that it was deliberately practised and deliberately defended by some, at least, of the medical staff and lay governors of the hospital. He regarded that as an undesirable state of things, and one that ought to be put a stop to. He was bound to say that in endeavouring to amend what was considered wrong an amount of resistance was met with which he believed to be almost insuperable unless the efforts of reformers were backed up by the very general support of the medical profession—the general practitioners who formed so enormous a majority of that profession. Without that support success was almost hopeless, not because the lay governors were opposed to it, but because they depended almost exclusively upon the feeling of medical men. They considered it a medical question, and they thought very justly and very sensibly that they ought to be guided by the general feeling of the medical profession. It was on that account that he was very glad to see the Hospital Reform Association was in a large degree a general practitioners' association. The question was not one that concerned only the general practitioners, and he was bound to say that to the pecuniary sufferings of the general practitioners he was to a very great extent careless. He believed that somehow or another they knew how to make their living and would continue to make their living. At the same time he thought the state of things which he had hinted at was an equal injustice to the profession and to the poor whom it affected to benefit. He believed that its abolition would benefit the poor instead of being a hardship to them, and he was quite sure it would benefit the general practitioner. It would be no light matter to carry out the reforms which were needed. At the present time opinions were so immensely divergent that it would be found rather difficult at first to get any movement at all, and when they began to move they must be content to move slowly. The less they made use of strong language the more he thought they were likely to be successful. He did not think that the abuse, large as it was, was in any sense a wilful abuse. He believed it proceeded merely from a mistake. Granted there was something to fight about, the next question was, What was best to be done? He thought the best thing to be done was that which was contemplated in the resolution. He advised the formation of a committee composed of men of different opinions on the various branches of the subject, because if a scheme was hit upon satisfactory to all of them the scheme would be put into practice somewhere or another, and when once begun reform in the matter would soon come about. He agreed with Mr. Horder that they should aim at making the out-patient room more of a consultative nature than it was at present; but he also thought that the hospital ought not only to be a consultative department of provident dispensaries, but also a consultative department for all institutions within its area. It should receive patients from dispensaries and private medical men within a certain area, and be a kind of consultation room for the poor in the same way that consultants opened their consultation rooms for the rich. Mr. Horder had said there was no necessity for admitting people suffering from ordinary chronic ailments into the out-patient department. If Mr. Horder had had the opportunity as he (Mr. Holmes) had had of studying for a few years in an out-patient department of a children's hospital he would have seen how perfectly true that was, how the time of the consultant was almost wasted in prescribing for dozens of cases of the same nature, ordinary chronic cases coming time after time, and most of them requiring quite as much of hygiene and food as of physic.

Dr. Glover seconded the motion. He thought there could be no doubt at all about the question being a very urgent one and a very real one. What struck him was that the abuse of the out-patient department was not only very large, but was getting rapidly larger. He had had the opportunity of seeing the latest statistics on the subject, which were at present engaging the attention of the Hospital Sunday Fund, and he knew that even in hospitals which were trying to put the abuse down the thing was growing by thousands every year. They were gradually coming to a time when, if they

did not deal with the question decisively and definitely, and upon some very clear principles, they had better abandon the thing altogether. He did not consider it necessary to argue the existence of the evil. It was not a question that merely affected general practitioners. They had been largely referred to as the chief sufferers, but he maintained that there was a very large class of younger consultants who suffered quite as much as the general practitioner. He did not think the question was one to be argued upon the mere trivial character of the cases that came to the hospital. General practice was not a trivial one, and the cases of any general practitioner whose work was sought after were not trivial. Very grave cases had to be treated in general practice, and the mere gravity of the case was no reason for sending it to the hospital. He believed things would never be right until the old relation could be established between a family and a medical practitioner. How could a hospital physician or a hospital surgeon seeing a man for five or ten minutes, and knowing nothing of his family history, or his habits, know anything about the case? A working man was quite able to pay for medical service. His wages were larger and his expenditure was much less than in the past, and from his own experience he knew that working men paid very cheerfully. There were some of them who were such admirable patients that he would go to them any hour of the night just as soon as he would go to the richest patient he had. He had a large acquaintance and friendship with the younger consultants, and he had been often struck with their extreme exhaustion after seeing out-patients for several hours. He held that unless they could engage the interests of the staffs of the hospitals on the question, little could be done. The abuse of the out-patient department coincided in point of time very much with the enlargement of the medical schools, and the educational questions that were involved in the question really made it important. The staffs of hospitals were all medical teachers, and they wanted the material for clinical teaching. Nobody in the meeting, he was sure, wished to deprive them of that, but he maintained that the material for teaching was enormously larger than could be used. He heard one of the staff of St. Bartholomew's Hospital say that the number of patients at the out-patient department was twenty times larger than was necessary for educational purposes. Not only were the cases more than were necessary, but the largeness of their number made the teaching bad. He was sure that if they could get the consulting and teaching staffs of the hospitals to see the evils of the system, and to see that they were maintained by them—by their reputation, by their gratuitous service, and by their exhausting hours of unnecessary work—they could bring about an understanding with them, and they would see their way to some satisfactory action.

Sir William Broadbent said he should approve of some such committee as was proposed, but everything would depend on the men who were brought to serve on that committee, and a good deal would depend upon the authority which the committee would be able to exercise. He thought that the members of the hospital staff were just as much alive to the evils of the increasing number of out-patients as anybody else, and no one would be more happy to see those numbers reduced and to see a certain selection made of the patients than the over-worked junior members of the hospital staff. But they were servants of the hospital and they had to see the patients who were brought to them. The reduction of the numbers could not be brought about by the staffs of the hospital; it must be done by a general consensus on all sides. The whole subject was not one which concerned entirely either general practitioners or consulting medical men. It was really a question of right or wrong. It could not be right that people who were able to pay for medical advice should obtain it at the expense of the public and at the expense of the poor, because the time that was expended upon immense numbers of those who were not appropriate subjects of hospital relief was time stolen from the service of the really poor. There was one point upon which he should venture to differ from his friend Mr. Holmes, and that was that out-patient physicians need not be protected from numbers of what were called trivial cases. After seeing large numbers of cases a young medical man was able to arrive at treatment which would be of general service, and in that way he would do much more real work for the profession and the public than he diagnosed a difficult case. Therefore he did not look upon the attendance of large numbers of so called trivial cases as at all an evil if those cases were appropriate subjects of hospital relief. He was looking forward with a certain amount of hope to what he believed would be the realisation of responsibility which the power placed in the hands of the Hospital Sunday Fund and the Prince of Wales's Fund necessarily involved. In order that a remedy should be applied there must be some power behind a committee or anybody who was investigating the subject, and that power, as far as he could see, would not be conferred by legislation, but it would be the power or powers that they had in the Hospital Sunday Fund and the Prince of Wales's Fund, a very considerable power. Their approval and their support of hospitals, and more especially their condemnation of hospitals, would carry with it enormous weight, and he hoped that such investigation would be started as would enable the management of those funds to say what hospitals were really doing the proper work of hospitals and what were not. His own opinion was that the method which was originally proposed by the Charity Organisation Society was the only one by which the question could really be solved: get together representatives of the staffs of the governing bodies, and of the general practitioners, and by the views which those different interests would bring forward truth would be arrived at, and they would get the best guidance for further action. In his opinion the question would not be solved to-day or to-morrow; it would require years. It was a matter of extreme difficulty to draw the line where legitimate work ended and abuse began, and it would be an almost more difficult thing to apply the remedy even when that information was obtained.

Sir Henry Burdett, K.C.B., said it seemed to him that the proposal to form yet another committee to make more inquiries, to go over old ground, to dig up old facts, and to report on the same lines, was not the way to solve the out-patient question at all. He believed that the time had entirely gone by for it. He had worked long enough in hospitals to believe that they would never get a better investigation, or more impartial investigation, or an investigation which was more enlightening to all intelligent men who had the well-being of the medical profession and the advantage of the hospitals at heart, than the report which stood as a classic, and would remain a classic, the report of Sir William Fergusson's Committee. They had in those documents every material fact which any committee could bring up. He stood upon Sir William Fergusson's Committee, and therefore he was opposed to yet another committee of investigation into the out-patient department of the hospitals. If they had a committee at all, the committee should not go in for investigation, but should stand upon the old facts and take a new departure in the direction of trying somehow or other to bring together those who had it in their power to bring about a new system and new methods of treatment of disease in the out-patient department. It should be borne in mind that, as a matter of fact, the only material difference in the out-patient question to-day from what it was in the day of Fergusson's Committee in 1870, was that the patients who flocked to the hospitals were at least three times as many now as they were twenty-seven years ago. Therefore, from the point of view of the system, they were bound, as practical men, to say that the people who used it found that it met in some way or another their purpose better than other means which were offered them for the treatment of disease. That was the position which the medical profession as a whole should face. They had got to make the attendance which they offered the people outside the hospitals more attractive, to make the treatment and attendance more efficient. Could any hospital physician or surgeon who saw the cases at the hospitals deny that a very great number of cases came to them at a later period of their disease which were in a condition they ought not to be in if they had had adequate medical treatment from the general practitioner? He thought the cause of so large a number of people flocking to the hospitals was due to a want of full utilisation of the opportunities which hospitals offered not only to the public, but to the medical profession, and that they must go really into the question of the treatment of the patients outside as well as inside the hospitals, if they wanted to get the

estion really faced. It must be looked at absolutely from is point of view, and he should like to see opportunities given by the hospitals to post-graduates, the en who were labouring among the poor in large and owded towns, to study at the hospitals without any fee at l. He had come to the conclusion that some system was eded which would enable hospitals to say that they would ly give relief to those people who were unable to pay for edical attendance, unless the nature of their case was such at they required the medical assistance which they could ly get at the hospitals, and that if they wanted such sistance, their social position being above the level of the digent, they must show that they had continuously and gularly, according to their means, given to the hospitals. iat was another way of applying the provident principle, ily it was working the provident principle through the outtient department. Taking the people as a whole, and pecially the people who attended special hospitals, there as no doubt that they could, all of them, with the exception of about 10 per cent., pay something for the medical eatment they received, and he had the impression that ey would welcome a system whereby the so-called provident spensary idea could be adopted to enable them to show at they were quite willing, apart from the fact that they ere ill, to contribute regularly as subscribers to the hostals of London. He hoped before long that an important parture would be taken in connection with some of the ntral bodies to induce every hospital to have a registration ficer in the out-patient department to inquire from the outtients as to their social condition before they were aditted for relief. If that were done he thought there would very little difficulty, by the issuing of a subscription book r small subscriptions on a system which would make what ere known as the Prince of Wales's Hospital stamps availle, in preventing any of the evils which attached to the llection of small subscriptions. It would enable every an and woman to subscribe quite readily, and to always have hand in a handy form which they could produce at any me evidence of the fact that they were interested in the spitals. He suggested that the conference might adjourn ll the beginning of next year in order to see what might be e outcome of a year in which they had had a new departre working in reference to the collection of money, and in hich possibly there might be new departures in reference to e distribution of it to the hospitals. He thought if they ferred the appointment of the committee they would agree ith him, after six months had elapsed, that it was a wise cision and one best likely to promote the finding of an timate solution on which everybody could generally agree.

Mr. George Brown asked if he rightly understood Sir enry Burdett to suggest that hospital patients should bring ith them Jubilee stamps as a sort of passport to receiving edical attendance.

Sir Henry Burdett said he made no such suggestion, and should object to that very strongly. His suggestion was iat there should be placed within the reach of everybody a mple means of giving annually a subscription to the spital which they could produce as evidence of their good ith and their desire to do what they could to help the spitals. If they were in a social position to require relief would also show that they were regular subscribers.

Mr. G. Brown asked on what occasion it would be proiced.

Sir Henry Burdett said he maintained that if it was ght for a poor man to give 4s. 4d. a year to the provident spensary and have medical relief from the dispensary there uld be no harm whatever if a man preferred a hospital, luntarily giving a subscription of from 2s. 6d. upwards, cording to his means, and if he wanted relief and was a roper recipient, he could show by producing a subscription ok when he went to the hospital that he had done his st.

Dr. Ward Cousins traversed the statement of Sir Henry urdett that patients preferred to go to the hospitals because the want of skill of the general practitioner. From his vn experience in consultation he was convinced that a more ghly trained and intelligent class of individuals did not ist in the country. In the last twenty years there had been enormous advance and he met men in consultation who were accomplished physicians and surgeons. He agreed with Sir Henry Burdett as to the abuse which existed in the hospitals, and he was inclined to think that the evil effects were felt not only by the medical profession, but by the charitable public. He thought himself that hospitals were wholly for the treatment of urgent cases of disease in all classes; but he would not say that, but say in those who could not carry out efficiently modern treatment in their own houses. Modern medicine and surgery required antiseptic treatment, most careful nursing, and most judicious watching, and such things could not always be obtained in the home. He did not think any hard and fast line ought to be drawn with regard to those who went into hospitals, but they should go in on the recommendation of their private medical man. As hospital reformers, they wanted that the bulk of the patients seeking admission should seek it from the medical profession, and that would be one way of preventing abuse. There was no doubt whatever about the abuse, and the question was how it was to be stopped. He thought the right course was to appeal, not to a hospital board established in various districts, but to the governing bodies of hospitals themselves, asking them to make certain changes. It would take a long time, because governing boards were anxious not to offend their subscribers. The ticket system was an abuse. He knew of tickets having been bought and sold. Poor relations were often supplied with tickets by their more wealthy relatives, and firms subscribed largely for tickets and distributed them to their employees. Another great source of abuse was the payment by patients, because there was no proper system of collection, and a system of touting went on, and gratuities were freely given by those persons who paid something in order not to be kept waiting. Another important abuse was the inefficient way in which inquiries were made of patients. It appeared to him that they had to try and get the managers of the hospitals to abolish tickets, to abolish patients' payments, and to have a proper officer to see everyone who came in, and inquire as to their position. It should never devolve upon a medical man to refuse a case on the ground of social position. The doctor could limit out-patients by sending away trivial cases, and by admitting the more urgent cases which required special treatment into the wards of the hospital.

Dr. Beverley (Norwich) said that in the provinces they had to meet just the same difficulties as were encountered in London. At the Norfolk and Norwich Hospital, to which he was attached, a general meeting of the governors was recently held, at which the board of management congratulated the governors on the great increase in the number of out-patients. One of the physicians of the hospital rather astonished the governors by declaring that he did not consider, and it was not considered by the medical staff, a matter for congratulation at all; they had infinitely more patients than they could attend to properly, and they had also the wrong class of patients. At the Norfolk and Norwich Hospital they had the system of recommendations by subscribers, and many thought that it was mainly owing to that system that they got the wrong class of patients. Every patient had to attend before a committee, but the name of the nominee or the signature on the paper carried far more influence with that committee than the individual who brought it. Over and over again it had occurred that committees were actually afraid to send the patients back through fear of offending important governors.

Sir Henry Burdett wished no one to be under a misunderstanding as to his meaning with reference to general practitioners. No one was more indebted to the general practitioner than himself, and he believed him to be the backbone of the profession. All he wanted to bring out was the fact that in the enormous body of men in general practice there were a large number who would be greatly benefited both as to their practice and reputation if the hospitals would encourage them to attend post-graduate classes.

Dr. Glover pointed out that the motion was not, as Sir Henry Burdett imagined, a motion for further inquiry, but one to secure a committee to suggest a scheme for a better administration.

Dr. Herringham said he was a young hospital physician, but he could not say that he had been ever overworked or exhausted. He did not think there was any harm done to

the teaching of students. Speaking of St. Bartholomew's Hospital he believed that cases of abuse were rare. He had gone into statistics in the cases that came under his notice. In the last few weeks he had had between 500 and 600 cases under him, and from inquiries he made out that the number of cases abusing the hospital reached a total of five or six, about 1 per cent. In a properly conducted hospital with an efficient inquiry office, and where the medical men also took the trouble to reject unsuitable cases, the amount of abuse could be limited. He flatly declined to support the suggestion that patients should be admitted to the hospital only by bringing letters from medical men, and he thought every hospital physician would decline to support it. It required in every practitioner who signed the letter that he should not make a mistake, and that he should be benevolent enough to sign away his own income.

Mr. GEORGE BROWN protested against what he considered the reason given by Dr. Herringham of making no change, that general practitioners were incapable of doing their work.

Dr. HERRINGHAM said that what he meant was that all practitioners made mistakes and therefore they could not insist on a practitioner making a diagnosis before he sent the case to the hospital. Even consultants made mistakes.

Mr. GEORGE BROWN said he had seen thousands of patients in the out-patient department of hospitals, and was quite sure it was not at all safe to take the statement of a patient as to the previous history of the case. He had known the very greatest blunders and injustice done in consequence of taking the statement of the case as to what the previous treatment had been. He had had cases from St. Bartholomew's Hospital which he had treated and cured, but he did not make accusations against the hospital people for that. Very often the cases were seen by students at the hospitals and treated by them, and never went before the consultants or responsible surgeons at all. He was happy indeed to hear Dr. Ward Cousins do justice to the general practitioner as regards treatment. There were men all over the country who could do major operations with only the assistance of a youth or a man not skilled at all, and those practitioners ought to be spoken of with the very greatest respect. With regard to what should be done to remedy the evil which existed he certainly thought the letter system was one of the greatest abuses and should be done away with. He believed that a large number of persons and firms in the Strand, Westminster, and the West-end subscribed to hospitals for the purpose of getting letters for their employees. It was only the other day that he was told of a large firm in London whose custom it was to send their cases to a neighbouring hospital. He maintained that the large firms ought not to abuse the charities in that way.

Dr. DOUGLAS DENT (Bristol) thought the evils should be fought on the question of principle and not on the question of details, and unless they were going to find some such principle that they could all adhere to, they would not succeed. The two great bodies affected were the charitable public and the people they desired to benefit. The hospital came into existence that the deserving poor might receive the benefit of medical treatment, and that was the principle upon which the battle would have to be fought.

At this point it was agreed to adjourn the meeting for an hour and a half, and in order to secure the votes of those then present who would not be able to return later on, the resolution was put to elicit an intermediate expression of opinion, and was carried with only six dissentients.

On the Conference reassembling Mr. THIES (Secretary, Royal Free Hospital) continued the discussion. He thought it desirable, in view of the remarks of Mr. Holmes, that he should make it quite clear that the Committee of the Royal Free Hospital had during the last five years given very constant and very anxious attention to the problem. The more those who had to deal practically with the question of out-patients in hospitals or a medical school attached to them looked into the matter, the larger appeared the number of issues which had to be faced, to every one of whom must be given due weight. He thought he was justified in saying that when the question of whether they should take any further steps and be still more stringent, and really actually send away cases from his hospital came up, the medical men put the issue somewhat in the following way: Supposing [illegible] decide we will only see a limited number of cases each d[illegible] and send away a certain number of cases. Supposing [illegible] of those patients goes off to another hospital and is [illegible] mitted, or is examined and found to be suffering from so[illegible] serious complaint, or suppose a patient goes home and die[illegible] there is a coroner's inquest, and then it is said the patie[illegible] came to the Royal Free Hospital and was refused admittan[illegible] It was felt that in dealing with the question in an isolat[illegible] way they could not get much further. If they drove t[illegible] patients out of their hospitals they could go to other h[illegible] pitals, and probably their own out-patient department wou[illegible] become unpopular. It was felt much better to get so[illegible] common understanding with the hospitals around, worki[illegible] on the same lines as their own, and a conference was co[illegible] vened of all the general hospitals in London with medi[illegible] schools. Several meetings were held, and the result was th[illegible] a small subcommittee was appointed which, after consideri[illegible] the whole question from the point of view of those actua[illegible] engaged in hospital work, recommended that each gene[illegible] hospital should have an inquiry officer or out-patient clerk [illegible] inquire into the means of persons applying for treatme[illegible] the duty of such officer being to prevent the abuse of t[illegible] charity by those who were able to pay for medical atten[illegible] ance, and that patients already in receipt of parish rel[illegible] should be referred to the Poor-law authorities. The su[illegible] committee also felt that it was desirable to restrict t[illegible] number of new cases to be seen each day to something li[illegible] fifteen patients. It was also felt that while it was n[illegible] practicable to strictly limit the number of cases to be treat[illegible] each day by the casualty officers, yet steps should be tak[illegible] by each officer to limit such cases as far as possible to ac[illegible] dents and sudden illness. It was also recommended that th[illegible] general hospitals should co-operate as far as possible wi[illegible] the provident dispensaries, and that patients bringing reco[illegible] mendations from general practitioners and provident d[illegible] pensaries should have priority over other patients. He w[illegible] quite sure that if medical men, both consultants and gene[illegible] practitioners, came to some common understanding the [illegible] boards of the hospitals would readily do their utmost to f[illegible] in with the wishes expressed to them by their medical sta[illegible] At the present moment he believed a large majority of t[illegible] consulting surgeons and physicians doing work in the Lond[illegible] hospitals were not in accord with the idea of limiting t[illegible] number of out-patients.

Dr. HERBERT SNOW (Cancer Hospital, Brompton) said [illegible] was convinced that the greatest offenders in treating patien[illegible] who could well afford to pay for medical attendance were t[illegible] general hospitals, and not the special hospitals. Speaking [illegible] his own hospital he declared there was no abuse there at a[illegible] A notice was put up in the reading-room where it could [illegible] plainly seen that the relief was for necessitous persons onl[illegible] and every effort was made by the staff to carry it into f[illegible] effect. The way to restrict well-to-do persons from abusi[illegible] the hospitals was not by inquisitorial inquiry, not by havi[illegible] an officer inquiring into their means, not even by putti[illegible] notices up to that effect, but by simply exacting from ever[illegible] one who came a written declaration that he considered hi[illegible] self a fit object of charity. That would go very far to me[illegible] all the complaints of abuse, and so far as he could see the[illegible] need not be a single objection to it.

Dr. SNAPE declared it was not the duty of the staff to act [illegible] relieving officers, and say what patients were fit and wh[illegible] were not. The out-patient physician, or surgeon, as a ru[illegible] had a great deal more to do than it was possible for him [illegible] accomplish, and it was most unfair for boards of hospitals [illegible] expect the staff to act as relieving officers as well as medic[illegible] men.

Dr. LOVELL DRAGE said there were three different sets [illegible] people to consider in dealing with the problem. First the[illegible] were the objects of relief, secondly the people who gave t[illegible] funds for the relief, and thirdly the medical profession. Th[illegible] objects of charitable relief, he considered, should be tho[illegible] only who were unable to provide for their own necessitie[illegible] but every general practitioner found in the course of h[illegible] work that there was a vast number of people who went [illegible] hospitals and received medical relief who were perfectly we[illegible] able to provide for themselves. The difficulty of distinguis[illegible] ing between those who should receive relief and those wh[illegible]

hould not was the first problem to be considered. Hospital uthorities were not altogether in sympathy with the ıedical profession, and there was a tendency among hospital ıanagers to fight for subscriptions, donations and legacies ı a way which was certainly undesirable. The medical pro- ession was in a very unfortunate position. They had, as overning bodies, two great corporations. Those corpora- ions were not open corporations, but were bolstered up by harters and Acts of Parliament, and their privileges and heir monopolies were kept up and maintained very largely by he hospital system. Only people who would consent to abide y their rules were eligible for appointments to hospitals, nd even people who were asked to take up chairs at some of he large London schools had actually to go to the College of hysicians or College of Surgeons to be re-examined before hey were allowed to take their posts. If the hospitals were ractically great public institutions it was an abuse which ught not to be allowed to exist. It acted not only very adly on the profession itself, but it acted badly with regard o the treatment the people received, and had an exceedingly ad effect on the education of coming practitioners. The uestion of the management of the whole of the hospitals as one which had to be taken up by a body representing the hole of the interests affected, or application would have to e made for State control.

Dr. Woodley Stocker was in favour of giving relief to verybody attending a hospital for the first time and making nquiries about their position before their next visit. He did ot believe in subscribers' letters, doctors' recommendations, he payment by patients, or the restrictions to new cases. here would be no harm in having an officer whose duty it as to see that everybody who came was eligible for relief. hat duty could be done in two or three ways. The officers night be in communication with relieving officers in the dif- erent districts from which the patients came and the infor- nation could be very readily got at. It was got at for the oor Law and might be got at for hospital attendance. People ho came to receive charity—that was practically what it mounted to—ought not to be too proud to have their circum- stances investigated. He complained of the tendency of Boards of Guardians to send their cases to hospitals. The Boards sent a subscription of £10 or £10 10s. a year, and with he letter enclosing the donation they asked to be allowed to end their out-patients to the hospital. One hospital in London had actually accepted the cheque with the condition ttached to it. He happened himself to be a medical officer nd he had been told that he must not do any more opera- ions, but must send them to the hospital. The extra fees for such operations were part of the salary of a medical officer, nd to send cases to the hospital for a mere paltry ten guineas a year was an abuse of the hospital system.

Mr. C. S. Loch thought that the adoption of a system of payment in hospitals would make things worse than at pre- ent. It would create an idea that if people paid for medical dvice they had a right to have it, and from the point of view of the general practitioner nothing could be more injurious. He thought the value of subscribers' letters was largely dimi- ished, because practically the admission to very many of the hospitals, so far as out-patients are concerned, was free. The hospitals were being overrun with casualty cases, trivial cases that thirty or forty years ago came very much less to the hos- pitals, and it was necessary in dealing with the question of reform to address themselves first of all to that class of cases. The issue to a large extent depended upon medical men, and if they were not prepared to say "No" in any case that came, even in the case of a first treatment, then he thought no pro- gress could be made at all. He did not think the inquiry system by itself would answer, because after a certain time the inquirer got tired of it. Probably he received very little support from medical men, and he took a very genial and lenient line. He considered that an almoner rather than an inquiry officer was what was wanted. An almoner meant an entirely different person to an inquiry officer. An almoner was a person skilled in the method of charity who could give good and ingenious advice on the spur of the moment just as a doctor could, because he knew his business thoroughly. Persuasion and not compulsion was the method of progress, and he could not help thinking that if the Assocation and other associations would concentrate their resources and come to a definite programme before very long there would be experiments at many hospitals, and those experiments would convert the medical profession, who would in turn convert the governors. He hoped that the meeting would lead to many general practitioners combining with one another to know what they wanted, and then going to their brethren in the hospitals and asking them to do what they wanted.

Mr. Victor Horsley moved again the resolution passed before the adjournment. Stress, he said, had been laid first on the interest of the public, and then on the interest of the medical profession. The interest of the medical profession, although serious enough, was not so great as the interest of the public, but he thought troubles had been created in the consideration of questions by attempting to pass off the interest of one class against another. Undoubtedly a certain amount of opposition to reform had come from the medical teachers in the schools, but if it were put before those teachers that the reforms proposed would get rid of the inferior cases, those teachers would be converted at once. With regard to the difference between general and special hospitals, in the general hospital it was a question of the general public coming for relief being guilty of hospital abuse; in the special hospital, in addition to the general public, the profession was responsible for the appearance of many cases that ought not to come within the walls of such an institution. The abuse by the public was, to his mind, a total destruction of the whole position of voluntary charity. If the public had become so demoralised as to lose their sense of charity, various other lines of treatment might be necessary, and one of those must be the inquiry officer. He admitted that a large amount of conversion required to be done within the profession. He had been thwarted in his attempts to do what he could, not from ill-feeling at all, but from sheer ignorance. It was a matter for individual effort on the part of all, and with perseverance he believed they would ultimately bring about the conversion so much desired.

Dr. Heron was certain that when the great facts were laid plainly before the profession it would very soon be apparent to them that reform was a desirable thing, and that it was their duty to go into the matter and try to find a remedy as soon as possible. He was in favour of the appointment of an almoner, such as Mr. Loch had suggested. He believed the strongest power in connection with hospital reform was to be found in the strength of the purse. The power of the purse lay in two societies—the Prince of Wales's and the Hospital Sunday Funds. If the men on those funds could be converted to proper views on the subject the matter would be settled in six months, because it would be almost impossible to estimate the enormous pressure that could be brought to bear on hospitals by those two funds.

Mr. Adrian Hope (Secretary Children's Hospital, Great Ormond Street) said a great deal had been heard of abuse, but had anyone ever tried to prove it? The only facts he knew pointed directly against it. The percentage of abuse was so small that it was not worth talking about. A well known London hospital had investigated every case during a period of three weeks, and out of 500 cases there were only 3 or 5 cases of abuse. He challenged anyone to prove that abuse existed to the extent to which it was said to exist. He did not deny that the out-patient question was a pressing one and one that required attention, but he advised them not to give their case away by exaggeration. He challenged anyone to name a hospital where the abuse existed.

Mr. Victor Horsley named the Children's Hospital, Great Ormond Street.

Dr. Snape said that he could give Mr. Hope twenty cases which had occurred that week at the Children's Hospital.

Mr. Hope said he should be glad to investigate every case.

Dr. George Jones and Mr. George Whitcombe also took part in the debate, and after a few remarks by the Chairman in the nature of a summary of the discussion, the resolution was again put to the meeting and carried unanimously.

A vote of thanks was passed to the Chairman on the motion of Mr. Garrett Horder, and the Conference closed.

The Alvarenga prize of the College of Physicians of Philadelphia has been awarded to Dr. Joseph Collins, of New York, for his essay entitled "Asphasia."

THE SOCIETY OF ANÆSTHETISTS.

The fifth annual meeting of this Society was held at Limmer's Hotel, Conduit Street, on October 21st, Mr. G. H. Bailey, President, in the chair. The reports of the Council and Treasurer described the condition of the Society as prosperous. The following officers for the coming year were elected:—*President:* Dr. Dudley W. Buxton. *Treasurer:* Mr. Joseph White. *Members of Council:* Mr. C. Carter Braine, Mr. Theodore G. Burns, Mr. Alexander Wilson (Manchester). *Secretaries:* Mr. E. A. Starling (Tunbridge Wells), Mr. R. Turle (Bakewell). *Auditors:* Mr. Edgar Willett; Mr. Sydney Rumboll (Leeds).

The new President, thereupon, took the chair, and proposed a vote of thanks to the outgoing President, who had held office for two years. Dr. Silk seconded the resolution, which was carried unanimously; and Mr. Bailey returned thanks. Another cordial vote of thanks was voted to the ex-Secretary, Mr. C. Carter Braine, who duly responded.

A dinner, well attended by members and their guests, afterwards took place, under the chairmanship of Dr. Dudley Buxton. Letters had been received from the Presidents of the Royal Colleges of Physicians and Surgeons, regretting their inability to be present.

Mr. Christopher Heath, in proposing the toast of the evening, "The Society of Anæsthetists," said that in the present day surgeons were so accustomed to anæsthesia that they could hardly imagine the condition of things in the operating theatre before anæsthetics existed. But sixty years ago the only preparation made for an operation was to administer a stiff glass of brandy and water to the patient, whilst the surgeon often had a similar glass, for the patient had to screw his courage up, and the surgeon also. Nor was any operation done unless it was quite necessary in order to save life. Robert Liston invented the flap operation because it could be done rapidly, and the patient thus be saved some suffering. All testimony showed that the shrieks from the operation theatre, especially when an operation had to be done at night, were dreadful; and the surgeons brought up in this rough school were also rough. Now surgeons were refined, and ladies could attend operations, as there were no shrieks nor pains. Anæsthetics had lulled all such. It had lately been stated that anæsthetics were used in the Johns Hopkins Hospital in 1842, and the evidence seemed fairly conclusive. But as far as was known here Morton was the real introducer of ether in 1846, and in December of that year Liston used it in London. Mr. Heath remembered Snow, who was probably the first anæsthetist in this country. He worked out the subject from a scientific point of view, and constantly administered anæsthetics for Sir William Fergusson, and kept calm and cool under all emergencies. He had never seen a fatality occur under his administration. The surgical part of the profession owed a deep debt of gratitude to anæsthetists. The surgeon could do his work all the better if quite at ease as to the anæsthetic. A few times in the country it had occurred to him that a practitioner not accustomed to anæsthetics had offered to give chloroform to the patient. This was apt to mean that the surgeon gave the anæsthetic and did the operation too, a double duty which should not be imposed on anyone. The skilled anæsthetist attended to the anæsthesia, and not to the operation nor the surgeon; but left the surgeon to proceed in peace. He was glad to hear the Society numbered 50 members. Surgery was advancing, and he supposed anæsthetists were also progressing in numbers.

The Chairman, in reply, said that that Society was not superfluous; its members filled a niche which would otherwise be vacant. He hoped their numbers, however, were not more numerous than the wants of society required. Each anæsthetist must keep himself abreast of the day in science, otherwise he would inevitably lose his position. He must, in fact, be a master in his calling. Speaking of the coming *conversazione* on November 18th, he said that in November, 1847, Simpson introduced chloroform into practice in Great Britain, and that—without reference to what had passed before then in America—was the date on which they would be celebrating the jubilee next month. It was better for them not to have a rival demonstration to that in America last year, which celebrated the introduction of ether into that continent.

Mr. Joseph White proposed "The Visitors."

Mr. Pearce Gould, in replying, said that there was every sympathy between surgeons and anæsthetists; each was incomplete without the other. They were working together every day of their lives; and surgeons owed much to the skill of the anæsthetists. It should be their endeavour to raise the standard of education of every student, so that everyone should leave his hospital more or less a skilled anæsthetist.

The health of "The President" was proposed by Mr. G. H. Bailey; that of Mr. C. C. Braine ("The Secretary" to the dinner) by Mr. S. Rumboll of Leeds.

Some humorous songs were rendered by Mr. H. Schartau; Miss L. Johnstone also sang, and Mr. and Mrs. F. Upton gave short scenes and recitations.

PARLIAMENTARY BILLS COMMITTEE.

A meeting of the Parliamentary Bills Committee was held at the office of the Association, 429, Strand, W.C., on Tuesday, October 19th, 1897.

Present:

Dr. R. Saundby (President of Council) in the Chair.
Dr. C. Parsons, Treasurer.

Mr. D. B. Balding (Royston).
Dr. T. Bridgwater (Harrow-on-the-Hill).
Mr. G. Brown (London).
Dr. W. A. Carline (Lincoln).
Dr. W. F. Cleveland (London).
Dr. J. Ward Cousins (Southsea).
Mr. George Eastes (London).
Dr. R. Esler (London).
Sir Walter Foster (Birmingham).
Mr. A. Godson (Cheadle).
Dr. Wm. Gordon (Exeter).
Mr. J. H. Hemming (Kimbolton).
Dr. C. Holman (London).
Mr. Victor Horsley (London).
Mr. Evan Jones (Aberdare).
Dr. J. C. McVail (Partick).
Dr. A. R. Manby (East Rudham).
Dr. J. W. Miller (Dundee).
Mr. W. J. Morris (Portmadoc).
Dr. J. Murphy (Sunderland).
Dr. J. Rolston (Devonport).
Dr. G. E. Shuttleworth (Richmond).
Mr. C. R. Straton (Wilton).
Mr. T. J. Verrall (Brighton).
Mr. F. Wallace (London).
Dr. M. Ward (Twickenham).
Dr. W. L. Winterbotham (Bridgwater).
Dr. S. Woodcock (Old Trafford).

It was proposed by Dr. Murphy, seconded by Dr. Cleveland, and resolved:

That Dr. Saundby, President of Council, be requested to take the chair.

The minutes of the last meeting having been printed and circulated, were taken as read and confirmed.

Read resolution of the Council appointing the Committee:

Resolved: That the following be appointed the Parliamentary Bills Committee for the ensuing twelve months: The President; the President-elect; Dr. Robert Saundby, President of Council; Dr. C. Parsons, Treasurer, *ex-officio*:—Mr. S. H. Agar, Mr. D. B. Balding, Mr. Gilbert Barling, Dr. A. G. Bateman, Dr. R. W. Batten, Dr. T. Bridgwater, Mr. George Brown, Dr. J. S. Cameron, Dr. J. Cantlie, Dr. W. A. Carline, Dr. W. F. Cleveland, Dr. J. Ward Cousins, Dr. Henry Corby, Dr. G. W. Crowe, Dr. T. M. Dolan, Dr. E. Donaldson, Dr. Douglas, Brigade-Surgeon-Lieutenant-Colonel E. F. Drake-Brockman, Mr. George Eastes, Dr. R. Esler, Dr. Farquharson, M.P.; Sir Walter Foster, M.D., M.P.; Mr. E. H. Galton, Mr. A. Godson, M.B.; Dr. Bruce Goff, Dr. C. E. Goodall, Dr. W. Gordon, Dr. Ogilvie Grant, Dr. J. B. Hackett, Mr. J. D. Harries, Dr. A. J. Harrison, Mr. Ernest Hart, Mr. J. H. Hemming, Dr. Holman, Professor V. Horsley, Dr. W. H. Hughes, Mr. Evan Jones, Dr. J. E. Ker, Dr. A. R. Manby, Dr. C. W. Marriott, Dr. J. C. McVail, Dr. W. J. Mickle, Dr. C. H. Milburn, Dr. J. W. Miller, Dr. J. Wm. Moore, Mr. W. Lewis Morgan, Mr. W. Jones Morris, Dr. James Murphy, Surgeon-Major-General T. F. O'Dwyer, Professor A. Ogston, Dr. I. Owen, Mr. C. H. W. Parkinson, Sir W. O. Priestley, Mr. A. B. Ritchie, Dr. James Ritchie, Dr. John Rolston, Dr. G. E. Shuttleworth, Dr. R. Somerville, Mr. W. D. Spanton,

Mr. C. R. Straton, Dr. James Stuart, Surgeon-Major W. B. Thomson, Dr. J. C. Thresh, Dr. A. R. Urquhart, Mr. T. J. Verrall, Mr. F. Wallace, Dr. Martindale Ward, Dr. W. L. Winterbotham, and Dr. S. Woodcock.

Election of Chairman.

Mr. George Eastes said he had great pleasure in proposing:

That Dr. Robert Farquharson, M.P., be elected Chairman of the Committee for the ensuing year.

He had been several times associated with Dr. Farquharson, and he always found him a man of good business capacity, and easy to get on with; and, above all other points, the fact that he held his present position in the House of Commons was further proof of his ability.

The resolution, which was seconded by Dr. Cleveland, was carried unanimously.

Vote of Thanks to Mr. Ernest Hart.

Mr. George Eastes said that, before any other business was proceeeded with, he wished to propose a vote of thanks to the gentleman who had been Chairman of the Committee for a great number of years. They all knew that at the present time he was suffering from serious illness, and had recently undergone a severe operation, but he was pleased to say that Mr. Hart was recovering as well as could possibly be desired. For a great number of years the work of the Committee had been done by Mr. Hart, and one need only go through the different years' agendas to see the amount of work he had done through the Committee for the Association, the medical profession generally, and the community at large. For this Mr. Hart deserved the hearty thanks of the Committee, and he had great pleasure in proposing the following resolution:

That the members of the Committee unanimously tender their sincere sympathy to Mr. Ernest Hart in his illness and in the severe operation which he has lately undergone, and from which they rejoice to learn that he is now recovering. They desire further to express their high appreciation of the valuable and important services which Mr. Hart, whilst acting for the last twenty-five years as Chairman of the Parliamentary Bills Committee, has rendered through it to the British Medical Association, the profession generally, and the community at large. For this long-extended work the Committee tenders Mr. Hart its most cordial thanks. The members also hope that his health may be renewed, and he himself able to give this Committee much valuable assistance in the many anxious questions and problems which in the near future will probably engage its attention.

Dr. Holman said that as one of Mr. Hart's oldest friends he would be happy to second the resolution. He had had the pleasure of working with Mr. Hart for a great number of years, and he did not think they could say enough of the special work which he did for the Committee.

The resolution on being put from the chair was carried unanimously.

Amendment of the Pharmacy Acts.

The Committee then considered the memorial from the Scottish Midland and Western Medical Association (as printed in the British Medical Journal of July 24th, 1897, page 225).

After some discussion, in which varying views were expressed by Dr. Miller, Dr. Woodcock, Mr. George Brown, Dr. McVail, and others, it was proposed by Dr. McVail, seconded by Dr. Miller, and resolved:

That a Subcommittee be appointed to consider the memorial of the Scottish Midland and Western Medical Association, and be instructed to offer to the Association an opportunity of laying before the Subcommittee reasons in support of the memorial, and afterwards to report to the Parliamentary Bills Committee, and that the Subcommittee consist of Mr. Wallace, Mr. George Brown, Dr. McVail, Dr. Bruce Goff, and Dr. Farquharson, M.P.

A letter was read from Sir William Priestley, M.P., stating that in consequence of his engagements he could not serve on the Committee.

Reappointment of Subcommittees.

It was proposed by Dr. Saundby, seconded by Dr. Gordon, and resolved:

That the Subcommittee on Army Medical Reform, consisting of Dr. Bridgwater, Mr. G. Brown, Dr. Ward Cousins, Dr. Gordon, Mr. Ernest Hart, and Dr. Milburn, be reappointed.

Dr. Saundby proposed, and Dr. Shuttleworth seconded, the following resolution, which was carried:

That the Subcommittee on Incipient Insanity and Lunacy Reform, consisting of Dr. Cleveland, Dr. Douglas, Mr. George Eastes, Dr. Mickle, Dr. Shuttleworth, and Dr. Urquhart, be reappointed.

Medical Officers of Workhouses and the Certification of Lunatics.

Questions relating to the duties of medical officers of workhouses and the certification of lunatics, as to which documents were submitted, was referred to the Lunacy Reform Subcommittee.

Royal College of Surgeons: The Army Medical Service.

At the quarterly meeting of the Council of the Royal College of Surgeons, held on October 14th last, a letter was read from the Parliamentary Bills Committee of the British Medical Association, expressing the hope that the President, with one or more members of the Council, would join a deputation to the Secretary for War on the subject of the Army Medical Service, and enclosing copies of a report of a Subcommittee on the question of advancing army medical reform. The matter was postponed to the next meeting, but copies of the report mentioned were ordered to be sent to each member of Council.

WOMEN AS VETERINARY STUDENTS AND SURGEONS.

In the Outer House of the Court of Session at Edinburgh, before Lord Kincairney, counsel were heard on October 22nd, on the Procedure Roll, in an action by Principal Williams and his son, William Owen Williams, of the New Veterinary College, Edinburgh, against the Royal College of Veterinary Surgeons.

Mr. Abel, who appeared for the defenders, said that the question underlying the case was whether the defenders, the Royal College of Veterinary Surgeons, were bound to admit females to examination preparatory to their qualifying to practise the profession of veterinary surgeons. The action was raised not by anybody who had been refused admission to examination by the defenders, but by William Williams and his son, who were members of the College, and carried on a teaching institution in Edinburgh for veterinary students. These pursuers asked that it should be found and declared that the defenders were bound to admit to the examinations held by them in Scotland, in terms of the Veterinary Surgeons Act, 1881, all students, whether male or female, attending the New Veterinary College, Edinburgh; and that the defenders were not bound to exclude such students from examination merely because they were of the female sex. Interdict was also asked against the defenders excluding such students. Then there followed a conclusion for £50 of damages. The last conclusion for damages was the only one in which the pursuers were themselves directly interested. At this stage of the case two preliminary pleas had to be considered. These were pleas of no jurisdiction and no title to sue which were stated by the defenders. As regards no jurisdiction, there were two points for consideration. One of them might turn upon a question of fact or it might not, and the other was a pure question of law. The defenders submitted that their incorporation was domiciled in London, and that, apart from arrestment to found jurisdiction or something similar, the Courts of Scotland would have no jurisdiction over them at all. The second point arose in this way. The pursuers, as they said, had arrested funds in Scotland belonging to the defenders, and the defenders' answer to that was that this was not an action of the kind in which jurisdiction could be founded by arrestment, because it was an action of declarator involving a question of status, and not, properly speaking, a petitory action in which the pursuers were suing anybody who would be bound to pay them money or to account to them for any sums of money in their hands. The defenders had no property of any kind in Scotland, and although the pursuers carried on an institution of their own for teaching, they really had no direct connection with the defenders, nor had the defenders any control at all over the affairs of the pursuers in the carrying on of their educational institution. The only bond of union between them was that, if any stu-

dents attending the pursuers' college desired to get the only diploma for veterinary surgery issued in this country, they must go to the defenders in order to get the diploma. The pursuers averred that a lady had applied to the defenders for liberty to enter for examination, and that that application was refused. The defenders, Mr. Abel pointed out, did not seek to say that Mr. Williams should not allow ladies to attend his college and to become veterinary students. He might do that if he liked, and he might grant to these ladies such certificates as he liked. All the defenders said was that they were not bound, and were not entitled, under their charter, to admit lady students who came from the pursuers' college to their professional examination, and that they were not bound, and were not entitled to give such lady students their diploma, which was equivalent to a degree.

Lord Kincairney asked if it was the same as if this Court were asked to declare that females were entitled to a degree in the University of Cambridge?

Mr. Abel: Exactly the same. There was, he continued, nothing in the record to show that the pursuers would suffer any inconvenience or be in any way prejudiced by going to the proper and most convenient forum, which was in England. The position the defenders took up upon the question of title was simply this, that if anyone had a right to raise this question in the shape of a declarator it was the student who had been refused admittance to the examination, and not anybody who had not suffered in that way, or who had no direct connection with the college itself. The pursuers did not come forward pleading that they were likely to suffer except through the medium of their separate College in Edinburgh, which was a different body altogether from that of the defenders. Even students only came to have a title to raise the question after their connection with the teaching college was at an end. So far as this particular question was concerned the pursuers, as principals of a college in Edinburgh, were third parties altogether, and had no title to raise the particular question which they here sought to do.

Mr. Daniell, for the pursuers, said that his friend was adding a great deal to what fell to be said in the case by laying so much stress on this question of jurisdiction. The point at issue really was whether it was lawful or not unlawful to admit women as members of the veterinary profession. That question had arisen in Scotl nd in a Scottish veterinary college, and the Royal College of Veterinary Surgeons, which was the body entrusted by its charter with the duty of seeing to the examination of all the students of all the colleges of the United Kingdom, had done the Scottish College a wrong in Scotland. The wrong done in refusing to carry out their statutory duties and their duties under their charter was a wrong done to people in Scotland, and a wrong done in Scotland, so far certainly as regards its effect. When a wrong was done or threatened to be done in Scotland to a Scottish College it was natural that a remedy should be sought in the Scottish Courts. There might be, of course, something in the charter, there might be something statutory which would oust the jurisdiction of the Scottish Courts. The Acts of Parliament referred to on record imposed restrictions upon Scottish people, imposed regulations upon them, made them carry out certain courses of action, and if Scottish people were acting in accordance with all this, and then were thwarted and stopped, so as to be hindered in doing what they were lawfully entitled to do, it would need something very special to show that they must go to London in order to get a remedy which was available at their own doors. It was a matter of complete indifference whether letters passed between the Edinburgh secretary and the London secretary or not. There were two secretaries of Boards of Examinations, both of whom were appointed by the Council of the Royal College. One of these was appointed to act in Scotland and the other in England, and the secretary acting in Scotland, instead of carrying out his usual course of simply admitting the pursuers' student, referred the matter to London. For some reason the student was refused admittance, and the pursuers said that was an obstruction to them in their business in Scotland. This refusal to admit a particular student was a threat not to admit any more. The question had arisen, and had to be settled. These defenders, Mr. Daniell submitted, had been properly cited. This incorporation did a great deal of business in Scotland. It was surprising to know that these defenders received students from one veterinary college in London, none throughout the rest of England, none in Ireland, and from three colleges in Scotland. As to examination fees the defenders derived the greater part of their income in Scotland, and did their business of earning these fees by holding examinations. This case did not raise a question of status, except in the most indirect sense. It was an action for the performance of a statutory duty, and an action of damages for failure to perform that duty. As to the question of title to sue, in the first place the pursuers were members of the defenders' Council, and they had interest to see that the Council did their duty in Scotland. It might be said that they were the very best men to do it. Her Majesty had not conferred any authority whatever upon these defenders to inquire into the religion, nationality, or sex of the students, and the pursuers contended that in raising such points as these and refusing to perform their duty on such pretexts, the defenders were acting *ultra vires* and going outside their powers altogether. The power of admitting and qualifying students did not lie with the defenders, but with the pursuers. Then the pursuers had a personal pecuniary interest in this matter, and a legal right to be protected by this Court. He asked that the pleas of no jurisdiction and no title to sue should be repelled.

After further debate judgment was reserved.

PHARMACY THIRTY YEARS AGO AND NOW.

Pharmacy as it was thirty years ago, and as it is at the present day, formed the subject of the inaugural address given to the students of the Sheffield School of Pharmacy on October 14th by Mr. Walter Hills, President of the Pharmaceutical Society of Great Britain.

Thirty years ago the business of a chemist and druggist was an open one; no examination or registration was required of the individual who kept a shop, sold drugs, and dispensed prescriptions. The Pharmacy Act, making examination and registration compulsory, did not come into force until 1868. In those days medical men prescribed drugs freely, and in town and country alike old-established pharmacies showed every sign of prosperity, and furnished fairly good incomes to their owners. Official remedies were the rule and not the exception, and the medicaments prescribed were such as could be prepared by the pharmacist himself. There were no limited companies trading in drugs and dispensing prescriptions, and "cutting" was unknown. A great change had occurred. Patients were now dosed less frequently, and their medicines were often prescribed in a concentrated form. There was a growing tendency on the part of medical men to prescribe less physic, which Mr. Hills considered might be partly due to the fact that in the medical curriculum, notwithstanding its extension, too little time was devoted to the study of materia medica, and the art of prescribing, and partly to the more accurate knowledge which was now undoubtedly possessed of the action of drugs. There were other causes also which had contributed to the lessened demand for medicines. The general health of the public had vastly improved during the last thirty years; patients were more fastidious, and required medicines in a more palatable form than formerly. Enterprising manufacturers now produced a great variety of specialties which met the apparent requirements both of prescriber and patient, but the sale of which did not bring so much grist to the mill as the home-made preparations. The great lowering of prices had been mainly brought about by the system of co-operative trading, and the method of cutting prices, adopted apparently by necessity. These facts had introduced methods of business almost unknown to the older pharmacists, which could not be regarded as satisfactory.

In order to meet this altered condition of things Mr. Hills advised the students to consider in what direction the course of medical knowledge and practice was now tending, and in what way the pharmacist might, under these altered conditions, be of increasing use to both doctor and patient, and at the same time thereby improve both his reputation and his pecuniary position. In former days the doctor was too often disposed to treat the symptoms of disease by a more or less empirical use of drugs; the aim of his highly trained suc-

cessor is not only to alleviate present suffering, but also to endeavour to trace the cause of the mischief and thereby put himself in a better position to deal with the disease and to prevent its recurrence. A wider knowledge is required of the pharmacist, and he should endeavour to become a scientific expert to whom the physician can look for assistance in the examination of urine, of sputum, etc. Such work undertaken by the pharmacist will forge another link between him and the doctor, resulting in benefit to both as well as to the public. The pharmacist expert would soon become known, and thereby obtain a fresh source of income. The closer relationship established between the doctor and chemist would help to expedite a more general transference of dispensing from the surgery to the pharmacy. In order to obtain a position satisfactory to himself and creditable to his calling it is necessary that the pharmacist should, at the outset of his career, have a good general education. Much of the chemical knowledge and skill required for his business should be obtained behind the counter and in the laboratory during the period of apprenticeship, and this knowledge completed by a definite course of teaching, both theoretical and practical, in a well-equipped school of pharmacy before entering for the qualifying or minor examination of the Pharmaceutical Society. The chemist and druggist should not be satisfied to rest with this examination, he must undergo that course of training which will enable him to surmount the major examination and become a pharmaceutical chemist. The increased knowledge he will obtain by so doing will be of the greatest value to him in his career as a pharmacist, and confer upon him that educational stamp which brings with it respect and confidence.

THE ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD, 1895-96.

[First Notice.]

This volume deals with the twelve months ending March, 1896. After paying a well-deserved tribute to the late Mr. T. W. Thompson, and referring to the permanent and temporary appointments of Drs. Wheaton and St. George Mivart respectively, Sir Richard Thorne Thorne passes to a consideration of the vaccination returns of England and Wales in so far as they relate to children born during 1893.

Sir Richard has again to deplore the story told by the returns, the defaulters under the Vaccination Acts amounting to 15.7 per cent. of births in the provinces, and to 18.2 per cent. in the metropolis, the last figure, it is true, showing a slight check received in the preceding annually increasing default in London, whilst the percentage was still further augmented in the provinces. In the matter of counties which are in bad case in the direction of default, we find Bedford with 58.0 per cent., Leicester with 67.9, and Northampton with 55.5 per cent.; whilst on the other hand we have Cambridge with 6.2, Chester with 6.4, Huntingdon with 2.9, and Glamorgan with 4.6 per cent. We need not multiply the examples of very numerous instances of large default, nor need we dwell upon the relatively few cases of good results. The cases returned as "insusceptible" were again numerous, being at the rate of 34 per 10,000 births in the provinces, and 707 in the 133,083 births, or 53 per 10,000, in London; whilst among 95,677 consecutive primary vaccinations by the public vaccinators of the Local Government Board not a single instance of insusceptibility has been chronicled. Yet we have 138 cases in Middlesex, 505 in Lancashire, and 410 in the West Riding. At the Board's Animal Vaccine Station in Lamb's Conduit Street calf-to-arm vaccinations yielded an insertion success-rate of 95.5 per cent., against 65.3 per cent. when stored calf lymph was used.

Sir Richard demonstrates in simple, yet forceful, style the large amount of sanitary work accomplished by his staff of medical inspectors both in local conferences and inquiries. In addition, however, to duties fulfilled out of office, there have been numerous conferences at office, local sanitary bodies having taken advantage of the opportunity of securing the advice of the permanent officials of the Department. Thus points arising out of hospital and by-law proposals have been in this way settled, and time and labour saved to all parties. The local conferences, inquiries, and etiological and sanitary investigations during 1895 were many in number, and included instances of proposed loans for hospitals, port sanitary administration, the prevalence of disease, inefficient enforcement of the Public Health Acts, county council complaints, epidemic skin disease and small-pox, defects of scavenging and water supply, and other cognate matters.

A very interesting double inquiry was that instituted into outbreaks of enteric fever at Chipping Wycombe and at High Wycombe, the latter village receiving into its wells, under certain local conditions, the effluent from the sewage farm of Chipping Wycombe, and having in this way contracted later, by the way of its drinking water, the fever which had earlier caused specific pollution of the sewers and sewage farm of the borough. The two reports, by Drs. Wheaton and Buchanan respectively, are reproduced in the volume, and furnish significant reading.

The report by Dr. Buchanan is, as the medical officer of the Board points out, the more interesting, since it illustrates a danger which may devolve on one community as the result of works carried out solely in the interests of another community. A report on waterborne enteric fever at Loddon, in Norfolk, the result of a "soakage well" near the pump well of the village, is also reproduced; as also one on diphtheria at Llanfynydd, in Carmarthenshire, wherein is illustrated the favourable foothold which preventable disease obtains where persistent sanitary neglect lends its aid.

Diphtheria and "pneumonia" at Flint form the subjects of a report by Dr. Reece, the latter malady making its appearance whilst the people were suffering from privation and want, and whilst the town was undergoing a visitation of epidemic influenza. Dr. Copeman's report on epidemic skin disease in Enfield Workhouse shows once again the part a particular supply of milk has played in the causation of the disease. There is also reproduced the introductory pages of Mr. T. W. Thompson's report on his inspection of certain South Wales valleys, wherein he discusses problems of main drainage and the like.

The notification returns for certain diseases in London and some eighty provincial districts quarter by quarter are given in customary fashion, and a brief summary of cholera prevalences in Europe in 1894 and 1895 takes the place of the historic record which would have been given if one of the staff, to whom the work had been entrusted had not been temporarily incapacitated. We trust the record will be preserved and placed in evidence in a later volume. Once more the year passed without the spread of cholera to anyone living in this country.

THE ARMY MEDICAL SERVICE AND PUBLIC OPINION.

The report and appendix drawn up by the Parliamentary Bills Committee on the Army Medical Service has recently been sent to a number of leading papers in various parts of the kingdom, and the articles which are now appearing present a striking unanimity of opinion. The public is evidently becoming more and more aroused to the real state of affairs. One well-known paper, lately bitterly hostile, has just declared itself on the side of the Committee, and closes an able and thoughtful article with the words: "The remedy for the present discontent is undoubtedly the formation of an Army Medical Corps with army rank and simple military titles."

The *Belfast Newsletter* says: "The demands preferred ought to be conceded at once. If the military authorities will not do so, pressure must be brought to bear upon Parliament through public opinion." The *Birmingham Gazette* writes: "The Army Medical Service requires to be placed upon a new basis, and we trust the public will support the medical profession in their efforts to secure a change."

The *Cork Examiner* says: "The unprejudiced observer must be struck by the justice of the case presented by the profession, and the monstrous indifference exhibited by the military authorities." The *Cork Herald* points out that a service recruited as the medical service now is cannot possibly be efficient. "It is perfectly obvious that this state of things cannot long continue, unless the organisation and working of

the service are to break down as hopelessly as was the case during the Crimean war." The *Daily Chronicle* says: "It is impossible, with due regard to the efficiency of the army, that the present state of things should continue." The *Dublin Daily Express* "cannot help regarding such a continuous denial of justice as a culpable abuse of power." It points out that the nation's "sense of humanity would be shocked at the thought of the poorest subject of the Queen being allowed to die of neglect," and asks, "How does it happen, then, that the soldier's life is not deemed worthy of equal attention?" The *Daily Nation* writes: "If we are not mistaken, one of the inducements held out to young men to enlist is the certainty of receiving medical assistance if sick or wounded. At present there is no guarantee that this promise can be fulfilled in those circumstances in which its fulfilment would be most essential. This is a serious question, and one which ultimately concerns the soldier."

The *Derry Journal* goes further. "Think of what the feeling would be if a community discovered that efficiency of medical service in the public hospitals was being deteriorated by autocratic abuse of power in the controlling bodies. No community would long tolerate anything of the sort." "Why, then, should it be tolerated that the Army Medical Service should suffer in its efficiency by a sort of drumhead dominancy and doggedness to which it is subjected? Does the country value the care of its soldiery, sick or wounded in the field, so lightly?" The *Dundee Advertiser* speaks of the War Office as "the most immovably wooden-headed of all the departments." The *Freeman's Journal* describes the alleged reasons for the present War Office policy of delay in reform as "so flimsy and so transparently illusive that the public will form its own opinions as to the motives of the policy," and adds that "if Parliament does its duty the reform may come without the disaster." The *Irish Daily Independent*, speaking of the formation of a corps with army rank and military title, says, "The red-tape officials of the War Office may see something terrible in it, but the public, who are the real masters, and whose voice will yet prevail, see nothing in it but what is moderate and fair." The *Irish Times* alludes to the recent talk of increasing the strength of the army, and goes on to say, "The men enlisted in greater number must be assured—this comes at the very beginning, and will be the essential to a good start of any extended plan—that their health will be cared for in camp, or on the march, or among the haps and risks of the field. An army imperfectly officered as to its medical provision ought not readily to obtain recruits." In another part of the same article it says: "We are confronted with the too manifest disposition of the War Office to deny justice to the medical officer against the clearest demonstration of the wrong done to him." The *Liverpool Mercury* thinks the deficiencies of the service would probably disappear if an army medical corps with military rank and title were formed. The *Manchester Guardian* points out the absurdity of regarding army medical officers as non-combatants. The *Newcastle Daily Journal* also alludes to the proposed increase of the army, and remarks: "Whilst, however, that is no doubt a very desirable movement, it is at least quite as desirable, and even somewhat more reasonable, that adequate care should be taken to preserve the lives and the health of the soldiers we already possess. It cannot be said that, from this point of view, the situation is at all satisfactory." "What is wanted, evidently, is a little pressure to be brought to bear on the military martinets of the army, and that pressure the authorities seem to be reluctant to administer. The public ought to help them." The *Northern Whig* considers that the public "will very shortly insist upon knowing why the service is allowed to remain so disastrously unattractive," and that "however the War Office officials may kick against it, events show very plainly that thay must in the end abandon their hidebound prejudices and their unreasoning fears." The *Western Morning News* gives its opinion that "When military titles are conferred in all other branches of the army—including the Army Service Corps and the Engineers—there is no substantial reason for making an invidious distinction in the case of the doctors." At the same time it very rightly adds, "If it were the title alone for which demand was made, we are not sure that our sympathy with that demand would be very strong." It concludes a very careful survey of the whole question with a conclusive sentence in favour of an army medical corps with army rank and simple military titles. The *Yorkshire Post* notices that "The War Office seems to have held all along that no recommendations made by committees" (alluding to Parliamentary Committees) "for improving the army status or the professional status of the medical officers should be carried out," and believes "that the judgment of the country will be with the medical profession, and that there should be little or no difficulty in impressing that judgment upon the War Office by means of a vote or discussion in the House of Commons."

There is, however, one dissentient voice. The *Globe* is "amused by the report." "The army medical profession has no real grievance at all.....but are clamouring, like children, for a rank which they are in hopes will enable them to conceal their identity as medical men, and enable them to pose as combatant officers" (!).

To those who are endeavouring to secure for our army a thoroughly efficient medical service, and for our Army Medical Service the concession of what is, after all, merely reasonable and just, it must be most gratifying to find that public opinion is so steadily coming over to their side. We know that to secure the support of every fair-minded and clear-thinking individual, nothing is needed but a full knowledge of the facts, and before the facts the present opposition will certainly be borne down. As one contemporary puts it: "The indifference and obstinacy of the War Office must inevitably go down before the determined action of the medical profession if the present policy is persevered in, as there is every prospect that it will be."

THE CONDITION OF THE RIVER BRENT.

IN Mr. Slater Grimley's report on the condition of the River Brent, which, at his request, was published in the BRITISH MEDICAL JOURNAL of October 2nd, he suggested that a committee should be appointed to visit and report upon the sewage works on the Brent from Hendon downwards. We at the same time cordially endorsed Mr. Slater Grimley's suggestion, with the qualification that we assumed that the committee would be a disinterested committee. We cannot accept the resolution of the Hendon Ratepayers' Association, mentioned in the following letter, as a satisfactory substitute for the proposed inquiry by a disinterested committee:—

SIR,—I am instructed to inform you that at a meeting of this association, held in the Public Hall, Hendon, on Wednesday evening last, when Mr. S. S. Grimley, mentioned in the resolution herewith, read an interesting paper on Sewage Disposal at Hendon, the resolution, a copy of which I enclose, was unanimously carried.—Yours faithfully,

LOUIS E. AULAGNIER,
Honorary Secretary Hendon Ratepayers' Association.

That this meeting of the Hendon Ratepayers' Association, having heard the very full and lucid paper of Mr. S. S. Grimley, engineer to the Hendon Urban District Council, desire to place on record their satisfaction with the present administration of the sewage farm, and expresses its opinion that the charges made by Mr. Bailey Denton in his report to the BRITISH MEDICAL JOURNAL on the effluent at the Hendon Sewage Works, dated August 21st, 1897, had no foundation in fact.

That copies of this resolution be sent to the Editors of *London*, the *Daily Mail*, and the BRITISH MEDICAL JOURNAL, and Mr. Bailey Denton.

GENERAL MEDICAL COUNCIL.

ELECTION OF DIRECT REPRESENTATIVE FOR ENGLAND.

WE have received the following letter for publication:

To the Registered Medical Practitioners of England and Wales.

LADIES AND GENTLEMEN,—Accept my thanks for the support accorded to me at the recent election of a representative on the General Medical Council.

I still adhere to the opinion that general practitioners ought to be represented on the General Medical Council by a general practitioner, and shall be glad on any subsequent occasion to place my services at your disposal.—I remain, your obedient servant,

Preston, Oct. 25th. JAMES A. RIGBY.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1897.

UBSCRIPTIONS to the Association for 1897 became due on January 1st. Members of Branches are requested to pay the same to their respective Secretaries. Members of the Association not belonging to Branches are requested to forward their remittances to the General Secretary, 429, Strand, London. Post-office Orders should be made payable at the General Post Office, London.

British Medical Journal.

SATURDAY, OCTOBER 30TH, 1897.

THE SAFEGUARDING OF WATER SUPPLIES.

N article published last week, we pointed out that the sad xperience of Maidstone ought to have the effect of impressing pon the public mind the need for more effective control of ıe ground surrounding the springs or reservoirs in which ater for public supplies is drawn or stored. A report just ssued by the Local Government Board comes as a further lustration of the importance of this matter.

On rising from the perusal of this report one can only xclaim: Lucky Portsmouth, unlucky Maidstone! The good ortune of Portsmouth in having so far escaped any serious utbreak of waterborne disease rather by accident than by ood management is one element in its luckiness, another is ıat it had medical and engineering officers in its garrison ho could, through the War Office, get the Local Govern- ıent to order an inspection of the whole plant and athering ground of the Portsmouth waterworks. Dr. heodore Thomson's report, dated within a year of the first pplication from the War Office, and printed under date only ome eighteen months from that application, though not eaching us till somewhat later, is accompanied by a geologi- il report by Mr. Whitaker of the Geological Survey, who ccompanied and assisted Dr. Thomson in his inquiry. here are other appendices, chiefly analytical and meteor- ogical, and three maps, of which only the geological one ves the scale, as well as a geological section, also of known ale.

The water is from springs chiefly in the chalk and green nd. These are grouped at Havant, Bedhampton, and arlingham. As to the second of these sources, the sur- oundings, and the firm bed of clay covering the chalk here dwellings are, render it likely that when certain works ow in progress are finished no great fear of pollution need e apprehended. Of the Havant supply the report speaks ss favourably. There are houses so near the unprotected alk on the north of the works that there is probably sewage om leaky cesspits in the gravel over the chalk, and a pol- ted stream skirts two sides of the waterworks enclosure. rue there is a puddle trench of uncertain depth, but other rcumstances—an inverted spring close to the works, and e existence, in the neighbourhood of certain more distant ibutary springs, of serious possibilities of contamination— row strong suspicion upon the safety of this supply. The esent state of the third supply is also fraught with danger. In any case should pumping, especially of the two first-named supplies, lead to much draining of the underground water the risk of disaster would be greatly enhanced.

The special report on the outbreak of typhoid fever at King's Lynn, which is published in another column, affords another example of the serious consequences which inevitably follow neglect to guard the sources of water supply. The recurrence of the disease in epidemic form had long been dreaded by those who remembered the state of things which was shown to exist some years ago. The necessity for improvement was acknowledged, but delays were interposed, and these delays have now cost many valuable lives.

Is it not time that some systematic examination, such as this at Portsmouth, was undertaken of all large water supplies? In some large towns the actual purchase of the gathering ground is contemplated. Leeds this year obtained such powers from Parliament in regard to some of their waterworks; the farmer, householder, owner of tributary lands will not protect his neighbouring town from water pollution, and present sanitary powers are too weak to make him. Judges insist on the proving of pollution, common sense requires its prevention, and for this we must have inspection and control.

We have in the past repeatedly said that typhoid fever ought to be classed very close to those diseases which may be ranked almost as manslaughter, because they are due to eminently preventable causes. Presently the alarm which now exists in the public mind will die down, and small sporadic attacks will pass unnoticed; and neglects, whether of individuals, or corporations, or of companies, will go unpunished, even by the condemnation of public opinion. The Local Government Board should now take upon itself the survey of the drinking water supply throughout England, and should call urgently upon those who are responsible for it to take the necessary steps for supplying pure drinking water, and for ensuring security from the risks which follow the use of contaminated water. Neglects of this terrible and fatal kind should be made directly and easily open to a demand for compensation to the sufferers and their survivors, and an easy and sure remedy should be provided by the common law. We have reduced the mortality from typhoid in this country by at least one-half during a short series of years by persuasion and enlightened reforms. These, however, evidently do not suffice to meet what is a great present danger, and an alarming peril still hangs over villages as well as towns, over cottages as well as palaces. Successive occurrences among royal persons have awakened at times the people and the Government from apathy, and so also we may expect that this Maidstone outbreak will lead to some considerable reforms. Among these we claim that the first should be the thorough mapping out and survey of the drinking water supply of reasonably suspected districts, and an improvement in the stringency of the law.

PLAGUE PROSPECTS IN INDIA.

The immediate outlook in India with regard to the prospect of an extension of the epidemic of plague is not reassuring. The actual scare of plague as an ailment is over; the European finds consolation in the fact of possessing an almost complete immunity; the native has long ceased to dread plague, and at the present moment—in Bombay, at all

events—holds cholera in much greater respect. Whilst plague still maintains its footing in Bombay, Poona, and in several other places where for twelve months past we have been accustomed to its presence, we are having now daily reports of plague cases occurring in towns and districts far separated from the original foci of disease.

In the Punjab, the Central Provinces, the peninsula of Cutch, and in Sind plague cases crop up and serve to increase the tension of the public mind and to cause a severe strain upon its patience. There is no doubt that we get from the great centres and the railway routes timely announcements of the appearance of plague; but there are huge tracts of intervening country where Europeans but seldom come, and where there is reason to believe that the wave of plague holds its course in an ever-widening circle. When, in the course of its expansion, it touches a railway or great trade centre, the knowledge that the disease has reached it is at once declared with that straightforward sanitary honesty characteristic of British rule in all parts of the world.

In consequence of such verified reports, no doubt search for plague cases is made, and steps taken to treat the sick, but by such means alone plague may continue until it has expended its full force, *seriatim*, upon the peoples of the Western and North-Western regions of India. Plague is so definitely a communicated disease by either soil, house, or domestic contact, that its course may be not only stayed, but anticipated. It is only by anticipating the malady that plague can be eradicated. Chasing the disease is useless, and where "stamping out" is intended, a vigorous "forward" policy must be followed. There is no doubt that this was thoroughly grasped in the Bombay Presidency, but it is to be feared that the system of "anticipating" the disease, if not laid aside altogether, has been considerably modified.

The advent of plague is the thing to guard against; once it has laid hold on a community it is difficult to check its spread. Still, when once it has appeared, isolation of the infected and strict segregation of all the inmates of the dwelling may effect much. The house must be disinfected, and the village, or even the whole town, placed in strict quarantine. This means a rigid enforcement of law, an adequate supply of men to do the work of scavenging and searching, and a liberal allowance of money with power to spend it. When such stringent measures, as are here sketched, are enforced upon a European or a native community, they are apt to be viewed with anything but favourable eyes, and there are but few citizens with public spirit sufficient readily to avoid an attitude which tends to thwart the object in view. When any medical or sanitary authority proposes any radical scheme of prevention he is too often looked upon as an alarmist, and as a "Jingo" in sanitation. Further, in India he is put down as one not in sympathy with the people of the country. This is no doubt a pretty phrase, but when analysed it will be found as a rule to mean that he is not in sympathy with prejudice and ignorance.

The step which the Government of the Bombay Presidency found itself forced to take in superseding the Bombay Municipal Council shows the nature of the measures which may be necessary; that body was responsible for the sanitary condition of the city, but it has been proved absolutely necessary to appoint trustees to carry on the work of sanitation in the city. The acquisition of municipal powers by the natives of India has been an experiment perhaps a little to suddenly thrust upon them. At the very first strain th machinery broke down, and its supersession was natural attended by heart burnings and harsh words and thought But the health of a great port such as Bombay is much to serious a subject to be made a subject of experiments ho ever well intentioned, and it was high time that the pow was given to those who know what modern sanitation mea and have the courage to carry it out.

CIRRHOSIS OF LIVER AND INTEMPERANCE.

THE United Kingdom is by no means a temperate country a regards the consumption of alcoholic drinks, though th Briton is far better conducted in this respect than he was a the date of the Queen's accession, an epoch when the la was less solicitous for his welfare than it is at presen Through learning culled from popular works and temperan lectures the public have an idea that the drinker of spiri dies miserably with a hob-nailed liver, the result of chron alcoholic poisoning of that organ. The profession substant ally supports this idea, for though British physicians reco nise other forms of fatal disease due to intemperance, the still understand "hob-nailed liver" and "gin-drinker liver," to be synonymous with cirrhosis, and they still teac that neat spirits are more potent in causing cirrhosis tha wine or malt liquors.

There is a source of fallacy in this theory. Gin-drinkin was once very prevalent amongst the classes who seek ho pital relief, classes who yet consume other spirituous liquo too often in excess. Their fatal malady could be trace beyond death, and diagnosis was verified by the medic registrar and demonstrator of pathology. The Briton wh can afford to drink wine does not often die in a hospital, n do his friends allow of pathological research. Hence it too much taken for granted that abuse of wine does not fr quently cause cirrhosis.

Professor Lancereaux quite recently brought forward son remarkable facts and theories before the Paris Académie Médecine. He proved that undeniably cirrhosis of the live common amongst the poor of the French capital, is ve often caused by intemperate indulgence in wine and wine alone, the well known *vin ordinaire* of the wine shop An Englishman might conclude that the wine of the *estamin* or *tapis franc* may be fortified with cheap spirit for inspiriti the proletariate, just as the *vin ordinaire* for the benefit tourists at hotels is doctored with logwood and aniline. B Lancereaux says nothing about the Paris workman's wi being "fortified." He insists, however, on another form adulteration, to which the Académie devoted much atte tion—the addition of plaster-of-Paris in order to give a "dry flavour. On the strength of this fact he goes so far as advance a new theory. Cirrhosis of the liver, he believe is not due to alcohol, but to certain salts which are in sol tion in intoxicating drinks. His own statistics seem to to include the same source of fallacy as is found in Engli statistics. Out of 210 cases of cirrhosis under his own ca where the patient was clearly intemperate, the "especi vanity," as Mr. Weller, senior, would say, was distributed follows: Excess of wine alone, 68 cases; excess of wi brandy, rum, and absinthe more or less combined, 126 case excess of wine and beer, 12 cases; and excess of wine a

ader, 4 cases. Hence he concludes that in Paris wine is the efficient cause of hepatic cirrhosis, as excess of that alcoholic drink was marked in all his cases, and often was the sole agent in causing the disease. On the other hand, Parisian workmen all drink cheap wine, whilst the British inebriate in humble life nearly always takes spirits. Hence we have no evidence that spirits may not be a yet more "efficient" cause" of cirrhosis.

Still there remains Lancereaux's theory, that cirrhosis is due to mineral salts, and not to alcohol. Gin is not doctored, we believe, with mineral salts. Of the "plastering of cheap claret, however, there can be no doubt. The epicure loves the flavour of a naturally dry wine for its own sake. On the other hand, it is not certain that the uncultured sot and the coarse drinker in any class look on dryness as a sweet sensuous delight. They choose a sham "dry" wine because their stomachs are disordered, and they hate anything sweet. Thackeray loved to see a man of forty eat a jam tart with relish, and we know what he meant. The drinker cannot tolerate sweetness, whilst he knows that acidity will upset him. Hence the "dry" flavour is preferred as being, to the drinker, neither nauseous nor irritant. Therefore plaster is freely put into cheap claret for the Paris poor. Lancereaux now demonstrates that it is the sulphate of potash, which exists in considerable quantity mixed with the sulphate of time, that damages the liver so as to cause the well-known cirrhotic changes. He and Couturieux have found that sulphate of potash mixed with articles of diet undoubtedly causes the well-known changes of the connective tissue of the liver which bring about the appearances characteristic of cirrhosis. The administration of pure alcohol in the higher animals never seems to cause hepatic cirrrhosis, though all observers find that it produces true and typical fatty degeneration. This change, it appears, is seen in absinthe drinkers. Lancereaux gives us a bit of information specially important when this subject is considered in a general sense, and beyond the banks of the Seine. "The proportion of salts of potash" he states, "is relatively strong in certain wines and in some beers."

The distinguished French pathologist is outless more or less correct n his conclusions about wine and hepatic disease in Paris, and it would appear that "some" kinds of beer contain the noxious salt. Unfortunately, we once more face negative evidence. He implies that spirits, especially absinthe, do not contain the salt. Absinthe drinkers do not get cirrhosis. What, however, causes the disease in the British drunken operatives; do some spirits, like "some beers," contain sulphate of potash? The matter is worth investigation. Till it is made clear, we doubt if British physicians will abandon the theory that spirits—at least British spirits—cause cirrhosis through the direct injurious action of alcohol on the liver.

At the public meeting of the Royal University of Ireland, held in Dublin on October 22nd, the honorary degree of Master of Obstetrics M.A.O. (*honoris causâ*), was conferred on John W. Byers, M.A., M.D., Professor of Midwifery and Diseases of Women and Children, Queen's College, Belfast, by the Chancellor of the University, the Marquis o Dufferin and Ava, K.P. On the same occasion the degree of Doctor of Science was conferred upon Mr. Walter Ernest Adeney, F.I.C., F.C.S.

The President and Council of the Society of Anæsthetists have issued invitations to a *conversazione* to be held at 20, Hanover Square, on Thursday, November 18th, when an address will be delivered by Dr. Dudley Buxton.

Her Majesty the Queen has been pleased to confer the Jubilee Medal upon Sir George Duffey, President of the Royal College of Physicians in Ireland, and also upon Sir William Thomson, President of the Royal College of Surgeons in Ireland.

Dr. Pavy will give a lecture before the Royal College of Physicians of London on Points Connected with the Pathology and Treatment of Diabetes at the Examination Hall on the Embankment on Thursday, November 11th, at 5 o'clock. The lecture will be supplementary to Dr. Pavy's Croonian Lectures delivered in 1894.

At a meeting of the managers of the Glasgow Western Infirmary, held on October 26th, Dr. Ralph Stockman, recently appointed to the chair of Materia Medica and Therapeutics, was appointed a Visiting Physician, and Dr. J. Crawford Renton a Visiting Surgeon "subject to the rules made and to be made, and subject also to a time-limit as to service." The last condition is, we believe, unusual.

SIR RUTHERFORD ALCOCK.

A large circle of medical friends will regret to learn of the serious illness of Sir Rutherford Alcock. Sir Rutherford Alcock left the practice of his profession to enter the diplomatic service, and was the first British minister appointed to Japan, where he rendered the highest services in establishing friendly relations with that nation. In the discharge of this task he encountered great difficulties and much personal danger. Sir Rutherford Alcock has for many years taken an active part and rendered valuable aid in the administration of the Westminster Hospital. His best known works are those on Japanese art, literature, and development. Prayers were offered for him last week in Westminster Abbey.

THE HOSPITAL REFORM ASSOCIATION.

A meeting of the medical profession and of others interested in the administration of the medical charities of Brighton and district will be held at the Athenæum, North Street, Brighton, on Friday, November 5th, at 8.30 p.m., to discuss the best means of promoting hospital reform. The chair will be taken by Sir Joseph Ewart, M.D., F.R.C.P. At a meeting of the medical profession held in Manchester on May 25th last a resolution was adopted expressing the opinion that the time had arrived when inquiry should be made into the mode of administering medical relief in the Manchester and Salford Hospitals and dispensaries, and adding that the inquiry should be conducted by a Committee representative of all the interests concerned. We learn that such a Committee has been duly constituted, and that its first meeting will be held on Wednesday, November 10th. The Honorary Secretary of the Committee is Dr. E. Vipont Brown.

DIPHTHERIA IN LONDON.

There was a marked increase last week in the mortality from diphtheria in the metropolis. The fatal cases of this disease, which had been 49, 53, and 45 in the three preceding weeks, rose again to 55 during the week ending Saturday last, October 23rd; this is the highest number recorded in any week since March last, and exceeded the average in the corresponding periods of the ten preceding years. Of the 55 deaths from diphtheria registered in London last week, 6 were of persons belonging to Islington, 5 to Hackney, 5 to Battersea, 4 to Camberwell, 3 to Lambeth, and 3 to Wandsworth sanitary areas. Thirty-three of these 55 deaths were of children under 5 years of age, and 20 (nearly all of which were under 10 years of age) between 5 and 20 years; while only 2 deaths occurred among persons aged upwards of 20

years. The number of notifications of diphtheria in London, which had been 299, 315, and 356 in the three preceding weeks, further rose to 369 during the week ending Saturday last. This increase in the prevalence of diphtheria last week in the metropolis was confined to East and South London, the new cases in West, North, and Central London being below those recorded in the preceding week. In North London there was a marked decline in the prevalence of diphtheria, especially in St. Pancras, Islington, and Hackney. The increase of notified cases in East London was mainly due to a very severe outbreak in Poplar, where no fewer than 33 new cases were notified, against 11, 12, and 10 in the three preceding weeks. On the other hand, there was a marked decline in the prevalence of the disease in Bethnal Green, where the number of new cases fell to 13, against 15, 18, and 23 in the three preceding weeks. Among the sanitary areas of South London there was a general increase in the prevalence of diphtheria, which was most marked in Lambeth and Camberwell; in the latter sanitary area the notified cases, which had been 17 and 22 in the two preceding weeks, further rose to 29 last week. The admissions of diphtheria patients into the Metropolitan Asylums Hospitals during last week were 149, against 153 in each of the two preceding weeks; and 1,043 cases remained under treatment in these hospitals on Saturday last.

NURSING IN RURAL DISTRICTS.

The nursing of the village folk is a problem which has not yet been solved, but we are by degrees working towards a solution. Such schemes as are at present in favour are lacking in continuity, and when we consider the multifarious needs of the rural poor it is evident that unless a scheme of nursing is complete in itself it fails of its purpose. The best plan yet suggested appears to be the formation of a centre for a grouped district, let it be a cottage hospital, a workhouse hospital, or a county infirmary, as the base of operation, to which should be attached the trained nurse, the district nurse, and the cottage or village nurse; these nurses working together, their services being available as need required. The cottage nurses would receive such training at the centre as would enable them to attend on all simple cases, but at the other end of the chain would be the skilled nurse, whether district or hospital, whose services could be at once requisitioned by the medical officer of the district in the event of the nursing being beyond the powers of the cottage nurse. This is an outline of the scheme which seems to offer the most satisfactory solution of the problem, but it must be worked out in each locality.

THE RECENT OUTBREAK OF TYPHOID FEVER AT UNIVERSITY COLLEGE HOSPITAL.

The anticipation already expressed that the outbreak of typhoid fever among the nurses and certain servants of University College Hospital had been brought to an end by the steps so promptly taken has been fulfilled, and no further cases have occurred, but we regret to learn that one of the nurses attacked has succumbed to the disease. The following additional particulars as to the cause of the outbreak will be read with interest: The sisters, nurses, and their servants, for whom the temporary dining-room, with pantry, was fitted up in the basement of the hospital, all had their meals from the same kitchen (not the one from which the resident officers, the hospital servants, and the patients are supplied), and they had the same milk supply as the other inmates of the hospital, the difference in this respect being that the milk for the sisters, nurses, and their servants was not boiled, while that supplied to the others was. There were, however, no cases among the sisters. The nurses and their servants (among whom all the cases arose) drank water from the tap over a new temporary pantry sink, and they were the only persons who did so. Professor Corfield discovered on October 11th, during a short inspection before a special meeting of the Medical Committee, that this tap was supplied from the cistern in the slop closet of Ward I, and at once reported this to the Medical Committee, who ordered the tap to be plugged, which was done immediately. Professor Corfield suggested to the Medical Committee that he should ask Dr. Sykes, the Medical Officer of Health of St Pancras, the district in which the hospital is situated, to assist in the further investigation. This was done, and Professor Corfield and Dr. Sykes completed the investigation together, with the results that have been already described. One correction must, however, be made, and that is that the tap over the pantry sink, and those over the typhoid liner vats were supplied by branch pipes from the same service pipe, and not from separate service pipes as before stated, so that the connection between them was still nearer. There can be no doubt that the water supplied by the tap over the pantry sink was the cause of the outbreak, and it will be seen that this was found out on the first day of the inspection, and the use of that water stopped at once.

CONSERVATIVE DENTISTRY IN SCHOOLS.

The Brighton Board of Guardians have had under their consideration, and discussed at considerable length, the advisability of making a special dental appointment in connection with one of their schools, and we are glad to see that they have decided to engage the services of a fully qualified dentist, whose duty it will be to examine the children periodically, and to carry on the necessary treatment. The Brighton Guardians have in this respect set an example which we trust will be followed by others. By the regulations of the Local Government Board it is no doubt the duty of the medical officer of the school to give his attention to diseased teeth when requested to do so, and when it appears necessary, to extract them. We do not, however, understand that it is any part of his duty to undertake "stopping," or to engage in any form of mechanical dentistry, and we apprehend that very few medical officers would care to undertake any such duty, even if they felt qualified for it, which would, we think, be quite exceptional. There can be but little doubt that in the past far too many children's teeth have been lost entirely for want of proper and sufficiently early attention. The appointment of a dentist just made by the Brighton Guardians has been strenuously advocated for some years past by Dr. Ross, the medical officer of the school, and he is to be congratulated upon his success in having brought about so desirable a change.

GLYCERINATED CALF LYMPH.

In printing a report jointly written by Dr. Monckton Copeman and Dr. Blaxall on the subject of glycerinated calf lymph in his annual report for 1895-96, Sir Richard Thorne Thorne makes the following observations: "The issue of the report of the Royal Commission on Vaccination gives importance to certain experiments which have been made from time to time as to the admixture of glycerine with vaccine lymph. For more than a quarter of a century it has been an occasional practice to add glycerine to lymph, both of animal and human origin; and it had gradually come to be observed that the augmentation thus secured in the quantity of lymph available could often be attained without diminution in the active properties of the lymph. But it was not until 1891, when Dr. S. Monckton Copeman, now one of the medical inspectors of the Board, read a paper on the subject before the International Congress of Hygiene, held in London that year, that it came to be understood that the careful preparation, with glycerine, of vaccine lymph, which had been derived from the calf, not only left the resulting vaccine material as active as the lymph itself had been before the admixture, but that the glycerine exercised, in the course of some four or five weeks of careful storage of the material, a germicidal influence on the extraneous microbes commonly met with in vaccine lymph. In particular experiments, when pathogenic microbes such as the

bacillus of diphtheria, the bacillus of tubercle, and the streptococcus of erysipelas were purposely mixed in considerable quantity with the lymph material, these organisms were found to be destroyed in a month, or less, in a lymph emulsion containing some 30 to 40 per cent. of glycerine. In Appendix C, Dr. Copeman gives an account of the history of this subject, and he relates some of the experiments which he and Dr. Blaxall have carried out in certain studies they have made in this matter. Dr. Blaxall also records a series of experiments which he has recently made for the purpose of the Board on the action of glycerine, vaseline, and lanoline, on 'pulp' derived from vaccine inoculations on the calf. These experiments go to confirm the results obtained by Dr. Copeman when working with an emulsion of glycerine and vaccine lymph. They further show that, whatever conveniences may at times arise from the substitution for glycerine of either vaseline or lanoline, these two latter preparations cannot replace glycerine in the important influence which that substance possesses in destroying extraneous micro-organisms found in or added to vaccine lymph, whilst leaving its activity for the purposes of vaccination absolutely intact. Since 1891 several European Governments have undertaken the preparation of glycerinated vaccine lymph. After storage for a sufficient time the resulting emulsion has to pass the test of a bacteriological examination, and it is then issued for the purposes of vaccination. The whole subject is being further investigated."

SURGERY ON THE INDIAN FRONTIER.

On September 2nd a Sepoy of the 6th Bengal Light Infantry was wounded in action at Miran Shah, T. F. Force. One bullet perforated the right thigh, a second the abdomen, lacerating the descending colon. Abdominal section with paring and return of the gut was performed by Surgeon-Major Hudson about four hours after reception of the wounds, which were inflicted late in the evening. The patient did not survive longer than the following day. We believe this is the first occasion on which this operation has been performed in the field in India. The first large convoy of sick and wounded from the Mohmand brigades, numbering 150, left for the Malakand and Nowshera on September 25th, *viâ* Panjkora, including three cases of privates of the Buffs upon whom primary amputation in the field was performed after the action at Zagai on September 20th. In one the leg was amputated, in another the arm at the shoulder, in the third amputation of the thigh four inches below the left hip-joint was performed. All were progressing favourably when the last mail left. A large convoy has also marched with the brigades concentrating from the Mohmand to Peshawar. The base general hospitals are quickly filling. Convoys are shortly expected from the Kurrum and Tochi Field Force, which up to the present were more or less locked up, as the weather was considered unsuitable for moving the sick and wounded. A large number of the latter have severe sword and knife cuts, wounds from the Martini-Henry, and a few from the new rifle. It is proposed to withdraw from the front a few of the regiments which suffered a good deal during the earlier and most trying work on the frontier and replace them by other battalions. In respect of nursing, seven nurses in addition to the five already locally entertained are about to be employed in the base general hospitals organised for the Tirah Expeditionary Force. Five sets of *x* rays are now available; two are in the field with the Malakand and Kurrum columns. At the time the last mail left India no fewer than 136 sections of field hospitals, British and native, were in the field, and two are available complete for every regiment if detached from its brigade or on the march, or one for each wing of a corps if subdivided. Surgeon-Major-General Thompson, C.B., accompanied by his secretary, Surgeon-Major Morris, arrived at Kohat on October 2nd, and was then busily engaged on the preliminary medical arrangements of the advance of the Tirah Force to the Samana. The advanced commissariat base will be at Shinwari, two marches out of Hangu. From here the fighting divisions will march due north to the Samana range, and then descend into the Khanki Valley. Large depôts of medical comforts and medical and surgical *matériel* are being pushed on to Shinwari in advance of the field hospitals. Wheeled transport can be utilised from Khushalgurh *viâ* Kohat and Hangu to Shinwari, which will greatly facilitate the evacuation of the sick and wounded; but beyond this point mule transport alone can be used. The first mobilisation of some of the field and general hospitals was greatly hampered by the inability of the civil medical department to free the military war reserves.

RESEARCH IN INDIA.

An officer of experience and seniority writes, with reference to the extracts from the *Pioneer* on this subject, noted in the British Medical Journal of September 25th: "If the Government of India want diseases studied in a proper manner they should provide proper bacteriological appliances and central laboratories; but as a matter of fact this they have not done. It is nonsense asking men to make bricks without straw. Bacteriological research in India is of vital importance, and we are never likely to get at the bottom of typhoid until each station is taken up separately by an expert with all the examining portable appliances on the spot. Nothing has been done to start the Pasteur or any similar filter. Why? it may be asked. The question has been hanging fire for two years owing to one excuse or another. A pure water in bazaars and cantonments is of vital importance. Above all the total abolition of all such abominations as 'mussucks' and 'puckals' is required. Water should be laid to barrack rooms and cookhouses. Bazaar dairies should be banished, and dairies established on the lines of the admirably organised one at Allahabad. If necessary soldiers should be prohibited from visiting the bazaars." Many medical officers will be found to support our correspondent's views. If sanitary science in India is to be thorough his suggestions are worth consideration.

DUCHENNE.

France has done honour to itself by placing a monument to Duchenne in the Salpêtrière. By so doing the French have shown their appreciation of one of the greatest clinicians and medical observers of this or any previous century. The work of Duchenne is worthy to stand by that of Laennec. The latter physician took up the subject of auscultation, and by his own unaided industry and genius completed it, leaving little to be done by any successor. In the same way Duchenne made use of electricity for the purpose of studying nerve and muscle, and by so doing threw a light upon the whole subject of neuropathology, which not only enabled him to demonstrate much which was previously undreamt of, but he enabled others to proceed along the paths which he indicated. Duchenne's career was most interesting. Born in Boulogne he commenced work by employing the comparatively new agent of faradisation for therapeutic purposes. By so doing he was quickly brought in contact with a large number of nervous diseases which during the long process of therapeusis he subjected to intense and minute observation. The result is known to our readers; but it is difficult to believe that before the days of Duchenne we knew nothing of locomotor ataxy and many forms of muscular wasting which his observations have made clear to all. Duchenne left Boulogne and settled in Paris, but he never held any official position in connection with the hospitals or the University. The material of all the Parisian hospitals was ultimately placed at his disposal, but he was never anything more than a visitor. Eventually he was an honoured and most acceptable visitor, but in his early days he was regarded as a somewhat persistent intruder. It naturally took time to show that he was no mere "medical electrician," and indeed it

has been a very unusual thing in the history of medicine for a man to begin with the treatment of disease by means of an agent of very limited therapeutic application, and end by proving himself to be a pathologist endowed with genius and marvellous insight. Not only did he throw light upon pathological conditions, but he also added immensely to our knowledge of the physiology of movement and the action of the various muscles of the body and the face. His works are well worth reading. A selection of them has been translated and edited for the Sydenham Society by Dr. Poore.

WANTED: A SCAPEGOAT.

WHEN our Commissioner inspected a number of Irish workhouses two years ago, nearly every report contained references to the barbarous treatment of young children in these institutions. That things have not much improved since then, a case that recently cropped up in Banbridge Union goes to show. According to the report in the *Banbridge Chronicle*, the medical officer reported to the Board of Guardians that he had found an infant 7 months old in the nursery with its arm broken, and in his opinion it had been broken for a fortnight. The master and matron were sent for. The former declared the nursery was not his department. The matron stated that though she went to the nursery daily she knew nothing about the accident, and only called the infirmary nurse to see the infant because it was crying so much. In reply to further questions, she stated that the children were in charge of an idiot woman, who was the only person she had to look after them, and that the child could not have got the injuries by falling out of bed, because the beds were all on the floor! One guardian proposed that a competent person should be employed to look after the children, but another deprecated this course on the ground that many an accident occurs in the country, while the chairman observed that it was a pity the child got its arm broken; and as he had never heard of such an accident in the house it was decided to let it pass. Of course the Local Government Board will not let it pass, but what we want to know is, upon what officer will they place the blame they are afraid to put upon the Board of Guardians? Is a Board of Guardians which shows itself so callously indifferent to the condition of these poor children fit to have control of a workhouse? Has the Local Government Board inspector seen the children's beds upon the floor? Perhaps, as in many workhouses, the adults' beds are still kept on the floor, he did not think it worth notice. The dirt, squalor, and misery of these nurseries is inconceivable.

JUBILEE OF VIRCHOW'S "ARCHIV."

IN the middle of the year 1847 appeared the first volume of Professor Virchow's famous *Archiv*. It began with an Address on Scientific Medicine by the editor, who should more reverently be called its eponymous hero. Fifty years have passed by, and now the 150th volume has appeared, and it contains two contributions from its evergreen editor, as well as his portrait. Professor Virchow has already distinguished himself this year by his energy in organising the German contingent for the Moscow Congress with such success, that it was practically a German rather than an international meeting. The *Archiv* was one of the first of the numerous purely scientific serials which have done so much to facilitate the study of medicine. It is instructive to take a glance through the pages of the first volume. No fewer than seven of the memoirs which it contains were written by the editor. We will single out one of special interest on Sarcina Ventriculi. The first words are: "Since Goodsir discovered certain peculiar little bodies in vomit and classified them amongst plants as sarcina ventriculi, and Busk and B. Bell again detected these bodies, the communication which I made, published in Froriep's *N. Notizen*, May, 1846, was the only one on that subject hitherto known on the Continent." Let young British pathologists consider the loyal testimony of this great authority—that fifty years ago there was pathology in England, and pathology of a kind that a German professor condescended to notice. Let them therefore remember, without touching one leaf of laurel due to the glory of German pathology, that England, like Germany, has always been, in the course of contemporaneous history, a country where pathology is studied. We need no apologist at the present date, it is true, for we have several eminent pathologists at work, and many more who have, as it may correctly be expressed, retired, not from, but into practice. Hyrtl remarked in his famous handbook that comparative anatomy is not studied extensively because it does not go in the direction of bread. Thanks in great part to Professor Virchow, the same cannot now be said of pathology. It has become profitable in the highest sense of the word, for its study by the young doctor forms a sound basis of knowledge, to be profitably tempered in later life by experience. Whilst admitting the claims of this country, it would be ungracious to deny that Germany has rendered incalculable services to pathology, and we have much to learn from Teutonic laboratories concerning a sound system of pathological instruction for students. The catholicity of German pathology is remarkably displayed in the fifty years' series of volumes of the *Archiv*. In the first volume, as we have seen, there is a paper on an organism discovered by Britons, whose claim is graciously acknowledged. The 149th volume concludes with a special supplement on "Bubonic Plague." Its author is Dr. Yamagiwa, Professor at the Imperial Japanese University of Tokio. When the *Archiv* began, Japan, though a seat of one of the most exquisite types of art, was cut off from European civilisation, and assuredly produced no men of science; now it is one of the most progressive of nations, and, thanks to Virchow and his disciples, a fervent believer in German science, as the pages of its medical papers amply prove.

THE PREVENTION OF CRIMINALITY.

THE annual report for 1897 of the Howard Association contains a retrospect tracing the improvements in the treatment and prevention of crime which have been effected during the Queen's reign, and claiming for the Howard Association, since its origin in 1866, a useful influence in the results attained. The diminution of imprisonments, by the substitution of other methods of dealing with offenders, has been a characteristic feature in the criminology of the Victorian era, and it would appear that the influence of religion, and of intellectual and industrial training, are more effective outside than inside prison walls in the prevention of crime. This remark applies with tenfold force to juvenile offenders, whose reclamation rather than punishment has been the object of latter-day legislation. The separation of pauper children from adults in workhouses by the formation of district schools was a distinct advance upon the old plan; but recent experience has shown that there is still a better way of dealing with such children by boarding them out. Allusion is made to the "institution craze," which afflicts not only this country but America. The Home has been too much ignored in modern legislation, and the more costly institution has tended to transfer parental responsibilities to the long-suffering taxpayer. In Massachusetts this evil seems to have been to some extent avoided by the appointment of "probation officers," with powers of control both over juvenile offenders and their parents, with the object of stimulating proper home training. Eulogistic reference is made to the First Offenders Act, 1887, and regret expressed that a more extensive use of the provisions of this Act is not made by magistrates and judges. The centralisation of prison control, and improvements in the construction of prisons and court houses, are referred to with satisfaction, though even now much remains to be done for the suitable and separate accommodation of prisoners awaiting trial. There can be no doubt of the salutary influence of lady

isitors to women's prisons; and it is surprising to learn iat in sixteen of the larger prisons (including such places s Liverpool, Newcastle, and Northampton) there are no dy visitors. The subject of police matrons is dismissed ith the remark that "more are still needed, especially in rge towns;" but as Miss Louisa Twining has recently ointed out, there should be no difficulty in arranging that a oliceman and his wife should live in each police station, nd so "meet the needs of attendance upon all women, oung and old, who are taken to the police cells by night, nd who are at present wholly left to the care of men."

WILLIAM HARVEY AS AN EMBRYOLOGIST.

Dr. Brooks, Professor of Zoology at the Johns Hopkins University, contributes an interesting paper to the August-September number of the *Johns Hopkins Hospital Bulletin* upon William Harvey as an Embryologist. Dr. Brooks maintains that Harvey had a clear and definite idea of the law of epigenesis, by which is implied that the complex animal arises from a relatively homogeneous germ by gradual differentiation. The chief aim of his treatise on generation is to show that there is no physical or "corporeal" continuity between parent and child, for before his time embryologists held some modification or another of the very ancient belief that embryos arise from "excrement"; that they are the products of decomposition. In a certain sense, too, Harvey maintained that viviparous animals are generated from eggs. He therefore held (as contrasted with Fabricius, his master, who taught that the greater number of animals are produced from ova) "that all animals, even the vivipara and man himself not excepted, are produced from ova; that the final conception from which the fœtus proceeds in all is an ovum of one description or another, as well as the seed of all kinds of plants. Empedocles therefore spoke not improperly of the "egg-bearing race of trees." The history of the egg is therefore of the widest scope, as it illustrates generation of every description. Harvey believed the organising influence which produces the chick from the egg to be a "divine mystery." But he demonstrated and clearly formulated the following truths, say Dr. Brooks, "There is no basis for the venerable doctrine that the higher animals are generated from excrement. The hen's egg, even before it leaves the ovary, is an independent organism, which enjoys life by its own right and perfects itself by nutrition. The embryo assimilates homogeneous food, and by means of an inherent organising power converts it into the structure of the living animal. Nutrition, growth, and development go on together, and the embryo arises by epigenesis or differentiation. Many animals which have been held to arise from putrescent slime come from microscopic eggs. Animals are entitled viviparous or oviparous or vermiparous rather in respect of their mode of bringing forth than of their first formation.

"DIED ON THE HIGHWAY. WHO IS TO BLAME?"

With the above words in lines well displayed as a heading, the *Hull Daily News* of September 20th detailed certain alleged circumstances concerning the death of a Hull girl in service at Keyingham. The paragraph, a lengthy one sprinkled with headings, was couched in the somewhat hysterical strain affected by some newspapers. The Home Secretary, to whom a cutting had been sent, communicated with the coroner, and at the request of the latter ordered an exhumation that an inquest might be held. The facts proved were, briefly, that Dr. Soutter, of Hedon, was called some seven miles to see the married daughter of Mr. Mook on September 10th; that on the same day, Friday, his attention was called to the servant, who had also some throat trouble, but who was subject to sore throats. Next day both patients, who were treated exactly alike, had apparently improved. On Sunday, however, the girl had laryngeal obstruction, and tracheotomy was indicated. Dr. Soutter was some miles from home, had no instruments with him, the case was becoming urgent, the available accommodation was poor and skilled nursing altogether wanting, so it was determined to send the patient to the sanatorium at Hull. No closed conveyance was procurable, and Dr. Soutter thought the urgency so great that he consented to her being well wrapped up and placed on a mattress in a spring cart—the advantages of the supine posture and the freer access of oxygen, in his opinion, more than compensating for the want of a covered ambulance. With Mr. Mook he drove to Hull, calling, in passing, at Hedon to telegraph to the medical officer in charge of the sanatorium. Unfortunately the girl died on the way. The jury could come to only one conclusion from the evidence—that she had died of diphtheria, and that no blame attached to anyone. They further suggested that a properly equipped cottage hospital should be provided by the authorities of Holderness. We congratulate Dr. Soutter upon his complete exoneration from all blame in this distressing case. The sensational article, painful as it must have been for him to read, at any rate brought about a full inquiry, and has thus silenced the half-informed critics, whose murmurings had doubtless reached the reporter's ears. If we might add anything to the finding of the jury it would be that, pending the erection of a cottage hospital, which, even with a vigorous district council, it may require a few weeks to accomplish, a supply of antitoxin should be procured from the Institute of Preventive Medicine, and placed at the service of the Holderness practitioners, who may be disposed to make use of it in cases of diphtheria.

THE CONDUCT OF A SCIENTIFIC LIBRARY.

Mr. R. Steele, the Assistant Secretary of the Chemical Society of London, read an instructive paper upon the Conduct of a Scientific Library at the recent meeting of the Library Association. He observed that the principal difficulties in a scientific library, arising from the incessant progress of science, were the choice of books, the necessity for constantly renewing them, the number of periodicals, the publication of important works outside the ordinary channels, and the disposal of works which have become obsolete. The question of intermediate and elementary textbooks, especially when the frequenters of the library comprised persons of widely different ages and attainments, was very perplexing to the librarian. Periodicals were still more troublesome. Sometimes articles of great importance appear in their columns, then they are apt to change their character; and others, after a brief and it may be brilliant career, die young. It is, too, dangerous to get rid of old editions, as they may prove hereafter to possess an unsuspected value; and it is not for many reasons desirable to put into circulation books bearing the stamp of a well-known library. Identical problems have to be solved by medical librarians, and sometimes even more complex ones, for although the actual space at their disposal is somewhat greater than in a special library, the relative amount of shelf room is often less owing to the greater number of sciences cognate to medicine. From some anxieties a medical librarian is free, others crush him as much by their weight as by their variety. Only rarely has he to take thought of editions; the first may be of interest, but subsequently neither it nor any intermediate issue is, as a rule to which there are very few exceptions, of the least value. The science and practice of medicine is so essentially progressive that the latest work alone finds favour in the eyes of the reader. It is, therefore, safe to get rid of all intermediate editions unless they can be used, when space permits, as second or reference copies. It is far otherwise with periodicals and long series of *Transactions*. How are they to be selected, by what process are they to be eliminated when they attain unwieldy proportions and appear never to be consulted? In medicine, as in all progressive subjects, the periodicals form the very cream of the science, mixed though it be with many adventitious matters. A library is often useful in direct proportion to the number of periodicals for which it subscribes or which it collects. Thus

the M.D. theses in the Library of the Brltish Medical Association, the splendid collection of serials at the College of Surgeons, and the smaller, but still most useful, collection in the Library of the Royal Medical and Chirurgical Society render these libraries of much greater value than any mere collection of books. Books can always be obtained by patience and industry, but the back number of an obscure periodical is often lost irrevocably. Yet in the aggregate such collections occupy much space, and to place them in double or even triple rows upon the shelves is only a temporary expedient. Sooner or later they must go to the cellar or the attic, where they are difficult to see and more difficult to find.

THE OUT-PATIENT SYSTEM.

AT a meeting of the Council of the Hospital Sunday Fund on October 27th, a report was presented from the Committee of Distribution, dealing with the question of the abuse of the out-patient departments, and recommending that the governing bodies of hospitals should be advised to retain the services of efficient persons to make inquiries respecting persons attending out-patient departments. After some discussion, the following resolution, moved by the Chairman of the meeting, Sir Sydney Waterlow, and seconded by Sir William Broadbent, was adopted:

That this Council recommends that at the next meeting of the constituents in December the following clause be added to the laws of the constitution: "That where a hospital having an out-patient department has appointed a special and efficient officer for detecting any abuse in that department, it shall be regarded by the Distribution Committee as an important factor in determining the merits."

THE DEATH OF THE DUCHESS OF TECK.

THE announcement of the death of the Duchess of Teck has been received with universal regret throughout the country. Her Royal Highness had endeared herself to all classes by the kindly interest which she showed in many charitable undertakings not less than by the natural geniality of her temperament. Much anxiety was felt when it became known six months ago that the Duchess of Teck was seriously ill, and that it had been necessary on April 30th to perform an operation for the relief of strangulated umbilical hernia. The operation was successful, and Her Royal Highness was soon convalescent, and to the universal joy was able to take part in the ceremonies of the Jubilee. She was, however, compelled to curtail the number of occasions on which she appeared in public, although she has recently several times taken part in public ceremonies connected with charitable undertakings. Last week she was in her usual health, but on Monday last, though not confined to bed, she was indisposed, and consulted Dr. Wadd, of Richmond. On Tuesday she had slight symptoms of obstruction, and Mr. H. Allingham, who performed the operation on April 30th last, saw her together with Dr. Wadd on Tuesday morning. In the evening the symptoms became suddenly severe. Dr. Wadd sent for Mr. Allingham, who went down to Richmond with Mr. Hewitt, and these gentlemen, together with Mr. H. Randall Wadd saw the Duchess again. It was then found that the only prospect of relief lay in the immediate performance of an operation. Strangulation was found in the neighbourhood of the old umbilical sac. All the symptoms were relieved at once by the operation, but the Duchess died two hours after its completion from cardiac failure. The Duchess had for some years suffered from heart trouble. The medical profession will desire to join in the general expression of sympathy with the Duke of Teck, the Duchess of York, and the other members of the Royal Family, but especially with the Queen, who in the evening of her life has been so sorely tried by the loss of many near and dear relatives. The Duchess of Teck was always ready to lend assistance to any charitable undertaking which commended itself to her sound judgment and warm heart, and her loss will be keenly felt by numerous institutions. She had identified herself closely with many hospitals, and had taken a personal interest in the working of the Great Northern Central Hospital, the National Hospital for the Paralysed and Epileptic, the German Hospital, the Charing Cross Hospital, and the East London Hospital for Children at Shadwell.

YELLOW FEVER IN JAMAICA.

THE occurrence of yellow fever in Jamaica is a very serious matter for that colony, and it is certainly to be regretted that "a policy of reticence" should have been followed by those interested in the welfare and the prosperity of the island. It would have been wiser frankly to admit the occurrence of the disease, and to have stated the sanitary measures which had been taken to prevent its dissemination. The Medical Department and the Registrar-General appear to have acted with perfect frankness, but in other directions there was a conspiracy of silence, and it is therefore the greater shock to public confidence to learn that the number of cases which have occurred in the island during the last few months are estimated on good authority to be no fewer than 53 with 23 deaths. The total number of cases cannot be stated officially, since there is no obligation on medical practitioners who are not members of the Colonial Medical Department to notify cases under their care. The number actually treated by the Medical Department, however, has been 18, with 11 deaths. The largest number of cases appears to have occurred at Kingston, where 11 patients were admitted to the public hospital, of whom 7 have died. The first case, according to the statements published in the *Daily Gleaner* of Kingston, occurred at Kingston on July 10th; the patient was a sailor who died in the hospital in that town. The next cases occurred at Port Antonio on the north coast of the island, and subsequent cases in Kingston appear to have derived the infection from that place; other points in the island are now infected. It is to be hoped that the Government of the colony will take prompt means to prevent the spread of the epidemic, and to re-establish public confidence, which has been seriously shaken. An extraordinary publication in the Jamaica *Gazette* however, raises an uneasy feeling that the Government hardly appreciates its duties in this respect. In the *Gazette* of October 7th the Colonial Secretary states formally that he "is directed by His Excellency the Governor to publish the following minute:" The minute consists in the first place of an extract from a book of travels published in 1878, stating that an old woman in Bolivar had discovered that vervain *(Verbena officinalis)*, taken in small doses three times a day, is an efficacious remedy for the yellow fever and black vomit. In the second place, Sir Henry Blake, the Governor, states that Lady Blake had ascertained from a person who had suffered from yellow fever in Panama that he had been cured "by a doctor who had spent fifteen years with the Indians, and obtained the remedy from them." Lady Blake came to the conclusion that the remedy used was "the juice of the vervain with white flowers," combined with nightly hot baths in which the vervain with blue flowers, and Guinea henweed were steeped. The Governor adds that this precious secret was disclosed by the "doctor's dispenser, who was a Jamaican." It would be far more satisfactory were we to be assured that the Governor was occupying himself in taking means for the prevention of the spread of the disease, and that as a first measure he had promulgated an order in council rendering the notification of all cases of yellow fever compulsory throughout the island. This is the duty of the Executive Government, who may safely leave the treatment of cases when they arise to the skill and judgment of the medical profession.

THE name of Dr. Charles F. Hutchinson, of Monte Carlo, and of Knole, Mayfield, Sussex, has been added to the Commission of the Peace for the County of Sussex.

E CHAIR OF SURGERY IN GLASGOW AND THE WESTERN INFIRMARY.

EETING of the managers of the Western Infirmary, Glasgow, held on October 26th to consider the allegations as to lrances placed in the way of Professor Macewen in the :ution of his duties as Professor of Surgery in Glasgow versity and Surgeon to the Infirmary. The meeting was nded by twenty-five out of the twenty-seven managers. atement signed by the Chairman, but to which one of the nagers, Professor Moir, dissented, was drawn up for com-nication to the press. Before reproducing it, however, it esirable to give the text of the Representation made by Senate of the University of Glasgow to the managers of Western Infirmary. It is dated October 12th, and is in following terms:—

REPRESENTATION BY THE SENATE OF THE UNIVERSITY.

The Senate of the University have been informed of certain nges and proposed changes in the assignment of beds in Western Infirmary, whereby (*inter alia*) Professor :ewen will, during the present session, be suddenly and xpectedly deprived of the use of a ward of twelve beds, ch has hitherto been available both for him and his pre-essor, in clinical teaching, the Senate cannot refrain n expressing their regret that the managers should have)lved thus to limit the scope of a clinic, which, it is not much to say, is a leading distinction of Glasgow and of its lical school, and is of world-wide reputation. The Senate e had placed before them by Professor Macewen the dis-antages to which his surgical work and teaching will be jected by the change proposed; and while they do not sider that it lies within their province to approach the nagers with a statement in detail, they cannot avoid ressing the wish that some inquiry on these points had n made before the resolution to withdraw these beds was pted. The managers are perhaps scarcely sufficiently re that the resolution, so adopted, will be apt to be arded unfavourably far beyond the limits of Glasgow, or British Isles, or even of Europe, as involving the useful-s of a teacher now in the very height of his reputation,) contributes to the Glasgow School and to the Western rmary far more than he can possibly receive from either.

On these grounds the Senate of the University earnestly ire, in the most friendly spirit, to intimate their sincere ret at the change proposed, in so far as it affects their eague and his distinguished clinical work; and they ture to express the hope that it is not yet too late for the nagers to reconsider their action."

STATEMENT BY THE MANAGERS.

he following is the text of the statement issued by the nagers (Professor Moir dissenting):

The managers of the Western Infirmary are reluctant to e any part in discussing the so-called strained relations ween Professor Macewen, one of the members of their f, and themselves, but as so many extravagant rumours innuendoes have lately found their way to the public)ugh the press, they feel bound, in the interests of the rmary, to make a statement which will bring the situation nin the region of fact.

It may be premised that the first duty of the managers, in interests of the numerous subscribers and public bodies ch they represent, is to make adequate arrangements to best of their ability for the proper care of the patients t to the infirmary for medical or surgical treatment. They e also under deed of agreement, in consideration of a ney payment made by the University to aid in the insti-on of the infirmary, to make 'such reasonable provision s deemed necessary by the Senate of the University of sgow and the managers for professors of the University aged in clinical instruction.'

The first point complained of by the Senate and the public nts comes under the latter category, and is that the nagers have withdrawn a ward containing 12 beds from Professor of Surgery, thereby depriving him of the proper lities for carrying out his work as a teacher. Previous to fessor Macewen's appointment as one of the visiting sur-geons to the Western Infirmary, a conference took place on October 12th, 1892, between representatives of the Senate of the University and the managers of the Western Infirmary as to reasonable facilities for clinical teaching for the new Professor of Surgery. On the part of the University it was agreed and minuted that accommodation at least equal to what was afforded to the Professor of Clinical Surgery—namely, 41 beds—would satisfy the Senate. This minute was signed by Dr. J. H. Graham, as representing the Western Infirmary, and Professor W. Stewart as representing the Senate. Subsequently, at a meeting of the infirmary managers on the reallocation of beds held on October 17th, 1892, it was recommended that in the event of Professor Macewen being appointed a visiting surgeon, Wards 15 and 21, containing 21 and 20 beds respectively, should be allocated to him in terms of the minutes of conference, and that in addition he should be requested in the meantime to take charge of Ward 18, containing 12 beds, as a convenience to the managers.

"At a special meeting of the Board of Managers held on October 18th, 1892, Professor Macewen was appointed a member of the visiting staff of the infirmary in terms of the minutes referred to, and subject to the rules made and to be made for the administration of his department. Excerpts of these minutes were sent to Professor Macewen along with the intimation of his appointment, and were duly acknowledged. It seems, however, that this ward, which was given to Professor Macewen for the time being, and to suit the convenience of the managers, is now, when it has become necessary to make a further rearrangement of wards in the interests of patients, claimed for the Professor of Surgery as a matter of right.

"The attention of the managers has also been called to the BRITISH MEDICAL JOURNAL of October 23rd, in which they are accused of declining to place one of the three new operating theatres, now approaching completion, under Professor Macewen's special control. What may be done in this matter has not yet been definitely decided, and need not, therefore, have exercised the minds of the writer, but considering the fact that there are at least six surgeons on the visiting staff, all of whom have important operations to perform, it is hardly reasonable, in justice to the others, to suppose that the managers will be able to set aside one of these theatres for the exclusive use of any individual member of the staff. In this connection a special claim is set up on Professor Macewen's behalf on the ground that he not only converted 'the managers to perceive the necessity of new operating theatres,' but that he was instrumental in procuring the £10,000 necessary to erect them. There is a degree of truth in both these allegations, especially in the first. Professor Macewen did valuable service in calling the managers' attention to this matter, and in helping the superintendent and the architect while the plans were under consideration. He also made efforts to procure money for their erection, but so far as the managers are aware Professor Macewen did not personally succeed in securing a single subscription. In point of fact, the money for the theatres was generously given to the managers, through their Secretary, by three donors, who contributed £3,500 each, not in the special interests of any individual, but that the theatres, like the infirmary building itself, might be used for the general good of those patients who require to undergo surgical operations.

"Reference has also been made to difficulties placed in the way of Professor Macewen in connection with the nursing arrangement of the house. It is true some complaints were made to the managers on this subject, but on investigation it was found that the nursing staff in point of numbers and efficiency bore favourable comparison with other similar institutions, and that the number of nurses engaged on the occasion to which Professor Macewen referred was nearly double that of any other surgeon in the infirmary, in proportion to the number of patients under their care. That his permanent staff was more numerous, and that of the emergency staff kept for the use of the whole hospital, he had all but one-half employed in his own wards. The report of the subcommittee, which made careful investigation of the complaint, states that they were of opinion that his (Professor Macewen's) requests for extra nurses have been adequately met by the superintendent. At the same time they feel bound to put on record the belief that Dr. Macewen

does not fully recognise the fact that his wards are an integral part of the Western Infirmary, and that he himself is only one of the staff; that there are rules applicable to the institution which it is the duty of managers and their officials to administer uniformly; that, on the one hand, emergencies arise in the administration, in the inconvenience of which Dr. Macewen must share; and, on the other, while a certain amount of the work of the surgical wards comes without warning, a great deal of it can be arranged and distributed by the staff surgeons, so as not to cause any strain upon the resources of the house, or put the nurses and others to unnecessary inconvenience.

"The main grievance, however, appears to be the rearrangement of the wards, involving the withdrawal of the 12 beds given to Professor Macewen as a matter of convenience at his appointment in 1892. As other interests than that of the infirmary were involved in this rearrangement, the managers appointed a subcommittee, consisting of the Chairman, Vice-Chairman, the conveners and subconveners of committees, with the medical members of the Board, to make the rearrangement, and their recommendation was confirmed by the Board by 12 votes to 2, two declining to vote. In reviewing the managers' decision subsequently, at the request of the Senate, the subcommittee unanimously resolved that the managers have faithfully observed the terms of the agreement with the University as to the provision of facilities for the clinical teaching of surgery; that they have done nothing outwith that agreement which is not specifically provided for in the terms of the appointment of Professor Macewen as a visiting surgeon, and the allocation of the wards which followed thereon; that, having fulfilled their engagement with the University, so far as Professor Macewen is concerned, the managers had, in the rearrangement of the wards, necessitated by the completion of the new operating theatres and the resignation of Dr. Tennant, considered at the same time the demands of the sick which must be met and cannot be modified to suit subordinate interests, the requirements of other departments of the medical school, and the general convenience of the whole staff, medical and surgical; that to the best of their ability, under the restrictions imposed by the structure and accommodation of the house, they have given effect to those somewhat conflicting considerations; that they have no doubt the managers will in the future, as in the past, revise their arrangements from time to time as, through the liberality of the public, they are enabled to complete the extensive structural alterations presently in progress, and to carry out others where projected, but, as matters are at present, the subcommittee recommend the Board to adhere to their decision regarding the allocation of the existing beds. This resolution was confirmed by the Board by 17 votes to 2.

"With reference to the very circumstantial statement which has been made to the effect that some agreement exists between the managers of Anderson's College and the infirmary similar to that between the University and managers as to facilities for clinical teaching, no such agreement exists, and no communication on the subject has ever passed between these bodies. Not only so, but the interests of Anderson's College was never considered by the Board, or even advocated by any member of it.

"In conclusion, the managers are fully sensible of the great eminence of Professor Macewen as a surgeon, and are proud to have him on the staff of the infirmary, but it must be evident to those who have to do with the management of these institutions that loyalty to the rules which the managers find it necessary to make from time to time, and a generous consideration of the interests of the whole staff and the patients, are absolutely necessary if harmony and successful results are to be secured. It is, therefore, a great relief to the managers, who are giving their time, their money, and their most earnest consideration to the affairs of the infirmary, to be called upon to justify their actions by refuting statements or insinuations that, whether intended to do so or not, are sure to injure the good name and mar the usefulness of a valuable public institution."

*** Although ingeniously drawn, the above statement amply confirms the account given by us of the causes of the strained relations between Professor Macewen and the managers, and if it correctly illustrates the principles on which their dealings with the medical and surgical staff are conducted, we do not wonder that Dr. Macewen should find them intolerable. They defend their reduction of the beds at Dr. Macewen's disposal by twelve by a lengthy recital of the negotiations between the University, Dr. Macewen, and themselves, at the time of Dr. Macewen's appointment in 1892. Let us assume that they are acting within their legal rights in requesting Dr. Macewen to vacate one of his wards, Does the technical legality make the proceeding any the less harassing? Since removed to the Western Infirmary Dr. Macewen has had at his disposal 53 beds, and his resources in the way of beds have been taxed to the utmost to meet the patients who seek the benefit of his surgical aid. The managers have a long list of surgical cases waiting admission. This has been their excuse for taking advantage of Dr. Tennant's resignation to make an additional surgical appointment. Can they deny that many of these cases wait for admission to Dr. Macewen's wards? Yet they meet the situation by reducing the beds at his disposal, and think it a sufficient answer to protests and criticism to prove their technical right to do so. Is a proceeding which is offensive and harassing, made any the less so by being strictly within the limits of legality? What of patients who would be sent to Dr. Macewen's care if he could receive them, be consoled for his inability to do so by the reflection that in restricting his accommodation the managers had acted within the letter of the law made on October 17th, 1892?

It is in a similar fashion that the managers meet our statement regarding difficulties in the nursing arrangements. They admit some complaints were made, but give the result of a calculation as to the proportion of nurses to patients in the wards of other surgeons at the time, and a comparison between the number of nurses in the Western Infirmary and in other similar institutions. In short, at a time when a series of very grave cases, demanding immediate operation and constant watching, came one hard on the heels of the other into Dr. Macewen's wards, and the energies of his whole staff were taxed almost to the point of breaking down; and when, to meet the emergency, Dr. Macewen asked for additional nursing assistance, he was answered by an arithmetical calculation proving to demonstration that he has already in his wards a number of nurses in excess of the number deemed proper by the managers, and his request is refused. This appears to be the fact, as admitted by the managers. It was in these circumstances a crisis was almost precipitated last year, on an occasion when his nursing staff was so taxed that Dr. Macewen himself sat by a patient all one evening up to midnight before he could get a nurse to whom the case could be entrusted.

The official statement admits "a degree of truth" in our remarks concerning the antiquated accommodation for operating existing in the infirmary at the time of Dr. Macewen's advent, and the service done by him in calling attention to it, though the managers offer no apology for permitting one of the most brilliant surgeons of the day, or for that matter any surgeon, to operate for five years on a stair-landing when they were spending £15,000 on *post-mortem* rooms. It is possible to apply the phrase "degree of truth" to our statement in the sense only that it was an understatement of the insanitary conditions permitted to exist in the old operating theatre. But the managers assert that "so far as they are aware" Dr. Macewen did not personally succeed in securing a single subscription. The phrase "so far as they are aware" is the saving clause. It was as the result of an interview with Dr. Macewen that one of the subscribers promised his subscription. He also expressed a wish that his gift should be associated with the theatre in which Dr. Macewen did his work. It is true that the details were subsequently arranged at Dr. Macewen's request with the infirmary secretary, but the managers ought not to have been ignorant of the fact. We regret that Dr. Macewen should be placed in a position requiring him to beg for suitable provision, for his work in the infirmary played a large part in determining this subscriber to provide one of the new operating theatres.

The managers say that Dr. Macewen's main complaint appears to be the rearrangement of the wards. This is not

). The withdrawal of nearly 25 per cent. of his accommodaon is serious enough, but we have already put it quite early that this is only the last of a long series of circumances which have attended and hampered Dr. Macewen's ork in the Western Infirmary.

This crisis will not end satisfactorily unless it end in such rrangements as will guarantee that Dr. Macewen will hencerth not be denied whatever he deems necessary for the rrying on of his work in the interests of suffering humanity nd of his science, and will not be asked to abandon his gid adherence to the principles of aseptic surgery in order exhibit "that loyalty to the rules" which the managers ave made.

CORPORATE AND MEDICAL REFORM COMMITTEE.

AT a meeting of this Committee held at 11, Adam Street, Strand, Dr. A. S. Morton in the chair, it was resolved:

That the form of petition adopted by the Committee and submitted with the Memorial to the Council of the British Medical Association should be prepared and issued for signatures, and as many signatures as possible be obtained for presentation at the November session of the General Medical Council.

Dr. Glover's reply to the letters of the Committee, all of which have been published, was taken into consideration, and the following letter to Dr. Glover was adopted:

Sir,—Owing to a recent family bereavement, your letter sent to the Chairman of our Committee did not come to the knowledge of other members of the Committee till its appearance in the *Times* on Wednesday last, when our Honorary Secretary, regarding it as the best result our earnest efforts have yet achieved, at once asked the favour of its insertion in the medical papers. We cannot even regret that this result, and the indignation you express which led to the result, are based on entire misrepresentation, no doubt on as entire misconception, of our letters.

For these—lest you may have destroyed the originals—we refer you to the British Medical Journal of October 16th, p. 1105, and to the *Lancet* of October 23rd, p. 1072, and we beg to point out that you were not, as you state that you were, asked to answer a single question of the list submitted, nor cross-examined in any sense.

Our Committee is submitting for the approval of the profession a definite and active course of policy, including reforms, a great number of which have for many years in vain been demanded by a too patient and long-enduring electorate; reasonably expecting that opinions formally uttered by candidates at the hustings would, with no less confidence, be urged from their places at the Council Board as a demand of its rights by the electorate.

Having, as to most of these just claims, waited in vain for eleven years even for a formal urgent and united demand of them by their representatives, it is become the duty of every elector who desires reforms, on every opportunity, before giving his vote to any candidate, to ask, not merely for opinions that such reforms would be desirable could they be obtained, but for pledges of definite action to obtain them, likely to be successful.

This course was taken with complete success, not by this or by any Committee, but by five independent electors (one of whom you may remember, *proxime accessit* at the last General Election) acting together and combining—as they were entitled to do—their several rights; their right to do which, on such an occasion, you do not deny; though you, perhaps naturally, lament that "it is bad enough."

The success of the course taken by these five electors should be clearly demonstrated especially to you, by the fact that they were replied to without the least objection and in the affirmative, by one of your colleagues during ten years of office, and by a gentleman who was chairman of your committee in your recent candidature; towards whom, and towards your former colleague, in pledging themselves to definite and detailed measures, it might, perhaps, have been supposed that you would observe the courtesy of abstention from implied hostile criticism.

We are indebted to these questions for a representative whom we know in advance to be in favour of these definite measures; and for the satisfaction of knowing, also, that we have a strong representative of our views and wishes who favours our proposed measures in Parliament.

Besides this, of your three other colleagues—one, Mr. Brown, has expressed himself unreservedly in favour of the measures proposed, and has already consistently acted on his expressed view by introducing a deputation, and speaking strongly in support of it, to the Council of the British Medical Association, whilst the direct representatives for Scotland and Ireland, though naturally reserving pledges for their own constituencies, have expressed themselves in sympathy with us, so that we can congratulate you on being in a minority of one in five. From five questioners the number is already in a fortnight significantly increased, and, unlike some of the societies you laud, we are marching instead of marking time.

Before committing ourselves to ask our representatives to move and support at the approaching session of the General Medical Council proposals inadequately, because not unanimously, supported, we asked you, and each of the other representatives, two questions only—Is there any, and if so which, of these proposals you cannot support? Necessarily implying "if there be, we shall if possible meet your wishes;" and this courteous and proper request for guidance, which offended no other representative, you convert into "heckling" and into "thirty or forty questions." You have, indeed, answered "thirty or forty questions," and left the electorate in no doubt whose interests you represent when you deny the elementary civil rights of members of the profession, not obtaining its just demands from the interested majority of your Council, to unite in order to secure them, and to appeal from you and your friends, who deny those demands, to the constitutional authorities which constituted and can control you.—We are, Sir, your very obedient servants,

Geo. Jackson, F.R.C.S.Eng., 10, Portland Villas, Plymouth, *President.*
A. S. Myrtle, M.D., J.P., Harrogate.
Hugh Woods, M.D., Highgate.
J. Rees Gabe, M.D., Mecklenburgh Square.
T. Granville Hockridge, M.D., Tysoe Street.
J. A. Myrtle, M.D., Harrogate.
C. Milner Brown, M.B., Sydenham.
H. Melvill Green, M.B., Sydenham.
A. S. Morton, Wandsworth.
J. Wheeler O'Bryen, M.D., Sydenham.
Tom R. Taylor, M.D.Lond., F.R.C.S.Eng., Guilford Street.
C. E. Russel Rendle, B.A., Plymouth.
E. M. Russel Rendle, Plymouth.
John R. Rolston, Devonport.
Walter L. Woollcombe, F.R.C.S.Ed., Plymouth.
J. Fredk. Rogers, Old Street.
R. B. Anderson, F.R.C.S.Eng., 30, Montague Place, W.C., *Honorary Secretary.*

October 27th.

OPENING OF THE WINTER SESSION IN THE MEDICAL SCHOOLS.

Belfast Royal Hospital.

The winter session was opened on October 19th, when there was a large attendance of students. Most of the members of the staff were present. The introductory address was delivered by Dr. Lorrain Smith, Lecturer in Pathology at the Queen's College, and Pathologist to the hospital.

After some introductory remarks, in which Dr. Lorrain Smith, on behalf of the staff of the hospital, extended to the students a welcome to another term of work in the wards, he proceeded to say that the student was often now tempted to think himself overburdened by examinations. It was easy to exaggerate this aspect of education, and no student need allow himself to be deprived of the right to reflect on what he heard from his teachers, or observed for himself in his clinical studies. It would well repay the student to give time to reflecting on the value of the facts and observations, which, he would find, constitute the sum of medical knowledge. The various natural sciences differed from each other in regard to the nature of the knowledge which they inculcated. One of the most striking characteristics of medical science was the mass of facts with which it had to deal. The number of facts was partly accounted for by the number of workers in the subject; but there was a further reason for the science assuming this aspect, and it lay in the very nature of the subject. In the simple sciences, such as those of mechanics or mathematics, the matter dealt with was simple, and the conclusions were in a measure deducible from the premisses by logical argument. The phenomena of life in health and disease were essentially complex, and the observation of these facts involved not only the principles and methods which applied in the simpler sciences; but account must also be taken of a multitude of new facts which were not observed apart from the study of living organisms. Certain speculative thinkers had asked us to believe that the ideal of the science of life was to show that the whole of the phenomena of the living process were mere expressions of the mechanical changes amongst the molecules of protoplasm and its modifications. Biology would, on this hypothesis, become a branch of molecular physics. The progress of modern research seemed, however, to carry us farther and farther away from the realisation of any such hope. The actual form which conclusions assumed in medicine was that of a comparison of one physiological or pathological process with another. Processes were understood in so far as they could be compared in detail with similar processes. Growth was compared with nutrition; malignant growth in tissues was compared with normal development; secretion with the production of energy, and so forth. In regard to any fact, therefore, in place of appealing to a theory of life for aid in solving the problem, the conditions were grouped so as to afford ground of comparison with any other fact or group of facts.

Medicine was not less a science because its subject matter had these characteristics. Its methods and conclusions were experimental; but any science which dealt with the facts of external nature must be experimental, even if the experi-

ments be so simple as to admit of mathematical development. The student of medicine must, therefore, attend not only to the facts which are presented to him by the cases under his observation, but he must carefully reflect on the grouping of those facts which he found adopted in the science. He would thus be able not only to estimate the value of the results already obtained, but also to realise those problems to which inquiry should be devoted with a view to enriching these results. He would find it impossible in medicine to grasp any problem thoroughly without understanding in some measure the direction towards new investigations which the present results indicated.

EPIDEMIC OF TYPHOID FEVER AT KING'S LYNN.

[Report from Our Special Commissioner.]

Hardly has Maidstone begun to recover from the epidemic of typhoid that has so severely visited it before another example occurs of the now well-established fact of the water-borne origin of the disease. The town and port of King's Lynn is the latest melancholy example of the serious results that follow an impure water supply. From the table of notifications appended to this report it will be seen that the epidemic has already attained alarming dimensions. That the infection can be traced to the water supply there is no doubt, and although it is not possible yet to indicate any particular point at which the infection gained access, yet the faulty construction and imperfect nature of the supply, taken in conjunction with the fact that a previous epidemic was traced to the same supply, leave no doubt that here we have the origin of the disease.

King's Lynn is a town and port of over 18,000 inhabitants, situated at the mouth of the River Ouse, at the south-west corner of the Wash, in Norfolk.

The Water Supply.

This is characterised by its simplicity. Running to join the Ouse, from the chalk hills to the east is a small stream—the Gayton river. This brook—for it is little more, being only about 3 miles long—rises at some half a dozen springs which issue from the chalk in the neighbourhood of Rawsey and Grimstone. It is some 3 feet deep and 20 broad. In addition to receiving the water of the above springs, the Gayton river acts as the drain of the valley in which it runs. This drainage is conducted to the river by means of dykes and ditches. The land of the Gayton River valley is agricultural. About 1½ mile to the east of Lynn is the village of Gayton, of about 1,000 inhabitants. In this village, which borders the river, the sewage arrangements are of the most primitive description. The sewers that exist it is true are connected to the Lynn system, but in many of the houses the sanitary arrangements consist of pit privies, and there is no system of scavenging. The pits are emptied periodically, and the contents either buried or spread on the ground as manure. This ground slopes towards the Gayton river. Thus we have the Gayton river fed by: 1. Chalk springs. 2. Field surface drainage. 3. Surface drainage from Gayton village which must consist largely of fæcal matter.

It will hardly be believed that the town supply of King's Lynn is actually drawn direct from this stream within the area of the town itself. After being strained through gravel, it is pumped direct to the mains. It is not, therefore, too much to say that the water supply of the town of Lynn is a pure chalk supply largely mixed with sewage. With such a supply the wonder is that the town is ever free from disease. Compared with it the Maidstone Farleigh system, defective as it is, presents itself as comparative perfection.

Waterworks.

These are of a simple description. There is no attempt at filtration. Straining through coarse gravel is all that is attempted. The water is pumped direct from the river into the main, a water tower and standpipe being interposed. A stretch of water—technically, a settling tank—is little more than a pond. On its banks are the town allotments. There is not even a fence round it. Altogether, it would be difficult to imagine a more defective supply, or one better adapted to the dissemination of waterborne disease.

Sewerage System.

This is very defective, and, with the exception of additions and extensions which the growth of the town has demanded from time to time, is substantially the same as originally laid down. Many of the sewers are brick barrel drains, others have flat bottoms. No connection can be made out between the distribution of the cases of typhoid and the known insanitary areas of the town, or with areas, the sewers of which are known to be in a defective condition.

History of Epidemic.

For some time sporadic cases of typhoid have been occurring; in fact it is doubtful if the town has ever presented a clean bill of health since the last epidemic. On September 29th a heavy fall of rain took place, 2½ inches of rain falling in three hours. This caused a large flush of surface storm water to fall into the Gayton River. Such flushings came from the valley the surface of which has already been described. Twenty-three days afterwards the number of cases notified was 26. The inference, then, is that in this storm water the typhoid germs were washed into the town supply, an inference that the general nature of the supply as above described amply warrants.

New Works in Progress.

The corporation have in hand a scheme for a new water supply. This is being brought from the chalk hills. The water is obtained from deep wells sunk in the lower chalk. It is hoped that the supply will be ready early next year. The works are in a stage very near completion. Had it not been for the obstruction offered to this scheme on the part of a section of the townspeople, the supply would have ere this been ready. Truly the people of King's Lynn have learnt their lesson in sanitation at a dear cost.

The following is the list of notifications so far:

October 1st	...	...	3 cases.	October 19th	...	...	5 cases.
,, 2nd	...	...	1 ,,	,, 20th	...	...	8 ,,
,, 5th	...	...	1 ,,	,, 21st	...	...	5 ,,
,, 7th	...	...	1 ,,	,, 22nd	...	...	26 ,,
,, 11th	...	...	1 ,,	,, 23rd	...	...	44 ,,
,, 12th	...	...	2 ,,	,, 24th	...	...	21 ,,
,, 14th	...	...	2 ,,	,, 25th	...	...	47 ,,
,, 17th	...	...	1 ,,	,, 26th	...	...	30 ,,
,, 18th	...	...	3 ,,				

It is difficult to advise the people of Lynn in their present severe difficulties. The proper course is to cut off their entire supply from the Gayton River; but the town has no other supply to fall back upon. Under the circumstances nothing can be done but to boil all water used for culinary purposes; not only drinking water, but water for washing plates, vegetables, etc., should be thoroughly boiled before use. Individual protection could of course be obtained by the use of Pasteur-Chamberland filters, or any other germ-proof filtration method.

The type of the disease is described as mild. In many cases constipation has been noticed, a symptom that gives additional difficulty in diagnosis. The milk supply has been thoroughly investigated, and there is no ground for believing that it has had anything to do with the dissemination of the disease.

ASSOCIATION INTELLIGENCE.

BRANCH MEETINGS TO BE HELD.

Metropolitan Counties Branch: North London District.—A meeting of this District will be held at the Hampstead Infirmary on Wednesday, November 3rd, at 4.30 P.M. Dr. Morton will preside. Mr. C. Ballance, M.S., F.R.C.S., will read a paper on Some Cases of Abdominal Disease operated upon during September. Dr. A. H. Cook will show cases of interest in the wards of the infirmary. The District Committee will meet at 4.15 P.M.—H. J. Macevoy, Honorary Secretary, Brondesbury, N.W.

Perthshire Branch.—The annual meeting of this Branch will be held at the Station Hotel, Perth, on Friday, November 5th, at 3.45 P.M. Business: Read minutes. Election of office-bearers. Election of members. Report of Council. Report of Treasurer. Report of representative member. President's address. Report of representatives at Montreal meeting. Communications from families of the late Dr. Fleming and Dr.

. W. Irvine. Consider communications from Glasgow and Edinburgh ranches *re* meetings of next year. Consider Parliamentary Bills Com-ittee's letter *re* army medical reform. Arrangements for next meeting. ny other business. Dinner will be served in time to permit of departure y the evening trains. Members who wish to attend should give notice o A. R. URQUHART, Honorary Secretary, James Murray's Royal Asylum, Perth.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The autumn meeting vill be held at Llanelly on Tuesday, November 23rd. Nominations, otices of papers, etc., should be sent in on or before Saturday, November th.—A. SHEEN, Cardiff, D. ARTHUR DAVIES, Swansea, Honorary Secre-aries.

SOUTH-EASTERN BRANCH: WEST SUSSEX DISTRICT.—The next meeting vill take place at the Worthing Infirmary (Mr. W. S. Simpson in the hair) on Wednesday, November 10th, 1897, at 3.30 P.M. Mr. E. Payne will ive a demonstration of the *X* Rays, and cases of interest will be shown. —FRANK HINDS, Honorary Secretary, Worthing.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—The next meeting will be held on November 25th, at the Queen's Hotel, Eastbourne; Dr. Adams will preside. Members desirous of bringing papers, cases, etc., before the meeting are requested to communicate with the Honorary District Secretary, J. W. BATTERHAM, M.B., Bank House, Grand Parade, St. Leonards.

BORDER COUNTIES BRANCH.—The autumn meeting of the Branch will be held in the County Hotel, Carlisle, on Friday, November 5th. Members intending to read papers, etc., are requested to communicate with the Honorary Secretaries, R. DUNDAS HELM (Carlisle), W. HALL CALVERT (Melrose).

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.

THE autumn meeting was held at Malvern on October 23rd inst.

Venereal Disease in the Army.—Dr. H. E. DIXEY read a paper on venereal diseases among soldiers, especially in India, and proposed the following resolutions, which were seconded by Mr. H. C. MOORE, of Hereford, and carried unanimously:

That in view of the great increase of venereal disease, and especially of syphilis, among the British troops in India, and the grave danger to the community at home caused thereby, this Branch of the British Medical Association strongly urges the Government to take such steps as would in the opinion of the Indian Government be most likely to check the spread of the disease and to leave the Indian Government a free hand in dealing with the question.

That a copy of this resolution be sent to the Secretary of State for India.

It was also decided to send a copy of the resolutions to each Branch in the United Kingdom.

Medical Aid Associations.—A communication was read from the Secretary of the East Anglian Branch *re* the admission of medical aid association medical officers to their Branch, and it was resolved:

That this Branch approves of the action of the East Anglian Branch in this matter.

New Member.—Mr. S. M. Challinor, late of the Lancashire and Cheshire Branch, was elected a member.

SPECIAL CORRESPONDENCE.

PARIS.

Plague Serum.—Congress Plethora.—Competitive Examinations. —The Economics of the Assistance Publique.—Dr. Laporte.—General News.

M. METCHNIKOFF of the Pasteur Institute in a paper read at the International Medical Congress at Moscow, stated that MM. Yersin and Kitasato had found the pathogenic agent of plague in the buboes, in the blood, and stools of plague patients. This pathogenic agent—the cocco-bacillus pestis—was pathogenic for human beings and mammals. The plague bacillus became more virulent after being passed through the organism of rats and mice. The adenitis was due to resistance of the organism. When the bacillus overcame this resistance the infection became generalised. M. Roux had isolated the plague toxin. It was destroyed at a temperature above 70° C. Calmette and Borrel had succeeded in vaccinating rodents by injecting gradually stronger and stronger doses of sterilised plague cultivations. The blood of these animals was used to immunise others. The same results might be obtained by horse serum. Yersin, in 1896, used horse serum which had cured rodents previously infected. He inoculated 26 plague patients with it, of whom 2 died. A stable was then organised at Kha-Tang, and M. Roux organised another in France, in order to be prepared if plague appeared in Europe. The horse serum prepared at these two stables was sent to M. Yersin who was at Bombay. The results were not very good. The mortality was 49 per cent., whereas that of patients treated with the serum of the first horse was only 7 per cent. This difference in the mortality was attributable to faults in the preparation. The mortality among patients not treated was 80 per cent. This same serum, which was not very efficacious as a curative agent, was very valuable as a preventive agent. The immunity thus obtained was not lasting. Serum which did not act as a curative agent might be used to immunise. Thus neighbouring provinces and countries might avert infection if the population were immunised as often as necessary.

The plethora of congresses, it is said, is accompanied by the disagreeable symptom of anæmic gatherings. The Congress of the French Surgical Association is indicated as the first victim to plethora. The treatment proposed in order to ward off its threatened death is to have fewer sessions; but this treatment, which has been suggested some time ago, it is almost impossible to follow. The Association is tied down by a regulation which obtained for it "the recognition of public utility," and is by this same regulation bound to meet in Congress every year at Paris during the month of October. Dr. Gross opened the Congress on October 20th. There were about 60 members present to listen to the admirable address of the President, who gave a complete summary of the use of the Roentgen rays; about 40 listened to the different papers which were read. This is regarded as a serious case of anæmia.

The Hospital Medical Society has appointed a committee to study the question of how best to reform the hospital competitive examination (*concours*). The committee consists of M. Dumontpallier, M. Huchard, M. Daulos, M. Gingrot, M. A. Robin, M. Merkelen, M. Edgard Hirtz, M. Siredey, M. Joffroy, M. Letulle, M. Chauffard, M. Gaucher, M. Marfan, M. Achard, M. Widal, M. Faisans, M. Florand, and M. Variot. M. Huchard will have the opportunity of repeating all he has said and written on this old, old question. It is to be hoped that this influential committee will show that its twenty-one members mean work in direct proportion to its members—not in inverse, as is generally said of committees.

At a recent meeting of the Municipal Council a member asked M. Peyron to explain the savings realised by the Assistance Publique. He made the following statement: The reserve fund of the Bureaux de Bienfaisances now reaches £32,000. In 1895 it was £30,000. If savings have been realised in some districts, others have not been self-sufficing, and the reserve fund was drawn upon. M. Peyron declares that the saving of £2,400 in 1896 was not extraordinary, inasmuch as the Bureaux de Bienfaisances spent annually £320,000. It is impossible to carry on charitable relief without keeping up a good reserve fund in order to be prepared to help unlooked-for cases of distress and misfortune often resulting from sickness. M. Peyron nevertheless admitted that this reserve fund might be limited, and has given the *mot d'ordre* not to increase it.

Dr. Laporte, who was arrested and imprisoned, accused of homicide by imprudence, has been sentenced to three months' imprisonment, but the application of the Berenger law leaves him free. A number of medical men attended the trial to express their sympathy with Dr. Laporte. Dr. Ducor, Secretary to the Medical Society of the 17th district, is organising a banquet in honour of Dr. Laporte's counsel. The fears of the medical profession are thoroughly aroused by the preliminary imprisonment inflicted on Dr. Laporte. Some declare that they will not attend women about to give birth to a child, or perform any dangerous operation unless a commissary of police be present. The matter is to be discussed at the Municipal Council. There are evidently many shortcomings, both legal and administrative, to be brought to light and remedied.

At a meeting of the Municipal Council M. Paul Bernard

urged that a medical help station should be created at the "Assistance Publique," in order to prevent a recurrence of "a birth in public," which happened on July 9th, as was noted in the columns of the BRITISH MEDICAL JOURNAL. M. Peyron said that he was fully aware that the policemen on duty at the police station were the first who attended to the poor woman and performed the necessary duties. He declared reorganisation, demanded by M. Bernard, of the Assistance Publique, would not prevent these accidents, and would be very difficult to effect.

News comes from Bulgaria that a Pasteur Institute is now in working order at Sofia. It was opened on October 18th, and on the same day a woman who had been bitten by a dog was placed under treatment.

The Municipal Council has voted £120 to defray the expenses of erecting in the City of Paris a monument to the memory of Lavoisier.

The Municipal Council has amused itself by voting again that the State should suppress the use of white phosphorus in the lucifer match factories. Unfortunately the State does not appear to be influenced by the wishes of the Municipal Council.

BERLIN.

Medical Courts of Honour.—Sanatorium for Dipsomaniacs.—War-Ambulance Classes.—The University Chemical Institute.

THE Berlin-Brandenburg Medical Council (Aerzte-Kammer) met on October 16th to discuss the revised draft of a Prussian Bill for the establishment of medical courts of honour. After an animated debate lasting two hours a resolution was passed by 36 voices against a minority of 23 voices, declaring that the council could not agree to the Bill in its present form. A committee was elected with power to prepare a memorial on the subject, and to submit it to the Prussian Diet should the Bill be brought in.

The Berlin branch of the German society against the abuse of spirituous liquors has decided to erect a sanatorium for dipsomaniacs near Berlin. The committee is an influential one, and numbers amongst its members Dr. Sander, the director of the large municipal lunatic asylum at Dalldorf, near Berlin.

A special course of instruction in war-ambulance work, comprising field-hospital service, transport service, and administration service is to be held once a week in the evening during the winter for merchants, tradesmen, and clerks in Professor Lassar's lecture theatre. The lessons are to be gratuitous, and the necessary material for practice will also be supplied free of charge. At the close, and after an examination has been passed, diplomas will be given qualifying the receivers as voluntary ambulance-helpers, nurses, or assistants in the field-hospital administration in time of war. As trade notoriously suffers in war time, and many mercantile establishments are obliged to close temporarily, these diplomas will enable clerks, etc., who for some bodily defect or other reason are exempt from military service, to take an honourable part in their country's defence, and at the same time to earn an honest penny.

A new building for the first chemical institute of the university is in course of construction. It will contain four students' rooms with a total of 250 places, and private laboratories with 25 places for independent scientific investigations. The lecture theatre will contain 400 seats. The total cost is estimated at about £50,000.

LIVERPOOL.

Review of the Sanitary State of the City during the Year.—Deficient Hospital Provision for Infectious Cases.—Resignation of the City Engineer.—Munificent Donation to the Hospital for Consumption, etc.

THE last meeting for the municipal year of the Health Committee and the Hospitals Committee of the Liverpool City Council, took place on October 22nd, when the respective Chairmen summed up the sanitary history of the city during the last twelve months, and showed that the period has been marked by exceptional activity on the part of the various municipal sanitary departments, and by a corresponding improvement in the health of the community. The increasing demands on the attention of the health officials may be estimated from the fact that, during 1897, 1,814 new houses have been erected, and 1,025 plans have been passed. During the first six months of the present year the annual rate of mortality was 22 per 1,000, indicating that the improved conditions of the previous year had been fully maintained, each district of the city sharing in the general improvement. During the third quarter of the year, however, infantile diarrhœa of a fatal kind became prevalent, and to this cause 1,409 deaths were due. This serious mortality from a strictly preventable disease, called forth from the Chairman of the Health Committee some very appropriate observations on the proved relation between this disease and the want of cleanliness and care in the feeding of infants and young children, words which, it is to be hoped, may find their way to quarters where they are greatly needed. All the important notifiable zymotic diseases show a satisfactory diminution. The total number of cases of typhus fever was 120 during the first nine months of the present year, being less than half of those reported during the corresponding period of 1896, while the fatal cases were 17 and 26 respectively. Typhoid fever showed a similar improvement, the cases reported during the first nine months of this year being 634, a decrease of 124 from the number notified during the corresponding period last year, while the deaths were respectively 76 and 107. Scarlatina also shows some improvement. Six cases only of small-pox occurred and none were fatal. A notable improvement has also taken place as regards diphtheria, the notifications during the corresponding periods being 375 for 1896 and 291 for 1897.

Another satisfactory consideration is that the proportion of cases removed to hospital is increasing. For instance, of the cases of typhoid fever, 58 per cent. were thus removed this year, and 55 per cent. last year; of the scarlatina cases, 53 per cent. were removed this year and 46.4 per cent. last year. These figures are gratifying, both as indicating that effective isolation is more generally carried out, and also that public confidence in the management of the city hospitals is fully maintained. It is very noteworthy that the zymotic diseases for which no hospital accommodation exists—measles and whooping-cough—have both of them shown an increased number of deaths during the year—a fact which serves to enforce the value of isolation and hospital treatment to the individual and community. In spite of the gratifying character of these returns, it is quite clear that the present hospital accommodation would prove quite inadequate for the needs of the community if an epidemic of even moderate dimensions should unhappily occur. In spite of the almost entire freedom of the city from small-pox, the authorities have at times been hard pressed to find room for the other cases requiring isolation, and the occurrence of even a limited outbreak of that disease would strain the present machinery to breaking point. That such an occurrence is by no means beyond the reach of possibility is clear from the fact that the medical officer of health estimates that, although Liverpool is on the whole a well-vaccinated community, it contains some 40,000 persons who are unvaccinated. If we add to these the number of those who, though vaccinated, are insufficiently protected, the danger arising from a single case of small-pox not isolated becomes apparent.

Much regret is felt in Liverpool at the resignation of Mr. Boulnois, the city engineer, who has accepted an appointment under the Local Government Board. Mr. Boulnois has been intimately concerned in the sanitary progress of the city for several years, and he discharged his various and onerous duties in a manner which has earned for him universal esteem. It was the wish of many members of the Health Committee that he should be asked to withdraw his letter of resignation, but when they found that his arrangements were such that he could not withdraw, the committee unanimously passed a resolution expressing their regret at his severance from them, and at the same time their hope that he would have success in the new sphere of life on which he was entering. The members of the medical profession in Liverpool fully share these feelings.

The building fund for the new Consumption Hospital ha

n augmented by a gift of £2,000 from Lady Willox, who a days ago endowed a bed in the hospital. The st of Assistant Physician to the hospital rendered ant by the resignation of Dr. T. Bushby on his appointnt to the Northern Hospital, has been filled by the elecn of Dr. Warrington, who has been for some months gaged in pathological research as a member of the staff in laboratories at University College.

CORRESPONDENCE.

THE EPIDEMIC AT MAIDSTONE.

SIR,—It is stated in to-day's *Standard* that "at a meeting of Urban District Council, a letter from the Local Governnt Board promising to grant a public inquiry with regard the typhoid epidemic was read amidst much applause." w, if anything hopeful was to be expected from this inry, why was it not carried into effect at the very comncement? "But wait a little longer" seems to be the tto, and the mayor stated that the necessary application to Board would be made at the proper time, or, he might ve added, "after a few more cases have been recorded." e medical officer, in allusion to the necessity of boiling lk before its consumption, remarked that "it would make Council's hair stand on end to know the shocking caresness that had come to his knowledge concerning the praces of some milk dealers," and, in his opinion, "there was more risk of a secondary extension of the disease on a ge scale through this than any other channel," as has been ll known to have happened in other cases. Although ung people are more susceptible of typhoid than others, it rather significant that more than half of those attacked ring the past few days were children, in some cases under ears of age.

But, as bearing upon the important subject of the mation of all typhoid excreta as suggested in my mmunication published in the BRITISH MEDICAL JOURL of October 9th, the medical officer's remarks are very ggestive. Thus he affirms that "hand-flushed closets and il house drains were conditions exactly suited to afford a lgment for the seeds of the disorder." This, of course, is lpable enough, but no efficient means of arresting the eeds of the disorder" so as to obviate their lodgment in at suitable ground is laid down, while it is obvious that tle reliance can be placed in ordinary disinfection. The estion here presents itself—Is cremation a practicable sugstion? Well, the practicability of almost anything would nply depend upon a sense of its necessity and the support of authority. Suitable arrangements could be easily ried out in public or private hospitals and asylums, and, ien once introduced in a portable form for private houses, actical experience and a little ingenuity would soon sugst and effect all desirable improvements in the system.—I , etc.,

Thurstpierpoint, Oct. 21st. JOHN D. MACDONALD.

"EXPERIMENTS ON LUNATICS."

SIR,—The unwarranted strictures of Dr. Berdoe in a lay wspaper of September 9th upon my article in the *Johns opkins Bulletin* might have passed without comment, but s reply in the BRITISH MEDICAL JOURNAL of September th to your notice of his letter falsifies the actual facts to a ill greater degree, and necessitates a correction on my rt.

The article referred to was one of a series of papers on the Lesions Produced by the Action of Certain Poisons on the rtical Nerve Cell," the first section, "Alcoholic Poisoning," ving been published in *Brain*, Part IV, 1895. Up to the ne of the publication of Study VII the series had been tirely experimental, and the first part of this last article is written with the sole object to present to the profession e fact that the thyroid extract was not an entirely harmless edicament, and was not applicable to every case of insanity obesity. For the opinion of the medical profession at large upon the subject of thyroid administration, I would refer Dr. Berdoe to Professor Richet's address before the British Medical Association as published in the BRITISH MEDICAL JOURNAL of September 18th.

To come more closely to the gist of the whole matter, I would expressly state for Dr. Berdoe's benefit that the thyroid tablets were administered to the eight insane patients more than a year before the inception of the other part of the study, and at a time when the administration of the thyroid extract was beginning to come into extensive use in the treatment of insanity; and so far from being an attempt, as he alleges, to poison these patients with the extract of the gland, it was an effort, when all more common means had failed, to give them another chance to recover their reason.

Dr. Berdoe alters my statement as to the condition of the patients with apparent intention to deceive, when in his last letter he makes me say "that they were declared to be incurable," when I distinctly state "that they had either passed, or were about to pass, the limit of time in which recovery could be confidently expected." That there is a wide difference between "incurable," in the sense used by Dr. Berdoe, and the "limit of time in which recovery may be confidently expected," is well illustrated by the final recovery of Case VIII, who, after a year of seemingly complete dementia, has now become a useful member of the community.

Case II, the one especially referred to as having died as a direct result of the thyroid treatment, had been the subject on several previous occasions of attacks of violent excitement, as prolonged and intractable as the one following which she died of advancing tuberculosis; but on these previous occasions she had been able to survive them, owing to her better health. I can hardly believe that Dr. Berdoe thinks her decease, seven weeks after the discontinuance of the thyroid, was owing to this agent. It would be the same as giving a patient for a short period sufficient strychnine to produce muscular tonus, and then, if she died two months afterwards, attributing her death to the drug. Thyroid products are eliminated from the body within forty-eight hours of their administration.

Furthermore, from Dr. Berdoe's standpoint, I have been guilty of making "experiments" upon the human being, "not with a view to cure the patients, as they were declared to be incurable, but for the purpose of testing the toxic action of the thyroid extract when pushed to a dangerous point." If he had read the first part of the article he would have seen "that to these patients the thyroid tablets, each pill representing 5 grains of the fresh sheep's gland, were administered, the dosage always beginning with a single pill for a period of three days, then, after a certain tolerance had been established, the dosage was increased to two tablets daily, and, unless the symptoms induced became grave, the number of pills was increased to three daily, the length of the continuance depending upon the results." While this sentence in itself is sufficient warrant that all due and necessary care was taken with the thyroid administration, I would in this place state that the total amount of the gland received by this patient was exactly 110 grains, distributed over a period of twelve days, or less than 10 grains *per diem;* an amount totally insufficient, if Dr. Berdoe will inquire of any of his friends interested in psychiatry, to produce lethal or dangerous symptoms of any kind. Moreover, the result of the experiments upon animals showed that it was necessary to give more than 1 per cent. of the bodily weight in the thyroid extract to induce lethal results, while here less than 2 drachms were administered to a woman weighing about 100 lbs.

Dr. Berdoe has raised an unpleasant tempest without being sure of his ground, and totally without sufficient cause or foundation for his statements; and, in concluding this letter, I would assure him most positively that, so far as the clinical portion of the study is concerned, that it was not "a study of poisoning as a poison might be tested on an animal," but a trial of a medicinal agent, such as is done every day and everywhere, within the strictest and most careful limits of scientific investigation, and for the good and not harm of the patient. I frankly admit that the wording of the article is in some ways unfortunate, but the object of the paper was to bring into notice the undesirability of the indiscriminate use of the thyroid extracts.—I am, etc.,

Park Avenue, Baltimore, Oct. 7th. HENRY J. BERKLEY.

TAIT'S FLAP-SPLITTING OPERATION ON THE PERINEUM.

SIR,—I note that in a review of Bland Sutton's book on *Diseases of Women*, your reviewer says that a teacher "should, in recommending Tait's flap operation, which is widely adopted, admit that some believe that it does not always give the strong supporting perineal body obtained by some of the older and lengthier methods—Simon's, Hegar's, etc."

This may be true enough if the intent and methods of two perfectly different operations were confused with one another, as they often are by writers of note, and as I think they must be in the mind of this reviewer.

The two operations, as I have made abundantly clear in my notes to Dr. Stewart McKay's book (Baillière, Tindall, and Cox) are perfectly different. The first is for ruptured perineum, and then if the depth of incision is sufficient at the junctions of the three incisions, secondary failure is practically impossible. It is unknown in my own practice, and therefore, if it occurs in the practice of others, I am entitled to assume that my methods are not followed. I have also again and again had to repudiate the descriptions of my operations by writers who have not seen me do them.

The second operation is for the extension of a damaged or distended fourchette (posterior). There the intent and method are quite different, being wholly for the purpose of keeping up an extended uterus and bladder. The uterus is easily returned; the real trouble and cause of secondary failure is the neck of the bladder. If the vulvar incisions are not made deep enough to get a good thick shelf; or, more important still, if the incisions are not made far enough forward to prevent the neck of the bladder creeping round the edge of the newly-made extension, failure is pretty certain, at least in hospital patients. But if the urinary meatus is covered by the extension, failure is most surely prevented. I have, however, long since come to the conclusion that in hospital patients, who give so little help in the direction of permanence of relief in this as in other reparative proceedings, the best treatment for those terrible cases of protrusion with which all out-patient clinics are scattered is removal of the uterus.—I am, etc.

Birmingham, October 23rd. LAWSON TAIT.

A NEW METHOD OF LOCALISING BRAIN LESIONS.

SIR,—The illustration of the instrument, called by me a cerebrographometer, criticised by Mr. Wagstaffe in the BRITISH MEDICAL JOURNAL of May 1st last, shows an outward resemblance of the instruments, which accident has led Mr. Wagstaffe to the conclusion that, while they are almost identical, his is the better of the two. This result must have been arrived at by an inspection of the pictures alone, for he has failed to understand the simple working of my instrument set forth in the text. Thus he says: "Mr. Cox seems to have drawn up a very useful scheme by which measurements can be made to particular points; but it will be much easier to take these measurements from a soft metal rod representing the fissure of Rolando than to measure from a lattice work cross piece, as there is a tendency for the hairs to catch in that structure of the instrument. Whether a flat map plan of the surface of the brain would be a help is a question, but I think a marked skull would be preferable."

Now the point I laid greatest stress upon was that with my instrument no measurements are required; when in position only one motion is necessary to directly localise any given point on the surface of the brain, during the performance of which the lattice band is clear of the scalp hair till placed over the part sought. The "flat map plan" is prepared from the readings of the instrument when in position on the cadaver with one hemisphere exposed; such must necessarily be distorted in the diagrammatic map, but this distortion will, of course, be corrected by application to the living scalp.

Again, he says, "The distances along the main lines I also prefer to divide into hundredths rather than measuring by the fractions Mr. Cox uses." I do not measure, nor do I use fractions. The symbol—½—means the centre of the fenestra between two marked rivets. This, in an ordinary sized skull, would give an accuracy which could not vary more than the one-seventh of an inch, a distance well within the circumference of an inch trephine.

In the space at my disposal I can only point out that M Wagstaffe's instrument will only directly indicate Roland fissure, a result which his friend Professor Reid has sho can be accomplished in a simpler way; while with mine t whole surface of the brain can be mapped out in a f minutes without other aid than the diagram and a marki pencil. My original paper will be found in the *Transacti* of the Royal Academy of Medicine in Ireland for 1896.—I a etc.,

Shanghai, Sept. 8th. ROBERT H. COX, F.R.C.S.I

MEDICINAL PLANTS OF THE UNITED STATES.

SIR,—In your "Literary Notes" you refer to the fort coming publication of the Smithsonian Institute of Washir ton of a work on the indigenous medicinal plants of t United States.

It may interest your readers to know that such a work w successfully carried out by the Confederate States Gove ment in 1862. By direction of the Surgeon-General the wo was undertaken by Dr. Francis Peyre Porcher, P.A.C.S., and w published in Charleston, South Caroline. The title is as follo *Resources of the Southern Fields and Forests, Medical, Economic and Agricultural, being also a Medical Botany of the Confeder States; with Practical Information on the Useful Properties the Trees, Plants, and Shrubs.*

As the book has become very scarce the following extra from the preface, showing the spirit in which the auth carried out his work, may not be amiss:

From an inspection of the large amount of material embraced in t volume it will be seen that our Southern flora is extraordinarily ri It is the teeming product of every variety of soil and climate, from Ma land to Florida, from Tennessee to Texas. The Atlantic slopes with th marine growth, the mountain ridges of the interior, the almost inf tropical productions of South Florida, with the rich alluvia of the ri courses, all contribute to swell the lists, and produce a wonder exuberance of vegetation. These a bounteous Providence has vouchsa to a Confederacy of States, starting forth on their career under new a happier auspices, and with independence and self-reliance forced up them by an almost sacred necessity.

A list of the more important medicinal plants, with account of their therapeutic uses, was published in t seventh number of the first volume of the *Confederate Sta Medical and Surgical Journal*, of Richmond, Virginia.

The Federal proclamation declaring medicines to be cont band of war was answered by the Confederates with I Porcher's book, showing the wealth of therapeutic remedi they possessed in their indigenous plants.—I am, etc.,

Dublin, Oct. 18th. GEORGE FOY.

GLYCERINATED CALF LYMPH.

SIR,—In your review of MM. Delobel and Cozette's *Vacci et Vaccination* you make the statement that the method preparing calf vaccine with glycerine has obtained everywhe outside the British Isles; also, that it has been necessary have recourse to Continental countries for the necessary i formation about this procedure. Will you allow me to sta that the same methods have for many years been practised this country as well? It is true that in the recent investig tions of the system on behalf of the Local Government Boa Continental establishments (private and public) only we visited and reported upon, although similar informati might have been obtained at home. At the Aldershot Milita Institute, among others, a glycerine preparation has for yea been produced with the best results, and I have myself pr pared and supplied none but glycerinated calf vaccine ev since the year 1883 at my establishment, except on "point which, however, I have discontinued long ago, and I ha frequently demonstrated my procedure in all details private and in public.

We are, therefore, not so much behind Continental insti tions in this subject as your remarks would lead to believe. I am, etc., C. RENNER, M.D

Establishment for Vaccine and Calf Lymph, Marylebone Road, N.W., Oct. 25th.

"MENTAL EVOLUTION."

SIR,—Anticipating challenges to Dr. Bucke's president address on "Mental Evolution" I have waited to see. Nov await, with much curiosity, the answers to Surgeon-Ma Haines's queries, which will also be answers to some of mi The exact definition of self-consciousness, colour sense, mo

ture, etc., though more or less intelligible without defini-
n, are points on which we ought all to be agreed. Dreams
uld no doubt furnish valuable facts if classified notes were
ıde of them. Of self-consciousness Dr. Bucke says: "It is
ver present in dreams." Is it not self-consciousness to
:over oneself half dressed, or almost naked, in some
blic place, and to feel great discomfort thereat? Speaking
myself I have several times had such a dream. I have
o observed that as a rule one takes no notice of colour in
e's dreams unless just at the waking point, when I have
ticed a dull yellow and red; but even this is rare. A
ficulty in recording the dreams of others would be the un-
tainty, in many cases, that the facts were accurately
·en.

f it be true that the lower animals have no colour sense,
en, unless the cause of colour can affect the senses in some
ıer way, this circumstance would go far to upset the Dar-
ıian theory of warning coloration, mimicry, sexual
oration, etc.—I am, etc.,

ctober 25th. INQUISITIVE.

THE LIABILITY OF DOCTORS IN ORDERING NURSES.

SIR,—It has become the custom in a very great number of
tances for the medical attendant of a family to go himself
the nursing institute, and see the nursing superintendent,
l explain the case to her and to some extent select a nurse
table for the case.

'here seem several advantages in such a course; but, in the
ht of a case just now occurred, it is not without attendant
advantages. The medical man, of course, has secured the
ısent of the family, and would be held in law as their
nt; nevertheless if, as in the case in point, the nurse
ıuld be deemed unsatisfactory and leave in a few days, and
family repudiate liability for her unsatisfactory services,
s to the doctor the nursing superintendent must look for
ıuneration. One of the committee of the institute, who
ctises as a solicitor, assured us the institute need fear
hing, as the person making the engagement was clearly
doctor, and he could doubtless compel repayment by
nty-courting the patient. Added to this was the fact that
'as not a member of the family, but a servant who required
nurse; and I think a good case is made out for circum-
ction on the part of medical attendants. Doubtless a
e from the family to the nursing superintendent is the
st courteous and ready method of preventing what might
a serious liability, and should be insisted on by the
tor.—I am, etc.,

·tober 12th. J. D. H.

OBITUARY.

WILLIAM ROBERT CORNISH, F.R.C.S., C.I.E., Etc.,

Surgeon-General I.M.S. (Ret.).

was announced briefly last week, this distinguished officer
l at Worthing on October 19th, at the age of 70. His
·er in the Indian Medical Service was full of usefulness
honour, and his life presents an illustration of the devo-
ı to duty, the ability, the industry, the broad capacity, and
substantial help to science and administration which so
ıy members of the medical and sanitary services of India
e displayed and contributed.

ornish was educated at St. George's Hospital, where he
a scholar and prizeman, obtaining, among other distinc-
:s, Sir Benjamin Brodie's gold medal for clinical surgery.
succeeded in gaining by competition an appointment in
medical service which was offered to the hospital by the
t India Company, and was appointed Assistant-Surgeon in
, and posted to the Madras Presidency.

uring the first four years of his service he held various
mental and civil charges, and was selected in 1858 to act
Secretary to the Inspector-General of Hospitals, who at
time controlled the whole of the military and civil
lical administration of the Presidency. The selection of
oung an officer for this post was an indication of very ex-
tional merit, and was fully justified by his work during the
years of his tenure of the office. He found time, in addi-
tion to his official duties, to edit the *Madras Quarterly Journal of Medical Science*, and to write important papers on the treatment of dysentery by large doses of ipecacuanha, on enteric fever in India, on prison dietaries, and on cholera in Madras. He served in 1865-66 on an important commission for the reorganisation of medical establishments in India, and was Secretary of the Medical Fund from 1864 to 1870.

When in 1870 Sanitary Commissioners were appointed for Indian presidencies and provinces, Cornish was appointed as first Sanitary Commissioner for the Madras Presidency, and acted in this capacity for ten years. This was very congenial work, and he threw himself into it with ardour. He organised the business of his office on a practical and productive basis, and his sanitary administration was most beneficial to the army and civil populations of Southern India. His reports were admirably drawn up, and contained very valuable information regarding the sanitary defects influencing prejudicially the soldier and the civilian, and the reforms which were necessary to amend them. He worked in harmony with the authorities—military, civil, and local; and his aid was freely sought and greatly appreciated on all health questions. He also promoted the collection of vital statistics, and by his personal efforts and impulse added much to the knowledge of the prevalence and causation of disease. During his occupation of this office the disastrous famine of 1877 ravaged Southern India, and gave him an opportunity of rendering invaluable aid in organising relief measures and saving life. His strenuous and successful efforts to raise the official famine dietary to a standard sufficient to sustain life and avert death by starvation are well known. In 1878 he was directed to supervise the Madras census, on the results of which he wrote a most exhaustive and interesting roport.

He was appointed Surgeon-General of the Medical Department in 1880, and held that office for five years, serving also in 1883-85 as member of the Madras Legislative Council. In this latter capacity he gave material assistance in framing a local Government Bill for the Presidency, and he also helped usefully in compiling the Famine Code, which has proved of such signal service in dealing with threatened and actual scarcity of food in various parts of India. As Fellow of the Madras University and President of the Medical Faculty of that institution, he had a leading hand in promoting the efficiency of medical education in Madras.

He retired from the Medical Service in April, 1885. During the last twelve years he has lived a quiet but by no means idle life in this country. As member of the Council of the British Medical Association, of the British Institute of Preventive Medicine, of the Sanitary Assurance Association, as Fellow of the Royal Medical and Chirurgical Society, and member of the Epidemiological Society of London, he has brought his great knowledge and experience to bear upon many medical and sanitary questions, and always with advantage.

Surgeon-General Cornish was a man of strong build and imposing presence. He was endowed with excellent gifts and a very sound judgment. He was a firm friend, and in all relations of life, whether private or official, commanded respect, and exercised influence of a salutary and enduring kind. His record is a noble one. Apart from official promotion and selection for duties of a specially onerous and important kind, the performance of which was always acknowledged with praise and thankfulness, the only decoration or reward which was bestowed upon him was the Companionship of the Order of the Indian Empire. He has, however, established for himself a record of good service and sound work which will abide.

On October 23rd, the first funeral service was read at Heene Church, and the interment took place at the cemetery near to the church. Some members of the Service to which he belonged, and others who had been associated with him in India, were present, besides the members of his own family, to pay their late respects to his memory.

We are indebted to a brother officer of Surgeon-General Cornish for the following sympathetic note: He was the most indefatigable worker I ever knew in all matters connected with medicine and sanitary science. At an early age he showed a capacity for literary work, and this was taken advantage of, and the Government of Madras placed him in such appointments as suited his capacity. Besides his

purely official duties, he was a leading spirit in all public movements in Madras. He was an excellent horticulturist, and the Botanical Gardens at Madras owe a great deal to him, especially at the annual horticultural shows. He was an excellent musician, and was one of the founders of the "Madras Philharmonic Society." He possessed a beautiful deep bass voice, and took the solos (bass) in the oratorios and cantatas which were performed from time to time by the Society. He was also a fair performer on the violoncello. He took a keen interest in and materially helped by his counsel and advice the various charitable institutions in Madras, such as "The Friend-in-Need Society," "Eurasian Association," etc.

His administrative powers and knowledge of men and politics were great, and the Government of Madras placed him on the "Legislative Council of Fort St. George," with the honorific title of "Honourable." This was the first time that a member of our profession was selected by the Government for such a post, as far as I know.

In social life he was a most hospitable man, and his house was always open to entertainments of various kinds. He took an intense interest in all young officers who joined the service, and they readily resorted to him for advice and guidance in difficulties, and they always found in him the wise counsellor and kind adviser. After his retirement his interest in medical matters never waned, and his work on the Council of the British Medical Association and the Parliamentary Bills Committee of that body was invaluable.

Since 1895 he had ceased to take an active part in the various bodies with which he had associated himself. His health began to fail, and a paralytic seizure crippled his powers. He retired from London at the same time, and lived in quietness in the vicinity of Brighton and Worthing.

THOMAS BELL ELCOCK FLETCHER, M.D., F.R.C.P.

On Thursday, October 21st, there died at his residence in Leamington, at the ripe old age of 91, Dr. Thomas Bell Fletcher, who was for many years one of the leading physicians of Birmingham and the Midlands.

Some ten or twelve years ago Dr. Fletcher retired from all active professional work, and left Birmingham to take up his residence in Leamington. He had been in failing health for several years before his death, having never quite recovered from an apoplectic seizure he had shortly after settling in Leamington.

Dr. Fletcher was born at Shifnal, and left his native town to study medicine at Paris. He graduated at the University there, and afterwards established himself for a time in London. Early in the Thirties he left London, and settled in Birmingham. In 1838 he was elected to the first professional appointment, that of Physician to the General Dispensary, a post which he held for some ten years. After resigning this post he was in March, 1848, appointed one of the Physicians to the Birmingham General Hospital. At the time of his death he was Consulting Physician to that institution, so that his connection with the hospital extended over a period of fifty years.

He resigned his position as Acting Physician in 1877, and, as a token of his distinguished services to the charity over a period of thirty years, was presented by the Governors with a service of plate, whilst an excellent portrait of him was at the same time painted by Sir Daniel Macnee, and presented to the hospital. At the next annual meeting of the Governors he was made Consulting Physician.

This was only one of a number of honorary professional distinctions conferred upon him during his career. In 1848 he was made a Fellow of the Royal College of Physicians, and at his death was one of its oldest Fellows; he was also Consulting Physician to the South Salop Infirmary, to the Midland Counties Hospital for Women, the Birmingham Orthopædic Hospital, and to the West Bromwich Hospital.

The non-medical charities of the City did not escape his interest, for he gave long-continued and valuable services to the Bluecoat School and Blind Asylum as their Physician, and may be said to have been—with his friend, Mr. J. H. Kimball—the joint founders of the Midland Counties Asylum for Idiots.

Dr. Fletcher took a keen interest in the welfare of all the local medical, scientific, and benevolent societies. He w an active member of all of them, and at one or other ti their President. To the Medical Institute he was a gener and liberal contributor, and was also its first President.

In the earlier part of his career he assisted in the forr tion and organisation of two medical schools. The first these failed, but the second was successful, and as Sydenh College ran a prosperous career for some seventeen years. it Dr. Fletcher undertook the teaching of the theory a practice of physic, and also acted as Principal.

He was strongly opposed to the amalgamation of Sydenh College with the Queen's College, and when this became accomplished fact he withdrew from the Chair of Medici and took no further part in teaching. He was, howev made a life governor of the United College. had a seat on council, and was for some years its President.

One of the oldest dental practitioners in Manchester l passed away in the person of Mr. Leopold Dreschfeld at t age of 75. He was an elder brother of Professor Dres feld. Mr. Dreschfeld was Consulting Surgeon to the Victo Dental Hospital, and was also a past President of the M chester Odontological Society. He had been over fifty ye in practice, and had recently retired from the active duties his profession. He was one of the founders of the Victo Dental Hospital and of the Odontological Society, of wh he was elected President in 1888. For years he was one of t Committee of the Owens College selected to represent den studies. He was an original member of the Schiller-Anst and one of the originators of the Manchester Liedertafel.

The death is recorded of Mr. Andrew Hingston, of L keard, at the age of 76 years. The deceased, who was the s of Mr. Richard Hingston (who practised in Liskeard as a s geon), qualified as M.R.C.S.Eng., L.S.A., in 1842. He h the office of Honorary Consulting Surgeon to the Liske Cottage Hospital, in which institution he took a keen inter and he was formerly medical officer of health for the borou Mr. Hingston took great interest in local affairs, and in 186 he held the office of Major. He was also a Justice of Peace.

NAVAL AND MILITARY MEDICAL SERVICES

CONTRACT RATES SUPERSEDED BY PRIVATE TENDER.

We learn that at Aldershot the paucity of medical offic has reached such a point that private practitioners in neighbourhood have been approached to state on what ter they will undertake attendance on the soldiers' wives a families in camp. We presume the lowest tender to accepted! Nor is this lamentable state of things exceptio It is going on throughout the country where troops stationed. Such is the demand, we learn, for army medi officers abroad that the period of home service has sunk under two years as against four and five years' tours abro in short, the rapidly-dwindling Army Medical Departm will soon become an entirely foreign-service body. Trul heavy responsibility rests upon our military authorit Unless matters are remedied they will soon be infinit worse, if, as rumoured, the Government have a scheme the increase of the army to the extent of 11,000 men. A w informed correspondent puts the existing shrinkage of Army Medical Service at 100 officers, added to which at le an additional 50 will be required for the above increase men. What do my "military advisers" suggest in t difficulty?

THE NAVY.

The following appointments have been made at the Admiralty: Hu Holyoake, George T. Bishop, and Edward T. Meagher, Surgeons the *Edgar*, undated; William G. Jack, Staff-Surgeon, to the *H* October 25th; George A. Dreaper, Staff-Surgeon, to the *Magicie* November 18th; Frederick A. Brice, Surgeon, to the *Champion*, Octo 25th; Henry J. Hadden, B.A. M.B., Surgeon, to the *Thunderer*, Octo 25th; Alfred Patterson, Fleet-Surgeon, to the *Royal Arthur*, Noven 4th; William H. Norman, Staff-Surgeon, to the *Venus*, November Rowland A. Kirby and Hugh P. Turnbull, Surgeons, to the *R Arthur*, November 4th; Henry E. Tomlinson, Surgeon, to the *Ram*

ovember 4th; John C. Ferguson, B.A., M.B, Surgeon, to the *Cambridge*, November 4th; Albert X. Lavertine, Surgeon, to the *Ringdove*, ovember 9th; William D. Andrews, M.A., M.B., Surgeon, to the *Venus*, ovember 9th; Matthew J. O'Regan, M.B., Surgeon, to the *Alert*, ovember 25th; Walter Bowden, D.S.O., Surgeon, to the *Victory*, ovember 25th; Ernest S. Tuck, Surgeon, to the *Esk*, November 26th; ohn Andrews, M.D., Surgeon, to the *Porpoise*, November 30th; George ilson, M.B., Surgeon, to the Royal Marine Artillery, Eastney, Novemr 30th; Hilary C. Arathoon, Surgeon, to the *Thrush*, undated.

ARMY MEDICAL STAFF.

rigade-Surgeon John Kinahan, M.D., died at Southsea, September th, aged 60. He was appointed Assistant-Surgeon, August 5th, 1858; irgeon, March 1st, 1873; Surgeon-Major, April 1st, 1873; and Honorary rigade-Surgeon on retirement, June 17th, 1885. He served in the gyptian war in 1882, receiving the medal and Khedive's star; and with e Nile Expedition in 1884-5, in charge of field hospitals at Simneh and rkamatts, for which he had a clasp.

Brigade-Surgeon-Lieutenant-Colonel Rodolphe Harman, M.B., died on oard the steamship *Lancashire*, in the Red Sea, on July 23rd last. He was ppointed Assistant-Surgeon April 1st, 1871; Surgeon, March 1st, 1873; irgeon-Major, April 1st, 1883; granted the rank of Lieutenant-Colonel pril 1st, 1891; and made Brigade-Surgeon-Lieutenant Colonel, July 28th, 95.

INDIAN MEDICAL SERVICE.

urgeon-Colonel George Bainbridge, Bombay Establishment, Principal Medical Officer Sind District, has been appointed Surgeon-General ith the Government of Bombay.

The undermentioned medical officers are detailed for duty with the ield Hospital proceeding to Umballa:—No. 25 British Field Hospital—irgeon-Major R. Kirkpatrick, A.M.S; Surgeon-Major S. R. Wills, .M.S.; Surgeon-Captain R C. Thacker, A.M.S.; Surgeon-Captain W. J. aylor, A.M.S. No. 64 Native Field Hospital—Surgeon-Major C. J. arkies, 8th Bombay Infantry; Surgeon-Captain P. C. Gabbett, Madras stablishment; Surgeon-Lieutenant J. H. McDonald, M.B, officiating h Bombay Light Infantry; Surgeon-Lieutenant R. Bryson, Madras stablishment.

Surgeon-Major Thomas Allman Wethered, Retired List Bengal Estabshment, died in Paris on October 17th at the age of 83.

ARMY MEDICAL RESERVE.

urgeon-Captain E. T. Crouch to be Surgeon-Major, October 27th.

Surgeon-Lieutenant Richard H. Luce, M.B., 1st Volunteer Battalion he Sherwood Foresters (Derbyshire Regiment), to be Surgeon-Lieutenant, ctober 27th.

THE VOLUNTEERS.

urgeon-Lieutenant H. G. Falkner, 1st Volunteer Battalion the East orkshire Regiment, is promoted to be Surgeon-Captain, October 27th.

Surgeon-Lieutenant T. J. Selby, M.B., 2nd (Earl of Chester's) Volunteer attalion the Cheshire Regiment, and Surgeon-Lieutenant F. R. Hird, nd Volunteer Battalion the East Surrey Regiment, have resigned their ommissions, October 27th.

THE MEDICAL SERVICE IN WAR: A WEAK LINK IN THE CHAIN.

nder this head Surgeon-Major Foreman discourses in the October umber of the *United Service Magazine*, and maintains his arguments with uch directness and force. He devotes a few sentences to Brigade-urgeon W. Hill Climo, whose eccentric utterances on his old depart-ent causes him to be dubbed "the champion of a policy of retrogres-on" revelling in the "minority of one." The writer says if our army to be a real power it must be able to take the offensive abroad, and is cannot be done under two complete army corps. The Medical epartment is so undermanned, that by no possibility could a proper edical service be got together for these army corps. They would require, according to mobilisation tables, 524 medical officers, 68 quarterasters, and 4,082 men. Where is this *personnel* to be found? Why, if e entire country was denuded of every medical officer and man of the edical Staff Corps, it would not suffice for one army corps let lone two.

He goes on to propose various remedies whereby the depleted Medical ervice may be restored, and names "army rank," and "titles" (if the resent compound ones be found insufficient), increased "emolument," nd "awards for professional merits," etc.

THE MEDICAL SERVICES IN INDIA.

bout the middle of September there were employed along the frontier me 108 Army Medical Staff officers for regiments and field hospitals, and 8 officers of the Indian Medical Service. There were at that time mobiled 3 general hospitals and 12½ field hospitals for British troops, and for ndian 4 general hospitals and 20¾ field hospitals, with medical store epôts to supply the wants of hospitals. The total effective mobilised rength of the forces on the frontier in the middle of September was me 50,000 men, with 40,000 followers. All these to be medically cared for. hen the force is in full operation, there will be some 50,000 animals.

SPECIAL PLAGUE OFFICERS FOR BOMBAY.

he following are the names of the medical men who have been chosen r plague duty in the Bombay Presidency: Francis Maitland Gibson, .B., Public Health Laboratory, Edinburgh; Ramon Horace Castellote, .R.C.S., M.D., who served in Africa on the Niger; Edwin Maynard, .R.C.S., L.R.C.P., D P.H., London Hospital; C. H. B. Adams, L.R.C.P., .R.C.S.Edin., D.P.H.; Henry William Beach, M.R.C.S., L.R C.P., D.P.H., Guy's Hospital; Ernest Hill, M.R.C.S., L R C.P., D.P.H., Middlesex ospital; Ernest L. T. Marsh, M.B, C.M., Glasgow, D.P.H.Oxon.; Lewis illiam Richards, M.R.C.S., L R.C.P.; Fred Anderson, M.B., Edinburgh; eonard G. Haydon, M.B., and D.P.H., Aberdeen; John Temple Leon, M.B, L.R.C.P., M.R.C.S., D.P.H., Cambridge; E. E. Hunt, M.R.C.S., L.R.C.P.; Allan G. R. Cameron, M.B., M.R.C.S., L.R.C.P.; and Miss Marion Hunter, L.S.A., D.P.H., niece of Sir William Hunter, who is appointed as a special case.

THE HEALTH OF THE TOCHI FIELD FORCE.

Early in September, out of a force of 17,678 British and native troops and followers, the sick-rate was only 5.44 per cent. This is a very small rate considering the time of year the troops have been employed.

A FRONTIER CAMP.

From information we have received we are led to ask whether it is true that an important camp in the Kumaon Valley, garrisoned and defended by a mixed force of nearly 150 European and native troops, is in sole command of a surgeon-captain of the Medical Staff, who has under him another medical officer; that the entire military and medical duties devolve on these two officers? If so, are they combatant or non-combatant officers?

THE HEALTH OF SOLDIERS AND THEIR FAMILIES IN INDIA.

A small pamphlet, with the title, "Short Rules for preserving Health in India: for the Use of Soldiers and Families of British Troops," has been compiled at the Medical Division Army Headquarters, India, and has been approved by the Commander-in-Chief, who trusts that every facility will be offered the troops to study the simple rules of health laid down in the pamphlet. After dealing with the subject of climate generally, the pamphlet offers concise advice as to food and its preparation, diet generally—not omitting the diet of children—clothing, cleanliness generally, the best times for exercise, how to keep rooms cool, and the need for seeking early medical advice in all cases of sickness. The circulation of this pamphlet cannot fail to be of material benefit to health if its precepts are well instilled into the soldier's mind. The dense ignorance that prevails amongst the rank and file on health points is incredible.

RANK AND TITLES.

A Correspondent says, in a long letter, that as a civilian he cannot see why medical officers should have or want military rank and titles; they should be content with that of "doctor" with a "good" before it if possible. At the same time he strongly sympathises with the desire for a corps of Royal Surgeons, and that medical officers should have the right to sit on boards, courts-martial, etc.; to have salutes, and the rank and status of an officer and gentleman; but they should eschew combatant titles. How medical officers are to be, and at the same time not to be, military officers he does not explain. We quite agree with him that the doctor's like the policeman's life is not a happy one; but how it is to be remedied in the army by making him, or keeping him, neither fish, flesh, nor fowl is just the problem our correspondent does not solve.

CASUALTIES ON THE INDIAN FRONTIER.

A rough calculation, approximately accurate, shows that, including the first affair in the Tochi Valley, the British troops have lost, up to about September 25th, 172 killed and 438 wounded. A number of men wounded have not been wholly incapacitated for duty, but still, according to the *Times of India*, making allowance for small hurts, the figures are ugly enough. The proportion of casualties in officers is one of the worst features of the fighting. No fewer than 16 officers have succumbed (including 1 who died from disease following wounds and 1 a victim to enteric), while the wounded officers number 30. In the Chitral campaign, on the other hand, there were only 65 killed and 160 wounded, including those who fell in the defence of the Chitral Fort: 3 officers were killed and 13 wounded in the Chitral operations. To find a comparison in frontier warfare with the present losses, we have to go back to the disastrous Umbeyla campaign of 1863, when our casualties in the first stage of the war were: Killed, 14 British officers, 4 native officers, and 213 men; wounded, 15 British officers, 17 native officers, and 468 men. In the final operations at Umbeyla we lost 1 British officer killed and 4 officers wounded, while 172 among the rank and file were killed or wounded.

THE ARMY SANITARY COMMITTEE.

It is understood that the War Office Sanitary Committee will visit Camberley to inquire into the water supply of the Royal Military College at Sandhurst.

THE PHYSIQUE OF THE MEDICAL STAFF CORPS.

In commenting on the General Annual Return of the British Army for 1896, the *Broad Arrow* expresses itself as follows with regard to the Medical Staff Corps: "Considering that the bearers have to lift and carry for some distance men of bulk or weight, the physique of the corps cannot be considered equal to the work to be performed. The total number of recruits enlisted for this corps during the year was 552. Of these 25 were under 18 years of age, 22 being under 17 years; whilst 58 were under 33 inches, and 268 under 34 inches, in chest measurement; 20 under 115 lbs., and 137 under 120 lbs., in weight.

TRANSPORT ARRANGEMENTS AND MEDICAL AID AT KHUSHALGARH.

The *Civil and Military Gazette* reports that wild confusion reigns at Khushalgarh owing to there being only one railway siding to accommodate the traffic of two large expeditions, one being raised rapidly to a war footing, the other in the field. Ten or more trains arrive daily and discharge their contents on one congested platform, only a little relieved by a newly made commissariat siding. There is no doctor and only one military officer to arrange all the details of a huge department and constant despatch of troops and drafts. The absence of a doctor is very serious; the heat is said to be very great, and men taken ill on the platform can receive no aid. For the railway base of two forces in the field it is preposterous that there should be no proper military staff and no

medical aid. Before accepting this report of an absence of medical aid as correct we should require its confirmation. It is scarcely probable that the authorities have overlooked the necessity for a medical officer being on the spot. Troops passing through would, of course, have their own surgeons; but such medical officers would only be available for temporary medical aid. Rest camps generally are invariably provided with medical assistance either in commissioned or warrant rank.

THE DEATH OF SURGEON-CAPTAIN CASSIDY.

INQUIRY writes: Dr. Cox points out in his admirable address that, in the official despatch on the Tochi Valley tragedy, no mention is made of the services of poor Cassidy, although other officers are praised.

Also, in the monthly *Army List* for August, while the death of Lieutenant-Colonel Bunny is recorded as "killed" at Maizar, Tochi Valley, the death of Surgeon-Captain Cassidy, who was mortally wounded at the same time, "killed," in fact, is simply recorded at "Datta Khel Tochi Valley." A non-combatant has no right to be "killed," perhaps!

*** Anything more ungenerous than the official treatment of the memory of Cassidy it would be hard to conceive. There must surely be those who are ashamed of it.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

M.B. AND M.C. EXAMINATIONS.—The Registrary has published the following table of dates:

	Names sent in.	Fees and Certificates.	Examination begins.
FIRST EXAMINATION:			
Chemistry, etc.	Nov. 30	Dec. 7	Dec. 13
Biology	,, 30	,, 9	,, 15
SECOND EXAMINATION:			
Pharmacy	,, 30	,, 7	,, 13
Anatomy, etc.	,, 30	,, 9	,, 15
THIRD EXAMINATION:			
Surgery, etc.	Dec. 1	,, 8	,, 14
Medicine, etc.	,, 1	,, 8	,, 14
M.C. EXAMINATION:	,, 1	,, 11	,, 17

SANITARY SCIENCE EXAMINATION.—The following candidates having passed both parts of this examination are entitled to the University diploma in Public Health:

A. J. Adkins, A. Balfour, P. L. Benson, W. M. Brown, G. H. Cock, W. S. Cook, R. Dick, C. R. Elliott, R. A. Farrar, S. Gillies, C. H. Graham, M. Kelly, A. J. Laird, C. F. Lillie, A. T. McConkey, R. J. Millard, T. B. Stedman, J. R. Watson.

MATRICULATION.—On October 21st the number of freshmen enrolled for the current academical year was 872, including 9 advanced students from other universities. It is not yet ascertained how many of the freshmen intend to pursue the study of medicine.

EXAMINERS.—The next examiners for medical and surgical degrees include Dr. Barclay Smith and Professor Paterson in Anatomy; Dr. Shore and Dr. A. W. Waller in Physiology; Mr. Ivatt and Mr. Adie in Pharmaceutical Chemistry; Mr. Wilberforce and Mr. Capstick in Physics; Mr. Sell and Mr. Ruhemann in Chemistry; and Mr. J. J. Lister and Mr. Leward in Biology.

UNIVERSITY OF EDINBURGH.

THE following candidates received degrees as undermentioned at the Special Graduation Ceremonial on October 23rd:

Degree of Doctor of Medicine.—R. M. Matheson, M.B., C.M., Thesis: Empyema and its Treatment (with commendation).

Degrees of Bachelor of Medicine and Master in Surgery.—F. W. Allkin, E. L. Borthwick, D. E. Dickson, J. D. Doherty, D. L. Fisher, F. S. Harper, W. H. J. Hollinshead, N. T. Kerr, T. C. Lauder, A. M. Little, J. E. Martin, S. K. Mullick, S. K. Norris, G. H. Parry, G. W. Payne, T. B. Shoolbread, W. B. Thain, J. Thomarson, R. Thornton, G. R. Twomey, S. M. Varis, G. F. Waterston

Degrees of Bachelor of Medicine and Bachelor of Surgery.—A. J. T. Allan, J. D. S. Miller.

UNIVERSITY OF GLASGOW.

THE summary of the results of the recent Professional Examinations for Degrees in Medicine at this University is as follows:

First Examination: Candidates, 181; passed in one or more subjects, 130; withdrew, 2; failed, 49.

Second Examination: Candidates, 97; passed in one or more subjects, 81; withdrew, 4; failed, 12.

Third Examination: Candidates, 49; passed, 41; withdrew, 1; failed, 7.

CONJOINT BOARD IN IRELAND.

THIRD PROFESSIONAL EXAMINATION.—Candidates have passed this Examination as undernoted:

Completed the Examination (Four Years' Scheme).—W. S. Burke, H. H. A. Carter, A. Daly, L. A. Hare, H. E. Howley, J. P. Quinn, F. W. Woods. (Five Years' Scheme).—J. M. Ahern, W. Bennett, W. R. Blackwell, R. V. Brews, J. A. Byrne, E. P. Connolly, D. Hadden, M. J. Hynes, W. H. May, G. R. McDonald, W. C. Ross, G. F. Sheehan, F. S. Walker.

In Anatomy (Four Years).—W. J. Murphy, A. McMunn.

In Physiology (Four Years).—R. Crean, R. A. O'Donovan.

In Surgery (Four and Five Years).—G. Carroll, T. O. C. Donelan, M. F. Hession, G. Kennedy, J. W. Langstaff, A. McMunn, T. A. E. Rooke, R. J. White.

In Medicine (Four and Five Years).—W. J. P. Adye-Curran, G. Carroll, R. M. Fisher, W. Meagher, A. McMunn, R. W. Richards, T. A. E. Rooke, J. F. Treston, R. J. White.

In Pathology.—G. Carroll, T. O. C. Donelan, R. M. Fisher, J. Gordon, J. W. Langstaff, R. W. Richards, T. A. E. Rooke.

In Therapeutics.—T. O. C. Donelan, R. M. Fisher, G. Kennedy, J. W. Langstaff, W. Meagher.

In Forensic Medicine and Public Health.—G. Carroll, J. Gordon, J. W. Langstaff, G. Kennedy, N. P. Kirby, T. A. E. Rooke, J. F. Treston, R. J. White.

The name of M. M. Goldfoot was omitted from the list of those who passed the Second Professional Examination.

SOCIETY OF APOTHECARIES OF LONDON.

PASS LIST. October, 1897.—The following candidates passed in:

Surgery.—A. P. Ambrose, Westminster Hospital; C. Basan, Middlesex Hospital; J. L. F. de Gannes, University College Hospital; C. C. Poole, Guy's Hospital.

Medicine.—J. C. Bell, Guy's Hospital; P. S. Blaker, Calcutta; J. H. Chambers, Manchester; F. E. Fielden, St. Bartholomew's Hospital; T. C. Last, St. George's Hospital; C. H. Maskew, Birmingham; J. Prentice, Liverpool; J. Spencer, Leeds.

Forensic Medicine.—P. S. Blaker, Calcutta; W. F. Chrispin, Leeds; F. E. Fielden, St. Bartholomew's Hospital; T. C. Last, St. George's Hospital; J. Prentice, Liverpool; J. Spencer, Leeds.

Midwifery.—J. C. Bell, Guy's Hospital; P. S. Blaker, Calcutta; J. H. Chambers, Manchester; R. Holt, Royal College of Surgeons, Ireland; T. C. Last, St. George's Hospital; J. Prentice, Liverpool.

The diploma of the Society was granted to Messrs. A. P. Ambrose, C. Basan, P. S. Blaker, J. L. F. de Gannes, C. H. Maskew, and C. C. Poole.

MEDICO-LEGAL.

QUALIFIED ASSISTANTS: NOTICE TO DETERMINE ENGAGEMENTS.

A MEMBER inquires what is the usual and legal custom of the profession in giving notice to a qualified assistant (residing at a branch) to discontinue his services. Our correspondent states that there is no signed agreement, "but it is understood that the salary is to be paid monthly, and a month's notice on either side;" and he wishes to know if that notice can be given at any date, or whether it must be given on the corresponding date of the commencement of the service.

*** Assuming that there is no dispute as to the fact that the employment was to be determinable by a month's notice on either side, such month's notice can be given at any time.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

VITAL STATISTICS OF LONDON SANITARY DISTRICTS DURING THE THIRD QUARTER OF 1897.

[SPECIALLY PREPARED FOR THE BRITISH MEDICAL JOURNAL.]

IN the accompanying table will be found summarised the vital statistics of the forty-three sanitary areas of the metropolis, based upon the Registrar-General's returns for the third or summer quarter of this year. The mortality figures in the table relate to the deaths of persons actually belonging to the various sanitary areas, and are the result of a complete system of distribution of deaths occurring in the institutions of London among the various sanitary areas in which the patients had previously resided.

The 33,722 births registered in London during the three months ending September last were equal to an annual rate of 30.3 per 1,000 of the population, estimated at 4,463,169 persons in the middle of this year; this rate slightly exceeded the mean rate in the corresponding quarters of the five preceding years 1892-96. The birth-rates during the period under notice in the various sanitary areas showed, as usual, wide variations, owing principally to the differences in the age and sex distribution of the population. In Kensington, St. George Hanover Square, St. James Westminster, Hampstead, St. Martin in the Fields, and London City the birth-rates were considerably below the average; while they showed the largest excess in St. Luke, Whitechapel, Bethnal Green, Mile End Old Town, St. George-in-the-East, and St. George Southwark.

The 21,070 deaths of persons belonging to London registered during the quarter under notice were equal to an annual rate of 18.9 per 1,000, against 15.6, 18.2, and 18.4 in the corresponding periods of the three preceding years, 1894-95-96; in the third quarters of the ten years 1887-96, the death-rate in the metropolis averaged 17.9 per 1,000. The lowest death rates in the various sanitary areas were 11.4 in Hampstead, 12.8 in St. George Hanover Square, 14.2 in St. James Westminster, in Wandsworth, and in Lewisham (excluding Penge), 14.3 in Lee, 14.6 in Plumstead, and 14.8 in Stoke Newington; the highest rates were 23.3 in Clerkenwell, 24.5 in St. Saviour Southwark, 24.7 in Shoreditch, 25.8 in St. George Southwark, 27.9 in St. Luke, 28.7 in St. George-in-the-East, and 29.3 in Limehouse. During the quarter under notice 5,009 deaths resulted from the principal zymotic diseases in London; of these, 3,500 were referred to diarrhœa, 484 to diphtheria, 371 to whooping-cough, 301 to measles, 215 to scarlet fever, 135 to enteric fever, 2 to small-pox, and 1 to an ill-defined form of continued fever. These 5,009 deaths were equal to an annual rate of 4.49 per 1,000, against an average rate of 3.71 in the corresponding periods of the ten preceding years, 1887-96. In the third quarters of the three preceding years the zymotic death-rate was 2.79, 4.28, and 4.20 per 1,000 respectively. The lowest zymotic death-rates last quarter

nalysis of the Vital and Mortal Statistics of the Sanitary Districts of the Metropolis, after Distribution of Deaths occurring in Public Institutions, during the Third Quarter of 1897.

NITARY AREAS.	Estimated Population middle of 1897.	Births.	Deaths.	Annual Rate per 1,000 Living. Births.	Deaths.	Principal Zymotic Diseases.	Deaths from Principal Zymotic Diseases.	Small-pox.	Measles.	Scarlet Fever.	Diphtheria.	Whooping-Cough.	Typhus.	Enteric Fever.	Simple and Undefined Fever.	Diarrhœa.	Phthisis.	Deaths of Children under 1 year of age to 1,000 births.
ON	4,463,169	33,722	21,070	30.3	18.9	4.49	5,009	2	301	215	484	371	—	135	1	3,500	1,778	242
'est Districts.																		
ington	126,161	810	494	25.7	15.7	4.17	131	—	—	9	23	10	—	1	—	88	39	223
ington	171,427	939	654	22.0	15.3	2.88	123	—	2	3	18	2	—	4	—	94	62	218
mersmith	105,959	860	504	32.6	19.1	4.85	128	—	1	2	3	14	—	1	—	107	36	260
am	120,040	1,035	572	34.6	19.1	6.02	180	—	—	8	15	20	—	2	—	135	42	249
ea	96,692	647	443	26.8	18.4	4.38	106	—	1	3	10	7	—	2	—	83	48	266
eorge Hanover Sq.	80,330	390	257	19.5	12.8	1.35	27	—	1	3	3	1	—	2	—	17	24	154
minster	53,027	295	252	22.3	19.1	4.39	58	—	1	4	5	4	—	1	—	43	30	264
mes Westminster	22,576	113	80	20.1	14.2	1.97	11	—	—	2	2	—	—	1	—	6	9	186
'orth Districts.																		
lebone	140,808	1,043	655	29.7	18.7	3.48	122	—	1	2	17	13	—	3	—	86	62	198
pstead	77,275	364	219	18.9	11.4	2.03	39	—	—	5	3	8	—	2	—	21	10	192
ncras	242,255	1,744	1,208	28.9	20.0	4.22	255	—	14	3	21	31	—	8	—	178	106	286
gton	341,134	2,440	1,328	28.7	15.6	3.04	259	1	8	15	25	37	—	12	—	161	113	182
e Newington ...	34,136	221	126	26.0	14.8	3.17	27	—	—	—	2	5	—	1	—	19	9	186
ney	216,698	1,564	957	28.9	17.7	4.79	259	—	32	7	28	9	—	11	—	172	67	230
entral Districts.																		
iles	37,840	250	176	26.5	18.7	2.13	20	—	1	3	2	1	—	1	—	12	27	188
artin-in-the-Fields	12,711	35	54	11.0	17.0	1.58	5	—	—	1	—	2	—	—	—	2	8	400
id	23,552	145	127	24.7	21.6	3.91	23	—	2	1	1	2	—	3	—	14	17	269
orn	30,493	205	175	27.0	23.0	5.91	45	—	1	1	7	5	—	2	—	29	21	268
enwell	66,162	522	384	31.6	23.3	5.82	96	—	13	4	12	10	—	3	—	54	38	282
ake	41,279	446	287	43.3	27.9	7.18	74	—	13	6	7	2	—	1	—	45	30	220
ton City	30,228	119	154	15.8	20.4	1.73	13	1	2	2	1	3	—	1	—	3	10	168
ast Districts.																		
editch	121,883	1,060	751	34.9	24.7	7.60	231	—	17	13	11	15	—	8	—	167	62	294
nal Green	129,098	1,203	684	37.4	21.3	5.22	168	—	13	7	15	16	—	3	—	114	62	228
echapel	79,724	761	440	38.3	22.1	3.66	73	—	15	4	11	5	—	2	—	36	46	221
eorge-in-the-East	47,917	488	343	40.9	28.7	5.60	67	—	4	4	5	1	—	—	—	53	32	344
house	58,508	489	427	33.5	29.3	5.55	81	—	11	2	7	7	—	1	—	53	34	327
End Old Town ...	111,883	1,038	549	37.2	19.7	4.27	119	—	5	6	11	4	—	6	—	87	35	224
ar	169,811	1,422	913	33.6	21.6	4.74	201	—	6	6	16	15	—	6	—	152	68	269
outh Districts.																		
aviour Southwark	24,919	183	152	29.5	24.5	6.27	39	—	6	2	3	3	—	1	—	24	21	322
eorge Southwark	60,388	526	388	35.0	25.8	9.51	143	—	14	3	12	10	—	4	1	99	44	274
ngton	122,191	1,042	707	34.2	23.2	6.62	202	—	12	11	15	12	—	6	—	146	52	295
lave Southwark	11,480	100	57	34.9	19.9	3.84	11	—	—	—	1	—	—	1	—	9	11	190
ondsey	85,629	741	480	34.7	22.5	6.83	146	—	12	8	12	9	—	3	—	102	44	283
erhithe	40,643	309	210	30.5	20.7	6.01	61	—	5	7	4	1	—	—	—	44	13	265
beth	300,048	2,446	1,469	32.7	19.6	4.42	331	—	17	16	31	21	—	5	—	241	107	230
ersea	168,877	1,350	732	32.1	17.4	4.79	202	—	9	14	29	22	—	6	—	122	47	243
dsworth	195,612	1,305	694	26.8	14.2	3.96	180	—	10	7	21	10	—	4	—	128	47	218
berwell	257,575	1,948	1,201	30.3	18.7	5.42	348	—	40	8	46	21	—	5	—	228	101	253
nwich	178,367	1,438	906	32.3	20.4	4.47	199	—	4	7	15	6	—	9	—	158	72	257
.. ..	86,152	239	140	24.4	14.3	2.97	29	—	—	1	4	4	—	—	—	20	10	230
sham	41,409	594	304	27.7	14.2	3.21	69	—	8	1	1	3	—	2	—	54	20	209
wich	39,215	325	194	31.5	18.8	4.46	46	—	—	3	4	—	—	—	—	39	18	222
nstead	61,057	528	223	34.7	14.6	4.08	62	—	—	1	5	—	—	1	—	55	24	188

he various sanitary areas were 1.35 in St. George Hanover re, 1.73 in City of London, 1.97 in St. James Westminster, 2.03 in Hampd, 2.88 in Kensington, and 2.97 in Lee; while the rates upwards in the r sanitary areas to 6.27 in St. Saviour Southwark, 6.62 in Newing-6.83 in Bermondsey, 7.18 in St. Luke, 7.60 in Shoreditch, and 9.51 in eorge Southwark.

o fatal cases of small-pox were registered in London during the e months ending September last, of which 1 belonged to Islington and London City sanitary areas. Measles showed the highest proporal fatality in Clerkenwell, St. Luke, Whitechapel, Limehouse, St. our Southwark, St. George Southwark, and Camberwell; scarlet fever . Luke, Shoreditch, Bermondsey, and Rotherhithe; diphtheria in lington, Holborn, Clerkenwell, St. Luke, St. George Southwark, ersea, and Camberwell; whooping-cough in Fulham, Stoke Newington, fartin-in-the-Fields, Holborn, Clerkenwell, and St. George Southwark; ric fever in Strand, Holborn, Shoreditch, and St. George Southwark; diarrhœa in Hammersmith, Fulham, St. Luke, Shoreditch, St. ge-in-the-East, St. George Southwark, Newington, Bermondsey, and erhithe sanitary areas.

ring the quarter ending September last 1,778 deaths from phthisis were tered in London, equal to an annual rate of 1.60 per 1,000. Among arious sanitary areas the lowest phthisis death-rates were recorded ampstead, Stoke Newington, Battersea, Wandsworth, Lee, and Lewis-; and the highest rates in St. Giles, Strand, Holborn, St. Luke, St. ge-in-the-East, St. Saviour Southwark, and St. Olave Southwark.

ant mortality, measured by the proportion of deaths under one year ge to registered births, was equal to 242 per 1,000, and exceeded the recorded in the corresponding period of any of the ten preceding s, during which it averaged 195 per 1,000. Among the various sanitary s the rates of infant mortality were lowest in St. George Hanover re, St. James Westminster, Islington, Stoke Newington, St. Giles, City of London; while they showed the largest excess in St. Pancras, St. Martin-in-the-Fields, Shoreditch, St. George-in-the-East, Limehouse, St. Saviour Southwark, and Newington.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 6,770 births and 3,572 deaths were registered during the week ending Saturday last, October 23rd. The annual rate of mortality in these towns, which had been 16.2 and 16.9 per 1,000 in the two preceding weeks, was again 16.9 last week. The rates in the several towns ranged from 11.6 in Derby, 11.7 in Plymouth, 12.4 in Gateshead, and 12.5 in Croydon, to 20.5 in Liverpool, 20.6 in Bolton, 20.8 in Preston, and 22.7 in Wolverhampton. In the thirty-two provincial towns the mean death-rate was 17.0 per 1,000, and slightly exceeded the rate recorded in London, which was 16.8 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.0 per 1,000; in London the rate was equal to 2.2 per 1,000, while it averaged 1.9 in the thirty-two provincial towns, among which the highest zymotic death-rates were 2.9 in West Ham, Manchester, Birmingham, and Burnley, 3.4 in Sheffield, 3.6 in Wolverhampton, and 5.0 in Preston. Measles caused a death-rate of 1.4 in Preston and 2.4 in Wolverhampton; scarlet fever of 1.0 in Sheffield; whooping-cough of 1.0 in Swansea; and "fever" of 1.0 in Derby and in Sheffield, and 1.8 in Preston. The 81 deaths from diphtheria in the thirty-three towns included 55 in London, 5 in Birmingham, 4 in West Ham, and 3 in Liverpool. No fatal case of small-pox was registered last week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals on Saturday last, October 23rd. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,677, 3,692, and 3,725 at the end of the three preceding weeks, had declined to 3,585 on Saturday last; 342 new cases were admitted during the week, against 349, 402, and 440 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, October 23rd, 982 births and 604 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 19.8 and 19 1 per 1,000 in the two preceding weeks, rose again to 20.3 last week, and was 3.4 per 1,000 above the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 13.3 in Paisley and 15.3 in Perth to 24.5 in Greenock and 24.6 in Dundee. The zymotic death-rate in these towns averaged 2.9 per 1,000, the highest rates being recorded in Aberdeen and Greenock. The 300 deaths registered in Glasgow included 17 from whooping-cough, 10 from "fever," 5 from measles, 3 from scarlet fever, and 3 from diphtheria. Three fatal cases of diphtheria were recorded in Dundee.

LEAVE FOR IRISH DISPENSARY MEDICAL OFFICERS: AN IMPORTANT CASE.

A CASE of special interest to Irish dispensary doctors has been before the courts in various forms for some time, and some important decisions have been arrived at. Dr. Bray, of Rathengan, obtained twenty-one days' leave from the Dispensary Committee, and Dr. Power was appointed his *locum tenens* at £3 per week. The Edenderry Board of Guardians refused to pay this, on the ground that Dr. Bray was not incapacitated by sickness. Dr. Power, however, obtained a decree for the amount, and on appeal to the judge of assize the decision was reversed. Dr. Power then proceeded against the Dispensary Committee, and Mr. Justice Madden gave a decree against that body, on the ground that a contract existed and that the Committee had implied a power which it did not possess. But then the dispensary proceeded against Dr. Bray, its own officer. It was proved that Dr. Bray had stated that if the guardians refused to pay the substitute, he (Dr. Bray) would do so; and upon this evidence County Court Judge Kane gave a decree for the full amount claimed by the Committee.

THE FINANCES OF THE ANTIVACCINATION LEAGUE.

THE National Antivaccination League seems in a bad way for a society of such ambitious aspirations, if we may judge from statements at the recent Conference of that body in Manchester, as reported in the *Manchester Courier*. From a statement of accounts presented by the Secretary, there is a deficit of income over expenditure amounting to £272 17s. 3d., or more than half the total income of the League. No wonder that the Chairman of the Conference said that "the matter was a serious one, because upon it depended the continued existence of the League. If financial support was withdrawn the League would tumble to pieces." He added that "it was remarkable that since the issue of the final report of the Royal Commission, which was practically in their favour, subscriptions had fallen off in a remarkable way." We are inclined to think that there may possibly be another explanation for the decline of subscriptions to the League, and that is, the lesson of the Gloucester epidemic, which just preceded the issue of the report of the Royal Commission. If, as the Chairman is pleased to assume, the latter document was "practically" in favour of the League—a statement to which most people would decidedly demur—the history of the Gloucester epidemic was, both practically and theoretically, a staggering blow to the misrepresentations of that body, and could not fail to have opened the eyes of many of its confiding supporters to the way in which they were wasting their money by subscribing to it. It appears from a statement made at the Conference, that 80 per cent of the total income went in salaries, and the opinion was expressed that the League was "spending too lavishly in that direction."

As it was further suggested that in future a "properly audited" balance sheet should be submitted, we may take it that some of the leaguers were not altogether satisfied with the figures of the account as presented. In view of this somewhat pressing aspect of the problem—how to live, the questions of "organisation and propaganda," which the Conference proceeded subsequently to discuss, are of subsidiary importance. The attendance at the Conference, we are told in the report from which we quote, was "not large." It was probably the array of empty benches that so exasperated one of the three medical men who contributed to the enlivenments of the Conference as to lead him to declare that "vaccination was a pure superstition, and the vaccination laws were merely grandmotherly legislation entered upon at the behest of those wretched fellows, the medical experts. The substitute they (the League) proposed for vaccination was sanitation." This gentleman was probably unaware of the fact that at the time he was denouncing the medical experts, more than 850 of "those wretched fellows," the medical officers of health of the kingdom had unequivocally declared their conviction that sanitation could not be relied on as a substitute for vaccination.

CHAMPAGNE FOR WORKHOUSE PATIENTS ORDERED BY A NURSE.

WE learn that the statement of the *Staffordshire Sentinel*, upon which we commented under this head last week, was founded upon a misapprehension. The champagne was ordered by the resident medical officer before the arrival of the nurse. The nurse was obtained by the master on the resident medical officer's requisition.

FEE FOR CERTIFYING AS TO FITNESS OF PATIENTS TO REMAIN IN WORKHOUSE.

W. H., who, we gather, is a district medical officer, writes to say that he has been called in by a relieving officer and a magistrate to examine a pauper (not at the workhouse), and to give a certificate "whereby to detain her in the union house for fourteen days." He asks whether he is not entitled to a fee of one guinea for this, which he appears to think is the usual fee.

We fear that our correspondent must not expect a guinea. We believe that half a guinea is more frequently paid for certificates which simply state the fitness of patients for retention in the workhouse.

CERTIFICATION OF PAUPER LUNATIC FOR ASYLUM.

QUERO writes: I send a lunacy form, duly filled up, to the relie officer, who says "it is slightly informal," and forthwith sends fo medical officer of the district, who examines the patient, signs a form, and takes the fee for so doing. Can I recover a fee for the ficate I gave?

*** We believe that our correspondent cannot recover any fee, he was not called upon to certify either by magistrate or relieving o

BOARDS OF GUARDIANS AND THE SUPPLY OF CALF LYMP

PERPLEXED writes: I continually see questions asked in the BR MEDICAL JOURNAL *re* Calf Lymph and Public Vaccinators. From tical experience as a Poor law guardian, I may say that the Government Board will not allow the guardians to supply calf lym the public vaccinator, but allow them to pay him an extra 6d. for case done with calf lymph, which he must buy himself out of th allowed. Our guardians failed to see where the doctor's extra remu tion came in after buying the lymph, and so have done nothing i matter.

INDIA AND THE COLONIES.

INDIA.

THE EARLY HISTORY OF THE BOMBAY PLAGUE.—Two important Books have recently been published, containing a reprint of commu tions, telegraphic and otherwise, which have passed between the S tary of State for India and the Viceroy of India and Governor of Bo from October, 1896, to May, 1897, on the subject of the prevalen plague in the Bombay presidency, and the measures which have adopted to stamp it out and prevent its spread. The first report of pl in Bombay is dated September 30th, and the official knowledge o existence may be said to bear that date, although the entrance of disease into Bombay probably took place at least a month or six w earlier. Preventive measures were stated to be in "active operat and a committee of medical experts was assembled to report on "disease and situation." This committee included the Director-Ge of the Indian Medical Service, the Surgeon-General with the Bo Government, the Health Officer of the town, Professor W. Haffkine, Mr. E. H. Hankin, and several of the leading me men of Bombay, both European and native. The first report subm by this body appears to have been forwarded on January 1897, and contains the opinion that "the bubonic plague prevail Bombay is under certain conditions only slightly contagious or infecti and that its incidence is greatly due to local conditions." The meas recommended were evacuation and disinfection of infected prem Professor Haffkine appended a separate opinion that "plague is sp by people coming from infected localities," and that "the measures pelling the inhabitants to leave those localities ought to be accompa by others calculated to control their further movements." The j ment recorded by this Committee crops up in the early official co spondence from time to time. A panic arose in Bombay, and a migra of its inhabitants to the number, it is said, of some 300,000 took p Active measures of local sanitation were adopted, and persons removed, as far as possible, from infected premises and accommod elsewhere, but the movements of fugitives were not controlled, a large proportion developed the disease elsewhere, and laid the fou tion of the numerous outbreaks which soon began to occur thro out the Presidency. The latest return contained in these Blue B shows that up to April 2nd cases appeared in thirty-one tricts, in many of which hundreds of deaths occurred. W it cannot be too loudly proclaimed or fully realised that habi and not spasmodic sanitation is the only real safeguard against epide disease of every description, experience has enforced the necessit adopting means of controlling the movements of the plague-stricken detecting and segregating the sick. Early in October quarantine established at Aden and Karachi, and later on at Calcutta, Madras, Ak Moulmein, Bassein, and Bombay. At the instance of the Governme Bengal passengers by railway trains bound westward were inspected, if found diseased, detained, segregated, and treated. In January system was extended to protect the Punjab, Central, and North-Wes Provinces. On February 1st pilgrim traffic from Bombay and Karachi stopped, and on February 26th pilgrimage to Mecca was altogether hibited. On February 4th the Dangerous Epidemic Diseases Act was pas which placed in the hands of the imperial and local governments new potent weapons of combat with the pestilence. As time passed on and disease grew in intensity and enlarged its area, more stringent meas were carried out by a more intelligent and better organised age Nineteen commissioned medical officers of the Army Medical Staff, the Indian Medical Service, 31 military assistant surgeons, and 81 pital assistants were placed on special plague duty, in addition nurses and sanitary and hospital establishments. A perusal of t telegrams and despatches leaves a conviction that Indian author strove to grapple with the serious emergency with rigour when awakened to its gravity and extent. The official narrative closes at period when the epidemic exhibited signs of abatement, and we know that this decline was progressive. At the present time some i cations of recrudescence are being observed, and it is not improb that some revival of the disease in its old haunts may take place, perhaps an extension beyond the limits of prevalence of its first sea Let us hope that the same precautions which appear latterly to have bounds to its spread will, as in the case of Hardwár, lead to its early tinction. Among the papers reprinted in these volumes is an interes report by Mr. Hankin on the vitality of the microbe in the chief grain ports of Bombay, and an excellent memorandum by Dr. G. Hutcheson the mahamari or plague of British Gurhwal and Kumaon.

NEW WATER SUPPLY IN INDIA.—Funds have been allocated for water supplies for Subathu and Dugshai, and the work is to be pus forward with as little delay as possible.

MEDICAL NEWS.

thousand pounds have been received for the endow- of a bed in Westminster Hospital in memory of the late m Farmiloe, as a memorial of a lifelong connection he City of Westminster.

Walter Hills, President of the Pharmaceutical y of Great Britain, has received from the Queen a medal worn as a decoration commemorative of the sixtieth ersary of Her Majesty's reign.

annual dinner of the Bolton and District Medical So- was held on October 21st at the Commercial Hotel, the chairmanship of Dr. Kershaw, of Farnworth. The of "The Society" was proposed by Mr. George Harwood, In the course of his speech he expressed the opinion he medical profession did not occupy the social position e the rank to which it was entitled. He felt that the ers of the profession did not fully appreciate their powers, and urged his hearers to consider the widely ged possibilities of their profession. Dr. Kershaw re- During the evening various songs were contributed embers, among others by Dr. Johnston, who gave an al song entitled "The Sixpenny Doctor."

RBOROUGH Hospital and Dispensary.—In commemora- of the Queen's Diamond Jubilee the Freemasons of orough decided last June to install the electric light in ospital and dispensary. Effect has now been given to decision by the provision of more than one hundred in the building, with facilities in addition for the use latest electrical appliances in the shape of *x*-ray work, ries, etc. The estimated cost of these additions to ttings of the hospital is about £130. On Tuesday, er 12th, the memorial was formally handed over to the gement Board of the Hospital, the spokesman of the asons being Councillor Darley. The gift was accepted half of the Board by Mr. E. E. Hick. A tablet of brass sed in an ornamental oak frame, with a suitable inscrip- recording the gift of the Freemasons of Scarborough to ospital, and their goodwill towards it, is to be placed in all of the hospital.

MEDICAL VACANCIES.

following vacancies are announced:

INGHAM, PARISH OF WORKHOUSE INFIRMARY.—Resident sistant Medical Officer, doubly qualified. Salary, £100 per annum, th furnished apartments, rations (which do not include alcoholic uors), coals, gas, washing, and attendance. Appointment for elve months, but eligible for re election. Applications on forms to obtained of Walter Bowen, Clerk to the Guardians, Parish Offices, rmingham, by whom they must be received by November 6th.

FORD EYE AND EAR HOSPITAL.—Surgeon. Applications to e Chairman of the Committee of Management by November 1st.

GE OF WEIR: CONSUMPTION HOSPITAL AND ORPHAN OMES OF SCOTLAND.—Resident Medical Officer; knowledge of cteriology. Salary, £80 per annum, with furnished apartments, ard, etc. Applications to the Honorary Secretary, D. Hill Jack St. Vincent Street, Glasgow, by November 15th.

TTA, CORPORATION OF, Bengal, India.—Health Officer for the wn of Calcutta. Salary not less than Rs.1,200, and not more than 1,500, a month. Also reasonable horse allowance for outdoor in- ection, not exceeding Rs.100 a month. Must be a duly qualified actitioner, and hold diploma in Public Health from the University Cambridge or similar qualifications. Applications to W. R. Mac- nald, Secretary to the Corporation, to be received in Calcutta by vember 10th.

RIDGESHIRE, ETC., LUNATIC ASYLUM, Fulbourn, near Cam- dge. Assistant Medical Officer Salary, £140 per annum, with ard, lodging, and attendance in the asylum. Applications to T. sgrave Francis, Clerk to the Visitors, by November 20th.

SEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Registrar; st be a graduate in Medicine of a recognised University, or F. or R.C.P. of London, Edinburgh, or Ireland. Applications to H. H. nnings, Secretary, by November 27th.

TERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DIS- NSARY, Chesterfield.—Resident Junior House-Surgeon and Dis- nser. Salary, £50 per annum, with board, apartments, and ndress. Applications to the Secretary the Hospital by No- mber 4th.

ASTER GENERAL INFIRMARY AND DISPENSARY.—Indoor spenser and Assistant to the House-Surgeon. No salary, but board, dging, and washing provided. Applications to the Honorary Secre- ry, the Infirmary, Doncaster, by November 6th.

DEE COMBINATION POORHOUSES.—Resident Medical Officer. lary, £80 per annum, with board and furnished apartments. Appli- cations to James Kyd, Clerk to the Council, Parish Council Chambers, Dundee, by November 11th.

ELLESMERE RURAL AND URBAN SANITARY DISTRICTS.—Medical Officer of Health for the Joint Districts. Appointment for five years. Salary, £60 per annum. Applications to R. E. Lloyd, Clerk to the Joint Committee, Ellesmere, by November 1st.

GREENWICH UNION INFIRMARY.—Second Assistant Medical Officer. Salary, £80 per annum, with board, lodging, washing, and attendance in the Infirmary, and £3 per annum in lieu of beer. Must be unmarried. Appointment to terminate on December 25th, 1898. Applications to Samuel Saw, Clerk to the Guardians, Union Offices, Greenwich, by November 11th.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, Bloomsbury, W.C.—House-Physician; unmarried. Appointment for six months. Salary, £20, with board and residence in the hospital. Applications on forms to be obtained from the Secretary, to whom they must be sent by November 3rd.

HOSPITAL FOR WOMEN, Soho Square, W.—House-Physician, doubly qualified. Appointment for six months. Salary, £30 for that period. Also Non-resident Clinical Assistant, with registered qualification. Applications to David Cannon, Secretary, before November 17th.

KING'S COLLEGE, London.—Sambrook Surgical Registrar. Applications from King's College students only, to Walter Smith, Secretary, by November 1st.

KIRBYMOORSIDE RURAL DISTRICT COUNCIL.—Medical Officer of Health. Salary, £40 per annum. Applications to Richard Jennings, Clerk to the Council, by November 9th.

KIRBYMOORSIDE UNION.—District Medical Officer and Medical Officer of the Workhouse. Salaries combined, £57 per annum, with midwifery fees and allowance for trusses, also extra fees according to the scale of the Local Government Board. Applications to Richard Jennings, Clerk to the Guardians, Kirbymoorside, by November 9th.

LIMERICK: COUNTY INFIRMARY.—House-Surgeon, doubly qualified. Salary, £100 per annum, with quarter's coal, light, and attendance. Applications to the Secretary by November 15th.

MARKET RASEN URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £10 10s. per annum. Applications to Messrs. Page and Padley, Clerk to the Council, 2, Mill Street, Market Rasen, by October 30th.

MIDDLESEX HOSPITAL, W.—Surgical Registrar. Must be M. or F.R.C.S.Eng. Applications to F. Clare Melhado, Secretary-Superintendent, by November 18th.

NEW SOUTH WALES, LINNEAN SOCIETY OF, Sydney.—Macleay Bacteriologist. Salary, £400 per annum. Full particulars to be obtained of Messrs. Dulau and Co., 37, Soho Square, London, W. Applications to the Council of the Society by mail not later than November 12th.

PONTEFRACT GENERAL DISPENSARY AND INFIRMARY.—Resident Medical Officer, doubly qualified. Commencing salary, £150 per annum, with furnished rooms, fire, lights, and attendance. Applications to Percy P. Wood, Secretary, by November 6th.

RADCLIFFE INFIRMARY, Oxford.—Honorary Physician. Applications to the Secretary by December 11th.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields.—House-Surgeon. Applications to the Secretary by November 3rd.

RYDE: ROYAL ISLE OF WIGHT INFIRMARY AND COUNTY HOSPITAL.—House-Surgeon, doubly qualified. Will be required to act as Secretary to the Institution. Salary, £60 per annum, with board, lodging, and washing. Applications to F. H. Blatchford, Secretary, by November 2nd.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston Road.—Resident Medical Officer, doubly qualified. Salary, £105, with residence and attendance. Applications to H. P. Bodkin, 23, Gordon Street, Gordon Square, W.C., before November 8th.

SALISBURY INFIRMARY.—Assistant House-Surgeon. Board, lodging, and washing provided. No salary; unmarried; doubly qualified. Applications to S. Buchanan Smith, Secretary, by November 5th.

SAMARITAN FREE HOSPITAL, Marylebone Road, N.W.—Anæsthetist. Applications to G. Scudamore, Secretary, by November 4th.

SEAMEN'S HOSPITAL SOCIETY, "DREADNOUGHT," Greenwich, S.E.—Surgeon for Dispensary, 51, East India Dock Road, E. Salary, £63. House-Surgeon for Dreadnought Hospital, Greenwich. Salary, £50 per annum, with board and residence. Junior House-Surgeon for Branch Hospital, Royal Albert Dock, E. Salary, £50 per annum, with board and residence. Applications to P. Michelli, Secretary, by November 1st.

SOUTHPORT INFIRMARY.—Honorary Surgeon for the Treatment of Diseases of the Eye, Nose, Ear, and Throat. Applications to the Secretary, Joseph Worall, Infirmary Office, Cambridge Arcade, Southport, by November 16th.

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House-Surgeon. Salary, £100 a year, with board, lodging, and washing. Applications to Henry Bonner, Secretary, by November 16th.

VICTORIA HOSPITAL FOR CHILDREN, Queen's Road, Chelsea, S.W.—Physician to the In-patients. Must be F. or M.R.C.P.Lond. Assistant Physician to the Out-patients. Appointment for two years, but eligible for appointment as Physician to the Out-patients. Applications to A. C. Skinner, Secretary, by November 13th.

WESTERN GENERAL DISPENSARY, Marylebone Road.—Dispenser. Salary, £120 per annum. Applications to the Honorary Secretary.

WEST HAM HOSPITAL, Stratford, E.—Junior House-Surgeon. Appointment for one year, but eligible for the post of Senior House-Surgeon for a further year. Salary as Junior, £50, with board, residence, etc.; as Senior, £75. Applications, marked "Junior House-Surgeon," to Leonard D. Rea, Secretary, by November 5th.

WEST LONDON HOSPITAL, Hammersmith Road, W.—Assistant Physician; must be F. or M.R.C.P.Lond. Applications to R. J. Gilbert, Secretary-Superintendent, by November 3rd.

MEDICAL APPOINTMENTS.

COLEMAN, Percy, M.B., B.S.Durham, M.R.C.S.Eng., L.R.C.P.Lond., appointed Honorary Medical Officer to the Middlesex Hospital Convalescent Home, Clacton-on-Sea.

COLEMAN, Theo., M.D., C.M.(Toronto), appointed a Clinical Assistant to Out-patients at the Chelsea Hospital for Women.

COTTEW-MOORE, E., M.B. and M.S.Edin., appointed Senior House-Surgeon to the Birmingham and Midland Eye Hospital.

DRAKE, A. T., M.B.R.U.I., L.R.C.S.I., reappointed Medical Officer for the No. 4 Deptford District of the Greenwich Union.

DYSON, Mr. Malcolm G., appointed Resident Second Assistant Medical Officer to the Workhouse and Infirmary of the Islington Union.

EBRINGTON, Dr. Nicholas, appointed Medical Officer for the Wethersfield District of the Braintree Union, *vice* H. R. G. Rust, M.R.C.S.Eng., resigned.

EVANS, John J., M.B. and M.S.Edin., M.R.C.S.Eng., appointed Resident Surgical Officer to the Birmingham and Midland Eye Hospital.

GARDNER, H. Bellamy, M.R.C.S.Eng., L.R.C.P.Lond., appointed Anæsthetist to the National Orthopædic Hospital.

GEMMELL, John E., M.B., C.M.Edin., appointed Honorary Assistant Medical Officer to the Hospital for Women, Shaw Street, Liverpool.

GREGORY, T., M.R.C.S., L.R.C.P., appointed Second Assistant Medical Officer of the Crumpsall Workhouse of the Township of Manchester, *vice* C. S. Ashe, M.B., Ch.B.Vict., appointed to the post of Senior Assistant Medical Officer.

HARDING, Richard, L.R.C.P.Edin., L.M., reappointed Medical Officer of Health to the New Radnor Rural District Council.

HAWTHORN, Frank, M.D.Durh., B.S., appointed Medical Officer for the No. 4 District of the Newcastle-upon-Tyne Union, *vice* J. Hawthorn, M.R.C.S.Eng., deceased.

JOHNSTONE, J. Lloyd, M.R.C.S., L.R.C.P., appointed Medical Officer of Health to the Upholland District Council, *vice* G. W. Johnstone, L.R.C.P.Edin., L.F.P.S.Glasg., deceased.

MACDONALD, William, L.R.C.S., L.R.C.P.Edin., appointed Senior House-Surgeon to the Royal Albert Edward Infirmary and Dispensary, Wigan, *vice* W. Cunningham Milroy, M.A., M.D., resigned.

MOBERLEY, S. C. H., M.R.C.S., L.R.C.P.Lond., appointed Medical Officer for the Second District of the Winslow Union, *vice* H. N. Pelly, L.R.C.P., L.R.C.S.Edin., resigned.

MOORHOUSE, J. Ernest, M.A., B.Sc., M.D., appointed Medical Officer to the Stirling Combination Poorhouse.

PARRY, George Hearn, M.B., C.M.Edin., appointed Resident Physician to the Victoria Hospital for Consumption and Diseases of the Chest, Craigleith, Edinburgh, and also Non-resident Clinical Clerk to the Observation Ward, Royal Infirmary, Edinburgh.

PHILIPSON, George Hare, M.D., D.C.L., F.R.C.P., appointed Medical Visitor to the Dunston Lunatic Asylum, *vice* Dennis Embleton, M.D., F.R.C.P., retired.

PHILLIPS, C. Morley, M.D.Brux., M.R.C.S.Eng., L.R.C.P.Lond., appointed Surgeon to the Bristol Dispensary.

REDFERN, John J., M.A., M.D., M.Ch., M.A.O.I., appointed Honorary Medical Officer to the Croydon General Hospital.

RENTON, J. C., M.D.Edin., L.R.C.S., appointed Visiting Surgeon to the Western Infirmary, Glasgow.

SMITH, T. H., L.R.C.P., L.R.C.S.Edin., reappointed Medical Officer of Health to the Reddish Urban District Council.

STOCKMAN, Ralph, M.D., F.R.C.P.Edin., appointed Visiting Physician to the Western Infirmary, Glasgow.

THOMPSON, H. E., M.B.Lond., M.R.C.S.Eng, appointed Junior House-Surgeon to the Birmingham and Midland Eye Hospital.

THOMSON, M. E., L.R.C.P.Edin., L.R.C.S.I., reappointed Medical Officer of Health to the Far Cotton Urban District Council.

TODD, Henry Ross, L.R.C.P., L.R.C.S.I., appointed Medical Officer for the No. 10 District of the Croydon Union.

WADDY, F. H., M.D.Glas., M.B., C.M., appointed Assistant Medical Officer to the Sheffield Union Workhouse, *vice* J. Sorley, M.A., M.B.St. And., resigned.

WADELOW, J. J., F.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer for the Workhouse and the Southern District of the Whittlesey Union, *vice* Mr. J. A. E. Cox, resigned.

WELLS, Robert S., L.R.C.P. and S.Edin., L.F.P.S.Glasg., appointed Medical Officer for the Parish of Kirkcowan, Wigtownshire.

WILSDEN, Alfred, M.B., C.M., appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women.

DIARY FOR NEXT WEEK.

MONDAY.

LONDON POST-GRADUATE COURSE, London Throat Hospital, 204, Great Portland Street, W., 8 P.M.—Dr. George Stoker: Impaired Movements of the Vocal Cords.

TUESDAY.

LONDON POST-GRADUATE COURSE, Bethlem Royal Hospital for Lunatics, 2 P.M.—Dr. Craig: Delusional Insanity, Paranoia. Hospital for Diseases of the Skin, Blackfriars, 4.30 P.M.—Dr. Abraham: Late Syphilides.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W., 4.30 P.M.—Mr. Edward Cotterell: Cases Illustrating the Surgery of the Brain.

PATHOLOGICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 P.M. Mr. D'Arcy Power: Empyema of the Antrum in a C[hild] aged 8 weeks. Mr. Percy Furnivall: A Pathol[ogical] Report on a case of Acromegaly, with an analysis o[f] *post-mortem* examinations of cases of Acromegaly: e[x]hibition of casts, photos, macroscopic and microsc[opic] specimens. Dr. James Calvert: A specimen of Calcif[ic] Pericarditis. Mr. W. G. Spencer: (1) Calculous Disea[se] the Salivary Gland. (2) Nerves from a case of Chr[onic] Traumatic Neuritis. Dr. Humphry Rolleston: Pitui[tary] Body from a case of Acromegaly. Mr. C. J. Selig[man] will show Live Bilharzia Ova hatching.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Sq[uare] W.C., 3.30 P.M.—Dr. Beevor: On the Examination of [the] Action of Muscles.

WEDNESDAY.

LONDON POST-GRADUATE COURSE, Parkes Museum, 74A, Margaret St[reet] W., 4.30 P.M.—Professor Wynter Blyth: Sources of Wa[ter] etc.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Bromp[ton] S.W., 4 P.M.—Dr. Green: Cases in the Wards.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstra[tion] by Mr. Jonathan Hutchinson.

OBSTETRICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8 P.M. Specimens will be shown by Drs. Cullingworth, Will[iam]son, and others. Papers:—Mr. Bland Sutton: On A[b]minal Hysterectomy for Myoma of the Uterus. Dr. Wa[lter] Tate: Three cases of Pyometra complicating Cancer[ous] Cervix Uteri.

EVELINA HOSPITAL, Southwark Bridge Road, S.E., 4.30 P.M.—Mr. A[rthur] Tubby: Spinal Caries and some points in its Recent Tr[eat]ment. Post-Graduate Course.

WEST LONDON POST-GRADUATE COURSE, West London Hospital, W., 5 [P.M.] —Mr. Swinford Edwards: Surgical Cases.

THURSDAY.

LONDON POST-GRADUATE COURSE, Central London Sick Asylum, 5.30 [P.M.] —Dr. George Oliver: The Pulse.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C., 4 P.M.—[Mr.] Barlow: Clinical Lecture or Demonstration of Re[cent] Specimens.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, 5 P.M.—Dr. E. Mark[ham] Skerritt: The Bradshaw Lecture on Prognosis in H[eart] Disease.

FRIDAY.

LONDON POST-GRADUATE COURSE, Bacteriological Laboratory, Ki[ng's] College, W.C., 3 to 5 P.M.—Professor Crookshank: Tu[ber]culosis and Leprosy, etc.

WEST-LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, 8.30 P.M.—Mr. Maitland Thompson: (1) A case of Cere[bral] Hæmorrhage in a Child aged 13 years. Dr. H. J. Da[mas]: Gunshot Injuries in the late Græco-Turkish War. Dr. G. E. Twynam: Nephrectomy and its Relation to P[reg]nancy.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deat[hs] is 3s. 6d., which sum should be forwarded in post-office order and stamps [with] the notice not later than Wednesday morning in order to insure insertio[n] in the current issue.

BIRTHS.

FINLAYSON.—At 53, Rhodes Street, Halifax, Yorks, on October 21st, the wife of D. Finlayson, M.B., C.M., of a son.

SIDLEY.—On October 14th, at Monton Green, Eccles, the wife of Ge[orge] Sidley, Surgeon, of a son.

SMITH.—October 21st, at Poona, the wife of Surgeon-Captain J. Blackbu[rn] Smith, M.B., Indian Medical Service, of a daughter.

MARRIAGES.

FALCONER—OGILVIE.—At the Free East Church, Aberdeen, on the [4th] October, by the Rev. C. H. Todd, M.A., assisted by the Rev. W[illiam] Rankin, B.D., Glasgow, Francis Falconer, M.A., M.B., C.M., Oldh[am], to Margaret, eldest daughter of Thomas Ogilvie.

HARPER—HEALD.—On the 21st instant, at All Saints Church, Southp[ort], by the Rev. C. Reginald Heald, B.A., Rector of Horsted Keys, Sussex, brother of the bride, assisted by the Rev. Canon Thomp[son], M.A., Rector of North Nicols, Southport, Henry Cecil Harp[er], M.R.C.S., L.R.C.P., of Stowmarket, to Margaret Jeannie He[ald], youngest daughter of W. N. Heald, Esq., J.P., of Westbank, Southp[ort], late of Parrs Wood, Didsbury, Cheshire.

DEATHS.

ERSKINE.—On the 9th instant, suddenly, at Peak Hill, Sydenham, Will[iam] Erskine, M.D., aged 56 years.

HINGSTON.—On October 21st, at Liskeard, Cornwall, Andrew Hingst[on], M.R.C.S.Eng., L.S.A., J.P., aged 76 years.

ISARD.—Eliza Rebecca, wife of Joseph Isard, of Docharn, Elmbou[rne] Road, Upper Tooting, S.W., died at St. Leonards-on-Sea on Octo[ber] 14th, aged 69 years, and was by her own request cremated at Woki[ng]. No cards.

LATHAM.—On the 20th instant, at 442, Hackney Road, N.E., Char[les] William Latham, M.R.C.S.Eng., L.S.A.Lond., aged 76.

RAWLINSON.—On October 17th, at 8[0], Edith Grove, Chelsea, Ella C. R[aw]linson, L.R.C.P.&S.Ed., Medical Officer of Battersea Maternity, aged [...] years.

☞ *Queries, answers, and communications relating to subjects to which al departments of the* BRITISH MEDICAL JOURNAL *are directed will be l under their respective headings.*

QUERIES.

. (RETIRED) asks for advice as to the treatment of a hard corn on the ll of the great toe.

. S. desires to hear of a home where a child mentally deficient would taken for £1 a week. The child is 2½ years old.

URREY MEMBER asks if there are any medical societies in existence subscribing to which a medical man can obtain educational advanges for his children at his death, or before.

*** Our correspondent might inquire of the Secretary of the Surrey edical Benevolent Society, Reigate.

SALOL IN TYPHOID FEVER.

E. BARKER-BARBER (Sheffield) writes: Will Dr. Bramwell kindly ate the best way to dispense salol? I have found it difficult to get tients to take it.

NOTICE OF PARTNERSHIP.

ORRESPONDENT, proposing to take his assistant into partnership, sires to know whether it would be an infringement of medical ethics send round with his annual bills to patients a notification of his in- on in the form of a printed circular.

*** We do not see that any reasonable objection could be taken to the stribution in the manner proposed of a properly worded circular.

AMBULANCE LECTURES.

. asks to be referred to a work on "ambulance" comprising lectures a reliable kind.

*** We have referred this letter to Mr. Andrew Clark, F.R.C.S rigade-Surgeon-Lieutenant-Colonel to the South London Volunteer rigade, who writes: The works on these subjects are very numerous will mention two—Shepherd's *First Aid to the Injured*, published by ie St. John Ambulance Association, and Lawless's *First Aid*, published y Pentland. In the shape of lectures there are Professor Esmarch's id my own, which are published at the Polytechnic, Regent Street.

ANSWERS.

has omitted to enclose his card.

P.—The makers of Bond's euthermic stove are the Sanitary and conomic Association, Limited, Gloucester.

W. I.—The paragraph to which our correspondent calls attention ppears to be founded upon a paper published in a medical con- emporary.

KERRYMAN.—The college from which the practitioner in question btained his diploma appears to be the proper body to take notice of ich a paragraph. He is not a member of this Association.

Y.—We are not aware that any rule has been made by the General edical Council with regard to the title of Fellow of the various olleges.

.G.—We should suggest to our corrrpondent that his best course ould be to submit his criticism to the responsible governing body of he institution.

J. McN.—We quite agree with our correspondent that the principle hich should be followed is expressed in the old saw *De mortuis nil nisi onum*.

W.—Our correspondent might refer to the following books: *The Special emptations of Early Life*, by C. G. Wheelhouse, F.R.C.S. (Henry Walker, 37, Briggate, Leeds), and *Morality*, by Mr. Maurice C. Hime, formerly eadmaster of Foyle College, Londonderry (London: J. and A. hurchill, 1s. 6d.).

NNY SCOT.—Degrees and diplomas entitling to registration under the edical Act, 1858, and the amendments to that Act, qualify the holder to eceive a licence to practise in Cape Colony, which is issued on the ecommendation of the Colonial Medical Council. The fee is 5 guineas. n Natal a similar rule applies, but the fee is 3 guineas, and there is an nnual licence, for which £5 a year is paid. Further particulars will be ound in an article published in the BRITISH MEDICAL JOURNAL of anuary 2nd, 1897, page 27.

SUPERANNUATION OF PUBLIC VACCINATORS.

"A MEMBER OF THE ASSOCIATION" might consult the opinion given by ir Robert Reid, Q.C., M.P., on the question as to whether public vaccinators come within the provisions of the Poor-law Officers' Superannuation Act, 1896; it was published in the BRITISH MEDICAL JOURNAL of May 22nd, 1897, p. 1313.

THE "MEDICAL REGISTER."

L. S.—According to Section XLV of the Medical Act, 1858, and the Registrar-General's instructions, a certificate of the death of a medical man is, or should be, forwarded to the Council by the local registrars. We are informed that if through any other channels information reaches the office of the General Medical Council of the death of any practitioner, special inquiry is made in accordance with Section XIV of the Act of 1858. Should such certificate or notification fail to reach the office of the Council, it is always possible that the names of deceased practitioners may remain on the *Register*, as of course it would be improper for the Registrar to act on hearsay evidence.

EDUCATION OF DEAF CHILD.

reply to the question asked by "M.D." in the BRITISH MEDICAL JOURNAL of October 23rd, Dr. J. WILSON HAMILL (Manchester) writes to point out that as the deafness is probably incurable it is likely that in time the child will completely lose all power of articulation, and that it would be desirable to teach on the oral or lip-reading system. He states that he can confidentially recommend as a teacher Miss Newth, 18, Belvidere Road, Princes Park, Liverpool.

MR. WILLIAM VAN PRAAGH points out that the child could receive education at the Normal School of the Association for the Oral Instruction of the Deaf and Dumb, 11, Fitzroy Square, W.

ELECTROLYSIS FOR REDUNDANT HAIRS.

G. S. P. writes in answer to "G. H.'s" query in the BRITISH MEDICAL JOURNAL of October 23rd to recommend electrolysis. Epilate a hair, pass into the follicle a platinum needle connected with the negative pole of a continuous current battery, put positive pole on back of neck, switch a current of 3 to 4 milliampère strength for about a half to one minute; repeat this process in the case of each individual hair.

DR. BARRETT ROUÉ (Clifton, Bristol) also writes to recommend electrolysis, and states that "G. H." will find full particulars of the process in a useful little book called *The Value of Electrical Treatment*, by Dr. Julius Althaus, published by Longmans, Green and Co., price 2s.

TREATMENT OF PSORIASIS.

F.R.C.S.ED. writes in answer to "Cutis" that he has found liq. arsenicalis and potassium iodide internally, with chrysophanic acid, x-xx gr., to 3j of pure lard externally, advantageous in the treatment of psoriasis. The application inflames the parts, which must be watched accordingly.

P. M. recommends chrysophanic acid ointment, 15 grains to the ounce; pyrogallic acid in an ointment of the same strength, or salicylic acid in an ointment of the strength of a drachm or more to the ounce. The first has a powerful action on the skin, and must be used with caution. The second is capable of poisoning the system when applied externally, and the last is not as efficient as the others. Arsenic internally is of little value. Tar and sulphur externally have their uses.

DERMA recommends "Cutis" to try this ointment: ℞ Liq. carbo. det. (Wright) 3j, acidi salicylici 3iss, pusol 3iij, paraf. mollis 3ij, M. This should be rubbed in three times a day by means of an india-rubber oth-brush or flesh-glove.

NOTES, LETTERS, ETC.

ICHTHYOL AND GLYCERINE SUPPOSITORIES.

DR. ATKINSON (Wood Green, N.) can fully endorse Dr. Callaghan's success in the treatment of uterine cases by glycerine and ichthyol suppositories. Messrs. Wright, Layman, and Umney have made them for some time, combined with iodol, and very effective they are; besides the patients are able to use them without help, not so with glycerine tampons.

DR. A. C. WILSON (Liverpool) writes: In the BRITISH MEDICAL JOURNAL of October 23rd I was interested to see Dr. J. Leslie Callaghan's letter on ichthyol and glycerine suppositories. For the last eighteen months I have constantly used a similar combination, and can quite endorse all he says as to its value. The formula I have used is ichthyol gr.x, glycerine 3j, gelatine 3j. The only disadvantage is that the gelatine basis is not always absorbed or brought away by the douche, and may fall out at an inconvenient time. It would be interesting to know what basis Dr. Callaghan uses. As to its value there is no doubt, and one patient of mine (a stewardess on a mail boat) finds the greatest comfort from them. The effect is more lasting and sedative than the ordinary glycerine plug. I have also found an iodoform-ichthyol-glycerine pessary very useful after abortion or labour, when the uterus is sensitive or the lochia offensive.

"MENSTRUATION IN NEWBORN INFANTS."

DR. ROBERT JARDINE (Glasgow) writes: In the BRITISH MEDICAL JOURNAL of October 9th Dr. F. W. Forbes Ross offers a few remarks regarding the so-called menstruation in newborn infants. He says he "cannot agree with the statement that it is either menstruation or that it issues from the vagina." I beg emphatically to state that in my case the discharge did issue from the vagina, as I saw it coming through the orifice of the hymen. It may not have come from the uterus, but it certainly came from the vagina. There was no vulvitis. The modest computation of 40 per cent. seems to me a most extraordinary statement. During six years' connection with the Glasgow Maternity Hospital, where we number our cases by the thousand, I have known of its occurrence only three times, and in one of these cases the child suffered from hæmophilia, and had bloody discharges from the various orifices. In eleven years' private work I have never seen it once. I am perfectly familiar with vulvar discharges from neglected infants, as I see cases from time to time in my dispensary work among the poor; but among children properly cared for such a state of matters should not exist. I did not lay any claim to having made a new discovery, but merely recorded the case as a rare one, and I still maintain that it is rare.

THE HEALTH RESORTS OF SOUTH AFRICA.

DR. G. S. CLARKE (Ealing) writes: In the BRITISH MEDICAL JOURNAL of October 9th "M.O.H." asked for information about Grahamstown; the answers to his queries inserted below are excellent, but probably the most important query is the last, which is unanswered. South Africa is a wide country, and it is only after years in the country and weeks spent in railway travelling that one realises that its health resorts embrace many climates at the same season of the year. So completely is this the case that I have known instances in which patients have remained growing steadily worse in the town suggested by the doctor who sent them out, when a journey of a few hundred miles would have placed them under conditions infinitely better suited to give them a chance of recovery.

The best time for a patient to arrive at Grahamstown is at the beginning of the winter months, about the end of March, when the climate remains good until the end of September. In conversation with one of the leading practitioners in Grahamstown in April last, I was assured

that the summer months are much too hot for patients to do well there; of late he has been sending them to Middleberg; this entails a not overtrying railway journey, and substitutes an elevation of 4,044 feet for one of 1,741. There is another alternative worthy of "M.O.H.'s" consideration. As it is unlikely Grahamstown would suit his patient during the summer months, and Middleberg is often crowded with consumptives, the lady might book to Durban, and take train from there at once to Maritzburg or Howick, a pretty village about eighteen miles from Maritzburg near the main line. At Howick the hotels are good, and the early summer months are cool; elevation about 3,439 feet; there are some pretty walks in the neighbourhood. After a month or two spent in Howick or Maritzburg, the journey might be prolonged to Harrismith, 189 miles from Durban, at an elevation of 5,250 feet. Here the hottest months may be spent in comparative comfort. Dr. Wilson, who contributed some interesting notes on Harrismith to the *South African Medical Journal*, told me that in the summer months the south-east or Natal winds cause a sudden and rapid fall of temperature. By writing beforehand fairly good accommodation can be secured in Harrismith; this is always a wise precaution to take when travelling in South Africa. When the Orange Free State line between Harrismith and Kronstad is completed it will still further simplify the change of locality so important for phthisical invalids.

THE TREATMENT OF HIGH TEMPERATURE IN ANÆMIC PATIENTS.

MR. S. J. ROSS, M.B. (House-Surgeon, the General Infirmary, Bradford) writes: It is a common experience that many cases of anæmia, for some indescribable reason, develop suddenly headache and high temperatures, unassociated with any pathological change ascertainable by physical examination. This is attributed by some to toxæmia resulting from constipation, but this I have been able to exclude in my cases, having in every case seen that the alvine excretions were normal. A usual treatment in these cases is antipyrin gr. x; certainly this reduces the temperature, but this is not sufficient. We must ask ourselves the question, Does this leave the patient in a better general condition? The answer is in the negative. Anæmic patients bear antipyrin very badly; it leads very often, even in small medicinal doses, to cyanosis resulting from an embarrassed circulation. In anæmia we have a general systolic murmur, an enfeebled cardiac muscle endeavouring to maintain equilibrium—unstable equilibrium. Any depressant measures may upset that equilibrium, converting compensation into cardiac failure; therefore the question arises, Can we arrest these symptoms without detriment and with advantage to the failing circulation? I have never yet failed to reduce the temperature and relieve the headache of an anæmic patient by means of caffeinæ cit., gr. ij; sod. benzoatis, gr. iv; aq. ad ʒj. One ounce of this mixture will relieve the symptoms, but this dose repeated thrice daily will greatly improve the cardiac condition of the patient. From this we may at least conjecture that the symptoms are of vascular origin, and comparable indeed to the headaches and increased temperature sometimes observed in cases of aortic regurgitation. Rheumatism doubtless is the commonest cause of mitral incompetency, but let not this blind our eyes to the fact that neglected anæmia may lead to the same result, and therefore it is obviously our duty to avoid any depressant measures in the relief of symptoms, but to stimulate the failing organ, the heart, and to maintain competency.

HARVEY AND HIS CONTEMPORARIES.

A STUDENT OF HISTORY writes: Sir William Roberts in his Harveian Oration says that Harvey's ideas made rapid way, and then proceeds to give a catalogue of his appointments. Now I read in Aubrey's *Letters and Lives* (vol. ii, p. 383): "In consequence of Harvey's book on the *Circulation of the Blood* he lost most of his practice; was believed to be crackbrained, and was opposed by all the physicians." I read again, in Dr. Elliotson's *Human Physiology* (p. 194): "Harvey's immediate reward was general ridicule and abuse, and a great diminution of his practice." Finally, Buckle, in *History of Civilisation in England*, says: "The great discovery made by Harvey of the circulation of the blood was neglected by most of his contemporaries."

LETTERS, COMMUNICATIONS, ETC., have been received from:

(**A**) Mr. R. B. Anderson, London; Mr. L'E. Aulognier, London; Mr. T. S. Allan, Falkirk; Dr. Atkinson, London; A. W.; F. C. Abbott, M.B., London; Alpha. (**B**) Lady Baker, Blandford; Mr. E. B. Block, Minneapolis; Sir H. R. Beevor, London; British Laryngological, Rhinological, and Otological Association, The Secretary of the, London; Dr. F. J. Bond, Gloucester; J. W. Batterham, M.B., St. Leonards-on-Sea; Dr. J. S. Bolton, Birmingham; Messrs. Burroughs, Wellcome and Co., London; Mr. C. H. Byers, London; Miss W. L. Brodie-Hall, Dorking; Mr. C. A. G. Browne, London; Mr. E. B. Barber, Sheffield; Mr. L. A. Bidwell, London; Dr. J. W. Byers, Belfast; Mr. J. P. Bush, Bristol; Dr. T. R. Bailey, Birmingham. (**C**) Dr. J. M. Clarke, Clifton; Mr. A. Clarke, London; Mr. A. Cooper, London; Dr. J. S. Cameron, Leeds; Cymph Cymon; C.; Charing Cross Hospital, The Secretary of, London; P. Coleman, M.B., Clacton-on-Sea; Dr. M. Campbell, Glasgow; Mr. H. N. Constance, London; J. Carslaw, M.B., Glasgow. (**D**) Mr. B. Dunlop, Glasgow; Dr. Davidson, London; Mr. A. Davis, London; Mr. D. Duke, Uppingham; T. Divine, M.B., Killamarsh; Mr. E. Bailey Denton, London. (**E**) Eastman Photographic Material Company, London; J. Evans, M.B., Birmingham; W. McA. Eccles, M.B., London; Mr. G. Eastes, London. (**F**) Mr. W. Fryer, London; F.R.C.S.Ed.; Professor T. R. Fraser, Edinburgh. (**G**) J. E. Gemmell, M.B., Liverpool; Dr. J. G. Glover, London; Dr. E. Goodall, Carmarthen; T. B. Grimsdale, M.B., Liverpool; Mr. R. Gibson, Edinburgh; Mr. H. B. Gardner, London; G. E. M.; Sir W. R. Gowers, London; Dr. W. F. Grant, London. (**H**) Professor Victor Horsley London; Mr. P. G. Hearn, Edinburgh; Mr. H. D. Hey, Faring Dr. J. W. Hamill, Manchester; Mr. W. T. Hawthorn, Wellin Salop; Harveian Society, The Secretary of the, London; Mr. Hicks, London; Dr. C. F. Hutchinson, Mayfield; H. E. S.; Mr. Horder, Cardiff. (**I**) H. Irvine-Jones, M.B., Pontypridd; Inquisi Mr. J. J. Idelson, Colne; Mr. G. W. Isaac, London. (**J**) M Johnston, London; Justice; Junior Practitioner; Dr. J. John Bolton; W. D. Johns, M.B., Bournemouth; Dr. H. L. Jones, Lon (**K**) Messrs. Krohne and Sesemann, London. (**L**) Mr. J. Lym, don; Mr. H. K. Lewis, London; Dr. J. F. Little, London; Mr. Lemon, Redhill; Dr. W. J. Lawrie, Ayr; Leeds and West Ri Medico-Chirurgical Society, The Secretary of the, Leeds. (**M**) M ber; Member of the Association; R. S. Marsden, M.B., Birkenh Dr. W. H. Maidlow, London; Dr. J. D. Macdonald, Hassocks; J MacLaren, M.B., Claygate; M.D. Retired; F. J. McCann, M.B., don; Dr. Moorhead, Cootehill; A. E. Maylard, M.B., Glasgow; M McLeod, Shanghai; Dr. J. W. Moore, Dublin; M.D.; Dr. F. J. Naught, London; Dr. J. E. Moorhouse, Stirling. (**N**) Dr. A Nicholls, Montreal; Mr. F. S. Noble, Scarborough; Nox; Mr. T Neilson, Philadelphia. (**O**) Mr. J. Orton, Foleshill; Observer; W Owen, M.B., Carnarvon. (**P**) Dr. G. H. Philipson, Newcastle Tyne; Dr. J. F. Payne, London; Mr. D'Arcy Power, London; Mr K. Parry, Dublin; Mr. W. Praagh, London; Dr. G. S. Perkins, don; Mr. G. C. Peachey, Newbury; Public Vaccinator; Mr. W Proudfoot, Glasgow; Dr. L. Phillips, Birmingham; P. M.; Dr. C Phillips, Weston-super-Mare. (**R**) Royal Hospital for Diseases of Chest, The Secretary of the, London; Dr. D. M. Ross, Bright Royal College of Physicians of Ireland, The Registrar of the, Dub S. J. Ross, M.B., Bradford; Mr. J. H. Reynolds, London; Dr Renner, London; Dr. J. A. Rigby, Preston; Dr. A. Roué, Bristol; C. J. Renshaw, Ashton-on-Mersey; Mr. J. J. Redfern, London. (**S**) D. Stewart, Hexham; Dr. J. Smyth, Naas; Sanitas Company, Limi London; Mr. W. P. Stocks, Salford; Dr. T. D. Savill, London; Mr Soutter, Hedon; Mr. B. Schwabe, Basle; Professor F. J. Shephe Montreal; Dr. G. E. Shuttleworth, Richmond Hill; Dr. Holmes Spi London; Mr. H. L. Swete, Fishguard; Surgeon-Lieutenant-Colo Retired; Student of History; Dr. F. Spicer, London; Mr. N. Sm London; Surgeon-Captain; Dr. A. Sheen, Swansea; Dr. T. W. Sh London. (**T**) Messrs. Raphael Tuck and Sons, London; Mr. A. Tubby, London; Mr. J. Taylor, Tanderagee; Dr. Trevelyan, Lee Mr. L. Tait, Birmingham; Truth. (**V**) Vaccinia. (**W**) Mr. W. Ward, Preston; Dr. E. F. Willoughby, London; Mr. H. J. Wari London; W. W. T.; Dr. F. F. Westwood, St. Paul, Minn.; W.; M M. J. Webb, Clifton; Dr. J. R. Wallace, Calcutta; A. C. Wilson, M Freshfield; Messrs. W. White and Son, Glasgow; Mr. J. J. Wo Bradford; Mr. D. S. Wylie, Manchester. (**X**) X. Y.; etc.

BOOKS, ETC., RECEIVED.

A System of Practical Medicine by American Authors. Edited by A Loomis, M.D., LL.D., and W. G. Thomson, M.D. Vol. I. Infecti Diseases. London: Henry Kimpton. 1897. 25s.

The Commercial Uses of Coal Gas. By Thomas Fletcher, F.C.S. Lon and Warrington; Fletcher, Russell and Co.

A Handbook of Therapeutics. By S. Ringer, M.D., F.R.S., and H. Sta bury, M.D., F.R.C.P. Thirteenth edition. London: H. K. Lewis. 1 16s.

Sanitation and Health. By Brigadier-General R. C. Hart, V.C., C.B., Revised by Brigade-Surgeon-Lieutenant-Colonel T. H. Hendley, C.I. M.R.C.S., L.R.C.P. Fourth edition. London: William Clowes Sons. 1897. 1s. 6d.

The Normal and Pathological Circulation in the Central Nervous Syst (Myel-Encephalon). By W. Browning, Ph.B., M.D. London Philadelphia: J. B. Lippincott Co. 1897. 7s. 6d.

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SIXTY-FIFTH ANNUAL MEETING

OF THE

BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTIONS OF PHARMACOLOGY & THERAPEUTICS AND DERMATOLOGY.

J. Leech, M.D., F.R.C.P., President of the Section of Pharmacology and Therapeutics, in the chair.

DISCUSSION ON THE TREATMENT OF SYPHILIS.

I.—W. Whitla, M.D.,

Professor of Materia Medica and Therapeutics, Queen's College, Belfast; Physician, Belfast Royal Hospital.

The treatment of syphilis is a wide subject and I feel honoured in being called upon to open a discussion on it. Whether this New World was the original home of syphilis or not we need not pause to debate, but the marked advances made in the study of syphilis of late years on the Continent of America make the present time and place most desirable for discussing the therapeutics of this interesting malady. At the start, permit me to say that I come before you not with new light, but for new light and knowledge, the aim of the officers of the section being to elicit the views and experiences of the numerous observers here and in the United States. My duty will therefore chiefly lie in the selection of some of the most interesting and important debatable points in the therapy of the disease. Fortunately it is easy to indicate the main line upon which our discussion is to run, since there are but two drugs which need be considered—mercury and iodides. In the Old World there is a small and steadily diminishing number of men who adhere to the idea of a non-mercurial treatment of syphilis, but though I know nothing of the presence of such a minority in Canada or the States, I should be surprised to hear of it, because I believe such a view would be at variance with the untrammelled progress in spirit which is the characteristic of the great Canadian branch of our profession.

My own professional opinion was formed in a school where my two chief teachers were non-mercurialists, and I had opportunities of observing the results of expectant methods alongside those of surgeons who administered mercury, and I need not tell you that I have never treated a case of syphilis since without employing the drug. It may be taken as proven that mercury has a specific or curative action upon syphilis; we may thus limit our attention to the following points:—

1. How mercury and the iodides are supposed to act.
2. When should mercurial treatment be started? Especially should it be given in the primary stage?
3. The various methods for its routine administration and its dosage, and the length of time necessary for mercurial treatment.
4. The treatment of tertiary symptoms and congenital syphilis.

Notwithstanding the marvellous strides which pharmacology has recently made in elucidating the mode of action of many drugs it has almost thrown no light upon the therapeutics of the so-called alteratives. These agents when given in ordinary therapeutic doses to perfectly healthy individuals often produce no appreciable action, but when similar doses are administered in certain diseased conditions the disease disappears without leaving any clue as to the method by which the drug cured. This is frequently observed with mercury, arsenic, gold, iodides and colchicum. Addison and Cohnheim demonstrated that mercury had the power of arresting the suppurative process in the frog's mesentery by its paralysing effect upon the protoplasm of the cells.

The lethal action of the soluble salts of mercury upon the minute forms of life has been long demonstrated, and this will almost certainly prove the key to the explanation of the curative action of the drug in the secondary stage of syphilis. That syphilis is caused by a micro-organism seems certain, and it will be an easy matter to demonstrate the action of mercurials upon it as soon as it can be isolated and cultivated. Whether rubbed into the skin, administered by the mouth or other route, mercury and its preparations are absorbed and find their way into the blood. In ordinary inunction it is clear from the observations of Binz that the ointment is not absorbed through the uninjured epidermis or cutis vera, but that it finds its way in through the hair-follicles and sebaceous follicles, and through the orifices of the sweat glands. In a few days the globules become coated with oxide *in situ* and soon disappear into the blood after solution by the chloride of sodium, fatty acids, albumen, and glandular secretions, probably in the form of an albuminate kept in solution by the natural chloride of sodium. In a similar way the bichloride and other soluble salts are absorbed from the alimentary canal and insoluble salts like calomel are probably rendered soluble by the formation of an albuminate which is itself kept in solution by the chloride of sodium. Pure calomel dusted over the conjunctiva is soon found in the urine as a soluble salt of mercury (Kammerer).

It is thus obvious that in whatever form the metal is administered it finally enters the blood and there meets the syphilitic poison which it destroys. I think it was Mr. Hutchinson who first spoke of mercury as a vital antidote to syphilis. The term is at all events used by some as implying that the metal is a poison to the living syphilitic organism in contradistinction to its action upon the chemical poison probably secreted by the parasite. There is another aspect of the question, which though it appears to be obvious is singularly overlooked, viz., that syphilis is a true vital antidote to the poison—mercury. In this statement will be found the key to the difficulty of dosage, duration of treatment, and many other puzzling questions. I believe that so long as the living virus of syphilis remains in the blood and tissues of the victims of this disease mercury will spend its poisonous force upon the virus without fear of injury to the patient. As soon as the living antidote to the mercurial poison is exhausted or destroyed, then, and not till then, will mercury begin to act deleteriously.

If this be accepted as true or probable a working hypothesis is at once obtained for the dosage. It is well known that small doses of mercury have been found to exert a tonic action upon the non-syphilitic patient, and that marked increase of weight sometimes follows its administration, but it is almost certain that even these small doses if prolonged will cause general deterioration of health. Doses which the syphilitic patient can tolerate without the slightest inconvenience would soon cause serious injury to the perfectly healthy subject. This is especially evident in congenital syphilis, where one sees puny and apparently dying children thrive and grow fat and ruddy upon an amount of the metal which would probably cause death or serious injury to perfectly healthy infants. Mercury acts also in syphilis upon the morbid cell growth which is characteristic of the disease. We have a demonstration of this when the ointment is gently rubbed over a patch of the secondary eruption, or more strikingly when calomel is dusted over condylomatous growths. The specific cell growth is rapidly and painlessly destroyed.

The metal is eliminated in all the excretions of the body, and Oberländer found that the kidneys continue to throw it out for more than six months after the last dose has been administered.

The action of the iodides is not so simple. It is generally taken for granted that, as iodides of sodium and potassium are not germicides, therefore they do not act upon the living virus of syphilis. The generally accepted view is that the iodides act solely upon the cell growths which are so characteristic of the disease. Thus Brunton believes that the iodides act upon the tissues and not on the poison. He likens the syphilitic process to the growth of the caterpillar in the oakgall, and he believes that large doses of the iodide act upon gummatous tumours, which he regards as analogous to the galls, and they spare the poison or caterpillar, which then goes on to form other gummatous deposits. This is possibly

an analogy to which exception may be taken, since it is probable that there is no caterpillar in the tertiary stage. Most authorities state that iodides have no visible effect upon the syphilitic germ in the early stage of the disease, but that in the late secondary period they markedly assist the action of mercury in destroying the cell growths; in the tertiary stage their influence is most striking and sometimes may be styled marvellous, but it appears highly probably that their influence is not permanent unless supplemented by mercurials. It is not, however, safe to assume that the iodides exert no germicidal action in syphilis, since Binz has demonstrated that they are readily decomposed by living protoplasm, which under conditions identical with those in the living body immediately sets iodine free in the tissues, and he strongly holds that when we see tumours or swellings cured by the internal administration of iodide, we are justified in assuming that in them the liberation of iodine (which is easily demonstrated when carbonic acid, protoplasm, and iodides are brought together) is continually going on as long as the iodide circulates in the blood and that the free iodine gradually destroys the cell growths or the micro-organisms which produce the tumours.

Passing over numerous interesting speculations we come to the second point for discussion—when should treatment be commenced? Thanks to the brilliant labours of Taylor, we need not pause to discuss the value of excision of the chancre; he has demonstrated the folly of such a procedure.

Hutchinson and those who follow him strongly advocate the administration of mercury as soon as the state of the sore permits of diagnosis. He affirms that if this be done, "the patient will usually entirely escape both sore throat and eruption," and "that it is thus perfectly possible to suppress syphilis and to prevent the occurrence of any of the humoral group of symptoms." The conclusions of Hutchinson are obviously open to certain fallacies, but he has evidently discounted these, or allowed for them, and in the numerous hosts of cases treated upon this plan by careful observers there appears to be strong presumptive evidence that many of the cases in which no secondary symptom appeared were cases of genuine syphilitic chancre which would have exhibited secondary symptoms had the antidote been delayed in its exhibition.

Perhaps no single point in the problem of syphilis has been so hotly debated as this so-called abortive plan of treatment. The term is an unfortunate one, and has led to misconceptions. Thus, theoretically speaking, it might be proved that it afforded the most successful and satisfactory method of treating syphilis, though it might be impossible to prove in a single case that real abortion of the disease had occurred.

Mr. Hutchinson has been equally unfortunate in his description of the method as regards dosage, which he styles as "the continuous use of small doses over long periods," but this will be referred to presently. I have satisfied myself in many cases of the absolute truth and accuracy of Mr. Hutchinson's results, and in a few I believed that secondary symptoms were entirely prevented. One arrives at such a conclusion by observing the faint rash which appears at a late period if the mercurial be suspended, and the absence of rash in those cases where the drug was not stopped but used continuously for a long time. Taylor and Kaposi and others are, upon the other hand, satisfied that no advantage or possible benefit to the patient is lost by withholding mercury until the onset of the second stage. These authorities affirm that his syphilis will be more orderly and more amenable to treatment, and that there will be less difficulty in the mind of the physician and of the patient in pursuing a vigorous mercurial course. It cannot be denied that it is often impossible to get patients to submit to prolonged mercurial treatment in the absence of evidence that they are really suffering from genuine syphilis. This is a very serious objection to the so-called abortive plan. The physician, after say four months' mercurial treatment, may pause and say to himself possibly, "I am giving mercury to a patient who, though he has had a hard, indurated sore, may not have any syphilis." This is a still more serious objection, and proves that mercurial treatment should not be actively commenced till the induration is such as absolutely satisfies the attendant that he is dealing with the primary stage of a true syphilis.

We may look forward with hope that the experiences of the eminent observers who are expected to join in this discussion will assist us in coming to a conclusion upon two distinct points. First, is it possible to abort syphilis by giving mercury in the primary stage? Second, if this be possible, is the plan one that can be used as a routine practice in treating syphilis. We may pass on and consider how the use of mercury will best meet the needs of the syphilitic patient who becomes before us with the skin eruption just out. All will agree that now no delay in the exhibition of the remedy should take place, but there is the widest difference of opinion about the best way to administer the drug. Two plans are recognised: (1) The continuous method, and (2) the interrupted. The first method is that advocated by Mr. Hutchinson and pursued as part of his abortive plan. He describes it in his last article as that of the continuous use of small doses over long periods. It is called by others the tonic treatment.

It will be observed at the start that his dosage is hardly what he describes himself, and certainly not what many of his opponents designate it as—the method of using infinitesimal doses of mercury.

The preparation which he selects is hydrargyrum cum creta, and he administers it in the pillular form with opium, and he gives 1 gr. of the mercurial preparation four, five, six, or seven times a day, regardless of meals, his object avowedly being to get in as much mercury as possible without causing salivation or diarrhœa. In the course of twelve months' treatment the patient would have swallowed 2,500 grs. grey powder, or over 800 grs. of mercury, if the maximal doses of the preparation were adhered to. When this treatment has been commenced during the primary stage and continued for nine or twelve months, Mr. Hutchinson, as before stated, affirms that the syphilis may be wholly suppressed.

I think you will agree with me that, omitting the consideration of the period at which this treatment is commenced, the dosage is almost as orthodox as the most ardent mercurialist can desire. Practically, it only differs from the interrupted plan, not in giving so much less mercury but in giving it for a longer period without rest or suspension. My own experience has satisfied me that many patients cannot stand a larger dosage, and that most will be unable to bear this amount for more than six or nine months. When we study the reports and writings of syphilographers one cannot fail to be struck with the numerous points at which these so-called rival treatments fuse and become indistinguishable.

A strictly tonic mercurial treatment is useless. If mercury be given in such small doses as would improve the tone of a healthy man, this dosage will be futile when administered to a syphilitic subject, and the long-continued treatment of syphilis by minute doses of mercury must be condemned. In practice the distinctions between the continuous and interrupted plans break down. One physician starts to treat a case as an ardent admirer of the continuous plan; he endeavours to get in as much mercury as possible without injury to his patient, but he will often find that he has misjudged his patient's powers, and he must stop at the end of four or six months, and give him a rest. Another starts with the view of saturating the system with the metal, and finds just when he intended to stop and interrupt the treatment that some suspicious symptom warrants a continuance for several months, and the case becomes one treated almost continuously.

My own limited experience is decidedly in favour of making the treatment as continuous as possible for at least nine months after the appearance of the eruption. I believe this is less likely to lead to relapses and early tertiary symptoms than a four or six months' course of greater severity. The great problem in the successful treatment of syphilis is the dosage. This it is impossible to know before trying, and it is well to have no very firm preconceived notion upon the number of grains, or even the exact mercurial preparation to be adhered to. The antidote must be given not by arithmetical calculation but by sound common sense. It must be be given in proportion to the amount and activity of the virus present and with due consideration to peculiarities exhibited by the patient, the one aim of the medical man being to get as much mercury into the patient's blood as possible without producing any injury to his tissues or organs.

The condition of the gums is generally regarded as the test for the dosage. It is a most fallacious test; the same holds good for the bowel. Very large amounts of mercury are administered at Aix without the slightest effect upon the mouth, because I believe that nowhere is such scrupulous attention paid to the state of the gums. This detail of putting the teeth, gums, and mouth into a healthy state prior to treatment, and maintaining them in this state all through the mercurial course is of the most vital consequence to success. I know of no other detail to be compared with it in importance. Vegetable astringents, like rhatany, and catechu alternating with alum solutions and carbolic washes, should be most religiously employed during the months of treatment.

As a matter of fact, I have scarcely ever used opium with the mercurial. Should the bowel or stomach rebel, which is exceedingly seldom, I give them a rest and resort to the skin.

The syphilitic phenomena, that is, the rash, patches on the tonsils, condylomata, iritis, etc., afford a better indication for dosage than the mouth. If these remain uninfluenced or not sufficiently influenced, mercury may still be pushed fearlessly. As long as there is abundance of syphilitic virus, the drug may be pushed and the secondary manifestations are a rough estimate of the amount and activity of this virus.

But what indication has the physician for further dosing when these disappear and the mouth keeps healthy? Here, permit me to say, is a vital point. I believe body-weight affords the best of all guides. There is little danger (perhaps none) of doing any injury to a patient by mercury as long as he keeps gaining in weight and is not markedly anæmic. For nearly twenty years I have made careful weighings every fourteen days or more of all syphilitic patients, and soon one comes to know much of what is going on in the battleground between the virus and the antidote by placing the patient in the balance.

In a severe case of syphilis, especially in the late secondary stage, a weight chart is as essential as is the temperature chart in a case of grave typhoid. When weight falls without obvious cause the metal must be suspended (iodides come in here with benefit). Often a fall in the body weight is the first sign that the syphilitic virus has been completely destroyed. This may be seen in the abortive plan of treatment, and may be taken as indicating that the mercury is beginning to cause deterioration of the blood, and increased metabolism having no longer its syphilitic antidote present to neutralise its action. These weighings, when possible, should be made upon an accurate machine in the physician's study.

The length of the course should be determined, in my opinion, not by any preconceived rule. I hesitate to state this (almost in the phraseology of a law) in the presence of so many distinguished members of the profession, many of whom, I have no doubt, have had a larger experience in the treatment of this affection than myself.

My experience as a teacher has shown me how dangerous it is, in a combination of circumstances like those under consideration, to place before the student mind the cut-and-dry formula that syphilis should be treated by any special mercurial salt in any fixed doses, for any given number of months under any hard-and-fast continuous or interrupted plan. We all know how prone such formulæ are to become lifelong rules of procedure. Each case should be treated upon its own merits, and the plan intelligently modified, and, above all, the duration of the course decided by the results, no two cases, perhaps, running exactly alike. After, say, nine months of the continuous method, if it has not been found necessary to interrupt it before, the patient may have a complete rest for two or three months, should no trace of the disease be present. It is a good plan, then, to give a mild mercurial course, combined with iodides every alternate six weeks for nine months more, and finally, after a rest of two or three months, a three months' course of fair doses of the iodide should complete a two years' course in all.

Sir William Gowers, in his Lettsomian Lectures, recommends that every syphilitic subject for at least five years after the date of his last symptoms should have a three weeks' course of treatment twice every year, taking for that time 20 or 30 grs. of iodide a day, and he asks, if this practice were generally adopted, is it not reasonable to anticipate that grave lesions would be much more rare?

Time does not permit me to dwell upon the great importance of a wisely regulated diet, with hot or Turkish baths, occasional changes to the seaside, with the necessary restrictions regarding alcohol and tobacco, and the avoidance of every conceivable depressing agent.

It will now be necessary to glance at the different methods of administering mercury by the mouth and the skin. The method of injections will be dwelt upon by a later speaker. A favourite mercurial preparation on the Continent, and as far as I can judge in America, is a substance which is much less used in England, that is, the protoiodide or green iodide or mercurious iodide, prepared by rubbing iodine and mercury together. Owing to its liability to decompose it has been rejected from the German and *British Pharmacopœias*. Taylor begins with three daily doses of $\frac{1}{4}$ to $\frac{1}{3}$ gr. This dosage in a few days is increased to 1 gr. three times a day, which is to be kept up for six months. He states that it is rarely necessary to give more than 3 grs. of the protoiodide in a day, and that most cases will do with about 2 grs., or even less, and he condemns the combination of opium with the drug as unnecessary and mischievous.

Milner states that of all the forms of syphilis the vesicular rash is the most difficult to deal with. It is most frequently seen in fair-haired patients, chiefly women, and in those who drink large quantities of wine. For such the green iodide should always be selected. He urges the importance of the difficulty in treating barmaid's syphilis and of checking the disease in actors, commercial travellers, billiard markers, and the class of syphilitic patients who sit up late at nights. For all these the green iodide should be preferred to every other preparation of mercury. It appears to be the most active form for administering mercury in the early stages, but it is doubtful if it be so valuable or active later on. My own feeling is that it is not so manageable as the grey powder, but this may be entirely a matter of practice or of experience. Grey powder, that is mercury rubbed up with two parts of chalk, as already stated, is Mr. Hutchinson's choice. Though he recommends up to 6 or 7 grs. daily, I believe 3 or 4 grs. daily for nine or twelve months will meet all the requirements of the great bulk of cases.

My own practice is to administer calomel beginning with two Plummer's pills, 5 grs. each daily. Such a dose will contain 1 gr. calomel, 1 gr. sulphurated antimony, and 2 grs. guaiacum resin. The bowels are seldom influenced, and ptyalism is rare when the mouth is well cared for. After a week or ten days 3 pills may be given daily, and I believe it will be found an advantage to change the calomel to corrosive sublimate after about three months, and to combine iodides with it. As soon as the calomel influences the bowels I give the grey powder.

Blue pill does not seem to be a favourite amongst specialists; it appears to be more difficult to manage and more liable to cause salivation and diarrhœa when pushed for any length of time. It is the preparation which may be selected for a preliminary smart attack upon the disease for a few weeks, and in those cases not seeking early advice. When signs of ptyalism do show themselves under such circumstances I think they can be more quickly suppressed or checked than if produced by any other mercurial, even when another mercurial preparation in moderate doses is administered immediately upon stopping the blue pill.

There is much to be said against chopping and changing the mercurial during a course of treatment, but there is also something to be said in favour of it. I believe one can often get in more of the metal in this way. Suppose under any preparation signs of ptyalism suddenly show themselves without being able to offer a working hypothesis, I think it will be found that a change of the preparation often will more effectually restrain this than if the drug be stopped altogether. Excellent results are obtainable by using the red iodide, the tannate, and the bichloride.

It seems certain that the statement of Victor de Méric is correct, that is, that it does not matter in what form mercury be given, provided that it be kept up for one, one and a half, or two years at least. All practitioners complain of the great difficulty of getting patients to adhere to the treatment for a sufficient period. It cannot be denied that this difficulty is

greatly increased by the habit of some physicians selecting a particular form for their mercurial preparation which they adhere to rigidly, and the patient wearies of the pill, powder, or mixture, and throws it aside, whilst he might be tempted to continue longer had the same dose and mercurial preparation been given in an altered pharmaceutical form.

The necessity of keeping the patient in a condition which will enable him to pursue his ordinary avocation has compelled me to describe a plan of treatment which is far from an ideal one. Thus if the subject of syphilis should be amongst the ranks of the wealthy and should he have the misfortune to belong to the idle class a more certain and efficacious plan of treatment might be easily marked out for him provided he were willing to devote all his time to the therapeutics of the disease. Such a plan would be the inunction method, at which we shall now glance for a brief moment.

The ointment of the *British Pharmacopœia* is much too strong, and the German *Pharmacopœia* preparation is preferable in every way. It contains one part of mercury rubbed up with two parts of a mixture of lard and suet. With such an ointment every case of syphilis can be treated more certainly and more rapidly than by all plans of mouth medication. It is very inconvenient, requires care, often the aid of an attendant, and the free use of baths; it exposes the secret of the patient's malady to those about him, and soils his bedclothes and undergarments. These are reasons which will probably always operate in preventing the inunction plan from becoming a routine method of treating syphilis. Nevertheless it is the best of all ways for treating the disease, and in some cases it is absolutely essential to the patient's life that he resort to it.

By a careful attention to the state of the patient's mouth enormous quantities of the antidote to syphilis may be introduced into the system without producing any effect whatever beyond the rapid cure or total disappearance of all syphilitic symptoms. I do not know of any more marked and unmistakable result in therapeutics than the results of this method in severe cases of syphilis. It may be used with advantage in all cases, but there are cases where it becomes the duty of the physician to insist upon the method by inunction: (1) In all grave attacks of the disease where the symptoms set in with unusual severity it should be resorted to. (2) In all cases where time has been already lost and the patient has not sought advice till the secondary phenomena have been in full swing for several weeks, as, for example, when the patient first seeks treatment for a retinitis, iritis, or otitis. (3) In nearly all cases of cerebral syphilis and where spinal symptoms supervene at an early stage. (4) In syphilis appearing under certain conditions after marriage. (5) In so called malignant syphilis.

To carry out the inunction method properly it is almost essential that the patient gives himself up entirely to the treatment. This is the explanation of the very superior results obtained by the use of the ointment. One cannot say that in order to use inunction the patient must give up all business and keep to his house, but if he is able to do so, larger doses can be safely administered and much time saved. My own observation leads me to believe that where a patient, especially in the winter season, insists upon attending to his ordinary business, as good results can be obtained by grey powder, the green iodide, or calomel by the mouth. But if he can devote himself to 75 or 100 inunctions as carried out at Aix-la-Chapelle we can confidently assert no better or more certain results can possibly be attained in the treatment of syphilis.

During the carrying out of a mercurial course by the mouth where the secondary signs do not show a tendency to disappear great benefit may be obtained by suspending the pills and beginning inunctions. In the late secondary stage it is often an excellent plan to rub in the ointment and give the iodide by the mouth. The plan cannot be properly carried out without a good warm bath (to 98° F.) and a mild rubbing with carbolic soap, and occasionally the sponging of the body with weak permanganate solution. After thorough drying with warm linen towels, the ointment (33 per cent.) and recently manufactured, may be rubbed in. As regards dosage a good average rule will be 1 drachm or 60 grs. of this ointment to be used daily. At Aix the practice is to rub in 38 grs. of the ointment twice a day into the different regions of the body. Thus the professional rubber takes the requisite amount of the drug, and after squeezing it between his palms he rubs it upon the first day into the skin over the inner sides of both arms, upon the second day the skin over the inner aspect of the thighs is attacked, and so on, winding up with the back on the sixth day, and a rest upon the seventh. After each rubbing the patient puts on a flannel gown, and without washing, goes to bed. The warm bath is resorted to in the mornings.

In severe cases double this amount of the ointment may be rubbed in. Thus in cranial syphilis I have resorted to ʒj morning and evening for some weeks without producing salivation. As in the plan of mouth administration, each case must be closely watched and the dosage modified by the effects produced. Twenty to thirty minutes generally suffice for each inunction, and hairy parts must, as far as possible, be avoided, or shaving may be resorted to. A distinct advance has been made in the treatment of syphilis by the observations of Taylor, who first pointed out that the small round cell infiltrations which surround the lymphatic and vascular channels are liable to break out into fits of active proliferation after apparent dissolution by mercury. In this way a general infection may occur after a period of latency or apparent cure, and hence the vital importance of attacking as large an area of the cutaneous surface as possible during the inunction course, with the view of destroying all foci of the disease. There is, therefore, good reasons for regarding inunction as an ideal plan, being a combination of the local and constitutional methods, even when commenced in the secondary stage of the disease. This consideration also would seem to support the view that the continuous plan should give better results than the interrupted. With the view, therefore, of allowing as few foci as possible to escape, Taylor divides the surface of the body into eleven regions, which are all vigorously attacked by the ointment. An ointment of white precipitate (6 per cent.) may be applied to the scalp and beard. In this way there can be little doubt that his plan is better than the older methods. It has the one drawback of demanding the aid of a rubber or attendant, as the patient cannot possibly reach the dorsal regions.

With care in severe cases as many as 100 inunctions may be accomplished without producing salivation, but in practice it will generally be found that the rubbings must often be suspended for a few days at a time in the presence of signs of threatening saturation; and it must never be forgotten that salivation may more suddenly appear and be more severe than in the mouth administration. Hence the necessity for greater care and watchfulness and scrupulous attention to the state of the mouth and gums. It does not appear that any special virtue attaches to the sulphur baths or waters which are so often made a portion of the routine of inunctions in various Continental resorts.

Time does not permit me to touch upon the methods of treating syphilis by mercurial plasters, soaps, fumigations, thermal and other baths. As a rule, they are not suitable for routine, though all-valuable under certain conditions. As already stated, the officers of the Section will welcome any expression of opinion from anyone who has special experience in their use, or in the practice of treating the disease by hypodermic or deep injections of mercurial salts.

Our next consideration is the place that the iodides should take in the routine treatment of syphilis. If we believe that they have, like mercury, a germicidal action as well as a destructive effect upon the cell formations, theory would suggest that we should begin the campaign with these drugs in conjunction with mercury; but practice teaches us that they are of little, if any, use at the beginning of the secondary stage, and some authorities go so far as to state that iodides in the exanthem stage of syphilis do considerable harm.

I think I am correct in saying that in the great majority of cases of syphilis most authorities would agree in saying that the iodides need not or should not be given in the secondary stage at all, perhaps all would agree that for the first six months iodides should not be administered.

It is of importance to consider what are the conditions justifying the exhibition of iodides in the secondary stage. Hutchinson states that they should be given when the bone

ains are severe, or when the mucous membranes suffer everely; but clearly there are other conditions which de- and iodides in combination with mercury, and these are ne supervention of symptoms in the secondary stage, which enerally are to be considered as usually tertiary manifesta- ons, such as brain and spinal complications, that is, con- ulsions, paraplegia, and swellings or new growths appearing nywhere, as in the testicles, liver, or spleen. Eye and ear omplications call for iodides early. In all these exceptional stances, the iodide of sodium, which is preferable to the otash salt, may be given with the bichloride of mercury in olution; but since all these cases belong to the category of evere cases, by far the best rule is to commence inunctions ithout delay, and give the iodide in full doses by the outh.

I think another indication for the administration of iodide en at an early stage is marked febrile or fever temperature. ne drug appears to possess a distinct power over the tem- erature in the eruptive stage, and since it effectually de- esses the fever it may safely be employed when this is a arked feature.

After the termination of a six or nine months' course of ercury, when the secondary symptoms have disappeared. ne French practice of a two or three months' course of oses of the iodide is an excellent one.

As regards the treatment of the tertiary period little need be id. When the disease in the secondary or primary stage as been treated in the thorough and energetic manner de- ribed, no tertiary symptoms will likely ever be manifested. ne majority of cases presenting tertiary signs are found nong those where mercury had been given only for a short eriod, or not at all. Often they are met with where a mer- rial course has been commenced with severity, and where e salivation had caused the treatment to be soon suspended nd never again resumed.

There can hardly be a doubt about the wisdom of imme- ately commencing treatment by large doses of iodide. But e very striking power of the drug over gummatous growths metimes causes the physician to trust to it alone. Striking these results are, they will not prove permanent without e assistance of mercury. Upon the suspension of the dide after the melting away of the gummatous mass, a re- rrence at the old or an appearance at a new site generally ay be expected. Mercury in the form of bichloride should given in solution with the iodide, or the latter may be ven by the mouth whilst mercury is administered by the in. There are two well-marked peculiarities in the action the iodide which must be remembered. First is the fact idiosyncrasy which is more frequently noticed in the case this drug than in any other remedy. The symptoms of dism generally follow upon small dosage, and they fre- ently disappear upon doubling or quadrupling the dose. ow and then one meets with a patient where the drug pro- ces such serious symptoms that it cannot possibly be ad- inistered in any way; such cases must depend upon mercury. ey are exceedingly rare.

The second point about the action of the iodide is still ore important, it affects the question of dosage in a way nich is seldom observed in the treatment of disease by any ner remedy. I have many times satisfied myself that these mmatous growths will flourish for many months and even ars under a certain dose of the iodide taken regularly. on markedly increasing the dose a visible result may be tained in seven or fourteen days and the tumour may dis- pear entirely in a few weeks. For instance, a patient with arge gumma on the sternum took 20 grs. of potassium iodide ily for six months without the least result; upon increasing e daily dose to 60 grs. all traces of the tumour were removed three or four weeks. This happens so frequently that it nnot be regarded as a coincidence. It is not observed when rcury is being given at the same time. Hutchinson insists at ammonia should be invariably given with the iodide, d it would be interesting to have the experience of some of e subsequent speakers upon this point. A very important tter is the duration of the iodide treatment in tertiary philis, and here a very valuable result may be gained by s discussion. Sir William Gowers maintains that it should ver be prolonged beyond a period of six to ten weeks, and is satisfied that grave danger may follow a further prolon- gation. Milner states that iodide of potassium, though useful in syphilis, had no curative action whatever. "In overdoses it was almost as detrimental as mercury, patients had their brains and every special sense destroyed, their legs and bellies got fat, and they looked and acted like eunuchs, having no more power than them." It has been my own practice to give iodide often for four or six months without intermission, and I have never even in full doses seen any serious results, and I have known patients keep up the drug for twelve months without any injury.

It was my intention to dwell upon many other important points in the therapy of syphilis, but when I realised the short space of time which was available for the entire discussion I endeavoured to select a few only of the most interesting and practical aspects of the subject, and to bring these before you in the briefest possible way. When, however, I learned from the pages of the British Medical Journal that this Section was to be honoured by a visit from the Section of Dermatology, it became my duty to omit even much of what I had already written, including the interesting side of the treatment of the congenital affection, and it remained for me to put a few points in the shortest and most condensed manner, so that time might be available for those members of both Sections to join in the discussion.

II.—John V. Shoemaker, M.D., LL.D.,
Professor of Skin and Venereal Diseases in the Medico-Chirurgical College and Hospital of Philadelphia.

From beginning to end syphilis is essentially one and the same pathological process. The initial lesion is more than a local sore. It is the first outward manifestation of a constitutional infectious disease. I am, therefore, firm in the belief that a patient should be placed upon constitutional treatment as soon as the diagnosis of chancre is made. In most cases the physical characteristics of the sore enable us to make a positive diagnosis. I regard local treatment, in the primary as in the later stages of syphilis, as of less importance than constitutional management. Effective but not too severe cauterisation will hasten repair when considerable ulceration attends the lesion. In many cases black wash is an excellent application. A dusting powder is preferable in most instances. Calomel, acetanilide, bismuth subnitrate, bismuth subiodide, aristol, europhen, iodoform, iodol, and salol are substances which may be used with good result. Excision of the chancre is, according to my belief, unphilosophical, and the practice has been entirely without success. In non-ulcerated chancre no local measures are required. Whatever form the initial sclerosis assumes, it heals more readily and more rapidly when systemic treatment is adopted. We possess remedies for syphilis which approach specific power. If we have reason to believe that we are dealing with syphilis why wait until additional manifestations supervene? The early adoption of general treatment attenuates the virus of the disease, alleviates its symptoms, and may almost be described as prophylactic. A strong argument in favour of early constitutional treatment is the fact that visceral lesions occur in secondary syphilis far oftener than is generally realised. As regards constitutional treatment, mercury is our main dependence. It is often a question as to the manner in which the metal should be introduced into the system or the preparation which should be administered. A mere routine treatment is particularly reprehensible in syphilis. Fumigation involves a troublesome arrangement of apparatus, and draws attention to the patient—a circumstance which, in private practice, we must avoid. Inunction is an uncleanly method. In both fumigation and inunction we are unable to regulate the quantity of mineral absorbed, and these procedures are, consequently, more apt to cause ptyalism than when the drug is given by the mouth or thrown beneath the skin. In most cases the ordinary mode of administration by the mouth will be preferred by the patient, and is satisfactory to the physician. The most eligible preparations are blue mass, calomel, grey powder, the green iodide or biniodide. and the tannate of mercury. The numerous forms more lately recommended possess no conspicuous advantages over the older salts. Calomel is prompt and efficient, but is too apt to exite salivation. As I agree with Mr. Jonathan Hutchinson regarding the importance of

minimising the virulence of the disease, so I also have a favourable opinion of the value of hydrargyrum cum creta, and often prescribe it, especially where there is notable disorder of the secretions. Corrosive sublimate is reliable, and is best given in solution. It has the advantage of combining well with iron. The biniodide can be effectively given with potassium iodide, as in the syrup of Gibert, and is particularly available in late secondary and in tertiary syphilis. My usual preference in cases seen early is the green iodide of mercury. In vigorous subjects it is serviceably conjoined with small doses (gr. $\frac{1}{48}$-$\frac{1}{24}$) of tartar emetic. If it occasions griping and diarrhœa a fractional quantity (gr. $\frac{1}{12}$-$\frac{1}{8}$-$\frac{1}{4}$) of powdered opium should be added. After three or four weeks the antimonial may be discontinued. The mercurial is gradually increased until it gives some evidence of its physiological effects. It is then either gradually reduced or at once discontinued, and a simple tonic given in its place. The tonic remedies which I employ during this intermission are iron, strychnine, hoang-nan, cod liver oil, hydrastis, or coptis trifolia. Several of these may be given in conjunction. The mercury is then resumed for three or four months, stopped or alternated with a tonic, administered again for several months. At the end of a year, if manifestations of disease are absent, the intermissions are lengthened. By the end of the second year, under this mode of management most cases are cured. The patient's habits should conform to dietetic and hygienic regulations. Tobacco favours the production and continuance of oral lesions. Alcohol is detrimental unless given in medicinal amounts to debilitated subjects, or those habituated to its use. If such a plan were faithfully followed, the percentage of undoubted cures would be much increased. The difficulty is, that many patients, as soon as the tangible evidence is suppressed, abandon medicine and resume their reckless courses.

How rapid and efficient treatment may be under favourable circumstances is shown by the case of a young woman in whom the mode of infection could not be discovered. After suffering for a week or more from excruciating headache, attended toward the last with some fever and delirium, a plentiful macular syphilide appeared upon all parts of the body, including the face. There was a little thinning of the hair. In two weeks' time, under the influence of the green iodide of mercury, the spots were scarcely discernible. In another week every trace had disappeared, the complexion was pure, the skin rosy and soft. More than four years have elapsed, and there has been no return.

A much more difficult case, because it had reached an advanced stage without its nature having been recognised, is that of a young man who now presents only certain trivial lesions. When I first saw him he was a hideous spectacle. His face was covered with large tubercular syphilides. The disease had been in existence for more than two years. In that space of time his skin had never been free from lesions; he had ulcerated sore throat, osteocopic pains, and an inflamed eye. He was steadily growing worse, was anæmic, weak, and emaciated. He was first placed upon a mixture containing tincture of coptis trifolia and tincture of xanthoxylum. Subsequently he was given tincture of nux vomica in large doses with fluid extract of hydrastis canadensis. The nux vomica was then discontinued, and the doses of hydrastis increased. The patient gained strength under these medicaments, and his blood improved in quality. He was then given mercury with chalk in 3 gr. doses thrice daily, and, with returning flesh and vigour, the last drug was replaced by potassium iodide. His general condition is now good, he feels well, and the only evidences of active disease are a small crusted lesion on the upper border of the right ear, and a similar one just within the left nostril. There are a number of small and medium-sized scars upon the face, but they are not very noticeable to a casual glance. Larger cicatrices exist upon the trunk and limbs. Treatment is still continued.

For a rapid impression upon the disease I much prefer subcutaneous injections to fumigation or inunction. A soluble salt is, I think, equally efficient and less dangerous than an insoluble preparation. Abscesses and other severe manifestations are liable to follow the injection of calomel. The corrosive sublimate is my choice. In corpulent subjects I inject the solution into the subcutaneous tissue, in thin persons into the substance of a muscle. The solution whi I use contains 4 grs. to an ounce of distilled water, and t quantity employed is 5 minims daily, augmenting the do by a minim every second or third day until improveme occurs or the physiological effect of the drug appears. Lus patients will safely bear larger doses given at long intervals.

As syphilis is curable it is no permanent bar to marriag If a patient can be kept under the constant surveillan which I have outlined he may marry in a year after syphilitic manifestations have ceased.

III.—J. NEVINS HYDE, M.D.,
Chicago.

DR. NEVINS HYDE thanked Dr. Whitla for his valuable co tribution to the subject, and expressed regret that the lim of the discussion forebade a full exposition of his viev Hutchinson had said that syphilis was an imitator of diseases. The figure conveyed a suggestion of fact. No co petent physician would think of treating tuberculosis, example, by a routine method. There should be no routi treatment of syphilis. The phenomena of syphilis vari widely. On the one side were the cases which without questi terminated formally without treatment. At the other extre were the cases in which from the first a fatal result was i minent and inevitable. All had seen cases in which a patie died with gummata of liver or brain within a few months af infection. Between those two extremes were to be found t mass of cases in which science achieves its most brillia results by the aid of mercury and iodine. With respect the choice of these, the modern expert was to be measur by the degree of his skill in the handling of mercury rath than of iodine. The exhibition of these drugs was oft set down as of the first moment in putting away the chanc of what the French called *tertiarisme*, but before these shou be named the constitution of the patient, his natural vigo and his habits, which were of prime importance. Dr. Hy heartily commended the recommendation of Dr. Whitla spbecting the keeping of a weight chart in all cases.

IV.—MALCOLM MORRIS, F.R.C.S.Ed.,
Surgeon to the Skin Department, St. Mary's Hospital, London.

MR. MALCOLM MORRIS said he agreed with nearly everythi Dr. Whitla had said. He thought that sufficient stress h hardly been laid upon the influence of alcohol on the cou of the disease. Indeed, as regards the effects of the dise and the influence of treatment, syphilitics might be divid into those who take alcohol and those who do not. T action of mercury he believed to be an antagonistic one the syphilitic virus, although its influence on the metaboli also played a part. He commenced mercurial treatment the earliest opportunity, and regarded an expectant pl during the first stage as time lost. He thought it unwise lay down arbitrary rules as to the particular preparation, b if driven to one only, he preferred inunction. Intramuscu injections were not so good, although well adapted to dividual cases. For inunction he used a preparation mercury with mollin, and he believed that this method administration was often greatly helped by the systema use of stimulant baths, as at Aix or Wiesbaden. Such bat could now be got in London. If severe cutaneous sympto were present, the mercurial air bath (calomel 15 grs.) w a useful mode of administration, and particularly if exte sive ulcerations existed. In the later stage of the dise he combined iodides with ammonia to increase their e cacy, and he thought as a vehicle nothing equalled sarsa rilla. Sometimes he found it necessary to introduce t iodides into the food.

V.—H. HERVIEUX, M.D.,
Montreal.

DR. HERVIEUX thought that the discussion on the treatme of syphilis would go on so long as the intimate nature syphilis was not perfectly known. The classical treatme as so ably exposed by Dr. Whitla, was, after all, an e pirical treatment, based on clinical observation only. thought no one would deny that syphilis was a virul

disease, and until the nature of the micro-organism that caused the disease was known, until the circumstances which affected the degree of virulence of this micro-organism were thoroughly studied, the opinions on the means of fighting the disease would vary, at least in the details.

VI.—C. W. Allen, M.D.,
New York.

Dr. Allen said that the treatment would remain much the same, even if the micro-organism of the disease were discovered. The treatment of many diseases of known cause had not been radically changed. He believed that mercurial treatment should be begun as early as possible. No late severe lesions, in his experience, followed by reason of it, as had been taught; and unless it was begun early valuable time was lost. The fact must constantly be kept in mind that we were treating an individual, and not combatting a disease. The form of drug, the dose, the method, must all be modified. The occupation and mode of life might make injections preferable. He preferred a soluble salt, and found many patients who preferred the injections and inunctions. In many instances the results were brilliant. As to the greater severity of extragenital chancres, while personally he had not found syphilis uniformly or generally more severe after extragenital primary lesions, he thought from the textbook statements and views of observers that such must be the case. He had thought perhaps that the barriers raised by the glands in the groin might account for a lesser degree of severity after genital syphilis, while in chancre of the finger, for example, the poison became disseminated through the blood to a greater extent before the glands at the elbow and axilla were encountered, in which it could be stored up, so to speak.

VII.—L. Duncan Bulkley, M.D.,
New York.

Dr. Bulkley said that he believed that much of the rebelliousness and seriousness of syphilis from extragenital lesions was due to the fact that the disease was too often overlooked and untreated, thus giving it opportunity thoroughly to infect the general lymphatic system. In regard to the treatment of syphilis, he wished to emphasise a simple point, and that in regard to the late lesions of the disease. He believed that mercury should be used even to the end—five, ten, twenty years after infection, if there were still lesions present. If mercury were used there would be much less iodide of potassium needed. In other words, the same amount of iodide would produce infinitely more results if a proper quantity of mercury was used at the same time, preferably in combination with it, as in the well-known Ricord's mixture. He believed that lives had been sacrificed by the neglect of mercury late in syphilis.

VIII.—D. J. Leech, M.D., F.R.C.P.,
Chairman.

Dr. Leech pointed out that in the discussion which had taken place there was one feature which deserved notice. No other remedies for syphilis had been alluded to except mercury and the iodides. The antisyphilitic power of the numerous drugs, such as sarsaparilla and guaiacum, once regarded as curative agents in syphilis, had been ignored, and the negative unanimity of the speakers seemed to show that faith in them had passed away amongst those best able to give an opinion concerning the treatment of syphilis, even though one of them—sarsaparilla—might still be regarded as a useful vehicle. To clear the ground of the many substances still ticketed in books as "antisyphilitics" was a step onwards in therapeutics. It was interesting to observe that the verdict of practical experience with regard to sarsaparilla coincided with the inferences to be drawn from its pharmacological investigation, which showed that the drug contained no active ingredient except a saponin-like substance analogous to that present in senega and quillia bark, the only effect of which was to stimulate the gastro-intestinal mucous membrane; fortunately the mucous membrane seemed incapable of absorbing this active principle, which otherwise would exert an evil influence on the circulation. It was quite possible that its stimulant action on the mucous membrane might be the cause of sarsaparilla being useful as a vehicle. Most of the main principles relating to the treatment of syphilis, which Professor Whitla had laid down in his very able paper, had been acquiesced in by the speakers who had followed him. Some of the points debated, such as the time at which the use of mercury should be commenced, would probably only be finally settled when our knowledge as to the nature of the action of mercury was much more advanced than at present. And with regard to this, it might be pointed out that whilst the idea that mercury acts not directly but by causing the production by the tissues of some material analogous to an antitoxin was only a suggestion calculated to lead to further experiments, it did not seem that, as one speaker had suggested, the utility of mercury applied locally was opposed to this idea: for if mercury, when introduced into the system, caused the production of an antitoxin, it might do so at any part to which it is applied, if the issues reacting with it were present there. There were only two other points, the Chairman said, to which he would venture to refer. The first was that of the dosage. He did not think it possible to lay down any rule with regard to the amount of mercury or iodide to be given. Each individual had his peculiarities, which could only be ascertained by trials. The drugs should be pushed until they produced a good effect, or such a physiological action as to prevent their continuance in full doses. This was especially the case with iodide of potassium. He had recently seen a case in which both mercury and iodide failed to do good until the latter was given in 60-gr. doses three times daily. The second point related to possible evils arising from the use of mercury in ordinary doses. In some ailments less fear was now entertained than formerly of moderate doses of mercury in syphilis, but where there was a tendency to ulceration evils sometimes followed its use. Especially was this the case in syphilitic ulceration of the soft palate. Ricord pointed out that in these cases the use of even small doses of mercury seemed to promote the perforating process.

SECTION OF SURGERY.

Christopher Heath, F.R.C.S., President.

PERSONAL OBSERVATIONS ON THE SURGERY OF THE GALL BLADDER AND BILE DUCTS.

By Alexander Hugh Ferguson, M.D.,
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The relief given by operation to hundreds of cases of gall stones within recent years is ample cause for the surgeon to be proud of his achievements in the surgery of the gall bladder and bile ducts. The anatomy of these parts has been studied anew in its normal and abnormal relations; the ever fascinating observations of their functions, and the uses and properties of the fluids and solids constantly passing through them from the liver have been earnestly and accurately recorded; the conditions produced on the other organs, secretions and excretions of the body when the ducts are obstructed is the effort of the physician to explain and prevent, but so far the therapeutist is at sea, and the surgeon alone affords relief.

Within the last few years operative procedures have changed here as in other departments of surgery. Some operations that were then lauded are but seldom resorted to now, while the most worthy are being more and more firmly established on a sound pathological basis. Almost every week brings forth new material which furnishes clearer differentiations and indications for the early surgical interference in gall stones. The more chronic the affection becomes the more difficult it is for the surgeon's skilful art to snatch a grace from the sufferings and dangers caused by these concretions. Stone in the gall bladder or in the cystic, hepatic, and common ducts is as clearly a surgical case as is stone in the kidney, ureter, or urinary bladder. By this we do not mean that an operation is always to be performed as soon as the diagnosis is made, but that the surgeon should be on

hand to sit in judgment on the clinical evidence and physical findings.

It would be inappropriate and too lengthy to give here a detailed account of even my own experience with cholelithiasis. I shall therefore limit my remarks mostly to those cases operated upon, and try to crystallise what appears to me to be worthy of a practical and useful consideration.

In my 46 cases the conditions revealed by abdominal section were as follows:

1. Flexion of gall bladder; 2 cases.
2. Dropsy of gall bladder; 4 cases.
3. Empyema of gall bladder; 4 cases.
4. General cholangitis and hepatic abscesses; 1 case.
5. Gall stones in
   - (*a*) Gall bladder alone; 19 cases.
   - (*b*) Gall bladder and cystic duct; 14 cases.
   - (*c*) Gall bladder, cystic and common ducts; 4 cases.
   - (*d*) Gall bladder, cystic, hepatic, and common ducts; 3 cases.
   - (*e*) Cystic duct; 3 cases.
   - (*f*) Cystic and common ducts; 1 case.
   - (*g*) Cystic, hepatic, and common; 4 case.
   - (*h*) Common duct alone; 4 cases (2 floating).
   - (*i*) Common and hepatic ducts; 2 cases (floating).
6. Condition of gall bladder:
   - (*a*) Enlarged; 23 cases. } Not recorded, 9.
   - (*b*) Contracted; 14 cases. }
   - (*c*) Absent; 1 case.
   - (*d*) Ulcerated; 1 case.
   - (*e*) Ruptured; 1 case.
   - (*f*) Carcinomatous; 2 cases.
   - (*g*) Fistula of gall bladder following operation; 2 after my own operations; 4 cases.
   - (*h*) Hernia following operation; 1 case.

Some of the Clinical Features.

Flexion.—The two cases of what I call "flexion of the gall bladder" were met with in the extremes of life—youth and old age. Frequent attacks of colic and tenderness over an enlarged gall bladder were the main features in both cases. In one, a young girl, aged 16, a tongue-like projection from the border of the liver may have been the cause of the flexion, the gall bladder being displaced backwards and inwards so as to make an acute flexion at its neck. The other case of flexion was in a lady, aged 70, who had suffered from biliary colic for six years. There never had been jaundice. A tumour always made its appearance in the region of the gall bladder during the attacks, and again disappeared as the suffering subsided. This lady, when I saw her, presented all the appearances of approaching death from the severe colic. At times her pulse would become imperceptible, her hands and feet cold, her breathing laboured, and she was extremely depressed. An operation was recommended as a last resort. I performed a rapid cholecystostomy, and she made a speedy recovery. When the gall bladder was exposed in these two cases it was noticed that, by lifting it into the wound and pressing it, its tension was relieved, and I could feel that a considerable portion of its contents passed into the ducts. These manipulations, in addition to the facts that no gall stones were present, and that a cure was effected in both cases by an operation which straightened the gall bladder, led me to the conclusion that they were nothing more than cases of flexion, not unlike that of the uterus. The gall bladder is on rare occasions surrounded by peritoneum, making a suspensory ligament between it and the liver, and these may be the cases in which flexion may occur. In the literature of this subject I have failed to find any mention made of flexion of the gall bladder giving rise to colicky pains.

Dropsy.—Only in 1 of the 4 cases of dropsy of the gall bladder was there clinical evidence of cholelithiasis. The other three cases had absolutely no history of any disease or disturbance. A tumour made its appearance, slightly tender to the touch, and the difficulty was in diagnosing it from a floating kidney. In one case the enlarged gall bladder reached to the brim of the pelvis. The cystic duct was obstructed in all the cases. A large stone was the cause of occlusion in 3 cases and fibrous stricture in the fourth, the stone having passed down into the common duct. There was but one stone in 2 cases, two stones in a third case, and no stone in the other.[1] In two instances the clear fluid found within the gall bladder was examined for germs, but none found Hydrops cystidis felleæ is a chronic affection, and most likely caused usually by a stone forming in the neck of the gall bladder, and as it slowly enlarges it gradually blocks up the lumen of the cystic duct, after which the bile in the gall bladder would become absorbed and mucus take its place. In those cases of dropsy giving no history of cholelithiasis the stone or stones had evidently remained quietly, partly encysted, where they had formed in the pouch of the neck of the gall bladder, causing no more disturbance than if the duct were obstructed by a tumour pressing upon it. In chronic obstruction of the biliary passages due to gall stones the gall bladder is usually contracted, but when obstructed by new growths it is enlarged. Dropsy of the gall bladder is an exception.

Infection of the bile in the gall bladder is a dangerous complication in cholelithiasis. The gall bladder was enlarged in all my four cases of empyema. In three cases the cholecystitis was acute, the exudation rapid, and the pyrexia marked, but not over 102° F., always preceded by chills. The inflammation was ushered in with biliary colic in these same three cases, and gall stones were present obstructing the cystic duct in the three cases. The empyema developed without colic in one case.

A woman, aged 27, was down nine weeks with typhoid and convalescing, when inflammatory pain in the right hypochondriac region came on, followed by repeated rigors, high temperature of 104.2°, etc., and the appearance of a tumour. The case was so severe that we dared not venture on an anæsthetic. Her pulse was 130, she was greatly emaciated, and had not slept for two or three nights. I performed cholecystotomy with the aid of cocaine. It was interesting to notice that the skin and parietal peritoneum were the only two structures that required anæsthesia. The surface of the gall bladder was insensitive to the needle and knife. In this operation I was assisted by Drs. McConnell and Boyle. We found pus, bile, and thirty-two gall stones; some large, others small; washed out the gall bladder and stitched it to the skin. She made an uninterrupted recovery.[2]

In one case the inflammation had extended to the peritoneum causing perihepatitis, and the walls of the gall bladder were very much thickened and friable; vomiting was almost constant in this case for three days previous to the operation. It subsided as soon as the gall bladder was drained. Tenderness was present over the gall bladder in all the cases, and quite general over the whole enlarged area. The pain complained of was well-defined and local in all of them.

The case of general cholangitis, with hepatic abscesses, is very interesting and instructive. The inflammation started five weeks after cholecystostomy, and had a fatal termination. The cholecystostomy was performed on March 22nd, 1897. The woman was coloured, aged 40, and had had gall-stone colic for four years. The gall bladder was contracted upon several gall stones and a small amount of bile. The cystic duct and origin of the common duct were impacted with calculi. These were removed. Professor Klebs found no germs in the bile. The patient did well for four weeks, when she began to have attacks of rigors, high fever, and pain. In three days she died. Professor E. Klebs made a *post-mortem* examination, and found inflammation of the ducts and three abscesses in the liver. Cultures were made on agar-agar, which showed growths of streptococcus pyogenes albus. The source of infection was not determined.

The following are the two cases of cancer of the gall bladder met with:

CASE I.—Mrs. F., aged 50, admitted to Chicago Charity Hospital on September 1st, 1894. Referred to me by Professor Waugh. Three years ago she had two or three attacks of colic; was then free from pain till three months before her admission, when a pain which persisted and increased in severity became established. Six weeks before her admission a tender nodular tumour appeared and was enlarging.

Diagnosis.—Gall stones with probable cancer. Operation, assisted by Dr. Burdick, on September 3rd, 1894, verified the diagnosis. Three stones were within the cancerous gall bladder. I had to remove a V-shape of liver with it. The patient died three hours afterwards from shock. It was ascertained that there was no hæmorrhage. I should not have removed it, for it was too extensive, and she was much weaker than I had anticipated.[3]

CASE II.—Mr. McC., aged 46, merchant; family and personal history good; suffered from biliary colic for the last four years. The attacks were as frequent as every six or eight weeks during the last year, each lasting from a few hours to three or four days, but no decided jaundice had been caused. The last attack came on with some initial uneasiness and slight pains for several days before August 1st, 1895, when he was obliged to remain at home. By this time the pain had become constant, with unusually severe exacerbations. Chloroform had to be administered several times during the day, and morphine was given hypodermically. He became

jaundiced on the 6th, and on the 9th I operated on him in the Chicago Hospital. A thickened and enlarged gall bladder was exposed, its turbid mucous contents drawn off with a trocar and cannula, It was then opened, forty gall stones removed from the gall bladder and cystic duct, and three stones curetted from the common duct, where they were firmly impacted. There had been no fever or other positive signs or symptoms of the formation of pus, so I had no hesitation in making a decided effort to remove those in the common duct. That this was accomplished I knew from the readiness with which water was transmitted through them into the bowel. The gall bladder was then sutured at the upper angle of the wound to the parietal peritoneum, a glass drainage tube inserted, and the abdomen closed in the ordinary way. Bile soaked the dressings the first six days. The drainage tube was removed on the twelfth day, and by the twenty-first day the wound was all closed. A stitch abscess somewhat delayed union, but there is not the slightest sign of a fistula. In about a week a tumour made a rapid appearance in the region of the gall bladder, and a sinus formed in the scar, which broke down to the extent of a couple of inches. An effort was made to curette the mass away. The cancer developed rapidly to an enormous extent and filled almost the entire abdomen, to which he succumbed in six weeks' time. This case was referred to me by Dr. Dodds, and Drs. Frank Billings, J. B. Murphy, and Christian Fenger were called in consultation.

Impacted Gall Stones.

It will be observed that the seat of the impaction of gall stones and the diseases usually accompanying cholelithiasis give rise to certain symptoms and signs which enable us to make a rough clinical classification for practical purposes, as follows:

1. Non-jaundiced cases. The stone or stones are still in the gall bladder or cystic duct, or both; (*a*) active, (*b*) latent.
2. Jaundiced cases, where the common duct is obstructed: (*a*) acute, (*b*) chronic.
3. Infected cases.
4. Carcinomatous: (*a*) primary, (*b*) secondary.

Each of these classes of cases would admit of extended observations far beyond the limits of my paper.

The operations performed on these cases were cholecystostomy, cholecystectomy, cholecystduodenostomy, choledocholithotomy, and plastic operations for external fistulæ. The clinical indications for operating were:

1. For attacks of biliary colic.
2. For jaundice following colicky pains.
3. For persistent tenderness (in cholelithiasis) over gall bladder, with finger tip pressure.
4. For pyrexia, with local tenderness, etc.
5. For enlargement (chronic) with or without history of cholelithiasis.

The clinical history and physical signs do not always bespeak the pathological conditions in each case. This is true of the surgical diseases of all the internal organs. Great care should be exercised before advising even an exploratory incision. This being clear, early surgical interference is advisable, because there is no means of telling what local damage may be done, or what the termination may be by delay. Patients will submit to operation when suffering with an attack, and in the majority of cases this should be done. Immediate relief is afforded; in many cases jaundice is prevented, and, if present, it cannot be relieved too soon; infection is at times obviated, and, if already a complication, what better advice could be given than early drainage of the sac containing it? And early operation is easier to perform when the gall bladder is not yet contracted, and it is safer to the patient than is a late one on ducts impacted with gall stones. It is not to be lost sight of that chronic irritation is an etiological factor in malignancy.

In acute cases, the passages proximal to the obstruction are dilated, and stones are easily removed except sometimes the one or ones most distally situated. If jaundice is present, the common duct is encroached upon. The first and most urgent indication, then, is to clear out the cystic duct so as to allow the bile to escape. Should the sufferer be deeply jaundiced and weak, it lessens the chances of immediate recovery to do any more at the one sitting, and should there be evidences of ulceration and suppuration, it is not wise to endeavour to remove firmly impacted calculi from the common duct, which is in this condition easily torn, and peritonitis might be induced, unless it is imperative.

Some time later, when the patient has recovered from the jaundice and fever, and when the tissues have assumed a healthier condition, the calculus in the common duct may be removed by (1) dilating the duct with bougies through the fistula, or (2) by opening the abdomen a second time and cutting into the duct.

Cholecystotomy.

When it is possible to do it cholecystotomy is the operation of election in cases suffering from gall stones. It was performed by me 37 times, with two deaths; one fatal result within forty-eight hours from the operation itself, from shock; the other died five weeks after the operation, in which general cholangitis and hepatic abscesses developed, so that really I had only one death that can be blamed to cholecystotomy. I have never found it necessary to do it in two stages, because in the cases most suited for it the gall bladder was enlarged, and it could be so easily emptied of its contents and the operation completed at once, that it seemed safe always to do it. I should probably have done it in two stages if great haste were demanded by the condition of the patient. The calculi in the gall bladder, cystic, and sometimes upper portion of the common duct, can be removed with more certainty, the pathologic conditions more accurately ascertained, and the permeability of the ducts determined more satisfactorily than when the two stages are chosen. I usually followed out the following steps:

1. *Incision.*—When a tumour can be felt in the region of the gall bladder, or when there is no jaundice, the incision is

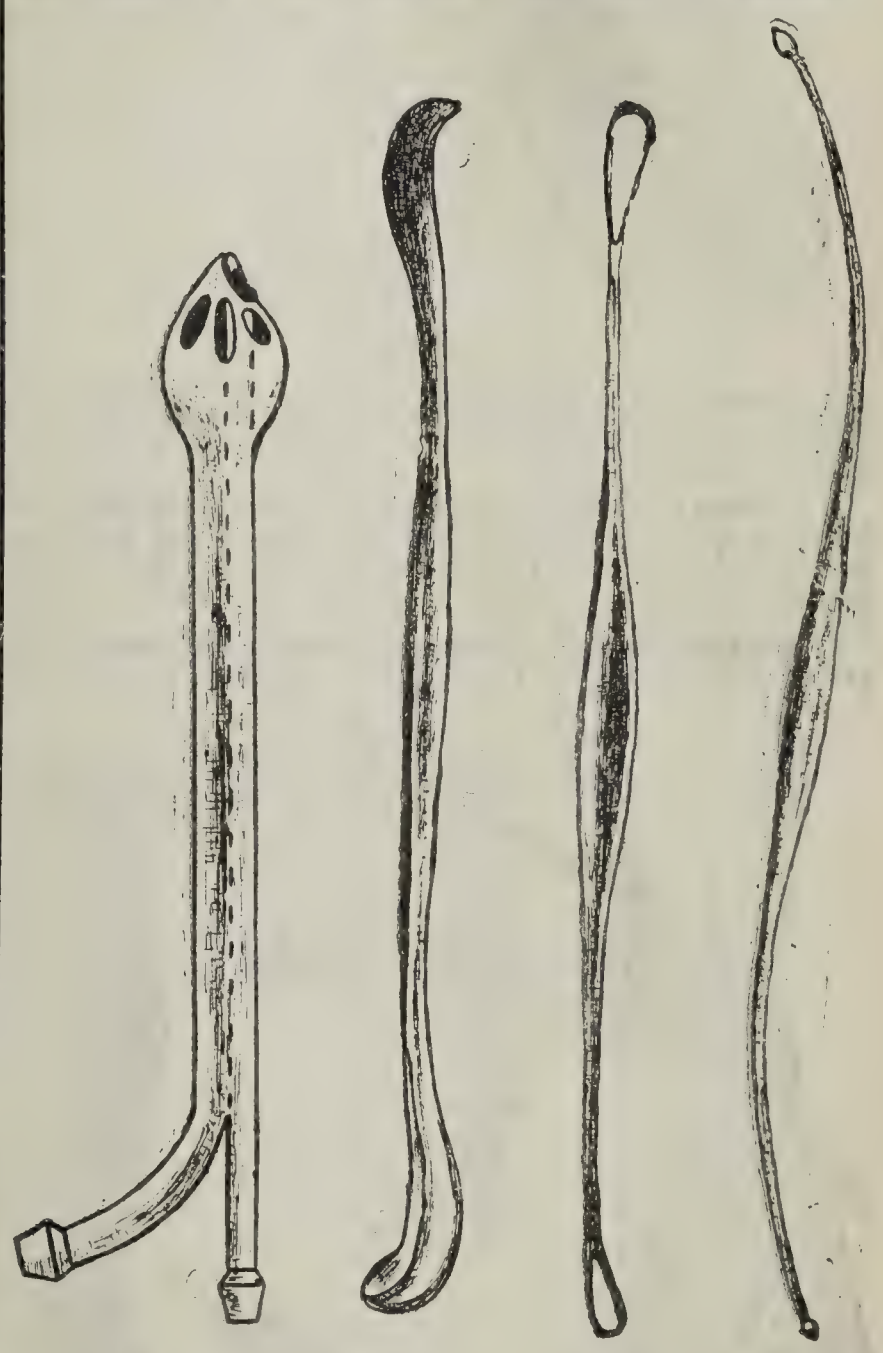

Fig. 1 Fig. 2. Fig. 3. Fig. 4.

made parallel with the fibres of the rectus muscle and beginning opposite the cartilage of the eleventh rib. If, however, jaundice exists and no tumour is present, the incision is made obliquely about an inch below the costal cartilages. This gives more room to deal with impaction in the ducts.

2. *Gauze* is packed around the gall bladder.
3. *Open the gall bladder*, and allow its liquid contents to

evacuate through a return flow irrigator (Fig. 1) manipulated in such a manner as not to allow any escape into the wound or even on to the gauze.

4. *Wash out the gall-bladder* before removing the irrigator. When it is a case of empyema, medication should be added to the fluid. Germs are often present in bile, and no harm can be done by washing them out, but sponging out does very well.

5. *Removal of the Calculi.*—(*a*) When the stones are in the gall-bladder, I find this double scoop (Fig. 2) will do the work rapidly and well. (*b*) For dislodging stones that can be extracted *viâ* the gall bladder from the cystic and upper portion of the common duct, I have found a small double curette (Fig. 3) filed down to one thirty-second of an inch a very useful instrument. This is a practical lesson taken from the manner in which an aurist removes a foreign body from the ear.

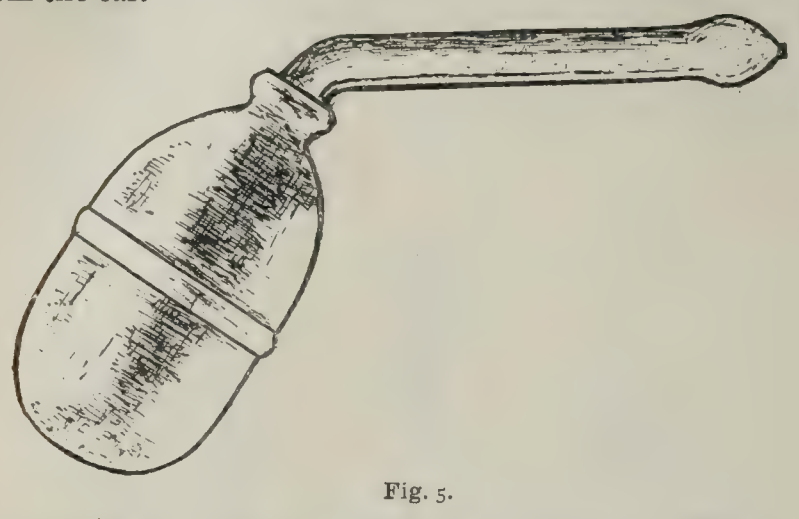

Fig. 5.

6. *Probing the Ducts for Stone.*—A silver probe (Fig. 4) of two sizes that can be easily bent to suit the passage is sometimes useful (1) to detect a stone, and (2) to tell if the common duct is free.

7. *Flushing the ducts* is done with a simple rubber bulb and a bulbous-pointed glass tube (Fig. 5). This is not done except in jaundiced cases, when a probe does not find its way into the duodenum. In this way we have been better able to test the patency of the ducts.

8. *Stitching the Gall Bladder.*—A fresh small packing is placed on both sides of it, and with catgut the incised gall bladder is stitched to the internal aspect of the abdominal wound. It must not be brought to the skin or between the muscular tissue (Fig. 6).

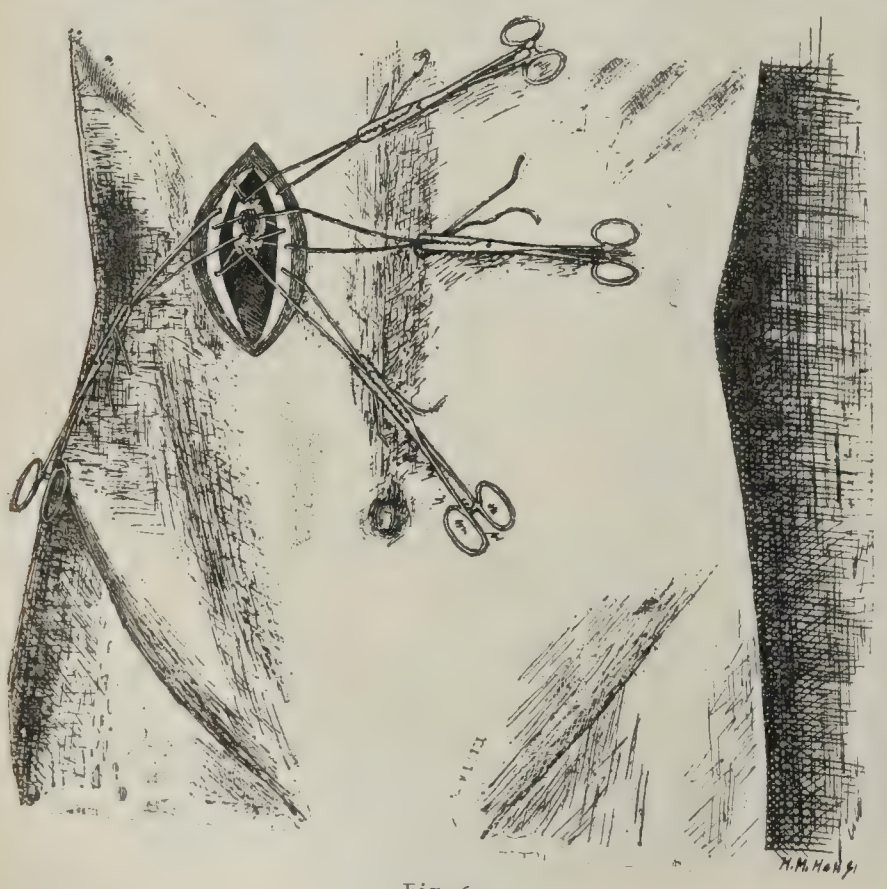

Fig. 6.

9. *Closing the Abdomen.*—The peritoneum is sutured by itself with catgut. Interrupted stitches of silkworm gut take together the skin and muscular tissue. Before tying these I often sew the muscular and fibrous structures with catgut.

10. *Drainage.*—A drainage tube is always inserted into the gall bladder. The interrupted sutures of silkworm gut are now tied as if no drainage tube nor gall bladder were there. Care must be taken not to push the point of the drainage tube into the neck of the gall bladder, for colicky pains are thereby induced. Should, however, stones have been removed from a dilated cystic and the origin of the common duct, it is then wise to extend the drainage tube through the cystic duct to the spot whence the last stones were removed. This being kept up for a week or ten days, one or two stones that may have been in the hepatic duct have thus an opportunity to come away. No fistula followed in any cases operated on as above described.

Cholecystectomy.

This operation was done once by me on a cancerous gall bladder containing calculi, with a fatal result.

Cholecystduodenostomy.

The gall bladder was united to the duodenum by means of Murphy's button in four cases; all were successful. The following is a report of them:

Case I.—On August 3rd, 1893, at St. Boniface Hospital, I operated on Mrs. McK., assisted by Drs. Hutton, Todd, and McArthur. The patient was aged 58. There was constant tenderness over the gall bladder, so that the patient could not even bear the clothing. History of biliary colic for four years; had several attacks in one day. No jaundice. The gall bladder was opened, which was enlarged, and I removed one stone. Could feel another in the cystic duct which I could have extracted with forceps, but left it *in situ*. Could feel no irregularities along the course of the common duct. The small-sized button was applied and the wound closed. Upon opening the duodenum I could see its mucous rugæ bathed with bile, and I reproached myself for doing that which seemed unnecessary, for the common duct was patulous. She did excellently, passed the button the eleventh day, and ever since has enjoyed excellent health.

Case II.—Mrs. J. B., aged 56, troubled for six years with gall stones, jaundiced; found stones in an enlarged gall bladder, cystic and common ducts: removed stones from gall bladder and cystic duct, but not from common duct. Applied the medium-sized button October 16th, 1893, which passed on the eleventh day. Her convalescence was uninterrupted and she now enjoys the best of health.

Case III.—Mrs. K., aged 58; referred to me by Dr. Flemming, of Brandon; suffered for years; became jaundiced. Operated on February 22nd, 1894; found contracted gall bladder bound down by adhesions; removed stones from it and the cystic duct; could not pass a probe nor water down the common duct. Applied a small Murphy button with some difficulty. Had to dislodge the duodenum from its bed. Button passed on the tenth day. She has been restored to perfect health.

Case IV.—Mrs. ——, aged 32, had several attacks of colic; became jaundiced from a severe attack. Had inflammation over the gall bladder. Was the patient of my friend, Dr. Knill, of Detroit, Mich. On my way south I called on my old college mate. Went to see his patient and urged operation, which he had already advised. The next day, March 23rd 1894, he cut down to the gall bladder, and upon removal of a great number of small stones from the enlarged bladder, the ductus choledochus was found obstructed about its middle and low down. I then inserted the small Murphy button and closed the abdomen. Dr. Knill writes me that she passed the button on the twelfth day, and now enjoys perfect health.[4]

If I were treating these same cases now the Murphy button should not be used. In Case I the choledochus was not obstructed at all, and it was clearly a case for cholecystostomy. Cases II and III were more difficult to manage, and, although jaundice was present, the impaction causing it was high up in the common duct, and the stones should have been removed by way of the gall bladder and cystic duct and cholecystostomy completed.

Although in Case IV (Dr. Knill's case) the ducts were obstructed all along the line, the gall stones in them were of a small size, and the gall bladder, the cystic, and the upper portion of the common duct were dilated. Cholecystostomy would have done here also.

The fact that they were all cured by cholecystduodenostomy still remains, and they were not by any means the easiest cases to treat by any surgical procedure. While I have practically discarded the anastomotic button in cholelithiasis still, should the choledochus be permanently obstructed by means of a cicatricial stricture or cancer of the pancreas, I should have no hesitation in using it again.

The operation of incising a common bile duct in order to extract a gall stone or stones from it is fully recognised by

the profession as the right thing to do in suitable cases, even though it be a recent surgical undertaking.

On October 26th, 1889, Henry O. Marcy[5] of Boston, incised the ductus communis choledochus, and removed from it a rough stone the size of a grape which he had failed to dislodge or crush. This appears to have been the first choledocholithotomy performed in America. The patient made a rapid recovery. Kümmel did the operation in 1884. Thornton published three cases in 1889. In 1890 Courvoisier had three brilliant successes—one in January, the second in February, and the other in March. He was the first to deliberately plan the operation of choledocholithotomy, and bring it prominently before the profession. The literature does not as yet show a report of 100 cases. American surgeons have been a little backward in taking up this operation. The first was done, as already stated, in 1889, the next in 1891, the third in 1893; then comes a series of 6 cases in 1894, and 7 in 1895—a total of 16 with 6 deaths. These include cases published in 1896, but not those performed during the year. The reports of 1897 are not touched upon here. Of the 5 cases that died, the causes of death are only given in 2. One died of peritonitis and shock. In this case there were extensive adhesions, contracted gall bladder, and jaundice. Sudden death occurred in 2 cases; 1 within a few hours after operation, in this jaundice was profound and the gall bladder contracted; the other died suddenly on the fifth day, the patient being emaciated, jaundiced, liver atrophied, gall bladder contracted, and having extensive adhesions. The second cause of death given is said to have been cholemia, and it too was a chronic case, with adhesions, etc. The reports in many of the cases are very imperfect.

The following is a brief report of my 5 cases:

Case I.—Rev. Mr. A., aged 53; biliary colic for about twelve years; icterus for about seven months; greatly emaciated; chills and fever the last couple of months. First operation in October, 1893; stones removed from a contracted gall bladder, dilated and shortened cystic duct, and from the dilated upper end of the common duct. Jaundice relieved; fistula followed, which opened and closed several times; colic when closed. Second operation in April, 1894. Internal choledochotomy. No stone found; duct patulous; eventual recovery, and is now well. The case was in charge of Dr. Chown, of Winnipeg, with whom I was associated. In this case, long before the colic began he had suffered from constipation and stomach disturbances. His skin had become more or less discoloured. For several years he had only a few severe attacks. During 1893 the attacks of colic became more frequent and severe. The pain was primarily referred to the epigastric region, but more recently it was felt in the back and vaguely through the abdomen. In addition to the reflex pains, troublesome pain became a fixture; it was constant in nature and exacerbating in character. Not infrequently several times a day this constant pain would become aggravated to an acme in a short time, and then frequently suddenly break, giving relief not unlike an ocean wave dashing and scattering upon the shore. At other times the onset and termination of the exacerbation would be more gradual. In its behaviour the pain was sometimes easy and sometimes rough, but still it was there all the time and localised at the seat of trouble. The suffering would be increased by filling the stomach with food, drinking cold water, jolting from riding on cars or in carriages, attempts at preaching, and even sitting or standing for any length of time. On the other hand, it was kept somewhat in abeyance by dieting, rest in the horizontal position, and avoidance of all muscular efforts. Early in 1893 jaundice set in, and remained with him until relieved by operation seven months later. It, too, was slight or deep intermittently, and that concomitant with the light or severe spells of suffering. The chills and fever with their well-known signs and symptoms were initiated late in the clinical history of the case. Emaciation began with the limitation of food and previous to the jaundice. It is needless to say that sleep was disturbed, and his very existence a misery.

A physical examination revealed a man considerably wasted, yellow in colour, stooping when sitting or standing, abdomen retracted, and tenderness on pressure over the region of the gall bladder and cystic duct. No tumour could be distinctly felt, but the resistance here was board-like, and it was flat on percussion. His temperature was about 99° F.; pulse and respiration near normal.

In October, 1893, the first operation was performed by Dr. Chown and myself. A longitudinal incision, 5 or 6 inches in length, was made parallel with the right rectus muscle at its right border. Upon opening the abdomen no gall bladder could be seen or felt until a mass of omental adhesions was cautiousy separated from the edge and under-surface of the liver, when a firm, hard, small mass came into view, which proved to be a contracted gall bladder, a shortened and dilated cystic duct, and the origin of the common duct also dilated, all packed full of gall stones of varying shapes and sizes. A free incision was made into the gall bladder, cystic and common ducts, the stones removed, the seat of operation drained with tubes and gauze, and the wound partially closed with interrupted sutures of silkworm gut. While operating about ten minutes his pulse became very weak, and respiration ceased altogether. We had to desist operating, and resort to artificial respiration, and administer suitable restoratives. In a short time he responded, and the operation was completed as above described. From this time onward he made a fair and gradual improvement. The jaundice subsided completely, appetite returned, he became stronger, and was free of all his pain. He left the hospital in about three weeks, with a biliary fistula.

Now comes a very interesting part of this case. The fistula closed, and for a few days thereafter patient felt all right; but soon, however, a feeling of distress at the seat of operation began, which by degrees became agonising. A swelling occurred and gradually increased in size. Slight icterus was present. There was no chill or fever. The scar at the point of drainage gave way, an immense quantity of bile escaped, and his relief was sudden and complete. In a week or so the fistula would close again and the same distress follow, and ease came only when the scar gave way and the bile escaped externally. Several months of this troublesome condition forced upon our minds the advisability of performing a second operation, for there was evidently an obstruction of the common duct which would have to be relieved.

In April, 1894, the second operation was undertaken. Internal choledochotomy was decided upon, and a median incision chosen. The stomach was pushed upwards and to the left, the transverse colon pulled downward, the head of the pancreas located, the structures in front of the common duct cleared away by blunt dissection, and exposed by dislodging the duodenum to the right. An incision was now made into the duct, and a probe inserted downwards, which at once passed into the duodenum. The probe was now directed upwards into the duct, but met with an obstruction at its upper part. Different sizes of probes were tried, but none passed. A small nodule was felt, which we hoped to be a stone, but it was a slightly enlarged lymphatic gland. After probing and exploring a good deal it was given up, and the common duct sutured with fine silk. The abdominal wound was closed. Wonderful to say, this man got better of all his trouble, and is now in good health, and preaching.

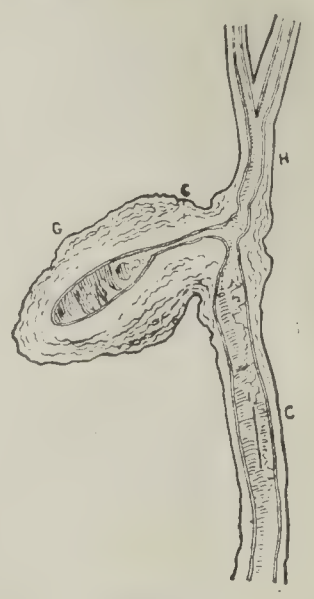

Fig. 7.

Fig. 7 represents the condition of the bile ducts and gall bladder at the time of the second operation. There was a cicatricial stricture of the ductus communis choledochus which must have become gradually dilated so as to allow all the bile to pass into the bowel without distress or pain. If we were treating this case now, I think the second operation would be avoided, because we should dilate the stricture by way of biliary fistula.[6]

Case II.—Mrs. T., aged 30, referred to by Dr. A. E. Palmer, of Morris, Illinois, presented herself at the Post-Graduate Hospital, complaining of attacks of colic, profound icterus, and constipation. The family history was good, except relatives on mother's side had tender stomachs. Her personal history revealed nothing bearing on her disease except that she had had indigestion and constipation previous to the biliary colic. She had chills and fever when a child. She is the mother of two children. Her health had been good up to two years and ten months ago, when a sudden attack of colic announced that there was something wrong. It came on after doing a hard day's work. She was seized with excruciating pain in the hypochondriac region, did not sleep all night, and was unable to lie down. This continued for twenty-four hours. She was very sore in the same region after the pain had ceased, and remained in bed for two days. A physician prescribed morphine freely to relieve pain. There was no vomiting; no tumour noticed; no jaundice; had great tenderness over the region of the gall bladder. The succeeding attacks followed at intervals of about a month; they came on suddenly; there was no tumour noticed, and no jaundice, being similar to the primary attack. During the following winter she had occasional gnawing pains, but no distinctly acute attacks. Also during the following summer and winter there were no acute attacks. During last summer the patient felt unwell most of the time, and had one severe attack of biliary colic, which was similar to the first one. During the past winter she suffered considerable pain at night, but had no severe attacks. About March 1st last she had some uneasiness in the region of the gall bladder, which was accompanied by a gnawing pain, and on March 27th (Saturday) was seized with a severe pain. Hot applications and morphine were used to relieve it. The pain ceased the next morning, leaving the patient very sore. At this attack she noticed a ridge or swelling beneath the right costal cartilages, and on the following Tuesday saw that she was jaundiced.

On admission, patient appeared to be well nourished, not particularly fleshy, deeply jaundiced, conjunctivæ yellow, skin itchy, constipated; had a bitter taste in the mouth; everything to her looked yellow in colour; urine deeply bile-stained, alkaline in reaction, specific gravity, 1020; no albumen, no sugar.

Examination showed nothing but jaundiced abdomen. Palpation evinced only slight tenderness over gall bladder, most intense towards the median line. Percussion outlined area of dulness, oval-shaped, 2 inches long, extending obliquely downwards to the median line from the costal cartilages. On deep inspiration the gall bladder could be appar-

ently felt descending. This proved to be a tongue-like prolongation of the liver.

An operation was performed on April 8th, 1896, at the Post-Graduate Hospital, and before the class and many surgeons then visiting Chicago I removed one stone from the common duct, assisted by Drs. Tickenor and Brown.

A longitudinal incision 5 or 6 inches long was made over the point of most tenderness, midway between the ensiform cartilage and costal cartilage of tenth rib. The abdomen being opened a mass of dense adhesions was encountered; it was the omentum adherent to liver and stomach. This was carefully separated from the liver with fingers and gauze, but no structure could be found large enough to be dignified with the name gall bladder. The stomach and duodenum were displaced to the left, and held there by a broad retractor. The foramen of Winslow was found, two fingers passed into it, and with the thumb in front the gastro-hepatic omentum was grasped, when a stone was felt at once in the common duct, and movable; in fact, it slipped away from my fingers quite readily, both upwards to the left as well as downwards. When I thought the stone was firmly against the anterior wall of the duct, and asked for a scalpel to cut down upon it; it slipped away suddenly upwards to the transverse fissure of the liver, so far that I could barely reach it with the tips of my fingers. It took me fully ten minutes to coax it down into the ductus choledochus and fix it again. This time I was more cautious, and when the duct was cut the stone popped into the external wound. Fig. 8 represents size and conditions in Case II.

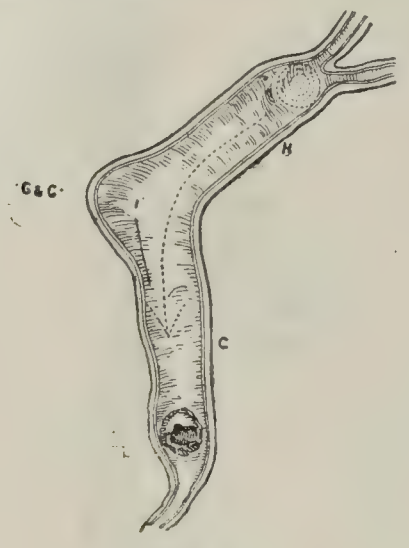

Fig. 8.

I now discovered a small dilatation at the upper end of the common duct, a diverticulum-like pouch, evidently the remains of the gall bladder and cystic duct. The incision made in the duct was extended into this pouch. No attempt was made to close the wound in the duct by sutures. To ascertain whether the duct was open to the bowel or not, I tried to pass a silver probe, but failed to enter the duodenum with it. It was then tested with sterile water, and twelve ounces were flushed through it into the intestine. This was a clear demonstration that the duct was free from any further obstruction. For this purpose I used a rubber bulb capable of holding two ounces, attached to a suitable glass tube with an oval end. The bulb being filled with water is grasped by the hand, and the point of the glass tube inserted into the duct, care being taken to prevent a return flow of water when the rubber is squeezed. Any resistance that may be in the duct lower down is plainly communicated to the hand. If a probe passes into the duodenum it is not necessary to use the water test, as I call it. In this case the dilated hepatic and common ducts admitted the index finger. A glass drainage tube was inserted into the hepatic duct, gauze packed around it, and the abdomen closed, except at the point of drainage. This patient took the choloroform fairly well, and there was no marked tendency to hæmorrhage.

After-Treatment.—I shall here confine myself to the attention of the wound, which at the end of three days was exposed, and some of the gauze removed, but not a drop of bile was to be seen. The fourth day the wound was inspected again, and a slight staining of bile noticed. The sixth day the dressings were saturated with bile, and they were changed. All the gauze was now removed, the glass tube withdrawn, a rubber one substituted, and the wound irrigated with plain sterile water. In three hours afterwards the temperature, which had been normal, rose to 103 F., pulse 120, and respiration 24 per minute. She felt well even with such pyrexia. This was not the first time I had seen fever follow irrigation of the wound in gall-stone cases, consequently I was not alarmed. The next morning the temperature was again normal. On the eighth day all drainage was left out, and the fistula allowed to close as rapidly as it would. Some of the stitches were removed on this day and the rest on the tenth day. In twenty-one days after the operation she left the hospital without a fistula, the icterus had almost disappeared, appetite good, and in every way an improving and a happy woman.

This was about as typical a case of choledochus stone having a ball valve action as one could wish to see. The clinical history and physical signs beautifully manifested the conditions found to exist at the operation. This case taught me that a longitudinal incision does not give ample room to easily manipulate the common duct. It was also instructive to observe how rapidly a fistula in the common duct closes itself. I have as yet found no satisfactory explanation for the pyrexia following irrigation. The temperature of the water used was 102° F.[7]

CASE III.—C. H., aged 22, single, white; occupation, waitress; referred by Dr. Burdick. Patient knew nothing of her parents or relatives. Had always been healthy until two months ago, when she had her first and only attack of biliary colic. Since that time she has been unable to keep solid food on her stomach. Has been jaundiced and distressed all the time. She came to the Charity Hospital, April 13th, 1896.

On admission her temperature was 99.6°, pulse 98, respiration 22. She was very much jaundiced; deep yellow colour. No tenderness over gall bladder, but was tender near the median line to the right, and midway between ensiform cartilage and umbilicus. After thorough preparation I operated upon her on April 17th, assisted by Dr. Burdick. An oblique incision was made. No stones in gall bladder, which was of normal size (Fig. 9).

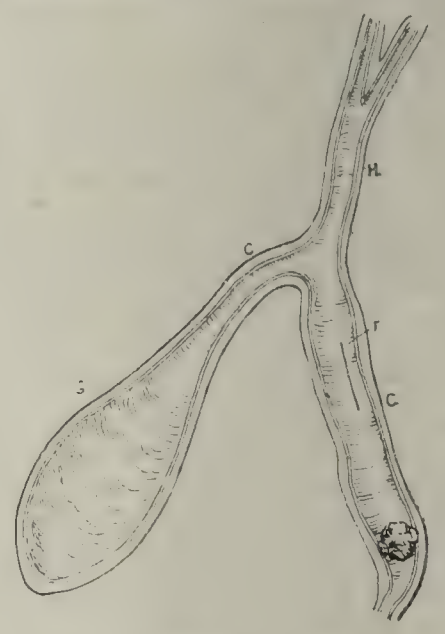

Fig. 9.

It contained thick mucus and bile, which was sterile. It was opened and drained. On palpation of the ductus choledochus no stone could be felt. A probe would not pass through *vid* gall bladder, nor could I force water into the duodenum. Choledochotomy was then performed. The duodenum was displaced to the left, duct exposed and opened. It appeared in good condition. A probe failed to enter the duodenum, as did also the water. Again I began to probe, and rapidly tapped with an olive-pointed stricture searcher, manipulating at the same time, when in a few minutes it suddenly slipped into the bowel. Water was now forced through the duct with ease. The wound in the duct was closed with fine silk, a drainage tube was inserted into the gall bladder, and the abdomen closed. In six hours after the operation the temperature was 102° F., pulse 118, and respiration 50. The next morning these signs were found to have subsided. Her recovery was uneventful, and she left the hospital on the twenty-fourth day; no fistula, and free from distress and jaundice.

The girl was suffering more from cholemia than from anything else, and we thought two months of icterus without any signs of improvement, even though the suffering was comparatively slight, justified an operation. It is quite possible that this young lady might have got better without an operation, but our procedure speedily effected a cure. It was easy to suture the duct in this case, because the pathological changes had not materially altered its structure, and the stitches held well.[8]

CASE IV.—Mrs. K., of Chicago, aged 35, referred by Dr. Courtwright as a case of gall stones. She entered the Charity Hospital on July 3rd, 1896, complaining of pain in the lumbar region and extending down to the inguinals. Her mother died of bleeding upon the stomach; the rest of her family history negative. She began to menstruate at 15 years of age; married when 19 years old; had nine children, all in good health, the last one being 2 years old. Five years ago she complained of pain in both inguinal regions after drinking cold water or eating heartily. The first distinct attack of colic was two years ago. The pain was referred to the back and sides; it was accompanied by vomiting, chills, and fever, difficult breathing, and nervous disturbances. The tenderness on pressure was over the liver and gall bladder. A tumour formed in the locality of the gall bladder, which remained noticeable for a year. She does not know how many attacks she has had. The last one occurred a week previous, being the most severe she ever had. She never had jaundice before, but always had chills and fever.

On admission patient looked pale, wrinkled, and tired; skin slightly yellow and itchy, temperature 100° F., pulse 100, respiration 23 per minute. She was constipated, very tender over liver and gall bladder, the latter being apparently enlarged. There was a dull percussion note over the loins, pain on pressing over lumbar or inguinal regions. Urine acid, specific gravity 1028, no sugar or albumen, contained bile, no germs, pus, or casts. She was watched for three days. It was noticed that her condition was getting worse. She had several slight attacks of colic, chills and fever, sweating, etc. Over gall bladder and liver the tenderness on pressure was getting more and more pronounced, the abdomen becoming tympanitic in spite of free purgation, and the jaundice deepening. Strychnine, salol, and calomel were given during these three days.

An operation was performed on July 6th, 1896. Assisted by Drs. Courtwright and Burdick I made a longitudinal incision over the gall bladder. The abdomen being opened, the first thing that attracted our attention was the free escape of bile. The peritoneal cavity was filled with bile (Fig. 10). Some of the bile was sponged out, but this being too tedious a process the abdomen was washed out rapidly and freely with a normal salt solution at the temperature of 103° F., which was left in the abdomen except what it was necessary to remove so as not to obscure the gall bladder. Search was now made for the offending organ—the gall bladder. It was retracted behind omental adhesions and the free border of the

ver. The adhesions were broken down and a large greyish white gall one was seen protruding part way from the fundus of the gall bladder. Here was an interesting and rare condition I have never seen before. was now clear how the bile escaped into the abdomen. The gall bladder ust have been ulcerated for several days, for the opening was an inch in ameter. Several stones of varying sizes were removed from the gall adder; no prolonged attempts were made to explore the ducts. The iolecystotomy was completed in the ordinary way and the abdomen osed, leaving a glass drainage tube in the gall bladder and another in e abdominal cavity. It was observed that all the peritoneum that came ithin view was deeply stained with bile. It was my opinion that the ight jaundice present was caused by absorption of bile from the peri-neal cavity. The salt solution left in the abdomen became absorbed ithin twenty-four hours, so that the drainage tube into it became un-ecessary, and it was removed. The dressings were saturated with bile, id had to be changed frequently. The next day the temperature was 3° F., pulse 134, and respirations 40. After this she steadily improved, e temperature ranged from 99° to 100° per week, and then she got pidly well. On the twenty-seventh day after operation she left the spital in good condition, but a small fistula existed, the discharge rough which was insignificant. The bile found in the abdominal cavity as free from germs, and this was a good thing for her.

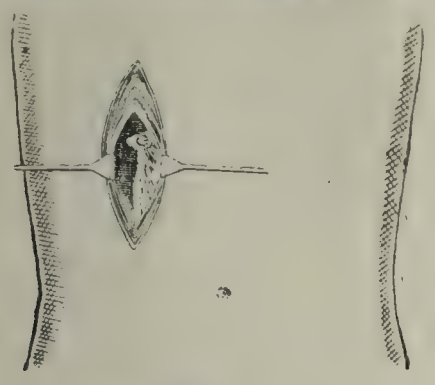

Fig. 10.

On August 2nd the patient returned home, having a slight discharge m the fistula. It closed in a week, when the biliary colic recurred. e pain was constant, both local and referred. The lumbar regions re complained of as before. Jaundice was more pronounced than fore, and every moment increasing. She returned to the hospital on gust 15th, 1896, with a normal temperature, but with a pulse of 120, and spirations 30. She was again watched for three days, and prepared for eration.

On August 18th, 1896, a choledocholithotomy was done. An oblique ision was made, exposing the remains of the gall bladder, which was w a mere tube, and the cystic duct, which were both empty (Fig. 11).

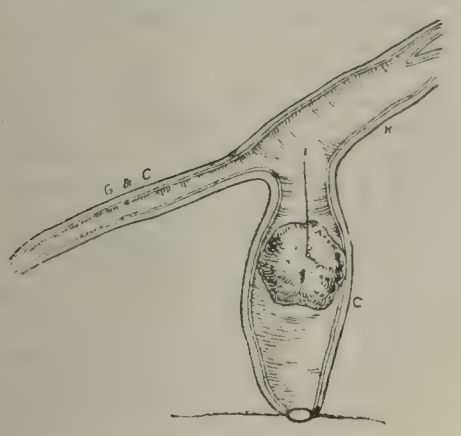

Fig. 11.

on palpation of the gastro-hepatic omentum the large stone in the com-n duct was felt. It had slight motion, was prominent, and easily re-ved through an incision in the duct. A probe passed into the duo-num unobstructed. A drainage tube was inserted through the opening he duct, gauze packed about it, a strip of gauze put into the tube-like nains of the gall bladder, and the abdomen closed. She left the erating room in good condition, and did well thereafter for three rs. On the fourth day she began to sink; pulse 120, weak; tempera-e 97° F., respiration 40. Strychnine ($\frac{1}{30}$ gr.) ordered every two hours. e next day she was worse—constant nausea, rapid emaciation, in-nnia, refused all hot liquids, craved for cold water, pulse not easily unted, sighing respirations; cold, flabby skin, sunken eyeballs, in fact, patient looked cadaverous. During the next two days her condition s apparently hopeless; her pulse became streamlike, nausea constant, l vomiting occasional. All the rectal feeding, stimulation, and hypo-rmics of strychnine ($\frac{1}{30}$ gr.) every hour for forty-eight hours, seemingly l no effect upon her. I thought transfusion might do her good. She peared to be dying from cholæmia. She still asked and craved for co d ter. While preparations were being made for the transfusion I told to drink all the cold water she wished. The first drink was fully six nces. It was grateful to her; she kept it down and it did her good. In f an hour another 6 ounces were given. Her constant nausea and oc-ional vomiting ceased, and we decided not to transfuse. Cold tea, fee, and milk were ordered to be given *ad libitum*. From this time she wly improved and finally got well. The next day she wished the tea l coffee hot, but the cold drinks of water were still in demand, though nearly so frequently. On the twenty-eighth day after the operation she left the hospital all right, with no fistula or any other inconvenience. She is now in perfect health, and doing all the household work for her large family.

The clinical features of this case were unusual all through. In the first place, the referred pains were far distant from the seat of trouble, even down in the inguinal regions. Without elaboration I shall merely mention what appeared to be of most interest:

1. Pressure atrophy of gall bladder by a stone, causing perforation of it.
2. Abdominal cavity filled with bile; no inflammation.
3. Chills and fever, with no germs in the bile.
4. After choledochotomy, obliteration of gall bladder to a mere tube.
5. Choledocholithotomy; no suture of the duct.
6. The profound cholæmia, showing its intensity on the fourth to the eighth day after operation.
7. The large amount of strychnine tolerated, $3\frac{1}{2}$ g. being given hypodermically within four days.
8. The benefit of the cold water.[9]

Case v.—Mrs. G. W., aged 33, Cissna Park, Illinois; nativity, United States; widow; occupation, minister. She was admitted to the Post-Graduate Hospital on November 16th, 1896. Referred by Dr. L. D. Hockett as a case of gall stones. Family history negative. She had typhoid fever at 12 years of age, and was sick three or four weeks; measles at 16 years of age. Otherwise health had been good. Her present trouble began five years ago last spring with pain just below the ensiform cartilage (at the pit of the stomach), which radiated to the right side in the region of the gall bladder. This attack lasted about three weeks. She was treated by hot applications, and morphine was given to check the severe pain. She has had similar attacks about every year since then. The last attack began about three months prior to admission, with pain all over the abdomen, followed by fever and chills. A day or two thereafter jaundice set in. She had been in severe pain and had had jaundice ever since. The lungs and heart were found to be normal on examination. Urinalysis revealed bile in the urine. The patient was in a fairly well-nourished condition, but the whole body was jaundiced and skin itchy; temperature 98.6°, pulse 90. Diagnosis: calculus in common gall duct.

Operation November 17th, 1896, by Professor Ferguson, assisted by Drs. Brown and Sloan—cholecystotomy and choledocholithotomy. For the first fifty-six hours after the operation the patient's temperature ranged from 99° to 100.8°, after which it was normal during the rest of the time she remained in the hospital. Patient's pulse during the first fifty-six hours ranged from 96 to 110, after which it varied from 80 to 90. Respiration during the first fifty-six hours ranged from 20 to 24. On the fifth day the wound was dressed. Glass tubes were removed and reinserted. Wound was dressed each day afterwards for two days, then every other day for the next six days, then every day for the rest of the time until the fistula closed at the end of the second week. On the fourteenth day the stitches were removed. Patient slept well; appetite was good. She left the hospital on December 19th, 1896, greatly improved. No fistula. Jaundice had totally disappeared, and she was completely relieved of her pain.

To the above history and report of this case, kindly prepared for me by Dr. Rouleau, interne at the Post-Graduate Hospital, I shall add only a few observations.

The skin incision of choice was the oblique one, extending from near below the ensiform cartilage downwards to the right and outwards, coursing about an inch below the right costal cartilages.

The findings at the operation were (Fig. 12): Adhesions, few; gall bladder contracted by about one-third its normal size, and contained viscid fluid, more mucus than bile; no germs found in fluid by Professor

Fig. 12.

Klebs, and no development on agar-agar; cystic duct slightly dilated; foramen of Winslow partly closed by adhesions; gastro-hepatic omentum quite thick and bulky. A hard, large stone was situated in the upper portion of the common duct, detectable by palpation, and had a play of about an inch and a half in the dilated ducts, but it could not be forced back into the cystic duct. The stone was removed through an incision made in the anterior surface of the duct; it was dark in colour, almost round, rough on surface, and half an inch in diameter. A silver probe passed into the duodenum.

The technique of the operation was simple as possible. The gall bladder

was opened and drained; it was sutured to the internal aspect of the abdominal wound. The wound in the duct was not sutured, it being deemed a superfluous procedure. A glass drainage tube extended to the opening in the duct, and iodoform gauze was packed around it. In this case we had two glass drainage tubes—one in the gall bladder and the other in the abdomen down to the duct to drain what might come from it into Morison's pouch. These tubes were dressed separately with rubber tissue, etc., in order to distinguish between the discharge from each.

It was interesting to observe the functional behaviour of the liver after the operation. The stools remained clay colour, and no bile was discharged in the dressings for five days, as in Case II, after which, however, the dressings had to be changed frequently. The bile came through both tubes, but more through the one in the gall bladder. On the eighth day no bile came through the tube leading to the duct; it was consequently removed and a strip of gauze substituted for a day or two, when the wound soon closed at this point. It was several days after this that the gall-bladder fistula closed, although nothing was inserted into it.

She writes (March 28th, 1897: "I weigh three pounds more than I ever did, and you could not recognise in me your jaundiced case. It is so nice to be free from pain."

It will be noticed that in these 5 cases the stone could not have been removed *viâ* cystic duct and gall bladder, but the common duct itself had to be dealt with.

Remarks.

1. For the treatment of stone in the common duct, whether impacted or loose, which cannot be extracted through the cystic duct and gall bladder, choledocholithotomy is the ideal surgical procedure. In breaking up the stone with needles or forceps it is uncertain that complete work is done, the *débris* may not all escape with the bile, more or less injury (puncture or bruise) is done to the walls of the duct; and less opportunity is afforded to test the permeability of the duct, for it may be obstructed lower down. Cutting into the duct longitudinally does not appear to predispose to complications or sequelæ. In the majority of gall stones, causing obstruction of the common duct, there are also stones in the cystic duct and gall bladder; then cholecystostomy should be the operation of choice, because (*a*) it is usually easy to remove stones from the common duct through the dilated cystic duct; (*b*) the safety of the patient from death by cholæmia is assured, and the patient may not be able to endure any more; and (*c*) should a stone be left in the common duct it can be treated afterwards by passing a bougie down the duct or by choledocholithotomy in preference to cholecystenterostomy.

2. The diagnosis of occlusion of the ductus choledochus is not difficult in the majority of cases, the chief clinical features being: (1) History of cholelithiasis. (2) Pain (*a*) referred, (*b*) local, over the common duct. (3) Tenderness elicited by finger-tip pressure is not over the fundus of the gall bladder unless it, too, contains stones, or is inflamed. (4) Jaundice is the sign of an obstructed common duct; chronic exacerbating jaundice is more characteristic of obstruction by a gall stone loose in the duct than anything else. (5) Area of gall-bladder dulness lessened in chronic cases, and increased in acute obstruction in a case that has had manifestations of cholelithiasis for a short time. I feel convinced that in every case of biliary colic the gall bladder enlarges during the first attacks. (6) Several slight attacks within a day or week coupled with icterus is strong evidence of choledochus stone. (7) Vomiting may or may not be present; nausea usually is. (8) Emaciation is a late sign of this trouble; it was only well marked in one of my cases. (9) Chills and fever in 25 per cent. of cases (Courvoisier). Pyrexia was present in four of my cases.

3. Technique of choledocholithotomy: (1) Incision oblique when the gall bladder is contracted. (2) Adhesions should be carefully separated in the line of search for stones, and nowhere else. The fundus of the gall bladder being found, it is followed on the under-surface of this organ to the cystic and common ducts. The adhesions are cautiously cleared away along this route, but any that may be shutting off the general peritoneal cavity should be left alone. When the foramen of Winslow is reached the gastro-hepatic omentum is palpated, for in it courses the ductus choledochus. If the adhesions are dealt with as above described the subsequent drainage is easier and more efficient. (3) Incision of duct is done longitudinally over the anterior surface of the stone. (4) Test the patency of duct by probe or water test. (5) Suturing the duct is, in my opinion, not at all essential for success, and may be harmful by (*a*) prolonging the operation, and (*b*) injuring the wall of a pathological duct that does not hold sutures. (6) Drainage, both tube and gauze, should be used.

External Biliary Fistula.—The artificial opening between the gall bladder and skin, known as biliary fistula, has been caused by injury, or, in case of empyema of the gall bladder, by the process of ulceration, which either opened spontaneously on the outside or was lanced by the surgeon, mistaking it for an ordinary abscess. It is now, however, purposely established for the removal of gall stones, or to relieve overdistension, or jaundice occasioned by obstruction of the ducts. When a fistula had not closed by three months or so, it was considered to be permanent, and the alleged cause given was obstruction of the ductus communis choledochus, hence arose the indication for performing cholecystenterostomy. The more gall-bladder surgery I do the indications for cholecystenterostomy become less and less. When we consider for a moment the details of the technique of cholecystostomy as we have been accustomed to perform it, it is not to be wondered at that in many cases a permanent fistula resulted. The stitching of the incised gall bladder, parietal peritoneum, and skin together, as we have been doing for years, secures a perfect union of the mucous membrane to the skin. Should we desire to obtain a gastric, vesical, or an intestinal permanent fistula, this is the very method we pursue. There is a marked tendency for a gastric or a vesico-cutaneous fistula to close spontaneously, which is also true regarding the cholecyst fistula.

The first cause of biliary fistula I wish to call your attention to is preventive, or easily remedied by a second operation. It is that the surgeon secures by operation a muco-cutaneous tract, which not infrequently continues to discharge mucus and bile, even though the cystic and common ducts are not in the least obstructed. That this is the most frequent cause I am convinced, and that it is easily remedied I know from the four cases which I shall report in this paper.

Another operative cause is that the gall bladder is sometimes sutured to the lower angle of the abdominal wound, or to a median incision as I saw in one case. The third and most dangerous cause of a fistula is the partial or complete obstruction of the cystic, and more commonly of the common, duct, by gall stones, or by a stricture in the duct where one calculus or more had been lodged for a long time, and caused cicatrisation after ulceration. It is not infrequent to find the common duct obstructed by malignant and other growths of the pancreas or surrounding structures, and should cholecystostomy have been performed, a permanent biliary fistula in these cases would have been inevitable. Other than the discomfort of the bile flowing externally, staining the clothing, etc., the general health does not seem materially to deteriorate in many instances, even though the discharge of bile is considerable and continues for several months.

Murphy observed [10] that out of 201 operations on the gall bladder, collected by Courvoisier, Riedel, and himself, 31 per cent. had a permanent fistula after cholecystostomy. In the same valuable production the situation of the gall stones was stated as follows: "I find in 163 cases stones reported in 112, and in about 75 per cent. of these the stones were situated in the gall bladder, in about 12 per cent. in the gall bladder and cystic duct, 8 per cent. in the cysticus alone, 3 per cent. in the choledochus, and the balance scattering." It is, therefore, clear that whereas obstruction of the common duct causes a biliary fistula to exist after cholecystostomy in but 3 per cent. of the cases, the remaining 97 per cent. are mostly due to the faulty manner in which the operation was performed, and curable by a plastic operation as here described.

Treatment.

The treatment of biliary fistula is preventive and curative. When performing a cholecystostomy and the ducts are found patulous, or if obstructed by calculi and these are removed, a permanent fistula is obviated by suturing the incised gall bladder at the upper angle of the wound and to the peritoneum alone. This leaves the organ within the abdomen, and in the best possible position for early closure. A glass or rubber drainage tube is inserted into it through the abdominal wall, and allowed to drain as long as desired. This idea of dealing with the gall bladder occurred to me from the good results, prompt closure, etc., of the wound in cases of contracted gall bladder where, after removal of all the stones,

e gall bladder had to be secured to the internal aspect of e abdominal wound, not as a matter of choice, but from cessity.

Plastic Operation.

An incision is made through the skin and other tissues ound the fistula down to the peritoneum, but not through The abdominal cavity is not opened. (Fig. 13.) The

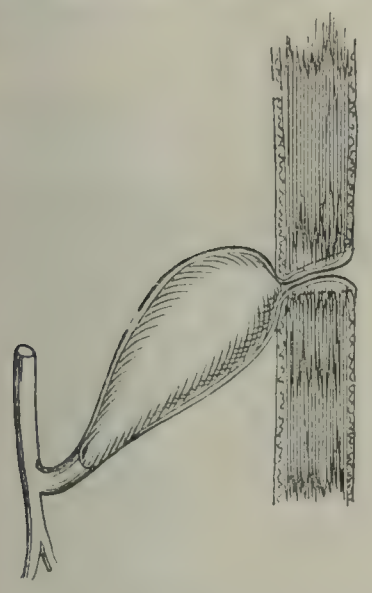

Fig. 13.

icous tract or neck situated between the peritoneum and aneous surface is now amputated, and the gall bladder sed with two rows of catgut sutures, the first continuous, as effectually to coapt the mucous edges and check hæmorage, and the second may be a row of Lembert or my invern suture, which inverts the first row. (Fig. 14.) This

Fig. 14.

ng done, the gall bladder recedes astonishingly into the domen. This operation is completed by closing the abdon with catgut and silkworm gut. (Fig. 15.) The operan is neither difficult to perform nor dangerous to the tient.

Report of Cases.

ASE I.[11]—*Biliary Fistula since April 20th, 1895, following a Cholecystostomy: stic Operation performed August 10th, 1895: Perfect Cure.*—Mrs. C., aged French Canadian, had biliary colic for five years. There was incomte jaundice during the last year with each attack; but the last two nths before the first operation the yellow hue of the skin and conctivæ had not subsided, and the tenderness over the gall bladder was istant. On April 20th, 1895, I performed a cholecystostomy in the inary way before the post-graduate class at the Post-Graduate Hosal. The gall bladder was large, filled with discoloured mucus, and three l stones firmly packed into the cystic duct, the most distal one enaching upon the origin of the common duct. These were removed h the curette, and a probe was passed into the duodenum. The jaune cleared away in a few days. She left the hospital in three weeks with istula, which allowed a large quantity of bile to escape in the twenty-r hours. That the ducts were opened we made certain by repeatedly sing probes and forcing water through them into the bowel. On gust 10th, 1895 assisted by Dr. Pigall, who had charge of the case, we closed the fistula at her home in the manner already described, and not a drop of bile has escaped externally since. This lady was very stout, and the muco-cutaneous tract situated between the internal and external surfaces of the abdominal wall was over 2 inches long, which was the cause of the fistula. Hernia occurred in the lower angle of the wound, which was subsequently operated upon and cured by my assistant, Dr. E. M. Brown.

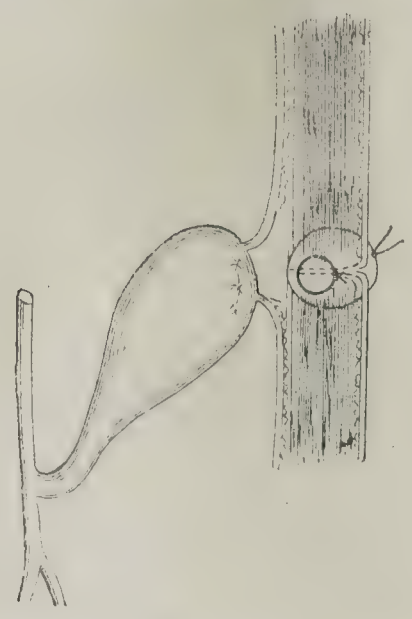

Fig. 15.

Case II. *Biliary Fistula of Over Four Months' Duration: Plastic Operation: Perfect Cure.*[12]—Mr. S., age 39, tailor, German, family history good, had left knee dislocated when a child; had a severe attack of pneumonia eight years ago. Present illness began three years ago as a stomach trouble, with nausea, loss of appetite, and pain at intervals of every two or three months, until last December, when he had a more severe attack than usual, and noticed a tender tumour on the right side in the region of the gall bladder. The usual symptoms of biliary colic were presented —such as severe pain, nausea, vomiting, etc.—and for the first time he had chills, profuse perspiration, jaundice, and this tumour disappeared in about two hours. After this the attacks were more frequent, the jaundice was constant, and the stools clay-coloured; he had fever of 100° to 101° F., and became utterly unfit for work.

I operated on April 12th last; found dropsy of the gall bladder, but no gall stones, and obstruction of the cystic and common ducts. While probing the cystic duct bile came into it, but I failed to catheterise the ductus communis choledochus, nor could I force water through it. This would, therefore, appear to be a favourable case for a cholecystduodenostomy. Upon breaking down the adhesions along the gall bladder and its duct, I could feel the long probe come to a stop against something harder than fibrous tissue. I squeezed it between finger and thumb, but it did not break. The obstruction was about an inch down the duct. The extensive adhesions at the junction of the two ducts may account for some of the stoppage to the flow of bile, and the inflammation present, as manifested by the temperature, would also act in the same direction.

On the third day after the operation the dressings were saturated with bile. Two days later dressed again, quantity of bile less; and by the tenth day no bile discharging through the fistulous opening. Fifteen days after the operation all the bile was finding its way through the natural passages, and the jaundice had rapidly subsided. The long probe which I failed to pass through the ducts at the operation, with a little care now, at the end of fifteen days, passed down easily. We also forced water through the ducts several times. As he began to sit up and move about the fistula again opened, and was discharging bile when he left the hospital. Dr. Brown, my assistant, who first saw the case, and brought him to the clinic, very kindly kept trace of him. The fistula almost closed on different occasions, and it proved a great discomfort. In every other way he felt perfectly well, having gained over 30 lbs. in weight. On August 20th, 1895, at the Charity Hospital, we closed his fistula by my plastic operation. The wound closed to a wish, and he is cured.

Case III.—Miss P., aged 23, American, stenographer, entered the Harvey Hospital in charge of Dr. Robinson, complaining of an external biliary fistula, the result of a cholecystostomy performed some time previously for gall stones. On January 12th, 1896, associated with Dr. Robinson, we proceeded to close the fistula by my plastic operation. Twelve ounces of water were first passed through the ducts into the bowels, which demonstrated that the common duct was free from obstruction, and that the fistula should be closed. It was evident that the causes of the fistula were (1) the gall bladder having been sutured to a median incision, and too low down, and (2) that it had been fastened to the skin. An incision was made towards the cartilage of the tenth rib, the muco-cutaneous tract dissected out, the gall bladder allowed to recede nearer its home, and the operation completed. Silk was used to close the gall bladder and muscular tissue, and silkworm gut for the skin, one silk ligature after the other suppurated and had to be fished out. One larger one found its way into the gall bladder and gave rise to the colicky pains characteristic of gall stone irritation. On November 2nd, 1896, at the Post-Graduate Hospital, I performed a cholecystotomy before the class and removed the ligature. Fig. 16 shows the actual size of the ligature removed from the gall bladder. Since then she is in perfect health.

Case IV.—Mr. M., aged 36, an American, who resided in Mexico for fifteen years as a mine prospector, consulted Professor William Osler, of

Johns Hopkins Hospital, in March, 1896, for an enlarged liver and jaundice. Dr. Osler advised exploratory incision, which was done by Dr. Halstead. The gall bladder was drained, resulting in a biliary fistula. Mr. M. went back to Mexico, but returned three months later to have the fistula closed. On arriving at Chicago he learned that Dr. Halstead was in Europe, and consequently consulted Dr Nicholas Senn, who catheterised the ducts for a couple of weeks at St. Joseph's Hospital. Getting discouraged with this painful procedure, and the quantity of bile issuing from the fistula not diminishing, being from a litre and a-half to two litres per day, the patient left the hospital and consulted a physician, who referred this interesting case to me

The patient presented a peculiar jaundiced appearance, with an enarged liver, and a history too long to insert here, but the fistula and the discharge of bile absorbed all his attention, and he wished to have it closed. He was placed in the Chicago Hospital, The first thing to be determined was whether the choledochus was patulous and capable of transmitting the bile into the intestine. This was proved to be the case by flushing the ducts with water. At three different times before the operation about two pints of water were passed through the ducts into the duodenum, which on each occasion caused the bowels to move freely. This was certainly a novel way of giving an enema, but it was all-sufficient as a preparatory measure on the morning of the operation.

On July 27th, 1896, I performed the above described plastic operation and closed it. On account of a mistake on the part of one of the attendants the external wound was infected, and suppuration extended to the gall bladder, and bile commenced to escape again, greatly to his chagrin and disgust. I assured him, however, that this accident would not prevent a cure, and it did not, for at the end of five weeks his fistula was permanently closed.

Dr. HENRY O. MARCY (Boston) thanked Dr. Ferguson for the contribution of his most extensive experience, and referred to the masterly contributions of Sims, Tait of Birmingham, and Fenger of Chicago. He referred to his own experience in having been the first to remove a calculus from the common duct with primary suture and closure without drainage, followed by easy recovery. Dr. Marcy commended the operation to a wider usefulness and more general adoption as a means of relief to a large class of sufferers.

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CONGENITAL DISLOCATION OF THE HIP-JOINT.

By NOBLE SMITH, F.R.C.S.Ed.,

Senior Surgeon to the City Orthopædic Hospital; and Surgeon to the All Saints' Children's Hospital, London.

RECENT publications upon this subject show that there yet remains much uncertainty in the minds of surgeons as to the most effectual method of treatment of these cases, and I contribute the following observations with the hope of adding something to the facts already before us.

The Roentgen Rays.—One great stumbling block in the way of forming a clear view as to treatment has been the difficulty or impossibility of detecting the exact condition of the affected parts. The *x* rays will undoubtely greatly assist us in this respect, if their use does not entirely remove the difficulty. Without that help we already know that considerable differences occur in different cases, but as patients do not die from this affection it has only rarely occurred that a dissection of the deformed parts has been made. Skiagraphs however may be taken of all cases, and will generally show the shape of the heads of the femora and the condition of the acetabula fairly well. I would therefore urge that examination by Roentgen's process should always precede the forming of an opinion as to the condition of the parts and the treatment to be adopted.

In probably the majority of cases the head of the femur is freely movable in its false position and capable upon firm extension of being brought down to or towards its natural position, the resistance being generally due to structures which are not bony. In other instances the false joints are comparatively firm, and there is not much alteration in the position of the femora when the patient changes from the upright to the recumbent posture, nor can we in such cases alter, except slightly, the relative position of the affected parts by firmly applied extension. These two classes of cases indicate different lines of treatment. When the joints are very loose there is generally a history of rapidly increasing deformity, gradual relaxation of the ligaments and displacement of the heads of the femora further upwards and away from the acetabula. Under these circumstances recumbency has seemed to be desirable, and it is in such cases that I have carried out the treatment so well advocated by Buckminster Brown.

In the cases where the false joints are firm I have restricted the treatment to counteracting the tilting of the pelvis and the consequent lordosis. Prevention or limitation of the lordosis by mechanical means is a plan of treatment which had been very much neglected, it is however one by which great improvement in the position of the spine may be effected; it gives much comfort to the patient and improves very greatly the powers of walking.

Fig. 1 represents a photograph of a patient aged 10 suffering from congenital dislocation of both femora.

Fig. 1.

In the course of time the lordosis may be often almost entirely overcome by this treatment.

Buckminster Brown's plan consists in enforced recumbency and extension carried out for two years. During this period the heads of the femora are held by a complicated extension apparatus in their natural places, pressure being applied laterally with the object of attempting to form an artificial depression in the place of the abnormal acetabula. The result of this treatment in Buckminster Brown's hands appeared to be remarkably good, but it was reported by Dr. T. Halsted Myers at a meeting of the American Orthopædic Association, published in the *Transactions* of the Association for 1894, that Buckminster Brown's case had relapsed, and Dr. Myers had also heard from Dr. Lovell that Dr. Post's case had suffered a slight relapse; but Dr. Myers had also received a letter from Dr. Max Schede stating that he had completely cured four cases without operation by means of extension and the use of a splint applied to the affected limb, and the leg kept always abducted even while walking. These four patients were from 6 months to 18 months of age, and the treatment was continued for from 1 to 4 years. Many surgeons in America and some in England have carried out this plan of treatment, and the majority of them speak very highly of

. In recommending the adoption of this course to parents, ne is naturally met by the question as to the probability of lasting result after so long and tedious a treatment. My ne of argument has been as follows:—If the child be per-iitted to continue walking about while the joint remains lax iere is a tendency to an increase of the deformity, and a erious result is sure to follow, that is to say, the patient will et more and more crippled in walking. Even the use of an pparatus to counteract lordosis will not prevent further sing of the femora upwards towards the crests of the ilia.

Fig. 2

Fig. 2 is from a photograph of the same patient with a pporting apparatus applied, showing the immediate effects oduced.

Recumbency is of great value, for it will prevent an increase deformity while the child is young and the tissues lax. ecumbency, or some form of activity while the weight of e body is taken off the hips, will allow the false joints to come gradually firm and less liable to give way, and is erefore so far beneficial. Such being the case, it is worth ile to add to the treatment by employing extension, for en if only partial results be obtained great benefit will be ceived. The treatment is not so irksome to the patient as ight be thought; in fact, in cases in which I have tried it e children have been remarkably happy and patient.

I will now describe a case which came before me some ars ago in which I was able to carry out this treatment oroughly. With this patient we can estimate the result ry accurately, as only one limb was affected, and so it was ssible to compare it with the sound one.

A. B., a girl aged 6, was sent to me by Dr. Jakins on April rd, 1891, with congenital dislocation of the left hip-joint. ie left leg was $1\frac{1}{2}$ inch shorter than the right, and in lking went up nearly another $\frac{1}{2}$ inch. A Liston's long lint and a perineal strap were applied with the object of tension, while various modifications were made to produce essure on the head of the bone inwards. The child was kept under this treatment for two years, during which time she grew considerably, and improved very much in health and robustness, having previously been thin and anæmic. The treatment was commenced on June 5th, 1891. It took considerable efforts to bring the head of the bone down into its proper position, but this result was effected by September 2nd. On October 29th I noticed that the affected leg kept quite level with the other while the patient was lying down, and the joint resisted firm pressure upwards. I then removed the splint and put on a metal girdle to press the head of the femur inwards. On May 10th, 1892, I noted that the child was looking remarkably well and that the left leg maintained its natural length. The splint was removed, for the stability of the hip-joint had much increased, so that with manual movements there was no upward motion. I then allowed the child to walk about with crutches and a raised boot on the sound leg. At the end of the two years she gave up the crutches and walked about naturally.

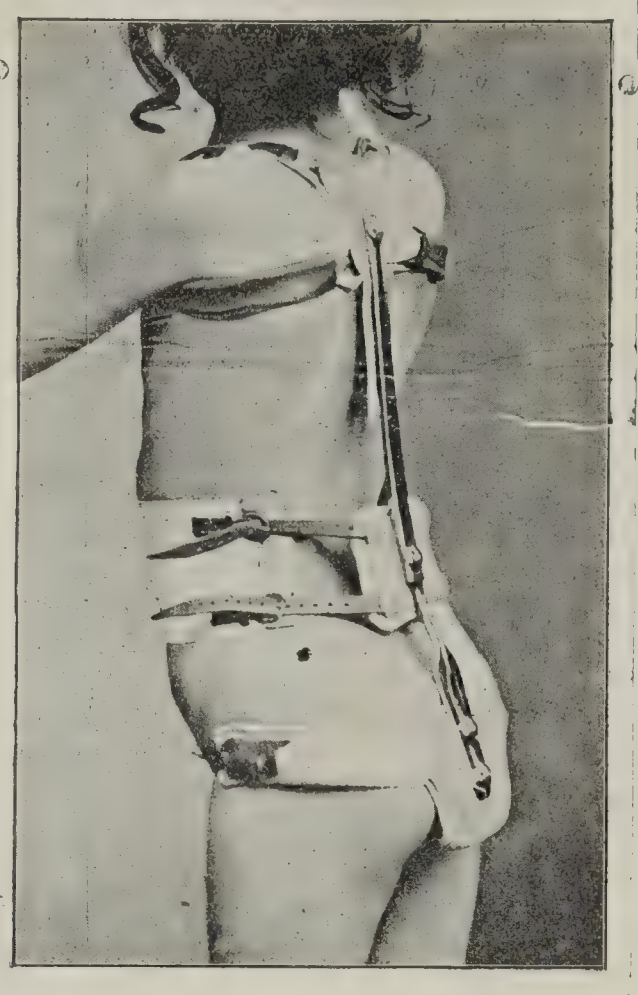

Fig. 3.

Fig. 3 shows the form of the apparatus and its action more clearly. It is the case of a child aged 12, whose history I shall record at some future date when the treatment has been completed.

I had not seen her since then until quite recently (November, 1896), when I wrote to the mother and asked her to bring her daughter for me to see. I found her walking without difficulty, there being only a very trifling shortening—less than $\frac{1}{2}$ inch—and there was no tilting of the pelvis.

Figs. 4 and 5 are from photographs taken at the time of this visit.

Operative Treatment.—The subcutaneous division of tendons to overcome the resistance to replacement of the heads of the femora was practised many years ago, and especially by Guérin in Paris, and good results were reported. After reduction an attempt to form a new socket by means of lateral pressure was strongly advocated by Dupuytren. Guérin attempted to produce an artificial socket by subcutaneous scarifications down to the bone surface. Modern surgeons, amongst whom we may especially mention Hoffa, have through an open wound attempted to deepen the rudimentary acetabulum. There have been some deaths after this latter operation, and the results on the whole hardly seem to justify

so formidable an interference. The efforts of Nature in producing artificial sockets after long continuance of the heads of a bone in a false position have resulted in such good imitations of the natural joints that we may be encouraged in attempting to produce the same effect by retaining the femora in their natural positions for a considerable length of time. Lannelongue[1] has endeavoured to excite the bony growth at the top of the acetabulum by injections of a 10 per cent. solution of chloride of zinc, two drops at a time. This has sometime produced arthritis, and therefore this operation seems to be a rather formidable one. Gussenbauer[2] has at-

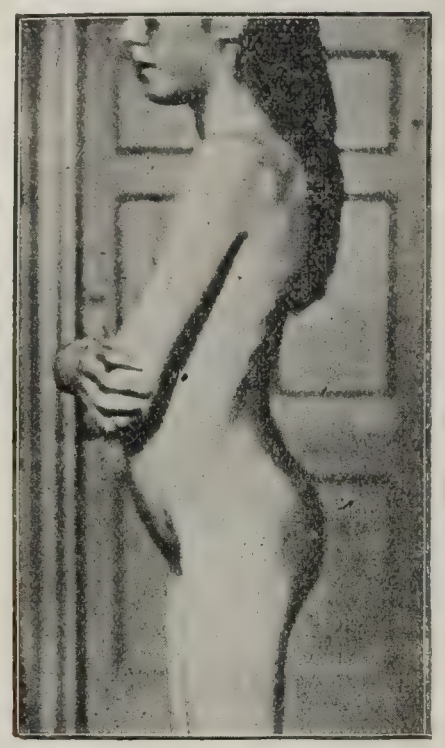

Fig. 4.

tempted to produce similar results by inserting two or three steel nails in the posterior rim of the acetabulum, leaving them *in situ* for six weeks, but the results were not good. Konig has raised a periosteal flap from the ilium, but this plan has not been found satisfactory. I do not think it necessary in this paper to refer to all the operative procedures

Fig. 5.

which have been carried out, but only to deal with those which have seemed to me justifiable and practicable. Our object should be, in the first place, to reduce the parts to their natural position, and if we find firm contraction of muscles precluding the possibility of such reduction the tendons of these muscles should in the first place be divided. These contractions are generally of the tensor vaginæ femoris which causes tilting of the pelvis, even in the recumbent posture, and the adductors, especially the adductor longus. As to the deeper muscles, which are chiefly rotators, they will often give way to prolonged extension, but if after a few weeks the bones do not come down to their natural position it may be desirable to proceed further, and by an open wound to divide whatever may be necessary, whether these be muscles or other structures. In a case in which I recently operated the patient while lying recumbent in the supine position had so much tilting of the pelvis and consequent lordosis that I could pass my arm between the lumbar part of the spine and the couch. After dividing the tensor vaginæ femoris on each side the spine fell towards the couch, leaving not more than an inch of space, and a few days later the part of the back was in contact with the couch.

I have been able to draw down the thigh quite 1½ inch after operation on the adductors, and these muscles, the tensor vaginæ femoris and adductors, in my experience have been the chief elements in resisting reduction. Operations upon these muscles can be done subcutaneously, and the only bad effect, if it is sufficiently serious to be so designated, has been slight numbness felt on the front of the thigh from the division of the cutaneous nerves. I have already referred to the examination of the patients by means of the Roentgen rays. In young children who suffer from this affection it is generally easy to get a good skiagraph of the pelvis. If the acetabula are extremely shallow we may rest assured that the process of producing efficient joints in the natural position must be a matter of considerable time—certainly, I should say, not less than the greater part of two years—whereas if the sockets be better defined the desired result will be obviously more easily attained. One of the most recent publications upon congenital dislocation of the hip-joint is a paper by Professor Agostino Paci, published in the *Revue d'Orthopédie* for November, 1896, in which he criticised the method recently published by M. Lorenz. This method is divided into two stages, or *tempi*, the first being reduction of the dislocation, the second the formation of the joint. The operation is divided into four steps:—

1. Flexion of the leg and thigh to the fullest physiologic limit; this, combined with pressure on the knee, is intended to bring the head of the femur out of the iliac fossa to beneath the acetabulum.
2. Moderate abduction.
3. Outward rotation.
4. Slow extension in bed.

The after-treatment consists in fixation every four weeks in the abducted position. Extension in bed is continued for three months. After four months the patient walks on crutches; after that cautious use of the limb without support is allowed.

It will perhaps not be out of place to compare the method adopted in the two cases above recorded with the latest mode of treatment—the bloodless method recommended by Lorenz who having had time to consider the ultimate results of his operation has relinquished it at least for the majority of cases. The first step in Lorenz's operation consists in bringing the head of the femur to the level of the acetabulum. This is effected under complete anæsthesia. If manual traction should not suffice, a padded perineal band is adjusted to obtain counter extension, and extension is made by a soft band placed round the ankle and fixed to a screw-extension apparatus at the foot of the bed. The extension is made gradually whilst the operator grasps the muscles of the thigh and manipulates them with one hand whilst the other is held on the dislocated joint. The traction causes some tilting of the pelvis downwards on the side of the dislocation. In a few minutes the trochanter is found to have descended to Nelaton's line and then the extension is suspended.

The second step of the operation is termed the "stage of reposition;" the chief difficulty in the way is the anterior part of the capsule of the joint which hugs the surface of the acetabulum. In order to open the latter the hip-joint is flexed to a right angle. This relaxes the anterior part of the capsule. At the same time the knee is flexed to a right angle. The head of the femur is directed inwards, and the following steps are taken to make it pass through the narrow part

ne horn-glass shaped capsule:—The operator standing on a ;ool seizes the thigh flexed at a right angle to the trunk with ne hand, and with the other grasping the head of the femur e, by a system of extension combined with rotation and radually increasing abduction, opens the way into the dor-ant-lying acetabular pocket. When the abduction, which ust be gradually exerted, has reached a considerable degree, ie head of the femur is felt to leap over the posterior border the acetabulum and the surgeon feels that reposition has ken place. This important event is marked by a distinct ound of reduction. The articulation is at first insecure re-islocation readily taking place. The third step is to render ie joint secure. This is begun at the time of operation by rcible manipulation of the head of the femur in the aceta-ulum, but it is chiefly effected by allowing the patient to alk on the limb fixed in full abduction by a plaster case. upport is required at first, and this is kept on for three onths, and is then replaced by a similar support applied with ie limb in a diminished amount of abduction, the sound ot being raised from 2 to 4 inches in order to maintain some egree of abduction. Massage and gymnastics are advised. t the end of a second period of three months the fixation paratus is removed. In double dislocation Lorenz operates one leg at a time, and only commences treatment of the und leg when the joint first operated on is firm.

Remarks.

It will be seen that Lorenz's new method combines some of e features of Schede and Paci with forcible extension. The fect of the latter is to obtain in a short sitting what in uckminster Brown's method is obtained in many months. renz's method of forcible extension is open to criticism. I ould be inclined to apply the extending fillet above the ee in addition to one at the ankle. In the third of my cases luded to in this paper I have obtained by a few myotomies d by gymnastics so much relaxation of the parts that the p of the trochanter comes readily to Nélaton's line. In my cond case extension, followed by the use of apparatus to ess inwards the head of the femur, appears to have effected eal and permanent reposition. In the case of children of t more than 4 years of age forcible extension would pro-bly be unattended by danger, in older children however a eliminary course of gymnastics would doubtless be of ad-ntage. Every case must be carefully studied before the ethod of treatment is selected, and no sound surgical source should be left untried. Among surgical resources renz's latest method is without doubt a valuable one.

References.

Bulletin et Memoires de la Société de Chirurgie, Paris, 1891, xvii, p 770. *nnales d'Orthopedie*, May, 1893. [3] See a paper by G. R. Elliott, New rk *Medical Record*, May 29th, 1897.

Erratum

Dr. Hunter's paper on Cholelithiasis in the British Medical Journal October 30th, there is an error on p. 1240, fifteenth line from the top. e sentence, "The intrahepatic catarrh ..... is secondary to duodenal arrh" should have read "is *not* secondary to duodenal catarrh."

Presentation.—Dr. J. H. S. May, who for a number of years s been Chairman of the Sanitary Committee of the Ply-outh Town Council, has, on the occasion of his retiring m that office, been presented by the staff of the Committee :h a silver bowl bearing a suitable inscription.

Dinner to Sir William Gowers.—The dinner at which Sir illiam Gowers is to be entertained by the Society of Medi- Phonographers will take place at Limmer's Hotel, London, , on November 25th, at 7.30 P.M. The chair will be taken Sir William Broadbent, Bart. The primary object of the ner is to afford to the members an opportunity of thank- Sir William Gowers for his services to it, and of congratu-ing him on the honour which he has recently received m the Crown. It is, however, felt that the dinner may ve a somewhat wider significance as affording an occasion an expression by the medical profession of their recogni-n of the services rendered by him to the profession large, and anyone who may desire to be present is rited to communicate with Mr. L. E. Creasy, 1, Windsor ad, Ealing, or Dr. James Taylor, 49, Welbeck Street, W., m whom tickets (price 10s., exclusive of wine) may be tained.

THE BRADSHAW LECTURE
ON
PROGNOSIS IN HEART DISEASE.

Delivered before the Royal College of Physicians of London, on November 4th, 1897.

By E. MARKHAM SKERRITT, M.D.Lond., F.R.C.P.,
Professor of Medicine in University College, Bristol; Senior Physician to the Bristol General Hospital; Fellow of University College, London.

Mr. President and Gentlemen,—It is probably the wont of those upon whom from time to time devolves the responsibility of delivering the lectures associated with this College to select for their discourse matters to which they have devoted special consideration, or which are to them invested with peculiar interest. Therefore when you, Sir, did me the altogether unexpected honour to invite me to deliver the Bradshaw Lecture for the present year, it seemed to me that I could best attempt to discharge the important duty with which I was entrusted by treating of some subject which had been in the forefront of my observation and thought during my active professional life. And my choice fell upon a theme which has also engaged the attention of those who have spoken with an authority to which it is not for me to aspire—one, however, which in its importance is always fresh, and is constantly present to the practical physician, offering for his solution ever-varying problems.

The Father of Medicine has said: "The Art of Physic is of great extent, life short, opportunity slippery, experience fallacious, and judgment difficult." Still but too true of our Art as a whole, this applies with equal force to one at least of its branches. Who is there that of his own experience cannot say of prognosis in disease that "opportunity is slippery, experience fallacious, judgment difficult?" And assuredly a full share of difficulty and fallacy surrounds the subject which I have chosen for this lecture; for although in none of the ills which flesh is heir to is a knowledge of what the future has in store of greater moment than in heart disease, yet in few things is the possible margin of error so wide.

It is not practicable within the time at my disposal to enter into a detailed consideration of the prognosis of heart disease in its various forms. Nor should I here venture to trespass upon ground that has before been occupied by those with whom I could not presume to compete. I propose rather to treat the subject from a general point of view, and to discuss it in certain aspects and phases, having special regard to the origin and nature of some of the uncertainties by which it is surrounded.

The following factors enter into prognosis in heart disease: First, an accurate estimate of the nature and extent of the changes that have occurred in a given case; that is to say, a complete diagnosis; next, a knowledge of its past history, with especial reference to the causation of the cardiac trouble and the length of time that it has existed; thirdly, an acquaintance with the course that may be run by a lesion such as is present; and lastly, a due weighing of the special features of the case in question.

There is no need to argue at length the dependence of prognosis upon diagnosis. If diagnosis is imperfect, or faulty, or totally wrong, prognosis will be correspondingly erroneous. The foundation of prognosis is an accurate appreciation of the changes produced by disease and of the pathological nature of the processes concerned; a knowledge, that is to say, not only of what alterations have occurred in shape or size, or structure or function of an organ or part, but of how they have been caused, and what is the ultimate history of the morbid agencies to which they are due.

When the heart is concerned, error in prognosis may arise in connection with either of these two factors—on the one hand, through mistake as to the actual physical condition of the organ; on the other, owing to failure to realise what will be the resultant of the various forces which are rightly recognised as being at work; and difficulty in these two directions tends rather to lie towards either extreme of age—in early life the discovery of the lesion is usually easy, but there are wide possibilities as to its future course; while with advancing years comes the time of degeneration, which in its

gravest forms often cannot with certainty be recognised. For youth is the period of acute inflammation, of pericarditis and endocarditis, which are commonly discovered with ease by the skilled observer; but no wisdom will avail to surely foretell the future whilst acute endocarditis is running its course. Whether when the inflammation subsides the roughened valve will be smoothed, and that unusual event occur—the disappearance of the murmur of acute endocarditis—or the morbid sound persist, but based on so little actual valve-change as to remain a murmur and nothing more; or whether the lesion is destined to work havoc with the heart and bring life to a speedy close, all this is beyond the reach of human foresight. Diagnosis is simple, definite prognosis impossible.

Towards the other end of life the opposite tends to obtain. Degeneration has no distinctive physical signs; and it often cannot be said with certainty whether the halting action of the organ is due to change which is organic and will remain, or comes from simple and remediable weakness. Upon the view that is taken of the nature of the affection depends the prognosis that is given; on the one hand, a grave forecast of increasingly impending evil; on the other, it may be, the prospect of restored powers and lengthened years. But, perchance, the promise of peace and length of days is made to the man whose heart is changing into fat, and the sword is hung over one whose only need is nourishment and rest.

It is important to recognise what is the position of physical signs in heart disease; how far they can be relied upon as evidence of the nature and extent of existing morbid changes and of their tendencies.

Speaking of valvular disease, Markham[1] says, "A too curious investigation of physical signs is apt here, as in the case of all other diseases where physical diagnosis is concerned, to make the observer less attentive to the general signs and symptoms than their real importance demands." And Wardrop[2] expresses his views in still stronger terms: "How many examples of erroneous prognosis do we not all meet with? And I am convinced that nothing has contributed more to extend this humiliating catalogue than the introduction of auscultation."

It is needless to say that the stethoscope does not merit such sweeping condemnation; and yet it cannot be denied that many of the errors made in the prognosis of heart disease, and especially of valvular lesions, arise from too narrow a reliance upon its indications. The stethoscope will discover the "physical sign proper," the murmur, and therefore decide to which of the classes of valvular defect any case belongs, and, by placing it in this category or in that, determine what are the usual tendencies of the affection; but here its function ends—beyond this it does not indicate what is in store for the particular patient. It is well known that the quality of a murmur is no guide to the amount of valvular mischief which exists; for while the loudest murmur may remain for many years with quite unimportant results, the effects of a valvular lesion may sometimes be too grave for the production of a murmur at all; but we cannot go so far as to adopt Latham's dictum,[3] that "as a very general fact, the louder the endocardial murmur, the less is the amount of valvular impediment." There is, in truth, no rule in either direction, but each case must stand by itself in this respect.

A true estimate of the gravity of the lesion can only be gained by a general survey of the case in the broadest light; to determine, first, what has been its effect upon the heart itself, and then how far its influence has extended beyond this organ. If it is found that a murmur is present, no matter at which orifice, and that there is no change in that part of the heart upon which the strain first comes; and if it is also known that this murmur has existed long enough for the effects of increased work to be manifested; then it follows that the lesion is trivial and stationary, and may remain so for an indefinite time. On the other hand, if hypertrophy, or dilatation, or both, exist, their degree is a test of the actual interference with the heart in its work. Due weight is also given to the character of the pulse, and to symptoms such as dyspnœa or palpitation or syncope, and to any evidence of interference with the pulmonary or the systemic circulation, or of the presence of associated disease elsewhere.

It is, however, necessary not only thus to check the special physical signs of valvular disease, but also sometimes to estimate the value of symptoms by physical signs. When this happens it is usually in young patients, who are far removed from the class to which I shall next refer. A short time since I had under observation a young man who suffered from most alarming cardiac symptoms, of which a grave view had been taken; frequent attacks of palpitation and dyspnœa, with a tendency to syncope, being associated with a mitral systolic murmur and a moderate amount of dilated hypertrophy. Between the paroxysms, however, the heart was capable of steady efficient contraction. It appeared to me that the phenomena were seriously out of proportion to the actual degree to which the organ was affected, and that the outlook was therefore favourable; and I am informed that time has shwon the truth of this conclusion.

I have referred to conditions in which the physical signs may attract more attention than is their due. There is an opposite group, especially associated with advancing years, where they are apt to be by no means proportionate to the gravity of the actual state. In this case an intelligent consideration of the symptoms is essential, since they are of greater importance than the physical signs. For instance, a man beyond middle life, whose general nutrition is failing, suffers from shortness of breath and a tendency to palpitation. The heart's action is found to be somewhat weak, and that is all. And yet fatty degeneration exists, of which the patient may at any moment die.

The importance of "history," the second factor in prognosis, is never underrated by the practical physician. By it are determined the origin of any morbid state, the length of time that it has existed, and its tendency to development in one direction or in another; and an accurate appreciation of the information which it conveys is of the greatest value.

In heart disease, where valvular defect is due to acute endocarditis, it is important to know whether there is a liability to a fresh onset of the malady in which it originated. For instance, when endocarditis arises during the course of an acute specific disease, such as scarlet fever, which usually attacks a patient once only, the prospect is better than in the case of acute rheumatism, where recurrence is common and often lights up fresh endocardial inflammation. Or the history shows that a murmur may be due, not to endocarditis but to weakness of heart following acute illness or originating in anæmia; in which event there is a reasonable prospect of cure. Or the cause is perhaps preventable or more or less removable, as when muscular strain produces cardiac dilatation. Or it is a diathetic condition such as gout which can be kept in check, but not eradicated. Or the affection may originate in a persistent and irremediable condition, as when dilated hypertrophy results from chronic Bright's disease or from the arterial degeneration of age. In every case a recognition of the cause of a cardiac lesion, and therefore of the degree to which it may be influenced or removed, enters into a rational prognosis.

It is difficult to overestimate the value of a knowledge of the length of time that a heart lesion has existed. This aspect of history does not always receive the attention which it deserves. I will illustrate it in the case of acute endocarditis.

I have before pointed out that it is impossible during an attack of this inflammation to determine what will be its ultimate outcome. Walsh[4] says: "Viewing all forms of valvular impediment as a single group, it is not possible to make any statement of the least utility on the question of duration. Nay, even if any individual disease of the whole number be selected, the extremes of brief and of protracted course are found to lie so widely apart that it becomes practically useless to strike a mean.....We must be content to register the unexplained truth that all forms of valvular disease may, on the one hand, prove the main instruments in rapidly killing, or, on the other, remain for a well-nigh indefinite period subjectively latent." And with this Latham's[5] testimony accords: "Such cases as have fallen in my way have taught me that the period for which life may be still continued is very various. It may be a few months only, or a few years, or it may be for many years, even ten or twenty, or thirty. Of these facts I am certain, but I cannot array them numerically and statistically; and because

cannot, I can determine no relative proportion between those who survive months and those who survive years, or those who survive few years and those who survive many; yet the facts are sure."

Walsh is unable to account for so wide a divergence, but Latham's[6] explanation is as follows: "When the heart is left in a state of unsoundness from past inflammation, two principal consequences are to be expected. Either there may be a renewal of inflammation in the unrepaired structure, or the unrepaired structure, remaining as it was left, may become the element of further material changes in the whole organ. .....The latter consists in alterations of bulk and size and shape and capacity, no other causes being engaged in bringing them about than those which are constantly at work in the healthy heart, namely, its own vital movements; only they are now at work with more or less energy than is either natural or healthy, or they are at work without their natural and healthy harmony."

Considered from the point of view of pathological anatomy, the result of acute endocarditis may be as follows: First, resolution, with removal of the products of inflammation, and consequent disappearance of all abnormal physical signs. I believe this to be one mode of termination, although this view is not universally held. Walsh[7] says "An indubitable endocardial murmur, holding on from the beginning to the end of the acute disease, never, so far as I have known, totally disappears in after-life." It will be allowed that murmurs are sometimes met with having all the characters of those due to acute endocarditis, and that they may disappear with convalescence from the fever or comparatively soon afterwards. It has been urged that because the murmur does not persist, therefore it cannot be due to endocarditis. This important point is well argued by Byrom Bramwell,[8] who arrives at the conclusion in which I have expressed my own belief. I have myself met with what I have believed to be instances of such complete recovery. Latham[9] indeed asserts that out of a series of 63 cases of rheumatic endocarditis, "perfect reparation occurred in 17; for in them the murmur ceased entirely." And Sibson[10] records the recoveries from mitral endocarditis as 25 out of 51. This is so large a proportion that the doubt arises whether in some the murmur was not due to a cause other than inflammation of the endocardium.

Resolution, then, being recognised as one mode of termination of acute endocarditis, undoubtedly a more usual result is the subsidence of inflammation, but the persistence of its products. The young connective tissue growth in the affected portion of the endocardium goes through the same changes which occur in similar tissue elsewhere—it matures into fibrous tissue, which as it develops tends to contract; and therefore the valve segments become more or less thickened, and perhaps distorted to such a degree that their function is permanently interfered with.

When this process of change of the products of inflammation into fibrous tissue is finally completed, acute endocarditis is at an end. Pathologically, therefore, the result in all hearts thus effected is the same—the persistence of the matured products of inflammation. But the practical difference between one heart and another is great. In the one, perhaps, "a little ridge on the surface of a valve, a little granule on its free edge, a little shortening or thickening of a tendinous cord;" possibly so slight a change that, though permanently marked by inflammation, the valve is practically perfect, and therefore no murmur exists; anyhow too trivial to give rise to definite interference with the function of the organ. In the other, the self-same morbid process results in some grave valvular deformity forming an obstacle before which the heart speedily fails. Pathologically identical, the outcome of the same affection, the clinical position of the two hearts is widely different.

"The renewal of the inflammation in the unrepaired structure" may occur in one of two ways: either by repeated attacks of acute inflammation similar to the first, or by the passage of endocarditis from the acute form into the chronic. Latham[11] says: "When rheumatism has been once suffered in early life there is a fearful likelihood that it will be oftentimes suffered again. Moreover, the first attack is generally the type of every attack which is to follow. They will all take the same course and involve the same structures. If the first involve the heart, so probably will they all." No one will dispute the liability of acute rheumatism to recur. Yet in my own limited experience it is not very exceptional for this fever to attack a patient in early life, and not again though many years may have elapsed. For instance, the other day I saw a man, aged 27, who had suffered from rheumatic fever once only, at the age of 3 years; here a loud aortic systolic murmur existed, but without symptoms. And exception may also be taken to Latham's second point, that the first attack involving the heart, all the later will probably do so too. For I do not think that it is rare for acute rheumatism to recur without the renewal of endocarditis. This is a point upon which it is not easy to speak dogmatically, owing to the difficulty in determining that the heart does remain free from fresh inflammation; but it is fair to infer that this is so when the disturbance of the organ is not out of proportion to the general symptoms of fever, and no changes can be recognised in the cardiac area either during the acute stage or afterwards.

Opinions differ as to the frequency with which acute endocarditis passes into chronic inflammation. Latham[12] says: "This I believe to be a fact which, if not true in every instance without exception, is true in the majority—namely, that after inflammation of the endocardium has ceased, whatever remnant of unsoundness is left, it continues ever after without increase in its own kind. After the lapse of years the very appearance of all we find seems to testify that it has long been stationary.....And when the results of clinical observation are compared with those of morbid anatomy they will be found to testify the same thing."

This important question is not adequately discussed by authorities on pathological anatomy. You, Sir, point out the reason for this when you say[13]: "Specimens of endocarditis in this early stage are frequent enough; but it is not easy to say what occurs next in the process, because we do not have many opportunities of seeing the intermediate conditions between this which is found in cases of death from the acute fever which causes the endocarditis, and that advanced state of change in the valves which long afterwards proves fatal by disabling them. It appears to us that, in the interval between acute endocarditis of rheumatic fever and the death long afterwards from valvular disease of the heart, many frequent repetitions of the inflammation must occur; sometimes we find inflammatory products of two distinct dates on the valves, some recent, some older. But more usually a constant state of inflammatory irritation persists, slowly changing the valve."

Judged by clinical evidence, my own experience points to the view that both these things happen; while in many instances there is only too good reason to conclude that the mischief is progressive, yet in some acute endocarditis comes to a definite end, and no further change takes place in the tissue which has been the seat of inflammation. I have met with many cases in which no perceptible alteration either in the character of the murmur or in the general state of the heart could be detected at successive examinations, in some instances extending over a considerable number of years. It is reasonable to conclude that if the condition of the organ is thus stationary from the clinical point of view, it also remains structurally unaltered. On the other hand, instances are only too common in which it is plain that the valvular lesion is progressive, and the obvious inference is that chronic endocarditis has carried on the work begun by the acute inflammation.

It has thus been seen that the results of acute endocarditis vary within the widest extremes, and that no data exist by which it can be foretold during an acute attack what will be the ultimate position of any given case. How then will this most important question be answered? The problem will be solved by time alone. Let me remind you of the statement which I have already made—that a knowledge of the length of time that a heart lesion has existed is of the greatest value in prognosis. Endocarditis must be estimated by the results which it produces—the damage which has been done to the heart in a given time is a test of what will happen in the future; and prognosis becomes a problem in proportion.

What then are the indications that a condition is, on the one hand, grave in its tendencies, on the other unimportant? The only test is the degree to which the heart has become secondarily affected, the evidence showing that the organ is

hindered in its work. The presence of hypertrophy, the existence of dilatation, and their amount; signs of defect in the conduct of the circulation in the lungs or in the systemic circuit—these it has before been said are what have to be sought.

Let it now be supposed that the patient comes under observation some considerable time after an attack of acute endocarditis—it may be twelve months, or two years, or longer—and that a murmur is present. Prognosis, as has been said, becomes a problem in proportion. If the heart is in a certain state at the end of a certain time, what will be its condition in six months, or twelve months, or in five, or ten, or twenty years? And the longer the interval that has elapsed since the acute inflammation, the more certainly can this question be answered. If in the same period one patient has arrived at the stage of dropsical effusion, while another has a much enlarged heart, which can still, however, overcome the obstacle to its work; and, again, another is unconscious of disease, and there is but slight increase in cardiac size and strength; and in yet another no change whatever has occurred—the inference is plain, that as it has been in the past, so it will probably be in the future: disease that has advanced will continue to increase, that which has been quiescent will remain so still; and through the whole series the foundation of prognosis is time—time, and the changes which it has wrought.

I will conclude the consideration of the position of history in prognosis by reference to a case which well illustrates its importance. Nearly eight years ago I saw in consultation a patient who had been informed that he was suffering from aortic aneurysm. The existence of disease had been discovered by accident, and had not previously been suspected, the patient feeling in his usual health. I found a most intelligent man, fully able to grasp the bearings of all that was said respecting his condition. The heart was enormously enlarged and hypertrophied; the impulse was so forcible as to shake the chest wall, and could be plainly felt through the clothes. Although I was of opinion that the physical signs, into which I need not enter, did not justify the diagnosis of aneurysm, yet they were not such as altogether to negative its existence. But I was much struck with the point already mentioned, that the trouble had been discovered by accident, and not from symptoms complained of by the patient, who was exceptionally intelligent and observant, and had led an active life. It appeared to me that a lesion accompanied by cardiac action differing so markedly from the normal, if of recent origin, could not arise without attracting the attention of the patient; and on careful inquiry it came out that the strong beating of the heart had been noted in his early adult life; and, further, that when he was a child his father once came into the nursery when the boy was undressed, and observed something which led him to bring the family medical adviser, who examined the chest. I therefore concluded that the patient had grown up with the lesion which existed, so that to him it gave no abnormal sign. It followed that aneurysm, which would be a recent development, did not exist. The prognosis attaching to the latter being thus set aside, the question arose as to what the future had in store. On the principle which I have already discussed, it was argued that if compensation was so complete that the heart, although enormously enlarged, had been able through all these years to do its work in such a way that an active man had no suspicion that it was otherwise than normal, there was no reason why it should not long continue equally efficient. As a matter of interest, and as showing how inconclusive were the physical signs, I may add that, as opinions so divergent were given upon a subject of such importance, the patient was examined in London by two eminent authorities, one of whom came to the conclusion that aneurysm existed, while the other agreed with my view of the case. The patient, after hearing either diagnosis fully argued by its supporter, made up his mind that the balance of evidence was against the presence of aneurysm, and laid his plan of life accordingly. This was nearly eight years ago. I have examined him at intervals since, and have been unable to detect any signs of advancing disease; he is not conscious of any trouble; he leads a busy and fairly active life, and looks the picture of health.

I have gone thus fully into this case because it is a forcible illustration of the value of a knowledge of the past as a guide to the present and the future. A most important decision turned upon the history, and the result has proved that reliance was rightly placed upon its indications.

An acquaintance with the course which is usually run by a given form of heart disease is one of the factors which have been enumerated as entering into prognosis. From what has already been said, it will be plain that this knowledge often cannot be applied with sufficient accuracy to be of much value. It has been seen that in acute endocarditis it is practically useless for determining what will arise in a particular instance. Nor, viewing all forms of valvular impediment, in whatever way originated, is it possible to make a statement with regard to any one of them that will necessarily hold good of a given case. A lesion that in one instance may end fatally within a few months may in another be consistent with long life and practically good health. It is, however, recognised that each form of valvular lesion has certain general tendencies and that some of these are more serious than others. The relative gravity of valvular derangements is variously estimated by different authorities. Walsh[14] places them in the following descending series: Tricuspid regurgitation, mitral regurgitation, aortic regurgitation, pulmonary constriction, aortic constriction;—tricuspid constriction and pulmonary regurgitation being too little known to warrant their being placed in position in the list.

The worst results follow those lesions which directly obstruct the circulation behind them. Hence tricuspid regurgitation has the first place, hindering as it does the return of blood from the whole of the organs and tissues of the general circulation, the heart itself included. Similarly mitral disease, the two forms of which come next in the series, causes obstruction to the passage of blood from the lungs, and consequently tends to produce all the series of pulmonary complications which are due to this back pressure. On the other hand, lesions of the arterial orifices—the aortic and the pulmonary—so long as they exist alone, do not affect the circulations behind them, protected as they are by the auriculo-ventricular valves; and the result turns therefore solely on what effect is produced on the ventricle itself, and how far there is interference with the supply of blood to the artery.

Apart from the liability to sudden death, aortic regurgitation is much more serious than obstruction at the same orifice, because of the tendency to over-distension of the ventricle during diastole. Of all valvular lesions, aortic obstruction is the most favourable, the left ventricle frequently undergoing hypertrophy sufficient to overcome the obstacle at the orifice of the aorta. Pulmonary constriction has probably no more serious tendencies than aortic obstruction.

Further, it is well known that the sufferer from certain forms of valvular disease is placed in a better position, especially as regards prolongation of life, by having one or more other forms of affection of the orifices added to that which already exists. For instance, there is less liability to sudden death in aortic regurgitation if it is associated with mitral incompetency, probably because the regurgitation through the mitral orifice during the systole of the ventricle lessens the amount of blood driven into the aorta, and therefore the quantity and force of that which distends the ventricle during the succeeding diastole. Another familiar illustration is afforded by the effect of tricuspid regurgitation in relieving the pressure upon the pulmonary circulation caused by mitral disease. It has, doubtless, fallen to the lot of most to meet with cases in which urgent lung symptoms have been caused by the position of the pulmonary circulation between the obstruction to the onward flow due to the affection of the mitral orifice on the one side, and the increased *vis a tergo* of a hypertrophied right ventricle on the other. When at last the tricuspid valve gives way, part of the force of this hypertrophied ventricle is now expended in returning blood into the auricle; and thus tension in the pulmonary circuit is lessened, and the urgent lung symptoms are relieved; though at great cost as regards the systemic circulation.

I have before pointed out that the prognosis of valvular disease resulting from a non-recurrent specific fever is more favourable than that originating in acute rheumatism, inas

uch as further attacks of the latter may occur, bringing ith them fresh risk to the heart. But the prospect is better hen valvular disease is due to the endocarditis of eumatic fever than if it results from inflammation which is ronic from the first. For while the former may, as we ve seen, remain quiescent unless the valve is attacked resh during a recurrence of the fever, the latter is com-only due to some persistent cause, leading to progressive flammation with its increasing valvular deformity. An ception may be made in the case of endocardial mischief ising in old people; in my experience it is here of small actical moment, slow in progress, and causing but slight sturbance in function of the affected valve; and altogether secondary importance to the degenerative changes in the scular system generally, of which it is a part.

Time fails me to dwell upon the usual course of chronic generative changes occurring in the heart wall. When ty metamorphosis—the most important of these—is once tablished, it usually tends to increase owing to the persist-ce of its cause.

Similarly no prolonged consideration can be devoted to the ognosis of hypertrophy and of dilatation. Their fate is und up with that of their cause. As this is usually per-tent and often progressive, the secondary cardiac enlarge-nt is correspondingly permanent, and frequently tends to crease. The greater the hypertrophy in proportion to the atation, the better will the difficulty be overcome; but only ile the nutrition of the heart remains good. If the time mes that degeneration begins in the hypertrophied wall, e balance between work and power is disturbed, never to be tored. This is commonly illustrated in the late history of ronic Bright's disease. When renal inflammation becomes ablished in a patient whose nutrition is good, the in-eased vascular tension is met by hypertrophy of the left ntricle. The balance is thus so well maintained, that the art carries on with ease the greater work of the circulation. t let the patient pass on to the time when the nutrition of e hypertrophied wall tends to fail, the strength of the heart diminished while the calls upon it remain, and the sym-oms of cardiac distress arise.

The liability to sudden death is an aspect of prognosis of at practical importance. In the minds of the laity, eart disease" of every kind carries with it this awe-inspir-g risk; and to inform a patient that his heart is not sound o condemn him to a life of miserable uncertainty. The ysician, however, knows that this danger attaches chiefly to tain forms of cardiac affection; it is, therefore, his duty to ieve the patient of the dread of this accident in any case ere it is not likely to happen. Sudden death may occur in tain forms of chronic valvular disease; in dilatation; ere degenerative changes exist; and from rupture of the art or of an aneurysm of the heart.

t is well known that the valvular lesion which carries with by far the greatest risk of sudden death is aortic regurgita-n. It is said by some authorities that this accident is ble to happen even when there is comparatively little in-ficiency. Walsh[15] quotes a case in which there were olutely no symptoms of disease, and there was neither pertrophy nor dilatation of the ventricle; yet the patient pped down dead. He mentions, however, that the super-al pulses were markedly visible. In my own limited perience I have not seen the tendency to fatal syncope ess regurgitation is considerable and the ventricle is respondingly enlarged. It will be noted in Walsh's case, t while the ventricle is said to have been normal in size and e, the superficial pulses were markedly visible. I have er met with the well-marked pulse of aortic regurgitation ere dilatation of the ventricle was not present. And on oretical grounds it is not plain how a pulse indicating siderable regurgitation can exist while dilatation is ent, since the ventricle has to contain an increased ount of blood. Short of the existence of distinct secondary atation, I should regard a patient with aortic regurgita-n as safe from fatal syncope. On the other hand, many whom aortic regurgitation and its accompanying changes extreme, die, not suddenly, but by gradual increase of ible.

ne other valvular lesion sometimes ends abruptly; that mitral regurgitation. This does not often happen, and is not to be feared unless compensation has failed. But that it may occur, is impressed on my mind by the memory of an occasion on which I discussed with a medical brother, and with the friends of the patient, the course of life that should be followed, and death from syncope ensued within a short time of our leaving the house.

The remaining varieties of valvular disease may be regarded as practically free from the risk of sudden death. The same cannot be said of dilatation, where the weak thinned wall sometimes unexpectedly ceases work.

It is, however, the degenerations which supply the majority of the instances of sudden death. Angina pectoris is notably a malady which tends to terminate thus; and in fatal cases some change in nutrition is practically always found—usually fatty degeneration of the muscular substance, and especially affections of the coronary arteries interfering with the nutrition of the heart wall. Fatty infiltration, if excessive, may end in sudden syncope; and this is much more likely in the weak heart of fatty metamorphosis. But of all conditions, sudden death is most imminent where the degenerate heart has to face increased arterial tension. Here the type of cardiac action indicates the danger that threatens. The pulse is usually quickened; it may be irregular and intermittent, or fairly regular, and is often of good volume; but its notable feature is the high tension. The short and toneless first sound of the heart is hurriedly followed by a ringing aortic sound. This kind of action marks a ventricle that can hardly hold its own until the strain is taken off by the closure of the aortic valves; and it is plain that the patient lives on the brink of a precipice, over which a trifling extra demand upon the heart may at any time cause his fall.

The last division of prognosis—the consideration of the special features of a given case—includes many factors, such as social status, sex, temperament, and general habits, and the condition of other organs; but their influence cannot be discussed in detail.

Excepting the state of other viscera, perhaps the most important of these is position in life. If the sufferer from cardiac trouble can be placed in an environment as nearly ideal as is attainable by the lavish expenditure of care and money, his prospects differ much from those of another who has to work for his bread in the station in life which he may chance to occupy when the malady overtakes him.

This is exemplified in the case of acute endocarditis. I hold strongly that it is of the greatest importance to keep the heart as far as possible at rest for some considerable time after an attack of endocarditis. Rest is the first essential to the cure of inflammation and the removal of its products. This is so obvious in the case, for instance, of a joint that it is always recognised. And it behoves the physician to keep just as clearly in view the state of the recently-inflamed valve. When the social position of a child who has suffered from acute endocarditis will allow, it is my practice to enjoin the retention of the recumbent position for from three to six months. After this, if a murmur persists, the gentlest exercise is gradually allowed, but for several years all violent exertion is forbidden. At the same time great attention is paid to the general health. The intelligent co-operation of the friends—and so far as possible of the little patient—is needed to the success of this method. But where it has been practicable I have seen reason to be well satisfied with the result. In the case of older patients the treatment approximates to this as closely as circumstances will allow. The prognosis of endocarditis largely turns upon this one question—whether or no the heart can for some time be saved all but the irreducible minimum of work. Any trouble and pains are well expended that will lessen the prospect of valvular disease in after-life.

Contrast with this the case of the hospital patient. The child or the young adult is treated for acute rheumatism complicated by endocarditis. The fever is quickly subdued, but the affected valve has not recovered its normal condition, even if active inflammation has subsided; it still remains a thickened and softened structure, ill fitted to withstand the pressure of the blood stream. The whole future life may turn upon what the next few months will bring to this valve. And yet the exigencies of hospital work are such that the patient must be discharged when convalescent from the fever, and take his chance with a still damaged valve. He receives ex-

cellent advice when he leaves; the boy must not do as boys are wont to do, the older patient is warned against those things which are placed in his way by his lot in life. And the wise counsel is not followed; and the still softened tissues give way before the blood current, or acute endocarditis becomes chronic inflammation with its progressive increase of mischief. In heart disease there is more truth than is often the case in the saying that there is one law for the rich and another for the poor.

In conclusion, I am constrained to put forward a plea for leniency in the prognosis of heart disease. No one is exempt from the human attribute of liability to err. In the case of the physician this imperfection may be viewed in two aspects: as it affects his own reputation, which is of some moment, and in its influence upon the subject of his error. It is the latter with which I am now concerned.

The philosopher Bacon might well have had in view the prognosis of heart disease when he counselled "not to engage a man's self peremptorily in anything, though it seem not liable to accident; but ever to have a window to fly out at or a way to retire."

Instances where the unexpected has happened in heart disease must be known to all. I remember meeting with a man, 59 years of age, who was the subject of most pronounced cardiac affection. When 20 years old he was warned that his life was in danger, and at the age of 40 was condemned to die within the year. The other day I saw a young man who had a mere trace of aortic obstruction; ten years before it was said that he might die at any moment. Some twelve years ago I examined a child with marked mitral stenosis and dilated hypertrophy—such a condition as might well have led to an early catastrophe; she has grown into a well-developed young woman, who would not be suspected of the lesion which she carries. A man over 60 became the subject of symptoms such as are met with in fatty degeneration; these disappeared after a short course of tonic treatment, and for the last twelve years he has had no trouble. A lady of 84 has suffered for nearly twenty years—sometimes in a most alarming form—from all the symptoms of cardiac weakness commonly associated with fatty degeneration; and she still lives.

The wider experience becomes, the more does certainty give place to probability; and it is wise to give due weight to possibilities; and especially should this be the case in dealing with disease of the heart, which carries with it to the sufferer the thought of constantly impending trouble.

It has been my lot from time to time to meet with those who have been told without conclusive reason that some grave cardiac lesion existed. To restore hope to life, to give the patient to the full the benefit of such doubt as may attach to his condition, and of the uncertainty which attends the prediction of his future—surely this is not only justifiable, but also right. And the lightening of the depressing influence of fear and dread will of itself tend to avert the danger that may threaten.

For the imperfect and inconsequent way in which this lecture has been placed before you, I crave your indulgence. I have touched the borders only of a subject whose importance deserves far abler treatment than it is mine to bestow.

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We are requested by Mr. W. E. Miller, dispenser, St. Pancras (47, Clarendon Square, N.W.), to state that a meeting, at which all public dispensers are invited to be present, will be held at Trinity Schools, Gray's Inn Road, Holborn, E.C., on Tuesday, November 9th, at 7.30 P.M. It will be proposed to form an association to further the interests of dispensers and improve their position.

Edinburgh is threatened with a considerable epidemic of scarlet fever. The figures for the last four weeks are 87, 88, 133, and 95 notifications. There are over 400 cases in the City Hospital. Happily the cases are mostly of a simple kind, and the deaths have thus far been few. There have been two or three cases of well-marked relapse.

AN ADDRESS
ON
THE ARMY MEDICAL SERVICE.

Delivered to the Students at the Opening of the Schools of the Royal College of Surgeons in Ireland, November 1st, 1897.

By Sir WILLIAM THOMSON, F.R.C.S.I.,
President of the College.

[After some words of welcome addressed to the students, congratulating them on their choice of a school, Sir William Thomson turned to the main topic of his address]:

I think I may assume that all of you have already begun to think of what you will do when you have passed your final examination. Some of you will probably pass into the struggle of civil practice with its great possibilities and great uncertainties. Some of you look forward to the public services which have the advantage, at all events, of security of income, with a fair share of honours. You cannot, therefore, fail to be interested in the agitation, which seems to arise with almost rhythmical regularity, concerning the Army Medical Service. You are, of course, aware that at the examinations held in August last, candidates to fill 36 places were advertised for, and that only 22 presented themselves, and that in February last there were 35 vacancies and only 28 candidates, of whom but 13 qualified to enter the service. In the two preceding competitions practically the same state of things existed. The result is that at the present moment there are over 80 places vacant, places which cannot be filled. That is a very startling fact, because in some respects the Army Medical Service offers a splendid career to a young surgeon. It has its risks, of course, but a man who enters it must accept them, and we know that they have not in former times prevented some of the best of our licentiates from joining. In a monetary sense it far exceeds the combatant branches. In addition to better pay, it is possible for a man to leave the service after twenty years with a pension of £1 a day, and so on in proportion to time. Compared with the ordinary results in civil life, this is a very exceptional position; and therefore the dissatisfaction which has led up to this abstention of candidates must be of a serious character. Several Commissions have sat to take evidence as to these grievances, and warrant after warrant has been issued yielding certain claims. But a number still remain unsatisfied. I do not propose to occupy your attention with these in detail, but I shall shortly refer to one or two that stand pre-eminent.

The primary grievance is a question of rank, and here we find the views of the combatants and the surgeons directly at variance. The medical officers declare that, although they are styled surgeon-captains and surgeon-majors, and so on, these titles give them no real rank whatever in their relation to other officers and men of the army, and that they are constantly subjected to humiliations which make their position unbearable. The rank is a departmental rank; that is, they are surgeon-captains within their own department, and it is alleged that the other officers make this difference felt in such a way that the example set is followed by the rank and file. Indeed, at the Camperdown Commission of 1890 one very distinguished general officer said he addressed the head of the Army Medical Department as "W. MacKinnon, Esq. C.M., Director-General Army Medical Staff," although the title to which that gentleman was entitled was "Surgeon General MacKinnon," and he was marked in the *Army List* as "ranking as Major-General."

Now it may be supposed that the army surgeons have only to do with the sick in hospital and the wounded on the field. But they have actually military duties to perform. They have under their direction a body known as the Medical Staff Corps, which is composed of bearers and male nurses, and generally of men who aid in rescuing the wounded and carrying all the equipment of hospitals on the field. These men are drilled by medical officers and marched into action by medical officers. The position of civilian Mr. John Smith Surgeon, then, in command of a disciplined and armed bearer company, would thus be rather an anomalous one.

The case on the opposite side is that medical men in the army have only rank in their own department, and that to

e them substantive or real rank in the army or to call m after the form of "Captain Smith, Surgeon," would be place them in a ridiculous position. It has even been unely alleged that if this plan were adopted a case might ur in which a medical officer would take the command of combatants in the event of the officers above him being abled. As a matter of fact such a thing has happened en all the combatant officers were wounded; and you will glad to hear that the surgeon—an Irishman and a Fellow his College—led his men to victory and was promoted for But no one has ever made such an absurd claim as that combatant command. Moreover, in other corps, officers o are given rank have what is called limited comnd, that is, only over the men in the special body which they belong. Therefore, there is no force whatr in the objection to which I allude, and it appears have been made without knowledge of the laws of the ser-e. But we have examples in other countries of how the tem works. If we take Switzerland, we find a citizen ıy which is turned out every year for a month's training. s put on war footing to carry out the manœuvres. I am ured that there are many things in that army which we ght copy with advantage; but there we find the private ctitioner summoned to his duty as a military surgeon. at once becomes captain or colonel, as the case may be, after his labours are over he reverts to his old position assumes his civilian title once more. His distinguishing k on the field is the Geneva cross on his arm, and no thinks of his being mistaken for a combatant.

ut it may be further stated on behalf of the army surgeons t they are the only officers who are denied the simple e of their rank. The Captain of Engineers is not called gineer-Captain but Captain, Royal Engineers; nor do we r of Paymaster-Colonels or Army-Service-Corps-Major. officers of the Army Service Corps are now majors, capıs, lieutenants, and the same titles are extended to the Department and to some army schoolmasters. There no prefixes to dilute the rank.

s to the Pay Department, the answer is made that the ers have already attained rank as combatants. That I ıit, but I reply that they have resigned their positions as ıbatants and can never go back. They have passed into a ıch which is purely civil; they certainly have not to disrge their duties under fire, but still they continue not only old these titles, but to pass on step by step until they re-e the title of colonel. It is true, also, that some of these honorary only, but they have a distinct social significance, they serve to show that there is a liberality in the exten-ı of these advantages to other departments which is re-d in the case of the Medical Department.

et me say at once that I am trying to bring before you .e points in the case made by the medical officers. I see ain difficulties in the way, but then I must remember ; we are looking at the whole matter from a standpoint ıide the army. We cannot understand the thousand and matters which cause friction as do the men who spend r lives in the service. All we can say is that more than e-fourths of the medical officers claim army instead of ırtmental rank, that they are in the best position to judge ıe importance of this concession, and that the solutions of difficulty which they propose are based upon experience.

second claim which is made is that the whole of the ical service should be converted into a Royal corps. The ngement which at present exists is a curious one. The geons form a body which is called officially the Army ical Staff. All the men who constitute the bearer comies, and male nurses, and who are concerned in general ıital work, whether in the field or at station, are called Medical Staff Corps. In other words, the officers are in group and the men are in another, and they do not even r the same uniform. If this plan were carried out throughthe army we should have an extraordinary condition of gs, for the combatant officers would be nominally ırated from the soldiers whom they had to command in ın.

ıe necessity of having the whole medical apparatus—if I so call it—of the army formed into one body is obvious. hese days the succour of the wounded is one of the most ortant obligations which attach to the general conducting a campaign. Organisation and a perfect technique are indispensable if the maimed are to be rescued quickly and successfully treated. The men who have to do this work should be under the sole direction of officers whose training fits them for that position.

For really efficient work it is essential that these two bodies should be formed into what is known as a unit. In this way the men know their officers, and the officers their men. In a united corps the surgeons would soon judge the quality of their subordinates, their proficiency, how far they could be relied upon in difficulty; and all the advantages which arise from the daily contact of commander and men would accrue.

If such a body existed it would be possible to improve the internal defects which now exist in the medical department itself, and to place it on a higher level of efficiency by a system of continued professional education. But at present the officers and the men are in two separate groups. They are moved about independently of each other, and when an emergency arises so many medical items are suddenly thrown together to settle down as best they may. It is very much as if in the case of a battery of artillery a number of officers, gunners, and drivers who had never met before were sent to take charge of guns that they have never fired, and horses they had never ridden, and were bundled into action at once. If this strange separation is good, why does it not prevail in the Royal Engineers or other departments? But it would be destructive of that pride which every soldier feels in the branch to which he belongs. The medical officer, then, naturally anxious that his department should be kept at the highest standard of efficiency, asks to have the present system of dual bodies abolished, and by the creation of a Royal Medical Corps to establish that cohesion and *esprit* which unity alone will give.

There are other matters of perhaps smaller importance which I will not discuss, but in their aggregate they have served to create a discontent among army medical officers which has culminated in the present condition. I know that the combatant branches of the army declare that they wish to have good surgeons, and that they would be glad to remove any causes of complaint. But they are unanimous on the question of rank, and they will not yield upon that point. I have said already that we are only outsiders, but I think we are able to say from what we see that that demand is crucial. Whatever is done, the rank which is given to the medical officers must not be a mere departmental name, but a real rank which will secure them from the petty indignities to which their position subjects them. The present rank means nothing, and the medical officers have learned to understand that they are only civilians in the eye of the army.

Nothing, I think, could have been more unfortunate than the application of this term. It has been made free use of and it has served to establish many in their hostility to the medical officers. But are they civilians? They hold commissions in Her Majesty's army, they wear a uniform, and carry arms, and in an army they are placed in charge of the thousands of armed men and the transport which go to make up a hospital train. In action they are with the fighting line. Of necessity they are where the fire is heaviest, for their duty is to relieve the wounded on the spot where they fall, and for this reason you will realise why it is that the death-rate of the army medical men is nearly twice as great as that of the combatant officers.

I looked into the *Army List* the other day, and I found that nearly 20 surgeons who are actually serving or are alive and retired have won the Victoria Cross. And I noted also that they are called "military recipients" of this splendid reward "for valour" in battle. If they are "military" they are not "civilian." I press my argument further by pointing out that no civilian can win the decoration. The Victoria Cross warrant expressly declares that the Cross is for the naval and military services only, and that no "other circumstances or conditions whatsoever save the merit of conspicuous bravery shall be held to establish a sufficient claim to the honour." What, then, becomes of the allegation that army medical officers are only civilians? They are not only in the army, but they are of the army. Every circumstance of their official lives proves it, and there will be no contentment until that fact is established by warrant beyond all cavil.

I have brought these matters before you so that you may understand some of the reasons of the outcry which is raised against the Army Medical Service. Even with these drawbacks many will find it their interest to go forward for appointments. I by no means blame them. The competition of life is very keen, and I do not advise anyone to hold back. Perhaps I shall be condemned for this statement, but who, I ask, will provide an equally secure position for the young men who follow the counsels of another kind? I know of none; and it seems to be asking too much of our students to stand back, and thereby perhaps sacrifice a life's career. Each knows his own necessities and desires. We will do all in our power, as we have done, to help forward army medical reforms, but we must not speak hardly of those who, in spite of disadvantages, seek entrance into the service. At the same time the authorities must know that many brilliant men are looking elsewhere for a career, and that it depends upon an enlightened policy whether the medical department of the army will be again largely recruited from among the most promising of our young surgeons.

THE ACTION OF THYROID EXTRACT ON THE SKIN AS ILLUSTRATED IN CASES OF ICHTHYOSIS.

By WM. WALTON DON, M.D.,
West Hampstead.

The following cases illustrate the general action of thyroid extract on cutaneous surfaces, and, at the same time, show its special remedial effects in ichthyotic conditions.

In chronic skin diseases in which the extract has been given with good effect the question is still open whether its use can be approved of as a routine treatment, for it still remains to be demonstrated whether the continued use of the remedy in such diseases would not ultimately prove injurious to the general health. The rapid pulse which the internal administration of thyroid extract always induces must, I think, in the end prove hurtful to the cardiac function, and therefore its too prolonged use is probably to be deprecated. Its remedial effect in skin diseases appears to result from increasing the cutaneous vascularity, thereby stimulating dermal nutrition, and also through diaphoresis getting rid of effete material. Certainly this action on the skin is always assisted by external stimulant applications, such as baths and inunctions.

The action of thyroid extract in ichthyosis seems to be so beneficial that if any constitutional treatment in that disease is attempted it should be given a fair trial. It does not seem to have been much employed in ichthyosis, which is the more remarkable when its peculiar action on the skin is considered.

In both of my cases the results were temporarily excellent, but on leaving off the remedy the diseased condition of the skin showed liability to return.

I have found in administering the extract to patients that they display tolerance of a considerably greater dose after its administration has been continued for some time, and in this fact apparently lies the best chance of successful treatment, because with a continued limited dose only a certain point is reached beyond which no visible improvement apparently results, but on increasing the dose (provided the patient can bear it) improvement, if it is going to take place at all, very shortly appears.

The form in which I have given the remedy was Messrs. Burroughs and Wellcome's 5-grain tabloids, commencing with one tabloid, and after three or four days increasing to three or five daily, according to the effect on the patient. At the same time I gave a cardiac tonic containing nux vomica and digitalis at the commencement of the treatment.

The following notes taken during the treatment of two cases of ichthyosis show in a general way their progress:

G. T., a boy, aged 12 years, had suffered from scaliness of the skin since birth. There was a hereditary history—grandfather had suffered similarly all his life; while a maternal uncle was very rough skinned, and subject to cutaneous fissures. The areas most affected were the back of the armpits, flanks, hips, thighs, and shins; but on the body the skin was also scaly, bran-like, and easily brushed off; on the shins and outside calf of leg, the fissures in the skin formed diamond-shaped patches, from 1 inch to 1½ inch in size. Face ruddy, covered with light fine scales—like the peeling in scarlet fever. His condition was much aggravated in winter, when cold winds prevailed. At times large patches of epidermis were shed. In spite of washing, the parts affected very quickly became dirty again, and could not be properly cleaned till the epidermis was detached; curiously, he was said to perspire freely—mostly about the head and face. There were very few nutmeg-grater areas, only those on the back and posterior parts of the armpits.

September 12th. Pulse 96; temperature 98.6°. Commenced taking two tabloids (= 10 gr. ext.) a day.

September 15th. Pulse 104; temperature normal, but complained of a hot feeling of the skin. To take three tabloids a day (= 15 gr. ext.)

September 19th. Pulse 100; vomited twice on the 17th; temperature 99.8°. Tight feeling, and aching over the eyes.

September 26th. Pulse 140; temperature in axilla and mouth 98°. Felt very well, and no excessive sweating. but skin very hot and red looking in places.

October 3rd. Pulse 96; temperature 99.4°. Vomited on September 29th and on October 1st and 2nd had considerable diarrhœa and nausea (a fortnight after commencement of treatment).

October 10th. Feeling well. Pulse 122; no sweating; condition of skin slightly improved. To take four tabloids a day (= 20 gr. ext.).

October 14th. Pulse 120; no unpleasant symptoms. To take five tabloids a day (= 25 gr. ext).

October 17th. Pulse 125; much sweating; appetite very good; and condition of the skin improving.

October 24th. Pulse 122; sweating abated.

October 30th. Pulse 120; sweating again great, but skin rapidly improving.

November 7th. Pulse 120; less sweating, skin smooth on face, arms, and neck, from which the scales can be easily brushed off. Ordered sponging with glycerine and water (1 in 20) to remove scales,

November 14th. Pulse 133. Every portion of previously affected skin now smooth, soft, and supple; but those areas originally most affected present a transparent reddish-blue appearance.

November 21st. Left off the treatment during the past week; scurfy condition slightly returned.

November 28th. Pulse 126. Taking three tabloids (=15 grs. ext.) a day for past week: the slight scurfiness now gone.

December 5th. Pulse 120; skin quite clear and healthy; no unusual sweating. Treatment discontinued.

December 20th. Pulse 90; skin normal, except on forearms, where it is somewhat coarse-looking.

F. L., girl, aged 4 years. The disease of the skin had existed since she was 9 months old; was worse in cold and better in warm weather. exposed areas most affected; a well-nourished and rosy-cheeked child. first saw her on June 1st, when recovering from measles. The face was covered with small, fine scales; back and upper arms very rough—like an aggravated "goose skin." The disease worst on shins and knees, the skin over these surfaces covered with patches of greenish-grey detachable scales; between these areas deep cracks ran, nearly at right angles, giving a diamond-shaped appearance. The measles had greatly aggravated the skin disease; although at times previously it had been as bad. Had been treated with glycerine inunction, with slight temporary improvement.

On July 1st the legs were better, with fewer flakes; but the outer surface of the upper arms, back, and thighs felt nutmeg-grater-like, while the shins had an appearance as of chronic dry eczema. Unfortunately, no photograph was taken of the condition of the skin at this period. Pulse 100.

July 3rd. Began treatment; to commence with 2½ gr. thyroid extract increasing to 5 gr. on the 4th, 10 gr. on 5th, and 15 gr. on July 6th.

July 20th. Had continued with 15 gr. daily till July 13th, and then ceased. To recommence remedy.

July 31st. Pulse 130. Arms now greatly improved; the nutmeg-grater touch less, and the small papules thereof could be rubbed off with the finger; fissures on the legs less. The child irritable and sweating greatly but with good strength. Urine passed in excess.

August 8th. Taken 5 gr. thrice daily since July 20th; although weather colder, general condition much improved; shins show marked improvement; skin on the back and thighs now soft and supple; the face, however, retaining a dry eczematous condition, similar to that often seen in fair-skinned young children; not sweating so much. Glycerine, an ounce, to be added to a small bath, given twice weekly, and the scurf to be removed as much as possible.

August 25th. Very rapid improvement during the last fortnight; skin over shins, back, arms, and thighs nearly normal, but on face still dry and eczematous-looking.

September 1st. Skin quite healthy; treatment discontinued; patient going to the country.

January 4th, 1897. Patient again under observation; the ichthyotic condition has returned, though not so bad as before treatment.

From the various cases in which I have given thyroid extract, and from a careful scrutiny of the bibliography of the subject, I have come to the following conclusions regarding its action on the skin.

There is no doubt it is strongly stimulating by directly increasing the cutaneous circulation, as evidenced in sensations of flushing, hot tingling, and congestive irritation, such as is felt preceding ordinary perspiration.

The increased cutaneous vascular supply apparently results in: (1) Increased nutrition of the skin, hence its probable remedial action in ichthyotic conditions, an effect produced without any necessarily abnormal perspiration; (2) increased action of the cutaneous glands, accelerating excretion of waste products, thus keeping the surface in a supple condition; (3) regrowth of hair, as shown in myxœdema and some cases of general alopecia; (4) increased activity of the epi-

ermal layers, causing desquamation of unhealthy epidermis id reproduction of a new covering, as observed in ichthyosis, oriasis, dry chronic eczema, and also in some cases of yxœdema and cretinism.

Among its general effects I have found that in doses of gr. daily it causes a pulse-rate of 120 to 140 per minute, hich in different subjects may be either of high or low nsion. But thyroid extract seems also to rapidly exhaust tent cardiac energy, for if the dose be unduly increased, or the patient is not fully accustomed to it, then the heart soon es, and the pulse, although still quick, is weakened so as induce irritability, depression, and tendency to syncope. is difficult to say whether increased excretory action be due direct irritation of the secreting glands or from general inreased blood pressure; possibly it arises from both.

In neither of the above cases did the temperature rise high; ere was indeed a slight rise at the commencement of the eatment, but none in its later stages, although the remedy as given in larger doses, a result probably due to increased etabolism of the tissues, *plus* insufficient surface cooling, om the skin not acting in a normal manner, for when the in became healthier there was no appreciable thermoetric rise.

The action of thyroid extract on the nervous system in most my cases has been depressing, patients complaining of feelg debilitated and low; but in a case of myxœdema in which ised it its action was the very opposite.

In the above cases the results are, I think, sufficiently enuraging to warrant a more extensive trial in ichthyosis, hich has hitherto proved so intractable to treatment.

SKIN ERUPTIONS AND INFECTED WOUNDS.

By DAVID WALSH, M.D.Edin.,
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e short article by Dr. Stopford Taylor in the British edical Journal for September 25th, 1897, calls attention to oint of importance not only in dermatology but also in neral medicine. Briefly put, he presents a number of es of dermatitis of varying type associated with septic lammatory conditions of the skin, either of traumatic or n-traumatic origin. Such rashes, in his opinion, arise m the absorption of some morbific matter into the culation. As that view tallies exactly with conclusions blished some years since by the present writer, a few nments may perhaps have a suggestive or epexegetical ue.

First of all there is of course the possible fallacy that the matitis may result from direct extension and surface culation of virus from the primary skin lesion. However, find a large number of severe symptomatic rashes, such those resulting from drugs and exanthems, where no such ernal inoculation could take place, and which therefore r a strong analogy to Dr. Taylor's assumed absorption of tic matter. How the irritant is to affect the skin after its ry into the blood is not discussed by the observer in ques-n. The present writer's theory is that the dermatitis ults from direct inflammation of the skin by the excretion a bloodborne irritant. A similar explanation would ount for the skin phenomena met with in connection with tain drugs, exanthems, and various septic invasions. reover it would have a bearing upon the constantly accomying injury to other organs of elimination as the bronchi, estines, and kidneys.

Dr. Taylor mentions a case previously described by him[1] f dermatitis of the eczema type beginning in a septic axilwound, which ran an acute course, and was attended by versal exfoliation." His attention has doubtless been wn to the curious skin eruption in a steer, described by Eddowes[2] at the Dermatological Society of Great Britain Ireland. The beast had a septic operation wound, and attacked by a severe desquamative dermatitis of the ite parts of his body, while, curiously enough, the red were affected. A white star on the forehead was not involved, ct that Dr. Eddowes thought due to its not being licked the animal. At the same time he compared the case with ill's epidemic dermatitis. Of the latter disease, which ents a most important series of problems to the dermatologist, the present writer has spoken as "an epidemic dermatitis where the desquamative lesion has all the appearance of resulting from the cutaneous excretion of an intensely irritant product of obscure origin."[3]

At the end of his article Dr. Taylor asks[4]: "Do not the foregoing cases suggest to us that many skin affections which have been attributed to vasomotor disturbance and reflex irritation are due to the absorption of micro-organisms or their products either by the skin or alimentary tract?" The same question was asked by the present writer in 1890 at the Birmingham meeting of the British Medical Association in a paper entitled, Dermatitis as an Excretionary Symptom.[5] A comparison was then made between various rashes where the common feature was an inflamed skin and the presence of some bloodborne irritant, whether drug or specific virus. Whether or not the true etiology of symptomatic dermatitis may be ultimately found in excretory irritation, it is not a little curious that none of the existing theories are capable of explaining such every-day phenomena. So far as the present writer has been able to test his general conclusion by particular applications, it seems to afford a simple explanation to such varied rashes as those associated with scarlet fever and the rest of the exanthems, antitoxin and tuberculin injection, arsenic, iodine and a host of other drugs, gout, rheumatism, and with septic conditions of the body, local and general. In all these instances there is a marked tendency to vicarious inflammation of eliminating organs other than the skin, a disturbance which it is suggested may have been caused by the passage of an internal irritant through the essential cells of the excretory organs.

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NOTES ON FIFTEEN CASES OF INTUSSUSCEPTION.

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In the 15 cases of intussusception that I now put on record, 8 recovered and 7 died. In 3 cases the intussusception was reduced by injection of oil without operation. In this series, then, there were 12 laparotomies, with 5 recoveries. In one of the cases that recovered, 4 inches of the small intestine was resected, and this in a child under 12 months. I have previously reported 7 laparotomies with 4 recoveries. Taking the operations in the two series of cases togother, then, the figures are 19 cases, 9 recoveries, 10 deaths. The cases are given in the order in which they occurred.

Case I.—E. G., aged 6 months, admitted to the Children's Hospital July 19th, 1895. History: Thirty hours ago screamed and turned pale. Passed blood eight hours later. Vomited several times. Under chloroform a tumour felt on the right side of the abdomen. Warm olive oil was injected, and the mass disappeared. In a few hours the child passed three motions; no vomiting. Child was discharged the next day, as it was not weaned, but it was kept under observation for several days, and remained quite well.

Case II.—K. R., aged 5 months, admitted to the Children's Hospital October 9th, 1895. Child ill seventy two hours. Attack began with screaming. Then vomiting, and soon after passage of blood. The child has been constantly vomiting and straining since, and passing blood and slime. On admission mass could be felt in rectum. The abdomen was opened in the middle line, and as it was impossible without undue violence to reduce the intussusception (which was cæcum into colon) completely, the mass was resected and the ileum was sutured to ascending colon. The child died soon after the operation (which only lasted thirty minutes) was completed.

Case III.—O. W., aged 1½ year, admitted to the Children's Hospital October 17th, 1895. Ill five days; constant vomiting; no motion for five days. On the second day of illness some slime and blood were passed once, but not again till to-day. On opening the abdomen intussusception was found to be a double one, ileum into ileum, and then this into the cæcum. In reducing these intussusceptions the ileum was torn. The damaged part, about 6 inches of ileum, was therefore resected, and the cut ends of the bowel united with a double row of catgut sutures. The child only lived one hour after the operation was completed.

Case IV.—E. C., aged 5 months, admitted to the Children's Hospital on July 30th, 1896. Began to scream two days ago, and soon vomited and passed a motion consisting chiefly of blood and slime. Under chloroform cylindrical tumour, extending boomerang-like, in region of hepatic

flexure of colon. Warm olive oil was injected, and the tumour was reduced partly by the oil, partly by manipulation. October 31st: The child seems quite well; has had several motions, no vomiting; discharged cured.

CASE V.—H. H., aged 13 months, admitted to the Children's Hospital September 6th, 1896, at 4 P.M. Child still at the breast. While sitting on the chair just before breakfast eight hours ago the child began to scream, which lasted for a long time. He vomited, and five hours afterwards he passed blood and slime. On admission pulse 160, temperature 100.2°, vomiting constantly. Under chloroform a mass can be felt in region of ascending and transverse colon. After an injection of olive oil the mass had left transverse, but could still be felt in ascending, colon. Abdomen opened in middle line. The intussusception was found to be ileum into cæcum, and was easily reduced. The abdomen was closed and not drained. The child was very ill for three days after the operation, with high temperature and quick pulse, but ultimately made a good recovery, and was discharged cured.

CASE VI.—L. T., aged 5 months, admitted to the Children's Hospital September 25th, 1896. Ill three days. The child seemed dull, and then vomited. Was given castor oil, and then in six hours it passed some blood. It has been vomiting ever since, and passing blood and slime. After two days it was taken to a doctor, who prescribed medicine, which the child vomited. Child seems in pain, and draws its legs up. The child was pale on admission, looks very ill; pulse 144. *Per rectum* a cylindrical body can be felt with tip of finger. A sausage-shaped tumour was felt in left iliac and lumbar regions. Abdomen open in middle line. Intussusception, which was cæcum into colon, was reduced with great difficulty, and the serous coat was torn in several places. The child died twelve hours after the operation, in spite of injections of strychnine and digitalin.

CASE VII.—P. McD., aged 11 months, was seen for the first time by Dr. Wood, of Ashfield, September 19th, 1896, at 9.30 P.M. I am indebted to Dr. Wood for the following history and notes: "September 19th. The child was being played with by its parents in bed this morning when it suddenly screamed and then seemed to be faint. In about ten minutes it rallied. Soon afterwards it had a motion and vomited, and has vomited a good deal during the day, and has had three small motions all tinged with blood. No swelling could be felt, abdomen not tender. An enema was administered, which was shortly afterwards returned, fæcal stained. Warned parents that there might be obstruction and probably intussusception. Sunday, September 20th: Seen twice; both times enemata given; bowels open twice; motion slightly bloodstained; vomiting nearly all day; temperature 100°, pulse 90 Monday, September 21st: Abdomen rather tympanitic; vomiting, bowels acted three times, slightly bloodstained; pulse 92, temperature 100°. Tuesday, September 22nd: Vomiting ceased; abdomen somewhat distended. Wednesday, September 23rd: Vomiting slight; two bloody discharges from bowels; abdomen more distended; temperature 99 6°, pulse 94. Thursday, September 24th: Two enemata; after second one a small quantity of fæcal material came with flatus; this seemed to give relief to child; abdomen less distended; temperature 99 6°, pulse 96. Friday, September 25th: Child not so well; abdomen more distended; nothing to be felt; two discharges of brightish blood from bowels; temperature 99.8°, pulse 100. Saturday, September 26th: More tympanites; more general distress; bowels not moved; no flatus passed for last twenty-four hours. Sunday, September 27th: Abdomen very distended. Parents agreed to a consultation with a view to an operation."

I saw the child for the first time on the evening of this the eighth day of the trouble. Was a good colour and did not look very ill. It had not vomited much during the day. Its abdomen was a good deal distended, therefore I did not expect to be able to make out anything by palpation without an anæsthetic. Its pulse and temperature were under 100. Under the circumstances I did not think we should be risking much to postpone the operation for twelve hours, when we could get everything properly prepared for a laparotomy. Monday, September 28th, 8 A.M.: The child slept well, has not vomited much.

Dr. Coutie gave the anæsthetic, and I was assisted by Dr. Wood. Under the anæsthetic I could feel a tumour on the right side of the abdomen. I opened the abdomen in the middle line, and found that the tumour was an intussusception of the ileum into the cæcum. The small intestines were much distended, and could not be kept in the abdomen. The intussusception was not easily reduced, and as it was unfolding I could hear and feel that the bowel was tearing. After the reduction was completed I found that a portion of the ileum near the cæcum was torn in several places. So much so, and so irregularly, that I felt it would be useless to attempt to mend it by sutures. I therefore decided to resect the damaged portion of the ileum. I used drainage tubing held by pressure forceps as clamps, and removed about four inches of the ileum. The cut ends were brought together by means of a double row of fine catgut continuous sutures, starting each time from the mesentery. The ends of the one suturing the mucous membrane were turned in. No button or bobbin was used because I did not have one with me. When the joining together was completed the gut was much narrowed at that spot. Before the intestines were returned they were washed with 1 in 2,000 perchloride of mercury. As the intestines were so much distended with gas there was some trouble in returning them to the abdomen, and a good deal of strain was necessarily put upon the sutured ileum. The abdomen was closed in the usual way, a drain of iodoform gauze being left just inside the abdomen. The child was very collapsed at the completion of the operation. It was given strychnine hypodermically, and brandy into the bowel. Strychnine was continued at intervals during the day, and it was fed by nutrient enemata; brandy by mouth. Dr. Wood's notes now say: "September 30th. Some black offensive material was passed by the bowel at 1.30 to-day. After this there was a slow but steady improvement, and the child was well in fourteen days. As regards drugs, no opium was used in this case throughout, either before or after the operation. This child since that time has had a desperate attack of gastro-enteritis, and was reduced to a skeleton, but has now quite recovered."

CASE VIII.—A. B., aged 8 months, admitted to the Prince Alfred Hospital, October 31st, 1896. Ill ten days. Began to vomit two days ago. Has passed no motion but blood and slime. This evening vomit has been of fæcal character. Abdomen distended. No definite tumour to be made out. Under chloroform, abdomen opened and an intussusception of ileum into ileum was found. Intussusception was very dark, and h lost its lustre. It was reduced after some trouble, and there was so difficulty in returning the intestines to the abdominal cavity. The ch never rallied and died in six hours.

CASE IX.—V. R., aged 15 months, admitted to the Children's Hospi November 5th, 1896. Was taken ill suddenly seven hours ago, and seen to be in a great deal of pain. In two hours it started vomiting, and t hours after that it passed blood. Under chloroform a tumour could felt in right hypochondrium. Warm olive oil enema was given and mass disappeared. November 6th: Has not vomited since the injecti Passed a good night, and seems very well. Has had five motions. Fi four contained a little blood. Discharged cured.

CASE X.—G. C., aged 5 months, admitted to the Children's Hospi November 9th, 1896. *History.*—Always constipated, had a motion fifty-f hours ago, and then was suddenly seized with pain and screamed. motion since, but has passed blood and vomited several times. On mission condition fair, pulse somewhat rapid, temperature 100°. H had a large loose motion consisting of fine curds, fæcal matter, muc and some specks of blood. Under chloroform sausage-shaped mass in right lumbar and hypochondriac regions. Olive oil injected; tumour did not disappear abdomen was opened in the middle line. T intussusception was cæcum into colon, it was reduced with great d culty and the bowel was torn. The tear was closed with Lembert's sutu The child never got over the shock of the operation, and died in th hours.

CASE XI.—R. W., aged 10 years, admitted to the Prince Alfred Hospi January 17th, 1897. He was put in one of the medical wards. Ill th days. Patient states that he was pulling a cart when he suddenly felt acute pain in his abdomen. Since then there has been spasmodic atta of pain coming on at intervals of thirty minutes. Has vomited. examination a small elastic tumour can be seen and felt on the ri side on the level of the umbilicus. January 19th: Pains gone, no tend ness, bowels opened by enema. January 20th: Vomited several times night and to-day: bowels not open. An elongated tumour can be felt tending transversely across the abdomen immediately below umbilic Suffers from attacks of pain. The abdomen was opened at 4 P.M. A sm and easily-reducible intussusception was found, consisting of cæcum i colon. The wall was thickened and hard, and tended to reinvagin after reduction of the intussusception. The portion at which the inva nation had commenced looked dark and unhealthy, and there wa dimpled patch over which some omentum was drawn and fixed with a catgut sutures. The abdomen was closed in the usual way, a Morris drain being used. The boy's condition gave rise to considerable anxi for the first three days after the operation. He had a considerable amo of pain; vomited a good deal. His pulse was very rapid, without m rise of temperature. He was fed on Mellin's food and water, and wh of egg and water: was given some digitalin hypodermically. His bow were moved on the second day by enema. After this, these unpleas symptoms gradually subsided, and the boy made a good recovery and discharged cured, February 17th.

CASE XII.—S. M., aged 15 years, admitted to Prince Alfred Hosp February 3rd, 1897. Two days ago was seized with a sudden pain on right side of the abdomen. The abdomen shows a distinct fulness o the right iliac fossa, extending across to the left below umbilicus. H also, a sausage-shaped swelling can be felt. Under anæsthetic the domen opened in the middle tine. The cæcum was found to be intuss cepted into the colon about 3 inches. Was easily reduced. The cæc was thickened, hard, and congested. The vermiform appendix was flamed, and was therefore removed in the usual way. The boy m an uninterrupted recovery, and was discharged cured on March 3rd.

CASE XIII.—R.H., aged 7 months, admitted to the Children's Hosp March 22nd, 1897. Ill thirty-six hours. Passed a motion with a great d of straining, and then only blood and slime. Began to vomit fourt hours ago. Abdominal wall tense. Tumour of ill-defined outline be felt in the lower part of the abdomen. Mass can be felt in rect Abdomen opened, and then intussusception, which was cæcum into col was reduced with difficulty. The appendix appeared gangrenous, a was removed. The serous coat of colon, which was torn in several pla was brought together with fine catgut sutures. The child died five ho after the operation.

CASE XIV.—H. P., aged 8 months, admitted to the Children's Hospi April 25th, 1897. Six hours before admission began to scream, then faint; soon afterwards passed blood and mucus. An elongated tum can be felt in the abdomen in region of transverse colon. Under chlo form olive oil was injected, this made the tumour disappear. As I w not certain that the intussusception was completely reduced I opened abdomen. About 6 inches of the ileum next the cæcum was found c gested but there was no intussusception. The abdomen was closed small gauze drain being used. 26th. Takes food well; has passed a fai normal motion; temperature 100°, pulse from 130 to 170; temperature r gradually during the day to 105°, pulse 180; erythema appeared on bo wound looks healthy; abdominal wall moves with respiration. 2 Had a convulsion and died at 4 P.M., sixty hours after the operation.

CASE XV.—S. H., aged 5 months, admitted to the Children's Hospi July 23rd, 1897, 1.30 P.M. Child perfectly well going to bed last nig awakened 3 A.M. screaming; between this time and 4 30 A.M. he contin sleepless and in pain. At this time was given castor oil. At 5 A.M. pas about two teaspoonfuls of blood. Had a fairly natural motion after th since then he has continued to pass mucus and blood; child looks eyes sunken. 3 P.M. Under chloroform a definite tumour can be felt left side of abdomen about the level of umbilicus. About half a pint warm olive oil was injected, buttocks being raised. No tumour could n be felt, so the child was now sent back to bed. 10 A.M. As no motion been passed the child was again put under chloroform but no tum could be felt. 24th. Passed a good night; has had a definite motion the bowels this morning at 10 A.M. Did not scream or appear to be pain; the motion was dark yellow, and contained traces of blood a mucus. 12 noon. Tumour again felt in left lumbar region. 3 P.M. Un ether and chloroform abdomen opened after an injection of oil had be given to partially reduce invagination. Intussusception found to cæcum into colon; reduced without difficulty; gauze drain used just side abdomen; given morphine, gr. $\frac{1}{60}$; slept fairly; morphine repea at 10 P.M. 25th. Temperature 103°, pulse 172; taking Mellin's food,

teaspoonful in 2 ounces of water every two hours. 10 P.M. Pulse and temperature gradually fell during the day. Drain, which had acted well, removed. 26th. Bowels opened twice naturally. From this time the child made an uninterrupted recovery. It was fed from the mother's breast during the day until it was discharged, cured, August 13th.

REMARKS.

These cases show that we must not give up rectal injections. In a certain number of cases the intussusception can be reduced by this means even when used a considerable time after the onset of the attack. In Case I the child had been ill 30 hours, Case IV 48 hours, and Case IX only 7 hours. I wish to emphasise this because Mr. Owen, in the current *Yearbook of Treatment*, in his very kindly notice of my previous paper, remarks "that we shall probably obtain better results if we altogether discard the treatment by rectal injections." In Case XIV I opened the abdomen after using an oil injection because I fancied I could still feel a small hard mass. As it turned out I was wrong, and should have done well to have waited, for I found that the intussusception had been completely reduced; and the child unfortunately died in 48 hours of sapræmia as the result of the abdominal section. The injections, if they are to be of any use, must be given intelligently. An anæsthetic must be given, the buttocks must be raised, and warm olive oil injected by means of an ordinary enema syringe. If the anus is held around the nozzle of the syringe, very considerable pressure can be exercised on the column of oil. Common sense must tell us how much pressure to put on and when to desist. The amount of pressure could be accurately measured by allowing the oil to run in of its own weight from a special apparatus, but this is not always at hand. After apparently reducing the intussusception by injection, be careful not to lose sight of the child for a few days even though the symptoms disappear, and it passes a natural motion. The intussusception is very liable to recur. Case IV is an example of this. I think injections of warm oil should be given in all cases after the child is under the anæsthetic, even in cases of long standing when we know that it is impossible to complete the reduction by this means. My reasons are these: It always reduces the intussusception to a certain extent, and in the best and gentlest possible way; and in this way lessens the shock of the coming operation, because it lessens the manipulation of the intestines. It is especially useful in those cases in which we find the intussusception in the rectum; because if we do not use it we may find some difficulty in getting our fingers below the tumour to begin the squeezing process. After opening the abdomen in cases of long standing, where we find that the intussusception stops moving to gentle pressure, I think it would probably be better to resect at once. One can nearly always reduce these intussusceptions if we take time and use considerable pressure; but after this prolonged manipulation, which must add enormously to the shock, we probably find when the reduction is completed that the bowel is torn so much that we have no alternative but resection, which we now have to do under the worst possible conditions. I feel sure that in these bad cases we shall get better results by resecting directly we find that force must be used. I am strongly in favour of draining in all these cases by means of a small gauze drain surrounded by a piece of gutta-percha tissue placed just within the abdominal cavity; this can generally be removed in twenty-four hours.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

A CASE OF PULMONARY CARCINOMA.

I was called to see on January 26th, 1897, a married woman, aged 49. Her illness commenced on November 5th, 1896, and she attributed it to catching cold. Her earliest symptoms consisted of shivering, shortness of breath, and a troublesome cough; about a fortnight afterwards her face and neck swelled up and became very tender; she gradually got worse, the cough becoming more troublesome and the expectoration more purulent and blood-stained.

When I first saw her she was downstairs suffering from severe dyspnœa, with cough and muco-purulent expectoration, which contained a good deal of blood mixed with it. Examination of the chest revealed dulness from the suprasternal notch for about 3 inches and a-half below and to the right, and an inch to the left; very little air entered the right apex, and there was also tubular breathing at the left base; there were also rhonchi over both lungs. The cardiac sounds were normal, as also was the temperature, and she complained of no pain.

She improved a little with rest in bed, but on February 12th phlebitis of the left subclavian vein came on; this gradually subsided under treatment, and for about six weeks she showed signs of improvement. Her appetite returned, and she got up, and even ventured downstairs, expressing herself as feeling better and stronger. The dulness at the apex remained the same, but the tubular breathing at the left base disappeared early in April.

After this she got steadily worse, the dyspnœa and cough became very spasmodic, and she suffered from pains darting up and down the spine. She died on May 20th, and shortly before her death the breathing at the right base became tubular, and both feet and legs œdematous.

The *post-mortem* examination revealed a cancerous mass as large as a cocoanut, occupying the middle and posterior mediastinum, extending along the root and into the substance of the right lung; there was also evidence of recent bronchopneumonia of the left base, but the other organs were healthy, though congested.

Enfield, N. G. GREENWOOD, M.R.C.S., L.R.C.P.

A CASE OF SEPTIC PNEUMONIA.

THE following case of undoubted septic pneumonia seems worth recording:

C. H. H., aged 71 years, had been suffering from spinal paralysis for three years, and was in very feeble health. On September 25th he had a rigor, his temperature was 103° F., and the respirations 60. The following morning the right lung was almost entirely consolidated; he was scarcely conscious, and was breathing stertorously. I removed a dental plate from the upper jaw, and a gangrenous condition of the mucous membrane of the hard palate revealed itself; the stench was horrible beyond description. There is no doubt that the poison he had been inhaling and swallowing was the cause of the pneumonia. His manservant, who had been in his service for several weeks, said he was certain that the plate had never been removed during that time. Death took place in less than three days from the beginning of the attack, the temperature reaching 108° before the end.

South Kensington. ARTHUR TROWER.

REPORTS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF LONDON.

J. F. PAYNE, M.D., President, in the Chair.

Tuesday, November 2nd, 1897.

EMPYEMA OF THE ANTRUM IN A CHILD.

MR. D'ARCY POWER recorded a case of the above, which was a condition rarely met with. The child was 8 weeks old, and came under observation with an abscess discharging below the right eye. Delivery had been effected with forceps, much bruising having resulted. When a month old the right cheek swelled, suppuration ensued, and then extensive necrosis of the upper jaw. Death took place ten days afterwards. One case of a similar nature had been recorded by Dr. Owen Rees in the *London Medical Gazette*; in this instance birth took place with the face to the pubes, and to this Rees ascribed the injury which led to the suppuration.

Mr. W. G. SPENCER had seen one example of antral empyema associated with noma; death was due to septic pneumonia.

A CASE OF ACROMEGALY WITH AN ANALYSIS OF THIRTY-FOUR RECORDED EXAMPLES.

Mr. PERCY FURNIVALL reported the case of a man, aged 58, who had complained of numbness, weakness, and trembling,

of the hands, with enlargement of feet, hands, and lower jaw. His symptoms dated from October, 1893, and he was killed about a year later in a railway accident. At the necropsy, the calvaria was found thick and heavy; the bone, porous throughout, and the air sinuses dilated. The sella Turcica was deep and wide, and the pituitary body converted into a cyst containing semifluid substance. The lower jaw was large and massive; no trace of the thymus was seen; lymphatic glands, normal; kidneys, slightly fibrotic; many of the bones—clavicle, ribs, vertebræ, radius and ulna, and those of the hands and feet—presented exaggerated outgrowths into the tendinous and aponeurotic insertions, without any signs of periostitis. The analyses of 34 cases hitherto recorded gave the following results:—Pituitary Body: In 31 this was enlarged, and as follows: hypertrophy, 5; vascular hypertrophy, 1; hypertrophy of posterior lobe and foci of colloid degeneration, 1; hypertrophy of the anterior lobe, and small cysts in the posterior, 1; colloid degeneration and hæmorrhage, 1; adenoma, 5; adenoma and cystic degeneration, 1; sarcoma, 4; spindle-celled sarcoma with psammomatous degeneration, 1; glioma, 1; glioma or sarcoma, 1; tumours not specified, 3; tumours containing fluid, 2; tumours containing pulpy material, 2; tumour like cerebal substance, 1; large round-celled tumour, 1. In 3 of the 34 cases the pituitary body was not enlarged: in 1 of these the gland was the seat of a softened adenoma; in a second there was necrosis with softening, and in the third there was atrophy of the gland follicles with fibrosis. The thyroid gland was observed in 24 of the 34 cases. It was normal in 5, hypertrophied in 11, hypertrophied with degeneration in 3, in 1 there was colloid degeneration, in 1 cystic degeneration, in 1 chalk-like deposits, in 1 atrophy, in 1 atrophy with increased formation of connective tissue. The thymus was observed in 17 cases; it was absent in 7, hypertrophied in 4, persistent in 6. The sympathetic ganglia were observed in 10 cases; they were normal in 4, hypertrophied in 5, hypertrophied and degenerate in 1. The brain was found enlarged in 2 cases; the spinal cord hypertrophied in 1 case; the spinal cord degenerated in 4 cases, in Goll's column especially in 2 cases, in Burdach's column, especially in 1. Degeneration of the peripheral nerves, was noticed in one case. Enlargement of the abdominal viscera was observed in two instances. The author, in conclusion, stated that it appeared that the pituitary body was enlarged in all cases of acromegaly. The changes in the gland differed widely, but they were always such as are commonly met with in cases of lesion of this body not clinically associated with acromegaly. The investigations into the morphology, physiology, and histology of the gland in question had as yet thrown very little light on this disease.

Dr. H. D. Rolleston exhibited a pituitary body, the seat of a round-celled sarcoma, from a woman, aged 35, who had shown signs of acromegaly for three years. She had advanced optic atrophy from the pressure of the growth on the optic nerves, headache intense at times, and transient glycosuria. The skeletal changes were characteristic. The pituitary sarcoma had invaded the right optic thalamus and the base of the skull. The sella Turcica was deeply excavated. The thymus gland was persistent, and was much in the condition found in a child before the involution changes had set in. The case belonged to the group of acute acromegaly, of which Maximillian Sternberg, in a collection of 125 cases and 47 *post-mortem* examinations, had found 6 examples, all due to true sarcoma. The duration was from three to four years.

Mr. Lawrence exhibited the pituitary body from Mr. Rickman J. Godlee's case of acromegaly, one of the first two described in this country. The gland was the size of a cherry, the anterior lobe only being involved. The change was not hypertrophic or adenomatous, nor was there any distinct tumour.

Dr. Norman Dalton referred to the case of acromegaly of which he had already recorded the clinical history in the volume of *Transactions* lately published. He had since histologically examined the various viscera which were enlarged in that case, death occurring from diabetic coma. In the intestine there was a diffuse formation of fibroid tissue in the submucosa, and epithelial catarrh; the spleen and pancreas were normal; the kidneys slightly fibrotic; in the liver there was early hypertrophy of tissue and increased vascularity; the thymus (persistent) and thyroid were of normal structure. The skin showed a hypertrophic condition of its papillæ and abnormal pigmentation. The pituitary body presented some of the appearances of sarcomatous disease consisting of abundant cells with little stroma. The author did not decide, however, whether the enlargement of the anterior lobe was not hypertrophic. Myxœdema had arisen in the course of the disease.

Dr. Smyth drew attention to a case reported lately by Dr Neal from the Wandsworth Infirmary.

Dr. Cecil Beadles exhibited the calvaria of a patient in whom the frontal sinuses were remarkably large, as seen in some example of acromegaly, though the specimen was obtained some years ago before that disease had been clinically differentiated.

The President remarked that the early stages of the disease were particularly liable to be overlooked; he had seen what was probably one such in a healthy young woman, who presented only broadening of the nails and enlargement of the terminal phalanges.

Mr. H. T. Butlin would like to know the results of microscopic investigation carried out upon the bones in acromegaly and whether the osseous changes were to be classed as inflammatory and like those of osteitis deformans which he had first examined in Sir James Paget's cases.

Hatching Bilharzia Ova.

Mr. C. G. Seligmann gave a demonstration of hatching bilharzia ova. The patient (in St. Thomas's Hospital) had contracted the disease in Mashonaland, and passed the ova both from the rectum and with the urine. The ova could be hatched in urine, but more readily in water on a warm stage. In some cases the ciliated embryo suddenly escaped through a rent in the egg capsule; in others it first became violently agitated, its cilia causing active circulation of granules present in a space between the capsule and itself. Once escaped the organism swam rapidly by means of its cilia, and also underwent amœboid alterations in form.

Calcifying Pericarditis.

Dr. James Calvert and Mr. Strangeways Pigg exhibited an instance of extensive calcification of pericardium, which contained a certain amount of pus, the suppurative pericarditis having been present for about five years, and death having occurred from acute pleurisy of independent origin.

Dr. F. Voelcker and the President referred to similar cases.

Calculus Disease of the Salivary Gland.

Mr. W. G. Spencer put on record the case of a girl 20 years of age, who suffered from obstruction of Wharton's duct and inflammation of the submaxillary salivary gland. The duct was incised, and bodies like rice grains escaped; the duct was afterwards scraped out, and later the gland was excised. On microscopic section the secondary ducts of the glands were discovered to be full of small spheroidal calculi, composed chiefly of carbonate of lime. A similar case had been recorded by Dr. Dundas Grant.

Traumatic Neuritis.

Mr. W. G. Spencer also recorded an instance in which neuritis followed a sprain of the ankle-joint received five years before amputation, which was performed on account of ulceration and necrosis of the toes, and pain which prevented the use of the limb. No other causes of peripheral neuritis could be invoked subsequently to the injury, although the latter was surgically simple.—In answer to Dr. F. E. Batten the author said that the electrical reaction of the muscles was not tested, other stains than hæmatoxylin were used, and though the nerves showed excess of fibrous tissue, etc., he had not compared them with corresponding healthy nerves in which the proportion of connective tissue presented normally considerable variations.

A general meeting of the Medico-Psychological Society will be held at 11, Chandos Street, London, W., on Wednesday, November 17th, at 4 P.M., under the presidency of Dr. T. W. McDowall. Papers will be read on Some Physical Signs in Melancholia, by Dr. W. H. B. Stoddart, and on The Osseous System in the Insane, by Mr. J. F. Briscoe.

OCIETY OF MEDICAL OFFICERS OF HEALTH.

Ed. Seaton, M.D., F.R.C.P., President, in the Chair.

Saturday, October 23rd, 1897.

Annual Meeting: Presidential Address.

. Seaton, after a graceful reference to the recent death of F. W. Barry, and of his important services, delivered his sidential address, taking for his subject the Work of the dical Societies in its Relation to Public Health. Much of t of the Pathological, Medical, and Clinical Societies, and unremunerated researches of individuals, whether under- en in a purely scientific spirit or with an immediate litarian motive, had contributed greatly to the promotion of ends which their Society more directly and exclusively had in w. But the Epidemiological Society, which occupied a ition intermediate between the strictly medical societies l their own, was above all others engaged, as its objects ted in the charter of incorporation showed, in pursuits ntical with theirs. Then there were the British Institute of eventive Medicine, the Sanitary Institute, the Institute of blic Health, the Jennerian Society, and the British Medical sociation, which, though primarily a union of medical men, l a Public Health Section in its annual congresses. The nitary Institute and one or two others embraced men of all fessions more or less interested in public health, and there s no doubt that much advantage accrued from association h architects, engineers, chemists, geologists, etc., as well from the museums and exhibitions promoted by some of se societies. Their various transactions and journals re of great value, yet those members of this Society o belonged also to the Epidemiological and the Sani- y Institute could not but feel that the multiplica- n of associations involved a loss of the power result- from union, and that, as Sir Douglas Galton had said, he interests of public health and sanitation were frittered ay over too many societies." He would therefore earnestly ge on every member of the Society of Medical Officers of alth to do his best to bring about an amalgamation of all se engaged in promoting the same cause, believing that, ce the medical element would always be the predominant e, the authority and influence on public opinion of one at society would be far greater than that which they could ercise with their present divisions; and he thought that s year, being the fiftieth anniversary of the appointment the first medical officer of health, Dr. Duncan, at Liver- ol, and the inauguration of the Public Health Service, would a fitting occasion for effecting such a union. He next re- red to a number of questions that had long engaged the ention of all really interested in the public health, as the ture of office, the qualifications of medical officers of health, l the severance of public work from private practice; the ation of sanitary inspectors to the medical officers of alth in town and country districts, their qualifications, and e constitution of the court of examiners. In this connec- n he could not pass over the able services rendered to the se of medical officers and public health administration by . Orme Dudfield. The Maidstone epidemic had shown how ferent was the sanitary examination of water supplies m the merely chemical question of the analysis of adulter- d foods, and how important was a knowledge of the rmal condition of a given water, and of the con- gent dangers to which it was exposed apart from actual ntamination. Chemical analysis, without bacteriological amination and the other considerations to which he had uded, might tend to a false sense of security; but, taken in njunction with these, it should serve as a delicate baro- ter and an indication of impending danger. But while ch catastrophes aroused public attention from their sud- nness, it ought to be known that there was in some dis- cts a constant prevalence of typhoid fever attributable to ner causes than the pollution of a certain public water sup- y, and the record and publication of the distribution of any cal excessive incidence of this and of other preventable dis- ses, as was done by the Surrey County Council, by stimu- ing preventive action, contributed in an important degree the averting of such outbreaks, and to the saving of life thout the supervention of these terrible lessons. Such a ciety as he had indicated should include all the leading iden i logists, who, without belonging to the public ser- vice, had made the subject of communicable diseases their special study, and its inauguration would, he repeated, be a fitting and worthy commemoration of the jubilee of the institution of medical officers of health.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

James Braithwaite, M.D., President, in the Chair.

Friday, October 15th, 1897.

The Treatment of Disease.

The President read a paper on: Is there any Principle, or are there any Principles, Scientific or Practical, in the Treatment of Disease?

Cases and Specimens.

Mr. Stott showed a woman who after six exposures to *x* rays of an average duration of forty minutes each, to aid in the diagnosis of spinal caries, developed severe pain, followed by the appearance of a circular ulcer 6 inches in diameter ten days after exposure. Seven months after the ulcer had lessened to 3 inches by 2 inches. This he had cured by two plastic operations.—Mr. W. H. Brown showed the following cases: 1. Paraplegia following Spinal Caries; Laminectomy. 2. Amputation through Hip-joint for Sarcoma. 3. Aneurysm of Femoral Artery after ligature of external iliac.—Dr. Trevelyan exhibited a Hand Centrifugal Machine for obtaining deposits for microscopical examination, and specimens thus obtained.—Mr. Knaggs showed specimens from two cases of Excision of Knee for Tuberculosis and Osteoarthritis.—Dr. Hillier exhibited the Secundines and Fœtus from a case of triple pregnancy.—Dr. Wardrop Griffith showed the following specimens: 1. A Large Cerebral Hæmorrhage from a patient who presented general atheroma with cardiac hypertrophy and evidence of old embolism of the kidneys. The kidneys were not granular (Dr. Barrs's patient). (2) A Communication between Hepatic Flexure of Colon and second part of Duodenum produced by malignant disease of the former; the symptoms were those of fæcal vomiting without distension and with collapse, and typhlotomy was performed (Mr. Robson's patient). (3) Malignant Disease at the Cardiac Opening of the Stomach, with secondary disease in liver (Dr. Churton's patient).—Mr. Littlewood showed a boy, aged 5, upon whom he had operated on June 12th for Acute Suppurative Arthritis of the Left Hip. An incision was made over the front of the joint and 15 ounces of pus escaped. The head of the femur and acetabulum were quite devoid of cartilage. The joint was drained and dressed with iodoform. On August 12th the incisions were opened again as the joint was not draining well. The incisions had healed and the patient could walk with an ankylosed hip. Mr. Littlewood also showed a Hydatid Cyst with its investing capsule, about the size of a goose's egg, which he had removed from the edge of the left lobe of the liver in a woman, aged 48. The cyst was adherent to the omentum and the anterior abdominal wall. Before operation it was thought to be a mass of malignant disease. The patient had made a good recovery.—Mr. E. O. Croft showed a case of recovery with movable joint after Incision of Knee for Acute Suppurative Arthritis.

Cycling Injuries.

Mr. W. H. Brown read an interesting paper on this subject, which will be published in an early number.

Iodoform in Surgical Tuberculosis.

Mr. Mayo Robson read a paper on the treatment of surgical tuberculosis, such as psoas abscess, tuberculous joints, tuberculous abscesses connected with ribs, tuberculous disease of the vesiculæ seminales, etc., which he had been treating for a number of years by iodoform injections with very satisfactory results. He described the details of the methods he employed, and he pointed out how in one class of cases—namely, tuberculous joints—operations at the Leeds Infirmary for excisions had fallen from 63 in 1891 to 33 in 1896, although a much larger number of cases had been treated. He attributed this change to the large number of cases that were now being successfully treated by iodoform injections. He dwelt on the great importance of strict asepsis in performing the operation, and remarked that, even if no good were done, no harm

could follow; but, according to his experience, benefit had accrued in nearly every case, and in many cure had resulted.

Tumour of the Cerebellum.

Dr. Churton showed a specimen of a tumour of the middle lobe of the cerebellum, and read notes of the case. In July or August, 1896, a child, 2½ years of age, a member of a delicate and tuberculous family, vomited, staggered, and in a few days became unable to walk. She soon became nearly blind, but the pupil reflexes remained. The arms were not at first affected. She was admitted into the Leeds Infirmary on May 26th, 1897. The head had enlarged recently. No hemiopia had been observed; there was no pyrexia; no disease was found in the other organs, and there was no wasting of the limbs. The child was usually very quiet, but at times fretful. There was double optic neuritis. On April 7th the right face and arm were almost icy cold; the left was of normal temperature. On April 13th the right face was flushed and hot; the left was pale and cold. Vasomotor reflexes were not distinctive. The legs were rigidly extended; at times she drew up the left thigh and bent the knee, the foot being still extended. She never drew up the right knee. Plantar reflexes were present, the right being greater than the left. There was no ankle clonus. Patellar reflexes were present. Vesical and rectal reflexes were normal; she gave no notice of either being about to act. On June 26th the fontanelles and sutures had reopened; the posterior fossa (occiput) markedly bulged towards the neck, but the frontal region was not enlarged. It thus appeared to be certain that the growth was beneath the tentorium. There was general hyperæsthesia at times, also there were frequent cries and screams as if from paroxysms of pain. Exalgine appeared to prevent these paroxysms for a few hours. On June 28th the thumbs were drawn accross the palms, the fingers were flexed, the legs were hyperextended, the knees were locked, the legs were spread out each to an angle of 25 degrees with the thigh (apparently by action of the outer hamstring muscles), and the left thigh was turned outwards by a rigid tensor fasciæ femoris. On July 9th the right lateral ventricle was tapped through the sagittal suture; 1½ oz. of clear fluid was drawn off. Tapping was repeated on July 18th and 30th, and on August 9th and 16th on return of the signs of pain. Complete relief always followed, but emaciation became very marked, and death occurred early in September. A sarcoma as large as a Tangerine orange occupied the position of the middle lobe of the cerebellum, the upper part of the lobe forming a thin roof, while the lateral lobes appeared like easily separable encysting walls for the growth. Chronic tuberculous disease was found in some of the mesenteric glands.

SHROPSHIRE AND MID-WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

Tuesday, October 12th, 1897.

W. Charnley, M.D., President, in the Chair.

Eye Pain and Eye Strain.

The President read a paper on this subject. He first divided the cases into two classes—those accompanied by signs of inflammation and severe pain, and those unaccompanied by signs of inflammation, and in which the pain was not so severe, but deserved rather the title of strain or discomfort. In the first class the various types of inflammation were briefly recounted, and their characteristics. Special stress was laid on the diagnosis of glaucoma (acute). The most important differences between it and iritis were held to lie in the state and reaction of the pupil and in the tension. The subject of eye strain was then considered. This was traced in most cases to either deficient power of accommodation, due in most cases to hypermetropia or presbyopia, or to deficiency of the internal recti. The salient features of these two types were pointed out, and the means of distinguishing them. Allusion was made to the method of graduated tenotomy, now so much in vogue in America, and a guarded approval given to it as an experiment. Myopia and astigmatism as causes of eye strain were then mentioned, and lastly the eye strain of neurasthenics. In most cases of eye strain the general health was considered to be at least a contributing cause. Anæmia was present in most cases. The most useful internal treatment was a combination of iron and ergot.

The Treatment of Sciatica.

Dr. Lloyd (Chirk) read (in the absence of Dr. Cureton), a paper on the treatment of sciatica. The paper dealt with the severer and more inveterate forms only. After passing in review the usual routine methods by drugs, injections, and baths, Dr. Cureton proceeded to recommend the forcible stretching of the sciatic nerve by a series of movements of the leg and thigh, carried out under an anæsthetic. These movements systematically carried out had, in his hands, given results quite equal to the surgical procedure of exposing the nerve and forcibly stretching it.

Puerperal Septicæmia.

Mr. Jackson read notes of a case of puerperal septicæmia treated, after one irrigation of the uterus, entirely by injections of antistreptococcic serum. The disease set in on the fifth day after delivery with severe rigors, and a temperature of 105° F. Two injections of 10 c.cm. each were given during the first 36 hours, and then other injections during the progress of the case, the last being given on the twelfth day of the disease, when the temperature had risen again to 104° F. The patient made a good recovery.

A discussion followed upon the use of this serum, in which Dr. Mackie, Dr. Gardner, and Mr. Rope took part; and Mr. Jackson replied.

Examination of Drinking Water.

Dr. Whitaker read a short paper on the examination of drinking water. The paper, which was illustrated by the exhibition of apparatus and bacteriological cultures, was a plea for more attention to the examination of drinking water by medical men. The limits of such an examination and some of the fallacies were briefly mentioned, and the paper concluded with the description of the methods by which the number and nature of the micro-organisms in a drinking water could be determined.

Cases and Specimens.

Dr. McCarthy showed some interesting clinical cases amongst which was an extensive Sarcoma of the Chest Wall and a case of Paralysis of the Intrinsic Muscles of the Hand.—Mr. MacLeod showed a case of Leucoderma, and read a few notes as to the pathology and treatment of the condition.—Dr. T. Law Webb read some notes and exhibited microscopical sections of a case of Carcinoma of the Breast which had arisen in connection with a tumour of the nipple, sections of the latter being also shown.—Mr. J. C. Padwick showed a collection of Urinary Calculi which had been removed by Mr. J. D. Harries, and read notes bearing upon some of the cases.

Dermatological Society of Great Britain and Ireland.—An ordinary meeting of this Society was held at 20 Hanover Square on October 27th, Mr. Buxton Shillitoe (in the unavoidable absence of Dr. F. Payne) in the chair.—Mr. Freeman showed the first case. The patient, a middle-aged woman, had two patches upon her forehead; the edges were slightly raised, and were encroaching very slowly indeed upon the surrounding skin. The centre of each patch was occupied by a quite superficial atrophic scar. Neither patch had ever wept, and there was practically no irritability. One patch had existed for sixteen years, and the other for twelve years. Mr. Freeman asked for a diagnosis, and the opinions given were various. An early form of rodent ulcer was suggested by Mr. Pernet. A specific origin was also suggested, or that they were simple lichenous patches.—Dr. Abraham showed in a man of about 45 years of age an interesting example of Xanthoma Diabeticorum. The individual lesions were of about the size of hemp seeds. He then showed a man above middle age suffering from Granuloma Fungoides. There were well-marked new growths over lower abdomen, and close by the left nipple. The case was originally believed to be one of seborrhœic eczema. Dr. Stowers agreed as to the diagnosis, and remarked that one seldom had the opportunity of seeing the disease in such an early stage. Mr. Pernet remarked on the longevity of the ancestors of such patients, and gave examples.—Dr. Savill showed a case of Urticaria Factitia, and also one of Drug Eruption. The urticarial wheals, both those that were persistent and those that would be mechanically produced at the time, were very exaggerated. The drug eruption was marked, and not

ited to the acne regions.—Mr. Shillitoe showed a case of ite General Dermatitis caused by a mercurial ointment.—Hope Grant showed a case of Tumour of the Hand. It mmenced as a boil a few months previously; the tumour steadily increased in size, and a scab had formed. It was dently a tuberculous growth, probably of the nature of a *-mortem* wart. The patient was a cloth worker.—Dr. raham showed (for Mr. Waren Tay) a case of Lichen ber Acuminatus.—Dr. Stowers brought forward a woman, d 24 years, for diagnosis. He believed it to be a case of e varioliformis. This was generally agreed to.—Dr. bowes showed a case of Seborrhœa Corporis in a man, d 45. He remarked on the fact of its having commenced the scalp, and then having spread downwards. He also wed a case of Lichen Planus Hypertrophicus on the legs an old man. The patient had been largely dosed with enic.—Dr. Eddowes also demonstrated by paper, photophs, and microscope, a case of Tinea Circinata caught from et hedgehog.

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ottingham Medico-Chirurgical Society.—At the meet- of this Society on October 20th, 1897, Dr. Cattle, sident, in the chair, Mr. Lockwood, F.R.C.S., Assistant geon to St. Bartholomew's Hospital, delivered an address Exploration of the Inguinal Canal, with special reference nguinal Varix, Lipoma of the Cord, and Retained Testis. drew attention to the mistake that was so frequently le between fatty tumours and hernia, and the consequent tment of the former by trusses; the presence of a fatty or er tumour in the inguinal canal prevented its valvular ure. Fatty tumours originated in this region in hyperhy of descended subperitoneal fat. The possible presence hese tumours made it desirable to open up the inguinal al in the operation for radical cure of hernia. Next with rence to varix of the spermatic veins in the inguinal al, this condition closely simulated hernia, as there was a lling which received an impulse on coughing, but which ppeared in the recumbent position. The pain associated h it was also similar in character to that of comncing hernia. In fact, without operative explora-, inguinal varix, he thought, could not in some s be diagnosed from commencing hernia. The operat consisting in removing the dilated veins, tying ve at the internal ring, and below at the external. genital hydrocele of the cord was a condition often comating and existing with congenital hernia, as also was ined testis, and the sacs of these herniæ, if left, might e rise to a very acute form of strangulated hernia. They uld therefore be diligently sought for, especially in all ration of retained testis; the sac would, if present, be nd in the upper part of the canal, either behind or above testis. A retained testis, which before operation was ught to be in the inguinal canal, would in some cases be nd lying in the external oblique. In bringing the testicle n into the scrotum it was sometimes desirable, owing to shortness of the cord and the tightness of the peritoneal chment, to cut between the epididymis and the lower s of the cord and turn the testicle round; the branch of spermatic artery passing to the epididymis was cut by this edure, but no harm resulted. Mr. Lockwood drew atten- to the fact that transplanted testes were not impotent ugh often sterile; they did not waste but sometimes en-ed, and the patient was pleased that the organ was not re-ved. He described numerous cases, illustrating points ughout his address and the varied conditions he had met n. Mr. Powell had met with a case in a boy of 12, in m the testicles had not appeared, except after violent rtion on one occasion only and for a short time on one .—Mr. Snell proposed and Mr. Anderson seconded a vote hanks to Mr. Lockwood, which was carried by acclamation.

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radford Medico-Chirurgical Society.—The opening eting of the above Society was held on October 5th, Dr. offrey Carter, the retiring President, being in the chair. er the election of officers, Dr. Eurich gave a microscopical nonstration; Dr. Gladstone showed a case of Extensive rosis of the Cranial Bones, probably syphilitic in origin; McGee related a case of Broncho-pneumonia which had pursued a very unusual course; and Mr. Metcalfe showed a large Enterolith from a horse. Mr. Chapman showed a specimen of Epithelioma of the Sigmoid Flexure. The case had presented itself as one of extensive abscess of the thigh pointing above the knee. When opened, gas and fæcal pus escaped. The patient slowly sank, and at the necropsy the condition exhibited was discovered.—After a vote of thanks to the retiring President, Dr. Arnold Evans, the President-elect, took the chair, and read a paper on the Value of Bacteriological Research in the Diagnosis of Infectious Diseases, particularly in relation to cholera, typhoid fever, and diphtheria. Dr. Evans first pointed out that some difficulty had been experienced as to the significance properly attaching to the results of bacteriological examination in reference to the diagnosis of cholera, and expressed the opinion that so far as at present known Koch's comma bacillus was not found in the intestinal evacuations in any disease except cholera. He therefore thought that it was possible to decide by bacteriological examination whether any case was true cholera or not, and also that a direct negative or affirmative opinion could be stated as to the nature of any material examined. In regard to typhoid fever, Dr. Evans observed that the assistance given in diagnosis by bacteriology was twofold, namely: (1) The recognition of the Eberth-Gaffky bacillus in the bowel discharges; (2) the effect produced by toxins contained in the body on the life and growth of cultures of the typhoid bacillus as shown by Widal's reaction. Dr. Evans combatted the view put forward some few years previously that the bacillus coli communis could attain under any conditions the pathogenic properties of the typhoid bacillus. After discussing the significance of the Klebs-Loeffler bacillus in relation to diphtheria and other throat affections, he showed a number of cultivations of microbes on agar and other media from the throats of persons suffering from whooping-cough, scarlatina, croup, and enteric fever. The growths consisted of various kinds of micrococci, streptococci, and saccharomyces.

Bristol Medico-Chirurgical Society.—The annual meeting was held on October 13th, 1897, at 8.15 P.M., in the Medical Library of University College; Dr. Aust Lawrence and afterwards Dr. J. E. Shaw, occupied the chair.—Dr. Shaw delivered his presidential address on Some Points in Lunacy Practice in Relation to the General Practitioner. In the course of his address he remarked that: "The diagnosis of insanity is not a special or even medical process under the present state of our law. That while every practitioner is now liable to be called upon to sign certificates, there appears to be fairly adequate protection if the medical man is careful to act with due caution and with good faith." He thought that the present system of keeping lunatics of every mental grade in asylums led to an expenditure upon asylum buildings vastly in excess of what was necessary. He regretted that the present state of the law did not allow many classes of persons medically insane to be legally certified. He thought that it was desirable in accordance with the practice which obtained in Scotland that in this country also temporary certification should be made lawful, and that hospitals for temporary detention should be established in the larger towns.—Mr. Bush (Honorary Secretary) read his annual report, which showed a balance in hand of £108 8s. 1d., with a membership of 134. He referred to the lamented death of Mr. Greig Smith, and mentioned that a fitting memorial had been started to perpetuate his memory.—Dr. Rogers (Editorial Secretary) read his report.—Mr. L. M. Griffiths (Honorary Librarian) read his report, which showed that in the Bristol Medical Library there were now 16,662 volumes and 206 current periodicals.—The following officers were then elected:—*President-elect:* Dr. Roxburgh (Weston-super-Mare). *Honorary Secretary:* Mr. Paul Bush. *Honorary Librarian:* Mr. L. M. Griffiths. *Members of Committee:* Dr. J. Michell Clarke, Mr. J. Dacre, Mr. W. H. Harsant, Dr. B. Rogers, Mr. Munro Smith. and Dr. Waldo. *Library Committee:* Mr. Paul Bush, Mr. L. M. Griffiths, and Dr. G. Parker.

Bournemouth Medical Society.—The annual meeting of this Society was held at the Imperial Hotel, Bournemouth, on October 27th, at 7 P.M. The President, Dr. Roberts

Thomson, was in the chair.—The report and balance sheet were taken as read and carried.—Dr. THOMSON then thanked the members for the honour done him in electing him President during the past year, and vacated the chair in favour of the President-elect, Mr. A. G. S. Mahomed. The new PRESIDENT proposed a vote of thanks to Dr. Thomson, which was carried with acclamation.—Mr. Heygate-Vernon was elected as Treasurer, Mr. W. H. L. Marriner as Librarian, and Dr. Clift as Honorary Secretary; as Committee, Dr. Masters, Mr. Marriner, Dr. Muspratt, Dr. Ramsay, and Dr. Duncan. Twenty-five members and three guests sat down to the dinner which followed.

FOLKESTONE MEDICAL SOCIETY.—At a meeting on October 6th, Dr. TYSON in the chair, Dr. CHUBB, of Sandgate, read a paper on the Salisbury Treatment. He detailed the method of feeding adopted in that treatment, and quoted two cases of multiple osteoarthritis in which this diet had a good effect on the sufferings of the patients. The objections to the treatment appeared to be great emaciation, in some cases to such an extent that the patient is unable to sit down.—In the discussion which followed the paper several members joined, and the conclusion arrived at was that, although the promiscuous application of the treatment must be harmful, a modified form specialised to certain diseases might be of considerable value.—A special meeting of this Society was held on October 28th, when the following resolution was proposed by Dr. EASTES, and seconded by Dr. WAINWRIGHT: "That the Folkestone water supply is inadequate, and that the Corporation be asked to take the earliest possible steps towards procuring an adequate and constant supply."—Dr. YUNGE-BATEMAN, the medical officer of health, then spoke, and, having handed in the analysis and report on the Folkestone water by Mr. Alex. G. N. Foulerton, F.R.C.S., D.P.H.Camb., read his own report to the Corporation. In this he recommended greatly increased storage capacity, a constant supply, and the advisability of cleaning out the reservoir. He then drew attention to the fact that the analysis showed clearly that there was no evidence of the smallest sewage contamination or of pathogenic micro-organisms. After several members had spoken in favour of the resolution, it was carried unanimously. The Secretary was instructed to lay it before the Corporation as soon as possible.—Dr. PERCY LEWIS moved, and Dr. LATTER seconded: "That the President, Vice-Presidents, and Dr. Perry, be asked to attend the meeting of the Corporation to-morrow, at 10.30." This was carried.—Dr. LATTER then proposed a vote of confidence in the medical officer of health, which was carried unanimously, and the proceedings terminated.

THERAPEUTICAL SOCIETY OF MANCHESTER.—The first meeting of this Society for the session 1897-98 was held at the Owens College, October 27th, Professor D. J. LEECH, President, in the chair.—Dr. J. S. BURY described a case of Toxic Symptoms following the Administration of a Large Dose of Phenacetin; and a short discussion took place upon the toxic effects of the synthetic antipyretics.—Dr. FOTHERGILL gave a short account of the Uses of Senecio Jacobeæ, and showed specimens of the plant and preparations made from it.—Mr. KIRKBY also forwarded an account of the Mode of Preparing Liquid Extract of Senecio, which was an effective and convenient form of its administration.—Dr. A. T. WILKINSON read an interesting paper upon Certain Desirable Additions to the *Pharmacopœia* which would greatly Enhance its Value to Medical Practitioners.—Dr. YONGE showed a sample of Orthoform, a newly-introduced local anæsthetic.

ROYAL ACADEMY OF MEDICINE IN IRELAND.—The annual general meeting of the Academy was held in the Royal College of Physicians of Ireland on Friday, October 29th. The following officers were elected for the current session:—*President:* Edward H. Bennett, Professor of Surgery in the University of Dublin. *General Secretary:* John B. Story. *Secretary for Foreign Correspondence:* J. W. Moore. Medical Section—*President:* Sir George F. Duffey; *Council:* Wallace Beatty, M. A. Boyd, James Craig, R. A. Hayes, A. N. Montgomery, J. W. Moore, J. M. Redmond. R. Travers Smith, W. G. Smith, H. C. Tweedy. Surgical Section—*President:* Sir Wm. Thomson *Council:* C. B. Ball, A. Chance, H. G. Croly, E. Hamilton F. T. Heuston, John Lentaigne, T. Myles, R. G. Patteson, S. W. Stokes, R. H. Woods. Obstetrical Section—*President* F. W. Kidd; *Council:* G. Cole-Baker, R. A. Flynn, J. F. Glenn, A. J. Horne, J. L. Lane, A. V. Macan, T. Mor Madden, R. D. Purefoy, A. J. Smith, E. Hastings Tweedy Pathological Section—*President:* J. M. Purser; *Council:* A. F. Benson, H. Bewley, J. B. Coleman, H. C. Drury, H. C. Earl E. J. McWeeney, Conolly Norman, J. O'Carroll, A. R. Parsons J. A. Scott. Section of Anatomy and Physiology—*President* D. J. Coffey; *Council:* J. Barton, A. Birmingham, D. J. Cunningham, A. Fraser, T. E. Gordon, Johnson Symington Section of State Medicine—*President:* H. C. Tweedy; *Council* J. Burgess, Sir C. Cameron, E. M'D. Cosgrave, Thomas Donnelly, N. Falkiner, J. M. Redmond.

REVIEWS.

THE MASTERS OF MEDICINE. Edited by ERNEST HART, D.C.L.

JOHN HUNTER: Man of Science and Surgeon (1728-1793). By STEPHEN PAGET. With introduction by Sir JAMES PAGET. London: T. Fisher Unwin. 1897. (Demy 8vo, pp. 272. 3s. 6d.)

IT is fit that John Hunter, man of science and surgeon, should be the first of the Masters of Medicine, of whom the lives are now being issued from the press under the editorship of Mr. ERNEST HART; for John Hunter was the man who, in an unscientific age, based surgery on science, who, at a time when words and theories darkened knowledge, founded the practice of medicine on experiment, and who, foreshadowing the greater genius of Darwin, recognised the fact that man is a product of the great scheme of evolution. Hunter taught that to understand the part fully the whole must be comprehended; to know human anatomy the anatomy of all creatures must be studied; to be a master of surgery the processes of life and growth and death of the entire living creation must be grasped. Thus, in his insatiable desire to possess absolute knowledge of the processes of life, he strove to ascertain how trees and plants maintained heat sufficient to resist frost; what was the condition of the blood of toads and hedgehogs during long hibernation; and in his efforts to grasp anatomy as a science, and not as a collection of facts he underwent the immense labour of dissecting with his own hands at least 500 different species of animals, exclusive of repeated dissections of different individuals of the same species, and made more than 13,000 preparations in human anatomy and pathology, of the skulls of all nations, of stuffed animals, and of fossils.

Though these figures alone give evidence of the colossal labours of John Hunter, Mr. STEPHEN PAGET tells us, in his charming memoir, that up to the age of 20 he was looked upon in his family as an idle and ignorant youth. "He would do nothing but what he liked, and neither liked to be taught reading nor writing, nor any kind of learning, but rambling amongst the woods, braes, etc., looking after birds' nests, comparing their eggs, number, size, marks, and other peculiarities."

When he reached the age of manhood he joined his brother William Hunter in London, and became demonstrator in his private school of anatomy. He worked steadily here for ten years; but the study of human anatomy did not suffice him, and it was while demonstrating to his pupils that he conceived the great scheme of making the study of the anatomy and physiology of all living creatures subservient to the true comprehension and practice of medicine and surgery. As his biographer Everard Home says: "It was not his intention to make dissections of particular animals, but to institute an inquiry into the various organisations by which the functions of life are performed, that he might thereby acquire some knowledge of general principles." To carry out so great a scheme of study Hunter became an omnivorous collector, and Mr. Paget gives a picturesque and interesting account of his house and museum "in the village of Earl's Court," and of the greater house and museum, which he after-

rds occupied when he had become a prosperous and hionable surgeon, in Leicester Square. Indeed, what ikes Mr. Paget's memoir so interesting is the vivid but nply drawn pictures which he gives of Hunter as he peared to his contemporaries—of his living rooms in- ied by anatomical preparations; of the garden of his villa l of strange or hostile animals; of the passage in his hall ocked by the great skeleton of a cameleopard; of his tely and beautiful wife and her fashionable receptions owded with literary people, whose names have become usehold words; of his vehement energy and his passion collecting everything—prints and porcelain as well as imals; of his extravagance of living and impetuous nerosity; of his disregard of the small art of spelling and contempt for good Latin; of his quick temper and untidy rsonal appearance; so that all who treasure Hunter's mory will peruse this book with both pleasure and profit. Not the least of its charms is the introduction by Sir James get, in which Sir James tests the value to surgery of nter's dictum—"Don't think, try, be patient, be accurate." says, "Hunter's rule may be well used in the promotion of science. It so often seems safe to believe that by careful nking over the facts already found, and even repeatedly ted and confirmed, we may be able to think of others which pear naturally to follow them, and thus, by thinking, to arge our knowledge. But the history of science may teach t this is rarely safe; and that every 'thinking' must be ied,' patiently and carefully, by experiment or repeated eful observation, before it can be safely accepted as true. nter held by this rule."

he story of how Hunter's manuscripts were ultimately cued from destruction by the devotion of Mr. Clift, and v his great collection of anatomical and pathological speci- ns found a home in the Museum of the College of Surgeons, old in Mr. Paget's volume. These remain as permanent ords, not only of a life of indefatigable industry, but of a ster who aided to base surgery on the broad and solid ndations of science, and who by his genius has lessened sum of human suffering, and lengthened the years of nan life.

MENTARY BANDAGING AND SURGICAL DRESSING FOR THE SE OF DRESSERS AND NURSES. By WALTER PYE, F.R.C.S. evised and in part rewritten by G. BELLINGHAM SMITH, .R.C.S. Seventh Edition. Bristol: John Wright and Co. 96. (Fcap. 8vo, pp. 226, 91 illustrations. 2s.)

. BELLINGHAM SMITH states in the preface that, "in re- ng the present edition, I have made such alterations as e needed by recent advances in surgical practice, and such itions as seemed to me to add to the utility of the ual." With the first part of this statement we cannot te concur, since it appears to us that many recent ad- ces have been passed over unnoticed, whilst a number of olete methods have been allowed to remain.

he first chapter of the book deals with the subject of ndages and knots;" most of the ordinary bandages are cribed, but no mention is made of the method of applying ndage to the eye. This is an omission which ought to be iedied, since, as stated in the preface, the book is intended dressers and nurses; and it is of much commoner occur- ce in surgical casualty practice for a student to have to ly a bandage for a slight affection of the eye than to nd to diseases of the head which require the application he "capelline bandage."

n the paragraphs on "knots" no mention is made of the ue surgical knot" which is of so much use when salmon is used for sewing up a wound.

he second chapter deals with "strapping" and its uses. illustration is given of the method of applying a stirrup weight to the leg, but in a footnote it is stated that, tead of applying the strapping as in the figure, it should continued to the middle of the thigh. In a book which is nded for the instruction of beginners, corrections of this d ought not to occur. A new block ought to have been de in which the method described was correctly depicted. s remark is applicable to some other parts of the book.

he third chapter deals with "splints." Most of the inary splints are considered, together with a description of the different kinds of moulded splints. A careful account is given of the method of applying a "Bavarian" splint, this being immediately preceded by the remark that "this is a method which is now almost obsolete." Croft's splint is stated to be much better and simpler than the "Bavarian splint," but only a short account of the method of applying it is given. An illustration of a "Bavarian splint" is given, but none of Croft's splint. In the application of a plaster jacket, slinging up of the body is said to be unnecessary in many cases, and the use of a simple overhead cross bar is advocated in place of the slings and pulleys.

The second section of the work is devoted to a consideration of the dressing and suturing of wounds. Here it is stated that "the principles underlying the treatment of wounds depend upon the fact that all infection is the result of the accidental introduction into the wound of those micro-organisms which are especially harmful to the human being;" but surely every surgeon will agree that the exact coaptation of the margins of a wound in order to avoid scarring, and the forms of treatment which are adopted to control hæmorrhage, do not come within the definition as given above. When dealing with sutures the method of inserting deep sutures, such as "quilled" and "button," are illustrated, whilst the more ordinary methods are more shortly dealt with.

The third section deals with "The Treatment in the First Instance of Surgical Accidents and Emergencies." This portion is more up to date than the rest of the book, but even here we have described and illustrated such obsolete appliances as the "old cautery irons." It is stated that these "irons" are still frequently employed to stop bleeding. With such a statement we cannot agree, since during the past ten years we have very rarely seen these instruments used in ordinary practice.

We have pointed out some of the weak points of this book, and also some of the advantages. In conclusion, it must be said that in its present form the book needs considerable revision before it can be recommended as a manual for beginners in surgery, owing to the fact that not a few of the directions given are obsolete.

THE SHEFFIELD GENERAL INFIRMARY: A BRIEF SKETCH OF A CENTURY'S WORK. By J. D. LEADER, F.S.A. With Reminiscences and Biographical Notices by SIMEON SNELL, F.R.C.S. Edin. Sheffield: Published on behalf of the Infirmary Board by Mr. G. H. Day, Secretary. 1897. (Roy. 8vo, pp. 182, 22 illustrations.)

THIS work gives in a readable form a concise history of the Sheffield Infirmary, which was opened with due Masonic ceremony as the General Infirmary on October 4th, 1797. The book is constructed in part from material which had been compiled by the late Mr. Arthur Jackson, Surgeon to the infirmary, but Mr. LEADER has also had access to the minute books and other official documents. The work is therefore accurate in detail, whilst the interesting recollections of the medical staff and the biographical notes of the older physicians, contributed by Mr. SIMEON SNELL, add greatly to its interest and value. It is hoped that the sale of the book may prove to the advantage of the charity, both directly and by stimulating the citizens of Sheffield to become subscribers.

The facts which are most striking in reading through the history of the infirmary are the great ages attained by some of the medical officers and the high attainments of others. It is not often that an institution can boast of retaining the services of a house-surgeon for forty-four years, yet Dr. Robert Ernest acted in this capacity from 1798 to 1841; nor is the promoter of such a charity usually privileged to serve as its physician for forty-one years, as was the case with Dr. Younge, though Dr. Bartolomé was a member of the staff for a still longer time. He was elected in 1846, and he remained physician until 1889. Dr. Holland, Dr. Law, and Dr. Bartolomé seem to have had a remarkable knowledge of the French language and literature, and it is probably to this fact that the infirmary owes the remarkable and priceless books at present in the residents' room—books, by the way, of which the present history says nothing.

The book contains some good stories, amongst others the following, illustrative of the plain speaking for which York-

shiremen have long been celebrated. One night Holland was aroused by a messenger, who desired him to go to some one who was ill at Bradfield. Holland answered in an assumed voice that the "doctor was not in." The reply at once came: "Thou liest, for he it is that is speaking to me." After this Holland promised to go, and desired the messenger not to wait, as he would speedily follow him. Dr. Law—the apprentice—was called up to attend his master to the stable to get the horse ready. They found the animal lying down asleep, and Holland remarked: "Thou art very comfortable, beast; I'll not disturb thee, but will go back to bed myself," which he accordingly did. The next day he called to inquire for the patient, and found she was better, "but no thanks to you," as he was very smartly told.

The work is charmingly issued and the autotype reproductions are excellent. It is to be hoped that when the new catalogue of national portraits is compiled Mr. John Jackson's missing painting of Dr. D. D. Davis will be brought to light. Dr. Davis, after serving as Physician to the Sheffield Infirmary, became Professor of Midwifery at University College, London, and in 1819 he was selected to act as the medical attendant of the Duchess of Kent when she was delivered of the Princess Victoria, our present Queen.

La Pendaison, la Strangulation, la Suffocation, la Submersion [Hanging, Strangulation, Suffocation, Submersion]. Par. Dr. P. Brouardel. Paris: Baillière et Fils. 1897. (Roy. 8vo, pp. 584. Three Coloured Plates and 43 Illustrations. Fr. 12.)

This work from the pen of Dr. Brouardel, the illustrious French medical jurist, will take rank as a classical work on that section of forensic medicine to which it is devoted. Dr. Brouardel regards the subjects of hanging, strangulation, and suffocation as the chief stumbling blocks of legal medicine; and in order as far as possible to remove the difficulties connected with the investigation of these particular forms of death, he has given the reader the benefit of his wide experience in the excellently-written volume before us. The mechanism of death from these various forms of asphyxia is very fully considered and is ably dealt with. The question of the importance or otherwise of the subpleural and the subpericardial ecchymoses first described by Tardieu is reviewed at length.

In the section devoted to the consideration of death by hanging, Dr. Brouardel states that in France lesions of the spinal cord were common when, before the introduction of the guillotine, capital punishment was effected by hanging. In those times the criminal, with the knot of the noose placed under the chin, was suddenly pushed off a ladder by the hangman, the latter hanging on to the criminal, and so adding the weight of his own body to that of the executed person, thereby causing a fracture or dislocation of the spinal column. The author states that the rarity of fractures of the vertebral column in connection with judicial hanging in England is all the more astonishing on account of the brutality associated with executions in this country. Dr. Brouardel is evidently imperfectly acquainted with the procedure of executions in this country, as he declares that there is no official executioner in England, and that the sheriff has to secure the services of some willing novice. His description of an execution in this country is in the following words: "The criminal is placed on a trap, the sudden falling of which causes a drop of three or four metres. Sometimes the rope breaks, at other times the head is torn from the trunk." A good description is given of the symptoms preceding death from some forms of hanging from the account given by Fleichmann of experiments on himself. Fleichmann found that for a period of about a minute there is experienced a sensation of heat in the head, with ringing noises in the ears, and sudden flashes of light before the eyes; then follows a feeling of great weight in the lower extremities, this sensation being, in Fleichmann's estimation, an important sign. Loss of consciousness almost immediately follows the feeling of weight in the legs. In this section several illustrations are giving of some remarkable cases of suicidal hanging with only partial suspension of the body.

In considering the subject of strangulation the author states his opinion that death from this form of asphyxia may occur very quickly or may be delayed for some time. He instanc two exceptional cases, one that of an old woman whose thro was suddenly seized by a little boy, and who dropped de instantly without making a cry; another in connection wi which the murderer, who was an adult man, confessed th the strangulation by him of a woman occupied twen minutes, although he was assisted by an accomplice wh bound the legs of the victim. Dr. Brouardel is of opini that about fifteen minutes should be considered the limit time in the production of death by strangulation. Sever excellent illustrations from photographs are given showi the external marks of violence in several cases of strangu tion that occurred in the author's experience.

In the section on suffocation there is an interesting ref ence to the allegations that certain Indian fakirs have pe mitted themselves to be buried alive in the ground, and ha subsequently been found living after the lapse of sever days. Dr. Brouardel inclines to the opinion that su accounts may be correct, provided the soil is of such a natu as to be penetrable by air. He partly bases this opinion or report by Dr. Kuhn, of Munich, who investigated the matt in India. Dr. Kuhn observed two fakirs, one of whom is stat to have survived burial in the earth for ten days, and t other for three weeks; he found that they were both in state of catalepsy.

The section devoted to death from drowning is well worth of perusal owing to the author's unrivalled opportunities, his capacity as Director of the Morgue in Paris, for systemat observations of the bodies of persons found drowned in t Seine. There is a very interesting discussion of the proble as to whether the condition of the blood can enable the me cal jurist to settle the question of the occurrence of dea before or after submersion. Dr. Brouardel is of opinio from his own observations, that *post-mortem* fluidity of t blood is common in all forms of violent death, but is ve seldom so marked as in cases of death from drowning. I counted the blood corpuscles of dogs before and after drow ing, and found that a diminution to the extent of one-third the corpuscles occurred after drowning, provided death d not occur very rapidly. He considers that this alteration due to dilution of the blood plasma, and not to destruction the corpuscles. The degree of fluidity of the blood vari according to the time of submersion which elapses prior to t occurrence of death; if death occur quickly less water pass into the blood than if death occur slowly.

We can cordially commend the attention of English medic jurists to this important work.

The Life-Histories of the British Marine Food-Fishe By W. C. McIntosh, M.D., F.R.Ss.L. and E., F.L.S C.M.Z.S., and A. T. Masterman, B.A., B.Sc. Londo C. J. Clay and Sons. 1897. (Roy.8vo, pp. 532. 21s.)

The art of fish culture, which has made such importa advances during the last few years, depends upon an accura knowledge of the life-histories and environment of subjec of which it deals. Without at least some knowledge of mari zoology it could not have been attempted. The prese volume may be described as a partly popularised account the results so far achieved in various marine laboratories the development and life-histories of British marine fo fishes.

As showing the rapid progress that has recently be made in this branch of knowledge, the fact mentioned one of the authors in the preface is instructive. In 18 the life-history of not a single British marine food fish w known, at least from observation, in our country. In t present work between 80 and 90 species are dealt with, a the majority of the important forms more or less exhaus ively.

In addition to the value of such a work for those engage in practical fishing and pisciculture, there is in its pag much that will interest the general reader. Professor Sa discovery of the now well-substantiated fact that the eggs the cod, haddock, and gurnard, and many other forms a pelagic—that is, float freely in the ocean—perhaps est blished the basis of practical fish embryology. He, howeve failed for some time to get the later stages. And no wonde They were, however, at last found, together with the your

addock, sheltering under the discs of jelly fishes, for the urpose of feeding on the small crustaceans that are para-itic on them.

The early life-history of many fishes exemplifies a great istological law—namely, that the number of offspring of any pecies is in direct proportion to the chances of destruction which they may be exposed. The eggs of fishes floating eely in the sea form food for many free swimming marine nimals. The salmon produces 28,000 ova; the cod, how-ver, whose ova are pelagic, produces no fewer than 5,000,000, which it is estimated 4,999,998 are destroyed. Still, every rm of protection is adopted to prevent the enormous waste hat must occur, and some curious examples of these are iven. In Amis—a silmoid form found both in the New Vorld and the Old—the eggs are carried without injury by he male in his mouth and gill chamber until hatched. In nother silmoid fish (Aspredo) the remarkable exception ccurs of a female fish interesting herself in the care of the oung. At the breeding season the skin on the under surface ecomes soft and spongy, and the eggs sink in for protection, fter the manner of the Surinam toad.

Enough, however, has been given to show the general nterest of the book. Of its scientific and practical value here can be no question.

UEBER CHRONISCHE NEPHRITIS UND ALBUMINURIE IM KINDES-ALTER. [On Chronic Nephritis and Albuminuria in Childhood.] Von Dr. O. HEUBNER. Berlin: August Hirschwald. 1897. (Demy 8vo, pp. 70. M 2.)

HIS work is based upon a series of cases of renal disease in hildren which have come under the author's own observation. he clinical notes of 49 of these cases are given in full, and onsiderably enhance the value of what is, without doubt, a otable contribution to our knowledge on this subject. We gret, however, that in so many of the fatal cases a *post-ortem* examination could not be made.

The author follows the classification employed by Wagner Ziemssen's *Sammelwerk*. The greater part of the work is evoted to those forms of nephritis occurring in childhood, hich do not fall into any known category of renal disease. hese HEUBNER classifies as "doubtful forms." Most of these ases begin in early childhood, apparently as the result of an cute nephritis set up by a specific fever, or in infants, in ssociation with pneumonia or suppuration. Œdema and rdio-vascular changes are absent; albuminuria is slight, nd casts and leucocytes are present in the urine. The cases ay be of long duration, and probably eventually develop anular kidney. The author lays special stress on the ap-arently cyclic character of the albuminuria which he observed some of these patients.

We are glad to find that he clearly differentiates true cyclic buminuria from those cases of nephritis in which the albu-inuria is often cyclic in character but associated with sts and leucocytes in the urine. He regards the cause as ue to position—no albuminuria occurring, even with a full iet, provided the patient is kept in bed. He therefore sug-ests that the rather awkward term "surrective" should be pplied to this form of albuminuria.

The question of treatment is dealt with, but this part of the ork might with advantage have been amplified.

Those interested in renal diseases of childhood—a subject hich hitherto, at any rate in this country, has received com-aratively little attention—will find many points of great in-erest in this work by Professor Heubner.

HANDBUCH DER ANATOMIE DES MENSCHEN. Herausgegeben von Professor KARL VON BARDELEBEN. Erster Band, Zweite Abteilung. Skeletlehre: Kopf. Von Professor Dr. F. GRAF VON SPEE, in Kiel. [Handbook of Human Anatomy. Vol. i, Part 2. The Skeleton: Skull. Jena: Gustav Fischer. 1896. (Roy. 8vo, pp. 97-372. 102 Illustrations. M. 9.)

HIS is the third fasciculus to be published of the large *reatise on Anatomy* which is being brought out in Germany nder the editorship of Professor KARL BARDELEBEN. It is y Professor VON SPEE, of Kiel. After a general description f the skull, and its division into a number of component bones, each individual bone is separately described. This is done in very great detail; in fact in some places almost too much has been given. Since, however, the work when finished will be one of the best reference books on human anatomy, one cannot quarrel with too much detail. When dealing with a bone the German name is first given, and then the name which has been decided upon by the Anatomical Committee. Then follows the synonyms and the names of the same bone in English, French, and Italian. The following is an example: "Hinterhauptbein. Os occipitale, Occipitale (Syn: Os puppis, Os memoriæ). Englisch: The occipital bone. Franzosisch: L'occipital. Italienisch: L'osso occipitale."

A general statement as regards the position of the bone is given, then its manner of development and ossification, and after this a minute description of the appearances of the adult bone. The different varieties which may occur are then considered, and finally a complete bibliography of the works which have been published in connection with the subject under consideration is given.

When all the separate bones of the skull have been considered and described in the above manner, the skull as a whole is dealt with.

The fasciculus is illustrated by a considerable number of woodcuts, many of them coloured. These for the most part are very good, and the points which are emphasised in the text can be readily seen in the illustrations.

This part of the work comes up in every respect to the two previous fasciculi reviewed some months ago.

NOTES ON BOOKS.

Atlas der Syphilis und syphilisähnlichen Hautkranheiten [Atlas of Syphilis and of Skin Diseases resembling Syphilis]. Von Dr. MARTIN CHOTZEN, Spezialarzt für Hautkrankheiten in Breslau. Heft. i und ii. (Hamburg and Leipzig: L. Voss. 1897. Roy. 8vo, 12 coloured plates with letterpress. M. 3, eines Heftes.)—This Atlas, the author states, has been designed for the purpose of assisting those students and practitioners who may have but few opportunities of observing cases of syphilis and the various diseases of the skin which are likely to be mistaken for syphilides. The work is to be completed in twelve parts, each part containing six plates, most of which are taken from cases which have been under the personal care or observation of the author. Of the two parts which are now before us the first contains illustrations of the various forms of primary sores and of the erythematous syphilide. Four of the six plates in the second part represent non-syphilitic affections of the skin—namely, urticaria, erythema multiforme, tinea versicolor, and the spots left by eczema following scabies. Each plate is accompanied by a short account of the case from which it is taken, and in some instances by remarks on diagnosis as well. It is certainly an advantage to be able to compare in the same atlas the syphilitic with the non-syphilitic affections, which are most likely to cause confusion in diagnosis; and judging from these two numbers the work should prove useful both to students and medical men. It must also be mentioned that it is of more convenient size as well as considerably cheaper than most works of the kind.

The Catechism Series: Anatomy. Part 3, Head and Neck. Second Edition. (Edinburgh: E. and S. Livingstone. Cr. 8vo, pp. 72, 13 illustrations. 1s.)—Anatomy is a subject which cannot be satisfactorily or with advantage learnt from a book of this class. An attempt is made to present the salient points in the anatomy of the head and neck by a series of questions and answers. The commencement of the book is as follows: "What is meant by the scalp? It consists of the skin, with the hair bulbs, the subcutaneous tissue, the occipito-frontalis muscle." The old nomenclature for the cranial nerves is adhered to, the hypoglossal being the ninth. In connection with the platysma muscle it is stated that the nerve supply is the superficial cervical nerve and possibly the facial. We cannot see any use for this book from a student's point of view, and cannot advise intelligent students of medicine to resort to it.

SMALL-POX AT WARRINGTON IN 1892-93.

DR. SAVILL'S REPORT.

DR. T. D. SAVILL has presented to the Royal Commission on Vaccination a report on his investigation of the outbreak of small-pox at Warrington in 1892-93. It demonstrates the immense benefits to be derived from primary vaccination, and it illustrates also the great desirability of requiring that all persons be revaccinated, seeing that the facts which he has been enabled to chronicle as regards Warrington place it beyond doubt that revaccination curtailed to its actual proportions the epidemic which threatened to ravage the whole of the borough.

SCOPE OF INQUIRY.

Dr. Savill's inquiry extended for the whole of the period of small-pox prevalence except the first four months, he being occupied in his investigations from December 1st, 1892, to February 19th, 1894. The period dealt with in his report is from May 10th, 1892, to May 10th, 1893, during which year 667 cases occurred in an estimated population of 54,084 persons, of whom 62 died from small-pox. Dr. Savill has treated the prevalence from four different standpoints—namely, the origin, progress, and cost of the epidemic, and preventive local action; the relation of vaccination to small-pox, with an historical survey of small-pox in Warrington; notification, isolation, and aërial convection of small-pox, and quarantine arrangements; and the social and hygienic conditions prevailing in the borough.

COST OF THE EPIDEMIC.

Dr. Savill has attempted the task of estimating the cost to the town of the outbreak of 1892-93, and finds that the local sanitary and other authorities must have expended nearly £9,000. But when the expenses incurred by the community generally are included, such as for revaccination of workpeople, loss of wages, funeral charges, money value of deceased wage-earners, Poor-law relief, and so on, the total outlay and loss are found to have been represented by no less a sum than £22,000.

THE PROTECTIVE VALUE OF REVACCINATION.

The small-pox attacks were in the ratio of 12 per 1,000 persons, as compared with a rate of 64 in the great epidemic in Warrington in 1773. The enormous difference in these rates is due to the protection now afforded by vaccination, as 99.2 per cent. of the population are estimated by Dr. Savill to have been once vaccinated. But when small-pox broke out in 1892 he regards an allowance of 3 per cent. as too high an estimate of the proportion of revaccinated individuals in the town. In a special area dealt with in detail the percentage of such persons was 2.9. The evidence of protection afforded by revaccination was none the less most conclusive. For instance, of 800 revaccinated individuals in the garrison, not one was attacked, the only sufferer being a militiaman who had not been revaccinated, and yet the inmates mixed freely with the townsfolk. Again, a rising outbreak in the principal iron works was suddenly checked within a fortnight of the revaccination of some 1,400 hands. Again, the attack-rate among those inmates of infected houses who had been long revaccinated was little more than half that of the "well vaccinated" inmates. And lastly, of 17,000 persons successfully revaccinated in the face of small-pox during 1892-93, not one contracted small-pox, even though some of them were in specially exposed situations like the fever hospital. No person was attacked who had been revaccinated within seven years.

INFLUENCE OF PRIMARY VACCINATION.

Of 272 vaccinated children exposed to the infection of small-pox in invaded houses, not one contracted the disease. Of 30 unvaccinated children of like age similarly placed, 15 took small-pox. Of 2,431 persons in 437 infected houses, we learn that at ages 0-10 there were 633 vaccinated, of whom 28 (4.4 per cent.) were attacked by small-pox; 55 unvaccinated, of whom 30 (54.5 per cent.) were attacked. At ages 10-20, vaccinated 644, attacked 149 (23.1 per cent.); unvaccinated 19, attacked 13 (68.4 per cent.). Hereafter the difference became less marked, but these data speak strongly of the protection afforded by an infantile vaccination up to 20 years of age; and indeed, through life it is never wholly effaced. As to type o disease and case-mortality, we find at three age-periods up t 30 years, that of once vaccinated patients, 0-10 years, 6.0 pe cent. had confluent attacks, and 6.0 per cent. (actually 3 pe cent.) proved fatal; of unvaccinated children, 71.9 per cent confluent, 37.5 per cent. fatal. At ages 10-20 years, onc vaccinated persons attacked, 6 4 per cent. confluent, 0.((actually *nil*) per cent. fatal; unvaccinated attacks, 55. per cent. confluent, 16.6 per cent. fatal. At ages 20-30 years once vaccinated sufferers, 24.8 per cent. confluent, 4.5 pe cent. fatal; unvaccinated cases, 90.0 per cent. confluent, 40.(per cent. fatal. Hereafter differences less acute, but her again the modifying power and life-saving properties o primary vaccination stand out clearly. Of 350 well-vaccinate sufferers, 10 died, or 2.9 per cent.; of 208 indifferently vac cinated patients, 17 died, or 8.2 per cent.; whilst of 68 unvac cinated cases 24 proved fatal, or 35.3 per cent. If person concerning whose vaccination there was doubt be added t persons vaccinated, no matter how badly, at all ages, the the percentage of case-mortality is 6.4, against 35 3 in unvac cinated cases, a sufficiently striking contrast. And so w see here not only reason why children should be vac cinated, but also why they should be well vaccinated, an in later life revaccinated. Whilst 8 cases of small-pox were heard of in persons revaccinated from 7 to 27 years previously; there were also 5 persons attacked who had had small-pox earlier in life; and Dr. Savill inclines to the view—judging from Warrington data—that previous small-pox was relatively less protective against the disease than revaccination among persons in invaded houses.

HISTORICAL COMPARISON.

The 64 per 1,000 of attacks in 1773 gave place in 1892-93 to 12 per 1,000 of population; the cases rose from 510 to 667; but the deaths fell from 211 (all under 9 years of age) to 62 (only 14, and 12 of them in unvaccinated children, under 10 years of age). The average age of death by small-pox rose from 2½ years to 14 years in unvaccinated cases, and to 34 years in vaccinated persons. The death-rate by small-pox fell from 26.4 to 1.1 per 1,000, and the proportion of deaths by small-pox to all deaths from 44 7 to 5.4. There were thus remarkable differences as regards attack-rate, case mortality, age at death, and death-rate of small-pox between unvaccinated Warrington in 1773 and vaccinated sufferers in 1892-93. The only points of similarity between the two compared epidemics have concern with the unvaccinated of both. Especially is this apparent if the age of attack in the old days (in youth) be kept in mind.

MAIN CAUSES OF EPIDEMIC.

Dr. Savill attributes to three main causes the spread of small-pox in Warrington in 1892-93. First, the non-recognition of early cases, which led to the infection of a large number of persons; 97.6 per cent. of known cases were notified. Secondly, deficiency of hospital accommodation led not only to delay in removal of cases, but also to the home treatment of a large number of persons, so that the town became "saturated" with infection. Thirdly, absence in large degree of revaccination prior to the commencement of the epidemic. In the event fully one-third of the population were revaccinated, and this, too, in antivaccination Warrington.

AËRIAL CONVECTION OF SMALL-POX.

Small-pox in Warrington seems to have had two special centres of activity, each operating at a different time, and each being around a hospital—at first round the old borough hospital when it was being used for small-pox, and then round the temporary hospital when so used. Dr. Savill, having gone very fully into the question of spread of small-pox from the hospitals by air currents, seems content to let the answer be that there were so many elements at work for the conveyance of infection by direct methods along the lines of human intercourse (and this in major degree in the vicinities of the hospitals), that the assumption of a hypothesis of aërial convection is unnecesary. He points out that a well-filled workhouse and certain large works within a radius of five hundred yards of the respective hospitals escaped attack in a remarkable way, and this, too, without the benefit of revaccination of inmates and hands during a

me of exposure to the influence of hospital workings. Winds,)o, in their general prevalence did not favour the theory of ;rial mischief. At the same time, it is well to point out iat whilst some 4 per cent. of total houses in Warrington ere invaded, yet within the 100 yards circles of the two ospitals 9.5 and 38 4 per cent. of houses were invaded; in ie second like circles, 5.4 and 15.5 respectively; in the third ircles, 6.7 and 11.2; thenceforward a rapid decrease round ie old hospital, but still 13.7 and 5.9 in the 300-400 and 400-)o yards circles round the temporary hospital, and 10.4 per ent. in the whole area within a circle of 500 yards.

Dr. Savill, in his elaborate and exhaustive report of 94 ages, gives table on table, maps, charts, and innumerable icts that we have not space to mention. But these concern hiefly the student who desires to master the details of the iatter. To such we commend the document as worthy of areful attention.

SYSTEMS OF DISTRIBUTION OF HOSPITAL SUNDAY AND SATURDAY FUNDS.

T a meeting of the Hospitals Association on October 28th, at ie Board Room of the Charing Cross Hospital, Sir SYDNEY [. WATERLOW, Bart., read a paper on the System of Distribu-.on of the £913,482 raised on Hospital Sunday in London, 373 97.

The CHAIRMAN (Mr. H. Cosmo Bonsor, M.P.) explained iat the meeting was held to ascertain the facts concerning ie system of distribution, and see how far they might be ap-licable to other funds of a like character, although under ifferent conditions.

Sir SYDNEY H. WATERLOW said that the work of the Dis-ribution Committee of the Metropolitan Hospital Sunday 'und was controlled by the constituents of the fund, who iet annually as representatives of the congregations contri-uting the money. The awards from the money collected 'ere primarily based on the average total expenditure of each istitution for the last three years, after certain deductions nerefrom. The awards were recommended according to the eeds and merits of each hospital. To arrive at the needs nd merits, the Distribution Committee received reports from he hospitals on a prescribed form. The expenditure was ivided under two heads: maintenance, which included all he money spent in the care and cure of patients; and ianagement, which included cost of the administrative work. 'he income was divided under two items: charitable revenue, ncluding subscriptions, etc.; and proprietary revenue, re-resenting secured income. The money spent on the average f three years in the treatment and support of patients, less he proprietary revenue and the management expenses, was egarded as the financial needs of the hospital. This was alled the basis of the award, and was raised or lowered at he Committee's discretion. The task of arriving at the merits ested to a great extent on the discretion of the Committee.)etailed information—including the number of beds, the verage number occupied daily during the last year, the verage number of days each in-patient was resident, the verage cost of each in-patient per week, and the average cost f each out-patient, as far as could be calculated, was given or the last year; the average number of in, out, and lying-in atients, both counting renewals and without renewals; and lso the total number of attendances for the past three years -was all laid before the Committee. The percentage which he money spent in administration bore to the money spent n maintenance was an important factor in determining the nerits. There was no doubt that money contributed to the arge, well-conducted hospitals went very much further, and ecured the efficient treatment of a larger number of patients, han in the smaller hospitals. In regard to the cost of appeals nd festival expenses, they ought not to be encouraged where he expenses result in bringing into the treasury of a hospital nly 50 or 60 per cent. of the sum contributed by those resent. If there was no fault to find with the management, he figures forming the bases were confirmed or raised; if the anagement was unsatisfactory, a conference was invited ith the managers. The money available for distribution as then divided in accordance with the figures of the bases.

Mr. R. B. D. ACLAND, Chairman of the Hospital aturday Fund, explained the plan of award followed by that body. From the amount collected, after payment of expenses, there was deducted: (1) 6 per cent. for surgical appliances; (2) 8 per cent. for purchasing letters of recommendation; (3) 1 per cent. for the Morley Home; (4) special grants; (5) grants to provident dispensaries; (6) grants for ambulance work. The awards were based on the relief afforded, the economy practised, and the efficiency shown. To arrive at the awards a system of giving marks was adopted. Of the amount available for distribution, five-sixths was awarded for relief and efficiency, and one-sixth for economy. The marks for relief were awarded as follows: For in-patients in general hospitals, 1 mark for each bed occupied, and 1 for every 2 not occupied. In special hospitals, 1 for each bed occupied. For out-patients at general hospitals, 1 mark for each 2,000; at special hospitals, 1 mark for each 800. With respect to economy, the maximum marks were as follows: For convalescent homes with less than 100 beds, 10 marks; with less than 300, 15; with 300 or more beds, 20 marks. The marks for economy were awarded after comparing cost of maintenance and management and cost of treatment of patients. In regard to efficiency the maximum marks were as follows: For institutions having in-patients or out-patients, 10 marks; having in-patients and out-patients, 15 marks, provided that any institution receiving 3 or less marks for relief shall not be entitled to a higher maximum than 10 marks. With respect to provident dispensaries or nursing institutions, special rules applied. It was desirable that the Hospital Sunday Fund, the Hospital Saturday Fund, and the Prince of Wales's Fund should be distributed on one basis.

Sir HENRY BURDETT did not consider there was any justification whatever for any fund raising money for distribution among a number of charities setting apart any portion of that fund to purchase letters of recommendation.

Lord STAMFORD thought the public would be interested in hearing exactly what amount of weight in determining the awards was allowed by the Hospital Saturday Fund and the Hospital Sunday Fund to the number of out-patients.

The Rev. C. H. GRUNDY, Surgeon-Lieutenant-Colonel J. INCE, the Rev. Canon GRAHAM, Mr. COHEN, the Rev. Prebendary KITTO, Mr. RYAN, Mr. THIES, and the Rev. N. BROMLEY having asked questions and criticised the systems of distribution, Mr. ACLAND rose to reply, and said that a phrase used by Mr. Cohen as to hypothetical beds illustrated the extreme difficulty of finding out the actual number of beds really used in the hospitals. He explained that for every 2 beds not occupied through unwillingness to incur debt 1 mark was awarded. Answering an objection by Mr. Bromley, Mr. Acland wanted to know why the Hospital Saturday Fund should not provide funds for the very purposes for which it was organised, one such purpose being to supply surgical appliances; this was also done by the Hospital Sunday Fund. He hailed with delight a suggestion by Mr. Thies as to a conference by hospital secretaries. In regard to visiting a representative was elected to visit every hospital and dispensary in London. With respect to Mr. Ryan's objection that you could not judge of a hospital by the cost per bed, if a better way could be suggested both the funds would be very grateful. On the question of the relative value of the working man's subscription and the rich man's he considered that they were of equal value. The Hospital Saturday Fund issued about 20,000 letters of recommendation a year, of which 90 per cent. were used. The Hospital Saturday Fund as a whole imposed no charge on the hospitals. In regard to the cost of collection, the Hospital Saturday Fund had to sustain the cost of some 5,000 or 6,000 collections made every week. Replying to Lord Stamford, Mr. Acland explained what weight was given in the determination of awards to the number of out-patients by explaining the system of marking. With respect to Sir Henry Burdett's objection to the purchase of letters, he failed to see why if working men subscribed together they should not be allowed to purchase hospital letters. He concluded by urging that the system of distribution of the different funds should be alike.

Sir SYDNEY WATERLOW, replying in regard to the cost of collection and distribution, said that the cost of management of the Hospital Sunday Fund was $3\frac{1}{4}$ per cent. The cost of the Hospital Saturday Fund was about 17 per cent.

Mr. ACLAND protested against any exaggerated statement, and Sir FRANCIS BURDETT stated that the percentage of

management for the Hospital Saturday Fund was 11 per cent.

Sir Sydney Waterlow, continuing, said it would be difficult to amalgamate the two funds, but was in favour of a similar system of distribution. He had no faith in the figures supplied as to out-patients, and concerning festivals the hospitals did not disclose how much was actually given by those present.

The meeting closed with the usual votes of thanks.

TWENTY-FIFTH ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD.

Supplement containing the Report of the Medical Officer for 1895-96.

[Second Notice.]

The Relations of Asiatic Cholera to Cholera Nostras. Of the reports on scientific investigations made for the Local Government Board the first place in the report under notice is given to Dr. Klein's work on The Relations of Asiatic Cholera and Cholera Nostras, or English Cholera. The object of the inquiry was primarily to ascertain whether the many isolated cholera like cases which occurred in England in the autumn of 1893 were true Asiatic cholera or cholera nostras. As many of these cases presented the principal clinical characters of true cholera—vomiting, purging of rice-water evacuations, cramps, cold extremities, etc., the question of deciding whether they were true cholera or not presented itself as of increased importance (as Sir Richard Thorne Thorne points out in his report) from an administrative point of view. Such questions as the following, indeed, arose: "What, on the one hand (he says), is our justification for urging local authorities to deal with cholera-like cases wherein the bacteriological verdict is positive, however innocent their antecedents or ambiguous their symptoms, as examples of a disease calling for strenuous effort in preventing its extension in ways that true cholera does, we know, spread; and what right have we, on the other hand, to encourage local authorities to regard cholera-like cases, as to which the bacteriological verdict is negative, as having, however suspicious their antecedents and their symptoms, no epidemic significance, and as not calling therefore for action other than the everyday action which it is customary to adopt in regard of commonplace diarrhœal illness?" It is therefore of the utmost importance to settle, if possible once for all, the value of bacteriological evidence negative of cholera. Such an inquiry, to have proper foundation, must extend to the examination of a large number of cases occurring separately, and at times when no Asiatic cholera can be demonstrated to exist. If it should be found that under these conditions no Koch's vibrio is found in the dejecta of the patient, even after the most careful search by the most approved methods, then the declaration of such cases as not Asiatic cholera would seem to be justified. In this connection it ought to be borne in mind that Koch's vibrio, when it does occur, is readily demonstrated in culture.

As the cases that occurred in England during the summers and autumns of 1894 and 1895 were clinically of the type of cholera, their investigation from a bacterioscopic standpoint therefore was of especial importance; for if in none of these cases the vibrio of Koch could be demonstrated, the problem would become simplified, and the inference that these cases were epidemiologically and bacteriologically not cases of the Asiatic type to a corresponding extent strengthened. But if, on the contrary, the vibrio of Koch could be demonstrated in the bodies of persons not connected in any way with the cholera localities of 1893, the bacteriological test as an important help in distinguishing between Asiatic cholera and cholera nostras would become practically worthless.

Dr. Klein examined in 1894 29 cases in all. Neither in the dejecta, nor in the intestinal contents of any of these cases, was anything discoverable that at all resembled the cholera vibrio. Some of these cases, be it remembered, were clinically indistinguishable from cholera, although there had been no known importation of cholera into England from abroad during 1894 and 1895. From these facts Dr. Klein concludes that the absence of the cholera vibrio from a suspicious case, however similar its symptoms and pathology to that of Asiatic cholera, lends strong support to the conclusion that it is not a case of true cholera.

The importance of this result is great, for, if we have in our possession a reliable diagnostic means of distinguishing between cases of true cholera, with all their possibilities for infection and epidemic, and cases of cholera nostras, which from a public health point of view can be dealt with on the ordinary lines, it is evident that a saving alone to the community in expense of administration and mental anxiety will be possible in suspicious times, the amount of which cannot be estimated in figures.

Much matter of more purely scientific interest is contained in Dr. Klein's report. Thus, there were cases among the 29 which, as regards the number and distribution of the intestinal bacteria—bacillus coli and proteus—differed from the others in a very striking fashion. Thus, in 7 cases the bowel contents consisted of watery fluid in which floated more or less numerous mucous flakes containing leucocytes and epithelial cells — physical conditions that are precisely similar to those observed in typical acute Asiatic cholera. Just as in Asiatic cholera, the flakes contained in almost pure culture one single species of bacterium, arranged in lines, in streaks, and in groups. The sole difference was that the bacillus so arranged was not the cholera vibrio but bacillus coli, or in one case proteus. Dr. Klein compares the relation of these cases of English cholera to that of those cases of the Asiatic disease, which in bacterioscopic respects are even typical—that is, to cases in which the cholera vibrio, although present, is much mixed with other bacteria.

It is generally admitted that the symptoms of true cholera are caused by an intoxication by the products of the vital activity of the large number of vibrios in the intestine. May it not be possible, Dr. Klein asks, that the symptoms of cholera nostras are due to an intoxication by the products of bacillus coli? Such a possibility would receive strong support if it could be proved that bacillus coli is capable of producing toxic matters. The existence of such toxic materials in broth cultures of this bacillus has been demonstrated by Dr. Klein, the presence therefore in the small intestine of the human subject of enormous number of bacillus coli, in spite of all that has been averred as to the harmless nature of this ubiquitous bacillus, cannot be regarded as a matter of indifference, and Dr. Klein proceeds to review the matter and to consider how it becomes possible that a bacillus which is a normal inhabitant of the gut, and to whose agency the carrying out of the final stages of digestion has been ascribed, can in certain instances multiply to such an extent as to become, by reason of its numbers, alone a *causa mali*. The conclusion is that some derangement of the stomach may allow the passage of large numbers of the bacillus into the intestine by means of food containing it in excessive numbers. That with regard to English cholera such a consideration is worthy of attention is well illustrated by one of the cases (Case III, p. 177) which occurred in St. George's Hospital. The patient, aged 50, had consumed a quantity of sour milk in which, as we know, are crowds of bacillus coli. The importance, therefore, as we have so often insisted, of the presence of bacillus coli in excessive numbers in milk receives additional confirmation.

An interesting point observed in the stained-film specimens made of some of the stools was the presence of fine spirilla-like objects. It will be remembered that Dr. Klein, in his Cholera Report for 1893, described such "fine spirilla" as free flagellæ. These fine spirilla take the stain only faintly, and have been repeatedly described in recent years as present in cholera and diarrhœa stools by Abel, Aufrecht, and others. From their resemblance to the flagellæ met with in pure cultures of B. coli stained by Van Ermengen's method, Dr. Klein considers that his original suggestion receives confirmation, and that they must be regarded as free flagellæ.

The Bacteriology of Diarrhœa.

Appended to Dr. Klein's report are notes on the clinical and etiological aspects of an epidemic outbreak of severe diarrhœa, which has appeared referable to a particular anaërobic sporogenic bacillus. The outbreak was referable to the consumption of a particular sample of milk. The history, course, and clinical character of the cases are ably described by Dr. Andrewes, the Health Officer of St. Bartholomew's Hos-

pital. The particular bacillus isolated and proved to be the ause of this outbreak Dr. Andrewes proposes to call bacillus nteritidis sporogenes.

The Prophylaxis in Diphtheria.

Dr. Klein, it is well known, has long insisted on the different value of protective inoculation according as the protoplasm or the metabolic products of the microbe of experiment are separately employed for conferring immunity on an animal that is subsequently to be tested as to its resistance to the particular living infection. The blood serum, for instance, of an animal immunised with toxin (product) might be suspected to be of value chiefly as a curative agent, while the serum of an animal immunised by means of protoplasm (bacillary bodies) might be preferable as a protective agent. Dr. Klein finds, as the result of his investigations, that as regards diphtheria serum, in whichever way prepared, little difference was discoverable either for protective or curative purposes.

Protective Inoculation.

In a further report Dr. Klein states that he found, as he anticipated, that both cholera serum and typhoid serum, effective in each instance as directly germicidal agents, might be readily obtained by injection of the experimental animal with the *sterilised* protoplasm of one or the other microbe. He has not yet tested the prophylactic as contrasted with the directly germicidal power of serum prepared in one or other of the above ways; but in view of his results recorded in the first report here noticed, it may be suspected (says Sir Richard Thorne Thorne) that, as protective agents, serums prepared in this way are by no means trustworthy; indeed (he says), in regard of most of the infections which so far have been under investigation in the above sense, a serum which may be relied upon to afford any durable protection against attack is still a desideratum.

The Prophylaxis of Snake Bite.

Dr. A. A. Kanthack contributes an account of an investigation on snake venom in its prophylactic relations with "poison" of the same and of other sorts. His results are important, not only from their practical bearings, but also from the interest of the scientific questions his work opens up. Dr. Kanthack first investigated the effect of cobra antitoxic serum upon the poison of snakes other than the cobra. Certain observations of Calmette and Fraser have shown that the serum of an animal rendered tolerant of cobra poison is capable of preventing and curing the effects of practically all other snake poisons. The validity of the law of specificity as propounded by Behring is thus called in question. From the results of his experiments Dr. Kanthack argues that we are not justified in arguing against the specificity of antitoxic serum. "It would," he writes, "be a surprising reversion if a serum which is capable of acting as an antidote to paralysing toxin (such as cobra poison) were also capable of neutralising the effects of a toxin of opposite physiological action." On the question of the nature of the immunity of certain snakes to certain snake poison, Dr. Kanthack considers that it would be illogical to explain the immunity of venomous snakes by assuming that they immunise themselves by repeatedly swallowing their own poison. As to the asserted curative and protective effects of chlorinated lime in cobra venom, the conclusion is reached that neither effect can be obtained *in vivo*, although *in vitro* the lime compound is capable of removing the toxic power of cobra poison in a most efficacious manner. From a series of experiments made with a view of ascertaining whether it is possible to impart antitoxic property to the serum of a rabbit by inoculating it repeatedly with chlorinated calcium, he concludes that it is impracticable to render the serum of the rabbit antitoxic by this procedure. On the other hand, Dr. Kanthack finds it possible to produce an antitoxic serum by means of the specific immunisation of the rabbit, that is, by administration of the cobra poison itself. In one experiment a rabbit in a little over a year received 113.75 mg. of cobra poison; 1 c.cm. of its serum + 1 mg. of cobra poison had no effect on a guinea-pig, whereas the control animal of the same weight died in 20 minutes. To establish a tolerance against this poison it is found that patience alone is required; the slightest haste may undo the work of months. Dr. Kanthack next records other experiments designed to test the statement that certain antitoxic serums are in each instance capable of neutralising *in vitro* poisons other than their specific poison. From these experiments he is not inclined to believe in true reciprocal action of serums obtained from different sources. Finally, in certain observations which he appends to his report, Dr. Kanthack indicates how strong a confirmation of the view that antitoxic serums have a specific action is afforded by the results of the recent "serum tests" of Pfeiffer, Bordet, and Durham.

Effects of Association of Micro-organisms.

Dr. Cautley has endeavoured to ascertain whether the multiplication or the pathogenic properties of bacillus coli communis and proteus vulgaris are influenced by association with common non-pathogenic micro-organisms, as, for instance, yeast, oidium albicans, bacillus lactis, bacillus aceti, and mycoderma aceti. From a long and laborious series of experiments Dr. Cautley concludes that the virulence of bacillus coli to rabbits is definitely intensified by association with the above non-pathogenic micro-organisms, with the exception of bacillus lactis. Judging from the amount of wasting, the pathogenic action of bacillus coli was most increased by its association with yeast, with the mycoderma aceti, and with the bacillus aceti. These conclusions are important, especially when taken in connection with the relationship of the bacillus coli to cholera nostras, and to its common association in milk with many other organisms.

Glycerinated Vaccine.

Dr. Copeman relates some of the experiments which he and Dr. Blaxall have carried out. These experiments go to confirm the results obtained by Dr. Copeman when working with an emulsion of glycerine and vaccine lymph, according to which the careful preparation with glycerine of vaccine lymph which had been derived from the calf not only left the resulting vaccine material as active as the lymph itself had been before the admixture, but that the glycerine exercised, in the course of some four or five weeks of careful storage of the material, a germicidal influence on the extraneous microbes commonly met with in vaccine lymph.

ARCHÆOLOGICA MEDICA.

XXXVII.—FRÈRE JACQUES, RUPTURE CURER AND LATERAL LITHOTOMIST.

The following notice appeared in the British Medical Journal of October 23rd, 1897, page 1193: "The President (of the Royal College of Surgeons of England) reported that he had accepted on behalf of the Council a portrait of Frère Jacques, presented to the College by Mr. Sharon Grote Turner, who was thanked for his presentation." Few probably could pass even an elementary examination on the life and works of Frère Jacques, though most people know that he reintroduced the operation of lateral lithotomy, and that he cured strangulated hernia at a time when such operations were outside the scope of respectable surgical practice. Yet the life of Frère Jacques was not devoid either of incident or interest, as the following sketch will show:

Jacques Baulieu, de Beaulieu, or Baulot, was born in 1651 at Létendonne, close to Lons le Saulnier in Franche Comté. He lived at home with his poor peasant parents till he was 16, only learning to read and write. Then he served for some years as a trooper in a cavalry regiment, and afterwards attached himself to a travelling Italian lithotomist called Paulony, at whose operations he assisted. When Paulony returned to Italy Baulot continued to practise as a lithotomist in Provence, Languedoc, and Rousillon, where he probably had ample opportunity of learning the bad results of the median lithotomy then in common use. During this period he evolved the operation of lateral lithotomy, in all probability without knowing that it had been practised in Provence by Pierre Franco nearly a hundred years earlier. About this time, too, he adopted the dress of a Franciscan monk, assuming the name of Frère Jacques. This he did partly for convenience in travelling, partly for the sake of economy, as he was then entertained at the various monasteries, and partly, perhaps, because he felt that he had a

mission. He was always careful to operate before the physicians and surgeons of the town, and he asked for no reward except that they should testify to his skill and success. Any money that was forced upon him he distributed to the poor except a few sous which he kept to repair his instruments, or to sole his shoes. But he never took any vows, and though he was eminently religious he does not appear to have taken any steps to gain admission to the order.

In 1695 he was practising at Besançon, whence he carried a letter of recommendation to a canon at Paris, who introduced him to Harlay, President of the Parliament. Harlay instructed Méry, surgeon in chief to the Hôtel Dieu, to examine and report upon Frère Jacques's operation. The first experiment was made upon a dead body, and as it seemed satisfactory Frère Jacques was allowed to operate upon a man of 40 and upon a young cobbler. Both cases were so successful that the patients were about again in less than three weeks after they had been cut for stone. Frère Jacques thus gained the support of the Court physicians and the ear of Louis XIV, who sent him to lodge with Bontemps, his body servant, and allowed him to operate at Versailles. At once he became the rage in Paris, where he appeared as a simple, straightforward sober man, living on soup and bread, penniless, and clad as a monk, except that he wore a shirt, and had a hat instead of a hood. In 1698 he was ordered to perform all the lithotomies which should come during the spring to the Hôtel Dieu and the Charité Hospitals. Here he showed himself wholly ignorant of anatomy; his instruments were of the simplest kind—a large staff without a groove, a long pointed bistoury, a dilating conductor, and a pair of heavy forceps roughly made. His mortality was enormous, for he cut 60 patients, of whom 23 died, 24 remained in hospitals with incontinence, fistula, or other serious sequelæ, and only 13 recovered, the ordinary death-rate at the time being only 1 in 7.

His reputation then fell greatly, and in the autumn of 1698 he found it convenient to leave Paris and go to Orleans, where he cut three persons for stone and performed several operations for the relief of strangulated hernia. From Orleans he travelled to Aix, where he arrived in the spring of 1699, and there did more than 60 lithotomies, mostly with success. He afterwards went to Cologne, and reached Holland in 1699. At the suggestion of Fagon, First Physician to Louis XIV, with whom Frère Jacques had always kept up a friendly correspondence, he returned to Paris, where, during the winter of 1700, he was wise enough to dissect under Duvernay, the celebrated anatomist. In the spring of 1701 Frère Jacques again operated publicly upon 38 patients with stone and 14 cases of hernia with such success that every patient recovered. This success was placarded all over Paris by order of the Government, and for a time the reputation of Frère Jacques was rehabilitated. Again he went to the provinces, where he continued to operate upon great numbers of persons; but he returned to Paris in November, 1702, to operate upon M. le Maréchal de Lorge. A patient of so high a rank received special treatment. A hospital was fitted up in his house, and 22 patients afflicted with stone were received into it, and were successfully operated upon by Frère Jacques before the Marshal ventured to submit to be cut for the stone. Unhappily, however, he was found at the time of the operation to be suffering from malignant disease of the bladder, and he died a few days afterwards. Frère Jacques took the matter much to heart, though he was generally held blameless. He bestowed the fee he received as an alms amongst the 22 patients he had cured in the Marshal's house, and then returned to his old home in Franche Comté. Thence he passed by Bâle down the Rhine to Amsterdam, where he arrived on July 15th, 1704, and at once proceeded to make the acquaintance of Rau, the great Dutch lithotomist.

In the Netherlands the success of Frère Jacques was as great as it was at first in Paris, but it was more lasting. He was maintained at the public expense; his portrait was painted, and round it was inscribed, "Frater Jacobus de Beaulieu, anchoreta Burgundus, lithotomus omnium Europeorum peritissimus;" a medal of gold was struck with his portrait in profile, and the legend "Pro servatis civibus." It is said that in nineteen years Frère Jacques cut more than 4,500 people for stone, and performed nearly 2,000 operations for strangulated hernia. He returned home once more i 1707, but not for long, as he was soon afterwards operating i Germany, Austria, and Italy, but, returning to Besançon, h died there December 7th, 1714, at the age of 69.

It is a little difficult to appraise the true position of Frè Jacques; that he was a quack in his earlier days was u doubted, but he was also an enthusiast of the best type, f he was willing to learn. His failures taught him much, an though his dexterity was sufficient to enable him to operat successfully, his method of after-treatment during the lat years of his life was greatly conducive to the rapid recover of his patients. Little by little he discarded all dressing and in place of them he would say to his patient, "*Vous voi délivré, et Dieu vous guerira.*" Although Frère Jacques use the lateral operation in cutting for the stone, he did so f many years ignorantly. The credit of the scientific operatio of lateral lithotomy must therefore be attributed to Cheselde the great surgeon of St. Thomas's Hospital; but Lister an Proby had seen Frère Jacques operate in Paris, and they pr bably carried an account of his method to Cheselden.

DEATHS UNDER ANÆSTHETICS.

CHLOROFORM.

WE have received from Mr. Padwick, assistant house-surgeo to the Salop Infirmary, Shrewsbury, the following particu lars of a case of death which occurred in that institution o Friday, October 8th, whilst chloroform was being admini tered. The patient, I. R., aged 62, had had his tongu removed for epithelioma last August, and at a second oper tion had had an infected gland at the angle of the ja removed. The operation about to be performed was f another infected gland below the right ramus of the jaw. O both the previous occasions Mr. Padwick had administere chloroform, and the patient had taken it well. Mr. Padwic had been giving the anæsthetic six minutes, during which tin $1\frac{3}{4}$ drachm had been used, the method of administration beir a piece of lint and a drop-bottle, when the patient struggle for a few seconds, the face became congested, pulse ar respiration ceased, the pulse stopping first. Artificial respir tion, the use of the battery, and other means, failed to pr duce any effect. The heart had been examined previous each administration of chloroform, and nothing abnorm detected.

We extract from a report in the *Durham County Advertiser* October 8th the following account of an inquest on a patient wh died while under the influence of chloroform: The patient w a strong healthy boy, aged 15, who was operated on by Dr. M. Vann for phimosis, chloroform being administered by D Plummer. Before the operation Dr. Vann, who was we acquainted professionally with the lad, carefully examin his heart without detecting any abnormality; nor was a defect observed at the necropsy. The patient took the chlor form extremely well, going under in about five minutes. Th operation was successfully performed, and just before its co clusion Dr. Vann told the anæsthetist that he should requi no more chloroform. Dr. Plummer, who had been careful watching the pulse and pupils, and was also observing th respirations, accordingly desisted, but while Dr. Vann w fixing the last bandage it was noticed that the patient's li became dark, and his breathing irregular. Hypodermic i jections of brandy were at once given, and artifici respiration performed, in all for an hour and a quarte in spite of these and other measures, howeve death took place within half an hour of the commenc ment of the operation. In evidence, Dr. Vann stat his belief that death was due to syncope from the action chloroform upon the nerves of the heart, and in corroboratin this Dr. Plummer said that he had seen no similar case in a experience extending to some thousands of chloroform a ministrations. The jury returned a verdict that the deceas died from syncope whilst under the influence of chlorofor administered during an operation, which operation was co ducted with all due care, skill, and judgment.

SIR SQUIRE BANCROFT will give fifty readings of his arrang ment of Dickens's *Christmas Carol* during the coming wint on behalf of hospitals and similar institutions, commenci on November 10th at Hastings.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1897.

SUBSCRIPTIONS to the Association for 1897 became due on January 1st; and notice is hereby given, in accordance with By-law 5, that Branch Secretaries' subscription accounts close on October 31st, and all unpaid subscriptions must be forwarded after that date to the General Secretary, 429, Strand, London. Post-office orders should be made payable to the General Post Office, London.

British Medical Journal.

SATURDAY, NOVEMBER 6TH, 1897.

THE PRESENT POSITION OF THE OUT-PATIENT QUESTION.

It is a matter for sincere congratulation that the grave question of the extent of abuse prevailing in the out-patient departments of our general and special hospitals is at last beginning to attract an adequate amount of attention from the general public. Long as this matter has been discussed in professional circles, it has hitherto been treated by the lay public as a "doctors' question"—something which laymen need not trouble themselves about, because they could not hope to understand it—and which, indeed, concerned the incomes of certain doctors, but was not in any way the business of anyone else. We gladly welcome signs of a more intelligent handling of a question which deals with the probable degradation of a great profession and the pauperisation of our urban population.

Two reports in our issue of October 30th give striking proof of the attention which this matter is now receiving. One is that of the Conference which was held at St. Martin's Town Hall, on October 21st, at which, it is true, the majority of the members and of the speakers were medical men, but which was attended also by many influential laymen, among others by the Earl of Stamford, Sir H. Burdett, Colonel Montefiore, and Mr. Loch. The conference resulted in a resolution to form a Committee—not as Sir H. Burdett appeared to assume, to investigate the question anew, surely has been enough investigated!—but to form some scheme of reform which shall have a practical chance of a trial. The other is the report of a meeting of the Council of the Hospital Sunday Fund, at which a resolution, moved by Sir Sidney Waterlow, and seconded by Sir W. Broadbent, was adopted.[1]

This resolution lays down the principle that in making grants to hospitals the question whether the hospital retains an inquiry officer to detect abuse in the out-patient department should be taken into account. The necessity for some such supervision appears now to be appreciated by the managers of the general hospitals, for a committee appointed at a conference between the hospitals recommended that each general hospital should have an inquiry officer to make investigations into the means of persons applying for treatment. The duties of such an officer would be to prevent the abuse of the charity by persons able to pay for medical treatment, and to refer patients who are destitute or already in receipt of parish relief to the Poor-law authorities.

It is obvious that the plan suggested by the Hospital Sunday Fund, if seriously supported by that Fund, which holds to so large an extent the power of the purse, may have far-reaching effects. But one thing is most urgently needed, and that is that an agreement be arrived at as to the meaning of the word "abuse." Otherwise there is grave danger that the whole thing may result in nothing more than an inquiry into the amount of the patient's weekly wages. At the conference of October 21st there seems to have been too great a tendency to look only at this pecuniary aspect of the subject. While the importance of this aspect of the matter will not be denied, yet it must be held to be subordinate to that of the medical requirements of the case. The main abuse existing in our out-patient departments, we should say, is that they take in far too many cases—cases which they cannot treat with that due deliberation and care which is the first requisite of a case that demands treatment at all; while the second is very similar, namely, that the nature of many cases is not such as hospital treatment is specially fitted to cure.

It has been shown, hundreds of times over, that a man who has been in the receipt of good wages may not on that account alone be an improper applicant for hospital relief, either as an in-patient or out-patient. If the investigation of the proposed inquiry officers is to be limited to the applicant's earnings, without any inquiry into the medical circumstances of his case, it will do harm rather than good. The main object of reducing the numbers of the out-patients is to insure proper and deliberate treatment for those who are left; and (in medical schools) time for the instruction of the students. It is on this account that we trust the suggestion will be fairly considered by the Committee which is to draw up the scheme of reform, that applicants should bring some recommendation from a medical authority. If some plan of this sort could be devised, which would be satisfactory to the hospital authorities and to the practitioners of the neighbourhood, it would do more to bring about good relations between the hospitals and general practitioners, and to assimilate the treatment of the poor to that of the rich, than any other measure. No general practitioner thinks that it is any reflection on his skill, or diagnostic powers, that he sends a patient, from time to time, to see a consultant, and if this is so with persons who can pay consultants' fees, why should it be different with those who cannot?

The great element of success in devising and working any scheme is that there should be a strong sense of the need for improvement, and a willingness to try anything that will tend to produce it. No such scheme can be perfect—at any rate at first—and many of the improvements suggested demand common action to give them a fair chance. For instance, the Secretary of the Royal Free Hospital defended the plan adopted at that hospital of attending to everyone who applies, by urging that if they were to limit their numbers they would only drive those rejected to the next hospital. The answer does not seem a very good one, for each institution should do what it has reason to think best, leaving its neighbour to act for itself. But there is a certain amount of force

[1] The text of the resolution was as follows:—That this Council recommends that at the next meeting of the constituents in December the following clause be added to the laws of the constitution: "That where a hospital having an out-patient department has appointed a special and efficient officer for detecting any abuse in that department, it shall be regarded by the Distribution Committee as an important factor in determining the merits."

in the objection; and it leads us once more to reflect on the sad want of co-operation between our hospitals, and to regret the absence of some central advising Board. The suggestion made by a committee to the recent conference of general hospitals, to which reference has been made above, is a distinct step in advance, and gives hope of more effective co-operation in the future.

Though sensible of all the difficulties of the situation, we are inclined to look upon it somewhat more hopefully than hitherto been possible, and to believe that, in spite of much misconception and much opposition, the cause of reform is advancing.

DANGERS TO STORED WATER.

The dangers of the river as a means of water supply for large communities, even when the water is treated with some little care before being supplied to the public, are pretty well known. We would remind anyone feeling doubts on that point of the admirable report by the late Dr. Barry, whose loss we are still feeling so keenly. Dr. Barry showed most clearly that, notwithstanding the processes to which the water of the Tees was subjected, still, after periods of freshet, large numbers of organisms found their way into the domestic supply. The pollutions of this river higher up the stream were certainly of the grossest. It by no means follows, however, that something of the same kind does not occur, even where much greater care has been taken to protect the sources. Most reservoirs are supplied largely by rivulets, and it is of the utmost importance to those using the stored water that these tributary streams should be kept, not only pure, but free from suspicion.

In many cases, since the sources of supply were first selected, the population in the neighbourhood of the catchment has greatly increased, and pollutions exist to-day which were never anticipated when these waterworks were first planned. But even where this has not taken place, and where the conditions remain much as when the sources of supply were originally chosen, there may yet be dangers of the gravest character. Since many of our finest schemes of water supply were inaugurated the demands of the public, and the demands of our own profession, for a supply above suspicion have become more urgent and more peremptory, and rightly so. Since that time our knowledge of what may lead to disaster has rapidly increased; not slowly, but by leaps and bounds. We now know that it is often on what Sir Frederick Bramwell described as the "next to nothings" that our safety depends. But it is just these "next-to nothings" that the man in the street disregards. The risk is too trifling for a busy man to give it his attention. But, small as the chance of disaster may be, when half a million people are subjected to that risk, it becomes magnified.

To cite one instance. A large Northern city has an excellent and plentiful supply of water, derived chiefly from the moors. The presence of cholera at Hamburg, a few years ago, induced the medical officer of health to draw the attention of the authority to certain possibilities of occasional pollution. A small flour mill at one place, not only sent all its slopwater into the stream, going into one of the reservoirs, but close to this stream (out of sight of the road), was the convenience for the dwelling, reached only by a narrow pathway behind some stabling, close to the brook and along which pathway the contents of the pit had to be conveyed when it was emptied. In another place an inn, beloved by fishermen, faced boldly to the road, but turned its modest back upon the stream. The yard between the inn and the river contained the usual appurtenances, including the pigstye, and the drainage from these went out to a narrow strip of grass land behind, washed by the rivulet when in flood. The drainage of another farm was deliberately carried by a piped drain to an arm of one of the principal reservoirs. In fact there was scarcely a farmhouse, some part of the drainage of whose manure heap did not from time to time find its way to some tributary to the reservoirs. As soon as the attention of the authority was thoroughly aroused, the waterworks committee split themselves up into sections to make a careful survey of the whole catchment area.

But it was one thing to find and quite another to remedy these evils. The average farmer cannot understand a desire to remove conditions under which he has enjoyed the best of health. And the squire, before whom he is summoned, expects, not the probability of a nuisance, but the actual pollution itself to be proved. Much good resulted in the case we quote from the energy of the committee, who frequently undertook to carry out necessary improvements themselves, but the difficulty still remained of getting the improved conditions made to work. Relapse was the rule. The Corporation then wisely resolved to go in for the purchase of the greater part of their catchment area, and become themselves the landlords of these careless tenants.

We cite this but as a type, only too common, of the dangers threatening even apparently pure upland waters. Had a man from Hamburg, incubating cholera, visited that flour mill, been there taken ill and used that convenience during that hot summer, the risk to the half million drinking that water is not a pleasant one to dwell upon. But even in ordinary years the son of the farmer at the house mentioned, coming home with ambulatory typhoid, or an angler seized with the same disease at the pleasant little inn, might cause an amount of mischief fearful to contemplate. The risk of such an accident might not be very great, and the bacillus would have to take its chance with the filters. But even filters do not always act, and typhoid is not a rare disease. We should profit by the lessons read to us at Lynn and Maidstone, and demand from those in charge of our storage reservoirs as high a coefficient of safety in regard to the purity of the water as we insist upon in regard to the strength of the embankments.

But it is often just this coefficient of safety that it is so difficult to secure. The statutory powers of preventing pollution are chiefly the nuisance clauses of the Public Health Acts, the Rivers Pollution Prevention Act, and Section lxi of the Waterworks Clauses Act, 1847. The last are at once the oldest and the strongest, but, for the reason already given, they are quite inadequate. In the case given above even the objectionable privy could not have been got rid of under any of these powers. Had anyone emptied its contents into the stream he could have been proceeded against after the offence. But the power to prosecute the thief who has stolen the horse does not make it less desirable to have some efficient lock to the stable door. Every waterworks company, every local authority supplying their district with water should have statutory powers enabling them to construct works for the protection, as well as the storage, o

he supply. Such powers should, with proper securities for the rights of property, enable them to remove, at their own expense, any such dangerous conditions as the conveniences to the mill referred to above. They should be able to remove or relay any existing drain threatening pollution to the stream, and to provide proper treatment for the overflow from the farmyard. No drain or sewer should, of course, be laid without their sanction and consent. Above all, there should be some outside authority —say the County Council or Local Government Board—to whom an appeal could be made.

Most municipal authorities are zealous in guarding their water supplies; but even Homer nods. Sections were introduced into the Waterworks Clauses Act of 1863 by which any person interested in the security of an embankment can complain to two justices, who have summary powers, extending even to partly emptying the reservoir if they find the complaint well founded. But to prevent some obviously impending but not at the time actually existing pollution of the sources, the owners of the waterworks may require to make application to the Legislature. The water authorities certainly require further powers to enable them to protect the purity of their supply; but who shall watch the watchers of the stream?

CUR FRUSTRA?

An article on the Art of Healing in a recent issue of the *Catholic Times* is so strange a mixture of knowledge and ignorance that its calls for some remark. The argument runs that all medical study ought to be directed to the healing of the sick, and that the medical men of the previous generation were led away from this into the study of evolution and of nervous diseases, neither of which were pursued with a view to healing, nor have resulted in any practical benefit.

Evolution—which the writer derides as a dead hypothesis —does not need our defence. But why on earth should it be described as a part of the medical study of a past generation? It is a branch of science apart from medicine, and the men who have carried it on have not been physicians but biologists. It no doubt interested most men of science, but it was never supposed to form any part of the science of medicine, though the theory has not been without an important influence on medical thought.

The quarrel with the neurologists is more plausible. Briefly put, it is that all study of the nervous system has been one of macroscopic or microscopic topography, that though the work done has been enormous it has not improved treatment, and that "it is the biological origin of disease that we want to know about, not the topography of its last stages." It is curious that a writer who evidently knows something of medicine should yet know so little.

Neurology has followed exactly the same lines as other branches of medical research. It began by observing symptoms, went on to observe morbid lesions, and added the proof of experiment. Its object has throughout been the cure of disease, and it has attempted this both directly by the trial of many drugs, such as arsenic, the bromides, the iodides, strychnine, and others, by the use of electricity, by the mechanical application of extension, by the injection of extracts of various organs, by mental suggestion, and in many other ways, all founded on theories of biological process, and also indirectly by learning the physiology of the nervous system, so that by topographical knowledge it has brought surgery to bear on many diseases till now intractable.

In the minds of laymen there is always an idea that physicians can find out how to cure disease without knowing what the disease is. Happy accident has occasionally given us such power, but there is no clue to guide us in the search for chance. The only possible method in which our own effort can advance treatment is by applying such drugs or such methods as seem likely (from our knowledge of physiology, pathology, and therapeutics) to have an effect on the given case. The question every physician sets himself is, What tissue is diseased in this patient, and by what process is it affected? If he can tell so much then from the known action of treatment in other cases, he reasons that such-and-such treatment should be here applied. If he cannot make these inquiries, and cannot thus reason, he has no ground for supposing that any of the resources at his disposal will be more effective than raw apples. If he can, then he will always try to make his knowledge more exact that he may reason the more surely for treatment.

It is quite true that many of the diseases of the nervous system have turned out to be intractable degenerations. It becomes now the question whether we can discover the original cause of these, what the *Catholic Times* calls the biological process by which they arise. In many cases we have already gone far in this direction. The connection of syphilis with locomotor ataxia, the degenerations consequent upon lesion of centres, the neuritis of chemical and of microbic origin, and, above all, the enormous influence of inheritance, are all instances in which we have already done that which we are blamed for not doing. Some of these discoveries—as, for instance, that of alcoholic neuritis—at once inform us of the proper treatment, others tell us that we can do very little, while others enable us to warn patients that they must take special precautions or live in special ways if they wish to escape the danger to which they are exposed.

If a man knows where to find a thing, it does not take him long to find it. But the secrets of Nature are among the things whose hiding places we do not know. We have no clue before we begin to search where they will be hidden, and we have no other way than "to seek diligently" until we find them.

Mr. F. Richardson Cross, M.B., has been offered and has accepted the office of High Sheriff of Bristol for the ensuing municipal year.

Her Majesty the Queen has been graciously pleased to confer the Jubilee Commemoration Medal, 1897, on Surgeon-Major-General John Butler Hamilton, M.D., Principal Medical Officer, Western District.

VACCINATION AGAINST TYPHOID.

The Professor of Pathology at Netley has, we understand, had an interview with the Commander-in-Chief on the subject of immunising our troops by vaccination against typhoid. Professor Wright inoculated all the last batch of candidates for the Indian Medical Service, as well as himself and Surgeon-Major Semple. Lord Wolseley's views on the desirability of affording the protection by vaccination against typhoid to our troops are not yet announced. Any measure that gives a fair chance of mitigating the ravages of enteric among our

young soldiers in India is worth a trial, provided no immediate danger or risk is incurred thereby, and no such danger attends the inoculations made in the manner devised by Professor Wright.

EDINBURGH MEDICAL SOCIETIES.

The first meeting of the Medico-Chirurgical Society took place on Wednesday, November 3rd, when some patients and specimens were shown, a paper read, and the President's valedictory address given. The Obstetric Society follows with its first meeting on Wednesday, November 10th. The Royal Medical Society has also entered on the new session.

THE MORISON LECTURES.

The first of the Morison lectures for the present year was given in the Hall of the Royal College of Physicians of Edinburgh on November 1st, by Dr. Alexander Morison, the lecturer for the year. The subject of the course is The Anatomy and Physiology of the Nervous Mechanism of the Viscera. The lecturer discussed the methods employed by histologists in investigating the peripheral nervous system, and dealt with and demonstrated the innervation of the secreting cell, the cell of involuntary muscular fibre, and the cell of blood vessels. These anatomical and physiological lectures are preliminary to a consideration of the part played by the nervous system in diseases and disorders of the viscera.

FORCIBLE STRAIGHTENING OF THE SPINE.

At the meeting of the Clinical Society of London, on Friday, November 12th, a series of cases of forcible rectification of the deformity in Pott's disease of the spine will be brought forward by Messrs. A. H. Tubby, of London, and Robert Jones, of Liverpool. Dr. Calot, the introducer of the method, will be present, and no doubt the cases will be the subject of full discussion.

PAUPER NURSES OR SERVANTS?

Dr. Joseph Smyth, who is an active member of the Irish Workhouse Reform Association, has communicated to the representative of a local paper some views upon the recent nursing orders, which are worth consideration by the workhouse medical officers of both England and Ireland, upon whom devolves the efficient organisation of the new system. The sealed orders for each country being practically identical his views apply equally to both. Each order commences by absolutely prohibiting pauper inmates from acting as nurses or assistant nurses. Then follows a clause which seems to have been somewhat misunderstood. We quote the words: "No pauper inmate of the workhouse shall be employed as an attendant on the sick or lying-in wards of the workhouse, or upon any pauper in the workhouse who requires nursing, unless such inmate shall be approved by the medical officer of the workhouse for the purpose, and shall act under the immediate supervision of a paid officer of the guardians." According to Dr. Smyth's view—and we agree with him—this only gives the medical officer the right of approval of such pauper inmates as he may consider suitable for servants in the sick and lying-in wards, or in individual cases where the nurses require physical assistance, such as delirium tremens, convulsions, lifting helpless patients out of bed, and the like, and does not authorise or permit him to employ or sanction their employment as nurses or assistant nurses. In the Irish Order Article 3 specifies "the nurse," "the other nurses," "the assistant nurses," and "the attendants," thus marking the distinction. This is a point which the medical officers should bear in mind, for the sealed order places the responsibility directly upon them. Dr. Smyth agrees with the views of the English Local Government Board as to the proportion which the nursing staff should bear to the number of beds, namely, one nurse to from ten to fifteen beds, and he suggests that with a sufficient nursing staff one pauper attendant for each twenty-four beds might be enough for menial duties. These proportions, we think, must vary according to the structural and other facilities provided. Many workhouse infirmaries are so badly arranged and so ill provided with nursing appliances that one nurse could not take efficient charge of even ten beds. The most important matter in his view is that medical officers should recognise the strict line of demarcation between nursing duties and menial duties, and also that while large and increased powers have been given to them for the proper conduct and administration of their hospitals, they are accompanied with very much increased responsibility, which they cannot escape or ignore. He also calls attention to the Scotch system, under which the Local Government Board pays half the salaries and cost of all trained nurses employed in workhouse hospitals. We need not say that we highly approve of this Scotch system, and would be glad to see it extended to England and Ireland.

DIPHTHERIA IN LONDON.

Last week there was a marked further increase in the mortality from diphtheria in London. The fatal cases of this disease, which had been 45 and 55 in the two preceding weeks, further rose to 65 during the week ending Saturday last, October 30th; this is the highest number recorded in any week since January last, and exceeded by 17 the average number in the corresponding periods of the ten preceding years. Of the 65 fatal cases of diphtheria registered in the metropolis last week, 7 belonged to Poplar, 6 to St. Pancras, 5 to Bethnal Green, 4 to Battersea, 4 to Camberwell, and 4 to Greenwich sanitary areas. Thirty-four of those deaths were of children under 5 years of age, and 21 (nearly all of which were under 10 years of age) between 5 and 20 years; while no fatal case occurred among persons aged upwards of 20 years. The number of notifications of diphtheria in London which had risen from 299 to 369 in the four preceding weeks, declined to 331 during the week ending Saturday last. There was an increase in the number of notifications in West London, but in each of the other four groups of sanitary areas there was a decline, which was most marked in East London. In Fulham there was a considerable further increase in the prevalence of diphtheria; 16 new cases being notified last week, against 5, 7, and 9 in the three preceding weeks. There was also a further increase in the number of notifications in St. Saviour Southwark, St. George Southwark, Rotherhithe, Battersea, Greenwich, and Plumstead. On the other hand, there was a further decline in the prevalence of diphtheria in St. Pancras, Hackney, Mile End Old Town, and Wandsworth. In Poplar the new cases declined to 20, having been 10 and 33 in the two preceding weeks. The notifications in Camberwell, which had increased from 17 to 29 in the three preceding weeks, declined again to 22 last week. The admissions of diphtheria patients into the Metropolitan Asylums Hospitals during last week were 166, against 153 and 149 in the two preceding weeks; and 1,029 patients remained under treatment in these hospitals on Saturday last.

THE CONVICTION OF THE PECULIAR PEOPLE.

Two members of the sect called the Peculiar People were tried last week at the Central Criminal Court, and were convicted of manslaughter for neglecting to provide medical attendance for their children. This will serve to dispel some illusions which have lately been spread abroad in consequence of the tender treatment which the Peculiar People have only too often had dealt out to them. It cannot be too widely known that the law of the land lays it down that it is a punishable offence if any parent shall "wilfully neglect to provide adequate food, clothing, medical aid, or lodging for his child, being in his custody under the age of 14 years, whereby the health of such child shall have been, or shall be likely to be, seriously injured" (31 and 32 Vict., cap. 122, sect. xxxvii). A case was tried in 1875, Regina *v.* Downes,

nd came before the Court for the Consideration of Crown ases Reserved, to which it had been remitted by Mr. Justice lackburn. In this case, Lord Coleridge, in giving judgıent, said that here was a duty imposed by Act of Parliaıent deliberately and intentionally not fulfilled, and the eath of another thereby caused. Such a state of facts rought the case within the true definition of manslaughter, nd the conviction must be confirmed. Baron Bramwell, Mr. ustice Mellor, Mr. Justice Grove, and Baron Pollock conırred. Baron Bramwell observed that the jury had ound that the man thought that to fulfil the duty imposed y statute was wrong; the law, however, did not excuse a ıan on that account. We have related this case to show ıat the decision given last week is no new application of the w. The whole matter has been carefully gone into long go, and has been decided on the highest authority. So far the law goes, Mr. Justice Ridley, in delivering judgment st week, thoroughly emphasised all this. The distressing ing is that he contented himself with binding the risoners over in their own recognisances in £20 to come up r judgment if called upon. The crime of which these en have been convicted, has been been repeated so often, id with such impunity, that it is high time the law should ow in an unmistakable manner that eccentric theological nets carry with them no licence to kill. Nothing could be ronger than the remarks of the judge. The sect, he said, rogated to itself that it alone, among all the races of the rth, rightly understood the Word of God. According to em all the skill and knowledge which had been gained by es of research ought not to be consulted by man in his rest extremity; the pain to which man was subject was t to be alleviated, nor his sufferings diminished, nor life olonged, or possibly saved, by the aid of the medical culty. They called in their elder, a man whom they called that name, who was ignorant of medical science, and they ight call him in probably because he was ignorant of it. his was an appalling gospel. The consequence of their ctrine was that their children were not sufficiently procted from the ills of life to which they were subject. In e of the cases no fewer than 6 of a family of 11 children had st their lives at an early age. This might happen again. et as the outcome of all this the judge let the prisoners go ee!

QUOD SCRIPSI.

"What I have written I have written, and neither I nor you r anybody else can read it." That is the burden of an ıusing paragraph in *Truth* on doctors' prescriptions. There a good deal of *Truth* in it, and we are sorry to say a little ıth too. Doctors write abominably, and we do not wonder at in many cases chemists are puzzled. It is the same use, we suppose, which leads a man usually to write his n name and address worse than any other part of his letter, the tribulation of editors and others. He writes them so en that he gets a habit of shortening the process by a eroglyphic which is perfectly plain to himself, and which quite illegible to other people. But as for the chemist, ıo said he made out what he could and "guessed the rest," are afraid that the chemist's young man was endeavourg, kindly but mistakenly, to amuse the poor lady who made e inquiry. A second paragraph consoles the public by recting that luckily it does not much matter, for that faith is e main agent in cure. A friend of *Truth's* had an excellent escription which he had always believed to be, and always ınd to be, a specific for rheumatism. Some ruthless critic inted out that it was only a mild tonic, and it never cured rheumatism after that. This sad, sad story is so true to e that we suspect *Truth* of inventing it. It states wittily e of the commonest and most inexplicable things in the ole world. Many who fancy they suffer can be brought to ıcy that they do not. That is perhaps more wonderful than it ems. But many whose sufferings depend upon real and emovable causes can be relieved if they can be made to believe that the treatment will do them good. The person who inspires the belief may be a doctor, may be a friend, may be themselves. Some absurd theory of the nature of their illness leads them to take Mattei's blue electricity or something equally efficacious, and behold they are cured. Faith was defined by the little girl at the Board school as "the power of believing things which you know not to be true." Luckily for human nature, man is a persuadable animal even in Northampton.

"LUNATICS AT LARGE."

"Lunatics at Large. Why Murders are Frequent in London. Men Released 'Cured,' Who Within Forty-eight Hours Give Way to Homicidal Mania." Such are the headings in an evening paper, and we cannot help being struck with the food for sensational writing which lunatics provide. First, it is alleged that too many are kept in asylums, and that it is the duty of the State to see that this does not continue. Next, too many are released, and are sent away without proper provision. It is hard to know how to satisfy the varying moods of our contemporaries. We presume the writer is hardly prepared to return to a primitive method of free trade in lunatics, by which each district shall do as it prefers in relation to detention and release of the insane. Still doctors will have a say in the matter, and probably they know more about these matters than the casual lay writer. The case which has given rise to the alarming paragraphs above quoted is a simple one, such as most superintendents of asylums could match. A man who was admitted to an asylum suffering from insanity, which probably depended on drink, was removed, when better, by his relations and friends, and then, probably returning to his old habits, again speedily became insane and committed the crime of which he is charged. The real defect in the law does not rest with the lunacy authorities, but with the Legislature, which will not take in hand a strong measure for the control, detention, and cure of chronic alcoholics. No day passes but neurological physicians and many others too are asked to advise as to the treatment of such cases, and the treatment cannot be carried out for want of authority. This being so, murders will occur and the public will suffer. It would be a very good thing if our evening contemporaries would turn their attention more particularly to this subject, and preach to their readers a gospel of cleanliness and sobriety. If a text is wanted it will be found in the recent report, to the importance of which we called attention in the British Medical Journal of October 16th, of the Pathologist (Dr. Mott, F.R.S.) to the Asylums Committee of the London County Council.

ABERDEEN ROYAL INFIRMARY.

The opening of the new block of buildings at the Aberdeen Royal Infirmary last week marked the completion of the scheme of extension instituted in commemoration of Her Majesty's Jubilee. The block consists in the main of three floors, which are allocated to the three physicians, a fourth floor being occupied by isolation wards. Each of the main floors consists of two large wards connected by a passage into which open the sisters' and physicians' rooms, small isolation wards, etc. Beyond each of the main wards is a well-lighted sitting-room for convalescents. Every effort has been made to ensure the comfort of the patients in the arrangements for sanitation, heating, and ventilation, which have been carried out on the newest principles. The opening ceremony was most gracefully performed by the Dowager Countess of Erroll, in the presence of the Lord Provost, the Vice-Chancellor of the University, and other representatives from the University, the town, and from the directorate and staff of the infirmary. An address was presented by the directors of the infirmary to Lady Erroll, in which mention was made of the maintenance by the community of the

institution for now 160 years, of the various additions made during that period, of the entire reconstruction of the infirmary sixty years ago, and of the present complete reorganisation, with the addition of two pavilions for medical and surgical cases respectively which are now completed. After reading the address, Colonel Allardyce, the Chairman of Directors, referred to the large share in the scheme of reorganisation which belonged to Sir William Henderson, who was Lord Provost in the Jubilee year, and referred to the cost of the new Royal Infirmary as being upwards of £70,000. He mentioned also the large convalescent home, beautifully situated on Deeside some four miles from the city, as being now complete and ready for occupation.

NEW GENERAL HOSPITAL AT KETTERING.

SIX years ago, at a public meeting, it was determined that, having regard to the great growth of the town of Kettering, it was desirable that a hospital should be erected for severe cases of accident and disease, which could not be treated satisfactorily at home. The Duke of Buccleuch presented a site, and, with the co-operation of the inhabitants of the surrounding districts, a sum of (in round numbers) £10,000 was raised. The hospital, which was formally opened by the Hon. C. R. Spencer, brother of Earl Spencer, Lord Lieutenant of the County, on October 30th, was handed over to the public use free of debt. The new hospital, which is surrounded by a garden, consists of two wings for male and female patients respectively, and a central administrative block. The operating theatre has been carefully designed, and fitted to meet the requirements of modern aseptic surgesy. The male and female wards each contain ten beds and two cots, and there is also a small private ward. The medical staff consists of the following consulting officers; Messrs. J. W. Dryland, Jas. More, M.D., J. L. Price, J. J. Roughton, and O. van Vestraut; and of the following acting officers: Messrs. J. Allison, M.D., C.M., F.R.C.S.Edin., Leslie W. Dryland, L.R.C.P., M.R.C.S., D. Lee, M.B., M.Ch., and J. P. Roughton, L.R.C.P., M.R.C.S.

THE LONGINGS OF PREGNANT WOMEN.

DR. GALABIN has noted that the well-known unnatural longings of pregnancy may be regarded as bearing some relation to insanity, for in some cases they proceed to such a length as to amount to moral perversion, as for instance when they take the form of dipsomania and kleptomania. In relation to the recent reinterment at Montbard of the remains of Marshal Junot, the *Chronique Médicale* has unearthed a passage from the valuable and very introspective memoirs of the hero's wife, the Duchesse d'Abrantès. Her evidence on "longings" deserve consideration for obvious reasons; she experienced the neurosis in question personally, and, what is more important, this celebrated lady clearly shows that in her case it was apparently a matter of pure suggestion. The Duchess declares that when she found herself pregnant for the first time she was very happy and exceedingly uncomfortable for several months, but had no longings, and had never heard of such things. Suddenly her mother one day exclaimed "Mon Dieu! I have quite forgotten to ask what your 'longing' is!" The lady declared that she had no time to think of taking up an *envie* or *autojo*, as she spent most of her time in being sick. Her lady relatives grew sincerely alarmed; they said that she was in danger, and that if her longing was concealed her offspring would be marked with its symbol. Her sister had longed for cherries at Christmas, and the child she bore was marked with a cherry, which, judging from the Duchess's account, would be called a nævus in our clinical columns. The Duchess racked her wits to find out what she longed for, and at last concluded that she wanted a pineapple. That fruit was out of season, but Marshal Junot found that Madame Bonaparte (afterwards the Empress Josephine) had some hot-house specimens, and that historic lady immediately supplied what was wanted. A remarkable incident followed. Junot hurried home with the pineapple, but Corvisart, who had heard of this interesting case, warned him not to let his wife eat any that evening. This advice was followed. Next morning, when the Duchess was frantic with joy at her longing being gratified, her lord cut up the fruit with great courtesy in her presence, and sugared the slices. Whilst this was being done her frenzy for pineapple suddenly changed to an intense aversion, which never throughout her life underwent further change. The Duchess declares that the revulsion of feeling occurred instantaneously. What was especially remarkable was the fact that she could ever afterwards, as before, take sweets flavoured with pineapple, though she could not tolerate the raw fruit. The child which she bore was not, it would appear, marked with anything like a pineapple. Thus a writer with personal experience of "longings" attests indisputably that they only developed after suggestion, and were actually reversed on gratification. On the other hand, it must not be forgotten that after living in reduced circumstances the Duchesse d'Abrantès died in a *maison de santé* in 1838. Hence the psychological doctrine that "longings" imply mental weakness previous to pregnancy may, after all, apply to her case.

CYTORYCTES VACCINÆ.

BUT little attention has been paid in England to some series of experiments on variola and vaccinia which have aroused great interest among Continental pathologists. It is true that a few papers have been read on the subject by English observers, but they seem to have passed, comparatively speaking, unnoticed. The question referred to is the nature, parasitic or otherwise, of the cell contents in the region of variola and vaccinia vesicles. In 1886 Van der Loeff and in in 1887 L. Pfeiffer independently described protozoa in the contents of variola pocks, but the first really important work on the subject was that of Guarnieri, of Pisa, in 1892. Guarnieri found that the pathological changes under notice began in some of the cells of the spinous layer as an enlargement which did not affect the nucleus. Eventually there developed in the protoplasm a clear space surrounding the nucleus, and often occupying two-thirds of the cell; this contained a number of bodies varying in size from that of the nucleus of an epithelial cell to a micrococcus, and staining deeply and homogeneously with most dyes. They were evidently of a viscous consistency, and were never found within the nuclei. Guarnieri found similar bodies in vaccine pustules artificially produced in sheep and rabbits, and was able also, with the strictest precautions, to produce them in the rabbit's cornea. He examined epithelial cells from the lachrymal secretion in the hanging drop, and found that in many of them there was a small speck looking like a bit of amber, and pushing the nucleus to one side. On the warm stage, at a temperature of 38° to 40° C., slow amœboid movements were seen in these bodies. The granules were better seen in sections, and Guarnieri describes them as multiplying in two ways—by ordinary binary fission and by the formation of gymnospores. No special membrane could be detected covering them, they appeared to lie free in the hollowed-out cell protoplasm. It should be added that Guarnieri spoke of the sporulation with some reserve, as he had not been able to observe it in fresh specimens. Guarnieri's results were criticised in 1893 by Massari and Ferroni, who stated that they had obtained similar cell changes by the action of irritants on the skin, and who regarded the granules described by him as being mainly derivatives of the nuclei, and in a few cases leucocytes. On the other hand, L. Pfeiffer in 1894 published a paper in which he maintained that they were the young forms of the monocystis epithelialis described by him in 1887 as occurring in vaccinia and variola pustules; he has since, however, abandoned this view. Guarnieri's results were still further confirmed in 1894 by Ruffer and Plimmer, and by Jackson Clarke. The former observers failed to detect spore formation, but the latter saw

itotic figures and also chromosomes resembling the sporo-nia of coccidia; subsequent investigators have not been le to see these changes. In 1895 v. Sicherer confirmed uarnieri and L. Pfeiffer's observations by demonstrating milar cell-contents as the result of the injection of fresh ild lymph into the cornea. In the same year L. Pfeiffer tended these results by comparing the effects of inoculation id irritation upon a large number of corneæ in different imals. Inoculation gave rise to the products already de-ribed, but irritation with croton oil, osmic acid, etc., never used their appearance. Wasielewski[1] has recently re-vestigated the whole subject, making his primary object ie exclusion of all other irritative influences than the inocu-tion from the cornea. By careful asepsis he was able to oculate 50 rabbits and 10 guinea-pigs without once causing popyon, and was thus able to follow the changes resulting to the twenty-first day. The materials employed were ycerinated vaccine, fresh child lymph, and the clear watery ntents of variola vesicle. The preparations were fixed by special method, and the sections stained in the manner ed by Hertwig in the demonstration of the chromosomes ascaris. Wasielewski regards the appearances observed due to a parasite—cytoryctes vaccinæ—which reaches its aximum development on the second or third day after in-ulation. In a typical case within fifty hours almost every cell ithin an area of a square millimetre contained foreign bodies, hile leucocytes were absent from both the inoculation track id the surrounding epithelium. These bodies were round, id had the average diameter of 0.5 μ; they frequently but ot invariably lay in a clear zone surrounding the nucleus. ne largest—from 5 to 8 μ in diameter—lay in the cells imme-ately surrounding the inoculation track. They consisted a clear outer and a deeply stained inner zone. Two kinds em to be distinguishable by means of the granules which ey contain; in one the granules are few, equal in size and gular in arrangement; in the other numerous, variable in ze, and irregularly placed. These differences may be asso-ated with multiplication changes, in the first form by spore rmation, in the second by budding. What appear to be ansitional forms have also been observed. The author aims that his researches confirm the existence of a cell rasite whose complete life-history has not yet been termined.

[1] *Centralblatt für Bakteriologie*, etc., 24 and 25, 1897.

A NEW HOSPITAL FOR CONSUMPTION, BELFAST.

THE Forster Green Hospital for Consumption, which will rm a valuable addition to the hospital resources of Belfast, as opened on October 30th. It has become amalgamated ith the Belfast Hospital for Consumption and Chest Dis-ses, which has been carrying on its operations since 1880, first in Donegal Pass, and subsequently in Joy Street and sherwick Place. The change of name was intended as a mpliment to Mr. Forster Green, to whom the new institu-on owes its origin, and who has contributed more than 3,000 to the purchase of the property and the fitting of it r its present purpose. The new hospital is situated at rtbreda, on the Castlereagh hills, within convenient dis-nce of Belfast, but sufficiently far removed from the city fulfil all the necessary hygienic conditions. The situation elevated, airy, yet fairly sheltered, and the soil is favour-le. Accommodation has been provided for forty patients, d arrangements have been made for future extensions. On e ground floor is the dining room for patients, 30 ft. 16; kitchen, 22 ft. by 17, with scullery, pantry, etc.; staff ning room, 24 ft. by 12; smokeroom and store. On the st floor on the left is the boardroom, 17 ft. by 13; and on e right are four wards, each 23 ft. by 17 The next floor ntains sitting and bedrooms for the nursing staff and the atron and seven wards. The upper floor is devoted to rvants' bedrooms, bathrooms, etc. A very complete stem of electric lighting has been introduced, and elec-city is also used for pumping purposes. The heating and ventilating have been carried out on the plenum system. The minimum volume of air supplied according to the contract is 5,000 cubic feet per hour per patient. The air ducts are so arranged that the full volume of air can be delivered unheated or all heated, or divided into separate streams of hot and cold. Belfast is to be congratulated on having made so important a step in the treatment of consumption, and we hope other large towns will establish sanitaria for patients suffering from tuberculous diseases.

ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

A SPECIAL meeting of the Newcastle City Council was held on October 26th to consider the application of the governors of the infirmary for a site upon the Leazes. After a good deal of discussion it was decided by a vote of 33 to 15 to give the site asked for. The stewards of the freemen representing those who have the right to the "eatage" of the land, had a few days before given their unanimous consent. The remaining steps are to call a town meeting to obtain the consent of the citizens, and, that being done, Parliamentary powers will be applied for. The Corporation are promoting other Bills in November, and it is hoped that this may be included amongst them.

TYPHOID FEVER AT UNIVERSITY HOSPITAL.

WE are glad to learn that the statement that one of the nurses attacked with typhoid fever at University College Hospital had died of the disease is erroneous. The error appears to have originated from the fact that one of the older nurses on the private staff of the hospital, who had been suffering from a chronic form of disease for nearly a year, died last week, but her illness was not in any way connected with typhoid fever. At a meeting of the St. Pancras Vestry, held on October 27th, Churchwarden W. H. Matthews, J.P., presiding, the Public Health Committee reported that the recent outbreak of typhoid fever at University College Hospital had occupied their attention. They found that some of the London general hospitals received cases of infectious disease such as typhoid fever, scarlet fever and diphtheria. The Committee were of opinion that, as a matter of routine and general practice, such cases should not be admitted into a general hospital, and that it was no longer as necessary as formerly that they should be admitted as "examples for instruction," since the General Medical Council had prevailed upon the Metropolitan Asylums Board to throw open the infectious hospitals of the Board for the purposes of instruction to senior medical students. The Committee recommended that a communication be addressed to the general hospitals in St. Pancras, and to the General Medical Council against the admission of cases of infectious diseases into general hospitals save in cases of emergency, and then with due precautions. The report was adopted.

YELLOW FEVER IN JAMAICA.

WE are glad to learn that the Government of Jamaica are taking steps to deal effectually by preventive measures with the occurrence of yellow fever in this island. On October 12th a proclamation was issued declaring Law XV of 1897 to be in force in certain parishes. Kingston has been divided into four districts, and special officers, to be called sanitary visitors, have been nominated to make a house-to-house inspection and to report to the health officer of Kingston, who is given special powers to visit and inspect all lodging houses, hotels, and dwelling houses and their premises. Further the duty of notifying cases of infectious disease occurring in a dwelling house is placed upon the occupier. We regret to see that one at least of the Jamaica newspapers attacks the Government for taking these reasonable precautions against the spread of the disease. Nothing could have a more injurious effect upon the prosperity of the colony than for the notion to get abroad that the occurrence of serious epidemic disease

is being concealed. The best way to reassure public opinion is to issue weekly bulletins stating the number of cases of disease which occur, and the results of the preventive measures which are now being taken.

THE CHILDREN OF DRUNKARDS.

IT is well-known that neuroses and diseases of nerve centres are frequent in the children of drunkards. On the other hand, simple malnutrition is not rare in such offspring. A case of this kind was reported in the twenty-fourth number of the *Gazette Hebdomadaire de Médecine et de Chirurgie* for this year. A strong, healthy woman, married, at the age of 17, a man known to be very intemperate. The couple lived together for nine years, and the mother bore five small and sickly children. Four died of exhaustion within ten days after birth, whilst only one lived to four years of age. The mother got a divorce granted, and married a healthy man free from any vice. She has since borne two children; one was four years of age when the report was made, and quite strong; the other was fourteen days old, well-nourished, and free from any sign of weakness. There was no evidence that the first husband or his children were syphilitic, whilst the contrast between his children and those which his former wife bore to her second husband could be explained only in one way, which was self-evident.

WOMEN'S CLOTHING AND STOMACHS.

AT medical congresses homilies have often been delivered, not on excessive apparel, but on the unhygienic and unscientific make of modern dress, especially in the case of the ladies. The Moscow meeting was no exception. Professor Bendersky read a paper on Women's Dress and the Position of their Stomach. Of course he opened his attack by showing that stays are particularly noxious, compressing the thoracic cage. We know that there is much truth in this doctrine, and we also are aware that practically no attention is ever paid to it by the fair sex, who indeed are, as a rule, so specially "well nourished" (as clinical clerks would say), that there must be some exaggeration in the said doctrine. There seems no doubt, however, as was shown a few years ago by a French physician, that constriction of the stomach by the modern "scientifically-made" corset accounts for the troublesome borborygmi very common and very audible in young women. Bendersky, however, insists that stays are not more prejudicial to the abdominal viscera than waistbands and the bands and tapes that fix the top of the drawers and under petticoat. These are particularly deleterious when they pass directly round the body, not over the stays. All bands of this kind tend to press into the space between the stomach and transverse colon. The matter is worse in displacement of the stomach or gastroptosis. The organ lying low becomes directly compressed and forced downwards by bands belonging to clothing. Bendersky indirectly defends braces, which some medical authorities have condemned. He finds that gastroptosis, aggravated in the manner just explained, may exist in men who wear waistbands instead of braces. He refers specially to leather waistbands. The moral of Professor Bendersky's paper is that the top of underclothing and everything else of the nature of a band passing horizontally round the body should be worn outside the stays, or else should be fixed by braces as in men.

ARE THERE SPECIAL NERVES FOR PAIN?

THIS question has lately been the subject of an interesting academical discussion between physiologists of no less authority than Professor Frédéricq of Liége and Professor Richet of Paris, the former affirming and the latter denying the existence of nerves having the definite function of conveying afferent impressions of pain. Curiously enough these exponents of one of the most objective of sciences rely mainly upon psychological arguments in support of their respective views. Thus Frédéricq bases his case for the special nerves on such facts as the longer latent period of painful age compared with tactile sensations, the absence of sensibility to pain in certain cases, the difference in the sensibility of the same spot to pain and touch, and finally the fact that the quality of the sensation of pain is invariable for a stimulus of whatever nature, provided the intensity and the surface affected are the same. Thus the cut of a whip stings or burns the back like a hot iron. Richet's views are held also by Lombroso, and are supported in a recent article by Ph. Tissié.[1] Tissié quotes two experiences of his own to show that pain is only the result of a sensory stimulus powerful enough to produce a special state of disorganisation in the function of the cells. Thus in slipping on the side of his foot he had first the sensation of the shock, and quite a second later that of the pain, which lasted four or five seconds. He also refers to the case of a cyclist who ruptured the right tendo Achillis in lifting the right foot from the ground while mounting, but did not feel the pain, which caused him to faint, till the foot had swung over and reached the pedal. We must confess that to us arguments of this type are not very convincing. On the other hand, we have evidence, such as that of syringomyelia, in which the senses of pain and temperature, but not that of touch, are lost, to show that the paths for these impulses travel up in different regions of the cord. It is possible, too, as Dr. Poore suggests, that the cutaneous apparatus for the reception of these sensations may be distinct. Thus a patient suffering from strychnine poisoning is thrown into agonising convulsions by the touch of a feather of the skin, while his pain is relieved by vigorous kneading and rubbing. The nerve terminations for touch may thus lie superficially to those for pain, and this would account for the former sensation being the first to be appreciated. All cutaneous impulses are, no doubt, derived from a common ancestor, that general protective sense which has given rise to the special senses as well, but for our part we cannot but believe that in the process of division of labour separate terminal organs and distinct nerve fibres have arisen to subserve the various forms of sensation now recognised, and we would maintain that this view, if not absolutely established, is at least strongly supported by the evidence of anatomy and physiology.

THE GENERAL MEDICAL COUNCIL.

THE General Medical Council will meet on November 23rd. The business which will come before it will include reports from committees as well as a considerable number of penal cases. We understand that the President, Sir Richard Quain, has returned from his stay in the country in improved health, but not in a condition which would enable him to take the chair at this session. It is to be feared that during the last session he unwisely did more than his health justified, and he has not recovered from the strain he then underwent. When the Executive Committee meets, arrangements will be made for the performance of the duties of President, but the exact form which these arrangements will assume must depend upon the decision of the Committee.

[1] *Revue Scientifique*, September 25th, 1897.

YELLOW FEVER IN AMERICA.—Yellow fever is now prevalent at Memphis, where 17 cases have occurred, of which 3 have already proved fatal. New cases are also reported from all parts of New Orleans. There is stated to be a general exodus from Memphis, so that the risk of disseminating the epidemic appears to be considerable.

THE foundation stone of the convalescent home at Bognor, in connection with the East London Hospital for Children at Shadwell, was laid on October 28th by Mr. H. W. Trinder, the chairman of the Board of Management. The home will be a three-storeyed building of red brick. It is to cost £4,500, and it is estimated that a further sum of £3,200 will be needed for furniture and other equipment.

OPENING OF THE MEDICAL SCHOOLS:

INTRODUCTORY ADDRESSES.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

By Sir William R. Gowers, M.D., F.R.C.P.Lond., F.R.S.,
Physician to the Hospital; Consulting Physician to University College Hospital.

THE NEURON AND ITS RELATION TO DISEASE.

[Abstract.]

After some words of welcome to those present at the first of the weekly lectures, mention was made of the fact that the older custom was reverted to, and no pecuniary obstacle was placed before attendance, except in the case of those whose object was to make the hospital one of the steps by which they gained the portal to the practice of the profession. To all others Nature was left to give, even from its disorder, such gift of knowledge as it may—with the freedom that is all its own.]

Sir W. R. Gowers then proceeded: The subject of my lecture is that which underlies the word "neuron," a term first used about eight years ago by Waldeyer, and covering the most important addition to our knowledge of the nervous system, in its physiological and pathological relations, which has been made in the second half of this century.

This revolutionary change in our conceptions is due to the use of silver, to the method of staining which is known as Golgi's method. It depends on the influence of silver on structure which has been acted on by chromium, and usually also by osmic acid. That which it does is to reveal in hitherto unknown distinctness the course and form of the processes of the nerve cells in the grey matter. These processes, as you know, divide. It has been hitherto believed that they join, and, joining, constitute continuous paths through the grey matter by which the nerve impulses pass from cell to cell, from group to group, and ultimately from one far-reaching fibre to another. And that which this method has shown is that union cannot be traced, but what is everywhere to be perceived is that these "branching" processes, "dendrons" or "dendrites," as they are termed, end in the ground substance or matrix, as it may be termed, in which the cells lie. In this matrix only the dimmest trace of structure can be seen, and yet there must be an arrangement of its elements.

There is thus discontinuity where there was supposed to be continuity. All nerve fibres, as you know, are prolongations from nerve cells. They belong to the cell and are part of it, so that now there arises before us the vision of a series of discontinuous elements, each consisting of a cell with its processes, and the processes do not join. To each of these elements the word "neuron" has been applied. Yet the nerve impulses pass from one to another; they pass, therefore, by some unseen path through the matrix in which the processes end.

Now, there is in connection with this, although not directly resulting from it, a second most important fact. The method of staining which I have referred to has also established the truth of an observation made and described thirty years ago by Max Schultze, but ignored almost entirely ever since. You have all learned to regard the axis cylinder of a nerve fibre as a single thing, a single conducting path. By the method of staining to which I have referred, and by other methods which have been elaborated from that, it has been proved that the axis cylinder is a complex structure, consisting of a number of fibrils. Obersteiner tells me he has counted fifty in a single axis cylinder. Each of the fibrils is a separate and distinct conducting path. They seem to be composed of a peculiar material, which is separated by another substance, differing a little, but not enough to enable any distinction to be made out by ordinary methods of observation; for instance, by observing it with the highest power in the fresh state. But they differ just enough to permit the chemical influence of the hardening agents, supplemented by the effect of staining agents, to act upon them in such a different way as to make them ultimately distinguishable. It is a fact of very profound significance that the slightest conceivable difference in Nature, utterly invisible to us, responds to the influence of chemical substances so as to be vastly more observable. I say it is significant because it makes us think of the way in which different chemical substances—such as strychnine, atropine, lead, and arsenic—have an action upon special parts of the nervous system, one substance upon one part and another substance upon another part, although the nerve material at the various places seems absolutely identical. The separating material has a more horny aspect, and passes on into the matrix in which the cells lie, and there constitutes a spongy structure called "spongioplasm"; and the material which it separates, which forms these continuous lines of fibrils, as they appear to us, is called the "hyaloplasm," and is apparently the conducting element. There is a sufficient difference between these during life to prevent the passage from one fibril to another of whatever may be the marvellous and mysterious change which flashes along with lightning-like rapidity, and which we call a nerve impulse.

The division of an axis cylinder, regarded as a single conducting tract, cannot subserve any really intelligible use, except to spread over a larger area its connections. The number of separate axis cylinders in the sensory nerves of the skin is not enough to explain the way in which the various forms of sensation are differentiated; but this division we now see to be simply separation of its conducting fibrils; its service at once becomes clear and the localisation is intelligible. Max Schultze observed also the passage of these fibrils through the nerve cells without any interruption. That has also been securely demonstrated and proved by the new method. So that we have this astounding transformation in that which we perceive; we have in every axis cylinder a bundle of separate conducting fibrils, and we have those fibrils passing uninterruptedly through the nerve cells to the branching processes, and ending at the terminations of their branches. From that fact there follows a most momentous fact which is of signal importance to us, and yet which seems imperfectly recognised by those who are working at the subject. Those fibrils passing continuously through the cell body can only conduct through the cell body. Our old conception, so simple, so attractive, that the nerve impulses originate in the cells—fascinating from the analogy of the cells body to a tiny battery originating a current—all that entirely disappears. Moreover, if we find this continuity of the fibrils distinct in some cases, we feel at once that it is one of those fundamental structural arrangements which must be universal, and we must once for all give up the idea that the nerve cells are sources of nerve impulse.

What, then, is the function of the nerve cells? We have to look at each cell as a vital structure, with its processes and fibres consisting chiefly of the fibrils, but with the life of the whole the fibrils are not directly concerned. They are conducting bodies, elements, which pass through the cell, and the impulses which they conduct from the cell must come to the cell by the branching processes, and they must originate at the extremity of those processes.

These impulses must arise at the extremities of the dendrons, in consequence of some influence which passes through the matrix from other processes which conduct from a cell, but how this occurs is a profound mystery. We have no means of conjecturing whether these impulses pass in some way unaltered through the matrix to the extremities of the other dendrons, or whether some influence which is not the same as the conducted impulse is generated in the matrix. But we conceive that this may be a process of excitation of the fresh impulse—a process which is like a stimulation. In the matrix through which some influence must pass there appear to be two elements—hyaloplasm and spongioplasm—and yet they cannot be identical in nature with that in the dendrons; the staining by silver of the dendrons disposes of such a view, for the matrix remains entirely unstained. More we do not know.

It is at first difficult to understand that all these minute extremities of the dendrons should be capable of generating the nerve impulses which pass with such uniformity and effect along the nerve fibres, each fibre so minute, and yet with fifty fibrils in a single axis cylinder. But remember how multiplicity neutralises minuteness. That which is

considerable is composed of that which is infinitely small; and I think with the remembrance of all that difficulty in grasping and holding the new knowledge should vanish.

Let me glance at a few other points. Consider how this discontinuity explains the arrest of secondary degeneration in the grey matter. It stops short of the motor nerve cell, through which, nevertheless, the impulse passes. That has always been a mystery. An impulse passes through the motor nerve cell; there must be continuity of path, why was that degeneration not traceable to the second nerve cell? Now we see that they are not continuous; there is no structural unity between them, and we can better understand why the degeneration does not pass on into the dendron of the next cell. There is no doubt that the degeneration which results from the destruction of the cell involves the short dendron as well as the long fibre, although difficulties have hitherto prevented its early observation.

The chief progress in pathology in the latter part of this century has consisted in the discovery of the immense extent, importance, and profound influence of chemical substance produced by the morbid processes. The new nerve pathology of this period is a chemical pathology. Multiple neuritis was found to be almost always the result of a chemical substance. When organisms of disease produce effects on the nervous system which are manifested by symmetrical derangement of special functions, many of the effects —it may turn out all of them—are the result not of the organisms, but of chemical substances produced by their growth. So the nerves are acted upon by arsenic and other mineral poisons, and we have learned the way in which many other symmetrical results are produced by such mechanisms. These poisons have a certain proclivity to certain parts: we now see that this part is a single neuron. In locomotor ataxy we find that the degeneration occurs in two parts —in the fibres which conduct towards the cord and in the posterior median columns. Both of these belong to the nerve cells of the posterior ganglia, and with the cell, constitute a neuron. Thus we see that tabes is a degeneration of a single neuron, and we know that just the same degeneration is produced by some actual poisons. Hence, that which we call a disease, which we recognise by changes rather widespread in the system, is simply the illustration of the affinity of a poison for one definite nutritional unit.

Another point which we understand better in the light of the new facts is the circumstance that in paralysis agitans we never get structural degeneration of the motor path, although we are compelled by all facts to regard it as a senile degeneration of the motor cortex of the brain. We now see that the spasm and rigidity must be the result of changes at the place at which the impulses arise. All we are justified in doing is to refer the morbid processes to the extremities of the dendrons, and the nutrition and vitality of the dendron depend on the cell body. It ceases to be surprising; and it also ceases to be surprising that all search for morbid changes in the nerve cells has been in vain.

This origin of the nerve impulses at the extremity of the dendrons brings into harmony the functions of the elements of the nervous system, central and peripheral. We now see in the centre the same isolated, separate, minute multiplicity of origin and subsequent blending that we find and are familiar with in the periphery, in the way in which the sensory nerve impulses originate at the terminations of that which we thought to be the divisions of an axis cylinder and now see to be the extremities of its component parts. Compare this with the quite diverse aspect of such an origin of the nerve impulses at the periphery and in the bodies of nerve cells in the centre. We have taken another step onwards when we perceive that primary lateral sclerosis is a degeneration of the fibres of the pyramidal tracts, which begins at their terminations in the grey matter, in the ramifications which terminate the axes of the fibres, and conceive of this as a degenerative process, similar in all essential relations of seat and nature to the degeneration in the peripheral fibres with which we have become familiar as degenerative peripheral neuritis.

The difficulty of readjusting our thoughts seems even greater if we look at such diseases as epilepsy in the new light. We have to conceive the sudden energetic discharge, with all its simultaneity, with no appreciable interval between that which occurs on the two sides of the brain, to be from this infinite multiplicity of motor dendrons. It is enough to make us look back to see whether after all we can have been right in the steps we have taken. But we now perceive in the old conceptions the same difficulties that we have in the new, though we never before realised their existence. We find it no easier to conceive these impulses arising from the nerve molecules of the cells than from those of the dendrons. We have simply the same elements, the minute masses of nerve substance, which are compactly arranged in the cell body, separated at the ends of its processes. There flashes upon us, as it were, the fact that we had been blinded by ideas which seemed to have in them a capacity of explanation wholly illusory.

Such facts as these are essentially practical. They enable you to form more clearly and more adequately that visual picture of the disease which is before you, the ability to construct which can be cultivated and increased so much by use and practice, and which enables a man to obtain a much more clear conception of what there is in the individual case before him, to forecast more accurately its future course, and to discern with more precision by what means that future course may possibly be modified. To make a new conception useful we must become familiar with it. In all that is novel difficulties loom large, and use and wont alone can enable us to gain in power from the gain in knowledge, and to secure that increased service which lies before us, not altogether hidden and yet quite inadequately perceived.

St. George's Hospital Medical School.

The annual distribution of prizes at St. George's Hospital took place in the Board Room of the hospital on Friday, October 29th. The prizes were distributed by Dr. Alex. Hill, Vice-Chancellor of the University of Cambridge, and Master of Downing College. Dr. Isambard Owen, the Dean of the Medical School, introduced Dr. Hill, and read the names of the exhibitioners and prizemen. The William Brown (£100) exhibition was awarded to Mr. H. M. Cooper; the Brackenbury prize in medicine and surgery, the Thompson medal, and the Acland prize in medicine, to Mr. J. H. Evans; entrance scholarships in arts (£50) to Mr. A. V. Elder, Mr. E. W. Dewey and Mr. G. A. Jones; and entrance scholarships in science to Mr. E. de la Fosse Bond, Mr. N. J. M'Cuskie, and Mr. C. J. N. Longridge. Dr. Hill, in addressing the unsuccessful students at the close of the ceremony, said there were many claims for the giving of prizes which no court of examiners could estimate. The value of knowledge very often turned not directly on the brilliance of the student, but upon his dulness. Knowledge was only valuable according to the use which was made of it, not according to its bulk. There was something very much better than making a name in the profession. If they did not love the sciences upon which their profession of medicine was based, they would never love the practice of medicine itself. They must keep alive the idea of the sanctity of their art as an art, despite all temptations to subjugate it to the exigencies of practice, and the first lesson the artist had to learn was how far high failure overstepped the bounds of low success. He congratulated them upon their prospect of work in medicine in the 20th century, as they would be able to practise a real science based upon Nature's own methods. The proceedings concluded with a vote of thanks to the Vice-Chancellor, moved by Mr. Timothy Holmes and seconded by Dr. W. H. Dickinson.

ROYAL COLLEGE OF PHYSICIANS.

The ordinary quarterly Comitia was held on Thursday, October 28th, Sir S. Wilks, Bart., M.D., F.R.S., President, in the chair.

It was announced that the President and Censors had awarded the Jenks scholarship to Mr. G. A. Boston, of Epsom College.

The following were admitted Members: W. C. Bosanquet, M.B.; M. G. Foster, M.D.; F. J. Poynton, M.D.; H. R. Smith, M.D.; J. P. Stewart, M.D.; W. H. B. Stoddart, M.B.

The College Licence was granted to 115 gentlemen, of

whom 34 presented themselves under the five years' curriculum.

A communication was received from Rev. W. J. Harvey asking permission to refer to some manuscripts in possession of the College, and it was referred to the Library Committee.

A communication from the Foreign Office asking the College to report on some poisoned arrows from Uganda was referred to Dr. Sims Woodhead.

Communications were received from the Royal College of Surgeons relating to the proceedings of the Council of that body.

A letter was received from Dr. Walker, M.O.H. Cape Colony, requesting recognition of their laboratories and of the practical courses held there, for the Public Health Diploma of the Royal Colleges, and after the PRESIDENT had warmly eulogised the work of Dr. Walker, who was for many years his colleague at Guy's, was referred to the Committee of Management.

A communication was received from Mr. J. R. Wallace, editor of the *Indian Medical Record*, on a scheme of medical registration for India, and on the motion of Sir JOSEPH FAYRER, seconded by Sir D. DUCKWORTH, it was resolved that the College should support the application in the General Medical Council.

A communication was received from the medical men of Great Yarmouth on the subject of medical aid societies.

The PRESIDENT observed that this memorial was similar to one recently received from Norwich, which had been thoroughly investigated by the College, and it had been found that though the College strongly disapproved of the course of action complained of, and sympathised with the memorialists, it was powerless in the matter.

It was resolved to send the same reply as had been sent to Norwich.

The Senate of the University of Edinburgh communicated the award of the Murchison Scholarship to Percy Theodore Herring, M.B., M.Ch.

Dr. Robert Farquharson resigned his Fellowship and Dr. Llewellyn Williams his Membership, and the resignations were accepted.

A letter was received from the widow of the late Professor Rudolf Heidenhain, Baly Medallist in 1889, announcing his death.

The award of the Weber-Parkes Prize to Dr. Arthur Ransome was formally announced, and leave was given to him to publish parts of his essay; and a second medal was awarded to Dr. Peter Patterson.

Dr. WASHBOURN brought forward the motion of which he had given notice—namely:

To call attention to the course of study required for the First and Second Examinations of the Conjoint Board, and to ask for the appointment of a Committee to report to the College upon the desirability of modifying the regulations with respect to the subject of elementary biology.

He said that prior to 1892 the first eighteen months of the curriculum were devoted to anatomy, physiology, chemistry, and physics. After 1892 biology was added, and it interfered with the other subjects; and the amount of biology that was acquired was insufficient to have any value in the scientific training of the student. Of course there were objections to withdrawing it, but he would prefer to see it withdrawn rather than go on as at present. It might be made to deal more with comparative anatomy, or it might be taken before the student entered, and as a matter of fact this was sometimes done. He thought the Committee ought to answer these two questions—namely: (1) Does it interfere with the other subjects? (2) Is its retention justified by the scientific training students thereby receive?

Dr. BRADFORD, F.R.S., seconded the resolution, quite confirming all that the proposer had said. Since the introduction of this subject there had been a falling off in the standard of both anatomy and physiology at examinations.

Dr. MOORE thought it was their duty to make the examination for the Licence as perfect as possible, but it was most undesirable to be making frequent changes; a grave defect ought to be remedied as soon as possible when proved. When the changes were made it was hoped that chemistry, physics, and biology would become part of secondary education, and there were now twenty-six schools in which biology was taught.

Dr. ORD urged that they must not come to a conclusion in haste; he thought the matter should be postponed for two years.

Dr. PAYNE said that the present scheme had been arrived at after the opinion of all the schools, metropolitan and provincial, had been taken, and no change ought to be made without again consulting those bodies.

After a few words from Dr. PAVY as to the importance of the subject,

Dr. STARLING said that all the physiological teachers were agreed that the introduction of elementary biology had been a mistake. The student only crammed up a smattering of an enormous subject, which, after all, did not form the base of any essential subject. When well done it was a pure luxury, when not learnt thoroughly it was bad.

Dr. OWEN was in favour of putting the subject into a prior stage.

The resolution was then carried, and the PRESIDENT nominated Drs. Washbourn, Gee, Payne, Church, Halliburton, and Moore to form the Committee.

The audited accounts for the year ending September 29th, and the quarterly report of the Finance Committee were received and adopted.

Reports from the Committee of Management and the Laboratories Committee were received and adopted; but as the latter contained an important proposal regarding the future preparation of diphtheria antitoxins for use by the Metropolitan Asylums Board, its adoption was made conditional on the approval of the Conjoint Finance Committee of the two Colleges.

Dr. Norman Moore was re-elected a member of the Committee of Management, and Dr. Payne of the Laboratories Committee.

The quarterly report of the Examiners for the Licence was received and adopted.

Votes of thanks were passed to the donors of books during the past quarter.

CENTENARY OF THE ROYAL INFIRMARY, SHEFFIELD.

THE Royal Infirmary at Sheffield has during the past week been holding a series of celebrations in commemoration of its centenary. The infirmary was opened for the reception of patients on October 4th, 1797. The foresight of the founders was shown not only in erecting a building of excellent proportions, capable of serving its purpose for a long time, but in surrounding it with land of such dimensions that ample space has always been available for the building of additions as they became necessary. More even than this, for part of the 32 acres of land on which the original building was placed has for many years been leased for building purposes, and the rent thus secured, though very small comparatively to the whole of the necessary yearly income, has still been a most useful and acceptable nest egg. The additions made to the infirmary from time to time provided up to recently altogether accommodation for 200 patients, but the number of beds has been largely augmented by the buildings opened by the Lady Mary Howard on October 29th, and the total beds available will for the future be about 240.

The nursing staff of the infirmary had long outgrown the accommodation, and increased beds were also needed for ophthalmic patients. Two years ago, therefore, a public meeting was held, the Duke of Norfolk in the chair, at which an appeal was made for £20,000 for building a nurses' house, a new ophthalmic block, a laundry, and to allow of structural alterations which would provide better accommodation for dermatological cases, isolation wards, and a new operating theatre. The response was most hearty and rapid, and the full amount asked for was soon forthcoming. As time, however, has gone on, it has been shown that the improvements in the old buildings will be more costly and extensive that at first expected, and therefore an additional £5,000 is to be asked for, and with the present warm feeling towards the infirmary which has been evoked by the centenary celebrations, there is little doubt that the money will be readily given.

The new buildings already erected or in course of construction consist of an ophthalmic block, nurses' house, and laundry. The ophthalmic block is connected by a corridor with a detached building erected in 1873, and used mostly for surgical cases. It consists of a large ward for 15 patients on the ground floor, together with ward kitchen, small ward for two or three beds, and other offices. On the next floor is a similar ward, a small ward, and ward kitchen. There is a well-appointed operating theatre. Like the wards the floor is of terrazie; the walls of the theatre are of marble and Derbyshire spar. The general plumbing arrangements are of the most modern patterns. Provision is made for 34 patients. The nurses' home is a handsome building, devoted entirely to the nursing staff. Provision is made for 60 nurses, and each is to have a separate bedroom, and there are also common sitting and dining rooms. A new laundry is being erected, together with a dead house and *post-mortem* room, clinical laboratory, etc. All the new buildings are fitted with the electric light, which is also forthwith to be extended to the older buildings. Altogether, the one hundredth birthday of the institution is to be commemorated by new buildings and alterations in the pre-existing ones, which will render the infirmary well equipped to meet the requirements of the present day.

The opening of the infirmary in 1797 evoked the greatest enthusiasm. It is stated that "the infirmary was opened amid general rejoicing." A procession (preceded by a sermon by the Vicar of Sheffield) consisting of the magistrates, clergy, and prominent townsmen, together with the Freemasons and trade societies, promenaded the town, and proceeded to the infirmary, where amidst cheers, the institution was declared open to the suffering poor. A dinner followed, at which were present the Duke of Devonshire, Earl Fitzwilliam, Viscount Galway, and other noblemen. A ball closed the festivities on that day. On the next there was a gala performance at the theatre. Sheffield at this time had a population of 30,000, now it has fully ten times that number.

Into the celebrations of the centenary the citizens have entered most warmly. Circumstances rendered it impossible to hold the ceremony on the actual day, October 4th, and the commemoration took place on October 28th and 29th. On the centennial day, however, a thanksgiving service was held in the chapel at the infirmary, and a sermon was preached by the Vicar of Sheffield, as had been done by his predecessor a hundred years before.

The celebrations commenced with a public dinner in the Cutlers' Hall on October 28th. The Duke of Norfolk, President of the infirmary, presided, and had on one side Sir William Mac Cormac, President of the College of Surgeons, and on the other Sir William Broadbent. Altogether 230 sat down, the gathering consisting of prominent citizens and a large number of the medical profession. The toast of "The Royal Infirmary" was proposed by Sir William Broadbent, and coupled with the names of Mr. John Marshall, Chairman of the Weekly Board, and Mr. Simeon Snell, the senior member of the medical staff. Dr. Dyson, senior physician, proposed "The Medical Corporations," for which the President of the College of Physicians replied. Sir H. Stephenson gave "The City of Sheffield," coupled with the name of the Lord Mayor (the Duke of Norfolk).

On the following day a reception in commemoration of the centenary was held at the infirmary by the President (the Duke of Norfolk), the Weekly Board, and the medical staff, when Lady Mary Howard, sister of the duke, declared the new buildings open. The gathering was most successful in every respect. It is calculated that more than 3,000 attended.

On the evening of the same day (October 29th) a public ball was held. This again was most successful, fully 600 being present.

Altogether the centenary of the infirmary has evoked an interest in the institution and its work which has been most pleasing, and testifies to the hold, after a hundred years, it still has upon the affections of the citizens.

The late Mrs. Caroline E. S. Allen has by her will bequeathed £100 each to St. Mary's Hospital, Paddington; the Samaritan Free Hospital for Women; and the Hospital for Sick Children, Great Ormond Street.

THE OUTBREAKS OF TYPHOID FEVER.

MAIDSTONE.

The Report of the Medical Officer.

Typhoid Fever and Sewer Gas—Dr. Washbourn's Analysis.

The epidemic of typhoid fever that has so severely tried the town of Maidstone is at last practically over; for although cases continue to occur, there can be no reasonable doubt that these are due to secondary infection. The average number of cases for the week ending October 27th had fallen to 6.9 per day, against 12.2, 26.4, 69.4, and 74.4 per day for the four preceding weeks. Mr. Adams, the medical officer, asserted at a recent meeting of the Urban District Council that one of the chief obstacles to the final disappearance of the disease were the foul, hand-flushed closets and the foul house drains of the town. He further remarked that "the sewerage system of the town could by no possibility be made to work satisfactorily without an adequate water supply properly applied." A report which he presented to the council in 1892 showed that that there were somewhat about 6,000 dwelling houses in the borough, more than 4,000 of which had closets attached to imperfectly-flushed drains, constituting to all intents and purposes nothing less than elongated cesspools, emitting disease-provoking vapours. In 1895 he reported much complaint had been made of the street ventilators, and he then expressed the opinion that when effectual flushing of every water closet and tributary house drain was rigorously enforced the ground for such complaint would completely disappear.

We are here brought face to face again with the theory of the possibility of sewer gas acting if not as the actual cause of typhoid fever, yet as a predisposing factor. It may be as well, therefore, to review briefly the present state of our knowledge as to the bearing of this factor in epidemic typhoid.

Of direct experimental evidence as to breathing sewer gas causing or predisposing to infection we have the recent experiments of Alessi, carried out at the Hygienic Institute at Rome. He took rats, guinea-pigs, and rabbits, and exposed them to the action of putrid gases. After a while he inoculated them with pure cultures of typhoid. Of the rats so treated 75 per cent. died, of the guinea-pigs 78 per cent., and the rabbits nearly every one. As a control experiment, Alessi inoculated with exactly the same doses 41 rats, 19 guinea-pigs, and 13 rabbits which had not been exposed to any injurious gas, and of these animals only 7 per cent. of the rats died, all the others survived. The final conclusions of this observer, after making a number of experiments, are: That the inspiration of putrid gases predisposes to the pathogenic action of even attenuated typhoid, which predisposition is probably diminished by prolonged breathing of the said gases.

But when we come to the evidence that sewer air contains, or has ever been known to contain, typhoid bacilli, the conclusion is not so evident. It is, of course, not impossible that dried or partially dried bacilli may be suspended in the air. Thus Lassurie (quoted by Professor Dreschfeld in Allbutt's *System*) passed a pulverising spray of water over a quantity of dried typhoid bacilli, and found that the particles of spray carried the bacilli some distance. There is no evidence, however, that sewer air contains, or has ever been known to contain, typhoid germs. We believe we are correct in asserting that up to the present the only pathogenic germ that has been found in sewer air is the staphylococcus pyogenes aureus, which was identified by Uffelmann. Indeed Kirchner has said that "we are entitled to say, with a probability bordering on certainty, that presumably pathogenic germs will never be found in sewer air." The evidence then, such as it is, is distinctly against the possibility of acquiring typhoid directly from sewer gas. There is, however, strong evidence that breathing putrid gases predisposes to its acquisition.

We lay stress on these points because any theory that may gain credence as to the mode of infection in typhoid other than the now universally accepted "waterborne" hypothesis can only do harm. Too much stress cannot be laid on the importance of a pure water supply, and anyone who does not thoroughly appreciate the prime importance of this medium of infection we can only refer to the

icts relative to some 205 typhoid epidemics collected and iscussed bv Mr. Ernest Hart, and embodied in a report repared for the Parliamentary Bills Committee of the ritish Medical Association.

On October 27th Dr. Washbourn presented to the Maidstone rban District Council an interim report with regard to his acteriological examination of the water supplies of the own. He stated that the examination upon which he was ngaged required prolonged and careful investigation, and t the present time was not complete. He detailed his re-earches so far as they had gone, and concluded by stating iat the main fact at which he had arrived was that a sample f water taken from the Tutsham-in-Field spring contained 50 bacteria per cubic centimetre, and, considering the large umber of bacteria belonging to the coli group present, he ad no hesitation in saying that the water was polluted with nimal alvine excreta.

Much disappointment seemed to be felt in the Council that o evidence of the presence of the typhoid bacillus was forth-oming. But is this to be wondered at? Rather would it not ave been remarkable if it had been found. With such an normous number of bacilli coli present the recognition of ie bacillus typhosus would be exceedingly difficult. Nor is ie fact that it was not found of much importance, for, as ne of the councillors remarked, they had already had suffi-ient proof of its presence. The importance of the presence f bacillus coli in spring water, and especially in such large umbers, is very great: it can only mean one thing—pollu-on with animal alvine discharges. Such a source, of course, ust be closed at once.

LYNN.

We cannot imagine a town in a more melancholy position han is the town of King's Lynn at the present time. With nly one water supply, and that not only an infected one, but ne that it is practically impossible to safeguard from infec-on, the prospects of the town are serious indeed. If the uantity of infection in the water is of any magnitude, com-arable, for example, with the quantity that infected the [aidstone Farleigh supply, it is not clear where the end will e; for as matters are now arranged a continual circulation f infective material is provided for. From the river to the anks, and from the banks (by means of the privy pits) to ie river, how long will the circulation last? We cannot too rongly urge on the inhabitants the absolute necessity of oiling all water—not only water for drinking purposes, but addition all water that is used for domestic use, excepting nly that used for flushing purposes. A plate or a dish ashed in infected water may under conceivable circum-ances be sufficient to cause the disease, even if the food aten from it be most carefully sterilised.

The number of cases reported is as follows:

Date.	Cases.					
	Maidstone.			Lynn.		
	Cases.	Daily Notifications.	Deaths.	Cases.	Daily Notifications.	Deaths.
Oct. 21	1,714	14	—	33	5	—
,, 22	1,723	9	104	59	26	—
,, 23	1,726	3	—	103	44	—
,, 24	1,733	7	—	124	21	—
,, 25	1,734	1	—	171	47	—
,, 26	1,742	8	113	201	30	—
,, 27	1,748	6	—	215	14	—
,, 28	1,757	9	—	243	28	4
,, 29	1,762	5	—	254	11	5
,, 30	1,770	8	—	269	15	—
,, 31	1,775	5	—	278	9	—
Nov. 1	1,778	3	—	289	11	—
,, 2	1,781	3	—	306	17	—
,, 3	1,783	2	—	320	14	—

In the report of our Special Commissioner last week the length of the Gaywood river was given as three miles; this was a misprint for eight.

We have received the following letter from Dr. Walter G. Walford (Finchley Road, N.W.) with reference to our Commissioner's report published on October 30th:

Sir,—I was medical officer of health to Lynn from about 1872 to 1881, when I left the town, and though I entirely agree with the tenour of your Commissioner's report (as I have shown by a recent letter to the *Standard*), there are a few inaccuracies in it which should be corrected.

First, he is confused over the names of two villages, Gayton and Gaywood. The village he describes as Gayton is really Gaywood. The former is six miles off the same road, but has nothing to do with the affair. The rivulet in question that brings the water to Lynn is the "Gaywood river." It is about seven miles long, not three as he stated. It is incorrect to say that it drains the valley. This is provided for by a special drain at a lower level, which at some places tunnels under the Gaywood river. But though this intercepts by far the greater part of the drainage, it cannot be denied that there are many places where in heavy rains storm water must wash into the Gaywood river, and I know that nightsoil was occasionally put on the land in these very places. Then the springs that supply it burst out below, and only about 20 feet from Grimston churchyard. There were also a few houses near the river in this locality.

I was continually pointing out these various dangers to the Corporation, who I must say were not blind to them by any means. The question of an improved supply was often discussed, but it was unpopular with the townspeople on account of the expense, and to have forced it on the town then would have unseated many of the councillors. In addition, I must say that we were fortunately almost entirely free from typhoid, having hardly any cases but imported ones during those nine years, and the various analyses of the water that were taken at that time were invariably good. Of course these were mere chemical analyses; then bacteriology was not known. But all this engendered a sense of false security which is probably hardly extinct even now. I am glad to find that the work for a new supply is in progress, and that it is to be drawn from deep wells in the chalk.—I am, etc.,

Walter G. Walford, M.D.

Finchley Road, N.W., Oct. 30th.

BELFAST.

[From our own Correspondent.]

Professor Percy Frankland's Report.—The Dangers of Domestic Cisterns.—Fresh Outbreak in a Suburb.

There has been a good deal of typhoid fever in Belfast during the course of the present year. The type has been on the whole mild and the mortality moderate. The prevalence of the disease led to a searching inquiry into the state of the water supply. On October 8th a resolution was passed by the Works Committee of the Belfast City and District Water Commissioners, requesting Professor Percy F. Frankland to examine and report upon the state of the water supply, and whether there was any foundation for the suggestion that the existing epidemic owed its origin to defects therein.

Dr. Frankland reported upon October 13th, and in his preliminary remarks observes that "it is natural that the prevalence of typhoid fever in Belfast should lead to a searching inquiry being made into the nature of the water supplied to the city, with a view of ascertaining whether such conditions exist as are calculated to bring about the water carriage and dissemination of this malady." He goes on to say that "the water supply of Belfast is derived from gathering grounds which are to a considerable extent under cultivation and support a by no means negligeable population. Such conditions, if they exist even in a much smaller degree than they actually do in the case of Belfast, are in themselves sufficient to render possible the water origin of an epidemic of typhoid. It is obvious, however, that there is hardly a water supply to be found anywhere in which such conditions in a greater or lesser degree do not prevail, and it must be, and actually is, admitted that in the case of almost

all towns the water distribution of typhoid is a theoretical possibility."

He goes on to consider the two sets of evidence available as to the actual probability of typhoid being distributed by the water supply; the bacteriological evidence, and the statistical evidence; the former having regard to the effect upon the bacteria present in water of the various processes to which the water is subjected before reaching the consumer, the latter relating to the actual prevalence of typhoid in towns provided with different types of water supply. It is found that unfiltered Thames water from Hampton contains 1,437 bacteria per cubic centimetre of water; while the same water, after passing through the second storage reservoir, contains only 177 bacilli per cubic centimetre. The Belfast water supply is provided with large storage reservoirs, and also with filter beds. The latter are extensive, and are stated to be efficient. As regards the statistical evidence, Dr. Frankland gives exhaustive figures to show that the prevalence of typhoid fever in any given area does not show any definite ratio to the exposure of the gathering grounds of the water supply to the possibilities of typhoid infection. Thus London, which draws its water supply from an area in which typhoid fever is always more or less prevalent, shows a death-rate from the disease of only 1.9 per 10,000 of the population—a much lower rate than many towns with a theoretically purer water supply. "If London," he continues, "which is supplied with water initially far more exposed to contamination than is that of Belfast, exhibits no excess of typhoid mortality, but, on the contrary, a very low average death-rate from this disease, it is difficult to see why the water of Belfast, which is submitted to the same treatment of storage and filtration as is that supplied to London, should be credited with the communication of this disease, more especially as the Belfast water is subjected to a far more prolonged storage than is the case with any of the water supplied to London." His conclusions are:

1. That while the present sources of the Belfast supply are undoubtedly exposed to a certain amount of contamination, in consequence of the gathering grounds being to some extent populated and under cultivation, the best known methods of rendering this water safe for consumption have been adopted. The supply is, in fact, provided with most extensive storage reservoirs, and with large filtration works.

2. That bacteriological evidence shows that these methods of purification, if properly attended to, furnish efficient barriers against the passage of disease-producing bacteria to the water consumer.

3. That towns which, like London, are supplied with water derived from enormously more populated and cultivated gathering grounds, but which is submitted to these same methods of purification, enjoy the most remarkable freedom from typhoid.

4. That in view of these facts, it appears in the highest degree improbable that the typhoid now prevalent in Belfast should be chargeable to the water as sent to the consumer.

5. That in view of the duplex character of the supply, a water origin of the outbreak would almost certainly be betrayed by its general limitation to one of the two water areas of which Belfast is composed.

6. That simultaneous outbursts of typhoid fever should have taken place in outlying districts dependent on the same supply.

7. That the grave dangers of domestic cisterns require careful consideration, with a view to their use for drinking purposes being discontinued, and that taps on the rising main be provided in all houses.

The above report had somewhat reassured the public mind when fresh anxiety was caused by a sharp outbreak of the disease in Ligoniel, one of the suburbs of Belfast. On October 22nd a special meeting of the Belfast Board of Guardians was held to consider reports from their medical officers of the serious state of things which had arisen. Dr. Milligan, the dispensary doctor for the district of Ligoniel, reported that from October 8th to the date of meeting 55 cases of typhoid fever had occurred in his district. He and Dr. Bigger, the medical superintendent of health, had inspected the district. No evidence had been adduced to fix suspicion upon the milk supply of the neighbourhood. The cases were most numerous at the upper end of the village, and in this part a number of cases were found together. At the lower end of the village the cases were more isolated. Dr. Clibborn, medical inspector to the Local Government Board, said that the sewerage of Ligoniel "could hardly be dignified with the name of a system, and was very bad." He knew of houses being built on land on which sewage matter was discharged. It was agreed to issue handbills containing recommendations made by Dr. Bigger for the prevention of the disease, to publish Section CXLII of the Public Health Act, to supply disinfectants to the inhabitants, and to have a bacteriological analysis of the water made.

While it is to be hoped that this outbreak in Ligoniel will be promptly dealt with, there are no grounds for panic as regards the general state of Belfast. The public health of the city is at present good. The death-rate for the week ending October 23rd was 18 per 1,000, and the zymotic rate 1.9. Both these rates are considerably under the average.

BRISTOL AND CLIFTON.

[From Our Own Correspondent.]

A Milk Epidemic.

The city of Bristol has been visited by a severe epidemic of enteric fever, which has been almost entirely confined to a certain district of Clifton. Even now it is feared that more cases may occur, though the source of infection has been stopped, and every means is being taken to prevent its spread. The history of the epidemic is exceedingly interesting, and shows how, by careful investigation, the cause can be rapidly discovered by a competent and energetic medical officer. On October 16th one or two cases were notified, and though the symptoms were by no means definite clinically, examination of the blood by Widal's method indicated that that the disease was enteric. On October 19th a group of obscure cases from a certain house were submitted to the medical officer of health for examination, and proved to be enteric fever, and within the following days numerous others were sent by the practitioners in attendance, with a like result.

Acting on information received from the notification returns, as well as from personal investigation, the medical officer of health immediately set about discovering the source of infection, with the following instructive result, which was published in his last weekly report. Thirty houses were found to be infected, 27 of which received their milk from two separate distributors—18 from A.; 9 from B. Of the 18 that received their milk from A., 12 got that of a certain farm situate at some distance from the city, and it is probable that the others received milk mixed with that of this farm. B. claimed to bring milk from an entirely different source, but under pressure admitted that he supplemented his supply with that from the same farm that A. did. Thus 27 out of 30 houses were accounted for. It is probable that the three remaining households got their infection at some social entertainment.

The infecting farm, on inspection, proved to be admirably fitted for the distribution of enteric fever. It was situated near a village close to Bristol where the stream which runs through it served as a common sewer, and had a pump within a few yards of the stream for surface water. The water from both well and stream gave identically similar analytical results on examination, and showed extensive pollution.

It is surely a dreadful and scandalous thing that such neglect by the Rural District Council should be allowed to continue, for it is without doubt due to their apathy that this terrible visitation of enteric fever has come about. A cursory inspection of this farm would have discovered this pump, and the supply of milk might have been stopped.

The notable features of this epidemic have been the obscure early symptoms and the large number of domestic servants and children that have fallen victims. The infection of children is not after all so surprising, as they are as a rule the chief consumers of milk in a household. Clifton College has suffered somewhat severely, 26 cases having occurred in one house and several in others, but it is satisfactory to learn that all—both boys, masters, and servants—are progressing favourably.

One or two cases have proved fatal, and it is feared several

re will terminate in the same way. In one case a *post-rtem* examination showed the usual lesions of enteric er.

The notification returns do not fairly represent the in-ence of the epidemic, for examination of them shows that arge number of them which were returned last week might ve been sent in earlier had the symptoms been more pro-nced or definite. The following table shows the returns the last three weeks:

Date.	Cases in Clifton.	Cases in Bristol.	Total.
ek ending October 16th ...	3	3	6
,, ,, 23rd ...	16	2	18
,, ,, 30th ...	100	9	109

t is, perhaps, needless to say that immediately the source infection was discovered to be from the farm the milk pply was stopped.

The Medical Officer of Health has been indefatigable in his empts to trace the source of infection, and is heartily to be ngratulated on the result of his labours. The strain sud-nly thrown on the laboratory of this department in examin-the blood for Widal's test in every case that was submitted been borne in a manner that reflects the highest credit on . Davies and his assistants. It is no light matter to mine, as he has done, over 70 cases and report in twenty-r hours. The assistance he has given to the medical men Clifton in this and in many other ways has been much ap-ciated, and the promptitude with which disinfection of thes and drains was undertaken by the department has ned the warm thanks of the unfortunate residents whose ises have become infected.

THE SAFEGUARDING OF WATER SUPPLIES.

FOLKESTONE.

E very practical result of the present unfortunate pre-ence of typhoid fever has been to awaken local authorities many parts of the country to the prime importance of a pure ter supply. At a recent special meeting of the Folkestone dical Society Dr. Carter proposed and the Society unani-usly carried a resolution, which will be found at page 1342, the effect that the Corporation be asked to take the earliest sible steps to procure an adequate constant supply.

A meeting of the Town Council was held on October 29th, en the following facts came out:

Present Supply Inadequate.

For some time, especially in hot weather, the town supply s not only been inadequate for a constant service, but has addition possessed a slight brownish coloration and dis-reeable taste. On examination, these unpleasant character-ics appeared to be due to vegetable contamination, or her to the fact that, owing to the stagnation in the reser-rs and mains, a large number of algæ and diatoms were sent in the water.

Present Water Not Unwholesome.

The analyst, however, reported that "both by the chemical d bacteriological examination the water is free from sewage ntamination," and is "otherwise well adapted for domestic e and drinking purposes." It was moved and carried by otes to 2, that the Council be recommended to provide eir district, at a cost not exceeding £100,000, with a con-nt or other supply of proper water. In fact, the posi-n is that the Water Company not having, in the opinion of e Council, supplied water of either sufficient purity or in fficient amount, the Council is desirous of having their own pply. We heartily sympathise with the people of Folke-ne in their endeavour to obtain for their town an adequate ter supply, either through the company or through a new nicipal channel. The presence of algæ and diatoms in nking water is not known to be injurious—at least, we know no pathogenic diatoms. Still, their presence must indicate adequate arrangements of some sort, and any system of water supply which is not as perfect as the present state of science can make it is but leaving open lines in the system of defence against waterborne disease.

CHATTERIS.

The present agitation in the matter of public water supply has borne good fruit at Chatteris also. We have received a report on the water and water supply of that place prepared by Dr. Ronald Daniel, medical officer to the Urban District Council. The report, which is very exhaustively and ably made, concludes that "there is little proof of our water having been a disease-producing agent in the past, nevertheless I feel it my duty (writes Dr. Daniel) to impress upon you what might occur in the future." This is emphatically the position to adopt in all questions of safeguarding from waterborne disease. How different has been the attitude of a certain section of the ratepayers at King's Lynn, and with what disastrous results? As Dr. Daniel says: "Polluted water may be drunk for years with impunity, but on the other hand it might with the necessary spark, set up a conflagration, and this is the contingency upon which rests your responsibility."

CHESTERFIELD.

We have received a copy of a placard issued by the Chesterfield Rural District Council, cautioning the people to boil all waters taken from ponds, ditches, shallow and disused wells, or any other doubtful sources, intended for drinking or cooking purposes. The issue of such a notice can only be commended, but we are sorry that it should have been found necessary to advise such caution. A town of the size of Chesterfield surely ought to be in a position to provide a proper water supply, without the inhabitants of even the surrounding country finding it necessary to use water from "ditches" and "disused wells" for drinking purposes. As we point out in the case of Folkestone, the present unfortunate prevalence of typhoid fever is having a very salutary effect in rousing local authorities to the importance of a pure supply, but if it goes no further than the issuing of such notices as Chesterfield has felt it necessary to issue, very little good can come. We should have thought that water from "ditches" and "disused wells" should even in non-epidemic times be boiled, and then—preferably thrown away.

BATTLE OF THE CLUBS.

A Novel Provident Scheme for Manchester.

Under this heading the *Manchester Evening News* of October 6th has some paragraphs on a scheme that is about to be attempted by the Rev. Dr. Charles Leach, the pastor of the Cavendish Congregational Church.

The object of the scheme is to form a sort of annual club, which is to furnish medical attendance for members and grant an allowance during sickness, with a sum payable on the death of a member for burial; in the case of women no sick allowance is given, but they are to have the services of the club doctor, and are to be attended in their confinements at a reduced rate, while in the case of the unmarried a premium of £1 is paid to them on marriage. In the case of members of both sexes there is a novelty in the shape of a dividend payable at Christmas, which is calculated to amount to nearly one-third of a member's annual contributions, if he shall happen to have made no calls on the club for sickness during the year. All these benefits would seem to be obtainable at the modest cost of 7d. per week.

This institution appears to resemble what are known in most parts of the country as "Slate Clubs," except that the latter usually do not affect to do more than provide medical attendance; their great defect is that they rarely employ any means to check the entrance into their body of improper members. As all that the doctor gets is 1d. a week a member, and as there is often no examination of members previous to admission, it is obvious that none but those unable to pay ordinary fees should be allowed to join the medical department.

It is to be hoped that any attempt to depreciate professional services will be strenuously opposed, whether it be launched under the pretence of encouraging thrift among

the deserving poor or not. Whenever a public body thinks fit to ask a medical man to give his services at such rates as those paid by ordinary clubs and provident societies, the least it can do is to furnish him with a guarantee that his willingness to assist the poor shall not be made a means of robbing his profession of the payments of those who are well able to pay their fees.

WHAT DO WE ACTUALLY RECEIVE FROM CLUBS?

A JUNIOR PRACTITIONER writes: During the first three years I was in practice on my own account I kept a note of all the visits, consultations, and medicines dispensed to club patients. My cash book I too kept in such a manner that I could at once tell the amounts paid to me by clubs. I had no thought of comparing the two sides of services rendered and fees received till some weeks ago, when an article appeared in one of our leading provincial daily newspapers. In this article the writer justified the frequent calls which club members make on their medical officers for trivial complaints, and said the members gave more than they received, because there was always a large number who were never ill, and these more than compensated for the small number needing the services of the medical officer. Before giving figures, I may say all my clubs are males above 16, with the exception of a small club of juveniles. For the adults (all above 16) I receive half a crown a year, and for the few juveniles I have two shillings a year. I must also further explain that my three years spoken of are ordinary years; that is, there was no epidemic, hence the visiting and consultation lists are not swelled by extraordinary illnesses.

Services.—Visits for three years = 974; medicines going along with these visits in bottles = 400; money value = £130. Many of these visits were late at night, and if they had been paid for at the ordinary rate would have yielded the above sum in round numbers. Consultations and small operations 1,400; at the lowest estimate this should have yielded me = £140. Total = £270.

Receipts.—After deducting the subscriptions which the working man demands from his harder working medical officer, I received in round numbers £143.

I believe that to yield even the smallest visiting and consulting fees which a respectable practitioner who wishes to do his work well cares to accept, the subscription for each club member should not be less than five shillings a year. And friendly societies can easily afford this amount, for they are all wealthy corporations, and are hoarding up money which is never likely to be needed for sick or other pay.

In clubs in which men, women, and children are received the lot of the medical officers is not so easy as mine. When I was an assistant we had such a club, and one month I remember we did equal to £60 worth of work, and our pay was £9.

THE CHAIR OF SURGERY IN GLASGOW AND THE WESTERN INFIRMARY.

THE Senate of the University of Glasgow have now replied to the statement of the managers of the Western Infirmary. The answer of the Senate is an exceedingly temperate and dignified document, the most significant sentences of which are these: "The Senate cannot help expressing their opinion that the sudden withdrawal of Ward 18 from Dr. Macewen's superintendence without explanation, consultation, or forewarning is a step which even the best friends of the managers find it difficult to defend."....."The reply of the managers takes for granted that the arrangement agreed upon in October, 1892, is final and cannot be disturbed. This the Senate are not prepared to admit." The final decision of the Senate is expressed in the closing sentence; the Senate "now think it necessary to affirm that, in their opinion, the withdrawal of Ward 18 leaves the Professor of Surgery without 'reasonable provision' for his clinical teaching in the sense of Article VII in the disposition by the Principal and Professors of the University of Glasgow to the managers of the Western Infirmary." This final decision was taken in a large meeting of the Senate on the motion of Professor Gairdner, seconded by Lord Kelvin, and was agreed to unanimously.

Professor Macewen, in an interview published in the *Glasgow Herald*, has given a history of the difficulties with which he has had to contend owing to the obstructive attitude which appears all along to have been assumed by the managers of the infirmary. One of the most serious difficulties was that the staff of nurses was too small, and quite inadequate to meet emergencies which arise frequently in surgical wards. Among other difficulties enumerated was the character of the operating theatre and other matters referred to in previous articles.

Last Monday on entering his lecture room Professor Macewen was very warmly greeted by the students, and in the course of a few remarks he said, "I have received many letters of sympathy from eminent surgeons in every part of the world," and referred to the support which Lord Lister had given. It was a great satisfaction also to him to know that the statement by the Senate, to which we refer above, had been moved by his old friend Dr. Gairdner, and seconded by Lord Kelvin, and that its adoption had been absolutely unanimous.

CORPORATE AND MEDICAL REFORM COMMITTEE.

DR. GLOVER requests us to publish the following letter, which he has addressed to Mr. Jackson in reply to the letter published in the BRITISH MEDICAL JOURNAL of October 30th, p. 1293:—

"25, Highbury Place, N., Nov. 1st, 1897.

"DEAR MR JACKSON,—It is not seemly that the correspondence on our differing views as to the proper methods of redressing the grievances of medical practitioners should be prolonged. But I must reply, if briefly, to your letter of October 27th, which I shall ask you to regard as my final word. The points of your answer to my last letter are—

"1st. '*You*' [*your predecessor, Mr. Smith, and your colleagues*] '*did not write to me as a Committee, but as private individuals.*'

"Your letters are dated 11, Adam Street, W.C. (not altogether a private house, I think), and are headed with a list of the Executive Committee. There were besides the chairman, Mr. Smith, if not a vice-president, two honorary secretaries. Six ordinary modest medical practitioners do not thus distribute offices and titles amongst themselves. Besides, did you not forecast in the *Times* of October 12th your quick evolution into the Medical and Corporate Association and 'invite the accession of all members of the medical profession?'

"Your second point is, '*I was not asked to answer a single question?*' The words of the letter of October 16th to me are: 'Our committee will feel obliged by the favour of a reply to the letter (October 7th) addressed to you covering a series of questions (*sic*) submitted to candidates at the recent election.' Sir Walter Foster called them a 'long series of questions.' I count questions and sub-questions as thirty to thirty-two, including everything from preliminary education and Mr. R. B. Anderson's grievances 'to the establishment of a State Medical Department in which the General Medical Council shall correspond somewhat in functions and position with those of the Council of India.' I continue to think that for five or six gentlemen under the name of a high-sounding committee to address such importunate demands to—not a candidate but—a representative showed strange conceptions alike of duty and of taste. Equally out of taste is your assumption that for eleven years nothing 'united' has been done to advance a fuller direct representative of the profession and other necessary reforms. I shall not vindicate to you my own share in these efforts or my own consistency and integrity, about which you seem unnecessarily unhappy.

"There is one negative feature in your letter. You omit all allusion to your brave resolution in certain eventualities to appear at the bar of both Houses. This is wise. You have possibly discovered—what such pilots of a great profession should have discovered before—that no such course is open to you. But I shall further hope that you have on reflection perceived how comic and disproportionate is the suggestion. A few more such ridiculous and dramatic proposals would necessitate, for their fit illustration, a new experiment in

edical literature—a medical *Punch*.—Believe me, dear Mr. ıckson, yours very truly,

"James Grey Glover.

" George Jackson, Esq., F.R.C.S.,
" President of the Corporate and Medical
" Reform Committee."

CONDITION OF THE RIVER BRENT.

r the meeting of the Middlesex County Council on October ·th, the Parliamentary Committee recommended that a Bill e promoted in the next session of Parliament for dealing ith the pollution of the river Brent, if the Local Govern- ent Board will not surcharge the county with the cost.

The Bill is to empower the Council "to dredge, cleanse, ıd scour, alter and improve the bed and channel, to abate all ıisances, to prohibit the discharge into any stream of water to injure the banks, bed, or channel, to provide dams, uices, to prevent any person or corporation from abstracting ıter in such volume as to injuriously diminish the flow," ıd to prohibit the opening into the stream of any sewer, ain, pipe, or sewage, or other offensive matter.

The report was adopted, and from a letter from Mr. Chaplin was understood that no surcharge would be made.

LITERARY NOTES.

R. George C. Peachey (Brightwalton, Wantage) returns to e subject of the Lettsomian epigram. I have recently, he ites, come across some verses in *Nugæ Canoræ*, 1827, which ay serve to set at rest the difference of opinion as to the rrect reading of the lines attributed to Lettsom. The first rse runs thus, and is evidently a play upon the original in e same metre:

When patients used to come to I,
'Twas "I physics and I sweats 'em";
When after that they chose to die,
It did not grieve—I. Lettsom.

r reasons given below I incline to the following rendering the original as correct:

When people's ill they comes to I,
I physics and I sweats 'em;
If (when) after that they choose to die,
What's that to I?—I. Lettsom.

to line 1, the want of grammar throughout was evidently tentional—it was necessary in order to allow of the final rocity; and the duplication of the ungrammatical pronoun ds point to the whole. In line 2, had Wadd so wished, at is, if it had been so in the original, he could have added bleeds" without spoiling his metre. His omission of the ord is conclusive, for the inverted commas denote that he is quoting from the original. In line 3, as past is to present is the parody the counterpart of the original. While in ne 4 the parody negatives grief, what better way of expres- ng the original words? Note that in the original the per- nal pronoun occurs six times in four lines; it was Lettsom's vourite part of speech. I am aware of other renderings not entioned by your correspondents, but Wadd is particularly ely to be correct for several reasons.

Dr. Frederick Long (Wells, Norfolk) sends us the follow- g extract from *Humphry Clinker*. It is taken from a letter itten by Matt. Bramble, whilst staying at Bath, to his end Dr. Lewis. It probably reflects the prevailing opinion to the contagiousness of consumption, not only in England, t apparently to a much greater degree abroad:

nares are laid for our lives in everything we eat or drink; the very we breathe is loaded with contagion. We cannot even sleep without k of infection. I say infection. This place is the *rendezvous* of the eased. You won't deny that many diseases are infectious; even the nsumption is highly infectious. When a person dies of it in Italy, the l and bedding are destroyed, the other furniture is exposed to the ather, and the apartment whitewashed before it is occupied by any ıer living soul.

would seem, Dr. Long adds, that the opinion was strong at diseases were spread by germs of some kind, and it is freshing to read of the stern measures that were adopted in ose days, even in Italy, to stamp out the disease. Smollett ote this more than 150 years ago, and we may take it that e opinion prevailed from a much earlier period than this.

The *Contemporary Review* for November contains an excel- nt popular article by Sir Edmund Verney, Bart., on the estion of a pure milk supply. Though thoroughly accurate and scientific in spirit, it is written in such a popular manner as to be intelligible to the most unscientific. For instance: "Some kinds of these fascinating little shrubs are endowed with powers of locomotion, others can only pulsate or wave to and fro," is peculiarly happy. Sir Edmund makes the necessity of cleanliness in all dairying operations quite clear, and shows that it rests on a rational bacteriological basis. He relates the striking results of some experiments carried out to prove the great diminution in the number of microbes that milk may contain by conducting the operation of milking on proper lines. He also gives a brief outline of the main facts known as to disease conveyed by milk. The article is well worth reading, and now that typhoid fever is so prevalent appears at a timely moment.

ASSOCIATION INTELLIGENCE.

PROCEEDINGS OF THE COUNCIL.

At a meeting of the Council held in the Council Room of the Association, 429, Strand, London, W.C., on Wednesday, October 20th, 1897,

Present:

Dr. Robert Saundby, President of Council, in the chair.
Dr. Charles Parsons, Treasurer.

Dr. James Barr, Liverpool.
Dr. Rayner W. Batten, Gloucester.
Dr. M. Beverley, Norwich.
Dr. T. Bridgwater, LL.D., Harrow-on-the-Hill.
Mr. H. Langley Browne, West Bromwich.
Mr. Henry T. Butlin, London.
Dr. John A. Campbell, Carlisle.
Dr. James Cantlie, London.
Dr. Alfred H. Carter, Birmingham.
Mr. Andrew Clark, London.
Dr. W. F. Cleveland, London.
Dr. J. Ward Cousins, Portsmouth.
Dr. H. Radcliffe Crocker, London.
Dr. G. W. Crowe, Worcester.
Dr. E. H. Dickinson, Liverpool.
Dr. T. M. Dolan, Halifax.
Dr. W. Dyson, Sheffield.
Mr. George Eastes, London.
Dr. William A. Elliston, Ipswich.
Dr. David W. Finlay, Aberdeen.
Sir B. Walter Foster, M.D., M.P., Birmingham.
Mr. R. S. Fowler, Bath.
Dr. J. H. Galton, Upper Norwood.
Dr. Charles E. Glascott, Manchester.
Dr. A. Godson, Cheadle.
Dr. W. Gordon, Exeter.
Dr. Ogilvie Grant, Inverness.
Dr. Joseph Groves, Carisbrooke, Isle of Wight.
Dr. H. Handford, Nottingham.
Mr. John D. Harries, Shrewsbury.
Dr. J. Hughes Hemming, Kimbolton.
Dr. C. Holman, London.
Mr. T. Vincent Jackson, Wolverhampton.
Mr. Evan Jones, Aberdare.
Mr. Jordan Lloyd, Birmingham.
Dr. D. C. McVail, Glasgow.
Mr. H. J. Manning, Salisbury.
Dr. J. W. Miller, Dundee.
Dr. John William Moore, Dublin.
Mr. W. Jones Morris, Portmadoc.
Mr. R. H. B. Nicholson, Hull.
Dr. J. W. J. Oswald, London.
Dr. Isambard Owen, London.
Mr. C. H. Watts Parkinson, Wimborne Minster.
Dr. Robert W. Philip, Edinburgh.
Dr. H. H. Phillips-Conn, Reading.
Dr. Frank M. Pope, Leicester.
Dr. John Rolston, Devonport.
Dr. William Russell, Edinburgh.
Dr. L. W. Sedgwick, London.
Dr. Alfred Sheen, Cardiff.
Dr. G. E. Shuttleworth, Richmond Hill.
Dr. E. Markham Skerritt, Clifton.
Dr. R. Somerville, Galashiels.
Mr. Henry Stear, Saffron Walden.
Dr. J. Roberts Thomson, Bournemouth.
Dr. W. J. Tyson, Folkestone.
Mr. T. Jenner Verrall, Brighton.
Mr. Joseph White, London.
Mr. G. E. Williamson, Newcastle-on-Tyne.
Dr. W. L. Winterbotham, Bridgwater.
Dr. S. Woodcock, Old Trafford.

Read letters of apology for non-attendance from Dr. Henry

Barnes, Brigade-Surgeon-Lieutenant-Colonel Drake-Brockman, Dr. Bruce Goff, Dr. J. A. Lindsay, Surgeon-Major-General O'Dwyer, Dr. Edwin Rayner, Sir T. Grainger Stewart, Dr. A. R. Urquhart, and Sir Willoughby Wade.

Resolved: That the following resolutions be recommended for adoption at the next annual meeting:

That this meeting recommends His Excellency the Earl of Aberdeen, K.P., G.C.M.G., for election as an honorary member of the British Medical Association.

That this meeting recommends Lord Strathcona and Mount Royal for election as an honorary member of the British Medical Association.

Dr. Tyson (Folkestone), Dr. A. Godson (Cheadle), and Dr. J. A. Campbell (Carlisle), were introduced as new representatives on the Council.

A communication was read asking the Council to receive a deputation from the Corporate and Medical Reform Committee.

Resolved: That the deputation be heard.

The deputation, consisting of Dr. Hugh Woods, Dr. T. Granville Hockridge, Dr. C. Milner-Browne, Dr. J. Wheeler O'Bryen, Mr. A. S. Morton, and Mr. R. B. Anderson was introduced to the Council by Mr. George Brown.

Dr. Hugh Woods then addressed the Council on behalf of the deputation, and read memorial, a copy of which is as follows:

To the President and Council of the British Medical Association.

MR. PRESIDENT AND GENTLEMEN.—1. This deputation is organised by the Corporate and Medical Reform Committee, a name which conveys the objects for the attainment of which the Committee has been constituted, and our deputation represents the views of the signatories of the memorial which has been submitted to your Council and of members of the Committee who, like the President (Mr. Jackson), the Chairman (Mr. Joseph Smith), and Mr. W. G. Dickinson are unavoidably prevented from attending here to-day.

2. The date of the constitution of the Committee is so recent that it as yet possesses little strength, except such as can be derived from any intrinsic value its suggestions and its efforts may possess. The suggestions it has to make to-day, and in support of which this deputation attends, are:

1. The reforms desired by the profession are well known, and are stated in a draft petition submitted together with the formal memorial which has been addressed to you.
2. These reforms are not to be expected from the best efforts of the five representatives on the General Medical Council, but only from Parliament and the nation, which can be moved only by concerted and vigorous action of the whole profession.
3. This great voluntary Association is the sole body able adequately to concert such action; a suggestion we submit with the greatest confidence, in earnestly inviting you to take the steps so easily at your command for that great and worthy object.
4. Prior to moving in Parliament it is necessary to obtain an expression on our just demands from the General Medical Council, and for this purpose we submit to you a form of petition to that body, to which (with such modifications as may be necessary) we ask the help of your Association in obtaining signatures.
5. Besides this (as to which time is pressing) we would invite you to convene a conference of the profession and its public bodies to consider the result of the petition and the adoption of further measures.

3. The initiation of such proceedings will, we respectfully submit, come with grace and dignity from you, who have the numbers, means, and machinery for easily carrying them to success, whilst the difficulty is thus overcome which might prevent powers of less magnitude from risking a refusal.

4. Your memorialists have received very full approval and support in the course they have adopted, from the Plymouth Medical Society, the Norwich Medico-Chirurgical Society, and the Devon and Cornwall Branch of the Incorporated Medical Practitioners' Association, and we entertain no doubt that, had time permitted, many more societies and great numbers of the profession, would have united in these or similar representations, and that no step could be suggested which would give more general satisfaction than this to which they respectfully invite you.

Signed on behalf of the deputation,
HUGH WOODS,
R. B. ANDERSON,
One of the Honorary Secretaries of the
Corporate and Medical Reform Committee.

Dated October 20th, 1897.

Resolved: That, owing to the shortness of time that the Council have had for the consideration of the memorial, it is impossible at this time to express an opinion, and that it be referred to the Parliamentary Bills Committee for consideration and report.

Read resolution passed at the annual general meeting held in London on July 27th, 1897:

That the Council do receive the Draft Obstetric Nurses Bill, and take it into consideration and report thereon to the Association.

Resolved: That the matter be referred to the Parliamentary Bills Committee.

Read resolution of the East Anglian Branch, of which the following is a copy:

At a general meeting of the members of the East Anglian Branch, held at Aldeburgh on Thursday, September 16th, 1897, the President, Mrs. Garrett Anderson, M.D., in the chair, it was unanimously resolved:

That in future no medical men belonging to medical aid associations be elected members of the East Anglian Branch of the British Medical Association.

Also:

That this resolution be forwarded to the Council of the Association with a request that the Council should take similar action, and that copies of these resolutions be sent to the Secretaries of each Branch of the British Medical Association in Great Britain and Ireland.

Resolved: That the resolution of the East Anglian Branch be referred to the General Practitioners and Ethical Committee for consideration and report.

Resolved: That copies of the Report of the Parliamentary Committee on Army Medical Reform be sent to the Council of the Royal College of Surgeons.

The following resolution was reported as passed at the annual general meeting held in London:

That in view of the great emergency for amended legislation for habitual drunkards the members of the British Medical Association be requested to urge personally and by letter on their representatives in Parliament the extreme importance of prompt and effectual amendment in the Inebriates Act, 1879 and 1888, providing for compulsory curative detention of habitual drunkards, with provision for the poorest.

Resolved: That a copy of the resolution be sent to the Secretary of each Branch asking him to call attention to it and that a paragraph be inserted in the JOURNAL.

The following resolution was reported as passed at the annual general meeting held in London:

That it be a recommendation to the Council to appoint a Committee for the purpose of drafting a Bill for the amendment of the Medical Acts.

Resolved: That the matter be referred to the Parliamentary Bills Committee, and that they be asked to reappoint their Subcommittee.

The following resolutions were reported as passed at the annual general meeting held in London:

That this meeting requests the Council to take definite steps to ascertain the opinion of the members of the British Medical Association resident in the United Kingdom on the question of medical defence by means of an individual canvass by reply-paid letter or card.

That the reply-paid letters and post cards should also be sent to members of the Colonial Branches.

Resolved: That a subcommittee be appointed consisting of the President of Council, the Treasurer, Dr. Bridgwater, Dr. Holman, and Mr. Victor Horsley to carry out these resolutions.

The following resolution was reported as passed at the annual general meeting held in London:

That the report of the Constitution Committee be referred back again to the Council with the request that they shall consult the Branches throughout the Association, and that they shall reappoint the Constitution Committee meanwhile.

Resolved: That copies of the report of the Constitution Committee be sent to each Branch of the Association, with a request for an expression of opinion by the Branch.

The following resolution was reported as having been passed at the adjourned general meeting at Montreal:

That in the opinion of this meeting the organisation of a system of district nursing throughout the various Provinces of the Dominion would afford invaluable help in the treatment of the disease, and be a benefit to the sick poor of this Colony.

Resolved: That the same be received and entered on the minutes.

Read letter from the Hon. Thomas Greenway, the Premier of the province of Manitoba, to the Hon. Dr. O'Donnell, who attended the adjourned annual meeting at Montreal:

Winnipeg, August 5th, 1897.

The Hon. Dr. J. H. O'Donnell.

MY DEAR SIR,—As you are going to Montreal to attend the British Medical Association Conference, allow me to say that should the Conference think proper to meet at Winnipeg either next year or at any future time we will welcome them gladly to the West, and do anything we can to make their meeting here a success.

Believe me, yours very truly,
THOS. GREENWAY.

Resolved: That a letter be sent to the Hon. Thomas Greenway thanking him again in the name of the Council, and

retting it is not possible at present to accept the invitation hold the annual meeting at Winnipeg.

Read letter from Mr. Lennox Browne, with suggested reso- ion for annual meeting.

hat the Council be requested to take steps to check the practice of ouncing papers to be read, or parts to be taken in discussions by nbers of the Association who fail to fulfil the promise of their an- ncements.

Resolved: That officers of Sections be requested to satisfy emselves respecting papers offered to them by obtaining stracts of the same before announcing them in the URNAL.

Read letter of thanks from Dr. Arthur Pearce, of Salcombe, the letter of sympathy in support of his application for rease of salary as one of the Poor-law officers of Kings- dge Union.

A memorial *re* Medical Defence was received.

Resolved: That the memorial be received and entered on minutes, but the matter be deferred until the result of the *biscite* is known.

Received a letter with respect to the dispute at Mercer's spital, Dublin.

Resolved: That the writer be requested to submit the tter to the Dublin Branch of the Association.

Resolved: That Messrs. Price, Waterhouse and Co. be re- pointed Public Auditors for the ensuing year, in accordance h By-law 26.

Resolved: That the 86 candidates whose names appear on circular convening the meeting be and they are hereby cted members of the British Medical Association.

Resolved: That the minutes of the Journal and Finance mmittee of to-day's date be received and approved, and recommendations contained therein carried into effect.

he minutes of the Journal and Finance Committee contain the accounts for the quarter amounting to £9,275 6s. 4d., and the report of the auditors.

Resolved: That the minutes of the General Practitioners d Ethical Committee of the 19th instant be received and proved, and the recommendations contained therein carried o effect.

he minutes of the General Practitioners and Ethical Committee contain communications from various medical men respecting medico-ethical matters and resolutions passed upon the same, together with a communication from the National Deposit Friendly Society, upon which the Committee passed a resolution to the effect that it cannot approve or recommend any society, however satisfactory in other respects, which has no rule as to wage limits, and consequently may extend its benefits to unsuitable persons; a communication from the Coventry Provident Dispensary, and memorandum from the Glasgow University Court on the Disciplinary or Penal Powers of the Qualifying Medical Authorities, which was referred to the Parliamentary Bills Committee.

Resolved: That the minutes of the Premises and Library mmittee of the 19th inst. be received and approved, and recommendations contained therein carried into effect.

he minutes of the Premises and Library Committee contain a letter and report on the ventilation of the offices, and a recommendation to the Council for carrying out certain alterations, the report of the Librarian, and a resolution recommending that increased shelf accommodation should be provided if possible for 500 more books.

Resolved: That the minutes of the Parliamentary Bills mmittee of the 19th inst. be received and approved, and recommendations contained therein carried into effect.

arliamentary Bills Committee.—For the proceedings of the Parliamentary Bills Committee, see British Medical Journal, October 30th, p. 1278

Resolved: That the minutes of the Arrangement Com- ttee of the 19th inst. be received and approved, and the ommendations contained therein carried into effect.

he minutes of the Arrangement Committee contain the Programme of the Annual Meeting to be held at Edinburgh.

Resolved: That the annual meeting be held on Tuesday, ly 26th, 1898, and the three following days.

Resolved: That Professor T. R. Fraser be asked to give the dress in Medicine.

Resolved: That Professor Thomas Annandale be asked to e the Address in Surgery.

Resolved: That Dr. J. Batty Tuke be asked to give the ldress in Psychological Medicine.

BRANCH MEETINGS TO BE HELD.

OUTH-EASTERN BRANCH: WEST SUSSEX DISTRICT.—The next meeting l take place at the Worthing Infirmary (Mr. W. S. Simpson in the ir) on Wednesday, November 10th, 1897, at 3.30 P.M. Mr. E. Payne will give a demonstration of the *X* Rays, and cases of interest will be shown.—FRANK HINDS, Honorary Secretary, Worthing.

SOUTH-EASTERN BRANCH: WEST KENT DISTRICT.—In consequence of the prevalence of enteric fever, it is considered advisable to postpone the meeting of this District, which otherwise would have taken place in Maidstone in November.—E. GROUND, M.D., 1, Ashford Road, Maidstone.

SOUTHERN BRANCH: SOUTH-EAST HANTS DISTRICT.—The next evening meeting will be held at the Medical Library, 5, Pembroke Road, Portsmouth, on Tuesday, November 9th, at 9 P.M. Gentlemen wishing to read communications, or to show patients or specimens, are requested to inform the Honorary Secretary previous to the meeting.—C. C. CLAREMONT, M.D., Elm Grove, Southsea.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—The next meeting will be held at the Queen's Hotel, Eastbourne, on Thursday, November 25th, at 3.30 P.M., Dr. J. Adams in the chair. Dinner at 5.30; charge, 6s., exclusive of wine. The following papers have been promised:—Dr. Bagshawe: A case of Ulcerative Endocarditis. Mr. C. Roberts: The Outdoor Treatment of Disease. Mr. W. Ch. Aylward: An Experience of Ninety-Five cases of Diphtheria in Private Practice. Members are invited to exhibit specimens and cases of interest.—J. W. BATTERHAM, M.B., Honorary District Secretary, Bank House, Grand Parade, St. Leonards.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The autumn meeting will be held at Llanelly on Tuesday, November 23rd. Nominations, notices of papers, etc., should be sent in on or before Saturday, November 6th.—A. SHEEN, Cardiff, D. ARTHUR DAVIES, Swansea, Honorary Secretaries.

GRIQUALAND WEST BRANCH.

THE quarterly meeting of this Branch was held at Kimberley Hospital on September 26th, Dr. SYMONDS (President) in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Communications.—Dr. WATKINS read notes of two abdominal cases: (1) A lady who had been suddenly seized with Intense Abdominal Pain and Vomiting, followed some hours later by Enlargement of the Abdomen and signs of Collapse. The abdomen was opened, and it was found that there was acute general peritonitis, due, it was discovered *post mortem*, to rupture of the cicatrix of an old healed ulcer in posterior wall of stomach. (2) A boy, 16 years old, suffering from a Fistulous Opening communicating between the stomach and the transverse colon. Dr. Watkins freely excised the portion of stomach wall involved, and also removed 3 or 4 inches of the transverse colon, which was considerably thickened and strongly adherent to the stomach in the neighbourhood of the lesion. Murphy's button was successfully used to procure end-to-end union of the divided colon. The patient was now (three weeks after operation) progressing favourably; the button passed *per rectum* on the thirteenth day. Dr. LAWSON showed some excellent Microscopic Sections in connection with this case, and was of opinion that the disease was malignant.—Dr. BOOTH described a successful case of Enterorrhaphy for punctured wound of the abdomen involving the descending colon.—Dr. GRIFFITH showed specimens of Leprosy Bacillus obtained from a patient in hospital.—Dr. SYMONDS read a paper on Rheumatism. All the members present joined in the discussion that followed.

YORKSHIRE BRANCH.

THE autumn meeting of the Yorkshire Branch was held at the Grand Hotel, Scarborough, on Saturday, October 30th; Mr. WHEELHOUSE in the chair.

Medical Aid Societies.—The question of admitting medical men belonging to the medical aid associations as members of the Branch and of meeting such men in consultation was discussed. It was resolved to refer the matter to the General Practitioners and Ethical Committee.

New Members.—F. Eurich, M.D., of Bradford, was elected a member of the British Medical Association and of the Yorkshire Banch; W. Barr, M.D., of Harrogate; B. Moynihan, F.R.C.S., of Leeds; and E. Selby, F.R.C.S., of Doncaster, were elected members of the Yorkshire Branch.

Communications.—Mr. JESSOP, of Leeds, read a most interesting paper on a successful case of Pylorectomy, which will be published in an early number.—Dr. GIBSON, of Harrogate, spoke on Furunculosis.—Mr. GODFREY CARTER, of Leeds, read a most valuable paper on the Working of the Health Acts. As the paper contained many interesting and important suggestions, the PRESIDENT expressed the wish

that Mr. Carter should have the paper printed and circulated.

Dinner.—Twenty-nine members were present at the meeting and twenty-three stayed to dinner. Several members remained at Scarborough for the week-end.

WEST SOMERSET BRANCH.

THE autumnal meeting of this Branch was held on October 29th at the Railway Hotel, Taunton. Twelve members were present, Mr. HAYES (President) in the chair.

Minutes.—The minutes of the last meeting were read and confirmed.

New Member.—Dr. G. W. HARVEY BIRD (Bridgwater) was elected a member of the Branch.

Office of Honorary Secretary and Treasurer.—A letter from Dr. Kelly was read resigning these offices owing to ill-health. A resolution was carried unanimously expressing the regret of the Branch at Dr. Kelly's resignation, and its hearty thanks for his services in these offices for thirty-five years. Dr. Meade-King was elected to the vacant offices.

Election of a Member of the Council.—Dr. KELLY was elected to fill the vacant place on the Branch Council.

Army Medical Reform.—It was resolved that this Branch approves of the action taken with regard to the Army Medical Service by the Parliamentary Bills Committee, and endorses the reforms suggested by its subcommittee.

Discussion.—A discussion on nervous depression and its treatment, introduced by the PRESIDENT, was joined in by several members.

Communications.—Communications were dealt with from the East Anglian Branch concerning medical aid associations, and from Dr. WHITLEY, of Colchester, concerning dual notification.

Dinner.—The meeting concluded with a dinner at the Railway Hotel.

SHROPSHIRE AND MID-WALES BRANCH.

THE annual general meeting of this Branch was held at the Salop Infirmary on October 12th. Thirty-eight members were present.

New President.—The retiring President, Dr. LLOYD (Chirk) introduced his successor, Dr. W. CHARNLEY.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Report.—The report of the Branch Council and financial statement for the year was then read. The membership of the Branch has reached 100, as compared with 87 last year.

Election of Officers.—The undermentioned officers of the Branch were duly proposed, seconded, and elected unanimously:—*President-Elect:* Dr. T. Law Webb (Trowbridge). *Honorary Secretary and Treasurer:* Dr. Gardner. *Assistant Secretary:* Mr. Harold H. B. MacLeod. *Branch Representative on Council of the Association and Branch Representative on Parliamentary Bills Committee:* Mr. J. D. Harries. *President of the Clinical and Pathological Section:* Dr. T. Law Webb. *Branch Council* (re-elected as follows): E. Burd, M.D., W. Charnley, M.D., E. Cureton, M.D., W. Bowen Davies, W. Eddowes, H. Nelson Edwards, S. T. Gwynne, M.D., J. D. Haries, G. H. Keyworth, M.B., W. H. Packer, M.D., and H. J. Rope, F.R.C.S. *Auditor:* R. W. O. Withers.

New Members.—The following new members were elected: D. C. Bremner, M.B., C.M. (Bishop's Castle), J. Goodison Boon (Broseley), C. W. O'Connor (Oswestry), R. Edwards, M.B. (Llanfyllin), Felix Jones (Llanfyllin), and W. H. Lewis (Llansaintffraid).

Ethical Committee of Branch.—The following gentlemen, nominated at the spring meeting of the Branch, were unanimously elected as constituting the Ethical Committee of the Branch: Dr. Cureton, Dr. S. T. Gwynne, Mr. J. D. Harries, Dr. Keyworth, Dr. Lloyd, Dr. McCarthy, and the President (*ex-officio*).

Vote of Condolence.—A vote of condolence with the widow of the late Mr. G. A. Tailer (Broseley) was proposed by the PRESIDENT, seconded by Dr. LLOYD, and carried unanimously.

Vote of Thanks.—A vote of thanks to the late President (Dr. LLOYD) was proposed by Mr. HARRIES, seconded by Mr. JACKSON, and carried by acclamation. Dr. LLOYD responded.

Dinner.—After the reading of the papers reported in another column, the annual dinner of the Branch was held in the Music Hall. Fifty-eight members and visitors were present.

STIRLING, KINROSS, AND CLACKMANNAN BRANCH.

THE autumn meeting of this Branch was held in the Station Hotel, Larbert, on Thursday, October 28th, at 4 P.M. There was an excellent attendance, presided over by Dr. LINTON, President of the Branch.

Minutes.—The minutes of the annual general meeting were read and signed.

New Members.—Drs. Beard (Stirling) and A. Mackintosh (Bridge of Allan) were duly proposed, seconded, and elected members of the Branch.

Cases.—Dr. LINTON showed a case of Transposition of Viscera; and Dr. STRACHAN reported one of Addison's Disease treated with suprarenal tabloids.

Army Medical Reform.—Dr. MCVAIL referred to the report of the Subcommittee of the Parliamentary Bills Committee on this subject, and discussed the necessary reforms.—Dr. STRACHAN proposed a vote of thanks to Dr. McVail, which was unanimously agreed to.

Friendly Societies.—Dr. SMITH called attention to the resolutions adopted by the Branch anent these societies, and gave notice of a motion referring to the subject to be proposed by him at next meeting.

East Anglian Branch.—A resolution of this Branch was communicated to the meeting.

Meeting of the Association in Edinburgh in 1898.—It was resolved to offer to entertain such members of the Association as might visit the district of this Branch during the 1898 meeting in Edinburgh, and it was remitted to the Council to make suitable arrangements for this purpose.

STAFFORDSHIRE BRANCH.

THE twenty-fourth annual general meeting was held at the George Hotel, Walsall, on Thursday, October 28th. There were present twenty-two members and three visitors.

Introduction of New President.—The retiring President, Dr. T. RIDLEY BAILEY, took the chair, and introduced his successor, Mr. G. A. PHILLIPS, of Walsall, who then presided over the meeting.

New Members.—Dr. J. A. Codd, Wolverhampton, Dr. A. J. Martin, Bloxwich, and Mr. A. H. W. Hunt, Wolverhampton, were elected members of the Branch.

Presidential Address.—The PRESIDENT delivered a very interesting address on "The Medical World in 1779," for which he was accorded a hearty vote of thanks.

Reports and Financial Statement.—The reports of the Council and the Ethical Committee were adopted, as was also the financial statement, which showed a balance in hand of £14 15s. 2d.

Next Annual Meeting.—It was decided to hold the next annual meeting at Stoke-on-Trent.

Election of Officers.—President-elect: Dr. McAldowie, Stoke. *Vice-Presidents:* Dr. G. Reid and Dr. T. R. Bailey. *General Secretary:* Mr. F. M. Blumer. *Financial Secretary:* Dr. C. Reid. *Auditor:* Mr. W. H. Folker. *Representative on the Council of the Association:* Mr. T. Vincent Jackson. *Representative upon the Parliamentary Bills Committee:* Mr. W. D. Spanton. The Council of twelve members was also elected.

SOUTHERN BRANCH: WINCHESTER DISTRICT.

THE autumn meeting was held on Friday, October 22nd, 1897, at the house of the President (Dr. FULLER ENGLAND) Winchester.

Vote of Thanks.—A vote of thanks was accorded to Dr. Harman for having so ably sustained the credit of this District as President of the annual meeting.

New Members.—Mr. R. O. Moon and Dr. J. Lockhart Livingstone were elected members of the Branch.

Venereal Disease in the Army in India.—The PRESIDENT read letters from three members of Parliament for constituencies in the area of the District in reply to a resolution passed at the May meeting, promising support to measures likely to lessen venereal disease in the army in India.

Communications.—Mr. JOLLYE read notes (with specimen)

of a Case of Aneurysm of the Aortic Arch. The first symptom was dyspnœa, which was relieved by laryngotomy. Death was due to asphyxia, attributed to irritation of the pneumogastric causing spasm of the adductors. Mr. Jollye read also notes of Case of Oral Vertigo and Nerve Deafness following Mumps, which was cured after five months by injections of pilocarpin.—Mr. R. O. Moon read notes on an Evanescent Eruption simulating Syphilis, and a Syphilitic Eruption simulating Variola.—Dr. J. Lockhart Livingstone read a paper on Dry Methods of Sanitation.

Cases.—Surgeon-Major Porter exhibited a case of Symmetrical Ecthyma, and the President a case of Molloscum Fibrosum.

General Medical Council.—It was agreed that at any future election to the General Medical Council an effort should be made to induce all members of this District to vote for one selected candidate.

BATH AND BRISTOL BRANCH.

The first ordinary meeting of the session was held in the Medical Library, University College, Bristol, on Wednesday evening, October 27th, 1897, Mr. F. Richardson Cross, M.B., President, in the chair. Forty-eight members and two visitors were present. Dr. J. Murray Lindsay was elected a member of the Branch. A communication from the East Anglian Branch was read and ordered to be entered on the minutes.

Cases.—The President showed a series of cases illustrating Extraction of Cataract by the simple method. Mr. C. H. Walker remarked on the cases.—Mr. C. H. Walker showed a case of Tumour of the Macular Region of the Fundus, and another case exhibiting a rare form of Disseminated Choroidal Changes in this region. The President made some observations on the cases.

Communications.—Dr. J. L. Firth read a paper on an interesting case of Coxa Vara, giving a general account of the disease. Dr. J. Swain and Mr. Carwardine discussed the case.—Mr. C. A. Morton read an account of a case of Resection of Gangrenous Intestine, and immediate union with Murphy's button, followed by recovery. Messrs. Harsant, J. Swain, P. Bush, and Carwardine took part in the discussion which followed, to which Mr. Morton replied.—Dr. Waldo read a paper on The Prognosis in Cases of Hemiplegia. Drs. Shingleton Smith, Edgeworth, and Mr. Ewens discussed the subject.—Dr. J. Michell Clarke showed: (1) A case of Pure Motor Aphasia; (2) one of Motor and Sensory Aphasia; and (3) one of Verbal Amnesia.

SOUTH INDIAN BRANCH.

The annual meeting of this Branch was held on January 29th, 1897, Surgeon-Major-General Sibthorpe, F.R.C.P.I., President, in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Financial Statement.—The Honorary Treasurer laid the financial statement for 1896 before the meeting. He recommended that members' subscriptions should remain the same as last year, namely, Rs. 26 for town members and Rs. 24 for those in the Mofussil. This was adopted.

Election of Officers.—The election of office-bearers for 1897 was then proceeded with, the result being as follows: *President:* Surgeon-Major-General C. Sibthorpe, F.R.C.P.I. *Vice-President:* Brigade-Surgeon-Lieutenant-Colonel Branfoot, M.B. *Honorary Treasurer:* Surgeon-Lieutenant-Colonel John Maitland, M.D. *Honorary Secretaries:* Surgeon-Major J. Smyth, I.D.; C. B. Rama Rao, L.M.S. *Council:* Surgeon-Lieutenant-Colonel W. R. Browne, M.D., I.M.S.; Surgeon-Captain G. G. Giffard, I.M.S.; Surgeon-Captain L. Palk, M.B., I.M.S.; Surgeon-Major J. L. Van Geyzel, M.B., I.M.S.; Surgeon-Lieutenant-Colonel G. L. Walker, M.D., I.M.S. *Home Representative:* Brigade-Surgeon-Lieutenant-Colonel E. F. Drake-Brockman.

Case.—Surgeon-Lieutenant-Colonel Maitland showed a patient on whom he had performed Osteotomy of the Right Femur below the Great Trochanter on account of bony ankylosis of the hip-joint, the thigh being fixed at right angles to the trunk. The limb was now parallel to the axis of the trunk, and, though shortened, was very useful. He exhibited a radiograph of the parts, taken by Surgeon-Major Van Geyzel.

Further Observations on the Transformation of Crescents.—A paper bearing this title by Surgeon-Major Ronald Ross was read by Surgeon-Captain Grant.

A meeting was held on March 25th, Surgeon-General Sibthorpe (President) in the chair.

Dr. Bahadurjee's Resolution.—A letter having been received early in the year from the General Secretary, British Medical Association, asking the members of the South Indian Branch to kindly furnish their opinion and report on Dr. Bahadurjee's motion at the British Medical Association meeting at Carlisle on July 28th, 1896; the Council of the Branch elected a Committee to draw up a draft resolution for submission to a special meeting of the Branch. Surgeon-Lieutenant-Colonel Maitland, Surgeon-Lieutenant-Colonel Walker, and Surgeon-Major Smyth were nominated as members of this Committee by the Council. Their draft report was circulated to all members of the Branch. The draft report was introduced to the meeting by Surgeon-Lieutenant-Colonel Maitland, who said that in the first place the members of the Committee considered it desirable to deal only with the two principal statements made by Dr. Bahadurjee—namely, first, that the present constitution of the Civil Medical Service of India is wrong in principle; and, secondly, that the said service is not at present open to the whole medical profession. Copies of the proposed resolution were circulated to each member, who was requested to state whether or not he agreed with the principles of the proposed resolution. Copies were sent to all those members who are now in India—95 in number; out of these 95, replies were received from 39; 35 of the 39 wrote stating that they agreed entirely with the principles of the proposed reply, although a few of them considered that the reply should be couched in stronger language. One member wrote to the effect that he agreed entirely with Dr. Bahadurjee's resolution. Three members wrote to say that they disagreed both with Dr. Bahadurjee's resolution and with the proposed reply, and explained that they would like to see the Civil Medical Service of India reorganised upon certain lines laid down by themselves. The great majority, therefore (35 out of 39) of up-country members who were sufficiently interested to reply, were in favour of the principles laid down in the proposed reply.—After a prolonged discussion the form of the report was finally decided, and carried by 9 votes to 4. The following is the text:

The members of the South Indian Branch of the British Medical Association disagree with Dr. Bahadurjee's statement, "That the present constitution of the Civil Medical Service of India is wrong in principle, prejudicial to the interests of medical education, science, and sanitation, and unsuited to existing conditions and requirements." They are of opinion, on the contrary, that the history of that service displays a long record of success achieved by its officers in all branches of their profession, as well as in other departments of the public services, and that Dr. Bahadurjee has entirely failed to prove the existence of the shortcomings he alleges to exist in the Civil Medical Service.

It is further necessary to point out that it is incorrect to state that all important education, scientific, and sanitary appointments are exclusively reserved for members of the Indian Medical Service, as quite a number of such appointments are held by officers not belonging to that service.

The words "Military Medical Service" and "lent," as used by Dr. Bahadurjee, although literally true, convey a distinctly erroneous impression, the Indian Medical Service being recruited for definite civil appointments as well as for the Indian army.

This Branch fails to understand Dr. Bahadurjee's proposition that "All educational, scientific, and sanitary appointments in the department should be thrown open to the best talent available from the open profession," seeing that the Indian Medical Service has been for the past thirty-two years open to all members of the medical profession who are subjects of Her Majesty, and includes in its ranks not only those born in the United Kingdom, but forty-four officers who also belong to the native races of India, as well as many Eurasians, and members of other British dependencies.

The members of the Branch are strongly of opinion that the introduction of any system of recruitment for the Civil Medical Service of India, other than one of open competition, would be a retrograde step, and highly prejudicial to the interests of the country.

The following letter has since been printed and forwarded to the General Secretary, and to all members of the South Indian Branch:

The General Secretary, British Medical Association.

Sir,—At a meeting of this Branch held on 25th instant, the resolution of Dr. Bahadurjee at the recent meeting of the British Medical Association regarding the Civil Medical Service in India was considered. After an exhaustive discussion the following resolution was adopted:

"The members of the South Indian Branch of the British Medical Association disagree with Dr. Bahadurjee's statement 'that the present constitution of the Civil Medical Service of India is wrong in principle, pre-

judicial to the interests of medical education, science, and sanitation, and unsuited to existing conditions and requirements.' They are of opinion, on the contrary, that the history of that service displays a long record of success achieved by its officers in all branches of their profession, as well as in other departments of the public services, and that Dr. Bahadurjee has entirely failed to prove the existence of the shortcomings he alleges to exist in the Civil Medical Service.

"It is further necessary to point out that it is incorrect to state that all important educational, scientific, and sanitary appointments are exclusively reserved for members of the Indian Medical Service, as quite a number of such appointments are held by officers not belonging to that service.

"The words 'Military Medical Service' and 'lent,' as used by Dr. Bahadurjee, although literally true, convey a distinctly erroneous impression, the Indian Medical Service being recruited for definite civil appointments as well as for the Indian army.

"This Branch fails to understand Dr. Bahadurjee's proposition that 'all educational, scientific, and sanitary appointments in the department should be thrown open to the best talent available from the open profession of medicine,' seeing that the Indian Medical Service has been for the past thirty-two years open to all members of the medical profession who are subjects of Her Majesty, and includes in its ranks not only those born in the United Kingdom, but also forty-four officers who belong to the native races of India, as well as many Eurasians, and members of other British dependencies.

"The members of the Branch are strongly of opinion that the introduction of any system of recruitment for the Civil Medical Service of India other than one of open competition would be a retrograde step and highly prejudicial to the interests of the country."

I am to request that you will bring this resolution before the Council of the Association at their next meeting.

I am,
Faithfully yours,
JOHN SMYTH, M.D., Surg.-Major,
Honorary Secretary.

Communications.—Surgeon-Lieutenant-Colonel STURMER read A Short Note on the Types of Malarial Fevers found in Madras.—Mr. C. B. RAMA RAO read: (1) A Case of Hæmorrhagic Pancreatitis; (2) A Case of Bradycardia.—Surgeon-Major BANNERMAN read Notes on the Bacterium of Plague.

President's Address.—At a meeting on April 9th the annual address was delivered by the PRESIDENT (Surgeon-Major-General C. Sibthorpe). He said that on January 1st, 1896, they had 106 members on their list, and on January 1st, 1897, 118, showing an increase of 12. The Branch met nearly every month during the year, and some of the discussions were most interesting and instructive. He fully concurred in the opinion of the Subcommittee regarding Dr. Bahadurjee's proposition. The simple facts of the matter were that the Government of India should endeavour to get the best medical men available for the money they could afford, and that the experience gained by the East India Company and the Crown since the service was formed in 1760, was clearly perceivable in the rules which govern the Indian Medical Service and its subordinate branches, civil and miiitary. They all agreed that some provision should be made for encouraging indigenous talent when found. Referring to the proposal that the Association should take up medical defence, the President said that on the whole he felt convinced that it would be a mistake for the Association to take up such subjects. The past year had been an eventful one for medical men working in India. The threatened scarcity, approaching even to famine in some districts, had thrown on the Medical Department a share of "famine relief" work. The epidemic of bubonic plague in Bombay with its attendant mortality had raised some most important questions. It had nearly paralysed the trade of that city, and led to an enormous exodus of the population with consequent spreadings of the disease. The Medical Department had had to organise hospitals at the shortest notice. In Calcutta there was a complete upset of sanitary arrangements and a loss of confidence in the municipal government of the city. The insanitary state of both Calcutta and Bombay, as well as of Madras, was well known. They might well ask themselves whether permanent improvement might now be expected, or would things lapse back, as appeared already to be somewhat the tendency in Calcutta, to the *laisser faire* policy, until another and more formidable outbreak of epidemic disease awakened or rather took the responsible authorities by surprise. The methods of inoculation, which Surgeon-Major Bannerman had been sent up by Government to Bombay to study, were full of interest, and would, if Professor Haffkine's surmises were found correct, revolutionise the treatment of bubonic plague, and have an enormously wide bearing in dealing with all these classes of epidemic diseases. It was to be hoped that Government would see the vast importance of keeping our medical schools up to date and giving them a sufficient staff. The Government would show its wisdom if it now recognised that such work as bacteriology had to be fostered, and that if the opportunity was given to the "Service," the man would soon appear who could produce results as brilliant as that of a Hankin or a Haffkine.

SPECIAL CORRESPONDENCE.

BERLIN.

A Question of Priority.—Ophthalmia among School Children.—Models of Leprosy.—Prize Essay.

A MEDICAL lawsuit, turning on a question of priority, which for some time past has called forth much comment in medical circles, has been decided this week. The subject was a cystoscope, which Dr. Casper demonstrated to the Berlin Medical Society some time ago as an idea of his own, while Dr. Nitze claimed to have constructed and exhibited an apparatus similar in principle and for a similar use previously. Dr. Nitze even alleged that he had shown and explained his instrument to Dr. Casper at the time. A great many experts were called, amongst them Professor von Bergmann, Professor Hahn, Professor Wolff, Professor Posner, and others, and as is usual with experts, their opinions were most contradictory. Eventually the judge gave their verdict for Dr. Casper, and Dr. Nitze was sentenced to a fine.

East Prussia, the Königsberg and Memel district, is known to be a district in which ophthalmia is prevalent. A careful examination of the eyes of all children in schools in Königsberg has just been carried out by 27 doctors. The result is rather appalling; 32 per cent. of the children have been found to be suffering from ophthalmia, and of these more than a third suffer from granular lids.

At the last meeting of the Berlin Medical Society Professor Lassar exhibited a series of wax models showing the development of leprosy. The impressions have been taken in Norway, and are most carefully made. They should be of value to German dermatologists, the greater number of whom have no opportunity of study the disease *in vivo*. Professor Lassar intends to present the collection to the Prussian State in the hope that it may form the nucleus of a future medical museum, accessible to all medical men.

A Berlin physician, Dr. T. Ruhemann, has gained the prize offered by the Vienna Medical Society for the best paper on the subject, Can Chill be considered as a Cause of Disease and, if so, in what way? Dr. Ruhemann has once before been the gainer of a similar prize, offered by the Hufeland Society in 1891, on the subject of influenza.

MANCHESTER.

Resignation of Principal Ward.—Manchester Sewage: Rejection of the Culvert Scheme.—Manchester Edinburgh University Club.—Entries at Owens College.

ALL well-wishers of Owens College will greatly regret that Principal Ward should have resolved to resign the Principalship, a post which he has held for eight years. It is understood that Dr. Ward intends to devote his time to the completion of those literary works with which his name is already indissolubly connected. Dr. Ward will hold office until his successor is appointed. During these eight years the College has undergone great development; its prosperity has increased materially, while the additions to its buildings and therefore to its usefulness have been most extensive, including as they do the extension of the Medical School which cost nearly £40,000. As showing the estimation in which Dr. Ward is held in the community, it may be noted that the freedom of the City was conferred on him on Wednesday last, October 27th.

The problem of the disposal of Manchester sewage is becoming daily more complicated—or shall we say "simplified?"—in view of the latest development. The City Council proposed to discharge the sewage into the tidal waters of the estuary of the Mersey by means of a great culvert. A poll was demanded, and now the owners of property and ratep

yers of the city have rejected the scheme by a majority of 541, there having voted in favour of the "culvert scheme" the City Council 20,528, and against it 40,069.

The annual dinner of the Manchester Edinburgh University ıb was held on October 28th, Dr. J. J. Cox presiding. ofessor Mitchell Banks, of Liverpool, was the special guest the evening. Dr. Banks, in his reply to the toast of "The iversity of Edinburgh," spoke of a number of the teachers o made the medical school of the University famous about e year 1859. At that time there was, he said, a wonderful axy of medical stars in the Edinburgh firmament. Perhaps h a group of teachers had never been gathered together ore or since. Among them were Goodsir, the prince of atomists, and Bennett, who did so much to make the repuion of the school of clinical teaching. The group also luded Laycock, Playfair, Christison, Simpson, Syme, lfour, and Spence. Of all these men Dr. Banks related using reminiscences. He also referred to the subject of e General Medical Council. He had been a member of the uncil, and he did not think it could do much to reform the ıeral practitioner. Meetings of this kind were really more ective for such a purpose, and he would like to see a dical society or club in every town. He suggested that it uld be a good thing to enlarge a little the scope of the ınchester Club, so as to include all the Edinburgh Uni-sity men in the county. Dr. Emrys Jones was elected esident for the ensuing year.

The medical department of Owens College is to be contulated on its "entry" of students for the present year. Not ly is there a large entry for the full curriculum, but the mber of dental students shows a decided increase, while e special entries are well maintained. The number joining e College for the preliminary scientific subjects augurs well an even larger number of "beginners" next year.

CORRESPONDENCE.

MUSIC AND THE HARVEIAN ORATION.

Sir,—There is so much that is admirable in Sir William berts's Harveian Oration that it seems almost ungracious attempt to pick a hole in any part of it. I trust, however, shall be pardoned if I object *toto cælo* to that paragraph in e address which concerns the great musical composers.[1]

Sir William Roberts states that in the delightful art of usic the masterpieces of Haydn, Handel, and Mozart, lging by their popularity at the present day, are not surssed by the works of any of the later musical composers.

Now I know that I am in accord with the immense majority musicians and amateurs of music of the present day in ting that, so far from the three composers mentioned being surpassed, they one and all occupy the second rank only in e musical hierarchy. The really greatest composers the rld has ever seen are Bach, Beethoven, and Wagner. This not the place to prove my assertion; but I feel sure that William Roberts will agree with me if he will some day ar Eugène d'Albert play a fugue of Bach, hear Richter nduct the C Minor Symphony of Beethoven, and make a grimage to Bayreuth, and hear *Tannhäuser*, *Lohengrin*, *rsifal*, *Die Walküre*, and *Siegfried*.

With the only exception of Bach, therefore, the greatest usical composers have been produced by the present ntury, or at least done their principal work in it. That the of music should thus form an exception and a contrast to e other arts, which are generally admitted to have reached eir highest development before the present age, is a most nificant and interesting fact, which appears to me to be ing to music being the most creative of the arts, all the ners being chiefly imitative. We may for this reason look ward with confidence to still greater developments of usic in future, and the eventual appearance of post-agnerian composers who will reach higher summits than ve as yet been attained, while this is evidently impossible painting, sculpture, and architecture. The same circumnce also seems to me to account for the fact that all really eat composers have been men, and that those women who have attempted composition rank immeasurably below even the third-class male composers.—I am, etc.,

Queen Anne Street, W. Julius Althaus, M.D.

[1] British Medical Journal, October 23rd, 1897, p. 1109.

SALOL IN TYPHOID FEVER.

Sir,—I can cordially endorse all that Dr. Bramwell says, in the British Medical Journal of October 23rd, as to the value of salol in typhoid fever. Four years ago I wrote on it as an intestinal antiseptic—more especially in typhoid fever—in the *Practitioner*: "It cleans and keeps clean the intestinal tract, and so subdues the irritation of the ulcers and that caused by the secretion from those ulcers. Salol also prevents the excessive formation of wind, brings the temperature down generally one or two degrees, reduces the number of stools from 12 or 14 in the twenty-four hours to 3 or 4, and, when they are offensive, deprives them entirely of that character." I have used salol in typhoid fever ever since, and find it most valuable. I give it in 10-gr. doses suspended by means of pulv. tragacanth co., and have never found any difficulty in its administration.—I am, etc.,

Lincoln. E. Mansel Sympson, M.D.

"EXPERIMENTS ON LUNATICS."

Sir,—If I have done Dr. Berkley any injustice by my strictures upon his article entitled, Poisoning with Preparations of the Thyroid Gland, no one could regret it more profoundly than myself. Every precaution was taken by me to ensure accuracy in my criticisms. I sent to Baltimore for half a dozen copies of the *Bulletin*, and not only submitted the paper to the examination of medical men, but took the opinion of an eminent counsel and of several able editors of daily journals as to the interpretation which could be put on Dr. Berkley's statements. Without exception every person I consulted agreed with me that Dr. Berkley had experimented upon lunatics with a dangerous poison, and had openly confessed the fact. His paper is entitled Poisoning with Preparations of the Thyroid Gland; the dictionaries tell us that "a poison is any substance which when introduced into the animal organism is capable of producing a morbid, noxious, or deadly effect upon it." Dr. Berkley goes on to tell us that it was "directly for the purpose of ascertaining the toxicity of one of the best known varieties of the thyroid extract that the following series of experiments was undertaken." Surely never were more damaging words strung together if the writer had no intention to poison his patients! Dr. Berkley says his object was "to give them another chance to recover their reason." I am bound to believe him, but we do not usually treat our patients with drugs to ascertain their toxicity! Throughout the paper the writer refers to the treatment as "experiments."

Whether of lunatics in the asylum, or thyroid mice and thyroid guinea-pigs and dogs, the whole paper is the story of experiments in poisoning; that is to say, to the unsophisticated reader. If, as I am bound to believe on Dr. Berkley's word, it is on the other hand the clinical history of certain patients whom he did his best to cure, then the writer should never more attempt to write on such matters.

In so many words, we are told that the "experiment" demonstrates that the administration of the poisonous agent "is not unattended by danger to the health and life of the patient," and in the next paragraph we read, "These results obtained, we then decided to further pursue our experiments upon the lower animals, to determine the amount necessary per kilo. of weight to cause death," etc. If my strictures were "unwarranted," Dr. Berkley has only himself to blame for a wording which he admits was "unfortunate," but which I maintain was positively incriminating.—I am, etc..

Victoria Park, E. Edward Berdoe.

*** This correspondence must now cease.

GENERAL PRACTICE.

Sir,—In connection with the correspondence on the above I should like to mention one or two points which have not, so far as I know, been touched upon. If a man straight from hospital is unable to succeed at once in private practice, the fault is not his, but the mistake lies in the system of training he has been obliged to follow. I hold that the fifth year of medical study should not be spent in the "hospital

groove." The fifth year ought undoubtedly to be spent in a way most beneficial to the line of practice it is intended afterwards to follow. Those who become general practitioners should spend the fifth year in general practice, but not as unqualified assistants. On passing the Final the student could be provisionally registered for one year. During that year he could follow what line he liked, and at the end of that year receive his diploma or degree as the case might be, and become a fully qualified medical man.—I am, etc.,

Stradbroke. A. HANBURY FRERE.

THE ADMINISTRATION OF SAFE ANÆSTHETICS.

SIR,—Holding that we have all the data possessed by our English medical brethren on which to form an opinion on the relative merits of chloroform and ether, and that we are quite as competent to do so, I took exception to the tone of Dr. H. Bellamy Gardner's article.[1]

To correct what I looked upon as an inacurate statement, I quoted the statistics of St. Bartholomew's Hospital for twelve years. These statistics show that during the period named chloroform was used 22,219 times, and ether 11,584 times.

Dr. H. Bellamy Gardner draws attention to the fact that if we add to these cases of etherisation the cases in which it was preceded by the use of nitrous oxide gas, we get 17,067. This statement in no way affects my figures, but it tells that ether labours under so many disadvantages that all manner of mixtures are tried to make its use possible. I think the question of the relative safety of chloroformisation and etherisation cannot be arrived at by quoting statistics; but a great deal of useful information may be gleaned by studying the cases in which the respective drugs are used. And that your readers may form their own opinion on the cases which died under chloroform in St. Bartholomew's during the twelve years past, I quote from the reports such information as will enable them to judge of the share, if any, that chloroform had in producing the fatal result:

No death under chloroform took place in either 1884 or 1885; the first appears in 1886. The patient was "a man, aged 26, who was much weakened by a suppurating kidney.....The patient was seized with syncope before anæsthesia was complete, and died in a few minutes."

During 1887 there was a death of a male patient. "He was suffering from cellulitis of the leg.....Death ensued from syncope just as the operation was concluded.....Advanced fatty heart."

In 1888 a death is reported, but no particulars are given.

During 1889 two deaths took place: (1) "A woman, aged 72," operated on for a glaucomatous eyeball. Her heart weighed 14 ounces, and was fatty. (2) "A male child, aged 1½ years, died whilst a diseased ankle was being put up in a splint The heart was found greatly dilated and hypertrophied without apparent cause."

In 1890 "a feeble child, aged 8 months, died from an attack of syncope during the performance of an operation for hare lip.....A hypertrophied heart with a dilated left ventricle."

During 1891 there was one death, "a woman, aged 67. Operated on for fissure of the anus. The lungs were emphysematous."

In 1892 a girl aged 20 died. The operation was for hypertrophied glands of the neck. "The heart was slightly hypertrophied, and the kidneys were slightly granular."

During 1893 two deaths occurred. (1) "A man aged 47, with caries of the malar bone and lower jaw." (2) "A boy aged 17. Removal of adenoid. The operation was completed without any abnormal symptoms." At the end of five minutes the boy became white and died slowly. "The boy had been accustomed to fainting fits."

During 1894 two deaths took place. (1) "A man aged 44, with phlegmonous erysipelas of the leg." Death from syncope. (2) "A man aged 40, to whom chloroform was being administered preparatory to a tracheotomy for malignant disease of the larynx. Much dyspnœa was present before the inhalation commenced."

During 1895 two deaths happened. (1) "A man aged 38 was admitted with stricture and retention; he had also had phthisis. Chloroform was administered to him twice; on the first occasion there was much struggling; on the second he died suddenly while a catheter was being passed. At the *post-mortem* examination the lungs, liver, kidneys and heart were all found to be unsound." (2) "A man aged 28, who was somewhat debilitated by the effects of suppuration, was being put under chloroform preparatory to the grafting of a large ulcer of the thigh. He died suddenly, and at the *post-mortem* examination nothing abnormal was discovered."

Was there any other reason for the use of chloroform in the above cases than that it alone offered a prospect of success? Dr. H. Bellamy Gardner would convince us by statistics, and reproduces American and Continental ones, which for years past have done duty. The fact is we are very deficient in statistics; with the exception of St. Bartholomew's Hospital none of the London hospitals furnish them; but poor as is our supply Dr. H. Bellamy Gardner gives us but a part of them, and such a small part as to be wholly useless, if no misleading.

Statistics to be of any value should include those fro every country; Von Nussbaum's 40,000 chloroformisatio without a death; the Edinburgh Infirmary (35,000) with b one death; Hunter McGuire's 30,000 without a death Julian J. Chisholm's 10,000 without a death; the 20,000 su cessful chloroformisations in the Crimea, and the 30,000 i the Franco-Italian war.

What Dr. H. Bellamy Gardner accepts as American stati tics are simply the reports of the New England States; litt more than the statistics of the cities of New York, Phil delphia, and Boston. Canada is left out in the cold, an there is nothing said of the southern country from th Potomac to Cape Horn. Yet in the Southern States chlor form is the anæsthetic, and amongst the Spanish and Port guese-speaking people chloroformisation and anæsthesia a almost synonymous. Once or twice I found mention etherisation in a Cuban medical journal, but I cannot reca a single instance of its being mentioned in Mexican, Centr American, or journals from the Southern Continents. In As we know of the successful use of chloroform from Colonel-Su geon Lawrie, of whom Dr. H. Bellamy Gardner does not appear take note. And when we come to examine Dr. H. Bellam Gardner's Continental statistics, we find no mention of Spai Italy, the Balkan Peninsula, or even of the Russian or Nors peoples. If medical journals of the country are to be relie on, I can say that chloroform is used almost exclusively i the three southern peninsulas, and it more than holds its ow in Australia. Of Russia I cannot speak, except from th occasional notes of Dr. Idelson; and from them I cannot s any bias towards etherisation. In France chloroform is th rule, ether the exception.

What may we learn of this widespread, almost universa preference for chloroform? Is it not reasonable to conclud that it satisfies the operator in being a good and a sa anæsthetic; and if under chloroform the death-rate in Londo is high, uncharitable people might find some excuse for th opinion that the drug was not wholly to blame.

We are, however, all seeking the truth in this matter; an here in Ireland we are prepared to thank any person or pe sons who will throw light on the subject, but at the sam time we feel in no way bound to accept the *ipse dixit* of Lo don, Boston, or other anæsthetists. We recognise the industry and their enthusiasm for ether, and we are al conscious that they are a small coterie of gentlemen who a attempting to give laws to the medical profession, and fro time to time ventilate their opinions in a superior tone address, which would be amusing if it were not offensiv When there are any new facts to be told or different interpr tations of old phenomena to be brought forward, let us ha them. Everything that can be said for or against any ana thetic is well worthy of consideration, but no member of t medical profession worthy of the name will ever yield up h right of private judgment, and the exercise of the right b tokens a healthy state in the profession which I hope it wi ever have.—I am, etc.,

Dublin. GEORGE FOY.

[1] BRITISH MEDICAL JOURNAL, August 21st, p. 499.

VACCINATION IN JAPAN.

SIR,—I have been interested in reading the article Vaccination in Japan in the BRITISH MEDICAL JOURNAL October 16th, as showing the rapid progress that has take place in Japan in the last thirty years.

I had charge of the Japanese military hospitals in the civ war of 1868, first in Yokohama and subsequently in Yedo it was then called), now Tokio, and across the way, from t Dai Biyoin, or great hospital, where I was stationed in Yed was the vaccination station.

On New Year's Day, 1869, I received a visit of ceremo from the doctors in charge there, and subsequently went inspect the building and the method of vaccination. Th way in which the operation was performed differed from th in use in England, as, instead of making three or four cros cut incisions, as we do, a very finely pointed lancet was use and the lymph was inserted in about twenty different pla in the forearm by single punctures just beneath the cutic with the result that you saw so many small distinct vesicle

hich did not appear to cause much inflammation or local ouble.

At that time the patients had to pay a tax of a quarter of a (equal to 4½d. of our money) to Government to be allowed be vaccinated. From that to compulsory vaccination in 76 was indeed a rapid stride, but it was helped on partly by e fact that the foreigners in Japan were practically without ck-marks, whereas there was probably not one in a hundred the adult population of Japan that had not had small-pox, d also that in the winter of 1870-71 Japan was visited by a rrible epidemic of small-pox. In the foreign settlement of okohama it was of great severity, but it was said that in the untry there were many villages where there were not enough ealthy people left to attend the sick.

At the request of the Japanese authorities a conference as held in Yokohama of the local medical men (foreign) d surgeons from the various men-of-war in harbour to lvise the native authorities as to what course to pursue. aturally the necessity for vaccination as a preventive was ged upon them, and probably this helped forward a movement which has been of the greatest benefit to the country.

The Japanese, as all your readers are aware, are quick to asp a subject, and having made up their minds, red tape es not interfere.

As showing the faith which the old doctor who had charge the vaccination station in Yedo had in the efficacy of vaccination, he told me that he had vaccinated 30,000 people ith his own hand, and thought he had saved 10,000 lives. is only desire was to vaccinate 100,000, and then he should e happy!—I am, etc.,

J. B. Siddall,
Formerly Physician to H.B.M. Legation, Japan.

Northam, Bideford.

TREATMENT OF HYPEREMESIS GRAVIDARUM.

Sir,—In the discussion on Hyperemesis Gravidarum, in e Section of Obstetrics at the annual meeting of the British edical Association held at Montreal recently, Dr. A. E. iles (London) advises, for severe vomiting in pregnancy, dilatation of the cervix uteri, with separation of the membranes for some distance round" (which need not necessrily be attended by premature evacuation of the uterine ntents). This identical treatment was recommended and actised some few years since by Dr. Copeman, of Norwich, d it is to Dr. Copeman we are indebted for a valuable medy for a troublesome and possibly serious complication pregnancy. Probably Dr. Giles had not seen Dr. Copean's article upon this subject, which appeared in one or two edical journals.—I am, etc.,

Putney, S.W. J. Ffrench Blake.

EXTIRPATION OF THE OVARIES AS A CURE FOR CANCER.

Sir,—In the British Medical Journal of September 11th, r. Roger Williams quoted statistics from hospital reports to ow that, of 1,595 ovarian tumours, only about 8 per cent. ere malignant. Unless Dr. Williams shows also that the stories of the cases quoted have been observed and recorded nce their operations, his statistics do not in any way affect e point I wish to emphasise—namely, that the operation of ariotomy is followed in a considerable number of cases by ath from malignant disease within a few months or years of e operation, and that this occurs even in cases in which the mours removed have appeared to be of an innocent type.

I do not incline to lay much stress on statistics, being impressed with the truth of the saying that anything may be oved by them; but those I cited in support of my opinion clude 1,009 cases, recorded by Leopold (116), Schroeder 00), and Olshausen (293); and I do not think that Dr. Roger illiams is justified in saying that the opinions of these surons, Greig Smith and others, are "based on too narrow an perience to be really reliable."

In the Journal of June 12th, Dr. Williams quoted Sir encer Wells's statistics of cases that had died after recovery om completed ovariotomy, there being no reason to suspect the time of operation that malignant disease was present any of the cases. "The cancer mortality was nearly times greater for those whose ovaries had been extirpated an for those who had undergone no operation." The date er ovariotomy at which death from cancer supervened was stated in 29 of the cases, and in 24 of these the patients died within three years of the operation.

Dr. Williams considers it "evident that in these cases the removal of the ovaries, instead of checking the tendency to cancer, had quite the contrary result." It is obvious, however, that to complete the evidence to this effect Dr. Williams requires a series of histories of cases in which the ovaries have been removed but in which this operation has not been performed on account of a new growth. I cannot recollect any case in my experience in which the removal of an ovary not associated with a tumour has been followed within a short time by a development of malignant disease, and I know of no facts that support the idea that removal of the ovaries is a cause of malignant disease.

If, after removal of a new growth of the ovary, death from malignant disease is liable to occur within a few months or years with a frequency five and a-half times greater than the mortality from the same disease in the general population, the evidence is fairly strong that there is an intimate pathological connection between the original tumour and the malignant development.

I fear I have too often asked for space to express my views on this subject; but it is extremely important that the profession should recognise the liability to a malignant development in an ovarian tumour and in a patient from whom an ovarian tumour has been removed.—I am, etc.,

Portman Street, W. John D. Malcolm.

SALTS OF LIME AND CIRRHOSIS OF ORGANS.

Sir,—In the article in the British Medical Journal of October 30th, on Cirrhosis of Liver and Intemperance, we read that according to Lancereaux it is the sulphate of potash which, in conjunction with sulphate of lime, causes cirrhotic changes in the liver of those who drink wines much impregnated with these salts.

From what I have observed in connection with the administration of lime salts, I believe these are the constituents of wine that do more than the potash sulphate to induce fibroid and cirrhotic change in organs.

The prolonged administration of soluble salts of lime tends to cause stoppage and blocking of the capillary circulation. Salts of lime are said to slow the pulse and retard the circulation, and some have thought them useful to check the growth of tumours, apparently from their power of arresting capillary circulation, and thus starving the tumour. In hæmoptysis of capillary nature, large doses of solution of chlorate of calcium are undoubtedly of great service, a fact I have seen proved in many cases of this kind of pulmonary hæmorrhage in Victoria Park Hospital.

In the diarrhœa and profuse sweats of phthisis the hypophosphite of lime is a most valuable remedy. Some years ago, in the case of a daughter of a medical man dying of advanced tuberculosis, we were much struck to observe how far superior the lime salts were to tannin in arresting bad diarrhœa.

A week or two ago a patient who had obstructed liver and had been doing pretty well on calumba and soda, was made very uncomfortable when this was changed for chloride of calcium.

In many cases of congestive asthma of chronic nature the persistent use of distilled water—aërated if the patient likes—as a drink gives great comfort, and prevents the development possibly of hepatic and renal degenerative changes. The pure water, free from all lime, clears the capillaries and gives freedom to the circulation in the minute vessels. If, then, the effect of small doses of lime salts long continued be such as I have endeavoured to show, it is easy to see how very injurious lime in conjunction with alcohol must be to the system when taken regularly day by day.

Sherry is a plastered or limed wine, and the public, guided by their experience and instincts, are very much against sherry in this epoch. A wine merchant of very old standing said to me once: "I wish you medical men would say a word for sherry and help the trade a bit."

Moselle wines seem now much in favour. In them I expect there is but a trace of lime. Potash salts are present, and I believe, on the authority of Liebig, that these salts in the wine act as solvents of lithic acid and prevent attacks of gout.—I am, etc.,

Welbeck Street, W. John C. Thorowgood, M.D.

OBITUARY.

Surgeon-Major-General Sir WILLIAM ALEXANDER MACKINNON, K.C.B., LL.D.,

Honorary Surgeon to the Queen; late Director-General, Army Medical Department.

We much regret the death, in his 67th year, of this distinguished officer, which occurred at his residence, Evelyn Gardens, on Thursday, October 28th.

For some time past he suffered from cardiac weakness, with occasional attacks approaching real angina, of the gravity of which he was well aware, although he still retained a share of the robust health he had long enjoyed. During the dense fog of Thursday week he was suddenly seized with difficulty of breathing, the result, apparently, of pulmonary congestion, which, reacting on a weak heart, caused death in a few hours.

Sir William was the son of the Rev. J. Mackinnon, Minister of the Parish of Strath, in Skye, and was a fine specimen of the true-born-and-bred Highlander, and a competent Gaelic scholar.

He studied medicine in Glasgow and Edinburgh, and, in 1853, entered the army as Assistant-Surgeon in the 42nd Highlanders, with which distinguished corps he served at Alma, Balaklava, and Sevastopol.

After the Crimea he left the army for a short time, but was reappointed and placed on the staff of Sir Colin Campbell (Lord Clyde), with whom he was present at many engagements during the Mutiny.

His next active service was as sanitary officer during the New Zealand Maori war of 1863-6, and finally as senior medical officer in the Ashanti expedition of 1874.

In 1882 he became head of the Medical Branch in the War Office, and succeeded Sir Thomas Crawford as Director-General of the Army Medical Service in 1889. He retired in 1896. He proved himself an administrator of tact and discretion.

Sir William was a man of great personal courage, which he displayed on active service on several occasions; he was also a very expert operative surgeon in the field. Few men were better known or more popular with all ranks, and this esteem extended into civil life, from members of the Royal Family downwards. Personally he was a man of fine physique, with a frank and transparent honesty, which made him at once a fast friend and a very outspoken foe.

In addition to his war medals he received, for meritorious services, a C.B. and K.C.B., and was an Honorary Surgeon to the Queen, and the recipient of a distinguished service pension. From his university he received the degree of LL.D. of Glasgow. Sir William, who was unmarried, will be greatly regretted and missed by many friends, not only in his own department and the army at large, but by a wide circle in civil life.

We are indebted to a distinguished civil surgeon for the following notes on Sir W. Mackinnon's life and character:

"When I first made acquaintance with Sir William Mackinnon he was Assistant Professor of Military Surgery at Netley, Sir Thomas Longmore being the Professor. This was in the early Seventies, and he was then, as indeed he ever was, full of enthusiasm for his work, and most especially for that part of it belonging to operative surgery, in which he always took the keenest interest. Since then he has risen to the foremost place in his Service, but he always deplored being taken away from active professional work to be immersed in administrative detail. His was a singularly lovable character. It was transparent in its honesty and ingenuousness. He was always enthusiastic about anything which interested him, a refreshing quality in these dead level days. He had the temperament of his Celtic nationality, and was quick in his ardour for achieving what he considered right, and as prompt and also severe in denouncing that which seemed to him wrong.

"Few, if any, in the Department which he adorned, possessed a longer record of active military service, extending as it did throughout the whole term of the Crimean war, the Indian mutiny, the New Zealand war, and the Ashanti campaign. In New Zealand he had an experience such as can fall to few, and is perhaps unique, for in the attack upon a chief's Pah the combatant officers having been one by one disabled he took command himself and captured the position. After the fight he treated as a surgeon several of those he had himself wounded in the earlier part of the day. For this campaign he received his C.B., although I believe he was offered the alternative of a Victoria Cross, which he afterwards regretted he did not accept instead.

"When Lord Wolseley led the first expedition to Coomassie Mackinnon was most anxious to serve. He was not selected and characteristically determined that if possible he should not be baulked of his wish. He started for Madeira to be as near as possible to the scene of action, and hearing there that the Principal Medical Officer, Sir Anthony Home, was disabled, he left at once for the 'Coast,' where Lord Wolseley was most glad to receive him. The result of that campaign—a 'doctor's war'—is well known, and Sir William Mackinnon's share it in was of the utmost importance.

"In the New Zealand war he was very proud of some successful excisions of the elbow, an operation only coming into favour again at that time.

"On every question that came before him he expressed his opinion in the plainest and most uncompromising terms. He had no fear of anybody or anything. His views on the present burning question of rank and title were, as is well known, against the military surgeon receiving a purely military title. But it is within the writer's knowledge that he had of late modified this opinion, and had said in conversation only a few days before his death that if contentment came of it in the Army Medical Department he should decidedly be in favour of the rank and title asked for being given."

The Queen has testified her appreciation of Sir William Mackinnon by sending the following message from Balmoral: "Please convey to the relatives of the late Sir William Mackinnon the expression of the Queen's sympathy in their loss sustained by the death of that distinguished officer and member of Her Majesty's Household."

The remains were cremated at Woking on November 2nd. A memorial service was held at St. Columba's Church, Pont Street. It is understood that his ashes will be finally deposited in the family burying ground at Kilchrist, "Strath of the Mackinnons."

Rev. SAMUEL HAUGHTON, M.D., D.C.L., LL.D.,

Fellow of Trinity College, Dublin.

The profession of medicine and the cause of general science have lost a brilliant light by the death of the Rev. Samuel Haughton of Trinity College, Dublin. The many characteristics which made him a distinguished figure in the sister country were recognised wherever he was known, and served to give him a place in the high regard of the medical profession in England and elsewhere.

We are indebted to Professor Alexander Macalister, F.R.S., of Cambridge, formerly Professor of Anatomy in the University of Dublin, for the following sketch of Dr. Haughton's life:

Samuel Haughton came of an old English Quaker family, who had settled in co. Carlow; but although his connection with Ireland was not one of blood, yet, like Goldsmith and Swift, he was an embodiment of those characteristics which are conventionally supposed to be typical of Irishmen. He obtained his Fellowship in Trinity College, Dublin, in 1844, at the age of 23, having, even at that early period, gained a considerable reputation as a mathematician, and some of his first published works were the well-known *Manuals* of Mathematical and Physical Science, which he published in conjunction with his friend Galbraith. After the manner of Trinity College he was appointed Professor of Geology in 1851, and turned his attention to that subject, but his geological work was slight, the principal work deserving the name of research in this department being his papers on the Granites of Leinster and Donegal. His class lectures were always fresh, full of life and interest, and, although he did not attempt to treat the subject exhaustively, yet he was a stimulating and suggestive teacher. He published a course of his *Lectures on Geology*, and, later, an interesting though somewhat eccentric course of *Lectures on Physical Geography*. He had taken Holy Orders at an early age, but seldom preached. When he

so his sermons were such as were remembered by his rers. To this day his University sermon, delivered in nbridge about the year 1880, is often referred to by those o heard it as being one of the most original and startling t had ever been preached in Great St. Mary's.

His connection with medicine began in the year 1859, when, ling that the School of Physic in Ireland was inefficient l in need of reform, he conceived the scheme of entering it a student, and, having attended the classes and hospital, graduated in medicine in 1862. He then set himself vigorsly to work to reform abuses, to strengthen it wherein it s weak. The school had suffered from the fact that its vernment was in the hands of the Board of Trinity College, o were unsympathetic and knew nothing of medicine, and o that the staff had become slack, while the machinery of school was inefficient. By his energy and practical dom he soon brought about a new state of things, and ntually raised the school to the position it now occupies the leading medical school of Dublin. He was most npathetic and helpful to any one who tried to do their ty, but firm and unsparing to those who shirked their igations. New blood was imported into the teaching staff, v buildings were erected, and the requisite money for the proved teaching appliances was provided out of the College enues.

While thus engaged in the duties of his professorship and the work of reform in the medical school he yet found time many and varied researches in different fields. Indeed, versatility was his chief snare, for finding to his hand so ny subjects which attracted his attention, he passed so ickly from one to another that he had not time to finish y one line of work. To those who knew and honoured and ed him this is a matter of deep regret, for although his rk was good and conscientious, often brilliant as far as it nt, it has in scarcely any department been of a character to t as a fitting monument to him. He spent at least two rs a day for ten of the busiest years of his life in practical nparative anatomy while preparing his work on *Animal chanics*, which was the expansion of a series of papers olished in the *Proceedings* of the Royal Society and the yal Irish Academy on The Principle of Least Action in imal Mechanics. This work was original, carefully done, l is well deserving of more attention than it has hitherto eived. He had a keen sense of humour, which showed lf in all his work, even in the middle of a most important tion of his work on *Animal Mechanics* he breaks off to give digression on hanging."

In order to carry out his reforms he persuaded the Board to point him as Medical Registrar, and in this office he was r active in promoting the efficiency of the school. He resented the University of Dublin on the General Medical uncil from October, 1878, until he resigned the office in ne, 1896, and made his mark as a valued member of that ly.

His work was recognised and appreciated not only in land but by the educational and scientific world. Oxford, mbridge, and Edinburgh gave him honorary degrees. He s Fellow of the College of Physicians of Dublin and norary Fellow of the College of Surgeons, and honorary mber of many foreign scientific societies.

Within the last few years his health had been failing, and h winter he suffered severely from pulmonary and cardiac ubles, but although he was obliged to give up much of his blic work, and was of late much confined to his room, yet the last he was fresh and vigorous in mind, and though nscious of failing strength he was engaged in preparing pers on some speculative application of mathematics to mistry.

His published papers are very many, and every one has value. Although not a very profound mathematician, he had a marvellous aptitude in the application of thematical method to almost every subject he touched, l a singular ingenuity in devising new applications of metrical and analytical principles to the subjects with ich he was concerned. The laborious calculation of the les of the Arctic and other Oceans, which fill page after ge of the *Transactions* of the Royal Irish Academy, form a nument of his ceaseless industry, but of a kind which only peals to the few, and much of the work has been superseded by the results of the application of the harmonic analyses and other methods in the hands of Lord Kelvin and other more recent workers. In 1881 he became a Senior Fellow of Trinity College, and resigned his Professorship and Medical Registrarship, but became then more than ever the guardian spirit of the Medical School.

Space fails even to refer to the many subjects which he has dealt with in his papers. His ready method of estimating the amount of urea, and his paper on nicotine in tetanus are perhaps his only contributions to the literature of medicine; but as Governor of Sir Patrick Dun's Hospital he did more than any other man to improve the efficiency of that institution as a school of clinical medicine and surgery; and, whatever else may be forgotten, he has raised to himself a lasting monument in the noble school of medicine of Trinity College, Dublin, which at no period in its history ever occupied the position to which he has raised it.

The personal charm of Dr. Haughton's character was something which cannot be expressed in words, while to the outside public he was a brilliant speaker, a racy *raconteur*, a versatile genius, and a sagacious man of affairs; to the inner circle of his friends he was a wise and willing adviser, one ever ready to help and to guide, affectionate, sincere, and intensely sympathetic, a calm and simple Christian who in all his work ever kept clearly before him his responsibilities as a Christian teacher. The blank which his death makes in this inner circle is one which can never be filled.

He was a man—
Take him for all in all—
We shall not look upon his like again.

Sir RUTHERFORD ALCOCK, K.C.B., D.C.L.

Sir Rutherford Alcock died at his residence in London on November 2nd. He was the son of Mr. Thomas Alcock, a medical practitioner, and was born in London in 1809. He became a Member of the Royal College of Surgeons in 1831. His name appears in the *Calendar* as the first on the list of Fellows of the College, arranged in chronological order. He was elected a Fellow on December 11th, 1843, on the same day as Sir James Paget. Shortly after entering the medical profession he acted for some years on the medical staff of the British auxiliary forces employed in Portugal and Spain. He retired in 1837 with the rank of Deputy Inspector-General of Hospitals, and was employed as a member of the two Commissions which sat to settle the claims of the British naval and military auxiliary forces on the Spanish and Portuguese Government. His long connection with the Far East commenced in 1844, when he was appointed British Consul at Foochow in China. Subsequently he was appointed in a similar capacity to Shanghai and Canton.

In 1858 he was transferred to the diplomatic service, having been nominated Consul-General in Japan. In this office he remained for seven eventful years.

Sir Rutherford Alcock was made K.C.B. in 1862, and three years later was appointed British Minister in Pekin. In 1871 he retired from the diplomatic service, and has since resided in London, where he took much interest in many schemes for the improvement of the public health, and was for many years one of the Board of Management of the Westminster Hospital. He received the honorary degree of D.C.L. from the University of Oxford, and was President of the Royal Geographical Society in 1876.

We are indebted to Mr. William Anderson, F.R.C.S., for the following notes on Sir Rutherford Alcock's residence in Japan:

His career in Japan, a country with which his name has been so closely identified, began in 1858, when he was appointed to the post of British Consul-General. A year later he received the title of Minister, and soon signalised himself by the energy and versatility with which he turned his attention to everything connected with his new home of adoption. The Government of Japan was in a parlous state in those days. Yedo (or Jeddo, as our treatises on geography persisted in miscalling it) was the seat of the Shogun, a Generalissimo, the last of a long line of usurpers, who had relegated the true sovereign to the position of a mere regal puppet, and continued to hold the great provincial barons in a state of strongly resented subjection. It was no place

for the foreigner, beset as it was by rival factions and subject to the capricious violence of mutinous malcontents, who hated above all things the "red-haired barbarians," of whom the peace-loving Briton was a type. It was not long before a party of these Rānin or "wave men," free lances detached from their employment as Samurai or militia men in the service of one or other of the feudal barons, perpetrated a murderous attack on the British Legation, but fortunately without any important result. Laurence Oliphant, then an *attaché* of the Legation, has left a graphic account of his gruesome experience on the road, when in the midst of darkness, din, and slaughter, he trod on something round and soft, which proved to be a human eye. A year later a party of English riding in the Tokaido, the high road between Yedo and Kioto, came in the way of the *cortège* of the Daimio of Satsuma, the most powerful subject barons, and were attacked, one of the number being done to death in cowardly fashion. Alcock rose to the occasion, and by his advice an indemnity of £100,000 was demanded from the Government of the Shogun (or "Taicoon," as he was wrongly called), and £20,000 from the Daimio of Satsuma. The former sum was obtained, but the Daimio proving recalcitrant, his chief town (Kagoshima) was bombarded by the British till he was brought to a due sense of his responsibility. This sturdy reprisal was supported by the Government, and Mr. Alcock was gazetted K.C.B. The turmoil, however, ended only in 1864 with the destruction of the Japanese batteries in Shimonoséki, the deposition of the Shogun, and the establishment of the present Emperor as the true head of the State.

It was not only in the art of bellicose diplomacy that Sir Rutherford Alcock distinguished himself. It was he who persuaded the Japanese to take a part in the International Exhibition of 1862, from which time dated the remarkable wave of graceful Oriental art which has spread over the whole of Europe. As an author, setting aside forgotten essays on the Japanese language and a slight, but appreciative, sketch of Japanese art, he became widely known by his *Capital of the Tycoon*, which is still a work of reference for all who are interested in the Old Japan. When in 1865 he was promoted to the Legation in Pekin, he was succeeded by a former subordinate, Sir Harry Smith Parkes, the most famous of our representatives in the Far East, while the present Minister, Sir Ernest Satow, was a youthful student interpreter in the British Legation at the time of the memorable attack. Sir Rutherford is hence likely to be remembered in connection with Japan, not only for his own eminent services, but through those of his followers.

T. G. STOCKWELL, F.R.C.S.,
Bath.

By the death of Mr. Stockwell, which occurred on October 2nd, Bath loses its senior surgical practitioner, and one of its most respected citizens. Born in 1823, the son of a surgeon, he became a student at St. George's Hospital, taking the diplomas of M.R.C.S. and L.S.A. at the end of his career there in 1845. Starting in practice in Bath, he was soon appointed Medical Officer to the Eastern Dispensary, where he proved himself an able and conscientious surgeon. At the Royal United Hospital he had the advantage of working under Messrs. Norman and Gore, and in 1855 he passed the examination for the Fellowship of the College of Surgeons. It was not, however, until 1865 that, a vacancy having occurred at the Royal United Hospital, he became Surgeon to that institution. The position of Surgeon to the Mineral Water Hospital he had then held for five years. The deaths of Messrs. Norman and Gore left Mr. Stockwell senior surgeon in Bath, and his opinion was sought and much appreciated in the West of England. Mr Stockwell was a very old member of the Bath and Bristol Branch of the British Medical Association. He frequently served on the council, and was in 1872 elected President.

As a surgeon, Mr. Stockwell was a shrewd, common-sense practitioner of the old school, but ever ready to adopt newer methods when their worth was clearly demonstrated. Calm and deliberate in action he was a model operator, never daunted by difficulty, and never flurried by unexpected contingencies. As a man he was modest and retiring, and yet with strong opinions, from which he was not easily turned. In the family circle his domestic instincts were seen to great advantage, and he was never so happy as when surrounded by his children.

Bath can ill spare such a citizen, his family will long lament him, and his professional colleagues will not soon replace his loss.

EDGAR SHEPPARD, M.D.

DR. EDGAR SHEPPARD died at Worthing on October 29th, aged 78. Dr. Sheppard was M.D.St. Andrews, F.R.C.S.Eng., and M.R.C.P.Lond. He wrote several works, which at the time of their appearance caused some sensation; one was on the Psychology of Quakerism, and another on the Turkish Bath.

For many years Dr. Sheppard was head of the male department of Colney Hatch Asylum, and by the great and constant care with which he exercised his functions there was well known and highly appreciated. He was a man of distinguished presence, who was refined in taste and manners. He was quite one of the old school of courtly physicians. He was too much occupied with official work to contribute much to medical literature, but he himself was widely read in English and foreign medical and general books. He made a special study of the Turkish bath and its uses, and went, perhaps, too far in its advocacy. He retired from his Superintendency some years since, and lived for a time in London, where he might often have been seen at the medical societies.

He was frequently called in officially by the Home Office to give opinions in criminal cases. He was well known in the Law Courts. He was kindly and refined, with a very large fund of general knowledge and wide sympathy. He retired to Worthing, and there passed away, regretted by all those who were within his own circle.

JOHN HUGHES, F.R.C.S.Eng.

WE have to record the death, on October 27th, in his 80th year, of Mr. John Hughes, F.R.C.S., formerly of Carmarthen. Mr. Hughes was born at Cardiff on March 22nd, 1818, and received his medical education at St. Bartholomew's Hospital. He qualified as M.R.C.S.Eng. and L.S.A. in 1840, and became a Fellow of the College of Surgeons in 1858. He early settled in Carmarthen, and held the office of coroner of that borough for about forty years. He was the first medical officer of health for the borough, and held that appointment until about five years ago, when he retired from practice and went to reside near Barry. He took a great interest in his work as medical officer of health, and no one of the many public duties which he undertook gave him greater pleasure. His annual reports to the Council were marked by so much thoroughness and ability that it is understood that the Local Government Board was anxious to appoint him one of its medical inspectors, with duties in South Wales, had he been willing to accept the appointment. He had as a civilian a remarkable connection with the army. Many years ago, when Carmarthen was a garrison town, he was appointed Civil Surgeon in charge, and was so successful in dealing with an outbreak of scurvy, consequent on the Irish potato famine, that he was specially thanked in general orders by the Duke of Wellington, then Commander-in-Chief. Later in life he was Surgeon-Lieutenant-Colonel of the Royal Carmarthen Artillery Militia.

Among the public appointments held by Mr. Hughes were those of Consulting Surgeon to the Carmarthen Infirmary, Police Surgeon to the borough, and Certifying Factory Surgeon. Mr. Hughes took a large part in public business; he was a magistrate for the county and borough, and was for many years Chairman of the Board of Guardians, Chairman of the School Board, and a Commissioner of Income-tax. When the county councils were formed he was invited to accept the chairmanship of the council for Carmarthenshire, and had he consented to stand would have been elected with the approval of all parties. It may safely be said that no medical man ever filled a larger number of public offices in the locality in which he practised, and than this no better

of could be given of the esteem in which Mr. Hughes was d. He leaves three daughter and two sons, one of them ng the Rev. Hugh Price Hughes, the well-known minister.

GEORGE BAGSTER PHILLIPS, M.R.C.S., L.M.Eng., L.S.A.Lond.

the death, from apoplexy, of Mr. G. B. Phillips, on tober 27th, East London has lost a very well known ctitioner. Mr. Phillips's first qualification was obtained 1861, and he was one of the oldest of the metropolitan ice surgeons, having been surgeon to the H Division for re than thirty years. Some time ago his name became dely known in connection with the "Jack the Ripper" rders. A considerable number of these atrocious crimes re committed in the district in which he lived, and he was ployed by the police to make necropsies on the mutilated tims. The praiseworthy manner in which he performed se duties procured him a well-merited reputation, and he s been repeatedly referred to by the magistrates at the tropolitan police-courts for expert evidence. He was ays courteous to and popular with his professional thren, and his familiar presence will be sorely missed them.

ROBERT CHARLES MACWATT, M.D., Duns.

. R. C. MacWatt, of Duns, died on October 11th, after an ness of some months' duration. He was the son of the late . D. MacWatt, solicitor, of Duns, and was born in that n on May 12th, 1828. He received his medical education Edinburgh University, and after a successful career as a dent, during which he gained several prizes in surgery, he k the degree M.D.Edin. in 1850. He commenced practice Duns in the same year, and in 1852 was appointed medical cer to the parish. The Parochial Board, when in 1895 it ided over its duties to the Parish Council, made a special ute in appreciation of Dr. MacWatt's services. Dr. Mac-tt took an interest in the Volunteer movement from the inning, and was for many years Surgeon-Major of the Ber-kshire Battalion, and received the Volunteer Decoration 1893. In 1891 he was chosen County Medical Officer of alth for Berwickshire, and two years ago was appointed a tice of the Peace. Dr. MacWatt took a great interest in olic affairs, and was also a keen sportsman and curler. He ves two sons, one of whom (Dr. John MacWatt) is in prac-e at Duns, while the other is Surgeon-Captain R. C. Mac-tt, now serving with the 11th Bengal Cavalry on the lian Frontier. The funeral, which took place on October h, was attended by a very large number of mourners, in-ding many of the leading residents in Duns and Berwick-re.

HE death of Mr. Clement Cuthbert Walter, of Dover, k place on October 14th. He was born in 1845, and received general education at Rochester and his medical education he University of Aberdeen and at St. George's Hospital. qualified as M.R.C.S.Eng. in 1871. Mr. Walter held the ointment of Surgeon to the Police. He married in 1874, there was no issue of the marriage. For some years his lth has been gradually failing, and the state of his heart sed some anxiety to his friends. Two years ago he retired n the militia, to which he belonged with the rank of Sur-n-Lieutenant-Colonel. The funeral took place on October h at Charlton Cemetery.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

M returns kindly supplied by the College tutors, it appears that 131 of freshmen entered this term at the University are medical students. number returned last year was 146, and in 1895 151.

UNIVERSITY OF EDINBURGH.

ENERAL COUNCIL.—The statutory half-yearly meeting of the General ncil of the University of Edinburgh was held on Friday, October 29th. returning thanks on his re-election, Mr. Taylor Innes said he had ed that at the conclusion of his term of office he should have been to review the proceedings of the Universities' Commission, but this not the case. The Commission seemed to have yet a longer term. The time, however, was coming when there would be a change, and when the University Court would have fuller and larger responsibilities. There was no business of special medical interest.

VICTORIA UNIVERSITY.

ANNUAL MEETING OF CONVOCATION.

THE annual meeting of Convocation was held last week. The number of members has already reached 350. In their last annual report the Committee of Convocation dealt with the question of the standard of preliminary education required of candidates for degrees in the Faculty of Medicine. Since then the Council have presented to the Court the following report: "The Council is of opinion that it would be injudicious in the general interests of the University to make alterations in the existing standard of the preliminary examination. They are not aware of any change that has occurred since the full discussion (1890-2) and determination of the existing standards and subjects of the entrance examination in arts, and of the acceptance of other examinations in lieu thereof, such as would suggest any immediate reconsideration of the policy then adopted."

One other important resolution was adopted, namely, "That, in the opinion of Convocation, it is desirable that there should be only one standard qualifying for entrance to the different faculties of the University." At present there is a separate "entrance in arts" for medical students distinct from that of the "preliminary examination," which admits to the Arts, Science, and Law Faculties of the University.

Professor D. J. Leech, M.D., was elected a representative of Convocation in the University Court, and at the same time a lady was elected as a representative of Convocation in the Court of Governors of the University. It is said to be the first instance in England of a post of this kind being held by a woman.

ROYAL UNIVERSITY OF IRELAND.

SECOND EXAMINATION IN MEDICINE.—The following candidates have satisfied the Examiners:

Honours—Second Class.—J. E. MacIlwaine, Queen's College, Belfast.

Upper Pass.—J. G. Anderson, Queen's College, Galway; P. T. Cawley, Queen's College, Galway; G. Graham, Queen's College, Galway; B. J. Hackett, Catholic University School of Medicine; R. Lee, Queen's College, Cork; J. A. D. Radcliffe, Queen's College, Belfast; J. C. Rankin, Queen's College, Belfast; J. H. Reford, B.A., Queen's College, Belfast; H. B. Steen, Queen's College, Belfast; J. Stewart, Queen's College, Belfast.

THIRD EXAMINATION IN MEDICINE.—The following candidates have satisfied the examiners:

Upper Pass—F. J. Allen, Queen's College, Cork; *J. E. Clements, Queen's College, Belfast; Annie H. Crawford, Queen's College, Belfast; *W. M. Hunter, Queen's College, Belfast; W. Lapsley, Queen's College, Cork; J. W. West, Queen's College, Belfast.

* Those marked with an asterisk may present themselves for the Further Examination for Honours.

Pass Division.—J. F. Begley, Catholic University School of Medicine; E. V. Cantillon, Queen's College, Cork, and Catholic University School of Medicine; A. W. Crawford, Queen's College, Belfast; Frances A. Dreaper, Catholic University School of Medicine; J. Duff, Catholic University School of Medicine; P. Gavin, Catholic University School of Medicine; G. H. Grills, Queen's College, Belfast; B. Hanlon, Queen's College, Cork; T. F. Heas, Queen's College, Cork; W. E. J. Jones, Queen's College, Belfast; D. Kernohan, Queen's College, Cork; A. E. Knight, Queen's College, Belfast; Kathleen F. Lynn, Queen's College, Belfast, and Catholic University School of Medicine; M. J. McDonough, Catholic University School of Medicine; M. R. Morrissey, Catholic University School of Medicine; B. A. O'Flynn, Catholic University School of Medicine; E. O'Shaughnessy, Queen's College, Cork; W. Rice, Queen's College, Cork; W. A. Rice, B.A., Queen's College, Belfast; F. Ryan, Catholic University School of Medicine; S. Waddell, Queen's College, Galway, and College of Surgeons, Edinburgh; R. Whyte, Queen's College, Belfast.

M.B., B.Ch., B.A.O. EXAMINATION.—The following Candidates have satisfied the Examiners:

Honours—Second Class.—E. C. T. Smith, Mason College, Birmingham.

Upper Pass.—N. J. Blaney, Catholic University School of Medicine; M. Henry, Queen's Colleges, Galway and Belfast, and Edinburgh School of Medicine; G. A. Hicks, Queen's College, Belfast; C. E. M'Dade, B.A., Queen's College, Belfast; C. J. Moore, Catholic University School of Medicine; P. M. O'Meara, B.A., Catholic University School of Medicine; R. W. G. Stewart, Queen's College, Belfast.

Pass.—J. J. Ahern, Queen's College, Cork; M. Burke, Queen's College, Cork; W. Canning, Queen's College, Belfast; J. H. C. Daly, Queen's College, Galway, and Catholic University School of Medicine; D. Fleck, Queen's College, Belfast; B. P. Healey, Catholic University School of Medicine; W. G. Jordan, Catholic University School of Medicine; J. M'Carthy, Queen's College, Cork, and Catholic University School of Medicine; F. J. M'Glade, Catholic University School of Medicine; R. R. M'Lean, Queen's College, Belfast; A. Montgomery, Queen's College, Belfast; H. J. Monypeny, Queen's College, Belfast; M. T. Moran, Queen's College, Belfast; T. P. O'Carroll, Catholic University School of Medicine; M. J. O'Kane, Catholic University School of Medicine; E. F. O'Sullivan, Catholic University School of Medicine; R. S. Ryce, B.A., Queen's College, Cork; T. H. Scott, Queen's College, Belfast; J. Shinkwin, Queen's College, Cork; J. R. Sinton, Catholic University School of Medicine; G. K. Smiley, Queen's College, Belfast; C. Turner, Queen's College, Cork.

M.D. DEGREE EXAMINATION.—The following candidates have satisfied the Examiners: †J. B. Coleman, M.B.; †W. D. Donnan, M.B., Queen's College, Belfast; D. Sommerville, B.A., King's College, London, and private study.

† Gold medal.

In the First Examination in Medicine, Patrick Doherty has been awarded First Class Honours in Botany and Zoology, Second Class

Honours in Experimental Physics, and an Exhibition of £20; and M. J. Macauley has gained First Class Honours in Botany and an Exhibition of £10. In the Second Examination, J. E. MacIlwaine has been awarded an Exhibition of £15; in the Third Examination, W. M. Hunter and J. W. West each obtain an Exhibition of £20, and in the Examination for M.B., B.Ch., B.A.O., E. C. T. Smith is awarded an Exhibition of £25.

CONJOINT BOARD IN IRELAND.

FINAL EXAMINATION.—Candidates have passed this Examination as undernoted:

Completed the Examination.—P. B. Burke, C. W. Caldwell, J. Campbell, D. F. Clarke, G. A. Kearny, S. G. Longwood, H. B. S. Montgomery, F. J. O'Farrell, B. R. Phillipson, R. H. D. Pope, D. C. S. Potterton, J. J. W. Prescott, W. Taylor.

In Medicine.—P. Coffey, D. Massey.

In Surgery.—P. Coffey, W. H. Odlam, D. Massey, D. J. O'Meara.

In Midwifery.—D. B. Bradlaw, R. V. Brews, B. A. Craig, R. L. Davies, W. E. Jolliffe, D. Massey, W. H. Odlam, E. M. J. O'Farrell, D. J. O'Meara, C. N. O'Sullivan, J. P. T. D. Quinn.

In Ophthalmology.—J. C. Baskin, P. Coffey, R. L. Davies, D. J. O'Meara.

In Forensic Medicine, etc.—P. Coffey, W. M. Jones, C. N. O'Sullivan.

Successful candidates will be admitted to the Licence in Medicine on Friday, and to the Licence in Surgery on Thursday.

The name of T. O. C. Donelan was omitted from the list of the Third Professional Examination.

CONJOINT BOARD IN SCOTLAND.

THE quarterly examinations for the Triple Qualifications in Edinburgh were concluded on November 1st, with the following results:

First Examination: Four Years' Course.—Of 8 candidates entered the following 3 passed: B. B. Head, J. C. Franklin, and Ada White, and 3 passed in Chemistry only.

First Examination: Five Years' Course.—Of 38 candidates the following 13 passed: C. W. Sharp, T. L. Ashforth, P. J. Thomson, J. J. McNicholl, T. S. Logan (with distinction), J. P. Cameron, W. C. Renshaw, R. L. Morrison, Magdalene McD. Lockhart, J. G. Heathcote, F. W. McCay, J. R. Smith, and W. G. Johnston; and, in addition thereto, 7 candidates passed in Physics, 6 in Biology, and 6 in Chemistry.

Second Examination: Four Years' Course.—Of 39 candidates the following 16 passed: A. Mudie, M. F. Ellis, L. Bradstock, J. A. Van Gelderen, D. O. Mittra, Ada White, J. T. Park, A. H. Macpherson, N. McGowan, W. Mackirdy, E. Q. Ambrose, W. S. Fraser, J. Scott, E. Bennett, T. Moore, J. T. Jones; and 3 passed in Anatomy, 5 in Physiology, and 6 in Materia Medica.

Second Examination: Five Years' Course.—Of 29 candidates the following 15 passed: L. E. Stayres, Agnes McL. Black, W. T. Finlayson (with distinction), W. Lock, P. Hefferman, H. E. C. K. Murray, F. W. Newcombe, Edith Anna Wynne-Edwards, R. J. Mackay, T. Henderson, C. Jones, C. R. Sutherland, T. R. Hunter, W. A. Pitt, and A. S. Sieger, and 2 passed in Elementary Anatomy only.

Third Examination: Five Years' Course.—Of 18 candidates the following 9 passed: Isabella Anne Watson, D. S. Russell, J. E. Ratcliffe, W. Denniss, W. J. Aiken, H. Fowler, E. Ryan, A. M. Staunton, and F. C. Ackland, and 3 passed in Anatomy and 1 in Materia Medica.

Final Examination.—Of 105 candidates the following 47 passed and were admitted L.R.C.P E., L.R.C.S.E., and L.F.P.and S.G.: R. C. Reid, M. M. Townsend, Frances Emma Turle Evans, M. P. Rodgers, A. H. Gibbon, Ellen Maude Wood, V. Bateson, P. H. du Plessis, E. A. Kirkwood, D. Wilson, E. J. Wynstone-Waters (with honours), H. T. Wright, F. Foenander, P. J. O'Sullivan, W. Gordon, R. K. Bayley, K. H. White, D. R. Dhabhar, M. Sheehy, P. M. Matthai, E. M. J. D'Sylva, R. L. Patterson, C. E. Covernton, H. Roberts-Williams, H. H. Lawrence, A. F. Jones, Anna Maria McFee, J. St. J. Murphy, P. G. Bannister, J. S. Gubbins, M. F. de Albuquerque, R. Ramsay, W. G. Mitchell, W. Watson, Johanna Fleck Gilchrist, A. T. Griffiths, A. Dougall, W. McHarry, C. A. Mateer, W. Mackirdy, F. B. Hargreaves, A. L. Mather, Edith Jennie Macgowan, J. J. Quigley, E. Davies, J. D. Graham, and H. J. F. Bourne; and in addition 7 candidates passed in Medicine, 3 in Surgery, 10 in Midwifery, and 11 in Medical Jurisprudence.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

THE following gentlemen, having passed the requisite examination, were on October 20th duly elected Fellows of the College:

J. H. Balfe, M.D.; F. W. Jollye, M.R.C.S.Eng.; H. C. Donald, M.B., C.M.; H. A. Smit, L.R.C.S.E.; N. Raw, M.D.; A. MacC. Morrogh, M.B., C.M.; F. W. R. Mackay, M.D.; G. F. Aldous, M.R.C.S.Eng.; and J. V. Paterson, M.B., C.M.

Dr. W. Stewart, F.F.P.&S G. was admitted a Fellow without examination; and J. F. Menzies, M.B. and C.M., was admitted a Licentiate.

FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

THE annual meeting of the Faculty, held on Monday last, was very largely attended, part of the business being the election of two representatives to the Board of Managers of the Western Infirmary. Dr. J. B. Russell and Dr. Thomas Lapraik, who have represented the Faculty for many years, had been renominated at the last monthly meeting, but since the disagreement between the Western Infirmary managers and Professor Macewen became public, nominations of Dr. Wood Smith and Dr. Arch. Sloan had been handed in. A motion for adjournment of this election to a special meeting to give time for consideration and possible explanation by the retiring representatives was ruled out of order, and the voting was proceeded with. The result was the re-election of Dr. Russell and the substitution of Dr. Sloan for Dr. Lapraik. At the same meeting Dr. Hector Clare Cameron was elected President, and Dr. A. L. Kelly, Visitor.

NAVAL AND MILITARY MEDICAL SERVICES

ARMY MEDICAL STAFF EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medi Department is 3s. 6d., which should be forwarded in stamps or post of order with the notice, not later than Wednesday morning, in order to ens insertion in the current issue.

A SURGEON-MAJOR, who expects to go to India about the end of Jar ary, desires an exchange that would give him from six to twelve mont more at home. Address, Oxalis, care of Messrs. Holt and Co., 17, Whi hall Place, London, S.W.

A SURGEON-MAJOR, who arrived home early 1897, wishes to exchange India, for full or part tour, during current trooping season. Addre Aubert, care of Holt and Co., 17, Whitehall Place, S.W.

SURGEON-MAJOR, under orders to embark for Bombay Command abo middle of December, wishes to exchange so as to have one more year home. Address, "Bombay," care of Sir C. McGrigor Bart and Co., Charles Street, London, S.W.

THE NAVY.

THE following appointments have been made at the Admiralty: HERBE W. G. DOYNE, Staff Surgeon, to the *Hawke*, October 27th; OCTAVIUS FISHER, Staff Surgeon, to the *Rodney*, November 4th; CORNELI BRADLEY, Surgeon, to the *Jackal*, November 4th; CHARLES S. BENNETT Surgeon, to the *Lion*, November 5th; EDWARD COOPER, Surgeon, to t *Jaseur*, October 27th; CHARLES R. SHEWARD, Surgeon, to the *Excelle* October 27th; EUSTACE ARKWRIGHT, Surgeon, to the *Alexandra*, Octob 27th; WALTER K. HOPKINS, Surgeon, to the *Pembroke*, October 27t HENRY L. CROCKER, Fleet Surgeon, to the *Britannia*, November 18t MYLES O'C. MCSWINEY, Staff Surgeon, to the *Boscawen*, November 9t EDWARD J. BIDEN, Staff Surgeon, to the *Minotaur*, October 28th; EDWA C. WARD, M.D., Staff Surgeon, to the *Sirius*, undated; JAMES PORTE M.A., M.B., Staff Surgeon, and EDWARD P. MOURILYAN, M.B., Surgeo to the *Doris*, November 18th; EDWARD H. MEADEN, Surgeon, to t *Sirius*, November 9th, and to the *Fearless*, undated; HERBERT H. GIL M.B., Surgeon, to the *Sirius*, November 9th, and to the *Hebe*, undate GEORGE R. MACMAHON, B.A., M.B., Surgeon, to the *Sirius*, undate PHILIP N. RANDALL, M.B., Surgeon, to Ascension Hospital, Novemb 11th; GEORGE WILSON, M.B., to the *Victory*, additional, October 26t SYDNEY H. YOUEL, Surgeon, to the *Penguin*, undated; MORRIS C. LON FORD, Surgeon, to the *Orlando*, undated.

ARMY MEDICAL STAFF.

SURGEON-COLONEL CHARLES A. ATKINS retires on retired pay, Novemb 3rd. His commissions were dated: Assistant-Surgeon, September 30t 1863; Surgeon, March 1st, 1873; Surgeon-Major, April 28th, 1876; Brigad Surgeon, September 12th, 1888; and Surgeon-Colonel, August 1st, 1893. H accompanied Sir Garnet Wolseley to the Gold Coast in September, 187 served at the attack and destruction of Essaman and Ampinee, and medical charge of Russell's regiment throughout the Ashanti war 1873-74, including the repulse of the Ashanti army at Abrakrampa duri November 5th and 6th, capture and destruction of Adubiassie, battle Amoaful, capture and destruction of Becquah, advanced guard engag ment of Jarbinbah, skirmishes and ambuscade affairs between Adwabi and the river Ordah, battle of Ordahsu and capture of Kumasi (mentione in despatches, medal with clasp). He was also in the Afghan war 1879-80, and was present at the night attack at Zaidabad, in the engag ment at Charasiah on October 6th, 1879, and in the operations aroun Cabul in December, 1879, including the defence of Sherpore (mentione in despatches); accompanied Sir Frederick Roberts in the march Candahar, and was present at the battle of Candahar (mentioned i despatches, medal with three clasps, and bronze decoration).

Surgeon-General RICHARD GILBORNE, J.P., late of the 89th Prince Victoria's Regiment, and of the 6th Dragoon Guards (the Carabiniers died at Fairlawn, Folkestone, on October 28th, at the age of 73. He w appointed Assistant-Surgeon, October 2nd, 1846; Surgeon, December 8t 1854; Surgeon-Major, October 2nd, 1866; Deputy-Surgeon-General, Ap 28th, 1876; and Surgeon-General, October 23rd, 1881. He accepted retire pay, November 20th, 1884. He served with the 8th Hussars in Bulgar from June 5th, 1854; with the 89th Regiment in the Crimea, from Dece ber 14th, 1854, including the siege and fall of Sebastopol, and the assaul on June 18th and September 8th (medal, with clasp, and Turkish medal and during the suppression of the mutiny in India in 1857-9, and in pu suit of the rebels under Tantia Topee in Rajpootana and Central Ind (medal).

Brigade-Surgeon JAMES SHAND DUNCAN, M.D., late of the 81st Regimen died at Westminster Hospital on October 22nd, aged 61. He was appointe Assistant-Surgeon, December 14th, 1858; Surgeon, March 1st, 187 Surgeon-Major, April 1st, 1874; and Honorary Brigade-Surgeon on h retirement, May 20th, 1885.

Surgeon-Captains H. A. BRAY, T. P. JONES, C. M. FLEURY, and V TIBBITTS, and Surgeon-Lieutenant H. A. L. HOWELL, have been ordere to proceed immediately to Rawal Pindi, for duty with the British Gener Hospital.

Surgeon-Major EDWARD JOHN BURTON, M.D., died at 16, Salisbu Road, Hove, Brighton, on October 31st. He entered the service Assistant Surgeon, May 11th, 1838; and became Surgeon, March 30th, 184 and Surgeon-Major, February 16th, 1855; retiring on half pay, Decembe 20th, 1864. He was present at the defence of M'Carthy's Island from attack of a force of natives, and assisted to work the guns in action (me tioned in despatches). During the rebellion in Ceylon in 1848 he ha medical charge of a wing of the 25th Regiment; he also served in th Crimea from April 18th, 1855, including the siege and fall of Sebastop and the assaults of June 18th and September 8th (medal with clasp an Turkish medal).

INDIAN MEDICAL SERVICE.

SURGEON-CAPTAINS H. R. WOOLBERT, M.B.; G. H. BAKER, T. GRAINGE M.D.; J. R. ADIE, M.B.; A. C. YOUNAN, M.B.; A. W. ALCOCK, M.B.; a

M. CADELL, M.B., having completed twelve years' full pay service, are moted to be Surgeon-Majors, from October 1st.
he undermentioned Surgeon-Majors, having completed twenty years' l pay service, are promoted to be Surgeon-Lieutenant-Colonels from ober 1st. Bengal: S. J. THOMSON, R. N. CAMPBELL, M.B.; E. S. BRANDER, .; G. A. EMERSON, M.B. Madras: C. H. BENNETT, M.D.; W. H. RNHILL, M.D. Bombay: H. ADEY, M.B.; A. W. F. STREET, D.S.O.; P. JERVIS, D. C. DAVIDSON, J. C. H. PEACOCKE.

THE VOLUNTEERS.

GEON-LIEUTENANT G. REINHARDT-ANDERSON, 3rd Volunteer Battalion King's Own Liverpool Regiment, has resigned his commission, vember 3rd.
urgeon-Lieutenant C. F. GLINN, 3rd Volunteer Battalion the Devon-re Regiment, is promoted to be Surgeon-Captain, November 3rd.
urgeon-Captain R. GRANT, 2nd (Angus) Volunteer Battalion the Royal hlanders, is promoted to be Surgeon-Major, November 3rd.

THE LUNATIC HOSPITAL, NETLEY.

IGADE-SURGEON-LIEUTENANT-COLONEL L. A. IRVING, A.M.S., now in rge of this hospital, will complete a five years' tenure of the appoint-nt in January next. His successor will probably be Surgeon-Lieu-ant-Colonel Chester, now at Portsmouth.

THE MEDICAL STAFF CORPS.

ARGE number of warrant officers, non-commissioned officers, and men e been placed under orders to join the depôt at Aldershot at an early e for service at Gibraltar, Hong Kong, Ceylon, Egypt, Malta, and the aits Settlements. It is reported that four non-commissioned officers the Medical Staff Corps are at present in London undergoing a course nstruction in practical cooking, two at the Hotel Cecil and two at the stitutional Club. They are to remain for two months. This step may e the effect of producing further improvement and variation in hos-al cooking.

REYNOLDS AND THE V.C.

are enabled to state that the so-called "deliberate" exclusion of geon Reynolds (mentioned in Dr. Cox's address) from receiving the toria Cross at the hands of the Queen is incorrect. It appears that he Brown, of the 24th Regiment, had choice as to how they should ive the decoration, and elected to have it presented in Zululand, re they were serving. This was carried out with all due ceremony honour by Brigadier-General Glyn. Major Chard, R.E., who had e home, had probably no option as to how he would receive it. It is h to be regretted that these facts were not known before, as nolds's supposed exclusion from the presence of Royalty has often n bitterly commented on.

THE MEDICAL SERVICE R.N.

I. asks the following questions with regard to the medical depart-ent of the navy:
1. Is the work of such amount and nature as to interest a man who is nd of his profession?
2. Do the higher appointments carry with them good social and influ-ntial standing in the service?
3. Do you think that the service offers inducements and advantages a man fond of general culture and study?
4. Can a man on all stations easily live on his pay?
5. Whether would it be better for a man proposing to enter the navy do so as soon as possible after qualifying, or to spend first say a year hospitals as house-surgeon and physician?
6. Is there any book published which would give one a good idea of e naval medical life?
7. Would a man who was a good pianist have opportunity on any ship studying music, and would such an accomplishment be of good ser-ce to him in the navy?

*** We have referred these questions to a distinguished retired medi-l officer of the royal navy, who writes as follows:

1. The work in the Naval Medical Service is quite as comprehensive that of any other public service, with perhaps the exception of the ecial treatment of women and children, while there are many matters pecially appertaining to the maritime life to absorb the interest of y man who is fond of his profession.
2. The former disabilities of the naval medical officer may be said to done away with, and although from the very nature of the case e executive must always hold a leading position, if the medical officer a gentleman he will be sure to get along smoothly enough. Of course e higher appointments carry with them good social standing in the ofession.
3. The Naval Medical Service is for many obvious reasons conducive the study of natural and physical science, and in the intervals of his utine duties the medical officer will have time enough to devote him-lf to any special study; and indeed it is quite advisable that he ould do so, and embrace every good opportunity.
4. The pay even of the junior medical officer is quite enough for all dinary requirements both at home and abroad.
5. As the naval service, like most others, distributes its favours by niority, unless in some exceptional cases, the sooner the medical icer is enrolled on the List the better it must be for him in time to me, and as newly entered men are usually sent to one of the principal val hospitals as a preparatory step, the temporary attachment to any il institution would be simply loss of time in a service point of w.
6. The only book that can be recommended for the study of a candidate is *The Queen's Regulations and Admiralty Instructions.*
7. A good pianist is always a great acquisition on board ship, and a piano is to be found in many ward rooms. As a matter of fact, those naval officers who played well in the schoolroom in early life, have often to regret that they had not kept up their practice.

The above will answer the questions of Member, B.M.A. also.

THE ARMY MEDICAL RESERVE.

JUSTICE defends the Reserve as follows: There have lately been what he considers to have been unpleasant and unfair reflections on its officers. I have watched the working of the Reserve since its institution, and have never found it work any harm to our professional military brethren; on the contrary, I have known many instances where it well fulfilled some of the main objects for which it was instituted, namely, to relieve the regular staff under great pressure of work and to supplement it when the medical strength of a station was unavoidably reduced. If I for a moment thought the disruption of the Reserve would in any way benefit my brethren of the regular Medical Staff I would at once take the strongest action to effect such an end. The Reserve does not, I am satisfied, cause the real grievances of army medical officers, which flow from the hostility of a section of the combatant officers, who wish to control and coerce the former. I therefore regard the Reserve as a help to the regular medical officers, and no obstacle to their best interests. As regards contract rates, they are certainly not high; but, paid upon a large number of troops in a station, are not degrading financially or professionally. Such rates are first offered to the Reservist, but he is not bound to accept them if it does not suit him to do so. In case of volunteer mobilisation the Reserve would practically, for the time at least, cease to exist, for undoubtedly the volunteer medical officer would be required to serve with his corps, which would have the first claim upon him.

*** We should greatly regret any antagonism between medical officers of the regulars and reserves; they are professional brethren, and, as far as military status is concerned, all in the same boat. But this community of interests does not blind us to the fact that the reserve is no real reserve, but, as our correspondent admits and points out, rather an auxiliary. It may help to do the work of a grievously undermanned establishment in peace, but in real war-emergency of a national kind, must, "for the time at least cease to exist"; in other words, it would disappear when most wanted. Nor are we unmindful that high military authorities calculate on the reserve doing the work at home, should the regular Army Medical Service melt away, as it is now rapidly doing.

WEST AFRICAN SERVICE.

OBSERVER writes: It is well known that, except in time of war, combatant officers of white troops are not ordered on service on the West Coast of Africa, but are allowed to volunteer. But recently, it seems, medical officers have been ordered to proceed to that deadly climate without being asked to volunteer. No doubt medical volunteers could be obtained; but that does not excuse the high-handed proceeding of simply ordering them there without option. Will this proceeding increase the popularity of the service, and catch candidates?

THE MEDICAL RESERVE.

CYMPH CYMON writes: The Volunteer Medical Association should take up the position of the so-called Reserve; it is most anomalous, and time that its constitution and functions should be defined.

SURGEON-CAPTAIN.—The resignation of the so-called Reserve would bring matters to a crisis, for its existence (unknowingly to its members) is the sole argument against any medical reform. The War Office laugh all reform to scorn, so long as they can parade volunteers (counted twice) as something to fall back upon.

RANK AND TITLES.

SURGEON-LT.-COLONEL RETIRED writes: The arguments of "Qualis ab Incepto" are much to the point. If the new titles are to be Captain and Surgeon they will be worse than the present compound ones. The "good doctors" will continue to be the laughing stock of the army. So long as the authorities persevere in degrading the medical service, then so long will discontent and inefficiency prevail.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

ZYMOTIC MORTALITY IN LONDON.

[SPECIALLY REPORTED FOR THE "BRITISH MEDICAL JOURNAL."]

THE accompanying diagram shows the prevalence of the principal zymotic diseases in London during each week of the third quarter of the current year. The fluctuations of each disease, and its fatal prevalence as compared with that recorded in the corresponding weeks of recent years, can thus be readily seen.

Small-pox.—Only 2 deaths were referred to small-pox in London last quarter, the corrected average number in the corresponding periods of the ten preceding years having been 14. Of these 2 fatal cases, 1 belonged to Islington and 1 to City of London sanitary areas. No small-pox patients were under treatment in the Metropolitan Asylums Hospitals during last quarter.

Measles.—The fatal cases of measles, which had been 162 and 298 in the

two preceding quarters, further rose to 302 during the three months under notice, but were 230 below the corrected average number. Among the various sanitary areas of the metropolis measles showed the highest proportional fatality in Clerkenwell, St. Luke, Whitechapel, Limehouse, St. Saviour Southwark, St. George Southwark, and Camberwell.

Scarlet Fever.—The deaths referred to this disease, which had been 263, 166, and 151 in the three preceding quarters, rose again to 216 during the three months ending September last, but were 71 below the corrected average number in the corresponding periods of the ten preceding years. Among the various sanitary areas this disease was proportionally most fatal in St. James Westminster, St. Luke, Shoreditch, Newington, Bermondsey, and Rotherhithe. The number of scarlet fever patients in he Metropolitan Asylums Hospitals, which had been 3,599, 2,468, and 2,786 at the end of the three preceding quarters, had further risen 103,585 at the end of September last. The number of cases admitted into these hospitals, which had been 2,934 and 3,289 in the two preceding quarters, further rose to 4,592 during the three months ending September last.

Diphtheria.—The fatal cases of diphtheria registered in London, which had been 785, 641, and 428 in the three preceding quarters, rose again to 488 during the three months under notice, but were 24 below the corrected average number. Among the various sanitary areas this disease showed the highest proportional fatality in Paddington, Holborn, Clerkenwell, St. Luke, St. George Southwark, Battersea, and Camberwell. The number of diphtheria patients in the Metropolitan Asylums Hospitals at the end of September was 1,033 against 776 and 864 at the end of the two preceding quarters; 1,832 new cases were admitted during last quarter, against 1,328 and 1,437 in the two preceding quarters.

Whooping-cough.—The deaths from this disease, which had been 266, 543, and 471 in the three preceding quarters, further declined again to 373 during the three months ending September last, and were 108 below the corrected average number; among the various sanitary areas whooping-cough was proportionally most fatal in Fulham, Stoke Newington, St. Martin-in-the-Fields, Holborn, Clerkenwell, and St. George Southwark,

Fever.—Under this heading are included deaths from typhus, enteric, and simple and ill-defined forms of continued fever. The deaths referred to these different forms of "fever," which had been 213, 127, and 85 in the three preceding quarters, rose again to 144 during the three months ending September last. but were 20 below the corrected average number. Of these 144 deaths from "fever," 143 were certified as enteric fever and 1 as simple continued fever. Among the various sanitary areas the highest proportional fatality of "fever" was recorded in Strand, Holborn, Shoreditch, and St. George Southwark. The Metropolitan Asylums Hospitals contained 173 enteric fever patients at the end of September last, against 116, 75, and 70 at the end of the three preceding quarters; 322 new cases were admitted during last quarter, against 2[illegible] 188, and 148 in the three preceding quarters.

Diarrhœa.—The 3,510 fatal cases of diarrhœa registered in Lond[illegible] during the three months ending September last were as many as 1,[illegible] above the corrected average number. This disease was proportional[illegible] most fatal in Hammersmith, Fulham, St. Luke, Shoreditch, St. Geor[illegible] in-the-East, St. George Southwark, Newington, Bermondsey, and Roth[illegible] hithe sanitary areas.

In conclusion, it may be stated that the 5,035 deaths referred to t[illegible] principal zymotic diseases in London during the third or summer quart[illegible] of this year were 878, or more than 21 per cent., above the avera[illegible] number in the corresponding periods of the ten preceding years, 1887-[illegible] owing to the excessive fatality of summer diarrhœa. The mortality fro[illegible] each of the other zymotic diseases was below the average. Amo[illegible] the various sanitary areas the lowest zymotic death-rates last quart[illegible] were recorded in Kensington, St. George Hanover Square, St. Jam[illegible] Westminster, Hampstead, St. Giles, St. Martin-in-the-Fields, City [illegible] London, and Lee; and the highest rates in Fulham, Holborn, St. Luk[illegible] Shoreditch, St. Saviour Southwark, St. George Southwark, Newingto[illegible] and Bermondsey.

THE REGISTRAR-GENERAL'S QUARTERLY RETURN.

THE Registrar-General has just issued his return relating to the birt[illegible] and deaths registered in England and Wales during the third or summ[illegible] quarter of this year, and to the marriages during the three months endi[illegible] June last. The marriage-rate was equal to 17.8 per 1,000 of t[illegible] population; this rate was 2.2 per 1,000 above the mean rate in the corr[illegible] sponding periods of the ten preceding years, and exceeded the rate [illegible] corded in the second quarter of any year since 1874.

The births registered in England and Wales during the three mont[illegible] ending September last numbered 233,090, and were equal to an annu[illegible] rate of 29.8 per 1,000 of the population, estimated by the Registrar-Gene[illegible] to be rather more than thirty-one millions in the middle of this year. Th[illegible] rate was 1.6 per 1,000 below the mean rate in the corresponding perio[illegible] of the ten preceding years. The birth-rates in the several counti[illegible] ranged from 22.1 in Rutlandshire, 22.8 in Westmorland, 23.2 in Sussex, a[illegible] 23.7 in Bedfordshire to 33.2 in South Wales, 34.1 in Staffordshire, 33.7 [illegible] Monmouthshire, and 35.5 in Durham. In thirty-three of the large[illegible] English towns, including London, the birth-rate last quarter average[illegible] 31.1 per 1,000, and exceeded by 1.3 per 1,000 the general English rate. [illegible] London the birth-rate was 30.3 per 1,000, while it averaged 31.6 in t[illegible] thirty-two large provincial towns, among which it ranged from 23.6

DEATHS FROM ZYMOTIC DISEASES IN LONDON DURING THE THIRD QUARTER OF 1897.

NOTE.—The black lines show the *recorded* number of deaths from each disease during each week of the quarter. The dotted lines show the *average* number of deaths in the corresponding week of the ten preceding years, 1887-96

Huddersfield, 23.8 in Halifax, 24.9 in Bradford, and 25.1 in Croydon to 34.6 in Wolverhampton, 34.9 in Salford, Sheffield, Hull, and Gateshead, 35.8 in Liverpool, and 37.0 in Sunderland.

The births registered in England and Wales during the quarter ending September last exceeded the deaths by 94,068; this represents the natural increase of the population during that period. It appears from returns issued by the Board of Trade that 76,264 emigrants embarked during last quarter, for places outside Europe, from the various ports of the United Kingdom at which emigration officers are stationed. Of these, 34,950 were English, 5,737 Scotch, and 10,791 Irish, while 23,786 were of foreign origin. Compared with the averages in the corresponding periods of recent years, the proportion of emigrants from each of the three divisions of the United Kingdom showed a decline.

During the third quarter of the current year the deaths of 139,022 persons were registered in England and Wales, equal to an annual rate of 17.8 per 1,000 of the estimated population; this rate was 1.2 per 1,000 above the mean rate in the corresponding periods of the ten preceding years. The lowest county death-rates last quarter were 12.2 in Rutlandshire; 12.4 in Somersetshire, 12.6 in Buckinghamshire, Oxfordshire, and Cumberland, and 12.7 in Berkshire; while the highest rates were 19.9 in Staffordshire, 21.8 in Lancashire, 22.0 in the East Riding of Yorkshire, and 23.0 in Warwickshire. In the urban population of England and Wales, estimated at rather more than twenty-one millions, the rate of mortality during the quarter under notice was equal to 19.4 per 1,000; while in the remaining and chiefly rural population of nearly ten millions the rate was 14.3 per 1,000. The urban rate was 1.6 per 1,000 above, while the rural rate corresponded with, the mean rate in the third quarters of the ten preceding years. Among thirty-three of the largest English towns the mean death-rate was 21.2 per 1,000, or 3.4 per 1,000 in excess of the death-rate in the whole country. In London the rate was 19.4 per 1,000, while it averaged 22.6 in the thirty-two large provincial towns, among which the rates ranged from 13.1 in Swansea, 13.2 in Halifax, 13.8 in Huddersfield, and 14.4 in Croydon to 26.3 in Birmingham, 28.1 in Salford, 28.8 in Liverpool, 28.9 in Wolverhampton, and 33.9 in Preston. In sixty-seven other large towns, with an estimated aggregate population of about three and a-half millions, the mean death-rate was 18.0 per 1,000, or 3.2 per 1,000 below the rate in the thirty-three great towns.

The 139,022 deaths from all causes registered in England and Wales during the three months ending September last included 21,639 which were referred to diarrhœa, 2,715 to measles, 2,049 to whooping-cough, 1,631 to diphtheria, 1,343 to "fever" (including typhus, enteric, and ill-defined forms of continued fever), 1,097 to scarlet fever, and 4 to small-pox; in all, 30,478 deaths resulted from these principal zymotic diseases, equal to an annual rate of 3.89 per 1,000, or 1.11 per 1,000 above the mean rate in the corresponding quarters of the ten preceding years. The mortality from small-pox, scarlet fever, whooping-cough, and "fever" was below the average, while that from measles, diphtheria, and diarrhœa showed an excess. Only 4 fatal cases of small-pox were registered in England and Wales during the quarter under notice; of these, 2 were of persons belonging to London, 1 to Hull, and 1 to Hartlepool.

The rate of infant mortality in England and Wales last quarter, or the proportion of deaths under 1 year of age to registered births, was equal to 213 per 1,000, and was as much as 47 per 1,000 above the average proportion in the corresponding periods of the ten preceding years. In London the rate of infant mortality was 243 per 1,000, while it averaged 301 in the thirty-two provincial towns, among which it ranged from 127 in Swansea, 129 in Halifax, 132 in Huddersfield, and 164 in Bristol, to 355 in Salford, 373 in Birmingham, 379 in Leicester, 418 in Wolverhampton, and 449 in Preston. The high rates in the last-mentioned towns were mainly due to the excessive fatality of summer diarrhœa. The mortality in England and Wales last quarter among persons aged between one and sixty years was equal to an annual rate of 8.2 per 1,000 of the estimated population at this group of ages, and was slightly below the mean rate in the ten preceding third quarters. In the thirty-three great towns the mortality at this age-group averaged 9.9 per 1,000, and ranged from 5.6 in Croydon, 6.5 in Halifax, and 7.2 in Swansea, to 13.5 in Salford, 14.4 in Liverpool, and 17.0 in Preston. Among persons aged sixty years of age and upwards the death-rate in England and Wales last quarter was equal to 54.6 per 1,000 of the estimated population at this age-group, and slightly exceeded the average rate. In the thirty-three great towns the rate was 58.3 per 1,000, ranging from 45.8 in West Ham, 47.0 in Huddersfield, and 48.0 in Norwich, to 69.4 in Sunderland, 70.4 in Bradford, and 74.0 in Bolton.

The mean temperature of the air during last quarter at the Royal Observatory, Greenwich, was 60.9°, and was 1.1° above the average in the corresponding quarters of 126 years; it was 2.8° above the average in July, 2.0° in August, but was 1.4° below the average in September. The rainfall during the quarter amounted to 6.29 inches, and was rather more than an inch below the average.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 6,516 births and 3,716 deaths were registered during the week ending Saturday last, October 30th. The annual rate of mortality in these towns, which had been 16.9 per 1,000 in each of the two preceding weeks, rose to 17.6 last week. The rates in the several towns ranged from 9.5 in Cardiff, 10.3 in Croydon, 10.5 in Leicester, and 10.7 in Brighton, to 21.3 in Liverpool, 22.2 in Sheffield, 24.0 in Bolton, and 25.7 in Wolverhampton. In the thirty-two provincial towns the mean death-rate was 17.6 per 1,000, and was slightly below the rate recorded in London, which was 17.7 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.2 per 1,000; in London the rate was equal to 2.4 per 1,000, while it averaged 2.1 in the thirty-two provincial towns, among which the highest zymotic death-rates were 3.4 in Burnley, 4.4 in Halifax, 5.2 in Blackburn, and 5.4 in Wolverhampton. Measles caused a death-rate of 1.5 in Burnley, 1.6 in Blackburn, 2.2 in Halifax, and 2.4 in Wolverhampton; scarlet fever of 1.0 in Derby and 1.6 in Halifax; "fever" of 1.2 in Blackburn and in Sheffield, and 1.5 in Sunderland; and diarrhœa of 1.4 in Preston, and 2.0 in Burnley and in Blackburn. The mortality from whooping-cough showed no marked excess in any of the large towns. The 98 deaths from diphtheria in the thirty-three towns included 65 in London, 5 in Liverpool, 4 in West Ham, 4 in Birmingham, 3 in Wolverhampton, 3 in Cardiff, and 3 in Leicester. No fatal case of small-pox was registered last week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,692, 3,725, and 3,685 at the end of the three preceding weeks, was 3,682 on Saturday last, October 30th; 416 new cases were admitted during the week, against 400, 440, and 342 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, October 30th, 910 births and 593 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 19.1 and 20.3 per 1,000 in the two preceding weeks, declined again to 19.9 last week, but was 2.3 per 1,000 above the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 13.6 in Perth and 16.6 in Leith to 25.7 in Aberdeen and 24.2 in Dundee. The zymotic death-rate in these towns averaged 2.7 per 1,000, the highest rates being recorded in Dundee and Perth. The 273 deaths registered in Glasgow last week included 8 from measles, 5 from scarlet fever, and 13 from whooping-cough. Two fatal cases of diphtheria were recorded in Edinburgh, and 3 of scarlet fever in Aberdeen.

THE ALDERSHOT WATER SUPPLY.

The question of the purity of the Aldershot water supply is the subject of a recent report by Messrs. Redwood and De Hailes, analytical chemists. The report says that efficient means have been taken to prevent contamination with surface water, and adds that the water is "organically pure, and admirably suited for domestic and dietetic purposes."

INDIA AND THE COLONIES.

INDIA.

Decrease of Liquor Shops in British India.—Comparing the year 1895-6 with the previous year, there are in British India 300 fewer shops for the sale of spirits, 820 for toddy, 39 for opium, and 83 for the sale of the narcotic drugs. In all, there has been a total decrease of 1,232 shops for the retail of this group of articles of consumption. This striking decrease is attributed to the strenuous efforts of the Anglo-Indian Temperance Association by protests and petitions.

Sanitary Reports in India.—The following is found in the *Homeward Mail* of October 23rd: "In these days of desk work it is so rare to find a department confessing itself overglutted with statements and returns that mention must be made of the event. In a brief review of the Sanitary Report for the North-West Provinces the Secretary to Government cautiously admits that as the bulk of 151 pages of statistical details is likely to act as a deterrent to their examination, thus defeating the object of the compilation, and as the details are unnecessary, besides greatly delaying publication, the question of including them may require consideration." In sanitary reports published in India the statistical portions are the most difficult to get over. Practical deductions from the figures are more readable and certainly more instructive, and should find a larger space in these compilations.

The Plague.

Segregation Camps in Bombay.—Travellers to Bombay by sea from infected ports are detained for a period of six days in segregation camps. During the third week of October as many as 2,500 people were under quarantine restrictions at the several camps. To European eyes these closely-packed sheds of bamboo and matting suggest scarcely a tolerable shelter; but the native point of view is different, and to him it means in many cases actual comfort. The quarantine sheds are built so as to allow 18 square feet for each person, and taking open and shedded accommodation, there is 90 square feet per person. There is no sign of overcrowding, and beyond the inconvenience of detention no complaints. The stations are kept scrupulously clean; the drainage is good, and sanitary details are carefully attended to. Disinfection of the clothing, of those detained in quarantine sheds, is carried on by the steam steriliser; and although the amount of work to be got through is enormous, the rapidity of the process allows of its being effectually done.

Plague in Other Districts.—The Public Health of Bombay is improving, the total weekly mortality having declined in five weeks by 126. The total mortality during the third week of October was 750, still 209 in excess of the average mortality. From Madras we have notice of a few cases of plague, but there is no indication of a tendency to spread. At Ootacamund, in the Neilgherry hills, a case of imported plague from Bombay, in the person of a driver of some imported horses, caused great consternation; but happily no extension of the disease took place. At Sholapore, a town on the main line of railway between Bombay and Madras, and close to the borders of Hyderabad, plague has appeared. In consequence, an eight days' quarantine had been imposed on passengers from Poona and Bombay, and segregation sheds are being erected between the town and the station. A cordon of police is maintained around infected districts, and the roads leading to the outlying villages are patrolled. Neither ingress or egress is permitted; all villagers with produce for sale are turned back. The plague is reported to have broken out at Baroda, in spite of precautionary measures. Baroda is on the main line of railway north from Bombay, and also in close touch with Cutch, where plague has been very rife. It could hardly have been expected to escape. In the North-West Provinces, at Kankhal, owing to the appearance of plague, all railway communication has been stopped. That this town should have become affected shows an extension of the disease eastward, towards Bengal, and its progress will be watched with some anxiety. A Dalziel's telegram, dated November 2nd, states that plague has broken out severely at Poona, and that nearly 100 deaths are reported daily.

MEDICO-LEGAL.

HONOURABLY ACQUITTED.

THE acquittal of Dr. Hall Hains, who, with a woman named Espelby, was indicted last week at the Old Bailey for conspiring to use an instrument with intent to procure a miscarriage, was the only verdict which a right-minded jury could find. The evidence upon which the magistrate committed the defendants, and upon which the grand jury returned a true Bill, as soon as it was exposed to the search light of Sir Edward Clarke's cross-examination, was shown to be not worthy of credence, and there being no corroboration was rejected both by judge and jury. Sir Edward Clarke, after the verdict of "Not guilty" was given, stated to the Court that Dr. Hains occupied in the district in which he practised a position of the highest honour and regard. If there had been left in the minds of the jury the slightest doubt in the matter, he would have called representatives of all the religious bodies in the neighbourhood in which Dr. Hains practised to prove the highly honourable character which he had always borne, and the affection which the poor in the neighbourhood entertained for him. Not only were these representatives in Court ready and willing to speak for Dr. Hains, but his own profession was well represented, and Mr. Turner was present watching the case as counsel for the Medical Defence Union in his (Dr. Hains's) interest.

We congratulate Dr. Hains upon his honourable acquittal, and sympathise with him upon the terrible ordeal through which he has passed. Sir Edward Clarke rightly made a strong protest upon the manner in which the police had acted in this case. Dr. Hains was arrested in his own house, where patients were waiting to see him. He was not permitted to make arrangements for the conduct of his practice that day, and was locked up the night in the cells, although bail to any amount could have been easily procured. All these indignities were brought upon Dr. Hains by means of the sworn information of two witnesses for the prosecution, and these witnesses had only to appear at the Central Criminal Court to be shown to be unworthy of belief. The judge said that he could not attach reliance to the evidence. We confess we cannot see the advantage of a preliminary investigation by a police magistrate if members of the profession are to be committed for trial upon evidence of such a character that it breaks to pieces as soon as it is tested in a higher court. It would avoid delay and expense if cases similar to the one in question were to be committed at once on the warrant, as it is quite clear that the inquiry before the magistrate is only an additional trouble and expense if the worthless character of such evidence as detailed above cannot be exposed in a police-court. The cost to Dr. Hains for his defence must have been great, and unfortunately it appears he was not a member of the Medical Defence Union, although, as we have stated above, that Society was represented in court, and watched the proceedings both there and in the inquiry before the magistrate, considering the case to be one of great importance to the medical profession.

UNQUALIFIED MIDWIVES.

A CASE, illustrative of the necessity of some form of legislative control over women who undertake the duties and responsibilities of midwives without possessing suitable skill and knowledge, was heard at the Hammersmith Coroner's Court last week. From the evidence as reported in the *West London Advertiser*, it appeared that the deceased infant was born prematurely, but only survived its birth one day. No medical advice was sought until after the death had taken place. The midwife, who was cautioned by the coroner, stated that she had no special knowledge beyond the fact that she herself was a married woman. The child she did not expect to live long, as it was very small at birth, but the rapid decease was unexpected, or she would have employed a doctor. The medical evidence was to the effect that if a medical man had been called in the child's life might possibly have been saved. The coroner (Mr. Luxmore Drew) mentioned that the same midwife had been censured by a jury last year for not calling in a doctor. If the doctor could have said that the death of the child was accelerated by the neglect on the part of the midwife, a charge of manslaughter would undoubtedly have been preferred against her. It was a great pity that midwives should be allowed to practise without proper training. The jury returned a verdict of "Death from natural causes," and added a strong expression of opinion that any practice by untrained or unqualified midwives should be prohibited by law.

RECOVERY OF CHARGES.

M.D.—In reply to our correspondent's question we gather that B. requested our correspondent to attend the son of A. at his (B.'s) expense, and, this being so, the account should be sent in to B., who could be sued in default of payment. We assume that B.'s promise (if verbal) was not in the nature of a guarantee—for example, "If A. does not pay you I will," as if so this might be void, not being in writing. It would be well for our correspondent to lay all the facts before his solicitor before actually taking legal proceedings.

MEDICAL WITNESSES' FEES IN CRIMINAL CASES.

MEMBER B.M.A. writes that he was summoned by the police to give evidence in a Court of Quarter Sessions, and gave such evidence in two perfectly distinct cases, but that the Clerk of the Peace only paid him £1 1s. fee for his evidence in the first case, and refused to pay him anything for his evidence in the second case, because he gave evidence in both cases on the same day and at the same court. Our correspondent desires to know whether he is not entitled to a separate fee of one guinea for each case.

*** The fees payable to witnesses in criminal cases are fixed by the scale (which is still in force) issued by the Home Secretary in 1858, and slightly varied in 1863. It is prescribed by this scale that the fees payable to the members of the professions of law or medicine for attending to give evidence at courts of assize or general sessions of the peace shall not exceed one guinea for each day they shall necessarily attend court; and, this being so, we doubt if our correspondent would be entitled to more than one guinea, although he gave evidence in two distinct cases, assuming, of course, that he only attended the court for one day. The inadequacy of the fees allowed to medical witnesses in criminal cases has often been commented on in the columns of the BRITISH MEDICAL JOURNAL.

UNQUALIFIED MEDICAL PRACTICE.

WELSHMAN.—Referring to our correspondent's communication as to the alleged unqualified medical practice of a chemist, we would recommend him to submit a statement of the facts to the Clerk to the Society of Apothecaries, Blackfriars, London. The Society of Apothecaries are empowered, under their Act, to take legal proceedings in cases of unqualified medical practice, and we have no doubt that in the case to which reference is made, such proceedings would be taken if evidence sufficient to support an action should be forthcoming.

MEDICAL NEWS.

AT a meeting of the Toronto City Council, held on November 1st, it was resolved to petition Her Majesty to permit her Jubilee gifts to be exhibited in Toronto and other cities in Canada at small charges for admission, the net proceeds, after defraying expenses, to be equally divided between the Prince of Wales's Hospital Fund and the funds of the hospitals of the city in which the presents are exhibited.

THE November dinner of the Aberdeen University Club of London will be held at the Holborn Restaurant on November 17th at 7 P.M. The chair will be taken by Dr. Robert Burnet. Members wishing to attend are requested to communicate with the Honorary Secretaries, Mr. J. G. Laing, 2, Brick Court, Temple, E.C., and Dr. James Galloway, 54, Harley Street, W.

MUCH sympathy will be felt with Sir George Duffey, President of the Royal College of Physicians of Ireland, who has just received news regarding the death of his elder son, Lieutenant George Duffey, at Jamaica. The intelligence reached Dublin only last week, although the death occurred on October 13th. The deceased young officer had given excellent promise as a soldier, and he was adjutant of his regiment when he succumbed to an attack of yellow fever.

LORD CALTHORPE opened on October 28th the Fleet Cottage Hospital, the foundation stone of which was laid by Lady Calthorpe on December 31st last. The accommodation of the hospital is entirely provided on one floor. It consists of two wards, one for males and the other for females, an operating room, apartments for the nurses, and the usual offices. The male wards, which will accommodate three patients, contains a Gorham bed presented by Dr. Lauder Brunton, who has been appointed consulting physician to the institution.

WE are requested to state that a course of demonstrations in invalid and convalescent cookery will be given during the winter months at the offices of the Royal British Nurses Association, 17, Old Cavendish Street, W. The demonstrations will be given on Tuesday afternoons at 2.30, commencing on November 9th, and will be of two hours' duration. Although arranged especially for the benefit of nurses, the course is open to the public. A syllabus and further details can be obtained from the offices of the Association, 17, Old Cavendish Street, London, W.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASOCIATION.—Field-Marshal Lord Roberts was the chief guest at the autumn dinner of the Irish Medical Schools' and Graduates' Association, held in London on November 2nd. "The Health of Lord Roberts" was given by Sir William Mac Cormac, Bart., in a graceful speech, in which he referred to many of the most striking episodes of Lord Roberts's Indian career. Lord Roberts, in reply, expressed the pleasure which he experienced in meeting so many fellow-countrymen and countrywomen who belonged to or were intimately associated with a profession to which every soldier was deeply indebted. The toast of "The Services" was given by Sir Walter Foster, M.P., and acknowledged by Admiral Kinahan and Sir George Robertson, M.D., K.C.S.I. The toast of "The Association" was given by Dr. A. E. Sansom, and acknowledged by the President, Professor Alexander Macalister, of Cambridge,

o made a sympathetic allusion to Dr. Samuel Haughton, Dublin, by whose death the Association had lost a warm end. The toast of "The Guests" was given by Dr. raham, Chairman of Council, and acknowledged by Sir arles Cameron, Bart., M.P., and the Rev. O. Inskip.

The Nurses' Hostel.—The Nurses' Hostel, Francis Street, ich was opened to inspection on November 1st, marks a w departure among the many institutions for the benefit of rses. The hostel began a modest career in 1889 in a small use in Percy Street. It was of the nature of an experi-nt; it had yet to be proved whether a hostel for nurses uld meet a want. Miss Catherine Wood, the founder, her-f a nurse, and with a wide experience of a nurse's life, was nvinced that such a house was much needed. The idea s that the hostel should serve the double purpose providing a home for the working nurse between r engagements, and a hotel for nurses visiting Lon-n for business or pleasure. The hostel outgrew the houses Percy Street, and the new building is designed to commodate over 50 nurses; on the ground floor are the iting-room, sitting-room, offices, and a small set of bicles; in the basement is a large dining hall, capacious x-room, a stand for bicycles, and the furnace for heating e water; the kitchen is at the top, connected with the ning-hall by a service lift. The rooms are light and airy, alities which in a London house are often conspicuous by eir absence. The sanitary arrangements have been planned accordance with modern requirements. An interesting ture in the hostel is that it has been formed into a limited bility company, and that a large proportion of the capital s been subscribed by the nurses themselves; it is mainly woman's company, promoted and financed by women, aided the advice of business men. Miss Wood is the managing rector. The directors invite anyone who is interested in e matter to inspect the building within reasonable hours.

MEDICAL VACANCIES.

The following vacancies are announced:

LLYSHANNON, COUNTY DONEGAL.—Medical Officer for the Sheil Hospital; doubly qualified. Salary, £50 per annum. Applications to B. Kelly, Honorary Secretary, Sheil Hospital Committee, Ballyshannon, co. Donegal, by November 10th.

ECON INFIRMARY.—Resident House-Surgeon; unmarried; doubly qualified. Salary, £70 per annum, with furnished apartments, board, attendance, fire, and gas. Applications to W. Powell Price, Secretary, No. 6, Bulwark, Brecon, South Wales, by November 18th.

IDGE OF WEIR: CONSUMPTION HOSPITAL AND ORPHAN HOMES OF SCOTLAND.—Resident Medical Officer; knowledge of Bacteriology. Salary, £80 per annum, with furnished apartments, board, etc. Applications to the Honorary Secretary, D. Hill Jack, 194, St. Vincent Street, Glasgow, by November 15th.

LCUTTA, CORPORATION OF, Bengal, India.—Health Officer for the Town of Calcutta. Salary not less than Rs.1,200, and not more than Rs.1,500, a month. Also reasonable horse allowance for outdoor inspection, not exceeding Rs.100 a month. Must be a duly qualified practitioner, and hold diploma in Public Health from the University of Cambridge or similar qualifications. Applications to W. R. Macdonald, Secretary to the Corporation, to be received in Calcutta by November 10th.

MBRIDGESHIRE, ETC., LUNATIC ASYLUM, Fulbourn, near Cambridge. Assistant Medical Officer. Salary, £140 per annum, with board, lodging, and attendance in the asylum. Applications to T. Musgrave Francis, Clerk to the Visitors, by November 20th.

RDIFF INFIRMARY.—Assistant Resident Medical Officer; doubly qualified. Appointment for six months. No salary, but board, washing and apartments provided. Applications to George T. Coleman, Secretary, by November 9th.

TERHAM ASYLUM, Caterham, Surrey.— Assistant Medical Officer; age not to exceed 35 years. Salary, £120 per annum, rising at the discretion of the Committee to £150, with board, lodging, attendance and washing. Applications to be made on forms to be obtained at the Chief Office of the Board, Norfolk House, Norfolk Street, Strand, W.C., where they must be delivered by November 20th.

HELSEA HOSPITAL FOR WOMEN, Fulham Road. S.W.—Registrar; must be a graduate in Medicine of a recognised University, or F. or M.R.C.P. of London, Edinburgh, or Ireland. Applications to H. H. Jennings, Secretary, by November 27th.

ENTAL HOSPITAL OF LONDON AND LONDON SCHOOL OF DENTAL SURGERY, Leicester Square.—Demonstrator. Honorarium, £50 per annum. Applications to Morton Smale, Dean, by November 22nd.

UNDEE COMBINATION POORHOUSES.—Resident Medical Officer. Salary, £80 per annum, with board and furnished apartments. Applications to James Kyd, Clerk to the Council, Parish Council Chambers, Dundee, by November 11th.

LASGOW: UNIVERSITY OF.—Additional Examiner in Anatomy. Appointment from December 31st next to December 31st, 1898, at a fee of £50. Applications to Alan E. Clapperton, Secretary of the Glasgow University Court, 91, West Regent Street, Glasgow, by November 13th.

GREENWICH UNION INFIRMARY.—Second Assistant Medical Officer. Salary, £80 per annum, with board, lodging, washing, and attendance in the Infirmary, and £3 per annum in lieu of beer. Must be unmarried. Appointment to terminate on December 25th, 1898. Applications to Samuel Saw, Clerk to the Guardians, Union Offices, Greenwich, by November 11th.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, Bloomsbury.—House Surgeon to Out-patients (non-resident). Appointment for six months but eligible for re-election. Salary, 25 guineas. Applications must be on forms to be obtained from the Secretary, to whom they must be sent by November 23rd.

HOSPITAL FOR WOMEN, Soho Square, W.—House-Physician, doubly qualified. Appointment for six months. Salary, £30 for that period. Also Non-resident Clinical Assistant, with registered qualification. Applications to David Cannon, Secretary, before November 17th.

INFIRMARY FOR CONSUMPTION AND DISEASES OF THE CHEST AND THROAT, 26, Margaret Street, Cavendish Square, W.—Physician in Ordinary. Applications to the Secretary.

KING'S COLLEGE, LONDON.—Assistant Demonstrator in the State Medicine Laboratories; must hold diploma in Public Health. Applications to the Secretary.

LIMERICK: COUNTY INFIRMARY.—House-Surgeon, doubly qualified. Salary, £100 per annum, with quarter's coal, light, and attendance. Applications to the Secretary by November 15th.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officers at the Park Fever Hospital, Hither Green, Lewisham, S.E.; unmarried, doubly qualified, and age not to exceed 35 years. Salary, £160 during the first year, £180 during the second, and £200 during the third and subsequent years of service. Applications to be made on forms to be obtained at the Chief Office of the Board, Norfolk House-Norfolk Street, Strand, W.C., where they must be delivered by November 11th.

MIDDLESEX HOSPITAL, W.—Surgical Registrar. Must be M. or F.R.C.S.Eng. Applications to F. Clare Melhado, Secretary-Superintendent, by November 18th.

NEW SOUTH WALES, LINNEAN SOCIETY OF, Sydney.—Macleay Bacteriologist. Salary, £400 per annum. Full particulars to be obtained of Messrs. Dulau and Co., 37, Soho Square, London, W. Applications to the Council of the Society by mail not later than November 12th.

NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill, Stoke-upon-Trent.—Assistant House-Surgeon. Board, apartments, and washing provided. Applications to the Secretary.

RADCLIFFE INFIRMARY, Oxford.—Honorary Physician. Applications to the Secretary by December 11th.

ST. LEONARD, Shoreditch, Parish of.—Second Assistant Medical Officer for the Infirmary, Hoxton Street, N.; doubly qualified. Appointment for six months; salary at the rate of £60 per annum, with rations, washing, and furnished apartments in the infirmary. Applications, on forms to be obtained at the Clerk's Office, to be sent to Robert Clay, Clerk to the Guardians, Clerk's Office, 213, Kingsland Road, N.E., by November 15th.

ST. PANCRAS AND NORTHERN DISPENSARY, 126, Euston Road.—Resident Medical Officer, doubly qualified. Salary, £105, with residence and attendance. Applications to H. P. Bodkin, 23, Gordon Street, Gordon Square, W.C., before November 8th.

SALFORD, COUNTY BOROUGH OF.—Medical Officer of Health. Salary, £500 per annum. Applications, endorsed "Medical Officer of Health," addressed to the Chairman of the Health Committee, to be sent to Samuel Brown, Town Clerk, Town Hall, Salford, by November 10th.

SOUTHAMPTON: ROYAL SOUTH HANTS INFIRMARY.—Assistant House-Surgeon. No salary, but board and rooms provided. Honorarium of £10 given at the end of six months if found satisfactory. Applications to T. A. Fisher Hall, Secretary, by November 16th.

SOUTHPORT INFIRMARY.—Honorary Surgeon for the Treatment of Diseases of the Eye, Nose, Ear, and Throat. Applications to the Secretary, Joseph Worall, Infirmary Office, Cambridge Arcade, Southport, by November 16th.

SUFFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House-Surgeon. Salary, £100 a year, with board, lodging, and washing. Applications to Henry Bonner, Secretary, by November 16th.

VICTORIA HOSPITAL FOR CHILDREN, Queen's Road, Chelsea, S.W.—Physician to the In-patients. Must be F. or M.R.C.P.Lond. Assistant Physician to the Out-patients. Appointment for two years, but eligible for appointment as Physician to the Out-patients. Applications to A. C. Skinner, Secretary, by November 13th.

MEDICAL APPOINTMENTS.

Barker, Dr. C., appointed Medical Officer for the Haxey District of the Gainsborough Union, *vice* Luther Eminson, L.F.P.S.Glasg., L.M., resigned.

Chamberlain, W. W., M.B., C.M.Edin., appointed Medical Officer of Health for the Rawdon Urban District, *vice* J. Wightman, M.R.C.S. Eng., resigned.

Collier, R. S., M.R.C.S., L.R.C.P., to be one of the House-Physicians to the General Infirmary, Leeds.

Cooper, C. Minor, M.B., C.M., appointed House-Surgeon to the Edinburgh Royal Maternity and Simpson Memorial Hospital.

Counihan, J. F., L.R.C.P., L.R.C.S., L.M.Irel., appointed Medical Officer to the Kilrush Workhouse.

Dean, George, M.A., M.B., C.M., appointed Bacteriologist in the Antitoxin Department of the British Institute of Preventive Medicine.

DOBSON, J. F., M.R.C.S. L.R.C.P., to be one of the House-Surgeons to the General Infirmary, Leeds.

DOUGLAS, Kenneth M., M.D., F.R.C.S Edin., appointed Medical Officer to the General Post Office, Edinburgh, *vice* A. Halliday Douglas, M.D Edin., resigned.

EDWARDS, Dr., appointed Medical Officer for the Markyate District of the Hemel Hempstead Union.

GOODWIN, A. G., L.F.P S Glasg., L.M., appointed Medical Examiner to the Royal Liver Friendly Society at Liverpool, *vice* Dr. Ireland, deceased.

GRANT, Lewis, M.B.,C.M., appointed House-Surgeon to the Edinburgh Royal Maternity and Simpson Memorial Hospital.

GUY, J., L.R.C.P., M.R.C.S.Eng., appointed Assistant Medical Officer of the Workhouse of the Bradford Union.

HARTLEY, J. V., M.R.C.S., L.R.C.P., to be one of the House-Surgeons to the General Infirmary, Leeds.

HUGHES, W., M.R.C.S.Eng, appointed District Medical Officer of the Carnarvon Union.

MEADE, N. G., M.R.C.S., L.R.C.P., to be one of the House-Physicians to the General Infirmary, Leeds.

MOORHOUSE, C. H., M.B., Ch.B., to be the Resident Obstetric Officer to the General Infirmary, Leeds.

MORETON, Reginald, M.R.C.S., L.R.C.P., appointed Visiting Surgeon to the Chester General Infirmary.

PARRY, George H., M.B., C.M., appointed Special Non-Resident Clinical Clerk for the Observation Ward of the Edinburgh Royal Infirmary.

ROBERTS, T., M.B., C.M.Edin., appointed District Medical Officer of the Carnarvon Union.

SPREAT, F. A., M.R.C.S.Eng., D.P.H., appointed Medical Officer of Health to the Friern Barnet Urban District Council.

TRIPP, C. L. H., M.R.C.S.Eng., appointed Medical Officer for the Dawlish District of the Newton Abbot Union, *vice* A. de Winter Baker, L.R.C.P Lond., M.R.C.S., resigned.

VEALE, H., L.S.A., to be Resident Medical Officer at the Ida Hospital, Leeds.

WADE, Reginald, M.R.C.S.Eng., L.S.A., appointed Medical Officer of Health to the Highbridge Urban District Council.

WATSON, D. Chalmers, M.B., C.M., appointed a Special Non-Resident Clinical Clerk for the Medical Waiting Room at the Edinburgh Royal Infirmary.

WILLIAMS, G. E., L.S.A., appointed District Medical Officer of the Carnarvon Union.

WITHAM, H., M.R.C.S., L.R.C.P.Lond., appointed Medical Officer for the Kirton District of the Boston Union.

DIARY FOR NEXT WEEK.

MONDAY.

LONDON POST-GRADUATE COURSE, London Throat Hospital, 204, Great Portland Street, W., 8 P.M.—Mr. C. Wilkin: Nasal Polypi.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 P.M.—Dr. A. E. Sansom (President): Two cases of Mitral Stenosis. Dr. W. S. Colman: A Child with Cretinoid Physique, without Mental Defect. Dr. W. Carr: Sporadic Cretinism cured by Thyroid Extract. Mr. C. Mansell Moullin: Two cases in which Inoperable Tumours have almost Disappeared under the administration of Coley's Fluid. Dr. F. de H. Hall: Case of Obesity. Mr. G. Templeton: Case of Multiple Subcutaneous Tumours. Mr. W. H. Battle; Congenital Syphilitic Affection of the Knee in the Adult.

TUESDAY.

LONDON POST-GRADUATE COURSE, Bethlem Royal Hospital for Lunatics, 2 P.M.—Dr. Craig: Alcoholic Insanity, Insanity with Syphilis, Insanity with Organic Brain Disease. Hospital for Diseases of the Skin, Blackfriars, 4.30 P.M.—Dr. Abraham: Scabies.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W., 4.30 P.M.—Dr. Thomas D. Savill: Cases of Paraplegia.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Dr. Tooth: On Spinal Cord Lesions, with Lantern Demonstration.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 20, Hanover Square, W., 8.30 P.M.—Mr. P. J. Freyer: Obscure Cystic Tumour of the Bladder containing Two Calculi: Successful Removal by Suprapubic Cystotomy. Mr. Frederic Eve: On Mesenteric Cysts, with two cases in young children; Operation.

WEDNESDAY.

LONDON POST-GRADUATE COURSE, Parkes Museum, 74A, Margaret Street, W., 4.30 P.M.—Professor Wynter Blyth: Sanitary Appliances, etc.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W., 4 P.M.—Dr. Percy Kidd: Pleurisy.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

EVELINA HOSPITAL, Southwark Bridge Road, S.E., 4.30 P.M.—Dr. Frederick Willcocks: Clinical Cases from the Wards. Post-Graduate Course.

HUNTERIAN SOCIETY, London Institution, Finsbury Circus, 8.30 P.M.—Dr. Herman: Pruritus Vulvæ. Dr. F. J. Smith: Medical Hæmorrhage.

LARYNGOLOGICAL SOCIETY OF LONDON, 20, Hanover Square, W., 5 P.M. Sir Felix Semon will introduce the designer of a New Tracheotomy Tube for Permanent Use. Cases and Specimens will be shown by Dr. James Donelan, Dr. J. B. Ba Mr. W. R. H. Stewart, Mr. Morley Agar, Dr. J. W. Bon Mr. W. G. Spencer, Dr. William Hill, Mr. Macleod Yearsle Dr. Jobson Horne, Dr. William Hill, Dr. Scanes Spicer, M E. W. Roughton, Dr. H. Tilley, Mr. Wyatt Wingrave, I Pegler.

SOUTH-WEST LONDON MEDICAL SOCIETY, Town Hall, Wandsworth, 8 P.M.—Mr. P. J. Freyer: Stone in the Bladder; symptoms and modern methods of diagnosis; the modern instruments employed in litholapaxy—being review of 900 operations for stone by all methods.

WEST LONDON POST-GRADUATE COURSE, West London Hospital, W., 5 P —Dr. A. Whitfield: Medical Cases.

THURSDAY.

LONDON POST-GRADUATE COURSE, Central London Sick Asylum, 5.30 P —Mr. R. Barwell: Clinical Lecture.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C. 4 P.M.— Colman: Demonstrations of Selected Cases.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chan Street, Cavendish Square, W., 8 P.M. — Card Specime Papers at 8 30 P.M.—Mr. Charles Wray: The Probable R of Heredity in the Development of Myopia, and the way which it is Modified by Disease. Surgeon-Captain Herbert: Some Matters of Interest in Cataract Extracti

BRITISH GYNÆCOLOGICAL SOCIETY, 20, Hanover Square, W., 8.30 P.M. Specimens will be shown by Mr. F. B. Jessett and O'Callaghan. Adjourned discussion on Mr. Keith's pa on Dysmenorrhœa. Dr. J. A. Shaw Mackenzie: Hæmrhagic Endometritis.

FRIDAY.

LONDON POST-GRADUATE COURSE, Bacteriological Laboratory, Kin College, W.C., 3 to 5 P.M.—Professor Crookshank: Actimycosis and Glanders, etc.

CLINICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 P.M.— A. H. Tubby and Mr. Robert Jones: Some cases of Po Curvature of the Spine treated by Immediate Reduction the Deformity. The paper will be followed by a lant demonstration of the method. Mr. A. Pearce Gould case of Acute Intestinal Obstruction relieved by operati death from intestinal toxæmia on the ninth day after op ation.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Death 3s. 6d., which sum should be forwarded in post-office order and stamps w the notice not later than Wednesday morning in order to insure insertion the current issue.

BIRTHS.

THOMPSON.—On October 26th, at 6, West Street, Scarborough, the wife Geoffrey W. Thompson, M.D.Cantab., M.R.C.S., of a son.

HILLS.—On October 26th, the wife of A. Phillips Hills, M.R.C.S.E F.S.Sc., at Carlton House, Prince of Wales Road, Battersea Park, S. of a son (John Fletcher Twycross).

MARRIAGES.

MARTIN—CAMPBELL.—At St. Giles's Cathedral, Edinburgh, on Octo 26th, by the Very Rev. J. Cameron Lees, D.D., LL.D., Dean of Chapel Royal and of the Order of the Thistle, assisted by the F Alexander Walker, Rescobie, grandfather of the bride, John L. M tin, M.B., C.M., Chelmsford, Essex, to Matilda, second daughter Alex. D. Campbell, 8, Bellevue Crescent, formerly of Ederli Argyleshire.

GRAY—RATTRAY.—At St. Andrew's Church, Aberdeen, on October 2 by the Rev. J. M. Danson, D.D., Henry M. W. Gray, M.B. C.M.A deen, to Katharine Anne, daughter of the late Robert Gor Rattray, M.D.

NASMYTH—RAMSAY.—In the Parish Church, Cupar, on October 27th, the Rev. J. R. Scoular assisted by the Rev. R. Frizelle, William R say Nasmyth, M B, C.M., Crossgates, Fife, to Margaret Milne, el surviving daughter of William Ramsay, of Hope Park. At home fr December 9th to 22nd. No cards.

BROOK—FRANCE.—On October 28th, at Chorlton Road Congregati Church, by the Rev. Albert Goodrich, D.D., Sydney Wilkinson Br M.B Lond., eldest son of Joss Brook, Sunnyside, Old Trafford Edith Rennie, eldest daughter of James France, Ingleside, Trafford. At home, Ingleside, Willows Lane, Accrington, Decem 16th, 17th, and 18th.

DEATHS.

STOCKWELL.—At 7, Queen's Parade, Bath, on November 2nd, Tho Goldesbrough Stockwell, F.R.C.S., L.R.C.P., L.S.A., aged 74.

DOMMETT.—October 26th, at Tipton Hall, Tipton St. John, Dev Emanuel Dommett, M.R.C.S.Eng., L.S.A. 1837, aged 88.

BOOTH.—At 8, Westfield Terrace, Aberdeen, on October 31st, Jas. Bo M.D., M.R.C.S., in his 79th year. Friends will please accept intimation.

NORTH.—On October 31st, of cholera, at Bellary, Madras Presid Brigade-Surgeon-Lieutenant-Colonel J. North, Indian Medical vice. (By telegram.)

DUFFEY.—October 13th, 1897, at Jamaica, of yellow fever, aged 25 ye George Allan, Lieutenant 1st Battalion the West India Regim elder son of Sir George Duffey, M.D., President of the Royal Col of Physicians of Ireland, 30, Fitzwilliam Place, Dublin.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.
TRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.
TRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., . *Operations.*—Daily.
RING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.
LSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.
Γ ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.
Γ LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.
AT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.
'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1: Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.
PITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.
G'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 12.
DON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.
DON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.
ROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.
DLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.
IONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.
Γ HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.
TH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.
AL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.
AL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.
AL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.
AL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations* —M., 2.
AL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.
BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.
GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.
MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.
MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30: Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.
PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.
THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.
ARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.
OAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.
VERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.
ST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.
STMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

MMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH HE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELE-RAMS CAN BE RECEIVED ON THURSDAY MORNING.

MMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, on-delivery of the JOURNAL, etc., should be addressed to the Manager, t the Office, 429, Strand, W.C., London.

THORS desiring reprints of their articles published in the BRITISH EDICAL JOURNAL are requested to communicate beforehand with the anager, 429, Strand, W.C.

RRESPONDENTS who wish notice to be taken of their communications hould authenticate them with their names—of course not necessarily or publication.

RRESPONDENTS not answered are requested to look to the Notices to orrespondents of the following week.

ANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT NDER ANY CIRCUMSTANCES BE RETURNED.

order to avoid delay, it is particularly requested that all letters on the ditorial business of the JOURNAL be addressed to the Editor at the ffice of the JOURNAL, and not to his private house.

BLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical fficers of Health if they will, on forwarding their Annual and other eports, favour us with *duplicate copies*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are directed will be found under their respective headings.*

QUERIES.

PUBLIC VACCINATOR would be glad to know if vaccine lymph taken from the child of an insane mother would transmit insanity.

*** It is in the highest degree improbable that such a result would ensue, but we know of no positive evidence either for or against such a supposition.

STAMMERING.

OWL desires to hear of a teacher who would undertake the treatment of a case of stammering in a boy.

ANSWERS.

TREATMENT OF PSORIASIS.

DR. JAS. T. NEECH (Tyldesley, near Manchester) writes, in further reply to "Cutis," that he has found linimentum iodi a most useful application in obstinate cases of psoriasis.

IRREGULAR PRACTICE.

L. F.—We are informed that both of the cases to which our correspondent refers have been in the hands of the Medical Defence Union with a view to prosecution. In the first, evidence for action under the Medical and Apothecaries' Acts has been collected, and is under consideration of the legal advisers. In the second it has been found impossible as yet to obtain the name of the qualified practitioner alleged to be "covering" the establishment.

IMPERFECT VACCINATION.

B.—There is only one way in which such a matter can be dealt with, and that is by submission of the facts either to the Board of Guardians, or, preferably, to the Local Government Board, by the person who is cognisant of them. The name of the informant need not necessarily be made known by the Local Government Board; but it is not always possible for action to be taken on such information whilst withholding the name of the informant; and this the more in this case because the offence alleged is the grave one of making and signing a false declaration, knowing it to be false. There have, we believe, been occasions where the Local Government Board have, on receipt of information sufficient to justify inquiry by them, made a full investigation by one of their medical inspectors, and have advised the guardians to prosecute the offender on the information obtained by their own officer, apart from that of the original informant.

NOTES, LETTERS, Etc.

ICHTHYOL AND GLYCERINE SUPPOSITORIES.

DR. J. LESLIE CALLAGHAN (Coventry) writes: In reply to Dr. Wilson's remarks in the BRITISH MEDICAL JOURNAL of October 30th, p. 1307, I have not experienced the disadvantage he mentions in the use of gelatine as a basis. The formula I use is ichthyol 10 per cent., glycerine 63 per cent., gelatine 27 per cent. Dr. Wilson's formula I should say contains too much gelatine (45 per cent.), which may account for it not always being absorbed.

PUBLIC AND PRIVATE VACCINATION.

VACCINIA writes: While agreeing with "A Public Vaccinator" in his contention that efficient vaccination, indicated by four good marks, might be made compulsory, I would point out that the instruction of the Local Government Board, "when vaccinating to make not fewer than four insertions," is not always followed, even by public vaccinators. In my district the public vaccinator habitually makes two insertions, and sometimes only one. He has, I believe, been found fault with on this score by the inspector, but defended his action in the local press by holding that two insertions by a public vaccinator were preferable to only one by a private practitioner. So it seems that even a public vaccinator need "not hesitate to make three, two, or even one insertion only," probably to ingratiate himself with the parents. Accordingly, the private vaccinator, in self-defence, cannot insist on more than one or two insertions. And if the vesicle or vesicles are of sufficient area, the protective influence is probably as great as from four small vesicles.

THE DECISION OF THE LEPROSY CONFERENCE.

DR. C. R. DRYSDALE (Consulting Physician to the Metropolitan Hospital) writes: It is with great satisfaction that I read that the members of the Leprosy Conference at Berlin have pronounced their opinion that leprosy is contagious and not hereditary. This is the view I have always held; and, with one exception, namely, that of Dr. Zambaco, of Constantinople, that was the view taken by all the speakers in the Dermatological Congress in London last year. We shall now, it is to be hoped, act in future on the theory that leprosy, like syphilis and phthisis, is communicated by contagion; and, with this understanding, if we energetically put in force some simple precepts of cleanliness and hygiene, the disease will soon be greatly lessened in frequency. Few nations are so much interested in preventing leprosy as ourselves, since we possess territories in all parts of the world; and, whether we agree with Dr. Hansen, of Bergen, and recommend isolation of all lepers, or with Dr. Besnier, of Paris, who is content with less severe methods of treating such patients, there can no longer be any doubt permitted as to the direction in which we should proceed. Probably both leprosy and phthisis could be prevented if the patients were only most careful not to permit their secretions to come in contact with healthy persons. The bacillus of leprosy, I suppose, is far more commonly conveyed by means of the saliva, for it is known that the tears, the nasal mucus, and the saliva all swarm with the bacillus when these organs are attacked by this terrible disease.

Hence, just as, in the case of phthisis, the chief hygienic indication

is to be directed to the destruction of the expectoration of the patient, so in leprosy the patient must avoid in any way contaminating the mouths of healthy persons either by kissing or by the use of drinking vessels or pipes. Many of us have been a certain number of cases of hard chancre of the lip caused by kissing when the syphilitic patient was suffering from eruptions in the mouth or throat; and in the same way lepers may infect others by means of kisses or cups out of which they drink. They should therefore drink only from their own cups. Phthisis and leprosy both need to be most carefully and most conscientiously dealt with; but it is probable that the very rigorous treatment made use of in less enlightened days is no longer required, since so much more is accurately known at present as to the mechanism. In the days of Moses hygiene consisted mainly in isolation. We are now far more fearless in the face of syphilis, phthisis, and leprosy, since we know so much more about the nature of these redoubtable pests.

No one now believes that syphilis can be spread by the breath, as they formerly did. Physicians treat leprosy and consumption with perfect safety, just as they do syphilis. As to details, animal vaccination, as in Germany, should take the place of our less careful method, since we hear of cases of vaccinal leprosy (Gairdner). Leprous patients should never share their bed with any healthy person. Leprosy is not uncommon in Paris at present, and there are always cases of it under the care of the physicians of the St. Louis Hospital. But it does not spread, because modern Parisians are not so gregarious or promiscuous in their habits as the unfortunate natives of the Sandwich Islands, or other careless and uncivilised peoples. But it spreads in poverty-stricken Russia, Spain, and Italy, and wherever want and filth, caused by overcrowding, abound. In England the very superior habits of the people as to cleanliness and self-respect will doubtless be a sufficient barrier to the spread of that incurable disease.

THE EARLY USE OF ANÆSTHETICS IN AMERICA.

MR. GEORGE FOY, F.R.C.S. (Dublin) writes: As every statement on the question of anæsthetics coming from the Society of Anæsthetists has great weight with the medical profession, it is all the more necessary that the accuracy of the statement should be beyond doubt. This is particularly the case when the speaker is one of such high standing in the profession as Mr. Christopher Heath, who is made to say on p. 1278 of the BRITISH MEDICAL JOURNAL of October 30th: "It had lately been stated that anæsthetics were used in the Johns Hopkins Hospital in 1842, and the evidence seemed fairly conclusive."

Mr. C. Heath was most probably thinking of the use of ether as an anæsthetic by Dr. W. C. Long, of Georgia, in 1842, which was the subject of an article by Dr. H. H. Young in vol. viii, Nos. 77, 78 of the *Bulletin of the Johns Hopkins Hospital* of Baltimore, where, as Mr. C. Heath very justly remarks, of Dr. Long's claim to be the discoverer of etherisation for anæsthesia, "the evidence seemed fairly conclusive."

I think the conclusion is warranted by the fact that the Johns Hopkins Hospital was not in existence in 1842, not having been founded until "after the war."

SWALLOWING FOREIGN BODIES.

DR. J. FARQUHAR, M.D. (Burbage, Marlborough, Wilts) writes: In the BRITISH MEDICAL JOURNAL of May 8th last I published notes of a case of a child swallowing a 2-inch wire nail, treatment, and time of retention, and now it may be interesting to put on record the case of a boy of 9 years of age swallowing a penny. The coin stuck half way down the œsophagus, and was pushed into the stomach with a probang. One emetic dose was employed without result, and then after a course of hard food had been enjoined and carried out, the retained bronze was passed *per anum* after exactly five days' retention,

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LETTERS, COMMUNICATIONS, ETC., have been received from:

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SIXTY-FIFTH ANNUAL MEETING
OF THE
BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF LARYNGOLOGY AND OTOLOGY.

GREVILLE MACDONALD, M.D., President.

A DISCUSSION ON TURBINOTOMY.

I.—GREVILLE MACDONALD, M.D.,
Assistant-Physician for Diseases of the Throat, King's College Hospital.

THE OBJECTS AND LIMITATIONS OF TURBINOTOMY.

REMOVAL of larger or smaller portions of the turbinated bodies, whether involving only hypertrophied portions of the mucous membrane with the erectile tissue or actually the bony substance supporting the latter, has been practised more or less by us specialists ever since, I imagine, we first encountered individually those striking cases where the operation would obviously and necessarily cure the patient of whatever symptoms might be attributable to such pathological causes. But yet, curiously enough, it is only quite lately that the word turbinotomy has become one of daily use. And this indication of an enlarging interest in the subject inclines one to ask the question as to what is implied by the term, why it should have only lately excited divergence of opinion, and whether any substantial improvements in our methods of diagnosis and operation may be supposed to have induced or resulted from this new departure.

As far as I am aware the subject has excited but little interest either in the States or Canada, beyond, of course, such points as have always been recognised by every specialist; but in London, at any rate during the past few years, wherever two or three laryngologists have been gathered together, the word turbinotomy has always excited a deep interest. To one man the inferior turbinal is regarded as a structure to be sacrificed in the interests of such members of the public as are not cursed with atrophic rhinitis; while to another man the word turbinotomy is like the red rag to the bull, and the inferior spongy body is so sacred a member of the physiological system that disaster in some form or another ought to overwhelm, if not the patient himself, at least the misguided specialist who dares use the spokeshave.

Now without being dogmatic, and without pretending to offer anything new on the subject, I think, for the sake of the interesting discussion before us, that it may be serviceable to point out, roughly speaking, the objects and limitations of operations involving the removal of portions or the whole of the inferior turbinated body. I suspect the discussion will prove of the greatest interest, and more profitable than is often the case from the fact that it will partake of an international character. Possibly our Canadian brothers are more familiar with the views of American specialists than we from the old country, but for my part I am extremely anxious to hear the views of the laryngologists on this side of the Atlantic.

I am leaving out of my remarks all operations on the middle turbinal, seeing that it is not usual to include this structure when using the word turbinotomy, and also because it would lead us into regions too vast to be even prospected in the time at our disposal.

Resection of the inferior turbinal in part may be required for the relief of (1) obstruction to respiration, (2) for the relief of the various neuroses; and (3) for the relief of a very troublesome and rather uncommon form of catarrh. For such affections or symptoms removal of those large cauliflower or ribbed masses, occupying more specially the anterior and posterior extremities of the bone, has been among the earlier triumphs of rhinology. I say triumphs advisedly, for the not infrequent association of the posterior hypertrophy with adenoids, which latter the general surgeon now claims as falling within the pale of general surgery, enforces a real justification for the special study of nose disease, seeing that it is precisely in such instances of association that the general surgeon will find himself at a loss to understand why his operation with the post-nasal curette or forceps has failed to restore nasal respiration. For the grosser of such hypertrophies, the incandescent or cold snare has always been the chief method adopted for operation, while the smaller of such enlargements are sometimes sufficiently treated with the electric cautery.

But there are cases where specialists of not very wide experience may fail to give all the relief they had hoped for by such methods. This generally arises from the fact that they overlook the large masses often concealed in the concavity of the overhanging bone. We sometimes see enormous masses in this region, which can be turned out with a probe and either cut off with scissors or removed piecemeal with the snare. The latter is often preferable on account of the less hæmorrhage it entails. I am somewhat anxious to emphasise this concealment of the much hypertrophied tissue for the sake of recording my experience that in nearly all such cases—and I have had my share of experience with them—a cure can be effected without interfering with the bone.

These cases, moreover, have appeared to me to be more often associated with asthma, as the cause of the neurosis, than are other affections of the nose; so that for this reason alone it is incumbent on us to inquire into every method advocated for the relief of the obstruction in the inferior meatus.

But there are undoubtedly cases where the snaring or cauterising of the mucous membrane is not sufficient to ensure the desired relief. In such respiration through the fossæ is not necessarily obstructed, and the specialist's attention is often drawn to the condition only by the accumulation of ropy mucus or muco-pus in the inferior meatus which the patient experiences the greatest difficulty in removing from the nose by the ordinary methods. He is constantly wiping the nose, being unable to blow the accumulations into the handkerchief. On examination we find the inferior meatus blocked with the accumulations.

Of course the same condition may obtain in the ordinary forms of hypertrophy or chronic engorgement of the erectile tissue. But in the special class of case to which I am now referring we have neither one nor other of these conditions. The mucus, in fact, is imprisoned in the concavity of the inferior turbinal, and secondarily in the portion of the inferior meatus internal to the turbinal, by the relatively large size of the bony structure of the turbinal. The free border of the latter may be almost or quite in contact with the floor of the nose, and in a few cases we see adhesion of the anterior part of the body to the floor beneath. This results in the formation of a pocket with or without a small opening in its anterior portion. Into such pocket the patient is constantly forcing the accumulations of mucus in his endeavours to clear the nose, the result being that he is never free. In one case, the wife of a medical friend who objected to operation, I was enabled to instruct her how to find with a fine nozzle attached to a syringe the small anterior opening into the pocket, and thus to wash the accumulations backwards. As soon as relief was thus obtained, it appeared to become permanent, and she had no further trouble from an affection which must have persisted the greater part of her life without inconvenience, until some catarrhal attack made her realise that something was amiss which prevented spontaneous recovery. In this case there was no actual hypertrophy, and in most of such, I believe, the fault lies in a structural malformation rather than a pathological condition. Just as in the many and extraordinary malformations of the septum with which we have so often to deal, the fault appears to have originated in sort of error of co-ordination in the relative extent to which the septum and the vertical diameter of its containing chamber have arranged for their individual extension, so the inferior turbinal appears to have attained a size which would have been suitable only in a nasal fossa with a greater vertical capacity. But I have never seen any case where the bony structure appeared to be too large in the posterior regions of the fossæ, any more than deviations or

hypertrophies of the septum are to be found in the regions brought into view with the post-rhinal mirror.

In these cases the only treatment that can be considered satisfactory is the paring off from the free border of the bone as much of its substance as will secure a free passage of air and mucus. This can usually be attained with scissors or the combined use of scissors and snare, as practised by Dr. Dundas Grant. But it is only the anterior portion that ever needs such treatment, in my experience, and I have never seen any case where it was necessary to do more than this. I have never been tempted to remove large portions of the inferior turbinal, beyond the masses of hypertrophy with which we are all so familiar. And although I have heard the views of those who advocate the larger operations on the inferior turbinal for the relief of obstruction to respiration or for the removal of certain neuroses, yet, while amply convinced of the feasibility of such operations and of the relief they may afford, while even admitting that no appreciable harm may result in most cases, yet, let me repeat, I have for my part not seen the cases where the desired relief could not be acquired by milder measures. The great hæmorrhage and the frequent necessity for plugging render the operation graver than almost any other in the nose; and we have yet to see whether, in the course of a few more years, we shall not see in these patients definite evidence of chronic inflammation of the larynx, etc., resulting as a consequence of the removal of what may be justly described as the secreting gland or organ of the nose.

Some years ago I spent a good deal of time in a series of experiments on the functions of the nose, more especially with the view of ascertaining the relative amounts of water and carbonic anhydride given off from the nasal mucosa, as well as the rise in temperature on passing a measured quantity of air through the fossæ under varying physical conditions. Among these experiments were some with the object of ascertaining any differences in the exudations when the erectile tissue was collapsed with cocaine.

Roughly speaking I may say that the conclusions were these: that while the temperature to which the air was raised was not materially altered, the amount of water given off sunk to half and sometimes as much as a third from the diminished pressure and lessened blood supply to the mucous glands. So that although there must be other glands in other regions of the fossæ similarly affected by the cocaine, yet, seeing objectively the enormous degree of collapse of the erectile tissue when affected with the drug, and knowing that this must depend upon the blood supply, I think it is not assuming too much to infer that the removal of the whole of the inferior turbinal must lessen to a very grave extent the amount of mucus secreted by the nose. In the second place we are all familiar with the condition to which a chronic collapse of the erectile tissue conduces. We are familiar with this in a mild degree in anæmic individuals, in which it is not uncommon to see a slight degree of pharyngitis sicca, and a certain amount of chronic laryngitis. To a graver degree we are even more familiar with it in cases of atrophic rhinitis, where the inferior turbinals have often as completely disappeared as if they had been dealt with by the spokeshave.

Granted such points, which indeed are among the most elementary of the clinical facts we specialists insist upon, it appears to me to be doubtful whether we are wise in resorting to an operation which will deprive the patient of the least bit more of his erectile tissue than is absolutely necessary. It has been argued that the patient can do as well without his turbinals as without his tonsils, but the statement is obviously not justified. In the case of the tonsils there are presumably innumerable other organs in the body which fulfil a similar office, and are able for a little more work if some perform less. But in the case of the nose, it seems hardly likely that the remainder of the mucous membrane could supply all that is lost by the removal of so large a portion as that in question.

But, in conclusion, let me assert that I am fully aware that I have indicated only one side of the question, and I await with the greatest interest the other papers on the subject, and the discussion which I trust they will elicit.

REFERENCE.

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II.—T. W. CARMALT JONES, F.R.C.S.Edin.,

Formerly Surgeon to the Central London Throat, Nose, and Ear Hospital.

SOME AFTER-EFFECTS OF TURBINOTOMY (SPOKESHAVING).

I DO not propose to say anything about the method of operating or about the instrument, for I think that would only be a waste of time.

The operation was first tried in the hope of relieving most distressing tinnitus aurium in a case where both inferior turbinals had been cauterised with a satisfactory but only temporary result. After spokeshaving the tinnitus ceased, but did recur occasionally, and then only very faintly when the patient was overtired or below par.

My friend, Dr. P. H. Abercrombie, Surgical Registrar to the Central London Throat, Nose, and Ear Hospital, wrote to over 100 patients who had been spokeshaved, asking them to answer a number of questions, and received answers from about 60, and from these answers and the information derived from them and the consequent more careful watching of the patients after operation, I have noted some after-effects which I had not contemplated when planning the operation. It appeared that tinnitus was relieved in 60 per cent. of the cases. In some of these cases it did not recur while they were under observation.

The deafness accompanying the tinnitus was relieved when the tinnitus stopped, and the hearing power when tested by the watch was markedly increased. I am convinced that the unhealthy posterior extremities of the inferior turbinals act as foreign bodies at the openings of the Eustachian tubes and that by keeping up a constant irritation they are responsible for Eustachian catarrh. It is easier to pass a catheter or to perform politzerisation after their removal, and some patients who could not use the Valsalva method on themselves before could do so afterwards, and by using the aural tube it was found that the air passed into the tympanum on inflation much more freely, and that the abnormal sounds—the creaking, bubbling, etc., gradually ceased.

Many deaf people are mouth-breathers; this is sometimes due to enlarged tonsils or adenoids, sometimes to the presence of both troubles, but it is also sometimes due to turbinal hypertrophy pure and simple, or complicated with spurs or deviations or deflections of the septum. Many mouth-breathers have been cured by spokeshaving, and have quite altered in facial appearance after a few weeks, the typical stupid expression having disappeared and given place to a bright and lively one. The patient, having learnt to breathe through his nose, is less liable to catch cold, and in some cases quite loses his post-nasal catarrh or pharyngitis. Asthma, hay fever, periodical attacks of sneezing, a sense of stifling when inhaling dust or foul atmosphere have ceased to distress the patient.

In some cases in which only a strip of thickened mucous membrane was removed from the turbinals without any bone great relief was afforded; this unhealthy mucous membrane used to swell up when irritated and cause nasal obstruction, with its reflex effects. Several ballet dancers found they could breathe more easily, dance with less fatigue, and were not so troubled in their breathing by the dust kicked up from the stage.

The sense of smell sometimes improved markedly. Several anæmic girls lost their anæmic appearance and greatly improved in their general health without the exhibition of iron or arsenic or any drugs.

It will readily be understood that, after an obstructed nostril had been cleared out and made pervious, the Eustachian catheter could be passed more easily and larger sizes could be used.

A child 4 months old could not suck properly. I did not find adenoids as I had expected, but both posterior nares were blocked by the posterior ends of the turbinals. The child had to take its mouth away from the breast and gasp for breath between every two or three draws; twenty-four hours after spokeshaving the child took a full meal in a natural manner. In young children the nose developed and improved in shape after it was converted into a useful organ just as is seen to occur after adenotomy. Several patients

with pain in the eyes, affection of sight, and turbinal hypertrophy were cured of their eye trouble.

Hæmorrhage always followed the operation, but was generally easily controlled, though troublesome in a few cases. Secondary hæmorrhage was rare, but in one case it came on smartly exactly a fortnight after operation. Cooper-Rose's nasal plug is most effective in controlling the hæmorrhage.

Otalgia, suppuration, and perforation of the drum occurred occasionally, but were probably due to blood clot or douche fluid being driven through the Eustachian tube into the tympanum by too forcible blowing of the nose. Headache of varying severity and duration has followed the operation. Bromide generally relieved this at once.

It has been suggested that local depletion may have something to do with the relief of tinnitus; but this seems hardly likely when it is remembered that the relief has persisted for several years. The operation has not been found to be followed by bronchitis. No death has been attributed to the operation so far as I know.

III.—D. Bryson Delavan, M.D.,
New York.

Dr. Delavan said that the subject was one of great importance because of the wide circulation which had been given to the idea of turbinectomy and of the urgent necessity for checking a practice at once unscientific and objectionable. It was necessary to understand from the outset the physiological importance of the turbinated tissues. Their part in the normal process of respiration, that of cleansing, warming, and moistening the inspired air was indispensable to the health of the individual. Interference with this function, either through extensive destruction of the mucous membrane, as in dry catarrh or in the wholesale removal of the turbinates, whereby too great a volume of air was allowed to pass through the nose, was sure to be followed by bad results. This statement would find ample proof in the experience of all present. Again, most obstructive conditions of the nose were due either to deformities of the nasal septum or to thickening of the turbinated tissues. Removal of the former was pretty sure to be followed by relief. Where the obstruction was due to thickening of the soft parts it was necessary to discover whether the enlargement was purely local in character or whether it depended upon some general or remote cause. Thus chronic hyperæmia of the turbinated tissues was often associated with gout and rheumatism, with digestive disorders, with functional or organic derangements of various important organs, as well as with bad hygienic conditions, the excessive use of tobacco or alcohol, undue sexual stimulation, exposure to local irritation, and the like. The recognition and proper treatment of the cause of the thickening would often be followed by its cure, and the latter would be effected with the mucous membrane in a normal condition. The speaker agreed with Dr. MacDonald that posterior enlargement of the turbinated bones was unusual. He had examined many thousands of skulls but had seldom seen it. Anterior enlargement was quite common. In most cases of turbinate thickening removal of a part of the soft tissues was generally all that was required. No result had been reported in the paper of Mr. Jones which could not have been attained by simpler and less destructive measures. The application of his operation to young children was to be vigorously deprecated. The infant nose was developed very late. It was doubtful if the turbinates could be removed in a young child, in case they were to exist at all, without serious injury to important surrounding parts. The speaker could conceive of few conditions in which such a procedure would be thought of, much less executed. The name "spokeshave" was itself suggestive of a coarse and inexact instrument, intended to prepare the way roughly for the use of finer tools. Its use in nasal surgery was totally inadmissible, as we were already possessed of ample means for securing all necessary results, and in an infinitely better, safer, and more conservative manner. It was necessary that the advocates of this method should publish the ultimate results of thir work. It might then appear that much harm had arisen from it. The great desideratum in all nasal surgery must always be kept in mind, namely, the securing of the maximum of relief with the minimum of destruction.

IV.—R. P. Lincoln, M.D.,
New York.

Method of Operating.

The subject of turbinotomy involves the consideration not only of the details of the operation itself, but also the reason for it—the excuse, if you please. We are rarely called upon to do this operation because the organ is itself involved by a disease that is of itself destructive locally or constitutionally, but because of their interference with the function of the organ of which they form an important part, or, it may be, the adjacent organs are the sufferers, or because of those curious manifestations through the nervous system we call reflex.

An operation having been decided upon and its character determined, its accomplishment must be preceded by a step the failure of which may not only nullify our subsequent treatment, but hazard the life of our patient.

Antisepsis.—It is claimed that the normal secretion of the nasal mucous membrane is a destroyer of many of the morbific microbes passing over its surface in the course of respiration. Remembering that this secretion is perverted in the majority of patients applying for treatment, we recognise its conversion into a culture medium for diseased germs that are ever present and added to as the respired air is being filtered. In proportion, then, as this change from the normal obtains does the patient subjected to operation incur the danger of sepsis unless counteracted by scientific treatment, both preliminary and consecutive. Furthermore, the intranasal surgeon should ever be mindful of the fact that a turbinate body is physiologically and anatomically most ingeniously constituted to harbour and transport diseased germs, and that he consequently cannot invade this organ with the impunity of surgeons operating in other fields. Not only should the nasal cavity that the surgeon is to invade be cleansed and rendered aseptic, but the operator's hands and all instruments used should receive, with the same object in view, his conscientious attention.

Granted the necessity for antiseptics, we have a long list of remedies available, but less than half a dozen need necessarily occupy our attention. The surface of the mucous membrane having been thoroughly cleansed by some alkaline wash, as Dobell's solution, three times a day for two days previous to and immediately before the operation, each sitting should be finished with a very free spraying of a solution of bichloride of mercury, 1 part to 3,000 to 5,000. Subsequent to the operation a repetition of this spray and wash should be insisted upon, or if a fresh surface has been left, as after operations by knife, scissors, saw, or trephine, a spray of a solution of iodoform in ether will prove the safest. Our methods might be classed as chemical and surgical. Of the remedies applicable in the former fortunately all are more or less antiseptic, as chromic acid, nitric acid, etc., but until the eschar which they form has separated it is prudent to make use of the bichloride and afterwards of iodoform, until cicatrisation is well advanced; but until the parts have healed cleanliness must be insisted upon, though during the last part of the treatment some less disagreeable remedy may be substituted for iodoform, as aristol, or better pyoktanin. It may be said that results have been satisfactory and without accident where these precautions have not been observed. I reply, the probability of a successful issue is greatly enhanced by adopting advanced views in asepsis.

Every operation contemplated within the province of turbinectomy can be painlessly completed by the judicious use of cocaine. Its advantage to the operator, and its blessing to the patient, can only be realised by those who were workers in this field before its local anæsthetic effect was made known. I do not use it in spray form where a strong solution is to be employed, but to avoid its constitutional effect as far as possible lay against the part to be operated upon a pledget of aseptic cotton saturated with it. This may be renewed two or three times at intervals of about ten minutes preliminary to the severer operations, except when it is the intention to make use of the cold wire loop, when, on account of its contractile action upon these structures, it should be applied after the wire has engaged the part to be removed. Furthermore, this preliminary employment of cocaine on account of its hæmostatic action diminishes the

inconvenience of whatever bleeding occurs, which would otherwise be greater.

I would distinguish in two classes the methods by which I think our object can be accomplished most speedily and successfully, namely, the chemical and the surgical. The class in which the chemical method is applicable embraces hypertrophies, hyperplastic and angiomatous, without osseous enlargement. The remedies especially useful to secure reduction have been multiplied during the past few years, but every advantage can, I believe, be secured from a very small list. With chromic acid, nitric acid, and the galvano-cautery at command, every requisite is available. These remedies are easily and accurately applied, and circumscribed in their action. The contraction of cicatrical tissue, after the separation of the eschar thus formed, will often leave patulous a nostril previously obstructed.

Experience, shaping the judgment of an operator, will enable him to determine the area upon which the remedy must be applied, as well as its strength, keeping in mind that we are to destroy an obstacle, but to preserve as much mucous membrane as is practicable. For some days following one of these applications the ingenuity of the surgeon, with the co-operation of the patient, may be devoted to cleansing the nostril of accumulated detritus and mucus, continuing to some extent the preliminary treatment, and substituting toward its termination promoters of granulation, astringent stimulants, as iodoform, aristol, pyoktanin, or some similar favourite remedy. It may sometimes be found advantageous to utilise some features of this treatment in the more serious cases of the second class. The operator must not lose sight of the necessity in order to accomplish his purpose of securing by his treatment a solution of continuity in the periosteum, in order that the remaining network of connective tissue and venous sinuses may be drawn together, and, as it were, partly bound upon its bony framework.

The second class demands the more serious operative procedures, namely, where the framework, as well as any redundant soft tissue, is to be removed by either incision, excision, or ablation. The whole, or only part, may require removal. As with its erectile tissue covering, so its osseous portion may require modification in whole or part. We must consider how much and what part of the organ is to be sacrificed. We have in ignipuncture a combination of chemical and surgical treatment that I have often found most satisfactory in reducing hyperplasias, but unless great care is exercised its results are apt to resemble a galvano-cauterisation. In its use a sharp-pointed electrode, exposed from one-third to half an inch, is thrust through the mucous membrane to the bone, and pressed in contact with it as far as may be desired. An electrolytic rather than a cautery current, from the sensitive pole of a battery, should be allowed to flow for two or three minutes, depending upon the degree of distension or symptoms of threatened cauterisation.

The cold wire snare and *écraseur*, as perfected and recommended by the late Dr. Jarvis, is most convenient and effective in removing a redundancy which often protrudes from the posterior aspect of the inferior and middle turbinates, readily cutting through both soft tissue and bone when desirable.

When the malformation is caused chiefly by osseous enlargement without hyperplasia, the surgical trephine is all that can be desired. With it there can be mined out, so to speak, all the bony substance we desire, leaving almost intact the remainder of the organ. Subsequently, should a fold of membrane remain in excess of what seems useful, it can easily be excised with a pair of scissors with little inconvenience. This instrument is also well adapted to opening into ethmoid cells by removing a "cap" of a turbinated body to facilitate drainage.

Most frequently, however, it is expedient to remove both hyperplastic and bony tissue at one operation. With a small sharp-pointed bistoury fixed at an angle to its handle, an incision is made down to the bone along or a little below the line we may have determined the excision shall be made. With some convenient instrument the lips of the wound should be parted and dissected away for a short distance, so as to leave a flap that will partly cover the border of bone when the operation is finished. A few strokes of a saw on the line elected for division, especially if ossification is well advanced, will facilitate the last step of the operation which follows. Immediately adjust with its upper cutting blade in the groove thus made a pair of bone forceps, having its lower blade well pressed under the free edge of the turbinated body; a strong closure, rotating inward the instrument at the same time, will sever the portion effectively. The instrument I use for this purpose is known as Weirs's bone-cutting scissors. In this way from half an inch to an inch in length can be removed at once, and, by repeating this method, practically the whole organ can be ablated at one sitting.

It is surprising how little bleeding follows and how little pain. Immediately place in contact with the cut surface a fine roll of iodoform gauze, avoiding complete obstruction of the nostril. This serves the double purpose of disinfection and of preventing hæmorrhage, which otherwise not infrequently occurs when the effect of the cocaine has passed. It is prudent to leave this undisturbed for about forty-eight hours, though accumulated mucus should be carefully removed by absorbent cotton and gentle pressure, not forgetting to use the bichloride or iodoform spray. After the removal of the iodoform gauze, the principles of treatment heretofore insisted upon should be observed.

The knife plough or the share may be employed to remove a turbinated body. Their manipulation cannot be as accurate as in the last method; and, while there may be some saving of time, I do not recommend them in private practice.

V.—LENNOX BROWNE, F.R.C.S.Edin., London.

MR. LENNOX BROWNE expressed regret that he never had been able to harmonise his own views on the value of this operation with the enthusiasm of Mr. Carmalt Jones; and he stated that it was the only subject of difference with his amiable colleague during over ten years of delightful association. He believed that it was wiser to treat the cases for relief of which turbinotomy was advocated by some of the milder measures so carefully detailed by Dr. Lincoln; and that, if this plan were pursued, a very small percentage—less than 1 per cent.—would be found to require this radical procedure. He wished particularly to recall to mind the fact that spurs and deviations of the septum were present, not constantly, as stated by Bosworth, but in probably four-fifths of all cases of hypertrophic rhinitis, and that their etiological importance was demonstrated by the prompt relief of nasal obstruction afforded on their removal. He desired, in particular, to join with Dr. John Mackenzie in enforcing the inadvisability of operating on infants and young children; and he explained that the case described was, he believed, quite an exceptional one, even in the practice of Mr. Carmalt Jones; and that, though its parallel might occasionally present itself, it must always be rare. The speaker suggested that many of the cases of disordered secretion and flux ascribed to hypertrophy of the inferior turbinals were due to suppuration in the pocket of Luschka's bursa, as described by Tornwaldt, and he believed that it was a cause not infrequently overlooked, at least by British laryngologists. He doubted whether on histological examination by a neutral expert of removed turbinals a larger proportion would be found to be really diseased than had been proved to be the fact some years since by an American pathologist—whose name he for the moment forgot—in the case of ovaries removed by Batty's operation. Allusion had been made to the hæmorrhage following turbinotomy; this was without doubt sometimes alarming, and, in the speaker's experience, increased rather than diminished by the use of cocaine; for the purpose of minimising this liability to bleeding on reaction from the effects of this drug, not for turbinotomy alone, but for all cutting operations within the nose, he had long been in the habit of dissolving the cocaine taken fresh as required, in hazeline, a well-known extract of the witch hazel. There were other points on which the speaker addressed the meeting, but as most of these were in agreement with the experience of others given in this discussion they need not be retold in this abstract of his remarks.

VI.—W. PERMEWAN, M.D., Liverpool.

DR. PERMEWAN was pleased to hear Drs. Delavan and Mac

izie object to the use of the word spokeshave. Spokeshaving gested operating on inanimate structures, and Dr. Permen was afraid that idea dominated those who practised extenely the operation of complete turbinotomy. Dr. Permen was of opinion that the complete operation was very ely required, but he also thought we were indebted to Mr. rmalt Jones for the introduction of an instrument which s very useful for the removal of parts of the turbinal or of septum. He was very pleased to hear the almost unanius opinion of American rhinologists as to the undesirlity of complete removal, and thought also English nion had progressed in the direction of conservatism since meeting of 1894 at Bristol.

VII.—W. H. Daly,
Pittsburgh, Pa., U.S.A.

. W. H. Daly said that turbinotomy did not mean or ould not mean a removal of all the turbinate, but only so uch as was absolutely necessary to provide for proper nasal piration; anything more was wrong. There were really no d-and-fast rules that applied to the adult requiring turotomy that did not also apply to the child. He had done several times, and within the previous ten days he had moved a part of both inferior turbinate bones from a child ears old; there were no pharyngeal adenoids and no other struction to nasal breathing other than that caused by the inferior turbinate bodies projecting across the nares, and pinging upon the septum; they were abraded in about f their extent with the best possible results to the patient, l a recognised cure of the disability in the part; afterrds the child slept soundly, quietly, and comfortably.

VIII.—Charles Warden, M.D.,
Birmingham.

. Warden was pleased to find that there was a consensus pinion on this operation amongst the members present to effect that the operation was often performed when less ere treatment would relieve, as by cocaine, chromic acid, caine, the electric cautery, menthol, etc. In very young ldren, except in very rare cases, it was quite unjustifiable. e turbinates had a physiological function which should be efully considered before adopting heroic surgery. Attenn to the septum would often obviate the necessity for the eration, and it should not be done to enable the Eustachian heter to be used.

CONTRIBUTION TO THE STUDY OF THE ANATOMY OF THE FRONTO-ETHMOIDAL REGION.

By J. H. Bryan, M.D.,
Washington, D.C.

this short communication it is my desire only to call ention to a few of the variations from what we have been ght by the anatomist to consider the normal conditions of fronto-ethmoidal and the fronto-maxillary regions.

ying between the ethmoidal cells and the frontal sinus re are a series of cells known as the fronto-ethmoidal cells. ich properly belong neither to the frontal nor the ethmoidal ities, but play a very important *rôle* when either of these uses is the seat of a prolonged suppurative inflammation; in nearly all such cases they are to a greater or lesser gree affected, thereby rendering prognosis of these conditns very uncertain.

These cells vary in number from four to seven on either e, and in the preparations I have examined I have been able to find any communication between them and the ntal or ethmoidal cavities proper.

The anterior cells are occasionally found unusually deloped, projected into the frontal sinus to such a degree as diminish the size of that cavity considerably. In some zen sections I have recently made this projecting anterior nto-ethmoidal cell is well shown. Dr. Cryer, of Philalphia, exhibited at the last meeting of the American edical Asssciation some interesting sections in which the ne condition was more marked than in my preparation. It ll be readily seen that in treating chronic empyema of the ntal sinus we must not limit our investigations simply to that cavity, but endeavour to ascertain the condition of these cells also; for if affected, and they generally are, they will be the starting point for a reinfection of the sinus after the inflammation has apparently subsided.

In all cases of chronic frontal sinusitis of long standing the fronto-ethmoidal cells should be opened with a sharp spoon, and the frontal sinus made to communicate freely with the nasal cavity, thereby insuring a free and permanent drainage.

The relation of the maxillary sinus to the cavities above is most important, for while it is frequently affected independently of the frontal and ethmoidal sinuses, abscess of this cavity is occasionally, nevertheless, a secondary process to either an ethmoiditis or a frontal sinusitis resulting either from a direct extension of the inflammatory process, or acting as a reservoir, and receiving the septic secretions as they pass through channels between the ethmoidal and maxillary, or the frontal and maxillary cavities. These communications are frequently pathological as Zuckerkandl[1] has demonstrated, but there are passages which exist normally, especially between the frontal and maxillary sinuses. In a paper read before the American Laryngological Association in 1895 I described a preparation in the Army Medical Museum at Washington, in which the frontal sinus communicates directly with the antrum by means of a groove found just in advance of the hiatus semilunaris. Secretions from the frontal sinus in this case would find their way into the antrum in preference to the middle meatus.

MacDonald[2] states that Dr. Curnow, of King's College, has observed this condition also, while the late Professor Leidy observed it in two or three instances. This has been considered a rare variation from what we have been taught to consider the normal position of the infundibulum. Recently Dr. Fillibrown,[3] of Boston, has made some investigations of this subject, and finds that the infundibulum, instead of terminating in the middle meatus, continues as a half tube which terminates directly in the foramen of the maxillary sinus. In seven heads examined there was a fold of membrane which served as a continuation of the unciform process, thus forming a pocket which would effectually prevent any frontal sinus secretion from passing into the middle meatus until the antrum was full to overflowing. In a private communication he states that he examined fifteen more specimens and found the infundibulum as above described in all but two; in one the pocket was of bony formation; from this it would seem to be a frequent anomaly. If it occurs as often as this, it suggests a ready explanation why so many cases of chronic maxillary abscess resist treatment to such an extent. It is a subject that should be still further investigated; and if this position of the infundibulum should be established, I believe the source of a great deal of maxillary disease will be found in the fronto-ethmoidal region, the secretions passing from one or both cavities into the antrum. A brief reference to two cases which have been previously reported may serve to emphasise the importance of looking beyond the maxillary sinus for the source of the suppurative process so frequently found in that cavity.

Case I was that of a man operated upon by me eight years ago for an abscess of the antrum. At that time the ethmoidal cells were supposed to be affected also, but this could not be positively established. Since then he has been under almost continuous treatment at the hands of various specialists, and what treatment he could give himself for a supposed obstinate suppurative inflammation of the antrum. After an interval of over seven years the patient came under my observation again. Upon examination the antrum was found full of pus, which he was able to wash out himself through a permanent alveolar opening. A rhinoscopic examination revealed extensive caries of the anterior ethmoidal cells, and a large communication with the frontal sinus, through which a probe would be readily passed. All irritating applications to the antrum were prohibited, and the treatment was directed to the removal of the carious ethmoidal cells, which was done by means of a sharp spoon. After an interval of eight weeks the antrum was practically free from pus, the slight secretion that continued to form passing readily out of the nose.

Case II was that of a woman who came under my observation several years ago, suffering from an abscess in the frontal, ethmoidal, and maxillary cavities. The antrum was opened through the alveolar ridge, and the frontal sinus at the inner angle of the orbit. In the course of the treatment solutions injected into the antrum found their way out through the frontal sinus opening, thus showing there was a direct communication between the two cavities.

In Case II the antrum was probably infected secondarily from the frontal sinus, as there was an absence of dental caries and intranasal disturbances, which would have been apt to lead to a primary maxillary inflammation. In Case I

the communication was probably of a pathological origin; but it is cited here to show that the source of the maxillary secretion was from the ethmoidal region, and not from the cavity itself.

I believe if a little more attention were paid to what is known as the fronto-ethmoidal region, many of the so-called incurable cases of maxillary abscess would not occur; for it is my opinion that most of the infection takes place from this point both upward into the frontal sinus and downward into the antrum. This opinion is somewhat strengthened as far as the latter cavity is concerned by the peculiar pouch-like condition of the infundibulum just described, which catches all secretions coming from above, and directs them into the maxillary sinus.

Dr. S. W. LANGMAID said that there could be no doubt that reinfection from the ethmoid cells in cases of disease of the maxillary sinus did occur. He had seen two such cases in which cure of the maxillary suppuration was only obtained after the anterior ethmoid cells had been opened and curetted.

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THE RELATION OF NASAL DISEASE TO PULMONARY TUBERCULOSIS.

By E. FLETCHER INGALS, A.M., M.D.,

Chicago.

THE popular belief that nasal catarrh in some of its forms leads to pulmonary tuberculosis, together with the comparatively recent articles upon this subject written by S. E. Sully, of Colorado, and W. Freudenthal, of New York, inclines one to accept the opinion that a large percentage of cases of pulmonary tuberculosis is the direct result of disease of the upper air passages, commonly known as catarrh. Again, the common observation that nasal obstruction causes great impairment of the general health, and also the presence in many cases of nasal obstruction of chronic inflammation of the mucous membrane, forming, as we believe, a suitable nidus for the growth of tubercle bacilli, suggests an etiological relation between catarrhal affections of the upper air passages and pulmonary tuberculosis. If such a relation really exists it becomes of great importance that it be known in order that the catarrhal affection may be treated and cured as promptly as possible. If, on the other hand, such relation does not exist, it is equally important that this also should be known in order that the anxiety experienced by many sufferers from this disease may be relieved.

TABLE I.—*Relation of Nasal Disease to Pulmonary Tuberculosis. Author's Cases.*

Phthisis without nasal disease	593	
Phthisis with nasal disease	237	
Phthisis not examined for nasal disease	442	
Total phthisis		1,272
Nasal disease without phthisis	4,714	
Nasal disease with phthisis...	237	
Total nasal disease		4,951
Without phthisis or nasal diseases		6,058
Total examined, omitting 237 repeated...		14,953

TABLE II.—*Combination of Nasal Diseases and Phthisis in Author's Cases.*

Nasal Diseases.	Stage of Phthisis.				Total.
	First.	Second.	Third.	Not Stated.	
Exostosis of septum... ...	86	30	11	4	131
Hypertrophic rhinitis ...	26	5	4	1	36
Exostosis and hypertrophy	12	5	—	—	17
Atrophic rhinitis	10	8	2	—	20
Polypi	1	1	1	—	3
Deflection of septum ...	9	8	3	—	20
Chronic rhinitis	1	—	1	1	3
Erosion of septum	3	2	1	—	6
Perforation of septum ...	1	—	—	—	1
Total	149	59	23	6	237

Although fully realising the difficulty of demonstratir anything accurately by statistics, yet I think an analysis a considerable number of carefully kept clinical histori may be of value in elucidating this question. With a hop therefore, of adding something to our knowledge of this su ject I have, with the aid of Frank E. Pierce and H. Stevenson, searched the medical literature referred to in t *Index Medicus*, and have studied the histories of 14,953 i dividual cases of private patients that have come under n care between June, 1883, and June, 1897, during which tin my work has been confined to diseases of the nose, throa and chest.

Of these cases, I find that 4,714 were affected with nas diseases, but did not have pulmonary tuberculosis; th 1,272 were subjects of pulmonary tuberculosis; and of t latter, 237 had also some form of nasal disease, popular known as catarrh. As I have in these records no exa means of determining the proportion of these various diseas to the whole number of healthy and diseased individuals, is manifestly impossible to make positive deductions fro these figures, and unfortunately other writers on this subje have usually ignored this most important element in t study of this question. I find two or three facts in medic literature that enable me partially to remedy this defect:

D. Bryson Delavan, of New York, found by the examin tion of several thousand skulls of the European race that per cent. had more or less deflection or exostosis of t septum, which is the most prominent of the diseases th have been considered causative of pulmonary tuberculosi If to this we add all other varieties of nasal catarrh, we sha probably find that about 75 per cent. of the human fami suffer more or less from these affections, though often n sufficiently to attract attention. From recognised authoritie we learn also that about 12 per cent. of the human family d of pulmonary tuberculosis, but we do not know how ma recover from the disease.

The records of necropsies show that in 25 per cent. of a bodies where death has occurred from other than tuberculo disease evidence is found of previous consolidation of t lungs, apparently of tuberculous origin. Adding this to t 12 per cent. that die of phthisis pulmonalis, we are led infer that 37 per cent. of the human family at one time another suffer from pulmonary tuberculosis, as against abo 75 per cent. with disease of the upper air passages, or nas catarrh. It is probable, however, that a large proportion the tuberculous as well as of the catarrhal cases recov spontaneously, or for other reasons escape the notice of t physician during the patient's life. These statistics point a greater prevalence not only of catarrhal trouble but al of tuberculosis than is generally suspected; yet the co clusions regarding the frequency of the latter seem to well sustained.

Coming to my own cases, because of the nature of my wor I feel it reasonable to conclude that 12 per cent., the know proportion of deaths from pulmonary tuberculosis to t whole human family, would be to the whole number of cas of tuberculosis shown in these records: as x (the percenta of pronounced nasal disease) would be to the whole numb of cases of nasal disease shown in these records, that is per cent. : 1272 :: x per cent. : 4951. $x = 46$ per cen which may be considered the ratio of well-marked nasal di ease to the normal population. An examination of my st tistics shows that about 8 per cent. of the cases were pulmonary tuberculosis, and about 33 per cent. of nas disease, being a ratio of about 1 to 4, which is practically t same ratio demonstrated in the problem just given. I ther fore conclude that it is approximately correct. If 12 p cent. of the human family have catarrhal disease of the upp air passages, and if 12 per cent. of the human family suff from pulmonary tuberculosis, then it appears that there c be no etiological relation between the two; yet we mig possibly err in this deduction, for if 100 per cent. of the tube culous patients suffered from the catarrhal disease, then would appear that the two were always associated. Howeve if only 12 per cent. of the tuberculous patients had t catarrhal trouble, it would be proved that the occurrence these affections together was merely a coincidence, for t ratio is the same as in all other persons. If, however, 46 p per cent. of the human family have catarrh, as appears to

shown by these statistics, then at least a similar percentage of all tuberculous patients should naturally be affected by it, and the percentage must be still larger in order to indicate any etiological relation. My histories, taken in the early part of the last fourteen years, were not always complete; an examination of the nose often being omitted if the patient complained of no symptom referable to that organ, and in many instances where the examination was made it was not recorded when the parts were found healthy; consequently I have only 830 cases of pulmonary tuberculosis in which complete records of the condition of the nasal cavities are given. Excluding all cases in which the record was incomplete, I find that nasal disease was present in 237, which is only a little over 28 per cent. of these 830 cases. Of the 237 cases which make up this 28 per cent., I find that 168 consisted of exostosis and deflection of the septum, which according to Delavan is present in 50 per cent. of all persons of the European race; therefore many of these could have had no possible influence in causing the pulmonary tuberculosis. Further my records show that of all the cases of pulmonary tuberculosis, 1,272 in number, only 27, or about 2 per cent., complained of having had any previous nasal disease, which is 4 per cent. less than the normal average. Even taking only the cases in which nasal disease was found to exist with pulmonary tuberculosis, namely, 237; we find that the 27 would make only about 13 per cent., or 33 per cent. less than the normal average. In whatever way, therefore, these figures are looked at they appear to show that nasal catarrh is much more prevalent than pulmonary tuberculosis, and that it is much less frequent in a given number of tuberculous patients than in the same number of healthy people. In other words, these statistics seem to demonstrate that instead of predisposing to pulmonary tuberculosis, nasal catarrh, if it has any influence whatever upon the latter, appears to prevent it. Although this analysis yields unexpected results it would not be surprising if an actual antagonism should eventually be shown to exist between the condition causing the marked hyperæmia of many catarrhal affections and the condition that causes the profound anæmia of tuberculosis. A single exception to the above conclusion possibly occurs in the instance of atrophic rhinitis, 20 cases of which, amounting to about 8 per cent., were observed in the 237 cases in which catarrh and pulmonary tuberculosis were associated. Although this percentage of itself indicates nothing, the fact that 6 or 30 per cent. of these atrophic cases existed before the pulmonary disease was detected, suggests that the two may have had similar origin.

Dr. Shurly (Detroit) was glad that Dr. Ingals had brought up this subject because of late a number of articles of a theoretical and statistical character had been published favouring the idea that disease of the nasal passages was an important etiological factor. The nasal and naso-pharyngeal secretions had been shown to be directly germicidal, and he believed, therefore, that nasal disease probably had very little causative relation, except incidentally, to pulmonary phthisis.

Mr. Lennox Browne (London) had hardly understood Dr. Ingals to express agreement with the view that nasal disease constituted a frequent factor in the etiology of pulmonary tuberculosis, and for himself he was prepared to oppose such a contention, if only for the reason that it was not possible to find any sure basis for the argument if viewed from any one of the many aspects of the question. Neither clinical experience, statistical facts, nor bacterial science could furnish assured criteria, and there were still other possible influences which required to be dealt with, such as the geographical and climatic, and occupational, also hereditary vulnerability—albeit, that last was out of fashion in the present day. It could readily be understood that the whole constitutional state of a patient suffering from atrophic rhinitis was one strongly predisposing to phthisis, while as to catarrh so called, it was very difficult to decide in the majority of cases whether a laryngitis of a pulmonary phthisical individual was tuberculous or non-tuberculous. It was, however, quite safe to remember that, while the secretion of the nostril in health was germicidal, the slightest deviation of the nasal functions might start into activity pathogenic germs which were lying dormant in the upper respiratory tract. In other words, it behoved the practitioner to give effect to the dictum of Trousseau, that a neglected catarrh might be a consumption commenced, and in this connection the figures and deductions therefrom so carefully collected and considered by Fletcher Ingals would constitute a valuable ground of encouragement to all who desired to advocate more stringently the prophylaxis of tuberculosis than was even yet generally admitted to be necessary.

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THE SIGNIFICANCE OF LARYNGEAL PARALYSIS.

By W. H. Daly, M.D.,
Pittsburgh, Pa., U.S.A.

The significance of laryngeal paralysis depends so entirely on its efficient cause, in a given case, that we can best consider it by saying that each case or class of cases is as a rule unto itself, and in order to indicate with any degree of accuracy the significance implied by the symptoms, we must at once in a given case proceed clinically to trace the symptoms to their origin, and this is not easy.

In a case of laryngeal paralysis following diphtheria or scarlatina we are confronted with the significant probability of peripheral neuritis, and we can in most cases prognosticate a recovery in from six weeks to six months, according to the amount of damage which has been done to the peripheral nerve fibres of the larynx. The cure, however, can be much hastened by the interrupted or faradic current if the adductor supply is at fault, but the continuous or galvanic current will be found the most efficient if the abductors are the chief source of the disability.

Laryngeal paralysis in the chorus or choir singer suggests peripheral nervous exhaustion from too long sustained effort in singing, but nothing less than a careful search after the cause will enable this suggestion to be verified or refuted.

If the paralysis be on the left side it would signify to us the need to investigate the presence or absence of a tumour or other cause of pressure, such as dilatation or aneurysm of the aorta, in the region about its arch, where the inferior or recurrent laryngeal nerve arises in front of the arch and winds from before backwards round the aorta, just beyond where the remains of the ductus arteriosus are connected with it, and from whence it ascends to the side of the trachea. If the paralysis be bilateral and the duration considerable, a resort to tracheotomy is advisable under the emergency of severe dyspnœa. We may have a phonatory paralysis of the larynx without a paralysis of the respiratory forces, the former being a voluntary, the latter an involuntary, act, beginning at birth and ending only with death.

Several cases of laryngeal paralysis that have fallen under my observation have been due to an undefined central degeneration due to hæmorrhage or embolism. Another case of rather obscure or masked origin pointed significantly to a degeneration of the nerves in their course to the larynx.

Paralysis of the laryngeal muscles may be due to a lesion in either the brain, the nuclei of laryngeal nerves, the nerve trunks in the muscles themselves, and it may be due to hysteria. The existence of a cortical centre for the larynx is now pretty well established. As early as 1877, Seguin[1] recorded a case of left hemiparesis accompanied by impairment of speech and phonation, and a loss of control of the pitch of the voice. The experiments of Krause,[2] Horsley and Semon,[3] and Massini indicate that the laryngeal cortical centre is in the extreme anterior portion of the foot of the ascending frontal convolution. Garl[4] has reported a case of paralysis of the vocal cords, in which the necropsy revealed a localised meningo-encephalitis, at the lower end of the right ascending frontal convolution: and at the foot of the third frontal convolution, two small spots of softening. Wallenberg[5] records a case of laryngeal paralysis, in which the necropsy revealed a complete destruction of the projection fibres from the laryngeal centre. This last-named investigator, as well as Brissaud, Déjerine,[6] and Collins[7] hold the view that the laryngeal muscles have a bilateral cortical representation, but that the centre upon one side innervates chiefly the muscles on the opposite side. With the evidence at hand,

we are justified in locating the laryngeal centres, in man in the frontal operculum, at the most posterior portion of the third frontal convolution, and at the most anterior and lowest portion of the ascending frontal, just at the junction of the horizontal and ascending ramus of the Sylvian fissure, and it is thought to be better differentiated on the right than on the left side. Localised laryngeal palsies of cerebral origin are rare enough, but the fact that they may occur should not be lost sight of; and in all such cases where opportunity presents, a necropsy should be secured, for further light upon this subject is needed.

It is unnecessary to speak of the pathological changes which may cause cerebral laryngeal palsy, for they in nowise differ from those which cause cerebral palsies of other groups of muscles; they are hæmorrhage, softening, inflammation, and œdema.

The motor nuclei of the laryngeal nerves form part of the great pneumogastric nuclei, and may, like the nuclei of any other nerves, become the seat of chronic degeneration. This occurs, for instance, in bulbar paralysis, where several nuclei in the bulb are usually simultaneously attacked. It is possible that these nuclei may be the seat of hæmorrhage or inflammation, but these lesions confined to the nuclei of the laryngeal nerves must be exceedingly rare.

Localised laryngeal palsy, already referred to, due to a lesion of the laryngeal nerve trunks, is far commoner than that of cortical or nuclear origin, and it is probable that the laryngeal branches of the tenth nerve are more frequently involved in disease than any other branches of that nerve, consequently this phase of the subject is of great practical importance. Thy superior laryngeal nerve is largely one of sensation, while the inferior or recurrent laryngeal is chiefly one of motion, although from the first-named nerve the crico-thyroid and lower constrictor muscles derive their motor fibres. Through the same nerve trunk pass two sets of fibres, one of which goes to supply the muscles which open the glottis, and another to those whose function is to close it. The glottis, essential for respiration and phonation, is widened in inspiration and closed in coughing, and to prevent foreign bodies entering the larynx. The various lesions, unilateral or bilateral, produce certain signs which need not be detailed here, by which they may be recognised.

The inflammation producing laryngeal peripheral palsy may be part of a multiple neuritis, or it may be localised in the laryngeal nerves only, or these nerves along with those of the pharynx may be involved. The causes which produce neuritis in the laryngeal nerves are the same as those which produce it in other nerves, but the toxic products engendered in certain contagious and infectious diseases, conspicuously diphtheria, are apt to set up a more or less localised inflammation in the laryngeal and pharyngeal nerves, producing certain palsies of the throat and larynx, because fibres supplying both adductors and abductors of the larynx are found in a single nerve trunk. Both these sets of muscles are apt to be involved in any peripheral nerve palsy.

Occasionally traumata (sometimes produced by the surgeon's knife) are responsible for peripheral laryngeal palsies. Laryngeal palsies may be due to none of the foregoing causes but to muscular weakness, prolonged exhaustion, or local inflammation, or to hysteria. This last-named cause I will notice briefly. Laryngeal paralysis may be the chief (it can scarcely be said the only) manifestation of hysteria. The diagnosis is to be made by the exclusion of all other causes of paralysis, and a careful search for other sources of the disease and its stigmata. The paralysis is often bilateral, but it may be unilateral, and may be combined with a certain degree of contracture of the antagonistic muscles. Féré[8] says: "These combinations produce veritable symptomatic paradoxes; a paralysis of the dilators of the larynx, which ought to produce aphonia, but gives rise instead to an inspiratory hoarseness with dysphonia, while expiration is free and the voice is unaffected. Aphonia is, however, the functional trouble which is most frequently associated with paralysis of the larynx in hysteria.

Hysterical paralysis may be distinguished from mutism, by the fact that in the former condition the patient can whisper, while the mute does not to do so. The onset is usually rapid in hysteria, and the duration is exceedingly variable, from a few minutes to many years. Cases have been reported where patients suffering from hysterical aphonia have talked in their dreams or sung. In some cases there is anæsthesia of the skin over the neck, and the mucous membrane of the larynx may be anæsthetic.

The discussion as to the etiology of laryngeal paralysis seems chiefly to turn upon paralysis of abduction, writers agreeing in general as to other paralysis. Thus (1) paralysis of the superior laryngeal nerve most often occurs as a sequel of diphtheria, as associated with extensive disease of the central nervous system, and very rarely as the result of compression of the nerve; (2) paralysis of the whole group of muscles supplied by the recurrent nerve is due most frequently, especially on the left side, to pressure upon the nerve, more rarely to bulbar disease, ataxia, disseminated sclerosis, etc., and is very rarely due, probably, to local processes; (3) paralysis of single muscles is due to locally acting agencies—fatigue, catarrh, syphilis, etc.; (4) paralysis of adduction is the result, in most cases, of debility from various causes. Hysteria is a cause, but the hysterical aphonia is more properly a paresis than a paralysis. Lennox Browne considered it less frequent than has been thought, and that hysteria is frequently thought to be a cause owing to incomplete examinations too common in hysteria. Paralysis of abduction is attributed to three general groups of causes: (1) Lesions of the periphery; (2) lesions in the continuity of the nerve itself; and (3) lesions of the central nervous system. All these causes have their advocates, though the view that this paralysis is due to a central lesion is the predominant one, and is granted to the majority of cases by even those who believe in an efficient cause from other lesions.

Bosworth advocates this view alone, and though he admits the occurrence of cases as the result of pressure upon the recurrent nerve, he believes that in these cases also some pathological condition in the medulla is probably present. Semon, Mackenzie, and others, have reported cases due to pressure upon the recurrent nerve, and in a case reported by Von Ziemssen, not even microscopical changes of the nerves were found (Lennox Browne). Gowers mentions a case due so simple laryngeal catarrh, and another case during pregnancy and disappearance after delivery, suggesting this case to be of reflex origin. Semon, to account for those cases in which pressure upon the recurrent nerve causes abductor paralysis with no interference of adduction, made a number of experiments proving that under electrical stimulation the adductors have greater vitality than the abductors. Bosworth, however, considers these experiments made to be insufficient to explain the cases, and experiments made by Hooper and by Donaldson were not in agreement with Semon's results. The view has been advanced by Lennox Browne, Cohen, and others, that the superior laryngeal nerve may have a part in this paralysis, its action being that of an adductor through the crico-thyroid and inferior constrictor muscles, and when from any cause the action of the recurrent nerve is suppressed, the superior laryngeal would predominate. This view, like the others, has found opponents.

Dr. SHURLY (Detroit) said that in spite of the attention which had been paid to the functions of this apparatus by means of physiological experiments, and clinical and pathological observations, knowledge of the innervation of the larynx was still imperfect. He considered, however, that the fact had been established that there were two centres or sources of nervous action in the medulla and brain respectively; the one centre especially presiding over the automatic, and the other over the voluntary currents going to and from the larynx. If this were so, it was obvious that perplexity must attend the diagnosis and prognosis of any neurotic disturbance affecting these parts. Cases classed as hysterical paralysis were often difficult to understand. When really hysterical they might be transient, but there were cases of this sort which were really the early signs of brain disease, and were sure to be followed by some form of mental aberration. The more transient cases were probably due to a temporary break in the insulating envelope of the nerve fasciculi, which allowed of short-circuiting, so to speak. The prognosis, however, on the whole, was as perplexing as the differential diagnosis.

Mr. LENNOX BROWNE (London) said that, with regard to

diphtherial laryngeal paralysis, it was worthy of note that this sequel was much more common in adults than in infants, and that in the former it was often persistent, thereby differing from almost every other diphtherial sequela. Dr. Daly had fully treated of paralysis of the left recurrent, and had pointed out that it generally indicated deep intrathoracic mischief, such as cancer, syphilis, etc., but he had left untouched the circumstance that in the rarer case of paralysis of the right recurrent the lesion was generally higher up, and, as Mandl first indicated, was usually due to apical mischief, pulmonary or pleural. As to hysterical aphonia, the speaker was in accord with Dr. Shurly that it was more often a premonition of structural changes in the brain—or in the cnest—than is generally taught, and the cases related by him were valuable clinical contributions. As to diagnosis of this form of laryngeal paralysis, it was useful to remember that in addition to the fact that while voice was aphonic, cough was phonetic; dumbness, otherwise paresis of articulation, was a sure sign that the loss of voice was only functional.

Dr. Bryson Delavan (New York) called attention to the fact that in right recurrent laryngeal paralysis the presence of a lesion at the apex could seldom be demonstrated by physical exploration, although undoubtedly present in a certain proportion of cases. He had seen many cases in which it had been impossible to demonstrate the cause of the trouble, except possibly *post mortem*. As the subjects of the affection might live for many years, it was difficult to secure the necessary information on the question, and greater light was desirable. He mentioned two cases, both in women, in which right recurrent paralysis had apparently been caused by an attack of intralaryngeal diphtheria, and had persisted in one case for six, and in the other for seventeen years.

Dr. Permewan (Liverpool) remarked on three points. First, as to etiology, he was of opinion that in cases of paralysis due to organic disease, syphilis, either directly or indirectly, was the most frequent cause. It acted either by the direct effect of gummatous deposit, or by the production of chronic disease in the nervous centres or peripheral nerves. Secondly, as to the significance of bilateral paralysis. This was most commonly due to central disease, but Dr. Permewan had recently an opportunity of observing a case of bilateral paralysis due to pressure upon both recurrent laryngeal nerves, and the possibility of this must always be borne in mind. Thirdly, the existence of hysterical paralysis of a definite character was, he thought, fully established. It was very important, however, to distinguish hysterical cases from those in which aphonia was only one symptom of complete paralysis.

References.

[1] *Nervous Diseases*, by American authors, p. 408 (cited by Mills). [2] Cited by Mills, Horsley, Delavan, and others (*op. cit.*). [3] *Phil. Trans.*, 1888, vol. clxxix. [4] *Annal. des Maladies de l'Oreille et du Langue*, 1886, tome 12, p. 218. [5] Cited by Collins, *Twentieth Century Practice of Medicine*, vol. x, pp. 40-41. [6] This investigator is supported in his view by two necropsies. [7] *Op. cit.* [8] *Twentieth Century Practice of Medicine*, pp. 536-537.

THE CORRECTION OF NASAL DEFORMITIES BY SUBCUTANEOUS OPERATIONS.

By John O. Roe, M.D.,
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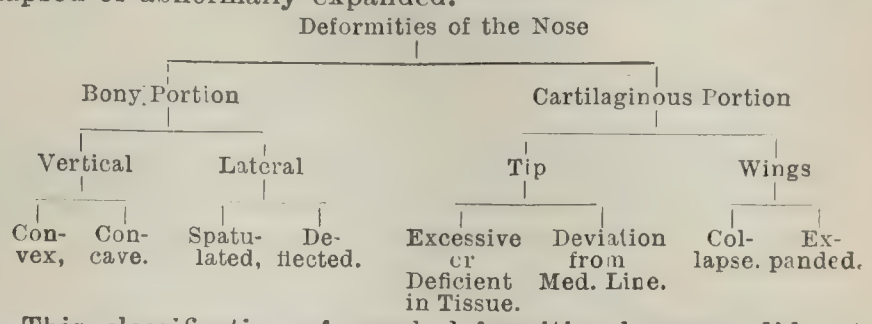
[Abstract.]

Dr. Roe pointed out that the early advantage of subcutaneous operations was the exclusion of air from the wound, thereby avoiding the subsequent inflammation that followed the exposure of the wound to the air, but that at the present time the only advantage of performing operations subcutaneously was the avoidance of a wound of the skin on any of the exposed portions of the body. The importance of correcting nasal deformities on account of the prominence of the nose, and the conscious effect of such deformities in influencing the habits and thoughts and social life of a person was then pointed out, and also the importance of correcting these deformities without wounding the skin, so as to leave as few traces as possible of the previous disfigurement. Nasal deformities were usually divided into two main classes—idiopathic or congenital, and traumatic or acquired; but from the surgical standpoint Dr. Roe classified them into the deformities which affected the bony portion of the nose and the deformities which affected the cartilaginous portion.

Deformities of the bony portion might be subdivided into (*a*) vertical—that is, those which distorted the dorsal profile, in which the dorsal line was too convex or too concave; and (*b*) lateral—that is, those which, when viewed from the front, presented unusual deviations from the normal contour, whereby the bony portion might be either spatulated or deflected. Deformities of the cartilaginous portion might be subdivided into (*a*) those which affected the tip of the nose, whether excessive or defective in the amount of tissue or distorted from its normal direction, and (*b*) those which affected the wings of the nose, which might be either collapsed or abnormally expanded.



This classification of nasal deformities, however, did not apply to or include those deformities resulting from extensive destruction of the hard or soft parts by syphilis, lupus, or other diseases, or by accidents in which metallic or other artificial supports, or plastic operations involving the integument, were required for their correction.

Dr. Roe then described the different deformities as they were found, and the etiological relations which they sustained to local causes and various systemic conditions.

In the treatment of nasal deformities he pointed out that the beauty of the nose depended almost entirely upon its symmetry so long as the disproportionate relation between the size of the nose and the size of the face was not too great; therefore, in correcting the deformities of the nose, it was necessary to study the symmetrical relations of the different parts of the nose to one another rather than its proportionate relations to the face. He also pointed out that owing to the great variety of causes and conditions of the deformities of the nose, the operations required for the correction of these deformities must be equally varied.

There were, however, general underlying principles governing the different operations which must be observed in order to accomplish the desired results. Thus in convex vertical deformities of the bony portion of the nose, or excessive development of the tissue of the tip of the nose, the excessive or redundant tissue must be removed; whereas in the concave vertical deformity of the bony portion of the nose, or the defective development of the end of the nose, the hollow portions must be filled in with tissue taken from some other portion of the nose where it could be spared, and the elevated portions reduced, so as to make the nose symmetrical. In the case of injury to the nose, in which there was displacement rather than destruction of the tissues, the operation consisted in replacing the tissues in their original position, or so adapting them as to render the contour of the nose symmetrical. In every instance, however, the operation was to be performed subcutaneously from the interior of the nose.

Dr. Roe then described a number of cases illustrating the manner in which the various operations were performed, and exhibited enlarged photographic illustrations of patients before and after operations. He also stated that there were three conditions which must be observed in order to ensure success in these operations:

1. The first was thorough antiseptic precautions, for if suppuration in the wound should take place engrafted tissues would be destroyed, and not only the object of the operation be defeated, but the deformity of the nose would be increased thereby.

2. In the next place, the plan of the operation must be carefully studied in order that the tissues at disposal might be utilised to the best advantage.

3. In the third place, great care and attention subsequent to the operation were as important as the operation itself, for no matter how well directed the operation might be, the object could not be attained unless scrupulous attention was paid to the healing process. The parts must not only be held in place by retentive appliances, but the shape of these appli-

ances and the dressing must often be changed from day to day as the swelling subsided and the union of the parts took place.

Frequently the principal or main operation must be supplemented by minor operations for the correction of slight defects. An unduly prominent portion might require lowering and a depressed part raising, and so on until the work was completed.

SECTION OF ANATOMY AND PHYSIOLOGY.

AUGUSTUS D. WALLER, M.D., F.R.S., President.

A BRIEF ACCOUNT OF SOME OBSERVATIONS ON THE SYMPATHETIC GANGLIA OF VERTEBRATES.

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CONSEQUENT upon results obtained through numerous investigations made with the Golgi and methylene-blue methods, it is now well known that the entire nervous system is made up of anatomical units (cells), to which the term neuron has been applied. A neuron may be said to consist of a cell body, nucleus and nucleolus, and two kinds of processes. The one kind, essential to every neuron, we know as the axis-cylinder process or neuraxis. It forms the axis-cylinder of a nerve fibre, giving off only a few branches (collateral branches) in its course; it and the collateral branches terminate in a branched ending (the end-brush). Some neurons (unipolar neurons) possess only this one process. Other neurons (bipolar or multipolar neurons) have, in conjunction with the neuraxis, a varying number of other processes: these are the protoplasmic branches or dendrites, which typically branch and rebranch in the immediate vicinity of the cell body of the neuron, terminating in unusually fine end twigs, or, as in the spinal-root-ganglion cells, the single dendrite present may be much longer, form an axis cylinder of a nerve fibre, and, as a sensory nerve fibre, terminate in the periphery in a sensorial ending.

We have learned, further, through the results obtained by the application of the above-mentioned methods, that, while the nervous system is built up of ultimate units (the neurons), a neuron is never completely separated from other neurons; they are always united into chains (nerve chains or neuron chains), so that a physiological continuity exists between them. These neuron chains are the paths along which impulses pass from the periphery to the cerebro-spinal axis, from one portion of the cerebro-spinal axis to another, and from the cerebro-spinal axis to the periphery.

It is my purpose to show briefly that structurally the sympathetic system of vertebrates is, in the above-mentioned respects, similar to the structure exhibited by other parts of the nervous system. In doing this I purpose to review briefly previous work which has been done on the sympathetic system, more particularly that pertaining to the structure of the sympathetic ganglia, comprising in the main observations on the sympathetic ganglia of mammalia and amphibia, and, to a lesser extent, on birds; and to report briefly observations made by myself, embracing a study of the sympathetic ganglia of types from the different vertebrate classes. These observations are, in the main, corroborative of previous work on the structure of the sympathetic ganglia of mammalia: have extended somewhat observations made on these structures in birds; are new as far as pertains to reptilia and fishes; and, it is hoped, may contribute to the solution of some of the disputed points concerning the structure of the sympathetic ganglia of amphibia. The preparations on which my own observations were made were stained by the intra-vitam methylene blue method. The ganglia thus stained were fixed in ammodium molybdate, embedded in paraffin, and sectioned; many of the sections were further stained in alum carmine.

Without giving anatomical details, and possibly without keeping within the bounds of strict accuracy, it may be stated in a general way that the gross anatomy of the sympathetic system is essentially the same in all vertebrates, certainly as far as pertains to the general arrangement of the larger ganglia. Two ganglionated chains, consisting of a series of ganglia united by intervening nerves, contain prevertebral ganglia, and a large number of peripheral terminal ganglia are very generally found. These are all more or less intimately united to each other by sympathetic nerves, forming plexuses of varying density, the peripheral ganglia being found at the nodal point of such plexuses. The sympathetic ganglia are connected with the cerebro-spinal axis through the white rami communicantes, as will be discussed more fully presently. All the sympathetic ganglia are larger or smaller groups of sympathetic neurons, surrounded by a fibrous-tissue capsule, which is continuous with the afferent and efferent nerves of the ganglia. The shape and structure of a sympathetic neuron is as follows:

The great majority of all the sympathetic neurons of the vertebrate, excepting the amphibia, are multipolar; in amphibia all sympathetic neurons (excepting those found in the coats of the stomach and intestine, which are also multipolar) are unipolar. In mammalia and birds only a few unipolar and bipolar sympathetic neurons are found. In reptilia their number is somewhat larger, especially in the larger ganglia. Here large unipolar cells, the single large process present, dividing at a variable distance from the cell, into varying numbers of secondary branches, are met. In fishes the multipolar cells predominate.

In the protoplasm of the sympathetic neurons of the vertebrates studied by me, chromophile granules of relatively small size and irregular angular shape, and more or less evenly distributed through the cell body, are met. These have been described for mammalia by Dogiel. A single nucleus, with usually one relatively large nucleolus, is the rule. Although, as has been shown by Schwalbe and Apolant, certain mammalia, namely, the rabbit, hare, and guinea-pig, have sympathetic neurons with more than one nucleus, cells with two and occasionally three nuclei may readily be found; this I can confirm. The cell body of the sympathetic neurons of all vertebrates studied by me is surrounded by a nucleated capsule.

It is now very generally conceded that the sympathetic neurons of mammalia and birds have each one neuraxis, which forms the axis cylinder of a sympathetic nerve. This I find also true of reptilia and fishes. For amphibia the straight process of the bipolar sympathetic cell, with straight and spiral process, as described long ago by Beale and Arnold for the sympathetic ganglia of amphibia, is now looked upon as the neuraxis of a unipolar sympathetic neuron, the spiral process being the ending of another neuron, as will be shown presently. This has recently been clearly stated by Kölliker, and can be corroborated by myself. The neuraxis of a sympathetic neuron—sympathetic nerve fibre—may be surrounded by a delicate sheath of myelin, which may accompany the neuraxis to near its termination—many of the sympathetic nerve fibres of the chain, pilomotor fibres, and ciliary fibres, etc.—or it may be medullated for only a portion of its course, or the neuraxis may be non-medullated throughout; this is the usual structure of the neuraxis of sympathetic neurons of the smaller ganglia.

This account is based largely on a summary of observations on the structure of sympathetic nerves given by Kölliker. The neuraxis of sympathetic neurons divide, often repeatedly, before terminating. It may be in place here to repeat the statement previously made that all neurons are distinct anatomical units; this applies, as is now generally conceded, also to the neurons of the sympathetic system. This fact is here emphasised, as it is often implied that the neuraxis of sympathetic neurons, or some of their branches, form anastomoses in the various plexuses formed in the sympathetic system, more especially in some of the peripheral plexuses—Auerbach's or Meissner's may here be mentioned—aiding thus in the formation of these plexuses. While it may be premature to assert that such anastomoses do not exist, abundant observations are at hand which go to prove that such plexuses are the result of an interlacement of the neuraxes and their branches—to some extent also the dendrites—of sympathetic neurons, and that an anastomosis

of nerve fibres coming from different neurons is not found. The neuraxes of sympathetic neurons are distributed to non-striated and heart muscle tissue (motor and vasomotor fibres), to glandular tissue (secretory fibres), to spinal ganglia (observations of Ramon y Cajal and Dogiel), and to other sympathetic ganglia, although the latter distribution is denied by Langley and Kölliker; observations by Lenhossek and Dogiel, which I can in part corroborate, seem, however, to show that such distribution may exist.

The dendrites of the sympathetic neurons branch and rebranch in the sympathetic ganglia, forming an interlacing network between the cell bodies of the sympathetic neurons of the ganglion. This network, designated by Dogiel as the intercellular plexus, is always extracapsular. Its arrangement is such that there are spaces large enough to contain the cell bodies of one, two, or three sympathetic neurons. It is the network described by Ramon y Cajal under the name of "pericellular nests," and through it sympathetic neurons were supposed to be physiologically connected. Von Gehuchten, Sala, and Dogiel have, however, pointed out that the arrangement of the dendrites above described is largely accidental, due to the juxtaposition of the sympathetic neurons in the ganglion. The intercellular network is most complex in the sympathetic ganglia of mammalia, not so dense in birds, and less readily made out in reptilia and fishes, as here the dendrites are not so prone to division and subdivision; it is, of course, not to be found in the sympathetic ganglia of amphibia, as the sympathetic neurons here found are unipolar. A further dendritic plexus, designated by Dogiel as the "general peripheral plexus," is found immediately under the capsule of the ganglion. In the formation of this plexus, dendrites, or branches from dendrites of nearly all the sympathetic neurons of the smaller ganglia and many of the sympathetic neurons of the larger ganglia, take a part. This plexus also is more prominent in the sympathetic ganglia of mammalia than the other vertebrates.

Relation of the Sympathetic Ganglia to the Cerebro-Spinal Nervous System.

Both anatomical and physiological observations are at hand which show conclusively that the sympathetic ganglia are in connection with the cerebro-spinal nervous system.

The anatomical evidence may first be discussed. Gaskell was the first to show that small medullated nerve fibres which leave the spinal cord through the anterior nerve roots reached the sympathetic ganglia through the white rami communicantes. The spinal nerves containing these small medullated nerve fibres are the dorsal nerves and the upper three or four lumbar nerves. They form, as Gaskell has clearly shown, three main streams, going upwards into the cervical ganglia, outwards into the lateral and prevertebral ganglia, and downwards into the lumbar and sacral ganglia. These facts were in the main corroborated and amplified by Langley.

Numerous investigators, working with the Golgi or methylene blue method, have described small medullated nerve fibres in the sympathetic ganglia, which fibres branch and rebranch, and terminate in pericellular plexuses which surround the cell body of the sympathetic neurons of the ganglia. These pericellular plexuses are in all vertebrates examined intracapsular; they differ somewhat in the several vertebral classes, and therefore will be described separately for each class.

In mammalia these pericellular plexuses have been described and figured by Von Gehuchten, Sala, Lenhossek, and Kölliker, who worked with the Golgi method, and by Aronsen, Dogiel, Arnstein, and others, who have recorded observations made with the methylene-blue method. They have, in all mammalia, studied, and in the various ganglia examined essentially the same structure. The medullated nerve fibre (or one of its branches) loses its medullary sheath at a variable distance from the sympathetic neuron, around the cell body of which it terminates. As the cell body of the sympathetic cell is reached, the non-medullated nerve fibre (neuraxis of the medullated nerve fibre above alluded to) enters the capsule and breaks up into a varying number of secondary branches which, after further subdivisions, interlace and anastomose to form a network varying in density and configuration; the fibrils of the network are usually varicose. More than one nerve fibre may pass through its pericellular plexus and surround the cell body of a sympathetic neuron; and a single medullated nerve fibre may (and probably this is the general rule) terminate through its branches in a number of pericellular plexuses, and thus end on a number of sympathetic neurons.

In birds, the pericellular plexuses are in structure very similar to those found in mammalia, although of an average is taken they may be said to be somewhat simpler.

In reptilia, two types of pericellular plexuses are found: a simpler type, surrounding the cell body of multipolar neurons, more numerous in the smaller ganglia, which have a structure essentially like that described for birds and mammalia; and a more complex type, surrounding the cell body of the large unipolar neurons previously mentioned. Here the fibre (or several of them) forming the pericellular plexus is spirally wound about the large process of the unipolar neurons, before breaking up into the fibrils which form the pericellular plexus. These spirals vary in length; sometimes only two or three turns are seen, and again, as many as fifteen may be found. The resulting pericellular plexuses are always very complex, the fibrils being very varicose. In amphibia the spiral process of the bipolar cell described for the sympathetic ganglia by Beale and Arnold is the medullated fibre ending in the pericellular plexus. Ehrlich was the first to show this clearly, that is, to show that the spiral process terminated in a pericellular network, which surrounds the cell body of the sympathetic neuron, which, it is well to remember, was described as unipolar for the sympathetic ganglia of amphibia. His observations were soon confirmed by Aronsen, Arnstein, Retzius, Smirnow, and Kölliker. Ehrlich, Aronsen, Retzius, and Kölliker described the spiral fibre as going centralward, while Arnstein and Smirnow have ascribed to it a peripheral distribution. I have, in a number of instances, in sympathetic ganglia of frogs, stained in methylene blue, been able to trace a medullated nerve fibre from a white ramus into the ganglion, and have observed its division into several branches, some of which I could trace to spirals and pericellular plexuses. In one instance five pericellular plexuses could be made out on one medullated nerve fibre and its branches. These observations, it is believed, afford strong evidence of the cerebro-spinal origin of the spiral fibres and their pericellular ending; this interpretation has been given them by me.

In fishes, the medullated nerve fibres ending in the sympathetic ganglia form a somewhat simpler pericellular ending, which is, however, also intracapsular. Very often the branches of the non-medullated fibres (neuraxes of the medullated nerve fibre ending in the ganglion) only partly surround the cell body of the sympathetic neurons, within the capsule of which they terminate, although now and then pericellular plexuses, as above described for other vertebrates, have been found.

From this somewhat hasty review of the structure of the pericellular plexuses, as found in the different vertebrate classes, it may be seen that they are present in all vertebrates, that they are the endings of medullated fibres, and that in all vertebrates they present essentially the same structure.

There would seem at the present time very little doubt that the medullated fibres which end in the sympathetic ganglia in the manner above described come from the cerebro-spinal system. For this knowledge we are primarily indebted to the English physiologists, and more particularly to Gaskell, Langley, and Dickinson, and Anderson working in conjunction with Langley. Attention has previously been called to observations of Gaskell and Langley, which go to show that small medullated nerve fibres leave the spinal cord through the anterior roots of the dorsal and upper lumbar (three or four) spinal nerves, which reach the sympathetic ganglia through the white rami. Physiologists have further shown that a sympathetic effect, which may be produced by stimulating a sympathetic ganglion in any part of the sympathetic system, or a nerve proceeding from such a ganglion, may also be produced by stimulating a spinal nerve within the vertebral canal in the proper region or the cord itself. We may further mention in this connection that "the first thoracic spinal nerve, the uppermost nerve which has a white ramus, is the uppermost nerve which, on stimulation, produces sympathetic

effects" (Langley). It follows, then, that a stimulus applied to a spinal nerve within the vertebral canal, or to the cord itself, producing a sympathetic effect, excites an impulse which travels along nerve fibres, continuing in the anterior root, and thence along the white rami to the sympathetic ganglia. Before the fact was fully understood by the anatomists, Langley and Dickinson demonstrated that the medullated nerve fibres going to the sympathetic ganglia, which on stimulation produce sympathetic effects, do not pass through the sympathetic ganglia to the periphery, but are interrupted in them. The observations on which such conclusions were based were made with nicotine. They showed that when a definite quantity of nicotine is injected into the circulation of an animal, or painted over a sympathetic ganglion, a sympathetic effect which could be obtained previous to such injection or application of nicotine on stimulating a nerve trunk going to a sympathetic ganglion, was not obtained after the injection or local application of nicotine, but could be obtained by stimulating directly the ganglion, or a nerve trunk proceeding from it. They conclude that "by stimulating a nerve fibre running to, and those running from, any peripheral ganglion, before and after the application of nicotine to it, the class of nerve fibres which end in the ganglion can be distinguished from those which run through the ganglion without being connected with the nerve cells" Langley has suggested the term preganglionic (precellular) fibres to designate the efferent medullated fibres before they have traversed the sympathetic nerve cell, and post-ganglionic (post-cellular) after they have traversed the nerve cell. He states: "That these terms involve the view that each sympathetic nerve fibre has a nerve cell on its course in one ganglion, and in one ganglion only. . . . . In saying that 'a nerve fibre traverses a nerve cell,' or 'has a nerve cell on its course,' or 'becomes connected with a nerve cell,' I mean that a nervous impulse set up in a fibre on issuing from the spinal cord, passes through a nerve cell before it reaches the periphery."

We are prepared to assume, it seems to me, as has been done for the mammalia, that in all vertebrates the fibres, designated by Langley as preganglionic fibres, are the medullated nerve fibres, which in the sympathetic ganglia of all vertebrates end in intracapsular, pericellular plexuses; these forming the histological connection between the preganglionic (cerebro-spinal) fibres and the sympathetic neurons, the post-ganglionic (the post-cellular) fibres being the neuraxes of these sympathetic neurons. It has previously been stated that the intracapsular endings of medullated nerves are found in all sympathetic ganglia—cranial, chain, prevertebral, and peripheral ganglia—in mammalia, and to my knowledge are also widely distributed in other vertebrates; and, as nicotine acts on the smaller peripheral ganglia very much as it does on the larger ganglia, it follows that preganglionic fibres traverse the larger ganglia to reach those more peripherally situated. Kölliker expresses this very clearly in the following statement, which I have translated somewhat freely: "The cerebro-spinal motor fibres (preganglionic fibres) all end in branches which surround the sympathetic cells, and do not end directly in intestine, vessel, etc. Their course may be a longer or shorter one. Some terminate in the nearest ganglia; some pass through several ganglia before they terminate, and may in their course give off collateral branches, through which they may influence a number of cells: still others find their termination only in the most peripherally situated ganglia, in which case it remains an open question whether they may influence cells intermedially situated."

We are now prepared, it seems to me, to formulate the following conclusion: The sympathetic neurons, the cell body and dendrites of which are grouped to form the sympathetic ganglia, form each a terminal link in a neuron chain, of which the second link is formed by a neuron, the cell body of which is situated in the cerebro-spinal axis, and the neuraxis of which leaves the spinal cord or medulla through the anterior or motor root as a small medullated nerve fibre, which fibre ends in an intracapsular, pericellular plexus, surrounding the cell body of a terminal—sympathetic—neuron.

The action of nicotine on the sympathetic ganglia is explained by Langley and others by stating that it paralyses the cell body of the sympathetic neurons. It may, however, be suggested that there would seem to be at hand evidence to show that nicotine does not primarily paralyse the cell body of the sympathetic neuron, but the pericellular plexuses of the preganglionic fibres. This evidence is as follows, and it is based largely on the analogy existing between curare and nicotine. Curare, as is well known, paralyses the ending of the motor neurons in striated muscle tissue. That the ending in the muscle and not the nerve fibre or the cell body of the motor neuron is paralysed is well known. It has also been found (Langley and Anderson) that curare paralyses the sympathetic ganglia ("cells of the ciliary ganglion.") Nicotine paralyses also the ending of motor neurons in striated muscle; its action on the sympathetic ganglia has previously been discussed. It may, therefore, not be out of place to suggest that, since the motor and preganglionic fibres are cerebro-spinal nerve fibres, developing, so far as is known, in a similar manner; and, since further curare and nicotine paralyse the ending of the motor neurons in striated muscle, they paralyse also the ending of the cerebro-spinal (preganglionic) fibres in the sympathetic ganglia.

Ehrlich has drawn attention to the similarity in structure existing between the ending of motor neurons in striated muscle and the pericellular plexuses, ending of the preganglionic fibres in the sympathetic ganglia; and has implied what has above been said in the following statement. After discussing the resemblance in structure and the fact that both endings stain readily in methylene blue, he states, "I think these phenomena may be of importance to the physiologist and pharmacologist, as it is very probable that the end-baskets (pericellular plexuses) may localise poisons other than methylene blue, and may therefore be locally paralysed, like the ending in striated muscle." It seems needless to add that this interpretation of the action of nicotine on the sympathetic ganglia does not in the least affect the many important observations on the sympathetic system which Langley and those working with him have made with the nicotine method; as far as concerns these observations, it matters not whether the cell body of the sympathetic neuron, or the pericellular plexuses (the ending of the preganglionic fibres) surrounding it is paralysed, the results are the same.

As concerns the grey rami communicantes I have no personal observations to offer. They consist, as Gaskell and Langley have shown, largely of non-medullated nerve fibres, although medullated sympathetic nerve fibres, in number varying for the different rami, are also found. It may be stated in a general way that each spinal nerve has a grey ramus, which is intimately connected with the corresponding lateral ganglion. Langley and Sherrington have made some very interesting observations on the distribution of the nerve fibres of the grey rami in two papers dealing with the pilomotor nerves in the cat and monkey. Langley has found that the pilomotor fibres run from the spinal cord in the anterior roots of the spinal nerves, and finds further that "Nicotine annuls the pilomotor effect of stimulating the peripheral nerves. The pilomotor nerves then (like all visceral nerves) are connected at some point of their course with nerve cells." The pilomotor nerves (and the same applies no doubt also to the other nerve fibres in the grey rami) are therefore the neuraxes of sympathetic neurons of the ganglion from which the grey ramus arises. Langley has further shown "that so far as the skin is concerned the distribution of the sympathetic fibres which run to the spinal nerves (grey rami) is the same as that of the sensory fibres of the nerve, and that the distribution of sympathetic fibres of a spinal nerve can, in the main, be determined by dissecting the nerve in its course." The sympathetic nerve fibres of the grey rami are therefore neuraxes of sympathetic neurons, which form the terminal link in a neuron chain, of which the nerve fibres of the white rami are the neuraxes of neurons, which form the second link of the chain.

A word may finally be given to the larger medullated fibres accompanying the sympathetic nerves to the viscera. In methylene blue preparations of sympathetic ganglia relatively large medullated fibres, larger than the preganglionic fibres, may often be traced through a sympathetic ganglion, and may be found here and there in the so-called sympathetic nerves in the periphery. These have been mentioned by

Langley, Elsworth, and Kölliker, and Lenhossek believes to have seen nerve fibres coming from the posterior root ganglion; also fibres going from the geniculate ganglion to the chorda tympani, and from the Gasserian ganglion to the spheno-palatine ganglion. Such fibres are no doubt sensory, spinal ganglion nerve fibres which terminate in the viscera, either, as Kölliker points out, in the Pacinian corpuscles, or, as Smirnow has shown for the heart, in a free ending (end brush) or has been shown by me, for the epithelium of the frog's bladder, where a similar ending occurs.

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STUDIES IN THE METABOLISM OF THE BODY FLUIDS.

BY

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THIS paper takes, with intent, a very general title; for, under the present status of the subject contributions to its study must necessarily be mere fragments, which as they multiply and are pieced together, one may hope to fit ultimately into a perfect whole.

For several years the fluids of the body have offered to the physiologist a fruitful field of investigation, and yet so far its product has been rather of isolated than of related facts, of conditions rather than of causes, of particulars rather than of conclusions.

Reasons for the indefinite quality of these results lie, perhaps, first, in our habitual point of approach. Constantly the attempt has been made to treat with the body fluids as with a tissue possessed of definite histological features, endowed with definite physical properties compounded of definite chemical constituents. Did we follow these nutritive streams more persistently back to their sources, study the fluids of the body, not so much in their avenues of distribution as at their rise in the tissues at large, and particularly in the notably blood-forming organs—a far more difficult task, the results of the study might be more determinate. It is with the hope of emphasising the unstable, tide-like metabolism of the body fluids and of referring certain metabolic events which occur in these nutritive media back to their seats of causation, that these studies have been undertaken.

A further reason for the partial value of our efforts is determined, it may be, by the tendency to study, with too exclusive interest, the blood, to leave out of the account too often its physiological diffusate, the lymph, to overlook the practical identity of the body fluids. It is to the suggestion that the metabolism even of the red blood cell is affected by the ebb and flow of this diffusate that this paper particularly tends.

Its foundation is a series of experiments upon a group of thirteen dogs. The objects of these experiments have been (1) to ascertain something of the physiological effects of variations in blood volume upon the metabolism of the red blood cells; (2) to determine the course and duration of the regenerative processes following hæmorrhages, assisted and unassisted by treatment. Incidentally, and less sympathetically, observations upon the coincident conditions of the leucocytes have been made by the writers' colleague, Dr. George D. Head, of the University of Minnesota, to whom the paper is greatly indebted for this interesting feature; (3) an inquiry into the physiological means by which variations in blood volume are regulated is involved; (4) the value of various experimental and therapeutic imitations of this ebb and flow of volume, both in kind and in method, has been studied, in the hope that some clarifying facts might be added to the confused mass of contradictory evidence upon this subject; (5) related questions are incidentally raised as to the quantity of blood contained in the animal body, as to the degree to which diminution of the blood volume may be sustained, and as to the immediate consequences of extreme diminution to the vascular mechanism.

Contributions to fractional parts of all of these inquiries have been made by a very large number of writers—so large a number, in fact, that the writers will not burden the text of the present paper with extensive references which may be better reserved for a bibliographical table. Acknowledgment will be made merely of those who have more recently dealt with the particular phases of the subject with which this study is concerned.

Nor will the reader burden the Section by a recitation of the illustrative tables which summarise their experiments. It may be of interest to the members present to glance at their figures as the reading is in progress.

Not the least facts of value in connection with these experiments are that the animals experimented upon have been subjected so far as possible to identical conditions, prior to and during observation, and that the entire number have been under study for one and the same period of time. Each animal was first weighed and thereafter fed upon a uniform daily diet of a quantity exactly proportioned to the body weight (20 g. per kilo.). The quantity of the blood in each case was estimated at the traditional proportion for the human being of one-thirteenth of the weight of the body. In each dog subjected to hæmorrhage 33.3 per cent. of this estimated quantity was withdrawn, or about 2.5 per cent. of the body weight. Whatever mode of treatment was adopted after hæmorrhage, the loss was readily sustained in each case.

Professors W. D. Hall and M. D. Eubank, in a recently-published monograph upon the Regeneration of the Blood,[1] report hæmorrhage to the extent of 5 per cent. of the body weight; but earlier experiments have convinced the writers that in too many animals the danger line is passed before this percentage is reached, and that more strictly physiological observations may be made under moderate than under extreme bleeding. It is doubtless true, as many observers have noted, that in some of the lower animals, and probably in the dog, the average total quantity of the blood is greater than in the human; but opinions differ very materially, not only as to the range of variation in the individual, but as to the percentage of loss which may be considered extreme. Cabot states that but 3 to 4 per cent. of the blood mass means a very severe hæmorrhage.[2]

The operations upon these dogs were made under ordinary precautions as to cleanliness. The crural artery was used for the withdrawal of blood; its accompanying vein for transfusion. The ear was selected as the seat of puncture for specimens of blood. Unfortunately one dog (No. 8) tore open, and consequently infected, the wound in the leg, an accident which resulted in local phlebitis and œdema, and caused a protracted deterioration of the blood. Another animal (No. 6), which was subjected to repetitional hypodermoclysis of normal saline for several days, suffered an infection despite the sterilisation of the fluid, and developed an abscess in the subcutaneous tissues of the loin, from which, after evacuation, it rapidly recovered, but with a resultant ebb in the process of blood regeneration. Careful examinations of the blood were made prior to operation and treatment, and upon a series of days subsequent thereto. Metzger's hæmatocrit, v. Fleischl's hæmometer, and the Thoma-Zeiss hæmocytometer were used as the instruments of observation, estimating the red blood cells in mass and in proportion of hæmoglobin, and both the red cells and the leucocytes in point of numbers. The variant element in such observations has been balanced as nicely as possible by repeating and averaging the readings and counts. At each observation two specimens were tested in the hæmatocrit, and the average of the register of both recorded. Similarly, each of two specimens was examined

in the hæmometer by the two writers in succession, and the average of the four readings entered. With the hæmocytometer counts of the red cells were made by each, and the average number registered. In the event of a wide variance in counts or readings new specimens were examined for more accurate results.

In this connection it may be said that, in the writers' judgment, the limitations of accuracy in these instruments are narrowed to an insignificant margin by these precautions.

Twelve of the 13 dogs were bled; No. 13 was not. Two dogs, Nos. 1 and 2, were treated expectantly after hæmorrhage, leaving the metabolic forces unhelped or unhindered to the task of regeneration. Nos. 3 and 4 received a quantity of normal saline solution (0.67 per cent.), equivalent to 3 per cent. of the body weight. Nos. 5 and 6 received from 200 to 300 g. of the same solution, by the same method, at the time of operation and upon each of the following five days—that is, attempts were made to dilute the blood repetitionally through the lymph channels.

Nos. 7 and 8 were the subjects of an intravenous transfusion of normal saline solution, equivalent to 3 per cent. of the body weight, while Nos. 9 and 10 were similarly treated with a similar quantity of an artificial serum made after a formula suggested by Dr. Winfield S. Hall, and containing 3.5 per cent. of cane sugar, 0.06 per cent. of common salt, and 0.005 per cent. of caustic soda dissolved in distilled water. Nos. 11 and 12 received the same artificial serum, in similar quantity, by hypodermoclysis.

The saline solutions, as well as the serum, were made with distilled water, despite the objections of Bosc and Vedel[3] to this medium on the score of its toxicity. Dog No. 13, which was not bled, was transfused intravenously with large quantities of normal saline solution (0.06 per cent.) for the purpose of studying the effects of a hypernormal increase of blood volume upon the number of the blood cells per unit volume, both immediately and remotely.

So much for the technique and method of the work. There remains to epitomise the results, and to draw certain tentative conclusions from them. In part these results and conclusions support prior observations: in part they dissent from them.

EPITOME.

1. Diminution of the blood volume by hæmorrhage, with or without subsequent restoration of that volume by any experimental means, does not lead to any immediate concentration of the blood.

2. A marked diminution of blood volume not only involves the reduction of the number of the red cells per unit volume, through actual and immediate loss, but it leads on to a more remote destruction of these corpuscles, in consequence of the diminution of volume, and without essential reference to the resort or non-resort to treatment. The maximum deterioration is reached in most cases in healthy animals by the third day. In the majority of these experiments, as the tables indicate, this metabolic crisis occurs not later than this period. Under intravenous transfusion—that is, direct artificial dilution of the blood, it is evidently postponed—in most instances until the fifth day. As a consequence of sepsis in dog No. 8, the deterioration was naturally more extensive and prolonged, while in dog No. 6 the tide of regeneration was evidently checked by the same cause after it had begun to rise. The destruction of red cells, as a result of hæmorrhage, was indicated in each case by their distortion, and by the presence of *débris*. The progressively diminishing count of corpuscles might indicate simply the progressive redilution of the blood from the lymph channels, did it not occur under every method of treatment, sooner or later, and in the face of the evidence that a reduction of excessive volume, following transfusion, takes place. Similarly, the reduction of the mass of red corpuscles, as indicated by the hæmatocrit, keeps step in general, with the lessening count and colour, and is certainly greater than can be accounted for merely by the development of the diminutive corpuscles of regeneration. The part which the latter event plays is perhaps as often seen in the lagging testimony of the centrifuge to the actual decrease in the count of cells, on the one hand, as to the later actual increase on the other.

Again, the coincident and progressive, although not always correlated, fall in the contents of hæmoglobin, supports the fact of degeneration following hæmorrhage. The immediate loss in the matter of colour is, as a rule, less marked than it is in the mass and count of corpuscles, but ultimately it usually exceeds both—that is, the hæmoglobin is relinquished and recovered slowly by the cells.

The variation in the percentage of deterioration in different animals is probably less actual than apparent, and largely depends upon the variance of the total quantity of blood in the several cases from the standard estimate adopted as a guide. An exception to this statement, however, must be noted in the results of hæmorrhage, followed by the intravenous injection of either the normal saline solution or the artificial serum in dogs Nos. 7, 8, 9, and 10, an exception the more significant because it is not in accord with the observations of some other experimenters. It lies in the fact that in each of these animals the loss of hæmoglobin and the reduction of the mass of corpuscles are, both immediately and ultimately, but especially in the first instance, far less than the actual diminution by count in the number of the red cells. So uniformly is this true in these 4 cases that it cannot be considered accidental. It is evidently not dependent upon the character of the transfusion fluid, since it occurs after the employment of either the normal saline solution or the artificial serum. It is evidently a consequence of the direct introduction of massive quantities of fluid into the blood vessels, and is apparently brought about in two ways: (1) By the free inbibition of fluid by the corpuscles causing a marked increase of size, and leading up to a relatively great mass as indicated by the hæmatocrit; and (2) by the resultant fixation of the hæmoglobin in this process, giving a relatively greater exhibition of colour in the hæmometer than the actual number of cells would otherwise warrant. It is probably through the agency of these same factors that the course of the degenerative changes in these transfused animals is prolonged, and that the crisis of degeneration is postponed to the fifth day.

In one of the experiments detailed in the recent essay of Dr. Hall,[1] to which reference has already been made, we may note a close approximation to the same phenomenon, the blood losing 55.67 per cent. in count of cells, but 41.70 per cent. in mass of corpuscles, and only 37.60 per cent. in point of colour. That this peculiarity attaching to direct transfusion has not been remarked, so far as is known, by other experimenters, is perhaps chargeable to the resort to so severe bleeding as to cloud the more physiological results in the complete metabolic confusion which ensues. Since, despite this apparent conservation of material, the regeneration of the blood proceeds more slowly in these than in animals otherwise treated, it may be doubted whether these events are to be considered physiologically conservative.

The regeneration of the blood following hæmorrhage in the remaining animal does not seem to have been affected materially by the several methods of treatment adopted, saving, so far as it is assisted by the maintenance of volume, and most favourably when this maintenance is secured by hypodermoclysis. The multiplication of the cells is more rapid than their gain in size or colour, hence both the hæmatocrit record and the hæmometer register lag behind the blood count.

In its entirety this series of experiments testifies to a more rapid regeneration than the blood is usually credited with. Cabot[2] says that recovery from a loss of 3 to 4 per cent. of the blood mass covers a period of from fourteen to thirty days, but in several of these cases we observe an apparently complete restoration within fifteen days, after hæmorrhage amounting to 33 per cent. of the estimated blood weight. Even in those animals in which an infective process has accidentally occurred, regeneration is well in progress within that time.

So far as the white blood cells have been counted, the often observed fact of a leucocytosis consequent upon hæmorrhage is substantiated. It usually undergoes, however, a rapid decline, which is followed by a later rise and by a subsequent fall as regeneration proceeds. In the first instance, the gain of leucocytes is probably due to the flushing out of the white cells from the lymphoid tissues and the lymph channels into the blood stream; in the second place, it is doubtless a true leucocytosis due to the increased activity of the blood-forming organs.

So well recognised is the fact of a physiological interchange of fluid between the blood vessels and the lymph channels that it might be spared mention were the evidences of a definite regulation of this interchange as well established. That such a regulative agency exists is strongly indicated by the preliminary study of the leucocytes in dogs Nos. 7 and 8 under hæmorrhage and subsequent transfusion of normal saline, and by the entire set of observations made upon dog No. 13, without bleeding, but with a massive increase of blood volume by the gradual transfusion of a large quantity of normal saline solution.

Immediately upon the withdrawal of blood from dogs Nos. 7 and 8, a careful account of the leucocytes was made by Dr. Head. It was 9,600 in the one case, and 6,000 in the other. The count was repeated after the withdrawal of an estimated one-third of the entire mass of blood, and it was found that a maintenance of volume and a consequent dilution of the blood from the lymph channels had immediately taken place, which by the evidence of the count was probably compensatory for the loss—that is, the count was 6,300 in dog No. 7, and 2,600 in dog No. 8. It does not appear that this immediate dilution can be accounted for in any other way. But that is not all. Transfusion speedily followed a normal saline solution, in excess by 10 per cent. of the weight of the blood withdrawn, being introduced into the veins. A third count of the leucocytes in each case was had immediately after the transfusion was completed, and it was proved that, despite the careful addition to the blood of 475 g. of the solution in the one case and 590 g. in the other, no material further dilution of the blood had taken place. The count, carefully verified, was 6,000 in dog No. 7, and 2,300 in dog No. 8. In other words, the lymph tide, upon the incoming of the saline solution, had set back toward the lymph channels—or the saline solution had passed by osmosis into the lymph spaces—so rapidly as to re-establish once more the equilibrium of the volume of blood. Some part, perhaps, of the transfusion fluid may have been imbibed quickly by the red cells.

The possibility of variation in blood volume, the limits of this variation determined by the capacity of the lymph channels, and again the bounds of this physiological interchange are strikingly illustrated in the case of dog No. 13. This animal was not bled, but was slowly transfused with normal saline solution to the amount of 575 g. in order that the immediate and remote influences of an increase of volume might be tested with the blood counter. The results are interesting. Counts of red and of white cells were made prior to transfusion. At successive intervals during the introduction of fluid into the veins the counts were repeated. When 120 to 250 g. of the solution had entered the increase of blood volume was evidenced by dilution, the number of red cells per unit volume diminishing by 28 per cent. But, at the same time, the leucocytes had increased despite the dilution—an event which seems possible of explanation only by supposing that the increased tide of blood had flushed the leucocytes out of the capillary labyrinths of the spleen and bone marrow.

When 350 to 450 g. of fluid had been introduced a reaction against the excessive volume in the vessels was shown by an increase of the red corpuscles and an accompanying decrease of the white cells. The number of the red cells had risen nearly to the original estimate; that of the white cells had materially fallen. This, again, can mean but one thing; the tide was going out toward the lymph channels and was carrying the leucocytes with it. After the transfusion of from 550 to 575 g. had been completed the figures were again reversed. Another increase of volume and a redilution had begun; the count of the red cells fell almost to its exact minimum again, while that of the white cells, curiously enough, again rose. This latter fact seems to indicate that now the engorged lymph channels were pouring back their excess of fluid, with its contained leucocytes, through the lymphatic trunks into the great veins. Within two days the proportion of fluid had readjusted itself and had restored the red-cell count per unit volume. The effects of the temporarily increased blood-volume upon the development of new cells was seen in the tendency of the metabolic pendulum to swing toward an apparently actual increase of numbers. This reaction toward a hyper-metabolism has been noted repeatedly in the course of recovery after hæmorrhage, and is indicated by the maximum regeneration observed in a part of the present series of experiments.

So far as the degeneration of the blood which follows hæmorrhage is concerned, it is apparently not lessened nor materially varied by hypodermoclysis of either a normal saline solution or an artificial serum. It is perhaps aggravated by repetitional dilution through the lymph channels, as practised in dogs Nos. 5 and 6. Direct transfusion of fluids of any character, and in large quantity seems to modify the deteriorative process in respect to the size of the cells and to their loss of colour, a suggestion already given, but it does not appear that this is an economic result. It does not hasten, rather it postpones, regeneration. It may be doubted, as others have urged, whether a massive injection of fluids of any kind into the blood vessels is physiologically correct. Hypodermoclysis is in closer imitation of physiologic processes. It reinforces the supply of fluid in the lymph spaces, upon which the depleted blood draws; while, at the same time, it leaves the ebb and flow of this fluid under its ordinary means of control. It puts an increase, so far as the blood volume is concerned, on demand, without putting the vascular mechanism under compulsion of its acceptance. The range of capacity is wider in the lymph channels than in the blood vessels. And when it comes to a choice of suitable materials to reinforce the blood, it seems evident that the opportunities of physiological selection are better safeguarded upon the one side than upon the other. Otto Weiss[4] has stated very recently that blood serums which, when introduced directly into the blood, are violently toxic, are so, to a much less extent, when subcutaneously employed.

So minutely has the choice of transfusion fluids been discussed by many writers who deserve bibliographical mention, that any new contribution to the question seems superfluous. The paper by Weiss, just referred to, is corroborative of the belief, now generally entertained, that the blood or the blood serum of any animal, even of like species, may be "foreign" to the organism of another; that it is frequently destructive of that organism, and, at the least, puts upon it the burden of the destruction and elimination of much foreign material.

Upon the other hand, Bosc and Vedel[3] have condemned the use of distilled water for purposes of transfusion, and upon essentially the same grounds. It acts as a foreign agent, serving to dilute the blood salts, and thus tending to precipitate the globulins. These writers are impressed, indeed, with its actual toxicity, and that, so far as to condemn its employment as a solvent even of sodium chloride. "It ought to be rejected," they declare, "as a vehicle for any substance introduced into the blood." In the present series of experiments it has been freely used as a solvent both in the normal saline and of the constituents of the artificial serum, and, so associated, it does not appear that any disastrous consequences can be attributed to its use.

The presence of cane sugar in the artificial serum already described is unsupported by theory or by any evidence of its utility. That the renal filter finds it difficult to dispose of is no testimony to its nutritive worth. Its place in such a fluid might be usefully filled perhaps by glucose. Practically this artificial serum is to all intents and purposes a normal saline solution, to which, according to the writers' view, an indifferent substance has been added.

The value of the normal saline solutions, of proportions varying with the multitude of observers of their action, depends doubtless upon the fact that, within reasonable limits of salinity, they introduce no foreign ingredient into the blood. The dangerous results attributed in a few instances to their use might obtain, and indeed have obtained, with the use of other agents. They are generally traceable to a too rapid or a too massive transfusion of fluid, which throws so heavy a burden suddenly upon the heart that it fails of readjustment. Hans Koeppe,[5] of Giessen, has endeavoured to settle anew the question of a physiological saline solution, insisting that it should be determined by the qualities of the tissue at a given time and in a given individual, and that the true physiologic saline is isotonic or indifferent-insusceptible to osmotic pressure; in other words, a fit subject for the undisturbed action of physiological selection. The practical difficulty which stands in the way of the adoption of this theory lies in the actual determination of the isotonic

Dog No. 1.

Initial weight, 14.976 kilos. Terminal weight, 14.982 kilos. Quantity of blood withdrawn, 385 g. No treatment following operation.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	46.0	72	5,737,500	14,000	Average of two estimates.
After operation:	—	—	—	10,300	
1st day	35.0	52	4,225,000	—	Cells broken.
3rd ,,	32.0	46	3,887,500	16,000	Crisis of deterioration.
5th ,,	37.0	49	4,300,000	—	Cells more perfect.
7th ,,	39.5	54	4,225,000	11,300	
9th ,,	38.5	56	4,587,500	—	Cells small.
12th ,,	42.5	*74	6,525,000	—	
15th ,,	45.0	76	*6,735,000	—	

Percentages of Loss and Deterioration.

Period.	Red Cells, in Mass.	Hæmoglobin.	Red Cells, in Number.	Remarks.
1st day ...	23.92	27.78	26.37	
3rd ,, ...	30.44	33.34	32.25	Maximum loss.

* Regeneration complete by 12th to 15th day.

Dog No. 2.

Initial weight, 13.824 kilos. Terminal weight, 12.584 kilos. Quantity of blood withdrawn, 355 g. No treatment following operation.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	43.0	61.0	5,225,000	13,600	Average of two estimates.
After operation:	—	—	—	5,000	
1st day	30.0	41.5	4,150,000	—	Cells broken.
3rd ,,	28.0	36.0	3,025,000	10,000	Crisis of deterioration.
5th ,,	31.5	40.0	3,250,000	—	
7th ,,	34.5	47.0	4,137,500	8,300	
9th ,,	36.0	50.0	4,562,500	—	
12th ,,	39.0	56.0	*5,762,000	—	
15th ,,	40.5	58.0	5,612,500	—	

Percentages of Loss and Deterioration.

Period.	Red Cells, in Mass.	Hæmoglobin.	Red Cells, in Number.	Remarks.
1st day ...	30.24	31.97	30.41	
3rd ,, ...	34.89	40.79	42.11	Maximum loss.

* Regeneration complete by 12th day.

relations of the living tissue. The experimenter is probably not far wrong in the choice of the average standard solution (0.67 per cent.). These saline solutions lend themselves readily to the interchange between blood and lymph, and offer a further argument for hypodermoclysis. The animals of this series treated freely by that method, with whatever fluid, show a steadier progress of blood regeneration than any others, and not the least factor in this result may be the readier regulation of the volume of the blood under such conditions.

CONCLUSIONS.

To recapitulate: 1. Hæmorrhage does not involve a concentraton of the blood.

2. Blood loss leads not only to immediate dilution, but to a subsequent degeneration of the cellular elements of the blood.

3. The course of this degeneration is rapid; it is not checked either by physiological or experimental dilution. Intravenous injection of large quantities of fluid interferes with its rapid and regular progress, but is not a conserving influence.

4. Regeneration is far more rapid after moderate bleeding than is usually admitted.

5. It is most favourably affected by a maintenance of blood volume through the lymph channels.

Dog No. 3.

Initial weight, 13.824 kilos. Terminal weight, 12.284 kilos. Quantity of blood withdrawn, 354 g. Treatment: Hypodermoclysis of normal saline (0.67) 425 g.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	47.5	63.0	6,497,500	11,600	
After operation:	—	—	—	7,000	
1st day	37.5	47.0	5,088,750		
3rd ,,	26.5	34.0	3,431,250	11,300	Crisis of deterioration.
5th ,,	31.5	43.0	3,862,500	—	
7th ,,	31.5	43.5	4,100,000	—	
9th ,,	41.0	61.0	5,150,000	15,600	
12th ,,	38.5	60.0	4,950,000	—	
15th ,,	38.0	60.0	5,225,000	—	

Percentages of Loss and Deterioration.

Period.	Red Cells, in Mass.	Hæmoglobin.	Red Cells, in Number.	Remarks.
1st day	21.08	25.40	21.53	
3rd ,,	44.22	46.04	47.20	Maximum loss.

Regeneration incomplete on 15th day.

Dog No. 4.

Initial weight, 22.912 kilos. Terminal weight, 22.508 kilos. Quantity of blood withdrawn, 587 g. Treatment: Hypodermoclysis of normal saline, 705 g.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	51.0	74.0	5,886,850	16,000	
After operation:					
1st day	37.5	49.0	4,237,500	14,000	
3rd ,,	29.0	37.0	3,562,500	22,000	Crisis of deterioration.
5th ,,	34.0	52.0	4,262,500	24,300	
7th ,,	32.0	54.0	4,537,500	25,600	
9th ,,	42.0	60.0	5,187,500	—	
12th ,,	39.0	62.5	5,218,500	—	
15th ,,	41.5	65.5	*6,587,500	—	

Percentages of Loss and Deterioration.

Period.	Red Cells, in Mass.	Hæmoglobin.	Red Cells, in Number.	Remarks.
1st day ...	26.48	33.97	28.02	
3rd ,, ...	35.56	41.27	39.49	Maximum loss.

* Regeneration, in point of numbers, complete by 15th day.

Dog No. 5.

nitial weight, 15.104 kilos. Terminal weight, 14.526 kilos. Quantity of blood withdrawn, 354 g. Repetitional hypodermoclysis of 300 g. normal saline for five days.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	45 0	63.0	6,250,000	—	
After operation:					
1st day	28.5	35.5	3,423,500	18,600	
3rd ,,	25.0	32.0	3,125,000	14,300	Crisis of deterioration.
5th ,,	29.0	37.5	3,550,000	16,600	
7th ,,	33.0	39.0	3,643,783	—	
9th ,,	30.5	39.0	3,887,500	—	
12th ,,	39.0	56 5	4,175,000	—	
15th ,,	41.0	61.5	4,475,000	—	

Percentages of Loss and Deterioration.

Period.	Red Cells, in Mass.	Hæmoglobin.	Red Cells, in Number.	Remarks.
t day ...	36.67	43 66	45.29	
d ,, ...	44.25	42.08	49.92	Maximum loss.

Regeneration incomplete on 15th day.

Dog No. 6.

itial weight, 13.568 kilos. Terminal weight, 12.884 kilos. Quantity of blood withdrawn, 348 g. Treatment: Repetitional hypodermoclysis of normal saline, 300 g. for five days.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before eration	54.0	79.0	7,150,000	—	
After eration:					
1st day	35.5	47.5	4,437,500		
3rd ,,	30.0	36.0	3,350,000	14,000	Crisis of deterioration.
5th ,,	35.5	42.0	4,037,500	16,000	
7th ,,	36 5	57.0	4,975,000	—	
9th ,,	43.0	66.0	5,862,500	41,600	Abscess in back evacuated and irrigated.
12th ,,	37.5	51.0	4,125,000	—	Results of abscess.
15th ,	38.5	57.0	4,531,255	—	

Percentage of Loss and Deterioration.

eriod.	Red Cells, in Mass.	Hæmoglobin	Red Cells in Number.	Remarks.
day ...	37.9	39.88	37.94	
,, ...	44.45	55.70	54.01	Maximum loss.

Regeneration incomplete by 15th day; postponed by sepsis.

. Physiological variations in blood volume are limited; eir ebb and flow through the lymph circulation are of the ist nicely regular order.

. Maintenance of blood volume is best secured by hypo-moclysis as a method of treatment and by the normal ine solution as an agent of transfusion. Artificial serum ractically a saline solution, and of doubtful value for its gar content.

8. Blood quantity is variable. Profound loss of blood may be sustained, but the greater the loss the more markedly are the regenerative processes paralysed thereby.

Dog No. 7.

Initial weight, 15.360 kilos. Terminal weight, 14.564 kilos. Quantity of blood withdrawn, 394 g. Treatment: Intravenous transfusion of normal saline, 472 g.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	55.0	81.0	7,887,500	9,600	
After operation:					
	—	—	—	6,300	
	—	—	—	6,000	After transfusion.
1st day	44.0	71.0	4,425,000	26,300	
2nd ,,	—	—	—	16,600	
3rd ,,	38.5	60 0	4,250,000	13,000	
5th ,,	38.0	56.0	4,022,625	7,300	
7th ,,	48.5	63.0	5,032,500	14,300	
9th ,,	49.5	65.0	5,337,500	—	
12th ,,	41.5	63.0	5,287,500	—	
15th ,,	42.5	63.5	5,269,500	—	

Percentages of Loss and Deterioration.

Period.	Blood Cells, in Mass.	Hæmoglobin.	Blood Cells, in Number.	Remarks.
1st day ...	20.00	12.35	43.90	
5th ,, ...	31.91	30 87	49.00	Maximum loss postponed to 5th day.

Regeneration incomplete on 15th day.

Dog No. 8.

Initial weight, 19.200 kilos. Terminal weight, 14.336 kilos. Quantity of blood withdrawn, 495 g. Treatment: Intravenous transfusion of normal saline, 590 g.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	56.0	89.0	7.775,000	6,600	
After operation:					
	—	—	—	2,600	
	—	—	—	2,300	After transfusion.
1st day	47.5	74 5	4,137,500	15,600	
2nd ,,	—	—	—	20,600	
3rd ,,	37.5	60 0	4,592,000	10,300	Dog septic from wound in the leg.
5th ,,	31.5	46.0	3,875,000	21,600	
7th ,,	28.5	26.5	2,575,000	8,000	Leg œdematous from phlebitis.
9th ,,	23.5	37.0	3,087,500	—	Leg improving.
12th ,,	35.3	52.0	4,050,000	—	,,
15th ,,	38.5	57.0	5,962,500	—	

Percentages of Loss and Deterioration.

Period.	Red Cells, in Mass.	Hæmoglobin.	Red Cells, in Number.	Remarks.
1st day ...	15.18	16.30	46.79	
7th and 9th days ...	58.04	*70.23	*66.89	Maximum loss.

Regeneration incomplete by 15th day,
* 7th day

9. The primary increase of leucocytes following hæmorrhage and blood dilution, with or without bleeding, is probably due to a flushing out of cells pre-existent in the capillary labyrinths of the blood-forming organs or in the lymphoid tissues. Ths secondary increase seems to be a true leucocytosis incident to the activities of regeneration.

Dog No. 9.

Initial weight, 18.048 kilos. Terminal weight, 17.834 kilos. Quantity of blood withdrawn, 465 g. Treatment: Intravenous transfusion of 530 g. of artificial serum.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	47.0	64.0	6,137,500	—	
After operation:					
1st day	39.0	53 0	4,150 000	—	
3rd ,,	34.5	48.0	4,050,625	25,300	Crisis of deterioration.
4th ,,	—	—	—	20,800	
5th ,,	36.5	50.0	4,375,000	10,300	
7th ,,	44 5	63.0	5,275,000	21,600	
9th ,,	43.5	63 0	5,225,000	8,000	
12th ,,	42.5	62.0	5,212,500	—	
15th ,,	43.5	*68.0	*5,975,000	—	

Percentages of Loss and Deterioration.

Period.	Red Cells, in Mass.	Hæmoglobin.	Red Cells, in Number.	Remarks.
1st day ...	17.03	17.19	32 39	
2nd ,, ...	26.59	24 07	34.01	Maximum loss.

* Regeneration nearly complete on 15th day.
N.B.—This dog was a very difficult bleeder.

Dog No. 10.

Initial weight, 14.976 kilos. Terminal weight, 13.850 kilos. Quantity of blood withdrawn, 384 g. Treatment: Intravenous transfusion, 460 g. of artificial serum.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	50.5	72.0	7,325,000	—	
After operation:					
1st day	44.5	63.0	4,087,500	35 600	
2nd ,,	—	—	—	15,800	
3rd ,,	30.0	44.0	3,250,000	15,600	Crisis of deterioration.
5th ,,	31.5	42.0	4,212,500	15,300	
7th ,,	34.0	51.5	4,587,500	26,300	
9th ,,	36.0	55.0	4,666,250	—	
12th ,,	47.5	61.5	5,437,500	—	
15th ,,	48 5	70.5	6,300,000	—	

Percentage of Loss and Deterioration.

Period.	Red Cells, in Mass.	Hæmoglobin.	Red Cells, in Number.	Remarks.
1st day ...	11.89	12.50	44.20	
3rd ,, ...	40.60	†41.67	55.64	Maximum loss.

Regeneration incomplete on 15th day.
† 5th day.

Dog No. 11.

Initial weight, 25.728 kilos. Terminal weight, 25.224 kilos. Quantity of blood withdrawn, 660 g. Treatment: Hypodermoclysis of artificial serum, 760 g.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	54.0	79.0	6,212,500	9,000	
After operation:	—	—	—	8,000	
1st day	41.5	56 5	4,550,000	7,300	
3rd ,,	31.5	44.0	3,494,500	—	Crisis of deterioration.
5th ,,	41.5	57 0	5,400,000	6,600	
7th ,,	42.5	61.0	5,425,000	7,300	
9th ,,	46.5	64.0	5,975,000	5,600	
12th ,,	50.0	75.0	*6,425,000	—	
15th ,,	*53.5	*80.0	†7,850,000	—	

Percentages of Loss and Deterioration.

Period.	Red Cells, in Mass.	Hæmoglobin.	Red Cells, in Number.	Remarks.
1st day ...	23 15	28 44	26.77	
3rd ,, ...	41.36	44.32	43.75	Maximum loss.

* Regeneration complete on 12th to 15th day. † Hypermetabolism.

Dog No. 12.

Initial weight, 27.520 kilos. Terminal weight, 27.064 kilos. Quantity of blood withdrawn, 750 g. Treatment: Hypodermoclysis of artificial serum, 815 g.

Observations.

Period.	Hæmatocrit.	Hæmometer.	Hæmocytometer.		Remarks.
			Red.	White.	
Before operation	55 0	78 0	6,781,000	24,600	
After operation:	—	—	—	16,000	
1st day	44.0	61.0	5,343,750	—	
3rd ,,	38.5	44 0	4,250,000	—	Crisis of deterioration.
5th ,,	37 0	50.0	4,400,000	16,000	
7th ,,	41.5	54.0	4,962,500	16,300	
9th ,,	42.5	64.0	6,485,000	15,600	
12th ,,	48.5	70.0	*7,025,000	—	
15th ,,	50.5	*78.0	‡†8,325,000	—	

Percentages of Loss and Deterioration.

Period.	Red Cells, in Mass.	Hæmoglobin.	Red Cells, in Number.	Remarks.
1st day ...	20 00	23.36	21.20	
3rd ,, ...	‡32.73	43.59	37.33	Maximum loss.

* Regeneration complete in twelve to fifteen days. † Fifth day. ‡ Hypermetabolism.

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Dog No 13.

Initial weight, 17.920 kilos. Terminal weight, 17.960 kilos. No blood withdrawn. Treatment: Intravenous transfusion of normal saline, 575 g.

—	Hæmocytometer.	
	Red.	White.
Before transfusion	8,800,000	7,300
After transfusion of normal saline, 150 g.	6,851,500	8,600
,, ,, ,, ,, ,, 250 g.	6,250,000	9,300
,, ,, ,, ,, ,, 350 g.	8,125,000	4,300
,, ,, ,, ,, ,, 450 g.	8,412,500	2,660
,, ,, ,, ,, ,, 550 g.	7 000 000	5,000
,, ,, ,, ,, ,, 575 g.	6,350,000	7,700
1st day following transfusion	7,875,000	13,600
3rd ,, ,, ,, ...	*8,850,000	
5th ,, ,, ,, ...	†8,975,000	

* Regeneration complete. † Hypermetabolism.

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SECTION OF PSYCHOLOGY.

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ACTIVE TREATMENT IN GENERAL PARALYSIS OF THE INSANE.

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The medical profession, while holding different views of the origin of general paralysis, has but one opinion about the result. When the disease is far enough advanced to be diagnosed with certainty the patient is doomed. If this does not necessarily mean no treatment it practically comes to that; a nurse at home, a companion for travel if permissible, or a hospital in which to detain him if unsafe, or not readily provided for elsewhere. There are anodynes to calm excitement, care to be exercised in surroundings to restrain violent outbreaks, he is to be kept from harm, and diverted with side shows as he passes; but at best these are only accompaniments to that stately procession of death which he proudly enters upon in his seeming wealth and affluence of life; moving on, now with retarded step, again at accelerated pace, but always in one direction; on, past jewelled palaces that make Aladdin's poor; down, through narrowing vistas that slope to intellectual drivel and physical wreck; with tottering footsteps coming at length to a bodily decay so loathsome, and a mental night so profound that the valley of the last shadow seems light by contrast where it opens an avenue of glad release.

So universal is the acceptance of the verdict of "hopeless" that no prudent physician will allow himself to give any encouragement to the friends of the victim of this fell disease. The expectant treatment followed here has been grimly but truthfully defined as "the contemplation of death." Physicians, like men in a boat about to be swept over a fall, paralysed with despair, make no effort. Utter failure in our professional work, as in our lives, is sad enough, but failure with no effort to avert it is abhorrent to our nature. We say impossible of cure, and to-day the man bitten by a rabid animal turns with something more than hope to the legacy which Pasteur has left to the world; the study of antagonistic germs is only in its dawning, what its high noon may disclose you and I will not be here to know.

We study pathology and are beginning to get hints of the working of disease, but how limited our knowledge in all this. Nature now and then, moving through ways that we know not of, cures the disease and we get the credit. We take the credit fast enough, but, alas! we do not profit by it, and had we clairvoyant sight we might discern the fine scorn on her face for the fools who do not heed her lessons.

Probably there is no one who has had opportunity for clinical observation of mental diseases extending over a term of years who has not met with one or more cases of general paralysis where the progress of the disease seemed arrested for a time, with sometimes a distinct recession of the active symptoms; then, after a varying interval of weeks or months, it returned, often progressing more rapidly than before, this resulting from no change of treatment, and by what means arrested, or through what morbid processes again established, the observer was ignorant.

Now if in the line of a somewhat active treatment of these cases one should find such arrests occurring in a much higher percentage than they do spontaneously, might he not hope that he had in some crude fashion followed Nature's leading in bringing about arrests of the disease? Might he not be justified in publishing his treatment, to the end that trained and careful observers elsewhere might be able, each one for himself, to confirm or disprove his conclusions? In this despair of science, if it can be shown, even in a small percentage of the cases, that the downward progress of the disease can be arrested, for a time at least, by any form of treatment, is not this a gain?

This then must be my excuse for detailing here what I venture to call the St. Elizabeth method. I bring it to your notice asking for it a fair trial at your hands, in the hope that if you find the personal equation has not vitiated the result, you may agree with me that where an arrest of the active symptoms can sometimes be brought about by active treatment, it is not unreasonable to expect to now and then meet a case where, granting that brain cells once destroyed cannot be renewed, the return of the malady can be indefinitely postponed.

During the past three years a number of cases of general paralysis (and it should be said that most of them were in the advanced stages of the disease) have been taken from the general wards of the Government Hospital at Washington, D.C., and placed in the Toner Building, an infirmary under the care of Dr. Geo. W. Foster, where they have received active treatment. The main therapeutic agent has been the cold, wet pack, always accompanied by cold to the head in the form of icebag or wet towel. The duration of the pack is from one to three hours, details of covering, need for artificial heat or cold being always determined by use of thermometer. The pack is followed by massage and sometimes by a brief douche. This treatment need not interfere with special treatment, such as iodide or mercurial inunctions, or whatever the individual case may seem to require. (For details of treatment *vide infra*.).

Whatever may be the permanent effect of the wet pack on the cerebral tissues in general paralysis, there is generally marked benefit in calming present excitement, promoting sleep, removing suddenly occurring mental confusion and excitement of vascular origin. A very interesting case showing its efficacy in transitory mania is given in Dr. Sheppard's lectures on madness. Dr. Foster, who has carefully studied these cases at St. Elizabeth, concludes that the treatment seems to act primarily by the sudden application of cold to the whole surface of the body as a direct cerebral stimulant.

1. By its simultaneous action upon the millions of cells making up the cortical body-sensation-area the excitations, no longer transmitted through a few paths of least resistance, force the partially-obstructed pathways to the normally associated higher centres, and so give, as it were, a shock or jar tending towards normal function.

2. The action of the heart is strengthened, vaso-constriction of spasmodic character is relieved, and vascular tonus equalised.

3. By stimulation (by the cold) of the vaso-dilator nerves, which lessens vascular resistance to the heart and relieves venous, capillary, and lymphatic engorgement.

4. By the derivative effects of surface hyperæmia upon the internal organs.

5. By slight vascular depletion and quickened absorption through moderate sweating.

6. These influences all act locally upon the cerebral tissues in a most important manner by relieving the engorged perivascular lymph spaces and their intercellular connecting channels, and are the assigned causes of the mental calm and refreshing sleep which so frequently attend the use of the pack.

The whole number of cases of general paralysis under observation at the Toner Building from July 1st, 1894, to July 1st, 1897, was 14. For sufficient reasons, based on their condition, 4 were not subjected to the wet pack treatment. These are all dead. Of the 10 thus treated, 3 are dead and 7 are now living. The following is the summary of results in these 10 cases:

Results of Treatment (St. Elizabeth) in General Paralysis: 10 cases, Males.

Condition after Treatment.	Living.	Dead.	Remaining in Hospital.	Remarks.
Complete arrest, continued to present time	2	—	1	One has left to resume business.
Marked improvement ...	2	2	2	One now failing (Aug. 28th, 1897).
Some improvement	2	—	2	—
No improvement	1	1	1	—
Total...	7	3	6	

The number of these cases is small; the Government hospital at Washington is not advantageously situated as many hospitals in the neighbourhood of large cities to receive cases of general paralysis; but small as their number is, these cases, with a marked improvement in more than one-half, should teach something. They are not put forward, as has been erroneously stated, claiming that a cure for general paralysis has been found, but as new evidence discovered affording ground for an appeal to the medical profession to carefully weigh the results, and see if they do not afford some encouragement to attempt a more active treatment of general paralysis in the hope that a way may yet be found out, not alone to arrest the destructive processes at the brain, but to so open up the closed lymph spaces as to restore the circulation, and to so improve cell nutrition as to enable Nature to build again the cerebral tissues and bring back the integrity of the mind.

DETAILS OF TREATMENT.

Briefly the details of a cold wet pack, as used in this treatment, are as follows: Use as many blankets as are considered necessary to produce a good reaction in your patient, placing one blanket above another smoothly spread out upon the bed; over all place a linen sheet wet in cold water and lay the patient on that. In wrapping the sheet about him take care to separate adjacent parts, as arms and legs, and limbs from body by folds of the sheet; then wrap in the blankets, tucking closely fold by fold. The patient's head should be wet before he lies in pack, and after he is comfortably bestowed in it a wet towel should be wrapped about his head unless an ice cap is deemed better. If patient is very feeble and temperature of the surface subnormal more blankets will be required, or perhaps hot bottles at feet. As a cardio-vascular tonic the effect of the pack is enhanced in suitable cases by a short fan douche, beginning with a temperature of 70° F. for five seconds and lowering temperature one degree each day, following this with friction to the reaction point. Massage is usually given one half hour after pack. In cases of active excitement the patient may be taken from pack, rubbed or douched and put directly back. This while the excitement lasts which under this treatment is seldom beyond twenty-four hours. If pyrexia is present it should be relieved by cool bath or short packs, with light covering, before the pack, as above detailed, is given, otherwise the pyrexia is aggravated. Temperature should be taken twice a day, and and rise promptly met by ice to the head. Bowels should be carefully attended to to avoid auto-intoxication.

DETAILS OF CASES.

Details of cases of general paralysis treated in the Toner Building, at Government Hospital, at Washington, D.C., from July 1st, 1894, to July 1st, 1897.

The four following cases were not treated by the wet pack method:

W. O. S., admitted to Toner Building July 28th, 1896; died August 23rd, 1896.

E. S., admitted to Toner Building September 26th, 1896; died October 25th, 1896.

J. L., admitted to Toner Building August 27th, 1894; died February 23rd, 1896.

A. M., admitted to Toner Building November 29th, 1895; died March 31st, 1896.

These were all in the advanced stage of the disease. The first two were too far gone to justify the active treatment, and died within a month of admission. The third lived for more than a year, but so feeble, and mind so entirely gone, as to render it useless to attempt anything. Necropsy showed convolutions all shrunken, and surface of brain consistent with diagnosis. The last case lived for four months, but was complicated with an active colitis that did not yield to treatment, and precluded the resort to active treatment.

The ten following cases were all treated with wet pack, massage, etc.:

H. S. C., admitted to Toner Building, May 4th, 1897: This man had been admitted to the Government Hospital October 10th, 1896, and improved markedly on rest and tonics. He was permitted to go home on a visit and returned in a stuporose condition from which he never emerged. The treatment had no effect, and he died on the fourteenth day. No necropsy could be obtained.

J. P. G., aged 47, plumber and gasfitter, married, good habits. Disease of nine months' duration. Lost his property, and became despondent morose; attempted suicide. Admitted to the Government Hospital July 3rd, 1896. Dementia, memory weakened, perception greatly impaired; laughs in a silly manner at trifles; talks with a visible effort in pronouncing words; tongue tremulous. There was no improvement, and he was transferred to the Toner Building, February 24th, 1897. After six months of treatment there is no improvement, his general condition being worse than on admission. Frequent attacks, attended by excitement, mental confusion, and insomnia, with a rise of temperature varying from 0.5° to 2.5° F. This is the only observed case where active treatment for six months has failed to show some improvement.

A. S. McN. Transferred to Toner Building in the third stage of general paralysis February 2nd, 1894, bedridden, and not having spoken for months; rapidly failing physically. Under the treatment now, at the end of three years and a half, he has improved in bodily condition, has regained considerable motion, and now and then expresses himself in words. In more than three years past there has been no downward progress, although in the three previous years he had gone down steadily from an athlete to complete helplessness.

J. K. M., aged 38, married. This, a quite typical case, had been diagnosed as general paralysis in a Western hospital previous to admission to the Government Hospital, December 26th, 1894. Showed slight hitch in speech, tremor of tongue, contracted pupils, and extravagant delusions of wealth and authority. The disease slowly progressed with some physical failure, accompanied by untidiness and times of being violent. January 18th, 1897, transferred to Toner Building, the disease being then of over two and a half years' duration. Under treatment he has shown notable improvement in physical condition, in tidiness of habits, as well as diminution of excitement and irritability. Extremely contracted pupils seem to indicate continued irritation of cortex. Treatment is continued in the hope of further improvement.

P. D., aged about 40, admitted without history, October 19th, 1893. Condition one of chronic dementia; puts clothing off and on; untidy in habits; acts childish; statements incoherent; talks of wife and children and property. April 20th, 1894, transferred to Toner Building, having become bedridden, with bedsores, and exhibiting the usual symptoms of general paralysis of the third stage, the traces of delusions of grandeur remaining. Treatment: Packs, tonics, massage, and full nourishment. In six months he had gained many pounds, became tidy and cheerful, able to do independently some light ward duties. At his best, memory very defective, mental processes feeble, but delusions gone. During the last two years has had several attacks, attended by sudden confusion of mind and loss of motor power. Attacks generally of short duration, but the last one much longer. For three years he has been able to resist the disease, which at the commencement of that time seemed to have almost reached its climax. Now, in August, 1897, he had begun to fail rapidly, both mentally and physically, and seems like to shortly succumb.

H. R. A case of rapidly-progressing general paralysis, probably of specific origin, in a young married man. Had been insane over two years when admitted, May 17th, 1893, the specific treatment had been exhausted on him to no purpose. He was soon bedridden in the third stage of the disease, and removed to Toner Building, November 9th, 1893. Under the wet pack, massage, and tonic treatment he improved markedly, was again able to walk about, his mental condition approximating normal, but with weakened memory and impaired mental activity. Epileptiform seizures occurred, from which he rallied more than once to something like former condition, but on March 5th, 1895, an attack terminated fatally. No necropsy could be obtained.

R. M., admitted October 22nd, 1895, suffering from general paralysis of two years' standing, diagnosed in Tennessee State Hospital, 1894. Age 47; married; intemperate habits. Delusions of grandeur, with a wealth of millions. On admission, confused; repeats stories without knowledge that he has told them; has gait and speech of a paretic. He failed in motion, lost flesh, grew more unsteady in gait, and after some weeks in bed was transferred to the Toner Building, January 8th, 1896. Irritable and morose; muttered incoherently; extremely untidy in habits: axillary temperature subnormal; pupils dilated, and unequal. After some months of wet pack, cold douche massage, and tonic, with egg-nogg, milk, etc., there was improvement in physical and mental condition, but still untidy. He was placed on opium treatment, with continuance of packs, etc. Opium in full doses gradually increased; then diminished for a week and discontinued. Habits became more tidy, and by watching and care ceased to give trouble. Suffered severely from ulcerative colitis in the summer of 1896, a fatal termination being anticipated. He ultimately recovered from this, regained strength and flesh, and improved still more mentally. Talks with considerable intelligence, cheerful, sometimes jocose, memory quite defective, judgment that of a child. Presence and manners gentlemanly. Made a week's visit home this summer (1897) with satisfaction to all concerned.

C. H. H., aged 48, married, captain of night watch in Department. Admitted April 1st, 1892, with the expansive ideas and physical signs of a typical case of general paralysis. Marked improvement followed rest and hospital regimen, the disease seemed arrested, all the active symptoms were in abeyance, and at the end of six months he returned to the Department, a less responsible place having been found for him. He

continued to do duty until, losing his place, he became again excited, and was returned to the hospital July 11th, 1894. Again he quieted down, and began to assist at light work on the ward, but mentally he lost ground, and epileptiform seizures appeared, each one leaving him physically and mentally on a lower plane. He went down rapidly, became bedridden, ceased to talk, and now, in the fourth year of his malady, was near the end. Removed to the Toner Building October 3rd, 1895, and subjected to the treatment. Improvement was wonderful as unexpected. In less than three months was up and about the ward, talking rationally, doing his work again, and with much of his old mental vigour. Suddenly epileptiform seizures returned, and he died June 1st, 1896, of general paralysis, having come nearer to spontaneous recovery in the early stages than any other paretic in the hospital for a decade, and afterwards, in the third stage, brought back by active treatment. Unfortunately no necropsy could be obtained.

J. B. McD., admitted March 2nd, 1894, with the characteristic symptoms of general paralysis. This case, as well as the preceding one, were detailed at length in the 1896 Report of the Government Hospital for the Insane, Medical Supplement. Suffice it to say here that this was a typical case of the active destructive dementia type of the disease wearing out every body and steadily going down. He was transferred to the Toner Building June 6th, 1895, the disease being then of over eighteen months' duration. Under the wet-pack treatment and opium he came back from an untidy dementia and silence to his old cleanly habits and the old activities of life, with the delusions of grandeur no longer present. He took up his profession, that of a musician, and played as well as ever. He was allowed to leave the hospital to play in an orchestra in the summer of 1896, he reporting from time to time, and was finally discharged February 11th, 1897. He has continued in the orchestra, and with no recurrence of the disease up to the present time.

P. B. M., admitted in the acute stage of general paralysis, April 16th, 1897. Transferred to the Toner Building, April 20th, 1897. Aged 35. Driver; married; habits temperate. About two months before admission became markedly absent-minded, with general restlessness and expansive ideas of grandeur, thinks he is going to build big houses, constantly building useless boxes; talkative and excitable, easily diverted, memory imperfect, perceptions impaired. A typical case of the disease, delusions being of the expansive form. Coachman of a family of social prominence, and for months suffered loss of sleep. He has aortic valvular disease with both systolic and diastolic murmurs, the result of rheumatic endocarditis. This double cause of cerebral malnutrition is of interest, and etiologically of great importance. There was irregularity of pupils, tremor of tongue and lips, slurring of words in speech, and delusions of unbounded wealth characteristic of the disease. He was treated by rest in bed for six weeks, with wet packs of two hours' duration twice daily, followed by massage. Temperature one to three degrees F. in excess of normal during most of the time, and for this ice was applied to the head, and 2½ gr. phenacetin administered morning and evening. Milk was freely given. At the end of six weeks, temperature having become normal, some increase of flesh and mental improvement having taken place, he was allowed gradually to get about the building. The duration of pack reduced to an hour and a half each, with cold douche immediately following. Has now (August 1897) lost all his delusions, gained many pounds in weight, and seems well advanced on the road to a normal mental condition, if not recovery. This is the only case reaching the Toner Building in the early stages of the disease. This was due to the building not being fitted for active, violent cases, but this has now been provided for, and hereafter these cases will pass directly under the St. Elizabeth treatment.

REMARKS
ON
LEPROSY IN THE BRITISH EMPIRE.*

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At the request of the Honourable President and Secretary of this International Conference, I have undertaken the task of laying before the assembled delegates a general survey of the present position of the leprosy question in the British Empire.

I must first of all express my thanks at the honour which has been thereby conferred upon me; and in the second place I must express my regret that I have not been able, partly through the pressure of other avocations, to fulfil the task in as complete and satisfactory a manner as I could have wished.

My efforts in collecting facts, however, have been ably seconded by numerous correspondents, to whom my thanks are due, as well as by the Government authorities in London, particularly at the Local Government Board, the Colonial Office, and the India Office, where everything bearing upon the subject has been freely placed at my disposal.

The question is one of very great importance to England and her dependencies: for, as we shall see, not only do lepers form a numerous class in India and in several of the colonies, but they are occasionally met with even in Great Britain and Ireland.

We must bear in mind, moreover, that the prevalent feeling among the public with regard to leprosy is one of loathing and disgust; and, although the fear of its spreading from the diseased to the healthy may be exaggerated by the ignorant, no Government, even in the interests of the lepers themselves, can safely remain quiescent, and allow things to drift, when the disease has become as endemic as it has in many parts of the British empire.

I propose to treat, first, of leprosy in Great Britain and Ireland, and shall venture to form an approximate estimate of the number of cases which have recently come under notice; secondly, of the disease in India and the Colonies; and thirdly, I shall put forward a few considerations on the subject in general, and shall show that the various Governments in India and the Colonies have not been altogether indifferent in the matter.

Finally, I shall append the various Acts and Laws in reference to leprosy and lepers, which have been passed by these Governments in late years.

Leprosy in England.

The following cases have come under my own personal observation during the past ten years, irrespective of those which I have seen exhibited at medical societies, etc.:

Case I. *Nodular Leprosy.*—Male, aged 18 in 1888; English; born in London; taken in infancy to Trinidad.

Case II. *Nodular Leprosy.*—Female, aged 29 in 1887; Irish; taken to India when 4 years old. Symptoms appeared three years after returning to England. She was subjected to the tuberculin treatment. Died in 1894.

Case III. *Neural Leprosy.*—Male, aged 64 in 1889; English; formerly sailor in Mediterranean and Baltic forty years ago. (This was Dr. Larder's case, which was subsequently alluded to by His Royal Highness the Prince of Wales.)

Case IV. *Nodular Leprosy.*—Male, aged 17 in 1887; born in Barbados, of English parentage. First symptoms noticed three or four years after coming to England.

Case V. *Nodular Leprosy.*—An English officer, aged 45 in 1890. His affection commenced in India in 1883. He improved very much under treatment, but was subsequently attacked by dysentery and died.

Case VI. *Mixed Leprosy.*—West Indian boy, aged 7 in 1891. He improved greatly under treatment, but recently manifestations of the disease have reappeared. Tuberculous injections were used in his case, and lately two injections of an antileprous serum.

Case VII. *Nodular Leprosy.*—Male, aged 33; English; went to India as an infant, returned when 11 years old. About eleven years afterwards first symptoms of leprosy appeared. He was also subjected to the tuberculin treatment. His larynx subsequently became stenosed, and tracheotomy was performed. He wore the tube for several years, and died from bronchitis and occlusion of the tube.

Case VIII. *Nodular Leprosy*—Male, aged 20 in 1893; of Scottish and German parentage, born in Trinidad. Had been vigorously treated with mercury in the belief that it was syphilis.

Case IX. *Nodular Leprosy.*—Female, aged 21; English; taken to Ceylon as an infant, came back when 7 years old. Six years after her arrival erythematous blotches appeared. Considerable improvement took place in her condition under care. In November last year she was on two occasions injected with small quantities of Dr. Carrasquilla's serum. These had no effect in stopping the disease.

Case X. *Nodular Leprosy.*—Male, aged 22 now; born in Jamaica. The disease commenced probably with neuritis in one leg, which was treated as supposed infantile paralysis. After coming to England in 1892 brown spots appeared on the thigh. The disease was only correctly diagnosed towards the end of 1895, when it was a well advanced nodular case. He has allowed material to be taken from his tuberosities for the purpose of preparing an antileprous serum.

Case XI. *Nodular Leprosy.*—Male, aged 24; West Indian; born in Barbados; coloured. Three years affected. Symptoms commenced in mucous membrane of the nose. This man has received a large number of injections with a new antileprous serum.

Case XII.—Male, aged about 45; born in South Africa, of European parentage. An early case in the macular stage.

Case XIII. *Nodular Leprosy.*—Male, aged about 50; father English, mother Burmese; lived in Burmah until recently.

Case XIV. *Nodular Leprosy.*—Female, now aged about 18. Slightly coloured. Came from the West Indies in 1891, when spots had already appeared on the face, arms, and hands. A very bad case. She had been subjected to the "Mattei treatment" for two or three years.

In order to ascertain—approximately at any rate—the number of cases now, or within recent years, under other medical notice in Great Britain and Ireland, a circular was addressed to the authorities of a large number of hospitals and infirmaries throughout the country, and application was also made to many dermatologists and other medical men, who might be considered likely to have met with cases.

Returns have been received so far from 106 institutions, but lepers have been under observation, according to the replies, only in 9 of them. Dr. J. H. Bryant, Medical Registrar at Guy's Hospital, has furnished notes of 3 cases. Dr.

* Abstract of a Paper presented at the International "Lepra-Conferenz" at Berlin, October, 1897.

H. Sequira, Medical Registrar of the London Hospital, has also furnished notes of 3 cases. Dr. Calvert, of St. Bartholomew's Hospital, has furnished notes of 2 cases. Dr. Hardcastle, of Charing Cross Hospital, of 1 case. One case also, which was under my own care in 1891, has been reported from Westminster Hospital, and 1 case from King's College Hospital, and 1 case from the Regent's Park Hospital for Paralysis, etc. At Blackfriars there have been 4 cases during the last ten years, and at the West London Hospital 2 cases. One case has been reported from the Dorset County Hospital. I am also aware that within the last ten years there have been several other cases at St. George's, University College, and St. Mary's. References have also been given to me of a case at South Shields, and 1 in Newcastle-on-Tyne.

Sir Richard Thorne Thorne, K.C.B., Dr. Downes, and other officials of the Local Government Board, have kindly interested themselves in the matter; and in response to a circular issued by Dr. Downes to the Metropolitan Poor-law infirmaries, negative replies have been received from 20 institutions, and records of cases of leprosy from 5, namely, the Hackney Union Infirmary, Lewisham Infirmary, Greenwich Union Infirmary, in each of which 1 case has been noted, and in the Whitechapel Infirmary 2 cases.

In December, 1896, the case of a lad admitted into the Dorset County Hospital came under the notice of the Local Government Board. The hospital authorities were unable to keep the boy, and the District Council requested advice as to what should be done with him. The matter had become known in the county, and the inhabitants of the neighbourhood were much alarmed. Dr. Lush, under whose care he was, published the case subsequently, and he has recently given me further particulars and a photograph. The boy, aged 8, was born of English parentage, at Singapore. Symptoms appeared eight months after his arrival in England.

The columns of the various medical papers published in Great Britain and Ireland, and the *Transactions* of the medical societies, have been carefully searched, and references have been found to 33 cases of leprosy, as having been shown or described from the year 1887 to 1897. Several of these patients are identical with those alluded to above, and 2 of them were shown on more than one occasion, or at different societies, and placed in the list more than once.

The remaining 21 cases include: 1 shown by Mr. Malcolm Morris in 1887; 1 alluded to by Dr. Wyndham Cottle in 1889; 1 recorded by Dr. O'Carroll in Dublin in 1889; 1 by Dr. Selby in 1889; and 4 described by Dr. Crocker in the same year; 1 by Dr. Cavafy; 1 by Dr. Wallis; 1 by Mr. Alexander in 1890; 1 alluded to as occurring in Ulster in 1891; 1 shown by Mr. Hutchinson in 1893; 1 by Dr. Heath in 1893; 2 shown by Mr. Malcolm Morris in 1895; 1 shown by Dr. Sibley in 1896; 1 described by Dr. E. S. Reynolds in 1896; and 2 cases alluded to by Dr. Crocker in 1896. During this year a case in Dublin has been mentioned in the *Lancet*, and Dr. Crocker has described another case in England. At the meetings of the Dermatological Society of Great Britain and Ireland in 1894 to 1897, 7 cases of leprosy have been exhibited, 5 by myself and 2 by Dr. Crocker. These are all included in the above enumeration. At one of the meetings Dr. Brooke alluded to a case of his at Manchester.

During the same period the Dermatological Society of London has, I believe, had before it 4 or 5 cases. It is probable that these also are included in the above list. At the International Congress of Dermatology, held in London in 1896, Mr. Jonathan Hutchinson showed an apparently cured case of leprosy. Dr. Dockrell exhibited a man, aged 37, who had lived in British Guiana; an advanced case, of 10 years' duration; and Dr. Crocker 2 cases, which had improved under hypodermic injections of mercury.

Cases in Scotland.

Dr. Allan Jamieson has been good enough to send an interesting account of a case of a young lady, aged 17, born in Ceylon, apparently a half-caste, who eventually went back to the East, and died of phthisis. Dr. Whiting has referred to a case under Sir T. Grainger Stewart's care, at the Edinburgh Royal Infirmary; and Dr. C. B. Ker has also referred me to a case at the Royal Infirmary, Glasgow. In 1888 a case was alluded to in the British Medical Journal as occurring a Fettes College, Edinburgh, in connection with which a law suit was in progress.

Cases in Ireland.

Since the celebrated cases of Dr. Hawtrey Benson, very fe patients with leprosy have cropped up in Ireland. Dr. H. S Purdon had a case under his treatment at the Belfast Hos pital for Diseases of the Skin—a man who was born of Iris parents in Madras. Dr. Mackenzie had a case at the Lisbur Union Workhouse—a man who was born in India and wa diseased for twenty years. The Local Government Board c Ireland was communicated with in connection with this case its existence having caused a great scare in the district. H was subsequently kept in a small house provided by th guardians; and, although blind, he attempted to escape The only other recent cases that I have heard of in Irelan are Dr. O'Carroll's case, referred to above; and a case whic was recently mentioned in the *Lancet*, and which is now pro bably in Paris.

Leprosy in the British Navy and Army.

The Director-General, Sir James N. Dick, K.C.B., informe me in 1889 that not a single case of leprosy among the officer or men of the navy could be traced in the office, and that a the same time the late Sir Thomas Crawford, K.C.B., of th Army Medical Department, could discover but little evidenc of the disease among the British troops. Only one case ha come to light, namely, in a soldier born in Madras, whos father was an Irishman and mother a native.

The present Director-General of the Army Medical Depart ment has been good enough to have the records of the servic again examined, and no other case, it appears, has bee reported amongst British troops and non-European troops exclusive of native troops in India. Information has als been given to me of another sad case, in which an arm medical officer has become affected. One of my own cases however (No. 5) was an officer in the army.

Sir James Dick has also, upon the present occasion, kindl investigated the matter; and he has been able to state agai that no case of leprosy has ever occurred in the navy.

Carefully collating the above cases, and excluding, as fa as possible those which have been referred to more than once I may say that the total number of cases of which I have bee able to find records amounts to some 56.

I have reason to believe that a few others have been unde the observation of medical men, who, for various reasons have been unable to furnish notes of their cases; but thi number cannot be a very large one, and can safely be put down a certainly not more than 20. We may allow a further margin o say 20, for unrecognised cases, and, adding these all up, i will be seen that we may fairly estimate the number of case of leprosy during the last ten years in Great Britain an Ireland as certainly under 100.

From time to time supposed cases have been reported, an I can refer to at least 10 such cases which have come to m knowledge. A few weeks ago a young woman was brought t me as "an undoubted case of commencing leprosy." She had been attending a real case from May to October last yea in a nursing home, and believed that she had caught the disease. I discovered that she was of an extremely nervou and hysterical temperament, but could find no evidence whatever of leprosy, only a considerable amount of acn about the chest and back, with the old scars resulting from those lesions, and patches of seborrhœic eczema elsewhere.

Although unusual causes of death are always noted a Somerset House, I can only find 1 case of death from leprosy there recorded in ten years—that of a man, aged 25—as hap pening in London in 1889.

About eight years ago (March, 1889) an attempt was made by the British Medical Journal to in some way estimate the number of cases of leprosy which had, up to then, come to light in Great Britain and Ireland, and a large number o authorities were written to for information. Dr. Pye-Smith could refer to 6 cases which had been seen at Guy's Hospital since 1862; Dr. Crocker had at the time 2 cases under his care; and Mr. Malcolm Morris 1. Dr. Mapother believed that he had seen 2 cases in Dublin since 1872; Dr. Thin had seen 3 cases; Dr. McCall Anderson 3 at Glasgow; Dr. Jamieson 1; and Dr. Gairdner 1. Dr. Colcott Fox reported that 20

cases had been exhibited at the Dermatological Society between the years 1882 and 1889, and that he himself had seen 6 cases in private and 3 in hospital practice.

Although the estimate which I myself have now (September, 1897) ventured to make is apparently larger, it will be seen that my field of inquiry has been at the same time greater; and I think we may again safely endorse the opinion expressed by the British Medical Journal in 1889—namely, that "There is no reason to believe that we have more lepers amongst us now than at any previous time for many years." Indeed, Mr. Hutchinson, who perhaps sees more "rare" diseases of the kind than any other authority in London, informs me that in his experience cases of leprosy are fewer now than formerly.

Leprosy in India and the Colonies.

It is still difficult in some colonies to form a very accurate judgment as to the extent of the disease. As everyone interested in the subject is aware, the leprosy question in India has been discussed in a most able and searching manner by the Commissioners who were sent to that country in 1890, under the auspices of the National Leprosy Fund, and by their colleagues appointed by the Government of India. For many years previously the matter had been under the careful consideration of the Government, but in consequence of the intrinsic difficulties of the question, and the varying opinions of the highest medical authorities, but comparatively little had been attempted in the way of legislation, or of the systematic management of lepers. The number of the latter had been no doubt grossly exaggerated, but still it was well known that there were no fewer than 100,000 of these unfortunate people throughout India, of whom probably not 2 per cent. were under proper care. Comprehensive legislation was under the consideration of the Governor-General in Council before the Commission commenced their labours, but the Government wisely postponed action until the Commissioners' report was before them. There had, indeed, been several previous Acts in India—so far back as 1866—empowering the arrest without warrant of lepers found begging or exposing their sores, but there was nothing to authorise definitely the detention of lepers.

In Bombay, however, it was found that under a Local Act (vi, of 1867) the consulting officer of health for the city had the power to detain in a sanitarium, until they were fit to go about, persons suffering from a dangerous disease or "an infectious disease dangerous to life," who had been brought there by the police. On the strength of this, the Local Government ultimately took steps to enforce the law and apply it to the lepers, and in 1890, by the help of a munificent donation from Sir Dinshaw Petit, and through the energy of Mr. H. A. Ackworth, of the Municipal Council, an efficient Leper Asylum — the Matoonga Hospital — was established near Bombay, with accommodation for about 300 inmates. One of the results has been to free the city of Bombay from the beggars who used to extort alms by the exhibition of their sores about the public buildings, schools, water tanks, etc.

The Government of Bengal shortly after passed a Bill—"The Lepers Act, 1894"—for the segregation of pauper lepers and the prohibition from certain callings of those lepers who are not paupers. The regulations under this Act are now being enforced as far as possible.

It appears that the Burmese and other Local Governments in India were then desirous of having the provisions of the Bengal Act extended to their provinces, and last year, as it was considered by the Government of India more desirable to frame a general measure rather than a separate Act for each province, the "Lepers Act, 1896," was introduced and ordered to be published in the *Gazette*. (See Appendix A.)

In several parts of the Indian Empire, indeed, an endeavour is being made to carry out the suggestions of the Leprosy Commissioners as far as practicable, namely, the voluntary isolation of lepers; the prohibition of lepers from following occupations connected with food, drink, clothing, etc.; the enactment of municipal by-laws preventing vagrant lepers from begging in or frequenting places of public resort or using public conveyances; the enlargement of existing asylums, and the building of others near towns where they do not already exist; the establishment of leper colonies or farms in rural districts; and the institution of orphanages.

The strongly expressed opinion of the Leprosy Commission that "the alarm about the increase of leprosy in British India is altogether groundless," and that the data available "point strongly to a decrease.....in any case, to the disease being at a standstill," seems to be shared by those most competent to judge. The Governor-General, in Council, in 1895, saw "no reason to dissent from the general conclusion of the Commissioners that leprosy does not prevail in India to such an extent as to constitute a general or universal danger."

Straits Settlements.

A Committee was appointed on the leprosy question in Perak in 1893. In an interesting report they make a number of suggestions with reference to segregation. In addition to the native Malay lepers, concerning whom an Order in Council was passed in 1890, there were in the country a considerable number of immigrant cases, chiefly Chinese. Measures were therefore adopted for their registration, and to prevent their entry into the country. The Committee strongly urged the establishment of a segregation settlement, although they thought that "there is no reason to suppose that the disease is much on the increase among the Malay population. It has existed among them in a greater or less degree for many years without apparently making any marked progress." And, moreover, that "up to the present time it has not been proved that leprosy is on the increase among our alien population."

The Committee recommended that the life of the people on the segregation island should be assimilated, as far as possible, to that to which they had been accustomed; and that they should be permitted, as far as compatible with their safe keeping, to exercise on the island the same liberty as their fellows enjoy in the State.

South Africa.

As the question of leprosy in South Africa will be adequately treated on the present occasion by the representative of that colony, the matter need not be gone into at length, especially as a very important and valuable report of the Cape Leprosy Commission of 1894-5, which has dealt exhaustively with the question in that colony, is probably already in the hands of the members of this Conference. It will, of course, be remembered that the Commissioners considered that some form of compulsory segregation, complete or modified, was necessary, and also the compulsory notification of every case; but they urged that the stringent regulations then in force, with Robben Island as the sole place of detention, only led to the concealment of cases, and they recommended that the degree of isolation necessary in each case should be secured in licensed houses and locations on the mainland, otherwise the working of the Act "would be extremely difficult and unnecessarily repugnant to the people."

A leper asylum has recently been established at Emjanyana for the native territories. Between 5,000 and 6,000 acres of land are attached to the institution, and the asylum is estimated to provide accommodation for 350 lepers.

It appears that the Robben Island leper asylum costs the colony something like £30,000 per annum. Besides those who were in the asylum in 1894, there were 676 lepers on the register, 268 in the colony proper and 408 in the native territories.

The medical officer of the Government observed that "it is still difficult to ascertain definitely the effect the operation of the Leper Act is having on the spread of the disease, inasmuch as, owing to the want of systematic accommodation, it has not been possible to at once isolate every case on its discovery, many, especially in the more purely native districts, having to be left at large for a practically indefinite period. I think, however, from a consideration of the following figures, showing the state of the districts of the Colony as regards lepers under observation, and dealt with each year since the putting into operation of the Leprosy Repression Act on May 17th, 1892, we are justified in coming to the conclusion that the disease is decidedly on the decline so far as the Colony proper is concerned. Of the native territories it is impossible to speak, as practically nothing has been accomplished there in the matter of systematic segregation."

Mauritius.

Since the report of the Leprosy Inquiry Commission in

1888 very few facts have been recorded in reference to the leprosy question in Mauritius. From the steadily diminishing number of deaths from leprosy returned during the few previous years, falling from 86 per annum in 1881 to 37 in 1889, Dr. Lovell, chief medical officer of the Colony, seemed inclined to think that the disease was not on the increase, and the returns furnished by the police appear to point to the same fact. The total number certified by them as being at large in 1879 was 519, while in 1887 they reported 458. These returns were admittedly more or less defective and incomplete, but the Leprosy Commission was nevertheless of the opinion, from a consideration of all the data before them, that the disease was not making great progress in the Colony, and that there was nothing to lead them to believe that it was increasing out of proportion to the population.

Australia.

It is hardly necessary to go into detail with reference to leprosy in Australia, seeing that the subject has been so recently treated in a most able and exhaustive manner by Dr. J. Ashburton Thompson, the Chief Medical Inspector to the Board of Health in New South Wales, in his work, *A Contribution to the History of Leprosy in Australia* (London, 1897).

From his chronological summary of all recorded cases in Australia, we learn that the total number which had come to light during the years 1855 to 1894, amounted to 70 in New South Wales, 48 in Queensland, 45 in Victoria, 2 in Western Australia, and 19 in the Northern Territories. Of the South Australian cases 33 have been white persons. The large majority of the other lepers in Australia have been Chinese and Kanakas.

The table which he gives shows a general increase of recorded cases subsequent to 1877. It shows also a further increase of recorded cases subsequent to effective legislation in New South Wales and Queensland. He points out, however, that the apparent increase during more recent years may be due to the greater attention which has been turned to the disease, and that the data are too imperfect strongly to support any positive conclusion. He thinks "that a recent increase of leprosy on the continent of Australia has been alleged on superficial grounds, and that probably there has been no such increase."

Dr. Thompson appears to have come to the conclusion that the maintenance of leprosy is not by direct or indirect communication with lepers, and that the theory of its inoculability will not hold water. According to him, "it fails from want of evidence, experimental or clinical, sufficient even to raise a presumption." He is inclined to look for the true habitat of the virus in the surroundings of man, and not in the diseased body.

It is remarkable that these views should be held by the principal medical officer of a country which has enacted perhaps some of the most stringent laws extant against lepers.

New Zealand.

Since Dr. Ginder's Report in 1890, we have but little information with reference to leprosy in New Zealand. Several cases had then been discovered among the Maories, and Dr. Bakewell also stated that he had seen one or two cases among the whites, and one in a Chinaman.

Fiji.

Dr. Corney was of opinion in 1890 that there had been some increase in leprosy in late years. According to the natives, this was due to the abolition of a practice of privately killing affected persons, which was in vogue before the British rule. In 1891 he reported 21 cases other than aboriginal; 11 of them were Indian.

Canada.

In Dr. Taché's report, 1885, it was shown that the cases in New Brunswick had diminished from 76 in 1875 to 25 in 1885; 22 of the latter were in the asylum at Tracadie.

In 1889 Dr. Hayd gave an account of a visit to that lazaretto. The total number then confined and a few who were not did not amount to more than 22.

Dr. A. C. Smith in 1896, Superintendent of the Tracadie Asylum, wrote that "leprosy exists in Nova Scotia only in the descendants of the Highland Scotsmen who emigrated in the early part of the century." The lepers of New Brunswick are "degenerated French." Dr. Smith had found 3 case at Cape Breton, and Dr. John Cameron 6 in other districts c Nova Scotia. The Montreal-correspondent of the *Lancet* las year referred to a case of leprosy in a Chinaman in that city The diagnosis had been made *post mortem*. At the recen meeting of the British Medical Association in Canada, Dr Shepherd and Dr. Boyce exhibited a patient, probably in th early stage of anæsthetic macular leprosy. As far as wa known, he must have contracted the disease in Britis Columbia.

Jamaica.

Dr. Donovan, Medical Attendant of the Lepers' Hom informs me that he has sent a paper to the Conference, i which he has given as close an idea of the leper population c the island as possible. He expects that the new "Leper Asylum Law," 1896, will have some beneficial effect in check ing the development of fresh cases of the disease, althoug that law practically deals only with vagrants. He estimate in 1890-91 that the leper population of the island was 450, o 1 in 1,555 of the total population. It is to be hoped that th data which he will now adduce will elucidate the point as t whether the disease in Jamaica has not decreased. In hi report for the year ending March 31st, 1897, which he ha just sent to me, he states that the law of 1896 has now bee in operation for a little over a year, and already its efficienc can be appreciated; the vagrant leper, for whom it wa specially intended, will no longer be a menace to the publi health as heretofore.

Leeward Isles.

The Census Report for 1891 gives the total number of leper at 172; and of these 129 were under restraint; 98 were i the island St. Kitts, and 45 in Antigua. According to Mr Boon, however, there were 120 known lepers in St. Kitts i 1892; this being a great increase on the number, 72, found b Dr. Munro in 1872.

An ordinance to establish a leper asylum for St. Kitts wa passed in 1890, and an Act to provide for the care and mainr tenance of indigent lepers, and to prevent the disseminatio of leprosy was passed in Antigua in 1896.

Barbados.

The census returns for 1871, 1881, 1891, give the lepers i the island at 96, 108, and 156 respectively. The ratio thu increasing from 0.57 to 0.85 per 1,000 of the population.

From the greater attention recently directed to the leprosy question, it is very probable that the enumeration was mor accurate at the latter period. The cost of the asylum fo 1896-1897 was £3,210.

St. Vincent.

The Colonial Surgeon (Dr. Newsam) stated in his report f 1894 that leprosy did not appear to be on the increase Twenty-three cases had been under treatment during tha year in the asylum. The census returns for 1891 gav 62 lepers in the Colony, being an increase of 5 since 1881.

St. Lucia.

The census of 1891 gives 32 lepers. Very few cases seem t have been under treatment in hospital.

Grenada.

The census of 1891 gives 21 cases.

Trinidad.

In reply to a circular issued by the Surgeon-General in 18 it appears that there was evidence of 389 lepers in the island of whom 210 were in the asylum.

What Dr. Beaven Rake wrote in 1890 is probably true now "As to the increase of leprosy in Trinidad, it is impossible t give a definite answer. If there is any truth in Père Etienne' 860 (1878), and Archdeacon Wright's 480 (1889), and if the pre sent figure (348) represents anything near the present numbe of lepers here, one would be forced to conclude that th disease is on the decrease. I do not, however, think that any of these figures are sufficiently reliable to warrant any abso lute conclusion."

It may be added that we have had since then no further definite information on the subject. The asylum figure have varied comparatively little during the last few years

the cost of the establishment last year amounted to nearly £5,000.

Dr. Knaggs, the present superintendent of the asylum, states, in a letter dated August, 1897, that his views are as follows:

1. Leprosy is a contagious disease, tubercular more than anæsthetic.

2. Every leper is a possible focus of contagion.

3. *Ergo*, the only rational line of treatment (in the absence of a radical cure for the disease) is isolation. Segregation if you like, and even colonisation, but removal as far as possible from any commerce or dealings with the surrounding population.

British Guiana.

The Surgeon-General, in his report for 1892-3, observes: "As far as I am aware, there is no ground for supposing that the ratio of lepers to population is increasing in this colony, and those who state the contrary offer no proof in support of their assertions. It seems to me that there is no necessity for any change in the policy which has been followed here, namely, that of inducing sufferers from the disease to voluntarily go to the refuge provided for them, and, when there, making them as comfortable as possible."

In the report of the Mahaica Asylum in 1892 Dr. Barnes stated that the question of the sexes was a most difficult one to deal with. Most of the disturbances, absconding, etc., were due to this. "The women at Gorchum are visited regularly by the male inmates, and the women also frequent the male asylum. For some years past marriages have frequently been solemnised by the neighbouring clergy between male and female inmates." Nevertheless, extremely few births seem to have taken place. In 1894 the female asylum was removed from Gorchum to Mahaica, so that better discipline and administration could be maintained. The year 1895-96 was the first, for ten years, in which no illegitimate birth had taken place at Gorchum. The census reports give little information as to the extent of leprosy in Demerara, the only reference being to the number of cases then in the asylum.

Of the total population of British Guiana in 1891, the East Indian element formed a percentage of 37.89. The coolies are known to add largely to the number of lepers.

Dr. F. Neal, the present Medical Superintendent at the asylum, kindly informs me (September, 1897) that the people generally do not consider the disease catching, but are firmly convinced of its hereditary nature. He has been good enough to send me most valuable notes upon the question in general in British Guiana. In 1831 the number of lepers returned for the Essequebo Division of the united Colony of Demerara and Essequebo was 431, giving the ratio of 1 in 58.2 if the Essequebo Division only be considered, or 1 in 182.8 for the united Colony of Demerara and Essequebo. In 1864 the estimate was 529 lepers, or 1 in 294.7 of the population. In 1879 525 were returned, or a ratio of 1 in 476, but this return was admittedly very inaccurate. In 1891, according to a calculation recently made by Dr. Neal, by taking the number of lepers in the asylum on January 1st, 1891 (355), and then all the cases admitted since that date, in which the onset of the disease was prior to January 1st, 1891, there must have been 780 lepers in Demerara at that date, or 1 in 427.6, this calculation lending support to the general belief that there are as many lepers outside the asylum as in it. Considering the returns of 1831, it will be seen that, if the ratio had been continued, there should have been in British Guiana, in 1891, at least 882 more cases than Dr. Neal's calculation shows. As he says: "The greatest supporter of the increase of leprosy in the Colony would not venture to uphold this."

According to Dr. Neal's figures, the history of leprosy in British Guiana shows a diminution rather than an increase; but, as he admits, no decided opinion can be given in the absence of a more thorough and regular leper census.

As regards the need of legislation, he does not consider that in British Guiana more is required than already exists. The Government supports a large asylum, of nearly 400 beds, admission to which is optional, except in the cases of lepers exposing themselves or making a public nuisance of themselves, when they are forced to come in. He considers the question of legislation cannot be settled as a whole, but must be left to individual Governments to decide the matter for themselves.

Cyprus.

Since the important report of Dr. Heidenstam on leprosy in Cyprus in 1890, and Dr. Zambaco Pasha's interesting work, *Voyages chez les Lépreux*, 1891, nothing of much interest has been recorded on the subject from this island. There were then about 100 lepers known, showing a marked decrease in the preceding ten years. About 70 were congregated at the Nicosia Farm, and there were supposed to be 30 at large. In 1891 a new law was passed to provide for the better segregation of lepers, and for regulating their management at the places set apart for them. In 1895 there were 93 inmates at Nicosia. Dr. Heidenstam observes in his report for that year that the passing of the law of 1891 had had a most beneficial effect, especially the provision that the village authority should report to headquarters persons suspected to be suffering from the disease, and thus bringing to notice, almost without exception, every existing leper.

Conclusion.

Considering the facts which have come to my knowledge, many of which are brought forward in this paper, I believe that I can fully support certain views which have been more than once arrived at by other observers, especially in England, in India, and in our Colonies, who are interested in the study of leprosy.

With regard to the disease in Great Britain and Ireland, we may say that:

1. A certain small number of cases are always to be met with in this country.

2. There is no reason to suppose that the number is greater at the present time than it has been at any period within recent years.

3. In all cases, since Dr. Hawtrey Benson's in 1872, the patients have become affected with the disease after a longer or shorter sojourn in countries or districts where leprosy is endemic, with the possible, but very doubtful, exception of the Lewisham Infirmary case.

4. Although the British and Irish cases have never been subjected to any real isolation—indeed, in most instances they have been treated as ordinary patients, suffering from a non-contagious disorder—leprosy has, neverthless, with the single exception referred to above, never, in recent years, spread to other persons.

5. As the disease, therefore, cannot be regarded—at least in Great Britain and Ireland—as highly contagious, or likely to be passed on to others, there is at present, at any rate, no need for repressive legislation, nor any cause for alarm at the existence of a comparatively few lepers among the people.

At the present time there is no establishment in the country where sufferers from leprosy and other chronic and disfiguring diseases of the skin can be cared for. I believe that in the interest of the lepers themselves such an institution or "home" is greatly needed; indeed, I have frequently been written to on the subject by the friends of indigent, as well as of other cases whose presence in a neighbourhood has caused unpleasantness. As it is, the poorer patients may be kept for a few weeks in the general hospitals, but they have ultimately to drift into the Poor-law infirmaries. At least 2 cases from this kingdom have, to my knowledge, found an asylum at the St. Louis Hospital in Paris.

With reference to the leprosy question in India and the Colonies, it is abundantly evident that:

1. The various Governments interested have, in most cases, long had the subject under their anxious consideration, and that they are doing what they can to mitigate the evil.

2. The social and political conditions in the different countries are so varied, that it is manifestly out of the question that any uniform or universal system for the management of lepers will be possible. As Dr. Neal says: "The question of legislation cannot be settled as a whole, but must be left to individual Governments."

Even supposing that the best authorities were satisfied that leprosy was a highly contagious disease, and only to be stamped out by the strictest isolation of the existing cases, it would still be futile for the Governments of some places, at any rate, to attempt to enforce rigorous laws of absolute isolation and segregation. But with the existing differences of opinion among medical men, and as public opinion is not

everywhere agreed that harsh measures are justifiable, the Governments are, in my opinion, well advised in not making the attempt. Law-abiding though they be, British subjects do not tamely submit to what they may regard, rightly or wrongly, as unnecessary coercion.

Where the lepers are comparatively few, and the public in general desirous of their seclusion—as in New South Wales, for instance—such measures may be to a large extent feasible; but where the lepers are numerous, and the lepers' friends still more numerous, and not acquiescent in their separation, it seems to me that harsh measures can only lead to the concealment of cases—as has been well exemplified, for example, in South Africa and in Hawaii.

If difficulties be raised among an ignorant people by the enforcement of common sense sanitary precautions against such an acute and virulent disease as a rapidly spreading plague, how much more difficult might it not be to insist on rigorous measures in the case of a disease of such slow and insidious progress as leprosy?

With regard to India, moreover, even if the complete isolation—in spite of the above considerations—were possible, the question of "ways and means" must come in. The segregation and maintenance of upwards of 100,000 souls is, to say the least, a large undertaking.

We must not forget that our knowledge of the etiology of leprosy is still far from complete; and although we may form theories and impressions from the imperfect data which are before us, we are not justified in dogmatically insisting upon conclusions which are practically only based upon such mere theories.

In an Appendix were given the various Laws and Acts bearing upon the subject of leprosy, which have been passed within recent years by the Governments of:

1. India.
2. The Straits Settlements.
3. Cape of Good Hope.
4. Natal.
5. British Bechuanaland.
6. The Seychelles.
7. New South Wales.
8. Queensland.
9. Jamaica.
10. Barbadoes.
11. St. Kitts and Nevis.
12. Antigua.
13. Trinidad and Tobago.
14. British Guiana.
15. Malta.
16. Cyprus.

THE INTRACRANIAL CIRCULATION IN SOME OF ITS ASPECTS.*

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Few subjects have given rise to so much discussion as the question regarding the differences existing between the circulation as observed in the brain with an opening in the cranium and that carried on when the skull is intact. For nearly 150 years a vast amount of work, and still greater amount of theorising, has been done on this subject. Schlichting[1] in 1750 made the first real step towards the elucidation of the cerebral circulation when he showed that movements of the brain corresponded with respiratory movements, expansion of the brain occurring with expiration and retraction of the brain with inspiration. De la Mure[2] and also Haller[3] a few years afterwards showed that these movements of the brain were due to the mechanical effect of the respiratory movements of the chest on the large veins entering the thorax, and the latter demonstrated that in addition to the movements of the brain with respiration there were pulsations synchronous with the arterial pulsation elsewhere. Little advance was made in our knowledge of the intracranial circulation in the open skull till Mosso[4] wrote his important monograph about twenty years ago on the circulation of the brain in man, derived largely from tracings taken from the brains of men with gaps in the skull. A considerable number of writers have used this method since then in similar conditions, and two years ago Dr. Hutchison[5] and the writer showed that much information could be got in this direction from the movements of the fontanelle in childre when a delicate apparatus is used. It is not my intention present to deal with this aspect of the question at any lengt but it is necessary in order to discuss the relationship of th to the circulation in the closed skull to state the chief fac which have been observed in connection with the circulatio in the unclosed skull.

There is in an unclosed skull a double cerebral puls tion—(1) synchronous with arterial pulsation, and due to di tension of the arteries by the cardiac systole; and (2) wi respiration, retraction of the brain from aspiration of t venous sinuses with the inspiratory movement, and di tension of the brain with the expiratory movement. T amount of blood in the brain therefore varies very great with the respiratory movements from the fact that when t venous pressure is reduced in inspiration the small vessels the brain are compressed by the atmospheric pressure. T greater the extent of the respiratory movements the great of course the movements of the brain. The arterial pul wave as taken by various instruments is nearly always fou to be anacrotic in character, though at times, as we shall se it may become katacrotic. No satisfactory explanation h yet been given of the cause of this anacrotism.

When we come to the consideration of the circulation i side the closed skull the subject becomes much more dif cult, and it is this aspect of the intracranial circulati which has led to so much discussion. So long ago as 176 Lorry[6] put forward the idea that the pulsation of the arteri with cardiac systole might lead to a compression of t venous sinuses, and to a more rapid return of blood to t heart. Monro Secundus[7] taught that as the skull was closed box the quantity of blood inside it could not vary e cept under certain pathological conditions, when its pla was taken by effusions. This view was strongly supported b his pupil, Dr. George Kellie,[8] of Leith, as the result of his e perimental and pathological experience, and the theory the unvarying quantity of blood in the skull has therefo been named the Monro-Kellie doctrine. It must be remem bered that at this time the constant presence of cerebro-spin fluid in the central nervous system was not known, f for although it had been described before this by Cotugn the discovery had been lost sight of. Not till Majendie 1825 carefully described the presence of this fluid was t Monro doctrine much questioned. Majendie[9] put forwa the theory that with distension and contraction of the ve sels of the brain, the cerebro-spinal fluid flowed backwar and forwards between the cranial and the spinal cavities, a this theory with some modifications has practically up to t present been the one generally accepted. Burrows[10] also, 1846, strongly combated Kellie's views, by experimenting in somewhat similar direction, and came to the conclusion th the amount of blood inside the cranium could vary to a ve considerable extent. This work of Burrows was pret generally recognised, especially in this country, as havi completely refuted the old doctrine of the Edinburgh Scho but the results of the magnificent recent work of Leona Hill tend to show that in its essential points the Mon Kellie doctrine was fairly correct.

We have seen in speaking of the circulation in the op skull that there are two forms of cerebral pulsation (1) t arterial, and (2) the respiratory. Do such pulsations occur the closed skull, and, if so, by what means is accommod tion made inside the closed cavity for them? It is obvio that with each cardiac systole blood is forced into the arteri of the brain. The cranium is practically a closed cavity, a there must be some provision to accommodate this increas quantity of blood. It has been proved that the brain tissue incompressible, and therefore there are only two possib means apparently by which the necessary space for the i creased arterial blood can be got (1) by displacement cerebro-spinal fluid, and (2) by displacement of venous bloo As we have seen, the former explanation has been hither pretty generally accepted. It has been argued that althou the cranium is a closed cavity the spinal column is not; th as the cerebro-spinal spaces of the one cavity are continuo with those of the other, fluid passes from the cranial into t spinal cavity when arterial pulsation occurs, and *vice ver* between the beats. It must be remembered, however, th although the dura mater hangs loose inside the spinal colum

*This was incorporated in a thesis for which the degree of M.D. was given by Edinburgh University. The experimental work was done in the laboratory of the Royal College of Physicians, Edinburgh. Towards the expenses of this research a grant was made by the British Medical Association, on the recommendation of the Scientific Grants Committee of the Association.

is surrounded by fat and venous sinuses, whilst the spinal gaments covered by thick layers of muscles and strong apo-euroses are rendered practically non-distensile. Pulsation f the ligaments of the cord, especially in the upper part, has een seen in animals when the spinal column has been ex-osed, but that is no proof that such pulsation occurs when ıe thick layers of muscles and the aponeuroses are in posi-on. If, then, the ligaments are in the natural condition on-distensile, the spinal column seems to be in much the ıme position as the closed cranium, for although the spinal ord does not fill up the whole of the cavity, the extradural ıt is incompressible, and the extradural veins are com-arable to the large intracranial veins and sinuses.

If, now, we consider the effects of respiration on the intra-anial circulation, we find that there is an aspiration of lood from the large veins with inspiration. In the open kull—as in infants where the fontanelle has not yet closed -this is shown by recession of the brain, due to compression f the vessels by the atmospheric pressure. But in the osed skull this does not come into play, and therefore the ace which was occupied by venous blood must be taken by mething; and here, again, it has generally been supposed ıat there is a flow of cerebro-spinal fluid from the one ıvity to the other—in this case from the spinal to the anial cavity during inspiration. But one must remember ıat during inspiration there is also an emptying of the enous sinuses in the spinal column, and if, as we have gued, the spinal column is closed, the conditions in the vo cavities are much the same.

Looked at, then, theoretically, there does not seem to be ıy very strong reason in favour of this to-and-fro movement cerebro-spinal fluid with arterial pulsation or respiratory ovements which has been postulated. Donders[11] long ago ied to settle the question of whether cerebral pulsation curred in the closed skull by making a trephine opening the cranium and fixing a glass window in the place of the ne removed so as thoroughly to close the opening. He ticed that the pulsation of the brain ceased with respira-on, whilst variation in the size of the arteries continued ith each heart beat. This experiment of Donders has been peated with similar results. It has been argued, however, ıat, if any pulsation with movement of cerebro-spinal fluid curred, it would not be seen on the surface of the brain, ıt rather at the base of the brain and in the spinal lumn.

EXPERIMENT I.—A large retriever dog was first put under the influence morphine, then etherised, and an incision was made in the upper rsal region. The muscles were carefully reflected so as to avoid emorrhage—which is apt to be troublesome unless one keeps close to e bone—and when the spinal column was laid bare a trephine opening is made in it. A thread was put on the edge of the trephine hole, and window, fixed in a metal ring, was screwed tightly into the opening thout pressing on the tissues beneath. Before the window was screwed movements with respiration and with arterial pulsation were seen; t as soon as the window was airtight no movements were seen with spiration, although, of course, pulsation in the arteries was still sible.

The results of this experiment, so far as they go, are posed to the movement of fluid from the cranial to the inal cavity. Of course it might be argued that as soon as e window was inserted this part of the column was rendered n-distensile, and the movement of the fluid would be to-ards a part of the column which was distensile. One would inclined to think, however, that if there was movement of y great extent this would be perceptible by the window.

It seemed to the writer that much information might be t in this connection from the injection of finely-coloured anules in suspension into the cerebro-spinal arachnoid ace, noting what movement of the granules, if any, occurred. considerable number of experiments were therefore carried t in dogs and rabbits, the former being more satisfactory m the larger size of their spaces. Most of the experiments re made on the spinal cord, pretty high up. As the import-t point was to determine the state of affairs in normal nditions, it was important not to allow the atmospheric essure to come into play by opening the cranium or spinal lumn. The experiments were therefore conducted thus: ter the animal had been anæsthetised an incision was ade over the spines of the spinal column and the muscles refully reflected from the spines and laminæ. The needle a syringe containing normal salt solution with fine granules of Prussian blue in suspension was pushed through the ligaments into the spinal cord, and as the needle was gradually withdrawn the fluid was gently expressed, so that some of the granules were left in the arachnoid space. The wound was closed by deep and surface stitches, and everything was done as far as possible under antiseptic precautions. The animals were allowed to live for varying lengths of time, from a few hours up to three or four days. They were then killed by chloroform, put in ice, and frozen sections of the brain and spinal cord made.

EXPERIMENT II.—Large rabbit: An incision was made in the middle line in lower cervical region, muscles reflected from several vertebræ, then about 3 minims of Prussian blue in suspension injected. The animal lived about ten minutes, taking deep respirations, and was then killed, frozen, and sections made. There had been no diffusion of the granules in the arachnoid space further than $\frac{1}{2}$ to $\frac{3}{4}$ inch from the point of injection.

EXPERIMENT III.—A control experiment carried out on a dead rabbit showed that by the injection of 3 or 4 minims of the fluid, granules were were carried as far from the point of injection as in the previous experiment.

EXPERIMENT IV.—Large rabbit: Incision was made in lower cervical region, and after the spinal column had been exposed, a very small opening was made in the column, and 4 to 5 minims of Prussian blue in suspension injected. The animal was kept alive amongst wool, and with a hot bottle. It was quite lively, and eating an hour or two after the operation, although there was considerable loss of power in the hind legs. After fifty-four hours it was killed by chloroform, and frozen sections made. On examination it was found that above the point of injection the granules did not reach more than $\frac{3}{4}$ inch, whilst below the point of injection they reached $1\frac{1}{2}$ to 2 inches.

This experiment seems to be very valuable. Had there been movement of the cerebro-spinal fluid with the respiratory movements or with the arterial pulsation, the diffusion of the granules would have been both above and below the point of injection. On the contrary, there had been no flow upwards, whilst the diffusion downwards is much too slight to have been the result of respiratory movement during fully two days, and is probably the result of the natural flow of the cerebro-spinal fluid, which, being secreted in the choroid plexus, passes partly down the cord. The sheaths of the nerves from the cord near the injection were examined for granules, but with negative results, showing that there had been no flow of cerebro-spinal fluid along the sheaths of the nerves with the respiratory movements.

EXPERIMENT V.—Dog: Incision made in upper cervical region, and injection made of Prussian blue in suspension. The dog was allowed to live for three days, then killed by chloroform, put in ice, and frozen sections made. The examination showed that only a small quantity of injection had gone into the arachnoid space, and there had been no diffusion of granules beyond three-quarters of an inch or so.

EXPERIMENT VI.—Medium-sized dog. Incision made down on spinal column in lower cervical region, and injection of granules in suspension made in two different places. Killed by chloroform in twenty hours, and frozen sections made. On examination, no granules were found beyond three-quarters of an inch or so from the points of injection. Along the nerves arising close to the points of injection no granules were found beyond the ganglion on the posterior root.

Some other similar experiments gave practically the same results.

Some experiments were also performed on the cranium in rabbits. Here, after a flap had been reflected, and the cranium laid bare, a hole just large enough to admit the needle of a hypodermic syringe was made with a very fine drill, and then some minims of Prussian blue in suspension were injected into the arachnoid space. No diffusion of the granules beyond half an inch or so was observed.

It was only after these experiments had been carried out that the writer found that Quincke[12] had long ago used the injection of coloured granules to determine the flow of cerebro-spinal fluid. He experimented on dogs chiefly, and found that wide diffusion of the granules occurred. How are his results to be explained? In many of his cases weeks or months elapsed before the animals were killed, and then of course wide movement of the granules was to be expected. In others, however, which were killed or died in twenty-four to seventy-two hours, there was also wide diffusion. It must be noted, however, that he used a considerable amount of fluid in his injections. There is a great difference in injecting into the comparatively small arachnoid space 15 minims as compared with 2 or 3 minums, and if the injection be made with force the fluid travels to a very considerable extent. This is shown by the following experiment of the writer.

EXPERIMENT VII.—A rabbit was etherised; a semilunar flap made over the vertex, and a fine hole drilled in the skull, as already described, large enough to admit the nozzle of a hypodermic syringe. Twenty minims of carmine-coloured gelatine was then injected with force into the arachnoid

space, and the animal then killed with chloroform, and frozen sections made. It was found that the gelatine had passed down about two-thirds of the length of the cord, as well as through the aqueduct of Sylvius, into the lateral ventricles.

Quincke does not describe how he extracted the brain and spinal columns of the animals experimented on; but evidently they were not frozen, and there is no doubt that very considerable diffusion of granules could occur in the removal. The quantity of fluid injected, then, and the method of removal, would appear to be sufficient to account for the results got by Quincke in his experiments.

Having seen, then, that in all probability no movement of the cerebro-spinal fluid occurs with respiratory movement or with arterial pulsation, we must consider what happens in the cranial cavity during these events. Taking the respiratory movements first, we have seen that blood is aspirated from the veins with inspiration; as its place is not taken by cerebro-spinal fluid, it must either be taken by venous blood from the spinal column or by arterial blood. With inspiration the veins of the spinal column are also depleted, and so the only alternative left is distension of the arteries inside the cranium. This is what we should expect to occur when we consider the condition of affairs. The cerebro-spinal pressure has been shown by Hill to be the same as the venous pressure; with the inspiratory movement it falls, whilst the intra-arterial pressure throughout the body rises during inspiration, and this would naturally lead in the physical conditions present in the closed skull to a distension of the arteries. As the veins filled again during expiration, the cerebro-spinal pressure would rise to a corresponding extent, and the arteries would become smaller. This see-saw movement on the part of veins and arteries might of course quite readily occur without interfering with a constant flow through the capillaries. With the inspiratory movement the veins which collapse are probably chiefly the large veins which open into the cranial sinuses, the walls of the sinuses themselves being incompressible. With the dilatation of the intracranial arteries during the inspiratory movement and the decreased intracranial pressure, it is probable that there is at this time, as compared with the subclavian for instance, increased flow along the carotid artery, which as regards the direct effects of respiration is under similar conditions.

What occurs in the cranial cavity with the arterial pulsation? Obviously room must be made for it either by displacement of cerebro-spinal fluid from the cranial to the spinal cavity, or accommodation must be got by displacement of venous blood.

The injection experiments already mentioned seem to show that there can be no displacement of the fluid worth speaking of, else there would have been some considerable diffusion of the granules. François-Franck and Pitres,[13] in a very valuable contribution to the physiology of the cerebral circulation, thought that they had proved by experiment that such displacement of fluid does occur. They exposed the occipito-atlantal membrane in the dog, and inserted through it a fine hæmodromometer into the arachnoid space. Movements were seen with each arterial pulsation. But it is obvious that if the instrument happens to come in contact with an artery similar movements would be communicated to it, and so the experiment is very far from conclusive.

Much more important is the fact that no movement of the hæmodromometer, was seen with the phases of respiration, which is further proof of the conclusion we have already come to that no movement of fluid occurs with respiration. If then no movement of cerebro-spinal fluid occurs from the cranial cavity with arterial pulsation, blood must be pressed from the veins. So long ago as 1824 Carson,[14] one of the supporters of the old Edinburgh doctrine, insisted that blood must be pressed from the skull with each heart beat, but as we have seen, at that time it had not been shown that cerebro-spinal fluid was always present in the cranium, and there seemed to be no alternative to his proposition, except that of the compressibility of the brain tissue. What proof is there of this "lateral" pressure by the arterial pulsation on the veins? In a boy aged 8, who was operated on for symptoms of mastoid disease following otitis media, the lateral sinus, which was found to be quite healthy, was laid bare, and in addition to the pulsation of the sinus with the respiratory movements, pulsation of the sinus with each heart beat was also seen. Mosso, after inserting a cannula into an intracranial sinus through a trephine hole, and covering the trephine hole with a rigid plate, found that there were present pulsations synchronous with the arterial pulsations.

There seems then to be considerable evidence that the arteries inside the cranium, in addition to the ordinary *vis a tergo* action, cause a "lateral" pressure on the intracranial veins so leading to increased flow of blood from the skull during the beat. This compression of the veins will probably occur in the largest veins whose walls are compressible—that is, in the large veins opening into the venous sinuses. The sinuses, because of their firm walls, are themselves incompressible. In the spinal column a similar compression of the large veins probably occurs, but as in this case the large sinuses have not rigid walls, the compression will occur in them.

All that has been already said refers, of course, to the circulation inside the skull under ordinary physiological conditions. When there is a pathological rise of pressure inside the skull, however, there will of course be a flow of fluid from the cranial into the spinal cavity, where, as the two cavities are now no longer under the same influence, the cerebro-spinal pressure will be less.

Experiment VIII.- A rabbit was etherised, an incision made over the upper dorsal region, the muscles reflected, then through the ligament about 3 minims of Prussian blue in suspension injected into the arachnoid space. A semilunar incision was then made over the skull, a flap reflected, a fine hole drilled in the skull large enough to admit the needle of a syringe, and 20 minims of gelatine slowly and gently injected on the surface of the brain; the animal was then killed by chloroform and frozen sections made. On examination it was found that granules of Prussian blue had passed down almost to the lowest point of the spinal cord, and in addition granules were seen along the sheaths of the nerves near the point of injection.

This shows that under conditions closely resembling an effusion of blood inside the cranium there is a flow of cerebro-spinal fluid from the cranium into the spinal column. Bayliss and Hill[15] have shown, however, that, although such a flow occurs, it is by no means great, because when the intracranial pressure rises much, the cerebellum and base of the brain sink into the foramen magnum and cut off the connection between the cranial and spinal cavities, and therefore that because of this, although at first rises of intracranial pressure are accompanied by similar rises of intraspinal pressure, the latter rise soon ceases, whilst the former goes on increasing. This plugging of the foramen magnum would probably only occur, however, in sudden rises of intracranial pressure. This would seem to be a reason, apart altogether from alterations in the rate of secretion and absorption of cerebro-spinal fluid, why sudden rises of intracranial pressure are followed by evidences of circulatory disturbance to the brain much more readily than more gradual rises. In the latter cases there would be respite for the circulation for a certain length of time. The effect of such an increase of intracranial pressure would be compression of the walls of the veins. This, if great, would lead to interference with the flow of blood through the capillaries, (what Geigel[16] has suggested to name adiæmorrhysis), and if the pressure still rose, to obliteration of the capillaries and a true condition of cerebral anæmia.

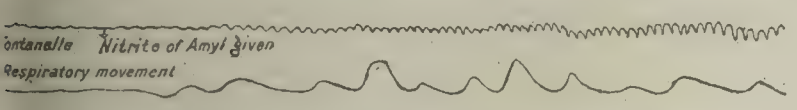
The Regulation of the Blood Supply to the Brain.

One of the most remarkable features about the intracranial circulation is the readiness with which it responds to changes in the circulation of the rest of the body, or of part of the body. Mosso[4] showed this in his able work published twenty years ago, and more recent researches have only tended to further accentuate it. When one takes tracings of the brain movements in the unclosed skull, one finds that increased intracranial pressure occurs with all movements of the body (which, of course, raise the general venous pressure), and particularly with any movements which interfere with the return of blood by the jugular veins. This is readily understood, as we have seen already the powerful influence which the respiratory movements exert on the circulation to the brain through the great veins of the neck and the venous sinuses inside the skull. Anything which interferes with the calibre of the great veins of the neck will, of course, lessen this aspiratory action of the expansion of the chest. It has also been shown, however, that all conditions which lead to a stimulation of the vasomotor centre lead to an increase of intracranial pressure—that is, to an expansion of the brain, and this in a manner quite unlike any other organ in the

dy. Thus, in the condition of the circulation when the so-lled Traube-Hering waves are produced, when there is a minution in the size of all the other organs of the body m contraction of the arterial walls, there is expansion of e brain.

Further, Roy and Sherrington,[17] and more recently Bayliss d Hill[15] in their extremely valuable work already referred , have come to the conclusion, after a vast amount of eful experiment, that there are no vasomotor nerves to the ain. Roy and Sherrington believed, from the results of ne of their experiments, that the calibre of vessels in the ain might be directly influenced by the chemical composi-n of the fluid surrounding them; but Hill could find no idence whatever to support this theory. He showed that e intracranial pressure could be affected by alterations in e general arterial pressure, or by changes in the general nous pressure, but it more readily followed the latter than e former. He could, however, find no evidence of any vaso-tor nerves to the cerebral circulation. Considering the y comprehensive character of Hill's experiments, there uld appear to be little doubt that the cerebral circulation not directly governed by the general vasomotor centre.

f now we examine tracings of the brain pulsation, we find it in most cases of increased intracranial pressure, along h the rise in the general level of the tracing, the height of individual pulse wave is lessened, whilst the wave re-ns its anacrotic character. In 2 kinds of increase of ssure, however, the writer has noticed a difference in the m of the wave from that commonly seen. (1) With mental rk the individual pulse waves are higher and tend to be-ne katacrotic instead of anacrotic, whilst the general level the tracing rises. This is beautifully seen in some of sso's tracings. It is natural to suppose that with the ivity of a part of the brain there will be a greater supply of od to that part, and if so, it would necessitate a mechanism ome kind to bring it about. That such localised increases the circulation do occur has been shown by the obser-ion of congestion in parts of the motor areas in ients who have been liable to epileptic attacks, and whose ins have been exposed. It is true that Mosso showed that ng with the expansion of the brain during mental activity re is also diminution of the size of the limbs, probably n contraction of the arterioles, but it has been recently ved that this diminution in the size of the limbs does not respond either in time or in extent with the expansion of brain; therefore the expansion of the brain is not the sive result of the activity of the vasomotor centre acting the other arteries of the body. (2) The other condition in ich the writer has noticed, along with rise of intracranial ssure, increased height of the pulse waves and tendency to acrotism is after the inhalation of nitrite of amyl. This ell seen in the accompanying tracing taken from a deaf



l dumb girl with a persistent fontanelle. She began to ale nitrite of amyl, and with the rise of the tracing the ration of the pulse waves already mentioned is observed. st conditions which lead to dilatation of the peripheral sels lead to a fall in the intracranial blood pressure, for as have seen, the intracranial pressure is very largely endent on the general circulation. Here, however, with dilatation of the peripheral vessels there is an expansion he brain, probably due to the direct action of the nitrite the muscular wall of the vessels, for nitrite of amyl can se dilatation of the vessels of a part when all connections h the vasomotor centre have been cut off.

is sufficiently interesting to be worth noting, that in one these two conditions (where expansion of the brain is ompanied by increased height and change in the form of pulse wave) the change in the intracranial circulation is ost certainly independent of the condition of the general ulation, whilst in the other it is probably independent t.

Vhile, therefore, the circulation of the brain may be said to isually at the mercy of the general circulation in the rest of the body, and whilst there is probably no direct influence of the general vasomotor centre on the intracranial vessels, there must of necessity be some means of regulating the circulation in different parts of the brain.

Conclusions.

In this paper the cerebral circulation has, of course, been considered in only a few of its aspects. It may be advisable to place in a short summary the conclusions which have been drawn in our consideration of the subject:

1. In the unenclosed skull there are are two very evident forms of pulsation of the brain: (*a*) the arterial, (*b*) the respiratory; the former produced in the arteries, the latter in the veins.

2. In the closed skull the venous side of the circulation is of the greatest importance, and respiration acting through the veins takes an important *rôle* in the intracranial circulation.

3. During inspiration in the open skull the aspiration of blood from the cranial veins is accompanied by compression of the vessels and retraction of the brain.

4. In the closed skull a similar withdrawal of blood from the veins occurs, accompanied by decrease in the intracranial pressure.

5. There is no flow of cerebro-spinal fluid from the spinal cavity to the intracranial cavity, either with respiratory movement or with arterial pulsation, as has usually been supposed.

6. In all probability, accompanying the emptying of the large veins during inspiration, there is dilatation of the arteries. (This may be accompanied by an increased rate of flow in the carotid artery as compared with the other arteries in the body above the level of the diaphragm, which are otherwise under somewhat similar conditions.) So during expiration the dilatation of the intracranial veins will be accompanied by narrowing of the arteries. The flow of blood through the capillaries will remain constant.

7. With arterial pulsation lateral pressure is exerted on the intracranial veins leading to an increased flow of blood from the skull.

8. These movements of the veins, with respiratory movements and with arterial pulsation, will occur in the large veins leading into the intracranial venous sinuses, the walls of which are themselves incompressible.

9. Similar movements of alternating compression and dilatation of the arteries and veins probably occur also in the spinal column, the cavity of which is to be looked on as being practically closed, just as the cranial cavity is.

10. In all cases of sudden increase of pressure affecting both cranial and spinal cavities there will practically be no variation in the quantity of blood present in the cavities. There will only be either (*a*) a variation in the amount of blood in one side of the circulation as compared with the other, arterial at the expense of venous, or *vice versâ;* or (*b*) an alteration in the rate of flow through the capillaries. In rises of pressure lasting some time there may be alteration of the quantity of blood inside the cavities resulting from alteration in the rate of secretion or of absorption of cerebro-spinal fluid.

11. The point of importance in alterations of pressure inside the skull is the rate of flow through the capillaries. Steady flow through the capillaries—"adiæmorrhysis," as it has been called by Geigel—may go on under very low intracranial pressure or under comparatively high (Hill).

12. Increased intracranial pressure from an effusion into the cranium—for example, a hæmorrhage—leads first of all to flow of cerebro-spinal fluid from the cranial to the spinal cavity, so giving a respite for a certain length of time to the intracranial circulation. If the effusion goes on, there is, first, compression of the larger veins, which leads, after it has taken place to a certain extent, to interference with the flow of blood through the capillaries—adiæmorrhysis—and, if the pressure still rises, to actual compression of the capillaries and true anæmia of the brain.

13. When tracings are taken of the pulsations of the brain, with rise of pressure two forms of pulse wave may be seen (1) Where wave is less ample and still anacrotic, as it is under normal conditions; (2) where wave is higher and tends to become katacrotic. The former occurs much more frequently

than the latter, and seems to be present in what may be termed "passive" increase of intracranial pressure—that is, where the intracranial pressure is increased from alteration of the circulation in the rest of the body.

14. In some conditions the intracranial circulation seems to vary independently of the circulation elsewhere. This would tend to show that, although the blood vessels of the brain are not directly controlled from the general vasomotor centre, there must be some local mechanism for altering their calibre.

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ON THE IMPORTANCE OF REST IN THE TREATMENT OF ACUTE PHTHISIS.

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THE great importance of attempting, in so far as it lies in our power, to give local rest to the diseased lung is, I think, sometimes overlooked in the treatment of acute phthisis. The deficient movement of the affected side, the tendency of the whole chest to fall into, and as far as possible to maintain, a position of expiration, the onset of unexpectedly severe dyspnœa on slight exertion, the pain induced so frequently when a deep inspiration is forcibly taken, and the consequent disinclination to make the attempt, and the tendency to persist with an irritable slight cough rather than to force a more violent one, and thus cause the chest to expand and the sputum to be dislodged in the way that occurs in bronchitis and other chest affections, all point to the fact that in acute phthisis there is a continuous flow of inhibitory impulses to the respiratory muscles which prevents them from making strong contractions; in other words, there is a continuous unconscious effort on the part of the body to keep the diseased part as much at rest as is compatible with a a sufficient aëration of the blood. Arguing from the above only, one would be inclined to suggest that in all cases of phthisis an attempt ought to be made by every means in our power to limit the movements of the affected side; experience, however, has abundantly shown that this is inadvisable. For instance, the fact that phthisical patients, in whom the disease is not acute, derive marked benefit from residence at a high altitude, both in the early and later stages—under which circumstances, of course, the amplitude of the respirations is increased—in itself plainly shows that the diminution in the movement of the lung, and its consequent partial rest, are by no means always a necessity for recovery.

The cases in which the best results are to be looked for from the local rest treatment, that is to say, from limiting the movements of the affected side, are undoubtedly those of acute and progressive disease, where the temperature is materially raised, where wasting is rapid, and where all the signs of a severe toxic infection are well marked. Further, this local rest is especially beneficial when the mischief is not only active but early, and where there is reason to believe that the wide area over which physical signs can be made out does not correspond with the actual area of tuberculous dissemination, but rather with a tolerably wide area of consolidated lung, the result of a broncho-pneumonia in the neighbourhood of one or more tuberculous foci. It must have been within the experience of everyone to have seen cases where, in spite of the brief history of ill health, the physical signs have been so marked and so widely diffused as t have suggested the rapid breaking down of a whole lobe, bu yet which, after a brief period of complete rest, have im proved to such an extent as to have become almost quiescen These are the cases in which great good results from limitin the movements of the affected side. The notes of th following case, seen in consultation with Drs. Metcalfe an Crocker, afford a fair example of what may be frequently ex pected from rest.

A. A., aged 28. Cough and slight wasting for some month Acutely ill, with high temperature for ten days. Has no been resting, though feeling ill. Only consulted a doctor few days ago. *Râles* down to the root on the left side, and i the second space in front and in the supraspinous region o the right. Impaired note at both apices in front and behin The patient was from this time on kept strictly at rest in be Small doses of creasote and quinine were given, and h was moved into a nursing home. A week later th general condition had much improved; the catarrhal sign in the lungs were much less marked, and the patient state that he felt nearly well. The temperature still, howeve went up to 102° at night. The sputum was still profuse, an contained tubercle bacilli in considerable numbers. I di not see the patient again for a month, by which time th lung signs had become almost quiescent; the temperatu had been normal for a week, and the general health was i every way better. The patient now exerted himself somewha more, and at the same time had a good deal of worry, th result being that the temperature again rose, and he had fo about a week signs of some recrudescence. He was agai kept strictly at rest, and the adverse symptoms slowly di appeared. Tubercle bacilli could still be found in the sputu in considerable numbers. Finaily, after another period o rest, the temperature again became normal. The patient wa then taken by easy stages to Falkenstein, where he remaine for some months undergoing the rest, over-feeding, and a cure, the result being that his general condition so muc improved that he was able to return to his ordinary mode o life. A year later I heard that he was still going on well.

Perhaps, however, the strongest proof of the importance o local rest is furnished by those cases in which a pleura effusion has occurred on the affected side. A most instruc tive case bearing upon this point has been put on record i the Hunterian Society's *Transactions* for 1895-6 by Dr. Arnol Chaplin, and the views therein expressed by Dr. Chaplin a to the advisability of not interfering with a moderate amoun of fluid in cases of acute phthisis are abundantly borne ou by experience.

In these acute cases as soon as the temperature has becom normal, the greatest benefit may be expected to result from stay in one of the health resorts, such as Falkenstein in th Taunus, or Nordrach in the Black Forest, where the so-calle "air cure" is carried out. Lately the same method of trea ment has been advocated and adopted in some of the healt resorts at high altitudes, but the climatic conditions in thes places appear to me to be quite unsuitable for this method o cure, and I have heard of many cases in which the patien has not only not improved, but has rapidly lost ground unde this treatment. After a somewhat prolonged stay at Falken stein, when the lung condition is no longer acute, and whe the patient is able to take exercise without risk, a winte spent at Davos or St. Moritz Dorf is, however, of the greates advantage.

BRONCHIAL AND VESICULAR BREATHING.

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To make students easily understand the mechanism by which the chief varieties of breathing to be heard over the lung are produced it is necessary to begin, and to insist by frequent repetition, with the postulate that the sounds are primarily produced in the glottis by the vibration of the currents of air as they rush past the vocal cords in inspiration and expiration; that these sounds are modified and diminished by the progressive narrowing and increase in total sectional area of the bronchi and bronchioles, and finally, by the spongy tissue of the lung itself. The sounds

are conducted downwards from the larynx in two ways, partly by vibrations of the solid walls of the trachea and bronchi, and partly by aërial conduction. That the latter is by far the most important is proved by the silence over a certain area of the lung when one of the larger bronchi supplying it is occluded by pressure or by a foreign body. Now when by any process the spongy tissue of the lung becomes consolidated, leaving the divisions of the bronchi supplying it still open, as in pneumonia, or compression of the lung by fluid, then the vibrations produced at the glottis will be better able to reach the chest wall and the stethoscope, as they are now conducted by solid tissue instead of being modified by transmission through the badly-conducting spongy tissue.

In a recent article on Bronchial Breathing and *Râles* in the British Medical Journal for July 10th Dr. West has, I think, helped rather to mislead than to make things simpler for the student by attempting to represent all the forms of breathing to be heard in the chest by a diagram, the varying thickness of the lines indicating the amount of noise according to the intensity of the conduction of the sounds produced at the glottis.

The question as to the exact meaning of the normal vesicular breathing and as to how it is produced has always been much debated. Dr. West sums up its characteristics: (1) by the absence of noise, (2) by its blowing character, (3) by the absence or diminution in length of the expiratory sound. It is also described as a sighing, breezy sound, and I am in the habit of comparing it to the distant rustling of trees in the wind.

In speaking of the conduction of the glottic sounds downwards, Dr. West says: "The vesicular structure of the lung may be likened to a feather pillow, and the vesicles muffle the sound in a similar way." Dr. Gee[1] states: "Vesicular breathing may be supposed to lose the bronchial hollow quality in consequence of the badly-conducting material (the spongy texture of lung) through which the sounds have to pass." Now, if the vesicular murmur were simply a damping down of the glottic sounds by means of their transmission through the spongy lung, the expiratory sound should be almost as clearly heard as the inspiratory, just as in direct auscultation over the larynx, though both would be weak. But, as a matter of fact, the sound is almost entirely inspiratory; and here we come to a difficulty which I think has not hitherto been adequately explained.

Murmurs, whether cardiac or pulmonary, are produced by means of "fluid veins." That is to say, when a fluid stream passes from a narrow channel into a larger one, a fluid vein and eddies are produced, and by the vibration of the particles of fluid in these a murmur is produced, and the more rapid the stream and the more sudden the dilatation of the channel, the louder is the murmur. In this way murmurs in valvular lesions of the heart are caused, the systolic murmur over an aneurysm, or the factitious murmur produced by compressing a large artery with a stethoscope. Similarly I have been able to demonstrate a systolic murmur heard over the origin of the axillary artery, which varied in intensity with deep inspiration when, owing to the rising of the ribs, the vessel became compressed between the first rib and the clavicle.

Again, it is well known that in severe aortic regurgitation, when there is an actual back current in the larger arteries during diastole of the heart, pressure on the femoral artery with a stethoscope will produce an audible to-and-fro murmur.

We will leave out of consideration the upper air passages, nasal and pharyngeal, where the breath sounds may become altered slightly; for example, the sounds heard by auscultation over the cervical vertebræ are slightly different in character according as the mouth is kept open, or if it is closed and the air has to travel through the nasal passages.

As long as the walls of a tube are smooth, fluid veins are not produced during the passage of a stream of fluid through it or its subdivisions, so long as each branch is of not larger calibre than the original tube; but as soon as the tube enlarges, then fluid veins are produced and murmurs can be heard. If we examine the form of the air passages we notice at once two places where the air as it is inspired passes from a smaller into a larger channel.[2] The first and chief one is the glottis, where the air eddies vibrating cause the sound of ordinary laryngeal breathing, and, since the cavity enlarges both above and below the glottis, inspiratory and expiratory sounds are more or less equally produced. Tracing thence the air channels to their periphery, we find that their walls are smooth, and the calibre of the branches becomes progressively smaller down, indeed, to the smallest subdivisions of the bronchi—the bronchioles. Here, however, the calibre of the channel again enlarges suddenly to three times its diameter, as the bronchiole opens out into the infundibulum beset with air cells. Here, then, fluid veins are again formed, in each infundibulum and air cell the air is again set vibrating as they expand in inspiration, and so suck in air which rushes in to them from the bronchioles and smaller bronchi. This, then, is the key to the production of the vesicular murmur which is so different in character from the glottic sounds. The reason for its being heard normally only during inspiration is now obvious. In expiration the direction of the current of air is reversed, and has to pass from the infundibulum into the bronchiole, which is of smaller calibre, and therefore no fluid veins are produced, and consequently no murmur.

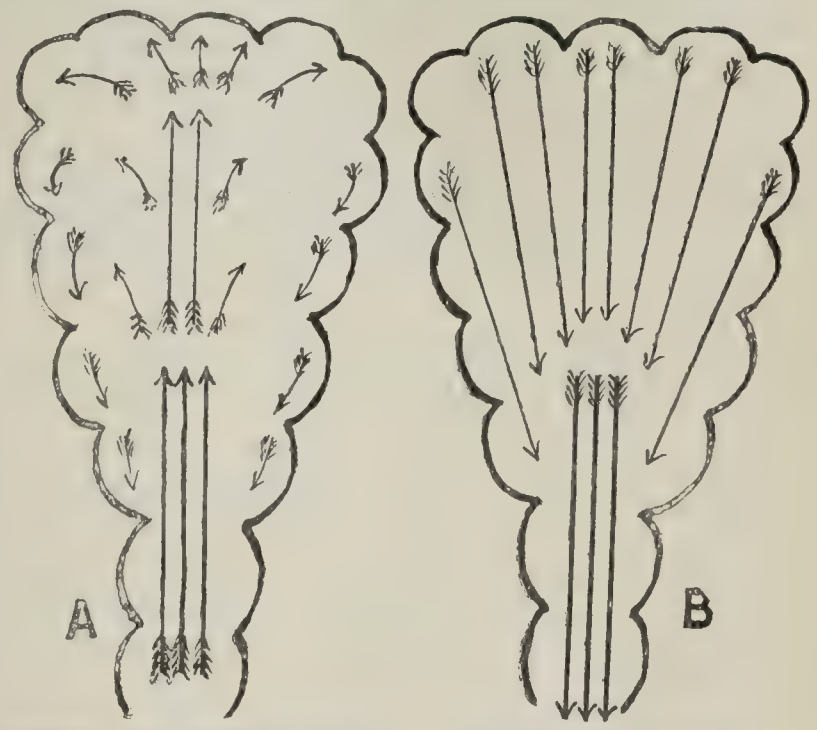


Diagram of the direction of the air currents in the infundibula; A, during inspiration; B, during expiration.

The sound thus produced in a single infundibulum would be a negligeable quantity, but multiplied a hundred-thousandfold by the number of infundibula in the lungs (there are 355,000,000 alveoli according to Macalister), and the normal vesicular murmur is easily accounted for, and also the fact that this is heard almost solely in inspiration.

In ordinary quiet respiration the progressive increase in calibre of the bronchioles and bronchi is not sudden enough to cause fluid veins of intensity sufficient to cause an audible expiratory murmur until we reach the union of the larger bronchi and of the two main bronchi to form the trachea. In forced expiration, however, an expiratory murmur may thus be produced and heard all over the lung.

In the article already referred to Dr. West, after representing vesicular breathing by a single thin line, figures the various forms of bronchial and tracheal breathing with double lines of increasing thickness. Laryngeal breathing (in which he includes cavernous and amphoric breathing) is represented by two lines enclosing a space instead of by a thick line so as to indicate its hollow character. Typical bronchial breathing is described as that heard over the consolidated lung in acute pneumonia, and the statement is next made that "this everyone calls bronchial breathing." Now this variety of bronchial breathing heard in pneumonia is much more frequently called "tubular," and it is distinguished from other varieties of bronchial breathing by its peculiar whiffing character, which is difficult to describe, but once heard can scarcely be forgotten. The use of the term "tubular" dates back to Laennec's time, and its clinical usefulness, even if the word be not hallowed by long usage,

should preserve it. Dr. West, however, no doubt intentionally, omits all reference to it, perhaps for fear of superfluity of terms.

Again, it seems unnecessary to call amphoric breathing as heard over a tuberculous cavity, or sometimes in a case of pneumothorax, laryngeal, though it closely resembles it. There are two factors in the production of amphoric breathing which cause it to differ from laryngeal breathing: First, the reverberation of the conducted glottic sounds in the cavity itself, causing the breathing to resemble the sound made by blowing across the mouth of an empty bottle; and secondly, the direct opening of a small bronchus into the cavity. In this latter factor we have another instance of the calibre of a tube becoming suddenly larger; and consequently, during inspiration, with even a slight expansion of the cavity, a fluid vein and vibrating air eddies are formed in the cavity, causing an inspiratory murmur. During expiration there would be no murmur actually produced in the cavity itself, since the fluid stream is now passing into a smaller channel. The addition, therefore, of this inspiratory murmur produced in the cavity itself, to the conducted glottic breathing, accounts for the proportionately louder sounds during inspiration than in expiration heard frequently over a cavity. This element is wanting in consolidation, and so in ordinary bronchial breathing the expiratory sound is often quite as loud as the inspiratory.

In bronchiectasis again, where there is a fusiform or saccular dilatation of the wall of a bronchus, fluid veins are necessarily formed locally both in inspiration and expiration, and so the term tubular is more exact as applied to the breathing heard over a bronchiectatic cavity than the word bronchial.

The conclusions we necessarily arrive at are:

1. That the various forms of breath sounds to be heard are due to the production of fluid veins and vibrating eddies of air, both in inspiration and expiration.
2. That the glottis is the main source of most of the varieties of breath sounds.
3. That vesicular breathing is not glottic in origin, but that the sound is produced peripherally, each infundibulum contributing its quota.
4. That in certain conditions, as in tuberculous cavities, pneumothorax, or bronchiectasis, there are local causes which are productive of murmurs which may be superadded to or even replace the glottic sounds.

REFERENCES.

[1] *Auscultation and Percussion*, 4th edition, p. 119. [2] See Fagge, vol. 2, p. 85.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

THYROID INSUFFICIENCY.

A. R., female, aged 9, was seen on January 16th, 1897. The parents complained that the child did not grow, and was not developing satisfactorily. Her height was 40 inches, and she was no taller than her brother aged 4. Her mental condition appeared normal; she was not slow in answer, she loved going to school, and was the best scholar in her class. But her movements were always staid and languid, and she preferred sitting still to playing.

The skin was dry and rough "like a nutmeg-grater." The complexion "waxy-white," showing blue veins, the hair dry and brittle. There was only one permanent tooth, and no sign of six-year-old molars. There was very little subcutaneous fat, and no swelling of the connective tissues. The hands were quite natural in appearance. On the right side of the neck there was no trace of thyroid gland, on the left side there appeared to be a small lobe. She was very subject to chilblains, felt the cold acutely, and could not be kept warm at night. There was no suspicion of specific disease.

She was given thyroid tablets, 2½ gr. night and morning for the first week, and 5 gr. subsequently. At first there was a little vomiting.

On January 30th the mother stated that the child was not so sensitive to cold, and that her appetite had greatly improved. There was some desquamation of the scalp, and the hair was falling out in quantities. Violent beating of the carotid, a sign which is so conspicuous in Graves's disease, came on after the treatment was begun.

On February 24th she had shed four temporary teeth, and on March 24th all the six-year-old molars had made their appearance. I find the following note on the latter date: "The child has a good colour, and is romping and playing and getting dirty with play all day long; she dislikes school now and behaves as an average healthy child does towards education."

At the present time (September 15th) her height is 43½ inches, an increase of 3½ inches in eight months. The skin has become supple and the hair soft. She has eight permanent teeth. She no longer feels the cold but only the heat. Her spirits are irrepressible, and her schoolmistress complains that she has become difficult to control, and pays little attention to her lessons. The pulsation in the carotids is no longer noticeable. She is still taking 5 gr. of thyroid extract every other day.

REMARKS.—Although the stunted growth, the non-development of the teeth, and the want of bodily activity must have existed some years, the diagnostic signs of thyroid disease were absent; there was no deposit of mucin in the connective tissues, nor was there any conspicuous loss of intellect. It is therefore, probable that besides the typical forms of disease known as myxœdema and sporadic cretinism, there may be minor states of malnutrition differing from the severer forms only in degree. The improvement which in this case occurred under thyroid feeding may be held to confirm the diagnosis of thyroid insufficiency, and shows the great advantage to be derived from recognising similar conditions.

Thames Ditton. O. WUNDERLICH, M.D.Brux., D.P.H.

THE SEQUEL TO A CASE OF IMPERFORATE ANUS OPERATED ON IN INFANCY.

As I believe that cases of imperforate anus relieved by operation in which the infant recovers are of very rare occurrence I should like to relate the sequel to such a case that was operated on some seventeen years since, and at the time reported as successful.

The patient, a boy, first came under my care some six years back. Unfortunately, from the abnormal condition of the rectum, he neither had power to retain nor to expel its contents when he wished to do either. Though various mechanical devices were tried, nothing could be worn that would successfully control the former, but, strange to say, the want of power to do the latter became the most serious. For in spite of every care in administering enemata and in giving suitable aperients, immense masses of fæcal matter would collect in the upper part of the rectum and in the sigmoid flexure, causing general constipation, which for the last year or two could only be removed by the spoon, though there was generally an oozing from the vent. These masses by preventing the proper distension of the bladder, caused incontinence of urine.

Thus the poor boy's life became a misery to himself as well as to his family. The troubles gradually increased as he got older, until they were recently brought to a close by perforation of the bowel and peritonitis.

About a year since Mr. Bloxam, who frequently saw the boy with me, suggested making an artificial anus in the left groin, which would have been in a better situation for a pad to be worn to control the aperture, and would probably have diverted the course of the contents of the bowel before they arrived at the part where the obstruction usually commenced; but the friends would not agree to the operation.

It is therefore clear that though the operation undertaken during the patient's infancy was successful in a mechanical point of view, it was so in no other sense; for the boy was almost unfitted for the business of life, or for social life, while during the period that I knew him he had the chances of fatal peritonitis constantly hanging over his head.

Finchley Road, N.W. WALTER G. WALFORD.

ASE OF HODGKIN'S DISEASE TREATED BY BONE MARROW TABLOIDS.

the literature of the therapeutic value of animal extracts er than thyroid is still far from ample, I think perhaps a rt account of the following case of Hodgkin's disease ıted by bone marrow may be of some general interest:

first saw the patient, J. C., a girl 12 years of age, last ch. She was then to all appearance a well-marked case Hodgkin's disease, presenting the usual combination of mia, enlargement of glands—in her case limited to the ıt cervical and submaxillary group—and erratic tempera-, varying in this case from normal to 102 5°. I put her the usual arsenical treatment, beginning with 2 minims ce daily, and gradually increasing the dose till she was ng 7 minims three times a day of Fowler's solution. In e of this she steadily and rapidly got worse, till at the of five weeks she was a perfect skeleton, profoundly mic, sleepless, and the group of glands affected so lutinated that outlines of single glands were quite terated. The spleen was enlarged, temperature was ost constantly above 100°, and, worst of all, her digestion ed completely. She vomited almost everything she took, diarrhœa, and appeared to be suffering from the effects rsenical poisoning; in short, the case seemed rapidly ving towards a fatal termination.

t this point I determined to try bone marrow tabloids W. and Co.), though I was very sceptical as to their ving of any service, as I had previously tried them in a of the same disease in an adult without the smallest efit. I began with one thrice daily, and was delighted to on the second day after beginning them that my little ent expressed herself as feeling much better. The iting and diarrhœa had ceased, the temperature had e down to normal, and she had passed a good night. s improvement steadily continued. I gradually increased number of tabloids taken, till at the end of a fortnight was taking six in the day. By this time her appetite had e returned, her anæmia was much less pronounced, she was putting on flesh, while the area of splenic dul- had diminished, the group of enlarged glands was ciably less, and the outlines of some of the glands could ly be made out. After two months of this treatment she apparently once more in good health, although the sub- illary and one of the cervical glands were still pretty e. I now diminished the number of tabloids taken, and lly stopped them altogether.

fortnight afterwards she was brought back to me once e somewhat anæmic, and with the glands, which had ided to normal, appreciably enlarged, while her mother d that she was once again languid and tired, instead of ht and cheerful, as she had been when I last saw her. I nce put her on the tabloids again, ordering three in the This number she still continues to take, and at present plump, healthy, well-coloured child of her age, but still ents slight enlargement of the submaxillary and one ical gland.

no time in the treatment of the case did the bone mar- give rise to untoward symptoms, and I was especially k by the rapidity with which all unpleasant symptoms ppeared on her commencing to take the tabloids.

far, N.B. J. D. L. Macalister, M.B., C.M.

REPORTS OF SOCIETIES.

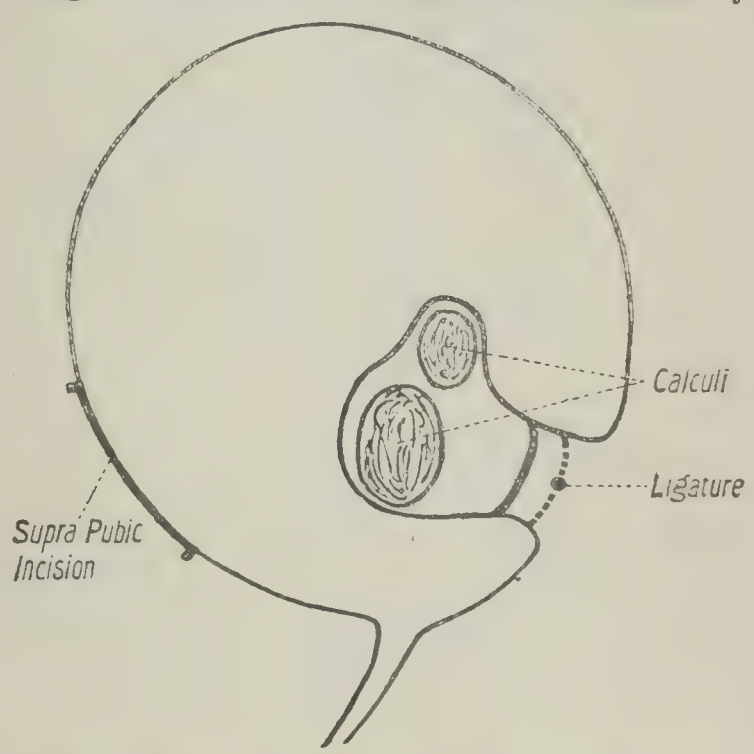
AL MEDICAL AND CHIRURGICAL SOCIETY.

W. H. Dickinson, M.D., President, in the Chair.

Tuesday, November 9th, 1897.

URE Cystic Tumour of the Bladder containing Two Calculi: Successful Removal by Suprapubic Cystotomy.

P. J. Freyer, who read this paper, said the case was be- d to be unique in the annals of surgery. The patient, an lo-Indian officer, aged 36, had suffered for ten years from ure urinary symptoms, which he dated from a fall in the et field in 1886, by which he hurt his loins. The injury followed by pain in the region of the right kidney, inter- ent hæmaturia, pyrexia, and cystitis. The most promi- nent symptom for several years latterly was that the patient could never empty his bladder in the natural way. With much straining he could pass 2 or 3 ounces of water, when the stream stopped, and he could only empty his bladder by passing a catheter or by lying down. High fever, accompanied by much pus in the urine, periodically occurred. The patient was extremely thin, weak, and depressed from long suffering. He was repeatedly sounded by various surgeons, but no stone was felt. Under these circumstance he was sent home from Burmah in the autumn of last year by Surgeon-Major A. O. Evans to consult Mr. Freyer, who saw the patient first on September 24th last, and carefully sounded him, but found no stone. Mr. Freyer suspected the presence of a tumour of the bladder, which obstructed the flow of urine by falling against the neck of that viscus, arriving at this conclusion through having seven years ago successfully removed, by a perineal opening, a pendulous fibroid tumour of the bladder from a patient who had suffered from this particular symptom. The cystoscope confirmed his suspicions, at once revealing a smooth tumour the size of a walnut, with thick rounded pedicle, growing from the right side of the base of the bladder. On September 30th, Mr. C. Braine giving the anæsthetic, Mr. Freyer opened the bladder suprapubically, and on introducing his finger found the tumour, the size of a walnut, smooth on the surface except at the apex, where a small papilloma was growing from it, slightly bilobed, and attached by a round tense pedicle to the bladder wall near the right ureteral opening. On twisting off a portion by forceps and then drawing the tumour into the abdominal wound it was found to be cystic, and to contain two uric calculi, one the size and shape of a nutmeg, the other the size of a large pear, the two weighing 42 grains. The tumour was rendered tense by the



calculi, and contained urine, but was now lying flaccid, like the finger of a glove, inside the bladder. Mr. Freyer withdrew the tumour into the wound again, clamped the pedicle, excised the tumour, and cauterised the pedicle. He then passed a needle armed with silk through the pedicle behind the clamp, and tied it in two parts, taking the ends of the ligature out through the abdominal wound, and dressed it as usual. Perfect recovery ensued, the ligatures on the pedicle coming away on the tenth and twelfth days respectively, and the wound completely closed within the month. The patient had had no urinary symptoms since, had put on flesh, and was in perfect health, playing hockey in public matches. The most interesting features of the case were: (1) As to the nature and origin of the tumour, and how the calculi got inside it. Microscopically, it was found to be a single-walled cyst, composed of fibrous tissue, and covered both inside and outside by transitional epithelium, such as is found in the bladder and ureters. The author believed that it was formed by the calculi passing down from the kidney as far as that portion of the ureter which passes obliquely through the bladder

wall, stopping short of the ureteral opening; that, impelled onwards by the force of the urine, they bulged the bladder and ureteral walls inwards, and that in this way eventually a pendulous cystic tumour containing the calculi, and communicating by a narrow opening with the ureter was formed. In the operation the cyst and contents were excised, the ureteral wall repaired, and the ureteral opening left untouched and patent. (2) The advantage of the cystoscope for diagnosis in obscure urinary disease. (3) This was, as far as the author was aware, the first instance in which a ligature had been applied to the pedicle of a bladder growth. The result suggested the more extended use of the ligature in tumours of the bladder and prostate for checking hæmorrhage, etc.; but the ends of the ligature should be brought out through the wound, so as eventually to come away, and not be cut short for fear of a phosphatic concretion forming on their ends.

Mr. A. E. Barker agreed with the author's view that the calculi had lodged in the lowest part of the ureter and had then bulged the bladder wall inwards. This case seemed to be unique, in that it occurred unilaterally and in the fact that the orifice of the ureter was not visible on the top of the tumour. Possibly the ligature had split the ureteral orifice; it was probably fortunate that the ligature had not been interlocked. It would be interesting to know what condition the kidney on that side was in, as from the obstruction hydronephrosis and subsequent atrophy might perhaps have been expected.

Mr. J. H. Morgan remarked on the curious fact that the condition in question had existed for a long period—ten years—and had only given rise lately to marked symptoms. It would be interesting to know how citrate of potash effected relief in this case. The author had explained the fact that the urine was sometimes clear and at other times turbid by supposing that the tumour temporarily blocked the ureter on that side, and so prevented the entry of pus into the bladder; if so, some changes, such as hydronephrosis or pyonephrosis, ought to have occurred in the corresponding kidney. He thought that after the pedicle had been clamped and cauterised the ligature was perhaps hardly necessary. He referred to a case of a child in whom two or three calculi ulcerated out of the posterior wall of the ureter close to the bladder, and lay in a cavity just below the vesical orifice of the ureter.

Mr. Hurry Fenwick did not consider the case quite unique. He referred to the case of double vesical prolapse of the ureters recorded by Sir Thomas Smith in the Pathological Society's *Transactions*, vol. xiv, p. 185. As the result of irritation, the mucous membrane of the ureter tended to unfold itself into the bladder, and the orifice turned upwards. He did not agree with the explanation put forward by the author. With regard to ligature of vesical growths, examination of the literature showed that this had been done in 10 per cent. of females operated upon; Dr. Thorne, of Leamington, had adopted this method before the publication of Sir H. Thompson's paper. But personally he did not employ ligature, because it disposed to septic absorption, might when it separated give rise to sharp hæmorrhage, and left behind a sore on which phosphatic encrustation might form.

Mr. Freyer, in reply, said that he had carefully examined the patient, but had not found any signs of irritation or disease in either kidney, but he thought it quite possible that the kidney on the affected side was completely atrophied. As to the ligature being superfluous, he applied it for safety, because during the operation he could not tell whether the lumen in the pedicle might not communicate with some cavity outside the bladder. Ligature of vesical tumours through the dilated urethræ of women differed from ligature of tumours in the male bladder through a suprapubic cystotomy wound. He had seen prolapse of the ureters into the bladder in connection with a calculus in the kidney.

On Mesenteric Cysts, with Two Cases in Young Children: Operation.

Mr. Frederic Eve read this paper. Case 1, a male infant, aged 11 weeks, was admitted with a very freely movable fluctuating tumour on the right side of the abdomen, which was diagnosed as a mesenteric cyst. He had gradually wasted since birth, and had constantly suffered with diarrhœa and vomiting. On May 1st laparotomy was performed, and a cyst the size of a tangerine orange was found in the free margin of the mesentery, the small intest coursing over it. Two ounces of turbid serum were remov by aspiration. The cyst, which was attached to the ab minal wall, was opened a few days later, and a drainage tu inserted. The case ran a perfectly aseptic course with c valescence, only a fistula being left. On June 6th, nearly weeks after the operation, the child was suddenly attacl with convulsions and collapse, and died in a few hours. cause for this was discovered at the necropsy. There wa slight organic narrowing of the intestine where it was attacl to the cyst, probably due to arrest of development. Case male child, aged 3½ years, was admitted with acute intesti obstruction of four days' duration. The abdomen was d tended, and the patient much exhausted by incessant vom ing. Dulness was noticed in the right lumbar region, but tumour was obscured by distended coils of intestine. Eve performed laparotomy, and a large cyst, containing ounces of serous fluid, was found occupying the right flan it was situated in the free margin of the mesentery, and co pressed the intestine. The cyst was excised and the wou sutured. Death occurred from shock and as a result of p vious obstruction, nine hours after operation. At the necro no peritonitis was present. The cyst was situated 7 feet ab the ileo-cæcal valve. These two cases illustrate the typi symptoms of mesenteric cyst in the earlier and later stag The first had symptoms resembling gastro-enteritis w emaciation; the second, typical intestinal obstruction wi out definite premonitory symptoms. In Case 1 all the p sical signs of mesenteric cyst were well marked, with the ception of the presence of a band of resonance over tumour. In Case 2 the tumour was entirely obscured coils of distended intestine; dulness on percussion was only indication of its presence. Reference was made to various abdominal tumours which might be mistaken mesenteric cysts. A classification of mesenteric cysts w given, and it was pointed out that these two cases belonged a group of lymphatic or serous cells which were supposed originate in the lymphatic glands of the mesentery. The c wall in Case 1 contained much unstriped muscle tissue. T was also observed in a specimen in the museum of the Ro College of Surgeons. References were also made to more cently reported cases of mesenteric cyst possessing unus characters. Drainage after attaching the cyst wall to parietes was preferable to excision on account of its grea safety. The former was by no means an ideal operation, a its dangers and drawbacks were pointed out. The pa closed with remarks on the literature of the subject and rarity of mesenteric cysts in children.

Dr. Rolleston suggested that the cyst in Case 1 was rived from a diverticulum of the intestine, the communi tion of which with the intestine had become obliterated. T large amount of muscular tissue in the cyst wall suppor this view, while the absence of the mucous membrane mi be explained by supposing that it had been shed. Div ticula in the small intestine might be multiple; Letulle l described 300 cysts in the small intestine derived from walls. Meckel's diverticulum was single, and usually curred within 3 feet of the cæcum, but it might occur higher

Dr. Norman Moore referred to a specimen of multi diverticula high up in the small intestine in the museum St. Bartholomew's Hospital; he thought the cyst in Cas might possibly be of this origin. He did not think it w derived from a Meckel's diverticulum, since it was direc towards the mesentery and not to the free border of the testine; again it was difficult to see why a Meckel's div ticulum should become closed at its intestinal end.

Mr. J. H. Morgan asked what form of incision was adopt

Dr. R. A. Gibbons being interested in transfusion, asl for further details of this treatment in a child of 11 week

Mr. Eve, in reply, said that he was not inclined to reg the cyst in Case 1 as derived from a diverticulum of the testine, although he had considered this point, because bo the mucous and submucous coats were absent, and t arrangement of the muscular coat was very irregular; in dition, the wall of the intestine at this point showed no si of any obliteration of the diverticulum. The abdominal cision had been made in the middle line. Ordinary s solution had been injected into a vein; such treatment h proved of use in young children in counteracting collapse.

MEDICAL SOCIETY OF LONDON.

RTHUR ERNEST SANSOM, M.D., F.R.C.P., President, in the Chair.

CLINICAL EVENING.

Monday, November 8th, 1897.

THYROID TREATMENT.

r. W. S. COLMAN showed a girl, aged 10, who first came der observation in June, 1897, and had not previously been ated with thyroid gland. She was then 9½ years old, ighed 30 lbs., and was 2 feet 10 inches in height. Her legs re short. There was lordosis and prominence of the domen. She was in the second standard at school. During ır months of thyroid treatment she had grown 2½ inches, d the fatty masses had disappeared from her neck. Her pression was lively and intelligent.

Dr. FLETCHER BEACH said this was the first time he had en or heard of a cretinoid physique without mental defect.

Dr. W. CARR showed a child who, when first seen in Feb- ary, 1896, being then 5 years old, presented a typically tinoid appearance. Mentally she was very deficient. She s given one 5-grain tabloid of thyroid extract (Burroughs, ellcome and Co.) daily, but as this sent up the temperature 102° F., the dose was reduced to one half. Gradual im- ovement set in; her weight fell at first to 20 lbs., then wly increased, the cretinoid aspect disappeared, and the elligence steadily improved. She had continued to take aller quantities of the extract, and had developed into a lthy child, weighing 37 lbs., and measuring 37½ inches in ght. No thyroid gland could be detected on palpation.

Dr. F. DE HAVILLAND HALL showed a man, aged 41, who s admitted in August, 1896, for loss of power in the left n and leg. He then weighed 28 st., his height being eet 8 inches. On September 3rd he was put on a nitro- ous diet with no alcohol, and on the 8th he was given hyroid tabloid daily, increased to 2 on September 11th, to 3 daily on October 3rd. The temperature remained ctically normal throughout, there was marked diuresis, his weight fell by October 30th to 21 st. 10 lbs.

COLEY'S FLUID.

Dr. MANSELL MOULLIN showed two cases in which he had loyed Coley's fluid for tumours suspected to be sar- atous. The first patient was a man aged 28, admitted in ember, 1895, for swelling in the groin of four weeks' ding. The swelling occupied the right iliac fossa, extend- deeply on the inner surface of the pubes. It was firm, fluctuating, rather tender, and beneath the iliac vessels. re were four enlarged glands near it. The patient appeared and his temperature was irregular. On December 4th of fluid was injected, and the next morning the tempera- went up to 100.8° A second injection of ♏j was given afternoon without result, and on the evenings of ember 6th and 7th the temperature rose to 102° F. r this date injections were made every second or third gradually increased to ♏vj, with very capricious lts, some being followed by rigors and others not. treatment was discontinued at the end of February, as it ceased to have any effect. It proved beneficial rather otherwise, the patient's weight having increased from 12 lbs. to 10 st. 5 lbs. The tumour at first increased dly, the skin becoming red and tender. About the middle nuary it was noticed that the tumour was smaller and glands less apparent. At the end of the month it became er again, and had all the appearances of being acutely med. At the beginning of March it shrank and grew and irregular in outline until there was very little of it e felt. Since that time it had scarcely altered. The nd patient was a man, aged 48, admitted November 10th, for an abdominal tumour. The left flank was occupied large irregular swelling, elastic, hard, not fluctuat- not connected with the skin or muscles. Below it ended into the iliac fossa, above it reached under the ribs, while in front it came nearly to the middle line. e was no glandular enlargement or pain. The tumour lly increased in size, and the treatment was commenced December 14 with ♏ss of fluid; the temperature rose to F. The injections were repeated every two or three until a dose of ♏vj was reached. On December 9th there was a rigor after ♏iv. On January 24th there was another rigor with ♏vij, the temperature rising to 101 8° that evening, and 103.6° next day. For a fortnight afterwards it kept above normal, and no further injections were made. The tumour continued to grow until it pressed upon the colon and threatened obstruction. In January it became acutely inflamed, but this subsided, and the tumour began to shrink until it could scarcely be felt. The patient left the hospital in March stouter and stronger than on admission.

Mr. Moullin admitted that it was impossible to be sure of the diagnosis of sarcoma, but he himself had no doubt on this point, and it was difficult to imagine what else they could be. They were certainly not gummata, and there was nothing to suggest an inflammatory origin. He agreed that the remedy was attended by some danger, and in one of his other cases the patient, who was in a weak condition, died shortly after the second injection. As regards its utility, he recalled that Dr. Coley had published 20 cases, well authenticated, in which the tumours had disappeared, and the patients had remained free from recurrence. He himself had tried Coley's fluid in 9 cases of inoperable sarcoma with one death. One had refused further treatment after two or three injections; 2 were still under treatment, in 3 the growths had disappeared, and in the others, although they did not disappear, they became greatly modified, and for a time diminished in size. He confessed himself unable to decide whether the fluid acted as a specific or merely by provoking inflammation.

Mr. WATSON CHEYNE said he had treated two cases with Coley's fluid, and in one the growth was recognised to be sarcomatous. He observed that Dr. Coley's statements could be implicitly relied upon, and commented on the fact that the growths in Dr. Coley's cases were all of the spindle-celled variety.

Dr. COLMAN gave the results of *post-mortem* examination in 2 cases examined after treatment by injection, the patients having died of some intercurrent disease. In one there was a large area of softening in the interior of the tumour, while in the other there were cicatrices which probably marked the site of past inflammation.

Mr. MANSELL MOULLIN, in reply, explained the method of dilution employed. He said he had never had an opportunity of examining a tumour after treatment. In a case at present under observation a central soft portion had sloughed out since the injections had been begun without hæmorrhage from subjacent vessels.

CASES.

The PRESIDENT showed two cases of Mitral Stenosis, and discussed the interpretation of the physical signs; and Dr. SEYMOUR TAYLOR and Dr. DE HAVILLAND HALL made some remarks on the cases.—Mr. G. TEMPLETON showed a woman, aged 29, suffering from Multiple Subcutaneous Tumours, the first of which had made its appearance seven years ago.—Mr. COTTERELL showed a woman for whom a Rectangular Splint had been adjusted after removal of the costo-pectoral portion of the pectoral muscle, with excellent results in respect to subsequent freedom of movement.

OBSTETRICAL SOCIETY OF LONDON.

C. J. CULLINGWORTH, M.D., F.R.C.P., President, in the Chair.

Wednesday, November 3rd, 1897.

ABDOMINAL HYSTERECTOMY FOR MYOMA OF THE UTERUS.

MR. BLAND SUTTON read a paper on this subject, illustrated by notes of 28 cases. He said that recent improvements in the methods of performing hysterectomy had been followed by such good consequences that abdominal hysterectomy for myomata of the uterus, too large to admit of vaginal myomectomy, was now rapidly gaining favour, and it was becoming a plain duty to point out to patients with uterine myomata, as was done with those who had ovarian tumours, that the earlier the tumours were removed the less the operative dangers, and therefore the less the peril to life. It was for the purpose of showing how safely uncomplicated myomata of the uterus would be dealt with that he had placed brief records of 28 cases, operated upon at the Chelsea Hospital for Women and the Middlesex Hospital, before the Society. Whenever possible, especially when operative interference

was necessary during the menstrual period of life, he reversed the conditions of oöphorectomy, so that instead of removing the ovaries and Fallopian tubes, and leaving the uterus and tumour, he removed the uterus and tumour and left one or both ovaries, with the corresponding Fallopian tube. This happened in 14 cases in the subjoined list. The immediate results of this method were admirable, and spared the patient at least the inconvenience of an acute menopause. An analysis of the age of the patients was of interest. The youngest woman in the series was 29, and the eldest 54:

Under 30	1
Between 30 and 40	10
Between 40 and 50	13
Above 50	4
	28

Only one patient (Case 3) had ceased to menstruate previous to the operation.

Mr. ALBAN DORAN insisted that, whilst an ovarian cyst nearly always caused death if not removed, a large number of uterine fibroids remained stationary and harmless. Others, however, entailed discomfort and danger, and then the surgeon must consider which is the safest operation. Altogether the retroperitoneal method seemed the best. He found that in cases in which the tumour was large but the cervix free the operation was especially satisfactory. The arteries were easily seen or felt and secured; the cervix could then be divided, and the healthy mucus which it contained was free from germs. The patient was saved from the inevitable direct and secondary evils of the *serre-nœud*. This advantage was marked in 6 very anæmic cases where he had successfully operated; in 1 there was a sloughing submucous growth, which caused no trouble after the operation. He had lost 2 cases where the operation had certainly been deferred far too long; unhealthy mucus in the cervix was a source of peril in sickly subjects. No operation for burrowing and cervical fibroids could be free from danger; enlarged branches of the uterine arteries were here a source of peril. Mr. Doran objected to leaving the Fallopian tubes behind, and always endeavoured to take them away with the uterus undivided. Their contents were often unhealthy. As to the abdominal sutures, no method was perfect. The numerous reports sent in at the Geneva Congress in 1896 tended to show that in every case the last method adopted by each authority was the best insurance against hernia. The fallacies in such evidence were obvious.

Dr. PLAYFAIR took exception to the sweeping conclusion that had been arrived at that removal of the appendages was not to be performed in any case of fibromyoma. In his experience, in properly-selected cases it was one of the most valuable operations, and the results were occasionally most brilliant. He was aware that this was not the opinion of the most forward school of hysterectomists, either in America or England, who seemed to hold that the mere existence of a fibromyoma, whether it produced symptoms or not, was a sufficient ground for hysterectomy. He held this theory to be most dangerous and untenable. Dr. Duncan had shown that evening quite a small fibroid, not bigger than a large orange, which he had removed by hysterectomy. Some of the Fellows had criticised this procedure, and said he should have removed it by vaginal enucleation. He contended, however, that if Dr. Duncan had performed oöphorectomy, he would have subjected the patient to infinitely less risk, and have obtained quite as good a result. The small mortality, which was practically *nil*, following oöphorectomy was one of the chief grounds for selecting it in suitable cases. Even in Mr. Sutton's cases there had been a mortality of 7 or 8 per cent.; conceive what it would be in less experienced and skilful hands. It seemed to him absurd to compare the risks to which the patient was subjected in performing oöphorectomy and hysterectomy. Another point he might remark on was the operation to be selected. He felt sure that the extraperitoneal method and clamp were doomed. The long painful convalescence was most terrible, and no fact seemed to him more certain than that the intraperitoneal plan had come to stay. He strongly advocated suture of the parietes by three separate layers.

Dr. HORROCKS was surprised that no mention was made of Baer, who first described the operation. Dr. Galabin published a paper on it, and later Mr. Harrison Cripps brought forward some cases before the Soci At the discussion on that paper he (Dr. Horro had ventured to describe the operation with the *se nœud* as a barbarous one; and although exception taken to the word at the time opinion was now largely aga this so-called operation. In one case after using the *se nœud* the patient had so much pain from the dragging of pedicle that he opened the abdomen the second time, completed the operation by Baer's method, and the pat had been well ever since. One thing surprised him much, and that was the large number of cases operated u by certain operators. He could not but think that in m of these cases no operation whatever was required; fo was a well-known fact that fibroid tumours were, in majority of cases, innocent tumours. They stood on qui different footing from ovarian cysts, which almost invari proved fatal when left alone. This point had a bearing the mortality of Mr. Sutton's cases, for if all the twe eight cases were bad cases of fibroids causing grave sympt of hæmorrhage and such like the loss of two, or a morta of 7 or 8 per cent., could not be called great. He had d the operation twelve times, with one death in a case c plicated with albuminuria. Each of these cases was n serious, and none of them so small as some of those in Sutton's list. He could not agree that the mortality of operation was as low as that of ovariotomy. He thou 7 per cent. a high mortality in ovariotomy in these day asepsis. He entirely agreed on one point, namely, the portance of leaving the patient one or both ovaries w they were healthy. He himself had done this in sev instances, and considered it a far greater mutilation to rem the ovaries than to remove the uterus.

Dr. HUBERT ROBERTS thought it was a pity that the histor the cases had not been fully given, particularly as the po in the symptoms which had rendered the operations scribed necessary. He could not agree with Mr. Sutto many points; surely a very large number of fibroids s did not require operation at all. He thought the sweep assertions as to clamp and belt made by Mr. Sutton were deserved.

Mr. MEREDITH expressed his entire dissent from the vi held by the author of the paper regarding the duty of rec mending early operation in cases of uterine fibromyoma course rightly adopted in the case of ovarian tumours. two diseases were not comparable as regards the necessity operative interference since the great majority of fibromyo tous growths did not tend to imperil life, and might never quire surgical treatment; while ovarian tumours, on the ot hand, inevitably proved fatal unless removed. It should borne in mind that the fact of recovery after an operation no means absolutely implied that the treatment adopted a necessary procedure. The author's views on the valu the intraperitoneal treatment of the uterine stump wc appear to be founded upon somewhat insufficient da namely, the results of only 28 operations, of which 2 pro fatal. The speaker's experience with the *serre-nœud* given him 83 recoveries out of a succession of 90 abdomi hysterectomies, including a run of 30 cases without a fatal and two series of 40 and 47 respectively, with but two dea in each—results which had not as yet, so far as he knew, b equalled by advocates of the intraperitoneal method. At same time, however, he fully recognised the advantage the shorter convalescence required by this latter plan treatment, and he had therefore now adopted it for some months past with very satisfactory results. Mr. Sutton not hesitate to say that the operation of oöphorectomy now been entirely superseded by intraperitoneal hyster omy; but he (Mr. Meredith) still considered the operatio question to be a most valuable and efficient method of tr ment in suitable instances, giving a mortality in his exp ence of something under 3 per cent. A considerable proj tion of cases of abdominal hysterectomy, especially where lower segment of the uterus was tolerably free from grow would recover easily, whether the stump was secured by *serre-nœud* or by ligature; but, on the other hand, m tumours were to be met with which would tax to the utmost knowledge and skill of the operator, and the wise surgeon wo reserve to himself the power of selecting, in any given stance, the method of treatment which, from his own

perience, he deemed most likely to secure the best result for his patient.

Dr. William Duncan quite agreed with the author that the intraperitoneal method of performing hysterectomy was far superior to the extraperitoneal method, in which a clamp had to be used and the stump left to slough away. He published in the *Lancet* about three months ago a list of eighteen consecutive cases, which comprised every case (hospital and private) he had performed, in which only one death occurred, and that took place on the eighteenth day from pulmonary embolism when the patient was considered convalescent. He quite agreed with Mr. Doran that the appendages should be removed as well as the tumour, for in not a few cases of fibroids of the uterus it was well known that the tubes contained pus, hence a source of danger if these were left. Seeing the remarkable success that attended this operation, he was strongly of opinion that oöphectomy for fibroids should be allowed to lapse into oblivion even in cases of small tumours, for oöphorectomy in these cases had a mortality of at least 5 per cent.

Mr. Butler Smythe thought credit was due to Mr. Sutton for so clearly pointing out the additional risks attending the performance of the so-called panhysterectomy. The risks were not imaginary, but there was a real danger to the ureters, one or both of which might easily be cut across or included in the lowest ligature. His (Mr. Smythe's) ideas on the subject under discussion were so absolutely opposed to the views held by Mr. Sutton, that he would like to ask him what the signs and symptoms were which would lead him to perform hysterectomy? In his opinion, not one fibroid in twenty required removal, and he was now speaking of large tumours and not of those similar to the one exhibited that evening.

Dr. Griffith entirely agreed with those who held that the intraperitoneal method was the preferable operation. No one who had followed the progress of many cases operated upon by the two methods would hesitate to admit the greater freedom from suffering during convalescence, and general well-doing exhibited by patients after the intraperitoneal operation. His conviction was that the operation of enucleation of fibroids in suitable cases with proper antiseptic methods was a very safe and preferable operation, leaving the patient with a perfect uterus as well as ovaries.

Dr. Heywood Smith said that in 1892 he read a paper elsewhere on Subperitoneal Hysterectomy, which he contended described the operation better than "intraperitoneal." In it he brought forward cases by Goffe (New York) and Milton (Cairo) as well as some by himself, and he was glad to find the most advanced operators were pursuing that method to the exclusion of the *serre-nœud*, oöphorectomy, and so-called panhysterectomy.

The President said he had had an opportunity of declaring his views on the subject before them so recently, namely in the discussion which took place last year upon Mr. Harrison Cripps's paper that he would not occupy more than a few minutes with his remarks on the present occasion. He agreed with the author in regarding the operation he had described as superior to that of so-called panhysterectomy. He also agreed as to the desirability of leaving if possible one or both ovaries. The trend of modern surgery was in the direction of removing nothing that could be avoided, and in sparing wherever possible, both in male and female, one or both of the essential organs of reproduction in operating for diseases in which those organs were involved.

Mr. Bland Sutton, in reply, expressed amazement at the singular course the discussion had taken. He never for a moment anticipated that the horrid clamp would find a single supporter. The clamp in the treatment of hysterectomy was doomed, and he ventured to predict that in five years' time no operator would be found unwise enough to advocate its use. In regard to the wound he said a yielding cicatrix after any form of abdominal operation, in which the wound was secured by a single row of sutures, was in a certain proportion of cases inevitable.

Specimens.

Dr. Cullingworth: (1) Fibroma of the Ovary; (2) Gangrene of an Interstitial Fibromyoma of the Uterus; (3) Fibromyomata of the Uterus causing intestinal obstruction and death two years after the menopause; (4) Early Ectopic Gestation complicated by Fibromyomata of the Uterus.—Mr. Targett (for Dr. Williamson): (1) Sarcoma of Uterus causing inversion; (2) Intrapubic Joint producing diminution of pelvic inlet.—Dr. Playfair: Carcinoma of Cervix Uteri removal by total extirpation, the ovaries and tubes having been removed two years previously.—Dr. William Duncan: (1) Large Myoma of the Uterus and Tumour of the Left Ovary; (2) Small Interstitial Fibroid of Uterus removed by abdominal hysterectomy.—Dr. John Phillips related the subsequent history of a Case of Ruptured Uterus.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

D. Argyll Robertson, M.D., President, in the Chair.

Wednesday, November 3rd, 1897.

Patients.

Professor T. Annandale showed a man of 42 from whom he had, six weeks ago, removed the entire larynx, part of the trachea, and a large vascular thyroid. Dr. MacBride had advised operation on account of interlaryngeal epithelial growth which was seriously interfering with respiration. Low tracheotomy was first performed, an operation of considerable difficulty because of the great enlargement of the isthmus and right lobe of the thyroid. So great was this that when exposed the trachea was at a depth of 3 inches from the surface. The respiration was at once relieved. Two weeks later an operation for the removal of the larynx and thyroid growth was performed. A new and improved appliance for the administration of chloroform in this and similar cases was shown and described, and its advantages explained. Temporary ligature of the trachea immediately above the tracheotomy wound by means of an elastic cord, so as to prevent any escape of blood or vomited matter into the air passages, was advocated, as it had been very successfully employed in this case. The divided end of the trachea was stitched to the margin of the external wound, the end of the œsophagus being similarly treated, and an india-rubber tube passed for some distance into the canal and secured there by a few stitches. The rest of the incision, which was that usually adopted for the excision of the entire larynx, was then closed up by sutures. The patient made excellent progress, and feeding was carried on through the œsophageal tube. This latter was removed in three weeks, and feeding was done through a tube passed by the mouth. The wound in the neck was now closed, with the exception of that opening into the trachea, which was still occupied by the tracheotomy tube. The patient was now able to take minced meat, bread, milk, etc., by the mouth, and to swallow them without difficulty. In order to prevent undue contraction of the new portion of the canal between the pharynx and divided end of the œsophagus he was wearing a tube passed in for some distance from the mouth, the upper end of the tube being ingeniously hidden inside the mouth by the patient, and having a thread attached to it, by means of which he withdrew the tube when he wished to swallow. The patient was convalescent, was going about, and gaining flesh. From the fact that the œsophagus had to be divided at the same level as the trachea, the satisfactory introduction of any artificial larynx would seem to be doubtful in this case. Professor Annandale showed and described a modification of the permanent tracheotomy tube. The upper extremity was curved somewhat downwards, so as to lessen the risk of anything passing through it into the air passages. About 4 inches of india-rubber tubing were attached to this end of the tracheotomy tube so as to render the temperature of the air somewhat more agreeable to breathe.—Mr. A. G. Miller showed a patient after resection of the ulnar nerve, and described the mode of his operation.—Dr. Allan Jamieson showed: (1) Two cases of Lupus Vulgaris treated with Koch's new tuberculin. One was a girl, aged 17, who had had the disease as long as she could remember. She had improved considerably under the care of Dr. Norman Walker as an out-patient. She was admitted to Ward 38, Edinburgh Royal Infirmary, on August 31rd last, and after a preliminary scraping to remove crusts the tuberculin was begun. The highest dose reached was $3\frac{1}{2}$ milligrammes, and this had been given every second day since October 10th. Reaction had been slight. With the tuberculin was combined local treatment by painting with liq. antimonii chloridi, or the application of a 2 per cent. solution of per-

manganate of potash in water on lint. The result of the combined treatment was the entire disappearance of thickening, which was very marked, and of all interstitial inflammation, so that the skin of the neck and face (the parts affected) was now thin, soft, and pliable, but the brownish-yellow nodules still persisted in considerable numbers. The other was a woman, aged 40, in whom the greater part of the face was affected with non-ulcerative disease of old standing. There was much thickening of the skin. The same local treatment had been employed, and the tuberculin injected since August 23rd. There was improvement, but not to such an extent as in the first case. (2) A case of Lupus Erythematosus in a man of 35, in whom it had lasted for five years. The peculiarity was that besides the more common features of the disease, there was great thickening of the skin of the face and neck, resembling elephantiasis. (3) A case of Dermatitis Herpetiformis in a man, aged 59, who had suffered from the ailment for ten years. The arms were shown which exhibited very typically the erythemato-bullous type of the disease.

SPECIMENS.

The PRESIDENT showed specimens of Filaria Loa, some of which had been removed from situations far removed from the eye and its adjuncts.—Professor ANNANDALE showed the parts removed from the patient referred to above. He also showed specimens from a case of Laparotomy in a woman aged 48. The special interest was that three different tumours were found in the abdomen and successfully removed at the same operation: (1) A large Fibroid of the Uterus; (2) a very large Cystic Tumour of the Left Ovary; (3) a Dermoid Cyst, containing Hair, of the Right Ovary.

CHRONIC GLANDULAR ENLARGEMENTS IN THE NECK.

Mr. A. G. MILLER read a paper on the etiology and treatment of chronic glandular enlargements in the neck, in which he pointed out the importance of discovering and removing the causes of these enlargements, and advised the early removal of glands that were even suspected of being tuberculous. In the first part of his paper Mr. Miller referred to the frequency with which he had met with cases in which the removal of some such source of septic irritation as a carious tooth would have presented the gland disease. He next dealt with the question of diagnosis between simple and tuberculous gland enlargements, and pointed out that differential diagnosis was difficult, and a hard-and-fast line of distinction impossible, because tuberculous cases began with a simple enlargement, and simple cases might easily become tuberculous. Mr. Miller next described and illustrated the anatomical relations of the various groups of lymphatic glands in the neck in regard to the various parts of the head and face from which they derived their lymphatics. He pointed out how the knowledge of these anatomical relations should aid the surgeon in finding the source of irritation which had started the gland inflammation in each case. The next part of the paper dealt with etiology more especially. Mr. Miller divided his subject, by what he called the "old-fashioned method," into predisposing, exciting, and maintaining causes. As predisposing causes he quoted childhood and heredity. He believed that there was a special tendency to gland disease in children and in certain persons in whom the tendency seemed to be inherited. As exciting causes he spoke of such affections as enlarged tonsils, adenoids, pharyngitis, middle ear disease, carious teeth, etc., pointing out how these conditions afforded an "open door" for the entry of all kinds of organisms to the glands by absorption. As maintaining causes Mr. Miller quoted the "open door" left open—that is to say, the non-removal of the exciting causes. He pointed out how this state of matters was specially dangerous, because it afforded an opportunity for the entrance of tubercle bacilli, and these organisms could not be easily extruded; they generally "came to stay." On the subject of treatment, Mr. Miller had only two points: (1) Open doors should be shut; all exciting causes should be sought for and removed—*Causa sublata tollitur effectus.* (2) All enlarged glands that persisted after removal of all discoverable causes should be treated as possibly tuberculous and excised. Mr. Miller spoke of a pretuberculous stage in which it was advisable to excise. "When in doubt, operate." Mr. Miller, in concluding, summed up his argument in the three following aphorisms: (1) Glandular enlargement has always a cause, which should be sought for and removed if possible. (2) If the cause be not removed the enlargement will persist, and such persistence may give occasion to tuberculosis. (3) Persistent enlargement, after removal of all discoverable causes, generally means tuberculous infection or a pretuberculous condition; therefore all persistently enlarged glands should be excised.

The paper was discussed by Drs. JOSEPH BELL, C. W. MACGILLIVRAY, CLOUSTON, and JAMES RITCHIE, and by Messrs. STILES, CATHCART, and LOGAN TURNER; and Mr. MILLER replied.

PRESIDENT'S ADDRESS.

The PRESIDENT then delivered his valedictory address. He expressed his thanks for the courtesy and kindness he had received in the chair. He shortly reviewed the work done at the Society's meetings during his two years' tenure, referred to the stimulus to original research and scientific work that had been given by the founding of the laboratory of the Royal College of Physicians, and expressed the hope that a similar result would come from the laboratory which the Royal College of Surgeons was about to equip. The membership of the Society, he said, now amounted to 417, including honorary and corresponding members. He offered some practical suggestions as an end to further increase the efficiency and attractiveness of the Society's meetings. He thought there should be more frequent clinical afternoon meetings. Among other advantages of these there would be the greater inducement to the senior members to turn out to the meetings. He suggested that the patients should all be assembled and exhibited for half an hour or more before the formal meeting began. For this, not merely the meeting hall but the side rooms might be utilised, while each patient should be provided with a very short note of the nature of his ailment. At the formal meeting a very short discussion might be permitted on any cases of special interest. He would also suggest the advisability of providing members attending the afternoon meetings with tea. The President further suggested that one of the clinical meetings of each session might be held at the Royal Infirmary, as were the British Medical Association Branch meetings with so much success. Many cases of the greatest interest and importance could not be brought to that place of meeting of the Society, but could be seen there. So also with the endless number of medical and surgical appliances; these could be more readily seen there. It was also worthy of consideration whether a similar meeting should not be held every second or third year in the Children's Hospital, of course with the consent of the Board of Management and staff. In conclusion, he urged that everything possible should be done to foster and cherish the Society, to enlarge its possibilities of usefulness, since it was a precious heritage left to their care. It had played an important part in the past history of the Edinburgh Medical School; much of the best work done there had been brought under the notice of the profession through the medium of the Society. He looked with confidence to the future, and was convinced that the Society would in no way fall from the high position it had held and continued to hold among the medical institutions of that city.

Election of Officers.—The following gentlemen have been elected office-bearers for the session 1897-98:—*President:* Dr. J. Batty Tuke. *Vice-Presidents:* Dr. J. Carmichael; Dr. F. Cadell; Dr. P. A. Young. *Councillors:* Dr. Joseph Bell; Mr. J. B. Hodsdon; Dr. Milne Murray; Dr. Noel Paton; Dr. Argyll Robertson; Dr. John Thomson; Dr. Michael Dewar; Mr. J. Shaw McLaren. *Treasurer:* Dr. MacKenzie Johnston. *Secretaries:* Dr. Graham Brown and Mr. J. Montagu Cotterill. *Editor of Transactions:* Dr. William Craig.

LIVERPOOL MEDICAL INSTITUTION.

RICHARD CATON, M.D., F.R.C.P., President, in the Chair.

Thursday, November 4th, 1897.

DISSECTING AORTIC ANEURYSM.

DR. GLYNN narrated the case of a man, aged 34, who died of dissecting aneurysm of the aorta. He also exhibited the specimen, which showed that the whole of the thoracic and abdominal aorta was involved. The patient had suffered

from infective endocarditis at the age of 14, and had since been the subject of aortic regurgitation. During life the symptoms of mitral stenosis were present, but *post mortem* no mitral stenosis was found. The man died from dissecting aneurysm rupturing into the pericardium.

Dr. A. C. E. Harris and Dr. Carter made comments on the case.

Fatal Case of Thyroidectomy.

Mr. F. T. Paul read this paper, which will be published in an early issue.

Dr. Alexander and Mr. Rushton Parker made some remarks.

Nitrogen Excretion in Sporadic Cretinism.

Dr. Abram read notes of the case of a girl, aged 14, who had suffered from cretinism for about two years. He administered thyroid extract for six weeks, in which time the patient increased 1¼ inch in height. He considered that the administration of thyroid extract increased metabolism, as shown by the larger excretion of nitrogen.

Dr. Carter remarked that if waste from any cause occurred, such as excessive labour, etc., the output of nitrogen was immediately increased. This child, like all myxœdematous patients taking thyroid, lost weight; but he was unable to see that the determination of the total nitrogen proved that the action of the thyroid on metabolism was direct any more than the mere fact of the loss of weight proved it.

Dr. Stanley Gill, Dr. Glynn, and Dr. P. Davidson made comments upon the case.

Immediate Correction of Deformity in Pott's Disease.

Mr. Robert Jones read a paper upon this subject, illustrated by lantern slides. He had operated on a very large number of cases since July with results which had exceeded his expectations. Sufficient time had not elapsed to allow him to advocate so bold a procedure with any degree of dogmatism. However, with ordinary precautions, no immediate ill effects followed. He had no case of abscess, no case of disseminated tubercle, and none of paraplegia. Where paraplegia had existed the extension and pressure had either improved or cured it. He pointed out tendency to bony ankylosis in caries of the spine which was not found in tubercle of other joints. This inspired the hope that the separated vertebræ would become firmly united, and that the danger of the so-called gap might prove illusory. The cases showed the disease in various regions, and some of them had great deformity. In some the disease had been present for several years. He recommended a splint constructed so as to keep the spine in lordosis. This splint was preferable to the plaster jacket used by Calot.

Mr. R. W. Murray said he had operated upon 14 children, whose ages varied from 2½ to 9 years. They were all selected cases, and the children, apart from the spinal trouble, were in good health. The immediate results had been entirely satisfactory, but in 1 case, in which the disease was in the upper dorsal region, weakness of the upper limbs and exaggerated knee-jerks came on a month after operation. He drew attention to the large mortality of tuberculous disease of the spine amongst the poor and also to the remarkable absence of the formation of new bone. This being the case, would the gap formed between the bodies of the diseased vertebræ caused by the forcible correction ever be filled up by bone sufficiently strong to bear weight?

Mr. Rushton Parker said that he had performed this operation both with and without an anæsthetic; in the latter case there did not seem to be much pain caused. He considered the Thomas's double hip splint used by Mr. Jones a great improvement upon the plaster jacket. He looked forward with hopeful interest to the application of Calot's method.

Mr. Thelwall Thomas drew attention to the fact that forcible interference with tuberculous bone disease did not produce paralysis, abscess, or dissemination of tubercle, three theoretical "bogies" that had been handed down from textbook to textbook. Recent experience in forcible dealings with joint disease gave surprisingly good results, and he felt sure that permanent success would follow a large number of cases treated by Calot's method.

Mr. George Hamilton pointed out that in estimating the amount of improvement in paralysed cases after Calot's method, it was important that the fact that many such cases recovered under the classical methods of treatment should not be lost sight of. He could quote many such in his own practice.

Mr. A. Davies did not think the operation justifiable except with great circumspection and in carefully selected cases.

Dr. Glynn, Dr. Stanley Gill, Mr. Newbolt, and Dr. Sheldon also took part in the discussion; Mr. Robert Jones replied.

Hunterian Society.—A clinical meeting of the Society was held at the London Institution on October 27th, 1897, the President, Dr. G. E. Herman, in the Chair. Sir Hugh Beevor showed a case of Congenital Heart Disease in a Youth, aged 21, in which he considered the physical signs as indicative of a patent ductus arteriosus.—Dr. J. H. Sequeira showed a case of Congenital Heart Disease in a Child, aged 10, who exhibited signs of arrested physical development. He showed also a case of Chronic Hydrocephalus in a Girl, aged 11½ years, with marked arrest of mental and physical development.—Dr. F. J. Smith brought forward a case of Proptosis in a woman who had been under observation for two years. There was also congestion of the conjunctiva on the outer side of both eyes, with œdema of the eyelids and enlargement of the veins.—Mr. A. H. Tubby exhibited a case showing removal of the left half of the tongue, left submaxillary giand, and left anterior pillar of the fauces for epithelioma of four months' duration. The patient was a man, aged 50, and had made an excellent recovery.—Dr. Cotman exhibited the Radiograph of a case of Disease of the Left Ankle-Joint; the patient was also present. Remarks on the cases were made by the President, Dr. Hingston Fox, Mr. Tubby, Dr. F. J. Smith, Dr. Glover Lyon, Mr. Rawes, and Dr. Grogono.

Manchester Medico-Ethical Association.—At a general meeting held at the Queen's Hotel, Manchester, on October 29th, Dr. Rayner (Stockport), President, in the chair, Mr. R. B. Anderson, F.R.C.S.Eng., gave an address on Medical Defence, illustrating the subject from his defence of medical rights in his own case. He pointed out how warmly his cause had been espoused by the Councils of the British Medical Association and of the Royal College of Surgeons of England, which had declared that his rights were violated, and ought to be vindicated, and had invited the profession to unite in vindicating them, until application was made to them to aid in providing the necessary funds for appeal to the Privy Council from the Trinidad Court and to the House of Lords from the English Courts. He said that even the General Medical Council had expressed its sympathy with him. Mr. Anderson then explained the action taken by a few electors to obtain from candidates at the recent election to the General Medical Council pledges of support for definite measures to secure the reforms essential to the formation of the Corporate and Medical Reform Committee, and the steps taken to obtain united action of all direct representatives in support of those measures.—Dr. Barr deprecated the continuance of an agitation which he thought medical men did not more fully support becaused it seemed to lead to no result. Many men inevitably sustained injury by operation of this law, and Mr. Anderson had suffered grievously in the same way; but he feared the judges would support each other. If Mr. Anderson could be returned to Parliament and by action in Parliament the law could be amended, that would be an object to be gained, but he feared spending money in appeals was like pouring water into a sieve.—Mr. Doyle, solicitor, said that he did not think it could yet be said that the law had injured Mr. Anderson. The House of Lords, and not the Court of Appeal, declared the law of England, and Mr. Anderson's constitutional remedy was by appeal to that tribunal. Should that fail they would then be able to proceed to Parliament.—Dr. Ritchie said that he differed directly from Dr. Barr. It appeared that the constitutional remedy of appeal to the Privy Council and the House of Lords was open to Mr. Anderson, and he thought those measures should be taken, for the issues involved were

of higher consequence than the amounts the appeals would cost.—Dr. BRIERLEY also dissented from the view expressed by Dr. Barr. If Mr. Anderson gave up the contest common rights would be sacrificed. From such readiness to give up its rights the whole profession would suffer. Nothing, he thought, could be satisfactory in the case of the common rights involved in Mr. Anderson's wrongs—not Mr. Anderson's rights only, but the rights of all of them—except to enable the necessary appeals to be brought, and if they failed then go to Parliament to re-establish the rights on a sure and firm foundation.—Dr. HOLMES instanced the defeat of Mr. Matthews in his own Committee on the Factory Acts by the concerted action of the certifying surgeons in proof of what the profession might do if it would unite in vigorous action.—The PRESIDENT said that it would be of the greatest advantage to the profession if such bodies as the General Medical Council, and particularly the College of Surgeons, would take an active and proper part in medical defence.—On the motion of Dr. HOLMES, seconded by Dr. BRIERLEY, a vote of thanks to Mr. Anderson was unanimously adopted, recommending the questions raised to the Committee for the consideration of what practical measures could be taken to carry the issues involved to a satisfactory result.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.—The November meeting was held in the Library of the New Hospital for Women on Tuesday, November 2nd, Miss COOK, M.D., President, in the chair.—Miss A. M. BROWNE, L.R.C.P. and S.Edin., showed some photographs of a patient with numerous Sebaceous Cysts of the Scalp. Two growths were of large size, and had been removed by operation.—The PRESIDENT showed two cases under her care in the New Hospital for Women: (*a*) A case of Paraplegia in a girl of 16, probably due to subacute transverse myelitis. The illness dated from an exposure to cold and damp, and motor paralysis developed gradually during two months. Shortly after admission to the New Hospital for Women on September 13th the loss of power in the legs was complete; there was no wasting of muscles or bedsores, and the muscles reacted normally to electrical stimulus. Anæsthesia and analgesia were present in the lower extremities, and reflex action was excessive. There was frequent incontinence of urine and fæces. The upper extremities were unaffected and ocular symptoms absent. There was now a considerable amount of voluntary movement in the legs, and sensation had returned to the normal. No incontinence had occurred since October 2nd. Ankle clonus had markedly diminished, and no rigidity had appeared. The patient could stand with assistance. The diagnosis between hysteria, primary myelitis, and compression of the cord was discussed. (*b*) A case of Tumour, probably fibro-cystic sarcoma, occupying the groin in a woman aged 39. The symptoms dated back to September, 1896, and were chiefly those due to pressure and mechanical inconvenience. The tumour occupied the left groin, and consisted of two portions (1) a hard irregular mass, to which glands were adherent in Scarpa's triangle, and extending to adjacent parts; and (2) above Poupart's ligament, a semi-elastic swelling, apparently cystic. Vaginal examination showed that the tumour was outside the pelvis, and unconnected with disease of the pelvic organs. The diagnosis between new growth, inflammatory and syphilitic disease, and possible hydatid of muscle was discussed.—Miss ELLABY, M.D., read a paper on Migraine in its Relation to Ocular Manifestations, based on cases observed and treated during the last nine years. The cases were divided into six groups, and the treatment, which consisted in more or less prolonged use of atropine, with subsequent correction of the error of refraction, was described.—The PRESIDENT, in proposing a vote of condolence with the friends of the late Miss Rawlinson, L.R.C.P.&S.Edin., said that Miss Rawlinson had died on October 17th, after an illness of four days. At the time of her death she was senior medical officer in charge of the Battersea Maternity, and had won the warmest regard and respect of her patients and fellow-workers. The resolution was seconded by Mrs. SCHARLIEB, M.D., M.S., and carried unanimously.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—At the meeting of this Society on Tuesday, October 26th, 1897, Dr. SINCLAIR WHITE, the President, in the chair, Mr. PYE-SMITH called attention to a valuable method of using the Electro-Magn for the detection of steel or iron foreign bodies, whether sma enough to be extracted by it or not. The method consists attaching the magnet by means of a transformer to the wir for the supply of electric light by an alternating curren When thus used a vibratory sound is heard when the magn comes in contact with the foreign body, continuing as lo as the contact lasts.—Mr. DALE JAMES showed (1) a case Pityriasis Rubra of Hebra which had greatly improved und his treatment; (2) an anomalous case of Ichthyosis.—M HERBERT HALLAM showed (1) a photograph of Bilater Herpes Zoster Faciei; (2) a specimen of a large Perinephrit Sarcoma.—Dr. WILKINSON gave particulars of a successf case of Suprapubic Cystotomy with immediate suture of t bladder.—Mr. ARCHIBALD CUFF showed a patient on whom had performed Intestinal Resection and End-to-End Anast mosis for sarcoma two months ago. The man was subjected two operations. The first included the cutting away of t growth, which was found in a hernia, and the formation an artificial anus. The second, performed some months late consisted of opening the abdomen, resecting the two ends the bowel, and end-to-end apposition. The anastomosis w performed with the help of Mayo Robson's bone button. Dr. BURGESS read notes of a case of Intradural Tumour of t Spinal Cord. The growth—a sarcoma, ovoid in shape, wit diameters 1 and $\frac{3}{4}$ inch—was situated in front of the cord, abo the level of the attachments of the roots of the fourth dors nerve. The chief symptoms were burning pains in the leg which gradually extended up the abdomen, loss of power b ginning in one leg, and, in the course of three or four week extending to the other, and becoming absolute in bot rectal and bladder trouble, with signs of cystitis and pyel nephritis. The most striking feature of the case, howeve was marked dissociation of the sensations of heat, pain, an touch, which began and was most pronounced in the leg and extended up to the fourth costal interspace. The sens tion of touch was not much impaired; that of pain wa greatly impaired, whilst thermic sensibility was completel lost in the legs.

WEST KENT MEDICO-CHIRURGICAL SOCIETY.—A meeting this Society was held on Friday, November 5th, 1897, at th Royal Kent Dispensary, Mr. W. ARBUTHNOT LANE, F.R.C.S President, in the chair.—Mr. C. T. PARKE showed a gir aged 13, the subject of the Hæmorrhagic Diathesis.—Dr. F. TOOGOOD showed the following cases from the wards of th Lewisham Infirmary: (*a*) A Case of Exophthalmic Goîtr which had been benefited by Thyroid Tabloids; (*b*) a Case Spondylitis Deformans in a man; (*c*) A Case of Droppe Wrist from Lead Poisoning in which there had been abs lutely no recovery; (*d*) a Case of Thrombosis of the Later Sinus which had been operated upon with a successful resul —Mr. C. H. HARTT exhibited a Case of Molluscum Co tagiosum in a Woman, who also showed bronzing of th skin resembling Addison's disease.—Mr. MAYO COLLIER rea notes of a Fatal Case of Severe Punctured Wound of th Vertebral Artery.—Mr. ERNEST CLARKE showed an Eye spec men embedded in Canada balsam.—Dr. SCHOLEFIELD ex hibited diagrams of a case of Symmetrical Scotoma.—D HERSCHELL demonstrated a new arrangement of apparatu for washing out the stomach.—The PRESIDENT, Drs. MORGA DOCKRELL, SCHOLEFIELD, MAYO COLLIER, SCOTT, TOOGOOD HARTT, and PARKER joined in the discussions on the variou cases.

MIDLAND MEDICAL SOCIETY.—The first ordinary meeting o this Society was held on November 3rd, at the Medical Insti tute, Birmingham, the President (Mr. J. W. TAYLOR) in th chair.—Mr. HAZELWOOD CLAYTON showed five members of family the subjects of Hæmophilia: two brothers, their mothe their uncle, and their grandmother. The family histor exemplified the law governing the inheritance of hæmophilia namely, that the disease was transmitted through the female to the male children, although the females themselve escaped. In other words the sons of the daughters suffered The great-great-grandmother had 17 children (7 boys, al bleeders; all bled to death). The great-grandmothe (daughter of the above) had 16 children (6 boys, all bleeders

7 bled to death). The grandmother (daughter of the above) had 16 children (6 boys, all bleeders; only 2 living). The mother had 5 children (3 boys, all bleeders). The above history also showed the extreme fecundity of the female members of the family.—Dr. Douglas Stanley showed a Tumour of the Middle Lobe of the Cerebellum. The patient was a girl, aged 23, who had suffered from occipital headache and vomiting for ten weeks. There was no optic neuritis. There was some giddiness at times, but no paralysis of any kind, and the reflexes were unaltered. Breathing failed suddenly, and artificial respiration was kept up for twelve hours, after which the heart's action ceased.—Professor Allen read a paper on Personal Experience of the Pasteur Antirabic Treatment. He recounted his impressions of the Pasteur Institute in Paris. He described the method of preparing the immunising fluids, and gave details of the treatment. He described the constitutional effects of the inoculations, and gave the latest statistics of the results of the treatment.

REVIEWS.

The Masters of Medicine. Edited by Ernest Hart, D.C.L.
William Harvey. By D'Arcy Power, F.S.A., F.R.C.S.
London: T. Fisher Unwin. 1897. (Crown 8vo, pp. 296. 3s. 6d.)

No doctor can feel a patient's pulse without unconsciously paying a tribute to the genius of Harvey, the discoverer of the circulation of the blood. Though year after year the memory of the great master is kept green in the profession by the praise of the Harveian Orator, yet it is well that in these days when ignorant libellers think themselves at liberty to traduce the conduct and defame the reputation of men of science, and when the recipients of the benefits of physiological discovery display the ineffable meanness of vilifying the discoverer, that an author, whose erudition equals his perspicacity, should present in a popular form a life of that philosophical physiologist, learned anatomist, reverential vivisector, gentle courtier, and much-loved man, William Harvey, to whom the human race is, and ever will be, indebted.

In Mr. D'Arcy Power's life of Harvey we are carried back to the time, three centuries ago, when practical demonstrations of anatomy on the dead bodies of felons, or Public Anatomies as they were called, were given four times a year at the hall of the Barber-Surgeons' Company. The demonstrations lasted three days. There was a dissection in the morning and another in the afternoon, with a sumptuous repast between the two demonstrations. A single body was dissected to show the muscles, this was the muscular lecture; another to show the bones, the osteological lecture; and a third to show the parts within the head, chest, and abdomen, the visceral lecture. The attendance of surgeons at the Public Anatomies was compulsory, "for it was enacted in 1572 that every man of the Company using the mystery or faculty of surgery, be he freeman, foreigner, or alien stranger, shall come into the anatomy lecture, being by the beadle warned thereto. And for not keeping their hour, both in the forenoon and also in the afternoon, and being a freeman, shall forfeit and pay at every time four pence."

In 1581 Lord Lumley founded and endowed a six years course of lectures on surgery, to be given twice a week at the College of Physicians. Harvey was appointed Lumleian lecturer in the year 1615, and he held the post and performed its duties for nearly forty years. He was also Physician to St. Bartholomew's Hospital, and Physician-in-Ordinary to King James I, and afterwards to Charles I. To the latter monarch he became devotedly attached, and he followed his fortunes faithfully. In spite of the fact that he was a fashionable and Court physician, and a public lecturer on anatomy and surgery, Harvey found time to pursue long, patient, and elaborate investigations upon the circulation of the blood, not only in man, but in many species and varieties of animals, believing that human anatomy and physiology could only be rightly understood by first obtaining a complete grasp of the anatomy and the functions of life of the lower animals.

His notes for his Lumleian lecture in 1616 show that he had then formulated his views on the meaning of the heart beat, and the course of the blood from the arteries into the veins; but it was not till the year 1621 that he published his great work, entitled, *An Anatomical Treatise on the Movement of the Heart and Blood in Animals*. In it he begins by stating that the heart must be examined whilst it is alive, and says: "I found the task so truly arduous and so full of difficulties that I was almost tempted to think, with Fracastorius, that the movement of the heart was only to be comprehended by God. For I could neither rightly perceive at first when the systole and when the diastole took place, nor when and where dilatation and contraction occurred, by reason of the rapidity of the movement, which in many animals is accomplished in the twinkling of an eye, coming and going like a flash of lightning. At length, by using greater and daily diligence and investigation, making frequent inspection of many and various animals, and collating numerous observations, I thought that I had attained to the truth..... and that I had discovered what I so much desired—both the movement and the use of the heart and arteries. From that time I have not hesitated to expose my views upon these subjects, not only in private to my friends, but also in public in my anatomical lectures, after the manner of the Academy of old. These views, as usual, pleased some more, others less: some chid and calumniated me, and laid it to me as a crime that I had dared to depart from the precepts and opinion of all anatomists; others desired further explanations of the novelties, which they said were both worthy of consideration, and might perchance be found of signal use."

Harvey proceeds to describe clearly the action of the ventricles and auricles of the heart in diastole and systole, the circulation of the blood through the lungs, its course through the arteries of the trunk and its return to the heart by means of the veins. With the exception of the part played by the capillaries, which was revealed later by means of the microscope, no subsequent anatomist has been able to add to or improve the classic description of the circulation of the blood and the movements of the heart given by Harvey.

That his final conclusions were supported by innumerable observations on the lower animals is proved by a modest allusion to his labours in this field: "I have also observed," he says, "that nearly all animals have truly a heart, not the larger creatures only and those that have red blood, but the smaller and pale-blooded ones also, such as slugs, snails, scallops, shrimps, crabs, crayfish, and many others; nay, even in wasps, hornets, and flies, I have, with the aid of a magnifying glass and at the upper part of what is called the tail, both seen the heart pulsating, and shown it to many others."

After the publication of this epoch-making treatise, it is said that Harvey "fell mightily in his practice," for it was believed by the vulgar that he was crack-brained, and all the physicians were against him; but with the true scientific spirit he believed that truth must prevail, and he braved the consequences of proclaiming it. "I tremble," he says, "lest I have mankind at large for my enemies, so much doth wont and custom become a second nature. Doctrine once sown strikes deeply its root, and respect for antiquity influences all men. Still, the die is cast, and my trust is in my love of truth and the candour of cultivated minds."

Abuse and malign misrepresentation he met with calm patience and wise silence. "To return evil speaking with evil speaking," he says, "I hold to be unworthy in a philosopher and searcher after truth. I believe that I shall do better and more advisedly if I meet so many indications of ill breeding with the light of faithful and conclusive observation."

It is pleasant to turn from the picture of Harvey contending for the truth among the ignorant, the abusive, and the vainglorious to that of the great master and well-beloved physician in the evening of his days at Oxford; busy directing the erection of the library and museum which he presented to the College of Physicians, corresponding in stately English with eminent professors of foreign universities, and surrounded by his brothers and their children, to all of whom he was warmly attached. He had lived to see his grand discovery of the circulation of the blood universally accepted and inculculcated as a canon in most of the medical schools of Europe; and he is said by Hobbes to have been "the only one that conquered envy in his lifetime and saw his new doctrine everywhere established."

That the tone of Harvey's mind was reverential, as must be

that of every earnest student of Nature, is evident from his writings. Speaking of the blood as the source of heat and life he says, with a touch of the quaint metaphysical philoscphy of his time: "Since the blood acts, then, with forces superior to the forces of the elements, and exerts its influence through these forces or virtues, and is the instrument of the Great Workman, no one can ever sufficiently extol its admirable, its divine, faculties." It was in his earnest endeavour to understand the works of the Great Workman that he enriched medicine with a discovery that is fundamental in the modern practice of surgery and medicine.

Harvey's genius as an original thinker can only be gauged by comparing his teaching of physiology with that of his contemporaries, which abounded with absurdities.

Thus it was believed that the heart was the hottest part of the body and the great centre for the production of heat; that the blood was driven alternately to and from the heart, being sucked into it during diastole and driven from it during systole. The use of the arteries was to fan and cool the blood as the lungs fanned and cooled the heart. The pulse was due to an active dilatation and contraction of the arteries. During their dilatation the arteries sucked in air, and during their contraction they discharged murky vapours through pores in the flesh and skin. Even Harvey's contemporary, Reid, the lecturer of anatomy at the hall of the Barber-Surgeons' Company from 1628 to 1632, taught and published this farrago of nonsense as late as the year 1658.

We must refer our readers to Mr. D'Arcy Power's delightful volume for the details of Harvey's life and the description of his methods of work and modes of thinking, with the conviction that the book will be read with deep interest not only by members of the medical profession, who love to honour one of its greatest masters, but by those of the lay public who desire to learn how physiological research is the true basis of medical and surgical practice.

A SYSTEM OF MEDICINE BY MANY WRITERS. Edited by THOMAS CLIFFORD ALLBUTT, M.A., M.D., F.R.S., etc., Regius Professor of Physic in the University of Cambridge. Vol. iv. London: Macmillan and Co. 1897. (Demy 8vo, pp. 880, 31 illustrations, 1 coloured plate. 25s.)

WE welcome the fourth volume of Professor CLIFFORD ALLBUTT'S *System of Medicine*, which follows closely on the heels of the third. The second volume came out so recently as in April of the present year, and the editor's despatch and success in overcoming the manifold difficulties that surround such an undertaking as this call for sincere admiration and hearty congratulation.

As originally planned, this *System of Medicine* was to consist of but five volumes; it has now, however, become clear that at least one, if not more, additional volumes will be required. Since the present instalment only begins the diseases of the respiratory tract, there remain the diseases of the lungs, vascular and nervous systems, and perhaps other sections which, if treated in the same exhaustive manner characterising the early parts of the *System*, would amply fill two volumes.

The present instalment begins with the diseases of the liver, to which Dr. W. Hunter is a liberal contributor. He has handled the more difficult parts, namely, those dealing with jaundice and its pathology, with great ability and clearness. The physiology and the functional disorders of the liver are described together, and Murchison's views as to the existence of primary functional disease of the liver are critically dissected, weighed in the balance and found wanting. The subject of the theory of non-obstructive jaundice is treated clearly, and at the same time exhaustively, and the writer's own well-known researches in connection with toluylenediamine are brought forward to show that all jaundice is in reality obstructive; in so-called hæmatogenous jaundice there is catarrhal swelling and obstruction in the smaller bile channels, a descending cholangitis. Full descriptions, replete with references, are given of acute yellow atrophy and Weil's disease.

Dr. Hale White gives a lucid account of perihepatitis, dividing it into local and general, the latter being part of a chronic peritonitis. Under suppurative hepatitis Dr. Andrew Davidson describes tropical abscess, pyosepticæmic, multiple abscesses following tropical abscess, pylephlebitis and mu tiple pyæmic abscesses due to general infection. The artic on amœbic abscess of the liver has been wisely entrusted t Dr. Lafleur, of Montreal, the author of the description of amo bic dysentery in vol. ii, and forms an authoritative and mo interesting account of the pathological relations and clinic features of the disease. The relation of the abscess to th amœba is fully discussed. The outcome of the author researches in association with Professor Councilman is th the amœba are the exclusive active agents, and that bacter do not play any part in the process. Amœbic abscess is i variably secondary to active or latent amœbic dysentery, whi non-amœbic or the so-called idiopathic liver abscesses a usually, if not always, independent of intestinal affection This suggests that amœbæ are at the bottom of a far larg number of hepatic abscesses than is generally acknowledge to be the case at the present time.

The extensive and difficult subject of hepatic cirrhosis successfully undertaken by Dr. H. P. Hawkins. The disea is classified for convenience, not according to its anatomic lesions, but according to its causes, into (1) alcoholic ci rhosis, which may be either multilobular or unilobular; (malarial cirrhosis; and (3) syphilitic cirrhosis. In well co sidered terms he expresses a doubt whether structural biliary cirrhosis can be separated from the unilobular for of alcoholic cirrhosis.

The tumours of the liver are arranged in the order of the clinical importance by Dr. Hale White. The morbid anatom symptoms, and diagnosis of secondary growths are first d tailed, and then those of primary malignant disease. Th author has made good use of the museum and *post-morte* material of Guy's Hospital, and the result is an admirable a practical article.

The account of the diseases of the gall bladder and bi ducts is by Mr. Mayo Robson, and most satisfactorily cove the ground comprised under his three heads, inflammato affections, tumours, and gall stones.

Dr. John Thomson gives an admirable summary of co genital obliteration of the bile ducts, a subject with which h name is already associated, and of icterus neonatorum.

The diseases of the pancreas are described by Dr. Fitz, Boston, U.S.A., who has done so much to establish the rec nition of pancreatitis. The article is a valuable one, and t editor is to be congratulated on having gone so far afield fo contribution.

This brings the section on diseases of the alimentary ca to an end, and the next is devoted to renal diseases. It prefaced by a useful and clear account of the general pat ology of the renal functions by Dr. Rose Bradford, which de first with the urine in health and disease, and then with t general pathology of the kidney. The interest of this cont bution is increased by the account given of the author's o experiments and their possible bearing on an internal re secretion. Nephroptosis, or floating kidney, is described great detail by Professor Alexander Macalister.

Under the heading "Diseases of the Kidney characteris by Albuminuria" Dr. Dickinson describes the various for of nephritis, the granular kidney, and the lardaceous kidn The article is divided into three parts; in the first the morb anatomy, causes, symptoms, and treatment of tubal, diffu and glomerular nephritis are dealt with. These differe forms are not separated from each other, the various stag and varieties of nephritis being included in a general descr tion. Granular kidney is next on the list, its causati being fully discussed. Lardaceous disease of the kidneys dealt with entirely from a clinical point of view, the patholo and etiology having been discussed in the writer's article lardaceous disease in vol. iii. The remaining affections the kidney growths, calculus, cysts, hydronephrosis, pyelit and so forth, are systematically treated by Mr. He Morris.

The section on the ductless glands begins with a valua introduction on the physiology of the thyroid gland Drs. W. M. Ord and H. Mackenzie. Myxœdema is son what briefly described by Dr. W. M. Ord. The bibl graphy, however, is very extensive, and fills six pages. T account of sporadic cretinism is contributed by Drs. W. and W. W. Ord. The article on Graves's disease by D W. M. Ord and Hector Mackenzie is most complete and f

t valuable information, showing the results both of much ractical experience and of a thorough knowledge of the terature of the subject. It is fully up to date as shown by s remarks on operative treatment, and resembles the article n myxœdema in having a valuable and exhaustive biblio-raphy.

The article on diseases of the spleen is written by Dr. Rol-ston, who divides the subject into two parts, the first deal-ng with the general pathology of this organ. In this he ves an excellent account of recent researches on the rela-on of the spleen to immunity, and the part it plays in the arious forms of anæmia. The second part deals with the pecial pathology in a concise and lucid manner. Dr. Rol-ston has also contributed the article on Addison's disease nd other diseases of the suprarenal bodies. The difficult ubject of the pathology of Addison's disease is dealt with ery fully, and is much simplified by the excellent sum-aries which are given after each section. Dr. Rolleston is be congratulated on both his articles in this volume, and ie second in particular is likely long to remain a standard ontribution to the subject.

Dr. George Murray, of Newcastle, gives a full account of odgkin's disease or lymphadenoma, in which, after record-g the observations bearing on the question of its infective igin, he leaves it as non-proven. The confusion due to the rm lymphosarcoma being used as synonymous with odgkin's disease is pointed out.

Under the title Scrofula, Professor Clifford Allbutt de-ribes the causation of tuberculous adenitis, and lays stress the primary cause of infection being in the tonsils; the sur-cal treatment is contributed by Mr. T. Pridgin Teale, nd is illustrated by several successful cases.

Obesity is the subject of an essay by Sir Dyce Duckworth, which the physiological aspects of this condition are first lly treated. Obesity is divided into the plethoric kind, ore frequently seen in men, and the anæmic form, more ten met with in women. The treatment is considered nder the heads of prevention, dietetics, which is very fully ne into, by diminished and and increased water drinking, d by a course of Spa water, while a caution is thrown out to the indiscriminate use of thyroid extract.

The section on diseases of the respiratory organs is prefaced two introductory articles. The first, by Dr. A. Ransome, the general pathology of respiratory diseases, deals with e physical problems of normal and pathological respiration, d has appended to it an account of the treatment of phyxia, and of the various methods of resuscitating the parently drowned. The general principles of the physical ns of pulmonary and cardiac disease are clearly explained Dr. Hector Mackenzie.

The remaining part—more than a fifth—of the volume is voted to diseases of the nose, pharynx, and larynx. Felix Semon has taken charge of this depart-nt, and, generally, in collaboration with Dr. Watson lliams, has contributed a number of authoritative icles, while Dr. de Havilland Hall and Dr. Greville cDonald have added to the value and utility of at is really a complete treatise on this special subject. Greville MacDonald's contributions are limited to the tion on the nose. He describes the new growths and bone ection of the nose, and under the heading Diseases of the cessory Cavities deals with the much-debated subject empy-a of the antrum. Dr. de Havilland Hall has written useful icles in all the three sections, but especially on the diseases he nose. Sir Felix Semon and Dr. Watson Williams are largest contributors, and their articles are most interest-, and admirably illustrated by clinical experiences. Sir Semon supplies notes on the recent methods of autoscopy he air passages and skiagraphy of the larynx, and gives a account of laryngeal tuberculosis.

n its general arrangement this volume resembles the pre-ing instalments of the *System*, and thoroughly maintains high standard of excellence and efficiency that has racterised it from the outset.

DINBURGH ROYAL MEDICAL SOCIETY.—The following gen-nen have been elected Presidents for session 1897-8:—A. Ross, M.B., C.M.; H. S. Ballantyne, M.B., C.M.; G. L. ene, M.B., C.M.; E. E. Perritt M.B., C.M.

NOTES ON BOOKS.

Through Finland in Carts. By Mrs. ALEC TWEEDIE. (London: A. and C. Black. 1897. Cr. 8vo, pp. 378.)—This work, dedicated to the memories of the writer's husband, of her father, Dr. George Harley, and of her friend, Sir John Eric Erichsen, is a pleasant account of a summer's journey in Finland. Mrs. Tweedie gives a sympathetic account of the people, who display a genuine love of learning, and a thorough belief in the advantages of education for all classes. The most interesting feature of the book, which is well illustrated, is not the descriptions of scenery so much as the account given of the position of women, who have claimed to the fullest extent the right to follow every profession and every trade. Thus there are female dock labourers who load boats, and female slaughterers, to the number of 20, who slaughter cattle. All this is very logical from the point of view of the more extreme believers in "women's rights," but whether it really marks an advance in civilisation may be open to doubt.

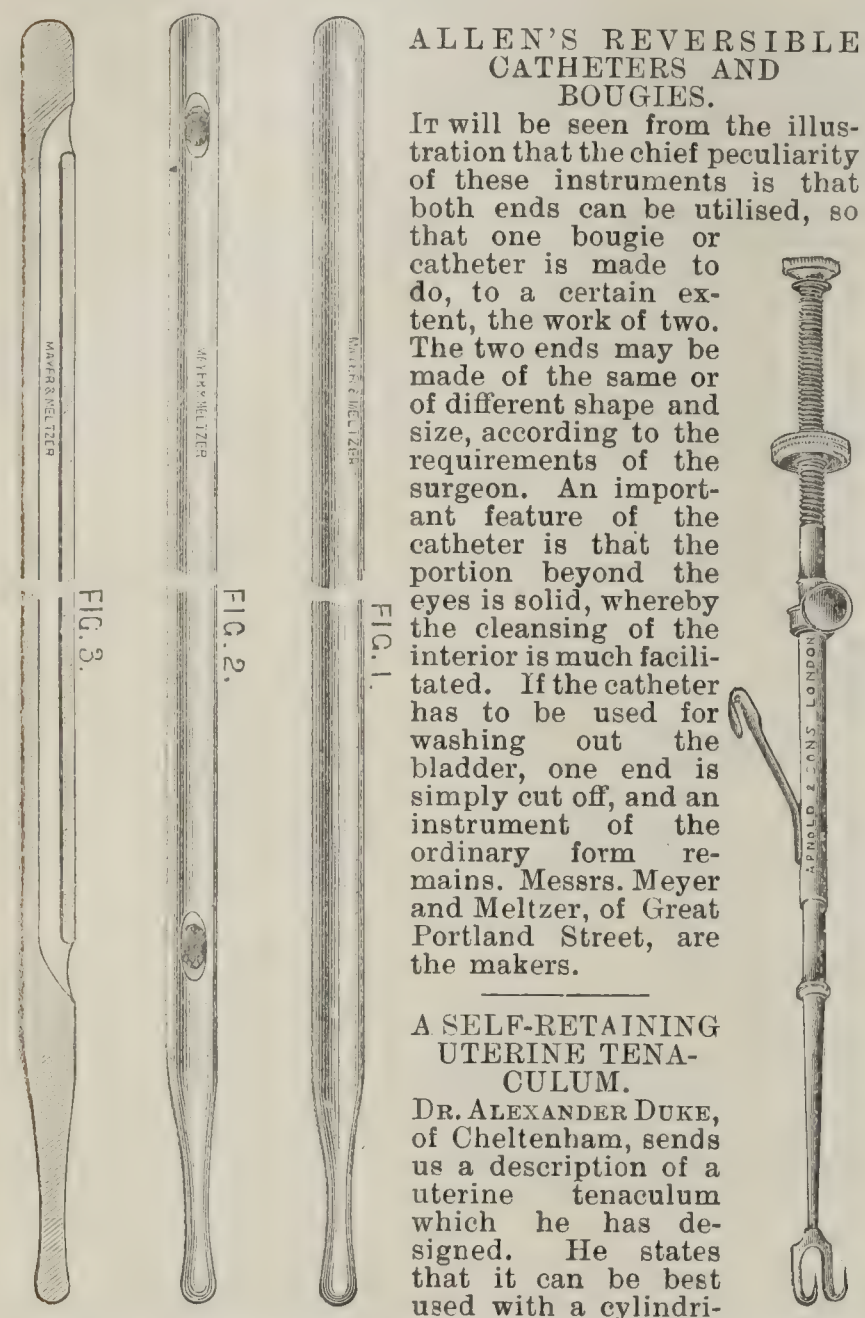
Disinfection and Disinfectants. By JOHN GAY, M.R.C.S., L.R.C.P., D.P.H. Second Edition. (Published for the National Health Society by Allman and Son, 67, New Oxford Street. 1897. Fcap. 8vo, pp. 16. 1d.)—This little pamphlet gives practical directions of a useful character, and enumerates in terse and simple language the commonly accepted facts with regard to the processes which should be adopted for preventing the spread of infection. The second edition has been carefully revised, "with the view of making the information as recent as possible."

Elements of Human Physiology. By ERNEST H. STARLING, M.D., F.R.C.P., Joint Lecturer on Physiology at Guy's Hospital. Third Edition. (London: J. and A. Churchill. 1897. Demy 8vo, pp. 474. 7s. 6d.)—We are glad to see that this book has so far made its influence felt that three editions have been issued in four years. The few changes that have been made in this edition will be found chiefly in the account of the coagulation of the blood, and in the section in the central nervous system, and in the addition of some illustrations. We can only congratulate Dr. Starling on having produced a volume which, while it does not contain a mass of material in excess of what the average student may be expected to master, yet contains all that is essential.

Mother, Baby, and Nursery: A Manual for Mothers. By GENEVIEVE TUCKER, M.D. (London: T. Fisher Unwin. 1897. Cr. 8vo, pp. 210. 3s. 6d.)—This is a book written for the public. It has a pretty cover, and its pages are adorned with pretty pictures of babies. It is well printed, with large clear type, on thick paper. The authoress, who is evidently American, heads each chapter with a pretty quotation. She gives a good deal of useful information in a clear and attractive way; and some practical hints not found in many works on the subject. She rightly says that the quantity of food given to a child should depend not upon its age but upon its weight. The chapters on heredity and the prenatal period are the weakest part of the book. In them the authoress has let her tastes run away with her judgment. She says that the daughter of a father addicted to tobacco may show the effect of the vice in "a weak heart, poisoned nerve centres, laying the foundation for hysteria in after-years; or, again, in a defective eyesight, feeble will, or poor memory." Is there the slightest foundation in fact for this statement? We think not. We find three pages on coition during pregnancy. This, we are told, "blights and blasts, if it does not destroy, the life of the child," and so on. Some may think such a subject better left untouched in a popular work; but if it be referred to at all, it should be with knowledge. If the authoress will inquire she will find this alleged source of ill to be commoner than she thinks, even among those who are most fond of looking after the conduct of other people; and if her diatribe were true the population should be in a parlous state. In the Hunting of the Snark the Bellman observes "I have said it once, I have said it twice, I have said it thrice, and therefore it *must* be true." This does not apply

in medicine. Dr. Genevieve Tucker can only procure acceptance for her views by adducing facts in their support; reiteration of extravagant statements does not commend them to the medical public.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.



ALLEN'S REVERSIBLE CATHETERS AND BOUGIES.

IT will be seen from the illustration that the chief peculiarity of these instruments is that both ends can be utilised, so that one bougie or catheter is made to do, to a certain extent, the work of two. The two ends may be made of the same or of different shape and size, according to the requirements of the surgeon. An important feature of the catheter is that the portion beyond the eyes is solid, whereby the cleansing of the interior is much facilitated. If the catheter has to be used for washing out the bladder, one end is simply cut off, and an instrument of the ordinary form remains. Messrs. Meyer and Meltzer, of Great Portland Street, are the makers.

A SELF-RETAINING UTERINE TENACULUM.

DR. ALEXANDER DUKE, of Cheltenham, sends us a description of a uterine tenaculum which he has designed. He states that it can be best used with a cylindrical speculum, but can also be employed with the bivalve or duckbill. The tenaculum is shown in the accompanying illustration. Among the advantages claimed for it are that it is self-retaining, and in addition holds the speculum so that it sets both hands of the practitioner free. An assistant can thus be dispensed with when necessary, and traction can be accurately adjusted and maintained. The speculum having been introduced, and the cervix brought into view, the tenaculum is hooked into either lip of the os, and the flat holder attached to a collar, which slides on the shaft and can be fixed by a binding screw when required, is placed over the outer edge of the speculum. The circular milled nut is then turned, and the necessary traction of the cervix thus made, extension and counter-extension being effected at the same time by the turning of the milled nut. The instrument is made by Messrs. Arnold and Sons, Smithfield.

THE FIVE YEARS' CURRICULUM.

I.—THE INTRODUCTION OF BIOLOGY.

FIVE years have now elapsed since the introduction of th five years' curriculum, and it is interesting to inquire ho far the changes, which came into force in January, 1892, hav affected the education of the medical student. In addin another year to the curriculum the General Medical Counc laid emphasis on the fact that the extra year was to b devoted to clinical work. An exception was made implicitl in the case of University students, since with them the pr liminary scientific year was allowed to count as one of th necessary five years.

Since the obligation to spend three years at clinical work dependent on the student passing the examinations i anatomy and physiology at the end of his second year, becomes important to inquire whether, as a matter of fac the last three years of the curriculum are so devoted by th ordinary student. It is clear that if the preliminary work i anatomy and physiology occupies the student to the end o his third year, the benefit which it was hoped would follo from a five years' curriculum, that is, a longer period spent i clinical work, must be lost, so far at least as concerns th extra year, which the General Medical Council intended to b passed in acquiring a better knowledge of medicine an surgery.

The following figures, taken from the registers of a Londo medical school, have been collected with a view to obtai evidence whether the student does now as a matter of fac spend more time in the wards than he did under the ol regulations, which required a four years' curriculum. A University undergraduates are excluded from the return because their course of studies is, and always has beer determined mainly by the requirements of the Universities and is little, if at all, affected by the new regulations of th General Medical Council.

In the years 1881, 1882, and 1883, 144 students joined th medical school in question to study for the diploma o M.R.C.S. Of these 30.5 per cent. passed in anatomy an physiology in eighteen months from the date of entry, 2 per cent. passed within two years, 27.7 per cent. passe within three years, and 16.8 per cent. took more than thre years over the examination.

In the years 1892, 1893, and 1894, 124 students entered fo the Conjoint diploma. Of these, only 14.5 per cent. passed i anatomy and physiology in eighteen months, 25.8 per cen took two years, 33.9 per cent. passed within three years while as many as 25.8 per cent. took more than three year over these subjects.

These figures show that, as compared with the years 188 1882, 1883, 15 per cent. of the students entering in 1892, 189 1894 were delayed three to six months, another 15 per cen from nine to eighteen months, while 9 per cent. were delaye twenty-one months or more over their preliminary studie Thus, in 24 per cent. of the students the additional year onl meant extra time spent in obtaining a qualification withou compensatory advantages in increased knowledge of the prac tical subjects of their profession.

Looking at these figures from a different point, it will b seen that under the old regulations 30.5 per cent. of th students had two years and a half for practical clinical work while 55.5 had two years or more. On the other hand, unde the new regulation, 40 3 per cent. had three years or more fo clinical work, while 74.2 per cent. had two years or more Thus, out of every 10 students only 4 really get the additiona year at the right part of the curriculum.

Whatever interpretation may be placed on these statistics they show undoubtedly that although at least 40 per cent. o the students are benefited by the five years' regulations, a con siderable number either receive no benefit at all or get eve less time in the wards than would have been the case unde the regulations prior to the year 1892.

This conclusion is in agreement with the generally expressed opinion of the London teachers of anatomy an physiology, who complain that their men pass the exam nations in these subjects at a much later date than wa formerly the case. Most of the teachers in physiology, an a considerable number of the anatomists, have no hesitatio in ascribing this delay to the introduction of biology int

the ordinary medical curriculum, and point out that although this extra subject was inserted in the course, no extra time was allowed for it, so that its study must occupy time which would formerly have been devoted to anatomy and physiology. It would therefore seem probable *a priori* that the period of the student's career at which the examinations of anatomy and physiology would be passed would be later than under the old regulations, and the statistics above quoted, so far as they go, bear this out. We would again recall the fact that the intention of the General Medical Council in adding a year to the curriculum was that this additional year should be devoted to clinical study. If the conclusion of the period given to anatomy and physiology is postponed, it is obvious that this must involve an encroachment more or less serious upon the extra year which was to have been devoted to clinical work. We propose in another article to examine the question as to how far this postponement of anatomy and physiology is due to the introduction of biology into the beginning of the curriculum. It will be seen that the subject has been brought before the Royal College of Physicians, and has been by it referred to a committee, and in the next article we shall hope also to discuss the measures which appear to be required in order to ensure that the majority of medical students shall receive the full benefits of the fifth year in their preparation for the practical work of the profession.

HEPATIC GLYCOGENESIS.

In a paper published in the *Journal of Physiology* for September, 1897, Dr. Paton states that as a result of further experiments he now finds that his earlier experiments, recorded in the *Philosophical Transactions*, vol. 153, p. 233, had led him to an erroneous conclusion, and admits that there is no diminution in the amylolysis of the liver pounded with sand, and that his experiments confirm Dr. Pavy's statement[1] that destruction of the structural integrity of the cells does not diminish the rate of amylolysis. He gives experiments which appear to show that the different result obtained by him in his earlier experiments was due to the presence of oxide of iron in the sand used.

Dr. Paton then proceeds to consider Dr. Pavy's experiments, which indicated that the liver substance of the dog coagulated with alcohol, dried and powdered, would, when added to water and kept at 38° C., produce an amylolysis corresponding with that produced by fresh liver. Dr. Paton states that Dr. Pavy had not mentioned the time for which the alcohol was allowed to act on the liver. Dr. Paton points out that alcohol takes a long time (months) to coagulate completely the higher proteids, and that if Dr. Pavy had kept the liver substance which he used only for a short time under alcohol, the vital (katabolic) processes arrested by the alcohol might again come into activity when the liver substance was treated with water. Dr. Paton reports some experiments on this head, and arrives at the conclusion that even after a short treatment with alcohol the liver tissue of the rabbit and sheep loses its power of converting glycogen into glucose, while the liver tissue of the dog and cat similarly treated does not lose its amylolytic power when again placed in water at a suitable temperature.

Dr. Paton then comments on the uniform failure of other observers to separate an amylolytic zymin from the liver, and relates certain experiments of his own which support the contention that no such zymin can be obtained from the liver after death. He also quotes experiments pointing to the conclusion that the presence of the liver tissue is of importance in amylolysis, and concludes that the change is not brought about by a zymin, by an acid, nor by micro-organisms, and therefore that it must be due to the katabolic activity of the liver protoplasm. Dr. Paton admits that his experiments do not exclude the theory that the action is due to a zymin in the cell protoplasm in the same manner as the zymin of the micrococcus ureæ is held. Against the validity, however, of this suggestion, he records certain experiments with fluoride of sodium, which indicated that the amylolytic action was prevented or retarded in the presence of fluoride of sodium (1 per cent.).

[1] *Epicriticism*, Churchill, 1895.

Dr. Pavy, in a communication made to the meeting of the Physiological Society on October 16th, examined the arguments and experiments detailed in Dr. Paton's recent paper above quoted. He pointed out that from Dr. Paton's recent experiments it now appeared that the amylolysis was actually more active in liver which had been pounded with sand or glass than in that simply minced, but observed that Dr. Paton had not expressed regret for introducing so serious an error into the *Philosophical Transactions*, but had merely suggested that the error was probably due to the presence of iron from the sand bath whence the sand used had been taken. On this point Dr. Pavy had made experiments with sand purposely contaminated with the scrapings of several sand baths, and had not found any evidence that the presence of iron in the sand retarded amylolysis. He quoted two series of experiments which gave the following results:

Effect of Oxide of Iron.

	Rabbit 1. Sugar per cent.		Rabbit 2. Sugar per cent.	
	Before H_2SO_4	After. H_2SO_4	Before. H_2SO_4	After. H_2SO_4
Check	3 30	3.91	5.09	5.17
Sand and Iron (1)	16.41	18.35	18.82	24.00
,, ,, (2)	17.53	18.95	20.02	22.88
Ordinary Sand (1)	16 25	17 73	14.58	21.88
,, ,, (2)	15 51	16 92	21.32	23.69

Turning next to the experiments with liver coagulated by alcohol Dr. Pavy said that Dr. Paton's suggestion that the liver used by him (Dr. Pavy) was only kept in contact with alcohol for a short time was entirely erroneous. In some instances the period during which alcohol had acted had extended to months. Dr. Pavy then performed an experiment before the meeting with a specimen of alcohol-coagulated rabbit's liver which had been kept for six months under alcohol. It had been incubated for the usual time, and the experiment performed before the Society showed that it caused a copious reduction of oxide of copper. A quantitative examination had shown that this particular specimen after incubation for four hours contained 42 per 1,000 of sugar. It was apparent, therefore, that keeping the liver in contact with alcohol for a considerable time did not interfere with the occurrence of the change which takes place in the recently removed liver. Further, Dr. Pavy showed that the liver might be boiled with absolute alcohol and subsequently washed with ether and still undergo the change. In one liver thus treated 60 per 1,000 of sugar was found after incubation for four hours. It was stated that to escape from destroying the ferment the liver must be in a water-free state. Dr. Pavy then performed an experiment to show that the amylolytic ferment of the pancreas was not destroyed by boiling in absolute alcohol. A lamb's pancreas put into alcohol in 1896 and dried spontaneously was used, a portion had been boiled in absolute alcohol and was shown to be still active. Dr. Pavy then discussed Dr. Paton's experiments which had led him to make the anomalous statement that amylolysis did not occur in the alcohol-coagulated liver of the rabbit or sheep, and that it did occur in that of the dog and cat.

With regard to the fact that no experimenter had succeeded in extracting a ferment from the liver in the way in which it was to be extracted from ordinary ferment-producing glands, Dr. Pavy observed that this was not surprising, since the liver was not a gland designed for producing an amylolytic ferment. Dr. Pavy said that his contention was that the change observed in the liver immediately after death could not possibly be representative of a change which occurred during life; for if it were, no one could escape from being diabetic. Instead of the liver throwing sugar into the circulation, it must stop sugar from getting into the circulation; if it did not, the sugar would appear in the urine. He believed that the change observed after death was due to the development of a zymin as occurred in the coagulation of the

blood. In the other alternative, if the ferment existed in the liver during life, its action must be inhibited. Dr. Pavy contended that the ferment was in the cell protoplasm, it was not produced by the gland and thrown out from it, as in the case of the pancreas and salivary glands, but it was in the cell protoplasm, and therefore not in a position to be susceptible of extraction in the same manner as from ordinary zymin-producing glands.

With regard to the experiments with fluoride of sodium Dr. Pavy observed that Arthus and Huber[2] had stated that a 1 per cent. solution of sodium fluoride stopped living action, but not ferment action. They gave no quantitative results, nor did they show that sodium fluoride was quite without restraining influence on ferments. Dr. Pavy then stated that he had made experiments on the effect of fluoride of sodium on the amylolytic action of the pancreas and of the liver with the following results:

EFFECT OF SODIUM FLUORIDE SOLUTION.

Pancreas and Starch Paste: Two Experiments: Sugar Found in Grammes.

Time of Incubation.	Tap Water	1 % Na Cl	1 % Na F.	2 % Na F.	4 % Na F.
Twenty minutes ...	0.040	0.053	0.036	0.017	0.019
,, ...	—	0.065	0.020	0.009	0.009

Alcohol-coagulated Liver: Two Experiments: Sugar Found per 1.000.

Time of Incubation	Check not Incubated.	1 % Na Cl.	1 % Na F.	2 % Na F.
4 hours at 115° F. ..	5.67	54.55	42.4	35 81
4½ hours at 100° F. ..	5.67	36 75	20.83	15.62

Dr. Pavy considered that these experiments showed that sodium fluoride had exerted a restraining action, not only in the case of the liver, but also the pancreas, and that therefore Dr. Paton was not justified in saying that experiments with sodium fluoride told against the change in the liver being due to a ferment action.

In conclusion, Dr. Pavy contended that the facts were strongly opposed to the suggestion that the amylolysis was due to katabolic change associated with life, but completely in accord with the view which looked upon the change as being due to ferment action.

THE INTERNATIONAL LEPROSY CONFERENCE AT BERLIN.

WE are requested to publish the following report of the general conclusions of the International Leprosy Conference held in Berlin last month. It has been drawn up by the secretaries of the Conference, Drs. Phin. S. Abraham (London), Ed. Arning (Hamburg), A. von Bergmann (Riga), E. Dubois Havenith (Brussels), J. J. Kinyoun (Washington), G. Thibierge (Paris); Edv. Ehlers (Copenhagen), General Secretary.

The report is as follows:

As might be expected, a considerable portion of the discussion has related to the bacillus lepræ, which the Conference accepts as the virus of leprosy, and which for upwards of twenty-five years has been known to the scientific world through the important discovery of Hansen and the able investigations of Neisser.

The conditions under which the bacillus grows and develops are still unknown, as well as the way of its invasion into the human system; but from the discussions of the Conference, it seems probable that a unanimity of opinion will soon prevail in reference to its modes of subsequent dissemination within the human body.

Very interesting observations have been brought forward in connection with the elimination of the bacilli in large quantities by means of the skin and the nasal and buccal mucous membranes of lepers; it is desired that such observations be confirmed where opportunities occur.

The question is of very great importance to those who are entrusted with the care of the public health, as leprosy is now acknowledged to be a contagious disease.

Every leper is a danger to his surroundings, the danger varying with the nature and extent of his relations therewith, and also with the sanitary conditions under which he lives.

Although among the lower classes every leper is especially dangerous to his family and fellow workers, cases of leprosy frequently appear in the higher social circles.

The theory of heredity of leprosy is now further shown to have lost ground in comparison with the at present generally-accepted theory of its contagiousness.

The treatment of leprosy has only had palliative results up to the present time.

Serumtherapy has so far been unsuccessful.

In view of the virtual incurability of leprosy and the serious and detrimental effects which its existence in a community causes, and considering the good results which have followed the adoption of legal measures of isolation in Norway, the Leprosy Conference, as a logical issue of the theory that the disease is contagious, has adopted the following resolutions, proposed by Dr. Hansen and amended by Dr. Besnier:

1. In such countries where leprosy forms foci or has a great extension we have in isolation the best means of preventing the spread of the disease.

2. The system of obligatory notification, of observation and isolation, as carried out in Norway, is recommended to all nations with local self-government and a sufficient number of physicians.

3. It should be left to the legal authorities, after consultation with the medical authorities, to take such measures as are applicable to the special social conditions of the districts.

THE ROENTGEN SOCIETY.

THE inaugural meeting of the recently-constituted Roentgen Society was held on November 5th in St. Martin's Town Hall. There was a very large attendance of members of the Society and their friends. Thanks to the labours of Dr. Walsh, the Honorary Secretary of the Society, a very interesting exhibition of apparatus and Roentgen photographs had been arranged.

In the small hall Mr. Greenhill, Dr. Mackenzie Davidson, and Dr. Low gave demonstrations with the lantern, and during the evening Messrs. Moore and Webster gave a series of demonstrations with the fluorescent screen. The most interesting feature of the evening was shown by Professor Silvanus Thompson. This was a new pattern of induction coil, the invention of Nikola Tesla, capable of giving high-frequency oscillatory discharges direct from any ordinary source of supply. In the construction of this instrument no thin wire is employed. When used to excite one of Tesla's own tubes the emission of *x* rays is so intense that, standing 50 feet away from it, one can still obtain on a luminous screen the shadow of the bones of the hand. The demonstration by Dr. Mackenzie Davidson and Mr. Hall Edwards of their method of localising foreign bodies excited, as it deserved, great interest; it is perhaps the advance of most practical importance recently made.

The presidential address was given by Professor SILVANUS P. THOMPSON. In the course of his remarks he said that the first great application of the rays had been to the diagnosis of dislocations and fractures, the study of bone disease, and the detection of foreign bodies in various parts of the human frame. Coins in the larynx, shots and needles in the hand, and bullets in the brain had all been seen, skigraphed, and localised; even the progress of tuberculous disease in the lungs had been rendered evident, and to watch the motions of the living heart was now an everyday experience. The localisation of foreign bodies embedded in more transparent tissue had claimed the attention of many surgeons. In this department Dr. Mackenzie Davidson had devised an ingenious apparatus by which any intelligent person could at once localise to within 100th of an inch the exact position, say, of a needle in the hand or foot, the complicated geometry of oblique projection being simplified down by the instrument itself and

[2] *Archives de Physiologie*, 1892, p. 651.

reduced to the application of callipers and a divided scale. The Roentgen rays had also brought new and bewildering problems to the medical practitioner. Soon after the invention of focus tubes had furnished powerful sources of the rays, it was noticed that exposure to them frequently resulted in severe local inflammation, accompanied in some cases with destruction—at least temporary—of the hair, which fell out and left bald patches. It was disputed whether this effect was direct, like sunburn, or whether it was indirect and due to the chemical action of ozone, or, finally, whether it was electrical. The existence of this singular effect had given rise to the suggestion that the Roentgen rays might possibly be found to have some useful application for the treatment of such diseases as leprosy and even tuberculosis. If it were possible that they should have any direct effect of nerve stimulation, the door would be opened to the hope that by their aid sight might in some cases be artificially given to the blind. This had been already investigated in a number of instances, but hitherto with no real success. Professor Brandes, however, had found, and Professor Roentgen had confirmed the result, that in certain circumstances the retina of the normal eye did possess a faint perception for the rays. If a well-excited focus tube were perfectly screened with aluminium screens, and the observer were in perfect darkness, he might be conscious of a luminous sensation when he turned his eye in the direction of the shielded tube, and if a piece of platinum having a vertical slit in it were placed over the pupil he might distinguish a vertical stripe. This phenomenon, which might not occur with every individual, Roentgen attributed to the fluorescibility of the retina itself. Turning then to more purely physical questions, Professor Thompson reviewed the present state of knowledge as to the nature of the *x* rays.

At the conclusion of the address a vote of thanks was proposed by Sir William Crookes and seconded by Dr. J. H. Gladstone, and carried unanimously.

We wish all success to this Society. A vast amount of work is to be done on the subject, which can only be successfully accomplished by the joint efforts of physicists and medical men. The Society gives every opportunity for such a collaboration.

THE MEDICAL SICKNESS AND ACCIDENT SOCIETY.

The usual monthly meeting of the Executive Committee of the Medical Sickness Annuity and Life Assurance Society was held on October 29th at 429, Strand, London, W.C.

There were present Dr. de Havilland Hall in the chair, Dr. J. B. Ball, the Medical Examiner, Dr. J. W. Hunt, Mr. J. Brindley James, Mr. Frederick Wallace, Dr. F. J. Allan, Dr. W. Knowsley Sibley, Mr. F. S. Edwards, Dr. M. Greenwood, and Mr. Edward Bartlett.

The accounts presented showed that the sickness claims paid during the month of September last were within a few weeks of the total expected by the tables on which the Society's premiums are calculated. For some years past the proportion of "experienced" to "expected" sickness has been steadily growing, and during the last twelve months the difference between them has been small. This growth in the total of weeks of sickness paid is largely caused by the increase in the number of members of the Society who are compelled by chronic illness to give up work altogether, and are thus entitled to an allowance amounting usually to a hundred guineas a year. As, however, these members are on half pay only, the total amount of sickness pay disbursed by the Society does not grow in the same proportion as the number of weeks of sickness experienced, and the financial strength of the Medical Sickness and Accident Society is still increasing at a satisfactory rate.

The fourteen years' working of the Society shows that the care which has been exercised in selecting new members, and the economy of management, leaves a large margin of profit over the ordinary sickness experienced. On the other hand, the number of permanently disabled members is greater than was assumed by the founders of the Society, who in 1884, when the business was started, had little or no means at their disposal for forming an accurate estimate of this. It is felt, however, that the objects for which the Society was founded are never better fulfilled than when its funds are applied to the aid of those of its members who are permanently incapacitated from the active work of life, and that the growth of the number of these in the Medical Sickness and Accident Society is conclusive evidence that such a society was sorely needed. Prospectuses and all information on application to Mr. F. Addiscott, Secretary, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

A MUNICIPAL EXPERIMENT IN THERAPEUTICS.

The Hot Acid Bath in Scarlet Fever.

Leicester has been the site of several interesting experiments. Its experience as a partially unvaccinated community has been watched with interest in relation to the prevalence of small-pox, and will be watched with still greater interest during the next quarter of a century when a larger proportion of its adult population are unprotected by vaccination. Now we have a report upon the value of the hot acid bath as a remedy in scarlet fever. This has been heralded by a flourish of trumpets in the local press, and the medical officer of health was instructed by the Leicester Sanitary Committee, "subject to his discretion," to give the treatment a trial in the Borough Fever Hospital. This he has done, and the results are discussed in a report by him which now lies before us. The acid bath treatment consists in bathing the scarlatinal patient in water at a temperature of 102° F., every ten gallons of which contains half an ounce of commercial sulphuric acid. The patient is placed in this bath, and kept sponged for about twenty minutes, and is then enveloped in flannel and placed in bed. Usually free perspiration follows for a time, after which he is sponged over with tepid water. This is repeated every three or four hours as long as the temperature remains above normal. The treatment adopted differs in principle from the old and widely practised treatment of scarlet fever and other fevers by baths only in the use of sulphuric acid in the water of the bath. The originator of this particular form of bath, a Mr. Pickering, allows his "patients" to get up and about (apparently among the general public) as soon as the normal temperature is reached—an example in which we need hardly say he is not followed by Dr. Monk in his experimental trial of the hot acid bath as a remedy.

Proportion of Return Cases.

On *a priori* grounds it is unreasonable to expect that acid baths applied only to the skin (and there is no mention of acid douching of the nasal passages and the throat, while similar treatment of the mucous membranes of the lungs and kidneys is obviously impracticable) would destroy the infectivity of scarlet fever, and the results obtained at the Leicester Fever Hospital confirm this view. Thus 249 patients were treated by acid baths alongside of 251 other patients treated by ordinary methods; 15 "return cases" occurred; of these 9 had been treated by the acid baths, 6 without them. The 9 treated by acid baths had been discharged at the end of 28, 34, 16 (previously ill 14 days at home), 43, 44, 37, 63, 86, and 22 days respectively. The 6 treated otherwise had been in the hospital 44, 36, 29, 35, 32, and 37 days respectively. The cases treated by acid baths, which were followed by "return" cases, had the following complications before their discharge from hospital: "otorrhœa," "glands swollen," "none," "glands," "glands," "none," "incontinence of urine," "otorrhœa" (ceased before discharge), "slight peeling on legs when discharged." It is evident therefore that the acid bath treatment did not produce an immunity from "return" cases, or from the complications which are associated with such "return" cases. On the contrary, the "return" cases from those treated by acid baths were 3.6 per cent., as compared with 2.4 per cent. from the cases treated according to ordinary measures. It is almost impossible to resist the conclusion that the acid bath treatment had absolutely no influence in preventing the possibility of "return" cases, and their occurrence must be attributed either to the early period at which the patients were discharged, or to the fact that they were discharged while still suffering from complications in connection with which "return" cases notoriously occur. We have laid some stress on this ques-

tion of "return" cases, as it disposes effectually of the more extraordinary claims made on behalf of this system of treatment of scarlet fever.

The Proportion of Complications.

The facts as to proportion of complications in the two sets of cases, that is, the whole series, not merely those having "return" cases in connection with them, show among those treated with the acid bath double the number of cases of nephritis (16 as against 8), considerably more cases of glandular enlargement (38 as against 28), slightly fewer ear and nose complications (6 as against 9), an equal amount of rheumatism, and 10 deaths against 13.

Mortality.

These results require that account should be taken of the age-distribution of the two groups of cases. Dr. Monk states that the cases to be compared were in no wise selected, and of course we accept this statement. It is, however, unfortunate that the age constitution of the patients submitted to the acid bath treatment was distinctly more favourable to recovery than that of the other group of cases. This is clear from the following summary prepared from the table on page 13 of the report:

Age.	Number of Cases treated by Acid Baths.	Number of Cases treated Otherwise.
Under 5	51	74
5 to 10	99	104
10 and over ...	99	73
	249	251

It is a well-known fact that the fatality from scarlet fever varies enormously according to the age of the patient. Thus, during the years 1893-94, in Leicester the fatality was 7.0 per cent. at ages 0 to 5, 2.2 per cent. at ages 5 to 10, and 2.0 per cent. at ages 10 and over. In the acid-treated group, children under 5 years of age formed 20.5 per cent. of the total patients, while in the group treated otherwise they formed 29.5 per cent. of the total patients. A simple arithmetical calculation will show that the number of deaths, on the basis of the above death-rates at different age groups, would have been in the acid-treated group 7.73, in the group otherwise treated 8.93, or in the proportion of 100 to 115. They were, in fact, in the proportion of 100 to 130, still leaving a superiority of result for the acid-treated cases, though not so great as would at first sight appear. On this point we should like to have an explanation of the following statement: "At no time were the cases for either method of treatment selected unless the patient was obviously too ill to remove frequently from bed." Does this mean that patients too ill to be moved frequently from bed were excluded from both groups, or that they were included in the group of cases not treated by baths? Until this point is cleared up no safe argument can be based on the difference in the fatality of the two groups which remains after the above correction for ages of patients has been applied.

Duration of Desquamation.

The only point remaining for discussion is the increased rapidity of desquamation which is claimed to follow treatment by the acid baths. Dr. Monk concludes that the statement made that under this treatment there is no desquamation is not correct, but that there is considerable "improvement in the mode and rapidity of shedding the dead epithelial scales.....In the case of the acid baths the average length of stay (in hospital) was 30 days, in the other cases 38 days." If this treatment or any other treatment will admit of discharging scarlatinal patients with safety at the end of 30 days, medical officers of health throughout the country will be extremely grateful for the publicity given to this report. The expectations raised, however, will be chastened by the fact that 3.6 per cent. of these cases were followed by "return" cases.

Conclusion.

Possibly the following crumb of knowledge may be picked up—that the continuance of infectivity is not so much a question of the continuance of desquamation on horny portions of the epidermis, as of the presence or absence of purulent discharges and of glandular enlargements. No mention is made as to whether the heads of the patients were submitted to the acid bath treatment. But every practical medical administrator knows that the scalp is a part of the skin in which infection is very apt to lurk.

For the present judgment must be suspended. We require further information as to the patients too ill to be submitted to baths. We require extended experience of this treatment, and we hope that Dr. Monk will supply us with this. In the meantime we may be excused if we view with suspicion, and have but slight hope of, a treatment promulgated by a layman, "boomed" by a Leicester daily paper, pressed upon their medical officer of health by the Sanitary Committee, and now reported upon by him under circumstances which can hardly be described as favourable to a scientifically sound conclusion.

REPORTS ON SMALL-POX EPIDEMICS MADE TO THE ROYAL COMMISSION ON VACCINATION.

DR. COUPLAND'S REPORT ON GLOUCESTER IN 1895-96.

The epidemic of small-pox from which Gloucester suffered in 1895-96 is still so fresh in the mind of the public that special interest attaches to the official report which Dr. Sidney Coupland has made to the Royal Commission on Vaccination as the result of his detailed inquiry. In a volume of nearly 200 pages, and by the aid of elaborate tabular statements and maps, Dr. Coupland has sought to convey the true story of the epidemic in its several bearings on the great questions of vaccination and sanitation in relation to small-pox; and his method conveys a clear idea of his desire to place on record, in an impartial and accurate manner, the several ascertained facts.

Scope of Inquiry.

Dr. Coupland's main object was to find out the extent of the epidemic, its manifestations in one and another class of the community, the incidence and fatality of small-pox at different age periods, the types of attack, attack-rates on differing sections of the people, and the condition of those attacked as regards vaccination. Dr. Coupland shows that he has had regard also to the important matter of hospital and home treatment of cases, to quarantine arrangements, to sanitary circumstances, to all the agencies known to favour and to stay infection, and to the relative significance of these factors in the vaccinated and unvaccinated sufferers.

Factors in Disseminating Infection.

The inquiry began whilst the epidemic was at its height (March 30th, 1896), and continued until the disease died out (July, 1896), and takes cognisance of 1,979 small-pox attacks in 1,098 houses, of which 434 cases, or 21.9 per cent., proved fatal. He tells us that the hospital accommodation failed at the time of greatest need to permit of the isolation of large numbers of cases, and that when it was ultimately supplemented it had fallen into disrepute; that numerous patients were treated at home, and thus formed ever fresh foci of infection; that quarantine measures had to be abandoned; that the disease early attacked schools, and, by reason of the inflammable material therein in the persons of susceptible because unvaccinated children, speedily blazed forth in epidemic form; and that the sudden outburst of small-pox in February, 1896, and onwards took the matter quite out of the control of the local authorities. Dr. Coupland says: "The conviction is forced upon me that Gloucester would not have suffered as it did had its child population been vaccinated." Taking a group of ten weeks, from February 16th to April 25th inclusive, the new cases heard of numbered 72, 53, 91, 143, 151, 159, 193, 199, 172, and 157, or 1,390 cases in this short period. We cannot now follow Dr. Coupland in his elaborate story of the spread of the disease, save to state that there seems to be no ground for the assumption put forward elsewhere that sanitation or insanitary circumstances at Gloucester in any way accounted for the epidemic.

Age at Attack.

Confining his inquiry to the city of Gloucester, Dr. oupland tells us that 706 attacks, or 35.6 per cent. of the hole, were in children under 10 years of age, and that these ntributed 280 deaths, which formed 64.5 per cent. of the tal mortality, and yielded a case-rate of 39.6 per cent. In e epidemic of 1872-75 deaths in children under 10 years of e were only 33 per cent. of the total small-pox mortality ainst 64.5 in 1895-96. Of 1,653 children in this age period posed to infection, 641, or 40.6 per cent., were attacked. ersons at ages over 10 years were attacked when so exposed the rate of 33 per cent.

Small-pox in Relation with Vaccination.

Vaccinated sufferers numbered 1,211, or 61.2 per cent. of l attacks; unvaccinated, 768, or 38.8 per cent.; mortality tes were, in the vaccinated (120 deaths), 9.8, and in the un-ccinated (314 deaths), 40.8 per cent. of attacks. No vac-nated infant was attacked, but 21 of the 22 unvaccinated tients under one month died (95.4 per cent.), and 40 out of her 63 unvaccinated infants under one year died (63.5 per nt.); and whilst of 26 vaccinated children attacked under years only 1 died (3.8 per cent.), as many as 218 out of 595 nvaccinated attacks of like age proved fatal (36.6 per cent.). s regards children exposed to infection, of 14 vaccinated fants, not one was attacked; of 153 unvaccinated infants, , or 52.2 per cent., were attacked; of 258 vaccinated children, ed 1 to 10 years, 24, or 9.3 per cent., were attacked; of 1,178 nvaccinated children of like ages, 537, or 45.6 per cent., were tacked. As showing the protection of vaccinated persons ainst attack through life, at ages 10 to 30, the rates were: vaccinated persons, 32.6, and of unvaccinated persons, 53.9 r cent.; at ages over 30 years the respective rates were 31.7 d 40.5 per cent. As demonstrating the undoubted benefits vaccination, even within the incubation period of small-x, it is stated that of 1,475 "unvaccinated" persons ex-sed to infection in invaded houses, 822 "remained unvac-nated," and 73.4 per cent. were attacked; whilst of 653 nder vaccination," only 13.0 per cent. were attacked.

Type of Disease.

As a whole, the character of the attacks was very severe. many as 854 cases were malignant or confluent, 43.1 per nt.; and only 25.5 per cent. were of the mild type. The se mortality among the children attacked under 10 years of e was 3.9 and 41.0 per cent., according as they had or had t been vaccinated. The disparity as to type of attack was en more striking. Of 507 cases of severe (malignant, con-ent, indeterminate) character in children, only 3 were of ccinated children. At the vaccinated rate, the 504 in the vaccinated would have been only 82; and whilst only 31 ld attacks occurred amongst unvaccinated children, the mber would have been 444 had the vaccinated rate of mild acks obtained.

Revaccination and Previous Small-Pox.

Of 128 attacks in successfully revaccinated persons, 6 proved al, or 4.7 per cent. Of 77 attacks in persons having had vious small-pox, 4 proved fatal, or 5.2 per cent. So that vaccination conferred immunity against death in much the ne ratio as an attack of small-pox.

DR. LUFF'S REPORT ON LONDON: 1892-93.

PENDIX IV to the final report of the Royal Commission on ccination comprises a double report by Dr. A. Pearson Luff outbreaks of small-pox in London in 1892-93, and fur-hes some very valuable data, not alone as to the value vaccination in relation to small-pox, but also as to the ring of quality and amount of vesicles on attack, and ure of attack.

Scope of Inquiry.

Dr. Luff presents the data collated during two periods of all-pox prevalence in London—namely, January to August, 2, with 292 cases, of which he is able to deal in detail with ; and September, 1892, to July, 1893, with 2,087 cases, of ich he is able to deal in detail with 2,074. Thus, in the regate, Dr. Luff had to sift the facts connected with 2,379 es of small-pox (out of 3,078 notifications, of which 273 were not small-pox, and 426 were duplicate notifications), and obtained details as to vaccination of 2,353 cases.

Influence of Vaccination.

In the first period, of 214 vaccinated cases 3 proved fatal, or 1.4 per cent.; of 39 unvaccinated cases, 14 proved fatal, 35.9 per cent. Second period: 1,539 vaccinated cases, 36 deaths, 2.3 per cent.; 370 unvaccinated cases, 85 deaths, 22.9 per cent. Mortality among unvaccinated class, first period, 25 times that of vaccinated class; second period, nearly ten times that of vaccinated class.

Vaccination in Relation to Age at Death.

At ages up to 10 years, in the two periods, no deaths occurred among 110 vaccinated cases; whilst the mortality rates were 56.5 and 23 4 per cent. in 23 and 205 unvaccinated cases respectively. Over 10 years of age, vaccinated cases, 1.7 and 2.4 per cent. fatal in the two periods; unvaccinated cases, 6.2 and 22.4 per cent. respectively. In both periods vaccination gave absolute protection against death up to 15 years of age in 278 cases, and, indeed, up to 20 years in the first period.

Vaccination in Relation to Nature of Attack.

Of 214 attacks in vaccinated persons, 8 per cent. were confluent small-pox, whilst of 39 unvaccinated, 64 per cent. were confluent in the first period; the respective numbers and rates in the second period being 1,539 vaccinated cases, 4.9 confluent, and 370 unvaccinated cases, 46.7 per cent. confluent. These data are for all ages. Under 10 years of age, 0.0 and 2.8 per cent. confluent cases in vaccinated patients; and 69.5 and 61.9 per cent. confluent attacks among unvaccinated cases. In the first period 11 cases occurred among revaccinated persons, 9 being mild attacks, and 1 fatal (9 per cent.); in the second period 97 cases in revaccinated persons, 92 being mild attacks, and 3.0 per cent. (3 deaths) fatal.

Age Incidence of Attack.

In the vaccinated class the rates of attack-incidence on children under 10 years of age were respectively 18 and 5 per cent. of total cases; and in the unvaccinated class the rates were severally 60 and 55 per cent. of all unvaccinated patients, a remarkable disparity, to be accounted for only by the protective influence of infantile vaccination.

Quality and Area of Scars in Relation to Attack and Death.

Of attacks in persons having foveated scars, the percentages of mild cases were 93.2 and 95.7 in the two periods, in those having unfoveated scars, 87.4 and 90.0 per cent. respectively, at all ages and for all numbers of vesicles. Of foveated scar cases, 0.0 and 1.4 per cent. proved fatal; of unfoveated scar cases 3.1 and 3.2 per cent. proved fatal. In first period, at all ages, the percentages of very mild attacks and of death were respectively, with scars under $\frac{1}{4}$ sq. in. area, 12 and 4.1; $\frac{1}{4}$ to $\frac{1}{2}$ sq. in. area, 21 and 2.1; over $\frac{1}{2}$ sq. in. area 45 and 0.0; and 4, 15, and 12 mild attacks to each confluent case in these several classes. In the second period the percentages of severe and confluent attacks at all ages, according as the patient had less than $\frac{1}{4}$, $\frac{1}{4}$ to $\frac{1}{2}$, or more than $\frac{1}{2}$ sq. in. area of scarring, were 11.7, 4.4, and 3.6 respectively; the mortality, 2.1, 1.7, and 1.5; and the mild cases in relation to confluent attacks as 7, 21, and 26 are to 1, in the several classes. Hence we learn that quality and area of scars have an important bearing on the character and fatality of attack.

Number of Scars as Determining Nature of Attack.

Taking the larger numbers dealt with in the second period we find that at all ages, 1 scar yielded 8 discrete cases; 2 scars yielded 13 such cases; 3 scars 12 cases; and 4 scars 63 cases to one severe or confluent attack. At ages under 10 years, the several numbers were 10, 64, 21, and 195 discrete attacks to one severe or confluent attack. So that here again the better-class vaccination and larger number of vesicles are seen to afford a very much greater chance of slight attack when infected by small-pox as compared with the indifferently vaccinated sufferers.

The Mayor of Kingston-on-Thames laid the foundation stone of the Kingston Victoria Hospital on November 6th. It is the memorial of the borough of the Queen's Diamond Jubilee. The building will cost £3,580, and will be erected on a site of three acres given by H.R.H. the Duke of Cambridge.

NOTES ON HEALTH RESORTS AND SANITARIA.

BANFF, IN THE CANADIAN ROCKY MOUNTAINS PARK.

Banff is one of the principal Canadian health resorts. It lies on the eastern side of the Rocky Mountains at an elevation of 4,500 feet. The village, the creation of the last ten years, stands on either side of the Bow River, near its junction with the Sprey. The Bow valley at this point is broad and open, and the fine lateral valley of the Sprey stretches broadly to the south. Owing to the open character of the valleys, Banff, though summits near at hand attain an altitude of nearly 10,000 feet, enjoys the advantage of a very full exposure to the sun; while, for the same reason, there is no stagnation of air.

Banff stands towards the western part of the Rocky Mountains National Park, a tract of mountainous country under the control of Government. This park is 26 miles long and 10 miles wide, and includes within its limits the valleys of the Bow, Sprey, and Cascade Rivers, the Vermilion Lakes, Lake Minnewanka, and many fine ranges of mountains. The Government has built a museum at Banff. The collection it contains, though still young, is already fairly representative of the fauna of the district, and includes typical specimens from other parts of Canada, as well as a herbarium and a mineralogical collection.

View of the Bow River from Banff.

The hot sulphur springs, for which Banff is celebrated, rise on the eastern side of Sulphur Mountain, at an elevation of about 300 feet above the Canadian Pacific Railway Hotel and the village. The water is brought down to the hotel and sanitarium in pipes. The site of the springs is approached by a pleasant winding road through the woods. At the springs is a small hotel with a stairway leading up from the road, lined by a curious collection of crutches bearing somewhat quaint inscriptions of gratitude from various sufferers, who thus inform the passer-by that they have been cured by the waters.

With regard to the composition of the water, Mr. McGill, the assistant analyst of the Dominion Government, who made a full analysis in May, 1896, reports: "This water is very free from organic impurities, and gives no albuminoid nitrogen .....Each gallon contains dissolved sulphuretted hydrogen to the amount of 0.3 grain (equivalent to 0.8 cubic inch). The dissolved solids are as follows:

Chlorine (in chlorides)	0.42 grains per gallon.
Sulphuric acid (SO_3)	38,50 ,, ,,
Silica (SiO_2)	2.31 ,, ,,
Lime (CaO)	24.85 ,, ,,
Magnesia (MgO)	4.87 ,, ,,
Alkalies (as Soda Na_2O)	0·62 ,, ,,
Lithium	a decided trace.

The temperature of the water at its source is 114.3° F. It is used both for drinking and bathing. There are bath houses both at the Canadian Pacific Railway Company's Hotel and at the sanitarium and at the former a swimming bath also.

About a mile above the village, at the foot of Sulphur Mountain, and only a little above the level of the Bow River, are two springs of considerable interest. Both are apparently of the nature of geysers, and the water they contain resembles that of the hot springs. The one (the Cave), discover accidentally during the construction of the Canadian Paci Railway, is a large domed cave with a small natural apertu in the roof. A tunnel has now been constructed, throu which the visitor enters, to find himself in the dimly-light cave standing on a gallery looking down into a large pool greenish-white water, which is in constant movement a effervescence. Near by is a large open basin, in the centre which the water is constantly thrown up with considerab force. Both these pools are used for bathing, and are pr vided with dressing-rooms in the care of an attendant.

The invalids who visit Banff at present are chiefly suffere from chronic rheumatic affections, but the so-called "Aach treatment" can also be followed at the Sanitarium. Th season is from May 15th to October 1st, and the best perio probably from the middle of August to the middle of Se tember.

The accommodation for visitors at Banff is very goo The Sanitarium directed by Dr. Brett, stands on rising grou close to the Bow River, and has accommodation for a lar number of visitors and patients. A large and well-appointe hotel, the property of the railway company, occupies extremely picturesque site on a knoll overlooking the Spr River at its confluence with the Bow, and the beautiful fal of the latter river are close at hand. The views from th galleries and groun of the hotel are vari and beautiful. Sout wards opens the richl wooded valley of t Sprey, while nort wards the eye rang over an immense e panse of country, br ken up by hills a mountains, who rugged outlines ful justify the name give to the great range which they form part.

The chief amus ments to be had Banff are riding, dri ing, fishing, and boa ing. Much of the su rounding country m be explored on hors back; and as sadd horses are cheap, th healthful exercise very largely resorted by visitors. There a some good roads f driving in the N tional Park, one of the most agreeable expeditions bei to Lake Minnewanka, nine miles away. There is here small hotel, and on the lake is a steam launch, and boa and canoes for fishing. Fishing is to be had also in many the rivers and streams and the Bow River itself, and i tributaries contain trout and grayling. The reaches of th river above Banff are very beautiful, and are suitable f boating for nine miles. A very interesting excursion can made from Banff to "the Lakes in the Clouds" by taki the train to Laggan.

Banff is on the main line of the Canadian Pacific Railwa and through trains run from Montreal. From New York a the Eastern States it can be reached also by way of Toront and the line of steamboats on the Great Lakes. From t middle Western States the route is by the Soo-Pacific Ra way, from St. Paul and Minneapolis, which connects with t through trains of the Canadian Pacific Railway at Moose Ja which is about 21 hours' journey from Banff. From Va couver the journey—for the whole distance of singular beau and interest—occupies about 30 hours. The voyage fro Yokohama to Vancouver can be accomplished in 12 day from Shanghai in 19 days, and from Hong Kong in 21 day The steamboats are large and well found. It is very possibl therefore, that the Selkirk and Rocky Mountains, since th

are within three weeks journey from China, may eventually be largely resorted to by European residents in the Far East, whose health requires a change to a bracing and stimulating Alpine climate. If this expectation be fulfilled the existence of the hot sulphur springs at Banff will in certain classes of cases be a valuable addition to the therapeutic resources of the district.

HOSPITAL REFORM ASSOCIATION.

Sir Joseph Ewart, M.D., F.R.C.P., presided at a meeting held in Brighton on November 5th, to discuss the question of hospital reform. He observed that this was not a new movement, but was one which had the support of many of the most distinguished medical men of the day. He pointed out that investigation appeared to show that in the year 1892 the proportion of out-patients to 1,000 inhabitants had been in Dublin, 421; in Liverpool, 399; in London, 371; and very high in other towns. In Brighton itself it reached nearly one-quarter. He expressed the opinion that improvement might be secured by establishing better relations with the provident societies, and he quoted with approval Sir William Broadbent's statement that the effect of the present system was the misappropriation of money given for charity.

Mr. T. Garrett Horder, Honorary Secretary of the Hospital Reform Association, said that the aim of that Association had been to convince the public that the present system of administering medical relief in hospitals and dispensaries was unfair to the philanthropists because their money was expended on the treatment of persons who had no right to receive it; unfair to the sick poor because with the overcrowding that took place in most of the hospitals proper and sufficient time could not be given to their ailments; and unfair to the medical profession because some members were called upon to treat gratuitously those who could well afford to pay for that treatment, while others were deprived of patients who would undoubtedly consult them if the hospitals did not offer such facilities for gratuitous treatment. The Association was not established for the sole purpose of looking after the interests of the medical profession. Laymen were invited to become members, and invitations to attend the meetings promoted by the Association were sent not only to the managers of hospitals, but to all persons taking an interest in the organisation of charities. To Dr. Waring must be given the credit for pointing out the necessity that existed for reform in the administration of the Brighton medical charities. The abuse of hospitals must be classified under the following heads: (1) The attendance of people who did not in any sense of the word stand in need of hospital treatment. Out-patient and casualty rooms were crowded with cases of a very ordinary character, cases that could be dealt with quite as efficiently, and certainly more promptly, by private practitioners. Hospitals were established for the express purpose of treating such diseases as could not be so effectually dealt with in other ways. In the beginning of the present century out-patients consisted of those persons only who had received indoor treatment, and had not sufficiently recovered from their ailments to discontinue treatment. It might be laid down as a general rule that the out-patient department should be restricted to the treatment of difficult and obscure cases of disease—cases, in short, that required the special skill with which hospital physicians and surgeons were usually credited. The casualty department of most hospitals and infirmaries was now nothing more nor less than a receiving room for every kind of trivial ailment, both medical and surgical, whereas it should be limited to the treatment of cases of sudden and severe illness—cases in which delay would be dangerous to the patient. (2) The attendance of persons who could afford to pay for the treatment of their complaints. There was a feeling existing in the minds of working men that because they paid a penny a week towards a hospital they were justly entitled to seek the benefits of that hospital whenever they or any members of their family required them. This form of abuse was not confined to the working classes. Evidence proved that tradesmen of all classes had sought and obtained relief from medical charities. Subscribers themselves often abused their privileges by recommending members of their own household for treatment. (3) Undue multiplication of hospitals. Whereas formerly a general hospital was considered sufficient for the needs of a town, they now saw inmost towns of any size hospitals for women, for children, for skin diseases, for eye diseases, for diseases of the throat, nose, and ear. This undue and in most cases unnecessary multiplication of hospitals involved a large expenditure of public money in the building and maintenance of such institutions. Thus in Brighton there was the Sussex County Hospital, the Sussex Eye Hospital, the Hospital for Women, the Hospital for Sick Children, the Throat and Ear Hospital, the Brighton, Hove, and Preston Dispensary, the Dental Hospital, the Brighton, Hove, and Preston Provident Dispensary. In the year 1895 there were 2,392 in-patients, 35,522 out-patients, 3,476 casualty patients, and 1,172 maternity cases treated at these institutions exclusive of the cases treated at the Provident Dispensary and at the Homœopathic Hospital; £543 was expended in advertising, printing, and postage, and no less than £5,300 in salaries and wages:—

Name.	No. of In-patients.	No. of Out-patients.	Amount spent on Printing, Postage, and Advertising.	Amount spent on Salaries and Wages.
			£	£
Sussex County Hospital ...	1,635	11,134 (Including Casualties)	250	2,606
Sussex Eye Hospital	122	3,157	17	277
Hospital for Women	38	1,063 1,172 (Maternity Cases)	56	481
Hospital for Sick Children ...	385	3,180	89	607
Throat and Ear Hospital ...	99	1,194	30	107
Brighton, Hove, and Preston Dispensary	113	15,778	94	1,205*
Dental Hospital	0	3,492	7	20
Provident Dispensary had 3,094 members in 1895 ...	—	—	15	91
	2,392	40,170	558	5 394

* Of this amount £127 was given for extra work during the influenza epidemic.

This was an exceptional year on account of an epidemic of influenza, but even allowing for the extra amounts paid these figures ought to lead subscribers to consider whether such a large expenditure was really necessary. Mr. Horder referred to the necessity for establishing Central Hospital Boards in large towns. At the present time new hospitals were opened without regard to existing institutions, or to any public demand for them. The question for the meeting was whether some means should not be adopted materially to reduce the number of people obtaining gratuitous medical relief. It would hardly be contended that there were 40,000 persons—or more than a fourth of the population of Brighton and Hove combined—so poor as not to be able to pay either private practitioners or the small fees of the Provident Dispensary. From the report of the Provident Dispensary it appeared that in spite of the great increase in the population the number of members in the year 1895 was actually less than it was in 1876. It was easy to account for this want of support when it was found from the report of the Free Dispensary that the number of people attended by its officers was enormous.

Dr. Waring moved:

That this meeting is of opinion that the time has arrived when an investigation should be made into the mode of administering medical relief in the hospitals and dispensaries of Brighton and Hove; and it is further of opinion that this investigation should be conducted by a local committee, which should be representative of all the interests concerned.

The motion was seconded by the Rev. R. P. Hooper, who expressed the opinion that Mr. Horder had really understated the amount of the abuse. He himself believed that the proportion was one in three of the population, if not more than that.

The Rev. C. W. Bond, in supporting the resolution, said that what was intended for good was being turned to evil, and that the present state of things was fostered to a large extent by the clergy and kind-hearted district visitors.

The motion was supported also by Mr. S. Cowell, who thought that the little abuse that existed at the Sussex County Hospital might be done away with if subscribers were more careful In the distribution of letters; and by

Mr. Morgan, who said that the figures given for the Children's Hospital included patients from the country.

A Provisional Committee, consisting of the Rev. R. P. Hooper, Dr. Waring, Dr. Marsh, Mr. Greenyer, and Mr. Walter Dodd was appointed to take steps to secure the appointment of a representative committee.

A METHOD OF DISPOSING SAFELY OF TYPHOID DEJECTA.

It is generally admitted now that the B. typhosus may be found not only in the alvine but also in the urinary evacuations. It is in the former, however, that it is most dangerous. It leaves the body enveloped in a mass of organic matter convenient for its growth. The material is often transferred at once to a receptacle, containing an even larger amount of similar filth, and the whole "midden" becomes infected. Or, imperfectly disinfected, the motion is hurried into the trap of the watercloset, and thence (perhaps the second or third time the latter is used afterwards) it finds its leisurely way to the town sewer, to reach perhaps later, with its now multiplied descendants, the river supplying some neighbouring town. The disinfection of the bacillus is not a thing to play with. There are, of course, plenty of disinfectants quite capable of ending its career if properly applied. As most of these have the power of coagulating albumen it is of importance that the solution at first added to the motion should not be too concentrated. If it be, an insoluble casing is apt to be formed around many of the germs protecting them from the further action of the germicide. The first solution should be strong enough to prevent growth of the bacillus in the bedpan, yet weak enough to allow the liquid to assist in disintegrating the evacuations so that the stronger disinfectant, afterwards added, may actually get at the material to be disinfected. Both the first weaker solution, and the further strong chemical added to it later on, must each have time to do its work.

Too much zeal is apt to have bad consequences. Time must be given for each stage. The first may certainly be assisted mechanically, the piece of firewood used for this purpose being, of course, immediately burned. But even with this assistance considerable time must still be given to both the first and second stage. We rather press this point, for we have seen a trained nurse pour a little carbolic acid into a bedpan and send its contents at once down the closet. The carbolic acid was of course washed away by the flush, the bacilli scotched not killed.

Burying the motion is a practice not unattended with risk. A few inches below the surface organic substances may remain long undecomposed. Probably the typhoid bacillus finds a quiet resting-place, and is perhaps harmless till again disturbed, but it may not be killed.

It is said to be safer to put the fæces quite close to the surface, where the more active soil bacteria exist in greatest numbers. But the risk of accidents by this method are so obvious that few of us are likely to employ it. There remains the question of burning the peccant material. Where, as in some manufacturing towns, the pail system of night soil removal is in use, it is the habit of some of these authorities to send a special pail, coloured red or green, to every house where a typhoid case is known to exist. This pail is charged with a powerful disinfectant, is usually fitted with an air-tight lid, and is removed at short intervals and its contents sent to the destructor. Attempts have also been made to burn the motions at home. There are difficulties about this process of a sufficiently obviously character. If it be determined on, the bedpan should first be lined with a layer of paper. On this there should be another layer about a third of an inch thick of peat moss. This can be procured from any hay and straw dealer. It can also be had specially fine and carbolised, or treated with an antiseptic obtained from the pine. In the latter form it is put on the market as "pinol." If the motion is very liquid, or accompanied by a large quantity of urine, the amount of peat may have to be considerably increased. As this substance is highly absorbent, an extra quantity may be added if enough has not been put in at first to account for the whole of the liquid in the motion. The kitchen fire must have been kept in an active state. There must be several inches of bright red coal. Then a few coals are removed from the top, and the contents of the bed pan transferred carefully to the hottest part of the fire, the whole mass being lifted at once by means of the paper, and at once covered by the removed cinders. Some little knack is needed to carry out even this simple process without spilling anything. It is wise to see the nurse make a few blank experiments before trusting her so to deal with the *materies morbi* of typhoid. There is no real difficulty, but a certain amount of cool dexterity is desirable. Of course there are many variants of this method—absorbent cotton wool may be substituted for peat, even dry earth may be used, where neither is immediately attainable, but as it is not combustible it is not so good. Coal dust may be added or used along with earth. It is combustible enough, but not very absorbent, though, if used in sufficient quantity and finely powdered, it may help over an emergency. Sawdust may also be used. A piece of an old draw sheet under the paper (not instead of it) is serviceable. It enables the contents of the pan to be more easily removed. It must of course be burned. The bedpan itself may be afterwards rubbed out with a little more peat, and then filled with perchloride solution, 1 in 1,000, and this left in a couple of hours.

In reference to this subject, Dr. Henry Armstrong has sent us the following letter:

Sir,—*Apropos* of Dr. John D. Macdonald's letter in the British Medical Journal of October 30th, relative to the cremation of typhoid excreta, I beg to remind your readers that a specimen of the "Newcastle steriliser" for dealing with such excreta, devised by Mr. W. George Laws, city engineer of Newcastle, and myself, was exhibited in the Public Health Section of the Congress of the British Medical Association, held at Newcastle in 1893, and that a paper describing it was then read by Dr. C. U. Laws.[1]

This apparatus, which consists essentially of a hermetically closed iron vessel of a capacity of 30 gallons, in which evacuations and other infected liquids are boiled under steam pressure, was used in the Cholera Hospital at Newcastle during the prevalence of the disease, and was found to work well. It is equally adapted for the sterilisation of infected discharges of enteric fever. The makers are Messrs. Goddard, Massey, and Warner, Nottingham, from whom full details may he had on application.—I am, etc.,

Henry E. Armstrong,
Medical Officer of Health.

Newcastle-upon-Tyne, Nov. 4th.

CORPORATE AND MEDICAL REFORM COMMITTEE.

We are requested by Mr. George Jackson to publish the following letter which he has addressed to Dr. Glover, in reply to Dr. Glover's letter to him published in the British Medical Journal of November 6th, p. 1366:

Dear Dr. Glover,—Your letter of November 1st has been forwarded to me. I now beg to acknowledge and answer it. In doing so, I must say that I did not suppose you would object to our asking your approval of, or dissent from, the points we submitted, which had been answered favourably both by candidates and members of the General Medical Council (direct representatives)

I think you will admit that every movement must have a beginning; even the *Lancet* was not always the powerful paper it is now, and in its early days was scoffed at by the then leaders of the profession. Personally, I am quite willing to acknowledge your services in the cause of reform, and regret only, that owing to the opposition of the representatives of the corporations they have been of so little avail. That is to a great extent your misfortune, and not your fault. I quite agree with you that it is better that this unpleasant discussion should now cease. I nevertheless hope that all true reformers will have your assistance.—I remain, dear Dr. Glover, yours very sincerely,

Geo. Jackson.

Plymouth. Nov. 9th.

1 This paper was published in the British Medical Journal of August 12th, 1893, p. 366.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1897.

SUBSCRIPTIONS to the Association for 1897 became due on January 1st; and notice is hereby given, in accordance with By-law 5, that Branch Secretaries' subscription accounts close on October 31st, and all unpaid subscriptions must be forwarded after that date to the General Secretary, 429, Strand, London. Post-office orders should be made payable to the General Post Office, London.

British Medical Journal.

SATURDAY, NOVEMBER 13TH, 1897.

THE SALE OF POISONS.

FOR a long time past coroners, magistrates, juries, medical men, and others have continued to give expression to their belief that the existing provisions for restricting the supply of poisons and articles of a dangerous nature are insufficient security against accident or misuse, and scarcely a week passes without a reiteration of statements to that effect. That circumstance alone would appear to indicate a necessity for inquiry, since the opinion expressed in regard to an important subject may be taken as the result of evidence brought forward when cases of death or accidental injury from poison occur. But the persistency with which this opinion has been expressed by persons in official and representative positions has been insufficient to overcome the inertia of the authorities by whom a comprehensive inquiry could be instituted for the purpose of either confirming or refuting the idea that there is a real need for more stringent restrictions of the sale of poisonous articles than the law now demands. The frequent recommendations by juries that existing restrictions should be extended and supplemented are at least indicative of some sense of insecurity which should be removed either by authoritatively showing that it is unfounded or by such further legislative measures as might be found desirable for that purpose.

Very cogent support to the view here expressed is afforded by the cases of poisoning by carbolic acid to which attention has so frequently been directed in the BRITISH MEDICAL JOURNAL and by the Parliamentary Bills Committee. For years past that substance has been pre-eminent as a cause of death by accident and misuse, but from a legal point of view is not a poison. More deaths are caused by carbolic acid than by any single article in the schedule of substances placed under restriction by the Pharmacy Act, and fifteen years ago that fact had become so obvious that the Council of the Pharmaceutical Society, in the performance of its public duty, submitted to the Privy Council a recommendation that carbolic acid should be added to the schedule of legal poisons. That recommendation of the body entrusted by Act of Parliament with the duty of providing for public safety in the matter of poisons, has not yet been acted upon, though it has been repeatedly endorsed by various authorities, and the fatal consequences of its practical disregard have been manifest from the constant reports of cases in which death by accident or suicide has been due to carbolic acid. Nor has there been any attempt to furnish a satisfactory explanation of reasons—if such there can be—for not adopting the recommendation to add carbolic acid to the poison schedule. Even the suggestion that the utility of carbolic acid as a disinfectant should preclude any restriction of its sale has never been put forward officially, and the long-continued hesitation of the Privy Council to confirm the recommendation made by the Council of the Pharmaceutical Society remains quite inexplicable.

The fatalities caused by carbolic acid have become such familiar occurrences that writers in the press not infrequently infer there is a similar absence of regulation in regard to the sale of other poisons, and misleading statements are made in consequence. Thus for instance the *Morning*, in commenting upon a recent coroner's inquest, has observed that "at present anyone can buy a quantity of virulent poison, sufficient to make away with a regiment, with but very few and insufficient formalities." This statement is entirely without foundation so far as scheduled poisons are concerned, and now that the administration of the Act has been extended to secret and proprietary articles, in consequence of the action taken by the Parliamentary Bills Committee, there is little ground for complaint that the provisions of the Act are not observed. The question whether "strychnine, arsenic, laudanum, and such like, should, as suggested in the *Morning*, only be allowed in the hands of duly qualified practitioners," is one involving consideration of various other points on which much difference of opinion might be expected, and it goes beyond what is necessary in the way of protecting the public from danger. For that purpose strict observance of the provisions of the Pharmacy Act may be relied upon as sufficient, and it is to that point rather than to suggesting greater restrictions that attention requires to be directed. As an illustration of this, reference may be made to the remark made by the jury in a recent case of death from an overdose of chloral that "greater restrictions should be placed upon the sale of poisonous drugs"; and also to the fact that no notice was taken of the circumstance that the medicine, containing chloral, had not been supplied in accordance with the requirements of the Pharmacy Act. Almost invariably under similar conditions the utility of observing the provisions of that Act becomes manifest, and were they carried out in regard to carbolic acid, as recommended by the Council of the Pharmaceutical Society, there is every reason for believing that there would be a large reduction in the number of deaths, both by suicide and accident, which now occur as a result of neglecting to carry out those provisions.

THE TREATMENT OF UTERINE FIBROIDS.

THE recent discussion on retroperitoneal hysterectomy for fibroids at the Obstetrical Society was of unusual interest. Altogether the Society was inclined to agree with Mr. Sutton's advocacy of that operation in preference to expectant treatment, the clamp and panhysterectomy. A graver question, however, stood in the way, and that was the justifiability of operating at all on a fibroid tumour of the uterus which caused no evil symptoms.

Mr. Sutton boldly declared that just as forty years ago ovarian cysts were allowed to grow till their removal became dangerous, so uterine myomata are still allowed to grow till their removal becomes dangerous. As the principle of early

ovariotomy has reduced the mortality to a minimum, so the same principle applied to hysterectomy for fibroids will, it was urged, produce equally good results. The latter statement was severely challenged, and the Society was somewhat startled at the comparison drawn between the two forms of tumour. The theory which Mr. Sutton, M. Péan, and others support seems somewhat extreme, though the former declared during the discussion that he would shortly issue a memoir on the damage done to patients by small and apparently innocent fibroids. The views of the opposite school must be respected, for they, too, are based on observation. Dr. John Wallace, of Liverpool, made certain grave statements at the Carlisle meeting of the Association.[1] He insisted that uterine fibroids had a trivial mortality compared with ovarian tumours in the times when both were left alone, or tapping only of the latter was undertaken. Death was almost invariable in ovarian cysts, but quite exceptional in fibroid tumours. The same law holds now, according to Dr. Wallace, but ovariotomy has stepped in, and the mortality has been reduced by over 90 per cent. On the other hand, supravaginal hysterectomy has increased the mortality of uterine fibroids. What the percentage has been we shall never know, but it has been great. According to another important statement of Dr. Wallace's, hæmorrhage alone does not demand extirpation by laparotomy. It can, in his opinion, always be checked. He has never seen a case succumb to it; but if accompanied by pain or inability for life's work, it may justify operation should the patient desire it, but would not justify the surgeon in recommending it.

The truth probably lies between the opposed theories of Dr. Wallace and Mr. Sutton. Assuredly many fibroids never grow large or give trouble; but when they bleed they set up great constitutional disturbance, and hæmorrhage is an evil which essentially demands surgical aid. Dr. Wallace's doctrine will be thought by many physicians as well as surgeons to overstate the case for expectant treatment, and would be an argument in favour of yielding to neurotic women who may demand operation when they have no organic disease of the pelvic organs.

It must, however, as certain speakers indicated at the discussion, never be forgotten that recovery from an operation does not necessarily prove that it was justified. Before we strike the balance between these opposed principles we must find out what is precisely the character of a small fibroid, harmless in position and producing as yet no ill effects, which will grow and do mischief, as distinguished from a similar tumour that will never grow. Both such growths are common, but we cannot yet distinguish them. At present we must not disdain to wait and watch for satisfactory evidence of steady and rapid growth or intractable hæmorrhage.

The retroperitoneal operation seems to have gained favour. The clamp is defended by those who have employed it with success, but it is unpopular because other clamps have, as in the case of ovariotomy, been discarded, notwithstanding the active support of Spencer Wells and other great names. The contrivance also gives pain and involves special risks, immediate and remote. Thus, when the tumour has been enucleated from the broad ligament, the wire will usually lie on a raw wounded surface, often continuous, in spite of sutures, etc., with the large wound involving the peritoneum and the parametrium, an even more irritable structure. Panhysterectomy, on the other hand, is a most brilliant operation when the cervix and broad ligaments are free, but when they are involved the most careful surgeon may wound a ureter; and Mr. Sutton observed that he knew of more than one case where that grave accident really occurred. In short, retroperitoneal hysterectomy appears to be the method which it is best to teach. Yet the justifiability of any operation for fibroid is not as yet defined in many types of that disease, and medical science demands a solution of this grave problem.

[1] Notes on the Evolution of Treatment of Uterine Fibroids in the Thornton Ward, Liverpool Infirmary. BRITISH MEDICAL JOURNAL, vol. ii, 1896, p. 1284.

THE CLIMATIC HEALTH RESORTS OF CANADA.

ONE of the good results which it may be expected will flow from the visit of the British Medical Association to Montreal will be a better understanding of the climate of Canada. Canadians resent that their country should have been apostrophised as "Our Lady of the Snows," and Rudyard Kipling is not a name to conjure with at the present moment in the Dominion. Extending from east to west, from the Atlantic to the Pacific Oceans, and modified at its two extremities by the influence of these oceans, and in its central portion by the great inland lakes, Canada, of course, presents many varieties of climate, and it would be absurd to expect as yet any detailed knowledge of all the variations which latitude, elevation above the sea, or proximity to the oceans must produce. Some sort of general or preliminary notion may be obtained, however, by observing that of the settled parts of the Dominion the eastern part is roughly in the same latitude as southern Germany, and the western part in that of northern Germany.

In spite of its eastern indented coast line, Canada as a whole has a continental climate—a well-marked winter usually with long-lying snow, and a warm summer. In the maritime provinces, wanting the influence of the Gulf Stream and suffering from that of the polar current, the winter is cold, and apt to be damp and foggy. The summers are bright and not hot, owing to the same cooling agency. The coasts of Prince Edward's Island, Novia Scotia, and New Brunswick thus offer many bracing seaside resorts, subject, however, to very much the same vicissitudes of weather as make a visit to a British seaside place rather a lottery. The greater part of the province of Quebec has a more constant climate, and the city of Quebec itself, though in the same latitude as Central France, is on the same isotherm as Stockholm. The climate of the eastern part of the province of Ontario is somewhat less constant, the summer hot but the winter less steady. From the great lakes eastward to the Atlantic, therefore, the climates of Canada present few striking points of interest or advantage to Europeans. The only exception which may at present be suggested is the district of the Muskoka Lakes, where special local conditions render the climate bracing and the air free from dust.

In the Rocky and Selkirk Mountains, however, Canada possesses a vast extent of country which has a summer climate presenting the well-known Alpine characters in their most marked form. As to the winter climate we have not as yet sufficient information to express any opinion, but

in summer the climate appears to be all that can be desired, especially in the middle of the summer season—mid-July to the end of August. At Banff there is ample accommodation for visitors, who can there obtain all the comforts and many of the luxuries of civilisation, while at other points along the Canadian Pacific Railway, as at Field in the Rocky Mountains, and at Glacier in the Selkirk Mountains there are well-managed mountain hotels.

The climate of the prairie country east of the Rocky Mountains possesses certain valuable characteristics. From Brandon, the western centre of the wheat-growing country of Manitoba, where the elevation is 1,150 feet, the prairie, which is all open and usually undulating, rises imperceptibly, until at Calgary, the western centre of this ranching country, the elevation of 3,388 feet is attained. Here the rainfall is low (11.54 inches), the proportion of sunny days, with a maximum in winter, is high, and the snow does not lie deep. The air all the year round is bracing and stimulating, and everything, both in the climate and the customs of the inhabitants, encourages the resident to live an out-of-doors life. Neither the social surroundings nor, perhaps, the climate are adapted to persons who are actual invalids; but for those young men for whom a change of climate is recommended rather as a precautionary measure these western prairies of central Canada offer advantages which it will be well to bear in mind. One distinct advantage of a minor kind is that the journey from, say, Calgary to England can easily be accomplished in less than a fortnight.

Westward of the Selkirk Mountains, and at a much lower elevation than the prairies on the eastern side of the Rocky Mountains, is a remarkable "dry belt." Its most accessible town is at present Kamloops, on the main line of the Canadian Pacific Railway. The rainfall is low (11.05 in.), and the air, in spite of the fact that the district is traversed by several fine rivers, remarkably dry. It is proposed to erect here a sanitarium, and there is every reason to believe that the climate is specially suitable to the treatment of consumptive patients in all the earlier stages of the disease. The chief danger to be guarded against appears to be dust, but this is only likely to be troublesome on roads and in settled parts, and due regard will doubtless be had to this in the choice of a site. Southward of this district is the country in and about the Okanagan Valley, which possesses a similar climate, while affording a somewhat more varied scenery.

It will be seen that the Dominion of Canada affords climatic conditions calculated to be of use in the prevention or treatment of various diseases, and that there is good reason to believe that a great future awaits certain specially favoured localities.

Mr. Victor Horsley has, we understand, been appointed by the Crown a member of the Senate of the University of London.

Dr. Alfred H. Carter, Senior Physician to the Queen's Hospital, has been appointed a Professor of Medicine in Mason College, Birmingham.

Lieutenant Edmond William Costello, on whom Her Majesty has recently conferred the Victoria Cross for Valour, in connection with the Indian frontier campaign, is a son of Surgeon-Colonel C. P. Costello, M.D., Indian Medical Service (retired), an officer himself of very distinguished service.

The Queen has been graciously pleased to confer the Jubilee Commemoration Medal on Surgeon-Major-General T. F. O'Dwyer, M.D., Principal Medical Officer, Aldershot, and on Brigade-Surgeon-Lieutenant-Colonel G. Danford Thomas, Senior Medical Officer to the North London Infantry Brigade.

The anniversary meeting of the Royal Society will be held on Tuesday, November 30th, when the officers for the ensuing year will be elected. Lord Lister will be recommended for re-election as President, and Professor Michael Foster as Senior Secretary, and among those recommended for election to the Council are Professor Clifford Allbutt, Professor John Cleland, and Dr. J. N. Langley.

MEDICAL DEFENCE UNION.

We are asked to announce that Dr. Walter Spencer Anderson Griffith, F.R.C.P., F.R.C.S., has been elected President of the Medical Defence Union, in the place of Mr. Victor Horsley, F.R.S., F.R.C.S., who has resigned owing to his election to the General Medical Council.

DR. J. T. ARLIDGE.

We feel sure that a very large number of our readers will desire to join in the movement for presenting a testimonial to Dr. J. T. Arlidge, to which attention is called in another column by Dr. John W. Ogle. Dr. Arlidge, for many years before the subject attracted as much attention as is now given to it, devoted himself to the study of the conditions of industrial life unfavourable to the health of the workers. In particular he has made most valuable contributions to a better knowledge of the means of obviating the effects of injurious processes in pottery works, and by his volume on *The Hygiene, Diseases, and Mortality of Occupations*, in which he summed up the results of his large experience and wide reading, he laid not only the medical profession, but also all who take a statesmanlike interest in social problems, under a deep obligation.

RUMOURED NEW ARMY WARRANTS.

Rumours as to new Army Warrants affecting the Army Medical Staff are many. It is possible that at no very distant date we may have a warrant tinkering with the existing examination arrangements, but the important point appears to be that the question of reverting to the regimental system in some modified form is under serious consideration. The difficulties in the way of introducing such a system are numerous, and it appears inevitable that any plan of the kind must involve an increased charge on the Estimates. Under a regimental system, even if it were to apply only to medical officers of the junior grades, a considerable increase of the medical staff would be necessary; probably about a hundred additional officers would be required, and it would be necessary to authorise them to draw staff allowances. In view, however, of the proposed increase in the army, the Government will clearly have to face the necessity of increasing the medical staff, and it is possible that this will afford the desired opportunity for introducing reforms.

HEALTH OF BRITISH TROOPS ON THE FRONTIER.

In the last homeward mail it is stated that an abnormal amount of sickness prevails among the troops both in the Tochi Valley and in the columns concentrated at Korat from Peshawar and the Kurram Valley, including the force under General Yeatman-Biggs, and the strain on the Medical Staff, in consequence, has reached a point beyond which it cannot be reasonably expected to go. The extra requisitions which have in consequence been made on the Indian Medical Service for officers has been great. The proportion of men invalided or considered unfit for service for an indefinite period, as distinguished from those rendered unfit from less serious causes, is also said to be higher than might have been expected from the known facts of the campaign. Those dis-

abled by wounds are not taken into account, and when these are eliminated from the list of sick, it is a still long one which will require to be accounted for in a manner which will leave no doubt about so important a matter, A large number of the sick returning from the Tochi Valley. where the troops saw no actual fighting, are said to be in a weakly state. Large contingents of sick are also, it is reported, arriving at Kohat from the posts in the Tochi Valley and Samana, and it is expected that there will be probably about 1,000 British and native sick to look after at the bases about the end of October. The bad quality of the drinking water and half rations for a whole week is considered sufficient to account for the fever and dysentery prevalent among the troops in the Samana country, but it leaves untouched the large question of a great proportion of the sick, especially among the British, being reduced to a condition apparently indicating the loss of stamina, or that essential quality the power of endurance, which, next to pluck, is the most important factor in warfare. To what cause or causes do the medical authorities attribute this regrettable state of affairs? asks an Indian contemporary; and continues, "will the medical histories of the rank and file assist them in tracing the true cause of what appears to be a sad falling off in the quality of endurance, which may on investigation point to the evils which the Contagious Diseases Act was intended to prevent, as the *fons et origo* of the lamentable decline in vigour of the unfortunate victims of a fatuous policy?"

WANTED! A SANITARY CLEARING HOUSE.

AT a recent vestry meeting Dr. Edmund Gwynn attributed "the usual crop of typhoid cases" in Happy Hampstead to the holidays. It is almost a pity that we have not some sort of sanitary clearing house to deal with accidents of this kind. Surely the origin of typhoid contracted at a watering place ought to be investigated. There is a sort of conspiracy of silence on the part of the sanitary authorities of many watering place which augurs an evil conscience on their part. Not a few of these towns refrain from sending to the Local Government Board their weekly returns of infectious cases. While we are far from saying that the city health officer is always right in looking abroad rather than at home for the origin of his typhoid cases, we think it might not be amiss if medical men when asked to recommend a health resort would give the preference to such as are least guilty of this policy of concealment.

BACTERIOLOGIST AND SANITARY OFFICER IN INDIA.

SURGEON-MAJOR A. M. DAVIS is to be attached to the office of the Principal Medical Officer in India, as a tentative measure, for one year, for the purpose of carrying out bacteriological and sanitary investigations. The officer named will draw extra staff pay and allowances. This is a very important announcement, and it is hoped that the appointment will in the end be made permanent, for an officer employed in bacteriological and sanitary investigations is absolutely necessary at headquarters. Surgeon-Major-General Gore, P.M.O. Her Majesty's Forces at Simla, has apparently recommended, and happily with success, a step which must be attended with very satisfactory results. The subject, however, of special bacteriological research and sanitary investigation in India will need further attention if it is to be thoroughly effective, and officers with special qualifications will have to be appointed in each Presidency for the exclusive performance of such work. The largest towns in Presidencies—for example, Madras, Bombay, and Calcutta—absolutely require some place for general laboratory work in connection with their respective municipalities, hospitals, and medical schools. It appears that the Madras Government has already applied to the supreme Government for the appointment of a bacteriologist, and has received a sympathetic answer, the Government of India itself suggesting that the present Professor of Hygiene at the Medical College (Surgeon-Captain A. E. Grant) should be appointed Professor of Bacteriology. There should be, and we believe there will be, no difficulty in getting highly trained officers for special work in the medical services in India.

OVERCROWDING IN BOARD SCHOOLS.

DR. REGINALD DUDFIELD, in his report for 1896 to the Paddington Vestry, refers to the overcrowding of class-rooms in Board schools. He passes in review the portions of the Education Code which deal with (1) the "average attendance" of scholars to be allocated to each teacher, and at no time to be exceeded by more than 15 per cent. of given figures, and (2) the number "habitually present" to be permitted to occupy any given room. School teachers, Dr. Dudfield states, seem to read the code as allowing an excess attendance of 15 per cent. of the number which their class-rooms are entitled to accommodate, forgetful of the fact that 8 square feet of floor space and 80 cubic feet of space are set down as proper minima for each scholar. An excess of 15 per cent. would reduce these spaces to 6.9 square feet and 69 cubic feet respectively; and whilst such excess may be only for a time, yet it may also be pretty continuous in particular sections of a school without materially affecting the "average" attendance of the whole establishment. Dr. Dudfield evidently, and rightly, feels that scrupulous care should be taken to avoid encroachment upon the already restricted allowance of air space per child laid down by the Code. In times of pressure no doubt difficulty of adjustment arises; but, seeing how large a part schools play in disease dissemination, any departure from present standards of cubic space, which are certainly not too high, is to be deprecated.

IS CIGARETTE SMOKING A CAUSE OF DEATH?

AT a recent inquest on the body of a boy of 16 at Felling, near Gateshead, the jury found that he died from syncope due to nicotine poisoning caused by the excessive smoking of cigarettes, on which the coroner is reported to have said that there seemed to be quite an epidemic of such cases. Though there can be no doubt that excessive cigarette smoking, especially in youths, acts injuriously on the digestive and nervous systems, and, through the cardiac ganglia, affects the heart, it would be interesting to learn what were the symptoms which in the case quoted preceded death, and how it was inferred that they were due to cigarette smoking. The coroner urged that the attention of parents should be called to the danger of their children smoking at too early an age. We do not certainly desire to see established in England the Burmese habit of children learning to smoke as soon as they can walk, but we venture to think that the coroner overstated the case when he said there seemed to be an epidemic of deaths from cigarette smoking. It would be satisfactory to have more authentic facts on this subject.

THE GENERAL MEDICAL COUNCIL.

Two new members will be introduced to the General Medical Council at its meeting on November 23rd. Mr. Victor Horsley, the Direct Representative for England, newly elected in the room of Dr. R. R. Rentoul, and Sir Christopher J. Nixon, Representative of the Royal University of Ireland. The time of the Council during the coming session will be occupied largely by the consideration of various penal cases, but among the reports which it may be expected will be submitted is one from the Executive Committee on the subject of unqualified assistants. It will be remembered that at the last session of the Council a resolution was adopted instructing the Executive Committee to consider whether the Council's resolution on the employment of unqualified assistants as they appear from time to time in the advertisements inserted in the medical journals might not with advantage be rendered clearer and more stringent. Dr. Donald MacAlister, who moved the resolution, expressed the opinion that the time had come for withdrawing the guarding

adjectives and adverbs which at present appear in the resolution. At the same meeting of the Council, a Committee was appointed to frame and forward to the Privy Council a representation calling attention to the proposals recently made in the Italian Parliament with regard to the practice of medicine in Italy by foreign graduates, and we believe that the action taken by this Committee will be reported to the Council during the coming session. It is anticipated also that a report will be presented from the Education Committee with regard to the proposal to raise the standard of the examination in preliminary knowledge, and that reports will be received also from the Midwives Registration Bill Committee and the Medical Aid Associations Committee. A report will also doubtless be made by the Pharmacopœia Committee. The revision of the *British Pharmacopœia* is now nearly complete, but the volume will not be ready for publication for some little time yet. The alterations which have been introduced will, we believe, turn out to be both numerous and important.

THE MCEWAN HALL, UNIVERSITY OF EDINBURGH.

We understand that definite arrangements have been made to open the McEwan Hall on Friday, December 3rd. It is expected that the Chancellor of the University, the Right Hon. A. J. Balfour, will formally receive the gift from the donor, Mr. McEwan.

THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

At the next meeting on November 23rd it has been decided to depart from the ordinary routine practice of reading set papers, and to hold a special discussion on the prevention of enteric fever. The subject is one of great interest, bearing as it does on the epidemic of the disease that occurred at Worthing in May and June of 1893, and to the very serious outbreak at the present time at Maidstone, while the cases that originated in University College Hospital will no doubt serve to point a moral if they do not adorn a tale. Such discussions, originated some two years ago when Mr. Jonathan Hutchinson was President of the Society, serve a useful end in calling attention to and making more widely known the high-water mark of expert or special knowledge. The discussions at the Royal Medical and Chirurgical Society on the early nervous lesions of syphilis and on the latency of disease were eminently successful and popular. This discussion on the prevention of enteric fever will be opened by Dr. G. Vivian Poore, and should be a valuable and instructive contribution to our knowledge on the subject. We are asked to add that the meeting will not be confined to Fellows of the Society, but that visitors are cordially invited to attend and will be introduced by the Secretaries.

HONORARY PHYSICIANS AND SURGEONS TO THE QUEEN.

Her Majesty's gracious message regarding the death of the late Director-General of the Army Medical Staff, Sir William Mackinnon, K.C.B., which we reproduced last week, refers to Sir William as "that distinguished officer and member of Her Majesty's Household." The latter part of the message confirms the view we have always expressed regarding the position of Her Majesty's honorary surgeons and physicians, namely, that they are "members of Her Majesty's Household," and as such are entitled to be treated with the respect due to such a position. What, however, in practice, do we find? It is this: That while Her Majesty's aides-de-camp are regularly invited to all Court functions, the honorary surgeons and physicians to the Queen are as regularly omitted when these invitations are concerned. On whom the responsibility rests for this slight placed on military medical officers is a question that awaits a reply. Excluding altogether the possibility that Her Gracious Majesty or H.R.H. the Prince of Wales could possibly sanction the omission alluded to, we are driven to conclude that the fault lies with the Lord Chamberlain's department, some members of which possibly consider that a "doctor," even though a V.C., K.C.B., Q.H.S., or Q.H.P., is an inferior creature, and a quantity to be neglected at Court functions. Her Majesty's sentiments and the sentiments of those who serve her run apparently in different channels about the army medical officers of distinguished service and high rank.

INSTRUCTION OF NAVAL MEDICAL OFFICERS.

A valuable correspondence is going on in the *Times* on this question. We pointed out some time ago the necessity for instituting in British medical schools a systematic course of efficient instruction in tropical diseases for surgeons likely to pass part of their years of active life in tropical countries. The result of this was, we are glad to say, a prompt resolution on the part of the authorities of St. George's Hospital to introduce such a course under Dr. Patrick Manson. Similar classes have also been established at Charing Cross Hospital, at St. Mary's Hospital under Dr. John Anderson, C.I.E., and at Edinburgh where the lecturer is Dr. Felkin. Inspector-General Reid, M.D., R.N., justly insists on the importance of giving thorough teaching in tropical diseases to surgeons on entry into the navy at Haslar Hospital. Another writer adds "that there could not be the difficulty which Inspector-General Reid suggests in finding a naval medical officer capable of the task." He points out that "as Haslar, as well as Netley, receives invalids from tropical stations, some tropical diseases can be studied there, while not a few naval medical officers, with practical experience of epidemic and endemic tropical diseases, could, without doubt, supplement their own experience with that of other naval and civilian experiences, and an efficient course of instruction in tropical diseases, including their etiology, pathology, bacteriology, and treatment could be established at Haslar by a naval medical officer." The expenditure would be inconsiderable, while the value of affording such opportunities for gaining knowledge to naval medical officers who may at any time be called upon to serve in tropical climates would be considerable. Turning to another point in naval medical instruction, just complaint is made that the naval health reports have, from an ill-judged economy, been docked of the valuable monographs on clinical and other subjects which were formerly found so useful and creditable. To some extent this deficiency has been remedied by the communication from the Director-General of the Navy to our columns of papers which he thinks worthy of circulation among the profession, but these are necessarily short, and rarely deal with subjects of special interest to the Navy. We join, therefore, in the desire that this valuable feature of the older naval medical reports may be restored.

ARMY RANK AND THE MEDICAL STAFF.

Surgeon-Major-General Davis (retired) in his recent address to the South-East Hants District of the Southern Branch of the British Medical Association, a report of which is published in another column, discussed the present position of the Army Medical Service. With much that he said all will heartily agree, but there are one or two points upon which we shall venture to differ from him. He deprecates writing to the papers, and the "pillory" of evasions of the Queen's Regulation, alluding, of course, to our action on the question of Mixed Boards. But how, with the very deaf official ear to the complaints of medical officers, are their wrongs to be righted, except by making their grievances known? Can those who take upon them to evade Army Orders complain if their disobedience to a plain command is "pilloried?" Surgeon-Major-General Davis recognises that military officers are unreasonably jealous of defined army status for medical officers; which, as he sees, could not establish the smallest claim to the prerogative of general command. He also favours the

consolidation of the Medical Staff and the Medical Staff Corps into one corps, and suggests, we cannot think very happily, the title "Royal Ambulance Corps": finally, he sees that the majority of the compound titles are impossible of use in social address. But with all that he is not yet prepared to advocate pure military rank and titles to the medical service; he stops short, in fact, at the point where light is most wanted, and does not indicate the army status which he would propose for officers and men in a consolidated medical corps; they would be left, we fear, in the impossible position they now occupy. That position, as testified by the vast majority of those who now occupy it, does not afford a satisfactory career to a young medical man of talents and self-respect; and this is the reason of the unpopularity of the service. The older officers may look back to the happy days of their youth in the service thirty or forty years ago, but they cannot reinstate a vanished order of things, and, as a rule, are unable fully to realise the feelings and aims of the generation now serving. Herein, we take it, lies the frequent conflict of opinion on the eligibility of the service as a career between those on the shelf and those entering upon life.

THE MEMBERS AND THE COUNCIL OF THE ROYAL COLLEGE OF SURGEONS, ENGLAND.

On another page we print some resolutions which will be brought forward by the Society of Members of the Royal College of Surgeons, England, at the annual meeting of the Fellows and Members to be held on Thursday next, November 18th. With regard to the first resolution it is undoubtedly the fact that the "elucidatory statement" issued by the Council was incorrect in certain particulars, and that it was a statement in favour of the existing order of things rather than of reform. Quite possibly also the voting of the Fellows upon the question of the direct representation of the Members was influenced adversely by the circular letter addressed to the constituency by a member of Council to which reference is made. Again, it must be conceded that although the Council claim to be the representatives of the Fellows as well as the Members, much more still remains to be said upon the subject which the Council will do well to consider. Lastly, we cannot agree that the Council have unequivocably established the legitimacy of their decision not to interfere with the conduct of those Members of the College who have identified themselves with the trading bodies called "medical aid associations." In asking, therefore, for a clear pronouncement upon this matter the Society of Members are, in our opinion, simply making a very just and reasonable demand. In view of the importance of the resolutions to be brought forward, it is obviously urgent that as many of the Fellows and Members of the College as can conveniently do so should attend at the College on Thursday next.

THE PROFESSORSHIP OF PATHOLOGY AT CAMBRIDGE.

In accordance with general expectation Dr. Kanthack was on Saturday last elected to the Professorship of Pathology, vacant by the early death of Dr. C. S. Roy. During the long illness of the late professor, Dr. Kanthack, whose connection with the University dates from 1891, most ably and successfully performed the duties of the office, and earned the gratitude of the medical school by his unwearied devotion to its interests. Alike as a teacher and as an original investigator he has had a long and varied experience, and he has everywhere won golden opinions. Belonging to a Liverpool family, with Swedish and Brazilian connections, he pursued his studies in the Liverpool University College and at St. Bartholomew's Hospital, London. He graduated as B.A. and B.Sc., with honours, at London in 1884, and as M.B. and B.S., with the gold medal for obstetrics, in 1888. He also attained the Fellowship of the Royal College of Surgeons in 1888; in 1892 he took the M.D.Lond. and the Membership of the Royal College of Physicians. In the present year he ha added to his remarkable list of academic distinctions th Fellowship of the Royal College of Physicians, and the M.A degree (*propter merita*) of the University of Cambridge. Hi researches have been carried on not only in London, Liver pool, and Cambridge, where he has held pathological posts but in Berlin under Virchow and Langerhans, and i India, where he was one of the scientific members of th Leprosy Commission. His published works include *Lepros in India*, a *Manual of Practical Morbid Anatomy*, and a *Hand book of Practical Bacteriology*, together with a large numbe of papers and memoirs on anatomical, physiological, an pathological subjects in the *Philosophical Transactions*, *Vir chow's Archiv*, *Journal of Pathology*, etc. It will presently fal to his lot to nominate a suitable candidate for the valuabl John Lucas Walker Studentship of £200 a year, which h himself held in 1891 and 1892, and which has acquired specia distinction from the many notable pathologists it has assiste in their researches at Cambridge. The department of path ology is rapidly outgrowing the provisional buildings assigne to it ten years ago, and under the care of the new professor i is certain to expand still more rapidly. The question of new building for this and other departments of the medica school is becoming urgent, and only awaits the appearanc of a large-minded benefactor of science for its solution Professor Kanthack has been for six years a Fellow Commone of St. John's College, in which he resided until Professo Roy's death.

ISOLATION OF INFECTIOUS DISEASE AT HEALTH RESORTS.

The borough of Hastings is to be congratulated upon th completion of its new isolation hospital at Ore, at a cost o some £14,000. The buildings are designed for 46 beds. Case of small-pox will be received into a separate hospital. Th example of Hastings—one of the foremost south coast healt resorts—should be followed by many other of our waterin and seaside towns. It is so all-important to these to pre serve a good name, or in some cases to get it, that the foolis idea that the provision of an infectious diseases hospita prejudices the place in the eyes of the public should b abandoned at once and for ever. Hastings may assist i this direction by its present action, as it will certainly profi by its wise step should disease requiring isolation brea out.

ENGLISH DOCTORS IN ITALY.

The proposals made some time ago in Italy, which would hav the effect of preventing English medical men from practisin or continuing to practise in that country—a subject whic was much discussed recently in our columns—are, we ar glad to learn, not likely to be insisted upon. Accordin to a telegram received this week, the English doctor practising in Rome recently sent a deputation t the Home Office to ask the intentions of the Govern ment with regard to the demand of the Italian Nationa Medical Congress that a law shall be passed obligin foreign doctors to undergo a State examination befor being allowed to practise. The deputation was cordiall received by the Under-Secretary of State, who assured ther that for the present there was no danger of such a law bein passed. All that could be done, said the Under-Secretary would be to open negotiations with other countries in orde that Italian doctors might enjoy abroad the privileges tha foreign ones possessed in Italy. "But with regard to this, he added, "you have nothing to lose and all to gain; fo foreign doctors in England already enjoy greater liberty an privileges than the English ones in Italy. In fact, no Italian doctors in the peninsula can only practise amon foreigners, while in England anyone who has a proper degre can practise among the people on the same terms a a native doctor. The only restrictions are that h cannot hold public appointments, and that certi

cates drawn up by him have no legal value.' The matter came under the consideration of the General Medical Council during its last session, in consequence of a communication made to the President by Dr. John J. Eyre, of Rome, and a committee was appointed to draw up a statement for presentation to the Privy Council. This statement has, we understand, been forwarded by Sir Richard Quain, the President of the General Medical Council, to the Privy Council, and the matter is therefore under the consideration of the British Government.

MEDICAL REPRESENTATIVES ON HOSPITAL BOARDS.

The directors of the Dundee Royal Infirmary have had under consideration, in connection with the establishment of the Maternity Hospital, the terms of the new charter which is necessary. Among other questions discussed was the removal of the disability to become members of the Board of Directors which the old charter imposes on the medical officers. The decision to make no change will be regretted, for while there was no desire that the acting medical officers should become directors, the house is unable to secure the service of the most experienced members of the profession should it ever be desirable to obtain them, as it often is, in many of the questions which arise in the management of a large charitable hospital.

COUNTY BOUNDARIES.

It certainly seems time that measures were universally adopted for bringing into harmony for all analogous purposes the boundaries of the country. Existing anomalies are quite indefensible. Dr. Barwise repeats a plea for the abolition of the existing anomalies in the matter of differing constitution of counties as areas for sanitary administration and for death registration, quoting in his report for 1896 from his statements made on the subject in 1891. He is, of course, mainly referring to the case of Derbyshire, and he shows by the aid of a map wherein the county of the County Council differs from that of the Registrar-General, and suggests a remedy, which might easily be made to operate, whereby the two counties would become one for both purposes. Registration Derbyshire to-day includes parts of the administrative counties of Nottinghamshire, Leicestershire, Staffordshire, and Cheshire, and it includes important centres of population which are within the Derbyshire administrative area. The greatest confusion is thus brought about in the comparative study of disease and registered mortality.

HONG KONG AND THE VENICE PLAGUE CONVENTION.

The Hong Kong Sanitary Board have had before them reports of their medical officer of health, Dr. F. W. Clark, and others, as to the desirability of the colony becoming a party to the Venice Plague Convention of 1897. The subject was also made the matter of very lengthened debate, and much difficulty seemed to be experienced as regards the possibility of maintaining under surveillance in their houses the large number of immigrants who might reach the colony in times of plague from ports where that disease prevailed, without there having been any occurrence of plague on board. It was suggested that a guarantee as to address should be forthcoming as regards such people; but this was declared to be impracticable. The real question is whether, under conditions of plague in other countries, Hong Kong wants to receive immigrants who can afford no proof that they have remained in health for a period of twelve days since leaving an infected port or district. The example of this country in the case of cholera at Hamburg may be remembered. It was decided that unless the addresses given by intending emigrants were satisfactory to the port medical officer of health, the passengers could not be allowed to land. When the shipping companies bringing emigrants over found that they had these people on their hands because they could not satisfy the port authorities as to the genuineness of their addresses, and that they had to take them back again, one or two such journeys put an end to this indigent form of immigration. The same plan could probably be applied to Hong Kong. Under any circumstances we hope that within the four corners of a convention which has been drawn up in such wide terms as to make it acceptable to so many nations and to our Indian Empire, Hong Kong may find a means of adhering to it without seriously interfering with her trade and other prospects, and without endangering the health of the colony during times of plague.

THE LOANING OF FIRE ENGINES.

It has been reported to us that some local authorities, themselves in possession of fire engines, refuse to allow their fire engines to be taken into districts less fortunately circumstanced in this respect on the occurrence of a fire, on the plea that there is no power by which they can recover expenses incurred in so doing. This refusal, however, appears to be unnecessary and mistaken. Section 171 of the Public Health Act of 1875 incorporates the provisions of the Towns Police Clauses Act of 1847 with respect to fires, and under Section 33 of the latter statute fire engines provided by local sanitary authorities may be sent beyond the limits of their districts, with the necessary staff and appurtenances, for the purpose of extinguishing fires in neighbouring localities. Moreover under this section the actual expenses incurred, together with a reasonable charge for the use of engine and appurtenances and the attendance of the brigade, has in each instance to be paid by the owner of the land or buildings where the fire occurred, and any difference which may arise as to the sums charged, or as to the propriety of sending the engine, is to be matter for final decision by two justices. The amount in question is to be recovered as damages.

SIGHT-TESTING IN THE MERCANTILE MARINE.

The Board of Trade report for 1897 on the sight tests used in the mercantile marine shows that of the 56 candidates who failed in colour vision in 1896, 12 were examined on appeal, of whom 5 passed and 7 were rejected. The number of officers already in possession of certificates who, on coming up for examination in 1896, failed to pass the sight tests, was 12—1 master, 5 mates, and 2 second mates failing in colour vision, and 1 mate and 3 second mates failing in form vision. Two of the mates who failed in colour vision appealed and passed, and one of the second mates who failed in form vision passed on re-examination. The percentage of failures to pass the colour tests was 1.02, a percentage almost exactly the same as that obtained in former years, before the introduction of the wool test. It is difficult to reconcile this with the known percentage of colour-blind persons in the community—namely, 4 per cent. The most extraordinary point in the report is the great number of normal-sighted persons who were rejected as colour blind; no less than 41.6 per cent. of those who appealed passed. This state of things we may expect to continue until properly qualified medical men are employed as examiners and a reliable test is used.

YELLOW FEVER IN JAMAICA.

A telegram from New York states that despatches received there from Kingston, Jamaica, are to the effect that yellow fever is increasing in the island. There have been many new cases especially among the military; and in addition to the death of Lieutenant Duffey, mentioned last week, Commander Thompson, R.N., has died, and Commander Moulton, appointed to succeed him, was at the date of the despatch dangerously ill, as was also Major Smith in command of the artillery. A correspondent, writing under date October 23rd, sends us the following notes on the outbreak: Yellow fever is assuming rather serious proportions in Jamaica. There were several sporadic cases in the island in July last, and the disease has been on the increase ever since. Up to the present time over 50 cases have been officially returned, but the total number is probably very many more, as suspicious cases until recently have been returned as malarial fever and

"bilious remittent." The mortality has been about 30 per cent. There have been several cases and five deaths among the European Garrison at Up Park Camp and Port Royal. The European troops from the latter station have been moved to Newcastle. The cause of the outbreak is uncertain. Most cases have occurred in Kingston and the neighbourhood. At Christiania, in the centre of the island, about 3,000 feet above sea level, there have been 7 cases, 2 of which proved fatal, and at the present time there are 7 suspicious cases under treatment at this place. The "October rains" have been exceptionally heavy this year (a rainfall of over 13 inches was registered in the parish of St. Andrew on October 17th), and it is hoped that these heavy rains will do good in flushing the surface drains of Kingston, which are in an unsatisfactory condition, but up to the present fresh cases of yellow fever continue to occur.

"POST-ANÆSTHETIC PARALYSIS."

This condition was the subject of discussion at the meeting last month of the Association Française de Chirurgie. Schwartz operated on a man for the radical cure of hernia; chloroform was used. The operation proved easy, and was soon over, though slight syncope occurred, promptly dispelled by artificial respiration. For a whole day afterwards the patient seemed confused, yet directly on coming to he felt tinglings in the right thumb and forefinger. Next day there was paralysis of the flexor longus pollicis and the flexors of the forefingers, without anæsthesia or hyperæsthesia. When he attempted to move the lower extremities, the quadriceps on the right side was found paralysed. After massage and electricity all these paralyses disappeared, and no trace remained seven months later. Schwartz declares that the loss of power could not have been due to pulling on the brachial plexus during artificial respiration, nor was the thigh tightly strapped. The patient remembered that he had noticed how he had grown clumsy with his right hand for some time. Thus there was probably some central lesion aggravated by the anæsthetic. Büdinger, in a fatal case of monoplegia after chloroform detected an area of softening of the cerebral cortex. Paralysis of a cranial nerve has been noted. In other cases simple hemiplegia was observed. Chipault states that he observed an attack of right hemiplegia in a patient recovering from chloroform; death occurred shortly afterwards, and the lateral ventricles were found full of blood. Reboul, in the course of the discussion, described a similar case; the patient was 60, and a very large calculus was removed by suprapubic lithotomy; he had inhaled chloroform well. In all probability the usual lesions were present beforehand in these cases of hemiplegia, but putting aside the effects of pressure from straps, unnatural or violent movements of joints and fixing of a limb for a prolonged period under anæsthesia, there may be genuine post-anæsthetic paralyses, as Schwartz believes.

BIOLOGY AND MEDICINE.

In a recent number of the *American Naturalist* is reported an address by Professor Welch on the dedication of the Hull Biological Laboratories in the University of Chicago last July. The address is one of a very attractive kind, being at once easy and lucid in style, and yet masterly in its conceptions of the great subjects to be handled on such an occasion. Professor Welch first emphasised the vital importance of the laboratory in modern education, not only in the positive sciences, but indirectly in the moral sciences and in literature, as enforcing true method. "If the phenomena of Nature could be learned by contemplation and by hearsay, that famous university which consisted of a log with Mark Hopkins at one end and the student at the other might exist somewhere outside of the imagination." Then the Professor went on to vindicate the subdivision of great fields of study, such as biology, into sections, with the necessary creation of specialists. He had the courage and common sense to say that "the principle of specialisation and subdivision of labour has been the chief factor in scientific progress." To this end in a great medical school, not one laboratory but many are needed; but this means large sums of money, so that it is fortunate that we are now entering into an age of liberal university foundations and endowments such as were seen in the fifteenth and sixteenth centuries. Even the old universities, as is the case with Cambridge at present, are finding out their poverty, and in this respect they must be founded anew if they are to keep in the van of the higher education. In their medical schools they must study not only anatomy and physiology, but also pathology, that is, "the pure science of medicine as distinguished from the art of healing." "It may be cultivated as a science, no more subordinated to practical ends than is any other natural science; its subject matter is any living thing which deviates from the normal condition." We trust that such large views and fruitful discourses as these may be heard and bear fruit on this side the water. Our wealthy men are sluggish of imagination; they are not without a desire to do good, but too often they are unable to conceive of anything better or more permanent than the cultivation of the more domestic virtues, and the disbursements of a few annual subscriptions to hospitals and missionary societies. We trust the noble examples set to us in this country by Owens, Mason, and Mond—to name only a few modern benefactors—may penetrate the world of rich citizens and make it the "fashion" to create those endowments by virtue of which only the higher education can be carried on; for it never can be self-supporting. Do we consider ourselves behind the Russians in civilisation? A cynic, seeing the superb provision for the advance of medicine and its allied sciences recently made by the private citizens of Moscow alone at cost of a quarter of a million sterling, would say that we are so far behind the Russian people as to be quite out of sight. Is it a pleasant reflection for us that, whereas forty years ago the English name was significant of enlightened advance in sanitary science, for example, now we are falling far behind the countries of Pasteur and Koch? That this slackening of progress is due to the absence of endowments for the higher education among ourselves is no fanciful supposition.

ANOTHER WEATHER PROPHET.

Dr. Georges Levy, editor of the *Revue Illustrée de Polytechnique Médicale et Chirurgicale*, in his August issue tells us that Professor Zenger, of Prague, believes that he has succeeded in constructing a theory destined to supplant the imperfect systems of Newton and Laplace. This exordium rather takes one's breath away, and it seems therefore but small matter when we are told that the Polish scientist has found an explanation of the meteorological phenomena that take place in our atmosphere, and hence has the power to foretell them. Dr. Levy says that for upwards of a year he has been in a position to verify Professor Zenger's prevision to note the occurrence to a day of the predicted cyclones and storms, and, in point of fact, to announce a whole twelvemonth of disaster by reason of inundation and famine. After all this it is rather disconcerting to find that Professor Zenger's method of forecasting the weather merely depends on the assumption that the weather phenomena recur at intervals of ten years. The meteorological disturbance which took place ten years ago he believes will be reproduced exactly, save for a very small difference in the time and in the locality, but possibly with additional events, such for instance, as tempests, storms, cyclones, hurricanes, prolonged and generalised rains, bush fires, earthquakes, and tidal waves. The additions seem to be the greater part of the whole. Dr. Levy quotes a long list of the meteorological phenomena that manifested themselves during the solar periods from September 10th to November 9th, 1887, but adds the note of warning that Professor Zenger's forecast being calculated from Prague, allowance must be made in other centres for differences of latitude and longitude.

THE CHAIR OF SURGERY IN GLASGOW AND THE WESTERN INFIRMARY.

We have received the following letter and statement for publication:

3, Foremount Terrace, Partick, Nov. 4th.

To the President, Visitor, and Fellows of the Faculty of Physicians and Surgeons of Glasgow.

Gentlemen,—Prior to the last meeting of Faculty Dr. M'Gregor Robertson very courteously warned me of his intention to ask Dr. Lapraik and myself "to offer the Faculty some explanation of the proceedings of the managers of the Western Infirmary which have recently given rise to public criticism." I accordingly went to the meeting with a statement prepared. It is unnecessary to explain how it came about that it was not submitted. It has occurred to me since that, as a matter of courtesy, I ought to circulate this unread statement among the Fellows, which I now respectfully do.—I am, gentlemen, your obedient servant,

Jas. B. Russell.

Statement.

I am asked to "offer the Faculty some explanation of the proceedings of the managers of the Western Infirmary which have recently given rise to public criticism." It is impossible either to explain or to understand any of the proceedings of the managers unless certain conditions under which the management must be carried on are clearly apprehended and constantly kept in mind. I shall endeavour briefly to point out those conditions.

There is, in the first place, the obligation of the managers to make reasonable provision "for professors of the University engaged in clinical instruction." This at once merges the patronage of the offices of two staff physicians and two staff surgeons and of a corresponding proportion of the available wards, in the patronage of four University chairs. So much at least is in the bond. There may be more. At any time within the generality of the agreement it is obvious that further claims may be raised. Outside the bond, also, there is a constant tendency on the part of the University to establish claims on the ground of expediency and the deep interest the managers must undoubtedly have in the University Medical School, on behalf of other professors, for a further allotment of wards and facilities for clinical teaching. I do not question the utility, I even admit the necessity of an agreement between the University and the managers, and I can understand perfectly the desire of the Senate to secure wards in the hospital for as many of their medical professors as possible, and for each as many wards as possible; but from the managerial point of view there are disadvantages and dangers in this tendency of the University to absorb the whole area of the hospital. Let me single out two of those drawbacks which are especially serious. A place on the visiting staff of the hospital is the ambition, and ought to be within the possible attainment, of those who do the drudgery of the institution in the dispensary and other subordinate positions. Every staff appointment which goes to a professor by right, or by concession to him as a professor, and every ward assigned to the University, deducts so much from the few available rewards of faithful service. In short, gentlemen, the managers have to anticipate, and so far as possible to avert, a position in the Western Infirmary exactly the same as that which obtained in the army prior to the abolition of purchase. This leads us to the other serious difficulty. We have two sets of physicians, two sets of surgeons, and two sets of students. Latent in the University mind there is always the assumption or assertion that the University physicians and surgeons can do something in the way of clinical teaching that the other men cannot do. I said latent in the University mind; but it is not always so. When I joined the Board it was distracted with the alarms and excursions incidental to an endeavour on the part of two of the University professors not merely to make the University the only door to their clinic, but to absorb the entire function of clinical teaching for University purposes hitherto enjoyed by their own colleagues. In that case the managers successfully defended not merely the rights of those colleagues, but the principle of freedom in clinical teaching. It is unlikely that a triangular fight of this sort will ever again arise within our borders, but the managers have learnt to be jealous of any appearance of a claim for academic virtue as inherent in the duties performed by any professor as a member of their staff. There is scarcely a question in the administration of the hospital which is not affected by this difference in the status of the visiting staff. Respect for your time bids me simply to mention that of a limit to the term of appointments.

Now, let us turn to another consideration which must be kept in mind in criticising the proceedings of the managers. It is a historic consideration, applicable to all hospitals in proportion to their age, and it chiefly applies to any question affecting the surgical department. Built about a quarter of a century ago, the Western Infirmary was not, in my opinion, even up to the light of its day, a perfect expression of the pavilion principle. In those twenty-five years a revolution has taken place in our ideas of the construction and administration of hospitals, alike in their curative and their educational aspects. The work, the status, and the standard of domestic comfort of a nurse have been changed, and find expression in large and costly buildings; the appliances of medical treatment and the methods of clinical education have changed, and they, too, make demands on structure and space; above all, the recent developments of surgery have worked out into costly structure and equipment to an extent which gives those who have to find the money to meet the hospital expenditure grave anxiety. The total result is that, if we could compare the hospital of twenty-five years ago with that which is now, and contrast the proportion of the total capital sunk in building, which is spent on bed accommodation, and that which is spent on the apparatus for treating the patients and for clinical teaching, the enormous increase in the latter would be startling. I shall not pursue this interesting subject further, but simply ask you to consider the position of managers who find themselves with an old structure, occupied to its fullest capacity, which must be kept in use to meet the daily needs of the sick, with every pound of their capital to seek, and with all those demands for alterations and additions pressed upon them. It is obvious, apart altogether from the money, that, to carry out such structural operations in an institution which must throughout them all be doing its work, time is an essential element. It must be the work of years, during the currency of which it is open to every rash and superficial critic to hold up the arrangements as antiquated, and the managers as behind the age.

One word as to the demands of aseptic surgery on structure and administration. Suppose the managers had an ideal specification of the structure and constitution of a surgical hospital from an infallible source—under the conditions described, how long would it take to carry it out in the Western Infirmary? So far as I can make out, the surgical hospital would require to be separated in structure and administration from the medical; each surgeon would require a separate structure and administration of his own; each surgeon would require two wards for clean cases and two for such cases as accidents, which are suddenly ushered in by their casualty from the unclean outer world into the hospital, or for cases which had gone bad before admission. This may suffice for an illustration of the sort of thing the managers of a working institution are expected to beg the money for and to do in the twinkling of an eye. After all, supposing they have spent their money on the ideal of to-day, the history of antiseptic surgery warrants me in asking how long will the present apparatus and methods of aseptic surgery last? Only young people believe in the finality of new things.

The whole tendency of recent surgery is to the disintegration and individualisation of hospitals as institutions. The managers are forced to consider, How far can this go without destroying the institution altogether? Is the institution not even to be conducted in departments, but to be a mere federation of clinics designated and dominated by autonomous physicians and surgeons? These are grave questions, which seem to touch the first principles not merely of hospital management, but of social order.

Now, gentlemen, this probably is not the kind of response you expected to the request made to your representatives. But if a way is to be found out of the present variance between the Senate and the managers, the more impersonal and discreet our language is the better. My object in confining myself to general considerations is to show you that the managers deal with such questions as those now at issue under conditions of special difficulty, which tend naturally to friction. If friction does arise, it does not necessarily imply malversation of office or personal bias, or even narrowness of view, but, at the most, such error as the human judgment is liable to, and which may not be wholly on one side. I maintain the *bona fides* of the managers collectively and of your representatives as individuals. I do not claim for either the one or the other that no mistakes have been made.

But, gentlemen, it is of much greater practical importance to apply our minds to the actual situation than to quarrel over the doings and misdoings which led up to it. There could be no better illustration of the troubles which are brought from the outside into the deliberations of the managers than the situation in which they now are. It is well worth a few minutes more of your time to enable me to explain it. I have no doubt that the representatives of the University coveted for the Professor of Materia Medica the 27 beds now given to a new surgeon, but they ultimately supported that ridiculous resolution, which, I am ashamed to say, was adopted by the Board—"That 10 beds be allocated to the elucidation of Materia Medica and Therapeutics, and that the position of medical officer for these beds be advertised." This resolution, so worded, was an insult to the existing staff; it put forward a most painful suggestion to the minds of subscribers, and it virtually alienated for ever from the patronage of the managers a physicianship and two wards.

But what is the situation? The Professor of Materia Medica is appointed to ten beds, which form half of a female ward, the other half of which is under the care of the Professor of Clinical Medicine. These ten beds are presently in possession of the Professor of Midwifery, who waits to transfer his patients to Ward 18, which is in possession of the Professor of Surgery. Now, the claims of the Professor of Materia Medica were urged upon the Board by a strong letter from the Principal; the Professor of Midwifery was similarly supported on his appointment to his chair; [1] and, as you know, the Professor of Surgery is supported in his position by the Senate.

This deadlock must be removed. Parenthetically, it is only due to your representatives to say that, had their advice been followed, the deadlock would not have arisen. As things are, the Senate is precisely in the position in which a business firm may expect to find itself if each individual partner is allowed to draw cheques upon their banker. The account is overdrawn. The managers are in the position of a man who, well knowing that a bill may become due to-morrow, disposes of all his soluble assets to-day. From which side is the compromise to come? Will the Senate hold over the Professor of Materia Medica until a more convenient season, or will the managers revoke the appointment of their new surgeon? Is the Professor of Surgery or the Professor of Midwifery to be sacrificed?

I can only say, in conclusion, on behalf of Dr. Lapraik and myself, that, if you should favour us with a continuance of your confidence, our councils will be on the side of "peace with honour."

Professor Gairdner has issued the following remarks upon Dr. Russell's statement:

I have had my attention directed to a statement prepared by Dr. J. B. Russell for the meeting of the Faculty of Physicians and Surgeons on November 1st, 1897, bearing on the position of the managers of the Western Infirmary in respect of matters now under discussion between them and the Senate, and as this statement has since been published in the daily press, and is, moreover, drawn up by one universally respected, an old personal friend of my own, a prominent member of the Western

[1] It is fair to say that he was already an officer of the institution; but a strenuous attempt was made on behalf of the University to monopolise gynæcology by excluding another older in service.

Infirmary Board, who is intimately acquainted with all its business and with the work of hospitals generally, it seems to me to be necessary to remove at once some misconceptions under which Dr. Russell's remarks have been written, so far at least as these affect the matters in dispute between the Senate and the Western Infirmary managers. This is the more needful, because there can be no doubt that opinions so strongly held and expressed, whether or not coloured by the present crisis, must have had great weight with the managers in leading them to assume their present position.

As a matter of personal feeling, I should be extremely unwilling to attribute to Dr. Russell any abiding hostility towards the University, of which he is a most distinguished graduate, and in which he is held by everyone, as well as by myself, in the highest esteem; but I cannot avoid remarking in the expressions of this document what might easily be taken for evidence of a hostile attitude, which, if it existed in Dr. Russell's mind, or was reasonably inferred by the managers as existing, might be fatal to such a good understanding as the Senate are anxious above all to bring about. The following brief extracts will sufficiently indicate what is here meant. "Outside the bond," writes Dr. Russell, "there is a constant tendency on the part of the University to establish claims.....on behalf of other professors for the further allotment of wards and facilities for clinical teaching." Again, "I can understand perfectly the desire of the Senate to secure wards in the hospital for as many of their professors as possible, and for each as many wards as possible, but from the managerial point of view there are disadvantages and dangers in this tendency of the University to absorb the whole area of the hospital." Again, "Latent in the University mind there is always the assumption or assertion that the University physicians and surgeons can do something in the way of clinical teaching that the other men cannot do." Again, "The managers have learned to be jealous of any appearance of a claim for academic virtue as inherent in the duties performed by any professor as a member of the staff."

All these passages occur in the second paragraph of the "statement," and it is probably the case that—whether or not as the result only ot a passing irritation—they represent but too well what may be supposed to be the feelings of a section at least of the Western Infirmary managers. I can only express my amazement at the state of mind which such passages reveal, and I desire accordingly to point out, not only to Dr. Russell but to the managers and to the general public, how utterly incompatible such feelings so expressed are with the adequate discharge of the duties and responsibilities of the Western Infirmary to the University, and *vice versâ*. I affirm, on the other hand, from the fullest possible knowledge of the facts, that if the managers have, as is said, "learned to be jealous, etc.," there is not, nor has there ever been, any ground whatever for attributing to the University, so far as the Western Infirmary is concerned, the unamiable and unneighbourly propensities here set forth. The whole spirit of the transactions between the professors of the University and the managers of the Western Infirmary from the first has been entirely opposed to the representations here made by Dr. Russell. There was a time, indeed, when the two Professors of Medicine and the two Professors of Surgery did, in fact, "absorb the whole area of the hospital." It was frankly conceded without a dissentient voice, when the Western Infirmary was first opened in 1874, that the four professors who had been clinical teachers in the Royal Infirmary should have a corresponding amount of accommodation in the Western, the managers holding implicitly that what was afterwards called (in a document) "reasonable provision" for the clinical teaching of the University was due to these professors in the first instance, and this although the entire number of wards then available was not more than sufficient for their accommodation. It was never for a moment doubted that under these circumstances the University had a prior claim "to absorb the whole area of the hospital," which was built in the first instance with a view to the clinical teaching of the University. Dr. Russell does not probably, any more than anyone else did at that time, dispute the necessity of this, but he leaves out of sight the fact that for years after the extension of the hospital allowed of first one, then two non-university physicians and a like number of surgeons being added to the staff, no objection of any kind proceeded from the University; and when, at a much later period, a fifth physician was appointed (being the Professor of Medicine in Anderson's College), still no objection was taken, and no claim was made on the part of the University for further accommodation or for any special privilege as regards the University teachers. Dr. Russell refers to an old and now well-nigh forgotten period of acute difference in the Senate, and affirms that at that time the managers "successfully defended the principle of freedom in clinical teaching." The fact is, that both in the Senate and in the University Court the principle of freedom in clinical teaching was asserted from the first, not only as regards the non-university clinics in the Western Infirmary, but also as regards those in the Royal Infirmary. The "assumption or assertion" of superiority which Dr. Russell regards as "latent in the university mind" has never been the attitude of Glasgow University with respect to clinical teaching. "Freedom of clinical teaching" is now absolutely secured by ordinance, as it was all along by the decisions of the University Court and Senate. Under these circumstances, Dr. Russell might have spared his allusion to a long extinct controversy in which no manager of the Western Infirmary was more earnestly engaged in fighting for freedom than were some of the professors themselves.

These remarks are entirely founded, as already said, on the second paragraph only of Dr. Russell's statement, because it is in this paragraph that the animus above adverted to has been allowed most plainly to appear. It is with extreme regret that I find myself in this matter opposed to so old and good a friend as Dr. Russell, and it is not my purpose here and now to take into consideration the details or the suggestions which form the substance of the other paragraphs. These are points which have to be settled, not with Dr. Russell, but with the whole body of the managers. It is well to note that Dr. Russell does not claim on their behalf "that no mistakes have been made." No one can be more anxious than I am to abate the friction and avoid any unnecessary bitterness in finding a way out of the present difficulty. But it is absolutely necessary to repudiate at once the motives, whether in the form of tendencies, assumptions, or assertions, etc., so freely charged against the University in Dr. Russell's statement as being wholly gratuitous, and indeed inconsistent with the whole past history of these transactions. And it may perhaps be yet possible to appeal from Dr. Russell himself in his controversial attitude to Dr. Russell in his more natural character of a distinguished alumnus and graduate of the University to exercise his great influence, not by expressing and acting upon the jealousy which he attributes (rightly or wrongly) to the managers, but in the interests of peace, and for the ultimate welfare both of the Infirmary and of the University.

The Senate of Glasgow University have nominated Professor Hastie, of the Chair of Divinity, and Professor Adamson, of the Chair of Logic, as representatives on the Board of Managers of the Western Infirmary in place of Professors Cleland and Moir.

THE ARMY MEDICAL SERVICE AND PUBLIC OPINION.

IN the BRITISH MEDICAL JOURNAL of October 30th, p. 1281, we gave a brief abstract of opinions expressed on army medical reform by leading newspapers in various parts of the kingdom, and we showed how strongly the tide of public feeling was setting in favour of the changes advocated by the Parliamentary Bills Committee.

A very able and forcible article which appeared in the *Times* of November 9th begins by alluding to a letter which the *Times* published on November 5th, pointing out that whilst the army cannot do without the medical profession, the medical profession can do without the army. After quoting the figures which prove the unpopularity of the Army Medical Service, the writer goes on to say that the practical result is that there are not enough surgeons to supply the requirements of the army itself, still less of the women and children belonging to regiments, even in time of peace; and that any considerable war could hardly fail to be productive of serious disaster.

In connection with the reference to the women and children in times of peace, he very rightly draws attention to the recent incident at Aldershot, where the medical care of the women and children has practically been put up to auction to the lowest bidder. Having dwelt strongly on the necessity for enabling army medical officers to refresh their knowledge by granting them study leave, the writer proceeds to comment at considerable length on the report of the Subcommittee in terms which are highly favourable and encouraging. He enumerates the chief claims, and summarises the reasoning on which they are based, avoiding the common mistake of accrediting the abolition of the regimental system with the whole of the present social discomfort. The article closes with the following noteworthy statement: "The actual rank which is the first thing asked for, and without which it does not seem likely that the service will ever become attractive, would at once remove the social difficulty; and, as it would undoubtedly lead to the easy filling of the existing vacancies, it would also remove the grievances arising from the under-manned condition of the department. The other things asked for are mainly matters of detail, which would flow almost of necessity from the principal reform, or which could, without any serious difficulty, be arranged. The question is one which must soon become urgent if, as is expected, Parliament should soon be called upon to consider proposals for a considerable augmentation of the Army. It will be impossible for the Government to leave so important a portion of it in a state of chronic discontent and of hopeless inefficiency; and the War Office, unless it is prepared to concede the demands which are made on behalf of army surgeons, must at least be prepared to show good reasons for rejecting them, and must also be prepared to remove the existing discontent by reforms or alterations of its own devising."

The general support which the press is extending to the cause of reform is obviously of the utmost value, and all who have the best interests of the Army at heart will feel most grateful for it. But there is one respect in which the press is earning the thanks of medical men. It has been the custom of our opponents to declare that Army medical officers are only anxious to conceal their real calling under titles to which they have no right, and that in this the medical profession generally is backing them up. It is, therefore, highly gratifying to observe that the leaders of public opinion think otherwise, and are neither prepared to believe that members of a profession, to which so many distinguished men have been proud of belonging, are ashamed of that pro-

ession, nor that a section of the community which for many ears has sacrificed its own pecuniary advantage to the pro- notion of the public health, will fail, in the matter of military ıygiene at the present time, to be true to its own honourable raditions.

THE PLAGUE IN INDIA.

The Epidemic in Bombay and Poona.

'HE plague returns from the Bombay Presidency show any- hing but a satisfactory state of things. At Poona the disease s claiming more victims than ever it did—1,100 a week—and n Cutch, what may be called a true recrudescence has taken lace. Surgeon-Major Barry, of the Indian Medical Service, vas appointed in February last to superintend the conservancy f the city of Poona in connection with the special measures hich were undertaken in consequence of the serious out- reak of plague which had taken place there. In June, after aving thoroughly investigated the sanitary defects of the lace, and done his best with the aid of British soldiers o remedy them, he submitted a long and detailed report of is observations and doings. He described in trenchant erms the terrible plight into which the city had been allowed o lapse through inefficient arrangements and lax administra- ion, and brings a forcible accusation of neglect and mis- ıanagement against the municipal authorities, whose govern- ıent he pronounces to be a "dire and shameless sham." It s impossible to conceive anything more repulsive and angerous than the filthy condition which he exposes with uch vivid and obviously accurate realism, and the wonder is ow human beings can live under the circumstances detailed. he reply of the municipality to this scathing exposure is eeble and flippant.

After reading both the report and the rejoinder, we are orced to conclude that Surgeon-Major Barry has driven home is charge to the hilt, and that in every particular of sanitary dministration and work immediate reform is necessary. Under ıe fierce light of actual or impending pestilence other ndian cities have been recently viewed and condemned— alcutta and Bombay among them. The question is forced ıto urgent consideration whether the natives of India—even ıe educated and enlightened—are fit to be entrusted with ıe responsibility of sanitary administration. Skilled and ıtelligent opinion in India has pronounced on this question ery emphatically in the negative; and the facts displayed in ıis correspondence make it quite certain that the Govern- ıents of India must for some time to come either resume the ıre of the public health, or take such steps, in the way of ıpervision and command, as will ensure the proper and ıorough execution of all those arrangements and contriv- ıces which advancing civilisation has demonstrated to be ecessary for healthy existence.

Calcutta.

The system of medical inspection both by land and sea at alcutta is carried out in a more or less rigid manner, ccording as the signs of the epidemic approach or recede. atterly it has been prosecuted with vigour and every pre- ıution taken. Both at the Khana Junction, whence Calcutta ɔmmunicates with the West and North-West, and at Dia- ıond Harbour on the river a strict supervision of all tra- ellers is enacted. As many as 800,000 persons have been xamined at the Calcutta sanitary "sentry posts,"—the rest ımps. The period of detention, dating from the time of eparture from the infected area, is ten days, and all those etained have their clothes and belongings disinfected before ıey are allowed to proceed.

This reads well, and there is not the least doubt that ıst now, whilst face to face with an invasion of lague, every vigilance is exercised and every care taken. hese steps are necessary and wise; but have we yet learned ıe lesson of the maintenance of these precautions? Any siatic tribe will attempt to ward off an epidemic, but it re- uires a high state of education to induce a community to ɔntinue this vigilance. Plague it may not be possible to holly evade, but a recrudescence of any magnitude is caused, ıd caused only, by sanitary neglect and the relaxation of ws during the period of quiescence that always follows the rst outbreak of plague. It is to be feared that neither the Hong Kong nor the Bombay epidemics have yet impressed the behaviour of plague on our minds. The test of skilled sanitation as regards plague lies not in hysterical fits of cleansing that take place during the scare, but in laying the lesson the visitation taught us to heart, and adopting rational sanitary measures to prevent the absolutely certain recru- descence or the establishment of plague as an endemic disease. We hope and expect that the sanitary authorities of Calcutta will maintain their inspection camps in strict vigilance, not for a week or two, but for the two whole years necessary before all danger of a recrudescence of plague can be said to be over.

Madras.

A correspondent, writing from Madras, states that that city, which has hitherto been free from the plague, has recently had the disease imported by some servants returning with their master from Poona. One of their servants died *en route*, and another was admitted, dying from the disease, to the General Hospital on October 7th. Surgeon-Captain Giffard, Resident Medical Officer, who made a *post-mortem* examination, and one, if not more, of the hospital servants who assisted him have been attacked. The former is now convalescent, we hear, but the servant is dead. From the bubo in the axilla Dr. J. Nield Cook, Health Officer of Madras, obtained typical specimens and cultures of the plague bacillus. Surgeon-Captain Giffard himself prepared specimens of the same from the spleen of the case originally admitted. The officer and all his household has been rigorously "segregated."

It is sincerely to be hoped that the disease will not spread, as the mortality in a city like Madras would certainly be appalling.

THE ANNUAL MEETING OF THE ROYAL COLLEGE OF SURGEONS.

At the meeting of the Fellows and Members of the Royal College on November 18th, the following resolutions will be moved on behalf of the Society of Members of the Royal College of Surgeons of England:

1. That as parts of the elucidatory statement are misleading, and do not adequately represent the facts, which were further obscured by a circular issued under the auspices of a Member of the Council, the recent vote on Members' representation cannot be regarded as a satisfactory or fina expression of opinion by the Fellows.

2. That this meeting repudiates the claim put forward by the Council in their resolution of March, 1896, to represent "the Members as well as the Fellows," and again calls upon it to accord the franchise to the former.

3. That this meeting, in view of the widespread public and professional evils induced by "medical aid associations" and other companies trading in medical attendance, calls upon the Council to make a clear pronouncement for the information of Fellows and Members that the acting as paid servant of any persons who tout and canvass for patients, or who allow the well-to-do classes to take advantage of rates of payment arranged to meet the necessities of the poor is "disgraceful in a professional sense," and deserving of censure.

DISCIPLINARY POWERS OF UNIVERSITIES.

It will be remembered that some time ago attention was called to the fact that the majority of the Universities possessed no power to deprive graduates of degrees even in instances of gross misconduct. The matter was brought formally under the notice of the Universities by the General Medical Council, and in several cases steps have been taken by Universities for obtaining power to deal with graduates who have disgraced their degree. Among these has been the University of Durham, and a short time ago this University received a special Charter giving the desired power. The first clauses of the Charter, for a copy of which we are indebted to Dr. G. Hare Philipson, recite the constitution of the University. The following are the operative clauses:—

3. And whereas doubts have arisen whether the Warden, Masters, and Scholars of the University of Durham have power to cancel, revoke, annul or take away any degree or title conferred by the University of Durham upon any person who shall have been proved to be unworthy to be a Member or Graduate of a University, and whether such power was at the date of the Charter first hereinbefore recited, and now is a right or privilege incident to a University established by Royal Charter.

4. And whereas it is expedient to remove such doubts as aforesaid, and

to declare and confirm in and to the Warden, Masters, and Scholars of the University of Durham the power to cancel, revoke, annul, or take away any degree or title conferred or to be conferred upon any person whom the Warden, Masters, and Scholars of the University of Durham shall for good and weighty reasons as hereinafter appearing consider to be unworthy to be a Member or Graduate of the University of Durham.

Now know ye that We do of our especial Grace, certain Knowledge and mere motion by these presents for Us, our Heirs and Successors will, grant, ordain, and declare that the said Warden, Masters and Scholars of the University of Durham shall be empowered, and are hereby authorised and empowered to cancel, annul, revoke and take away any degree or title that has been, or shall hereafter have been conferred by the University of Durham upon any person of whom it shall be reported to Convocation by the Warden and Senate that such person has been convicted of a crime for which he has been sentenced to penal servitude or imprisonment, and that such crime is one which renders him unfit to be a Member or Graduate of the University of Durham.

And further know ye that We do in like manner, will, grant, ordain and declare that all parts of the Charter first hereinbefore recited shall be read and construed as if the powers hereby conferred and declared were expressly contained in the said Charter, and were among the rights and privileges of a University established by Royal Charter.

And lastly: We do hereby, for Us our Heirs and Successors, grant and declare that these our Letters Patent or the enrolment or exemplification thereof shall be in and by all things valid and effectual in law, according to the true intent and meaning of the same, and shall be construed and adjudged in the most favourable and beneficial sense for the best advantage of the said University, as well in all our Courts as elsewhere, notwithstanding any non-recital, mis-recital, uncertainty or imperfection in these our Letters Patent. In witness whereof, we have caused these our Letters to be made Patent.

BATTLE OF THE CLUBS.

EASTBOURNE PROVIDENT MEDICAL ASSOCIATION.

THE second annual report of this Association shows that the year had been one of steady progress. The number of members had increased from 3,689 to 4,153. The amount received in members' payments had been £743, an increase of 23.3 per cent. The amount distributed among the acting staff was £624, an increase of £130; the working expenses had been covered by a charge of a little over 16 per cent. on the money collected. Only one instance of a family ineligible for financial reasons having gained admission to the Association had been brought to the notice of the committee. After due inquiry this family had been removed from membership. There was reason to believe that though the Medical Aid Society still continued, its business had been materially curtailed by the success which had attended the formation of the Provident Medical Association.

LITERARY NOTES.

BRIGADE-SURGEON-LIEUTENANT-COLONEL HENDLEY, whose numerous contributions to the history of art in Western India have earned for him a high reputation, has published a beautiful volume on *The Rulers of India and the Chiefs of Rajputana*. The book, which is in folio, is illustrated by portraits of the sovereigns of Great Britain since the foundation of the East India Company, of the Viceroys of India from Warren Hastings to Lord Elgin, of the Moghuls from Akbar to his degenerate descent of the Mutiny, and of the princes of the Rajputana States from 1193 to the present time.

Mr. Stephen Paget's *Life of Hunter* enjoys the distinction of being the first work, and so far the only work, reviewed under the head "Medical" in the new literary weekly, *Literature*, published from the *Times* office. Books, and books alone, are to be its concern, but the editor, Mr. H. D. Traill, has included in its scheme articles which are not reviews of books, but studies of literary questions. In the third number, issued on November 6th, is such an article from the pen of "Ian MacLaren," who makes a vigorous protest against the fashion of slum novels, which seems to be gaining ground. He discusses the old question whether the ugly and the repulsive should find any place in art, but there is to this newest fiction another objection. It is written by people who either have a very imperfect acquaintance with the poor of our great cities, or wilfully shut their eyes to the brighter aspects of human nature even in the slums. Those members of the medical profession whose duties bring them into contact with the poorest of the poor, know that in spite of much ignorance and coarseness, beautiful examples of devotion are constantly to be met with. A true artist would have shown this.

In the November number of *The Phonographic Record of Clinical Teaching and Medical Science*, there is a paper by Dr H. C. Patrick on Two Cases of Malignant Abdominal Tumou under observation at the same time, curiously parallel i history, symptoms, obscurity of conditions present, termina tion, and *post-mortem* appearances. Mr. Peyton Beale con tributes some further Notes on Genu Valgum, in which h consider the hypertrophy of the internal condyle of th femur. Under the title of An Obscure Case, Dr. H. Caige relates some obscure cerebral symptoms in a Kaffir child Dr. A. Hill Joseph contributes some Notes on Cases illus trating the influence of one diseases upon another.

The Scientific Press will publish next week the first annua issue of *Burdett's Official Nursing Directory* (1898). Th directory, we are informed, will be of a strictly official an neutral character, and great pains have been taken to obtai at first hand full particulars regarding the various nurs training schools throughout the country.

THE OUTBREAKS OF TYPHOID FEVER

MAIDSTONE.

THE notifications during the past week have been kept low but not so low as we should have liked to have seen them. I this case we may expect to see the beginning of the absolut end in about a week's time—that is, one month after the dis infection of the Farleigh mains. Had this precaution bee taken when we first suggested it, the same beginning woul have been just ten days ago.

The relief fund still receives the support it deserves, an it is calculated that nearly £200 a day is being distributed i kind from the relief stores.

The number of cases reported is as follows:

Date.	Maidstone. Cases.	Maidstone. Daily Notifications.	Maidstone. Deaths.	Lynn. Cases.	Lynn. Daily Notifications.	Lynn. Deaths.
Oct. 30	1,770	8	—	278	15	—
,, 31	1,775	5	—	287	9	—
Nov. 1	1,778	3	—	298	11	—
,, 2	1,781	3	—	315	17	—
,, 3	1,783	2	—	330	15	—
,, 4	1,793	10	—	341	11	—
,, 5	1,795	2	—	348	7	15
,, 6	1,806	11	120	355	7	—
,, 7	1,809	3	—	363	8	17
,, 8	1,811	2	—	371	8	—
,, 9	1,820	9	—	375	4	25
,, 10	1,824	4	—	—	—	—
,, 11	—	—	—	—	—	—

LYNN.

THE daily notifications at Lynn have been lower during th past week. Apparently the height of the epidemic wa reached on October 25th. It must be remembered that, a was pointed out in the report of our Special Commissione the water arrangements are of such a nature that it is quit impossible to cut off the source of infection. No anticipatio of the end within any definite time can therefore be give If the daily notifications in the early days of the epidemic b studied it will be seen that for a period of seventeen day there were cases occurring, and it was not till October 18t that they reached any large number. If these figures be com pared with those of Maidstone for a similar period, a strikin difference will be at once seen. In this case the numbers ros within four or five days to 120. The comparison suggests tha in the one case we have to deal with an aggravation of a pre existing condition, in the other with the fresh introductio of an entirely new feature.

If the people of Lynn had only taken the advice of th medical men of the town when in 1883 the water question wa

ised, they might have been spared the above gloomy prospect.

The Sanitary Committee have adopted the following measures among others: The appointment of a special inspector, whose duty is to explain the proper means of using the disinfectants, which are, of course, gratuitously supplied; the supply of certain of the poorer districts with pure water in water carts from the mains of the Wisbech Waterworks, which passes within four miles of the town. Arrangements have been made for providing additional hospital accommodation should it be needed; but as at the present time only little more than half the beds at the infectious hospital are occupied, it is quite possible if the number of fresh cases continues to decline in the same ratio as has happened during the past week that the additional beds may not be required. The Waterworks Committee have taken means for the patrolling of the Gaywood river, a very necessary measure, and one which it is to be hoped will be continued until the new supply be available.

There appears to be some uncertainty as to the total number of cases and deaths. We give on p. 1452 the figures which have been published from time to time, but we are informed that the total number of cases down to and inclusive of November 9th was 372 cases, with 25 deaths.

The medical officer of a neighbouring district writes: From the beginning of October up to November 4th there have been 27 cases, which means that 1½ per cent. of the population have been suffering from typhoid. Sad as the situation is, it is not without its humorous side. The ignorant among the populace—and they are not a few—still deride the possibility of the contaminated water being the cause of the epidemic; and one individual has gone so far as to place a vessel of water in his window with a placard stating that it was drawn from the tap on October 31st, and that no better water can be had. The bulk of the people, however, carefully boil their water and milk, and not a few are fitting Pasteur-Chamberland filters in their houses. We wonder if the above individual has any idea of the serious responsibility he is incurring in thus trying to influence public opinion against the only way in which reasonable safety may be obtained.

DISCUSSION ON THE POLLUTION OF WATER SUPPLIES.

For a sessional meeting of the Sanitary Institute to be held at the Parkes Museum on Wednesday, November 17th, at 8 P.M., a discussion is to take place on the Pollution of Water Supplies by Encampments of Hop-pickers, Casual Workers, Camps, etc. This discussion, which ought to pave the way for the much-needed legislation on the subject, will be opened by Professor W. H. Corfield, M.A., M.D., and by Miss E. A. Chreiman, in reference to the Sanitary Control of Hop-pickers, etc.

THE TYPHOID BACILLUS AND COLD WEATHER.

WHILE the cooler weather will doubtless result in a considerable diminution in the number of new cases of enteric fever in this country, it is perhaps as well to remember that cold does not kill the specific poison. In a recent paper of the *Journal* of the Franklin Institute, an abstract of which appeared in *Nature*, Professor W. P. Mason describes how a serious outbreak of typhoid at Plymouth, Pa., was traced to the dejecta of a single typhoid patient, which had been thrown out upon the snow. For several weeks afterwards these matters remained frozen. In spring, however, with the melting of the snow, they were carried down the hill side to a little stream at the foot, and by it to the water supply of the town with disastrous results.

BRISTOL AND CLIFTON.

[From Our Own Correspondent.]

DURING the week ending November 6th the number of notifications were 67, but as many of those as well as those notified during the previous weeks should have been returned earlier, the following table has been prepared to show the onsets of the disease as given in the notification forms:

	Onsets.	Notifications.
October 1st and 2nd	6 cases	0
Week ending October 9th	23 ,,	0
,, ,, 16th	46 ,,	6
,, ,, 23rd	68 ,,	18
,, ,, 30th	50 ,,	109
,, November 6th	2 ,,	67

This accounts for 195 onsets against 200 notifications; in the remainder the date of the commencement is not mentioned. From this it is evident that the source of infection began in the end of September, and that the virulence of the infection increased for three weeks at the least. As the infected milk was prohibited from circulation on October 26th it is probable that the end of the epidemic as regards new cases is reached, if an incubation period of 14 days is allowed. There are, however, many cases still that give great anxiety, for a large number of the patients have the most dangerous period yet to go through.

As far as can be ascertained 7 deaths have occured from the disease in Clifton.

The most recent notification returns are up to November 8th, on which day 3 cases were reported, while those for the three preceding days were November 5th, 4; November 6th, 3; November 7th, 3, of which half had their origin at least a week ago.

At each point of the inquiry confirmatory evidence as to the originally suspected milk has been forthcoming, and it is quite established that this has been the actual cause of the Clifton outbreak.

A letter has appeared in a local paper, signed "Clifton Physician," stating that there was no epidemic of enteric fever. The letter has not tended to allay the alarm of parents whose sons and daughters are at school in Clifton. The writer appears to claim that he knows the nature of cases under the care of other medical men, which can hardly be well founded, and the statement that the source of the epidemic, which he describes as of a malarial nature, is unknown, shows a strange blindness to facts that could have been avoided had he taken the trouble to make inquiries in the proper quarter.

THE SAFEGUARDING OF WATER SUPPLIES.

AYLESBURY.

Mr. T. G. Parrott, M.R.C.S., has forwarded to us a recent analysis of the Aylesbury water. It is of the usual description, that is, a chemical analysis more or loss complete, and an examination by a plate for the number of bacteria present. Such an analysis is capable of giving a large amount of valuable information, but too much reliance must not be placed upon it. We know of one case in which water drawn from a well 800 feet down in the chalk gave, as might have been expected, very good results on an analysis of the above description, but when the bacteria present came to be examined qualitatively they turned out to be bacillus coli. The presence of this organism in such a water is the strongest evidence of sewage contamination. We do not wish to appear as alarmists, and the water of Aylesbury may be of first-rate quality in every respect, but we must insist that too much reliance must not be placed on the results of any but a qualitative analysis, both chemical and bacteriological.

BOSTON.

Typhoid has made its appearance in Boston, and a number of cases with two deaths are reported as having taken place. An analysis of the water showed a rather high percentage of albuminoid ammonia, and it is stated that a bacteriological examination showed nothing of any harmful nature. It is to be hoped that this examination was conducted from a qualitative standpoint, and that in addition more than one sample was submitted from various portions of the supply. The practice of drawing conclusions from one sample is only too likely, especially from a bacteriological standpoint, to lead to

erroneous and dangerous results, and to a false assumption of safety.

LINCOLN.

THE information available in regard to Lincoln is at present insufficient. The medical officer has shown that the river Witham on which it stands normally receives the sewage of other towns, and that the water after filtration "as supplied is only a second-class water derived from sources polluted by the drainage of land which is at all times highly cultivated and occasionally manured with night soil." The waterworks engineer has reported that he has inspected the sources of supply and found no reason to suppose that any danger from contamination exists. From this it is inferred by a local contemporary that the water of the river Witham is not being used. This does not, however, alter the state of things described by Dr. Harrison. We are unable to say whether the City of Lincoln has at its disposal a supply of water which is both normally pure and free from the risk of occasional pollution. Such supplies are rare, and, indefensible as it is to use an impure supply when a pure one is to be had, the absence of any pure supply reasonably at command is a contingency which must occur in many places, and may actually be present in that of Lincoln. A town so circumstanced runs a constant and considerable risk if it neglects the precautions which are absolutely indispensable to make the water supplies fit for drinking. The medical officer's report goes to show what has been sufficiently established by independent evidence that sand filters do not give the desired protection. The lesson of Maidstone will be expected to have been learnt by other towns, and the authorities of Lincoln, if through the neglect of practicable precautions they allow an epidemic to occur, will have a heavy reckoning to settle with their consciences and their constituents.

ASSOCIATION INTELLIGENCE.

BRANCH MEETINGS TO BE HELD.

SOUTH-EASTERN BRANCH: WEST KENT DISTRICT.—In consequence of the prevalence of enteric fever, it is considered advisable to postpone the meeting of this District, which otherwise would have taken place in Maidstone in November.—E. GROUND, M.D., 1, Ashford Road, Maidstone.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—The next meeting will be held at the Queen's Hotel, Eastbourne, on Thursday, November 25th, at 3.30 P.M., Dr. J. Adams in the chair. Dinner at 5.30; charge, 6s., exclusive of wine. The following papers have been promised:—Dr. Bagshawe: A case of Ulcerative Endocarditis. Mr. C. Roberts: The Outdoor Treatment of Disease. Mr. W. Ch. Aylward: An Experience of Ninety-Five cases of Diphtheria in Private Practice. Members are invited to exhibit specimens and cases of interest.—J. W. BATTERHAM, M.B., Honorary District Secretary, Bank House, Grand Parade, St. Leonards.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The autumn meeting will be held at Llanelly on Tuesday, November 23rd. Nominations, notices of papers, etc., should be sent in on or before Saturday, November 6th.—A. SHEEN, Cardiff, D. ARTHUR DAVIES, Swansea, Honorary Secretaries.

LANCASHIRE AND CHESHIRE BRANCH.—A meeting of this Branch will be held at Warrington on Thursday, December 9th. Members wishing to read papers, exhibit patients, or make any communication should write to the Secretary at once. Applications for membership should be addressed to Dr. BARR, Honorary Secretary, 72, Rodney Street, Liverpool.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.—The next meeting will be held at the Town Hall, Leyton, on Thursday, November 18th, at 8.30 P.M. The chair will be taken by Dr. Shadwell, Vice-President of the District. Dr. Griffith will read a paper on the Temperature of Lying-in Women and the Causes and Treatment of Some of its Variations.—HERBERT E. POWELL, Honorary Secretary, Glenarm House, Upper Clapton.

STAFFORDSHIRE BRANCH.—The first general meeting of the session will be held at the North Staffordshire Hotel, Stoke-on-Trent, on November 25th. The President (Mr. G. A. Phillips) will take the chair at 2.30 P.M. Agenda:—Report of Subcommittee of Parliamentary Bills Committee on Army Medical Reform, brought forward by Mr. Spanton. Exhibition of Pathological Specimens, Living Cases, etc. Dr. Bind: Some Interesting Surgical Cases. Mr. J. Clare: Accidental Assurance and Professional Confidence. Mr. Adler: Cancer of the Penis. Mr. T. V. Jackson: Transverse Fracture of the Patella. Dinner at 6 o'clock; charge, 5s. The second general meeting will be held at Stafford on Thursday, February 24th, 1898.—F. MILNES BLUMER, Honorary General Secretary, Stafford.

SOUTHERN BRANCH: SOUTH-EAST HANTS DISTRICT

A MEETING was held at Portsmouth on October 26th. Dr. T. W. N. Greene (Southsea) was elected a member.

President's Address.—The PRESIDENT (Surgeon-Major-General Davis) gave an address on the Army Medical Service, in the course of which he observed that the first fifteen years of his service as a regimental medical officer were among the happiest of his life, with only relative rank, and no power of command. The abolition of the regimental, medical, and hospital system was very distasteful to the regimental officers, and had led to estrangement between them and medical officers, which was seen more in large military stations at home than abroad, where society was limited, and its members more dependent on each other. The abolition of relative rank complicated matters, and led to the last warrant, upon which good hopes were founded but which had ended in disappointment. But the service, in his opinion, even now afforded an honourable career, and he deprecated too much public agitation. He thought the military element was unreasonably jealous of the medical having a definite status, as that could not be interpreted as giving the shadow of a claim to general command. He was in favour of the consolidation of the medical staff and medical staff corps into one body, which might be called the Royal Ambulance Corps. The compound titles were nearly all impossible as modes of social address, but he was not yet prepared to advocate pure military rank and titles. Neither did he think it was judicious to pillory evasions of the Queen's regulations. In conclusion, he made a few remarks on the danger of placing too much reliance on the high character of a water as shown by chemical analysis, if every care were not taken to prevent the possible contamination of a pure water by pathogenic germs—germs that multiplied with such wonderful rapidity. He alluded to Hankin's experiment of infecting a mixture resembling a chocolate cream with a few cholera microbes, stating that to count the microbes that developed in eighteen hours in a cubic centimetre at the rate of 2 a second for twelve hours a day would take over twelve years—that is, to count 400,000,000.

Communications.—Dr. T. F. PEARCE read a paper on the Physiological Value of Chastity. Drs. COUSINS, WATSON, and AXFORD took part in the discussion which followed.—Dr. COUSINS showed a Boy on whom he had performed a Plastic Operation for Extreme Hypospadias.—Dr. CLAREMONT showed a Portion of the Small Intestine of a man who had died of advanced phthisis. He had consolidation of the right apex, a vomica in the left apex, and a limited pyopneumothorax on the left side. The intestine presented numerous tuberculous ulcers, many of which had penetrated through all the coats of the bowel. The bowel was much puckered, and each of the penetrating ulcers occupied the concavity of a fold extending for a distance along each arm of the fold. Each aperture was closed by the agglutination of its margin to the opposite arms of the fold as they lay in contact. Thus the interior of the bowel remained shut off from the peritoneal cavity. That there had been gradual slight leaking was shown by the presence of intestinal contents in the peritoneal cavity. As the bowel was straightened out the margins of the perforations separated, revealing defects in the peritoneal coats varing from a quarter to over an inch in length. There was no appreciable amount of lymph to hold them together, and no sign of peritonitis anywhere. The mesenteric glands were enlarged.

PERTHSHIRE BRANCH.

THE annual meeting of this Branch was held on November 5th, the President (Dr. MACKAY) in the chair.

Election of Officers.—The office-bearers for the ensuing year were elected as follows:—*President:* Dr. Paton (Perth). *Vice-President:* Dr. Meikle (Crieff). *Secretary:* Dr. Urquhart (Perth) (re-elected). *Treasurer:* Dr. Robertson (Perth) (re-elected). *Council:* Drs. Robertson (Scone), Liddel Mackay, Macaulay, Simpson (Glenalmond).

Reports.—The report of the Council, which was read by the SECRETARY, stated that the number of members was 44. By the death of Dr. Fleming the oldest member of the Perthshire Medical Association was removed, and by the death of Dr. J. W. Irvine the Branch lost one who ever took a very active

terest in its welfare. During the past year special clinical eetings were held in the Perth Infirmary and in the Perth istrict Asylum. Special business meetings of the Council id of the Branch were also held in Perth, and the summer eeting took place at Aberfeldy under the presidency of Dr. ackay. The scientific and business duties of the Branch id been duly attended to, and the Council expressed the pe that the coming year would be characterised by similar tivity.—The Treasurer (Dr. W. Robertson) reported that ere was a balance at the credit of the Branch of £2 13s., and at the expenditure of the year had been £1 12s.—Dr. RQUHART made his report as representative member.

The Army Medical Staff.—Dr. Mackay then resigned the residential chair in favour of Dr. Paton, who proceeded to ve an address on The Present Condition of the Army edical Department. Dr. Paton referred to the work done the Association for the general practitioners of the untry, and hoped that the aid of the Association would be tended to army surgeons. He referred to their grievances der the headings of status, leave, and pay. He advocated return to the regimental system and greater powers to ntrol medical affairs along with relative rank. Dr. Paton so showed the necessity for increased leave not only for creation, but for purposes of study. He also referred to the derate pay after years of service and the high mortality ich had to be set against the security of tenure and prospect pension.—After some discussion it was remitted to the resentative of the Branch to support the findings of the mmittee on Army Medical Reform, dated September, 1897.

Reports of Delegates to Montreal Meeting.—Dr. Niven made interesting statement of the reception and entertainment the contingent from this country, and gave some account the meeting and Canada supplementary to what had peared in the British Medical Journal.—Dr. Urquhart lowed with some brief remarks on the state of the profesn in America and on hospitals which he had seen, and duly nowledged the hospitality and courtesy everywhere experienced in America.

Correspondence.—The Secretary read letters of acknowledgnt of minutes of condolence from representatives of the ilies of Dr. Fleming and Dr. Irvine. The Secretary read invitation from the Glasgow Branch to join in an excurn to the land of Cullen and Hunter in July of next year. was instructed to acknowledge the courtesy of the Glasr Branch, and to express regret that the invitation was en for such a time as would render it impossible for mems to attend owing to the proximity of the annual meeting Edinburgh. The Secretary read letters from Dr. Dunlop ing the co-operation of the Branch *re* excursions from the ual meeting. The matter was referred to a committee of Branch whose names appear on the Excursions Comtee, namely, Drs. Ferguson, Mackay, and Urquhart.

Clinical Meeting.—Thereafter it was agreed that there should a special clinical meeting in the infirmary on a convenient in January.

Inebriates Legislation.—The Secretary read a letter conveythe resolution *re* inebriates as passed at the general ting to the effect that compulsory curative detention is ired.—Dr. Urquhart said that this matter had been fully ussed in his presidential address in 1885, and as there general agreement as to the necessity of this reform, he ld ask to be instructed in terms of the resolution. ed.

Sale of Drugs and Poisons.—The Secretary then read comications as to the Pharmacy Acts and the prevention of sale of drugs and poisons by unqualified persons. He instructed to support the view taken by the Scottish Mid- and Western Association that the Pharmaceutical ety should be strengthened in their endeavour.

Dinner.—The members thereafter dined in the Station el, Dr. Paton occupying the chair.

TH EASTERN BRANCH: EAST SURREY DISTRICT.

autumn meeting of this Branch was held at the White Hotel, Reigate, on Thursday, October 14th, at 4 P.M.; Dr. Oldman, of Blechingley, in the chair.

Minutes.—The minutes of the Upper Norwood and Croydon al meetings were read and confirmed.

Next Meeting.—On the proposition of Dr. J. H. Galton, seconded by Dr. H. Hetley, it was resolved that the next meeting be held at Upper Norwood on the second Thursday in March, 1898, and that Mr. J. Sidney Turner be requested to take the chair.

Communications.—The following papers were read:—By Mr. W. Arbuthnot Lane: on "Antrectomy as a Treatment for Chronic Purulent Otitis Media."—By Dr. George Stoker: "On The Oxygen Treatment," with exhibition of apparatus and lantern demonstration of cases.—By Dr. Washbourn: "On the Present Position of Bacteriology in reference to Practical Medicine." The Chairman, Dr. J. H. Galton, Messrs. A. H. Walker, Gandy, and Maude joined in the discussion which followed these papers.

Dinner.—After the meeting twenty-four members and visitors dined together.

SOUTHERN BRANCH: ISLE OF WIGHT DISTRICT.

The sixty-fifth quarterly meeting of this District was held on October 15th, at the Pier Hotel, Sandown, Isle of Wight. Present: Dr. H. Harland (President) in the chair, Drs. Brereton, Barr, Buck, D'Oyley Pain, Hollis, Groves, Brodie, Ewens, and Shirtliff (Honorary Secretary).

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Medical Aid Associations.—A letter was read from the East Anglian Branch of the British Medical Association containing the following resolution passed by them at their meeting of September 16th:

> That in future no medical men belonging to medical aid associations be elected members of the East Anglian Branch.

The Branch Council having this matter under discussion, no action was taken.

Registration of Midwifery and Other Nurses.—A letter was read from Dr. Rentoul *re* the Draft Bill promoted by him for the Registration of Midwifery and Other Nurses. After discussion the following resolution was carried *nem. con.*:

> That this meeting of the Isle of Wight District of the Southern Branch of the British Medical Association having received the draft of Dr. Rentoul's Bill for the Registration of Midwifery and Other Nurses, recognises in it the only principle upon which midwifery nurses should be registered, and that sympathising with Dr. Rentoul's efforts, do hereby refer the subject to the Branch Council.

It was also resolved that the above resolution should be sent to the member of Parliament for the District, asking for his sympathetic support.

Modification of Rules.—Attention was called by the President to various alterations required in the district rules. He proposed that a small committee should be appointed to deal with the matter, the committee to consist of the President and the Honorary Secretary. This was resolved upon.

Clubs.—Dr. Brodie then read the resolution, postponed from the last meeting, arising from his paper *re* Club Use and Abuse. The resolution was as follows:

> That in view of the unsatisfactory working of the contract system in connection with clubs and friendly societies it is resolved to submit to the Council the advisability of substituting a method of payment for actual work done, and suggest that, instead of as at present, members' subscriptions going to the doctor whether illness be incurred or not, they should be paid into a fund out of which the doctors' bills should be met; such bills to be charged according to a moderate and fixed scale of fees. By this means the practitioner would feel that extra work meant extra emolument, and the patient could no longer feel neglected as a club member.

This was adopted by the meeting and ordered to be forwarded to the General Council.

Complications of Typhoid Fever.—Dr. Barr then gave an address on Some Complications of Typhoid Fever as witnessed in the late epidemic at Newport, Isle of Wight. This proved to be a very able and interesting address, and led to a considerable discussion amongst the members present.

Next Meeting.—Dr. Buck's promised paper was reluctantly postponed owing to the want of time, and one was promised by Dr. Ewen, for the next meeting, which it was resolved should be held at Sandown on Friday, January 3rd, 1898, at 4 P.M.

Dinner.—Several members dined together under the chairmanship of the President.

NORTH OF IRELAND BRANCH.

THE autumn meeting was held in the Museum, College Square North, Belfast, on Thursday, October 28th. Dr. ROBERT GRAY, F.R.C.P.I. (Armagh), the President, occupied the chair, and 47 members were present.

Vote of Thanks to Retiring President.—It was moved by Dr. ST. GEORGE (Lisburn), seconded by Dr. LINDSAY, and passed unanimously:

That the best thanks of this meeting be given to Professor Whitla, M D., for his conduct in the chair during his year of office.

Presidential Address.—Dr. GRAY delivered an address, in which he deplored the want of union among medical men, and urged greater combination on the part of the profession. —On the motion of Professor SINCLAIR, seconded by Dr. GRAY (Newcastle), a hearty vote of thanks for his interesting and instructive address was accorded to Dr. Gray; and it was moved by Dr. BINGHAM, seconded by Dr. R. C. M'CULLAGH, and passed unanimously:

That the address be printed and circulated among the members of the Branch.

New Members.—Dr. Loughridge (Whitewell) and Surgeon-Lieutenant Colonel Moorhead were elected members.

Communications.—Professor SINCLAIR showed a case of Total Extirpation of the Superior Maxilla for Sarcoma, and exhibited the bone removed and microscopic sections of the growth.—Dr. CECIL SHAW read notes of a case of Epithelioma of the Pharynx, and showed a microscopic section of the tumour.—Dr. ST. GEORGE showed a Stone weighing over 9 ounces, which he had removed from the rectum of a woman. —Dr. HENRY O'NEILL showed a patient in whom he had successfully sutured a Fractured Patella with silver wire.—Dr. A. B. FRANCIS (Carrickfergus) showed a man in one of whose bronchial tubes a piece of Pipe Stem measuring 1½ inch long had been lodged for three months.—Mr. T. SINCLAIR KIRK showed (1) a child operated on for Imperforate Anus by removal of the coccyx and part of the sacrum; (2) a Cystic Bronchocele; (3) an Encysted Hydrocele of the Epididymis. —Dr. O'HARA (Ballymena) and Dr. JOHN CAMPBELL gave an account of a successful operation for Perforated Gastric Ulcer. —Dr. JOHN CAMPBELL showed a Stricture of the Sigmoid Flexure which he had excised for obstruction of the bowel, and a Hydronephrotic Kidney which he had successfully removed by abdominal section.

LONDONDERRY AND NORTH-WEST OF IRELAND BRANCH.

Bacteriological Laboratories.—At a meeting of this Branch held in Londonderry on November 3rd, 1897, the following resolution was passed unanimously:

Inasmuch as modern scientific methods enable us rapidly and accurately to make an early diagnosis of such infectious diseases as typhoid, diphtheria, and tuberculosis, and as such early diagnosis is of immense importance to the community in limiting the spread of infectious diseases, it is the opinion of the Branch that Government grants in aid of the local rates should be given, and that centres should be established where such scientific examinations would be made free of charge.

SPECIAL CORRESPONDENCE.

PARIS.

The Nurses Baccalauréat.— Successful Use of Antivenomous Serum —Clinical Lectures on Diphtheria.—Society of Hypnology. —A Dangerous Home.—Epidemics of Food Poisoning.—Subsidies from the Pari Mutuél.—General News.

THE instruction now provided for male and female nurses is so advanced that it is predicted that the examination they pass before receiving the certificate testifying to their capability will one day be called le Baccalauréat des Infirmiers. The adverse critics—those who declare that these examinations "go too far"—affirm that the term "baccalauréat" would not be out of place. It is true that the male and female nurses, before receiving their diploma, pass a written and a *vivâ-voce* examination. The written examination is in anatomy, physiology, administration, pharmacy, hygiene, dressing, the care of women in childbirth, and of newborn infants. The oral examination consists of questions on im portant details connected with these subjects and of a fulle examination on drugs and surgical instruments. The practical examination consists of bandaging. Such a programme may be just sufficient or it may be considerably beyond the mark. In the present case there are many who consider that it is not kept sufficiently within the bounds o such elementary knowledge as is suitable for nurses; exac knowledge of the composition of blood—a subject given in a recent examination—does not render nurses skilful and aler at the bedside. "The reform effected by the revolution i the treatment of hospital patients"—another subject given— might be thoroughly mastered by certificated nurses, bu this knowledge would not add to those acquirements and qualities requisite to make a good nurse. It is suggested that papers on physiology and anatomy should be replaced by others on cleanliness and particular duties.

During the researches of M. Raoul in the Malay Archi pelago many of his company were bitten by serpents. Th use of serum from the Lille bacteriological laboratory i reported to have prevented serious results from the bites.

Practical clinical lectures on diphtheria are given daily b Dr. Sevestre. The students in classes of twenty go the round with Dr. Sevestre every morning for a month. Later i the day they study microscopical technique, methods of intu bation, and tracheotomy, the latter on a lay figure and o dead bodies. A laboratory *chef* overlooks the microscopi work and the bacteriological diagnoses.

The Society of Hypnology and Psychology was founded i 1889 to study the psychology of hypnotism, its clinica features, and its relations with medical jurisprudence. Th Society meets the third Monday of every month; the publi are admitted. The Society has received from Dr. Liebeault of Nancy, £33 for a prize to be offered for the best work don on hypnotism or on physiological psychology.

A curious incident occurred at the last meeting of th Seine General Council. M. Dubois read before the Council letter from the Mayor of Limoges, stating that Mdlle. Nouaille goes every month to the Paris hospitals to gather togethe tuberculous and cancerous patients, whom she conducts t her home at Limoges, where they are carefully tended. Th Limoges Sanitary Council has decided that this house o shelter, founded by M. Nouailler, is insanitary. The Prefec of the Haute Vienne district has demanded that it should b classed among the unhealthy dwellings, and that th municipality should prohibit the further reception o tuberculous patients. It appears that this plea, tha the sanitation of the Haute Vienne is threatened b the presence of Mdlle. Nouailler's *protegées*, is not the rea reason for sending the letter to the General Council. Th Mayor of Limoges desired to make public the complicity o the Assistance Publique with Mdlle. Nouailler, who wa allowed to enter the hospitals at any time she wished. M Peyron admitted that the sanitary considerations of th Mayor were natural, but he on his side regarded the questio from a humane point of view, and was glad to publicly than Mdile. Nouailler for her care of these unfortunate patient The number of deaths complained of by the Mayor was no astonishing considering that all Mdlle. Nouailler's *protegé* were hopeless cases.

Ten thousand pounds' weight of tuberculous meat intende to be transformed into preserved meat for the army have fortu ately been seized and destroyed, Among the most recent ep demics resulting from unhealthy food are those of Quéan Souchez, and Abbeville reported by the army doctors, Major J Darde and Major P. Viger. A typical example of a food ep demic less known than the above was reported in 1885 by a di tinguished medical man of Givet. A butcher made known h should offer for sale on a certain day veal at 2½d. per lb. Th following day twenty people who had dined off the veal fe ill; all exhibited the same symptoms of gastro-intestinal irr tation; three died. It became known that the butcher ha an anthrax pustule on the hand, which he owned was com municated to him by the "superb" calf which furnished th veal. After a long investigation the butcher was sentence to a year's imprisonment and to a fine of £400. Being infirm he was not imprisoned; being insolvent, he did not pay.

The following subsidies have been given from the funds the Pari Mutuel: £6,000 for rebuilding the Digne Hospita

£6,000 for rebuilding the Chateaudun Asylum for the Aged; £2,000 for additions to the Arcachon Sanatorium; £3,400 for the Naval Hospital of Pen-Brou; £16,000 for rebuilding the Saint Julien Hospital at Nancy; £8,000 for rebuilding the Constantinople Assembly Rooms, where the French charity societies meet; £16,000 for the Lorient Hospitals; £4,000 for enlarging the Roche-sur-Yon Hospital; £15,428 to be distributed among medical and charitable establishments in the Seine Department.

Dr. Berger has discovered in the library of the Vatican a collection of prescriptions and receipes for eye diseases copied out by Michael Angelo, who was nearly blind before death. It is supposed that during his illness he wrote down the directions and advice of his doctors. Dr. Berger has published these documents in the original Italian text, adding some notes in German. M. Pierre de Nolhac has already referred to them as an addition to the poems left in manuscript by this immortal sculptor.

Dr. Marjolin's legacy will be utilised to defray the expenses of the medical education of dressers and house-surgeons who distinguish themselves by their zeal and regular attendance in their wards and the excellence of their notes.

BERLIN.

Professor Virchow's Jubilee as a University Teacher.—New Pathological Museum for Berlin.—Overcrowding in Hospitals.—Quackery.

Virchow jubilee fell last week. It was fifty years since his first lecture as a university teacher (*Privat-docent*). Preparations for festivities in the usual style had been made, but two days before the anniversary day Virchow was suddenly taken ill while lecturing. Some alarm was naturally felt, but, luckily, the attack was not serious, and passed off quickly. However, at Virchow's request, the festive arrangements were countermanded, and the day only marked officially by a congratulatory deputation from the University. Headed by Professor Schmoller, University Rector this year, the deputation consisted of the deans of the four Faculties, and of nearly all the medical professors. Professor Schmoller spoke first, and in a warm and able address praised Virchow as the benefactor of millions, and as the great instructor whose methods had gradually permeated almost all schools of thought. Then followed the Dean of the Medical Faculty, Professor Heubner. He spoke of Virchow's strong personality, and described the commanding impression caused by his teachings which had revolutionised medical thought. It was true that what might be called Virchow's greatest lifework was the introduction of "methodology" into medicine, but this alone did not explain his immense influence. He had pre-eminently the genius of research, and had traded with his talent as a faithful steward. At an age when others had not finished their studies he had attacked scientific problems with his bold and strong intellect, had gone on from problem to problem, until after ten years his work was crowned by the completion and publication of his *Cellular Pathology*. Since then he had become the *præceptor mundi* in medicine. Professor Virchow, in reply, modestly disclaimed what he called excessive honours. He said he felt like a plant from which the withered leaves had been removed to give it a better appearance. He could not deny that his work had always been full of zeal, and supported by the endeavours to keep in view universal principles; and it was true, also, that a certain soberness of judgment had helped him over great difficulties. If he had succeeded earlier than others in forming a school, he owed this to his recognition of the fact that it was impossible to do everything oneself, and to his success in creating a sort of phalanx for his ideas, which had been of sufficient force to overcome resistance, and to prepare a broad basis for later developments. And thus, he was happy to say, he now felt himself no longer indispensable as representing his school, since there were a sufficient number of men sharing his views. He hoped that his little attack of the day before would have no further consequences, and that he had yet some time for work before him; still he could not hide from himself that it was now time to make a stop, to a certain extent; and therefore he was doubly glad that he had lately succeeded in convincing the Government that somewhere in Germany there must be a place where every student could at all times find instruction on questions of pathology and medicine, that he had been instrumental in securing the rebuilding of the pathological museum.

The Berlin municipal hospitals are so crowded that orders have had to be given to take in no patients living out of Berlin except such as belong to Berlin sick clubs. Another proof how urgently needed the new hospital is, for which funds have been voted, and which is to be built as expeditiously as possible.

The Prussian Cultus-Minister has addressed a circular to the Provincial Governments, asking them for information as to whether abuses have occurred in their districts necessitating more stringent legislation against quackery.

MONTREAL.

Medical Benefit Societies and Lodges: Proposed Tariff.

It is probably known already to all the readers of the British Medical Journal that the government of the profession in each province of the Dominion is left to a single body, which grants licences and makes regulations to determine the practice in that province. Thus in the Province of Quebec the College of Physicians and Surgeons has the spur, and among other matters has drawn out, several years ago, a tariff of minimum fees to be charged under different conditions. The great increase in the number of friendly societies and the low scale of payments which form the basis of the contracts made between these societies and those whom they appoint as their medical advisers, has brought about a crisis, and at a recent meeting of the Board of the College of Physicians and Surgeons the following resolution, proposed by Dr. J. B. McConnell of Montreal, and seconded by Dr. S. Gauthier, was adopted by a large majority:

That in view of the extent to which the members of the medical profession are defrauded of proper remuneration for professional services, owing to the acceptance by many practitioners of the position of medical officers to various benefit societies, lodges, and other positions where remuneration is arranged for by contract, it be considered beneath the dignity of our profession to accept and hold such position; and in order that all professional services shall be awarded remuneration not less than the tariff adopted by this Board, it is hereby enacted that Members of the College of Physicians and Surgeons of the Province of Quebec be prohibited from accepting or retaining the position of lodge doctor where a stipulated amount is paid annually or otherwise for professional services amounting to less than the minimum tariff of this Board, or from attendance upon families, groups of families, or other associations, at contract prices which name a stated amount for a certain term; and that no physician shall be permitted to retain membership in this College or to practise in this Province who accepts such a position.

What the result of this resolution will be, it is difficult at present to say. All that is requisite for this to become a law is for the last scale of tariff and for this resolution to be signed by the Lieutenant-Governor. Certainly the passage of the resolution has created a widespread excitement among the friendly societies and their members, and resolutions are being passed which threaten recrimination against the profession. But what form such measures can take it is difficult to say. The future in this controversy is being awaited with interest.

LIVERPOOL.

The Coronership of Birkenhead.—Medical Institution Dinner.—Medical Students' Dinner.—Hospital Sunday and Saturday Funds.—Supply of Diphtheria Antitoxin.

Mr. Henry Churton, the venerable coroner for the Borough of Birkenhead, has notified to the town clerk that his duties will in future be performed by the deputy coroner, Mr. Tibbits. That Mr. Churton has been well advised in yielding to the pressure of advancing years and relinquishing the active duties of his office, all who are acquainted with the circumstances will probably be agreed. A difference of opinion is, however, likely to be manifested as to whether he is within his rights in retaining the emoluments and dignity of the office after his declared intention of no longer discharging its duties. The Coroners Act of 1892, Cap. 56, Section 1 (3) states that "a deputy may act for the coroner during his illness or during his absence for any lawful or

reasonable cause, or at any inquest which the coroner is disqualified from holding, but not otherwise." The question whether permanent incapacity can be regarded as "lawful and reasonable cause" within the meaning of the Act will, it is reported, be raised.

The biennial dinner of the Liverpool Medical Institution took place on November 6th at the Exchange Station Hotel. The President (Dr. Caton) was in the chair, and about 150 members and guests sat down. The guests included the Lord Mayor of Liverpool, the Mayor of Birkenhead, Mr. Sampson, the City Coroner, and the Stipendiary Magistrate. The usual toasts were proposed. The dinner was one of the largest which the institution has ever held.

The annual dinner of the Liverpool Medical Students will take place at the Adelphi Hotel on Saturday, November 27th, at 7 P.M. The chair will be occupied by Professor Rushton Parker, and the vice-chair by Professor Rupert Boyce. This annual gathering has increased greatly in popularity during the last few years, and it is expected that this year there will be a large muster of both past and present students. The entries at the school this year are unusually large.

The twenty-seventh annual report of the Hospital Sunday Fund shows a slight falling off in the total received this year as compared with 1896, but this has been much more than counterbalanced by a large increase in the Saturday Fund. The sum of £11,400 has been distributed this year among the different medical institutions of the city, being £400 in excess of any previous distribution. The falling off in the Sunday collections is accounted for by the removal by death of some wealthy contributors, while the large increase of more than £600 in the Saturday Fund shows that the members of the working classes, who are the principal contributors, have entire confidence in the management of the hospitals.

A very excellent departure in connection with the municipal department of public health has just been inaugurated. A circular has been sent round to all practitioners in the city intimating that they can be supplied with diphtheria antitoxin on making application to any one of the city hospitals.

CORRESPONDENCE.

HOSPITAL REFORM.

SIR,—I have read with interest the report of the conference on hospital abuse, as contained in the BRITISH MEDICAL JOURNAL of October 30th. It is a subject to which I have given some attention, and of which I had considerable experience in Manchester.

When some years ago the members of the British Medical Association were asked, through the JOURNAL, to state their views as to how hospital abuse could be prevented, I suggested that the passport to a hospital should be a note from the bearer's doctor. On looking over a copy of the replies that had been returned I found that no one else had made such a suggestion. I see, however, that at the conference Dr. Ward Cousins expressed the opinion that those who went into hospitals "should go in on the recommendation of their private medical man," and the only one who expressed any objection to that proposal was Dr. Herringham. "He flatly declined to support the suggestion that patients should be admitted to the hospital only by bringing letters from medical men, and he thought every hospital physician would decline to support it. It required in every practitioner who signed the letter that he should not make a mistake, and that he should be benevolent enough to sign away his own income."

If these are the only objections that can be taken to that proposal they need hardly be considered, for the first—that "he should not make a mistake"—is absurd; and the second—that "he should be benevolent enough to sign away his own income"—is what medical men are constantly doing in their endeavours to prevent disease. Dr. Herringham has said what he could against the proposal. I should like to mention some arguments in its favour, as I feel sure that it is the only solution of the difficulty if hospitals, in such numbers, are to continue.

1. If we look back to the time when hospitals were begun we find they were founded for the treatment of the poor, before the existence of the Poor Law with its provision for medical relief.

2. When the Poor Law provided for all the poor the very *raison d'être* of the hospitals was gone, but they continued generally in connection with a medical school, for which they were necessary.

3. There is no class between the pauper and those who are able to pay a fee to a doctor, since doctors are quite willing to charge according to the circumstances of the patient.

4. Seeing that every one can consult a doctor, and seeing that the doctor could have no objection to his patient having advice at a hospital if he wished, but, on the other hand, might in many cases be glad to have another opinion, he could have no objection to give his patient a note to some hospital physician or surgeon. He need not give any diagnosis, and he would lose no income unless the hospital doctor retained the case as a hospital patient, which the private practitioner could be expected to agree to only if the patient would have a better chance of recovery in hospital than at home. The proposal to receive no case except with a note from the private practitioner would no doubt be opposed by hospital managers and their doctors, who carry on a system of touting for their hospitals and glory in their large number of patients more than in the success of their treatment; but that fact need not prevent us from trying to find the true cure for a most chronic and pernicious disease, whose evil influence is exerted on the practitioner as well as on the patient.—I am, etc.,

Denholm, N.B., Nov. 5th. JOHN HADDON, M.D.

SIR,—In your article upon this subject you repeat an assertion often made before, that the number of out-patients interferes with the instruction of students. Can you inform me at which of the London medical schools this interference takes place? I believe the statement to be entirely erroneous, and it is as well to clear a difficult subject of all doubtful matter.—I am, etc.,

Upper Wimpole Street, W., Nov. 6th. W. P. HERRINGHAM.

*** We believe that there is no hospital in London or elsewhere in which the number of the out-patients is not an obstacle to the deliberate and systematic instruction which ought to be given in that department. In some at least, even of those hospitals in which the numbers are limited, the cases after the first visit are made over to a house-surgeon, and are no longer used for clinical demonstration. How much more must such instruction be interfered with at hospitals whose doors are thrown open to unlimited numbers?

THE LATE SIR W. MACKINNON, K.C.B.

SIR,—Although extremely reluctant to appear in print where my own services are concerned, I feel constrained to correct some singular inaccuracies in the latter portion of your obituary notice of my distinguished friend Sir William Mackinnon. For instance, at the Gate Pah you state, "The combatant officers having one by one been disabled, he took command himself and captured the position." This is so absurd and ridiculous an assertion that it scarcely needs contradiction; but as I was present on the occasion referred to, and Dr. Mackinnon was serving under my orders, I had better state what actually occurred. At the assault on the Gate Pah, owing to the paucity of medical officers available for this duty, Dr. Mackinnon and myself accompanied the troops into action, taking up a position in rear of the supports, attended by two orderlies to carry our "field companions." When the attacking party, and the supports who rushed in with them, were driven out of the Pah we found ourselves and a number of wounded men, isolated and absolutely unprotected, a panic having seized the retreating troops. At that moment a body of natives emerged from the Pah and were making direct for us. We never for a moment thought of abandoning our helpless charge, and I directed the two men who so manfully stood by us to fire. Mackinnon hastily snatching a rifle from one of the fugitives, also fired, and wounded the leading chief in the heel. This, and the fire of the two men, caused them to hesitate and pause, evidently suspecting an ambuscade, for we were partially concealed by high ferns. Our perilous position having been perceived by the General, a hundred men of the

Naval Brigade were hastily dispatched to our assistance, the General himself and his staff speedily following. Sir Duncan Cameron, with the nobleness of character so characteristic of him, addressed some handsome remarks to us, describing our conduct as an example to the troops. The next morning he sent for me to elicit full particulars of the occurrence, and informed me of his intention of recommending us, as well as another medical officer (Dr. Manley) who accompanied the storming party into the Pah, for the Victoria Cross. I pointed out that I already possessed it, and did not feel justified in accepting further distinction merely for doing my duty in not deserting my post. He replied, "But what about Mackinnon —do you think he would be satisfied with the Order of the Bath? When I mentioned this to Mackinnon he at once acquiesced. The General wished what took place to be considered confidential, but as he afterwards alluded to it in an official memorandum to the Military Secretary, in the following terms, I feel justified in quoting it. The incident is thus referred to:

"Dr. Mouat invariably accompanied the force operating in the field under my command, and I wish to mention an act of conspicuous bravery performed by him at the assault on the Gate Pah, when Dr. Mackinnon and himself remained (after the retreat of the troops), attending the wounded men who had fallen near the entrenchments, exposed all the time to a close fire from the enemy's works, and in so dangerous a position that Dr. Mackinnon at one time was obliged to snatch a rifle and fire to keep back the enemy, mortally wounding a well-known leading chief. For his gallantry on this occasion Dr. Mackinnon was appointed a Companion of the Bath."

The statement regarding operations on the elbow-joint is not quite correct. It was not the elbow-joint, but excisions of the head of the humerus, of which he was justly proud, as there were 8 successful cases of this class, some of which were performed by him but others by Sir A. Home and myself.

In conclusion, I wish to bear testimony as an old friend of thirty years' standing to his many excellent qualities, both as a friend, a soldier, and a surgeon. With regard to his views on the question of military rank, he held the same opinions as myself: that soldiers only understand one kind of rank—that is, military rank expressed by military titles; and, if the medical department is in future to be anything more than a mere cypher and a sham in the military hierarchy, it will have to come, and the sooner it comes the better.—I am, etc.,

November 10th. J. Mouat,
Surgeon-General (Retired).

*** The inaccuracy which Sir James Mouat desires to correct occurred in the course of some notes of the late Sir William Mackinnon's life and character, for which we were indebted, as was stated, to a distinguished civil surgeon. He, we know, would be as loth to detract from Sir James Mouat's distinguished record as we would. The error has at least had this advantage, that it has induced Sir James Mouat not only to tell with authority a story which reflects honour on all the officers concerned, but also to place on record the opinions entertained by the late Director-General as to the necessity for giving definite army rank to military medical officers.

BERI-BERI AND FOOD.

Sir,—A leading article entitled as above in the British Medical Journal of August 14th, page 415, discusses a paper of mine which appeared in the same number. From the tenour of the editorial it is plain that in my paper I did not succeed in sufficiently emphasising the point in the *Ancona* outbreak upon which the whole question turns, and which distinguishes it, so far as I am aware, from every other outbreak of beri-beri on record, namely, 1, *only officers* were attacked by the disease. 2. *All the officers* so suffered. Not otherwise: 1. *All the cabin mess* had beri-beri. 2. *Only cabin mess* were involved. Thus the limitation of the disease to the officers of the ship and the escape of the rest of the ship's crew have both to be accounted for. This must not be confused with the simple occurrence of the disease on board ship, as is evidently the case in the following quotation from the editorial referred to: "There are one or two weak points in Dr. Macleod's case. In a previous voyage the *Ancona* had visited Australia. Australia must now be regarded as being a beri-beri country. Two of her crew—the steward and the cook—were Chinese, and therefore must at one time or another have lived in a beri-beri country. Might not these Chinese have carried the germs of beri-beri in their clothes, and might not the *Ancona*, when in Australia during a previous voyage, have received the germs of the disease? It may have been a case of ship infection, the germ, as is the well-known habit of beri-beri, remaining dormant until the ship came under suitable conditions for its becoming active, namely, the high temperature and moist atmosphere in the neighbourhood of the Solomon Islands." Whilst the clothes of the Chinese steward and cook, as suggested, might possibly be a vehicle for the poison and account for *occurrence on board ship generally*, it is difficult to see how they could account for the *limitation of the disease to the cabin mess*. It is true that beri-beri has occurred amongst the Chinese in Melbourne and that the *Ancona* visited that place, from which she sailed to Portland (Oregon) through the tropics and from there to New York again by way of the tropics without beri-beri presenting itself. There is a bare possibility that the disease poison, introduced into the ship at Melbourne, lay dormant during these two tropical voyages and burst out on the third voyage in the vicinity of the Solomon Islands, but the *limitation to the cabin mess* has still to be accounted for.

"Australia must now be regarded as as a beri-beri country," runs the editorial. So far as I am aware, the only evidence for such a claim is the occurrence of the disease amongst Chinese in Melbourne and Sydney and amongst aborigines in a West Australian gaol—surely not evidence enough. These outbreaks are discussed in my paper in relation to this very claim, and illustrate the difficulty of excluding food supplies from beri-beri countries as a factor in the etiology of that disease.

The article is not altogether happy in its selection of the Penang gaol and New Caledonia outbreaks as examples of "place" as distinguished from "food" sources of the disease, stating, as it does, that Singapore infected prisoners were believed to have carried it to the former, and immigrants from Tonquin to the latter.

"Surely," says the editorial, "the food consumed there (Richmond Asylum) now is not from the same stock that was in use there (three?) years ago, as, according to Dr. Macleod's hypothesis, it ought to be." Two epidemics with one, or even two, years between them at the Richmond Asylum could have occurred if the stock of food from beri-beri countries had been renewed even *five or six times* in the three years—two of these supplies having been infected. The hypothesis as advanced in my paper is, that food from countries where beri-beri is endemic, if containing that poison, is more likely to produce pronounced cases of the disease where the particular articles of poisoned food are stored in quantity (as is likely to be the case in gaols, asylums, ships, Chinese houses in Sydney, etc.), its action being thus concentrated by repeated doses in the same individuals.

My paper has apparently given rise to the impression that I advance food as the only vehicle or method concerned in spreading the disease. This is certainly not my belief or intention. There may be several methods of spreading beri-beri, but it appeared to me that the *Ancona* outbreak described in my paper was so exceptional in the selection of its victims, thereby furnishing something stronger than a presumption that one method is by "food supplies from countries where beri-beri is endemic." Seldom has the disease been observed to occur under circumstances which enable us to exclude other methods of spread, complicating as these do investigations of this kind.

Finally I have to thank the writer of the leading article for giving me an opportunity for correcting another wrong impression given by my paper regarding the part played by overcrowding in the minds of those who consider it one of the surroundings favouring development or spread of the disease. What I meant to convey was, that so frequently is overcrowding seen associated with outbreaks of the disease, that its absence in the *Ancona* cases is interesting and noteworthy.

Since writing my paper of last May, vol. ii of Allbutt's *System of Medicine* has come into my hands. In it Manson, in the article on beri-beri, writes at page 451, "In the pro-

gress of a case of beri-beri, no matter how trifling it may appear, and particularly if the patient remain under the condition in which the disease was contracted, symptoms indicating great danger may set in suddenly and at any moment." At page 452 he says, "The mortality is always especially high where the patient continues to live under the same conditions and in the same place as that in which the disease was contracted." At page 462, "The first and most important thing to be attended to in the treatment of a case of beri-beri is the removal of the patient from the room, and, if possible, from the house and neighbourhood in which the disease was acquired. In Japan and in Java it has been found that sending beri-beri patients to some high and dry spot is followed by rapid improvement. In Singapore a similar result followed sending beri-beri-smitten prisoners to sea for a short time. In cases of beri-beri brought to the Seamen's Hospital, Greenwich, from ships in the London Docks, it is found that if they survive the first few days on shore they speedily recover. It may be laid down as an axiom that in all cases of beri-beri the chances of recovery are very much prejudiced if the patient remain in the tainted spot." These quotations will be subscribed to by everyone who has had acquaintance with beri-beri. They bear out that part of my hypothesis relating to repeated doses of the poison. It is almost impossible to exclude the food element as not participating amongst "these conditions in which the disease was contracted." *The cases that died* on board the *Ancona* changed from their cabins to a pilot house on deck, *but did not change their dietary;* whilst *those that recovered* did not change their cabins, *but changed their dietary, excluding—and that unintentionally—the articles of food from beri-beri countries.*—I am, etc.,

NEIL MACLEOD.

Shanghai, Sept. 25th.

SIR,—In the interest of tropical medicine I desire to give my experience during my first voyage on the P. and O. Steam Navigation Company, though the facts do not tend to throw credit on my diagnostic acumen.

During the voyage a Lascar came to me complaining of shortness of breath and swelling of the legs. On examination I found the œdema was not limited to the legs, but extended also to the back and chest. The patient was also very anæmic. The heart was slightly dilated, and the first sound was reduplicated. The lungs showed extensive emphysema, and as I found no evidence of kidney disease either in the examination of the urine or by the symptoms, I concluded the œdema was entirely symptomatic of this disease, and treated the case accordingly. The symptoms and signs fluctuated from time to time, nausea and vomiting occurring occasionally, and bronchitis eventually supervening. Suffice it to say that the patient succumbed during an attack of extreme dyspnœa. The cause of death I certified as being due to emphysema and bronchitis, never for a moment doubting the accuracy of my diagnosis.

The textbook of medicine that I took with me was the well-known work of Dr. Frederick Taylor (second edition, 1891). Now the only mention in this work of beri-beri is contained in two short lines, which run thus: "Multiple neuritis also forms a part of leprosy, and of the endemic disease of Japan, kak-ké or beri-beri."

Taking together the fact of this altogether insufficient description, and my previous clinical inexperience of the disease, I feel that my error was not altogether unpardonable. Since that time, however, I have read the subject of beri-beri carefully, and have also had the opportunity of seeing several cases. I have come to the conclusion that the case I have recorded was a typical case of this disease, and had I had the slightest knowledge concerning it, I should have escaped making at least one erroneous diagnosis. I may say that my case is by no means an isolated one, many cases of a like nature having occurred to my knowledge. I can therefore fully endorse Dr. Patrick Manson's statements as to erroneous diagnosis. I consider it would be to the interest of all concerned should large companies such as the P. and O. make a fixed rule not to employ any medical man who could not produce evidence of having attended a course of lectures on Tropical Medicine.—I am, etc.,

WILLIAM BRYCE ORME, M.R.C.S.Eng.,
Late Surgeon to the P. and O. Steam Navigation Company.

St. Margaret's-on Thames, Nov. 3rd.

TESTIMONIAL TO DR. ARLIDGE.

SIR,—You would greatly oblige the Committee formed f furthering the testimonial to Dr. Arlidge if you could inse the accompanying circular in the BRITISH MEDICAL JOURNA —I am, etc.,

Gloucester Place, S.W., Nov. 10th. JOHN W. OGLE, M.D.

TESTIMONIAL TO DR. JOHN T. ARLIDGE.

The literary services of Dr. J. T. Arlidge, many years ago, as editor the *British and Foreign Medico-Chirurgical Review*, and his profession labours continued through a long series of years in connection wi efforts for promoting the health and welfare of factory operatives, see well deserving of recognition by the medical profession, and by all wh are interested in the manufactures of the United Kingdom, and the we being of those who are employed in such manufactures.

Dr. Arlidge has ever taken a warm and active interest in facto operatives, more especially those engaged in injurious trades as t pottery works. He has, through his long life, endeavoured to bett the condition of the working classes, and to advance the interests of t medical profession, particularly in connection with the working of t Factory Acts.

Dr. Arlidge's failing health is a cause of deep regret to his friends a all who knew him and who experienced his skill and unvaryi kindness.

Some friends have proposed to form a Committee for the purpose presenting Dr. Arlidge with a testimonial of the high estimation which he has been held for so many years by the profession and friends generally.

Many would doubtless wish to show their sympathy at the prese time.

The undermentioned friends of Dr. Arlidge have kindly consented have their names placed on the Committee:

His Grace The Duke of Sutherland. Stafford House, St. James's, S.W.
Sir Samuel Wilks, Bart., M.D., F.R.C.P.Lond., 72, Grosvenor Stre London, W.
Sir C. H. Gage-Brown, M.D., K.C.B., Smeeth Rectory, Ashford. Kent.
Sir Peter Eade, M.D. Univ. Lond., F.R.C.P.Lond., Upper St. Gile Street, Norwich.
J. W. Ogle, F.R.C.P.Lond, M.D.Oxford, 95, Gloucester Place, Portm Square, London, W.
Matthew Baines, M.D., 11, Cranley Place, Onslow Gardens, London, S.
W. H. Folker, F.R.C.S.Eng., Bedford House, Hanley, Staffs.
T. W. Nunn, F.R.C.S.Eng., 8, Stratford Place, London, W.
L. Beale, M.D., F.R.C.P.Lond., 61, Lower Grosvenor Street, London, W
J. W. Moore, M.D., F.R.C.P.I., 40, Fitzwilliam Square, Dublin.
The Hon. Secretary of the Committee is Dr. Charles F. Moore, 10, Upp Merrion Street, Dublin, by whom subscriptions will be received.

OBITUARY.

WE regret to announce the death, on October 31st, of J JAMES BOOTH, one of the oldest medical practitioners in t City of Aberdeen. Dr. Booth was in his 80th year, and h been in failing health for some time, but he saw patients to within a few weeks of his death. He took the M. degree at Aberdeen in 1840, after a distinguished univers career, and then proceeded to London and obtained t diploma of M.R.C.S. His medical practice grew to be o of the largest in Aberdeen, and he not only won the c fidence of his patients, but endeared himself to them by genial and affectionate temper. It may be of interest to n that Dr. Booth was one of the surviving medical men w had a district of the city assigned to him in the outbreak cholera in the Forties.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF OXFORD.

MR. WILLIAM JOHN SMITH JEROME, M.B., London, has been appoin Lecturer in Medical Pharmacology and Materia Medica for the y 1898-1899.

UNIVERSITY OF CAMBRIDGE.

PATHOLOGY.—As we have elsewhere recorded, Dr. A. A. Kanthack, M. B.S., B.A., B.Sc.Lond., M.A., *honoris causâ* Cantab., F.R.C.P., F.R.C Fellow Commoner of St. John's College, and late Deputy Professo Pathology, has been elected to the chair vacant by the death of Profe C. S. Roy.

FELLOWSHIPS.—On November 8th, Mr. W. McDougall, M.A., M.B., House-Physician at St. Thomas's Hospital, was elected to a Fellowshi St. John's College. Mr. H. K. Anderson, M.A., M.B., Junior Demonstr of Physiology, has been elected to a Drosier Fellowship at Gonville Caius College.

MIDWIFERY.—Mr. E. H. Douty, M.B., has resigned the University Lect ship in Midwifery in connection with the Special Board of Medicine. didates for the vacant office are requested to send in applications testimonials to the Vice-Chancellor not later than November 15th.

STATE MEDICINE.—The syndicate managing the examinations in s tary science for the D.P.H. qualification report that seventy candi offered themselves in April and October last. Thirty-four were succes in passing both parts of the examination, and obtained the diploma.

Honorary Degree.—The complete degree of M.A., *honoris causâ*, has conferred on Mr. C. R. Marshall, M.B., Ch.B.Vict., Assistant to the Downing Professor of Medicine, who so highly distinguished himself as Secretary to the Pharmacological Section of the recent annual meeting of the Association in Montreal.

Professor of Chinese.—Among the electors to the newly-established Chair of Chinese we note the names of three medical graduates—Dr. A. Macalister; Mr. E. G. Browne, M.B., University Lecturer in Persian; and Mr. F. V. Dickins, M.B., Registrar of the University of London.

The second examination for medical and surgical degrees, Part II (Human Anatomy and Physiology), will commence on Wednesday, December 15th, and terminate on Tuesday, December 21st.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

At the monthly business meeting of the President and Fellows of the Royal College of Physicians of Ireland, held on Friday, November 5th, the following resolutions were unanimously adopted:

(*a*) The College has heard with great regret of the death of Lieut. George Duffey, and beg to express their deepest sympathy with Sir George and Lady Duffey, and the other members of the family, in their sad bereavement.

(*b*) That the President and Fellows desire to place upon record their regretful sense of the loss which has befallen the Royal College of Physicians of Ireland in the death of their distinguished colleague, the Rev. Dr. Samuel Haughton, Senior Fellow of Trinity College, Dublin; and they take this early opportunity of conveying an expression of their sympathy to the members of Dr. Haughton's family.

CONJOINT BOARD IN IRELAND.

Supplemental Preliminary Examination.—Candidates have passed this examination as undernoted:

With Honours, in order of merit: P. A. Flanagan, C. W. Ewing, L. C. E. Murphy, E. C. Jennings.

Unclassed, alphabetically: H. Burke, N. J. Mervyn-Archdall, F. G. A. O'Brien, J. W. O'Hagan, Miss A. B. Wallace.

Diploma in State Medicine.—The following candidates have passed this examination: W. A. Chapple, M.B., Ch.B., M.R.C.S.; H. L. Clare, L.B., B.Ch.Univ.Dub.; A. Greenwood, M.B., Ch.B.Vict.Univ.; Surgeon-Major P. Mulvany, L.R.C.P.& S.Edin.

NAVAL AND MILITARY MEDICAL SERVICES.

ARMY MEDICAL STAFF EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medical Department is 3s. 6d., which should be forwarded in stamps or post office order with the notice, not later than Wednesday morning, in order to ensure insertion in the current issue.

Surgeon-Major, who arrived in England in November, 1896, is desirous of an exchange this trooping season. Address "Chitral," care of Sir Charles McGrigor, Bart., and Co., 25, Charles Street, St. James's Square, London, S.W.

THE NAVY.

The following appointments have been made at the Admiralty: George Dean, B.A., M.B., Staff-Surgeon, to the *Alexandra*, November 3rd; John Ritley, Staff-Surgeon, to the *Venus*, November 9th; William H. Norman, Staff-Surgeon, to the *Rupert*, additional, for Gibraltar Hospital, November 6th; Alworth E. Merewether, M.B., Surgeon, to the *Venus*, November 9th.

Fleet-Surgeon James T. W. S. Kellard has been placed on the retired list, November 3rd. He was appointed Surgeon, March 31st, 1876, and Staff-Surgeon twelve years thereafter.

ARMY MEDICAL STAFF.

Revised regulations for admission to the Army Medical Staff have been approved by the Secretary of State, and copies will be issued to all concerned. The Army Orders 89 of 1895, and 80 of 1896, and the regulations issued therewith, are cancelled.

Deputy-Inspector-General John Mullins, late of the 2nd Dragoons, died at Stillorgan, co. Dublin, on July 22nd last. He was appointed Assistant-Surgeon, October 13th, 1843; Surgeon, October 6th, 1854; Surgeon-Major, October 23rd, 1863; and Honorary-Deputy-Inspector-General on retirement, December 2nd, 1869.

INDIAN MEDICAL SERVICE.

Brigade-Surgeon-Lieutenant-Colonel John North, Madras Establishment, Medical Officer 1st Madras Lancers, died of cholera at Bellary, on October 31st, at the age of 50.

THE VOLUNTEERS.

Surgeon-Lieutenant-Colonel T. H. Moxon, 1st Norfolk Artillery (Eastern Division Royal Artillery), has resigned his commission, with permission to retain his rank and uniform, November 10th.

Surgeon-Major T. F. Young, M.D., 4th Lancashire Artillery, is promoted to be Surgeon-Lieutenant-Colonel, November 10th.

Surgeon-Captain T. Lyndon, M.D., 4th Volunteer Battalion the Queen's (Royal West Surrey Regiment, has resigned his commission, November 10th.

Surgeon-Lieutenant E. P. A. Mariette, M.B., 2nd (Prince of Wales's) Volunteer Battalion the Devonshire Regiment, is promoted to be Surgeon-Captain, November 10th.

Brigade-Surgeon-Lieutenant-Colonel J. Blackburne, 2nd Volunteer Battalion the York and Lancaster Regiment, resigns his commission, retaining his rank and uniform, November 10th; he vacates at the same time his appointment as Senior Medical Officer to the East Yorkshire Volunteer Infantry Brigade.

The Volunteer Officer's Decoration has been conferred upon Surgeon-Lieutenant-Colonel John Sherburn, M.B., 2nd East Riding of Yorkshire Volunteer Artillery (Western Division Royal Artillery), and upon Brigade-Surgeon-Lieutenant-Colonel John R. Thomas, M.D., 4th Volunteer Battalion the Devonshire Regiment.

CHANGES OF STATION.

The following changes of Station amongst the officers of the Army Medical Staff have been officially notified to have taken place during last month:

		From.	To.
Surg.-Lt.-Col.	J. S. Forrester	1st Life Guards	R. H. Guards.
,,	G. H. Le Mottée, M.D. ...	Aldershot ...	Bombay.
Surg.-Major	T. B. Moffitt...	Netley	Bengal.
,,	T. F. MacNeece	Portsmouth ...	Gosport.
,,	W. Dugdale	Newbridge ...	Bombay.
,,	H. K. Allport, M.D. ...	Kilworth ...	Fermoy.
,,	W. W. Pope	Netley	Bengal.
,,	C. A. P. Mitchell, M.D. ...	Bombay	Maryhill.
,,	T. A. Dixon	Strensall	Punjab.
,,	B. W. C. Deeble	Bengal	Dublin.
,,	R. H. Firth	Netley	Punjab.
,,	J. Maher	Dover	,,
,,	R. Crofts	Ballincollig ...	Sierra Leone.
,,	S. Powell, M.B.	Aldershot ...	Madras.
,,	A. E. Morris, M.D. ...	Gosport	Bombay.
,,	W. B. Day, M.B.	Malta	Portsmouth.
,,	R. I. Power	Cork	Waterford.
,,	J. S. Green, M.B.	Dublin	Bengal.
,,	H. R. O. Cross	R. Horse Guards	1st Life Gds.
Surg.-Capt.	H. Cocks, M.B.	Colchester ...	Madras.
,,	F. W. G. Hall, M.B. ...	Curragh	Punjab.
,,	J. Fallon	Mauritius ...	C. of G. Hope.
,,	E. S. Marder	Orchard Portman	Devonport.
,,	J. S. Edye	Hong Kong ...	Newcastle.
,,	H. St.G. S. Hore	Aldershot ...	Bengal.
,,	S. Macdonald, M.B. ...	Portsmouth ...	,,
,,	J. Minniece, M.D. ...	Aldershot ...	Punjab.
,,	H. J. Pocock	Horfield	Bombay.
,,	R. J. Inniss	Buttevant ...	Bengal.
,,	E. M. Hassard	Aldershot ...	Sierra Leone.
,,	W. W. O. Beveridge, M.B.	—	Tregantle.
,,	C. E. G. Stalkartt, M.D.	Portsmouth ...	Barbadoes.
Surg.-Lieut.	W. S. Harrison, M.B. ...	Chester	Punjab.
,,	C. W. Profeit, M.B. ...	Leith Fort ...	Gren. Guards.
,,	L. F. Smith, M.B.	Aldershot ...	Punjab.
,,	S. H. Fairrie, M.B. ...	,, ...	,,
,,	G. T. K. Maurice	,, ...	Bengal.
,,	J. V. Forrest, M.B. ...	Portsmouth ...	,,
,,	H. W. Grattan	Athlone	Madras.
,,	J. H. Campbell	Jersey	,,
,,	J. C. B. Statham	Piershill	Benga
,,	E. C. Hayes	Aldershot ...	,,
,,	P. J. Probyn	Sheerness ...	Sierra Leone.
,,	W. A. Ward	Chester	Madras.
,,	M. Swabey	Preston	Manchester.
,,	M. M. Rattray, M.B. ...	Glasgow	Edinburgh.
,,	J. McArdle, M.B.	Dublin	Athlone.
,,	L. J. C. Hearn, M.B. ...	,, ...	Belfast.
,,	H. L. W. Norrington ...	Chester	Ashton-under-Lyne.

The *Gazette* of November 9th states that the Queen has been pleased to confer the decoration of the Royal Red Cross upon Sister Mary Elizabeth Joseph, in recognition of her services in tending the sick and wounded.

THE FRONTIER RISING IN INDIA.

Despatches from General W. H. Meiklejohn, C.B., C.M.G., and General Sir B. Blood, K.C.B., regarding the operations at the Malakand and in the Swat Valley, on the North-West Frontier of India, are published in the *London Gazette* of November 5th.

General Meiklejohn, in reporting the frequent engagements that took place during the last week in July, singles out some officers for special mention. "Surgeon-Lieutenant J. Hugo, attached to the 31st Punjab Infantry," he says, "rendered valuable service on the night of the 28th in saving Lieutenant H. B. Ford from bleeding to death. Lieutenant Ford was wounded, and a branch of an artery was cut. There were no means of securing the artery, and Surgeon-Lieutenant Hugo for two hours stopped the bleeding by compressing the artery with his fingers. Had he not had the strength to do so Lieutenant Ford must have died. Early in the morning, thinking the enemy had effected an entrance into camp, Surgeon-Lieutenant Hugo picked up Lieutenant Ford with one arm, and, still holding the artery with the fingers of the other hand, carried him to a place of safety."

Of other medical officers with the force the General writes: "Brigade-Surgeon-Lieutenant-Colonel F. A. Smyth was most zealous, and performed his duties to my satisfaction. He volunteered to perform the duties of Provost Marshal, and did so for a short time during the illness of Lieutenant H. E. Cotterill. The arrangements made by Surgeon-Major S. Hassan, Senior Medical Officer, 38th Native Field Hospital, and the indefatigable attention and care with which he devoted himself to the wounded deserve great praise. The list of casualties is large, and Surgeon-Major Hassan has been untiring in his exertions for their relief

I hope His Excellency will think fit to consider his services favourably. Surgeon-Captain T. A. O. Langston 38th Native Fie d Hospital, rendered valuable assistance in attending to the wounded under a heavy fire on the night of the 25th and each following night, and behaved with courage and devotion in carrying out his duties under very exceptional circumstances. Surgeon-Lieutenant W. Carr has worked night and day in the hospitals in trying to alleviate the sufferings of the wounded, and has most ably and efficiently aided by Surgeon-Major Hassan."

Sir Bindon Blood, writing of the operations undertaken for the relief of Chakdara Fort at the beginning of August last, says: "Surgeon-Captain H. F. Whitchurch, V.C., attended to the wounded under fire throughout the fighting." In a subsequent report, describing the operations from August 4th to August 7th, Sir Bindon, among others, speaks most approvingly of the services of Surgeon-Lieutenant-Colonel J. T. B. Bookey, who had charge of the field hospitals and medical staff.

Major-General Yeatman-Biggs, R.A., has brought specially to the notice of the military authorities in India the distinguished gallantry of several of the medical officers in the action on the Ublan Pass on August 27th. One in particular, Surgeon-Captain W G. Beyts, is singled out for mention on account of his heroic conduct. After attending the wounded under a heavy fire, regardless of all consequences to himself, Surgeon-Captain Beyts carried the body of Lieutenant North, who had been wounded, on his back down a hill track too steep for a dhoolie, and thus saved the life of the young officer, who had become faint and powerless from loss of blood.

THE NEW MILITARY HOSPITAL AT ALDERSHOT.

We are informed on good authority that the new military hospital built in the North Camp, now the Marlborough Lines, although completed and fit for the reception of patients, is still unoccupied, and has been so for some time, pending the decision as to the drainage and disposal of the sewage farm, which lies close to the new hospital. While the Farnborough Council is undecided about these sanitary matters, and in difficulties in two quarters, the military sick are deprived of much needed accommodation. The latest report of the sewage farm is that it is "nothing better than a sewage swamp."

NEW WORKS AT HASLAR.

Under the above heading the *Hampshire Telegraph* for October 23rd publishes the following concise and interesting paragraph:

"It will be remembered that in the Naval Works Bill it was mentioned that provision would be made for the erection at Haslar of a separate block of buildings for the treatment of zymotic diseases. The site selected faces the roadway along the sea front It is excellently situated, and well adapted for the purpose for which it is intended. When the Lords of the Admiralty made their annual inspection at Haslar this week the matter was mentioned, as the result of which we learn that the new building will be proceeded with forthwith. Among the improvements contemplated are new quarters for the surgeons and nursing sisters, a new operating room (a very necessary addition), and a new laboratory. Inspector-General A. T. Turnbull, when he took up his appointment at the hospital, saw the necessity for these alterations, and it is satisfactory to know that he has succeeded in obtaining them."

Then follows the notice of a new garrison hospital to be erected on Portsdown Hill.

Under existing circumstances the Haslar zymotic wards occupy the free end of the left wing of the General Hospital simply because there is no separate building for the reception and isolation of such cases. In connection with this, however, there is a very nicely planted piece of recreation ground in which the convalescents can walk about and enjoy themselves during their specified period of seclusion from the external world.

It is one thing to be fully impressed with the importance of improvements suggested by practical experience and hygienic principles in relation to an institution like Haslar Hospital: but it is quite another thing to make the leading authorities so conscious of each necessity as to induce them to lend a helping hand towards its accomplishment. Thanks to the present Lords of the Admiralty the unseemly continuity of the zymotic department with the general hospital will be done away with, and a separate building is to be devoted to it. We might say a word here in favour of the Royal Naval Hospital at Plymouth, in connection with which the very same necessity exists, and notwithstanding their maritime proclivities naval men may well be trusted to select the most suitable spot for a new zymotic hospital. We would only further suggest that the drainage of the new buildings should have no communication whatever with the main hospital system, and that provision should be made for the total destruction of all admittedly infectious excreta, and each building should have a special disinfection system and laundry of its own.

THE MEDICAL SERVICE AT THE FRONT IN INDIA

A correspondent states that what is left of the European medical officers at the front are being seriously overworked; and that notwithstanding European batteries, and whole bodies of white troops are left in sole charge of native and unqualified apothecaries. If this be so, then it is a clear breach of faith on the part of the Indian Government, who have always undertaken to have white officers, medical or other, over white troops. These be matters which must receive the attention of Parliament.

CONDENSATION AND STERILISATION OF WATER.

We understand that the War Office has instructed the Professor of Hygiene at Netley to make an investigation of an apparatus for condensing and sterilising water with the view to its being put to use if found suitable.

VOLUNTEER MEDICAL ASSOCIATION.

The Council of the Volunteer Medical Association have arranged for a course of instruction for the examination for the proficiency certificate. t will be confined to members of the Association, and a small charge only will be made to cover necessary expenses. Instruction will be carrie out either by correspondence, or, in the case of those who are resident i London or sufficiently near it, by lectures. The instructors are selecte by the Council from among their members. Officers desiring to ava themselves of this course are asked to give notice to Surgeon-Majo Watson, Hay Tor, Dennington Park, N.W. It is intended to commenc the first course on November 23rd.

MIXED BOARDS.

We learn that in Burmah a mixed Board on rations was lately ordere consisting of the executive commissariat officer as president and tw native officers as members, with the medical officer of a Madras regimer attending. The officer in charge of the station hospital at once dre attention to Army Order 56 of 1897, with the result that the station orde was amended, and the medical officer of the regiment appointed member of the Board.

THE DUM DUM BULLET.

The latest reports from India of this bullet are that it was "most effectiv in checking the rushes of tribesmen, though these were made with gre determination." The bullet "did its work most effectively," and we d not hear, as was the case during the Chitral campaign, of men being ri dled by the Lee-Metford pellet, and yet being able to walk away. Th confidence of the British soldier in the stopping power of the Dum Du bullet is established.

THE WOUNDED AND TRANSPORT ON THE INDIA FRONTIER.

The *Pioneer's* correspondent, writing from Inyat Kila at the end of Se tember, after six engagements in eight days with the Mohmand Fiel Force, says: "On the 14th many mules were killed. On the 16th th attempt to clear the valley in one day (an attempt which the urgency the situation fully justified, and of which the success then appeared pr bable) resulted in 150 wounded men being thrown on the field hospital It now became impossible for the camp to move, because the wounde could not be carried. It was impossible to leave them behind, becaus deducting an adequate guard the rest of the brigade would have been to few for the severe fighting of the ensuing day. Thus the mobility of th 2nd Brigade has been throughout this week limited to out and hon marches. To restore the mobility of the force the wounded must be se to Panjkora."

REGIMENTAL ENTERTAINING.

A correspondent writes to the *Madras Mail* of January 2nd commentin on an article which had already appeared in that paper on the great di parity as regards pay and allowances among Staff Corps officers, and the contributions to regimental entertainments. The letter points out th this disparity is comparatively very great where medical officers are co cerned, as a Surgeon-Lieutenant Colonel pays "more than twice as muc as the temporary Major Commandant, whose pay and allowance exce considerably those of the former, and asks, "Is it surprising that servi with regiments is generally looked upon in the Indian Medical Service punitive, and occasionally utilised as such by Government?" Th proposal to remedy present inequalities put forward by the *Madras Ma* article is that officers should contribute according to "pay and allo ances" of rank, and not, as the regulations now direct, on pay only. Th insertion in the regulations of the words given in inverted commas is, all fairness, suggested.

THE MALAKAND AND SWAT DESPATCHES.

The Indian Medical Service comes in for well-earned praise in the despatches. Surgeon-Captain T. A. O. Langston, 38 Native Field Hospita rendered "valuable assistance in attending to the wounded under heavy fire, and behaved with courage and devotion in carrying out duti under very exceptional circumstances." Then Surgeon-Lieutenant Carr "worked night and day," and most ably and efficiently aid Surgeon-Major Hassan, who was "untiring" in attending to the casu ties, which were large, in the 38th Native Field Hospital, of which he w Senior Medical Officer. Brigade-Surgeon-Lieutenant-Colonel F. A. Smyt is commended for "zeal" and satisfactory performance of duty. T officers whose names appear in the Malakand and Swat despatches belo almost exclusively to the Indian Medical Service. Surgeon-Capta Langston is the son of Dr. Thomas Langston, of Warwick Square, S.W.

ENTERIC FEVER ON THE INDIAN FRONTIER.

Brigade-Surgeon-Lieutenant W. Hill-Climo, M.D., contributes an i teresting article on this subject to the November number of the *Unit Service Magazine*. He believes that the troops carry the infection wi them, and that it undergoes increase in the congenial filth of a crowd camp. He scouts the idea of evolution *de novo* in a virgin soil, and hol by the doctrine of continuous propagation of a specific contagium. T remedy consists in the scrupulous sanitation of camps, and to this end recommends the appointment of a sanitary officer with full executi agency and authority. Whenever soldiers and followers are massed service, impurity of soil and surroundings is sure to arise, and the ta of prevention requires a skilled intelligence and a strong arm.

LEAVE IN THE INDIAN MEDICAL SERVICE.

Under the head of "An Ironical Concession" the following letter a pears in the *Times of India* of October 12th:

"Sir,—Allow me to remind you of quite the latest jest. 'The Gover ment of India has now decided that privilege leave, and leave on urge private affairs, may be granted to officers of the Indian Medical Servi when the local government is satisfied of the necessity of the leave, a satisfactory arrangements can be made regarding the conduct of t duties.'—*Times of India*, October 8th.

"Your readers will doubtless appreciate the point. To attempt explain it would be to spoil it. Joe Miller.

"*" This is indeed a concession

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 6,829 births and 3,822 deaths were registered during the week ending Saturday last, November 6th. The annual rate of mortality in these towns, which had been 16.9 and 17.6 per 1,000 in the two preceding weeks, further rose to 18.1 last week. The rates in the several towns ranged from 11.2 in Croydon, 11.5 in Leicester, 12.1 in Derby, and 13.9 in Bristol, to 21.5 in Wolverhampton, 21.8 in Oldham, 22.1 in Burnley, and 23.4 in Liverpool. In the thirty-two provincial towns the mean death-rate was 17.9 per 1,000, and was 0.6 per 1,000 below the rate recorded in London, which was 18.5 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.0 per 1,000; in London the rate was equal to 2.5, while it averaged 1.6 per 1,000 in the thirty-two provincial towns, among which the highest zymotic death-rates were 2.7 in Preston and Halifax, 2.9 in Burnley, and 4.8 in Wolverhampton. Measles caused a death-rate of 1.1 in Manchester, 1.2 in Blackburn, 1.8 in Wolverhampton, and 2.2 in Halifax; "fever" of 1.0 in Huddersfield and in Gateshead; and diarrhœa of 1.2 in Blackburn and 1.8 in Preston. The mortality from scarlet fever and from whooping-cough showed no marked excess in any of the large towns. The 82 deaths from diphtheria in the thirty-three towns included 59 in London, 5 in Cardiff, 3 in Wolverhampton, and 3 in Birmingham. No fatal case of small-pox was registered last week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,725, 3 685, and 3,682 at the end of the three preceding weeks, was 3,680 on Saturday last, November 6th; 339 new cases were admitted during the week, against 440, 342, and 416 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, November 6th, 861 births and 560 deaths were registered in eight of the principal Scotch towns. The usual rate of mortality in these towns, which had been 20.3 and 19.9 per 1,000 in the two preceding weeks, further declined to 18.8 last week, but was 0.7 per 1,000 above the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 10.4 in Leith and 11.9 in Perth to 21.7 in Paisley and 26.2 in Greenock. The zymotic death-rate in these towns averaged 2.3 per 1,000, the highest rates being recorded in Aberdeen and Greenock. The 277 deaths registered in Glasgow included 6 from measles, 5 from scarlet fever, 4 from diphtheria, 12 from whooping-cough, and 3 from "fever." Ten fatal cases of scarlet fever were recorded in Edinburgh, and 6 of measles in Greenock.

DIPHTHERIA IN LONDON.

There was a slight decline last week in the mortality from diphtheria in London. The fatal cases of this disease, which had been 45, 55, and 65 in the three preceding weeks, fell to 59 during the week ending Saturday last, November 6th; this number, however, exceeded by 11 the average in the corresponding periods of the ten preceding years. Of the 59 fatal cases of diphtheria registered in London last week, 7 were of persons belonging to Battersea, 5 to Mile End Old Town, 5 to Poplar, 4 to St. Pancras, 4 to Newington, 3 to Hackney, 3 to Lambeth, and 3 to Camberwell sanitary areas. Forty of these deaths were of children under 5 years of age, and 18 (nearly all of which were of children under 10 years of age) between 5 and 20 years; while only one fatal case occurred among persons aged upwards of 20 years. The number of notifications of diphtheria in London, which had been 356, 369, and 331 in the three preceding weeks, further declined to 314 during the week ending Saturday last. There was an increase in the number of notifications in West and Central London, but in North, East, and South London there was a slight decline. Among the sanitary areas of West London there was a further increase in the prevalence of diphtheria in Chelsea and in St. George Hanover Square; and in Paddington the new cases considerably exceeded those recorded in any recent week. In most of the sanitary areas of North London the prevalence of diphtheria showed a decline: in Hampstead, however, the new cases showed a slight further increase. In East London the new cases showed a further decline in Mile End Old Town and in Poplar; in the latter sanitary area the number of notifications, which had been 33 and 20 in the two preceding weeks, further declined to 13 last week. In Bethnal Green, however, the new cases showed an increase and numbered 18 against 13 in each of the two preceding weeks. Although the total notifications of diphtheria in South London showed a slight decline last week, there was an increase in the number of new cases in St. George Southwark, Newington, Lewisham, Woolwich, and Lee. In Battersea the 23 new cases corresponded with the number recorded in the preceding week, and in Camberwell the 21 new cases were within one of the number in preceding week. The admissions of diphtheria patients into the Metropolitan Asylum Hospitals during last week were 163 against 153, 149, and 166 in the three preceding weeks, and 1,043 patients remained under treatment in these hospitals on Saturday last.

FEES TO DISTRICT MEDICAL OFFICERS FOR SCHOOL ATTENDANCE CERTIFICATES.

H. B., who is a district medical officer in Norfolk, writes to say that his Board of Guardians have decided to pay for medical certificates given for children who are unable to attend school in consequence of illness, and that they have fixed 1s. as the fee to be paid for each certificate. Our correspondent says for this he may have to travel five miles in order to see the patient. He asks whether the guardians can compel him to accept these terms.

*** We are not aware that the guardians have any power to compel a district medical officer to visit a non-pauper case, and for all paupers a medical relief ticket or a special medical order must be given before any responsibility is thrown on the district medical officer. A general resolution of the guardians that he is to visit any special class of patients we should regard as *ultra vires*.

THE PREVENTION OF INFECTIOUS DISEASES.

The Town Council of Oswestry have made a distinct advance in matters affecting the public health by their recent determination, after lengthy discussion, to adopt the Infectious Disease (Notification) Act of 1889. One argument against the system of notification hitherto advanced had been the absence of isolation hospital accommodation; but we are glad to learn that, in addition to the adoption of the Act referred to, the Town Council have resolved to render the system still more effective by proceeding to the provision of means of isolation also.

PUBLIC HEALTH STATUTES.

Rural M.O.H. asks where he can obtain a copy of the Public Health Acts and other Acts referring to work of M.O.H.

*** Our correspondent will find what he wants in *Cheap Edition of the Public Health Statutes*, by F. Stratton. London: Knight and Co. 7s. 6d.

HOSPITAL AND DISPENSARY MANAGEMENT.

ROYAL ALBERT ASYLUM, LANCASTER.

The annual meeting of this charitable foundation for idiots and imbeciles of the Northern Counties was held on October 21st, at Chester, under the presidency of the Duke of Westminster. From the report it appeared that there were 573 patients in the institution, 380 boys and 193 girls, all but 5 belonging to the Northern Counties. The finances were sound, £19,784 7s. having been received on maintenance account, besides £5,076 17s. 11d. as interest on endowments. For buildings' improvement £1,225 6s. had been received, but at least £15,000 would be required for the proposed extension of the asylum by 150 beds. The most notable event of the year had been the munificent gift, by Sir Thomas Storey, of funds to build a home for 40 of the more intelligent female patients who had passed through the asylum training, where they might pass a year preparatory to their entering upon the ordinary work of the outside world. The subject of provision for pauper imbeciles was touched on, in reference to the opening of the Winwick Hall Institution for this class by the Lancashire Asylums Board, and of the annexe for idiots at the Middlesex County Asylum, Wandsworth.

The report of the medical superintendent (Dr. Telford Smith) showed that 70 patients had been admitted, 55 discharged, and 7 had died during the twelve months. New patients had been admitted in groups of not over 30, so as to allow of three weeks' quarantine before being distributed. The death-rate had been the lowest on record—namely, 1.24 per cent. on the average number resident as compared with 3.53 during the previous twenty-five years. There had been no serious epidemic, and the general health had been better than usual. St. John Ambulance classes had been held for the staff, and 24 had passed the examination. The report closes with a reference to 3 cases in which craniectomy had been performed previous to admission to the asylum; the results were in each case disappointing, whatever improvement had occurred being due to systematic supervision rather than to the operation itself.

The Duke of Westminster referred to the peculiarly dependent condition of the feeble-minded class, even after training, as compared with the blind and deaf-mutes, as showing the necessity of such charities as the Royal Albert Asylum. Sir John Hibbert, Chairman of the Central Committee, stated that since the establishment of the asylum 1,967 patients had been admitted, 1,015 had been discharged, and 380 had died. Of 55 discharged last year 11 were much improved, and only 3 not improved at all. He mentioned the case of a discharged patient, now earning 26s. a week, and of three others reported by their commanding officers to be doing well in Her Majesty's service.

The Bishop of Chester, in seconding the adoption of the report, jocosely remarked that if one were to give credence to the party newspapers, "these three were not the only idiots in the service of Her Majesty."

THE GRAHAMSTOWN ASYLUM, SOUTH AFRICA.

According to the annual report of Dr. Greenlees, the medical superintendent, there were 210 patients in this asylum on December 31st last, being a decrease of 15 as compared with the previous year. One hundred and nineteen were admitted; 60 were Europeans, and 59 coloured natives. Although the overcrowded state of the wards necessitated a larger number of refusals for admission than in 1895, no Europeans were refused, the pressure being confined to the native cases only. Of the assigned causes of insanity among the cases admitted, drink, hereditary tendency, and previous attacks were frequent, and many more chronic cases are now admitted than formerly. This latter fact accounts at once for the low rate of recovery among the discharges, which stands at 28 on the admissions, excluding transfers. Again, in 27 of the admissions, the person had been insane more than twelve months prior to admission, 15 cases were congenital, 6 were general paralytics, and 19 epileptics, a truly hopeless lot of cases. The death-rate for the year was 6.32 per cent., which is much below the last twenty-two years, which has averaged 10.44 per cent. Several accidents are recorded, with one exception among natives. A nurse had her skull fractured by a native, who struck her with a brick. A depressed portion of bone was removed by trephining, and she recovered. In commenting upon the accidents and many minor injuries which had occurred during the year, Dr. Greenlees remarks, authorities on insanity are agreed that the prevalence of injuries in an otherwise well-managed asylum indicates an overcrowded condition of the wards. The training of mental nurses is admirably carried out in this asylum, and several of the nurses, male and female, are entitled to wear the medal and hold the certificate of the Medico-Psychological Association for proficiency in mental nursing.

MEDICO-LEGAL.

NEWSPAPER "NOTICES."

BRIGHTON.—In the case referred to by our correspondent we do not think that any consent to the publication could have been obtained (it must, in fact, necessarily be distasteful to the gentleman concerned if brought to his notice), but it is a little difficult to say what course should be adopted, as the publication is not likely to be repeated. If it were, an application to the Court for an injunction would probably be successful, and if damage were sustained in consequence of any such publication an action for damages would probably lie. If the publication were such as to disparage anyone whose portrait was represented or would tend to bring him into ridicule and contempt an action for damages for libel could be resorted to.

MEDICAL NEWS.

PRESENTATION.—Dr. J. Stothard has been presented with a gold pendant as a token of appreciation of his services as lecturer to the St. John Ambulance Association of the North Eastern Railway centre at Hull.

MR. ARTHUR HAMILTON WHITE, L.R.C.P.&S.I., has been appointed Professor of Pathology in the School of the Royal College of Surgeons of Ireland, in succession to Dr. Thomas Myles, resigned.

SIR WILLIAM BROADBENT, Bart., M.D., F.R.S., will preside at Sir Squire Bancroft's reading of Dickens's *Christmas Carol*, at Portman Rooms, on November 22nd, in aid of St. Mary's Hospital. This is the first of the series which Sir Squire Bancroft will give in London during the coming winter.

WE are asked to state that it is hoped that all members of the Harveian Society, London, who desire to attend the annual dinner of the Society which is to be held at the Café Monico, Regent Street, on Thursday, November 25th, at 7 P.M., will communicate with the Senior Secretary, Dr. Cock, 1, Porchester Houses, Porchester Square, W.

MEDICAL MAYORS.—Among the list of mayors elected in the principal cities and towns on November 9th we find the following members of the medical profession: Dr. F. Bagshawe (Hastings), Dr. Webb Fowler (Coventry), Dr. J. Medwyn Hughes (Ruthin), Dr. James Lidderdale (Henley-on-Thames), Dr. J. M'Murray (Bootle), Dr. J. B. Maurice (Marlborough), Dr. R. T. Meadows (Saltash), Dr. Robert Parry (Carnarvon), Dr. J. Soutter (Hedon) (re-elected), and Mr. George S. A. Waylen (Devizes).

PRINCE OF WALES'S HOSPITAL FUND.—The proprietors of the *Graphic* and *Daily Graphic* have forwarded cheques amounting to £3,486 1s. 7d. to the Secretaries of the Prince of Wales's Hospital Fund, consisting of a profit of £2,270 2s. 7d. on the illustrated programme of Her Majesty's Jubilee Procession, and £1,215 19s. subscribed by the public through the *Daily Graphic*. In addition, the Secretaries of the Fund have received through the same medium promises by bankers' order forms amounting to an annual subscription of £815 3s.

REIGATE AND REDHILL COTTAGE HOSPITAL.—The report of this little hospital is again most satisfactory. The admissions during the year have been 268. Of these, 129 were surgical cases, involving operations for removal of the breast, strangulated hernia, enterectomy, amputation of the thigh, and for the third time in this hospital both thighs have been removed with a successful result. The mortality for the whole of the patients under treatment has been 2.8 per cent. Such results speak well for the medical staff, the nursing, and the sanitation of the hospital. It gives us pleasure to learn that the increased accommodation so long desired is now in hand. We would most strongly advocate the claims of a hospital showing such results to the support of the large neighbourhood this institution so efficiently supplies. Old Guysmen will read with pleasure that the service of Miss Stanton the matron (Sister Ruth of bygone years) are warmly appreciated.

CORK MEDICAL AND SURGICAL ASSOCIATION.—The fifty-eighth annual session of the Medical Society of Cork was opened on October 23rd, when the annual banquet was attended by about fifty members and guests. The chair was taken by the President, Dr. Philip G. Lee, who gave the toasts of "The Queen," "The Medical Society," "The Cork School of Medicine," "The President and Professors of Queen's College," "The Army and Navy Medical Services," and "The South of Ireland Branch of the British Medical Association." "The Health of the President" was given by Professor Hartog, that of "The Vice-President" by Professor H. Corby, M.D., that of "The Honorary Secretary" by Professor C. Y. Pearson, and that of "The Honorary Treasurer" by Dr. Giusani. The President gave his inaugural address on the Medical Society and Organisation in the Medical Profession on October 27th.

THE SARAH ACLAND NURSING HOME AT OXFORD.—This admirable institution was founded nineteen years ago in memory the wife of Dr. (now Sir Henry) Acland, with the object of gratuitously nursing the sick poor at their own homes, supplying efficient and capable nurses to rich patients and nursing in medical and surgical homes. Started before the profession of nursing had become developed and popularised to the extent that it now is, this pioneer nursing institution quietly effected an incalculable amount of good in Oxford. Until this year it was situated in Wellington Square, but in last May the new buildings in the more cheerful Banbury Road were formally opened by the Prince of Wales and the staff of twenty-five nurses is now permanently installed therein. Formerly merely a resting place for nurses, it has been expanded, and now has rooms for the reception of fourteen patients, two of which have been endowed by private generosity, the Master of Pembroke and Mrs. Price having given the funds for one in memory of their daughter, while Mr. Lehmann has provided the endowment of the other in memory of Mr. Cotton. The enterprise and generosity that have carried through this beneficent scheme will always keep green the name of the veteran ex-professor of medicine in the University, Sir Henry Acland.

MEDICAL VACANCIES.

The following vacancies are announced:

BRADFORD ROYAL INFIRMARY.—Junior House-Surgeon. Salary, £50 per annum, with board and residence. Unmarried and doubly qualified. Applications, endorsed "Junior House-Surgeon," to William Maw, Secretary, by November 22nd.

BRECON INFIRMARY.—Resident House-Surgeon; unmarried; doubly qualified. Salary, £70 per annum, with furnished apartments, board, attendance, fire, and gas. Applications to W. Powell Price, Secretary, No. 6, Bulwark, Brecon, South Wales, by November 18th.

BRIDGE OF WEIR: CONSUMPTION HOSPITAL AND ORPHAN HOMES OF SCOTLAND.—Resident Medical Officer; knowledge of Bacteriology. Salary, £80 per annum, with furnished apartments, board, etc. Applications to the Honorary Secretary, D. Hill Jack, 194, St. Vincent Street, Glasgow, by November 15th.

BRISTOL GENERAL HOSPITAL.—House-Surgeon; doubly qualified. Salary, £120 per annum, with board, residence, etc., provided in the house. Appointment for three years. Applications to the Secretary by November 15th.

CAMBRIDGESHIRE, ETC., LUNATIC ASYLUM, Fulbourn, near Cambridge. Assistant Medical Officer. Salary, £140 per annum, with board, lodging, and attendance in the asylum. Applications to T. Musgrave Francis, Clerk to the Visitors, by November 20th.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer; unmarried; doubly qualified. A knowledge of Welsh desirable. Salary, £100 per annum, with furnished apartments, board, attendance, fire, gas, and washing. Applications to Howell Howell, 3, Morley Street, Carmarthen, by November 23rd.

CATERHAM ASYLUM, Caterham, Surrey.— Assistant Medical Officer; age not to exceed 35 years. Salary, £120 per annum, rising at the discretion of the Committee to £150, with board, lodging, attendance and washing. Applications to be made on forms to be obtained at the Chief Office of the Board, Norfolk House, Norfolk Street, Strand, W.C., where they must be delivered by November 20th.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road.—Clinical Assistants. Fee, 3 guineas. Applications to Richard Kershaw, Secretary.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Registrar; must be a graduate in Medicine of a recognised University, or F. or M.R.C.P. of London, Edinburgh, or Ireland. Applications to H. H. Jennings, Secretary, by November 27th.

DENTAL HOSPITAL OF LONDON AND LONDON SCHOOL OF DENTAL SURGERY, Leicester Square.—Demonstrator. Honorarium, £50 per annum. Applications to Morton Smale, Dean, by November 22nd.

DUBLIN: MONKSTOWN HOSPITAL.—Resident Medical Officer (Protestant). Salary, £40 per annum, with board, apartments, and firing. Applications to the Honorary Secretary by November 15th.

DURHAM COUNTY ASYLUM.—Third Assistant Medical Officer. Salary to commence at £100 per annum, with board, lodging, etc. Applications to Dr. Smith, Superintendent, Winterton, Ferryhill, by November 24th.

SPITAL FOR SICK CHILDREN, Great Ormond Street, Bloomsbury.—House-Surgeon to Out-patients (non-resident). Appointment for six months but eligible for re-election. Salary, 25 guineas. Applications must be on forms to be obtained from the Secretary, to whom they must be sent by November 23rd.

SPITAL FOR WOMEN, Soho Square, W.—House-Physician, doubly qualified. Appointment for six months. Salary, £30 for that period. Also Non-resident Clinical Assistant, with registered qualification. Applications to David Cannon, Secretary, before November 17th.

DDERSFIELD INFIRMARY.—Junior Assistant House-Surgeon. Salary, £40 per annum, with board, lodging, and washing. Applications to Mr. J. Bate, Secretary, Infirmary, Huddersfield.

IERICK: COUNTY INFIRMARY.—House-Surgeon, doubly qualified. Salary, £100 per annum, with quarter's coal, light, and attendance. Applications to the Secretary by November 15th.

NCHESTER: OWENS COLLEGE.—Junior Demonstrator in Anatomy. Stipend, £100, rising by yearly increments to £150. Applications to the Registrar by November 30th.

RCER'S HOSPITAL, Dublin.—Gynæcologist. Applications to the Registrar at the Hospital by November 23rd.

DDLESEX HOSPITAL, W.—Surgical Registrar. Must be M. or F.R.C.S.Eng. Applications to F. Clare Melhado, Secretary-Superintendent, by November 18th.

UNTMELLICK UNION.—Medical Officer for the Emo Dispensary District. Salary, £100 per annum as Medical Officer, and £20 as Medical Officer of Health, with usual vaccination fees. Sealed applications, accompanied by diplomas and testimonials, to reach James A. Morris, Honorary Secretary, Clonamore, Ballybrittas, Queen's County, by 12 noon on November 18th.

TIONAL HOSPITAL FOR DISEASES OF THE HEART AND PARALYSIS, Soho Square, W.—Resident Medical Officer; doubly qualified. Board, residence, and laundry, and an honorarium of £40 per annum. Application to the Secretary.

W HOSPITAL FOR WOMEN, 144, Euston Road.—Two qualified medical women as House-Surgeons. Applications to Margaret M. Bagster, Secretary, by November 24th.

RISH OF ST. PANCRAS, London.—Second Assistant Medical Superintendent for the Infirmary, Dartmouth Park Hill, N. Appointment for one year. Salary at the rate of £75 per annum and residential allowances. Applications, on forms to be obtained at the Vestry Hall, to be sent to Alfred A. Milward, Clerk to the Guardians, Vestry Hall, Pancras Road, N.W., by November 18th.

PLAR UNION.—Assistant Medical Officer at the Workhouse. Salary, £100, with furnished apartments and rations in the Workhouse. Applications to G. Lough, Guardians' Offices, Upper North Street, Poplar, E., by November 16th.

ESTATYN URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £20 per annum, to include travelling and all other expenses. Appointment for one year. Applications, marked "Medical Officer of Health," under seal, to John Hughes, Clerk to the Council, by November 24th.

DCLIFFE INFIRMARY, Oxford.—Honorary Physician. Applications to the Secretary by December 11th.

YAL VICTORIA HOSPITAL, Bournemouth.—House-Surgeon. Salary, £80 per annum, with board. Applications to the Chairman of Committee by December 1st.

YAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, West Strand.—Clinical Assistants. Appointment for six months. Applications to T. Beattie-Campbell, Secretary, by November 27th.

GEORGE'S AND ST. JAMES'S DISPENSARY, 6, King Street, Regent Street, W.—Dentist; must be L.D.S.Eng. Applications to the Secretary by November 22nd.

LEONARD, Shoreditch, Parish of.—Second Assistant Medical Officer for the Infirmary, Hoxton Street, N.; doubly qualified. Appointment for six months; salary at the rate of £60 per annum, with rations, washing, and furnished apartments in the infirmary. Applications, on forms to be obtained at the Clerk's Office, to be sent to Robert Clay, Clerk to the Guardians, Clerk's Office, 213, Kingsland Road, N.E., by November 15th.

UTHAMPTON: ROYAL SOUTH HANTS INFIRMARY.—Assistant House-Surgeon. No salary, but board and rooms provided. Honorarium of £10 given at the end of six months if found satisfactory. Applications to T. A. Fisher Hall, Secretary, by November 16th.

UTHPORT INFIRMARY.—Honorary Surgeon for the Treatment of Diseases of the Eye, Nose, Ear, and Throat. Applications to the Secretary, Joseph Worall, Infirmary Office, Cambridge Arcade, Southport, by November 16th.

FFOLK GENERAL HOSPITAL, Bury St. Edmunds.—House-Surgeon. Salary, £100 a year, with board, lodging, and washing. Applications to Henry Bonner, Secretary, by November 16th.

UNTON AND SOMERSET HOSPITAL.—Honorary Physician: must reside within two miles of the hospital. Applications to J. H. Bidulph Pinchard, Secretary, 13, Hammet Street, Taunton, by December 3rd.

CTORIA HOSPITAL FOR CHILDREN, Queen's Road, Chelsea, S.W.—Physician to the In-patients; must be F. or M.R.C.P.Lond. Also Assistant Physician to the Out-patients; appointment for two years, at the expiration of which he will be eligible for appointment as Physician to the In-patients. Applications to the Secretary by November 27th.

ST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House-Surgeon. Appointment for six months. Board, lodging, and washing in the hospital. No salary. Applications to the Secretary, at the Hospital, by November 26th.

WESTERN GENERAL DISPENSARY, Marylebone Road.—Honorar Physician; must be F. or M.R.C.P.Lond. Applications to the Honorary Secretary.

MEDICAL APPOINTMENTS.

ALCOCK, N. H., B.A., M.D., appointed Assistant to the Professor of Physiology, Trinity College, Dublin.

ALDRIDGE, Arthur Wm., M.B., B.S.Durh., M.R.C.S.Eng., L.R.C.P Lond., appointed Obstetric and Ophthalmic House-Surgeon to the Queen's Hospital, Birmingham.

ARNOLD, Dr. W., appointed Medical Officer for the Waltham District of the Melton Mowbray Union.

BARCLAY-SMITH, E., M.D., appointed Examiner in Human Anatomy to the University of Cambridge.

BOTT, Henry, L.R.C.P.Lond., M.R.C.S.Eng., reappointed Medical Officer of Health to the Brentford District Council.

BROWN, Wm. Mackenzie, M.B., C.M.Glasg., appointed Medical Officer for the Saltcoats District of the Stevenston Parish.

BURLAND, Dr., appointed Medical Officer to the Burton Cottage Home of the Kettering Union.

CRICHTON, H., M.B., B.S.Durh., appointed Senior House-Surgeon to the Ingham Infirmary and South Shields and Westoe Dispensary, *vice* W. S. Campbell, M.B., C.M.Edin., resigned.

CULHANE, Francis J. F., M.R.C.S.Eng., L.S.A., appointed Medical Officer for the No. 4 (Great Marlow) and No. 12 (Little Marlow) Districts of the High Wycombe Union.

DINGWALL, A., M.B.Glasg., appointed Medical Officer of Health to the Presteigne Urban District Council.

DOBBIN, E. J., M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant Medical Officer of the Infirmary and the St. John's Road Workhouse of the Parish of St. Mary, Islington, *vice* W. B. Stanford, M.R.C.S., L.R.C.P., resigned.

FULTON, William, M.B., C.M.Glasg., appointed Medical Officer for the Stevenston District of the Steventon Parish.

GERVIS, Harcourt, M.R.C.S., L.R.C.P., appointed House-Surgeon to the Paddington Green Children's Hospital.

GLASSON, Chas. Jas., L.R.C.P.Lond., M.R.C.S.Eng., appointed Medical Officer of Health for the Ellesmere Joint District.

HOUFTON, Ernest H., M.B.Lond., M.R.C.S., appointed Medical Officer of Health to the Mansfield Woodhouse Urban District Council, *vice* Dr. H. Heath, resigned.

KANTHACK, A. A., M.D.Lond., F.R.C.S.Eng., appointed Professor of Pathology at Cambridge University, *vice* Charles S. Roy, M.D.Edin., F.R.S., deceased.

KERR, James, M.A., M.D.Cantab., D.P.H., appointed Honorary Surgeon to the Bradford Eye and Ear Hospital, *vice* J. H. Bell, M.D., appointed Consulting Surgeon.

LORD, Cyril Courtenay, B.A.Cantab, M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Surgeon to the Queen's Hospital, Birmingham.

MOORE, Dr. Arthur, appointed Medical Officer for the Rockcorry Dispensary District, *vice* Dr. B. R. Moore, resigned.

PEARCE, Arthur, M.R.C.S.Eng., L.S.A., reappointed Medical Officer of Health to the Salcombe Urban District Council.

PEVERLEY, Walter A., M.B., B.S.Durh., appointed Junior House-Surgeon to the Ingham Infirmary and South Shields and Westoe Dispensary, *vice* H. Crichton, M.B., B.S.Durh., appointed Senior.

PHILLIPS, Hubert C., M.R.C.S., M.&L.S.A., F.G.S., appointed Surgeon to the Westbourne Provident Dispensary.

PIM, F. E. de Beeho, L.R.C.P., L.R.C.S.Irel., appointed Medical Officer of Health to the Barrowford Urban District Council.

RYAN, Michael, L.R.C.P., L.R.C.S., appointed Medical Officer for the Kilshannig Dispensary District, *vice* T. Henry Sandiford, M.D., resigned.

SORLEY, Mr. A. S., appointed Medical Officer of the Toxteth Park Workhouse.

THURNELL, Herbert Leslie, M.A.Camb., M.R.C.S Eng., L.R.C.P., appointed Medical Officer of Health and Public Analyst for the Borough of Gravesend.

TRUMPER, Oscar B., M.B, B.Ch Vict., appointed Medical Officer of Health to the Market Rasen Urban District Council, *vice* E. W. Barton, M.D.Brux., L.R.C.P.Lond., resigned.

WILLMORE, W. Southwick, M.R.C.S.Eng., L.R.C.P.Lond., appointed House-Physician to the Queen's Hospital, Birmingham.

WITHAM, H., M.R.C.S., L.R.C.P., appointed Medical Officer for the Kirton District of the Boston Union, *vice* J. Wilkinson, resigned.

WOODHAMS, Sidney, L.R.C.P.Lond., M.R.C.S.Eng., appointed Medical Officer to the Gravesend Sanatorium.

WOODHOUSE, Cecil, B.A., M.B., B.C., appointed House-Physician to the Paddington Green Children's Hospital.

DIARY FOR NEXT WEEK.

MONDAY.

LONDON POST-GRADUATE COURSE, London Throat Hospital, 204, Great Portland Street, W., 8 P.M.—Dr. Woakes: Nasal Neuroses.

TUESDAY.

LONDON POST-GRADUATE COURSE, Bethlem Royal Hospital for Lunatics, 2 P.M.—Dr. Craig: General Paralysis. Hospital for Diseases of the Skin, Blackfriars, 4.30 P.M.—Dr. Abraham: Neoplasms.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, Welbeck Street, W., 4.30 P.M.—Dr. Thomas D. Savill: Cases of Paraplegia (continued).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Sir F. Semon: On the Diagnostic Significance of Laryngeal Abductor Paralysis.

PATHOLOGICAL SOCIETY OF LONDON, 20, Hanover Square. W., 8.30 P.M.—Dr. Humphry Rolleston: Spontaneous Fracture of Gall Stones. Dr. James Calvert: Spontaneous Fracture of Gall Stones. Dr. L. Freyberger: (1) Intrapericardial Rupture of Aortic Aneurysm; (2) an Anomalous Heart. Mr. C. G. Seligmann: Two Malformations in Fish. Card specimens will be shown by Mr. H. F. Waterhouse, Mr. Percy Furnivall, Dr. Humphry Rolleston, and Mr. W. G. Spencer.

WEDNESDAY.

LONDON POST-GRADUATE COURSE, Parkes Museum, 74A, Margaret Street, W., 4.30 P.M.—Professor Wynter Blyth: Air, etc.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W., 4 P.M.—Dr. Biss: Hæmoptysis; its Causes and Treatment.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

EVELINA HOSPITAL, Southwark Bridge Road, S.E., 4.30 P.M.—Mr. F. S. Eve: Hernia in Infants and Young Children and its Treatment. Post-Graduate Course.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover Square, W., 8 P.M.

NORTH-WEST LONDON CLINICAL SOCIETY, North-West London Hospital 8.30 P.M.—Demonstration of Clinical Cases.

WEST LONDON POST-GRADUATE COURSE, West London Hospital, W., 5 P.M. Mr. C. B. Keetley: Fractures into Joints.

ROYAL METEOROLOGICAL SOCIETY, 25, Great George Street, Westminster, S.W., 7.30 P.M.

THURSDAY.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, 3 P.M.—Meeting of Fellows and Members.

LONDON POST-GRADUATE COURSE, Central London Sick Asylum, 5.30 P.M. Dr. Patrick Manson: Recent Advances in our Knowledge of Malaria.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Titchborne Street, W.—Mr. Doran: Ventral Hernia after Operation. Mr. Roughton: Empyema of the Antrum of Highmore.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C. 4 P.M.—Dr. Barlow: Clinical Lecture or Demonstration of Recent Specimens.

FRIDAY.

LONDON POST-GRADUATE COURSE, Bacteriological Laboratory. King's College, W.C., 3 to 5 P.M.—Professor Crookshank: Typhoid Fever and Diphtheria, etc.

EPIDEMIOLOGICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square. W., 8 P.M.—Professor J. Lane Notter (President): The International Sanitary Conferences of the Victorian Era.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths in 3s. 6d., which sum should be forwarded in post-office order and stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

LLOYD.—On November 1st, at Woodstock, Abergavenny, Mon., the wife of T. E. Lloyd, M.R.C.S., L.R.C.P.Lond., of a son.

PARRY.—On November 6th, at Youlgreave, Derbyshire, the wife of T. Wilson Parry, M.A., M.B.Cantab., of a daughter.

MARRIAGES.

BATTEN—WALLACE.—On October 5th, at the Cathedral, Rangoon, by the Venerable Archdeacon C. H. Chard, Captain F. Graeme Batten, 1st Madras Pioneers, son of the late Lieutenant-General Sisley J. Batten, M.S.C., to Janette F. A. Wallace, M.D., the eldest daughter of the late R. A. Wallace, Esq., of Rynd, Dunfermline, N.B.

DOWNES—AKERS.—On November 4th, at St. Peter's Church, East Blatchington, Seaford, by the Rev. A. J. Richardson, M.A., Godkin Downes, M.R.C.S., L.R.C.P., L.S.A., of Keston, 47, Beckenham Road, Beckenham, Kent, to Mary Ethelreda, widow of the late Charles Akers, Esq., 1, Clapton Common, N.E., and 11, Abchurch Lane, E.C., and youngest daughter of Henry Brown, Esq., and the late Mrs. Brown, of Pendilo, 73, Cazenove Road, Stamford Hill, N. No cards.

DROESER—SAVAGE.—On November 4th, at All Souls, Langham Place, by the Rev. W. Page Roberts, Canon Residentiary of Canterbury, and Minister of St. Peter's, Vere Street. Wilhelm Droeser, of Frankfort, to Marguerite Gertrude, daughter of George Henry Savage, M.D., of 3, Henrietta Street, Cavendish Square, W.

RAW—STRONG.—On November 6th, at the Pro-Cathedral, Liverpool, by the Rev. George Raw, M.A., brother of the bridegroom, Nathan Raw, M.D., B.S., F.R.C.S., of Liverpool, to Annie Louisa, fourth daughter of the late Charles East Strong, solicitor, of Union Court, Old Broad Street, and Lordship Park, London.

DEATHS.

CARTER.—On November 4th, at 45, Great Cumberland Place, W. (suddenly), Hannah, the wife of Charles H. Carter, M.D.

HAZELL.—On October 9th, at No. 1, Bouquet Street, Cape Town, South Africa, Robert William Hazell, M.R.C.S., L.R.C.P., L.S.A., aged 49.

ODHAMS.—On November 6th, at 53, Bethel Street, Norwich, Elizabeth Jane Gray, younger daughter of Geo. F. Odhams, M.D., aged 4 years.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F. 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.3 Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F.,

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; E M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, dai 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; E Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S.,

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetr M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, T 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Oper tions.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Oper tions.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1. o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9. Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Oper tions.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Oper tions.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Laryn F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1. (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o. Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dent Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; femal W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu. 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Thro Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9. Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.3 Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Childre 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1. Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; E M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therap tics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*— W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Ope tions.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th. Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; E Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electr Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; E Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REA THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TE GRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to t Editor, 429, Strand, W.C., London; those concerning business matte non-delivery of the JOURNAL, etc., should be addressed to the Manag at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRIT MEDICAL JOURNAL are requested to communicate beforehand with t Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communicatio should authenticate them with their names—of course not necessar for publication.

CORRESPONDENTS not answered are requested to look to the Notices Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CAN UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on editorial business of the JOURNAL be addressed to the Editor at t Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medi Officers of Health if they will, on forwarding their Annual and oth Reports, favour us with *duplicate copies.*

☞ *Queries, answers, and communications relating to subjects to which ecial departments of the* British Medical Journal *are directed will be nd under their respective headings.*

QUERIES.

P.H. asks for information as to the best works on Psychology and Aphasia.

CROBE asks to be referred to a recent book on tropical diseases, with a ood description of etiology, symptoms, diagnosis, treatment, and pro-hylaxis.

*** Our correspondent might consult the *Hygiene and Diseases of Warm limates*, edited by Dr. Andrew Davidson. London: Young J. Pentland. 893. 31s. 6d.

Measles and the Puerperium.

ETFUL asks whether there is any danger in attending a confinement ase after having seen a case of measles (without changing one's lothes), or whether there is any possibliity in conveying the disease om one to the other?

*** If the lying-in woman has had measles previously the risk would e small, but in view of the possibility of a second attack it is desirable take antiseptic precautions.

Overcrowding Factories and Workshops.

).H. asks: Can any of your readers say whether or no a metropolitan edical officer of health is, legally, bound by the definition of the term overcrowding" as given in Section 1 of the Factory and Workshop ct, 1895, namely, less than 250 cubic feet of space per person during dinary working hours, and 400 cubic feet per person during overtime? not so bound what higher and more reasonable minimum standard of oor and air space might be adopted (with a fair prospect of enforce-ent in a London police-court) for each worker in: (1) A factory; (2) a orkshop (other than a "domestic" workshop); and (3) any other orkplace, for example, a laundry. The abnormally high death-rate om lung diseases amongst workers in densely crowded and often ill-ained districts is my reason for asking these questions.

The Study of Dentistry.

ERIM writes: I am fully qualified, being an L.R.C.P.and S.Ed., and I sh to go in for a qualification in dentistry. How long would it take a an of ordinary capabilities to acquire a fair knowledge of the profes-on, what textbooks are recommended, which is considered the best hool?

*** The period which would be required to obtain a dental diploma two years, and a knowledge of dentistry can hardly be obtained in a orter period. Textbooks which may be recommended are *A System Dental Surgery*, by Sir J. Tomes, F.R.S. (J. and A. Churchill, 16s.); *A nual of Dental Anatomy*, by Charles S. Tomes, M.A., F.R.S. (J. and A. urchill, 12s. 6d.); and *Diseases and Injuries of the Teeth*, by Morton ale, M.R.C.S., L.S.A., L.D.S., and J. F. Colyer, L.R.C.P., M.R.C.P.,).S. (Longmans, Green and Co., 15s.)

ANSWERS.

ho does not give any address to which her stamps can be returned, ecommended to consult her medical attendant.

IST is referred to the reply given to a similar question in the British DICAL Journal of October 30th, page 1307.

re informed that "Ignoramus" can obtain blank forms of lunacy tificates from Messrs. Shaw and Sons, law stationers, Fetter Lane, ndon, E.C.

G.—We understand that instruction in refraction can be obtained London, either at the Royal London Ophthalmic Hospital Moor-ds, or the Royal Westminster Ophthalmic Hospital.

—The examination conducted by the Board of Examiners of the rmaceutical Society under the Pharmacy Act, 1868, is open to nen, and available for the purpose of obtaining qualification as ensers.

M.—A certificate from any recognised training school of nurses can be obtained after three years' work in the wards. Paying pro-oners or pupils, at the end of one year or of the agreed period, ive a document stating that they have been for that period in the ds of the hospital, but this document states nothing about efficiency ualifications.

Surgical Advertising.

RESPONDENT sends us an advertisement cut from a provincial er apparently emanating from a surgeon. If the facts were brought e notice of the Council of the Royal College of Surgeons by a letter essed to the Secretary the matter would no doubt be taken into ideration. The Council of the College has an Ethical Committee ealing with such questions.

Hospital Abuse.

B., M.D.—In the discussion of this question by medical men it is to be desirable that all aspects should be considered, and that rguments used in favour of maintaining existing arrangements ld be as fully and freely discussed as those in favour of the move-t for reform, with which the speaker to whose remarks our corre-dent calls attention has shown himself to be so fully in sympathy.

Duties of Police Surgeons.

ONAL.—The want of a small handbook for reference as to his duties lice surgeon has been felt by many a newly-appointed divisional, p to the present we are not aware of any publication which exactly meets the requirements of the case. Mr. Jackson Clarke's little book on *Post-Mortem Examinations and Medico-Legal and Ordinary Cases* (Longmans) contains many useful hints, not only on the subject indicated in its title, but on the examination of bodies of newly-born infants, the granting of medical certificates of death, etc. In the Metropolitan Police District the newly appointed divisional surgeon is entitled to be supplied with a copy of police orders affecting his duties, and these he should study carefully. If by any oversight these have not been supplied to our correspondent, he should make application for them either to the inspector on duty at his police station, or to the Chief Surgeon, Scotland Yard.

Infectious Disease in Schools.

C. H.—Rule xxiv of the *Code* of the Association of the Medical Officers of Schools, 3rd edition, seems exactly to meet the case. It runs: "As it is incumbent on parents and guardians to do all in their power to prevent infectious diseases from entering schools, so it is the duty of school authorities to take every possible precaution that infectious diseases are not taken by the pupils from the school to their homes; therefore, if any infectious disease prevail in a school at the end of a term, notices to that effect should be sent to all the parents stating the nature of the disease and its period of incubation, in order that they may isolate their children on their return home."

NOTES, LETTERS, Etc.

Conservative Dentistry in Schools.

Mr. James F. Rymer (Brighton) writes: I have read with much interest your article on the above subject in the British Medical Journal of October 30th, p. 1286. Pardon me for differing from you on one point, or rather the "Local Government Board." These words, I really think, require amending, namely (quoting from your article): "It is no doubt the duty of the medical officer of 'a' school "to give his attention to diseased teeth when requested to do so, and when it is necessary to extract them." I am a Member of the Royal College of Surgeons, also Licentiate in Dentistry, but I am constantly asked by my patients to prescribe for them for neuralgia, etc. I say "No; please go to your medical adviser; I only practise dentistry, and am not in a position to practise two branches." Why should a medical practitioner be allowed to practise both? I am sorry to say that I know many medical gentlemen remove teeth for their patients, and get good fees; thus, if so, I should be also allowed to prescribe for my patients. I trust that I may hear from others their views on the subject, as it is really important. I argue, unless in the country, where no dentist exists, or on board a ship, or in a very urgent case, a medical man has no right to remove a tooth if a dentist is near at hand.

Fixing Drainage Tubing.

Dr. David Duke (Great Easton, Uppingham) writes: Without wishing to appear as an inventor, though not aware if anyone else has tried this method, permit me, through the British Medical Journal, to offer a suggestion, which I have found most efficacious for retaining drainage tubes *in situ*. Bend from ½ to ¾ of an inch of the tubing on itself, and secure it in this position with a ligature as near the bend as possible. The short end will, when thus secured, project from the drainage tube. I always manage so that the ligature is placed near the lowest hole in the tube. The tube is easily introduced if a probe is passed down, and will be retained as long as is desirable. No pain or inconvenience is experienced on removing it.

Atony of the Rectum.

Dr. H. T. Dufton (Brockford) writes: Dr. George Acheson, in his interesting paper on this ailment, has not mentioned a complication which I have almost invariably found in practice associated with atony of the rectum, namely, hæmorrhoids. The constipation and distension of the rectum, the atony, and the straining at stool are, I consider, steps in the causation of hæmorrhoids; and I believe that is the commonest manner of their causation. In the treatment, therefore, of atony I have been careful to avoid aloes of late. It seems to me that the patent aloetic pills which females so universally take are the chief source of the continuation of these troubles. Cascara sagrada combined with strychnine, in a dose suitable to the case, and preferably in fluid form, given early in the morning before breakfast, I have found most useful; especially when followed by a breakfast of fresh, ripe, uncooked fruit, oatmeal porridge with black treacle, and marmalade. This complaint is increasingly common, and is one of the evil results of our civilisation: our foods are over-prepared, and our teeth are being eliminated.

Choice of Hotels at Health Resorts.

Dr. D. W. Samways (Mentone) writes: May I through the columns of the British Medical Journal ask the medical faculty, when sending patients to the Riviera to communicate, when possible, first with some practitioner abroad with reference to the most suitable hotel for each case? Patients usually on arriving go direct to some hotel which they have heard recommended, often the most unsuitable, however, for them, and afterwards send for a doctor. The bronchitic may thus choose a proverbially cold hotel, the neurasthenic a particularly noisy one, and so on. It is a very delicate task, then, for the doctor to remove his patient to a more suitable hotel without causing strained relations with the hotel manager who suffers, and the patient is liable to think that the trouble of repacking and moving might have been avoided by a little forethought on the part of his medical adviser before he left England. I venture to call attention to this, as it is a matter often of considerable importance to all concerned.

"Surgical Flesh."

Velpeau was accustomed before ovariotomy ceased to be a death warrant in France, to explain the remarkable success in this direction of British surgery, that French flesh was not surgical flesh ("la chair Française n'est une chair chirugicale"). The opposite would appear to be the case with Turkish flesh, for it is stated that in the recent war in Greece the Turkish wounded recovered invariably in a way which amazed the

army surgeons." "They recovered," said one of them, "against all rules. One whom I was tending for a terrible wound in the arm snatched off the bandage, and I feared that mortification would set in. He alleged that to resort to devices for wounds received in defence of Allah was impious, but he recovered. Fanaticism, sobriety, and race free from admixture, have produced extraordinary results."

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BOOKS, ETC., RECEIVED.

Chemistry for Photographers. By C. F. Townsend, F.C.S., F.R London: Dawbarn and Ward. 1s.

Practical Diagnosis. By H. A. Hare, M.D., B.Sc. London: Henry K ton. 1897. 21s.

Air, Food, and Exercises: an Essay on the Predisposing Caus Disease. By A. Rabagliati, M.A., M.D., F.R.C.S. London: Baill Tindall and Cox. 5s.

Reference Book of Practical Therapeutics. Edited by T. P. Foster, In two volumes. London: Smith, Elder and Co. 1897. 50s.

The Guide to South Africa. Edited by A. S. Brown and G. G. Br 1897-98 Edition. London: Sampson Low, Marston and Co. 2s. 6d.

A Handbook of Midwifery. By W. R. Dakin, M.D., B.S., F.R.C.P. Lon Longmans, Green and Co. 1897. 18s.

Notes on Micro-Organisms Pathogenic to Man. By Surgeon-Ca B. H. S. Leumann, I.M.S. London: Longmans, Green and Co. 3s.

The Subconscious Self and its Relation to Education and Health. Waldstein, M.D. London: Grant Richards. 1897. 3s. 6d.

Cutaneous Medicine. A Systematic Treatise on the Diseases o Skin. By L. A. Duhring, M.D. Part II. London and Philadel J. B. Lippincott and Co. 1897. 12s. 6d.

The Origin of Disease. By A. V. Meiggs, M.D. London and Philadel J. B. Lippincott. 1897. 21s.

Transactions of the Dermatological Society of Great Britain and Ir 1896-7. Vol. iii. London: H. K. Lewis. 1897. 5s.

Lehrbuch der gynäkologischen Diagnostik. Von Dr. G. Winter. Auflage. Leipzig: S. Hirzel. 1897. M. 14.

The Living Substance: as such, and as Organism. By Gwen Foulke Andrews (Mrs. Ethan Allen Andrews). Boston: Ginn a 1897. $1.50.

Selected Essays and Monographs. Translations and Reprints Various Sources. London: New Sydenham Society. 1897.

Scenes of English Life. Book I, Children's Life. By Howard Swa Victor Bétis. London: George Philip and Son. 1897. 2s. 6d.

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N.B.—It is against the rules of the Post Office to receive letters a *Restantes* addressed either in initials or numbers.

SIXTY-FIFTH ANNUAL MEETING
OF THE
BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF ANATOMY AND PHYSIOLOGY.

AUGUSTUS D. WALLER, M.D., F.R.S., President.

A DISCUSSION ON ANÆSTHETICS.

I.—AUGUSTUS D. WALLER, M.D., F.R.S.,
President of the Section.

THE ACTION OF ANÆSTHETICS UPON NERVE: ETHER AND CHLOROFORM.

THE subject to which I am about to invite your attention today—the relative efficacy of various anæsthetics—has occupied me from a physiological standpoint for some years past. I have approached the subject by a new path, which has offered view-points of unexpected and, I venture to claim, peculiarly commanding clearness towards our further guidance in the clinical utilisation of anæsthetic agents.

I am able, in a way that will presently be illustrated by actual experiment, to test the various members of a group of anæsthetic agents in rapid succession, and to say in conclusion from the data obtained that this is more powerful than that—that, for example, the members of the chloromethane series (of which chloroform is the most prominent) occupy a given order of merit, that, to give a still more capital example, chloroform is so many times more powerful than ether.

Statements of this degree of precision, if adequately justified by the data of which they are the outcome, may, I think, be admitted to constitute a presidential address in the Section of Anatomy and Physiology of the British Medical Association, if I am not mistaken in the belief that physiology, in its immediate relation to medicine, is not to be a physiology *in excelsis*, but rather, as indicated by the title under which it is presented by the Scottish Universities, the Institutes of Medicine.

I shall not waste time in generalities, nor discuss what in my opinion are desirable modifications in the present relations between Medicine and its Institutes. I shall rather fulfil my intention of urging in what I consider to be the right general direction, by bringing a definite contribution from the physiological laboratory to the melting pot of our common knowledge. As will in a moment appear, this course will very shortly skirt an item of well-known and even burning controversy, and since technically a presidential address may be held as possessing immunity from criticism, whereas it is desirable, on the contrary, that the subject matter of this address should be most fully open to and provocative of discussion, I shall, with your approval, formally relinquish the honourable post I now occupy, and for the purpose of free debate say what I have to say as a private member of the Section.

FIRST PART: EXPERIMENTAL DATA.

I shall tax your patience for a few moments, yet in the end the most economical of time, by the demonstration of an actual experiment. It will be the significant figure at the head of what might otherwise appear to you as an insignificant row of ciphers—these records of previous experiments which, when one experiment has been witnessed, form a clear and obviously significant mass of evidence.

Demonstration.—At each excitation of the nerve the galvanometer spot moves to your left. The normal current is to the right, the movement to the left is a "negative variation" of that current, and a sign that the nerve is alive and excited. As you see, the successive variations are of regular magnitude.

Ether vapour is now blown through the gas chamber for about a minute, and within the space of one or two minutes the nerve is anæsthetised, or, as I prefer to express it, immobilised. Excitation fails to disturb it, the spot does not move, the excitability of the nerve is completely suppressed. Not finally, however; the nerve is not killed, but only anæsthetised. Exposure to the air for one or two minutes is sufficient to allow of recovery up to or, it may be, beyond the normal level of excitability.

Recovery having taken place, chloroform vapour is blown through the gas chamber. As before, the nerve is immobilised, and gives no response to excitation. But, whereas the immobilisation by ether is nearly always fugitive, that by chloroform is nearly always (under these conditions) definitive. Chloroform is more powerful than ether, and is therefore apt to kill.

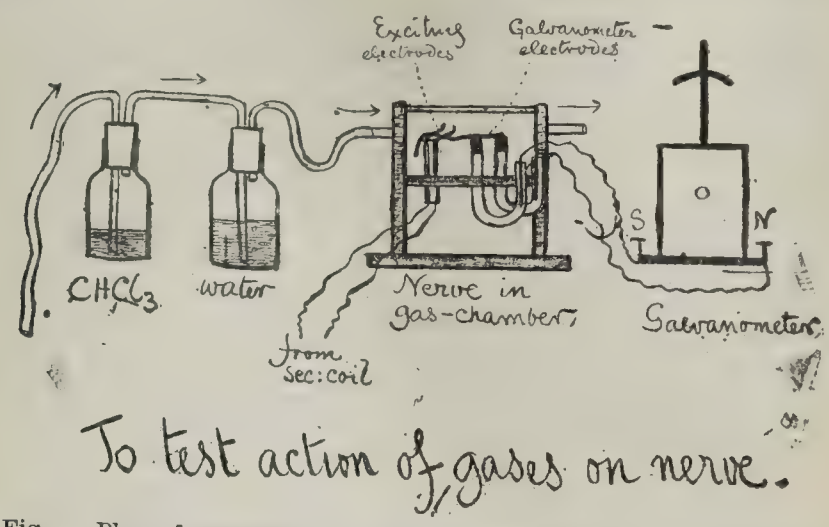


Fig. 1.—Plan of apparatus for the investigation of the action of anæsthetic vapours upon the electromobility of nerve.

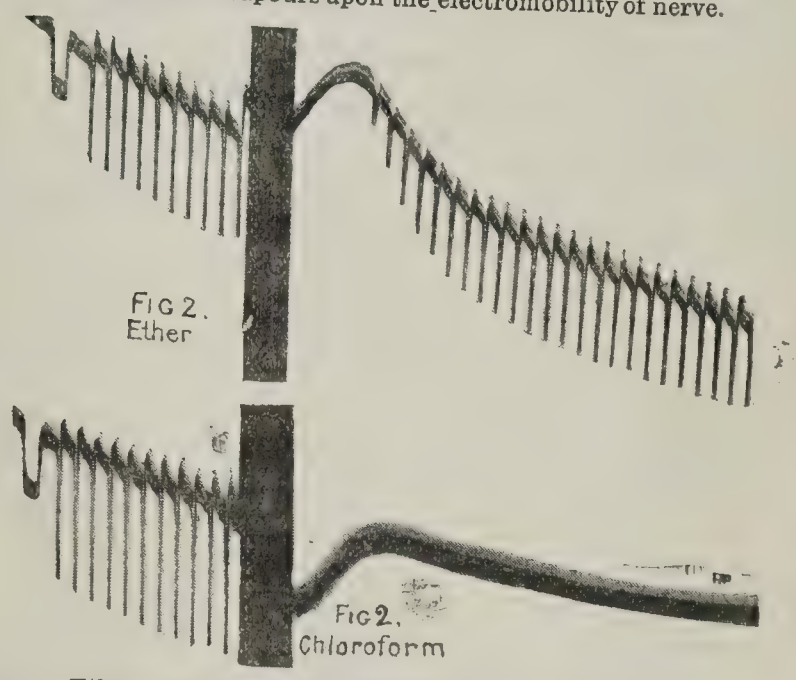


Fig. 2.—Ether vapour of full strength compared with chloroform vapour of full strength.

Well, it is very obvious that a single experiment of this necessarily rough and hurried character, whether successful or no, is of itself of no weight whatever, and cannot influence your judgment in the choice of an anæsthetic. Its sole purpose has been to illustrate a method and to put you in possession of a key by which to decipher the very simple code in which nerve, the representative living matter *par excellence*, returns its answer when put to the question.

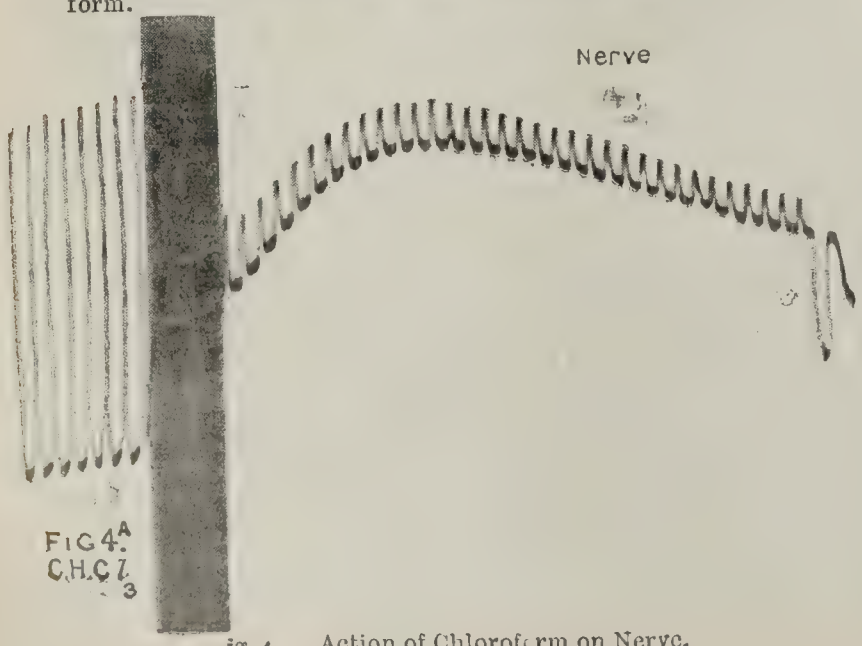
The pair of exciting or leading-in electrodes to the nerve put the question, the pair of galvanometer or leading-out electrodes from the nerve give the answer. The galvanometer, by means of a simple movement, large or small, of the spot of light, serves as an organ of expression to the strand of living matter called a nerve whenever it is tested by an excitation. Arrange your excitations of uniform strength and duration, and at regular intervals, and you have in your hands a fragment of living matter submitted to a uniformly repeated question, How do you do? and answering, I am quite well, or I am more mobile, or I am less mobile. according as you have let it alone or submitted it to a stimulant or submitted it to a depressant.

The spot of light by which the nerve speaks moves as you see right and left on the scale. Replace the scale by a screen

with a horizontal slit, arrange a photographic plate to descend vertically behind the screen, darken the room, and now your point of light makes its mark, and all its movements come out on the developed plate as black lines on a clear background; you have a recording galvanometer, and your nerve as regards any episode to which you may choose to submit it, is made to record its own state of matter.

Notice indeed in the first place with what admirable regularity it makes reply, "I am quite well" to a regular series of questions, "How do you do?" if you do not otherwise disturb it. In regularity and in endurance, and I may add in simplicity, the isolated nerve as a specimen of living matter is far superior to that other very serviceable and much employed organ the isolated heart or ventricle. The latter as compared with the former is a capricious organ, being composed of several kinds of living matter—muscle, nerve fibre, nerve cell—it is neither as regular nor as enduring as we sometimes desire, and useful as it has been for pharmacological purposes it often fails us. Yet since the heart in such matters has been the well-known witness of experimental physiology, and since moreover there has arisen a kind of idea in certain quarters that the heart is peculiarly refractory to the influence of anæsthetic agents, I have thought it worth while to add to the comparison of some representative anæsthetics upon nerve, a comparison under similar conditions of the same anæsthetics upon the heart. The diagram behind me (Fig. 3) summarises the results of the two sets of comparisons. I may not stop to consider them in detail, but the diagram speaks for itself, the scale of action of nitrous oxide, carbon dioxide, ether, and chloroform is similar on the isolated nerve and on the isolated heart.

Fig. 3. Diagram summarising the action upon nerve and upon the heart of nitrous oxide, carbon dioxide, ether, and chloroform.



ig. 4 . Action of Chloroform on Nerve.

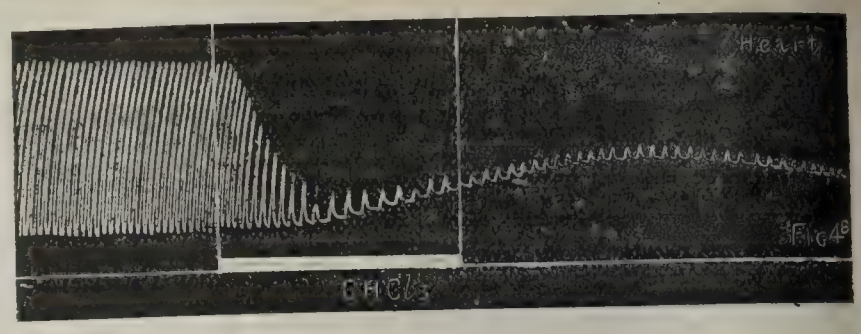


Fig. 4 B.—Action of Chloroform on the Heart.

The action of anæsthetics on the heart is however by no means the central point of my remarks to-day. I would rather limit myself to nerve, which in this connection is comparatively speaking so constant and regular a reagent that whereas in the beginning, thinking from the better known to the less well-known, I employed anæsthetics to test the physiological character of various nerve phenomena, in the sequel I reversed the order, using the now better-known nerve to test less-well-known anæsthetic and other reagents.

Let me give a clear case which will at the same time serve to illustrate the range of applicability of the method which is serviceable for drugs in solution as well as for volatile reagents.

Potassium bromide, the most familiar of nervine sedatives, exhibits its characteristic action upon what I may now refer to as the "electro-mobility" of an isolated nerve tested as has just been described. Here, for instance, is an experiment in which a nerve gives two groups of responses at intervals of one minute, the first group before and the second group after a bath lasting for one minute in a decimolecular (1.19 per cent.) solution of KBr. The responses of the first or normal group, before the bath, are of constant magnitude; those of the second group, after the bath, become successively smaller and smaller with the progressive immobilisation of the nerve by the salt.

To which of the two constituent elements is this immobilisation due? is here the obvious question, and one that is very promptly answered. Test the effect of NaBr under similar conditions. There is the same acidic but a different basic element, and with this molecule little or no action upon the nerve. It looks as if the basic element K were the principal influential, and this conclusion is borne out by the next obvious experiment, which will be to make trial, always under similar conditions of course, of another salt with the same basic but a different acidic element such as KCl.[1]

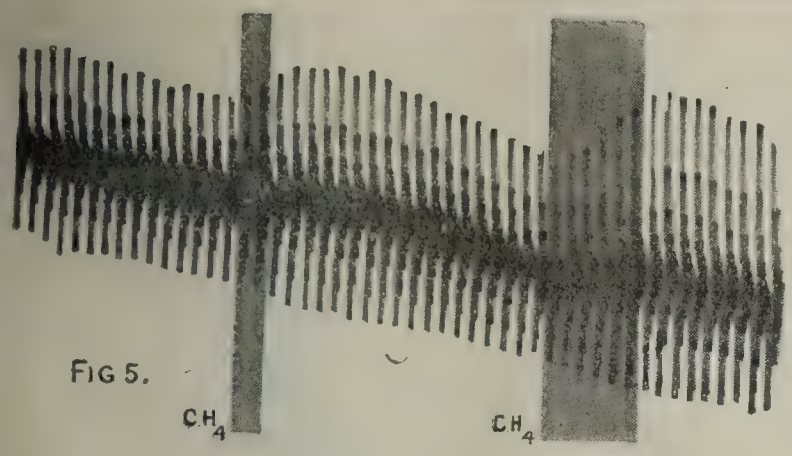
It is hardly necessary to pursue this point further. You readily foresee with regard to, for example, the nine possible combinations between basic moieties. K. Am. Na. on the one hand and acidic moieties, Cl. Br. I., on the other, that it is in each case the effect of the basic moiety that is predominant. But I forebear to dwell upon this matter now. My sole object in alluding to it has been to illustrate a principle. Our principal concern to-day is with anæsthetic drugs.

You have witnessed in the rough the action of chloroform and of ether; the immobilisation of a nerve by ether is complete but temporary, that by chloroform is far more profound and apt to be final. Let me now direct your attention to the closer examination of some particular points—such as the comparison between chloroform and other chloromethanes, and the more exact comparison between chloroform and ether, and the effect of chloroform at different strengths, etc.

But let me first show the records of two representative experiments, one with nitrous oxide, the other with carbon dioxide (see Figs. 22 and 23):

Thus, as you see, nitrous oxide, which most certainly acts somehow as an anæsthetic on the human subject, has little or no direct action upon nervous matter. Whereas carbon dioxide, in relation to such matter, is the most typical and certain of anæsthetic reagents. Its first effect, in small amount, is an augmentation of excitability (or as I should prefer to express it, of "electromobility"). Its full effect in large amount is a primary diminution or suppression followed by a secondary augmentation.

Let us consider the chloromethane series, in which one



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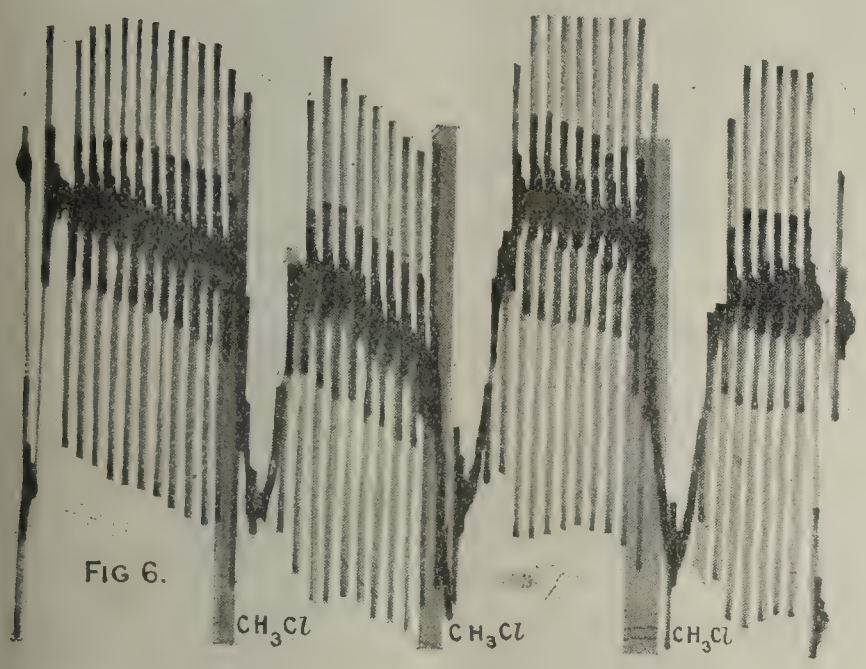

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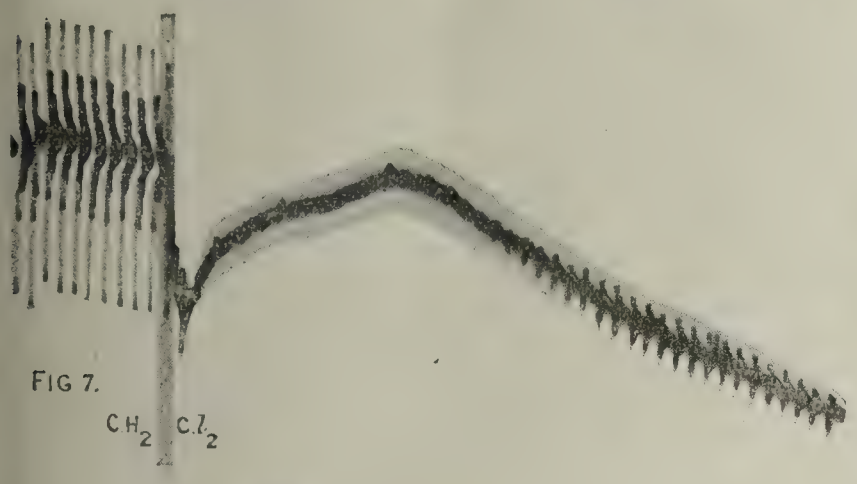

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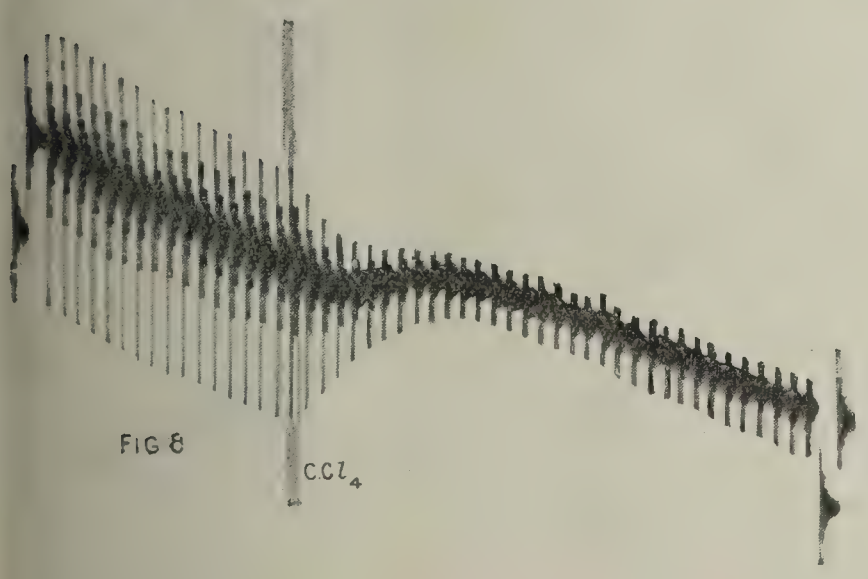

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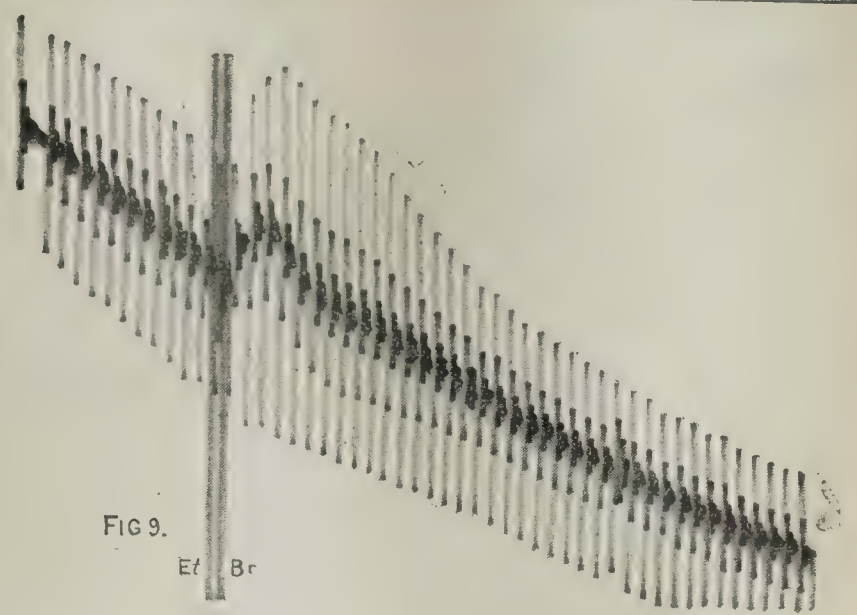

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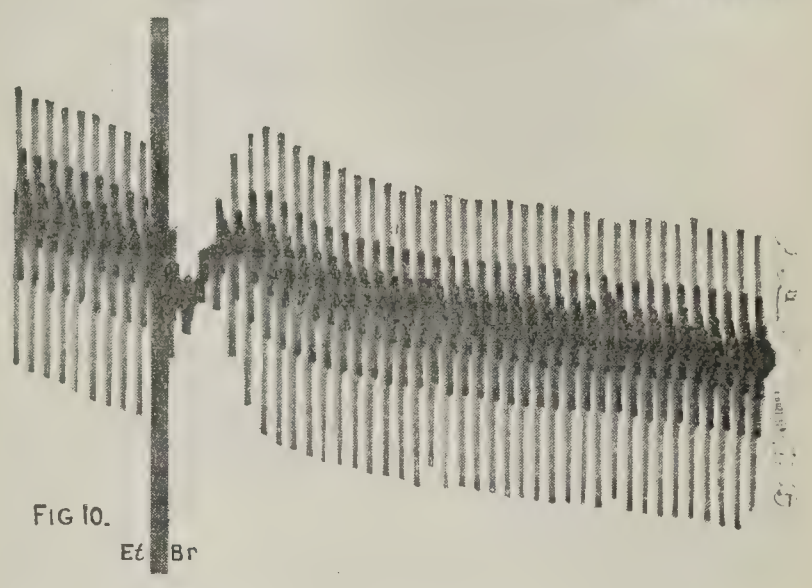

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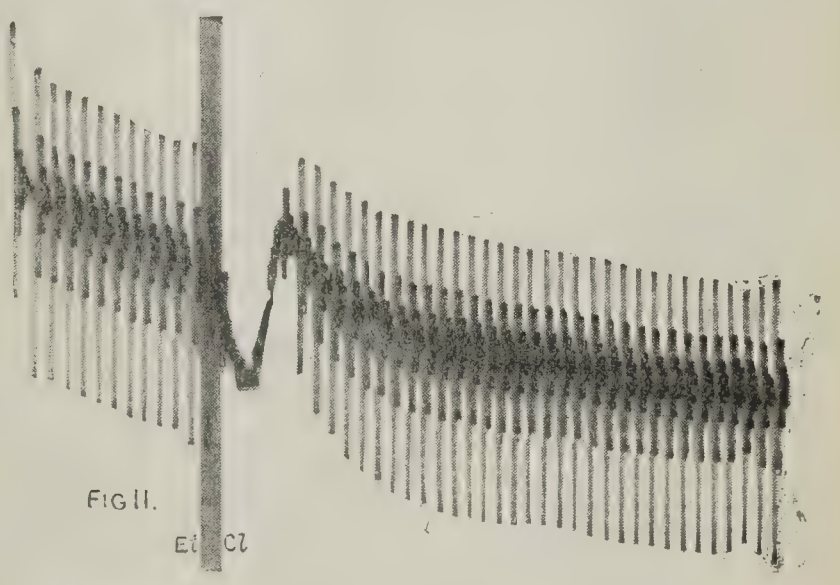

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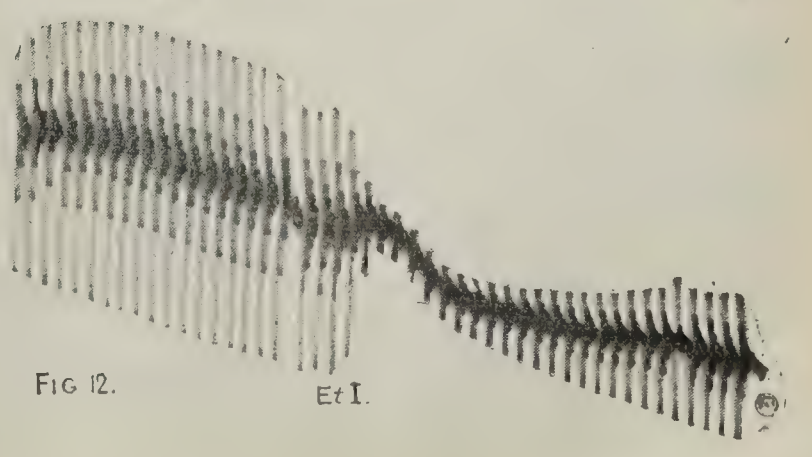

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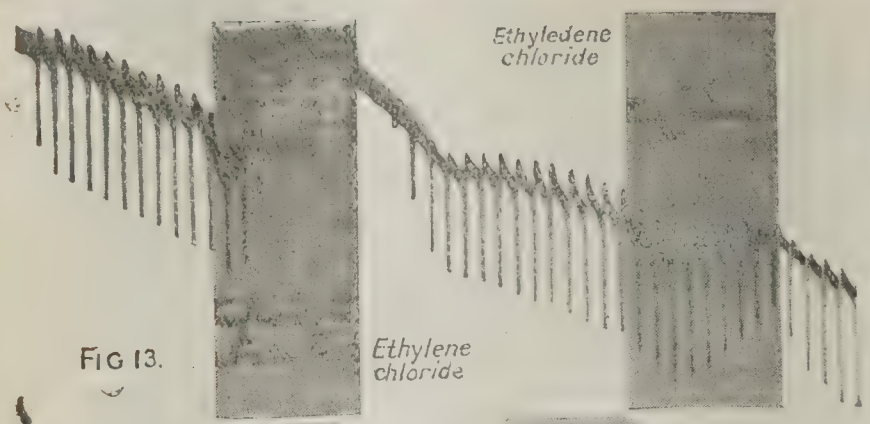

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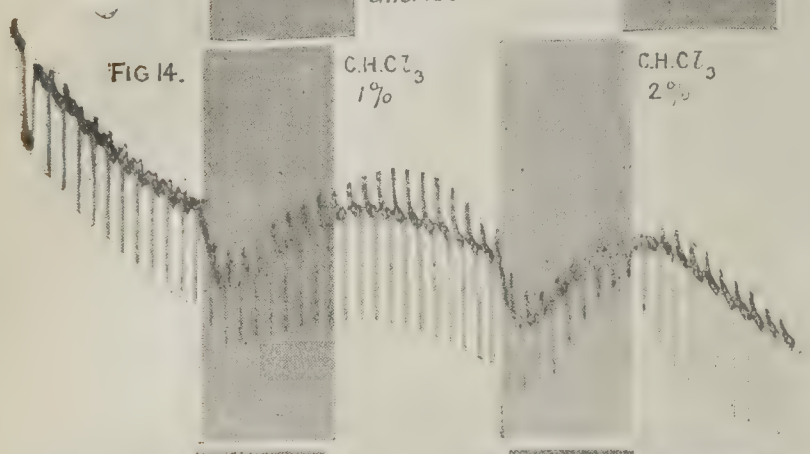

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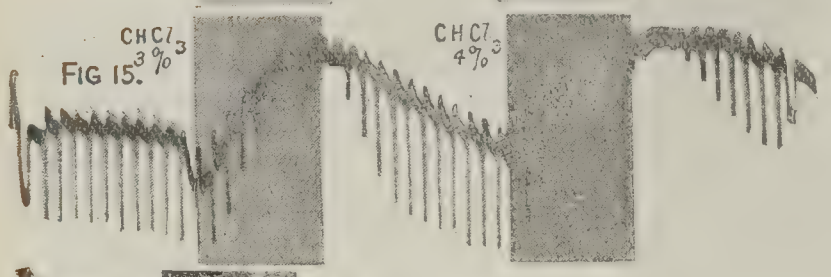

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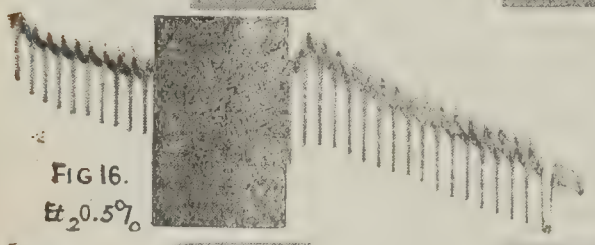
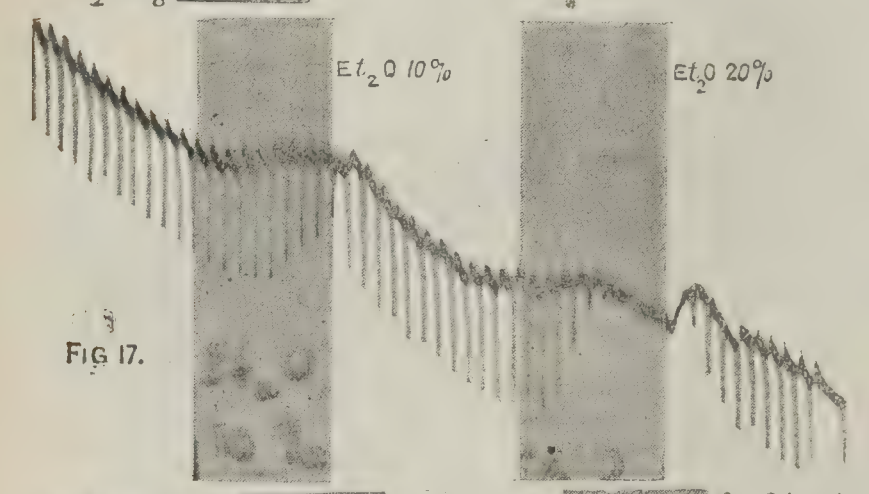


FIG 16.
Et_2O 0.5%



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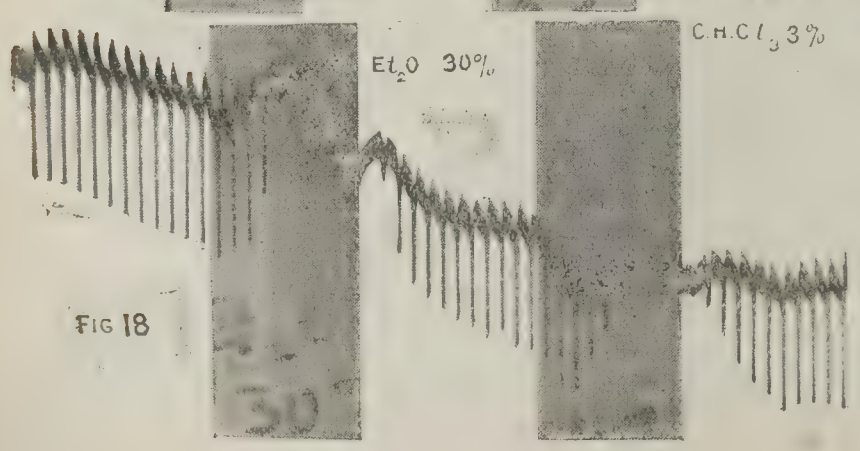

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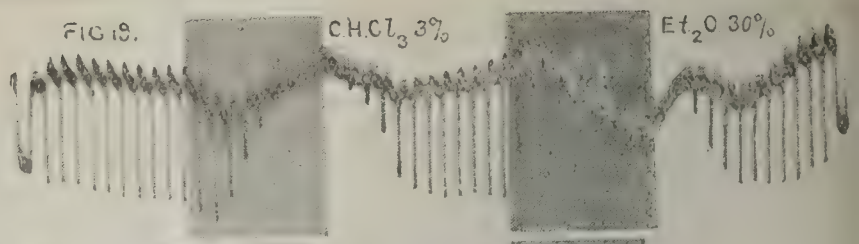

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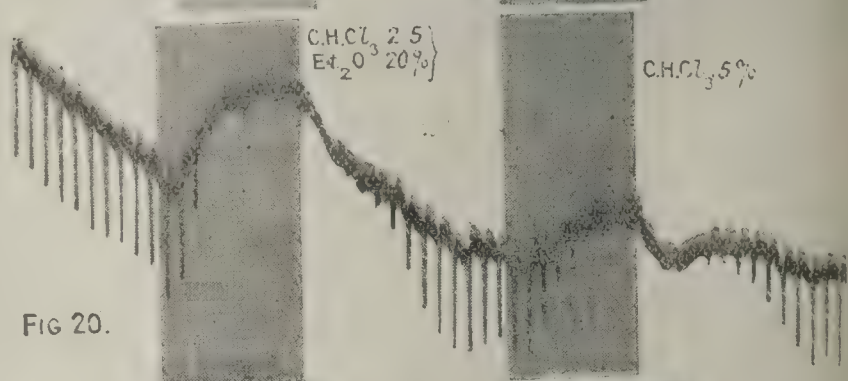

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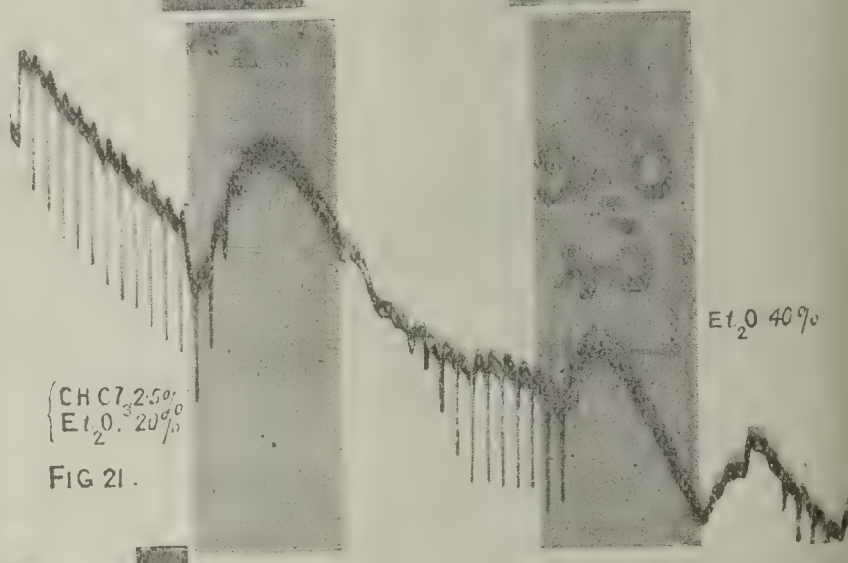

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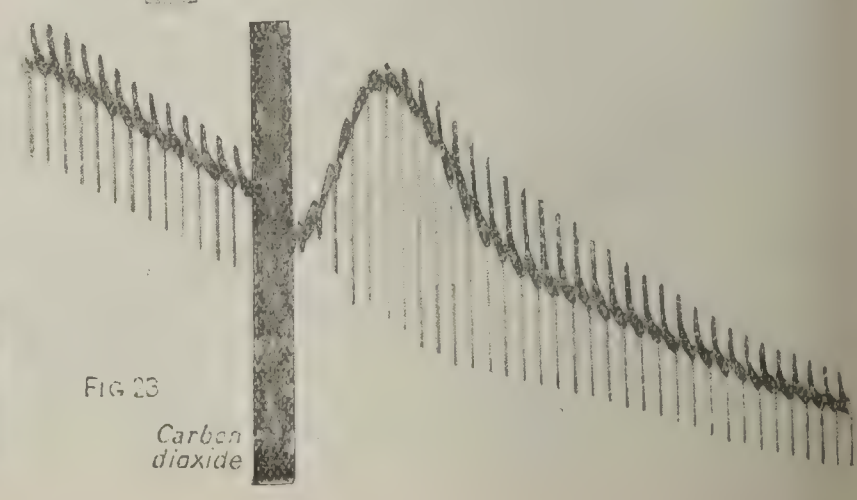


FIG 23

two, three, and four atoms of chlorine take the place of as many atoms of hydrogen in the root-compound, CH_4 or methane, namely, CH_3Cl, methyl chloride; CH_2Cl_2, methylene chloride; $CHCl_3$, chloroform; $C Cl_4$, carbon tetrachloride. What is their order of efficacy? Is it dependent upon the number of atoms of chlorine in the molecule?

Both these questions receive their summary answer in a series of experiments on nerve of which illustrative records are now before you. (Figs. 5, 6, 7, and 8.) The root compound CH_4 is excitant. The monochloromethane CH_3Cl. or methyl chloride, in correspondence with its volatility acts, as a very rapid and very evanescent anæsthetic—like ether, only more so. The dichloromethane CH_2Cl_2, or methylene chloride, is considerably more powerful, the trichloromethane, $CHCl_3$, or chloroform, is still more powerful, but the tetrachloromethane $C Cl_4$ is much less powerful than either CH_2Cl_2 or $CHCl_3$. Thus it is evident that the efficacy of a chloromethane is not determined by the number of Cl atoms present in the molecule. Their diminishing order of efficacy (omitting for the moment CH_4 and CH_3Cl) is $CHCl_3$, CH_2Cl_2, $C Cl_4$, in harmony with the observations of Heymans, who by a different method has come to a similar conclusion. And let me remark in passing, I find in these observations no reason to think that methylene, CH_2Cl_2, which is difficult to prepare and to keep, will ever hold a place in practice in preference to either ether or chloroform.

More for the sake of illustrating a principle than in order to exhibit any new point, let me ask you to glance at this group of experiments, which exhibit the action of some reagents of the ether group: ordinary anæsthetic ether; Et_2O, or diethyl oxide; EtCl, or ethyl chloride; EtBr, ethyl bromide; EtI, ethyl iodide. They are all of similar action upon the electromobility of isolated nerve, but with minor differences of character that remarkably correspond with the known differences in their clinical effects. It is known that ethyl bromide is apt to be irritant. It is known that ethyl iodide is apt to produce lingering after-effects. Both these features have reappeared in the present series of experiments—the bromide has been "irritant," the iodide has given a "lingering after-effect." (Figs. 9, 10, 11, and 12.) And ethyl chloride, which is so volatile that it is practically used only for the sake of producing local anæsthesia by refrigeration, has, like methyl chloride, an extremely rapid and extremely evanescent anæsthetic influence.

I have undertaken, but not yet completed, a similar task with reference to the series of chloroethanes, members of which have at various times been brought forward as anæsthetic reagents preferable to either ether or chloroform, such as ethylene and ethyledene chlorides. My own experiments so far show no reason either for or against such preference; at so far as concerns their action upon nerve they are effective anæsthetics, but I find no ground for hoping that anyone of these may be found to be at the same time more effective than ether and less dangerous than chloroform. There is one point, however, of pharmacological interest that I would like to point out. Comparing the actions of the two dichloroethanes (ethylene chloride or dutch liquid, $CH_2Cl—CH_2Cl$, and ethyledene chloride, $CH_3—CHCl_2$) I find that the former is considerably the more powerful reagent as regards its immobilising effect upon isolated nerve. Thus it is not merely the presence of chlorine but its position in the molecule that seems to govern its immobilising or anæsthetic property, and, contrary to expectation perhaps, the symmetrical molecule $CH_2Cl—CH_2Cl$ is more powerful in this respect than the asymmetrical molecule $CH_3—CHCl_2$. (Fig. 13.) I wish now to show reason for trusting to this method of inquiry for estimating the influence of chloroform and of ether at various degrees of concentration, and for, so to speak, weighing out physiologically equivalent quantities of chloroform and of ether. This I take to be a point of principal practical importance in view of the widely varying estimates current as to the relative power of the two drugs. It is obviously desirable to replace the notions that "chloroform is rather more powerful than ether" and that "chloroform immeasurably more powerful than ether" by some properly stified numerical estimate. I hope to convince you that the method which I have adopted yields an approximately exact estimate, and that we are entitled to believe from these experiments that *chloroform is seven times as powerful as ether*.

Here are some of the data upon which this conclusion rests:—

This group of plates (Figs. 16 and 17) is to show the effects of ether at progressively increasing strengths—5, 10, and 20 per cent.

The next group (Figs. 14 and 15) is to show the effects of chloroform at progressively increasing strengths.

The next group (Figs. 18 and 19) is to show the effect of chloroform at 3 per cent. compared with the effect of ether at 30 per cent.; the latter is a little more effective than the former. I must take some other opportunity of describing in detail the method of procedure towards reducing experimental error as low as possible. At the present juncture it will suffice if I make the bald statement that tested in this matter the immobilising power of chloroform is seven times that of ether, and that for all practical purposes an ounce of ether may be regarded as physiologically equivalent to a drachm of chloroform.

Two more points of evident practical significance, and I shall conclude this summary review of experimental data.

1. I have tested the effects upon nerve of various anæsthetic mixtures, of the well-known "A.C.E. mixture," among others, and of mixtures of chloroform vapour and carbon dioxide. As regards the "A.C.E. mixture," I have come to look upon it as a rather attenuated and rather uncertain kind of chloroform; and whereas, with either ether alone or chloroform alone, I may without much risk of mistake predict what will be the effect of a given concentration, I do not like to predict the result of the mixture. Or rather, this used to be the case until after I had formed the 7 to 1 physiological estimate between chloroform and ether, and thus realised that in the "A.C.E. mixture" (1 part of alcohol, 2 parts of chloroform, 3 parts of ether), the alcohol and ether have very little to do with the production of anæsthesia, which is due almost entirely to the chloroform. I do not, however, wish at this juncture to commit myself too absolutely to a statement that alcohol and ether in this mixture are physiologically negligible, for while no doubt this is correct as regards the production of anæsthesia, I am not yet sure that a small proportion of ether (and perhaps of alcohol) may not favour the return from the anæsthetic state. But on this latter point I make no definite statement now, as my experiments in this line are not yet completed. All that I am able to state definitely now is that a mixture of equivalent parts of chloroform and ether (say, for the sake of simplicity, 1 part of chioroform and 8 parts of ether) is equivalent to twice the value of either component. Thus, in the group of plates now before you (Figs. 20 and 21), the effect of a mixture of chloroform $\left\{\begin{matrix}2.5 \text{ per cent.}\\ \text{ether} \quad 20 \text{ per cent.}\end{matrix}\right\}$ is approximately the same as that of chloroform at 5 per cent. or of ether at 40 per cent. The effects of the two anæsthetics are summated.[2]

2. I have carefully compared the effects upon nerve of chloroform vapour diluted with air, and of chloroform vapour and air *plus* carbon dioxide. So far from finding that the effect of chloroform vapour pure and simple is less pronounced than that of chloroform vapour with carbon dioxide, I have been led to admit that there is an actual antagonism between chloroform and CO_2, during at any rate the return from anæsthesia. As I have already shown, the primary depression by CO_2, gives way to secondary augmentation; and it would appear that it is by reason of such secondary augmentation by CO_2 that the recovery of electromobility of nerve is more pronounced after a mixture of chloroform vapour and CO_2 than after chloroform vapour pure and simple.

There is a considerable similarity between the action of carbon dioxide and that of ether; one is thus led to imagine as possible that a small amount of ether mixed with chloroform might produce a similar effect. I have tested this point, comparing the effect of chloroform vapour alone (at 5 per cent.) with that of a mixture of chloroform and ether (at 5 and 10 per cent. respectively). At these strengths I have failed to observe any marked difference, but before committing myself to a general statement that the action of chloroform is not sensibly modified by a small amount of ether vapour, I must repeat these comparisons

with weaker chloroform vapour, comparing, for example chloroform at 2.5 per cent. with chloroform at 2.5 per cent. *plus* ether at 5 per cent.

Second Part: Considerations Bearing upon Practice.

Drawing up the headings of the abstract now in your hands, I have thought fit to clearly recognise the distinction that should always be drawn between experimental premises and the practical guidance to be inferred from such data. It is evident that data afforded by the conduct of a chloroformed or etherised nerve do not cover the whole complicated case of a chloroformed or etherised patient. Such data form a portion only of the guiding evidence open to us, a peculiarly cogent portion, however, when it has been dispassionately understood and weighed.

Of late years the practical issue has been made to turn upon the one point—important, no doubt, yet not central to the main issue—whether chloroform kills by asphyxia through arrested respiration, or by syncope through arrested circulation. And out of this first question several subsidiary questions have arisen, questions which as regards the main issue are in my opinion still more insignificant.

The declared object of the last Hyderabad Chloroform Commission was "to save human life." Its actual objective was to determine whether the circulation or the respiration ceased first in dogs choloroformed to death, and whether it was possible to experimentally reproduce the dreaded accident of primary syncope. The experimental data of that Commission were acquired in order to support the already formed practical conclusion of the Edinburgh school that for safe anæsthesia by chloroform the respiration and not the pulse should be kept under close observation. And the debate has flourished. From a practical point of view, from the most immediately practical point of view possible, that of the man in the street, who if he has to submit to an operation wishes to take least risk, the question is more elementary. He desires to be most safely anæsthetised by any drug, not necessarily by chloroform, and would probably express a somewhat emphatic indifference as to whether, if he is killed, his death is to be by the lungs or by the heart.

I am in agreement with this view, but from a different standpoint. Before and above the first question examined by various Chloroform Commissions I would give prominence—

First, to the guiding principle that ether, chloroform, and allied compounds are general anæsthetics having "immobilising power" over all living matter.

Secondly, to the physiological hierarchy of different kinds of living matter composing the organism of a man expressed in their order of extinction by a general anæsthetic—brain, bulb, heart.

Thirdly, to the question of quantity; the numerical order of merit in the class of anæsthetic agents tested upon a given sample of living matter, namely, nerve.

I shall say as little as possible under the first two of these heads, for they are largely matter of common knowledge.

The third head, the question of quantity, is in my view the most elementary and important as a basis both of doctrine and of practice.

Under this third head, then, I have to say that in accordance solely with the data acquired upon isolated nerve, and putting on one side for the moment all the mass of clinical knowledge slowly and expensively acquired during the last fifty years, the two agents one would select as most certain and effective in their action are precisely the two clinically selected agents, ether and chloroform. Next in order I should name ethylene chloride (dutch liquid), $CH_2Cl—CH_2Cl$; methyl chloroform, $CH_3—CCl_3$; and dichlormethane (methylene), CH_2Cl_2.

With regard to the two principal reagents the most important results have been these:—

(*a*) Using ether and chloroform at an indefinite but high degree of concentration (about 40 per cent. and 10 per cent. respectively) the nerve has nearly always been anæsthetised (=temporarily immobilised) by ether, killed (=finally immobilised) by chloroform.

(*b*) Using ether and chloroform at various definite degrees of concentration (5 to 40 per cent. of the former, 1 to 5 per cent. of the latter), *the action of chloroform has been seven times that of ether.*

(*c*) The action of mixtures of ether and chloroform (7 parts of ether to 1 part of chloroform) is cumulative—the sum of the actions of the two constituents.

(*d*) Carbon dioxide *per se* does not increase, but rather diminishes the prolonged anæsthetic effect of chloroform.

Of these four statements that upon which I lay most stress as being of the most central importance is under *b*, the 7 to 1 ratio between chloroform and ether. Thus again the root question, as I present the case, is one of quantity, and not at all, or not yet, one of any specific difference between the two agents. The questions answered by statements *c* and *d* fall equally under this root question of quantity.

Let me illustrate how, and at the same time deal with, what I hold to be an unfortunate misconception as to the danger of chloroform *plus* CO_2. A properly anæsthetised patient is substantially a reservoir within which it is required to maintain the chloroform or ether at some unknown optimum percentage and quantity. This percentage and the absolute quantity of chloroform or ether in his body are the resultants of the stream into his lungs and of the stream out of his lungs, and experience alone, not measurements, enables you to adjust the stream into his lungs so that the quantity within the reservoir shall not fluctuate excessively above or below the unknown optimum value.

We admit (on the authority of Snow and of Paul Bert) that the lethal quantity of chloroform is double the full anæsthetic quantity.

Let us further admit (on the authority of Snow) that the anæsthetic quantity is 18 minims (or about 1 c.cm. of liquid chloroform, that is, about 300 c.cm. of chloroform vapour), and that the lethal quantity is 36 minims (or about 2 c.cm. of liquid).

Finally, let us admit (from the present experiments) that chloroform is seven times as powerful as ether.

It is clear, in the first place, that we require a far more voluminous ingoing stream of ether vapour than of chloroform vapour to our reservoir, or patient, in order to reach the optimum quantity. It is equally clear that the chance of accidental fluctuation above the limits of that optimum will be far greater in the case of chloroform than in that of ether.

The limits are far more narrowly separated in the case of chloroform than in that of ether—one seventh for the sake of argument—certainly very narrow in relation to possible sources of fluctuation. Picture a case now, put in figures, in which chloroform is used. Your patient breathes quietly and regularly, and all goes well. He remains at or near the optimum mean quantity, at say $1\frac{1}{2}$ c.cm. of chloroform in his body. But he breathes irregularly, worst of all he holds his breath, struggles, and tempts you to press the chloroform, and takes one or two deep breaths. Whereas the vapour from a towel at a short distance from his face was at something or other below 5 per cent., that inspired by him from a towel held close to the face more probably reaches 10 per cent. The capacity of his lungs is say 5,000 c.cm., so that in a few deep breaths he may have taken as much as 500 c.cm. into his lungs. Now 500 c.cm. of chloroform vapour $= 1\frac{2}{3}$ c.cm. of fluid chloroform. Considering that he has already some chloroform in his system, that during his deep breathing it is pouring in through his lungs, can his death be called surprising? Is that a justifiable death?

On the syllabus in your hands there is the heading, "Statistics of Ether and Chloroform Deaths—Justifiable and Unjustifiable." I do not propose to burden you with numbers and cases under this head, but merely to quote two sets of statistics in which comparison may be drawn, and two deaths representative of the two classes into which I have divided them. And I cannot help saying that in making such a classification my chief difficulty has been to find deaths that could be classed as justifiable—at our present level of knowledge at least.

I call this case unjustifiable, and the verdict grotesque.

Woman, aged 32 years. Indigestion for six or seven weeks. Bad teeth. Her dentist called in her medical attendant who examined the heart and gave chloroform in the usual manner upon lint. The extraction lasted about ten minutes, during which not more than 2 ozs.[3] of the anæsthetic were given. At the end of the operation the patient became collapsed, and in spite of injections and artificial respiration, which was kept up for two hours, succumbed. The jury returned a verdict in accordance with the medical evidence, and the coroner pointed out that every care appeared to have been taken, and also that both doctor and

dentist were men of exceptionally large experience, and that neither of them had previously met with a case of death under an anæsthetic.

I think that the following case is excusable, and that the verdict is just. But I also think that a simple recognition of the 7 to 1 ratio between chloroform and ether would go far to abolish the class of risks and accidents of which it is an example.

Tall, rather pale boy, of more than average muscular development. Nervous. Nothing to contraindicate the giving of chloroform. Irregular breathing. Sudden collapse. Doubtful whether cardiac or respiratory action ceased first. About half a fluid ounce of pure chloroform used. *Post-Mortem*.—Nothing to account for death. Verdict—Death from misadventure during the administration of chloroform carefully given for a necessary surgical operation.[4]

The death statistics of chloroform and ether are either the best, or the worst, possible evidence towards a settlement of the trial between the two drugs. Because, in the first place, the mortality has been happily low enough to render it imperative to use in evidence only large numbers—thousands of cases at least. Secondly, because individual opinions arising out of a limited personal experience of a few hundred successful cases, or of one or two fatal cases, have prejudiced the issue for or against one or other of the two anæsthetics. The unconscious fallacies arising out of an *a priori* partisan attitude of mind have especially affected the chloroform statistics. How otherwise are we to account for such extremes as 40,000 consecutive administrations of chloroform without a death? (Lawrie), 21 deaths in 3,058 chloroform administrations? (Anstie). And in this connection the loophole through which such unconscious manipulation of statistical data has been effected has been very plainly discussed. Brunton explicitly urges the distinction necessary between a death *after* an anæsthetic and a death *from* an anæsthetic, which is perfectly just, but very dangerous to trustworthy statistical data.

There is yet another source of statistical imperfection—less subtle, and therefore less mischievous, than the preceding. A large proportion of the cases of death undoubtedly caused by chloroform are never published. How large a proportion is impossible to say, yet almost certainly the larger proportion of the total number of deaths. I am acquainted with one such; I am further informed that at one hospital from which two deaths by chloroform were reported during a year 9 deaths actually occurred. And surely everyone of my readers to-day is more or less closely acquainted with one or more such unpublished deaths. But such knowledge is personal, limited, and indefinite. I do not think it ought to count for much, but I do think that, for example, the published and detailed account by Professor Julliard[5] of twenty consecutive cases, three only of which had been previously published, may properly be used to illustrate the serious fault of a large proportion of chloroform deaths are never publicly acknowledged.

The data that have most favourably impressed me as to their non-party origin are (1) the large mass of cases from St. Bartholomew's Hospital, (2) the comparatively small number of cases occurring during the practice of Professor Julliard, of Geneva. The St. Bartholomew's statistics are as follows:—

Chloroform.

Year.	Administrations.	Deaths.	A proportion of—
1897...	12368	10	$\frac{1}{1236}$ or $\frac{8}{10000}$
1895†	22219	14	—

Ether.

Year.	Administrations.	Deaths.	A proportion of—
1897*	14581	3*	$\frac{1}{4860}$ or $\frac{2}{10000}$
1895†	17067	1	—

*These 3 cases 2 were moribund, quoted from Julliard, *loc. cit.*
†Bellamy Gardner, BRITISH MEDICAL JOURNAL, August 21st, 1897,

Professor Julliard's data[6] are particularly interesting in two particulars. For the first fifteen years of his surgical practice he employed chloroform only, with 1 death in 1,000 administrations. During the subsequent twenty years of his practice he employed ether only, with no death in 3,654 administrations. He gives particulars of 20 cases of death by chloroform that took place within his knowledge but outside his own practice, 3 only of which had been published.

I have quoted these two sets of data, the first because it affords a fair comparison between the two agents used in one place in a large number of cases carefully and impartially recorded; the second because it affords a similar comparison under similar conditions occurring in the practice of one man.

I alluded a few moments ago to the reputed danger of carbon dioxide in chloroform anæsthesia. Lauder Brunton gives warning against such danger in these precise terms:—"Chloroform vapour pure and simple is not nearly so dangerous as chloroform vapour with carbonic acid."[7]

In so far as concerns the electromobility of nerve, my observations distinctly traverse this statement. Carbon dioxide, while it may somewhat accelerate the immobilising action of chloroform, very distinctly accelerates and favours the recovery of mobility subsequent to such immobilisation. This statement of mine is liable to a very obvious misconception, which, although I have already guarded against, I am anxious to guard against again. The first time I made it—incidentally to a physiological description of the relation between nerve action and carbonic acid which formed the subject of the Croonian Lecture to the Royal Society for 1896—Lord Lister expressed the hope that I was not to be understood as recommending the production of an asphyxial state in chloroform anæsthesia, to which I replied, "No, indeed; I am well aware of the great danger of impeded respiration in chloroform anæsthesia," but I did not enter into detailed explanation.

I desire to do so now. I am persuaded now as then of the great danger of impeded respiration during chloroform anæsthesia. I am even more fully, and I claim justifiably, persuaded of such great danger now that I have at least approximately realised its factors in terms of quantity. But it is not the accumulation of noxious CO_2 by impeded respiration that is the source of danger in chloroform administration, it is the accumulation of chloroform itself.

Just look back to the figures and argument already set forth: Your patient into whom you may pour more or less chloroform vapour during more or less time, but who may not safely hold at any one moment in his body more than 2 c.cm. of chloroform. That possible maximum of 2 c.cm. in the reservoir is the resultant of inflow and outflow of the inhalation and exhalation of chloroform vapour at the lungs.[8] Picture to yourself that vast surface, 150 square metres remember that the lungs have a capacity of 5,000 c.cm.—that chloroform vapour in that 5,000 c.cm. at 5 to 10 per cent. implies 250 to 500 c.cm., that 300 c.cm. of chloroform vapour are equal to 1 c.cm. of liquid chloroform. How soon are you liable to overfill the body of that patient if you should obstruct the respiration by covering his mouth and nose with a towel holding an unknown quantity of chloroform. Shall any person be found sufficiently reckless to recommend or, still worse, to carry out the production of an asphyxial state during the administration of chloroform?

All that I say is that it would appear from my observations on nerve that CO_2 is adjuvant rather than antagonistic to the anæsthetic effect of chloroform. I think that impeded respiration is less dangerous at the outset than during the subsequent period of chloroform administration, that indeed at the outset it may even be beneficial, and that perhaps this has been one among other factors (of which I believe close attention to the respiration is chief) that have contributed to the superior success of "safe" anæsthesia by chloroform in the hands of the Edinburgh School. But these are points of opinion, not statements of fact. I have not and do not recommend either the production of asphyxia during chloroform administration, nor the administration of carbon dioxide in conjunction with chloroform, nor yet the administration of chloroform alone. I am indeed very loth to make any recommendation whatever, yet in view of the fact that the upshot of every serious conversation with a practical man has been the question whether I hold an opinion altogether averse to anæsthesia by chloroform, and if not how I believe that it

may be most safely administered, I feel constrained to make a statement.

And perhaps after all I may be held entitled to hold an opinion, since the nature of my business as a student has kept my mind closely applied to the almost endless variety of conflicting opinions that form the literature of anæsthetics for many years past.

I do not hold an opinion altogether adverse to the employment of chloroform.

I believe chloroform to be seven times as powerful as ether, therefore more dangerous.

I am greatly astonished that in the face of the clinical experience of the past fifty years, chloroform should still be frequently employed for the purposes of minor surgery.[9]

I am well aware of the superior convenience of chloroform over ether, and that there are cases and circumstances rendering its use justifiably preferable to that of ether. But I believe that the proportion of such cases is very small in comparison with the actual number of cases in which it is habitually employed.

With regard to ether, I think[10] an exaggerated estimate has been given of the inconvenience of administration, of the physiological counter-indications, and of the pathological after-effects.

THE CHLOROFORM DILEMMA.

With reference to the admittedly large[11] number of deaths by chloroform, there seems to me to be no escape from the two horns of a dilemma. Such deaths are the result (A) of an agent, dangerous under all circumstances, or (B) of an agent dangerous only when unskilfully administered.

(A) If chloroform is dangerous under all circumstances, it may not be employed in minor surgery. Death in this class of cases is therefore unjustifiable, and should be considered as a criminal offence.

(B) If chloroform is dangerous only when unskilfully administered, then again death by chloroform is unjustifiable, and ought to be considered as a criminal offence.

There can be no escape from one or other of these two alternatives. There have been deaths due to careless or to unskilled administration; there have also been deaths in skilled and careful hands. But unless we are to admit that chloroform is a "safe" anæsthetic, and any death the result of carelessness or ignorance, we must admit that chloroform, being a potent reagent, is, *ipso facto*, a "dangerous" reagent, to be used only on serious grounds, and not to be employed as a routine drug in all kinds of cases, simply on account of its superior convenience.

DESCRIPTION OF FIGURES ON PLATES.

		Exp
Fig. 5.—	*Methane* (CH_4). Primary excitation; twice.	703
,, 6.—	*Methyl chloride* (CH_3Cl.). Evanescent suppression; three times.	427
,, 7.—	*Methylene chloride* (CH_2Cl_2). Almost complete suppression.	635
,, 8.—	*Tetrachlormethane* (CCl_4). Incomplete suppression	629
,, 9.—	*Ethyl bromide* (Et. Br.). Primary excitation	327
,, 10.—	*Ethyl bromide* (Et. Br.). Temporary suppression	328
,, 11.—	*Ethyl chloride* (Et. Cl.) Temporary suppression	335
,, 12.—	*Ethyl iodide* (Et. I.). Prolonged suppression	571
,, 13.—	*Ethylene chloride*, 5 per cent. ($CH_2Cl—CH_2Cl$ ("Dutch liquid") compared with *ethyledene chloride*, 5 per cent. ($CH_3—CHCl_2$).	2637
,, 14 } ,, 15 } —	*Chloroform* ($CHCl_3$). Of increasing strength, 1, 2, 3, and 4 per cent.	2659 2660
,, 16 } ,, 17 }	*Anæsthetic ether* (Et_2O). Of increasing strength, 5, 10, and 20 per cent.	2626 2657
,, 18.—	*Anæsthetic ether*, 30 per cent. compared with *chloroform*, 3 per cent.	2661
,, 19.—	Similar comparison on the same nerve but in reversed order.	2662
,, 20.—	*Chloroform*, 2.5 per cent. plus *anæsthetic ether*, 20 per cent., compared with *chloroform*, 5 per cent.	2669
,, 21.—	*Chloroform*, 2.5 per cent. plus *anæsthetic ether*, 20 per cent., compared with *anæsthetic ether*, 40 per cent.	2670
,, 22.—	*Nitrous oxide*. Little or no effect	2554
,, 23.—	*Carbon dioxide*. Primary suppression; secondary excitation.	

N.B.—All figures read from left to right, and the nerve is tested at regular intervals of one minute. In all the figures the dark vertical band indicates the period during which the nerve was submitted to the action of an anæsthetic vapour.

NOTES AND REFERENCES.

[1] The records here alluded to are published in *Brain*, 1896, pp. 43, 277, 569. [2] On this principle in the A.C.E. mixture 2 volumes of chloroform *plus* 3 volumes of ether are equal to about 2.3 parts of chloroform or to 23 parts of ether. [3] Two ounces are equal to 56 c.cm. [4] This case is reported at length in the BRITISH MEDICAL JOURNAL of July 10th. [5] *Rev. Méd. de la Suisse Rom.*, February, 1891. [6] *Loc. cit.* [7] *The Action of Medicines*, 1897 p. 219. [8] I do not think elimination by the kidneys need be taken into this account. [9] "Minor" and even trivial. I once witnessed a case in which a young graduate, too clumsy to remove a scale of iron lying upon the eyeball of a restless girl, put her under chloroform to complete his "operation." And Brunton (*Materia Medica*, 3rd Edition, 1893, p. 802) expresses himself as follows:—"The operations in which death during chloroform chiefly occurs are short and comparatively slight though painful, such as extraction of teeth and avulsion of the toenail, operations in which the introduction of deep chloroform anæsthesia might be regarded as superfluous and involving a waste of time." [10] I possess no individual right to this opinion, but rely for it upon the experience of American surgeons in general and of Professor Julliard in particular. [11] There have been over 50 published deaths during the last half-year in England alone.

II.—Prof. CHARLES RICHET,

Professor of Physiology, Paris.

Prof. RICHET said that in his opinion patients died under anæsthetics from cardiac and never from respiratory failure and sketched the effects of mere asphyxia on the heart in confirmation of this view. That chloroform is a heart poison. The heart, therefore, was the organ to watch.

III.—Surgeon-Colonel LAWRIE,

Indian Medical Service, Hyderabad.

Surgeon-Colonel LAWRIE said: Dr. Shore states that what I have put forward as facts are nothing more than unproved assertions. I shall show you that they are actual facts, based upon the cross-circulation experiments performed in Hyderabad by myself and in Cambridge by Drs. Gaskell and Shore. I shall also prove to you that in the Cambridge experiments the cross-circulation was never established at all, while in those which I published it was proved to have been established by *post-mortem* "examination." When I went to Cambridge in 1894 to see Dr. Gaskell's cross-circulation experiments, he told me they were all alike. In those I saw I shall prove to you that the cross-circulation was not properly established. Here is a letter from Dr. Gaskell, dated Great Shelford, July 8th, 1894, which runs as follows, and I think in Dr. Shore's criticism of my remarks he was in honour bound to have put forward the facts it contains:

DEAR LAWRIE,—We injected the fed dog yesterday from the aorta, and found that the vertebral was well tied on the left side, but that the ligature on the subclavian of the right side, proximal to the vertebral, which was the only ligature on that side, was in the right position, but was not tight, so that the injection was able (and the blood also) to pass both into the vertebral and into the area of that side. This was the last ligature which Shore tied at the time of establishing the cross-circulation, and I have no doubt but that in the flurry of the moment he did not get down to it properly. I wanted him to leave one of the two carotids for the final ligature, but he was sure he could tie the subclavian quite certainly. I have very little doubt but that some blood must have passed along the vertebral. We are making another experiment on Tuesday, if you would like to see it.—Yours very truly, W. H. GASKELL.

I went to Cambridge on the Tuesday and saw the second experiment. I had no time to stop for the *post-mortem* examination, as I had to leave for India two days later. I therefore left one of my own assistants to take a note of it for me, and the following is an extract from his letter:

The injection (through the aorta) was found in the lateral branches of the cord, anterior, spinal, vertebral and basilar arteries, in the inferior cerebellar, and in small twigs over the pons and medulla. Dr. Shore agreed that certainly some injection (and some blood) had passed up the medulla by small branches at the side of the cord, and also by free anastomosis between the branches of the deep cervical, muscular and intercostal and other branches of the thoracic aorta with the vertebrals.

What more is wanted to prove that in Gaskell's and Shore's experiments the cross-circulation was not properly established, so that, in Dr. Shore's own words, blood and chloroform shall be sent at will to the vasomotor centre alone or to the heart alone? In the Hyderabad cross-circulation experiments the cross-circulation was properly established, and we found that when chloroform was sent to the brain alone (the vasomotor centre), the normal chloroform fall of the blood pressure was produced, and when it is sent to the heart alone no effect whatever was produced upon the blood pressure. There is one other point. In Dr. Gaskell's second experiment chloroform was given to the "fed," and its heart stopped. The chloroform was stopped, and respiratory movements—respiration, as I called it then and repeat now—continued because the respiratory centre was supplied with pure blood from the "feeder." I produced a precisely similar result in one of my Hyderabad experiments by giving chloroform to the "feeder"

The "fed's" heart stopped, and the respiratory movements continued afterwards because the brain of the "fed" was supplied with pure blood from the "feeder." In these cases it is clear that the stoppage of the heart was produced in both through the respiratory centre, and the lethal fall of the blood pressure was produced in both by cardiac failure, and not through the vasomotor centre. I think I have shown that Dr. Shore's and Dr. Gaskell's statements, to the effect that points which I have brought forward as facts are mere assertions, are not correct. They have been published as facts, and have never yet been disproved; and, so far from weakening my position, they have given me the opportunity, I have long waited for, of immeasurably strengthening it.

IV.—Lewis Shore, M.D.,
Lecturer on Physiology, Cambridge.

Dr. Shore gave some account of the cross-circulation experiments performed by Dr. Gaskell and himself to decide the cause of the fall of blood pressure which occurred during chloroform administration. By these experiments chloroform could be sent to the vasomotor centre without being sent to the heart, or to the heart without reaching the vasomotor centre. It was shown that the vasomotor centre was not, at any rate at first, depressed by chloroform, while the heart was primarily affected, and that this weakening was the cause of the fall of blood pressure. Dr. Gaskell added some remarks corroboratory of Dr. Shore's observations.

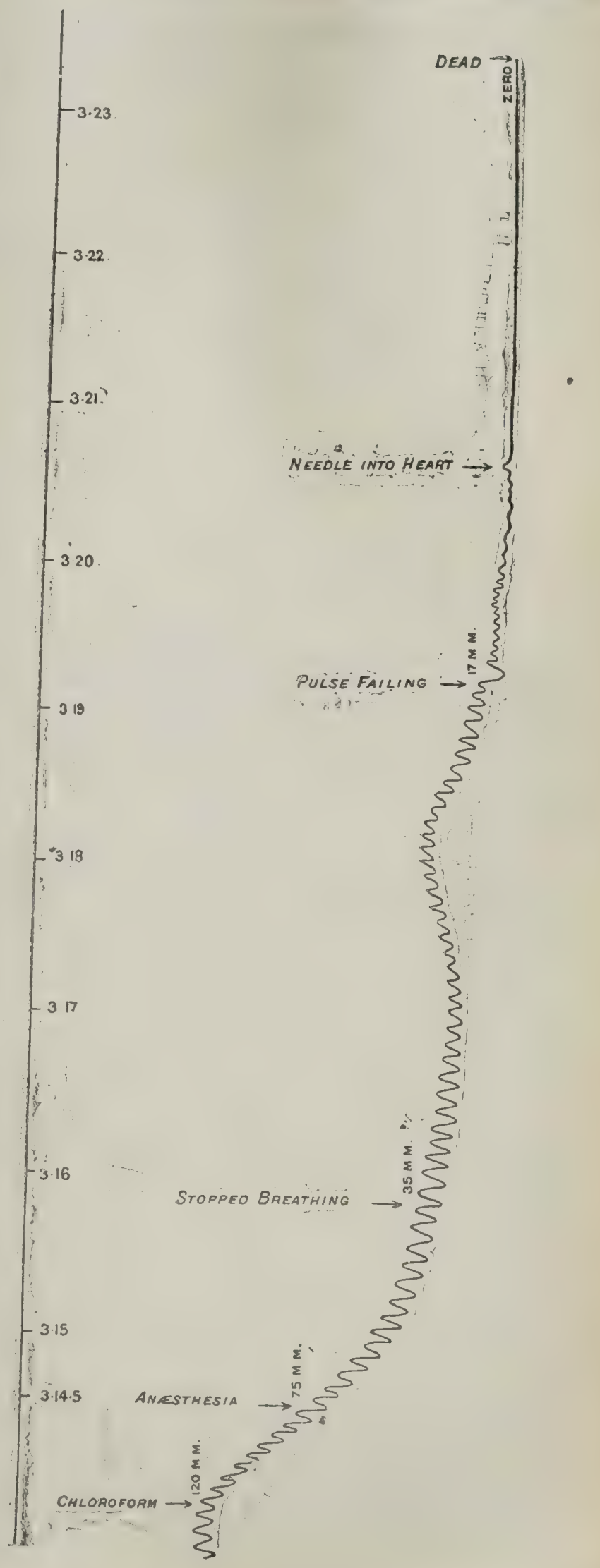
V.—Professor E. W. Stewart, M.D.,
Cleveland.

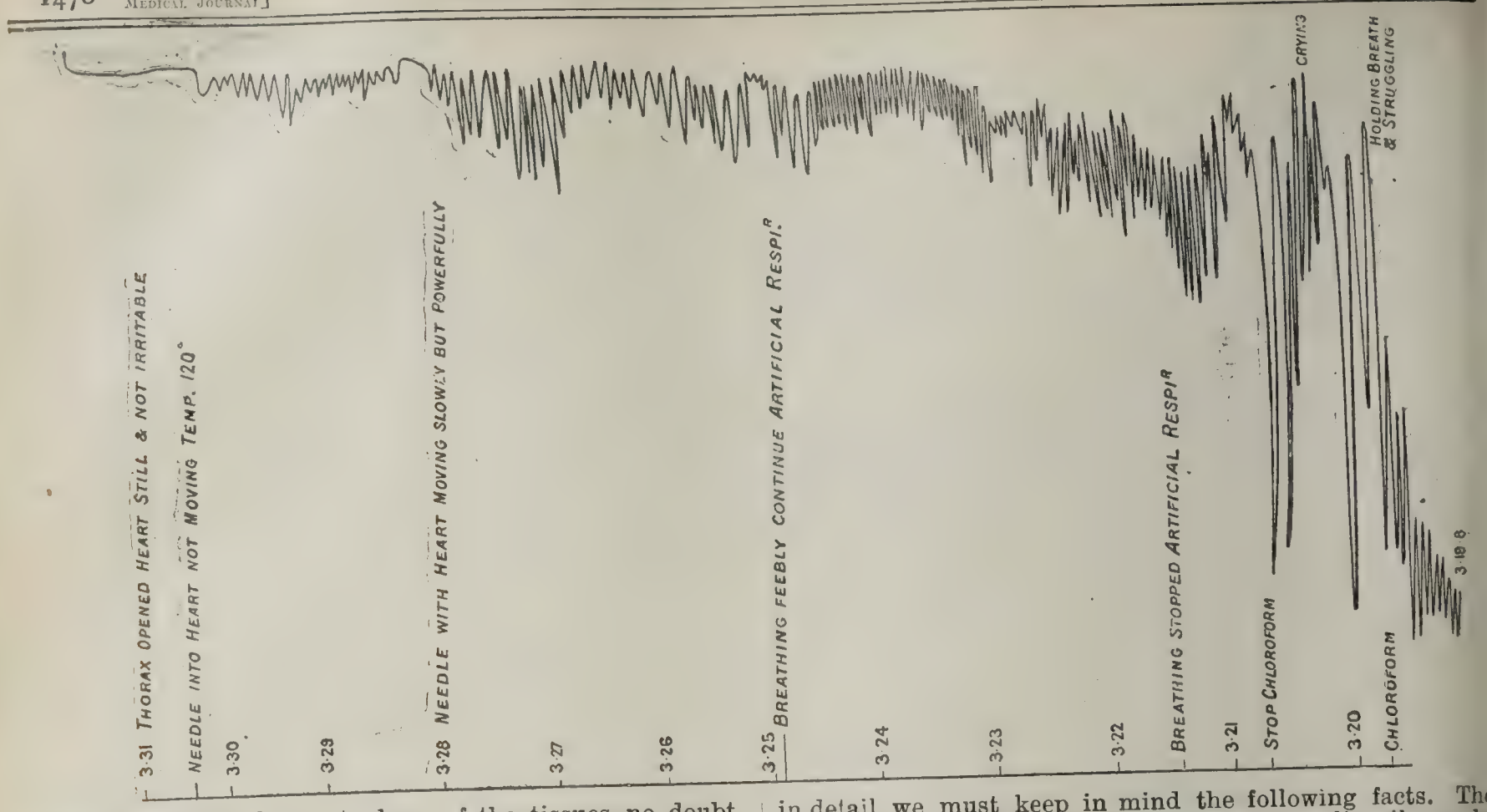
Professor E. W. Stewart thought that many of the classical experiments on anæsthetics should be repeated. His own observations certainly bore out the view that chloroform was much more dangerous than ether.

VI.—Surgeon-Colonel Lawrie,

Surgeon-Colonel Lawrie spoke again. He said: My personal experience in the administration of chloroform extends over a period of about thirty-three years, eight in Europe and nearly twenty-five in India. From the outset, the question regarding chloroform has always been, Is it right or wrong to take the pulse as a guide? I was brought up to watch the respiration alone in chloroform administration, and never to take the pulse as a guide to its effects; and my experience has been merely a direct continuation of that of Syme, that chloroform can be administered with uniform safety if the chloroformist's attention is properly concentrated on the patient's respiration. From time to time physiologists, who ought to be our trusted guides in this respect, have brought forward the results of experimental inquiries to prove that chloroform affects the heart directly, that it is not possible to give it with uniform safety, and that the pulse must be taken as a guide to the effect as well as the respiration. Syme's principles have survived all these attempts to overthrow them. I and many others still continue to apply them and to teach them to our students with the same success that he had, while strangely enough those who put their trust in physiologists and believe that chloroform does affect the heart directly have an appalling number of deaths, and state frankly that they cannot give chloroform or teach their students to give it with guaranteed safety. I hope I shall be able to prove to you that to take the pulse as a guide is in itself dangerous, and must render a certain number of deaths from overdosing with chloroform inevitable, the number being exactly proportioned to the fidelity with which the system of pulse feeling is followed. Of course we all know that the pulse is not watched now by very many men who used to preach the pulse-feeling doctrine, but if it is trusted to at all as a guide to the effect of chloroform it introduces an element of supreme danger into the administration. On the other hand, Syme's method, perfected by the Hyderabad Commission, involves no risk except that of accidental overdosing. We are not afraid of chloroform in the smallest degree, but we are very much most morbidly afraid of overdosing and cardiac failure, and we strain every nerve to prevent it and to safeguard the heart in the only way that is possible by maintaining regular breathing throughout and entirely disregarding the pulse as a factor in the administration.

As regards the effect of chloroform when it is applied like a





caustic directly to the protoplasm of the tissues, no doubt, as Leaf showed in 1893 and as Dr. Waller has again shown in his interesting paper, it is a powerful irritant. But so is hydrochloric acid, the difference being that the vapour of chloroform irritates in the same way as the liquid form of the drug does. When it is given in the ordinary way by inhalation there is no more chance of its directly affecting the protoplasm of the heart, or of the nervous system, than there is of its affecting the biceps or the stomach.

The difference in potency between chloroform and ether is alluded to on page 30 of the report of the Hyderabad Commission in a quotation from Claude Bernard. Claude Bernard stated that chloroform is a much more powerful drug than ether, and on that account alone we ought to use it in preference to ether. Dr. Waller has found that chloroform is seven times stronger than ether. A few weeks ago Mr. Leonard Hill stated that it was fifty times stronger. I am inclined to think Dr. Waller is right. We all know that clinically where chloroform is used in drachms ether is employed in ounces, and this is about the proportion Dr. Waller has found they bear to each other in his experiments.

I have said that we give chloroform on Syme's principles. They now rest upon the following secure physiological basis. The uncomplicated action of chloroform is to produce lowering of the blood pressure with, first unconsciousness, then anæsthesia, then stoppage of the respiration, and then death from stoppage of the heart. During this process before anæsthesia is complete, intoxication, and struggling from this cause may ensue.

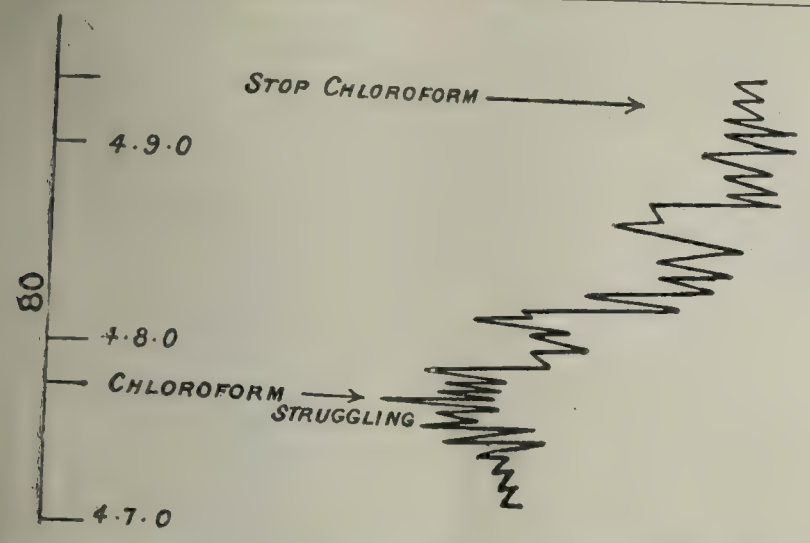
The most striking of these effects of chloroform is the lowering of the blood pressure, which is the key to its action. Formerly physiologists considered a fall of the blood pressure to be a positive sign of weakening or depression of the heart and circulation, but we now know this is not the case, and that in itself it is harmless and entirely devoid of danger. A blood-pressure tracing taken while chloroform is administered, so that the breathing is not impeded in any way except by the narcotic action of the anæsthetic, brings out the following facts:—The blood pressure falls, but the fall is gradual, even, and regular, and divides itself into three periods. The first period is that between the commencement of the inhalation of the anæsthetic and the point where anæsthesia is complete. The second period lies between this point and the stoppage of the respiration; and the third begins at the stoppage of the breathing and ends with death from failure and stoppage of the heart. While considering these three periods in detail we must keep in mind the following facts. The strength of the vapour of chloroform which ordinarily can be inhaled without producing irregularity of the breathing or struggling, is from 1 to 2 per cent. But a substitution of even 1 or 2 per cent. of the vapour of chloroform for 1 or 2 per cent. of the air inhaled means that the breathing is no longer so absolutely normal as it is when the 2 per cent. of chloroform is not there. The administration, however, it is of the last importance to keep in mind, will be normal, and the fall of the blood pressure will also be regular and normal, provided that this or any other amount of the vapour of the anæsthetic in the air inhaled does not give rise to irregularity of the breathing. The main point is that the amount of vapour of the drug in the air inhaled, which is compatible with regular breathing, represents the maximum amount of interference with the respiration which is admissible during the administration of chloroform. Keeping this fact in mind, then, the physiological effects of chloroform during each of the periods of the fall of the blood pressure are as follows:—

1. During the first stage chloroform narcosis affects primarily and immediately the vasomotor centre. This dilates the arterioles, and the blood pressure falls continuously throughout, and as the narcotic action of the chloroform increases, consciousness is abolished, the reflex functions of the brain and spinal cord, other than those necessary to sustain life, are also abolished, and the period terminates with complete anæsthesia, with or without some narcosis of the respiratory centre. We all know that sometimes before anæsthesia is complete, stertorous breathing is set up.

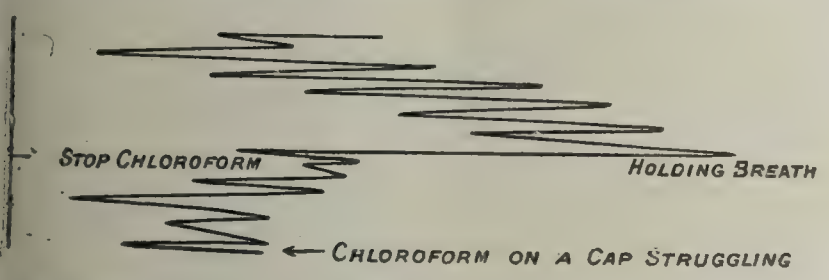
2. During the second stage, while the narcosis of the vasomotor centre continues and becomes fully developed, the respiratory centre is gradually completely narcotised. During this stage, the fall of the blood pressure is due in the first instance to the completion of vasomotor narcosis, and in the second to weakening of the heart from narcosis of the respiratory centre and failure of the respiration. It is not possible to say exactly when the vasomotor fall ends and the cardiac fall begins: a great deal will depend on the strength of the heart at the beginning of the period and the point at which narcosis of the respiratory centre sets in.

3. During the third period, the respiration having ceased, the nutrition of the heart fails, and with completion of cardiac failure the blood pressure falls too, and terminates in death at zero. Death is not due to asphyxia or to syncope, but to failure of the nutrition of the heart after stoppage of the respiration just as it is in bullet wound of the brain.

The conclusion which is warranted by a consideration of these facts is that all irregularities in cases of chloroform administration are brought about either by the state of the patient or by the method of administration. In the state of the patient there are the complications which result from cardiac weakness, owing to heart disease or degeneration, or to disease in other organs, such, for example, as empyema or laryngitis, alcoholism, or renal mischief, and so on. A heart may be so weakened by disease or other causes that the

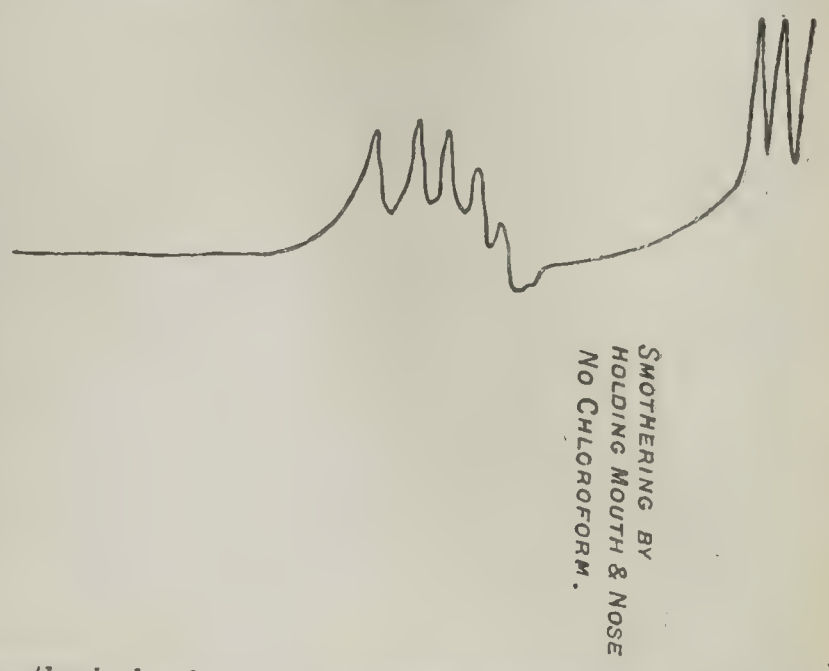


substitution of even 1 or 2 per cent. of chloroform vapour, for 1 or 2 per cent. of air, may prove to be the last straw which decides its fate. A patient who is in this extreme condition is not in a fit state for chloroform, but neither is he in a fit state for an operation. Between this extreme and the other in which the heart does not fail for several minutes after the stoppage of the breathing by chloroform, every phase of cardiac weakness may be met with, and there are many phases of great cardiac weakness, for example, gangrenous strangulated gut, in which surgical operations are unavoidable. Briefly, it is not safe to push chloroform in cases of this kind as far as complete anæsthesia, if this includes the first stage of respiratory narcosis, or any weakening whatsoever of the respiratory function. This is more particularly the case if the cardiac weakening is due to a condition which disables a portion of the respiration, such as empyema or laryngitis. In cases of this kind chloroform ought to be given, as it is in midwifery—in sufficient quantity to deaden the pain, and no more.

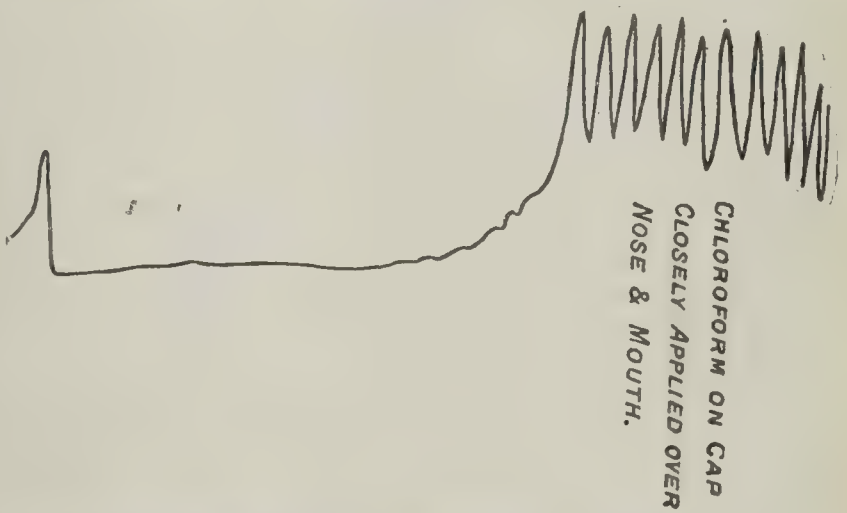


With regard to the complications introduced by the method of administration, the regularity of the fall of blood pressure clinically will be interfered with and rendered abnormal by anything which interferes with the regularity of the breathing, just as you see it is in the tracings of the experiments which I have here. If chloroform is held over the mouth and nose in such a way that the patient cannot breathe properly, and is choked and holds his breath and struggles violently, the blood pressure will fall irregularly, and cardiac complications of all kinds will show themselves in the circulation. The dangers of complications of this kind are, that they lead to asphyxia and gasping inspirations and to cardiac weakening due either to rapid respiratory narcosis or to dilatation from obstruction of the circulation in the lungs. In short, they lead to rapid and fatal overdosing.

The question then arises, How can complications be avoided and what has to be done by the administrator in order to produce invariably normal uncomplicated anæsthesia, which is, as everyone will allow, all you want to produce clinically? The answer is, that regularity of the breathing must be invariably maintained under chloroform, and the administration must be stopped when anæsthesia is complete. The blood pressure will thus never fall below the point of complete anæsthesia. With reference to struggling and holding the breath, however, they cannot always be prevented, even by giving plenty of air, but if during the administration of chloroform the patient struggles violently or holds his breath, the chloroform cap or apparatus must be at once taken away from his face, so as to prevent the smallest possibility of his gasping in an overdose, and he must be given nothing but pure air to inhale until the breathing is quiet and regular again. When once anæsthesia has been established it must be kept up by giving more chloroform from time to time in such a number as to keep the blood pressure at the



anæsthesia level. If it be pushed beyond this point, the blood pressure falls into the region of cardiac danger, and if, on the other hand, sufficient chloroform is not given to keep it down to this level, the anæsthesia passes off, and the patient struggles or feels pain. It is obvious if chloroform



is never pushed beyond the point where anæsthesia is complete, danger is not incurred. If regular respiration is maintained and signs of anæsthesia are not overlooked, the administration of chloroform must always be absolutely safe.

VII.—Dr. Waller's Reply.

Dr. Waller replied, contending that the whole discussion bore out his general conclusions as to the relative effects of ether and chloroform.

THE ADMINISTRATION OF CHLOROFORM WITH CO_2.

By Arthur Powell, B.A., M.Ch.,
Surgeon, N.W. Cachar Hospitals.

The laboratory experiments of Dr. Waller[1] are fully confirmed by my own clinical experience during the past ten years. Dr. Waller finds that though the excitability of an isolated nerve is most rapidly suspended and destroyed by chloroform alone or mixed with air, yet with chloroform + CO_2 the nerve excitability is more quickly recovered, and after a longer period of suspension than with ether, nitrous oxide, or A.C.E. mixture.

I have long believed that ether and nitrous oxide owed much of their safety to the method of administration, by which the patient repeatedly breathes with the drug CO_2 of his own manufacture, partial asphyxia assisting in the production of loss of consciousness.

This much seemed clear, that death or danger from these drugs was due to asphyxia, a condition for which we have a satisfactory cure in artifical respiration.

In 1887, when anæsthetist to the Royal Hospital, Belfast, I commenced to administer chloroform from an Ormsby's inhaler, with the air valve closed, so that the patient might repeatedly respire CO_2 of his own making.

I or my assistants have now used this method in 1,372 cases without a single accident, and with cause for alarm in but a single case.

Dr. Waller's laboratory experiments and the above experience unite in showing that CO_2 is an adjuvant to the anæsthetic, an antagonist to the lethal action of chloroform.

The advantages of this method may be estimated when I add that in the above 1,372 cases (in some the operation lasted over three hours), I have only twice slapped with towels, only once used nitrite of amyl. I have never used the electric battery, or injected ether or alcohol through the skin or anus. I have very seldom used the tongue forceps, as the hand holding the inhaler can support the jaw, while a finger is kept on the facial pulse. Should the latter appear weak, a little ether in the inhaler usually restores it. The rise and fall of the bag gives a good clue to the state of the respiration.

We are usually taught to quite ignore the state of the pulse during chloroform administration, but no laboratory experiments can make us ignore the fact that in the reports of many fatal cases the observer distinctly states the circulation ceased before respiration. It is absurd to maintain that all such reporters were flurried.

REFERENCE.
1 *Brain*, 1896.

NITROUS OXIDE ANÆSTHESIA.

By George T. Kemp, M.D., Ph.D.,
Baltimor

This communication is the result of a series of investigations which was first begun in 1890, conjointly with Dr. G. W. Brush, of Brooklyn, New York, during my connection with the Haugland Laboratory of that city. The work had to remain unfinished for several years, and was finally completed by myself at the Physiological Laboratory of the Johns Hopkins University in 1897. The work was undertaken at the solicitation of Dr. Brush, whose experience in surgery had included the use of nitrous oxide[1] mixed with air as an anæsthetic for major operations, and who was convinced from personal observation of the incorrectness of the theory, widely taught to the profession by textbooks and lectures, that nitrous oxide anæsthetised simply by depriving the patient of oxygen.

To decide this question we first arranged two sets of experiments by which the action of nitrous oxide and of nitrogen were directly compared. In the first set the gases were given pure, in the second enough air or oxygen was admitted to sustain the life of the animal while the specific action of the nitrous oxide and of the nitrogen were being studied.

The old theory of Sir Humphry Davy, that nitrous oxide will support life by yielding its oxygen for physiological combustion, has been proved by numerous researches to be incorrect. This gas, therefore, is an exception to the rule that where a candle will burn life may exist. When nitrous oxide is given pure to an animal asphyxia is rapidly induced and death ensues with symptoms fairly similar to those exhibited under pure nitrogen. This point has been investigated by several observers, most of whom assert that the difference between the action of the two gases is very marked, while others are equally positive that nitrous oxide is simply an indifferent gas, and acts like nitrogen.[2]

As the result of fourteen experiments with pure gases we find ourselves obliged to take an intermediate position between the two extremes above indicated, agreeing much more closely, however, with the former than with the latter. The difference in the action of the two gases, when given pure, is so masked by the rapid onset of asphyxia that any wide-reaching generalisations from the results appeared to us unsatisfactory. Two points, however, came out sufficiently prominently to deserve passing notice: (1) The anæsthesia was induced sooner with nitrous oxide than with nitrogen, and (2) the muscular movements which always supervene on deprivation of oxygen were milder under nitrous oxide than under nitrogen. These observations are in accord with those of the majority of previous investigators.[3]

The second series of experiments, in which sufficient air was admitted to prevent marked asphyxia, was much more instructive. The action of nitrous oxide and of nitrogen could be very satisfactorily compared uncomplicated by symptoms which would mask the proper effects of these gases. The experiments were arranged as follows: two large rubber bags were filled, one with nitrous oxide, the other with nitrogen. These were so arranged that the animal could be made to breathe from either one, at pleasure, the air being admitted through an adjustable slit in the trachea cannula.[4] Müller valves or Ewald valves were used, so that the inspired gas came fresh from the bags, the expired gas being thrown out into the room.

Nitrous oxide was first administered and the slit for the admission of air was adjusted until the amount of air admitted sufficed to keep the animal alive and anæsthetised for a considerable time—usually about 20 minutes. With the slit in this position, the air supply thus remaining constant, the animal was made to breathe from the bag of nitrogen. Under the nitrous oxide and air the dog remained smoothly anæsthetised, even to the extent of standing the stimulation of a sensory nerve without signs of pain. When nitrogen was substituted, the amount of air remaining the same, the dog gradually came out of his anæsthesia, and became conscious, reacting readily to a slight pinch by the forceps. Stimulation of a sensory nerve under these circumstances would have been sheer cruelty, and was not attempted. As a result of these experiments, which were repeated a number of times, there seems to be no escape from the conclusion that nitrous oxide is a true anæsthetic, and that it produces anæsthesia apart from depriving the animal of oxygen, while nitrogen does not possess this property to the same degree. Indeed, as far as we were able to observe, nitrogen does not possess specific anæsthetising properties at all.

Apropos to this should be mentioned the classical experiments of Paul Bert with nitrous oxide under pressure. Bert provided an airtight operating room in which the pressure could be raised at pleasure by pumping in air. The patient breathed a gas mixture of 80 per cent. nitrous oxide and 20 per cent. oxygen. The surgeon, assistants, and attendants breathed 80 per cent. nitrogen and 20 per cent. oxygen (atmospheric air). The amount of oxygen was the same in either case, but the patient became anæsthetised by the nitrous oxide, while the others were not affected by the nitrogen. By increasing the pressure more nitrous oxide was caused to be absorbed, and the anæsthesia was deepened. The amount of available oxygen in the system was not diminished by the pressure employed, but, in fact, was somewhat increased, so that any theory of deficient oxidation under these circumstances would be absurd.

The success of Bert with nitrous oxide under pressure and the recorded observations of certain surgeons and anæsthetists who have used the gas mixed with air or with oxygen led us to undertake a more exhaustive study of the effect of such gas mixtures on the system to determine, if possible, whether it would be safe to employ them in prolonged anæsthesia to replace chloroform and ether. The advantages of such a change are obvious, for nitrous oxide is by all odds the safest anæsthetic that can be used. Out of the hundreds of thousands of anæsthesias induced by this agent less than a dozen fatalities are recorded that can be attributed to its effects. Indeed, if we exclude the element of asphyxia—which can be almost entirely avoided by admitting air or oxygen—nitrous oxide may be said to have an absolutely clean record, for, so far as I am aware, not a single fatality has occurred under nitrous oxide and oxygen.

It is true that the anæsthesias under nitrous oxide have been as a rule of shorter duration than those in which ether

or chloroform was used; but when we consider that fatalities occur most frequently in the early stages with the latter, even in the hands of skilled anæsthetists, while nitrous oxide is constantly being administered by comparatively inexperienced persons without a medical training, the record is all the more remarkable.

The adaptability of nitrous oxide mixed with air or oxygen to prolonged anæsthesia evidently hinges on the question, Can the blood, at the atmospheric pressure, carry enough nitrous oxide to anæsthetise the patient and at the same time carry enough oxygen to support life without danger? To determine this point we next made a series of analyses of the blood of animals breathing nitrous oxide mixed with different percentages of air or oxygen. The animals were tracheotomised under chloroform several hours before the experiment, and a glass tube was tied firmly in the trachea. At the same time the carotid was isolated and a loose ligature drawn around it. The animals were always allowed to recover completely from the effects of the chloroform, and were normally active and almost uniformly in good spirits when brought in for the experiment. They were then tied on an appropriate holder and placed in position for connection with the kymograph. In some instances the carotid could be raised by the loose ligature, the cannula inserted and connected with the kymograph without any excitement on the part of the dog. When the slight manipulation about the wound brought on signs of pain or excitement the connection was not made until the animal was under the influence of the nitrous oxide. This was done by connecting the glass tube in the trachea with the tube which delivered the gas to be breathed. In the experiments where the dog was already connected with the kymograph the effects of the gas when first administered could be very well seen. Ewald valves were used, so that the gas was not breathed over and over again, but was inspired freely from the bag and expired freely into the room. The cannula was inserted into the femoral artery while the animal was anæsthetised with the nitrous oxide, and some branches of the saphenous nerve were exposed at the same time. The anæsthesia was always tested by stimulating a sensory nerve. After the animal had breathed the gas mixture a considerable time and was deeply enough anæsthetised to stand stimulation of the sensory nerve without signs of pain the blood was drawn from the femoral and collected over mercury in a special apparatus without contact with the air, and an accurately measured amount was forced into the vacuum bulb. The CO_2 was determined by absorption with KOH, the O by absorption with pyrogallol in alkaline solution, and the N by a special method devised by one of us (Kemp) which is found to be more reliable than explosion with hydrogen.[5] The nitrogen was determined by difference. The results of these analyses are given in the table below:—

Referring now to the oxygen column in the table, and omitting experiments 3, 6, and 8 for reasons given in the column of remarks, it will be seen that anæsthesia, deep enough to prevent pain on stimulating a sensory nerve, is obtained in most instances when the blood is carrying about 8.5 per cent. oxygen, that the minimum is 7.9 per cent., and that in some cases we get perfect anæsthesia with as high a percentage of oxygen as 16.8. This latter figure is practically within the limits of the amount of oxygen normally present in the blood and precludes the supposition of asphyxia. The lowest amount of oxygen obtained, 7.9 per cent., is just about the boundary where changes of metabolism begin to be induced, but is well within the safety limit. To discuss all the physiological data on which this statement is made is not within the scope of the present paper, but a few of the points may be indicated. In an elaborate set of experiments on man by Loewy, working with Zuntz of Berlin, in which Loewy, Zuntz, and a third experienced person were the subjects of experimentation, it was found that when the percentage of oxygen in the gas mixture breathed was diminished, the respirations tended to become deeper, thus raising the oxygen tension in the pulmonary alveoli and compensating for the change in the inspired gas. When the alveolar air contains 5.5 to 6.5 per cent. oxygen (= O tension of 42-45 min. Hg.) the blood will take up sufficient oxygen to meet all the demands of the system. There is no change in the gas metabolism and the respiratory coefficient remains normal. "This," he says, "may be the case under favourable conditions, when the inspired air contains 8 per cent. oxygen,[6] and is always the case when the oxygen percentage is 10.5 or over. When the percentage of oxygen is still further diminished there is a feeling of oppression and dizziness, the amount of CO_2 excreted rises relatively to the oxygen consumed and consequently the respiratory quotient is increased."

Terray[7] working on dogs and rabbits obtained results fairly similar to those of Loewy. He finds that down to 10.5 per cent. oxygen in the inspired air no change whatever takes place in the respiration or in the metabolism. From 10.5 per cent. to 5.25 per cent. the respirations become deepened so as to increase the oxygen percentage in the pulmonary alveoli and prevent true asphyxial symptoms. Below 5.25 per cent. the respiratory coefficient is increased, and metabolism is more or less seriously affected, lactic acid and oxalates appearing in the urine, and the nitrogen being slightly increased. These disturbances were not fatal, however, as the same animals were used in the whole series of experiments. The lowest percentage of oxygen tried was 2.69. The animal breathed this several minutes, but was so ill at last that its safety was feared for and the experiment discontinued.

Referring once more to the table you will observe that where mixtures of nitrous oxide and oxygen were given the percentage of oxygen was always either above the point where respiration is affected at all or it fell within the limit where it is compensated for by increased respirations. In our experiments, when nitrous oxide and air were given, the arrangement of the apparatus did not admit of the percentage of oxygen in the inspired air being determined, but analogy with the oxygen experiments would indicate that the amount present was about 7 per cent. Paul Bert[8] records a number of

Gas Breathed.	Blood Gases (at 0° and 760 mm.)					Remarks
	Total Blood Gas.	CO_2	O	N_2O	N	
N_2O + air	41.6	9.4	8.2	Record lost		—
,,	34.6	13.5	8.3	11.9	0.9	—
,,	48.5	18.1	2.1	28.0	0.3	Marked asphyxia when blood was drawn
,,	50.6	21.0	9.7	29.6	0.3	—
,,	47.4	14.4	9.0	23.2	0.8	Respiration curve not exceptionally deep
,,	35.8	9.5	18.3	*6.9	1.1	Gas out of bag
,,	49.1	10.7	9.0	29.2	0.2	—
N_2O, 90 % O, 10 %	68.0	24.4	17.8 (?)	22.0 (?)	0·0 (?)	Doubtful tube. Figures for O, and N_2, O+N unreliable
N_2O, 93.9 % O, 6.1 %	68.2	28.8	9.4	30.0	0.0	—
N_2O, 93.5 % O, 6.5 %	66.7	25.3	7.9	33.5	0.0	—
N_2O, 88.5 % O, 11.5 %	63.4	19.7	14.2	29.1	0.4	—
N_2O + air	73.4	32.0	16.8	24.6	0.0	Was breathing N_2O+O up to short time before blood was drawn.

* See special reference to this experiment.

experiments in which an animal breathed to and from a bag containing gas mixtures of different percentages of oxygen. The expired CO_2 was removed by KOH valves, and the gases of the blood determined as the oxygen gradually became exhausted from the mixture breathed. As a mean of six such experiments he found that when the air contained 6.7 per cent oxygen the blood contained 6.3 per cent., and the animal lived one hour and twenty-three minutes. Note again, please, that the animal was gradually using up the oxygen by breathing into a closed bag. Had a fresh supply been administered he would certainly have lived much longer.

We see, therefore, from direct experimental evidence that nitrous oxide does not depend upon asphyxia to produce anæsthesia, that anæsthesia may be satisfactorily induced and asphyxia avoided by administering the nitrous oxide properly combined with oxygen, and that the amount of oxygen in such a mixture may be made large enough to avoid serious disturbances of metabolism, and therefore it is strongly suggested that nitrous oxide combined with oxygen would be an appropriate anæsthetic for prolonged operations.

It has frequently been noted by anæsthetists of large experience that occasionally an individual is met with who proves refractory to nitrous oxide and in whom the gas fails to produce anæsthesia unless pushed to the point of dangerous asphyxia. In our experiments about fifty dogs were used and one such refractory case was observed. When such cases are met with in surgery, of course some other anæsthetic must be used, and this, it is found, can always be done without bad effects from the previous attempt with nitrous oxide.

It now remains for us to consider briefly in detail the action of nitrous oxide on the different parts of the body.

Action on the Blood.

Nitrous oxide does not form any compound with hæmoglobin, which may be detected by the spectroscope. When mixed with soda in the cannula connecting the animal with the kymograph the blood usually gives a peculiar brick dust colour, somewhat resembling the appearance of blood when mixed with corrosive sublimate in the sponge basin in surgical operations. This blood always gives the spectrum of oxyhæmoglobin. Attempts at getting a compound of nitrous oxide and hæmoglobin by saturating the blood with the gas always resulted negatively. These results agree with those of Hermann,[9] Jolyet and Blanche,[10] Goltstein,[11] McMunn,[12] Buxton and Halliburton,[13] and differ from those of Ulbrich.[14]

The rapidity with which the blood will rid itself of nitrous oxide is shown in Experiment 6 in the table. In this experiment the gas was allowed to become exhausted from the bag during the time that my attention was occupied with drawing the blood. As this procedure took less than two minutes, and the bag was not empty when I observed it, the animal must have had air alone for a time, considerably less than two minutes. In this short interval the nitrous oxide in the blood fell from over 20 per cent. to 6.9 per cent. The normal rapid recovery of patients is quite in accord with this. The amount of nitrous oxide absorbed by blood is fairly closely equal to that absorbed by an equal volume of water, so that in all probability the gas is carried by the blood in simple solution in the plasma. This point we have not determined accurately.

Effect on the Heart.

Nitrous oxide can hardly be said to have any direct action on the heart. Cardiac effects observed while working with this gas are much more likely to depend upon the amount of oxygen present than upon the nitrous oxide. Either fine or powerful heart beats may be recorded, but if air be substituted for nitrous oxide the curve nearly always tends to approach the normal. In the experiments where nitrous oxide and oxygen were given alternately, the amount of air remaining the same, there was no constant definite change in the heart's action on changing these gases, while any change in the slit which admitted air was prone to be followed by a decided response on the part of the heart. It is true that the heart tended to beat more strongly and slowly under nitrous oxide and air than under nitrogen and air, so that nitrous oxide may be said to have a slight stimulant action, but the action is so slight that we are not inclined to lay stress upon it.

Effect on Blood Pressure.

What has just been said of the heart applies so closely to the blood pressure that it need hardly be repeated. With the blood supply remaining the same, shifting from nitrous oxide to nitrogen, or *vice versâ*, had practically no effect on the blood pressure.

Effect on the Nervous System.

The intoxicating effects of nitrous oxide are too well known to require more than passing mention. The fact that these effects may be pushed to the extent of anæsthesia without the presence of asphyxia has been found by several observers, and clinched by the blood-gas analysis reported in the communication. Goltstein has shown that frogs breathing N_2O have their reflex time increased over control frogs breathing indifferent gases. It is very evident, therefore, that the nervous system is profoundly influenced by the gas. The elaborate researches of Waller have shown that nitrous oxide has little, if any, action on the nerve trunk as measured by its effects on the negative variation, so that the link in the chain may conveniently be excluded. A number of investigators have pointed out that the conjunctival reflex persists after deep anæsthesia has set in. This we are able to corroborate most fully. The end organs in the conjunctiva, and probably elsewhere, are therefore not thrown out of function, and the most natural inference is that the gas acts most powerfully and likely, with exclusive effectiveness on the central nervous system, especially the cortex. The persistence of the eye reflex after anæsthesia deserves more consideration than we can afford to give to it in the present communication, but we wish to emphasise that it is an unsatisfactory and even an unsafe guide to anæsthesia. In a number of cases in which this point was given special attention, it was found that frequently the reflex did not disappear until marked asphyxia was shown by the kymograph record, and it is the exception, and not the rule, for it to disappear before more or less asphyxia is induced. An animal will wink on touching the conjunctiva long after it will give no movement whatever to a moderately strong stimulation of the sciatic nerve.

Effect on General Metabolism.

We should prefer to leave a discussion of this question until the work is written up more in detail, but one result of our experiments is to show positively that CO_2 in the arterial blood is greatly diminished and is never increased, so that any theory involving the dependence of anæsthesia on a damming back of CO_2 in the system is in opposition to the direct findings of our experiments.

General Conclusions.

Nitrous oxide is a specific anæsthetic not dependent asphyxia for its effects.

Asphyxia can be avoided by proper admixture of air or oxygen with the nitrous oxide.

A deep and smooth asphyxia can be obtained for a sufficient length of time to warrant a wider trial in major surgery for long and severe operations. The gas is many times safer than either chloroform or ether, and the unpleasant after-effect of vomiting, etc., is practically never present if the ordinary precautions of feeding, etc., are observed.

References.

[1] *Proceedings Med. Soc. County of Kings*, Brooklyn, 1877, ii. pp. 279-287; *Brooklyn Med. Journal*, 1889, p. 709 and 712, and 1890, pp. 289-298. [2] Wood and Cerna (*Therap. Gaz.*, 1890, p. 515) take the extreme view that nitrous oxide anæsthetises solely by excluding oxygen, and that, in fact, nitrogen is rather the better anæsthetic. Hermann (*Arch. f. Anat. und Physiol*, 1864, p. 530) admits that the nitrous oxide acts "nach der Richtung der Anal gesic," but thinks that anæsthesia comes only when it is pushed to asphyxia. Goltstein's position (*Arch. f. d. ges. Physiol.*, 1878. vol. 17, pp. 344-345) is somewhat similar to Hermann's. [3] Sanderson and Catlin (*Med. Times and Gaz.*, 1869. I, p. 69, note); Coleman (*St. Bartholomew's Hosp. Rep.*, 1869, vol. 5, pp. 161-162); Goltstein (*Arch. f. d. ges. Physiol*, 1878, vol. 17, p. 135); Buxton (*Trans. Odont. Soc. Gt. Brit.*, 1886, vol. 18, p. 163, also *Brit. Journ. Dent. Sc.*, 1888, p. 1027); Rothman, *Wien. med. Press*, 1888, p. 190 abstract.) [4] This form of cannula cannot be used when all air is to be excluded. The forcible inspiration of a dog will nearly always suffice to draw in a certain amount of air around the revolving collar. When the gases are given pure a glass tube should be firmly tied in the trachea. [5] This method consists in burning the nitrous oxide with more than seven times its volume of CO over a white-hot platinum spiral in a grison meter. When a slight excess of moisture is present the following reaction takes

place:—$N_2O+CO=N_2+CO_2$. The gases are then run over KOH and the amount of CO_2 absorbed represents exactly the amount of N_2O originally present. This method has been described in a preliminary communication published in the *Johns Hopkins University Circular*, vol. xiv, 1895, p. 17. [6] Loewy, *Untersuchungen über Respiration und Circulation*, etc., Berlin, 1895, pp. 78 and 90. [7] *Arch. f. d. ges. Physiol.*, etc., 1896, vol. 65, pp. 406-408, 441. [8] *Pression Barometrique*, pp. 671-680. [9] *Arch. f. Physiol.*, 1864, pp. 524-526. [10] *Arch. f. d. ges. Med.*, 1878, pp. 334-336. [11] *Ibid.* [12] *Dublin Journ. Med. Sc.*, 1879, pp. 210-211. [13] *Trans. Odont. Soc. Gt. Brit.*, 1887, vol. xix, p. 96. [14] *Oesterreich-Ungar. Vierteljahrsschrift für Zahnheilkunde*, 1888, p. 113.

ON THE CLOSURE OF THE GLOTTIS DURING THE ACT OF DEGLUTITION.

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While all the writers on the physiology of deglutition agree upon the fact that the glottis closes during this complex act, there is a remarkable absence of uniformity in the statements with regard to the nature of this closure. While, for instance, Sigmund Meyer, the author of the chapter on deglutition in Hermann's *Handbuch*,[1] states distinctly that the closure of the glottis is not caused by the contraction of the muscles of the larynx itself, but is due to the constriction of the pharyngeal muscles, we find in some other textbooks (for instance, Howell, Stirling and Landois, and others) the short remark that the closure is brought about by the abductors and constrictors of the larynx itself.

The first-mentioned view has as its basis the statement of Longet,[2] that according to his experiments the closure of the glottis takes place even after the section of all the motor nerves of the larynx, hence the closure must be brought about by muscles lying outside the larynx. However, S. Meyer himself, while dwelling in another part of the above-mentioned *Handbuch*[3] upon the pneumonic condition of the lungs following the section of the pneumogastric nerves, agrees with Traube that the pneumonia is due to the entrance of food into the lungs brought about by the paralysis of the larynx and the œsophagus, and assumes without further discussion that there can never be an efficient closure of the glottis when the laryngeal nerves are paralysed. The fact is that since Longet's experiments, some fifty years ago, the closure of the glottis during deglutition has hardly been again the subject of an experimental study. I therefore believe that the short statement which I am going to make on this subject will not be entirely out of place.

My observations were made on rabbits. Deglutition was caused either by pouring liquid into the mouth or by stimulating the soft palate with a probe through a slit in the hyoid membrane, in the manner described by Kronecker and Wassilieff;[4] or by stimulating the soft palate with a probe introduced into the mouth, which is also quite a sure method when the rabbit is moderately narcotised; or by touching the mucous membrane of the larynx, especially in the region of the glottis; and finally, by stimulating the central end of the superior laryngeal nerve. The deglutition is recognised by the sudden, brisk movement of the larynx upwards the head, by the succeeding rapid, peristaltic movements of the œsophagus, and by the strong contraction of the mylohyoid muscles—of course only when either of these latter parts are exposed to full view. The observations of the contractions of the mylohyoid muscles is preferable for two reasons: the contraction of these muscles marks the very beginning of the art of deglutition, and it is sometimes the only sign of the occurrence of a deglutition. It should be borne in mind, however, that a contraction of these muscles might take place without effecting a deglutition; anyone who has observed the contraction of the mylohyoids in the act of deglutition a few times will never be at loss to distinguish between an effective and an ineffective contraction of these muscles.

The behaviour of the glottis during deglutition was studied by ocular inspection of the inside of the larynx, from its cephal end as well as from its pharyngeal end. The cephal end was observed through an opening made in the trachea just beneath the larynx. There it could be seen that in each and every deglutition, caused by whatever method, the glottis closed, and apparently quite tightly. This simple method of observation has brought out two points bearing on our question:

The first point is that the closure of the glottis takes place at the very beginning of the deglutition, simultaneously with the contraction of the mylohyoid muscles. As there is even in the rabbit quite a perceptible interval between the contraction of the mylohyoid muscles and that of the constrictors of the pharynx, it follows that the contraction of these latter muscles cannot be the cause of the preceding closure of the glottis. I shall remark here parenthetically that the authors who believe in the pharyngeal origin of the closure failed to comment upon the fact that the contraction of the constrictors of the pharynx takes place after the swallowed mass has already passed by the aperture of the larynx; the closure, therefore, if caused by the contraction of the pharynx, could not be of any service in preventing the passing mass from entering into the larynx.

The second point is that even every simple attempt to swallow, every ineffective contraction of the mylohyoid muscles and incomplete ascent of the larynx, was constantly accompanied by an abortive, incomplete closure of the glottis. This would seem to indicate that at least this closure of the glottis has something to do with the contraction of the muscles causing the ascent of the larynx and not with the contractions of the muscles of the larynx.

The observation of the glottis from the upper end of the larynx was accomplished through an opening made in the hyothyroid membrane. The picture which presents itself here during deglutition is much more complicated than that seen from the trachea; it corresponds in general with the description given by Czermak[5] of what takes place in the human larynx seen by the laryngoscope during deglutition. While the true vocal cords are closing together we see a tight approximation of both arytenoid cartilages, followed immediately by their bending down and forward so strongly as to nearly reach the anterior end of the glottis, thus nearly closing up the larynx. When the details of these movements are neglected we see the descent of the posterior part of the larynx followed immediately by the ascent of the entire larynx. The bending down of the arytenoid cartilages invariably precedes the ascent of the larynx. The entire phenomenon, however, is seen best when a complete transverse cut is made between the larynx and the hyoid bone, thus separating the former from all its muscular connections with the parts above. The larynx is then perfectly motionless during deglutition, and the behaviour of the glottis and the arytenoid cartilages can be easily scrutinised. These experiments and observations already demonstrate clearly enough that the movements which take place within the larynx during deglutition are entirely independent of the movements of the larynx as a whole.

Our problem however is, I believe, conclusively solved by the following instructive experiment, which has been repeatedly performed on a number of rabbits with uniformly the same result. I have separated the larynx from all its muscular connections, splitting also the pharynx deep down into the œsophagus, while taking care not to injure any of the laryngeal nerves. The larynx was thus connected with the body only by the laryngeal nerves and by the trachea. When now I touched the soft palate there immediately followed a characteristic contraction of the mylohyoid muscles, and simultaneously the above-described movements of the glottis and the arytenoid cartilages took place. As there was no connection between the soft palate and the larynx except by way of the nervous system, the movements within the larynx could be due to nothing else but the contractions of the muscles of the larynx itself, caused by an impulse transmitted to them from the central nervous system.

Whether these complex contractions of the laryngeal muscles are directly under the control of the centre of deglutition, that is, whether the stimulation of the soft palate conveys only one afferent impulse, and that is the one going to the centre of deglutition while it is the further task of this very complex centre to call forth just at the beginning of the act of deglutition a complex contraction of the adducting and constricting muscles of the larynx, or whether the very same stimulus which sends an impulse to the centre of deglutition causes at the same time and from the same peripheral area another separate impulse to a separate centre which has special control of the muscles of the larynx, is a separate problem which shall at present neither be solved nor even discussed at any length. I shall only say that if the latter

alternative be true the closure of the glottis during the act of deglutition would be a pure and simple reflex act being connected with the reflex act of deglutition only by having in common the same peripheral area and the same stimulus. Should this be the case, we might then justly expect to find conditions which will favour one reflex more than the other. With this outlook in view I shall report briefly two observations which I have made in the course of the last-mentioned experiment, and which might have some bearing upon our question. The observation in question is, that if the stimulus applied to the soft palate caused only a weak contraction of the mylohyoid muscles without bringing out a real deglutition, the muscles of the larynx have not remained motionless, but have rather shown simultaneously an abortive contraction. This is nearly the same phenomenon which I have recorded above from the observation of the glottis through an opening in the trachea; but in the present case there are no longer any external movements to charge with the responsibility for the incomplete closure of the glottis. The incomplete movements of the laryngeal muscles are connected by some nervous tie with the incomplete contraction of the mylohyoid muscles, though no actual deglutition took place. The second point which I wish to bring out is the observation that gentle, fine touches of the soft palate which were insufficient to call forth any contraction of the mylohoid muscle had sometimes a distinct influence upon the respiratory movements of the glottis; there was a distinct increase of the expiratory approximation of the vocal cords under the influence of these gentle stimuli. I shall at present not go beyond the simple recording of these observations.

My experiments have so far established the fact that the normal characteristic movements which are seen to take place within the larynx during the act of deglutition are surely due to the contractions of the muscles of the larynx itself. The fact, however, that the normal closure of the glottis can take place without the aid of the muscles surrounding the larynx does not exclude the possibility that these muscles aid the intrinsic movements of the larynx, while it is in a normal condition and might exert some influence upon the glottis, while the muscles of the larynx are paralysed. We have quoted above the statement of Longet that he observed the closure of the glottis taking place, even after section of the motor nerves of the larynx. Looking over the recent literature on the subject of deglutition, I found that Rethi[6] records a single experiment (Experiment 8), in which, after the section of all the laryngeal nerves in a rabbit, the glottis, already closed, did not close any tighter during deglutition. The opposite statement of Longet, Rethi explains by the failure of Longet to cut the so-called nervus laryngeus medius—a much-debated branch of the pharyngeal nerve, which was described by Exner and his pupils. Before knowing the statement of Rethi I repeated the experiment of Longet on five rabbits, and I am sure that in my experiments no nerve fibres going to the larynx were left uncut. My results are as follows: In none of the animals was there after the section of the nerves any movement of the arytenoid cartilages accompanying an act of deglutition—a fact which was to be expected, as hardly any extralaryngeal muscle could cause these characteristic movements of the cartilages. In three of the rabbits the vocal cords were in quite a profound state of adduction after the nerves were divided, and remained motionless during deglutition as well as during the alternating phases of respiration. In two of the rabbits, however, there remained after the section of the nerves a triangular slit in the anterior part of the respiratory glottis, which closed with each deglutition, and in one rabbit there were also well-marked respiratory undulations. These two rabbits were distinctly older than the others. We see that the contradictory statements of Longet and Rethi might both be correct.

I believe, therefore, that we shall not substantially err if we assume that those external muscles which are instrumental in the ascent of the larynx are indeed of some assistance to the act of the closure of the glottis by facilitating the task of the adductors, and, to a degree, the ascent of the larynx might also be of some service to the arytenoid cartilages. by having the back of the tongue and the epiglottis exerting a pressure upon them, and thus facilitating their bending down and forward.

We may also assume that the consecutive contraction of the constrictors of the pharynx might help to prolong the closure of the glottis which might otherwise prematurely relax. When, however, the proper muscles of the larynx are paralysed, the assistance which these extralaryngeal muscles are capable of offering is either of no effort at all, or the effect is of very little importance compared with the effect usually produced by the intrinsic muscles of the larynx.

I wish to touch briefly upon one more point. Kanthack and Anderson[7] in their article upon the Action of the Epiglottis in Deglutition make the very brief remark in connection with the closure of the glottis that a gentle suction of the upper end of the trachea would cause such a closure. I do not know whether the writers indeed assume that such a suction usually plays some part in the normal closure of the glottis. At any rate, one might attempt to explain my above quoted experiment with the isolated larynx by the assumption that the closure in this case was after all not effected by the muscles of the larynx, but by a suction exerted from below upon the glottis; and this the more so as in normal conditions such a suction actually takes place. By the investigations of Waller and Prévost, Steiner, myself, and others, the fact has been established that during each deglutition a short inspiration, an abortive descent of the diaphragm occurs; and Markwald has shown that this so-called "*Schluckathmung*" takes place just about the beginning of the act of deglutition. The theory could then be set up that the suction caused by this abortive inspiration is the real cause of the closure of the glottis, perhaps in conjunction with a simultaneous inhibition of the tonicity of the abductor muscles. To meet such an argument it will suffice for me to state that in all my experiments the animals respired through a tracheal cannula; an abortive inspiration could therefore have no effect upon the glottis in these animals.

REFERENCES.

1 *Handbuch der Physiologie*, Band v, II, p. 421. 2 *Traité de Physiologie*, Third Edition, i, p. 131. 3 *Handbuch der Physiologie*, Band ii, I, p. 264. 4 *Zeit. f Biologie*, 1887. 5 Moleschott's *Untersuchungen zur Naturlehre*, Band viii. 6 *Sitzungsberichte der Wiener Academie, mathematischnaturwissenschaftliche Klasse*, Band C, Abteilung. 3. 7 *Journ. of Physiology*, vol. xiv, p. 154.

THE ACTION OF CERTAIN CHEMICAL SALTS ON THE HEART BEAT OF THE EMBRYO OF FUNDULUS MAGELLUS.

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[ABSTRACT.]

THIS investigation was begun in 1894, at the suggestion of Jaques Loeb, Ph.D., Professor of Physiology, University of Chicago. The heart beat of fish embryos increases in rapidity (*a*) with development, and (*b*) with increase of temperature. For example, in fundulus the beat averages 60 per minute in embryos 65 hours old, 110 per minute in those 7 hours, 130 in those 95 hours, 140 in those 142 hours, and 142 in those 218 hours old.

Increase of temperature in the embryo of the perch increases the heart beats. For example, in water at 22° C., the heart beats averaged 130 per minute; whereas in water at 3° C. embryos of the same age had a beat of only 30. Changing the embryos from water at 3° C. to water at 22° C. doubled the beat inside of two minutes. The beat was more rapid in the afternoon than in the forenoon in both fundulus and the perch, possibly owing to light. The salts used were Merck's. They were weighed and dissolved in distilled water, but whether the water was distilled in a glass or metallic vessel was not known. Only chlorides were employed, so as to admit of comparison between the physiological action of one metal and that of another.

The experiments consisted in immersing the embryos of fundulus of different ages in 5 per cent. solutions of the salts and then counting the heart beats and noting the temperature. Two sets of experiments were undertaken; the first with the chlorides of metals belonging to Group I of Mendelejeff's classification of the elements, and the second set with metals belonging to Group II.

The general effect of the chlorides of metals of the first

group was to depress the heart beat. The rapidity with which the heavier metals acted showed, however, that the metals of this group separated themselves physiologically into two classes: (*a*) Those of the heavy metals, copper and gold; and (*b*) those of the lighter metals, lithium, sodium, potassium, and cæsium. Taking copper as the type of the heavier metals, it was found that the heart beat of an embryo of 74 hours fell from an average of 114 to 108 in five minutes; within the next ten minutes the auricle beat 160 per minute, and the ventricle 92; within seventeen minutes the circulation had ceased, and the auricle beating so rapidly that it could only be described as a vibration, while the ventricle beat once every few seconds. In eighteen minutes all movement in both had ceased. Of the chlorides of the lighter metals of Group 1 potassium and cæsium acted as heart depressants, potassium being the more energetic. Ammonium chloride also acted as a heart depressant. Potassium depressed the beat in embryos of 163 hours, from 131 to 108 in 10 minutes; ammonium, in those 124 hours, depressed from 136 to 102 in 10 minutes; cæsium, in those 7 days old, depressed from 157 to 128 in 10 minutes; while lithium, in those 147 hours, increased the beat by 3 in the first 6 minutes, and then depressed it from 144 to 136 within the next 15 minutes.

In potassium the ventricle almost invariably stopped beating first, being preceded in almost every case by a period in which the auricle beat twice, and sometimes thrice, as fast as the ventricle. Embryos in which this rhythm became established lived longer. Of the chlorides of the second group of metals calcium and strontium acted as stimulants; while beryllium, barium, magnesium, zinc, and cadmium acted as depressants. In strontium and magnesium, embryos lived ½ and 9 days respectively; whereas in the other chlorides of this group the life limit ranged from 23 minutes in zinc, to hours in cadmium, and 8 to 10 hours in calcium. Adding olutions of calcic chloride to those of potassium or barium prevented the rapid depression of the heart beat. Embryos were hatched out in 5 per cent. solution of strontium, and ived for two days in it; also in 1 per cent. of calcium, and ived six days in it; whereas a young fish in 5 per cent. f potassium lived only 7 minutes. In beryllium chloride the eart beat of embryos of 101 hours fell from 158 to 140 in 10 inutes; in barium, in embryos of 118 hours, the fall was from 16 to 97 in 8 minutes; in magnesium, in embryos 102 hours ld, it fell from 158 to 147 in 2 hours; in zinc, in the embryos f 98 hours, it fell from 134 to 128 in 10 minutes; and in admium, in embryos of 98 hours, it fell from 135 to 129 in 10 inutes. In calcium, with embryos of 118 hours old, the eat rose from 116 to 143 in 30 minutes; and in strontium, ith embryos 118 hours old, it rose from 116 to 117 in 19 inutes, increasing to 130 in 1 hour.

ORTICAL CEREBRAL LOCALISATION: WITH SPECIAL REFERENCE TO RODENTS AND BIRDS.*

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URING the course of an investigation[1] on the "Functional evelopment of the Cerebral Cortex in the Cat, the Dog, the abbit, the Cavy (Guinea-pig), etc.," the question of the mpleteness and accuracy of the published researches on local- ation was often forced upon my notice, and never having und a cortical cerebral centre for the hind limb in young bbits, I was led to investigate this subject in the mature imal, and being unable to discover such a centre, it curred to me that the whole subject of cerebral cortical calisation in animals below the carnivora, at all events, was rthy of further study. Accordingly I have subjected the bbit, the cavy, the rat, the mouse, and the bird, to experi- nts, in order to determine the correctness and adequacy of isting views on localisation.

I turned naturally to the classic work of Ferrier,[2] which ves this writer's views in a clear and concise form. This vestigator defines a centre for movements of the hind limb in the rabbit near the middle line and immediately behind that for the fore limb. While my own work was in progress, Gustav Mann published a research on cortical localisation,[3] in which he attempted to deal with the subject in a manner more exact and complete than had hitherto been done. He also gives an account of the work previously accomplished by Ferrier and others. Apart from Ferrier's distinct statement, there does not seem to be very clear evidence in the literature of the location of the well-defined centre for the hind limb.

Mann himself locates a centre for the hind limb posterior to that for the neck and arm and near the middle line.

Speaking of his methods, Dr. Mann says: "As regards the experimental part of my research, the hedgehogs and cats were kept anæsthetised during the whole period of the experiment, while the rabbits were anæsthetised to render the preliminary operation painless, and then allowed to regain consciousness."[4]

He kept the experimental room at 75° F., and exposed both hemispheres fully, keeping the brain covered with absorbent cotton wool when not being stimulated.

The only clue I can find to the reason for this difference in the method of treating the cat and the rabbit occurs in a sentence in which the work of another is referred to (p. 24): "I failed to produce accelerated breathing in non-anæsthetised animals."

Ferrier, speaking of stimulation, says: "Though it is obviously advisable to use no stronger current than is sufficient to produce a definite result, the measure of the intensity of the stimulus to be employed in each case is the degree of definite and decided localisation of effects uniformly attainable." He also says: "That (current) which will cause intense and indefinite action in an animal non-narcotised, will excite only moderate and definite action in an animal sufficiently narcotised to abolish all sense of pain, and no effect at all on an animal deeply anæsthetised." I do not find that Ferrier anywhere recommends experimenting on non-narcotised animals, and from the last quotation I should suppose that he would be sceptical, to say the least, of results obtained in non-anæsthetised animals. From a large experience in experimenting on the brains of animals, I can fully endorse all that is expressed in the quotations from Ferrier. Only experience can determine what degree of anæsthesia and what strength of current suit best. My own methods in the determination of cerebral localisation have been described in my paper on the Functional Development of the Cerebral Cortex,[5] so that only a brief reference need be made to them here. The animals used, of whatever kind, were given ether. When fully under its influence the brain was exposed as rapidly and with regard to as little loss of blood, exposure to the air, and other unfavourable conditions as possible.

It is true, as has been pointed out by Fürstner,[6] and quoted by Mann, that some movements may be induced by weaker currents than others, but following Ferrier's dictum, already quoted in regard to current, one centre may be compared with another under the same or very similar conditions without any danger of fallacy. Mann states that he left his rabbits thirty to sixty minutes for the ether narcosis to pass off. Ether narcosis, as everyone knows, is comparatively transient, and it is because of this that I have used it invariably when conducting localisation researches on the brain. Very frequently the animal is sufficiently from under its influence soon after the main operative procedure is over to allow of results being obtained at once, and, unless the loss of blood be excessive, I have always found it wise to proceed at once before the brain suffers by exposure. However, after Dr. Mann's paper met my eye, I determined to test his results by his own methods as regards the centre for the hind limb in the rabbit, which I had never been able to find. The result agreed precisely with all my previous experience, to the effect that movements in an animal anæsthetised inadequately or not at all anæsthetised following on stimulation are haphazard. They may be in accord with those obtained under the use of an anæsthetic or they may be utterly delusive. It counts nothing with me that the same movement may be called forth over and over again on stimulating the same spot, for I have produced repeated movements of the hind limb by stimulating the neck area, etc.

Mann mentions that in one of his experiments on rabbits

*his research was communicated also to the Royal Society of Canada, 1897.

"both hind legs kick out as in ordinary locomotion" (p. 26). Such a result in a mature rabbit should surely be viewed with grave suspicion, especially by one who claims such exact localisation as Dr. Mann. My own results on the rabbit may be thus briefly stated:

I have without any difficulty been able to localise cortical centres for a variety of movements for the fore limb, the neck, head, and face; with more difficulty, movements for the eyes and the ears, but in no single case when the animal has been properly under the influence of ether have I been able to get movements of the hind limb by stimulation with any reasonable strength of current. A large number of animals of different breeding, some being cross bred, some pure bred, and some ordinary mongrels, and of varying age, have been employed.

I can only explain the positive result that some other investigators report by the assumption that their animals were not at the moment properly under the influence of an anæsthetic, and that a haphazard movement was mistaken for a genuine one. Certainly it would be strange, after so much experience in this kind of work, and after subjecting this question of a centre for a hind limb to special investigation with the use of so many animals of different breeding and age, that my results should be uniformly negative for this centre but positive for all, or nearly all, others, found by experienced investigators, if I am in error. I can endorse what Fürstner[7] has said with regard to the ease with which chewing movements may be obtained in rabbits, and I have pointed out in my paper[8] on the Functional Development of the Cortex that these and such like movements appear far earlier in the rabbit than in the dog and the cat; in fact, that they may be induced about as soon as those for the fore limb.

To my mind it is perfectly clear that it cannot be maintained that the movements for the hind limb are in the same relation to the cortex in the rabbit as are those for the fore limb and the face. Whether the centre exists, but is too ill organised to be susceptible to stimulation by our rough experimental methods, whether it is too readily disordered by operative procedure to allow of experimental determination, I do not know, but I am satisfied that to represent such a centre as of the same kind and demonstrable in the same way as others in the rabbit is a mistake. In some respects it would remove difficulties if such a centre could be demonstrated to exist, but on the other hand it must be borne in mind that the method of locomotion in the rabbit is peculiar, and is not comparable to that of the rat, cavy (guinea-pig), etc.

As regards the cavy and the white rat I can confirm in general Ferrier's localisation. I have also examined the brown rat and the mouse, and find that their cortical centres correspond in the main with those of the white rat and the cavy.

I have made a sufficient number of experiments on mature cats and dogs to enable me to confirm in a general way the usually accepted localisation. I wish, however, to point out that there is a certain degree of individuality as regards the exact position of the centres in the dog and the cat, and perhaps still more in the readiness with which they may be excited by electrical stimulation. The same may be said as to the effects of ablation.

In regard to the latter, I do not find any functional defect of a kind that prevents the animal walking within a very short time after operation. There is, however, a change in the animal's movements—sometimes at first a tendency in dogs and cats in the fore limb to bend under, and for both the fore and the hind limbs to slip and to scrape on the surface over which the creature walks. The latter was especially noticeable in cats from which the motor areas around the crucial sulcus on both sides were completely removed by one operation. Nevertheless, even in such cases, the animals rapidly improved. Soltmann's[9] explanation—loss of muscular sense—in my opinion, goes a long way to explain this, though I would not deny that there is also some loss of muscular power.

In rabbits and other rodents the localisation is less definite than in the dog and the cat, and it seems to me a mistake to omit to state this in any work on cortical localisation. In my experience the centres are not nearly so definitely marked off, and are more variable in exact position. Certain movements, however, just as constantly and readily follow on weak stimulation in the rabbit at all events as the corre sponding ones in the dog and cat, if not more so. These ar the very movements that are most frequently called into exer cise by the life habits of the animals, and it seems to me im portant to recognise that all cortical centres are not equally well organised, as might be inferred from reading the account of some authors on this subject. This applies to the whol question of cortical localisation and not to that of the rabbi alone, though, as I have shown, it is specially well illustrate in this animal.

In my attempts to carry the investigation of cortica cerebral localisation downwards in the animal scale, naturally reached the bird. Upon turning to Ferrier' account,[10] I found that he claimed that stimulation of a area in the upper parietal region caused "intense contrac tion of the opposite pupil, occasionally associated wit turning of the head to the opposite side." He further says "In a few cases I have also observed, from stimulation o the region below this, turning of the head to the opposit side without contraction of the pupil. Beyond these effect the results of stimulation were entirely negative."

I have made a thorough examination of this subject in th pigeon, and have investigated the case of the fowl sufficientl to convince me that there is no difference, at all events so fa as the main results are concerned. The methods employe were the same as for other animals, and the results may b stated briefly as follows:

Every part of the cortex is refractory to stimulation, so fa as movements of the neck, head parts, and limbs are cor cerned. This also applies to the white matter lying beneat the cortex. Stimulation of the cortex may give rise to con traction or to dilatation of the pupil, or produce little or n change in it in either eye. When a change occurs, it i usually greatest on the opposite side, and may be practicall confined to that side. The result may be momentary or las for an appreciable time—may be a steady effect or oscillatory Very rarely, if ever, can it be maintained for any considerabl period.

As to whether contraction results or not seems to depen to some extent, on the condition of the pupil at the time for the result has been more frequent when the pupil ha been already moderately dilated. Contraction has been mo frequent than any other effect. I have not been able t demonstrate the conditions under which dilatation take place, nor the one effect now and the other again, as som times occurs. Both dilatation and contraction may occu during experiments made on the same bird. Apparently th conditions are complex and variable.

The most constant effect of stimulating the cerebral corte in the pigeon I have found to be movements of the nictitatin membrane. In all cases this structure has been drawn dow over the eyeball to a greater or less extent, and if the curre used be sufficiently strong the membrane may be held ov the eyeball for a brief period. The effect is greatest on th opposite side, but is not usually confined to that side. Th eyelids are usually drawn more or less together at the sam time, though this effect is much less constant and pronounce than that just noticed. The area of stimulation which pr duces these effects, and those on the pupil is not a very we defined one, but corresponds fairly well with that indicat by Ferrier. I have frequently got more marked movemen of the nictitating membrane on excitation of a point a litt more forward and outward. The same results follow stimulating the underlying white matter of the cerebrum.

I may say, finally, in regard to the pigeon, that it is ve important that the bird be properly under the influence an anæsthetic, as even in birds not wholly under the influen of ether there may be movements of the head on applying electrical current or a stream of water to the brain.

The variability in the result as regards the pupil may dependent in part on the degree of anæsthesia and the var ing manner in which the nervous mechanism of the eye affected, and this is, I am inclined to think, a partial explan tion of the unsteadiness of the results, though individu differences must also be recognised. For myself I have n been greatly surprised at this variability, considering t nature of the nervous mechanism of the eye, composed as is of antagonistic elements which probably vary a good de functionally in individuals and during anæsthesia.

General Conclusions.

In the dog, cat, rabbit, cavy, rat, and mouse, electrical stimulation of the cerebral cortex over definite regions produces regularly certain movements. These animals are, however, not on the same physiological plane with regard to this subject. The dog and the cat are more closely related, and fall into a physiological group by themselves. The rabbit, the cavy, the rat, and the mouse constitute another group. There are well defined differences for the cat and the dog. The same applies to the members of the other group. In the cat and the dog the motor areas are better defined than in the members of the other group.

In the case of all these animals it has been clearly demonstrated that all motor centres are not functional equivalents—some respond more readily and produce better-defined movements than others. They seem to be better organised. There appears to be all degrees of this functional variation down to zero. The rabbit is an especially good illustration of some phases of this principle.

The cortical localisation mapped out by Ferrier for the dog, cat, rabbit, cavy, and rat is in the main confirmed by the present investigator, but considerable allowance must be made for individual differences, and it is important, as has been just pointed out, to recognise that all motor centres in the same animal are not functionally equivalent in the sense explained above.

The removal of motor centres in the animals, made the object of this investigation does not lead to complete loss of the corresponding movements, and in some cases the difference between the intact animal and that operated on is, after a few days, relatively slight; so that it is plain that motor centres in such animals are not strictly comparable with motor centres in the primates. In other words: here again the question of degree of localisation and functional organisation (among others) must be considered.

The bird is on a wholly different plane. None of the ordinarily recognised movements on stimulation of the cerebral cortex can be excited in the bird. On the other hand, certain simple movements, both intrinsic and extrinsic, follow as a result of stimulation of the cortex.

References.

Published in the *Transactions of the Royal Society*, Canada, for the current year. [2] *The Functions of the Brain*, Second Edition. London, 1886. [3] On the Homoplasty of Rodents, Insectivores, and Carnivores, *Journ. of Nerv. and Phys.*, Oct., 1895. [4] *Loc. cit.*, p. 225. [5] *Loc. cit.* [6] Exper. Beitrag. zur elektrisch Reiz. d. Hirnrinde, *Arch. f. Psych.*, vi, pp. 719-732. [7] *Loc. cit.* [8] *Loc. cit.* [9] *Jahr. f. kinder. u. phys. Erziehung*, 1876. [10] *Loc. cit.*

SOME ANATOMICAL AND PATHOGICAL SPECIMENS.

Dr. D. S. Lamb, of the Army Medical Museum, Washington, U.S.A., exhibited in the Anatomical and Pathological Museum some specimens showing anomalies and lesions. The following is Dr. Lamb's description of the specimens:

Eighth Rib Sternum.—In this specimen the eighth cartilage is attached on the left side. The peculiar interest of the case was in the fact that the subject, a German woman, was left-handed; and it illustrates the theory of Professor D. J. Cunningham [1] that the occurrence of the anomaly in the human subject depends on increased use of the arms, being found oftenest on the right side when not found on both. The increased use of the arm requires an increased basis of muscular action on the thoracic cage.

Bilateral Ankylosis of Jaw.—In this specimen the condyloid processes were firmly and smoothly united by bone to the zygomatic processes and glenoid fossæ, and on the left side also to the articular eminence. No osteophytes were present. There was much atrophy of the alveolar processes. The left molar teeth had been removed for feeding the patient, who was a mulatto woman, aged 48, a cook, who had fixation of the jaw for twenty-nine years. She gave a history of ear trouble when she was not deaf, and no ear lesion was found *post mortem*. She also gave a history of scrofula, rheumatism, influenza, and malaria. She died of general tuberculosis. Dr. Lamb thought that she had had a sharp blow on the chin, which in a scrofulous constitution might have set up a troublesome osteitis.

Exaggerated Papillæ of Corona Glandis.—The specimen was from a negro. There was a double row of papillæ, about 1 m. long, on the corona, becoming single on the under side. The condition, which must perhaps be regarded as reversionary, seemed to be rather rare in the experience of even the syphilologists; but Sprunck [2] found exaggerated papillæ in 39 per cent. of 300 healthy men, presumably Germans, between 18 and 25 years old.

Congenital Tracheo-Œsophageal Fistula.—A valvular opening one-sixth of an inch in diameter, corresponding to sixth to eighth tracheal rings, was seen in the median line. There had evidently been a failure of complete occlusion. The condition occurred in a white male infant, aged 7 weeks, which died of inspirational pneumonia. The case was interesting because of its rarity, its serious character, and the impossibility of diagnosis. It was published in full in the *Philadelphia Medical Times*, iii, 1872-73, p. 705.

Olecranon Perforation.—This specimen, from a child aged about 12 years, was found in an Indian mound in Dakota. The interest of the case was the youth of the subject. Dr. Lamb had seen the perforation in only a few children, and only among Indians, and never, he thought, below the age of about 12 years. The subject of olecranon perforation had been pretty thoroughly discussed by him in the *American Anthropologist*, iii, 1890, p. 159; and, later, by Dr. Washington Matthews, United States Army, in his report on the Hemenway Collection of Bones from the Salado Valley, etc., in the *Memoirs of the National Academy of Sciences*, vol. vi, 7th memoir. Dr. Lamb expressed the opinion that the opening resulted from atrophy caused by pressure of the olecranon process. In the case of children younger than 12 years it might yet be necessary to admit a possibility of heredity in its causation.

Precolumbian Syphilis.—A series of bones from the same skeleton were shown. They had been found 12 feet deep beneath unbroken strata of earth, in an Indian mound near Lighthouse Landing, Fernandina, Florida, U.S.A. In the opinion of the finder, Professor Clarence B. Moore, of the Academy of Natural Sciences, Philadelphia, they were an original burial and precolumbian. They all showed inflammation in the form of smooth elevations, recticular exostoses, and extensive deep erosions. Nearly all the epiphyses were absent; of those which were present the joint surfaces were normal. Probably, therefore, there was no disease of the joints. The specimens, as Dr. Osler said on viewing them, could hardly be anything else than syphilitic. The question of their being precolumbian could, in Dr. Lamb's opinion, be safely left to Professor Moore, who, he believed, was one of the best authorities on the subject. In this connection the following quotation was made from a recent work of Professor Moore's [3]: "In no previous mound work have we found so great a percentage of pathological specimens as in this mound; and, as has not been the case in other mounds, entire skeletons seemed affected, and not one or possibly two bones belonging to a skeleton. The pathological conditions were so marked, and cranial nodes so apparent, that, in view of the fact that no objects positively indicating white contact were discovered in the mound, though the utmost care was exercised by a trained corps of assistants, we are compelled to regard the bones with the greatest interest since, evidence of contact with the whites being wanting, we must look upon these bones as of precolumbian origin. We may state here that all bones preserved by us came from depths in the mound which insure their derivation from original burials. These bones, found 8 to 12 feet from the surface, and lying beneath numerous undescribed layers, are as unmistakably of an early origin as any yet described, and much more reliable than most."

References.

[1] *Jour. of Anat. and Phys.*, xxiv, 1889 90, p, 128. [2] *Konigsberg, Dissertation*, xxiii, 1897, "Ueber die vermeintlischen Tyson'schen Drüsen." [3] *Additional Mounds of Duval and Clay Counties*, Florida, 1896, p. 25.

Erratum.—In the report of the discussion on the Teaching of Anatomy in the Section of Anatomy and Physiology at the annual meeting at Montreal, published in the British Medical Journal of October 2nd, 1897, pp. 878-9, part of the remarks made by Professor F. J. Shepherd were, owing to a confusion in the manuscript of the report, attributed to Professor Wesley Mills. In the report under the name of Professor Mills, all the remarks from the twelfth line, "He thought that one needed to be a practitioner," to the end, should have been attributed to Dr. Shepherd.

SECTION OF OBSTETRICS AND GYNÆCOLOGY.

W. Japp Sinclair, M.D., President.

ON SPURIOUS ABORTION, WITH AN ACCOUNT OF THREE CASES.

By T. W. Eden, M.D., M.R.C.P.,
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The object of this paper is to call attention to a class of cases in which a mimicry of early pregnancy and of abortion occurs, quite different in its character from the condition known as pseudocyesis, or spurious pregnancy. In this condition there is progressive enlargement of the abdomen, associated with amenorrhœa, and many of the minor functional disturbances of pregnancy, and terminating sometimes in a mimic labour, which is of course without result. But the gross changes in the uterus or Fallopian tubes, upon which alone the diagnosis of pregnancy must ultimately rest, are always absent, and the condition is rightly regarded, from its nature and associations, as hysterical in character. The cases to which attention is here called belong, however, to quite a different category. They are not associated with hysteria, and the usual functional disturbances of pregnancy are not exaggerated They differ from pseudocyesis in the existence of definite changes in the uterus, and from pregnancy either topic or ectopic in the essential point of the absence of an ovum, either within or without the uterus. They mimic abortion in the occurrence of a period of amenorrhœa with enlargement of the uterus, and the formation within it of a body, the detachment and expulsion of which is followed by a return to menstrual regularity, and the former condition of general health. The body expelled is not an ovum, but is formed entirely from maternal structures, and its exact nature will be described later on.

A case of this kind came under the author's notice a few months ago, and was communicated to the Obstetrical Society of London. Two similar cases had been previously recorded in the *Transactions* of the same Society, making three in all, but a careful search has failed to show that any such cases have been recorded elsewhere. By the kindness of the authors of the first two cases I have been allowed to re-examine their specimens, and am therefore able to report upon all three. A short account of each case will therefore be next presented.

Dr. Griffith's case[1] is recorded as A Note on the Importance of a Decidual Cast as Evidence of Extrauterine Gestation. The patient was a woman, aged 25, married two years, but never previously pregnant. She was seen at St. Bartholomew's Hospital on July 30th, 1893, complaining of inability to pass water. Menstruation had been absent for three and a half months. She had suffered from morning sickness, the breasts had increased in size and showed signs of activity, and she believed herself to be pregnant. She also complained of a brownish discharge which had appeared on the previous day. The urine was drawn off, and on examination a mass was found lying in the vagina, which was removed, and found to be a cast of the uterus. No cause for the retention of urine could be discovered, but the patient was admitted into the hospital on the suspicion that she might be suffering from extrauterine gestation. There was no history or symptom of the rupture of an extrauterine gestation sac. The patient was next examined under an anæsthetic, but nothing abnormal could be detected beyond slight enlargement of the uterus, the sound passing $2\frac{3}{4}$ inches. (This it will be remembered was after the discharge of the cast). It was considered, however, that the history of amenorrhœa, and other symptons of pregnancy, combined with the discharge of the uterine cast, pointed so strongly to the existence of extrauterine gestation, that after explaining matters fully to the patient it was decided to perform exploratory abdominal section. This was done two days after admission, but a careful examination failed to reveal any evidence of extrauterine gestation or other morbid condition whatever. The patient made an uninterrupted recovery.

The cast was regarded as identical with those found in cases of extrauterine gestation. It measured $2\frac{1}{2}$ inches in length by 2 inches in breadth; the inner surface was smooth, but showed no trace in any part of placental tissue, and no spot that was at all suggestive of the site of implantation of an ovum; the outer surface was roughened with papillary elevations about the size of grains of wheat. Microscopically it consisted of well formed decidual tissue, with characteristic "decidual cells," numerous leucocytes, glands, and blood-vessels. There were no chorionic villi, and no masses of fœtal epiblast in any part.

In this case pregnancy, either uterine or extrauterine, could be with certainty excluded, the former by the absence of fœtal structures from the cast, the latter by direct examination and handling of the pelvic viscera. Yet the clinical history of the case is typical of a simple abortion in the fourth month, and histological changes occurred in the uterus which have been hitherto supposed to be characteristic of the presence of a developing ovum in some part of the genital tract.

Dr. Dakin's case[2] is recorded as A Cast from the Uterus having all the Characters of the Decidual Membrane found in connection with Ectopic Gestation. The patient was 27, had been married a little over two years, and had borne a stillborn child in January, 1895. In August of the same year she was treated for subinvolution, with some thickening of the tissues in the position of the right ovary, but she recovered under medicinal treatment alone. Menstruation was thereafter regular up to May, 1896, when she menstruated regularly, the flow appearing on the 17th. No further loss occurred until June 27th, when she lost a little blood, but the discharge was mainly brownish, and continued for three days, ending in the expulsion of a fleshy body, which turned out to be a uterine cast. For a fortnight before the cast was expelled she had had a good deal of dull abdominal pain, with occasional paroxysms, but there was not much increase of this at the time of expulsion. The patient was in the country at the time of the occurrence, and her husband brought up the specimen on the following day. It was obviously a cast of the endometrium, and since the history agreed well with the supposition it was thought to be evidence of ectopic gestation. The patient was therefore brought up to London next day, and on examination the uterus was found to be enlarged to nearly twice its natural size, and freely movable, while on the right was a tender lump as large as a hen's egg, which seemed to correspond to the outer third of the tube. There was serum in both breasts. It now appeared almost certain that the tube was occupied by an ovum, and abdominal section was accordingly performed on the following day. But the lump on the right was found to be a thin-walled cyst, and was removed along with the tube and a portion of the broad ligament. The rest of the pelvic organs were natural. The cyst turned out to be an ovarian cyst arising in the hilum; the removed portion of the tube was perfectly healthy. Since the operation menstruation had been normal in all respects.

The cast measured $3\frac{1}{2}$ inches in length and $1\frac{5}{8}$ inch in breadth, and its average thickness was $\frac{3}{16}$ of an inch. There was no sign of the implantation of an ovum, and the surface of attachment was very shaggy. Microscopically it consisted of well formed "decidual cells," with numerous wide blood spaces and remains of gland tubules. No chorionic elements could be found in any part.

In this case also the exclusion of pregnancy is complete and absolute. Yet the patient had a definite, though brief period of amenorrhœa and marked enlargement of the uterus and a fleshy body was expelled from it which might easily have been dismissed by perfunctory examination as an abortion. The histological characters of the cast were practically the same as in the first case.

The Author's Case.

The following case came under my own observation:—[3]

The patient, who was under the care of Dr. Herman, was a multipara who had had seven previous pregnancies, the last about two years ago. Menstruation was perfectly regular up to December 6th, 1896, the date of cessation of the last period, but no further loss occurred until February 21st, 1897, a period of eleven weeks' amenorrhœa. Hæmorrhage then set in, and on the following day a fleshy mass was expelled, which was at first thought to be an abortion; the bleeding thereafter ceased, and the patient made an uninterrupted recovery. During the period of amenorrhœa there had been morning sickness, but not so severe as she had usually experienced, so that the patient herself doubted if she was

pregnant. Examination of the pelvic organs showed nothing abnormal, and there was nothing in the history to suggest the existence of extra-uterine gestation; the patient recovered without a bad symptom, and has since remained in good health.

The "fleshy mass" was found to be a triangular cast of the uterus, measuring 4 inches in length by $3\frac{3}{4}$ inches across the base, and in thickness varying from 3 to 8 millimetres. The outer surface was rough and uneven, the inner dull, glistening, and thrown into numerous longitudinal folds. There was a good deal of interstitial hæmorrhage at the apex of the cast, but not in other parts. No trace could be seen of placental tissue or a placental site, and no chorionic structures could be found, although an exhaustive microscopic examination was made of all parts; the tissue was a decidual membrane.

Remarks.

When Dr. Herman brought the specimen to me he remarked that it was an early abortion which I might like to examine, and it reached me in a perfectly fresh condition. On careful inspection its true nature was, however, evident, and when reporting on it I half expected to hear from Dr. Herman that the case had turned out to be one of extra-uterine gestation. But the local conditions and the clinical course of the case quite negatived this supposition, and we both agreed that the case must be classed with those already reported by Dr. Griffith and Dr. Dakin. Yet we meet once more the same clinical picture of amenorrhœa and morning sickness, terminating after eleven weeks in hæmorrhage and the discharge of a fleshy mass from the uterus, which was at first sight regarded by an experienced obstetric physician as an abortion.

The Microscopic Appearances of the Casts.—By the kindness of the authors of the first two cases I have been enabled to re-examine their specimens and to compare the minute characters of all three.

The naked-eye appearances make it clear that these specimens are casts of the mucous lining of the uterus, and the microscope shows that their minute structure closely resembles that of the decidua of pregnancy. The following are the essential points of resemblance to the decidua of pregnancy.

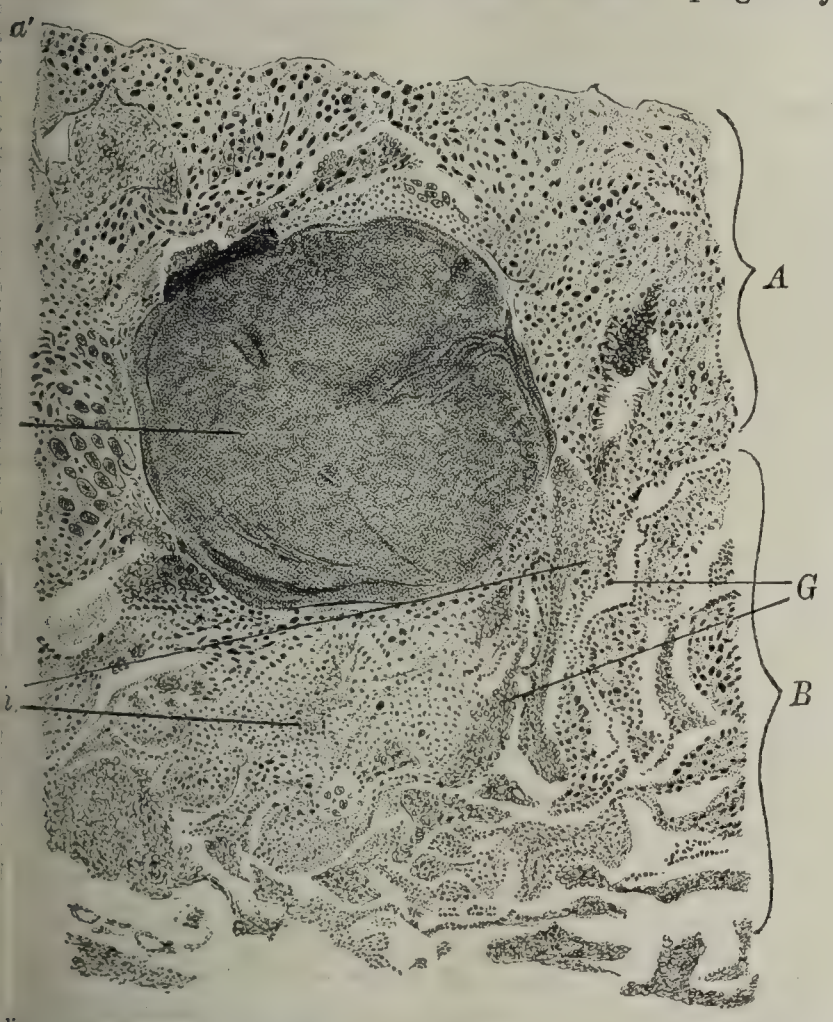

Fig. 1.—Author's case. Vertical section through the membrane. *A*, superficial compact layer; *a*, limiting layer of flattened cells; *B*, deep cavernous layer; *G*, gland acini, dilated; *H*, large central hæmorrhage; *h'*, small interstitial hæmorrhages.

1. The connective tissue stroma is converted almost entirely into "decidual cells."

2. The membrane is roughly divided into a superficial compact, and a deep cavernous layer; in the former the uterine glands have almost disappeared, in the latter they persist as somewhat dilated spaces. But the distinction is not quite so precise and well defined as in the decidua of pregnancy.

3. The surface epithelium is lost, and the membrane is limited by a layer of flattened cells; the mouths of the glands have disappeared.

There are, however, one or two points of distinction from the decidua of pregnancy.

1. The characters peculiar to the decidua serotina are entirely absent. These characters are: (*a*) invasion of the tissues by chorionic villi and masses of fœtal epiblast; (*b*) the formation of the maternal placental sinuses. In other words, the changes which take place in the decidua at the point of implantation of the ovum are absent.

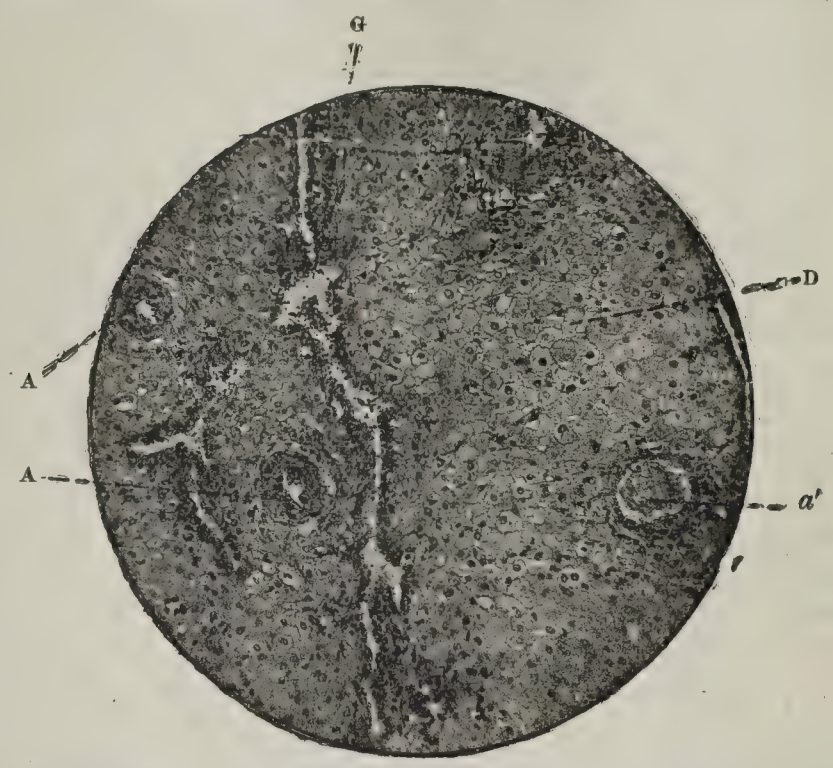

Fig. 2.—Author's case. Small area more highly magnified. A A, Arteries with thickened walls; *a'* artery with commencing thickening at one side; D, decidual cells; G, long glandular channel showing irregular dilatations.

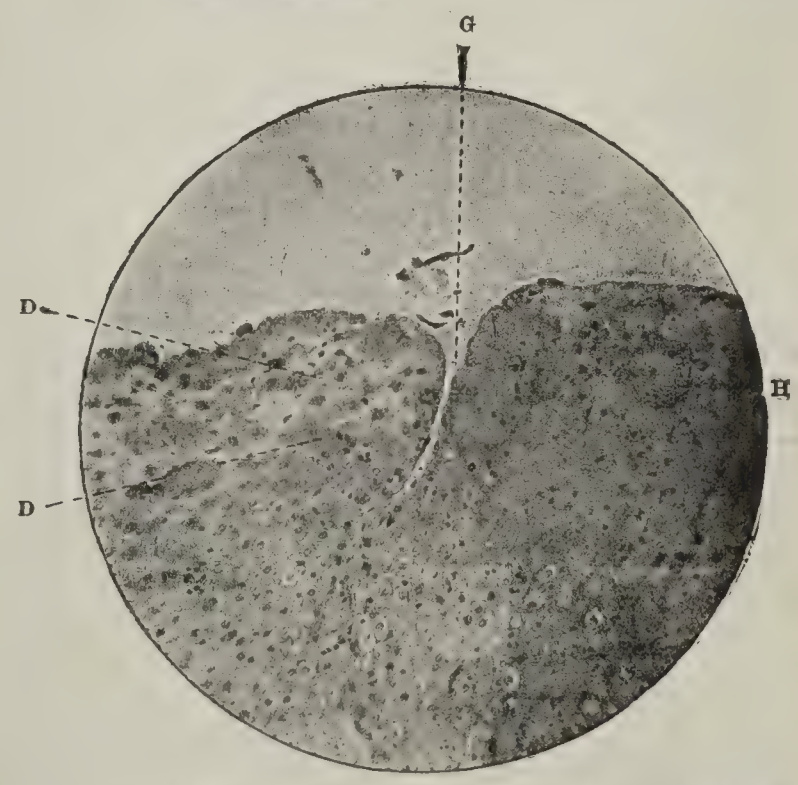

Fig. 2.—Author's case. Surface of membrane more highly magnified. D D, Degenerating decidual cells; H, large extravasation; G, mouth of a glandular channel.

2. In two of the three specimens here described, the decidual arteries are the seat of well-marked endarteritis obliterans,

and following no doubt upon this condition, the decidual cells and capillary walls in many parts show fatty degeneration. It may be that these arterial and other changes are not due to any definite pathological factor, but represent the natural process of preparation of the membrane for its exfoliation.

Finally it must be added that the microscope alone does not suffice to distinguish these casts from those which are often met with in extrauterine gestation.

Definition.—We are now in a position to formulate a definition of the condition for which the term "spurious abortion" is suggested. It is "the development within the uterus, in the absence of uterine or extrauterine gestation, of a membrane having the essential characters of the decidua of pregnancy and accompanied by the signs of early pregnancy; and its separation and expulsion from the uterus, with hæmorrhage, thus simulating an abortion."

Diagnosis is of course impossible until after the discharge of the cast. It then consists of two distinct steps.

1. The exclusion of uterine pregnancy by careful microscopic examination of the cast, which demonstrates the absence of chorionic tissues.

2. The exclusion of extrauterine pregnancy. This may be a matter of some difficulty and must be very carefully considered in every case. In Dr. Dakin's case nothing short of abdominal section could have established the diagnosis, and it is fortunate that in two out of these three cases extrauterine gestation was excluded by direct inspection and palpation of the tubes and ovaries. But this radical procedure is clearly unnecessary in the light of the third case recorded by the author. It is inconceivable that in this case extrauterine pregnancy could have advanced to the eleventh week without giving rise to any symptoms or to any abnormal physical signs in the pelvis, but if other evidence be desired the uneventful after-history of the case supplies it.

Etiological Considerations.—We have now to consider briefly what may be the possible explanations of this mimicry of early pregnancy terminating in abortion. Practically there are only two.

1. That an ovum was actually fertilised, but perished at a very early period without leaving traces of its presence, while the "genetic reaction" in the uterus and in the general organism progressed as in developing pregnancy.

2. That some stimulus other than the presence of a fertilised ovum in the genital tract may lead to the formation within the uterus of a complete decidua, and may hold the menstrual functions in abeyance.

The latter is a large assumption, and forms a complete reversal of the time-honoured and universally accepted view of the relation of the decidua to pregnancy alone. For this reason, if for no other, we should hesitate to adopt it. But if, in the future, it should be shown that cases of this kind may occur in women who have not been exposed to the risk of conception, we should then be compelled to reconsider this view. If we exclude pregnancy, then we must discover some other causative factor. It has been known for some time that scattered clusters of "decidual cells" may occur in the stroma of the endometrium in conditions other than pregnancy, and I have myself several times seen them in curettings from the endometrium of women who have never to their knowledge been pregnant. But it has not yet been shown that a complete decidua may be formed and shed in such cases, and we are therefore thrown back upon the first supposition.

Upon this view the ovum if situated in the uterus must have perished within the first fortnight, otherwise its site of implantation would have been discoverable. If situated in the tube it might possibly have developed somewhat further than this without giving rise to gross changes recognisable on palpation. It is clear, however, from the size of the cast in the second and third cases that if this view be correct the uterine changes must have progressed considerably after the death of the ovum occurred; although contrary to our experience of what occurs in "missed abortion," this is not impossible, and does not involve such large assumptions as in the case of the alternative theory just discussed.

At present therefore we must regard "spurious abortion" as closely allied to "missed abortion," but differing from it so widely in the absence of an ovum as to require a special name.

It also follows from these cases that the discharge of a decidual cast must no longer be regarded as a pathognomonic sign of extra uterine gestation.

References

1 *Trans. Obstet. Soc.*, Lond., vol. 36. 2 *Ibid.*, vol. 37. 3 *Ibid.* vol. 38.

THIRTY-TWO CONSECUTIVE ABDOMINAL SECTIONS WITH THIRTY RECOVERIES, PERFORMED WITHIN SEVENTEEN MONTHS.

WITH OBSERVATIONS.

By J. Macpherson Lawrie, M.D.,

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The term "abdominal section" has gradually acquired the restricted meaning of an operation performed through an incision in the linea alba. As I have included in my series five cases in which the peritoneal cavity was opened from below, as well as three cases in which the abdominal wall was opened to the right side of the middle line, the term cœliotomy (opening of the cœlum or peritoneal cavity) would perhaps be more exact. Under this term, such operations as herniotomy and radical cure of hernia might be strictly included; but inasmuch as they have nothing in common with the other cases beyond the mere fact that the peritoneal cavity is opened, I have not included them in the present instance.

The thirty-two cœliotomies of which I propose to give a brief account were as follows:—

Cases.		Deaths.
7	Ovariotomies with	0
12	Operations for removal of diseased appendages, with ...	1
2	Oöphorectomies for uterine myoma, with	0
1	Operation for extrauterine gestation, with	0
5	Vaginal hysterectomies, with...	0
1	Abdominal panhysterectomy, with	1
1	Ventrifixation of the uterus, with	0
2	Operations for purulent appendicitis, with	0
1	Inguinal colotomy, with...	0
Total 32	cœliotomies, with	2

Section I.—Ovariotomies.

Case I. *Large Multilocular Ovarian Cyst* (Table No. 2).—Abdominal section on September 24th, 1895. The tumour was a large multilocular ovarian cyst; on tapping it a quantity of thick brown fluid escaped into the peritoneal cavity. The pedicle contained a number of large veins and measured 8 inches across; it was ligatured in five or six sections and the tumour was removed. The peritoneal cavity was thoroughly irrigated with sterilised water; a glass drainage tube was passed down into the pouch of Douglas, and the wound closed.

Case II. *Large Multilocular Ovarian Cyst* (Table No. 6).—Abdominal section on December 8th, 1895. The incision extended 2 inches above the umbilicus. The bulk of the tumour was reduced by tapping, and a number of adhesions were separated. The pedicle was secured and divided, and the remaining adhesions were then broken down. There was free oozing from the adhesion sites, which was controlled by ligature and by the use of Paquelin's cautery. The peritoneal cavity was irrigated and a glass drainage tube left in for thirty-six hours.

Case III. *Multilocular Ovarian Cyst* (Table No. 9).—Abdominal section on January 12th, 1896. The tumour proved to be a multilocular ovarian cyst. There were no adhesions, and the operation presented no features requiring comment, being perfectly straightforward.

Case IV. *Ovarian Tumour with Hour-Glass Contraction and a Twisted Pedicle* (Table No. 10).—On examination two distinct tumours could be made out, closely connected, but presenting between them a deep fissure. Abdominal section on February 2nd, 1896. A long incision was made and the tumour presented in the wound. It was traversed by a deep sulcus and was closely adherent to the back of the uterus and to the surrounding pelvic structures. Both portions of the tumour were elastic and fluctuating, and the whole mass was the size of two cocoa-nuts. The specimen was submitted to the Clinical Research Association, when the following report was made:—"The tumour is a unilocular ovarian cyst, with an hour-glass contraction. It had been adherent to the back of the uterus and to the right broad ligament. The pedicle was twisted, accounting for the tarry nature of the contents."

Case V.—*Broad Ligament Cyst* (Table No. 12).—Abdominal section on April 7th, 1896. The tumour was of a moderate size, and was situated in the broad ligament. The peritoneum over it was incised and the tumour partly enucleated; it was then removed with the corresponding appendages. The walls of the cavity in the broad ligament came together satisfactorily.

Case VI.—*Large Ovarian Tumour* (Table No. 16).—Abdominal section on May 24th, 1896. A cystic swelling presented in the wound. This was reduced by tapping, and it was then found that it was united by numerous firm adhesions to omentum and to the parietal peritoneum on the right side. The adhesions were highly vascular, a number of large veins being especially conspicuous. The omentum was ligatured off in sections, and the larger parietal adhesions were similarly dealt with. In the pedicle there were also a number of large veins. After this had been firmly secured it was divided and the cyst removed. There was free venous oozing, which was controlled by packing in hot sponges.

Case VII. *Ovarian Tumour Complicated by Pregnancy* (Table No. 20).—Abdominal section on August 23rd, 1896. A large multilocular cyst was found growing from the left side. Owing to the presence of numerous adhesions between the upper part of the tumour and the omentum and parietes, and to the careful manipulation that was required to avoid injury to the pregnant uterus, the operation was difficult, and a long incision was necessary before the tumour could be extracted. The larger adhesions were ligatured, the pedicle was freed and secured, and the tumour removed. The uterus extended 2 inches above the pelvic brim. There was a good deal of bleeding from the adhesion sites, which was controlled by pressure. The pregnancy was not interfered with and she was delivered at term of a healthy child.

Remarks.

It is well known that when difficulties occur during ovariotomy they are nearly always due to adhesions; and when these are of some standing they may become very formidable, as they are apt to contain very large veins, as in Cases VI and VII. These are sometimes present in the pedicle also, as in Case I. It is therefore highly important that an ovarian cyst should be removed early before the formation of adhesions; the operation is thereby much simplified and the risks diminished. The association of adhesions with cysts which are large and therefore of longer standing is well illustrated even in this short series of seven cases.

The twisting of the pedicle in Case IV illustrates an additional risk; if the torsion be rather acute decomposition changes may set in, followed by symptoms of septicæmia. In my case the strangulation must have been chronic, affecting mainly the veins; as a result blood was extravasated into the cyst cavity from the rupture of the veins in its walls, and as the arteries were evidently less, if at all, compressed, the total quantity of blood extravasated was considerable. This case was the only one which offered any serious difficulty in the way of diagnosis. When I first saw the patient she was extremely anæmic and gave me a history of constant hæmorrhage, pain, and swelling. Two rounded swellings were recognised, both adherent to and moving with the uterus; and the signs and symptoms taken together inclined me to the belief that I had to deal with a fibroid tumour. Hence the delay in resorting to operation. The rapid increase in the size of the tumour and the constant hæmorrhage made me feel, however, that operative interference was imperative.

Case VII is a good example of the tolerance of even serious operative interference by pregnant women. I think that there is no doubt that early ovariotomy was here the proper treatment for several reasons. First, the pregnancy had advanced only to three and a-half months, and the uterus if not directly interfered with is more likely to continue its functions at this stage than later. Secondly, if the operation had resulted in miscarriage, this would have been a less serious complication of abdominal section at this stage than if the pregnancy had advanced to six or seven months, or to term. Thirdly, if it had been left, the abdominal distension and the consequent interference with respiration and circulation would have been much greater in the later months of pregnancy.

Section II.—Removal of Diseased Appendages.

Case I. *Chronic Ovaritis and Cystic Disease: Double Oöphorectomy* (Table No. 1).—The patient had suffered from constant pain in the left ovary, which was enlarged and tender. This condition had existed for years, and had been followed by loss of power in the left leg. She was under my care for a considerable period before I decided, all other treatment having failed to give relief, to remove the ovaries. The operation was performed on August 1895, and presented no difficulties whatever; the patient made a rapid and uneventful recovery. On examining the specimens removed the left ovary was found to be enlarged and cystic.

Case II. *Cystic Disease of both Ovaries: Double Oöphorectomy* (Table No. 3).—For four months the patient was placed on palliative treatment; rest, watering, scarifying, and hot douches; in addition the uterus was retted, but she got gradually worse in spite of it. Abdominal section was performed on October 1st, 1895. Both ovaries were found to be cystic and enlarged, and they, with the tubes, were removed without any difficulty. No drainage was employed, and the wound was closed. The patient made an uninterrupted recovery.

Case III. *Salpingitis and Cystic Disease of the Ovaries: Double Oöphorectomy* (Table No. 5).—Abdominal section was performed on November 10th, 1895. The right ovary, which was enlarged and cystic, was freed from adhesions; in this process one large cyst ruptured. The appendages of both sides were removed. A good deal of delay occurred towards the end of the operation in an anxious search for a small sponge, which was at last found. The peritoneal cavity was freely irrigated, a drainage tube inserted, and the wound closed. The patient was in a miserable condition of general health, and injections of beef-tea and brandy were instituted from the first. Symptoms of peritonitis arose and rapidly developed. On the fifth day I reopened the abdomen and washed it out with warm water, liberating the freshly adherent intestines with the fingers, and a considerable amount of semi-purulent fluid was evacuated. The patient, however, gradually sank, and died on the sixth day.

Case IV. *Salpingitis: Right Ovary Cirrhotic: Left Ovary Cystic: Double Oöphorectomy* (Table No. 7).—This patient had been under my care for five years. During this time she had suffered from continual and severe abdominal pain, which made her life miserable to her. Palliative treatment of all kinds entirely failed to relieve her pain, so that at last I made up my mind that the only hope of relief lay in operation. To this she immediately and gladly assented. Abdominal section was performed on January 3rd, 1896. The operation presented no difficulty, as there were no adhesions. The left ovary was found enlarged and cystic; the right ovary was cirrhotic. Both ovaries and tubes were removed after the pedicles had been secured, and the abdominal wound was closed.

Case V. *Cystic Ovaries with Severe Dysmenorrhœa: Double Oöphorectomy* (Table No. 8).—This patient, like the preceding one, had been under my care for a number of years on account of severe pain in the back and in the abdomen; the latter was referred to the ovarian regions. The pain was incessant, but was greatly aggravated at the menstrual periods, when it was associated with retching and vomiting. Time after time I tried different methods of palliative treatment, each plan being patiently persevered in. But instead of the slightest benefit she got steadily worse, her sufferings becoming more severe and more constant. Her life was a burden to her, and she earnestly begged for relief by any means. Abdominal section was performed on January 10th, 1896. Both ovaries were found enlarged and cystic, and were removed with the tubes; the abdominal wound was then closed. The operation throughout presented no difficulties.

Case VI. *Chronic Ovaritis Causing Severe Dysmenorrhœa: Double Oöphorectomy* (Table No. 13).—For twelve months the patient had had a long course of palliative treatment, but was in no way better; indeed, she was rather worse. She complained of great sacral pain, extending up the back to the head, as well as of pain in both groins. The periods had become increasingly painful, and she was in constant distress and anxious for relief, as she could not walk about. In April, 1896, as there was still no improvement, the removal of the appendages was advised and agreed to, and abdominal section was performed on April 12th. As in the previous cases, the operation presented no difficulties. Both ovaries were found enlarged and the seat of chronic ovaritis.

Case VII. *Pyosalpinx of the Right Side; Removal* (Table No. 22).—Abdominal section was performed on October 4th, 1896. There was an unusual amount of bleeding from the abdominal incision. On separating a number of adhesions between the omentum and the abdominal wall a tumour was found occupying Douglas's pouch, and extensively adherent to the back of the uterus and to the pelvic wall. It was enucleated by separating the adhesions, and was then found to consist of a greatly dilated right tube, the size and shape of a large pear. The appendages of the left side were found to be healthy, and were not interfered with. On incising the tumour the contents were found to be purulent.

Case VIII. *Right Hydrosalpinx: Left Ovarian Abscess: Double Removal of the Appendages* (Table No. 23).—Abdominal section was performed on October 18th, 1896, by a fairly long median incision. The left ovary was felt forming a cystic tumour; it could not be drawn up or isolated, and was evidently adherent all round to the bowel and neighbouring structures. The fundus was defined and the left tube traced outwards, where it became lost on the tumour. In the course of the manipulations the ovarian end of it gave way. After much dissection the cyst was isolated; whilst it was being removed it burst, and some offensive pus escaped into the abdomen. A large irregular cavity was left, much lacerated, and there was a good deal of bleeding from numerous points in its interior. It extended down into Douglas's pouch, and was freely exposed by packing the intestines out of the way and raising the patient into the Trendelenburg position. It was then found to extend considerably to the left, being bounded below by the broad ligament and above by matted coils of intestine. Several vessels were ligatured, and the cavity was flushed out and then packed with sponges wrung out of iodine water. On removing the sponges there was renewed bleeding, which was controlled by transfixing and tying several parts of the broad ligament. The appendages of the right side were next examined, and the tube was found distended by fluid (hydrosalpinx); it was removed, together with the ovary.

Case IX. *Double Hydrosalpinx: Removal of the Diseased Appendages* (Table No. 26).—This patient was sent to me complaining of great pain, situated chiefly in the left ovarian region and extending for a considerable distance above and below it. When severe it caused a feeling of numbness in the left leg, and she suffered also from backache and "bearing-down" pain. For a year palliative treatment was carefully adopted, but failed to relieve her; on the contrary, she got gradually worse. Operation was therefore advised and readily agreed to. Abdominal section was performed on November 14th, 1896. On separating some adhesions in the pelvis it was found that both ovaries were enlarged and cystic, and that both tubes were distended to a considerable size. The tube and ovary of each side were removed without difficulty. On cutting into the tubes each was found to contain clear fluid; the fimbriated extremities were sealed up.

Case X.—*Cystic Degeneration and Fibrosis of both Ovaries: Double Oöphorectomy* (Table, No. 27).—The patient had been married three years, and her only pregnancy had resulted in a miscarriage. This was accompanied and followed by a good deal of hæmorrhage, which ceased and returned again at intervals. From this miscarriage she dated her symptoms, of which the most pronounced was severe and constant abdominal pain, extending round to the back, and completely incapacitating her. In addition she suffered from bearing-down pains and leucorrhœa. Her general health had been undermined by her suffering, so that she looked thin and worn, and her face had an anxious expression. Abdominal section was performed on November 24th, 1896. The ovaries were both enlarged, cystic, and bound down by adhesions. These were separated, and the tubes and ovaries were removed. On section, the latter presented a good deal of interstitial fibroid thickening between the cysts. The operation presented no complications, and the convalescence was quite uneventful.

Case XI. *Cystic Disease of the Ovaries: Double Oöphorectomy* (Table No. 28).—The patient complained of severe backache and bearing down, and of a constant pain in the left iliac region. She experienced great pain in passing water, and irritability of the bladder. Sexual intercourse was

very painful, and was always followed by hæmorrhage. The periods recurred every two weeks, and she suffered from dysmenorrhœa; so that she had become a chronic invalid. Abdominal section was performed on November 29th, 1896, and both ovaries were found enlarged, adherent, and cystic. The enlargement was most marked on the left side. The adhesions were separated without much difficulty, and there was no hæmorrhage to speak of. Both ovaries and tubes were removed and the wound closed.

Case xii. *Double Salpingitis: Removal of the Appendages* (Table No. 31).—Palliative treatment was carried out very thoroughly for over two years; rest, douching, glycerine plugs, blisters, pessaries, and curetting were successively tried, but no improvement followed. On examination the ovaries were always found enlarged and tender; the tenderness was most marked on the left side. The temperature continued above normal, and the general health suffered considerably. Abdominal section was performed on January 5th, 1897, three years after the onset of her troubles. The ovaries on both sides were enlarged, adherent, and cystic, and the tubes were the seat of chronic inflammatory changes. After separation of the adhesions the appendages were brought up, ligatured, and removed. The pelvis was cleaned out with dry sponges; there was no oozing, and drainage was not required.

Remarks.

The cases in this section fall somewhat naturally into two categories: first, cases of diseased Fallopian tubes; secondly, cases of diseased ovaries. As regards the first group, it is universally recognised that the removal of the diseased structures is the proper procedure. This is especially and urgently necessary in dealing with pyosalpinx; because the presence of the purulent collections in the pelvis is a standing menace, not only to the patient's health but also to her life. The consequences of a neglected pyosalpinx are manifold; risks of repeated pelvic peritonitis, which may at any time prove very severe and even fatal; chronic disablement; risk of intestinal adhesions leading to cicatricial contraction and consequent intestinal obstruction, due either to kinking of the bowel, or to constricting bands; risk of fistulous openings into bladder or bowel, causing the most serious discomfort, and risk to life. In view of these possible consequences, a pyosalpinx once diagnosed should be surgically dealt with. The fatal case in this series (No. 3) cannot be regarded as detracting from the indication to operate; on the contrary, it illustrates the disadvantages of delay; for the patient's general health had become so undermined by her chronic illness, that this, rather than the operation itself, must be held accountable for the fatal result. As regards the second group, in which the ovaries were diseased, opinions might perhaps be rather more divided on the question of operation. Those who advocate non-interference would urge that the disease was not such as would tend to a fatal issue. But this is not the only consideration, though it is one of the greatest importance. There are other considerations to be borne in mind. These patients are often totally incapacitated from following their ordinary avocations; and, in the case of women of the working classes, this may mean that they are incapable of earning a livelihood. Now, when such patients come to the surgeon, earnestly begging to be relieved of this incapacity, and of their constant pain and misery, I hold it to be his bounden duty, having explained to them the risk of operation, to give them the chance of desired relief. Naturally, all milder measures should be given a fair and patient trial; and in this connection it will be noted that the cases of this description above recorded had been under treatment mostly for several years before the more radical measure was adopted.

Section III.—Oöphorectomy for Uterine Myoma.

Case i. *Myoma of the Uterus, with Cystic Disease of the Ovaries: Double Oöphorectomy* (Table No. 4).—Abdominal section was performed on November 3rd, 1895. The uterus was the seat of myoma, and it was decided to remove the appendages. The right ovary was normal in size and healthy, but displaced downwards and adherent. The adhesions were separated, and ovary and tube removed. The left ovary was also adherent and greatly enlarged.

Case ii. *Fibroid Tumour Causing Profuse Hæmorrhage: Double Oöphorectomy* (Table No. 17).—Abdominal section was performed on May 31st, 1896. The enlarged uterus presented in the wound, and the appendages were found and removed without difficulty. Both the ovaries were much enlarged. The operation presented no special features requiring comment.

Remarks.

In these two cases, the question was not "whether an operation should be done," but "which operation." Oöphorectomy and hysterectomy were the alternatives. The former procedure was decided upon for the following reasons: First, its much smaller mortality; secondly, the arrest of hæmorrhage was the principal indication, pressure symptoms being absent.

Section IV.—Vaginal Hysterectomies.

Case i. *Epithelioma of the Cervix: Vaginal Hysterectomy* (Table No. 14).—Operation, April 14th, 1896. The bladder in front, and the bowel posteriorly, were separated in the usual manner, and Douglas's pouch opened. The finger, inserted through this opening and over the fundus, pressed down the anterior fold of peritoneum, which was divided by scissors. The broad ligaments were transfixed, and the uterus removed. The right tube and left ovary presented in the wound, and were also taken away. The difficulties of the operation were increased by a quantity of omentum which slipped down through the vagina, and was only retained in the abdominal cavity by a large plug of iodoform gauze, which was not removed until the seventeenth day. She continued well for some time; but six months from the time of the operation the disease returned. No further operative procedure was possible.

Case ii. *Carcinoma of the Cervix: Vaginal Hysterectomy* (Table, No. 11).—Operation, March 29th, 1896. The cervix was much infiltrated with disease, and tore away from the fundus early in the operation, causing difficulty and delay. After separating the bladder and rectum, a finger was passed posteriorly over the fundus and made to press down the anterior fold of peritoneum, which was divided with scissors. As no traction could be exerted on what remained of the uterus, the fundus was retroverted by pressure over the pelvis and pulled down by a pair of forceps passed up through the aperture in Douglas's pouch. The broad ligaments now became more accessible, and were transfixed and ligatured in several portions and divided. Rather free bleeding during the operation obscured the parts a good deal, and at one stage the bladder was unfortunately laid hold of and torn, after it had been completely separated from the uterus, and a large vesico-vaginal fistula resulted. After free douching, the vagina was packed with iodoform gauze. The patient suffered from much exhaustion, and a week later her extreme weakness gave rise to anxiety. She was kept going with rectal feeding and subcutaneous injections of morphine and strychnine. Morphine is not a popular drug after operations in the abdominal organs, but in this case the combination was followed by most gratifying results, and I believe saved the patient's life.

Case iii. *Carcinoma of the Fundus of the Uterus: Vaginal Hysterectomy* (Table No. 19).—On June 16th, 1896, total extirpation was performed. The bleeding was unusually free. The broad ligaments were much thickened and spread out, and a great many ligatures were required. The bladder was separated, Douglas's pouch opened, and the anterior fold of peritoneum divided with scissors. The bladder wall was very thin and closely adherent. Fundus of uterus much enlarged and somewhat globular. After removal several vessels spouted, but were controlled, and all bleeding arrested. The wound was well douched, a glass drainage tube inserted, and the vagina packed.

Case iv. *Epithelioma of the Cervix: Vaginal Hysterectomy* (Table No. 25).—The steps of the operation were the same as those described in the previous cases, and the extirpation was successfully accomplished, the ovaries and tubes being left behind.

Case v. *Removal of Uterus following Double Oöphorectomy* (Table No. 18).—The appendages were removed on May 16th, 1895. This operation gave complete relief to the intense sufferings of the periods, but it was followed by constant aching pain in the uterus and to the left side, which was aggravated by any attempt at an examination. She consulted a well-known London specialist, who formed the opinion that she would never be well until the uterus was removed. She came down to me, and finding my own view of the case confirmed by an eminent authority, I consented to perform the operation, which was carried out on June 2nd, 1896, in the usual way. The vagina was very small, and it was difficult to carry out the necessary manipulations, but all was in the end successfully accomplished. The hæmorrhage was considerable, and some subsequent bleeding gave rise to anxiety. A drainage tube was inserted before the vagina was packed with iodoform gauze.

Remarks.

These cases illustrate very well some of the difficulties that may be met with in the performance of vaginal hysterectomy. Smallness of the vagina with some fixation of the uterus renders the operation one of special technical difficulty; and when, as happened in two of the cases, there is also rather free bleeding, the operator's patience and resources are severely taxed. When the cervix is very friable and tends to break off as soon as traction is exerted, the case is further complicated; so that, from all these considerations, the operation is not one to be lightly undertaken. Even when such difficulties have been present, the smoothness of the convalescence after vaginal hysterectomy sometimes offers a marked contrast to some cases of abdominal laparotomy.

Section V.—Abdominal Hysterectomy: Ventrifixation of the Uterus: Operation for Tubal Gestation.

I have grouped these cases together, not because they have anything in common, but because there is only one example of each.

Case i. *Large Fibroid Uterus: Panhysterectomy* (Table No. 24).—Abdominal panhysterectomy was performed on October 28th, 1896, after the plan recommended by Mr. Bowreman Jessett. The patient was put to bed much exhausted, but was able to take some nourishment. She never rallied satisfactorily, however, and sank from shock twenty-four hours after the operation.

Case ii. *Extrauterine Gestation: Laparotomy* (Table No. 15).—Abdominal section, April 28th, 1896. A fluctuating tumour was found on the right

Table of Thirty-two Consecutive Laparotomies.

No.	Name.	Age.	S. M. W.	Date of Operation.	Disease.	Operation.	Flushing.	Drainage.	Results.
1	L. C.	40	S.	Aug. 18th, 1895	Chronic ovaritis with reflex symptoms	Oöphorectomy	—	—	Cured
2	Mrs. P.	48	W.	Sept. 23rd. 1895	Large multilocular ovarian tumour	Ovariotomy	F.	D.	,,
3	F. L.	26	S.	Oct. 1st. 1895	Cystic disease of ovaries	Oöphorectomy	—	—	,,
4	E. L.	34	S.	Nov. 3rd, 1895	Fibroid uterus; cystic disease of ovaries	Oöphorectomy	F.	D.	,,
5	S. R.	34	S.	Nov. 10th, 1895	Salpingitis; cystic disease of ovaries	Removal of appendages	F.	D.	Death sixth day
6	Mrs. J.	45	M.	Dec. 8th, 1895	Large multilocular cystoma	Ovariotomy	F.	D.	Cured
7	A. B.	39	S.	Jan. 3rd, 1896	Salpingitis; cystic disease of left ovary	Removal of appendages	—	—	Improved
8	E. J.	36	S.	Jan. 10th, 1896	Cystic ovaries; severe dysmenorrhœa	Oöphorectomy	—	—	Cured
9	N. S.	23	S.	Jan, 12th, 1896	Multilocular ovarian cystoma	Ovariotomy	—	—	,,
10	Mrs. M.	37	M.	Feb. 2nd, 1896	Ovarian tumour, with hour-glass contraction and twisted pedicle	Ovariotomy	F.	D.	,,
11	Mrs. L.	52	W.	Mar. 29th, 1896	Cancer of uterus	Vaginal hysterectomy	—	—	,,
12	F. B.	42	S.	April 7th, 1896	Ovarian tumour	Ovariotomy	—	—	,,
13	K. H.	23	S.	April 12th, 1896	Chonic ovaritis; severe dysmenorrhœa	Oöphorectomy	—	—	,,
14	Mrs. M.	49	M.	April 14th, 1896	Cancer of uterus.	Vaginal hysterectomy	—	—	Recurrence in 6 months
15	Mrs. B.	26	M.	April 28th, 1896	Extrauterine gestation	Removal of gestation sac	F.	D.	Cured
16	Mrs. B.	35	M.	May 24th, 1896	Ovarian tumour	Ovariotomy	F.	D.	,,
17	Mrs. C.	44	M.	May 31st, 1896	Uterine fibroid; menorrhagia	Removal of appendages	—	—	,,
18	G. B.	31	S.	June 2nd, 1896	Chronic metritis after oöphorectomy	Vaginal hysterectomy	—	—	Improved
19	Mrs. M.	54	M.	June 16th, 1896	Cancer of uterus	Vaginal hysterectomy	F.	D.	Cured
20	Mrs. M.	29	M.	Aug. 23rd, 1896	Large ovarian cystoma complicated with pregnancy	Ovariotomy	F.	D.	Cured. Pregnancy went on to term
21	Mrs. H.	50	M.	Sept. 20th, 1896	Obstinate retroversion of uterus	Ventrifixation	—	—	Cured
22	Mrs. A.	28	M.	Oct. 4th, 1896	Right pyosalpinx	Removal of right appendages	—	—	,,
23	Mrs. B.	38	M.	Oct. 18th, 1896	Right hydrosalpinx; left ovarian abscess	Removal of right appendages	F.	D.	,,
24	Mrs. B.	30	M.	Oct. 28th, 1896	Fibroid uterus, size of 9 months' pregnancy	Abdominal panhysterectomy	F.	—	Death 24 hours
25	Mrs. R.	56	M.	Nov. 8th, 1896	Epithelioma of the cervix	Vaginal hysterectomy	—	D.	Cured
26	Mrs. B.	24	M.	Nov. 14th, 1896	Double hydrosalpinx	Removal of appendages	—	—	,,
27	Mrs. M.	25	M.	Nov. 24th, 1896	Cystic disease and fibrosis of ovaries	Oöphorectomy	—	—	,,
28	Mrs. R.	41	M.	Nov. 29th, 1896	Cystic disease of ovaries	Oöphorectomy	—	—	,,
29	Mrs. P.	30	M.	Dec. 2nd, 1896	Purulent appendicitis with perforation	Abscess opened and drained	F.	D.	,,
30	A. N.	17	S.	Dec. 8th, 1896	Purulent appendicitis with perforation	Abscess opened and drained	F.	D.	,,
31	Mrs. P.	37	M.	Jan. 5th, 1897	Salpingitis	Removal of appendages	—	—	,,
32	Mrs. B.	47	M.	Jan. 17th, 1897	Chronic ulceration of colon	Right inguinal colotomy	—	—	Steadily improving

le, and lying deeply in the pelvis. With some difficulty the adhesions re separated by the fingers, and the tumour brought up, when it was nd to consist of the distended right Fallopian tube, the whole being e size of a cocoa-nut. While bringing it up it ruptured, and thick dark od welled out. Sponges were packed round, and the contents scooped t, after which the cyst was brought up to the surface, its pedicle transed and ligatured, and the tumour removed.

ASE III. *Chronic Retroversion of the Uterus: Ventrifixation* (Table No. 21). n view of the inefficacy of palliative treatment, the radical measure of ntrifixation was proposed. On September 20th, 1896, an abdominal ision, 3 inches long, was made in the linea alba. The uterus was ought up; its fundus was large and heavy. One silkworm gut suture s passed deeply through the fundus; two others in and out of the ly at proper intervals. These were all passed through peritoneum, tus, and fascia, on either side, and brought out about ½ inch from skin margin, without penetrating the skin; they were tied and ied. The wound above the fundus was brought together with four p sutures, and superficial sutures were passed through skin and cia, taking hold of the rectus. The vagina was packed with iodoform ize, to act as a support to the uterus.

Remarks.

he high mortality that still attends hysterectomy for very ge myomata makes these operations some of the most rious that we have to deal with. Apart from the risks of morrhage and peritonitis, which are more or less under ntrol, there is a risk of shock which is much more difficult provide against or to foresee; it is probably brought about the removal of such a large mass from the abdomen, and consequent alteration of the intra-abdominal pressure. the risks of hysterectomy are less in the case of smaller nours; and it is a great desideratum that the technique in se latter cases should become so defined and the mortality small, that it will be possible to advise the removal of omata before they have reached a dangerous size.

imilarly, in the case of extrauterine gestation, the gers of operation are so much greater in the later stages, n adhesions to the intestines and pelvic wall have formed, t is always desirable to operate as soon as a tubal gesion is diagnosed. Nevertheless, by the exercise of due , even a difficult case may be carried through to a sucful issue.

f the operation of ventrifixation little need be said. It taken a recognised position as a method of treatment for intractable retroversion and prolapse of the uterus. For these cases, which resist all palliative measures, although they do not directly threaten life, nevertheless render the sufferer incapable of leading a useful life, and sometimes of earning a livelihood. The operative risk is practically *nil*, whilst the results are often most striking.

Section VI.—Operations on the Intestinal Tract.

In this section I place three cases—one of purulent appendicitis: drainage (Table No. 29); one of purulent appendicitis: drainage (Table No. 30); and one of chronic ulceration of colon: right inguinal colotomy (Table No. 32).

Remarks.

These three cases do not call for any special comment. I may observe, however, that I regard it as a matter of special importance that as little manipulative interference as possible should be done in dealing with purulent appendicitis. For this reason I think it is not always advisable to remove the vermiform appendix, especially when to do so would mean carrying out a dissection in the midst of offensive pus. This view is supported by the excellent results which followed in the two cases recorded.

The paper concluded with some observations on the preparation of patients for operation, on the operative technique, and on the after-treatment.

The Queen's Commemoration fund for the Queen's Jubilee Institute for Nurses now amounts to £70,000.

Mr. William Hamerton Jalland, F.R.C.S., has been appointed Deputy Lieutenant for the West Riding of the County of York and of the City and County of York.

The London County Council has lately been making inquiries with a view to ascertain the precise value of the chalybeate springs on Hampstead Heath, close to the Leg of Mutton pond. This particular spring has been used for many years, and the flow is constant and free, averaging between fifteen and twenty gallons an hour. The water has been found to contain iron, to be palatable, and is stated to be absolutely pure.

SUPPLEMENTARY CROONIAN LECTURE
ON
POINTS CONNECTED WITH THE PATHOLOGY AND TREATMENT OF DIABETES.

Delivered before the Royal College of Physicians of London on November 13th, 1897.

BY F. W. PAVY, M.D., LL.D., F.R.S.,
Consulting Physician to Guy's Hospital.

MR. PRESIDENT, COLLEAGUES, AND GENTLEMEN,—I appear before you to-day to draw your attention to points connected with the pathology and treatment of diabetes. They constitute the outcome of the study which formed the basis of the Croonian lectures delivered by me in 1894, and of the study I have since conducted.

Disease is a deviation from health, and for its proper comprehension we require to have a knowledge of the conditions belonging to health. It is just this in the case of diabetes that it has been difficult to obtain, and the complaint has stood as one of the most inscrutable of diseases. The question first presented for solution is, How does carbohydrate normally become disposed of in the system? Next follows the question, What is it that gives rise to its unnatural escape with the urine?

Briefly stated, diabetes may be said to consist of a misapplication of the carbohydrate principles of food. Common observation teaches us that when the various forms of carbohydrate matter are taken by a healthy person with the food they become lost sight of, and contribute to the benefit of the system. The system has the power of placing them in a position to be susceptible of utilisation, and they thus disappear from view with resultant good. In the case of the diabetic, however, the carbohydrate matter that is ingested fails to undergo proper application, and passes instead as sugar through the system to the urine, with which it is discharged as waste material. This is the plain statement of fact regarding the difference between health and diabetes, and what is wanted is a right understanding of the details concerned.

It has hitherto been assumed, without any positive evidence as to basis, that the carbohydrates undergo oxidation in a direct manner in the system. Liebig placed them in his group of calorifacient food principles. In his time physiology and chemistry were not sufficiently advanced to permit of carbohydrate matter being followed after being taken as food, so as to obtain information of the phenomena occurring. The first step in this direction was the renowned work of Bernard. Bernard, accepting the view that the carbohydrates are destined for the purpose of oxidation within the system, enunciated the doctrine that the liver is endowed with a glycogenic function, which provides a supply of sugar to be conveyed to the tissues for oxidation when carbohydrate matter is lacking in the food.

I need not give attention here to the faulty groundwork upon which the glycogenic doctrine was raised. This matter has in times past been amply dealt with. Notwithstanding, however, that it is recognised that the experimental groundwork is fallacious, the doctrine has become so firmly implanted in the mind as to render effacement difficult. Apart from other considerations, what it implies affords its condemnation. In order that sugar may reach the tissues for oxidation it must enter the general circulation. Now, it happens that the stream of blood alleged to convey sugar to the tissues for destruction in part goes to the kidney. It was formerly taught that the capacity existed of tolerating a certain amount of sugar in the blood without its passing off with the urine, and this tolerating capacity was asserted to have been found in the dog to stand good for a proportion of 2.50 per 1,000; in other words, when sugar amounted to 2.50 per 1,000 in the blood sugar escaped with the urine, but not when a less proportion existed.

At that time neither for blood nor for urine were the analytical methods for the recognition and determination of sugar in the satisfactory position they stand now. Modern physiologists are agreed that the amount of sugar normally present in blood is about, or a little under, 1 per 1,000; and in association with this it can be definitely stated that sugar passes into the urine. It can also be definitely stated that in association with 2.5 per 1,000 of sugar in the blood such an amount passes into the urine as to give it a pronounced saccharine character. The question of the presence of sugar in normal urine long stood, or was considered to stand, as a debateable point. The discussion on the subject that took place in the pages of the *Lancet* a few years back, in which I took part, will probably be remembered. The method formerly adopted for separating the sugar from the urine, and obtaining it in sufficient quantity for its satisfactory identification was by precipitation with lead acetate and ammonia. Operating upon the product yielded by this process, I obtained information which left no doubt in my own mind that sugar constitutes an ingredient of healthy urine. More recently Baisch and others have operated with benzoyl chloride. By this reagent sugar may be precipitated, and can afterwards be recovered in a pure form. From the evidence that has been obtained the matter may be considered to have been thoroughly set at rest. Not only, indeed, can it be said that sugar has been found, but likewise that its nature has been defined.

The point to which we are led is that no tolerating capacity exists against elimination by the kidney of sugar present in the blood. As it is present so it escapes, and the urine thus becomes a delicate indicator of the condition of the blood. By experiment it can be shown that sugar introduced into the circulation is at once revealed by the urine. I have found that even as small a quantity as a quarter of a gramme per kilo. body weight—that is one four-thousandth of the weight of the animal—intravenously injected has given evidence of influence upon the urine. Where larger quantities are used a more or less pronounced elimination occurs, and the blood, even an hour afterwards, has not regained its normal constitution, but still retains a surplus of sugar. This tells against the assumed destruction in the systemic capillaries being the natural mode of application of sugar in the animal economy.

It is sufficiently evident that the kidneys constitute the channel through which the sugar permitted to reach the circulation in diabetes is discharged from the system. The action of the kidney in relation to sugar is not different in health from that in diabetes. The only difference is one of degree determined by the difference in the amount of sugar existing in the blood. It is not surprising that in former times healthy urine was regarded as being free from sugar. The quantity is too minute for the chemical methods then at command to reveal. With the improved methods of the present day the sugar which is present in healthy urine, and is derived from the small amount naturally existing in the blood, is readily susceptible of demonstration.

From the considerations that I have mentioned it is permissible to look to the urine for the supply of knowledge regarding the entry of sugar into the blood of the general circulation, and to reason as follows in relation to the glycogenic doctrine. Under natural circumstances the blood contains a certain small amount of sugar, which may be considered as constitutionally belonging to it, just as is noticeable with the other constituents of the body. Physiologists are agreed that the amount of sugar in the blood is not altered by the amount of carbohydrate ingested. Within ordinary limits both the blood and the urine remain uninfluenced by the character of the food with respect to carbohydrate. It matters not whether the comparatively insignificant amount of carbohydrate existing in an animal diet, or the large amount contained in many articles of food from the vegetable kingdom be ingested, the result is the same. But could this be the case if the ingested carbohydrate had to be conveyed as sugar through the general circulation to the systemic capillaries to be there disposed of? It would mean that, notwithstanding the demonstrable fact that whilst the introduction of an exceedingly small amount of sugar into the circulation gets revealed by the urine, a surpassingly large amount can reach it from the food without evidence being afforded of its doing so. The circumstances are such that whatever presumedly passes to the tissues for destruction would equally pass to the kidney for elimination. If the kidneys were placed on the other side of the systemic capillaries there might be destruction without elimination

But it is the same stream that goes to the systemic and to the renal capillaries, and for the teaching to hold good it would have to be assumed that destruction could proceed and elimination remain in abeyance.

By the ingested carbohydrate being temporarily stopped by the liver and stored as glycogen, the difficulty is not removed. Within a given time the transit would have to be made, and the amount transported under a free carbohydrate diet would be infinitely greater than could be derived in any way from animal food, and yet it escapes, being revealed by the urine.

What the quantity is that would have to pass may be judged by the difference in the amount of sugar eliminated by a diabetic patient partaking freely of carbohydrate materials on the one hand, and upon animal food only on the other. Everyone knows the immense difference existing, but I may mention in illustration the figures drawn from a case in which many years ago I specially studied the effect of different kinds of food on the elimination of sugar. The sugar voided during a twenty-four hours period on a diet exclusively of animal food stood at 37 grammes, whilst for a similar period, with a diet containing a plentiful supply of carbohydrate material, it reached 685 grammes. This gives an idea of the amount of sugar that would have to traverse the circulation if the carbohydrate matter of our food had to be conveyed as sugar to the tissues for destruction. And yet, in the healthy state, the urine escapes without any effect being produced upon it.

If in reality the functional transit did take place, it could not fail to be rendered conspicuously evident by the urine. The transit, indeed, is just what belongs to diabetes, and I submit that this consideration is fatal to the glycogenic doctrine. For freedom from diabetes, carbohydrate matter must be prevented reaching the general circulation as sugar, instead of being thrown into it as such for conveyance to the tissues for destruction.

And now the problem that presents itself for our consideration is: In what way does the carbohydrate matter of our food become disposed of so as to be prevented reaching the general circulation as sugar? Any explanatory proposition that is offered must necessarily locate the seat of the disposal as standing between the alimentary canal and the point where the portal blood stream obtains entrance into the general circulation. If it were located beyond this point, unless the capacity existed, which may be confidently said not to be the case, for effecting an instant removal of sugar directly the general circulation is reached, the conditions would be supplied for the urine to be influenced as it is found to be in the diabetic state.

What I have to say with reference to the mode of application of carbohydrate matter within our system fits in with that is observed to occur throughout living nature. The operations of animal and vegetable life are brought into harmony with each other. In one of the simplest of organisms—namely, the yeast cell, a demonstration is afforded of the occurrence of the operations which I submit lead to the carbohydrate matter of our food being disposed of in our system without the opportunity being given of its reaching the general circulation as sugar, and thence escaping as waste material with the urine. It is only gradually, and as the result of lifelong attention devoted to the subject, in association with unceasing laboratory work, that the knowledge has been acquired upon which the new doctrine is based. Much help has been afforded by the teachings of experience in connection with diabetes; and whilst these are absolutely irreconcilable with the old doctrine upon which physiologists have been relying, they, in the most complete manner, fall in with and give support to the new one. The subject is fully considered in my work on *The Physiology of Carbohydrates*, published in 1894; and it will only be requisite here to enter into sufficient detail for the comprehension of what is being spoken of.

The carbohydrates, as we know, are susceptible of being transmuted from one to the other by increased and decreased hydration. Ferments and chemical agents move them in the former direction, and the operation is one that we have the power of inducing at will. Transformation in the latter takes place to an unbounded extent in the living world, but if we exclude a few special instances of laboratory achievement, we have not the power ourselves of bringing it about. The first influence exerted on ingested carbohydrate is by the ferments of the alimentary canal, which hydrolise and carry the insoluble into a soluble form and thus prepare for absorption. On being absorbed the carbohydrate is brought within the sphere of influence of living matter. In the villi, which constitute the seat of absorption, there are active cells with which the absorbed carbohydrate falls into close relation, and subsequently it permeates the cellular structure of the liver, which thus, as it were, stands in a position to exert a supplementary action, and to complete, before the general circulation is reached, whatever may have escaped completion in the villi.

Now, by the agency of protoplasmic action, or the power possessed by living matter, carbohydrate is (1) transmuted to a lower form of hydration; (2) transformed into fat; and (3) synthesised into proteid. All these operations can be definitely shown to take place in the simple cell organism of yeast as the result of the power with which its protoplasm is endowed, and the power here represented is nothing more than the common property possessed by protoplasm in general of both kingdoms of Nature. Whilst ferment action hydrates and breaks down, protoplasmic action dehydrates and builds up; and it is by the influence of this latter power, I contend, that carbohydrate naturally becomes disposed of in the system, instead of by ferment action leading to the production of sugar that is fictitiously assumed to undergo oxidation whilst traversing the systemic capillaries.

Between the seat of absorption and a point short of the general circulation being reached by the portal stream of blood, I say, we have to look for the disposal of the carbohydrate derived from our food, and it is by the exercise of protoplasmic power that what occurs is brought about. Ferment action has performed its office within the alimentary canal in putting the carbohydrate matter, if it should be in a form to require it, into a fit state for absorption. If the disposal is completely accomplished, no sugar is left to reach the general circulation, and if none reaches the general circulation there is none to reach the urine. This represents the natural order of things. If, on the other hand, the disposal of carbohydrate by the exercise of protoplasmic power should not be properly effected, if, in other words, the circumstances should be such as to lead to the faulty accomplishment of protoplasmic action; or if, even with a natural state existing as far as the system is concerned, it should happen that the function is unduly taxed by the ingestion of an exceptionally large amount of carbohydrate in a readily absorbable form, especially at a period of fasting, sugar will be permitted to reach the general circulation, and in proportion as this occurs sugar will be found in the urine.

The process of transmutation into the lower state of hydration is exemplified by the production of glycogen in the liver. Carbohydrate which escapes being transformed into fat or synthesised into proteid passes on to the liver, and here according to the evidence presented it may be looked upon as undergoing in the first instance the change of state referred to. It is well known to physiologists that the liver becomes charged with glycogen in proportion to the largeness of supply of carbohydrate with the food. Possessing the colloidal property that belongs to it, it forms a serviceable storage material, which, placed in the position it is, is favourably situated for being gradually utilised by transformation into fat, and possibly synthesis into proteid. That it should be destined to come back into sugar to be discharged into the general circulation and conveyed as such to the tissues for oxidation is incompatible with the condition in which healthy urine is found.

It was a subject of dispute in former times whether animals possessed the power of forming fat from carbohydrate. The matter is not now open to question. The power, indeed, is largely turned to account by those engaged in husbandry for the fattening of animals for the table. In the practice of our own profession if we want to reduce obesity we advise the restriction of carbohydrate articles of food, and conversely we recommend that they should be freely taken if we wish to fatten. For many years the state of the lacteals of the rabbit after a meal of oats has been fixed on my mind. Formerly it stood unintelligibly before me, but now I think the meaning is to be read off. It is common knowledge that after fatty

food the lacteals, of the dog for instance, are to be found conspicuously injected with milky chyle. In the rabbit, when in a vigorous but not when in a poor or sickly state, fed on oats and taken at the proper time afterwards, I have seen the lacteals about as fully injected with milky chyle as in the dog after fatty food. Oats in their dry state contain about 5 per cent. of fat, which I am convinced upon full consideration of the matter is altogether inadequate to account for what is observed. The extent to which the villi under the circumstances are charged with fat globules I have represented by photo-engravings from microphotographs in my work on *The Physiology of the Carbohydrates*. It is admitted that animals are fat producers from carbohydrate, and with its production in the villi it reaches the system and subsequently passes on in precisely the same way as fat derived from without. In the one case we have to deal with fat emanating from a ready-formed supply, and in the other with fat formed by the protoplasmic agency of the cells of the villi, for it is not for a moment contended that what occurs is of the nature of a mere chemical transformation. As carbohydrate may happen to be here applied to fat production, so have we a provision in the direction wanted for preventing its reaching the general circulation as sugar. There are grounds also for believing that a further formation of fat is effected by the protoplasmic agency of the cells of the liver.

That carbohydrate can be turned to account in contributing to proteid production is demonstrated by the growth of the yeast cell in a medium containing no other source than sugar for the carbon constituent of its protoplasm. Further, carbohydrate is susceptible of being cleaved off from the proteid molecule. The proteids entering into our constitution do not enter the system in a ready-formed state. The proteid matter of food is as a first step towards its application to the purposes of life broken up by the ferment agency of digestion. The absorbed products of digestion then fall into relation with the living protoplasm of the cells of the villi. Peptone, which is recognisable previous to the occurrence of absorption now becomes lost sight of, and in view of all the circumstances existing it may be taken as reasonably permissible to conclude that through the instrumentality of protoplasmic action an extensive building up of proteid goes on in the villi.

By synthesis into proteid carbohydrate matter is placed in a position to be susceptible of transport through the system without running off with the urine. At the same time it is evident that its liberation from the locked-up state into a free form can be most easily effected in the presence of suitable conditions. The lactose of milk cannot, reconcilably with our collateral knowledge, be conveyed as such to the mammary gland, but must constitute a cleavage product resulting from the effect of—may it not be said—ferment agency existing within. In the grave form of human diabetes, as well as in the experimentally induced phloridzin and pancreatic diabetes, sugar is drawn from a source other than the food, and the large quantity that can be eliminated testifies to the abundant store of locked-up carbohydrate that must exist ready to be set free when the requisite agent for effecting the purpose is present, just as the sugar in amygdalin is set free in the presence of emulsion.

What has been said of the villi gives them a position of great importance in relation to the assimilation of food; a process that may be naturally looked for to immediately follow absorption. At a period of fasting, the amount of sugar in the portal blood practically stands in accord with that in the blood of the general circulation. After the copious ingestion of carbohydrate food, the amount of sugar in the portal blood rises, and I have known it reach as high as between 4 and 5 per 1,000. The circumstances are such as to lead to sugar being absorbed in too large a quantity to be fully assimilated or disposed of in the villi, and the portion that has failed to be assimilated reaches the portal blood and gives to it a fluctuating condition dependent upon the food. If there were no further provision existing for the purpose of assimilating this sugar and checking its passage into the general circulation, we should be thrown into a more or less pronounced glycosuric state after every meal, in precisely the same way as, in fact, occurs with the subject of alimentary diabetes. The liver, however, intervenes between the portal vein and the general circulation, and here a supplementary action is performed, which, if complete in checking the flow of sugar onwards, protects the contents of the general circulation, and hence the urine, from being influenced in relation to sugar by the food ingested. If the supplementary action is incomplete, the blood and urine become influenced, and in proportion to the incompleteness so is the extent of glycosuria. The entry of sugar into the general circulation constitutes the unnatural and not the natural occurrence. In order that we may be kept free from glycosuria, sugar must be kept out of and not thrown into the general circulation.

(*To be concluded.*)

CHLOROFORM AND THE HEART.

BY

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In the British Medical Journal of July 17th, 1897, Surgeon-Lieutenant-Colonel Lawrie made the following remark: "There is not one tittle of evidence of any kind, still less of physiological proof, of paralysis of the heart in the cases he describes." These "cases" were instances of sudden death in dogs occurring early in anæsthetisation, and often after severe struggling. In this article we propose to provide the proof Surgeon-Lieutenant-Colonel Lawrie seeks.

We have repeatedly opened the chests of animals dying at this early stage of anæsthetisation, and have invariably found the heart distended with blood, either motionless or more frequently making futile beats. These beats are confined to the auricles and base of the ventricles, and are quite incompetent to empty its cavities.

There is nothing so convincing to the observer as such simple and direct observation, but for the demonstration of the fact in a paper and to the public it is necessary to employ some graphic method. This fact we shall now demonstrate in the accompanying tracings.

Our method has been to open the thorax of a cat,[1] after establishing artificial respiration. The heart was then placed in a simple plethysmograph similar in principle to the cardiagraph employed by Roy and Adami. Our plethysmograph was constructed out of an indiarubber tennis ball. A hole sufficiently large to admit the heart was cut in one side of the ball, and in the opposite side a glass tube was inserted. This tube was connected in its turn with a recording tambour. After the heart had been inserted into the ball all leakage was prevented by drawing the flaps of the divided pericardium tightly around the ball and tying them by threads to the tube. We made the junction quite airtight by packing thick vaseline both inside and round the outside of the pericardium. By this means all leakage was prevented and the apparatus recorded perfectly the changes of volume in the heart.

In the tracings an increase in size of the heart is represented by a rise in the base line, and the amount to which the heart emptied itself at each systole is shown by the amplitude of each downward excursion of the writer.[2]

A word, too, must be said as to the method of administering the drug. We injected pure chloroform into a cannula tied into the external jugular vein, and then washed it well into the circulation with a drachm or two of normal saline solution. This latter point is no unimportant detail, as unless it is done the drug remains in the cannula or vein and no effect is produced, as we have repeatedly observed.

In Fig. 1 we have a record of changes in the heart following the injection of small and large doses of chloroform. At the point A 1.5 minim of pure chloroform was injected into the vein and washed in with saline. After a brief stimulation it will be seen that even this small amount produced between A and B a diminution in the output of the systole and slight dilatation of the heart. At B 5 minims of pure chloroform were injected. Instantly profound dilatation followed, and the systole, though increased for a moment, was almost at once greatly reduced. For the next one or two minutes the heart remained dilated and feebly pulsing. During this condition we have in some cases opened the plethysmograph and have directly observed that this pulsation was restricted

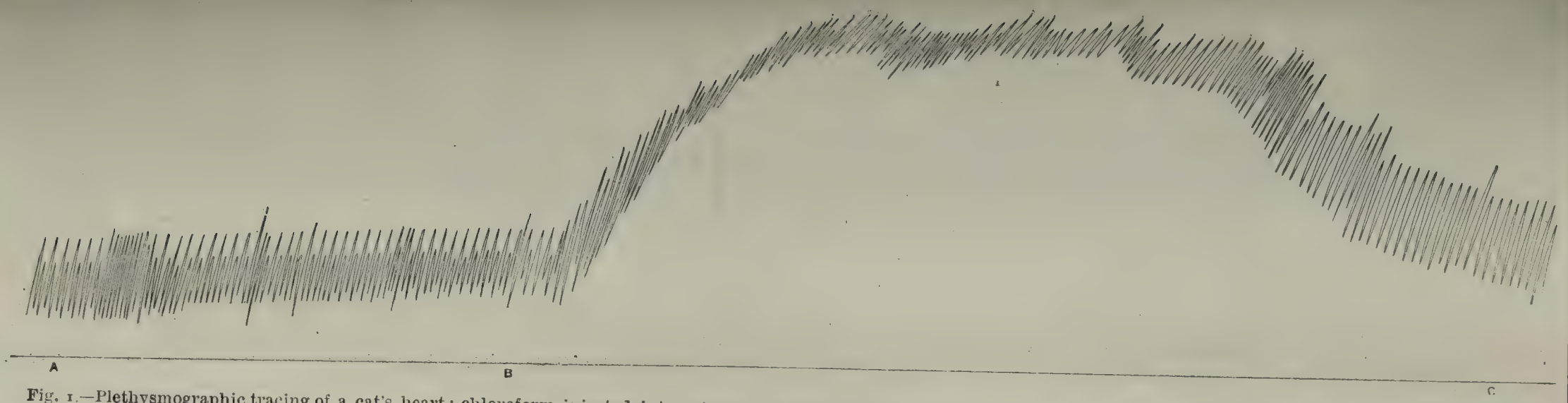

Fig. 1.—Plethysmographic tracing of a cat's heart; chloroform injected into external jugular vein. A, 1.5 minim of chloroform injected; B, 5 minims of chloroform injected; C, heart recovered from distension.

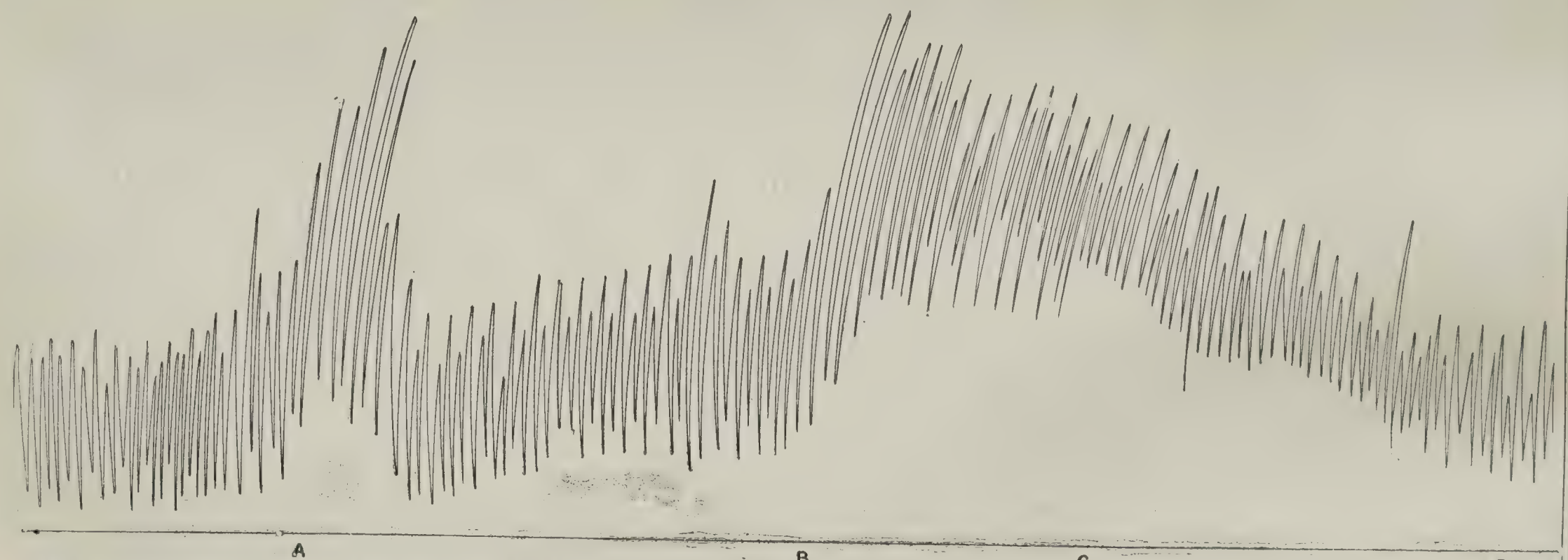

Fig. 2.—Plethysmographic tracing of a cat's heart; ether and A.C.E. injected into external jugular vein. A, 5 minims of ether injected; B, 4 minims of A.C.E injected; C, stimulation of alcohol and ether passed off; D, heart recovered from distension.

to the auricles and the bases of the ventricles. The blood merely regurgitated in and out of the great veins.

In the tracing it is seen that after a time the effect of the chloroform passed off and the systole became more and more effective, whilst the dilatation steadily diminished until once more the trace reaches its former level and proceeds as before. The space between B and C represents 5 minutes 30 seconds.

In this experiment we were fortunate in administering a maximal non-lethal dose, but in several other traces of experiments in which the heart did not recover the trace rose in an exactly similar manner, but remained at the same level until the last feeble efforts of the heart gradually died out.

In Fig. 2 is shown the action of ether and A.C.E. for contrast with Fig. 1. At the point A, 5 minims of pure ether were injected into the external jugular vein and washed in with normal saline. This produced great but transient stimulation of the heart accompanied by a moderate degree of dilatation. Slight dilatation with increased beat persisted for a minute or so. This is in marked contrast to the diminished beat which follows chloroform (Fig. 1).

At the point B, 4 minims of A.C.E. were injected. The stimulation of the heart due to the ether and the alcohol is clearly shown, and it terminates at the point C, from which point the effect of the chloroform still persisted, and the dilatation tardily passed off.

We may add that a trace of the action of alcohol taken by the same method shows that this drug dilates the heart more than ether, but it stimulates its beat a little less. Its action persists about twice as long as ether but nothing like so long as chloroform. This effect of alcohol has previously been demonstrated by Newall and Smith.

It may not be out of place to restate the conclusions to which our experimental researches on the action of chloroform have led us. Chloroform acts upon three parts of the economy—(1) the heart, (2) the respiratory centre, (3) the arterioles. By its action on the arterioles chloroform does not produce directly fatal results, but inasmuch as it dilates these, it lowers the blood pressure and produces anæmia of the respiratory centre. This is a most important factor in regard to the stoppage of respiration. Failure of arteriole constriction can be remedied by elevating the abdomen or compressing it, and by lowering the head. By these means the supply of blood to the respiratory centre is improved.

The action of chloroform upon the respiratory centre is twofold. It is partly indirect, as we have just stated, and partly a direct action of the chloroform itself upon the centre. Arrest of respiration will be most easily produced when both these conditions of anæmia and chloroform act together on the centre. If the centre be much damaged by anæmia far less chloroform will arrest its action than when it is well supplied with blood.

And both these conditions are present during prolonged anæsthesia. This is the explanation of death from respiratory failure after chloroform has been administered for some time. Partly from the shock of operation, partly from the prolonged action of chloroform on the heart and arterioles, the circulation through the respiratory centre has been ebbing and ebbing, until the centre is no longer able to bear up under the degree of anæmia so produced, combined with the depressing effects of the amount of chloroform which happens at that moment to be administered. Thus the respiration ceases.

But fortunately we can reproduce artificially all the functions of respiration. The lungs can be ventilated; the chloroform thus escapes from the body; the blood is drawn into and driven from the thorax by artificial respiration. When the blood pressure rises in the respiratory centre, and the chloroform circulating in the blood disappears, then the centre recommences work. Cessation of respiration late in an operation is very seldom a fatal event. This is borne out by statistics, and must be the experience of every clinician.

But the action of chloroform upon the heart is a much more serious matter. When chloroform dilates the cavities of the heart, the power required to empty them increases as the cube of their radius, yet at the same time the power of the poisoned muscle is directly diminished. There are thus two factors acting in the arrest of the heart: (1) the distension of its cavities and (2) the direct weakening of its muscle. We have shown that when there is great distension a very small dose of chloroform will be sufficient to arrest the heart. On the other hand, when a heavy dose of chloroform has been administered, it requires but a slight distension to produce the same result. This distension may be produced by accidental pressure on the abdomen, by efforts at artificial respiration, by inverting the patient as recommended by Nelaton. We have opened the chest of an animal and have observed a chloroformed heart to start and stop beating repeatedly, according as we placed the animal vertically feet down and emptied the right heart into the veins of the belly or vertically head down and distended it from them.

Both distension and overdose are present in typical cases of death occurring early in chloroform administration. The patient, often alcoholic, by struggling and holding his breath engorges his right heart. The anæsthetist to limit his struggles pours an excess of chloroform upon the mask. At last the patient gives in and takes deep gasping inspirations of air very highly charged with chloroform vapour. The first rush of blood through the lungs arrives in the left ventricle charged with chloroform, and is distributed by the coronary arteries to a right heart which is still labouring with distended cavities. The heart stops paralysed and dilated. The blood pressure rapidly falls to zero, and this sudden anæmia of the respiratory centre may cause a few gasping inspirations, followed by respiratory paralysis. Nor have we any efficient substitute for the cardiac systole. We can relieve the right heart by sitting the patient up. We may be able to excite the heart to contract by rhythmical compression through the chest wall. In dogs these methods sometimes succeed, but the time is very limited; and the statistics previously quoted by us that out of 41 deaths from chloroform 39 were of this early type show the extreme fatality of this accident.

This is the clinical picture of the danger of administering even moderate doses of chloroform to a distended heart.

The converse danger of distending a deeply chloroformed heart is, we believe, the explanation of those few cases of arrest of respiration late in anæsthesia which do not recover. The respiratory centre has, for the reasons we have stated, ceased to work, but the heart, though weak, is still able to carry on the circulation. But the cessation of respiration excites the anæsthetist to employ vigorous but ill-judged efforts to restore it. Perhaps he inverts the patient, or carries out a rapid and violent artificial respiration. These measures distend the right heart, which stops at once. The circulation is arrested, and this sudden and total anæmia of the respiratory centre excites those one or two solitary respirations which lead to the vain hope that the patient is about to recover.

In our opinion, as long as the heart beats efficiently there is very little risk that respiration will be permanently arrested. The horizontal position should be maintained, though the head may be lowered to encourage the medullary circulation. The tongue should be well drawn out, and an efficient artificial respiration carried out without undue haste or violence. Lastly, ether, alcohol, or strychnine may be injected hypodermically to stimulate the weakened heart.

NOTES.

1 All operative procedures were carried out under chloroform anæsthesia, whilst observations were made during a constant condition of morphine narcosis. 2 The idea of taking cardiographic tracings of the heart was first suggested to us by Mr. C. Wall, B.A., of the London Hospital, to whom we are greatly indebted both for this and other suggestions and criticisms.

A CASE OF CHLOROFORM POISONING IN WHICH NEARLY HALF A GRAIN OF STRYCHNINE WAS INJECTED: RECOVERY.

REPORTED BY SURGEON S. T. REID, R.N.

[Communicated by the DIRECTOR-GENERAL OF THE MEDICAL DEPARTMENT OF THE NAVY.]

THE patient (an officer on board one of the merchant vessels in Malta Harbour) was found at 6.30 P.M. in his cabin by the captain and second officer of his ship, who noticed a strong smell of chloroform. He was at that time able to stand upright and answer the captain in semi-unconscious condition. He then fell forwards and vomited.

Coffee was given, artificial respiration resorted to, and the electric current brought into play, also shortly afterwards ℥xx of liq. ammoniæ were injected by local medical man.

On the arrival of the ship's surgeon (8.30 P.M.) he found the patient deeply comatose, eyes suffused, face purple, breathing very slow and shallow—sighing—character, pulse just perceptible (40 per minute). He injected ℥xx of ether and gave an inhalation of nitrite of amyl, but finding no response to these he injected one eighth of a grain of strychnine and placed the patient in reclining position with feet well up.

I arrived shortly after, having been sent for, and as the patient was still in the same state—fully dilated pupils, loss of conjunctival reflex, relaxed sphincters—we determined to push the injection of strychnine to the full extent.

9.15 P.M. Injected $\frac{1}{12}$ gr. strychnine.

We increased the electrical current from 30 volts to 40 volts and the effect was very marked upon the respiratory muscles. Previously they had ceased to act, and respiration, which was very shallow and diaphragmatic, now became quicker and deeper, and the chest wall, commencing about the subclavicular regions, began to move with normal rhythm. But it was noticed afterwards that this marked effect of the current was only on suddenly increasing the strength, and not a continued stimulus that could be depended upon to keep the pa.ient alive while the chloroform was being exhaled from the lungs.

The nape of the neck was shaved, and one pole (from the arrangement of the battery it was impossible to tell which was the anode and which the kathode) was applied as near the respiratory centre as possible, the other at the ensiform cartilage; finally the current was increased to 50 volts.

Artificial respiration was continued, and another injection of strychnine was given ($\frac{1}{12}$ grain at 9.40 P.M). Shortly after this the effect of the drug became evident, chest respiration became more marked, trismus, pupil contracted. Conjunctival reflex was obtained, and it was noticed that the patient vomited after each fresh injection of strychnine. But what was most interesting was to see the gradual counteracting influence of the chloroform over and above that of the strychnine. The respiration again became shallow and diaphragmatic in character; the conjunctival reflex was no longer obtained, and the wedge of wood used to counteract the trismus fell out of the patient's mouth, while his aspect presented very little to suggest that he had had nearly one-third of a grain of strychnine injected, and a 50 volt current passing into him.

10.30 P.M. Injected $\frac{1}{12}$ gr. of strychnine.
11.30 P.M. Do. do. do.

The same course of events followed each of these injections of strychnine, but it was not till half an hour after the last injection that we got full evidence of the action of strychnine. On occasions he would have muscular contractions which necessitated stopping the artificial respiration and even holding the patient down on his couch, but these were not at all excessive and on reducing the electrical current, subsided almost completely. An hour after the last injection it was noticed that the strychnine still seemed to have strong influence, appearing as though we had injected just sufficient to counteract the influence of the chloroform, for the pupil still remained contracted; the conjunctival reflex was easily obtained, while the rigidity of the jaws subsided, and we had no other signs of excessive muscular contraction.

Twenty minims of tinct. digitalis had been injected with marked improvement of the circulation; heart sounds were now heard distinctly, pulse was felt at the ankle, and there was marked improvement of the pulse at the wrist. The respiration had greatly improved, the chest muscles were acting well, the inspiration was deep and long, and the patient continued to improve, till shortly after 1 A.M. he became sensible, having been under the influence of chloroform for over seven hours.

There were no other signs of the effects of strychnine; he had a very quiet night, dozing peacefully; his pulse was very weak, for which caffeine citrate was injected, and the next day he had slight diarrhœa, but the subsequent progress was very favourable.

Remarks.

1. A stomach pump was not used at all; he had vomited freely after he was discovered (6.30 P.M.), and when the stomach pump was obtained, there was no smell of chloroform in the vomit, but his breath was fully impregnated with the odour, and continued so for fully twenty-four hours afterwards.

2. The quantity of chloroform taken into the stomach must have been over 2 ozs., but the quantity absorbed into the system can only be judged by the amount of strychnine injected and the length of time the patient continued to expire the vapour.

3. The tabloids of strychnine were used, strength $\frac{1}{50}$ gr.; of these 22 were used, making the total just under the half-grain.

Conclusions.

1. The great value of strychnine as a stimulant to the respiratory centre during chloroform poisoning in keeping life going while the vapour is being exhaled, but the drug must be used boldly.

2. The use of the electrical current in acting upon the respiratory centre at once, and by increasing the current rapidly, keeps the respiratory mechanism during the dormant stage of strychnine after injection.

3. With these two agents to hand one ought to be able to treat any case of chloroform poisoning.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

RESPIRATORY OBSTRUCTION DUE TO ELONGATED UVULA IN CHLOROFORM ADMINISTRATION.

When re-reading Dr. F. W. Hewitt's work on *Anæsthetics* recently I noted that in the section on preliminary examination of the patient the author does not mention a routine examination of the pharynx. My apology for presuming to mention the matter is a little experience that I had last winter.

In my capacity of House-Surgeon to Professor George Buchanan in the Western Infirmary, Glasgow, I had occasion to chloroform a male patient, aged 67, upon whom inguinal colotomy was about to be performed for malignant disease. Apart from the local abdominal condition, the patient appeared to be in fairly good health. Physical examination of the chest revealed no abnormality in heart or lungs. Respiration appeared to be normally performed, and articulation was distinct. The patient had no artificial teeth.

In these circumstances I proceeded to chloroform the patient as we usually do by means of a towel folded and tied with tape to form a mask, the chloroform being in a stoppered glass drop-bottle. The chloroform was administered very gradually, and well diluted with air. There was no coughing or struggling, and no apparent holding of the breath. The patient seemed to be taking the chloroform well. But, just as he appeared to be passing under and when the conjunctival reflex was becoming less active, there was a sudden stoppage of respiration with rapid development of cyanosis. When the chloroform was withdrawn breathing speedily became normal, but any attempt to continue the administration resulted in a recurrence of the previous symptoms.

Upon the first appearance of respiratory difficulty I hitched forward the lower jaw. This proving ineffective, the tongue was pulled forward by means of forceps. Still, there was no improvement. Though there was no evidence of excessive salivation or of mucous accumulation in the pharynx, the latter was swabbed out. Every attempt to continue the chloroform was followed very speedily by the previous difficulties.

It then occurred to me to make a more thorough examination of the fauces. With this object I opened the mouth widely with a Mason's gag, and turned the patient's face towards the light. I then discovered a remarkably long uvula, its lower extremity hanging far down towards the glottis. By means of a pair of artery forceps I seized the tip of the uvula, and held it forward. Without much strain being put upon it, the tip of the uvula, when so held forward, all but reached the upper incisor teeth. The case appearing to me an unusual one, I drew Professor Buchanan's

attention to it, and he demonstrated the condition to his clinical class then assembled.

When the uvula was retained as mentioned, there was no further difficulty with the anæsthetic. Apparently it required voluntary effort (possibly slight and probably habitual) on the patient's part to prevent his elongated uvula from being a source of trouble to him. Whenever this element of consciousness was withdrawn the symptoms of obstruction supervened as described.

Upon my interrogating the patient afterwards he would admit of no discomfort of any kind attributable to his uvula. His wife, however, remarked that her husband was "a terrible man to snore." And little wonder!

Glasgow. J. Lindley Carstairs.

LOADED BOWELS AND MELANCHOLIA.

On September 21st I was asked to see a man, aged 57, who was found in his room dead. I found him in a sitting posture leaning against a wardrobe, his head resting on his left arm, which was supported by the slop pail. Both nostrils were plugged with portions of handkerchief, and a larger portion was stuffed into the mouth; these three pieces were evidently torn off to fit, as the remains of the handkerchief was found on the ground near. The history was he was suffering from depression of spirits and had some delusion that the police were coming for him that day.

The *post-mortem* examination showed the usual symptoms after suffocation. There was also a very loaded state of the ascending and transverse colon, both being full of hard lumps of fæces; there were also small nodules of fæces in the appendix. There was no obstruction of the bowels, and the rectum was empty. The question is, Had the loaded state of the bowels any connection with his condition of melancholy?

Bath. J. Wigmore, M.D.

DEPRESSING EFFECT OF SODIUM SALICYLATE.

The profound prostration which followed the exhibition of even small doses of sodium salicylate in the following case appears to me to render it of unusual interest.

An old lady lately under my care suffering from symptoms traceable to the uric acid diathesis had intense inflammation and nocturnal pain in the tissues surrounding the first joint of the great toe and in the heel, with general œdema of the right foot. These symptoms rapidly subsided under treatment with colchicum and alkalies. Subsequently vague shifting pains of a rheumatic nature developed, and I gave her 10-grain doses of sodium salicylate every four hours. This was followed after the third dose by symptoms of the most alarming prostration, mental and bodily. The pulse became weak and compressible, and fell to the remarkably small number of 35 beats a minute. Her temperature also became subnormal. On stopping the salicylate treatment the symptoms rapidly disappeared, and the pulse became 80 per minute. These symptoms could not be attributed to the action of the colchicum, as I kept her on it for several weeks with complete relief to all the symptoms.

Coventry. W. Richardson Rice, M.D.

PRIMARY SCIRRHOUS CARCINOMA IN THE AXILLA.

Mrs. B., aged 47, with four children, consulted me in October last for a hard, nodular mass occupying the whole of the right axilla, of a year and a half's duration. It implicated the skin extensively, but was otherwise mobile. The breast appeared perfectly healthy. I excised the growth with its skin covering, by elliptic incisions from apex to lower border of axilla, carefully removing all the connective tissue, together with some enlarged glands below the clavicle. The axillary vein was enveloped by a ring of deposit, and rather more than an inch had to be resected. The mamma was then removed by incisions at right angles to the first. The patient made an excellent recovery. As anticipated, the tumour proved to be scirrhus, and the disease was obviously passing down to the mamma along the normal isthmus of breast tissue, the usual direction of the infiltration being thus reversed.

Remarks.—I think cases of this nature sufficiently exceptional to be worth recording, especially as an important point of practice hangs thereon. The breast seems so healthy and so far from the growth that an operator, unaware of their true pathology, will not remove it; an error I committed in the last case I met with about seven years ago. A thin strip of mammary parenchyma is normally prolonged around the edge of the pectoralis major to its under surface. Carcinoma, beginning here, adheres to the skin, and attains a large size, while the breast appears frée; at operation we always find, if we look for it, the continuity above described. The cell infiltration passes secondarily down to the breast, and, unless this be also excised, promptly reappears there. I am convinced that it is wrong to ascribe the occurrence to an isolated lobule, a supernumerary mamma in fact, within the axilla.

Gloucester Place, W. Herbert Snow.

REPORTS
ON
MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

ST. MARYLEBONE INFIRMARY.

A CASE OF CÆSAREAN SECTION FOR CONTRACTED PELVIS: RECOVERY OF THE MOTHER AND SAFETY OF THE CHILD

(By John R. Lunn, F.R.C.S.Ed., Medical Superintendent.)

The patient was admitted on August 27th, 1897, from the Marylebone Workhouse with a note from the medical officer stating that he had been obliged to perform craniotomy during her last labour, as the conjugate diameter of the pelvis was about $2\frac{3}{4}$ inches.

The patient was a small rickety woman, aged 24, whose height was 4 ft. $\frac{3}{4}$ in. On examination the patient was found well advanced in pregnancy, and apparently not far from full time, and the child was alive. By measurement with a pair of callipers there were 7 inches between the two anterior superior spines of the ilium. The true conjugate diameter measured about $2\frac{3}{4}$ inches. Craniotomy and Cæsarean section were discussed, and Cæsarean section with removal of the ovaries was decided upon, as the patient wished to have a living child, and the chance of further pregnancies removed.

On August 30th, 10 A.M., the vagina was well douched with 1 in 1,000 solution of perchloride of mercury; a No. 8 gum elastic catheter was passed into the uterus. The labour commenced during the night and rupture of the membranes took place early on August 31st. The child appeared in a normal position, but the head did not advance as the labour pains increased.

On August 31st, at 9.30 A.M., the patient was put under the influence of A.C.E. mixture, and an injection of 5 minims of ergotin given. After the urine had been drawn off and the vagina again douched, etc., the skin of the abdomen was well disinfected and thoroughly cleansed.

An abdominal incision was made in the middle line above the umbilicus within 2 inches of the pubes, and the abdomen opened in the usual way. The uterus was pulled forward out of the abdominal incision, an india-rubber band was then passed round the lower part of the uterus, and held tightly. Antiseptic sponges were packed round the uterus to prevent any prolapse of the intestines and stop any bleeding or oozing into the abdominal cavity. An incision 4 inches long was made through the middle line of the uterus, which was markedly thin; very little bleeding took place at this part of the operation; a living child was extracted rapidly through the uterine opening, and the cord was tied, and the child was handed to a nurse. The placenta was easily removed; the uterus was kneaded, which soon contracted and was stitched up by sterilised silk ligatures, which were not passed deep into the body of the uterus. The left ovary and tube were removed, the right tube only ligatured and divided. A little delay at this stage of the operation occurred owing to a small rent in the peritoneum of the broad ligament, which was sewn up; the elastic band was now removed, and the pelvic cavity well cleansed and dried; the uterine peritoneum was stitched together by fine Lembert's sutures, and the abdominal cavity was closed by silkworm gut ligatures in the usual way. The vagina was again douched, and the uterus drained by the vagina and a female retaining catheter left in

he bladder. There was very little shock after the operation. From the time of the operation the patient made an uninterupted recovery, the abdominal wound healed by primary nion, and the patient was up and about in the fourth week, nd is now quite convalescent.

I am much indebted to my colleagues, Drs. Sinigar and Nichol, for their able assistance, which they gave also to thers who were present at the operation.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

JOHN LANGTON, F.R.C.S., President, in the Chair.

Friday, November 12th, 1897.

NGULAR DEFORMITY OF THE SPINE TREATED BY IMMEDIATE REDUCTION.

ESSRS. A. H. TUBBY and ROBERT JONES communicated the sults of a first series of 25 cases treated by this method. hile fully recognising how entirely at variance with ordiry surgical procedure this treatment must be, they neverheless, after seeing it carried out in the clinics of Calot and dard, decided to make a trial of it, and this they did at first a tentative manner. They declined to accept the conclun that deformity is inevitable after Pott's disease. Examition of numerous cases under anæsthetics had taught them at angular deformities fall into three classes. (1) Those in nich little or no ankylosis had taken place and reduction could effected with great ease. These occurred mainly in the young. Those in which more union had occurred; these required tension for one to three minutes, and considerable manual essure on the spine. (3) Those in which firm ankylosis had ken place. The first and second varieties were suitable for s treatment, whereas in the third variety no interference s justifiable. The advantages of immediate reduction were ted to be: The greater ease of fixation of a straight spine r a crooked one; the avoidance after the disease had eted down of profound alterations in the chest walls with mping and displacement of the abdominal and thoracic cera, and more especially the heart and great vessels, with sequent dilatation of the former and kinking of the latter; l, lastly, æsthetic reasons as to appearance. The probable igers were discussed, and it was shown that while it might ear that paralysis was the most likely immediate complition, yet such had not occurred in any case, but that 5 of ir cases affected with paralytic and paretic symptoms had mmenced to recover immediately after the operation, and done continuously well. A second risk was the disination of tubercle. The authors of the paper thought was less likely to occur than in such operations as exci- and erasion of joints where the bony surfaces more or healthy were likely to be freshly inoculated with tubercle. o the danger of producing an abscess, in no case had such event followed. On the question of the return of the rmity, in some cases the straightening remained permat; in others some slight relapse took place, which was ially or entirely removed by subsequent rectifica. It was pointed out that the duration of necessary r-treatment was two to three years. The details of the hod were then described,[1] and the appearances of the ents before and immediately after, and some weeks equently to reduction were demonstrated by lantern s. A new form of splint, a modified double Thomas's splint, which had been devised by the authors to take place of the unwieldly and cumbrous plaster cuirass remended by Calot was shown. The cases for operation not been specially selected, only those in which strong ons appeared to the contrary being rejected. In the s of 25 cases operated on there had been 1 death, six after the operation. Abdominal symptoms supervened e fourth day, and at the *post-mortem* tuberculous mesen glands were found. Of the 25 cases 9 were males and males. Their ages ranged from 18 months to 22 years. r curves had existed from six months to six years. Five paralysis at the time of operation, and all of these improved or recovered after the operation, apparently as the direct result of it. One case had a discharging sinus in the groin when rectification was carried out. As to the position of the curves, 2 were cervico-dorsal, 18 dorsal, and 5 dorso-lumbar. Ten cases were completely reduced at the firs sitting, and 15 partially. Of the 10 complete reductions 2 remained so for three to four months afterwards, and the slight recurrence which took place in 8 was speedily overcome by a second operation. Of the 15 partial reductions, 3 were subsequently reduced, 2 after two operations, and 1 after three, and the remainder were greatly improved and were reduced to about one third or less of their original size. A specimen, obtained through the kindness of Mr. R. W. Murray, of Liverpool, was shown, in which forcible reduction had been carried out after death from tuberculous meningitis in a child who had suffered from Pott's disease. The gap between the bodies at the site of the disease was well seen on the screen. The cases which the authors deemed unsuitable were: (1) Where the disease was of old standing, and where ankylosis had occurred, with considerable deformity of the chest; (2) cases in which tuberculous disease existed elsewhere; (3) cervical curves were to be avoided for obvious reasons; (4) large unopened collections of pus, especially lumbar abscesses, formed a contrary indication. The cases which the authors thought suitable were: (1) Those occurring in the young, in which the angle was a changing one, the disease of short duration, and firm ankylosis was absent; (2) those in which the disease was locally active; (3) those in which no visceral complications were present; (4) cases of paraplegia unrelieved by ordinary treatment, as a more reasonable proceeding than laminectomy, which often failed to relieve the pressure point. With the reservations mentioned, the authors thought that an angle which was increasing more rapidly than the growth-rate would explain could, with tolerable facility, and without undue risk, be removed, but they felt that the method was one in which, if due care was not exercised in the selection of cases, it might readily lead to serious results.

The PRESIDENT thanked Messrs. Tubby and Jones for their valuable contribution. Whether the new treatment would be carried out was only a question which time would solve. Professor Sayre, of New York, advocated 25 years ago forcible extension for the rectification of this deformity, but his treatment was not in favour with English surgeons of to-day. He suggested that Messrs. Tubby and Jones should show their cases at a future clinical evening of the Society. In some of the cases the deformity seemed so slight before operation that a cure would probably have resulted from prolonged rest in bed only. He could not think that forcible extension was in every case devoid of danger. He noticed that the extent of the curvature was not recognised as a bar to the treatment. But, inasmuch as large curvatures indicated great loss of the bodies of the vertebræ he would ask how was the gap to be filled up? How soon, too, after deformity had shown itself was the most suitable time for the treatment?

Dr. CALOT (Berck-sur-mer, Pas de Calais, France) thanked the President for his invitation to take part in the discussion. He said that in the treatment of Pott's disease he did not admit any other surgical intervention than that which had for its object the correction of the deformity. To endeavour to treat the paralysis or abscess (otherwise than by simple punctures followed by injections of iodoform, naphthol, etc.) was almost always to transform the "closed" disease into the "open" one, changing it from a disease in which there were 95 per cent. of cures into one which entailed 95 per cent. of fatal results. The attitude of the prudent surgeon in this relationship should be the same as in knee or hip disease, in which his efforts were directed to overcome the deformity. The difficulty and the dangers of the correction were not greater in the spinal disease than in the disease of the other joints. Many hundreds of these operations on the spine had now been done for eight months in many parts of the world by a large number of surgeons, and had shown that the mortality after operation or the danger of paralysis did not probably exceed 1 per cent. His first series of thirty-seven cases thus treated did not comprise a single instance of untoward result following the operation. Rédard read notes of 32 cases before the Moscow Congress without an accident; Hoffe, of Strassburg, 36 without an accident; and

[1] BRITISH MEDICAL JOURNAL, August 7th, 1897, on Immediate Reduction of Deformity of Spinal Caries, by Robert Jones and A. H. Tubby.

Jones, of Liverpool, 40 cases without an accident, and at the present time the last-named had performed the operation on sixty occasions with but one disaster. If, on the other hand, Brun and Jonnesco lost a child under chloroform, if Malherbe lost a child from respiratory embarrassment, and Bilhaut two or three out of 50 cases, and he himself two out of close upon 300 cases, also from respiratory failure; if, again, he had met with three cases of paralysis during the first few weeks following the operation out of some 600 cases of which notes had been forwarded to him from France and other countries, one must remember that in Pott's disease paralytic complications occurred on an average in one out of five cases, whereas he had on record eight cases of paralysis in which this complication was relieved by operation. In view of these results he would ask what other operation in surgery was there which yielded results less fatal and less severe—on its introduction. He

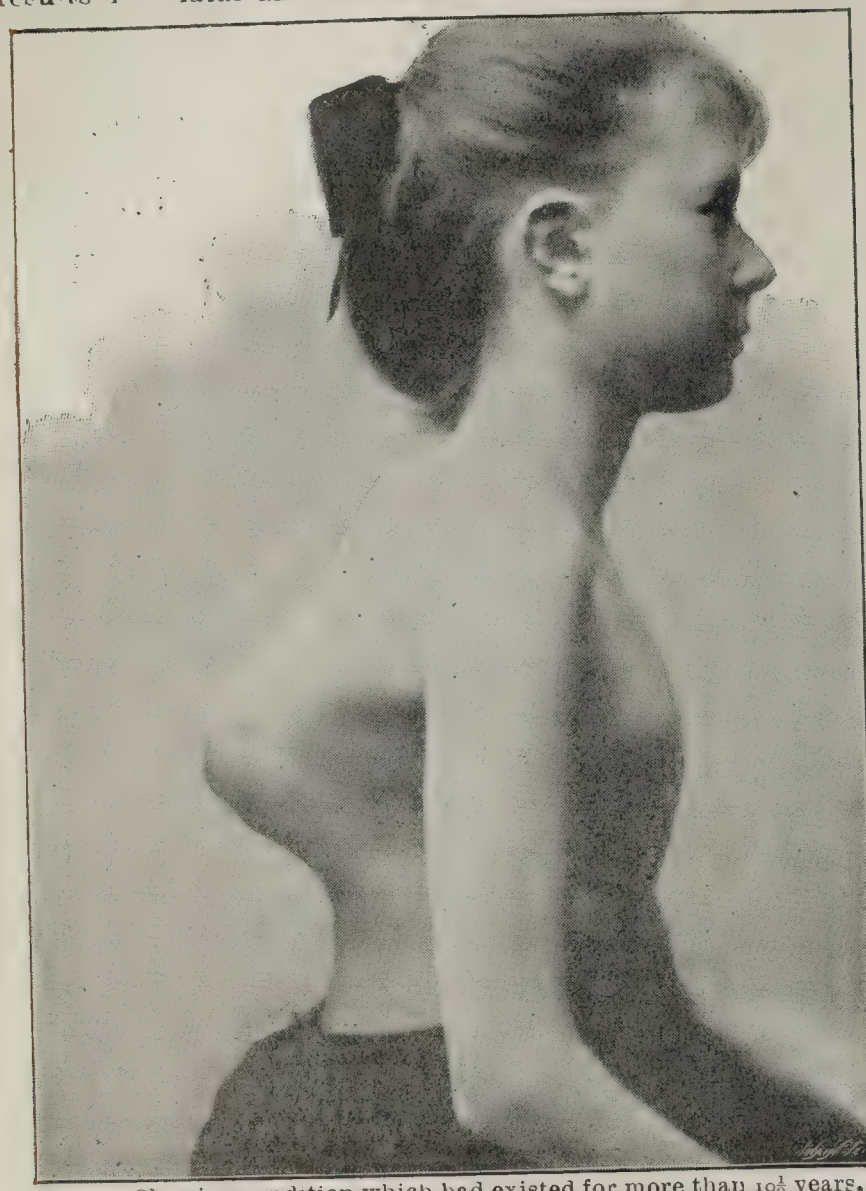

Fig. 1.—Showing condition which had existed for more than 10½ years.

did not doubt that future results would show a great improvement even on these favourable results, for he hoped to dispense with chloroform, effecting the reduction in a few seconds, thus reducing the shock to a minimum. Then, too, they would doubtless learn to choose the cases better, eliminating (1) children in an advanced condition of cachexia, on account of the difficulty with which they supported the plaster jacket which further impeded the already impaired action of their respiratory muscles. (2) Children who suffered from cough, for the same reason. (3) Children with abscesses, because the abscess might rupture during the manipulation, giving rise to paralysis. In such cases the abscesses must first be treated by puncture and injection, and usually in about two months one might proceed to reduce the deformity. (4) Children with fistulæ. Here, again, these must be cured before one could attempt reduction, a result which in most cases would not be attained. (5) Persons over 20 or 25 years old with hunchback of long standing (that is, of seven or eight years) which resisted traction of from 50 to 80 kilogrammes, but if the patient was less than 20 years of age M. Calot thought that the deformity might be corrected even when it had existed for so long as ten years. In the case of a young girl, aged 17, in whom the deformity had existed for eleven years, the results had been extraordinarily good, as was shown by a photograph which he exhibited (Figs. 1, 2, and 3). In this case the correction of the deformity had been obtained simply by means of orthopædic manipulations without any cutting operation. As to the treatment of old-standing cases of ankylosed deformity, Shaw taught twenty-three years ago that consolidation took place in cases of untreated Pott's disease in two ways, either by simple union of the posterior parts of the column or by union of the healthy bodies of the vertebræ as well as of the posterior parts. He called the first process false ankylosis and the second true ankylosis. It might occasionally happen that union of the bodies took place without union of the pos-

Fig. 2.—Showing condition seen in Fig. 1 immediately after operation.

terior parts, but this must be quite exceptional. Th difference between curvatures which yielded to a traction from 50 to 80 kilogrammes and the others was after all on one of degree. Besides the curvatures which could be reduc with little or no trouble, there were others which on yielded to a traction of 80 kilogrammes. The explanation w to be found in the fact that although in the latter bony uni had taken place posteriorly, it was only partial, and if th degree of traction failed it was simply due to the fact th the neo-osseous formation was more advanced. In reducin curvatures with a traction of 80 kilogrammes one evident broke through a number of small osseous bands, producin subcutaneous fractures, as was shown by the crepitati sometimes felt during extension. These fractures, howeve took place posteriorly in a region where the tissues we healthy. In principle the effect of the operation was t same when a stronger traction was resorted to, though he d not advise the employment of greater force. He had himse in exceptional instances gone much higher, as in the case

a young Swedish girl, whose portrait he handed round. He was convinced that it was possible to reduce even these old-standing curvatures, but would it not be more surgical in such cases to break down the adhesions after laying them bare? He was disposed to consider that such a preliminary osteotomy was desirable in all cases in which a traction of 100 kilogrammes failed to reduce the deformity. The adhesions were situated either posteriorly or in front as well as behind. In the first case the solid bony adhesions which existed at the posterior aspect, especially between the vertebral laminæ, could be divided by an osteotomy made at the most prominent part of the protuberance. The operation should be performed about a fortnight after the unsuccessful attempt at traction had been made. The wound should be closed immediately, and in about another fortnight the wound would be healed. Traction might then be tried again, and as the bones would not yet have been united by callus, this second

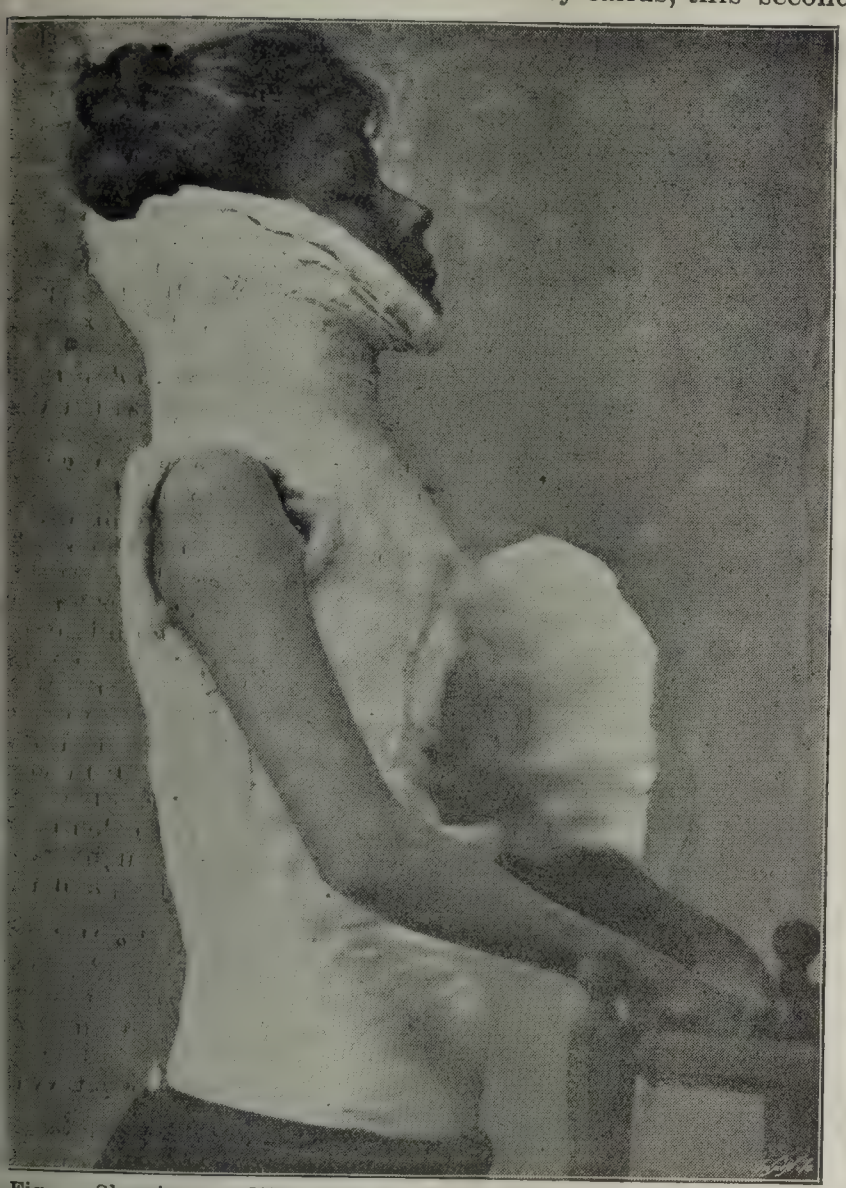

Fig. 3.—Showing condition of patient three months after operation.

plication of traction might be successful. In the second group e must begin by breaking down the posterior adhesions; t when this had been effected the anterior adhesions alone uld not prevent reduction except perhaps in persons over enty years of age. He recently performed this kind of eotomy by the aid of a guarded chisel. He was allowing skin wound to heal, and should shortly make a fresh empt at reduction. Should this further effort prove fruit- s he would know it was a case of true ankylosis. Such a dition of things would be very rarely met with in patients der 20, but even then their resources were not exhausted. would still be possible, by a second operation, to break vn the anterior adhesions, not from behind as just scribed, but attacking them laterally, taking care to avoid ering the spinal canal. It would suffice to weaken the re- tance of the anterior callus which would then yield to ther manipulation. Intervention was undesirable in very curvatures, but this disability did not apply to recent vatures in adults. The possible remote accidents which were to be feared, the formation of abscess, generalised tuberculosis, and meningitis, were less to be dreaded than after operations on the knee. In the latter operation it was impossible to avoid breaking down bony processes themselves infiltrated with tubercle, whereas in the spine the two anterior segments were raised without rupture of the trabeculæ, and the pressure resulting from the replacement of the posterior parts bore on bony structures which were quite healthy. As a matter of fact, he had only met with four instances of tuberculous broncho-pneumonia or meningitis in upwards of 300 cases during the six months following reduction. It might be urged that while in the knee the articular surfaces were brought together, in the spine on the contrary the surfaces were separated, and as the tuberculous process was favourable rather to the destruction than to reconstruction, these cases must inevitably relapse. This question naturally occurred to him, and he abstained from publishing his results until he had had ample opportunity of ascertaining that the objection had no practical value. The spine underwent consolidation after reduction just as it did when left to itself. He had radiographs which clearly showed that union took place in some cases by true ankylosis, when the deformity was slight or of medium degree. When the deformity was very considerable consolidation took place by ankylosis of the laminæ and articular surfaces, sometime even of the spinous processes, but in order that such ankylosis should produce the degree of resistance contemplated it would be necessary that it should involve the whole length of the projection and even extend a little above and below it. In recent cases, those in which the original bone disease had not been completely arrested, it was desirable to wait, and his experience was that spontaneous consolidation took place in 4 out of 13 cases in from six to ten months. In 7 it was insufficient, in the sense that an insufficient number of vertebræ were joined together. In such cases and in old standing cases in which the bone disease had stopped, if after the end of four or five months the consolidation of the spine was unsatisfactory, it was desirable to perform an operation to promote ankylosis. This was done by denuding the laminæ at the parts where they were in contact, applying the periosteum over the site of the proposed junction. When one had to deal with a very pronounced curvature the reduction might be attempted at one or in two sittings, leaving several weeks' interval, so that union should not have had time to take place in the partially corrected attitude. When the first apparatus was renewed at the third or fourth month if the disease had subsided, or much later if it were still in progress, one should ascertain whether union was complete, and if not one might complete it by the operation just described. His rule of conduct was to provoke union between at least two vertebræ more than he considered necessary to ensure the stability of the union. He had provoked artificial union on ten occasions. The posterior union would suffice to maintain the position of the vertebral column, as he had had many opportunities of observing. It only remained for him to describe the plaster apparatus. This was separated from the skin by a thin layer of cotton wool. It left the face and the top of the head free, but included the whole of the trunk along with the neck, the base of the head, chin, and occiput. In applying the cervical part he made use of a suspending apparatus. A small aperture was made over the epigastrium. The actual correction of the deformity took only a few seconds, the application of the large plaster jacket took five to eight minutes, and at Moscow he did six in seventy-five minutes. The apparatus was left on for from three to five months if the child was not inconvenienced and had no rise of temperature. As a rule, all that was necessary was to cut an opening opposite the curvature in order to dress the sore which might have formed there. If things went on well, it was only necessary to renew the appliance once or twice. The ultimate duration of the treatment depended on many variable circumstances, according as one had to deal with Pott's disease in active progress or with a curvature which represented Pott's disease as a thing of the past. In the first case the duration was that of the disease itself—that is, six months to two years. In the second case the treatment need not take more than four to eight months. Should any recurrence of the deformity take

place, he should advise artificial union; indeed, he was almost disposed to recommend this procedure as a routine practice as a prophylactic. In conclusion, M. Calot expressed the opinion that by the use of traction, very gently and methodically applied, it would be possible to obtain complete correction of the deformity in the great majority of cases.

Mr. R. W. MURRAY (Liverpool) said that his experience dated from August 20th, and was limited to 14 cases. The age of his patients varied from 2½ to 9 years. The cases were selected in respect of good general health, and also in order to afford him an opportunity of studying the disease in various parts of the spinal column; thus there were two in the lumbar, nine in the dorsal, and three in the cervical regions. The duration of the deformity varied from a few months to four years. In one case a small psoas abscess was present, and in another paralysis. The operations, with one exception, were uneventful, the exception being in the paralytic case. In this case the patient became markedly cyanosed, and caused some anxiety, but ultimately rallied. It was two months since the operation, and the paralysis had already improved. His results, on the whole, had been fairly satisfactory, the majority of the children were quite well; but in one of the cervical cases weakness of the lower limbs had since supervened, probably due to the operation. In one of his first cases the child had since developed general tuberculosis. In the fatal case the cause of death was not connected with the operation. It was true that one no longer need fear stretching the great abdominal vessels, abscess formation, or wounding the cord, but what as to the future? The objects mostly in view were, of course, the correction of deformity; and, secondly, the cure of the disease. Now, the prognosis in tuberculous disease of the vertebræ was probably worse than in disease of bone in any other part of the body, and he very much doubted whether surgeons would be able to effect complete and permanent cure of the deformity. The vertebræ were many of them destroyed, and the natural growth of bone would be in the direction of producing a hump. The interval left required to be filled by something strong enough to bear the pressure, but his experience of tuberculous bones was that one found very little in the way of repair. Failing this bony formation, there must be either a return of the hump or lifelong recourse to instrumental support. If the interval were filled by ligamentous tissue, one would not only have a hump, but a wobbly hump. A mechanic with a hump-back which was rigid might still be able to do good work, but a man with a wobbly hump would be incapacitated from work. Therefore, *cæteris paribus*, he should prefer a rigid if humped back to a straight back which was wobbly. He was enabled to show a portion of the vertebral column of a child on whom he had performed straightening. He died of pneumonia two months later, and the appearances of the bone tended to support the somewhat unfavourable view which he had taken of the future of these cases.

The meeting passed a cordial vote of thanks to Dr. Calot for his address.

Further discussion was adjourned until the next meeting.

PATHOLOGICAL SOCIETY OF LONDON.

J. F. PAYNE, M.D., President, in the Chair.

Tuesday, November 16th, 1897.

SPONTANEOUS FRACTURE OF A GALL STONE IN THE GALL BLADDER.

DR. H. D. ROLLESTON showed the calculi from the gall bladder of a woman aged 46, who died with spheroidal-celled carcinoma of the gall bladder. The bladder was enlarged, and contained mucus unstained by bile, numerous small calculi of cholesterin, and three others of larger size. The largest resembled in size and shape the amputated terminal phalanx of the thumb, the two ends appearing to have been broken across. Of the other two larger calculi, one was smooth and like a pebble, the other presented a surface which might have fitted on to one of the ends of the chief concretions, but owing to the effects of attrition the surfaces did not accurately correspond. Fracture had evidently taken place a considerable time before death, and could not be explained as due to traumatism or to vigorous contraction of the gall bladder, since there was no history either of a blow or of biliary colic. The cause of spontaneous fracture of gall stones might be explained on the same lines as spontaneous fracture of vesical calculi, as expounded by Drs. Ord, Plowright, and Mr. Hurry Fenwick. Dr. Ord first suggested expansion of the nucleus which led to bursting of the calculus like a bomb; in another case he found it due to mycelial growth passing between the layers and levering off the outer zones. Naunyn had pointed out that biliary calculi were normally penetrated by cholesterin, which recrystallised inside the calculi, and Chauffard had shown that these calculi might be invaded by micro-organisms. The possibility of cancerous invasion of the gall bladder as a direct cause was considered, but hardly appeared probable. In a case of spontaneous fracture of a gall stone recorded by Dr. Hadden there was no growth in the liver or gall bladder.

Dr. JAMES CALVERT exhibited a similar specimen, obtained from a seaman whose history did not in any way suggest the presence of biliary calculi. Jaundice was observed three weeks before death, and was diagnosed as due to malignant growth obstructing the common bile duct. This was confirmed at the necropsy. The gall bladder was not enlarged, but was thickened from chronic inflammation, and filled with calculi which were almost without exception broken into numerous fragments, of which some of the edges were smooth, others recent and sharp. Judging from the fractures affecting the outer layers, it seemed that it was here, and not from the centre, that the disruption began. The gall bladder was empty of bile, and possibly the drying of the calculi explained their disintegration.

Dr. WILLIAM HUNTER regarded the fractures as due to the breaking down of superficial laminæ, between which there were spaces filled with mucus.

Mr. S. G. SHATTOCK remarked that there was a general agreement as to the probable truth of the view put forward by Dr. Ord in regard to the spontaneous fracture of urinary calculi—namely, that owing to alterations in the specific gravity of the circumambient fluid the colloidal substance of the calculi underwent alterations in volume, either swelling or shrinking, and so led to the disruption, which might take place centrifugally or from the surface. It was noteworthy that in both the cases reported the gall bladder contained no bile, but mucus. The resulting alteration in the density of the fluid might here determine the change noticed in the colloidal substance, which substance was present in considerable quantities in most biliary calculi. Dr. Plowright's view that the fissures in the urinary forms of calculi arose from the penetration of urate the speaker thought an inversion of the facts; the fissures occurred first, and these were subsequently filled with the urate.

Dr. F. VOELCKER referred to a specimen in the Middlesex Hospital from a patient of the late Dr. Murchison's. Three gall stones were passed at intervals *per anum*, and found to articulate so as to compose a mass of the form and size of the gall bladder. He thought that unless the "fragments" could be fitted, much doubt must remain as to whether they indicated the fracture of a larger calculus.

MALFORMATION OF THE HEART.

Dr. L. FREYBERGER showed the above, which was obtained from an infant 11 months of age. The malformation consisted in imperfect closure of the auricular and ventricular septa together with an arrested development of the right ventricle and pulmonary artery; the aorta, morever, communicated with both ventricles.

INTRAPERICARDIAL RUPTURE OF AN AORTIC ANEURYSM.

The same author also exhibited this specimen, which was obtained from a man in whose pericardium a large effusion of blood was found.

The PRESIDENT observed that deficiency of the ventricular septum was a common accompaniment of other cardiac malformations. Its comparative frequency had led the older anatomists to believe that the blood normally reached the left ventricle from the right through the septum.

TWO EXAMPLES OF MALFORMATION IN FISH.

Mr. C. G. SELIGMANN described the head of a pike, in which the upper jaw was considerably shortened; in place of

being almost as long as the lower and slightly concave upwards it was markedly convex from the crown of the head to the tip of the nose. The ethmo-vomerine plate, although somewhat shortened and bent downwards, was well formed for the greater part of its length, and bore the usual array of teeth. The maxillæ were normal, whilst the premaxillæ, which should bear the whole series of lateral teeth in the upper jaw, were small and carried only a few diminutive teeth. The prefrontals were much reduced in size. In the teratological series at the College of Surgeons were specimens showing complete facial arrest in fish. The lesser degrees corresponded to those cases in higher vertebrates in which there was defective development of the maxillæ giving rise to harelip; and the more pronounced to cases of median deficiency arising from failure in the development of the premaxillæ and the overlying integument—one form of median harelip. The second specimen was a trout (salmo fario), in which there was a small supernumerary fin in the dorsal line immediately behind the head; all the other fins were normal. As far as the author could ascertain, no similar malformation had been met with. The position of the supernumerary fin seemed to show that it was not a developmental excess comparable with supernumerary digits, but rather of atavistic significance. It had been suggested by Ray Lankester that the archetypal fish had a median fin, stretching both dorsally and ventrally the whole length of its body. An approach to this was seen in certain extinct fringe-finned ganoids with diphycercal tails. In these there was a continuous series of rays stretching from end to end of the dorsal aspect of the spinal column. In existing species of Regalecus the dorsal fin extended the entire length of the body, the spines of a detached portion on the head being developed into long filaments, while the most striking peculiarity of Lophotes cepedianus was, according to Lydekker, "the elongation of the crown of the head into a high crest, surmounted by an exceedingly long and recurved spine, forming the commencement of the dorsal fin." In the sticklebacks there were between the soft dorsal fin and the head a number of isolated fin rays which had developed into spines. Agassiz had shown that these as well as the tentacles of Lophius arose as diverticula of epiblast in continuity with or forming the anterior portion of the median dorsal fin fold. Subsequently their proximal (basal) end became invaded by mesoblast, and the whole spine or tentacle was carried forwards, reaching, in the sun-sheltered (L. spinachia), the level of the gill covers, and occupying in Lophius piscatorius a position on the head anterior to the eyes, and far in advance of the position in which they were developed in the embryo. The Balistidæ presented varying degrees of development of an anterior spiny fin in front of the soft dorsal, in Triacanthus there were from four to six spines united by a soft membrane reduced in Monacanthus to two or one and in Anacanthus to one. Finally, although there was no trace of a continuous median dorsal fin in the trout alevin, the embryo gold fish had a median dorsal fold reaching forward to the region of the eyes, while in some eels the larva, like amphioxus, had a continuous dorsal fringe reduced in the adult to a fin beginning some distance behind the head. It seemed, therefore, probable that in the specimen under consideration the supernumerary fin represented an anterior part of an originally longer dorsal fin, and that the additional fin was homologous with the spiny rays of the Gastrosteidæ, the tentacles of Lophius, and the anterior spiny fin of many other fishes.

The PRESIDENT incidentally made the remark that the occurrence of malformation in fish, at any rate, did not admit of explanation by maternal impression.

INTUSSUSCEPTION OF THE VERMIFORM APPENDIX.

Mr. H. F. WATERHOUSE recorded the case of a girl, 4 years of age, in whom an intussusception was reduced under chloroform, but subsequently reappeared and necessitated laparotomy. At the operation two distinct intussusceptions were reduced without difficulty, one of them in the ileo-colic region. After the reduction of the latter a globular swelling was felt in the cæcum; in the attempts at reducing this the cæcum was ruptured, when the swelling in question was found due to an invagination of the greater part of the appendix. The cæcum was excised, and the intestine united with a Murphy's button. Death took place from shock. A certain number of cases of appendicular intussusception had been recorded by others. It was noteworthy that even after the removal of the parts, it was found quite impossible to reduce the displacement.

In answer to Dr. HUNTER, he stated that no similar specimen was forthcoming.

Mr. F. C. WALLIS thought that the invaginating process had commenced in the appendix and subsequently involved the large intestine.

Mr. D'ARCY POWER agreed with the preceding speaker. In the last case on which he had operated he had found an early invagination of the terminal part of the cæcum—below, that is, the site of the valve; the folds were adherent by lymph.

Dr. H. D. ROLLESTON inquired whether a concretion was present in the appendix in Mr. Waterhouse's case.

Mr. WATERHOUSE, in reply, thought that the process commenced in the appendix. He regretted he did not excise the appendix at the operation, but he was unprepared for the condition. No concretion was apparently present, as none was felt on piercing the appendix with a needle during the operation.

CARD SPECIMENS.

Mr. STRANGEWAYS PIGG: A specimen of Bubonic Plague.—Mr. P. FURNIVAL: Symmetrical Rodent Ulcer.—Mr. STRANGEWAYS PIGG: A similar specimen.—Dr. H. D. ROLLESTON: Rodent Ulcer near the Umbilicus.—Mr. W. G. SPENCER: Squamous-celled Carcinoma of the Upper Jaw.—Dr. HECTOR MACKENZIE: (1) General Cystic Disease of the Kidneys in the Adult; (2) Hypertrophy and Dilatation of the Stomach.—Dr. F. VOELCKER: Chronic Interstitial Nephritis, with Cysts.—Dr. CECIL BEADLES: Perforating Ulcerative Colitis in a lunatic.—Dr. W. HUNTER: Gumma of the Liver.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

G. A. BERRY, F.R.C.S.Edin., Vice-President, in the Chair.

Thursday, November 11th, 1879.

HEREDITY AND THE DEVELOPMENT OF MYOPIA.

MR. WRAY began by stating that some observers found a family history in as many as 60 per cent. of their cases of myopia. On the assumption that one-fourth of the hereditary tendencies were from each parent, and one-sixteenth from each grandparent, it was plain that hereditary predisposition would appear more and more in the etiology of myopia. Mr. Wray questioned the expediency of using the term "acquired myopia" lightly, as no case could legitimately be called acquired unless ancestral myopia could be disproved, which the author contended was impossible. He next submitted that authorities repudiated the possibility of the transmission of acquired structural peculiarities, and experimental evidence was quoted to the effect that the removal of an eye in rabbits during many successive generations failed to cause the birth of one-eyed offspring. The author conceded the transmissibility or ordinary myopia, and then stated that there was no relation between the sum of the myopia of myopic parents and the amount that would appear in the offspring, and when the highest grades had been found the parental myopia was invariably confined to one parent. Since Fukala's operation had come into vogue, the author had given special care to the investigation of the antecedents of such patients, and found in a considerable number of cases that the child with very high myopia had suffered from protracted infantile marasmus, whilst the brothers and sisters who escaped had not. He further stated that out of 126 cases of myopia over 10 D, he had not found one instance in which parent and child were both subject to an equal or approximately equal amount. The existence of the highest grade of myopia in one eye only made it exceedingly probable that other influences acted as powerfully as marasmus in the predisposed. Since such grave disproportions never arose in the limbs during their development, it was necessary to consider the difference in their development, and this was to be found in the way in which the vitreous was formed by the passage of mesoblastic elements into the secondary optic vesicle. Mr. Wray suggested the possibility of hypoinclusion being the basis of hypermetropia and excessive inclusion the cause of

myopia. He alleged that this theory would explain the variation in the age at which myopia appeared, and the phenomena of stationary and progressive hypermetropia and myopia, as well as numerous other points in the pathology of myopia.

POTASSIUM PERMANGANATE IN OPHTHALMIA.

Mr. SYDNEY STEPHENSON communicated particulars of a case of purulent ophthalmia in a baby, where the frequent use of a strong solution of potassium permanganate had given rise to a deposition of manganese dioxide upon the cornea. The mark, which was of coal-black colour, disappeared a few days after the use of the solution had been discontinued.

CATARACT EXTRACTION.

Surgeon-Captain HERBERT, I.M.S., said that the conditions of operating were unfavourable in India, and he had found it impossible to exclude infection till he employed strong perchloride (1 in 2,300) as a routine antiseptic. The lotion was used freely to the face, lids, and conjunctiva, then cocaine was instilled, the lids being kept closed to prevent the drying of the epithelium, and during the operation the surface of the eyeball was kept moist by the constant dropping of boiled saline solution. Since the adoption of this method he had performed 281 extractions; there had been no suppurations, and no iritis severe enough to affect vision. —A discussion on the value of asepsis as opposed to antisepsis followed, in which Messrs. BERRY, NETTLESHIP, HILL GRIFFITH, LAWFORD, and CARGILL took part.

PSEUDOGLIOMA DUE TO CHOROIDO-RETINITIS SECONDARY TO MENINGITIS.

Mr. L. V. CARGILL described the case of a male infant, with good family history and born at full term, who was perfectly healthy until 3 months old, when it suddenly developed meningitis. A fortnight later the left eye was noticed to be affected with pseudoglioma. Two months afterwards hydrocephalus was developing, and was associated with retraction of the head. Right optic papillitis was discovered, whilst the left membrana tympani was found perforated, there having previously been slight purulent discharges from the left ear. The hydrocephalus increased, the left eye underwent shrinking, whilst the right eye remained unaffected except for atrophy of the optic disc. The child died about ten months after the first onset of illness. A *post-mortem* examination was not obtained.

Mr. TREACHER COLLINS had observed from pathological examination that these cases were more often retinitis than uveitis. The course of the affection was from the throat by the Eustachian tube, middle ear, meninges, and optic nerve to the eye.

CASE OF ALBUMINURIC RETINITIS.

This paper was read by Dr. ARNOLD LAWSON and Dr. SUTHERLAND. F. B., aged 12 years, was brought to the hospital on October 29th suffering from headache and vomiting. Examination showed the presence of albumen in the urine and albuminuric retinitis in both eyes. The history of her illness consisted of intermittent attacks of headache during the last ten months. These had recently become much worse, and were frequently accompanied by vomiting and great prostration. The past history was excellent. She had never had scarlet fever or any cardiac affection. She was always a ravenous eater, and especially fond of meat. The family history was good except for phthisis on the mother's side. The patient was bright and intelligent, and showed no lethargy. There was a diffused heaving impulse over the precordial region. The apex beat was three-quarters of an inch outside the nipple line in the fifth space. The heart's first sound at the apex was rough, and accompanied by a short blowing murmur. The second sound accentuated at the base; the sounds were clear and ringing, the second being accentuated. Arterial pulsation was visible in the large vessels of the neck. The pulse was small, regular, and of high tension, and there appeared to be some thickening of the vessel walls. The urine was acid, specific gravity 1010, cloudy. Albumen was present in considerable quantities. Microscopically casts, for the most part hyaline, but also a few epithelial or fatty, were found. The fundus in each eye presented the usual changes due to albuminuric retinitis in a typical and advanced form. The case appeared to be one of primary chronic interstitial nephritis occurring at an unusually early age. The symptoms were precisely similar to those met with in adults suffering from this disease. The cause was obscure. Possibly a long course of over-feeding might have so affected the blood as to induce irritative changes in the kidney. No record of any case of albuminuric retinitis occurring at so early an age could be found. One case at 15 years had been recorded by Mr. Benson in 1883. The prognosis as regards duration of life, though very bad, could probably be modified by efficient treatment, and placing the child in the most favourable circumstances as regards home comforts and nursing, etc.

Mr. NETTLESHIP called to mind two cases of albuminuric retinitis in children. One was in a boy, the details of whose case he could not recall, but who was under observation for a year; the other was in a little girl, who was said to have recently had Bright's disease. In the latter case there was great pallor of the optic nerve, and old retinal changes with much impairment of vision.

Dr. BREUER said that Dr. Bull had published a series of cases, one of which was in a boy of 5. In every case in which a *post-mortem* examination had been made interstitial and not glomerular nephritis had been found.

Mr. LAWFORD had recently seen a boy, aged 17, with albuminuric retinitis; he also had chronic interstitial nephritis; he improved materially.

Mr. HOLMES SPICER had recently been asked to see a child at the Children's Hospital who had all the signs of acute nephritis; on examining the eyes there were a few small retinal hæmorrhages, but no large masses of exudation.

HUNTERIAN SOCIETY.

G. E. HERMAN, M.D., President, in the Chair.

Wednesday, November 10th, 1897.

MEDICAL HÆMORRHAGES.

DR. FRED J. SMITH first defined the term, and then gave a detailed list of cases falling under the definition, in the brain, from lung, stomach, intestines, kidneys, etc., dividing them into two classes. Class I. Those with some serious blood or constitutional disease (leucocythæmia, scurvy, etc.). Class II. Those in which the hæmorrhage was due only to a local break in blood vessels. In Class I he very briefly indicated the line of treatment for certain examples, and proceeded to discuss in Class II the value or harm of ergot as a hæmostatic, maintaining that when bleeding was arterial ergot must be harmful. He then referred to other means of checking hæmorrhage and considered how, why and when each was applicable to the relief of particular cases, and concluded by bringing forward certain propositions for discussion.

Dr. COTMAN referred to the value of a large dose of sulphate of magnesia given at the commencement of a case of hæmoptysis, and spoke of the value of rest as procured by opium.

Dr. GEO. B. STEVENS said that in treatment it was often necessary to be empirical, and referred to the importance of diagnosis as a guide to treatment. He instanced a case in which it had been difficult to diagnose the source of the hæmorrhage, which turned out to be due to a polypus nasi. He considered the old method of treatment by pil. plumbi c. opio as still the best, but he generally gave an acid mixture with ergot and digitalis.

Dr. BOWKETT said he had found benefit from ergot in large doses in gastric hæmorrhages; rest and ice were useful, whilst in most hæmorrhages turpentine by the mouth was valuable. Antimony often succeeded in pulmonary hæmorrhages when other remedies failed.

Dr. RUTTER stated that he considered the icebag of no use, and spoke highly of the value of calcium chloride as a hæmostatic.

Dr. FORTESCUE FOX believed that the icebag in hæmorrhages from the stomach or intestine allayed vascular excitement. Hazeline in large doses was also useful in his experience, and he advocated venesection in cerebral hæmorrhage.

Mr. A. H. TUBBY inquired as to the reason for giving potassium iodide, and agreed with Dr. Smith's remarks on the use of ergot.

Dr. HINGSTON FOX had given creasote to several cases of phthisis, and in one instance in large quantities without hæmoptysis. He did not use ergot for medical hæmorrhages.

but used not only potassium iodide but alkalies to quiet the circulation, and quoted a case of copious hæmorrhage due apparently to simple increased arterial tension without evidence of kidney lesion, and said the man was still alive.

Dr. Wickham still believed in the value of large doses of ergot.

Dr. Arthur Davies stated his belief in the administration of ergot in sufficiently large doses. He also referred to the value of sulphate of magnesia given frequently. He emphasised the extreme value of position in severe hæmorrhages, whether pulmonary or cerebral, and the importance of turning the patient on the affected side, as pointed out by Dr. Bowles.

Dr. Smith replied.

Pruritus Vulvæ.

Dr. Herman said that though pruritus was a common complaint, yet it was important, as it caused great local suffering, and, indirectly by preventing sleep, injury to health. He divided the causes of pruritus into five classes: (1) Adventitious, due to pediculi, dirt, worms, pessaries; (2) skin diseases—eczema, herpes, furuncle, follicular, urticarial, and diabetic dermatitis—which had been shown to be due neither to saccharine urine nor to sweat; (3) irritating discharges—gonorrhœa, cancer, senile endometritis—and also cases where no visible discharge was seen; (4) venous congestion, due to heart, lung, or liver disease; (5) nervous. In Class 1 he advised white precipitate ointment for pediculi; absolute cleanliness and changing of material of pessary. Class 2: Eczema usually affected fat elderly women and those who were pregnant; possibly it depended on a parasitic micro-organism; in diabetes it was especially frequent. Treatment in the former consisted in warm hip baths with Wright's liquor carbonis detergens added, and powdering the parts with boric acid. In the latter general treatment was required. Herpes zoster was not amenable to any kind of treatment. Follicular pruritus was best treated by squeezing out the contents of the follicles and applying a germicide lotion, such as corrosive sublimate 1 to 2,000. Urticaria was very rare. Class 3: Irritating discharges should be treated by sedative and antiseptic washes to the vagina, followed by sedative powders to the vulva, such as a saturated solution of borax and dermatol powder and boric acid. When these failed, a strong carbolic acid lotion, 1 to 7, would in some cases completely cure or give greater relief. Class 4: Pruritus was found in pregnancy and in corpulent persons with varicose veins, and those suffering from heart, lung, or liver disease; the treatment was practically the same as in Class 3. In Class 5, pruritus in aged women was sometimes a symptom of degenerative changes in the nervous system, and treatment usually failed.

HARVEIAN SOCIETY OF LONDON.

R. H. Milson, M.D., President, in the Chair.

Thursday, November 4th, 1897.

The Treatment of Lateral Curvature of the Spine.

Mr. Noble Smith read a paper on this subject and gave a demonstration. He pointed out the advantages that were to be derived from mechanical assistance in addition to other methods of treatment. It was stated by the advocates of exercise treatment alone that deformity in the bones could not be remedied, and it was remarked that a test of this deformity was the existence of "rotation." Mr. Noble Smith had found that it was quite possible, by means of the hands alone, to hold a patient in a straight position although slight rotation had commenced, and it was possible to maintain that position by means of apparatus until the bones had readjusted themselves. He demonstrated the action of the apparatus upon several patients whom he exhibited, showing that the chest was left perfectly free from pressure; that there was no interference with development or with the use of muscles; that the pressure was so little that it acted rather by encouraging the patients to hold themselves erect than by force alone. Mr. Noble Smith stated that children quickly realised the comfort and benefit of wearing the apparatus. If there was pain or aching, or a sense of weakness, these symptoms were quickly relieved. In older patients, in cases of severe deformity, the necessity of such treatment was, he thought, obvious, as it was almost the only way of relieving pain, a result which could always be attained. A few useful exercises were then demonstrated, and especially one which tended to counteract "rotation." Treatment by exercises alone acted temporarily, the spine falling back towards the old position, whereas by means of apparatus the results were kept up in the intervals. The difficulty of forming a correct diagnosis between caries and lateral curvature in the early stages was referred to, and it was urged that great caution should be observed with regard to exercises during this uncertain stage. Mr. Noble Smith then demonstrated the application of the treatment by forced reduction of the deformity. He stated that the application of this plan of treatment, which had recently attracted so much attention in France (especially in reference to cases of caries) was well shown in the case of the patient exhibited. This was, of course, a case of lateral curvature, for which deformity he considered the forced reduction quite safe, whereas in caries it was dangerous. A photograph had been taken of the back before treatment was commenced, and another after an interval of three weeks. Three operations had been performed during these three weeks, at each of which something was felt to give way like the breaking-down of adhesions, and after each operation great improvement was found to have taken place. The patient's back showed a marked improvement upon the photograph taken before treatment.

Mr. Jackson Clarke said that there was much misunderstanding as to the various methods of treating lateral curvature. In the lateral curvature of rickety infants instrumental treatment was absolutely necessary. A moulded leather back splint which left the chest and limbs free was the best form of support to use in such cases. Some surgeons were under the impression that exercises alone were used in the treatment of lateral curvature. Mr. Roth's plan consisted in placing the patient every day for three-quarters of an hour in the dorsal position on a flat table, and then putting the patient through a series of exercises. In this method the table was an instrument which the force gravity brought into play. And, further, this plan required the patient in the intervals between the exercises to recline on a special couch, which was also an instrument having the same action as the upright part of a Chance's splint, as modified by Mr. Noble Smith. The lateral arms of a Chance's splint had much the same action as the "lateral sling" recommended by Mr. Barwell. Thus there was less difference between the methods of various surgeons than at first sight appeared. He (Mr. Clarke) had under his care a great number of cases in which part of the treatment consisted in wearing a Chance's splint, and with the best results. Instruments, such as plaster or felt corsets, or mechanical contrivances, which surrounded and cramped the chest, were to be avoided. Young men with good muscular development could sometimes be successfully treated without wearing an instrument.

Dr. Hare expressed himself as convinced of the value of the treatment by apparatus as carried out by Mr. Noble Smith, whose methods he had watched with great interest.

Dr. Bowles remarked that having at one time been opposed to treatment by apparatus he had become converted to this plan of dealing with lateral curvature from having seen the benefits derived by patients under Mr. Noble Smith. In elderly patients, especially those suffering from complications of the chest, he had seen excellent results.

Dr. Dodsworth spoke also in favour of this treatment. He had submitted members of his own family to Mr. Noble Smith's care with gratifying results, and he had also many of his patients under his treatment with equally good effects.

Dr. G. Roe Carter (Anerley) had seen the results of Mr. Noble Smith's treatment in quite twenty cases, and he could say that in every one the benefits had been very decided. Some of these patients had previously undergone treatment by exercises, but with unsatisfactory results, and several of them who were severely deformed were eventually perfectly cured by means of the apparatus. One great point in favour of this treatment was, he thought, that the patients were able from the first to continue their ordinary avocations, and were not laid up for a single day.

Dr. Scanes Spicer related a case which had been treated by

Mr. Noble Smith, in which very considerable deformity had been perfectly cured after four months' treatment.

Dr. GAY asked to what extent the pelvis was affected in cases of scoliosis, and

The PRESIDENT inquired as to the length of time required for treatment.

Mr. NOBLE SMITH, in his reply, stated that the time required varied according to the case, remarking that whilst a recent paper upon The Exercise Treatment in the BRITISH MEDICAL JOURNAL stated that 72 daily visits (in three months) was an average; he had found that 25 visits in six months was sufficient for the majority of patients, and that if the treatment had to be carried on after that, it only involved a visit at intervals of two to three months.

BRITISH LARYNGOLOGICAL, RHINOLOGICAL, AND OTOLOGICAL ASSOCIATION.

DUNDAS GRANT, M.D., F.R.C.S., President, in the Chair.

Friday, October 29th, 1897.

LARYNGOLOGICAL AND RHINOLOGICAL CASES.

MR. GRIFFITH C. WILKIN showed a case of Lupus of the Nose and Mouth.—Dr. WHISTLER agreed with the diagnosis.

The PRESIDENT showed a series of 3 cases of Frontal Headache of nasal origin: (1) Dependent on frontal sinus disease; (2) dependent on sphenoidal sinus disease; (3) due to suppuration in the antrum of Highmore. In all these cases the result of treatment confirmed the diagnosis.—Mr. LENNOX BROWNE remarked that the cases suggested that hard-and-fast lines as to diagnosis by localisation of pain, of the particular cavity attached, were not to be relied upon.—Mr. MARSH said that in 3 well-marked cases of sphenoidal suppuration there was severe headache referred vaguely to the vertex. Frontal headache was also complained of by all three, but was attributed to a similar affection of the ethmoid cells.

The PRESIDENT also showed a case of Malignant Disease of Œsophagus and Thyroid Gland in a woman aged 59. The swelling in the neck, chiefly towards the left side, had developed within five or six weeks. There was occasional pain shooting up to the left ear, and a history of considerable difficulty of swallowing for about a year.—Mr. MARSH agreed that the enlargement of the thyroid was due to carcinoma, not secondary to the œsophageal growth, but independent of it.

Mr. WYATT WINGRAVE showed a case of Aphonia, with Paralysis of Tensors of Vocal Cords, in a man aged 25, a seaman, who complained of sudden loss of voice for four weeks and huskiness for twelve months, slight cough, and no expectoration, but who in other respects expressed himself as being in perfect health, though he had lost weight. There was no evidence or history of phthisis or syphilis. Laryngoscopic examination three weeks before showed slight periarytenoid swelling extending to the ventricular bands, both cords injected and symmetrically thickened about their middle thirds. Abductor and adductor movements were lively, but tension was very feeble. There was no sputum. There was evidently some chronic laryngeal inflammation, probably tuberculous, but insufficient to account for complete aphonia. Some general improvement had been obtained by treatment with creasote and potassium iodide. The interrupted current with vocal drill quickly restored the voice.—Mr. BARK, Dr. WHISTLER, Mr. LENNOX BROWNE, and Dr. MILLIGAN concurred in the opinion that the case was probably one of commencing tuberculous laryngitis.

Dr. TRESILIAN communicated the notes of four cases of Enteric Fever exhibiting throat lesions out of eight consecutive cases seen within the last two months.—They were commented on by Mr. LENNOX BROWNE, Dr. MILLIGAN, Dr. EDDOWES, and the PRESIDENT.

Dr. PEGLER read notes and showed microscopical sections of a case of Post-septal Lymphoma.—Mr. WYATT WINGRAVE considered the specimen one of typical adenoid tissue, glandular and lymphoid tissue occurring normally on the septum.—Dr. HILL said he had had a case of growth on the septum sent to him as an adenoid case.

PRESIDENT'S ADDRESS.

The presidential address, On Some Lines of Progress in Laryngology, Rhinology, and Otology, was delivered by Dr. DUNDAS GRANT, and a vote of thanks was proposed by Dr. MILLIGAN, and seconded by Dr. BARCLAY BARON.

OTOLOGICAL CASES.

The PRESIDENT showed a series of four cases of Mastoid Operation, showing varying results. The first of the series was a case of attic disease treated by radical operation with Panse's flaps, and illustrating the result of insufficient plugging. The ultimate result was perfectly satisfactory. The second case was followed by stenosis of the meatus, owing to insufficient plugging, but this had been overcome in some measure by the introduction of strands of pewter wire; and it was hoped that shortly it would be possible to insert a pewter tube. The third case was one of radical operation, performed on account of chronic otorrhœa and headache, followed by suppuration under the flaps. Insufficient adhesion was overcome by plugging with black wash, and an excellent result was ultimately obtained. The fourth case was one of Schwartze's operation for cholesteatoma with relief for five years, followed by recurrence of symptoms—pain in head and vertigo—and subsequent radical operation. There was a very rapid recovery.—Dr. MILLIGAN's practice was to put in sutures at the operation, but not to tie them till the first dressing.—Mr. MARSH and Dr. VINRACE also remarked on the cases.

The PRESIDENT read the notes of a case of Bilateral Deafness following Mumps, contributed by Dr. LAMBERT LACK.

Dr. TRESILIAN showed a case of long-standing Suppurative Otitis Media in illustration of the value of instillations of alcohol and glycerine in the treatment of cholesteatomata and granulations.

Mr. WYATT WINGRAVE showed a case of Tuberculous Disease of the Middle Ear, complicated by optic neuritis with blindness, occurring in a young lady aged 25, who had suffered from a painless discharge with deafness from both ears since infancy, and whose family history was strongly tuberculous. Mr. Wingrave, in reply to Dr. MILLIGAN, said that he examined the discharges repeatedly, and in one instance had found tubercle bacilli.

LIVERPOOL MEDICAL INSTITUTION.

PATHOLOGICAL AND MICROSCOPICAL SECTION.

F. T. PAUL, F.R.C.S., in the Chair.

Thursday, November 11th, 1897.

MOUSE FAVUS.

DR. ABRAM showed cultures of a case of mouse-favus. He considered the parasite to be identical with that of human favus, and suggested that to multiply favous varieties which were alike clinically and bacteriologically, was unnecessary.

VILLOUS TUMOURS OF THE BLADDER.

Mr. PAUL read a short paper on the relative malignancy of villous tumours of the bladder and rectum. He quoted several cases tending to show that the growth had an amount of malignancy about equivalent to the recurrent fibroid, and that the natural tendency was ultimately to end in carcinoma. He thought better results would be obtained clinically if the surgeon had in mind that he was dealing with a mildly malignant, and not a simple, papilloma.

GROWTH IN VAS DEFERENS.

Dr. BUCHANAN contributed a note, illustrated by specimen and lantern slides, on a peculiar growth in the submucous layer of a removed vas deferens. The growth was about the size of a pin's head, lobulated, and enclosed in a fibrous capsule. The structure within the capsule was tubular in character with more or less cubical cells showing signs of degeneration.

SENSORY ORGANS OF VOLUNTARY MUSCLE.

Professor SHERRINGTON showed specimens to illustrate the modes of ending of sensorial nerves in voluntary muscles. He had in 1893 succeeded in demonstrating that the voluntary muscles received a large number of sensory nerve fibres. In the nerve trunks supplying most of the limb muscles, about one-third of the nerve fibres were sensory. He now brought forward specimens to demonstrate the actual modes of termination of these sensory nerve fibres in the muscles. He

stated that, as the microscopic specimens laid before the meeting clearly showed, there were at least three different kinds of sensorial end organs in the muscles. The first of these was the muscle spindle, which had now been proved to be sensorial, although at first supposed to be an embryonic focus, or a pathological new formation. Specimens were demonstrated which showed (1) That nerve fibres from the spinal root ganglia entered and ended in these muscle spindles; (2) that the terminal arborisations of these nerve fibres were much larger than and quite different from motor end plates, and were distributed to the peculiar intrafusal muscle fibres at the equator of each muscle spindle. The second form of sensorial ending in voluntary muscle was the Golgi "tendon organ." Preparations exhibiting the terminal arborisation of the nerve fibres in these endorgans were shown, confirming the original description given by Golgi. The third form of sensorial ending in voluntary muscle was the Pacinian corpuscle. These, as previously described by Professor Sherrington, were found in two situations in muscle, (1) near septa or aponeuroses, (2) embedded in the thickness of the muscular tissue proper. Some of the Pacinian corpuscles were large, others were small and possessed few lamellæ in their capsule. The nerve fibre to this Pacinian corpuscle was always a large myelinate fibre. Muscles in which they were observed were muscles of the limbs and muscles of the larynx. Search for them in the eye muscles had not discovered any there. Professor Sherrington drew attention to the interesting fact that the muscle fibres inside the spindles, unlike the ordinary fibres of the muscle, did not undergo degeneration after section of the whole nerve of the muscle. Specimens were shown in which the muscle fibres inside the spindles were not shrunken in size or degenerate after the nerve of the muscle had been severed for a period of nearly three years, no regeneration or reunion of the nerve having been allowed. The capsule of the spindle appeared a little thickened, and the periaxial space appeared a little reduced, but the intrafusal muscle fibres were undegenerate, although the muscle elsewhere was highly degenerate. Professor Sherrington found in this support for a view he had previously urged—namely, that the intrafusal muscle fibres belonged to the "red" variety of muscle fibre, which it was well known atrophied on nerve section much more slowly than did the large white variety of muscle fibre. Every muscle, as Grützner and others had shown, was composed of both red and white fibres, and the former remained comparatively unatrophied for a long time after nerve section. The communication was illustrated by microphotographs.

Specimens.

Mr. Newbolt: Sarcoma of Femur.—Dr. Barendt: Rodent Ulcer and Cirrhosis of Liver in a young child.—Mr. S. Kellett Smith: Symmetrical Affection of Finger Nails, Large Hernia reaching down to the knees, and Exudation from case of Plastic Bronchitis.—Dr. Given: Skiagrams of Bullet in Finger.—Dr. Abram: Plasmodium Malariæ, crescent form.—Mr. Thelwall Thomas: Trichocephalus Dispar found in vermiform appendix; removed for recurrent appendicitis.—Mr. R. W. Murray: Spinal Column two months after forcible straightening. Professor Boyce, Mr. Newbolt, Drs. Leslie Roberts, Warrington, A. W. Campbell, Abram, and Buchanan discussed various points raised.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

R. Saundby, M.D., F.R.C.P., President, in the Chair.

Thursday, November 11th, 1897.

Papilloma of Ovary.

Mr. Christopher Martin showed a papillomatous tumour of the right ovary removed a fortnight previously from a patient, aged 52 years. There was a large amount of coffee-coloured ascitic fluid containing an abundance of cholesterin. The growth itself was about as large as an orange, and consisted of a dense mass of cauliflower-like processes springing from a central core of ovarian tissue. There were no secondary growths. The patient was making an excellent recovery.

Myoma Uteri Removed by Hysterectomy.

Mr. Morrison showed a myomatous uterus, with adnexa, weighing 3¼ lbs., removed by abdominal hysterectomy. The patient was a nullipara, aged 34, incapacitated from her work as a domestic servant by debility due to menorrhagia and painful incarceration of the growth in the pelvis, causing retention of urine. The operation was performed at the Queen's Hospital on May 4th, 1897. The vagina was first incised around the cervix, and the ureters and bladder displaced from the uterus, the abdomen was then opened, and the parts involved after ligation of the broad ligaments in sections. Free hæmorrhage was encountered, owing to retraction of the right uterine artery from its ligature near the cervix. This was temporarily commanded by pressure, whilst the growth, which reached to the umbilicus, was amputated above a cold wire loop. The bleeding vessel was then found against the wall of the pelvis and securely tied, and the operation completed by removing the stump of cervix below the wire, drawing the long ends of the ligatures down through the vagina, and closing the abdominal wound, a Keith's tube being left in some hours as a precaution in case of reactionary hæmorrhage. The resulting collapse was tided over by the injection of hot saline fluid (solution of common salt) and brandy into the rectum, and subsequently the patient made an uneventful recovery. She is now in excellent health and filling a situation as general servant.

Other Communications.

Dr. Purslow showed (1) A Fibroid Uterus weighing 3 lbs. 5 ozs. removed by panhysterectomy; (2) Uterus with Epithelioma of the Cervix, and containing a ten weeks' pregnancy, removed by vaginal hysterectomy; (3) Uterus removed by Vaginal Hysterectomy from a patient suffering from uterine hæmorrhage, which had resisted all other forms of treatment, and was becoming dangerous to life. All three patients made satisfactory recoveries.—Dr. Purslow also read a paper on Some Recent Cases of Hysterectomy.—Dr. Deanesly read a paper on The Treatment of Acute General Peritonitis, originating in the Vermiform Appendix.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.

Wm. Arnold Evans, M.D., President, in the chair.

Tuesday, November 2nd, 1897.

Specimens.

Drs. Crawford and Robson gave a microscopical demonstration of Living Typhoid Bacilli, and showed the changes which occur in Widal's reaction; they also exhibited cultures of the organism on various media.—Mr. Farrow showed the Heart of an infant the subject of congenital heart disease.

The Forceps in Midwifery.

Dr. Metcalfe read notes on 100 cases of midwifery. Adverting to the paper of Dr. Sinclair at the Montreal meeting of the British Medical Association on Injuries of Parturition, Dr. Metcalfe expressed the opinion that Dr. Sinclair had exaggerated the frequency of injuries arising from the more extended use of forceps by modern practitioners, and asserted that in large numbers of cases much needless suffering was avoided by the early use of forceps, and that in the hands of educated practitioners there was no corresponding tale of injury inflicted by such interference. He had applied the forceps in 30 per cent. of the cases, but no mother had died and only two children had been born dead. In the case of neither mothers nor children was there any serious injury the result of parturition.—A discussion followed, in which Drs. Mercer, Bell, Kerr, Goyder, Horrocks, and Rabagliati took part, the general opinion being that 30 per cent. was too high a proportion for instrumental interference in midwifery cases.

Club Foot.

Mr. Horrocks read a paper on club foot, its causation, pathology, and treatment. He first urged the importance of an accurate knowledge of the anatomy of the parts, and showed a dissection of a child's foot, the subject of talipes equino-varus. Mr. Horrocks limited his remarks to the condition of congenital equino-varus. Under the head of causation he expressed dissent from the views that changes in the nerves or spinal cord, or the arrested development of the bones of the foot were in any considerable proportion of

cases the prime factors in producing the deformity; but adhered to the oldest explanation—the mechanical one—of the assumption of a faulty or constrained position of the limbs during intrauterine life. Faulty positions and limitations of movement might be brought about in several ways. (1) By abdominal or pelvic growths outside the uterus; (2) by tumours of the uterine walls; (3) by limited growth of the uterus itself during pregnancy; (4) by deficient liquor amnii; (5) by some tumour of the child itself, for example, spina bifida; (6) by locking of the fœtal limbs. When from any of these causes the limbs assumed a faulty or fixed position in the uterus the joints bent and became stiff by the formation of fibrous tissue around them, and also by alteration of the cartilage, which was not in proper apposition with the corresponding articular surface. Mr. Horrocks then described in detail the anatomical changes which occurred in talipes equino varus, drawing particular attention to the displacement of the scaphoid bone, which was thrown inwards and articulated with only the inner part of the head of the astragalus. It might articulate with the internal malleolus of the tibia. He thought that the radiograph was not of much service in estimating the degree of alteration in the bones, as there was so much cartilage present, which gave only an indistinct outline. In mild cases the deformity could be remedied by simple manipulation, and subsequent retention in good position by means of a plaster bandage or splint. The manipulations should be long continued and systematic, care being taken to move one joint while the others were fixed. A wrench might be used to give greater power in manipulation. In the more severe cases in which the deformity could not be reduced by hand, division of the tendons and ligaments concerned or removal of portions of bone might be required before the foot could be brought into a proper position and retained there by suitable apparatus. Tenotomy was required when the foot could not be brought to a right angle and the inner ankle was not prominent. The anterior and posterior tibial muscles were first divided, and then, after further manipulation, the tendo Achillis. If the adduction was marked the adductor pollicis and plantar fascia should be divided; but the greatest result was given by division of the calcaneo-scaphoid ligaments. The foot was fixed in the best possible position by plaster-of-paris. Removal of the cuboid was practised in two cases with good results. In one case where there was very marked shortening of the inner border of the foot the metatarsal bone of the great toe was partly excised, and this was followed by improvement. Mr. Horrocks insisted that the treatment must be continuous until the child could walk, in order that relapse might be prevented.

Dr. WOOD, Dr. RABAGLIATI, Mr. MIALL, and Mr. MORTON made some remarks, and Mr. HORROCKS replied.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this Society was held on November 11th, 1897, Professor MAYO ROBSON, F.R.C.S., President, in the chair.—Specimens of the Myomatous Uterus, removed by panhysterectomy were shown by Mr. TENISON COLLINS (Cardiff) and Mr. F. BOWREMAN JESSETT; and Mr. O'CALLAGHAN showed a Myomatous Uterus removed by the clamp method. The PRESIDENT observed that there were two important questions in dealing with every case of myoma: (1) Should they operate at all? (2) If so, by what method? Many cases of hard fibroid did not require operation; but in those of rapid growth, with serious symptoms, and in those that grew after the menopause, removal was the only course. He was quite satisfied with a form of intraperitoneal hysterectomy, in which, after securing the vessels and suturing the peritoneum, the stump was brought up to the wound and shut off from the peritoneal cavity. Dr. GRANVILLE BANTOCK observed that he was not wedded to any one method; but most of his experience had been with the *serre-nœud*, and this had given him the best results. When there was malignant disease involving the cervix, and when it was not possible to form a pedicle, he removed the whole uterus. In the case of small fibroids it was a mistake to remove the uterus; many of them could be enucleated. Moreover, fibroids did not interfere with conception, pregnancy, or labour. In a recent gynæcological textbook, hysterectomy was described as an easy and safe operation. He wished to protest against such teaching. In all cases it was an operation of some difficulty, and should only be undertaken by a skilled and experienced operator. Dr. C. H. F. ROUTH had seen many cases of fibroids; but in not one, as far as he could remember, had there been any growth after the menopause. Dr. PURCELL said that where the myoma presented malignant characters, panhysterectomy was the only possible operation. Mr. BOWREMAN JESSETT laid stress on the disadvantages of the clamp method. With regard to myoma with pregnancy Péan had shown that cases not operated upon had a very high mortality, and when abortion occurred the mortality was even higher.—Dr. SHAW MACKENZIE showed some slides prepared from Curettings in doubtful cases of malignancy. He regarded them as instances of hæmorrhagic endometritis.—Dr. MACNAUGHTON JONES resumed the adjourned discussion on Dysmenorrhœa. He reviewed the causes of dysmenorrhæa, the ovarian, the tubal, and the uterine forms, each of which had several subdivisions. There were, in addition, constitutional causes, which fell into two groups: first, toxæmia, anæmia, and chloræmia; and, secondly, neuralgia and hysteria. The discussion, however, must be confined to those congestive cases described by Matthews Duncan as "obstructive." Here flexion was associated with underdevelopment and neurasthenia. But even in these cases there was often a difficulty, for though the patient had violent dysmenorrhœa evidently attributable to the uterus, yet it sometimes seemed normal, and the patient's general health was good. He did not believe in simple dilatation for dysmenorrhœa; it might relieve, but did not effect a cure; nor did he believe in tents. He had not tried Dudley's operation, but had had very good results as regards both sterility and dysmenorrhœa from the kind of treatment mentioned by Dr. Heywood Smith at the previous meeting—division of the cervix with scissors; incision of the internal os with a Sims's knife; dilatation, and then the introduction of a small glass stem for a few days. Dr. HERBERT SNOW regarded dysmenorrhœa as due simply to imperfect development. A course of massage, shower baths, and proper feeding would do a great deal; whilst he believed that if women left off the wearing of stays, or used only such as were of suitable form, they would hear much less about dysmenorrhœa. The discussion was then again adjourned to the next meeting.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—The first general meeting of this Society was held on October 27th, at 20, Hanover Square, London, W., the PRESIDENT (Dr. Andrew S. Myrtle, Harrogate) in the chair. The report of the Treasurer was read and adopted, the success of the Society's *Journal*, which is now almost self-supporting, being especially noted.—Dr. MYRTLE moved that the President-Elect (Dr. William Vicary Snow, of Bournemouth) take the chair.—A vote of thanks to the retiring President was moved by Dr. THEODORE WILLIAMS, and seconded by Sir RICHARD DOUGLAS POWELL, Bart. In his reply, Dr. MYRTLE emphasised the fact that practitioners at health resorts were not antagonistic to the general practitioner, but were desirous of working with him, or rather under him and after him.—A vote of thanks to Dr. Hyde, the editor of the Society's *Journal*, was moved by Dr. BLAKER (Bognor), supported by Dr. LEWIS (Folkestone), and acknowledged by Dr. HYDE.—Dr. MYRTLE, jun., moved, and Dr. GAGE BROWN seconded, a vote of thanks to the Treasurer, the Council, the Secretaries, and Auditors, which was acknowledged by Mr. KEETLEY, Dr. WARD HUMPHREYS (Cheltenham), Dr. MACFARLANE (Brighton), and Dr. SUNDERLAND.—The first ordinary meeting of the session was then held, the PRESIDENT (Dr. Wm. V. Snow) in the chair. Sixteen candidates were elected Fellows of the Society.—Dr. SNOW delivered his Presidential address, in which he described the climatic features of Bournemouth, with special reference to the effect of the pine woods on diseases of the lungs. Dr. Snow also called attention to the increase of intemperance amongst invalids from the enormous consumption of coca-wine.—Dr. BAGSHAWE (St. Leonard's) moved, Dr. IVOR MURRAY (Scarborough) seconded, and Dr. MYRTLE supported, a vote of thanks to the President for his address.—A motion was then submitted by Mr. ALFRED HAVILAND advocating the establishment of a Chair of Medical Climatology and Geography. This having been seconded by Dr. THEODORE

Williams, and supported by Dr. Clippingdale, was carried, nd the Council instructed to consider the matter, and take uch steps as seemed desirable.

Glasgow Obstetrical and Gynæcological Society.—The irst meeting of the thirteenth session of this Society was ield on October 27th, Dr. Alex. Miller in the chair. The ollowing office bearers were elected for the ensuing session: *Honorary President:* Professor A. R. Simpson. *President:* Dr. Malcolm Black. *Vice-Presidents:* Drs. Miller and Oliphant. *Treasurer:* Dr. Lindsay. *Secretary:* Dr. Jardine. *Reporting Secretary:* Dr. A. W. Russell. *Pathologist:* Dr. Munro Kerr. *Members of Council:* Drs. Reid, Alice McLaren, Richmond, Balfour, Marshall, Edgar, and Thomson.—Dr. Jardine showed pen-and-ink sketch and diagrams of a Deformity of the Forearm and Hand.—Dr. J. K. Kelly showed: (1) The Pelvic Organs and Sections of Lung from a case of Deciduoma Malignum; (2) a Left Ovarian Cyst growing into the broad gament and a Right Ovarian Cyst growing free; (3) a Left ubo-ovarian Cyst which formed a tumour reaching above ne umbilicus, and a smaller Right Ovarian Cyst.—Dr. Edgar showed: (1) Two Ovaries removed by Vaginal Cœliotomy; (2) Ovary and Tube removed by Abdominal Cœliotomy.—A discussion afterwards took place on Extrauterine regnancy based on Dr. Edgar's paper read to the Society on pril 28th last, published in the *Glasgow Medical Journal* of eptember and October. Drs. W. L. Reid, J. K. Kelly, tark, and Professor Cameron took part in the discussion.

Forfarshire Medical Association.—At a meeting held in niversity College, Dundee, on November 4th, Dr. Alexander ampbell, President, in the chair, Dr. McGillivray showed patient with a Congenital Subluxation and Coloboma of the ens.—The following pathological specimens were exhibited:) Sarcoma of Ovary, and (2) Bronchoceles, by Dr. Macewan;) Tuberculous Spleen, Liver, and Lung, (2) Atheroma of orta, and (3) Carcinoma of Œsophagus, Stomach, and Liver, Dr. Fraser; and Compressed Fœtus, by Dr. Kynoch.—r. Stalker communicated a case of Hemiplegia with rophy of the affected side. The case was one in which me cerebral affection of an obscure kind had existed before e hemiplegic attack, and on the apparently sound side ere was evidence of descending degeneration of the cord. ie theory was advanced that the nutrition of the muscles ay be associated with a certain amount of intact cerebral nnection—an amount that may be supplied in an ordinary miplegia through supplementary aid from the sound side of e brain. When this cannot be turned to account on count of previous lesion of this side atrophy may follow. . McVicar suggested that an explanation of the case ght be found in a diagnosis of amyotrophic lateral sclerosis. Dr. Buist read a paper on Some Simple Manœuvres for neral Gynæcological Practice. Drs. Greig and Kynoch de some comments.—Dr. Macewan read notes of a case of roman who had had symptoms of Chronic Stenosis of the rge Intestine. On the occurrence of acute obstruction an ploratory abdominal incision had shown its site to be at hepatic flexure. In the exhausted state of the patient it s deemed advisable simply to fix some bowel at the wound h a view to an artificial anus later on, but an unexpected ef to the bowels which had followed had led him to return bowel. Some months later a recurring obstruction was ated by the excision of 4in. to 5in. of bowel at the hepatic ure with the use of Murphy's button. The stricture was ular, and was formed by a columnar-celled epithelioma. Greig asked whether it was not the case that with subsent cœliotomies there was a greater tolerance of any hand-. He condemned the use of Murphy's button or any like ins, and advocated end-to-end suture. Drs. Miller, yte, and Halley also took part in the discussion. Dr. ewan, in reply, said that the button, though not with- its disadvantages, might be used when rapid operation necessary.

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atum.—In the report of the meeting of the Association o Registered edical Women, published in the British Medical Journal of vember 13th, p. 1428, it should have been stated that the President s Miss Cock, not "Cook," as printed.

REVIEWS.

Notes on the Wounded in Naval Battles between Japan and China during 1894-5; with some Considerations on Sanitary Conditions during the War. Read before the Twelfth International Medical Congress held at Moscow in 1897. By S. Suzuki, M.R.C.S.Eng., L.R.C.P.Lond., Fleet-Surgeon Imperial Japanese Navy, Delegate to the Congress of the Imperial Japanese Navy. Tokio. 1897. Printed by the Kokubunsha.

This report well-printed and well got-up reflects much credit on all concerned. The author deserves much praise; for, if not a master of English style or diction, he writes with much ease and clearness. The book consists of two parts: 1. On the injuries inflicted chiefly in the naval fights at Yalu, Phung-do, and Wei-Hai-Wei; 2. On the sanitary condition of the Japanese fleet.

The naval battles between the two great Oriental powers have had much fascination for Westerns, because they afford the only practical foretaste of what the naval warfare of the future will be like.

The author speaks entirely of shell fire, from which we conclude that these were the only missiles used. The Japanese ships at Yalu were struck by them over a hundred times, but were never penetrated below the water line. The damage done depended on two things: first, the part of the ship struck; and secondly, whether the shells exploded; if they did not burst little damage was done; if they did, then sometimes the consequences were terrible. As examples of this he mentions a shell which found its way to the engine room of a ship, but, not bursting, only rolled about harmlessly. On the other hand, 30 persons were killed and 70 wounded on board the *Matsushima* by a single explosion, and on the *Heyei* 14 were killed and 27 wounded by the bursting of a 30.5 centimetre shell. The injuries inflicted were from three sources: (1) burns from the explosion; (2) splinters of shells; (3) *débris* from the part of the ship struck. There was not a pin to choose between these three classes of wounds, all were usually sufficiently grave. Those who suffered most were the men on deck; those whose duties took them under the water line or in the turrets were in much less danger. The worst wounds were from burns, or where the whole body was struck by splinters and generally mutilated. Wounds of the head and upper extremities were commoner than wounds of the lower limbs; wounds of the trunk were very fatal. The dressings were all antiseptic, which method was attended by the best results. At Yalu the Japanese lost 90 killed and 207 wounded, combatants and non-combatants. Of course a proportion of the wounded succumbed sometimes long after the action, and after sundry operations.

All of which goes to show that in our next naval battle we may expect a heavy list of injuries of the most serious kind. The book is illustrated by two very realistic coloured drawings, the one showing extensive burns by explosion of ammunition, the other a remarkable development of keloid as the consequence of extensive burns.

As to the Sanitary Condition of the Japanese fleet we learn that prior to 1883 it was very bad, chiefly owing to a defective dietary, in which figured too much "carbohydrates as rice" and too little "albuminoids as meat." Since the scale has been altered there has been much improvement in the general health of the men, and they have notably increased in weight. The most destructive diseases are typhoid fever, cholera, kak'hé (rice disease), beri-beri, and venereal diseases.

Altogether this is a most interesting report, coming as it does in English form from a Japanese source, highly creditable both to the Japanese navy and to the author.

A Manual of Hygiene for Students and Nurses. By John Glaister, M.D.Glasg., D.P.H.Camb.. London: The Scientific Press. 1897. (Demy 8vo, pp. 312. 70 illustrations. 3s. 6d.)

Like most textbooks "contrived a double debt to pay" this pleasantly-written manual contains more than is needed by

the "nurse" yet scarcely enough for the "student." We gather, however, from the preface that the "student" aimed at is not the graduate qualifying for the D.P.H. so much as the junior still striving for his licence to practise.

The three earlier chapters deal chiefly with the house, the four which follow with air and ventilation. Heat in relation to health, its artificial sources, its measurement, and the regulation of the temperature of the sick room and bath are dealt with in Chapters VIII to XII. The mode of reading the clinical thermometer might advantageously have been treated more in detail. Many nurses at first have a difficulty in translating fifths of a degree into decimal fractions. An enlarged diagram illustrating this point would have had much greater value than the rather obscure figures on pages 67 and 75.

In the sixteenth chapter which, like the three preceding it, is concerned with water, we find an excellent table for the qualitative analysis of ordinary drinking water. Such a table would, however, be very little use to one unacquainted with chemistry. Nor should we be disposed to accept unreservedly the statement that when a few drops of "a very weak solution of $KMnO_4$ acidified with H_2SO_4" are added to water containing "oxidisable organic matter," the disappearance of the pink colour is "due to the reduction of the permanganic to manganic acid."

For the twenty-first chapter on occupations the writer draws largely on Dr. Ogle. In the next few chapters we get back to the house and so-called sanitary appliances, and at page 145 we have a most complicated diagram of house drainage and water supply, There are, for instance, two water-closets and a housemaids' slop closet. The waste from each of these has to run the gauntlet of three traps before it finally leave the premises on its way to the sewer. Chapters XXXIX and XL on clothing are good. The remaining eleven chapters deal chiefly with infectious diseases and isolation hospitals.

On the whole a considerable amount of information is packed into a small compass. Errors there are, of course, but not in greater proportion than in some more pretentious treatises. That the book fell into the hands of a schoolboy, who could scarcely be persuaded to give it up, is perhaps as good evidence as one could adduce that the author has done his work pleasantly and well.

LOCALISATION OF HEADACHE AND SICK HEADACHE. By H. BENDELACK HEWETSON, F.L.S., etc., Honorary Ophthalmic and Aural Surgeon, Leeds General Infirmary. London: Simpkin Marshall and Co. Leeds: Goodall and Suddick. 1897. (Demy 8vo, pp. 140, 33 illustrations. 7s. 6d.)

THIS book consists of three chapters loosely strung together and written at different dates. In the first chapter, of 33 pages, read in 1884 before the Leeds and West Riding Medico-Chirurgical Society, the author seeks to show that headaches accompanied by nausea and vomiting may be due to errors of refraction. The second chapter, of 9 pages, originally written in 1888, deals with "general neuroses having an ophthalmic origin"; and the last chapter, apparently written shortly before publication, consists of a general summary of the author's views on the causation of these headaches and their effects on the development of the nervous system.

We have laid stress upon the dates at which the various parts of the book before us were written because it was no doubt important in 1884 to insist on the frequency with which headache resulted from uncorrected errors of refraction. But at the present time the tendency is rather to overrate than to underestimate the part played by eye-strain in the production of headache. Moreover, the author does not seem to have made himself acquainted with modern work on referred pain and headache, and cites no paper more recent than that by Lauder Brunton in 1880.

The clinical details given are often insufficient. The patient's description of his or her headache is mentioned, and the area indicated is marked upon a diagram. The writer then mentions the glasses he ordered, and finally gives the patient's opinion of the result, in terms more or less resembling the following entries: "Has worn his glasses for a considerable time, during which he has never felt dizzy, nor vomited. He remarks that whereas previous to his wearing glasses he had to be particularly careful what he ate, he can now eat with absolute impunity what once was highly indigestible" (p. 24). Out of 16 cases reported, 11 were women, but no mention is made of menstruation or anæmia. The condition of the heart and lungs does not seem to have been recorded, and all gastric and intestinal disturbances are treated as though part of the headache. One case of epilepsy is mentioned, which Mr. HEWETSON believes to have been cured by the correction of mixed astigmatism, but the report occupies four and a half lines only.

The chapter on the general neuroses of ophthalmic origin consists of generalities, and such statements as "The existence of apparently quiescent carious lower molars causes invariably a point of pain in the temporal region, but the upper molars when carious cause pain above the outer part of the eyebrow of the same side.....The extraction of the offending teeth invariably removes the local pain."

The book must, we fear, be numbered among examples of the misleading views apt to be produced by concentrating the attention too exclusively upon one special aspect of the etiology of pathological processes in the human body.

SPINAL CARIES: (SPONDYLITIS, OR POTT'S DISEASE OF THE SPINAL COLUMN.) By NOBLE SMITH, F.R.C.S.Ed., Surgeon to the City Orthopædic Hospital and to the All Saints Children's Hospital; Orthopædic Surgeon to the British Home for Incurables. Second Edition. London: Smith Elder, and Co, 1897. (Crown 8vo, pp. 153, 89 illustrations. 5s.)

SURGICAL practitioners, particularly those interested in the treatment of spinal caries, will welcome this second and improved edition of Mr. NOBLE SMITH'S instructive manual. In the latest form the author has corrected some errors that were overlooked in the first edition published in 1894, has supplied a full index, and added some remarks on recent developments of the surgical treatment of angular curvature. In this, as in the original edition, the author takes a favourable view of the prospects of careful and patient treatment and insists on the importance of perfect fixation of the spine. He has naturally his own method of effecting this, the success of which is proved by a long list of cases. His treatment of caries in the cervical region has been recently modified by the adoption of a new form of headpiece, which seems, with regard to comfort and appearance, to be a decided improvement on the supports devised by Davis and Sayre.

A chapter is devoted to a description of laminectomy and other operations, which antiseptic surgery has rendered available without much risk in cases of spinal caries. The author believing firmly in the efficacy of mechanical fixation of the spine if properly applied, is disposed, as may be anticipated, to hold that the necessity for such surgical procedures ought never to exist. In discussing the plan recently advocated by Calot of forcible reduction of angular curvature under chloroform, Mr. Noble Smith, whilst meeting some of the objections to this heroic method, argues that should new bone be already formed there would be much danger of irritation being set up by the contact with the cord of detached osseous fragments.

A CONTRIBUTION TO THE HISTORY OF THE RESPIRATION OF MAN. By WILLIAM MARCET, M.D., F.R.C.P., F.R.S. London: J. and A. Churchill. 1897. (Imp. 8vo, pp. 120, 12s. 6d.)

DR. MARCET has collected into a handsome volume the lectures which he gave as Croonian Lecturer to the Royal College of Physicians in 1895. They deal with a vast amount of analytical work upon the respiratory changes under various conditions—work which he has been carrying on since 1883 in the Physiological Laboratory of University College—and they also contain observations of great interest upon the effects upon respiration and temperature of breathing the rarefied air of high altitudes.

One of the most striking features of Dr. Marcet's work is the perfection to which he has brought the apparatus which he employs for measuring and rapidly analysing the air

respiration. The measurements are made by a form of spirometer, but the measuring cylinder is so beautifully balanced at every position that the air which is breathed into it remains practically under the same pressure throughout, and its amount is accurately recorded by the rise of the cylinder. By means of this apparatus Dr. Marcet has been able to inscribe directly in litres and parts of a litre breathing charts showing the amount of air respired under normal and other circumstances. The methods are described in detail in a supplement.

In the fourth lecture Dr. Marcet has, it appears to us, got on to rather treacherous ground. In endeavouring to determine the influence of fatigue and of what he terms volition or attention upon the respiration he has recorded the effects, not only of certain forms of muscular exercise, but also of "the application of the will, *without response*," in other words, the direction of the attention to such exercise, and arrives at the result that "whenever volition is applied towards any form of exercise there is an absorption of oxygen *which must of necessity be localised in the cerebral centres concerned in the phenomenon.*" How Dr. Marcet comes to the conclusion we have italicised is a puzzle, especially since he finds that the effort of volition directed to raising a weight itself produces fatigue, even although the muscular contraction is checked. Dr. Marcet appears not to have taken into consideration the possibility that even without obvious flexion of the limb the direction of the attention to the performance of muscular movements, and especially to the checking of such performance, will have caused both chemical and physical changes, not only in the flexors, but also in their antagonists, which, although imperceptible to the subject of the experiment, may have a marked effect upon metabolism, so that it is quite unnecessary to assume that any marked metabolism occurs in the nerve centres.

Although the book is not destitute of statements which lend themselves to criticism, it is in a high degree interesting, perhaps none the less so on that account, and the author is to be congratulated upon the production of a valuable contribution to the literature of the subject.

Untersuchungen über das Soldatenbrot. [Investigations on the Bread of the Soldier.] Von Dr. Plagge und Dr. Lebbin. Berlin: A. Hirschwald. 1897. (Royal 8vo, pp. 234, mit Taf. Photogr. M.12.)

The aim of this inquiry, instituted by the Prussian War Office, was not to effect any change in the wholesome mixed diet of the soldier on home service, but to ascertain whether the difficulties attending the supply, transport, and cooking of fresh meat with an army in the field, especially on forced marches and in beseiged fortresses, could be overcome by any addition to the soldier's bread or biscuit of substances richer in nitrogen, so that it might alone take the place to some extent of the regulation rations of bread and beef.

The conclusions of previous inquirers on the utilisation and loss of the several "food stuffs" are briefly reviewed, but their own dietetic experiments on young men are given in detail, and an inordinate space is devoted to interminable analytical tables. On the "wholemeal" question they are very decided, denouncing as a delusion the nutritive value popularly ascribed to the cortical layers, based on the erroneous doctrine of Liebig, when he left his proper field of chemistry and applied the laws of vegetable life to that of the animal.

As to the various additions suggested for the "fortifying" of flour, their general conclusions are that a large number as nutmeal, malt extracts, meat extracts, and fish and meat powder are wholly inadmissible on different grounds, as cost, tendency to spoil, or repulsiveness of appearance or flavour. They find no appreciable difference between wheat and rye flour equally freed from bran, and no gain in or objection to a mixture of maize, provided it be the well-ripened American grain, and not that of European growth, the use of which seems in some way causative of pellagra. Of one addition, however, they highly approve, namely, the "Aleuronat" of Dr. Hundhausen, who has thus utilised the gluten separated in the manufacture of wheaten starch at his works at Hamm, hitherto given to the pigs. Aleuronat contains over 30 per cent. of gluten, and mixed with 8 or 10 parts of flour yields a bread of good quality, and as rich in nitrogen as a like weight of bread and meat; the gluten thus prepared as easily digested and assimilated as the albuminates of flesh or milk, contrasting in this respect most favourably with the legumen of peas and beans, and its value is confirmed by experience. They make no mention, however, of the use of pea flour, lentils, or linseed as admixtures though all have been successfully employed, the last-named supplying its quantum of fat, and the second constituting a much vaunted proprietary food. It appears that with Erbswurst and Kraftdauerbrot (that is, bread with an addition of aleuronat) a force could be provisioned for an indefinite period.

NOTES ON BOOKS.

The Sanitary Inspector's Handbook. By Albert Taylor. Second Edition. (London: H. K. Lewis. 1897. Demy 8vo, pp. 346. 5s.)—This handbook is intended as a practical guide to the duties to be performed by sanitary inspectors, and as a textbook for students preparing for the examinations of the Sanitary Institute. It fairly covers the ground indicated, and furnishes much information of a reliable character. The second edition has been thoroughly revised, and considerable additions and alterations have been made in it. There are, however, a few statements to which some exception may be taken, and an aberrant decimal point on p. 166 may lead the unwary into considerable confusion in connection with bringing cubic inches to gallons. The measurement of cubic space might with advantage be more fully discussed, as the student will look in vain in the brief summary given in the book for enlightenment with regard to the ordinary difficulties, and will be only bewildered by the rules of mensuration which are enumerated. The reader, moreover, will not meet with information of a practical character in relation to dealing with effluvium nuisances caused by offensive businesses. Having regard to the size of the handbook, however, it is manifest that some omissions are well nigh unavoidable. A number of legal decisions of interest in contion with the work of a sanitary inspector are interspersed through the text, and the book contains a useful alphabetical synopsis of the Acts of 1891 and 1875.

Praxis der Harnanalyse. [The Practical Examination of the Urine.] By Professor Lassar Cohn. (Hamburg: Leopold Voss. 1897. Demy 8vo, pp. 38. M.1.)—This pamphlet contains an account of the chemical examination of the urine and of the gastric contents. After an introductory chapter, the author describes the examination necessary for the detection of the important pathological constituents of the urine. He limits himself generally to a single test where that is thoroughly satisfactorily. Here and there details are given of how pathological urines containing albumen, sugar, etc., may be artificially prepared. The quantitative examination for sugar, albumen, etc., is also included. Under normal urine the colour is described as from a bright yellow to a reddish brown, but it may be open to doubt whether the last-named colour really belongs to a normal urine. In the same way the limits (1002 to 1030) given for the specific gravity appear to be too wide; the last-named figure, at least, suggests a pathological urine, and one that needs to be more carefully examined. In the chapter on the examination of the gastric contents, the author expresses his preference for Günzberg's test for free hydrochloric acid. Some details of making an artificial digestion will be found in this part of the work. The description of the tests is clear and concise, and the methods have been selected with judgment, but it may be doubted whether there is any compensating advantage gained by dissociating the microscopical from the chemical examination of the urine. It certainly multiplies books.

Current from the Main; the Medical Employment of Electric Lighting Currents. By W. S. Hedley, M.D. (London: H. K. Lewis. 1897. Demy 8vo, pp. 38. 2s. 6d.)—In view of the increasing employment of electric lighting currents for medical purposes, practical suggestions as to their safe use

are welcome. In the employment of such currents, Dr. Hedley thinks the chief dangers lie not in the possible influx of strong currents, but in leakage currents and in the breakdown of transformers. The system he advises consists of a direct continuous current supply, with a traversing interlocked shunt rheostat for the purposes of direct application, together with a motor-driven alternator. With these arrangements and with the safety devices recommended, any form of current can be obtained with a minimum of risk.

Chemistry for Photographers. By Chas. F. Townsend, F.C.S. F.R.P.S. (London: Dawbarn and Ward. 1897. Cr. 8vo, pp. 158. 1s.)—This little volume contains a very clear account of the main elements of the chemistry of photography. As it is written in a lucid style and commences with the elements of the subject, it should prove very useful. The adoption of the metric system of weights and measures is a step in the right direction; no one who has not tried the experiment can form any estimate of the great saving of time and trouble that is effected by discarding the complications of grains and ounces in favour of the simplicity of grammes and cubic centimetres. The chapter on the chemistry of the silver salts, leading as it does to the chemistry of the "plate," contains the key to the whole subject, and the author has spared no pains to explain the processes of reduction, oxidation, etc. A useful appendix gives the formulæ, molecular weights, symbols, and solubility of the commoner compounds in use. An elementary knowledge of chemistry is of the utmost practical value to photographers. A few hours spent in its mastery will be well repaid, not only in knowledge gained, but also in the ease and rapidity of manipulation that will be obtained. Most of the mistakes of beginners would be avoided by a little knowledge of the reasons on which the rules they blindly follow are based.

THE FIVE YEARS' CURRICULUM.

II.—The Place of Biology in the Curriculum.

In a previous article[1] we showed that the benefits of the introduction of a five years' curriculum were, to a certain extent, nullified by the fact that the students at present spend an increased time over the preliminary subjects. We have now to consider how far the introduction of biology is responsible for this delay.

Previous to the introduction of biology the student entering in October was expected to present himself in the following March for the examination in osteology and in elementary physiology. The greater part of his first winter session was devoted, therefore, to anatomy and physiology. Under the regulations, which came into force in 1892, the examination in elementary physiology was abolished, an examination in biology being introduced in its stead; and shortly afterwards a six months' course of practical biology was made compulsory. Since the examination in anatomy was retained (although later relegated to the schools) it is evident that the biology course was intended to replace, as it has practically done, the first year's course of physiology, so that the student now does not, or cannot profitably, attend any physiology lectures until his second year, and has only one summer and one winter session in which to acquire the necessary knowledge of this subject and of histology.

It seems to have been imagined that biology included, and could replace altogether, an elementary training in physiology, so that, after a six months' course of biology, "a year's teaching in physiology would amply suffice for the needs of the student." Now there is no doubt that a preliminary training in biology, such as is received by a university student, is of advantage to him in the subsequent study of physiology, and still more in that of embryology. But in this case the student spends one whole year over his preliminary scientific training, and after that two whole years over the acquisition of anatomy and physiology. The conjoint student has only a six months' course of biology, which he has to take at the same time as physics, chemistry, and human anatomy.

The effect of cramming so much into the first six months of the course is to make it impossible for the majority of the students to learn more than a smattering of biology, useless in itself, and of very little value as an introduction to physiology or embryology. This system of stuffing in the first year has to be continued in the second year in order to get through the physiology course by the end of the second winter session.

While acknowledging, therefore, the value of biology as a scientific study preliminary to medicine, we must conclude that its introduction into the conjoint course has resulted in keeping back a number of students, and in curtailing the time spent over clinical instruction, besides interfering considerably with the teaching of anatomy and physiology. Moreover, the short time which can be devoted to biology and the number of other subjects studied simultaneously render the knowledge gained of very little value in the subsequent education of the student.

What are the remedies for this state of things? As matters at present stand, the university student spends one year over preliminary scientific work, two years over anatomy and physiology, and two years in the wards before he can become qualified. The "conjoint" student is supposed to spend eighteen months to two years over biology, physics, chemistry, anatomy, and physiology, and three years in the wards. As a matter of fact, the best men of the latter class (10 per cent.) must spend three and a half years in the wards, while the majority need only spend two years, having occupied their third year in being rejected at their examinations.

Since the subjects studied are the same in the two classes of students, it is difficult to see why any compulsory difference should be made between their courses of study. If three years' clinical work are necessary for the best conjoint student, they are also necessary for the average university man. If the conjoint man is inferior in mental endowments to the university student, why is he expected to learn in eighteen months the same, or nearly the same, amount of physics, chemistry, biology, anatomy, and physiology that occupies the university student three years? The whole system is unreasonable and senseless, and owes its being to the fact that the examination authorities cannot make up their minds whether we are to have only one (university) class of practitioners in England (as is practically the case in France), or two grades, as has hitherto been the case in this country. Is the diploma of the qualifying bodies to be equivalent to a University degree, as evidence of the possession by the holder of a certain general and scientific culture, specially applied to the subjects of his profession, or is it to be merely a certificate that the holder is thoroughly qualified to practise medicine, surgery, and midwifery? It is no use attempting to make changes in the present regulations of study until a conclusion has been come to on these points. On the decision arrived at will depend the alterations necessary in the regulations for the medical curriculum.

Two schemes have been evolved, which may be briefly stated as follows:

1. It is urged that if all practitioners are to be of equal rank and education, a preliminary scientific year should be made compulsory on all students, or, as an alternative, no attendance on anatomical or physiological courses should be recognised prior to passing the examinations in biology, physics, and chemistry. The minimum time spent on anatomy and physiology should be two winter and one summer sessions. The minimum time in clinical work should be three summer and two winter sessions, or five sessions altogether. The fact that a student has been lazy, and been rejected in his earlier examinations, should not be allowed to curtail the time devoted to his subsequent studies.

2. The other scheme assumes that practically there must be two grades of practitioners, and would abolish biology as a compulsory subject, as not absolutely essential to the practice of medicine. Physics and chemistry could well be simplified, and embodied in the preliminary examination or examinations before registration. After registration the student should spend a minimum of two winter and one summer sessions at anatomy and physiology, and a minimum of five sessions at clinical work.

It is urged in favour of the latter plan that a diligent student could get qualified in four years after registration.

[1] British Medical Journal, November 13th, p. 1432.

Under either scheme, however, every student would spend at least two and a half years in the wards, whereas under the present five years' regulations, it is possible for the majority of men to become qualified after only two years' clinical instruction. It is a curious pass to have come to, but there is a widespread feeling that the situation must be faced, and that one or other of these points of view must be taken if order is to be reduced out of chaos, and if a sufficient practical training is to be given to all medical practitioners.

TREATMENT OF CASES OF INFECTIOUS DISEASE IN GENERAL HOSPITALS.

THE resolution recently passed by the Public Health Committee of St. Pancras Vestry,[1] to the effect that cases of infectious disease, such as typhoid fever, scarlet fever, and diphtheria, should not, as a matter of routine and general practice, be admitted into a general hospital, and that their admission, "as examples for instruction," was no longer as necessary as formerly, and that such cases should not be admitted into general hospitals save in cases of emergency, and then with due precautions, is likely to raise considerable opposition from the teachers in the medical schools of London, if attempts be made to advance it from the stage of "pious opinion" and resolution to that of practice. It is felt that the attempt savours of "panic legislation," which is much to be deprecated.

In answer to inquiries we have been favoured with the views of many metropolitan teachers of medicine, every one of whom is antagonistic to the view that typhoid cases should be removed from the general hospitals; whilst all who mention the subject are also opposed to the removal of cases of diphtheria. But they all, without exception, are of opinion that cases of scarlatina should not be admitted to the wards of general hospitals. The practice at different institutions with regard to cases of these diseases varies somewhat. At St. Thomas's Hospital, where the rules are very similar to those in force at other hospitals, cases of scarlet fever are not admitted, cases of diphtheria are admitted to a special ward in the infectious block, and cases of typhoid fever are only admitted into the general wards in a certain proportion to the other cases. When this proportion is exceeded special wards are opened for them. How would all these patients be benefited by the proposed change? The danger of nurses or students contracting the disease is no greater than it would be if their patients were in the hospitals of the Asylums Board. Our informant considers the admission of cases of enteric fever to general hospitals of the utmost importance to medical students. In its earliest stage it is often notoriously difficult to diagnose correctly, and medical students would lose a very valuable part of their teaching in a general hospital if there were no such cases in the wards for them to examine and observe. As to cases of diphtheria which are not admitted to the general wards, how would patients or students be the better for their removal from wards in the general hospitals specially set apart for their treatment? The above rules, we learn, work admirably both from the point of view of the patients and of the students.

Another physician writes that the risk of contagion of typhoid fever is very little indeed, practically nothing, to the other patients, and typhoid is a disease of so common occurrence, that every student ought to see as many cases as possible.

At Guy's Hospital scarlatina and diphtheria are both excluded, unless the patient be in immediate risk of suffocation. This exclusion is practised in the interests of other patients, but it is none the less a loss to the students.

At the London Hospital the rules to be observed by nurses in cases of enteric fever are stringent, and are attached to each bed in which lies a typhoid patient, and they are very strictly enforced. Only a certain number of typhoid cases in each section of any ward (about 1 to 5) are allowed. It is recognised that the mode of infection in typhoid is definite, and though the disease may be accidentally communicated, prevention is not difficult. Cases of scarlet fever or diphtheria are excluded from the general wards; if any are admitted on an emergency, due precautions are taken to prevent infection.

One of the physicians to University College Hospital, who is strongly opposed to the removal of cases of typhoid and diphtheria from general hospitals, remarks that with the precautions habitually adopted, provided they are properly carried out, there is little or no risk of these complaints being conveyed by infection in such hospitals. The recent unfortunate occurrence of typhoid fever amongst the nurses at University Hospital does not in the least invalidate this statement. If due to carelessness, it should have been prevented. If the drains of the hospital were out of order, or the water supply open to contamination, an outbreak of typhoid might have occurred without the presence of a single case in the hospital. The danger of an outbreak of typhoid fever in a general hospital arises from the conditions which threaten all large institutions, and not from the admission of cases of typhoid fever recognised or suspected, and therefore under careful supervision.

At the Royal Free Hospital there was some fifteen years ago a succession of cases of typhoid fever among the nurses. The matter was referred to the medical staff. On investigation it proved that the grossest carelessness existed among the nurses. Rules were drawn up and insisted on, with the result that no more cases occurred, and the hospital has ever since been quite free from typhoid among the nursing staff, except for two or three isolated cases, all, with one exception, derived from outside sources. In fact, typhoid fever should not spread to the attendants if ordinary care is taken, nor is it infectious in the same sense as scarlet fever and diphtheria.

No restriction should be placed upon the opportunities of observing typhoid fever, a disease "under study" at the present time more than ever before. In the interests of the public medical men should be intimately familiar with every phase of the disease. The danger of infection lies mainly, if not entirely, in inefficient nursing. A competent knowledge of the management of typhoid patients by every hospital nurse is, therefore, the most urgent requirement of all, from the point of view of prophylaxis. "What provision," one teacher pertinently asks, "is to be made under the scheme proposed for an adequate supply of efficient nurses to the public?" One of our correspondents writes: "It is because typhoid fever is so insidious in its onset that a local hospital is advisable." It is not practicable to send every doubtful case of pyrexia with headache to a distant fever hospital at the expense of the ratepayers. When a few days later the fever has declared itself, it would be criminal to do so unless it can be shown that the leaving of the patient where he is is a decided danger to the community. It is with diphtheria as with enteric. In this disease prompt treatment is necessary, and many a life has probably been saved by prompt treatment (such as the immediate injection of antitoxin or the performance of tracheotomy), which would have died if such treatment had been delayed a few hours. To abolish diphtheria wards and to leave the primary schools standing is not calculated to lessen the amount of diphtheria or its mortality. The early treatment of enteric fever and diphtheria is indeed so important, and such an advantage to the community, that, as one medical teacher suggests, the local sanitary authorities would be justified in contributing to the support of wards intended for the reception of these patients in general hospitals. That the risk to other patients is much less than is sometimes supposed seems certain.

One physician with more than twenty years' experience of hospital work in London has known only one instance of a patient developing typhoid fever in hospital, and not one single case of a patient in a ward for adults developing diphtheria. He remarks that "under no circumstances ought a case of diphtheria to be admitted into a children's ward."

With the utmost care, too, it is impracticable to exclude cases of enteric fever from the general hospitals, diagnosis being often impossible by positive signs.

Another physician remarks: "Cases of typhoid fever and diphtheria should continue as heretofore to be received into the general hospitals of London, as the risk is small and the educational advantages to students considerable from such a practice. From the point of view of public convenience this course is also to be commended, though it is most inexpedient that highly infectious diseases such as scarlet fever and small-pox should be received into general hospitals."

[1] BRITISH MEDICAL JOURNAL November 6th, p. 1357

There is another side of the question, too. The hospitals of the Metropolitan Asylums Board can only admit a fraction of the cases of infectious disease in London, their space being unequal to the demand made upon them. Thus, many of the cases now admitted to general hospitals are sent by the Metropolitan Asylums Board.

Lastly; although the infectious hospitals of the Metropolitan Asylums Board are open for purposes of instruction to senior students, it is by no means a large proportion of the students who avail themselves of the advantages offered them. Students will not attend the practice of the fever hospitals for more than three months, their other avocations ensure that; and three months will only allow them to see a small proportion of cases of typhoid through from beginning to end, which the two years or more that students spend in ward work enable them to do in the majority of cases under present arrangements. It is very difficult for London students to avail themselves of the instruction to be obtained in the hospitals of the Metropolitan Asylums Board, and they cannot act properly as reporters of the cases they thus see. In order to learn how to recognise and treat patients suffering from any of these diseases, a daily visit at least is requisite, and no great advantage is gained by a student from merely seeing numbers of such cases at intervals, but in the management of which he takes no responsible part himself under the discipline and instruction of recognised teachers. The measures already taken do not appear to have been for the best interest of the student, that is of the medical practitioner of the future, and it is the belief of one of our correspondents, a well-known physician, that the average student now obtains his diploma with a far less complete knowledge of all the phases of infectious diseases than did his predecessor twenty years ago. This is a serious consideration from the point of view of the public. It is not likely, therefore, that the general hospitals will make changes in their rules respecting infectious cases, and it is no part of the duty of the General Medical Council to take any action in a matter of this kind.

This article may fittingly conclude with the following observations, for which we are indebted to the lecturer on medicine in one of the largest metropolitan medical schools. They sum up the position clearly and tersely:

"I am of opinion that scarlet fever and diphtheria should not be admitted to general hospitals except in cases of emergency, and that when admitted such cases should be treated in isolated wards, and by a special staff of attendants.

"With regard to typhoid fever, I should regret its exclusion from general hospitals, especially those with medical schools attached, and I believe such a course would be detrimental to the clinical instruction of the students, and to the due training of the nurses.

"Typhoid fever is not infectious in the same way that small-pox, scarlet, and typhus fever is, and with due regard to perfect cleanliness and proper sanitation there is little or no risk of its being communicated either to the patients in the hospital, to the nurses, or to the students. If it is, it may be taken as a proof that there is something wrong either in the hospital sanitation or in the system of nursing.

"Typhoid fever and pneumonia are now almost the only acute fevers which the student has the opportunity of closely watching in the wards of his hospital, and seeing daily and hourly the variations which occur in his patient, and the steps which are taken by the physician to meet these variations, and conduct his patient through the fever, a very much more instructive lesson than can be obtained by a few hours a week spent at a fever hospital. These remarks apply equally to the nurses, and moreover the proper nursing of typhoid fever is a most valuable object lesson to both student and nurse on the management of such cases in private practice, and an illustration of the necessity for, and the success attending, proper attention to perfect cleanliness and sanitation.

"I do not know how far the Vestry of St. Pancras might wish to carry their recommendation 'such as typhoid fever, scarlet fever, and diphtheria.' Should phthisis and pneumonia be excluded? and other diseases which, so far as our present knowledge goes, depend on organisms which are communicable?"

A NEW SCHEME FOR A TEACHING UNIVERSITY.

"THE UNIVERSITY OF WESTMINSTER."

THE hesitation, we might almost say the pusillanimity, of Governments representative of both political parties in dealing with the question of the need for a teaching university for London has produced a very natural feeling of impatience among those who are deeply concerned to place university education in London on a better footing. The exact intentions of the Government with regard to the Bill for appointing a Statutory Commission for carrying out the reconstitution of the existing University of London are not yet known—probably, if we may judge from the history of the past, they are not very definitely settled. We are glad to hear, however, that there is some probability that the Bill may be brought forward at an earlier date than was at first anticipated. The Government has, indeed, given a conditional pledge to pass the Bill into law; but the condition imposed—namely, that it should not encounter any opposition in the House of Commons, or at any rate no serious opposition—is of so onerous a nature that it is impossible to take a very sanguine view of the prospects of the measure. The policy of conciliation has been carried very far, and yet when the Bill was introduced towards the end of the session a new organised opposition arose, and, so far as we are aware, this opposition—which is, in fact, founded upon a rooted dislike to any change in the constitution of the existing University—is not likely to grow less. It would be rash to forecast the course of the next session of Parliament; but the Government is pledged to political measures which are almost certain to prove to be of a highly contentious character. Under such circumstances there must be a risk that the University of London Bill will again be pushed into a corner and disappear below the political horizon.

In view of all the circumstances it has appeared desirable to some of those who have taken an active part in the task of creating a teaching university in London to be prepared with an alternative plan, and such a scheme has been drafted. It proposes to form a teaching university in London by the federation of teaching institutions of university rank in London. The basis of the proposed university would be the Faculties. Thus the Royal Colleges of Physicians and Surgeons, the Society of Apothecaries, University and King's Colleges (in respect of their faculties of medicine), and all the medical schools in London would be invited to organise themselves into a Faculty of Medicine; University and King's Colleges, the Royal College of Science, the City and Guilds of London Institute, and the Bedford College for Women, and their professors would be invited to organise themselves as the two Faculties of Arts and Science; King's College (in respect of its faculty of theology), and certain theological colleges, as a Faculty of Theology; the Inns of Court and the Incorporated Law Society, with the Professors of Law in University and King's Colleges as the Faculty of Law; the Royal Academy of Music, the Royal College of Music, the Guildhall School of Music, and Trinity College, London, and their professors as a Faculty of Music. Eventually the graduates in each Faculty would be included in the organisation of that Faculty, and the business of each Faculty would be conducted by a Council of the Faculty. The supreme governing body of the university, it is suggested, should be a senate consisting of a Chancellor, Vice-Chancellor, and Treasurer, to be nominated on the first occasion by the Crown, but subsequently by the Senate, of the Presidents of the Faculties, and of two other persons to be nominated by each faculty, and of six persons to be nominated by the Crown.

It is proposed to assign very important functions to the Councils of the Faculties, for the conditions for admissions to degrees in the Faculty would be determined by its council; it would hold examinations for degrees, and would nominate examiners. It would further receive examination fees and pay the examiners. It is proposed that a special Board of Matriculation should be appointed, mainly by the Faculties of Arts and Science, but including representatives of the other Faculties, to control matriculation, and to determine the nature of the university Matriculation Examination, the acceptance of evidence of proficiency in lieu of it, and the appointment of examiners for it. The decisions both of the

ouncils of the Faculties and of the Board of Matriculation ould be subject to the approval of the Senate.

The special feature of the scheme is the great freedom both i respect to present organisation and future development, hich would be left to the Faculties. It is also maintained iat the institutions included are more fully identified with :e Faculties into which they enter and with the university ian in other schemes which have been proposed, while at e same time difficult questions touching proportional presentation of Faculties on governing bodies are in the ain avoided.

It is proposed to avoid any possible confusion as to the urce of the degrees to be granted by the new university, and ıy encroachment by the new university upon the established putation of the University of London by calling the new iiversity "The University of Westminster," a name which is urged recalls associations which render it especially propriate for a university, but do not attach to any other le hitherto suggested, nor to any other district of London. is thought that a university constituted on the basis indi- ted would be more successful in attracting endowments : the higher forms of teaching and for original research, a rt of the duties of a university in which the existing Uni- rsity of London has conspicuously failed. The scheme is a leral scheme, and its promoters make it one of their chief jects to give to the teachers a preponderating influ- ce in determining the conditions of examination for grees. Only students of constituent colleges would be mitted to the examinations for the degrees of the univer- y, and it is believed that a healthy feeling of *esprit de corps* uld, with the lapse of time and with the growth of the iiversity of Westminster, spring up in the minds of London idents.

The proposals embodied in this scheme have, we under- nd, already secured the support of representative members the teaching staffs of King's College, St. George's Hos- al, St. Bartholomew's Hospital, St. Mary's Hospital, the ddlesex Hospital, St. Thomas's Hospital, Charing Cross spital, Guy's Hospital, and University College.

AN IMMUNISING SERUM AGAINST RINDERPEST.

E report of the Medical Officer for Cape Colony, Dr. George ner, on the results of the work he has been carrying on in junction with Mr. Willhelm Kolle on protective inocula- n against the rinderpest, has been issued as a Government per. When first Professor Koch demonstrated the possi- ty of immunising cattle from rinderpest by using the l of an animal which had been suffering from the fever six days, it was surmised that the gall itself might part the disease, Koch himself was decidedly of the opinion lt the gall itself would not give the animals the disease. authors are strongly of the same opinion, but as it does protect until the fifth or sixth day after inoculation, re is plenty of time for infection to take place. In conse- nce of this opinion Dr. Edington has advocated the addi- of glycerine in the proportion of one part of glycerine to of bile. This precaution the authors regard as useless, as y are of opinion that the gall cannot communicate the ease, a fact which is to be regretted, as if it could the ultant immunity would be much larger. Their investiga- s have in consequence been directed to the preparation n efficient serum.

reviously Pitchford and Theiler had demonstrated the sibility of salting animals with the defibrinated blood of ed cattle, and afterwards Drs. Danysz and Bordat brought system into practical use. But the dose of blood neces- was so large—100 to 200 c.cm.—that the method was racticable. The authors have, however, succeeded in paring serum of such a strength that 20 c.cm. or less are acious in the early stages of the disease, and 50 to c.cm. have often succeeded in saving animals in the r stages. The animals which provide the blood are pre- d in the following way: A salted animal is obtained and cted with 100 c.cm. of virulent blood. This generally luces a febrile reaction. As soon as the reaction is over .cm. are injected, and the dose is thereafter increased to 500, 1,000, 2,000, 3,000, and 4,000 c.cm. at once. From such an animal 30 c.cm. of defibrinated blood (or its equivalent: 20 c.cm. of serum) is an effective dose. To show the strength of the serum, two rinderpest animals were injected with 100 and 200 c.cm. of virulent blood respectively; $\frac{1}{1000}$ c.cm. of this blood would have killed a full-sized ox. Next day they both received 200 c.cm of the serum; both recovered.

This serum, tested on a large scale, gave the following results: Of animals injected during the first three days of the disease the loss is only 9 per cent., while if injection is delayed the loss is as high as 72 per cent. Powerful as the serum thus appears to be as a curative agent, its power of conferring immunity for a long time is small, its power in this respect being about equal to that of glycerinated gall—that is, about ten days. The authors have in consequence devised a method for giving a prolonged immunity, which is applicable to animals not already infected with rinderpest. This consists in the inoculation with rinderpest blood simultaneously with serum. The object is to secure an infection of as severe a character as possible, and at the same time to administer the serum in such a dose as to ensure the safety of the animal. It will then have suffered from the disease, and will enjoy as high and durable a degree of immunity as it is possible to confer. This object is obtained by injecting 1 c.cm. of the virulent blood on one side of the animal, and immediately after 5, 10, 20 c.cm. of serum on the other side. The results of this method have been very successful. Thus in one series of experiments out of 11 animals 1 only died.

PHYSICAL STANDARD FOR ARMY CANDIDATES.

The New Scale.

Quite a flutter of alarm has been raised among parents and crammers by the revised table of physical equivalents which was published in Army Orders this autumn. The scale of height, weight, and chest girth for age set forth in this order, as compared with that previously in force, involves a slight rise all round. Why this change was made does not appear; but a reasonable explanation is that the former standard was found to be too low, and permitted the entry into Her Majesty's army of puny youths who broke down too readily under the strain of drill or service, which is apt in these days of organised gymnastics, running, drill, and manœuvres, to be very exacting upon immature and feebly developed subjects.

That some standard of physical requirements for army service should be laid down does not admit of question. The real questions which arise in this matter are: 1. Is the present standard unreasonably high? 2. Assuming that it is not so, is it right that it should be rigidly applied to youths whose manner and rate of physical development differ? 3. Assuming, again, that in practice it will not be too rigidly applied, is there not an element of hardship in admitting youths to military academies and schools who may be eventually rejected on physical grounds after they have been found qualified in other respects for commissions in the army?

The Fairness of the New Scale.

The only way of settling the first point—namely, the propriety of the standard—is by comparing it with the results of actual investigation among the class of youths from which army officers are recruited. A large induction of this nature has been made by medical examining Boards, and the data thus gained are no doubt in the possession of the military authorities. These have not, so far as we know, been published; but in Roberts's *Manual of Anthropometry*, the facts of which have been endorsed by so sound and judicious an authority as the late Sir William Aitken, in his well-known work on the growth of the recruit and young soldier, are to be found tables embodying the results of measurement and weight of youths belonging to the non-labouring and labouring classes which are entitled to rank as valuable records of what the limits and averages of the physical equivalents—height and chest girth—at different ages are. On comparing the present scale with these tables, it is found to be very moderate and fair, and to err by defect rather than excess, because while wisely rejecting minimal figures yielded by a small minority of observations, it is well below the average, and embraces all the sizes, weight, etc., which are ren-

dered by a substantial number of subjects. If, therefore, any scale of physical equivalents is to be laid down, this seems quite a fair and reasonable one. At one time it was proposed to assign marks for physical performances, such as running, jumping, and so forth. This proposal was not considered feasible, and the system of physical equivalents which denotes developmental attainment and progress was adopted in its stead.

Discretion in its Application.

As regards the second point, namely, the practice of Boards, considerable latitude has always been permitted in the exercise of discretion by examining officers, who are bound to take every consideration affecting the health and physique of candidates into account, as well as scales and standards of this sort which are issued rather for guidance and unswerving application. A youth otherwise healthy and eligible is therefore, as a matter of fact, passed if there is a reasonable hope of his attaining the necessary qualifications by the time that he is commissioned. Of course, this does not apply to the case of militia candidates, who are older, and obtain their commissions at once on passing their examination; but at their age the prospects of physical improvement are more questionable than at earlier periods of life. It has been made plain by the issue of subsequent orders that the action of medical boards and examiners is to be guided by discretion as it hitherto has been. No doubt exceptional cases now and again turn up of rejected youths subsequently attaining full physical dimension and power. These are cases of tardy development, and it is impossible to legislate for exceptions, or exclude all possibility of error in such matter.

The Alleged Hardship.

The question of hardship is a delicate and serious one. It is quite impossible to eliminate the question of hardship in these matters; but it is really a much greater hardship when a young man, commissioned and embarked on his career, breaks down and has to be supported for life, or provided for otherwise, than when at an earlier stage he is rejected for manifest physical imperfection.

Something has to be said, also, for the efficiency of Her Majesty's service. If the country can obtain the services of the robust, well-developed, and healthy, why entertain the puny, the weedy, the lads with weak, irritable hearts, the purblind, and the stutterers?

In some respects the regulations are still weaker, perhaps, than they ought to be. The standard of vision is, for example, less than one-sixth of normal vision, and in these days of signalling and long ranges it seems right that the standard of sight should be raised.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Meeting of Council.

An ordinary meeting of the Council was held on November 11th, 1897, Sir William MacCormac, Bart., President, in the chair. The minutes of the preceding meeting were read and confirmed.

A motion was carried that, as recommended by the Museum Committee, the museum in future be open from 10 to 5 o'clock between March 1st and August 31st and during October, and from 10 to 4 o'clock between November 1st and the last day of February.

The Committee of Management recommended that the following institutions be added to the list of recognised places of instruction in chemistry, physics, and practical chemistry: (1) Felstead School, (2) Watford Endowed Schools. The Committee also recommended that the South-West Polytechnic Institute, which is already recognised for instruction in chemistry, physics, and practical chemistry, be added to the list of recognised places of instruction in elementary biology.

The President stated that the Bradshaw lecture would be delivered by Mr. Alfred Willett on Wednesday, December 8th, at 5 P.M., the subject being The Correction of Certain Deformities by Operative Measures upon the Bones.

The Secretary reported the notices of motion which have been sent in for the meeting of Fellows and Members on November 18th. (These were published in the British Medical Journal of November 13th, p. 1451.)

The President was appointed a Governor for five years of the Mason College, Birmingham.

The following motion by Mr. Macnamara seconded by Mr. Ward Cousins was carried:

That the President of the Royal College of Surgeons of England be empowered to arrange with the President of the Royal College of Physicians to approach the Secretary of State for War to impress upon him the necessity which exists for granting medical officers of the British army substantive army rank and military titles in a consolidated army corps.

The Annual Meeting of Fellows and Members.

The annual meeting of Fellows and Members of the Royal College of Surgeons was held in the lecture room of the College on Thursday last, the President (Sir William Mac Cormac) presiding.

The President, in submitting the report of the Council recording the work done by the College in its various departments during the past year, said it gave him great pleasure to welcome the Members on that occasion, and all the more so because he was unable to be present last year. The report contained many items which were of great interest. The first few pages contained an account of the manner in which the Council sought to obtain the opinion of the body of Fellows about certain matters then under consideration. An important statement would be found in connection with the prevalence of disease in the army in India; and, in reply to representations made by the Secretary of State for India for the Council's opinion, they were able to place in his hands a memorandum which he afterwards told them was of great importance to him, and enabled him to act in the decisive manner he did in order to stay that free trade in disease amongst our troops in India which certain persons were willing to allow to proceed unchecked. It was very gratifying to find on the walls of the College the portrait in recognition of one of their foremost Fellows — Lord Lister. During the year the Honorary Gold Medal of the College was awarded to that nobleman, and also to their most beloved Sir James Paget. The theatre had been constructed on an amended plan. During the year the number of students visiting the museum had been nearly 12,000. In the library there had been during the year 10,965 readers, and it must be admitted that very good use was made of their unrivalled collection of books on natural science. The loss of many Fellows and Members had to be deplored, several of whom held high office in the College. Amongst them were Sir John Erichsen, Sir George Humphry, Sir Spencer Wells, Mr. Rivington, and Mr. Pemberton, and last, but by no means the least, the Librarian (Mr. Bailey). There were certain notices of motion which would be brought before the meeting by their respective movers and seconders. He would ask Dr. Morton, with regard to a notice of motion standing in his name, if he would somewhat modify its wording. If the Members would take the trouble to read it, it would be seen that what was about to be tried to be proved as correct—namely, that there were certain statements in the elucidatory part of the report which were misleading—was assumed as true. As regarded the second motion, he should like to point out to Mr. George Brown and Dr. Snow that the Council was the only body by virtue of the Charter which represented the entire College. If the meeting passed the motion in its present form it would virtually repudiate the constitution of the College. With regard to the third motion, resolutions would be found in the report bearing on the question of medical aid associations. Those resolutions decided certain points in connection with individual institutions. It was common knowledge that medical aid associations varied immensely in their character. Some of them might be perfectly harmless, whilst others undoubtedly were open to serious objection. It was for such reasons that the Council had hitherto rather, he thought with much prudence and propriety, confined itself to adjudging and giving its opinion in individual cases rather than make any very general remar

upon a subject with regard to which there were so many different views.

Dr. Thomas Morton said he would accept the President's verbal alteration, and move his resolution as follows:

That in the opinion of this meeting as parts of the elucidatory statement are misleading, and do not adequately represent the facts, which were further obscured by a circular issued under the auspices of a Member of the Council, the recent vote on Members' representation cannot be regarded as a satisfactory or final expression of opinion by the Fellows.

He did not impute anything intentional in the way of misleading the members on the part of the members of the Council, as they were utterly incapable of such a thing either individually or in their corporate capacity. But he hoped to be able to show that some parts of the statement were misleading and did not represent the facts. It was known that when the result of the ballot of the Fellows was announced the Members applied to the Council to give them an opportunity of meeting to consider the result of the ballot. The Council did not think fit to do so. He did not, however, complain of that. He should have been surprised if they had acceded to the request, but the Council could not be surprised if the Members now took an opportunity of calling attention to certain points which they thought they had reason to complain of, in the way in which the question was put before the Fellows. Of the result of the ballot they did not complain, but they maintained that if the question had been put before the Fellows in a more fair and generous spirit, the considerable minority which did endorse their claims might have been very considerably more. That was a matter of some importance to them, because in a large agitation of that description the prestige of the Members was an element of success. With regard to Section III, which dealt with "Meetings of Fellows," he defied anyone to read it without coming to the conclusion that the Members were standing out stiffly for being represented on the Council by Members only. They did not for one moment think of saying that the Members were deliberately misled by the omission of a fact or making a garbled quotation, but they did say that through a degree of carelessness and laxity a serious error had been committed, of which the Council must bear the discredit, as it had reaped the advantage. That had cost them some votes; but if there had been a balance brought about against them unfairly by the Council as a whole, it had been much more so by the action of an individual member of the Council. That gentleman, in the middle of last year, addressed to the British Medical Journal what might be called an electoral manifesto stating the case against the Members as strongly as it could be stated under the name of "A Member of the Council." He appeared to have been so pleased with his performance that he also sent it to the *Lancet* under his own name; and not only that, but later, when the polling papers were issued, he circulated it, not directly, but under the screen of an ephemeral body created *ad hoc*, called "The Manchester Association of Fellows" to all the Fellows to whom balloting papers had been sent. He would further refer to the way in which the elucidatory statement traversed their premiss that the College was dependent on the Members for the greater part of its annual income. It was, however, enough for his purpose to say that it depended upon the contributions of the Members for a substantial and indispensable portion of its annual income. After dealing with further paragraphs in the report Dr. Morton said there was one thing upon which they founded their claim, and that was the good of the College itself. He believed that the Members could bring, and were desirous of bringing, an element of strength which was now wasted, and which the College could ill afford to dispense with. Until a majority of the Fellows was persuaded that it was for the good of the College they would not get what they asked, but they believed that the day was not so distant as some people thought. In the meantime, in spite of the adverse result of the poll, they were not disposed to regard the result announcement of the Fellows as final any more than was satisfactory; but they were disposed to thank God and take courage.

Mr. Joseph Smith seconded the motion. He said that after the able manner in which Dr. Morton had proposed it, there was little left for him to say. He thought that Dr. Morton had proved that the elucidatory statement was not an elucidatory statement at all, but one entirely misleading. With regard to the action of a member of the Council referred to by Dr. Morton, he had not the pleasure of knowing Mr. Hardy, but he could only excuse him on the ground of his youth. He strongly denounced what he termed the action of Mr. Christopher Heath in importing medical politics into his Hunterian Oration, and maintained, with deliberation, that that gentleman, at the end of his Oration, took upon himself to insult the body of the Members of the College.

The President ruled that such matter was not relevant to the debate.

Sir Robert Craven said he voted for Members' election on the Council, but he did not forget that Fellows who had had a fair opportunity of knowing all about the question voted against it. He was beginning to think that the meeting of Members and Fellows was becoming a kind of political arena. Many of the Members forgot that there was a Royal Charter, and that before anything could be altered that Charter must be abrogated. He advised that Members, instead of bringing the resolutions up year by year, should move a resolution to the effect that the present Royal Charter should be abrogated, and then there would be something to go upon. It was quite time, in his opinion, that the annual meeting ceased to be a bear garden.

Mr. Henry Morris acknowledged the very temperate speeches in which the mover and seconder put forward the resolution. He declared that to a large extent the statements alluded to in the resolution were statements taken from the communications made by the Society of Members themselves. He pointed out that at the meeting of the Committee which drew up the elucidatory statement there were two consistent and persistent advocates of the claims of the Members—the late Mr. Rivington and Mr. Tweedy. He thought that fact would give the Members some confidence in believing that the Council were desirous of being quite fair and equitable in the way they stated the claims on the one side and the rebutment of the claims on the other. With regard to the other paragraph, which stated that: "It must be borne in mind that the Members have never swerved from asking that a certain proportion of the Council should consist of Members who are not also Fellows," it was quite true that at the reception on the part of the Council of the representatives of the Society of Members, the Members did on that occasion agree, after some little discussion, to withdraw the claim that Members should be represented by Members, and to have the resolution altered into: "That Members may be represented by Members who were also Fellows."

Mr. Joseph Smith said it was "Members or Fellows," either one or the other.

Mr. Henry Morris said Fellows were of course Members. If in June a concession of that sort were made in the claim put forward by the Society of Members, and yet some months afterwards a suggestion of a claim of a different sort was advanced by the same Society of Members, surely it was not an exaggeration to say that the original claim was still maintained. Therefore, practically, though there might have been an interval of a month or two, the claim had never been swerved from. He asserted that that was the condition of things, because when they were actually meeting to draw up the elucidatory statement they received from the Secretary of the Society of Members a letter, which stated "that the adoption of the latter proposal would prove unsatisfactory to all parties"—that was, the representation of Members by Fellows on the Council; that "it does not offer a final solution of the controversy;" and that "any Fellows so elected to the Council by Members would probably be required to pledge themselves to promote the direct representation of Members by Members, and an agitation would thus be continued which it is highly desirable in the interests of the College to set at rest." He asked the Members to consider the position of the members of the Committee who drew up the elucidatory statement in the face of the letter, and whether they could do otherwise than point out, as the extract from the letter showed, that nothing would satisfy Members, as represented by the Society of Members, except

the representation on the Council of Members by Members. He therefore thought in all fairness that it could not be considered that the elucidatory statement misrepresented facts.

Mr. DICKINSON said that as he had the misfortune to write the letter to which Mr. Morris had alluded, he would read the last sentence of it: "This Committee would point to the precedent of the General Medical Council, on which any member of the profession may offer himself as a direct representative, and they consider that similarly it should be left open to the Members to elect any member of the body corporate independently of his academic status."

The PRESIDENT assured the Members that the gentlemen who formed the Committee were actuated by a desire to act fairly between both sides. He considered that Mr. Dickinson's letter showed that no finality would be obtained short of Members being represented on the Council of the College by Members.

On the motion being put it was carried by 23 votes to 2.

Mr. GEORGE BROWN then moved:

That this meeting repudiates the claim put forward by the Council in its resolution of March, 1896, to represent "the Members as well as the Fellows," and again calls upon it to accord the franchise to the former.

The resolution, he said, was not one of opinion, as the President had said, but was really a question of fact. It enabled the Members to state that they thought it was an actual fact that the Council did not represent the Members of the College. He really could not understand why such a statement was put before the Fellows, and it seemed to him rather to be advanced in a facetious sort of way. It really could not be meant seriously, but it certainly had the effect of drawing away the votes of a large number of Fellows who, he believed, were with the Members in their hearts. He said "facetious" because the Council themselves, in answer to the claim for representation, repudiated the fact that they represented the Members at all. They said, "Members have no right, legal or inherent, to a share in the government of the College." He asked the Members to declare that they did not consider the Council as their representatives whilst the constitution of the College remained as it is. He quoted the words of Mr. Jonathan Hutchinson—"Without doubting the law in the matter, may I still ask whether they (that was, the Members) do not possess a moral right, that is, a right founded upon the justice of the case? If a *de novo* scheme of government were to be devised for such a body as the College now is, with its thousands of Members and hundreds of Fellows, can anyone believe that the former would be wholly excluded from power?" and he maintained that those words would reply at once to the "facetious" statement put forward by the Council that they really represented the Members of the College. He did not believe if the Members of the College had the franchise the constitution of the Council would be materially altered from what it was at the present time. He believed that men of eminence in the surgical profession would always come to the top, and that the Members would recognise the eminent abilities of those who were shining lights amongst the Fellows.

Dr. HERBERT SNOW, in seconding the resolution, said that they were told in the elucidatory statement that because they did not pay half the expenses of the College they were not entitled to the franchise. He thought that showed the extreme weakness of the position of those who opposed them, because to the most ordinary common sense it was perfectly obvious that no comparison lay between the £14,690 and the large sum derived from the vested property of the College. The comparison lay really between the £14,000 odd and the rather modest £2,035 which resulted from the Fellows' examinations. They looked in vain for any real argument on the part of the Council in the whole elucidatory statement.

Dr. WARD COUSINS deprecated Mr. George Brown's allusion to the Council as a facetious body, and declared that a more energetic and earnest body of gentlemen, working on behalf of a great corporation, could not possibly have existence. He pointed out that as the resolution in March was passed by 11 votes to 8, it could not be said that the Council were unanimous in their opinion upon the point.

Surgeon-Major INCE thought the members were on the high road to obtaining the franchise, but considered that a great deal depended upon the manner in which the work was undertaken, and he believed that if the franchise was extended to Members of a standing of twenty years it would be a wise provision, but nothing could be done under the present Charter.

The resolution, on being put, was carried by 37 votes to 1.

Mr. W. G. DICKINSON then moved:

That this meeting, in view of the widespread public and professional evils induced by "medical aid associations" and other companies trading in medical attendance, calls upon the Council to make a clear pronouncement for the information of Fellows and Members that the acting as officials of such associations by any qualified medical person, or who allow the well-to-do classes to take advantage of rates of payment arranged to meet the necessities of the poor is "disgraceful in a professional respect," and deserving of censure.

He said that combination among medical men was not always possible; for instance, in small towns or villages, where there were not enough of them. The consultation question was a most important one. Personally, he did not object to the decision of the Council refusing to prohibit consultations with the practitioners in the medical aid associations, because the matter had to be looked at from a public as well as a professional point of view. But if an expression of opinion were given on the part of the Colleges generally, he thought consultants would be more chary of giving their services as readily as they did. The Council had given tacit sanction to all the evils which had arisen in connection with those associations, and there was no doubt that that sanction had been taken advantage of.

Mr. BRINDLEY JAMES, in seconding the motion, said that general practitioners were handicapped on all sides, by the hospitals, by the consultants (who took their patients from them), and by the general public.

Dr. BEVERLEY, Dr. ALDERSON, Dr. MOXON, and Mr. GEORGE BROWN also spoke in favour of the resolution.

The PRESIDENT, in answer to an appeal made that the Council should take action in the matter, declared that pious opinions were of no avail. If Members would bring specific cases before them the Council could deal with them, but no such information was ever received. It had been pointed out that various Irish bodies had passed resolutions on the subject, but their own body must do what it thought right. They did not know that their powers were similar to those of the Irish bodies.

A vote of thanks to the PRESIDENT terminated the proceedings.

TESTIMONIAL TO DR. ARLIDGE.

DR. CHARLES F. MOORE, 10, Upper Merrion Street, Dublin, Honorary Secretary of the Committee which, as Dr. Ogle mentioned in the BRITISH MEDICAL JOURNAL last week, has been formed to present a testimonial to Dr. Arlidge, requests us to publish the following first list of subscriptions:

	£	s.	d.
J. W. Ogle, M.D., F.R.C.P.Lond.	2	2	0
Sir Charles Gage Brown, K.C.M.G., M.D.	2	2	0
M. Baines, V.D., M.D.	1	1	0
Sir Peter Eade, M.D.Lond.	2	2	0
W. D. Stone, M.D., F.R.C.S.Eng.	1	1	0
Mrs M. H. Ashwell...	1	0	0
Henry S. Purdon, M.D.	0	10	6
Charles F. Moore, M.D.	2	2	0

HOSPITAL REFORM IN MANCHESTER.—The Manchester Medical Guild has issued a circular with reference to the evidence to be laid before a Joint Committee representative of the medical charities and of the medical societies of Manchester and Salford, which has been appointed to inquire into the alleged abuse of hospitals, and to suggest remedial measures. The Medical Guild, which has two representatives on this committee, desires to act as an intermediary between practitioners and the committee, and will submit to it any cases of abuse as to which satisfactory evidence is brought to the notice of the secretary of the Guild, Dr. Alexander Stewart, 12, Eccles Old Road, Pendleton. The following points should be specified in every case: (1) Name of hospital; (2) name and address of patient; (3) nature of abuse (social position, etc., of patient); (4) date of attendance at the charity, together with any other particulars bearing on the case. The name of the practitioner giving the information will, if so desired, be treated as confidential.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st; and notice is hereby given, in accordance with By-law 5, that Branch Secretaries' subscription accounts close on October 31st, and all unpaid subscriptions must be forwarded after that date to the General Secretary, 429, Strand, London. Post-office orders should be made payable to the General Post Office, London.

British Medical Journal.

SATURDAY, NOVEMBER 20TH, 1897.

METROPOLITAN HOSPITALS AND WORKMEN:
A New Scheme.

At the meeting of the Hospital Reform Association in London on October 21st, a report of which was published in the British Medical Journal of October 30th, Sir Henry Burdett, in the course of his speech, referred to a proposal for the issue "of a subscription book for small subscriptions on a system which would make what were known as the Prince of Wales's Hospital Stamps available in preventing many of the evils which attached to the collection of small subscriptions. It would enable every man and woman to subscribe quite readily, and to always have at hand in a handy form, which they could produce at any time, evidence of the fact that they were interested in the hospitals." We have since been indebted to Sir Henry Burdett for some further information, and so far as we understand the matter the proposal, which appears to be intended to apply only to the hospitals in London, is somewhat as follows:

An organised effort is to be made to induce poor persons to subscribe sums not exceeding 10s. annually—and, as Sir Henry calculates, averaging 2s. 6d.—to the Prince of Wales's Hospital Fund. These sums would be acknowledged by stamps pasted in a small book to be kept by the patient, who is to sign his name in the book for purposes of future identification. This book he will produce whenever he applies for treatment at any hospital. It is the intention of the promoters of the scheme that the possession of this book should not in itself give the bearer any special claim upon the hospital. It is intended to do no more than enable him to show that he is well disposed towards hospitals, and has done his best during the time he was in good health to give a small subscription annually. His claim to hospital relief would still rest on his medical fitness and his inability to pay for private medical attendance. An essential point in the scheme is the employment of an inquiry officer attached to each hospital, who will investigate the pecuniary and other circumstances of all applicants; and there is also in Sir Henry's mind a scheme of attaching to each hospital a pay department both for out-patients and in-patients, this latter department to be worked—partly, at any rate—by the medical practitioners of the neighbourhood. This plan is recommended in the *Hospital* for October 30th, under the title "The out-patient problem—a solution in sight."

We only wish we could see in this, or in any other scheme yet suggested, a solution of this perplexing problem, but we must confess that, as far as our present information goes, Sir H. Burdett's scheme would threaten to make present confusion worse confounded. In giving our reasons, however, for this unfavourable conclusion, we wish to acknowledge, in the most unreserved manner, the zeal and single-minded benevolence of purpose of its author; but the plan itself, it is to be feared, would only increase the mischief which is now complained of.

In the first place, why do not the poor now subscribe to our hospitals? One obvious reason is that the hospitals are charities, and the poor are the recipients, not the dispensers, of charity. How can this primary hard fact be got rid of by issuing a book, and giving the receipt for the poor man's subscriptions in the form of stamps pasted in it? Every poor man knows that he will get the relief he asks for at one of our "unlimited" or "free" out-patient departments, whether he subscribes or no. So far from sharing the forecast of the *Hospital* that this system will "place every hospital which adopts it in a stronger financial position than its most enthusiastic supporters believe possible," we think that the evidence is all the other way, and that it will fail to get small subscriptions from the poor, just as the appeal to the general public has failed to get subscriptions from the lower middle class.

It may be asked incidentally what is meant by the hospitals which "adopt the system"? Are not these subscriptions gathered on behalf of the Prince of Wales's Fund, and is not this fund for the benefit of all hospitals in London? There surely can be no thought of excluding from the benefits of that fund a hospital which objects to this new scheme?

However, though we believe Sir Henry's stamp book will fail to attract the poor, we are free to allow that we may be mistaken. Assuming, then, that it succeeds, will its effects be good or bad? It appears to us practically certain that it must spread the out-patient taint wider and higher in the social scale. It must necessarily be left to a man's own judgment whether he can or cannot afford half-a-crown or more a year for hospital treatment, for if a real inquiry is to be instituted into the position of all applicants at one of our large hospitals, it would require not one but a dozen inquiry officers, and besides to be of any use the inquiry should be made before, not after the application is received and granted. The *Hospital*, in speaking of this inquiry officer, says that "due regard will be had to the social circumstances and to the medical fitness of each applicant." But is this possible? Even in a comparatively small hospital, with a limited number of out-patients, we have found that such an inquiry, conducted by a skilled medical man, taxes his powers severely, and after all is allowed to be more of a guess than an inquiry. To suppose that it can be efficiently and thoroughly carried out at a large and unlimited department is to be, we fear, too sanguine. As we have stated above, it is not intended that the possession of the stamp book should give the possessor a direct claim upon the hospital for treatment. But some doubt may legitimately be felt as to how this would work in practice. There is a great deal of human nature in man, and we suspect that an applicant possessing such a book would be apt to consider that it gave him a claim for specially favourable consideration. Would not the effect of Sir H. Burdett's plan be rather to act as an invitation to the better class of artisans to abandon the sick club and the provident dispensary in order to get their treatment cheaper

at the hospital, even if it does not succeed in sweeping into the out-patient department their social superiors, the clerks, and others of the black-coated class? Does not the essence of the abuse of out-patient departments lie in the system by which this charity, unlike all well regulated charity, is dispensed, without any previous inquiry, to everybody who chooses to apply for it? If out-patient treatment is a real charity and worth having, there is no reason why the applicant's circumstances, both medical and social, should not be examined before his application is granted, nor why a definite time should not be fixed for him to come to the hospital and be seen without any undue delay. Hospitals in this country are charities and ought to be maintained as such. But what a man pays for is not a charity, nor can anyone be at the same time a giver of charity and a receiver. If Sir H. Burdett, or any of the supporters of the scheme of pay departments in our hospitals, should reply that the subscribers pay less than the value of the relief they obtain, and are therefore, and to that extent, not givers but receivers, he touches on the radical objection to the essential idea of these pay departments. By the very contention each such transaction entails a loss to the hospital, and the more the plan is extended the nearer is the institution brought to bankruptcy. To say that such a method can relieve the financial distress of our hospitals is therefore absurd, unless we postulate that the subscribers get less than they give, and, if that is the case, our hospitals cease to be charities and become sick clubs. We are convinced that no such conversion of our medical charities would be sanctioned by public opinion.

The analogy of Fitzroy House (a so-called "pay hospital") on which Sir H. Burdett has often dwelt, is quite deceptive. Fitzroy House is an admirable institution, and its foundation is one of Sir Henry's just titles to public gratitude; but it is no more a hospital than it is a hotel—in fact, much less, for it is a kind of sick hotel. If we admit that it is better and cheaper than most of the "surgical homes" which abound in London, and still more so than private lodgings, that does not make it a hospital. Ever since hospitals have existed, a hospital has been a charity—a place for the reception of the sick poor at the expense of the charitable. We do not say that this charitable character would be altogether forfeited by making the sick poor pay a part of their own expenses, but there are many objections to the plan and many dangers. Even in the very modified form (which used to prevail in many hospitals) of making the patients find themselves in some articles, such as tea, butter, clothes, etc., it has been found so objectionable that it has been generally abandoned; and in the form of an inadequate money payment we are confident that it will be found, on sufficient trial, still more objectionable. But to suppose that any extensive plan of partial payments can redound to the pecuniary advantage of the hospitals is a fallacy which so experienced a man of business as Sir H. Burdett could not entertain. He must therefore have reasons for believing that the yearly half-crown is much more than the hospital will spend on the patient's treatment, since it is not only to pay its own expenses, but make up the present deficit; yet half-a-crown is much less than the weekly penny demanded by the cheapest provident dispensary or club. It is less too than the amount usually paid in workshop subscriptions, which in most places is at least a penny a week. It is true that in some towns hospital letters are demanded in return for workshop subscriptions, but this is not everywhere the case. Birmingham, for instance, affords a striking exception.

THE RELATIVE EFFICIENCY OF VARIOUS ANÆSTHETICS.

THE paper published in another column, in which Dr. Augustus Waller discusses the relative advantages of ether and chloroform, and the debate which ensued upon the reading of the paper before the Section of Anatomy and Physiology at the annual meeting of the Association at Montreal, will be read with much interest. Dr. Waller's experiments have convinced him that the most satisfactory way of testing the efficiency of anæsthetics is to employ freshly prepared nerves, and to cause them to respond to electrical stimuli while subjected to various narcotising vapours. The method is as beautiful as it is original. Not only is he enabled thus to investigate the anæsthesia produced, or, as he terms it, "temporary immobilisation," but to ascertain the strength of vapour which kills the nerve and produces "permanent immobilisation." Under ordinary physiological conditions the galvanometer reveals the presence of currents in the nerves. The action of narcotics is to send the nerve to sleep, and the absence of the current is proof positive of this anæsthetic sleep. Remove the vapour and the nerve recovers itself, and again the nerve currents appear. Now, by testing a number of substances, Dr. Waller has found that while all those which produce anæsthesia also bring about death of the nerve, some are far more deadly than others. Richardson, in his lectures on narcotic vapours, was disposed to regard the chemical and physical properties of narcotics as affording no criteria of their power as anæsthetics, but his methods lacked the precision of those now under consideration. The heart is a capricious because a compound organ with a nerve factor, a muscular factor, and a nerve-cell factor. Dealing with isolated nerve the problem becomes immeasurably simpler, and at the same time the experiments can be kept absolutely under test conditions.

We have hitherto been assured that chloroform killed either by paralysing respiration through the nervous system, leaving the other tissues severely alone, or brought about death through circulatory failure, due, it may be, to vaso-motor dilatation, or through incapacitating the heart. Now we learn that not only does chloroform destroy muscular tissue and narcotise the nervous centres through its influence on the blood, but actually attacks nerve fibrillæ, and destroys their irritability. It is a matter of indifference to "the man in the street," as Dr. Waller points out, whether he is killed through his heart failing or by asphyxia, what interests him most is how he can be saved pain with as little chance of losing his life as his surgeon can conveniently arrange. From this point of view it is somewhat startling to find that dose for dose chloroform is seven times more deadly than ether when tried upon the isolated nerve—that is, upon a highly specialised protoplasm. And what appeals most to the practical man is that these figures show how narrow a margin in the case of chloroform there is between a non-lethal and a lethal dose, while seven times that margin exists when ether is in use. The specific action of nitrous

oxide has been asserted by some,[1] but denied by Wood and Cerna[2] and the late Sir George Johnson.[3] Dr. Kemp's careful study confirms the former view, but according to Dr. Waller it is an anæsthetic which has little or no action on nervous tissue. Carbonic dioxide, which Snow and Richardson lauded as an anæsthetic, is, Dr. Waller finds, a powerful agent to produce "immobilisation," thus confirming the assumption of the older observers. But a fact of extreme interest, because unless carefully explained liable to fatal misunderstanding, is Dr. Waller's observation that the presence of carbonic dioxide favours anæsthesia and lessens its risk. The combination of chloroform and carbonic oxide is not, it must be distinctly understood, simply chloroform given with very little air. This distinction is made very plain by Dr. Waller himself.

Accepting nerve tissue as a criterion of the vitality of the constituents of the body, these experiments are very striking, and reveal in a clearer light the profoundly powerful character of chloroform.

In the statistics of deaths under these two anæsthetics ether stands better than the proportion of 7 to 1. The proportion in its favour is about 13 to 1; but, as Dr. Waller pointed out, the problem of the action of narcotics on the whole organism, although exemplified tersely by a nerve experiment, is in itself far more complex. It is often stated that the after-effects of ether are far more fatal than those due to chloroform; but no foundation in experiment or statistics exists to prove this, and, as Dr. Waller cogently puts it, the use of chloroform, if it be dangerous under all circumstances, is, unless under exceptional circumstances, unjustifiable; and if it is only dangerous when unskilfully given, its deaths amount to homicide. This is Dr. Waller's chloroform dilemma.

The discussion, in which Professor Richet, Dr. Lawrie, Dr. Shore, Professor Gaskell, and Professor Stewart took part, turned mainly upon the oft-debated evidence afforded by cross-circulation experiments, as to whether or not the fall of blood pressure incident to chloroform narcosis is brought about through depression of the vasomotor centre or through weakening of the heart itself. How far such experiments can be accepted as conclusive remains to be seen in the face of so much evidence which has now been accumulated by the researches of MacWilliam, Hare and Thornton, Leonard Hill, and others; it is difficult to exclude the vasomotor centre as in some way causative of the fall of blood pressure under chloroform. The practical fact which stands out in terrible distinction is that deaths under chloroform have not lessened in spite of physiology or Hyderabad Commissions. It is useless to contend that these deaths arise because the physiologists teach dangerous tenets, since the large percentage of persons who give chloroform know little of and probably care less for physiology. It is rather the careless and the over-confident in whose hands such accidents happen, while as a rule it is safer in those of persons who have leisure and training to follow the trend of modern thought and teaching concerning anæsthetics.

[1] Buxton, *Proc. Odont. Soc.*, 1886.
[2] *Therapeut. Gazette*, 1890.
[3] *Asphyxia*, 1889.

It is stated that the decree excluding foreign students from the medical classes of the Faculty of Medicine of Paris will shortly be withdrawn.

THE PUBLIC PRESS AND THE ARMY MEDICAL SERVICE.

Two factors are at present working which must ultimately compel official action, and bring about desired reforms in the Army Medical Service. The first of these is the expressed determination of the Government to increase the army; and the second, the pressure of public opinion, which is now unmistakably felt.

To propose a material increase in the army establishment, and leave its medical service in the present chaotic undermanned state, is, of course, what no responsible Minister would do; to disregard public opinion on this question might commend itself to a self-sufficient military oligarchy, but not to constitutional statesmen. Such factors in operation, therefore, compel the belief that radical changes in the medical service are not far distant.

The influential daily press, both of London and the provinces, has, we are glad to state, been almost unanimously enlisted in favour of army medical reform, through the report of the Subcommittee of the Parliamentary Bills Committee of the British Medical Association, which has been widely circulated, and characterised as eminently fair, temperate, and convincing.

In the British Medical Journal of October 30th were mentioned many notices of the report in the provincial press; since then many more appreciative notices have appeared, including a powerful article in the *Times*, to which we referred last week. Our great contemporary plainly states that "the War Office, unless it is prepared to concede the demands which are made on behalf of army surgeons, must at least be prepared to show good reasons for rejecting them, and must also be prepared to remove the existing discontent by reforms or alterations of its own devising." This admirably places the burden of the situation on the proper shoulders, and effectually precludes the possibility of the reforms demanded being met, as before, by a simple military *non possumus*, or by the ridiculous plea that to grant definite army status to medical officers would be against military "instincts"!

We also fully agree with the *Times*, that to characterise the late entries into the Army Medical Department as the "dregs" of the medical profession is both cruel and unjust, because if true, says our contemporary, then "it must in justice be admitted that the 'dregs' have done excellent work in modern warfare, both as brave soldiers and skilful doctors." The real truth is, that the army has not lately secured, as it might, the pick of the profession; but those who have entered have well maintained the great characteristics of their profession—devotion to duty and unflinching bravery in situations of great danger. In proof of this we may cite the recent heroism of Surgeon-Captains Beyts and Hugo in succouring comrades under terrible fire, deeds which we trust will meet with suitable recognition. These gallant medical officers have but done what many more had done before them; but let our contemporaries in the press note the gross, and we might add shameless, injustice of designating such officers as "civilians" in the offensive and contemptuous military sense of the term. Can it be wondered that the medical profession resent treatment such as this not from the youthful and unthinking, but from senior and responsible military officers? We can only wonder and deplore that such

lack of generosity and mean-mindedness can be found in our noble army.

The public press is now in possession of a plain and temperate presentment of the present position and required reforms in the Army Medical Service. It can hardly again be misled by the puerile and absolutely unfounded statement that the claims of medical officers are only based upon lust for general military command, and concealment of their proper functions under purely military titles. Neither follow in the least degree from their just claim to definite military status; paymasters, schoolmasters, and others neither assume command nor conceal their identity owing to the possession of defined army status.

The whole matter is in a nutshell; army medical officers find their present position, by reason of want of defined status, untenable and intolerable; potential candidates know this, and will not enter the service until they are assured of a career consistent with reasonable comfort and self-respect.

We are compelled by the great pressure on space to postpone the publication of a large number of letters and other communications.

It is stated that as many as 273 medical officers of the Imperial and Indian Medical Services are now employed in connection with the operations against the tribesmen on the North-West frontier of India.

We announce with the deepest regret the death on November 18th of Dr. James Cagney, who in many capacities, but especially as the London Secretary of the Irish Medical Schools' and Graduates' Association, had endeared himself to a very large circle of friends. Dr. Cagney was suffering from an attack of typhoid fever, and the cause of death was sudden failure of the heart.

In the discussion on Typhoid Fever at the Royal Medical and Chirurgical Society on Tuesday next, Dr. Poore, who opens the debate, will be followed by Professor Boyce (Liverpool), Dr. J. F. Payne, Dr. Washbourn, Dr. A. Macfadyen, Dr. J. W. Andrewes, Dr. Edward Seaton, Dr. Sims Woodhead, Professor Kanthack, Dr. Corfield, and Dr. Fletcher Little. The discussion will be continued on Tuesday, December 14th.

Her Majesty the Queen has been graciously pleased to confer the Jubilee Commemoration Medal on Surgeon-Major-General C. M'D. Cuffe, Principal Medical Officer, Portsmouth and Southern District; Surgeon-Major-General A. F. Preston, M.B., A.M.S., Principal Medical Officer in Ireland; Dr. Wm. S. Paget-Tomlinson, the High Sheriff of Westmorland for this year; and Surgeon-Major-General Thos. Maunsell, Principal Medical Officer at Malta.

It is announced that in consequence of the heavy demands on his time in connection with his duties at the Natural History Museum, Sir William Flower, acting on medical advice, has reluctantly resigned the presidency of the International Congress of Zoology, which is to meet at Cambridge on August 23rd, 1898. Sir John Lubbock, on the unanimous invitation of the general committee, has accepted the office, and will accordingly preside over the congress.

EDINBURGH ROYAL INFIRMARY.

The new outdoor surgical department of the Edinburgh Royal Infirmary was formally opened on November 15th. It is placed in the north-east corner of the building on the ground floor, is entered from the east, and consists of a central hall or waiting room of large size, with twelve adjoining rooms for dressing patients. Formerly these patients were treated in the various wards or their adjoining rooms, an arrangement at variance with every known antiseptic principle. Further, there was the anomalous sight of crowds of patients sitting on forms in passages outside the wards. For some time the staff had expostulated, but the managers have only now recognised the necessity for reform of the old methods.

CERTIFICATE IN PSYCHOLOGICAL MEDICINE.

The examination for the certificate of psychological medicine granted by the Medico-Psychological Association of Great Britain and Ireland will be held in London, Edinburgh, Glasgow, Aberdeen, and Dublin during December, at a date yet to be fixed. Intending candidates can obtain particulars from Dr. Spence, Burntwood Asylum, near Lichfield.

MEMORIAL TO THE LATE MR. O'GRADY, OF DUBLIN.

At a meeting recently held in Dublin, under the chairmanship of Sir George Duffey, President of the Royal College of Physicians in Ireland, it was resolved to form a committee to obtain a suitable memorial to the late Surgeon Edward Stamer O'Grady. At the same time a resolution of sympathy and condolence was passed with Mrs. O'Grady and her family. The meeting was attended by a large number of representatives of the medical and other professions. The following committee was appointed to receive subscriptions; Sir George F. Duffey (President), the Rev. Chancellor Tisdall, D.D., Dr. Edward Hamilton, Dr. A. H. Jacob, Mr. R. T. Callow, with Dr. M. A. Donelly and Mr. George de Belle Ball as honorary treasurers, and Drs. Falkiner and Magrath as honorary secretaries.

THE DOVER CLIFF MYSTERY.

In the British Medical Journal of September 11th we gave some account of a curious case of prolonged unconsciousness which had occurred in the person of a young girl who was found at the foot of the cliffs at Dover. Dr. Osborn informs us that the patient has steadily improved, and is now able to converse and even to walk, though her gait is rather unsteady. She cannot recall any circumstance connected with this illness, and her speech is slow, as of a person of weak intellect, though her mother does not allow that she has always been mentally weak and dull. The treatment after her return to consciousness consisted of nervine tonics and good diet.

AN EPISTOLARY CLAQUE.

The *Times* lately thought it desirable to administer a rebuke to some clerical correspondents who had apparently conspired to occupy its columns with a succession of letters appealing for relief from their over-rated condition. It pointed out to these gentlemen, in a tone of mild reproach not altogether devoid of sympathy with their object, that this proceeding was scarcely consistent with an appreciation of "the modes in which public opinion is influenced on a question of this kind," and that "it seems also to rate somewhat too low the intelligence of those responsible for the conduct of the organs of that opinion." The first of these two criticisms can scarcely be said to be well founded. The correspondents of the *Times* did not certainly fail in their appreciation of the importance of finding an opportunity for airing their grievance in its columns. They believed, and with some reason, that if they could only succeed in doing this they would materially influence public opinion in their favour. But they over-did it, and were found out. The art of advertising is not confined to mere commercial enterprise. It is a recognised feature nowadays of agitation of all kinds. We can hardly find a better illustration of the way in which it is systematically used to create a public opinion than in the constant stream of letters in promotion of the antivaccination cause which percolates through the press. Some ten years ago a leading member of the then National Antivaccination

Society, when writing to apologise for his unavoidable absence from one of the conferences of that body, thus expressed himself: "I want to see more than a hundred members of the Vaccination Literary Union fulfilling their pledges by writing at least one letter a month to a newspaper." What an instructive revelation is here! One hundred members of a cause which was then struggling in its birth, pledged to write and, it is to be presumed, to procure the insertion of one letter apiece monthly in some newspaper or other. We have heard before now of such a thing as a correspondence bureau. This is the practical embodiment of the idea in its most highly developed form. From that time to this, with a certain amount of variation of volume, this underground current of misrepresentation has been slowly but surely permeating the soil of public opinion, and it is small wonder that it has stimulated it to produce a corresponding growth. The leading London and provincial papers, like the *Times* on the present occasion, soon became too much alive to the device to give this "Literary Union" any opportunity of distributing its lucubrations through their columns; so the more active spirits of the enterprise have been reduced to availing themselves of the minor provincial press and the few leading Radical journals who appear to look upon vaccination in the same light as they regard establishments of all kinds. Like the Yankee politician who was always consistently "agin the Government," these journals only require to sniff in any undertaking the tainted odour of established opinion to "go for it" as a matter of course. There is an old adage that "when bad men conspire good men must combine." It is for the supporters of vaccination to consider whether the existence of an organised claque such as has been so long employed in spreading the mischievous teachings of the antivaccinators does not call for a similar effective organisation to meet it. Hitherto we believe the Jenner Society has been doing its best by answering these letters to neutralise their effect, but the strain of doing so upon the resources of the Society must be very great, and it may be necessary to consider whether such work should not form a part of the duty of an Intelligence Department either of the British Medical Association or of the Local Government Board.

CIVIL PRACTITIONERS FOR ARMY WORK.

We understand that principal medical officers of districts and commands have recently been called upon to report their experience of the employment of civil practitioners for military duties. It will be remembered that in April last (as was announced in these columns) authority had been obtained, owing to the paucity of army medical officers, for the employment of civil practitioners, and we presume the reports now called for are to express opinions whether these practitioners are, or can be considered, efficient substitutes for army surgeons in all the details of army medical work—for example, administration of hospitals, disciplinary ability, preparation of statistics, inspections, a knowledge of military hygiene, and so forth. The object of the inquiries made is not very clear, for it must be obvious, even to the War Office, that if the army surgeon is required to undergo special training for the complex duties connected with military hospitals and the charge of regiments, etc., it must, or rather would, be a foregone conclusion that no civil practitioner, be he ever so well qualified, but without special army training or experience, could be an efficient substitute for the army medical officer. We cannot expect the civil practitioner, if employed, to make his army work of primary consideration to thoroughness and punctuality. Is this demand for expressions of opinion on the experience gained by the employment of civilian practitioners a veiled threat that is in contemplation to replace Army Medical Staff deficiencies by the employment permanently of civilian medical aid? If it be, it certainly frightens no one. The War Office seems to be getting deeper and deeper into difficulties on army medical questions, and we are able to give two examples connected with the results of army medical depletion and the employment of civilians. In the first case we are informed that quite recently one medical officer only was appointed to take charge of two British regiments, two native regiments, and half of a field hospital proceeding to the Indian frontier. This work some five or more medical officers should have been appointed to do. In the second case it is stated that a civilian medical practitioner, called on to treat some twenty-five footsore soldiers marching from Dublin to the Curragh (no military surgeon being available), has submitted a bill to the War Office for £25. No doubt this claim will be fully contested by the War Office; but if the civilian practitioner was under no previous contract, his charge can scarcely be deemed unfair, as he apparently rendered aid on an emergency.

COMPARATIVE DEMOGRAPHY.

The death-rates of so large a number of our towns have for many years been corrected at the office of the Registrar-General, or by the medical officers of health, but the necessity of taking into consideration the age and sex constitution of the population is very often neglected, and very erroneous notions formed as to the relative healthiness of English and continental (especially French) towns. In this connection a report by Dr. Nahts, of the Statistical Office at Berlin, published in the *Arb. a. d. K. Ges. Amt.*, Bd. xiv, H. 3, on the mortality from certain causes in the chief cities and States of Europe, is particularly instructive. To emphasise the necessity for correction on account of age constitution, he begins by pointing out that while children under ten years form over 25 per cent. of the population of Berlin and London, the proportion in Vienna is 21 per cent., and in Paris only 12.4 per cent.; in other words, in the English and German capitals 1 individual in every 4, but in the French 1 in every 8, is a child—a difference which falsifies all comparisons based on the crude or recorded death rates. The close correspondence, amounting almost to identity, between the conditions of the populations of the two Protestant capitals in all points save one is remarkable. Both have good public water supplies, and well constructed sewers, and w.c.'s on like systems, in each respect the difference being in favour of Berlin, where, however, the working class are worse housed—not, indeed, in slums, of which there are very few, but in six-storeyed "barrack" dwellings, as they are called, the showily-stuccoed fronts of which flanking wide thoroughfares have an imposing appearance, contrasting with the overcrowding within, brought about by the heavy rentals, which leads to subletting, until on the upper floors each room is tenanted by a separate family, and lodgers are even taken in by the night. Dr. Naht's comparisons are all corrected, or calculated on, the number of persons living within the several age periods, and some of the conclusions therefrom cast a strange light on the social and moral state of the people. Thus for every 1,000 legitimate births there are 179 illegitimate in France, but only 77 in Prussia; and for 1,000 children born alive the stillbirths are 71 in Paris and 31 in Berlin; the proportion in Vienna is the same as in Berlin, but for London there is no registration of those born dead. As to the probability at birth of reaching the age of 20, and having done so of reaching that of 60 years, the advantage is decidedly in favour of Berlin and London, the mean annual mortality per 10,000 living in these two age periods being for the former in Berlin 107, London 110, Paris 139, and Vienna 160; and for the latter period Berlin 104, London 128, Vienna 136, and Paris 142. The deaths from scarlatina—mostly, of course, occurring among children—are per 10,000, at all ages, 28 in Berlin and London, 34 in Paris, and 44 in Vienna; and from tuberculosis and pulmonary diseases, in Berlin 45, London 54, Vienna 69, and Paris 70. The number of mothers dying in childbed are, to every 10,000 births, 40 in Berlin and 53 in Paris. London shows 43, but this is probable a little above the true rate, since those cases in which the child was not born alive would not figure in the register of births. In one point alone does

Berlin appear to a disadvantage, and that is in the infant mortality or deaths of children under 1 year of age to 1,000 born alive, which is in London 151 against 246 in Berlin. But the low infant death-rate of 138 per 1,000 claimed for Paris is evidently fallacious, being lower than that of France as a whole, and, in fact, of any country except Norway. The explanation must be sought in the practice of sending infants to the provinces, where their deaths are registered, though their births were in the capital.

ABOMINATIONS AT ALDERSHOT.

It would appear that Maidstone is not alone in possessing waterless watercloseets. We do not know that Aldershot, like Maidstone, has 4,000 of these anomalies. But at a recent meeting of the district council the chairman explained that it is their practice in such cases only to order water to be laid on where the want of it has given rise to a nuisance. The Principal Medical Officer, Surgeon-Major-General O'Dwyer, inquired if that meant till illness occurred. The editor of the *Aldershot News* points out that under Section xxxvi of the Public Health Act, 1875, proceedings could be taken on the ground that the watercloset was "insufficient." But if the council are really anxious to get rid of abominations of this kind they can adopt the Public Health Amendment Act of 1890, Section xxiii of which gives them power to make by-laws on this very matter. Objectionable as was the old privy midden, it was sweetness and light compared with the waterless watercloset. Even the automatic flushing from the sink waste by one of the many waste watercloseets is preferable to those hand-flushed atrocities.

THE JACKSONIAN LECTURE.

The Neurological Society of London some time ago founded a Jacksonian Lectureship in honour of Dr. Hughlings Jackson. The first lecture will be delivered by Dr. Jackson himself at the rooms of the Medical Society of London, 11, Chandos Street, W., on Wednesday, December 8th, at 8.45 P.M.

MEDICAL REFORM.

We have received a copy of a petition to the General Medical Council, promoted by the Corporate and Medical Reform Committee, of which Mr. George Jackson, F.R.C.S., of Plymouth, is President, and Mr. R. B. Anderson, F.R.C.S., and Dr. Tom R. Taylor Honorary Secretaries. The petition is drawn up for the signature of registered practitioners in Great Britain and Ireland, and the Committee have requested Mr. George Brown, as the senior direct representative, to move certain resolutions upon it during the approaching session of the General Medical Council. The Council will be invited by these resolutions to enter the petition upon its minutes, and to appoint a committee consisting of the direct representatives and five other members of the Council to consider the petition, and so report during the session as to whether the Council should give an assurance that it will support an amending Medical Act. It is asked also that further resolutions dealing with the appointment of representatives by corporate bodies, and pledging the General Medical Council to represent to Her Majesty in Council the desirability of adding a direct representative for each division of the United Kingdom should be moved. The Committee also express a desire to be received by way of deputation to the Council in support of the petition. The address of the Corporate and Medical Reform Committee is 30, Montague Place, W.C.

TYPHOID FEVER AND SEWAGE-FED OYSTERS.

From time to time the dangers arising from the pollution of the foreshore at the mouth of the Colne by the sewage of Brightlingsea have been referred to in these columns. Oysters, chiefly brought from Portugal, are laid down here for fattening purposes and sold at a cheap rate chiefly to the excursionists who frequent this and the other watering places. The medical officer of health has recently reported to the Clacton Urban District Council that over 20 cases of typhoid fever have been traced to the eating of oysters purchased in Clacton. These oysters Dr. Cook found had been obtained from dealers in Brightlingsea, and were foreign bivalves which had been fattened on the sewage-polluted beach. The outbreak was duly reported to the Local Government Board and the Essex County Council. The county medical officer examined certain of the oysters from the implicated stall, but failed to find the typhoid bacillus, though upon the shells organisms characteristic of sewage were discovered. The outbreak is of such a serious character that the Local Government Board have sent down Dr. Buchanan to investigate it fully, and his report will be awaited with interest. It is only fair to Brightlingsea to say that the recently-formed Urban District Council has had plans prepared for a comprehensive system of sewerage, and applied to the Local Government Board for permission to borrow the sum of £6,000 necessary to carry out the works. The scheme has not met with the approval of the Board, as the storm outfalls would still be a source of danger to the oysters on the beach. The District Council, however, should lose no time in amending their plans, as the proper sewerage of the town is evidently a matter of most urgent necessity, not only in the interests of the town but of the county generally.

SCHOOL OR FACTORY?

In consequence of the resolution passed at the Trade Union Conference at Birmingham recommending that the minimum working age period be raised to 15, a ballot was taken of the members of the Northern Counties Amalgamated Associations of Weavers. The result of this ballot was an almost unanimous verdict against any such alteration. This association has a membership of close upon 100,000, and undoubtedly represents fairly correctly the opinion of the vast majority of the cotton weavers. The resolution passed at the Trade Union Conference was opposed by the representatives of the weavers, and they complained that those supporting it belonged principally to trades in which child labour is not required. In order to justify their conduct, and find out whether or not they were supported by the mass of the members, the ballot was taken. It was simply a vote on the raising of the age limit to 15, and no opinion was asked for as to the desirability of raising the age limit to a less extent or of abolishing half-time. This fact lessens very much the significance of the ballot. The argument put forward by the operatives against raising the age is that early training is necessary for obtaining that delicacy and skill which is essential for weaving cotton, and that those who commence at the age of 15 or 16 rarely reach a high standard of excellence. The other argument not always so prominently put forward, but perhaps more potent, is that the wages of the child are necessary to help to keep the family in comfort. There is something to be said for both these contentions, for, notwithstanding the oft-repeated assertion that the families of cotton operatives are well-to-do, it is a fact that the wages of the adult male weaver compare unfavourably with those of other skilled workmen. The earnings of the man have to be supplemented by those of the wife, and, later on, by those of the children, in order fairly to support the family. In considering this question from a medical standpoint the healthiness of schools and factories should be carefully compared. If the sanitary condition of the elementary schools were at all perfect there could be no doubt of the injury to the health of a child by its being transferred to a factory at an early age. But the evil effects of the foul atmosphere of schools caused by excessive overcrowding, and in many cases almost absence of ventilation must be very great, though these pernicious influences are no doubt lessened by the short hours and the intervals of play. The sanitary condition of the factories,

too, leaves much to be desired, but at least one section of them is receiving greater attention than any workshops have received before, for a new regulation which will be enforced within a few months is "that the carbonic acid in the air of a weaving shed shall not exceed 0.9 per 1,000." From this point of view, therefore, the advantages of a higher school age are not very conclusive. The available statistics do not point strongly in either direction. There can, however, be no doubt that children aged 11 years should not be required to work for the long hours at present in force. This objection is met to some extent by a proposal made by a considerable section of the Amalgamated Associations of Weavers to the effect that the working hours of children be reduced by two hours a day. This unfortunately was not adopted. The number of "half-timers" employed in the textile factories fell from 7.9 per cent. of the whole in 1890 to 5.2 per cent. in 1895, so that the question in this particular branch is gradually solving itself. There is much to be said in favour of raising the age period of "half-timers" to 12, and it is just possible that if this had been placed before the members of the weavers' associations a different result might have been arrived at. But along with any alteration of the age limit that may be made, it is to be hoped that the health conditions of schools will receive greater attention, and that it will be recognised that the training of the body, including the various senses, is equally important with that of the mind, otherwise the benefit of such attention will be minimised.

THE COURSE OF PLAGUE.

Around Poona as a centre plague continues its ravages, and the latest reports give no indication of an abatement. The average deaths in "greater" Poona are about 40 a day, and the number in hospital on November 17th, 1897, was 630. Sholopore, a town on the main line of railway between Bombay and Madras, and some 500 miles from Bombay, is badly stricken by plague. Hubli, a town on the main line of railway to the south of Bombay and inland from the Portuguese settlement of Goa, is also suffering severely. Away to the north the town of Hardwár, some 1,800 miles from Bombay, and close to the Himalayan mountains, shows signs of an outbreak of plague. This is an alarming development, as Hardwár is famous as a place of pilgrimage. Not far from this sacred city lies the district of Jalandhar, in which, at the village of Khatkar Kalan, bubonic plague is said to prevail. The village is on the direct line of railway from Hardwár, and therefore in constant communication with it. It may be that plague reached these places from the south: at the same time, one cannot but be impressed with the enormous distance between Bombay and the towns under consideration. Moreover, it is not necessary that plague should travel the distance indicated—well-nigh 2,000 miles. There is a focus of infection much nearer than Bombay, for they are both close to Kumaon and Gurhwal; in fact Hardwár is placed between the two districts. In both Kumaon and Gurhwal plague has been endemic for many years, and it seems possible that this sudden and isolated appearance of plague in the extreme north is of local origin. This, however, does not improve matters, for it may show but a double encroachment of plague. In Bombay itself some 10 cases occur daily, and the utmost vigilance fails to stay the disease entirely. The Government propose the outlay of a large sum of money to "better" Bombay. It is estimated that seven-eighths of the population of Bombay live in insanitary houses, and seeing that the city has well nigh 1,000,000 inhabitants, it is evident that the undertaking is a gigantic one, and it is not surprising to hear that the estimated cost is £5,000,000. Bombay has in recent years grown so rapidly in commercial importance that it has come to be looked upon as the gateway to India, outstripping Calcutta in size and prosperity. It is, therefore, of primary importance to India, and to the rest of the world, that this great exit and entrance be well guarded sanitarily. The enormous *hinterland* of India lies open to be affected by any epidemic which may prevail there, and the ports of the Mediterranean are in daily communication with it. The millions of money which it is contemplated to spend in reclaiming marsh lands, draining ill-favoured localities, and practically rebuilding half this huge city, will be a great boon to the health of the world, and if Bombay has to find the money, the direct reward in future years will be hers. We understand that the Government of Bombay has secured the services of twenty additional British medical men for temporary service in connection with the plague, and that the majority left London on November 18th.

THE MUZZLING ORDER.

Mr. Long has had, perhaps, to suffer more annoyance than ordinarily falls to a Minister's lot from the wrong-minded faddists who are insensible to the sufferings of their fellow-creatures, of whom so many fall victims to hydrophobia. The muzzling order came into force in London on April 10th, and from that date till the beginning of this month there have been eight cases of rabies reported in London alone. There is reason to hope that a continuance of this order throughout England would speedily stop this terrible malady; but even now dogs may be seen unmuzzled at such justly-favoured health resorts as Brighton, while in most other parts of the country the public are wisely safeguarded against the dangers of hydrophobia.

THE IMMEDIATE REDUCTION OF THE DEFORMITY OF SPINAL CARIES

The subject which Mr. Tubby and Mr. Robert Jones brought before the notice of the Clinical Society last week is one possessing uncommon interest, the interest which must always attach to any attempt to remedy that which has been given up as irreparable. Hitherto the resources of surgery for the treatment of a convalescing case of caries of the spine have been limited; the establishment and consolidation of a deformity to a greater or less extent, with its less obvious but more dangerous thoracic complications, has been regarded as inevitable. The method devised by M. Calot will, it is hoped, allow the surgeon to interfere promptly and successfully in a large proportion of cases. The idea if bold is simple. The aim is the reduction of the deformity by direct manipulation. A kyphosis may have persisted for some years and still not be inoperable by this means, whereas in other cases the deformity may be irremediable almost from the first. The criterion of operability is here ossification; should this have taken place manipulation will be certainly ineffectual and probably disastrous. The applicability of the method can usually be determined with ease as soon as the patient is anæsthetised, and to this end skiagraphy will no doubt prove a valuable auxiliary. The cases in which reduction is possible fall into two classes, according to the nature and degree of manipulation required. In the simpler the vertebræ fall into place as soon as the column is extended; in the others, more or less direct manual pressure upon the projecting spines is also necessary. The replacement of the deformity must be maintained, and to do this effectually support may be required for another two or three years. It should here be mentioned that M. Calot—more sanguine than his English colleagues—believes that immediate reduction may be performed in certain cases of ankylosis, a procedure which seems to call for the exercise of an amount of force which involves an element of danger. Certain contraindications are obvious and generally agreed upon; they include large unopened abscesses, advanced tuberculosis elsewhere, and marked deformity of the chest. Interference with the cervical spine is, of course, too risky, while reduction of deformities in the upper dorsal region is usually rendered ineffectual by the leverage of the head. On the other hand, it is claimed that the method affords a fair probability of permanent cure without serious risk in young subjects in whom the deforming process has not passed into

the bony stage. This the statistics brought forward certainly tend to show. Paraplegia has been relieved in some cases, but this and other points raised await the test of further experience. Another problem which the future must decide is of an anatomical nature. Kyphosis is primarily produced by the collapsing together of carious vertebral bodies; when it is reduced the remains of these bodies must gape apart, and it may be reasonably inquired how the gap so formed is to be permanently closed. It is suggested that this occurs by ossification in the region of the anterior common ligament during the after-treatment. It would not be profitable to follow the subject in further detail here; the method, no doubt, will be—has, in fact, already been—subjected to severe criticism, and it will be interesting to observe the trend of the adjourned discussion at the Clinical Society.

THE LABORATORY OF THE SCOTTISH ASYLUMS.

This laboratory has now been fully equipped for work, and it was formally introduced to the notice of the medical profession by an afternoon tea on November 11th. It consists of one large well-lighted room, and an adjoining small one, which have been rented from the Royal College of Physicians of Edinburgh. It is situated at 12, Bristo Place, and is, indeed, part of the buildings bought by the College for its own laboratory. It is fully equipped with all the necessary instruments and apparatus for histological research in neurology. It is under the control and management of the Scottish Asylums' Pathological Committee, a committee elected by the General Board, and consisting of the Superintendents of all the associated Scottish Asylums (of which already fourteen have joined the scheme), and such representatives as shall be sent from the Asylum Boards. It is to be managed by a Pathologist to the Scottish Asylums, who is appointed by the General Board. His duties are to be: (1) To carry on original researches upon the pathology of insanity; (2) to examine pathological material sent from the asylums, and to furnish reports; (3) to teach and give assistance to members of the medical staff of the Associated Asylums in regard to research work upon the pathology of insanity. Further, the pathologist will make one visit annually to the Associated Asylums at the expense of the laboratory funds, and he will, *mutatis mutandis*, make additional visits when requested. He is to draw up a report annually for the Special Committee. In carrying out this somewhat extensive programme the Pathologist (Dr. W. F. Robertson) is to have the aid of a fully qualified assistant (Dr. David Orr).

"SUPPRESSION."

We have received from Dr. Rix, of Burley-in-Wharfedale, an interesting correspondence which he has had with the proprietor of an influential provincial newspaper on the subject of the advertisements, disguised but audacious, which are constantly appearing even in respectable newspapers, addressed to "Ladies requiring assistance." The newspaper in question has at once suppressed the advertisement complained of, and no doubt other proprietors would do the same if their medical or other readers made complaint. Some of the worst sinners in this matter are so-called religious newspapers. It may be that many people are not aware how closely many of these advertisements are connected with the traffic in abortion. The one which is now before us is evidently directed to persons requiring that kind of "assistance," and it is very ingeniously contrived. One testimonial, for instance, says, "Your medicine has proved effectual again; last time the suppression was of five months, and this time of three months." The advertiser winds up with the encouraging appeal "Abandon not hope." All who are responsible for the conduct of the press ought to understand that these advertisements are often mere traps to draw unfortunate persons into the net. The medicine itself may be violent, but is more probably useless. But ift he person in trouble has got into correspondence with the quack arrangements for more effectual "assistance" are easily made. The example of Dr. Rix might well be followed, not only by the members of the Association, but by all decent citizens who are interested in the suppression of an abominable traffic.

OUT-PATIENT DEPARTMENTS.

As it appears that some misapprehension exists with regard to the plan which has been for some time in operation at St. George's Hospital for the control of the out-patient department, it may be as well to state authoritatively what the present arrangements are. The resident medical officer interviews all those who apply for out-patient treatment, and selects from among them 15 medical and 15 surgical cases to be seen by the assistant physician and surgeon respectively, and not more than 15 cases for any special department which may be open on that particular day. Those applicants who are not thus selected are sent away without treatment of any kind, unless in the judgment of the resident medical officer postponement of treatment would involve serious danger. In this alternative the resident medical officer is authorised to prescribe treatment until the next following day. An out-patient once admitted is on his second and subsequent attendances seen by the assistant house-physicians and house-surgeons respectively, unless the assistant physician or assistant surgeon has given special instructions that he wishes to see the patient personally. With regard to casualty cases, only those are treated in which serious risk would be caused by refusal, and the regulations lay down distinctly that the surgeries are intended for the reception and examination of persons applying for admission into the hospital, and for the treatment of accidents or seizures requiring immediate attention, not for the relief of chronic maladies or as a supplement to the out-patient department. All other applicants, medical or surgical, whose cases do not require admission, but who desire to be treated as out-patients, are referred to the out-patient department, but the officers on duty in the surgeries are authorised to prescribe for any such patient sufficient medicine to last him until the next out-patient day should his condition be such that postponement of treatment till the next out-patient day would involve serious risk. A weekly report of the number of all such prescriptions is made to the Board.

TYPHOID FEVER AND THE FŒTUS.

The transmission of typhoid fever from a pregnant patient to her child is a phenomenon which has recently been studied. The placenta can allow the transmission of minute bodies as well as fluids from the maternal to the fœtal circulation. The typhoid bacillus, it is known, can pass to the fœtus in this manner. Speier has published a thesis at Breslau on a case which he closely observed in one of the hospitals in that city. A pregnant woman suffered from an attack of typhoid fever of average severity during the fourth month of pregnancy, and aborted during the fourth week of the fever. The fœtus and placenta came away spontaneously. The viscera showed no naked-eye lesions, but the placenta was marked with very perceptible hæmorrhagic foci. No bacilli were found in the blood in the heart, nor in the spleen pulp. But in a little fluid which lay in the peritoneum and also in the juice of the liver the Eberth-Gaffky bacillus was readily detected. It was found sparingly in the fœtal part of the placenta and in sections of the liver and kidney, but was entirely absent from sections of spleen and from the intervillous spaces of the chorion. It is interesting to find that though the placenta was studded with hæmorrhagic points they did not correspond with the groups of bacilli in that structure. Birch-Hirschfeld has already noted the absence of very marked lesions directly due to the bacillus anthracis in the placenta of goats and guinea-pigs the subjects of anthrax.

THE OUTBREAKS OF TYPHOID FEVER.

MAIDSTONE AND LYNN.

During the last week, the epidemics of typhoid fever at both Maidstone and Lynn have continued to diminish as regards number of daily notifications. The following are the figures:—

Date.	Cases.					
	Maidstone.			Lynn.		
	Cases.	Daily Notifications.	Deaths.	Cases.	Daily Notifications.	Deaths.
Nov. 7	1,809	3	120	363	8	22
,, 8	1,811	2	—	371	8	—
,, 9	1,820	9	—	375	4	—
,, 10	1,824	4	—	380	5	—
,, 11	1,828	4	—	384	4	—
,, 12	1.831	3	—	390	6	—
,, 13	1,832	1	—	396	6	34
,, 14	1,833	1	125	401	5	—
,, 15	1,838	5	—	406	4	—
,, 16	1,842	4	—	—	—	—
,, 17	1,848	6	—	—	—	—
,, 18	—	—	—	—	—	—
,, 19	—	—	—	—	—	—

HOP-PICKERS AND WATER SUPPLIES.

At a sessional meeting of the Sanitary Institute held at the Parkes Museum on Wednesday, November 17th, at 8 P.M., a discussion took place on the Pollution of Water Supplies by Encampments of Hop-pickers, Casual Workers, Tramps, etc. The chair was taken by Sir Douglas Galton, K.C.B., D.C.L., LL.D., F.R.S., Vice-President and Chairman of Council.

Professor Corfield gave a summary of the facts at present available connecting cholera and typhoid fever with polluted water. Amongst the instances mentioned as being the most conclusive were the well-known cases of typhoid at Millbank, Caterham, Croydon, and the curious instance at Lausen in Switzerland, in which the typhoid was conveyed underground.

Miss Chreiman read an interesting and suggestive paper on the Sanitary Control of Hop-pickers. She vividly described the sordid condition under which many of the hop-pickers lived, referring more especially to the low class of the pickers and to their vicious habits. As reforms she advocated, in the first place, separation of the sleeping places of men and women. Almost pathetic was her description of the account given her by one of the pickers—a widow with six children—of the fearful conditions under which the nights are passed in the sheds and barns.

Dr. Fosbrook said that in Worcestershire most of the pickers came from the black country, and were of the lowest class. As a result of the depredations caused by these people, the farmers had instituted a system of engagement of hands which had led to great improvement in the class. The pickers were housed in barns, lofts, etc, which in the winter were inhabited by cattle, though a few of the leading farmers had provided better accommodation. The prevalence of zymotic disease amongst the pickers was very high. Regulations had been put into force under several district councils whereby it was provided that the hoppers' houses should be waterproof, sanitary, and provided with fireplaces. In Worcestershire the condition of the pea-pickers was much worse than that of the hoppers, the harvest being at the best a casual one. With regard to the pollution of water supplies Mr. Fosbrook considered that it was of frequent occurrence.

Dr. Tew (M.O.H. for West Kent) took a view with regard to the condition of the Kentish hop-pickers which was much more favourable than that of Miss Chreiman. By-laws were in force in many parts of Kent with a view to the betterment of the condition of the pickers. There were also in existence several societies for their help. The most difficult class to deal with were the tramps that followed in the wake of the pickers.

Mr. Percy Adams (Deputy M.O.H. Maidstone) referred to the diarrhœa which was observed to precede large typhoid epidemics. In the case of Maidstone, he was much struck with this fact, and in the case of certain cottages—the first supplied by the contaminated Farleigh water—typhoid notifications were preceded by many cases of diarrhœa. Was it not possible that typhoid fever in these cases might be the last and most virulent change in the evolution of the bacillus or specific contagium of diarrhœa?

Dr. Thresh thought there should be a protected area round any spring or well to be used for drinking purposes. The extent of such an area would vary in particular instances.

Dr. Porter (M.O.H. Stockport) protested against the difficulty of obtaining proper facilities for controlling, so far as analysis was capable of controlling, the operations of the waterworks companies.

Major Lamerock Flower also spoke.

LIGONIEL, BELFAST.

In his report presented to the Belfast Board of Guardians at their meeting on November 9th, Dr. E. C. Bigger, Medical Superintendent of Health, says: "Since my report last week there have been no deaths from typhoid fever at Ligoniel, but 13 new cases have occurred during the week. This shows a distinct falling off in the number of new cases compared with the two previous weeks. This may partly be attributed to the active measures adopted by your Board at the very beginning of the outbreak. The early warning and advice that were given to the inhabitants have been of service in assisting to check the spread of the disease. The Water Commissioners and their officers have been most anxious to do what they considered best in the interests of the inhabitants. At the very outset of the epidemic they temporarily diverted the stream which may have been the source of contamination while their workmen were laying pipes to divert it permanently. This has now been done, and last week they ran off all the water in the pipes, fountains, and reservoir, which they cleaned out. How far the measures thus taken by the Water Commissioners may be effectual in eliminating the contamination I do not pretend to say, but this will no doubt be dealt with by Professor Frankland, who last Saturday took samples of the water after the refilling of the reservoir. However, I would still urge upon the inhabitants the absolute necessity of boiling all water for domestic use. I might say that the water supplied to the other parts of Ligoniel and Ballysillan, although not specifically contaminated, is liable to contamination, and my advice as to boiling should apply to the whole district."

Dr. Lorrain Smith's report on the water submitted to him for bacteriological examination is as follows: "Since I sent in a preliminary report a week ago on the sample of Ligoniel water sent to me for bacteriological analysis I have continued my observations, and I have found that the bacillus isolated conforms in most respects with the typhoid bacillus. I have grown it on various nutritive media, such as beef broth, gelatine, potatoes, etc. I have also found its similarity to the typhoid bacillus established in regard to its power of fermentation of sugars. I have further tested the effect on it of the serum of typhoid patients, and find that it gives a very rapid reaction. I have therefore obtained no evidence which does not bear out the former report, and I feel satisfied that my first observations were correct."

The last report is to the effect that 8 new cases have been notified in Ligoniel, and that 3 deaths have occurred.

It should be explained that Ligoniel is not within the present municipal limits of Belfast, but it will form part of the Greater Belfast which, under the recent Act, comes into existence on January 1st, 1898. At present Ligoniel is not supplied with water from the reservoirs which supply Belfast, but from springs in the neighbourhood of the village. The nearest reservoir in connection with the Belfast water system is at Oldpark, which is at a considerable distance from Ligoniel, and at a lower level by 400 or 500 feet.

Hence it is evident that the connection of Ligoniel with the Belfast water system presents some difficulty, and cannot be accomplished immediately. The Water Commissioners reckon that from nine to twelve months would be required

for providing steam engines, a reservoir, and mains for the purpose of raising filtered water from Old Park to Upper Ligoniel and Ballysillan. They decline to cut off the present supply, as they apprehend that such a step would create greater evils than it would prevent, but they profess themselves determined to push on the new works as fast as possible. There seem strong grounds for attributing the present epidemic to contaminated water, and we trust no effort or expense will be spared in promptly applying a remedy to this state of things. It is only fair to say that the authorities in Belfast seem thoroughly alive to their duty in this matter. In the other parts of Belfast the amount of typhoid fever is slowly on the decline. The death-rate of the city for the week ending November 6th was 23 per 1,000, the zymotic rate being 3.1 per 1,000. The City Coroner (Mr. E. S. Finnegan) has drawn the attention of the Local Government Board to the insanitary state of Henrietta Court, and that Board has requested explanations from the Corporation. The matter is receiving attention.

DUBLIN.

Outbreak Attributed to Milk.

There has been an outbreak of typhoid fever in a police barrack in Dublin, by which seven out of twenty-four constables have been stricken. Fortunately there has been no death. An investigation has so far traced the introduction of the disease to an institution which supplied milk to the barrack, and in which there had been about thirty cases of the disease. This establishment, however, being outside the boundary, there was no notification. In the same district, which lies near the city limits, there have been about 90 cases of typhoid, and of these it has been ascertained that 30 obtained their milk supply from a dairy in which were 2 cases of the disease. Sir Charles Cameron is energetically tracing out the sources from which the outbreak has come.

BRISTOL AND CLIFTON.

The fresh notifications during the week ending November 13th fell to 19, a very considerable drop from the previous week, when they were 67. Examination of the forms shows that the onset of the disease was in all cases but 4 in previous weeks. In Clifton there have been 15 deaths in all from this epidemic of enteric fever, 10 of these being certified during the week ending November 13th. It is perhaps not quite correct to say that these deaths occurred in Clifton, as some took place in the various hospitals, but they were among patients who either lived in houses in Clifton before their removal to the institutions, or who took the disease from the contaminated milk supply; these were mostly domestic servants.

WEST OF ENGLAND.

For the last fortnight several small towns and villages in the West of England have been the seat of small epidemics of typhoid fever. In Cornwall the disease, it is reported, has broken out at Wadebridge and at St. Tudy. Wadebridge is situated on the estuary of the river Camel, on the north-coast of the county, while St. Tudy is situate on the edge of Bodmin Moor, near the sources of the small river Allen, which joins the Camel some two miles above Wadebridge. It would be interesting to know if there is any connection between the two outbreaks. The town of Phillack is also reported to be in an insanitary condition, as is also the port of Exmouth.

THE SAFE DISPOSAL OF TYPHOID EXCRETA.

We have received the following letters on this subject, having reference to the article which appeared in the British Medical Journal of November 13th, p. 1440:

Sir,—I have read with much interest the correspondence on the above subject contributed to the British Medical Journal of November 13th, and am of opinion that the following system—which has been practised in this city and port previous to and since the adoption of the Notification of Diseases Act of 1889, and adopted in this city on February 1st, 1890—bears upon the subject of discussion, and may be of interest to your readers:

Immediately on the notification of a case of typhoid fever not provided with watercloset accommodation, the contents of the privy, should the excreta of the patient have been deposited therein, is removed to the destructor for cremation, and the soilpit cleansed, thoroughly disinfected, and the closet limewashed.

Should the person infected not be removed to hospital, a pail containing carbolised sawdust is supplied daily for the reception of the patient's discharges, and the contents thereof removed for cremation, the same being continued until such time as the medical attendant considers necessary. I would especially note that the pail supplied is separate and distinct from that used by the other inhabitants of the house, and is solely for the use of the patient's dejecta. A special cart is provided for the distribution and collection of these pails. A sanitary column, equipped with a hand cart containing flushing apparatus, disinfecting and drain-testing appliances, carry out the necessary disinfection of the houses, and the flushing of the subsidiary drains within the sanitary district in which the infectious disease occurs.

The following is the annual cost incurred during the last seven years in the collection and disposal of typhoid dejecta:

Year.	£	s.	d.	Year.	£	s.	d.
1890-1	147	4	6	1894-5	93	15	8
1891-2	200	0	0	1895 6	138	3	3
1892-3	171	5	6	1896-7	231	0	6
1893-4	440	18	3				

Since the introduction of this method for the disposal of typhoid dejecta, no case of typhoid fever has occurred amongst the officials engaged in this particular work. During the year 1893, when the cholera epidemic was prevalent in this city, and diarrhœa was temporarily a notifiable disease, tumbler carts in addition to the pails were employed in collecting and removing the contents of all privies, where diarrhœa had been notified, and the same delivered to the destructor for cremation. I believe that this system has been singularly successful in the prevention of the spread of typhoid fever in this city. It must not be forgotten that a great quantity of excreta is despatched to our rural districts for manurial purposes, and is probably a source for cases which arise from doubtful and unexplained causes.—I am, etc.,

J. Wright Mason,
Medical Officer of Health, City and Port of Hull.

Sir,—*Apropos* of the article in the British Medical Journal of November 13th, p. 1,440, I may say that we have cremated typhoid excreta in this city for the past three years, using sawdust to catch and soak up the discharge, and paraffin to rinse the vessel, such rinsings being added to sawdusty compound, and all burnt (either behind the fire or in an old iron dish or other vessel), more paraffin being added if necessary to secure complete cremation.—I am etc.,

H. Cooper Pattin,
November 16th. M.O.H. Norwich.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS OF COUNCIL FOR 1898.

Meetings of the Council will be held on January 19th, April 13th, July 6th, and October 19th, 1898. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting—namely, December 29th, 1897, March 24th, June 16th, and September 29th, 1898.

Francis Fowke, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

Bath and Bristol Branch.—The second ordinary meeting of the session will be held at Bath, on Wednesday evening, November 24th, at 7.30 P.M.. F. Richardson Cross. Esq., M.B., President. The following communications are expected: Dr. Carey Combs: Notes on some Curious Cases. Mr. James Pearse: Notes on Pneumonia. Mr. C. E. S. Flemming: A Case of Transient Hemiplegia. Dr. W. McD. Ellis: Notes of a Case of Inguinal Colotomy. Dr. Arthur S. Wohlmann: The Therapeutics of Emotion.—W. M. Beaumont, Bath; J. Michell Clarke, Clifton, Honorary Secretaries.

South-Eastern Branch: East Kent District.—The next meeting of this District will be held at the Kent and Canterbury Hospital, on November 25th, at 3 P.M., Mr. C. H. Schön, of Bridge, in the chair. The

Chairman kindly invites members to luncheon at the County Hotel, at 1.30 P.M. Members intending to avail themselves of Mr. Schön's hospitality are requested to send acceptances by Tuesday, November 23rd, or they will not be expected. All members of the South-Eastern Branch are entitled to attend these meetings, and to introduce professional friends. Agenda: Dr. J. H. Ewart: A Study of Reflexes. Dr. Gogarty will exhibit, with introductory clinical remarks, three cases from the hospital wards. Dr. T. Whitehead Reid: The Constant Current Water Bed in Continued Fever. Notice of Resolution: The Chairman will move "That no medical officer to any medical aid association should be henceforth eligible for election to the South-Eastern Branch."—THOS. F. RAVEN, Honorary District Secretary, Barfield House, Broadstairs.

SOUTH-EASTERN BRANCH: WEST KENT DISTRICT.—In consequence of the prevalence of enteric fever, it is considered advisable to postpone the meeting of this District, which otherwise would have taken place in Maidstone in November.—E. GROUND, M.D., 1, Ashford Road, Maidstone.

SOUTH-EASTERN BRANCH: EAST SUSSEX DISTRICT.—The next meeting will be held at the Queen's Hotel, Eastbourne, on Thursday, November 25th, at 3.30 P.M., Dr. J. Adams in the chair. Dinner at 5.30; charge, 6s., exclusive of wine. The following papers have been promised:—Dr. Bagshawe: A case of Ulcerative Endocarditis. Mr. C. Roberts: The Outdoor Treatment of Disease. Mr. W. Ch. Aylward: An Experience of Ninety-Five cases of Diphtheria in Private Practice. Members are invited to exhibit specimens and cases of interest.—J. W. BATTERHAM, M.B., Honorary District Secretary, Bank House, Grand Parade, St. Leonards.

METROPOLITAN COUNTIES BRANCH: SOUTH LONDON DISTRICT.—A meeting will be held at the Bethlem Royal Hospital (by kind permission of the Committee of Management), on Wednesday, December 8th, at 3.30 P.M. Cases of clinical interest from the wards of the hospital will be shown, and a demonstration will be given by Dr. Hyslop. All practitioners, whether members of the Association or not, will be heartily welcomed.—SEYMOUR G. TOLLER, District Secretary, 109, Harley Street, W.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—The autumn meeting will be held at Llanelly on Tuesday, November 23rd.—A. SHEEN, Cardiff, D. ARTHUR DAVIES, Swansea, Honorary Secretaries.

LANCASHIRE AND CHESHIRE BRANCH.—A meeting of this Branch will be held at Warrington on Thursday, December 9th. Members wishing to read papers, exhibit patients, or make any communication should write to the Secretary at once. Applications for membership should be addressed to Dr. BARR, Honorary Secretary, 72, Rodney Street, Liverpool.

STAFFORDSHIRE BRANCH.—The first general meeting of the session will be held at the North Staffordshire Hotel, Stoke-on-Trent, on November 25th. The President (Mr. G. A. Phillips) will take the chair at 3.30 P.M. Agenda:—Report of Subcommittee of Parliamentary Bills Committee on Army Medical Reform, brought forward by Mr. Spanton. Exhibition of Pathological Specimens, Living Cases, etc. Dr. Hind: Some Interesting Surgical Cases. Mr. J. Clare: Accidental Assurance and Professional Confidence. Mr. Adler: Cancer of the Penis. Mr. T. V. Jackson: Transverse Fracture of the Patella. Dinner at 6 o'clock; charge, 5s. The second general meeting will be held at Stafford on Thursday, February 24th, 1898.—F. MILNES BLUMER, Honorary General Secretary, Stafford.

METROPOLITAN COUNTIES BRANCH: NORTH LONDON DISTRICT.

THE first meeting of the session was held at the Hampstead Infirmary on November 3rd, Dr. MORTON, President of the District, in the chair.

New Members.—Drs. Irby Webster, Kingsford, and Bindley were proposed as members of the Branch.

Abdominal Operations.—Mr. C. BALLANCE, M.S., read an interesting paper on Some Cases of Abdominal Disease operated upon during September, which included the notes of 8 cases, in all of whom the peritoneal cavity was opened and various conditions treated with success: (1) A case of hydatid cyst of the liver, diagnosed before operation as probable sarcoma of the liver, in a child. The cyst was removed. (2) A case of tuberculous peritonitis, the origin of the disease being, presumably tubercle of the Fallopian tubes and ovaries, which were removed. Mr. Ballance, in answer to questions, advocated operation in cases of tuberculous peritonitis in presence of definite fluid. (3) A case of sarcoma of the left suprarenal capsule, diagnosed as a renal tumour before operation, owing to the definite course of the descending colon being detected in front of the tumour after air inflation. The mass removed included the healthy left kidney, which was embedded in it. An interesting feature of the case was the removal about thirty-six hours after the operation of a large flat sponge accidentally left at the time. Strong adhesions to the diaphragm had to be broken down, but no complication supervened. (4) Removal of a pancreatic cyst. (5) A case of carcinoma of pylorus, in which gastro-jejunostomy was performed. Mr. Ballance incidentally described the best methods of intestinal suturing, and personally disliked the use of "bobbins" and "buttons" in intestinal anastomosis. (6) Case of carcinoma of the cæcum, diagnosed from the presence of a very hard, scarcely tender tumour in the cæcal region. The channel through the growth, which involved the ileo-cæcal valve, was found to be extremely small, and yet there had been no symptoms of fæcal obstruction or even marked constipation. Reference was made to the infrequency of recurrence in these cases. (7) A case of ulcerative colitis in a much emaciated patient, which had resisted all kinds of medical treatment. From the symptoms, the disease was localised to the descending portion of the large intestine, and the transverse colon was exposed and divided, the divided ends being sutured to the abdominal wall as artificial ani. Flushing of the lower end of the bowel with boracic solution was performed. The patient rapidly improved and gained weight. Resuturing the divided bits of intestine at some future date was contemplated. (8) A case of ruptured spleen from injury in a boy, who at the same time had broken both forearms and injured his left kidney. There was much collapse, with signs of intraperitoneal hæmorrhage and hæmaturia. The diagnosis of ruptured spleen was largely based on the presence of fixed dulness in the left flank, Mr. Ballance laying stress on the rapid coagulability of splenic blood as an important aid to diagnosis (as compared with hepatic blood, for instance) in cases of obscure injury to abdominal viscera. The spleen was removed and the boy recovered. Subsequently a general enlargement of the lymphatic glands of the body was observed. Incidentally points of much physiological interest were touched upon in connection with the functions of the spleen, removal of the organ being far better borne by young human beings and dogs than by the old.—A hearty vote of thanks was accorded to Mr. Ballance.

Cases.—Dr. A. H. COOK showed cases of interest in the wards of the infirmary (a case of probable Malignant Growth in the Abdomen of an old woman, a cretin; cases of Acute Infective Dermatitis, etc.).—Votes of thanks were passed to Dr. Cook and to the infirmary authorities for their kind hospitality.

DUBLIN BRANCH.

Sir George Duffey.—At a meeting of the Council of the Dublin Branch, held on November 9th in the Royal College of Physicians, the following resolution was unanimously adopted:

That the Council of the Dublin Branch of the British Medical Association have learned with deep regret of the great sorrow which has come to Sir George Duffey by the unexpected death of his elder son in a distant land, and they beg to tender to Sir George an expression of their sincere sympathy with him, Lady Duffey, and the other members of his family.

SOUTH-EASTERN BRANCH: WEST SUSSEX DISTRICT.

A MEETING was held at the Worthing Infirmary, at 3.30, on November 10th, Mr. SIMPSON (Worthing) in the chair.

Communications.—Mr. ERNEST PAYNE gave a demonstration of the *x* rays, and exhibited and explained a number of skiagrams; he also took skiagrams of several cases, and showed the use of the fluorescent screen.—Cases of interest were shown by Mr. COLLET and Dr. HINDS.

BORDER COUNTIES BRANCH.

THE autumn meeting of this Branch was held in the County Hotel, Carlisle, on November 5th, Dr. MENZIES (Galashiels) President, in the chair. There were 30 members present.

Confirmation of Minutes.—The minutes of the last meeting were read and approved.

New Members.—The following were elected members of the Branch: W. T. Adam, M.B., C.M.Glasg. (Carlisle), C. Crerar, M.B., C.M.Edin. (Silloth), H. Fox, M.B.Lond. (Carlisle Dispensary), Stuart McDonald, M.B., C.M.Edin. (Cumberland Infirmary), and H. M. Morton, M.B., C.M.Edin. (Cumberland Infirmary).

Medical Aid Associations.—The resolution of the East Anglian Branch was read. A discussion took place, and it was resolved to suspend the standing orders to allow the matter to be settled at that meeting. Dr. THOMSON (Penrith) proposed, and Dr. FISHER (Whitehaven) seconded:

That the resolution of the East Anglian Branch with reference to medical aid associations be endorsed, and that a similar resolution be adopted by this Branch.

Fees to Medical Witnesses.—Dr. HIGHET (Workington) read a paper on the Vaccination Problem, and also one on the Present Scale of Fees paid to Medical Witnesses at Assizes. The following resolutions were passed:

1. That in the opinion of this meeting the scale of fees for medical witnesses at assizes is very inadequate, and that the Council of the Association be requested to take steps to obtain a revision of the same.

2. That in the opinion of this meeting special accommodation for medical and scientific witnesses attending the assizes and sessions at Carlisle should be provided, and that the attention of the county council be called to the absence of such special accommodation.

Communications.—Dr. MACDONALD (Carlisle) read a paper on the Hospital in its Relation to Scarlet Fever, which gave rise to an excellent discussion, the following taking part in it: Drs. MENZIES, BROWN, MAXWELL ROSS, OGILVIE-RAMSAY, MACLAREN, HIGHET, BARNES, THOMSON, FISHER, MACDONALD (Kirkoswald).—Dr. MACLAREN (Carlisle) exhibited a case showing the results of Plastic Operations for Burns, and read notes.—Dr. CRERAR (Maryport) read a note on the Value of Pure Carbolic Acid in procuring asepsis of infected wounds.—Dr. OGILVY-RAMSAY (Carlisle) read a paper on the Immediate Repair of the Perineum.

Army Medical Reform.—The consideration of this subject was deferred until next meeting.

Time did not permit of Mr. Evans's paper, The Rheumatic Diathesis, being read.

SPECIAL CORRESPONDENCE.

PARIS.

Lead Poisoning from Artificial Flowers.—The Havre Municipal School for Nurses.—Artificial Mother's Milk.—Nutritious Bread.—Cancer Regions.—Lady Dispensing Chemists.—Infants, and Railway Travelling.—Yellow Fever in the Soudan.—General News.

A CURIOUS case of lead poisoning has been treated at the Salpêtrière. The patient was a young woman who earned her living by making artificial flowers. In the process she rolls green paper over indiarubber tubes, the paper being moistened by her tongue, it adheres, and is rolled over the tubes more easily. The papers have been examined, and it has been ascertained that each contained from 0.147 to 0.888 g. of lead. The patient had been ten years in the trade.

A few days ago the Havre Municipal School for Female and Male Nurses was inaugurated. The instruction given at this school comprises lectures on theory, practical teaching, and six months' hospital practice. During the first year the theoretical lectures and the practical classes are attended. The pupils who pass satisfactorily the examination at the end of the year are admitted as students to hospitals, and on giving satisfaction are six months afterwards granted a nurse's diploma. There are eight courses of lectures: Anatomy, taught by Dr. Deroude; physiology, by Dr. Frottier; hygiene, by Dr. Lausiés; surgery, by Dr. Sorel; medicine, by Dr. Courbet; the care of lying-in women, by Dr. Powilewicz; dispensing, by M. Dominique; administration, by M. Gardye.

Dr. Broissard considers that "lait maternise" (artificial mother's milk) may be in many cases used instead of sterilised milk with great advantage to the infant. Used for a long time, and by itself no other nourishment being given, the results are good.

M. Richet has presented to the Academy of Medicine records of work by M. Ballaud on hygienic matters which are specially interesting during agricultural crises which send up the price of bread. M. Ballaud, who is a well-known authority on the question of food stuffs, declares that such crises can be greatly ameliorated, and that without weakening the nutritive qualities of the bread, if his methods are adopted. He proves that the Assistance Publique furnishes 100 kilogrammes of bread with 100 kilogrammes of corn, whereas the Paris bakers produce only 80 kilogrammes, which is less nutritious than the Assistance Publique bread, even when the tariff is higher than that of the Assistance Publique.

Dr. Léon Noël publishes in the *Revue des Maladies Cancereuses* an important work which leads him to arrive at the following interesting conclusions. Cancer regions exist close to regions enjoying an immunity. These latter are generally in dry localities, and some distance from streams. In these cancer regions one of two conditions prevail—either they are closely populated or if the houses be spread about at some distance from each other, a rivulet or stream connects them. Cancer in localities near woods is observed when the trees are much attacked by parasitic fungi.

M. Georges Delhau, at the International Pharmaceutical Congress, studied the question of lady dispensing chemists from a point of view which is interesting to the medical profession. M. Delhau foresees the probability of a lady dispensing chemist and a medical man becoming man and wife, and thus forming "*le couple pharmaceutique.*" A slight modification of the proposed law would rob this probability of all its terrors. At present any condition which enables a medical man to profit by the sale of drugs in the course of his practice is illegal, and marriage between lady dispensing chemists and doctors or the reverse is prohibited. It is suggested that the "*couple medico-pharmaceutique*" could be regarded as one individual holding two diplomas—but this solution is an incomplete one.

The Minister of the Interior has called the attention of the Minister of Public Works to the unsatisfactory manner in which children sent by the Assistance Publique to be reared by foster mothers are conveyed by the railway companies. M. Turrell has sent a circular to the directors of the railway companies pointing out that the third class railway carriages are in communication one with the other, and draughts and tobacco smoke reach the infants. The Minister of Public Works has ordered the railway company to inform him of the means they will adopt to remedy the existing defects.

Three soldiers contracted yellow fever at Rayes, in the Soudan, and died after a few hours' illness. The railroad at Maina had to be repaired. This necessitated the use of ground in which Chinese dead from yellow fever had been buried. Dr. Auvray, fearing an epidemic, wrote to the Minister of the Colonies not to land at Rayes as quarantine at St. Louis would be inevitable. The Minister decided to land at Rayes and accept quarantine at St. Louis. At Rayes the Minister visited the hospital, which consists principally of isolated pavilions. At St. Louis a disinfecting stove was in working order, and all clothes and bedding have been disinfected. Two fresh deaths have occurred at Rayes.

Dr. Charrin lectures at the Collége of France in place of Dr. d'Arsonval. His course of lectures is entitled "Les Dépenses de l'Organisme."

The Commission appointed by the Prefect of the Seine to study the different details connected with the Paris water supply, and that of the environs, met a few days ago. At present the supply is 120 litres for every inhabitant. This is insufficient, though in all other European capitals, except Rome, it is less. The climatic conditions of the other capitals differ from those of Paris. M. Bechmann asserted that the streets of London and of Berlin are not watered. It was unanimously decided that the supply of potable water for Paris must be increased. Three subcommittees have been appointed to decide on the means.

ST. PETERSBURG.

Vital Statistics of St. Petersburg.—Opening of the Pirogoff Museum.—Professor Virchow and the Moscow Students.—A New Medical Society in St. Petersburg.

THE *Statistical Annual of St. Petersburg*, published by the city authorities, has now reached the fourteenth year of its existence. The latest number, which was recently issued, deals with the figures for the year 1894, and as it includes an appendix of over 300 pages upon the veterinary statistics of St. Petersburg, the whole forms a weighty volume of nearly 700 pages. Much of this vast collection of information is of interest from a public health point of view. The birth-rate of the population of the Russian capital was 31.4 per 1,000 in

894. This was almost exactly equal to the average for the preceding nine years. The total number of living children born was 31,429, and the population of the city was reckoned at about a million. Of the total number of births, 26.9 per cent., or more than one-fourth were illegitimate. Turning to the mortality statistics, it is found that in the year under notice the total number of deaths in St. Petersburg was 27,215, the mortality per 1,000 being therefore 27.2. This figure was slightly higher than that of the preceding four years. On the whole, however, the death-rate of St. Petersburg has diminished greatly during the last thirty years, as the following figures will show: Dividing the thirty-year period from 1865 to 1894 into six groups of five years, the death-rates of the successive bistres were respectively 42.9, 32.7, 32.3, 34.6, 28.2, and 26 per 1,000. Obviously the sanitary improvements carried out in the Russian capital during the last quarter of a century have not been without effect, though with a death-rate still averaging 26 per 1,000 it is equally clear that much still remains to be done. The mortality among children is particularly high. The "infantile mortality," or deaths under 1 year per 1,000 children born in that year, was as high as 232 in 1894, while not far short of half the total number of deaths occurred in the age-group 0-5. These figures would be still higher did they include the deaths of those illegitimate children who are sent in large numbers every year to villages surrounding the capital, where they are brought up at the charge of the Foundling Hospital. The mortality from infectious diseases was at the rate of 11.1 per 1,000 living of all ages. This figure was higher than it had been during the eight previous years, when it had varied between 9.4 and 10.6. This increase was due to the prevalence of cholera in 1894. That disease was then in its third year of epidemic prevalence, and was the cause of 2,288 deaths in St. Petersburg alone. The cholera mortality was, therefore, at the rate of 2.28 per 1,000 living. The epidemic of that year began earlier than in the preceding years (in June), lasted a shorter time, but was more widely fatal, the deaths from this disease in 1892 having been only 1,371, and in 1893 only 1,321. Diphtheria also showed a considerable increase (from 4.3 to 7.8 per 1,000); and, in a less marked degree, so did influenza and hooping-cough, while the mortality from all the other infectious diseases was more or less below the average.

On Sunday, October 27th (November 8th) the new Pirogof Museum of Surgery and Anatomy was opened in St. Petersburg. Of the opening ceremony but little need be said. Royalty was represented by the Prince and Princess of Oldenburg, whose names have become permanently associated with all matters connected with medicine or public health, and a large number of public bodies—medical, municipal, and others—sent representatives to the gathering. The new museum is a handsome building, close to the great Army Medical Academy and Clinics. The building will serve not only as a museum, but also as the place of meeting of all the St. Petersburg medical societies. The sum of money collected for the construction of the new institution was 115,000 roubles (£12,000), about half of which had been bequeathed for the purpose by the late Mme. Musin-Pushkin. The actual cost of the present building was 85,000 roubles (nearly £9,000).

It is stated that Professor Virchow was so gratified with his reception in Moscow during the International Congress, and particularly with his treatment at the hands of the university students, that he has caused a letter of thanks to be sent to each of the students who took part in the arrangements of the Congress. The letters are printed on vellum, with an illuminated border, and each is signed by Professor Virchow and by the Secretary of the German National Committee.

The Minister of the Interior has confirmed the constitution of a new medical society, to be called the St. Petersburg Ophthalmological Society. Ex-Professor Dobrovolski has been elected President of the new society; Professor Belliakof is the Vice-president, and Drs. Gagarin and Sergief the Secretaries.

Mr. J. Hancocke Wathen, M.R.C.S., L.R.C.P.Edin., has been elected an alderman for the city of Bristol, and Mr. Alston Wintle, M.R.C.S., L.R.C.P., a councillor for the Horfield Division of Bristol.

ROME.

The Congress of Internal Medicine.—The Congress of the Italian Society of Obstetrics.—The Congress of the Ordini dei Medici and Foreign Practitioners in Italy.

October is the month of medical Congresses in Italy. The past month has been no exception to this rule, as no fewer than five were held during the last ten days of the month—four in Rome and one in Naples. The Eighth Congress of Internal Medicine was held in Naples from October 20th to 25th, under the presidency of Professor Baccelli. One of the chief subjects for discussion—Cardiac Neuroses—was introduced by Professor Silva, of Padua, with a very interesting paper, which gave rise to a discussion, in which Professors Calabrese, Teneschi, Silva, and many others took part. Professor Massalongo (Verona) introduced a discussion on Chronic Arthropathies. He classified the various forms into infective, dyscrasic, toxic, and nervous. Professor Fenoglio (Cagliari) followed with a paper, in which he limited himself to describing the symptoms and treatment of chronic arthropathies, gout, etc. An important discussion followed, in which Professors Zagari, Giuffie, Lucatello, Bianchetti, Baccelli, and others took part, and Professor Massalongo replied. Papers on Leukæmia (by Professor De Renzi, Naples), and on Pseudoleukæmia (by Professor Marchiafava, Rome), were discussed by Professors Panne, Pane, De Giovanni, and many others. Many other important papers were read, including one by Professor Pane (Naples) on The Latest Researches on Antipneumonic Serum, in which he stated that the subject still remained in the experimental stage, owing to the very great difficulty of obtaining sufficient quantities of the serum for treatment. He began his research in large animals in 1895. An extremely long process of immunisation was, however, necessary to obtain the first efficacious serum. Professor De Renzi, in discussing this paper, stated that he had adopted the serum treatment in thirty cases of the disease, which he had selected for their gravity. Of these only three died, two a few hours after their admission into the clinic, the third with grave renal lesions. He had seen two serious cases which certainly would have died were it not for the endovenous injections of Professor Pane's serum.

The Congress of the Italian Society of Obstetrics and Gynæcology was held in Rome from October 19th to 22nd, under the presidency of Professor Pasquali. Among the many papers read was one by Professor Miresani on the Surgical Treatment of Prolapse of the Uterus, which was discussed by Professors Pinzani, Pasquali, Caniso, Marveco, etc.

From October 25th to 27th, the first Congress of the delegates of the Orders of Medical Men and Kindred Associations was also held in Rome, under the presidency of Professor Durante. The Ordini dei Medici have been formed for some years past in the large cities of Italy. They are societies consisting of all the different branches of the profession in the provinces formed for the purpose of protecting, by means of a Council elected from and by the members, the decorum of the profession, the public and private interests of the members, etc. Many subjects of interest were discussed, including pensions for the Medici Condotti (parish doctors), Judicial Medical Experts, and The Practice of Foreign Medical Men in Italy. The last subject, which within the year has given rise to considerable discussion in various parts of Italy, as the readers of the British Medical Journal are aware, was introduced by Dr. Santini, one of the deputies for Rome in the Italian Chamber of Deputies, in collaboration with Dr. Piccirilli. The question was warmly and fully discussed by the various speakers from the protectionist point of view, all of them agreeing that it was desirable that the right at present conceded to foreign medical men as to practice in Italy should be abolished, and that the same treatment should be adopted for the foreign practitioners as that which other countries adopt towards the Italian practitioners. The outcome of the discussion was the unanimous adoption of the following resolutions:

1. That Article 23 of the Sanitary law be modified in such a way that all foreign medical men must undergo an examination to enable them to practise their profession in Italy.

2. That a serious revision of all the diplomas of these medical men be provided.

3. That the Italian medical societies of every kind be invited warmly to maintain the agitation for obtaining these objects.

It was also agreed that a deputation should call upon the Minister of the Interior to lay their requests before him. This deputation had an interview with the Minister on October 27th, and he informed them that the subject would have consideration.

BRISTOL.

Convalescent Home.—Extension of the Lunatic Asylum.

THERE is every probability that the £100,000 wanted for the convalescent home in commemoration of the Jubilee of this year will shortly be raised. This is owing largely to the generosity of a few individuals who have increased their actual or promised donations. It will be remembered that Mr. H. O. Wills and Mr. E. P. Wills promised, on condition that a certain sum was raised by the end of the year, to give £10,000 each; the latter gentleman has now increased his promise to £20,000. Sir Greville Smythe has increased his gift from £250 to £2,000; and the shilling subscription in the daily papers has brought in a very considerable amount. If £800 or so more is subscribed the conditional promises of the Messrs. Wills will be available, so that the whole sum of £100,000 will be complete.

At a meeting of the newly-elected Town Council the question of the estimates for the extension of the lunatic asylum brought forth some interesting facts on the cost of building asylums in various towns. The sum of £45,000 was asked for by the Visiting Committee, which would give a cost of £280 a bed. The councillor who called attention to this fact cited the cost at Birmingham at £125, Hull at £110, Henley at £80, and several others at a very low cost, the only one larger being Croydon at £300; but this he explained as due to certain causes. These figures were, of course, challenged by others present, one stating that he did not believe that any modern asylum could be built at £125 a head. In the end nothing was done, so the sum asked for will be expended on the extension.

BIRMINGHAM.

Precautions against the Contamination of the Water Supply.—The Annual Students' Dinner.—A New Lunatic Asylum.

THE Health Committee of the City Council has lately decided to take certain additional precautions against the contamination of the water supply by the infection of typhoid fever. It has been the custom for many years past to pay great attention to the storage and filtering of the water, and to have a monthly chemical analysis of the filtered water, as delivered to consumers, made by the medical officer of health. In addition to this, for several years the medical officer of health has made periodical analyses of the unfiltered water of the streams and deep wells which supply the storage reservoirs. During the past few weeks the Committee has arranged for a monthly bacteriological examination of one sample of water from each of the three levels at which it is supplied to the city, in the hope that if any disease germs should find their way into the water they may be detected. Requests have also been sent to all the medical officers of health whose districts touch the watersheds of the streams from which the Birmingham water is derived, asking them to report any cases of typhoid occurring in those watersheds, so that steps may be taken to prevent the fouling of the streams with any infective matter.

The annual students' dinner of the medical school was held on Thursday evening, November 11th, at the Grand Hotel, under the presidency of Dr. R. M. Simon. There was a very good gathering of past and present students of the school, and a large number of the various hospital staffs connected with the school were also present. An extremely pleasant evening was spent, the speeches of some of the students being very witty and amusing.

The city authorities have decided to build a large new lunatic asylum at Rubery, near the present one. The increasing number of admissions have taxed the accommodation provided at present to its utmost for some time. It was decided by the Asylums Committee of the Council to appoint Messrs. Martin and Chamberlain the architects of the new asylum, but this decision has been overruled in the Council and it is now determined to throw it open to competition.

LIVERPOOL.

The Liverpool Medical Club and Hospital Reform: The Attitude of Large Employers to Hospitals: Proposed Central Hospital Board for Liverpool: Previous Proposals for Reform.

THE recently-formed society called the Liverpool Medical Club, which has its rooms in Stanley Street, held a meeting lately, at which Dr. T. Garrett Horder, honorary secretary of the Hospital Reform Association, read a paper on the subject of Hospital Reform. Dr. Horder took it for granted that reforms were needed, and supported this view by quotations from the late Lord Derby, Sir William Gull, and others. He was of opinion that the crowding of the out-patient room was due to the presence of persons mostly suffering from trivial complaints, and that it was hardly probable that provident dispensaries would flourish to any extent while the doors of hospitals were open to all comers. In 1896, 11,898 in patients and 192,527 out-patients were treated in the Liverpool hospitals, without including the 60,000 treated at the Hahnemann institutions. The reforms desired included a system of co-operation between all the medical institutions, the formation of Central Hospital Boards in all large cities, the utilisation of hospitals by general practitioners for purposes of consultation, and the obtaining of the advice of specialists for persons in reduced circumstances at a reduced fee. Mr. Larkin advocated municipalisation of the hospitals. He maintained that at present the medical profession was exploited by the large employers of labour, who obtained medical assistance for their employees for a small contribution in place of having to retain a medical man; by the hospital committees; and by the general practitioners, who attended clubs at ridiculously low fees, which they could not accept unless they knew that they could send all their serious cases to the hospitals. He denied that a workman's contribution to the Saturday or Sunday Hospital Fund gave him a right to treatment. The following resolution was ultimately passed unanimously:

That in the opinion of this meeting hospital abuse exists, and that up to the present no official attempt has been made to check it, or even to find out its extent. It is therefore suggested that a central hospital Board in Liverpool be formed, consisting of representatives of the hospitals (medical and lay), of the Central Relief Society, and of the Medical Institution, and the Liverpool Medical Club. It should take up the investigation of the exact extent of hospital abuse with consideration of the suggestions for its abatement.

This is not the first time that this question has come up for consideration by members of the medical profession in Liverpool. About eight years ago an influential committee, presided over by Dr. William Carter, sat for some months in the Medical Institution, and drew up a scheme which it was thought if adopted would obviate the alleged abuses of the out-patient department of hospitals and dispensaries; but no practical result followed the presentation of the committee's report. The main obstacles which stood in the way of the adoption of any systematic attempt to regulate the relief given at the hospitals were the impossibility of fixing any wage limit of universal application, the difficulty of inducing the various charitable bodies to agree on a common line of action, and the costly nature of any attempt to carry out effectually any effective system of inquiry.

THE Goldsmiths' Company have made a grant of £50 to the Royal Westminster Ophthalmic Hospital.

THE Cambridge Graduates' Medical Club gave a smoking *conversazione* on November 17th at St. James's Hall, which was largely attended by members and their friends.

A CRISIS seems to have come in the history of football in America. It is reported that since the beginning of the present session three well-known players have been killed, and thirteen others crippled for life. The Georgia Legislature has passed a Bill prohibiting public football matches just as public prize fights, bear pits, and other brutalising forms of amusement have been prohibited in the past, and other legislative bodies are expected to follow suit.

CORRESPONDENCE.

HOSPITAL REFORM.

Sir,—Since you name no hospital where instruction is damaged by the number of out-patients, I allow myself to conclude that you are no better informed about others than you are about my own, where I know that the charge is unfounded.

I need not argue with Dr. Haddon that a certain part of the population is fitly treated at hospitals, for this is not usually disputed. I should be glad if I thought that each patient could be required to bring a medical certificate, but as things now are in London I know that it would occasionally cause disaster. It is certainly open to abuse, and if I were one of the lay public I should feel it to be tyranny.

Meanwhile it is less important to advocate radical changes, which will take years to win acceptance, than to check the one thing which we all wish to stop, that hospitals should treat those who can well afford to pay. In the forthcoming number of the *Medical Magazine* I have suggested that small vigilance committees of medical men should receive evidence of individual cases, should bring them before the hospital concerned, and if necessary before the public. Concrete cases are much better received than ill-founded statistics.—I am, etc.,

Upper Wimpole Street, Nov. 13th. W. P. Herringham.

Sir,—I was somewhat surprised at Dr. Herringham's statements that he has never been overworked at the hospital to which he is attached, and that cases of abuse are rare. As I was at one time on the junior staff of a London hospital, and frequently did duty as casualty physician and junior house physician, I was able to form some opinion as to the possibility of doing the work in the casualty department in an effective manner. I can only say that although at that hospital there were generally six or seven men in attendance each morning on the medical side alone, they were all frequently overworked. I have myself seen 120 patients in less than four hours, which gives an average of two minutes to each case. The difficulty of forming a correct opinion in so short a time is obvious, and all that could be done was to endeavour to sort out those who had any serious ailment from the far larger number who, being disengaged that morning, had come up for a bottle of medicine and a chat with their friends. Cases of abuse, in the sense of people well able to pay fees obtaining the charity of hospital treatment, I should say are comparatively rare, the possibility of having to sit on a crowded and uncomfortable bench for two or three hours being sufficient to deter most better class people from attending.

But a far greater abuse seems to me to be the reckless distribution of bottles of medicine to people with slight dyspepsia, or some trivial ailment, for the treatment of which they could quite well afford the shilling or two charged by many medical men.

So great is the pressure at one hospital that a system prevails of simply asking a few leading questions of patients, and then giving them a ticket for medicine without the slightest pretence of a proper examination in the majority of cases. With such methods many affections of an obscure nature are bound to be overlooked.

In any attempt at hospital reform, efforts should be made to exclude not only those who are in a position to pay for advice, but also—and this is perhaps of even greater importance—those unoccupied people to whom a few hours passed in a hospital waiting room seem to offer some mysterious attraction.

The fact is, all our hospitals contend against one another to show the largest number of patients attended during the year, with a view to obtaining greater subscriptions as a result of the reading of the report at the annual dinner. Quantity, not quality, of the work done is the main thing in the eyes of hospital committees.

As regards the interference of an excessive number of out-patients with the teaching of students, at the hospital at which I was a student, there was certainly far more work to get through than was compatible with the thorough study of each case. One case properly investigated is worth more, from the student's point of view, than fifty examined superficially.—I am, etc.,

November 13th. A late House Physician.

Sir,—As one who has on several recent occasions been seeing out-patients at one of the London hospitals, namely the Westminster, I can but entirely disagree with your statement that the numbers of patients are an obstacle to thorough instruction. So thorough, indeed, has been the instruction I have seen personally given at the above-named hospital, that in justice to the surgeon there (Mr. de Santi), I cannot let your statement pass uncontradicted. No doubt others could give the same undeniable evidence with regard to other hospitals. I learnt many things in two hours of attendance in the out-patient department.—I am, etc.,

November 17th. General Practitioner.

Clubs and Hospital Abuse.

Sir,—It is curious that the relationship of clubs and medical aid societies to hospital abuse should have been overlooked. I have begun to ask all my hospital patients whether they belong to medical clubs, and I trust the same investigation will be made by other hospital surgeons, and that the facts may be made known. Until we know what proportion of out-patients belong to medical clubs it is impossible to say whether general practitioners would gain or lose by the closing of the out-patient dapartments; but there can be no doubt that the hospitals do a very large amount of work which general practitioners are under contract to perform, and that if contract patients were excluded from hospitals the medical aids and clubs would be even less remunerative than at present.—I am, etc.,

Southampton, Nov. 16th. J. F. Bullar.

Mr. Adrian Hope's Challenge.

Sir,—On page 1277 of the British Medical Journal I read that at the conference on Hospital Reform held October 21st, Mr. Adrian Hope, Secretary to the Great Ormond Street Children's Hospital, challenged anyone to name a hospital where abuse existed.

A glaring instance of abuse in connection with Great Ormond Street has just come under my notice. This evening, November 13th, a stylishly-dressed, evidently well-to-do woman was shown into my study, after, by the way, making a great fuss because she had to wait her turn with other patients. She told me she had brought her boy, aged 9 years, up from Leicestershire to be circumcised at the Children's Hospital. The operation over, she found she could not change the dressing herself as she had been ordered, and appealed to me to come and do it. I declined, advised her to take the child over to the hospital where the operation had been done, and at the same time gave her my mind freely on the question of such a one as herself being so mean as to seek help from a hospital for the poor in London when there were plenty of capable men in Leicestershire who would have operated for a reasonable fee.

Now, sir, there could have been no possible mistake about the position of this woman. She was richly dressed, had come up specially to London, and was living in this street, where there are absolutely no poor people, so that unless she gave a wrong address the hospital authorities must have known that she was not a fit recipient of charity. But she said, "I intend to pay the hospital, and I do not believe in local doctors." Will Mr. Adrian Hope inform the profession whether Great Ormond Street Hospital receives fees from patients?

Some time ago I was called to a public-house near here to see the child of the proprietor, who shortly afterwards sold his house for many thousand pounds. This child had diphtheria of the glans penis; he had been circumcised a few days previously at the Children's Hospital. These people paid me six guineas for attendance on the child through the diphtheria.

I could fill pages with similar stories of this hospital, to which patients of my own have gone in my absence—people who pay me good fees—and received treatment without a single question being put to them about their circumstances. Their addresses must have been known, they were not

shabbily dressed, and these facts should have been sufficient to have precluded them from charitable relief.

I have no quarrel with the treatment children receive at Great Ormond Street; I honour the name of the staff; but for the Secretary to stand up and challenge the existence of abuse at this hospital is a little too much for even a general practitioner's patience.

Last week a relation of my own, I am acutely ashamed to say, brought a child up from the provinces to have tonsils and adenoid growths removed at Golden Square Throat Hospital. This person, also, was well dressed, and could afford an expensive train fare to London. No question was asked as to position or means. The child is to be shortly taken into the hospital, and the provincial surgeons deprived of a rightful fee.

I apologise for the length of this letter, but these cases should be published. Every general practitioner in London could furnish scores of them. As long as there are mean people there will be hospital abuse; but when glaring instances of palpable negligence in investigation occur, let no hospital secretary give forth such a challenge as was heard at the meeting in St. Martin's Town Hall.—I am, etc.,

Guilford Street, W.C., Nov. 12th. J. Arthur Browne.

THE HOSPITAL REFORM ASSOCIATION.

Sir,—May I be allowed once more to appeal to the profession for financial help to enable the Hospital Reform Association to carry on its work?

Men, as a rule, have short memories, and I may therefore be pardoned for reminding them that since our establishment in October of last year we have held meetings in London, Liverpool, Birmingham, Manchester, Brighton, and Bristol; that we have communicated with every hospital in England and Wales, that we have petitioned the Royal College of Physicians, and that we have made an investigation into and published a report of the special hospitals of the Metropolis.

Whether we have succeeded in arousing public opinion I will leave others to judge. I may, however, be excused for mentioning one or two facts which may or may not have some connection with the work of propagandism that we have undertaken. In the first place the authorities of the general hospitals and medical schools have drawn up a series of recommendations for the better administration of the out-patient and casualty departments. In the second place the Council of the Hospital Sunday Fund has recommended the London hospitals to appoint inquiry officers; and in the third place the Duke of Devonshire has spoken (at a hospital dinner too) of the question of abuse as one that deserves investigation.

Considering our youth and the very small number (150) of members who have associated themselves with the work, we may be pardoned for saying that our record is not a bad one.—I am, etc.,

Cardiff, Nov. 15th. T. Garrett Horder.

DR. R. R. RENTOUL'S RESIGNATION OF MEMBERSHIP OF THE GENERAL MEDICAL COUNCIL.

Sir,—When I resigned my position of Direct Representative upon the General Medical Council, I promised privately and publicly to give my reasons for so doing. Before doing so let me try to correct a strange idea which seems to possess the minds of some practitioners to the effect that they conferred upon me some marked "honour" when they voted for my election to the Council. I have never, and shall never, consider any such election an honour. In 1891 I was asked to stand, my expenses guaranteed, but I refused. In 1896 I publicly stated I would withdraw my candidature if Mr. Wheelhouse and Sir W. Foster agreed to stand again, and in 1897 I resigned, as I came to the finding that I could not accomplish any of my work as member of the Council constituted and worked as it now is.

Every honest practitioner must recognise that a practitioner—and especially a practitioner in general practice—must do great injury to his practice if he not only leaves it three or four times each year; but, what is more, if he gives a very great share of his time to preparing and working-up business to bring uselessly before sessions and Committees of the Council. To attend meetings of the Council simply for the "honour" of sitting at the Council's meetings is not to my liking.

My first reason for resigning is that the 6,646 practitioners who voted for me practically deserted me immediately after my election. I think most sane persons will agree that to put a man in a position to fight and carry out a forward policy he must be thoroughly supported—morally and financially. As to the want of moral support, I may mention one case only. Early this year, after prolonged work, I drafted a Bill for the Registration of Midwifery and Other Nurses. I sent a copy of this to about 129 medical societies in the United Kingdom, and to about 46 Branches of the British Medical Association, with a request that each should refer this Draft Bill to a committee, and ask their M.P.'s to support, and to let me know. Other than practitioners will have difficulty in believing me when I state that only three of these Societies and Branches had the common courtesy to acknowledge the receipt of either the Draft Bill or letter. The same shabby and unbusinesslike treatment has practically been given to my efforts in favour of increased direct representation; the better management of medical charities; and my proposed fund for the widows and orphans of medical practitioners. Such facts are truly heartbreaking and fearfully discouraging. But among practitioners competition is now so keen and degrading that there seems to be a secret feeling of satisfaction when another practitioner fails; while not a few place one man in an open position and leave him to fight their battles as well as he may. Such a "system" must always fail. However, so long as practitioners think it pays them better to be disorganised so long will they agree to accept failure and to appear ridiculous.

Again I complain, and I feel with just cause, that practitioners have refused to back up my efforts on their behalf financially. No public question to-day can go ahead unless backed up financially. In May, 1896, I sent a circular letter to over 4,000 practitioners, stating that since 1890 I had advanced money out of my own pocket to the extent of £373 13s. 8d., and asking that this money should be repaid. Since February, 1896, I have also expended £75 7s. 4d., or a total of £449 1s. Of this total expenditure £81 15s. is still unpaid—most of it having been expended in defeating the many Midwives Bills which have since 1890 been introduced into Parliament. From the 4,000 practitioners applied to, only 45 replied, these refunding £26 6s. 6d.; some thinking that they were actually presenting me with money! Now I ask any practical man is it fair, is it businesslike, or is it even honest to allow one practitioner to advance funds required to fight a public medical question of great moment? I distinctly feel that it is neither fair, businesslike, nor honest. With other public questions, or in events affecting the interest of a class of persons, a fund for organising and working is always provided. All along I have worked willingly without reward of any kind. But I would urge that if practitioners wish to be considered really in earnest they must not be so markedly dilatory in supplying the funds. When it falls upon only one to do not only most of the uphill fighting, but to beg for money to carry out work, the position is little short of personally humiliating, while it degrades the cause.

My second reason for resigning is, that so long as there are only five direct representatives in a Medical Council of thirty members, we shall fail to obtain our just requests. I recognised this as far back as 1890, when I brought this proposed increase up before the annual meeting of the British Medical Association, and when Sir W. Foster and Mr. Wheelhouse took the question before the General Medical Council. Five votes against 25 must for ever fail to carry the question of increased direct representation. Every person will recognise this except fools and medical practitioners. My only regret now is that Mr. Wheelhouse and Sir W. Foster did not then resign and go to the profession again and again for re-election, thus putting the General Medical Council to the cost and trouble of repeated half-yearly elections, and until the other twenty-five representatives recognised the just nature of our request.

My third reason for resigning is that the funds of the General Medical Council are much too small to allow the Council to administer the Medical Acts, the Dental Act, and the other Acts relating to medicine. The average annual income of the General Medical Council is about £8,000, while

ıe incomes of the Branch Councils of Scotland and Ireland :e so small that these Branch Councils are debarred from oing any practical work. The income of the General Medical ouncil in 1896 was £8,746, and its expenditure £10,273. Now hat does this mean? It means that practitioners must lay ;ide their traditional policy of meanness in refusing financial elp.

My proposal has been, and is, that the medical registration e be made an annual one, and that each practitioner must ay an annual fee of £1. In 1896 there were 34,478 practi-oners' names upon the British *Medical Register*. Here is a ise and just method of raising over £34,000 per annum—by o means too small a sum when we consider the vast amount work which the General Medical Council, and more espe-ally its three Branch Councils, may and could perform. Even ıe one item of inspecting and visiting all of the examina-ons held by the eighteen medical examining bodies could ot be efficiently carried out at a less cost than about £8,000 er annum. At present about £500 per annum is expended, ıd up to now some of these examinations have never been ispected at all! Yet practitioners growl at a policy which is rectly due to them. I do not exaggerate when I say that if ıe Council met four times yearly it would, on its present ıcome, be bankrupt in a few years. Will practitioners work ıt this proposal? It is for them to decide.

Finally, I deeply regret the above conditions, which have iven me to resign my position upon the General Medical ouncil. But if my resignation does some little good by call-g the attention of practitioners to the reasons why, to my ind, efficient work cannot now be carried out, then this signation will not have been thrown away. Many years of ose work have given me a fair grasp of the chief medico-litical and medico-ethical questions which now stand in ır way. It was my intention to publish from time to time mphlets upon these questions, but practitioners by their ingy support have ruled it otherwise.

Since 1884 I have carefully prepared pamphlets in manu-ript upon the following leading questions:

Name of Subject.	No. of Foolscap Pages.
The better management of our voluntary medical charities ...	94
Proposed public medical services of England	28
Home hospitals	6
Hospital management in New Zealand, France, etc. ...	22
Should workhouse infirmaries be open for clinical instruction of students?	10
Resident halls for medical students	8
Proposed increase in the number of direct representatives ...	45
Reforms in the British Medical Association	50
Registration of stillborn infants in Denmark, Holland, Switzerland, Sweden, Norway, Russia, Greece, Italy, Spain, France, Belgium, Germany, Austria, America, and Canada	16
Proposed registration of stillborn infants in the United Kingdom	28
Some of the systems in force in foreign countries relating to the certification of the fact, and cause of death, and of the identity of the dead...	23
Proposed amendment of the Births and Deaths Acts in the United Kingdom	56
Proposed amendment of the Births Acts	9
Proposed fund for the widows and orphans of medical practitioners	97
Rules relating to public meetings, Parliamentary debate, and procedure of meetings	53
The unrestricted sale of poisons and dangerous drugs by chemists	28
Continental laws against prescribing chemists and dispensing medical practitioners	20
Proposed amendment of the Medicine Stamp Acts	23
Penal powers possessed by medical authorities in the United Kingdom against those who practise medicine without being lawfully qualified	95
Similar penal powers possessed by foreign countries ...	31
Penalties against those who illegally act as clergy, barristers, solicitors, chemists, veterinary surgeons, pilots, mercantile marine masters, engineers, etc.	22
Translation and collection of the medical Acts of Italy, Ontario, Manitoba. Nova Scotia, France, Switzerland, Sweden, and of the United States and Cape of Good Hope...	90
The last important work which I have just had translated for me is *The Prussian Tariff of Fees for Physicians, Surgeons, and Dentists, established by the German Law of May, 1896*, by Dr. A. Förster, Privy Councillor to the Prussian Minister of Medical Affairs	70
Proposed amendments of the British Medical Acts (unfinished)	—

would here state that I shall be glad if practitioners will ınd me the above £81 15s. I was advised to remain upon Council until the fees repaid this sum. As this would have taken about two years' useless time I refused. Further, I am willing to have any of the above manuscripts published if practitioners will agree to pay for their publication. I often regret we have not a society similar to the Sydenham Society, and which would publish from time to time original works and transactions bearing upon medico-political and medico-ethical subjects. In 1896 I asked the Council of the British Medical Association for a grant to obtain a collection of all European medical and similar Acts. The two I should like published just now are: (*a*) Proposed increase in the number of direct representatives, with the provision for an annual registration fee of £1; and (*b*) my proposed widows and orphans fund.—I am, etc.,

Liverpool, Nov. 14th. ROBERT R. RENTOUL.

BRONCHIAL BREATHING.

SIR,—I do not think Dr. Wilfred Harris can have read very carefully my paper on Bronchial Breathing which he undertakes to criticise. As he says, in teaching or discussing auscultation, it is necessary to postulate something. The one thing that I did postulate was that everyone knew what he meant by vesicular breathing; and the description I gave of it Dr. Harris endorses. I purposely avoided any full discussion as to how it was produced as foreign to the object I had in view, so that I need not follow Dr. Harris into his discussion of the mode of its production. There is nothing new in the views he advocates; it is difficult to see how the introduction of such a term as "fluid veins" tends to make the subject more intelligible. We may venture to postulate one thing more—namely, that the various forms of pathological breathing are associated with the modification or disappearance of vesicular breathing. It was with these forms of pathological breathing that I was dealing. Here we are at once brought face to face with the difficulties and confusion introduced by the indiscriminate use of terms. Each teacher seems to have his own vocabulary of technical terms, so that the same word may be used by different persons to describe different conditions, or the same condition may be described by different words. Indeed, Dr. Harris unconsciously provides an excellent justification of the article I wrote. If there is one form of breathing to which the term bronchial is more frequently applied than any other, it is to that heard over the consolidated lung of acute pneumonia. Dr. Harris states that this is most frequently called tubular. I suppose he reflects in this statement the teaching of his own school. He will find, however, if he inquires, that my statement is more accurate, and that most authorities both in this country and abroad adopt the term bronchial. After all, from my point of view, it is of little importance whether it happens to be bronchial or tubular, which is the more common expression, for it is evident that both terms are used to indicate the same condition. It would be well if we could all agree upon new terminology in auscultation, but that is clearly impracticable.

It is evident that we may indicate with more or less approach to accuracy what we hear in the lungs in the form of a diagram. A diagram can, of course, be only a partial representation of pathological or physiological phenomena. Yet it is recognised as having its uses in spite of its limitations. Those diagrams I gave represent the facts as far as they go. They are not in any way misleading, as Dr. Harris asserts, though he does not attempt to show how or why nor to suggest anything better. As against this mere opinion I must set the practical experience of many years' teaching, which justifies me in saying that by means of such diagrams much that has been rendered confusing by the confused use of terms may be cleared up and made intelligible to the puzzled student.

It is evident that Dr. Wilfred Harris does not yet realise fully that most of the difficulties of auscultation have their origin in words, that the phenomena of auscultation are in the main understood and their significance agreed upon, but that there is the widest divergence in the use of the terms by which those phenomena are described. Now that his attention has been directed to the subject, he will no doubt sympathise with me in the desire to discard in teaching as far as practicable the use of technical terms, and will lay more stress on the phenomena and less on the words by which they may be denoted. It will not surprise me if in the

course of time he even becomes an advocate of the use of some such diagrams as those he now criticises.—I am, etc.,

Wimpole Street, W., Nov. 16th. SAMUEL WEST.

THE AERIAL SPREAD OF SMALL-POX.

SIR,—In the admirable summary given in the BRITISH MEDICAL JOURNAL of November 6th of my report to the Royal Commission on Vaccination on the Warrington small-pox epidemic, 1892-3, the conclusion concerning the aërial convection of small-pox at which I am said to have arrived is that "having gone very fully into the question of aërial spread of small-pox from the hospitals by air current, he seems content to let the answer be that there were so many elements at work for the conveyance of infection by direct methods along the lines of human intercourse.....that the assumption of a hypothesis of aërial convection is unnecessary."

I should hesitate to draw attention to the matter were it not that the Warrington epidemic presented opportunities for arriving at a conclusion in this matter of aërial convection which has rarely, if ever, occurred in recent years. The town is of moderate size and within well-defined boundaries. All the people are practically of the same class, inhabiting houses of almost the same build, largely employed in the same industry, and consisting of a uniformly better primarily vaccinated community, and a uniformly worse revaccinated community than is generally found. The epidemic presented, therefore, a state of matters freer from confusing conditions than is usual. The facts of the epidemic, as your abstract mentions, appear on causal inspection to suggest that aërial spread (first from the old and afterwards from the new hospital) was in operation; but after careful and prolonged investigation, the conclusion at which I arrived was that the theory of aërial convection was not in operation in the Warrington epidemic at all. Moreover, the Warrington epidemic affords two of the strongest possible data which go to prove conclusively that small-pox did not spread through the air to any appreciable distance in that epidemic, and inferentially—if it was not in operation under conditions so favourable as those which then existed, where over 200 patients in the acute stage were crowded together in a temporary structure at one time—it could not be in operation at any time, and that the theory is untenable. This, in fact, was the conclusion at which I arrived.

The two data referred to were: First, the exemption of the workhouse next door to the old hospital, where 712 persons badly revaccinated and often unvaccinated were exposed; and secondly, the exemption of a large brewery close to the new hospital, where 364 persons, also badly revaccinated and often unvaccinated, were also freely exposed.

If any of those who support the view of the aërial convection of small-pox can advance any facts in support of their view which are worth a tithe of facts such as these which are against the view, it would be desirable to know of them; for at the present time no data having anything like the value of these have been advanced.

I should not trouble you at this length were it not that my conclusions have evidently been stated not sufficiently clearly, and others beside your reviewer might misapprehend them.—I am, etc.,

November 16th. THOS. D. SAVILL.

THE HISTORY OF FORCIBLE EXTENSION OF THE SPINE.

SIR,—On page 1354 of the BRITISH MEDICAL JOURNAL of November 6th, under the heading "Forcible Straightening of the Spine," you refer to Dr. Calot as "the introducer of the method."

Without wishing in any way to minimise the credit justly due to Dr. Calot, fair play demands that we recognise the claims of the earlier English surgeons for the introduction of the method of forcible straightening the spine. The evidence in their favour is abundant and trustworthy. To commence with the well-known work of Scultetus, I find that in my copy of the Venetian edition of 1661 there is no mention of the operation; but it is pictured and described in the English translation published in London in 1674. Sir James Earle warmly advocated forcible extension; the operation proved to be abused, and its abuse was the subject of one of Mr. Abernethy's most characteristic lectures. In suitable cas Abernethy not only advocated forcible reduction of the pr jecting spine, he also practised excision of the projection, a operation which was then not infrequently performed London.—I am, etc.,

Dublin, Nov. 6th. GEORGE FOY.

A SANITARY ASHBIN.

SIR,—The BRITISH MEDICAL JOURNAL of October 30th co tains a description of a sanitary ashbin, "protected by lette patent," by Dr. Quine. A specimen of this apparatus w shown at the recent Exhibition of the Sanitary Institute Leeds. With the exception given below, the exhibit exactly the same as a model exhibited by myself to t Society of Medical Officers of Health about seven years ag which I afterwards deposited in the Museum of the Sanita Institute, where it still is. The only difference I notice b tween the two is that the original was constructed so as allow of the contents of the bin being discharged direct into an ordinary scavenger's cart, which the copy has fail to imitate. The original was invented by Mr. Arveschou then resident in Newcastle, who had the model made for m —I am, etc.,

HENRY E. ARMSTRONG, Newcastle upon-Tyne, Nov. 6th. Medical Officer of Health.

OBITUARY.

THE death is announced of Dr. THOMAS EVANS, the we known American dentist, in Paris. His position in the cou of Napoleon III was one of considerable interest, and at t downfall of the Empire he was instrumental in facilitatir the escape of the Empress, whom he escorted to the coas whence she sailed to England in a private yacht. Dr. Evan during a recent visit to the United States, announced h intention to bequeath the bulk of his fortune to education and benevolent institutions in America, and it was unde stood to be his special desire to establish in Philadelphia, h native city, a large dental school in which deservir students might be enabled to obtain their education at small cost.

NAVAL AND MILITARY MEDICAL SERVICES.

ARMY MEDICAL STAFF EXCHANGE.

The charge for inserting notices respecting Exchanges in the Army Medi Department is 3s. 6d., which should be forwarded in stamps or post of order with the notice, not later than Wednesday morning, in order to ens insertion in the current issue.

A SURGEON-CAPTAIN, who arrived in England in January, 1897, is desiro of an exchange to India (Bengal or Punjab) in one of the last transpo this season. Address "Delhi," care of Messrs. Holt and Co., 17, Whi hall Place, London, S.W.

THE NAVY.

SURGEON ARTHUR R H. SKEY has been appointed to the *Australia*, a Surgeon THOMAS S. HARTLEY, to the *Howe*, both dated November 16th.

ARMY MEDICAL STAFF.

SUPERNUMERARY SURGEON-COLONEL ROBERT C. EATON is restored the establishment as Surgeon-Colonel, *vice* C. A. Atkins, retired, Novemb 3rd.

The undermentioned Surgeon-Lieutenant-Colonels are promoted to Brigade-Surgeon-Lieutenant-Colonels:—FRANCIS W. TREVOR, M.B., *v* M. M. Gallwey, M.D., retired, August 22nd; JAMES POWELL, *vice* F. Lyo M.D., retired, October 13th; SIDNEY H. CARTER, M.B., *vice* R. C. Eato promoted, November 3rd. Their previous commissions, which are co temporaneous, are as follows: Surgeon, September 30th, 1874: Surgeo Major, September 30th, 1886; Surgeon-Lieutenant-Colonel, September 30 1894. Their war services are: Brigade-Surgeon-Lieut.-Colonel Trevor was the Afghan war of 1878-80 with the Candahar Field Force, and was prese in the engagement at Ahmed Kheyl; accompanied Sir Frederick Robe in the march to Candahar, and was present at the battle of Candah (medal with two clasps, and bronze decorations); and with the Nile E pedition in 1884-85 (medal and clasp, and Khedive's star). Brigade-S geon-Lieutenant-Colonel Powell served with the Natal Field Force in t Boer War of 1881; with the Nile Expedition in 1884-85 in charge Kaibur Field Hospital (medal with clasp, and Khedive's star); and in t operations of the Egyptian Field Force in 1885-86, including the engag ment at Kosheh. Brigade-Surgeon-Lieutenant-Colonel Carter was in t Afghan war of 1878-80, and was present in the engagement at Ahm Kheyl (medal with clasp); and in the Egyptian war of 1882, being prese at the battle of Tel-el-Kebir (medal with clasp, and Khedive's star).

INDIAN MEDICAL SERVICE.

URGEON-COLONEL J. C. G. CARMICHAEL, M.D., Bengal Establishment, has een appointed Principal Medical Officer to the Malakand Field Force.

Brigade-Surgeon-Lieutenant-Colonel G. HUTCHESON, M.D., Bengal Estalishment, is promoted to be Surgeon-Colonel from October 1st. He was ppointed Assistant-Surgeon, October 1st, 1808, and became Brigadeurgeon-Lieutenant-Colonel, June 27th, 1893.

Deputy-Surgeon-General HENRY KING, M.B., late of the Madras Estalishment, died at 52, Lansdowne Road, Dublin, on November 6th, aged years. He was appointed to the Department, January 11th, 1856, and etired with the honorary rank of Deputy-Surgeon-General, August 16th, 883.

Brigade-Surgeon-Lieutenant-Colonel K. M'LEOD, M.D., retired, is granted ie temporary rank of Surgeon-Colonel while a Professor at the Army ledical School, Netley, November 17th.

MILITIA MEDICAL STAFF CORPS.

URGEON-LIEUTENANT STEWART OLIVER, from the London Companies olunteer Medical Staff Corps, is appointed Surgeon-Lieutenant, Novemer 17th.

THE VOLUNTEERS.

URGEON-LIEUTENANT E. SOLLY, M.B, 1st Volunteer Battalion the Prince f Wales's Own West Yorkshire Regiment, is promoted to be Surgeonaptain, November 17th.

Surgeon-Captain W. SNEDDON, M.D., 1st Volunteer Battalion the Royal cots Fusiliers, is promoted to be Surgeon-Major, November 17th.

Surgeon-Major J. KNOX, 2nd Volunteer Battalion the Sherwood oresters (Derbyshire Regiment), is promoted to be Surgeon-Lieutenantolonel; and Surgeon-Captain W. S. SYMES, of the same corps, is made urgeon-Major, November 17th.

Mr. JAMES H. MURRAY, M.B, is appointed Surgeon-Lieutenant in the h (Stirlingshire) Volunteer Battalion Princess Louise's Argyll and utherland Highlanders, November 17th.

VOLUNTEER MEDICAL STAFF CORPS.

URGEON-CAPTAIN H. W. G. MACLEOD, M.D., the London Companies, has signed his commission, November 17th.

THE CONDITION OF THE ARMY.

HE letters which Mr. Arnold-Forster, M.P., has published in the *Times* November 11th and 16th are well worthy of careful study, especially by my medical officers. The letters deal with the condition of the army in neral, but many of those who have served in the Army Medical Staff ll be able to bear testimony to the accuracy of the statements made by r. Arnold-Forster respecting the physique generally of the men in our giments; their ability to stand the wear and tear of active service; eir fitness for service in India and other foreign stations, the question recruiting, etc. Mr. Arnold-Forster (M.P. for West Belfast) has made my matters a close study for many years past, and speaks with the thority of one who has not only read reports and received information om reliable sources on the matters with which he deals; but has by rsonal inspection and visits to military garrisons verified his facts. r. Arnold Forster is a man of considerable ability, and handles his pen mirably. These letters are not the first contributions to the *Times* on e need of army reform by Mr. Arnold-Forster. A series appeared so far ck as 1891, and attracted very wide attention in the military world as ll as elsewhere.

THE NEW CANTONMENT RULES.

HE new cantonment rules are published in the *Gazette of India*. The ost important are: Power to call upon persons suffering from infectious contagious disorder to attend or remain in the hospital or dispensary. the medical officer in charge of a hospital or dispensary maintained or ded under Rule 2 has *primâ facie* grounds for believing that any person ing in the cantonment is suffering from an infectious or contagious order, he may, by notice in writing in the form set forth in schedule in any similar form, call upon such person to attend at the hospital or pensary, at a time to be specified in the notice, and not to quit it with-t the permission of the medical officer in charge unless and until such dical officer is satisfied, by examination if necessary, that such person ot in fact suffering, or is no longer suffering, from such disorder. ovided that, if having regard to the nature of the disorder, or the conion of the person suffering therefrom, or the general environment and cumstances of such person, the medical officer considers the attendes of such person at the hospital or dispensary inexpedient, he may pense with such attendance, and take such measures or give such ections as to him seem fit and proper.

Power to exclude from cantonment: If the medical officer in charge of ospital or dispensary, maintained or aided under Rule 2, reports in iting to the commanding officer of the cantonment that any person ving received a notice, as provided in Rule 9, has refused or omitted ttend at the hospital or dispensary, or that such person having atded at the hospital or dispensary, has quitted it without the permisn of such medical officer, the commanding officer may, if he thinks it edient, by order in writing, direct such person to move from the canment within twenty-four hours and prohibit such person from aining longer in, or re-entering it, without his written permission.

he cantonment authority may, by notice in writing, prohibit (*a*) the ping of a brothel, or (*b*) the residence of a public prostitute in the canment, or in any specified part thereof.

o public prostitute shall be permitted to reside within the limits of regimental bazaar situate in the cantonment.

o person shall, in any street or public place within the limits of the tonment, loiter for the purpose of prostitution or importune any son to the commission of sexual immorality: Provided that no person ll be charged with a breach of this rule, except on the complaint of person importuned, or of a member of the British military police e employed in the cantonment, and especially authorised in this alf by the commanding officer of the cantonment, or of an officer of cantonment, or of an officer as defined in the Cantonments Act, 1889.

THE CHARGE OF SOLDIERS' WIVES AND CHILDREN AT ALDERSHOT.

THE Dutch auction of this charge has been attended with the result that Dr. W. Moyle O'Connor, a civil practitioner, has been appointed. He is, it is stated by the Aldershot correspondent of the *United Service Gazette*, a surgeon-captain in the Militia Medical Staff Corps. The correspondent says: "Dr. O'Connor, however, pursues his civil practice," and gathers that the reason of the appointment is due "to a dearth of army surgeons here." Those who are acquainted with what the charge of women and children at any large station, especially Aldershot, entails, will wish Surgeon-Captain O'Connor joy of his charge, and express the hope that it "may pay him."

CHANGES IN THE INDIAN MEDICAL SERVICE.

BRIGADE-SURGEON-LIEUTENANT-COLONEL CALDECOTT has vacated his appointments in Central India on promotion to the administrative grade in the Indian Medical Service. Surgeon-Lieutenant-Colonel Dane will succeed him as Civil Administrative Medical Officer in the Central India Agency, and will have his headquarters at Bhopal, Surgeon-Major Gimlette, Rewah, going to Indore as Residency Surgeon.

THE JUBILEE COMMEMORATION MEDAL.

THE Queen has conferred the Jubilee commemoration medal on Surgeon-Captain Charles Pye Oliver, M.D.Lond., commanding the Maidstone Company Volunteer Medical Staff Corps, in recognition of the services of the company on Jubilee Day, when about 90 men were on duty near the Horse Guards and rendered first aid to 150 cases.

DISCIPLINE IN MILITARY HOSPITALS IN INDIA.

AN article on the above subject is communicated to the *Madras Mail* by a medical officer, who expresses the opinion that the assistant surgeons of the subordinate medical service are not capable of doing what is needed in maintaining discipline, partly owing to the paucity of their number, and the fact that they are engaged in compounding and constant attendance on bad cases. Although few of these assistant surgeons are Europeans, still most of those of the Eurasian class are not only able to maintain discipline, but in point of fact do so in the absence of the medical officers. The assistant surgeons, however, must be very well supported by their own officers and those commanding corps if their responsibility for discipline is to be maintained. Hitherto written evidence against defaulting soldier patients had been submitted by the assistant surgeons when offending patients have left hospital cured to be dealt with by their commanding officers, and accepted by the latter; but now we are informed the personal attendance at orderly rooms to give evidence is required of the assistant surgeons; this interferes not only with their hospital duties, but acts as a deterrent to their bringing charges for breach of hospital rules against soldiers.

What is really much needed in our Indian military hospitals is a certain number of the Medical Staff Corps non-commissioned officers and orderlies. This point has in time past been pressed on the attention of the Government of India, and was pointed out to the Commander-in-Chief in Madras years ago by Surgeon-Major-General Sir James Hanbury, K.C.B., when he was Principal Medical Officer of that Presidency. The presence of the Medical Staff Corps in Indian hospitals would be beneficial both in a disciplinary and in a nursing point of view.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

TWENTY-SIX officers, including two belonging to Colonial forces, who have been under instruction from the staff of the School, have recently passed the proficiency examination conducted by the Army Medical Staff, thereby earning the higher grant for their corps, and becoming entitled to promotion after completing the necessary period of service. Surgeon-Captain R. R. Sleman, "Artists" Rifle Volunteers, has obtained a certificate of proficiency, with special mention at an examination conducted by a Board of Army Medical Officers at Aldershot.

THE ARMY MEDICAL RESERVE.

SURGEON-CAPTAIN RORY FLETCHER, Joint Hon. Sec. Volunteer Medical Association, 20, Hanover Square, London, W., writes: In answer to the letter of "Cymph Cymon" I may say that the Volunteer Medical Association have for the past year been in communication with the authorities on the futility of the present Army Medical Reserve, and the inadequacy of the brigade bearer companies. To all communications on these two subjects the invariable answer has been that they are still under consideration. Recent events foreshadow an attempted solution of the latter question, and it is hoped that it will be on the lines submitted to the War Office by the Volunteer Medical Association in their report on volunteer medical organisation.

SPES writes: Your correspondent, "Justice," says officers of the Army Medical Reserve may reject or accept medical charge of troops, when offered, according as they feel disposed. This is quite contrary to the terms of the Royal Warrant, and I invite your correspondent to study Articles 655, 659, and 665, pages 175 and 176, Royal Warrant, Pay, etc., 1897.

S. M. O., retired, writes: You are right in stating that the Medical Reserve is no real reserve, and the position of its officers altogether anomalous. Many experienced Volunteer officers have never doubted that the institution of the Reserve was truly a threat against the regular service. "Justice" calls it a supplement to the regular service; but so long as it is available at a very cheap rate, so long will the War Office delay reforms. The officers of the Reserve gain little or nothing by belonging to it, but assuredly they damage the interests of their military brethren.

MIXED BOARDS.

A CORRESPONDENT writes as follows with regard to this question: The procedure for a medical officer to adopt in such a case is simple enough. It is first of all to obey the order to "attend" the Board, and then to

represent officially through his immediate commanding officer (medical or other) to the general or other commanding officer that the provisions of the recent order have not been carried out. An order, even a wrong order, has in the first instance to be obeyed in military or naval life, the representation of the wrong order is a subsequent duty which must, and usually does, receive official attention if it be respectfully worded.

RORKE'S DRIFT.

OBSERVER writes: It is a matter of common comment that in the numerous notices of the lamented death of the late Colonel Chard, V.C., no notice is taken of the gallant part played by Surgeon-Major Reynolds, V.C., in the defence of Rorke's Drift.

*** Our correspondent's surprise will be less when he recalls the fact that a distinguished writer some little time back wrote what purported to be a history of that wonderful defence, and never so much as mentioned the existence of Reynolds. The writer, it was said, wrote from "military inspiration!"

HONORARY RANK.

SURGEON-MAJOR writes: In reply to "Distinguished Medical Officer (Retired)," in the BRITISH MEDICAL JOURNAL of September 25th, why should medical officers accept honorary rank? Why any inferiority to any other branch of the service? Are paymasters honorary, or other departments? Honorary is given usually to men who have risen from the ranks. A well-known brigade-surgeon-lieutenant-colonel (retired), who always advocates the regimental system for medical officers, was very particular to put his sons in as "combatants"—so exclusively termed—in native regiments. From what I have heard he, while serving as a medical officer in the North-West Provinces of India, did not owe much to that branch of the service.

THE MEDICAL SERVICES IN INDIA.

THE condition of things in India may be pictured by the following reports from reliable sources:

An Officer writes: In face of the objection taken by some members of the Indian Medical Service to Dr. Bahadurji's statement that officers of the Indian Medical Service are only lent to the civil authorities for duty, it is interesting, one might say amusing, to note the complete disorganisation of the so-called civil medical service by the present frontier war. What would happen in the event of a really big war would be the absolute and complete disappearance of all commissioned officers on civil duty from their proper sphere, as well as a large number of subordinates. At the present time districts of several thousand square miles in extent are entirely in the charge of subordinates. Under these circumstances the word "lent" seems most appropriate.

An Assistant Surgeon of the subordinate medical service, with large experience and length of service, writes as follows: Owing to the strain resulting from paucity of medical warrant officers on all sides, those who should be retired through age, etc., are being prevented from doing so, and pensioners are employed, as the Government cannot meet the demands made on it for medical service. The military hospitals are all being worked underhanded. Here there are only two subordinates for 180 sick in four wards, who take a tour of thirty hours' duty out of every forty-eight hours. Another large station not far off is similarly situated, and smaller stations are as badly off, making shift with one hand in place of two. In fact, subordinate officers really ill and needing rest are asked to continue working. All leave is stopped. In the commissioned ranks things are no better; two junior officers have to do the work of four. Naturally there is discontent all round.

One is driven to ask, Can all this be in the interests of the sick? How much longer is it to continue?

DR. COX'S ADDRESS.

SURGEON-GENERAL writes: It would be of great interest to the army medical service if Dr. Cox would publish the list of medical officers killed and wounded in recent wars which he gave in his able address, but which was not published in the report thereof. The army medical question is of vital importance to the army at large; indeed, medical aid to the army concerns all officers and soldiers and their friends even more than the medical profession, for any soldier may at any time depend for health or life on a single medical officer, far from other assistance or special advice; mere selfishness, therefore, should dictate to the army the securing of competent medical aid. The present position of the Army Medical Staff is very much that of the late Commissariat Department—with the superlative difference that the latter was never called upon to go into action or under fire. Now, the Commissariat, as the Army Service Corps, have full army rank and titles, but at the same time are essentially non-combatant and are not called upon to go under fire. These points must be kept before the profession and the public, who certainly wish the best medical aid to the army both in peace and war.

THE COST OF LUNATICS.—The Asylums Committee of the London County Council have prepared a scheme for the erection and equipment of temporary iron buildings and the alteration of the Hoxton Estate Lunatic Asylum. It is proposed to provide 700 beds for female patients at a cost of £112,000. It is stated that the cost of maintaining London patients in licensed houses ranges from 19s. 3d. to £2 2s. per week.

A SUM of £5,700 is to be handed over to the Croydon General Hospital, for the purpose of building a Victoria wing, as a local commemoration of the Diamond Jubilee.

MEDICO-LEGAL.

WALLACE'S SPECIFIC NO. 1.

AN important prosecution under the Pharmacy Act was carried through successfully last week. As reported in the *Standard*, Joseph Wallace described as a homœopathic practitioner, but whose name we do not find in the *Medical Register*, was summoned at Bow Street for selling a poisonous drug, to wit, aconitine, to a person not known to him, without labelling the article as a preparation of aconite, or as a poison, and without entering particulars of the sale in a book provided for the purpose. The Treasury conducted the prosecution, Mr. Bodkin appearing for the Government. It will be remembered that at the first hearing evidence was given that a preparation known as Wallace's Specific No. 1 was sold by the defendant. It was alleged that it contained one twenty-third of a grain of aconitine. For the defence it was urged that, owing to the particular method in which the "Specific" was prepared by Wallace, it became harmless and inert. The case was then adjourned to allow Dr. Luff, for the Treasury, to prepare the tincture under the same conditions and to discover whether there was then aconitine under the altered conditions. At the last hearing Mr. Wynter Blyth, Medical Officer of Health and Public Analyst of St. Marylebone, gave evidence on behalf of the defendant, and stated that he had prepared the mixture according to Wallace's specification, and that the aconite had been split up into what were practically harmless and inert compounds. A clergyman also gave evidence, and declared that he had swallowed with impunity the contents of a bottle of defendant's mixture. Dr. Arthur Luff was recalled, and stated that during the adjournment he had prepared the mixture according to defendant's specification, and as a result he had found $\frac{1}{75}$ grain of aconitine to the ounce. The magistrate, in deciding the case, stated that whatever might be the weight of evidence as to the varying effect of the mixture in question upon mice or men, he had no doubt that it contained an appreciable portion of aconitine, and that it might be injurious to some men, even if in some case a whole bottle could be swallowed without injury to others. He ordered the defendant to pay £5 with respect to each of the four summonses against him. Mr. Bodkin applied for costs, and these were given to the extent of £42 on the first summons and 2s. on each of the three others. Mr. Young, for the defendant, asked the magistrate to accept sureties with view to an appeal, and two were accepted in £100. Until therefore the hearing of the appeal has taken place we refrain from comment upon the case.

LIABILITY OF WHOLESALE DRUGGISTS.

LORDS Watson, Hobhouse and Davey, and Sir R. Crouch met at the Privy Council Office to hear petitions for special leave to appeal. Among these was a petition of more than usual interest, involving the question of the liability of wholesale druggists for damages in the case of injury to a person served by a retailer who had purchased in good faith certain drugs from the wholesale firm, but had in mistake been given another article. Mr. Haldane appeared for the petitioner, a wholesale druggist of Quebec, who, having received an order from a retail chemist for a certain quantity of bismuth, sent antimony by mistake. A doctor obtained some of the bismuth from the chemist and treated his wife, who was suffering from influenza, but she died. The doctor brought an action against the wholesale firm, claiming 20,000 dollars for himself and 20,000 dollars for his son. The jury, however, who had inquired into the cause of death, found that it resulted from natural causes and not from the antimony, but was only slightly accelerated by it, and the result of the action was that the son was awarded 1,000 dollars but petitioner was given nothing. After a short consultation the Judicial Committee granted leave to appeal.

AGREEMENT FOR PARTNERSHIP.

IN reference to the questions raised in our correspondent's letter, we fear it would be impossible for us to express any reliable opinion without seeing all the correspondence and documents, and we think our correspondent would be well advised to be guided by his solicitor, who doubtless has this correspondence and documents before him, and is well acquainted with all the facts. With regard to the question of practising in the neighbourhood on his own account, we cannot see any objection to this course being adopted.

THE DISCIPLINARY POWERS OF THE GENERAL MEDICAL COUNCIL.

SUBSCRIBER.—Any application to the General Medical Council in connection with the exercise of their disciplinary powers is generally investigated in the first instance by the Branch Council of that part of the United Kingdom in which the person against whom the complaint is made resides, and a statement of the case and of the evidence in support of it is then sent up by such Branch Council to the Registrar of the General Medical Council. The Registrar, if so directed, then summons the person against whom the proceedings have been instituted to attend the General Medical Council. In the case to which our correspondent refers a succinct statement of the facts could be prepared and forwarded to the Registrar of the Branch Council for that part of the kingdom in which the person referred to resides. These facts would probably have to be verified by our correspondent by a declaration.

PARTICULARS OF MEDICAL FEES.

P. S. inquires if it has ever been ruled in one of the higher Courts that it is not compulsory for a medical man to render a detailed statement of account, and if so when?

*** We are not aware that it has ever been so ruled in any Court. On an action being brought by a medical man to recover his fees full and detailed particulars might be applied for immediately after the commencement of the action, and on such an application an order would

doubtless be made to furnish such particulars unless it could be shown that sufficient particulars had already been delivered.

MEDICAL EVIDENCE AND FEES THEREFOR.

TAIWAN" writes that he was asked by the solicitor to one of the parties to an action in the Probate Court, relative to the will of a testatrix who had been attended by our correspondent, to give evidence in the Probate Division as to the testatrix's mental condition. He was not served with a subpœna, but simply asked by letter to appear on a given day at the Royal Courts of Justice, Strand. This he did, but, after waiting for two days in London, he was informed that the case had been postponed to the end of the month. Our correspondent now inquires whether he can recover his expenses. He adds that it has been suggested that he ought not to go unless served with a subpœna.

*** It is generally unsatisfactory to attend as a witness without being ormally served with a subpœna, unless there is some express agreement in writing for payment of the fees. We think that some such agreemenshould be obtained now for payment of the fees, both for the attend ance already made and which may hereafter be required; and, if this cannot be obtained, our correspondent would be well advised not to attend again without a subpœna. We think that in a case of this kind here ought to be no difficulty in obtaining a proper undertaking for payment of our correspondent's fees.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

BEQUEST FOR PHYSIOLOGY.—A sum of £1,000 has fallen to the University nder the will of Dr. Joseph Gedge, M.B., of Caius College, who died pre- aturely at Khartoum, on October 21st, 1870, while he was engaged as edical officer upon Sir Samuel Baker's expedition. The sum is given in rust for the foundation of a prize, to be given every second year to the raduate of the University of more than five or less than seven years' tanding who submits the best paper containing a record of original bservations in physiology—histological, chemical, or physical. If from ny cause the prize is not awarded, the proceeds of the trust fund are to e given to the Museums of Anatomy and Physiology.

MEDICAL DEGREES.—On Thursday, November 11th, the following medi- al degrees were conferred:—M.D.: G. J. K. Martyn, B.A., of Gonville and aius College; J. R. Carver, M.A., of Christ's College. M.B. and B.C.: . E. Porter, B.A., of Emmanuel College.

OPEN SCIENCE SCHOLARSHIPS.—Awards for natural science to candi- ates not yet in residence have been announced as follows:—St. John's ollege; Williams (Pocklington), and Wakeley (St. Olave's), foundation cholarships of £80; Gregory (Bristol University College), foundation cholarship of £70: Browning (Dulwich), exhibition of £50; Crocker Llandovery), and Macalister (Charterhouse), minor scholarships of £50. rinity College: Harrison (Royal College of Science), minor scholarship of 75; Hamill (St. Paul's), minor scholarship of £50; White (Royal Col- ge of Science), sizarship; Keeling (Bradford), and Scott (Rugby), exhibi- ions of £40.

ADDENBROOKE'S HOSPITAL.—The vacancy in the staff caused by Mr. outy's resignation has been filled by the appointment of Mr. Hubert iggins, B.A., M.R.C.S., Demonstrator of Anatomy in the University, as ssistant-Surgeon. The other candidates were Dr. G. F. Rogers, M.D. amb., Mr. A. Cooke, M.B.Oxford, and Mr. A. Simpson, M.B.Edin.

UNIVERSITY OF LONDON.

M.B. DEGREE EXAMINATION.—The following candidates have satisfied he Examiners:

First Division.—C.W. Alford, Middlesex Hospital: M. Dixon, B.Sc., University College; B. Dyball, St. Thomas's Hospital; J. L. Jones, University College; W. P. Nicol, Mason College; A. W. Sikes, B.Sc., St. Thomas's Hospital; F. H. Thiele, B.Sc., University College; E. J. Toye, B.Sc., St. Bartholomew's Hospital; A. G. Wilson, London Hospital.

Second Division.—E. W. Adams, University College, Sheffield; Louisa Garrett Anderson, London School of Medicine for Women; W. R. Battye, B.Sc., University College; C. H. Benham, University College; H. C. P. Bennett, St. Bartholomew's Hospital; S. H. Berry, Charing Cross Hospital; J. Broadley, Yorkshire College; H. W. Bruce, Guy's Hospital; A. Burn, St. Mary's Hospital; J. E. G. Calverley, St. Bartholomew's Hospital; C. C. Clarkson, University College; A. S. Cobbledick, Bristol Medical School; E. Coleman, Guy's Hospital; Mary Frances Cornford, Royal Free Hospital; S. Cornish, St. Bartholomew's Hospital; T. V. Cunliffe, Owens College and Manchester Royal Infirmary; W. A. Dewhirst, Yorkshire College; Mary Buchan Douie, London School of Medicine and Royal Free Hospital; W. E. N. Dunn, St. Bartholomew's Hospital; C. Dykes, University College; C. H. Fagge, Guy's Hospital; E. G. L. Goffe, University College; C. P. Harris, London Hospital; Alice Mary Hawker, London School of Medicine for Women; C. R. Hodgson, Guy's Hospital; A. L. Home, St. Thomas's Hospital; G. Hutcheson, London Hospital; A. E. Jerman, Westminster Hospital; Beatrice Knowles, London School of Medicine and Royal Free Hospital; H. Leader, Guy's Hospital; G. K. Levick, Guy's Hospital; R. D. Maxwell, London Hospital; R. W. Mayston, Guy's Hospital; C. H. Melland, Owens College and Manchester Royal Infirmary; W. T. Milton, Guy's Hospital; H. P. Noble, Middlesex Hospital; J. H. Phipps, Owens College, Manchester Royal Infirmary, and Guy's Hospital; R. W. C. Pierce, B.Sc., St. Thomas's Hospital; G. E. Richmond, B.A., B.Sc., Guy's Hospital; J. T. Roberts, Guy's Hospital; F. W. Robertson, St. Bartholomew's Hospital; T. O'N. Roe, University College; J. P. Scatchard, St. Thomas's Hospital; J. Shardlow, University College; Mary Nona Sharman, Royal Free Hospital; E. B. Sherlock, B.Sc., Westminster Hospital; J. E. Smith, University College, Liverpool; L. A. Smith, London Hospital; H. J. Starling, Guy's Hospital; E. S. Stork, University College; P. C. E. Tribe, King's College; W. P. Walker, Owens College and Manchester Royal Infirmary; R. J. Warrington, Owens College and Manchester Royal Infirmary; Bertha Margaret Webb, London School of Medicine and Royal Free Hospital; P. G. S. Williams, University College; T. H. Woodfield, St. Bartholomew's Hospital.

VICTORIA UNIVERSITY.

DISCIPLINARY POWERS.—At a meeting of the Court of this University held on November 11th some important business relative to the Medical Faculties of the University was transacted. Professor D. J. Leech, M.D., as a member of the Court elected by Convocation, was duly elected a member of the Council. With regard to the disciplinary powers of the University, the Court resolved to apply to the Crown for an amendment of the Charter, which would give the University power to enact as follows:

If the Vice-Chancellor shall report to the Court that it has been proved to his satisfaction and that of the Council that a graduate of the University has been convicted of a crime for which he has been sentenced to penal servitude or imprisonment, and that the crime is in his opinion and in that of the Council one which renders such graduate unfit to be a graduate of the University, then the Court may by resolution deprive him of his degree or degrees and of all privileges enjoyed by him as a graduate of the University.

M.B. EXAMINATIONS.—A slight change was made in the statutes regarding the Second and Final M.B. Examination, namely, (1) That in Statute IV, Section XIII (*Calendar*, p. 96), the following words be deleted: "Candidates presenting themselves in A alone, or in B alone, and failing to satisfy the examiners, must present themselves again in the same subjects, or in A and B together." (2) That Statute IV, Section XVIII (*Calendar*, p. 98), be altered to read as follows: "Candidates who fail to satisfy the examiners in the First Part must either present themselves again in the subjects as selected, or in all the three subjects of the First Part, or in all the six subjects of the examinations."

ENTRANCE EXAMINATION IN ARTS.—A committee was also appointed to consider the question of having only one standard qualifying for entrance to the different faculties of the University. At present there is a separate examination—the Entrance in Arts—qualifying for entrance to the Medical Faculty.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following are the arrangements for the Final Examination for the Fellowship, for which 45 candidates have entered their names: Monday, November 23rd, Written Examination, 1.30 to 5.30 P.M., at Examination Hall; Tuesday, November 23rd, Clinical Examination, 2.30 to 5.30 P.M., at Examination Hall; Wednesday, November 24th, Operations, 1.30 to about 6 P.M., at Examination Hall; Thursday, November 25th, Surgical Anatomy, 2 to 4.15 P.M., at Examination Hall; Friday, November 26th, Pathology, 5 to 7.30 P.M., at Royal College of Surgeons; Saturday, November 27th, Pathology, 5 to 7 P.M., at Royal College of Surgeons.

CONJOINT BOARD IN ENGLAND.

THE following gentlemen have passed the First Examination of the Board under the "Four Years'" Regulations in the subject indicated:

Materia Medica.—E. C. W. Beasley, St. Mary's Hospital; T. L. Braidwood, St. Thomas's Hospital; W. W. Claridge, Middlesex Hospital; F. W. E. Courtenay, Owens College, Manchester; J. W. Hughes, Cambridge University; T. Jones, Middlesex Hospital; T. McCarthy, Queen's College, Cork; R. C. Morris, Mason College, Birmingham; P. G. Williams, St. Thomas's Hospital.

The following gentlemen have passed the First Examination of th Board under the "Five Years'" Regulations in the subjects indicated:

Part I. Chemistry and Physics.—J. H. Ashton, Owens College, Manchester; S. C. H. Bent, Guy's Hospital; C. R. Bradley, Birkbeck Institute; W. W. Browne, University College and Devonport Technical Schools; H. H. Butcher, St. Bartholomew's Hospital; J. Couper, Charing Cross Hospital; C. M. L. Cowper, Guy's Hospital; A. D. Crofts, Cheltenham School of Science; C. Dix, St. Bartholomew's Hospital; W. H. Elwood, Queen's College, Belfast; L. C. Ferguson, St. Bartholomew's Hospital; W. L. M. Goldie, St. Mary's Hospital; A. G. Harvey, University College, Cambridge; J. G. Higgins, St. Mungo's College, Glasgow; G. W. C. Hollist, Guy's Hospital; H. Ide, Charing Cross Hospital; H. Jacques, London Hospital; J. D. Keir, Anderson's College and Glasgow University, Glasgow; T. J. Latham, London Hospital; R. C. Lawry, Guy's Hospital; C. J. Lemon, St. George's Hospital; H. P. Margetts, St. Bartholomew's Hospital; W. Martin, St. George's Hospital; N. H. Mummery, University College; H. T. T. Murdoch, Yorkshire College, Leeds; G. S. Oades, Charing Cross Hospital; W. G. Paget, St. Bartholomew's Hospital; S. L. Pallant, Birkbeck Institute; E. H. Paterson, Guy's Hospital; R. C. Poyser, Guy's Hospital; F. W. Smith, Guy's Hospital; A. D. Spalding, London Hospital; A. F. Van Dyk, Royal College of Surgeons, Edinburgh; H. Waddell, Queen's College, Belfast; H. W. Wallis, Guy's Hospital; R. C. Wilmot, St. Bartholomew's Hospital.

Part II. Practical Pharmacy.—D. G. R. S. Baker, University College, London; C. H. Bannerman, University College, Liverpool; G. Barnes, St. Mary's Hospital; P. R. Blake, London Hospital; H. E. G. Boyle, St. Bartholomew's Hospital; A. Butler, St. Bartholomew's Hospital; F. W. Cheese, St. Bartholomew's Hospital; J. W. H. Clark, London Hospital; S. N. Crowther, Westminster Hospital; C. M. Ekins, University College Hospital; H. H. Elworthy, Westminster Hospital; E. Evans, Guy's Hospital; R. Gauld, London Hospital; J. Griffith, Cambridge University; A. S. Grimwade, Melbourne University and St. Thomas's Hospital; H. A. C. Harris,

St. Thomas's Hospital; A. G. Higgins, St. Bartholomew's Hospital; A. R. Hobbs, St. Mary's Hospital; A. P. Hope-Simpson, University College, Liverpool; G. A. Hutchinson, St. Mary's Hospital; D. F. Kennard, St. Mary's Hospital; G. H. Latham, St. Thomas's Hospital; A. W. Nourse, Guy's Hospital; H. G. Pinker, St. Bartholomew's Hospital; W. H. Randolph, St. Bartholomew's Hospital; N. J. Roche, Charing Cross Hospital; H. C. Ross, St. Thomas's Hospital; D. Samuel, St. Mary's Hospital; F. M. Smith, St. Mary's Hospital; G. S. B. Soper, Guy's Hospital; C. S. Stolterforth, University College Hospital; R. Thompson, St. Bartholomew's Hospital; G. de B. Turtle, King's College Hospital; C. P. Vores, Westminster Hospital; J. Wells, Mason College, Birmingham; F. J. Woods, St. Bartholomew's Hospital.

Part III. Elementary Biology.—L. A. Arnould, St. Paul's School, West Kensington; A. J. Beadel, Guy's Hospital: W. Crampton, University College, Liverpool; W. G. Fullagar, St. Thomas's Hospital; G. W. G. Hughes, King's College Hospital; R. V. James, University College, Bristol; A. L. Jones, St. Mary's Hospital; C. R. Keed, St. Bartholomew's Hospital; W. T. McCowen, St. Mary's Hospital; A. E. Oakeley, Middlesex Hospital; E. H. Paterson, Guy's Hospital; B. E. Sansom, St. Thomas's Hospital; J. P. B. Snell, Middlesex Hospital; W. A. Tatchell, London Hospital; E. N. Thornton, London Hospital.

HOSPITAL AND DISPENSARY MANAGEMENT.

ULSTER EYE, EAR, AND THROAT HOSPITAL.

A new wing has recently been added to this hospital. At the opening ceremony Mr. G. W. Wolff, M.P., occupied the chair, and the new wing was declared open by Miss Harriette Benn. The Lady Mayoress (Mrs. Perrie) also took part in the proceedings. The extension comprises eight new private wards, new day rooms, a new operating room, new bathrooms, etc. Dr. Mackeown, the attending surgeon, expressed his great satisfaction at the completion of the new wing. During the past six months twenty-five operations had been performed upon cataracts in almost every stage of development, and in no single case had there been any cause for anxiety. A feature of the operating room is a burner of 115-candle power, acetyline gas being the illuminant. A vote of thanks to Miss Benn and to the chairman concluded the proceedings.

SALFORD ROYAL HOSPITAL.

The annual meeting of the governors of the Salford Royal Hospital was held on October 27th. The annual report stated that during the year 25,024 persons had received medical and surgical assistance from the officers of the charity, and the accidents admitted numbered 7,108. The year's expenditure was £1,099 in excess of ordinary income, and this, it was pointed out, was a matter of considerable anxiety to the Board of Management, especially as for some years back there has been an annual deficit. The services of the small staff of private nurses had been more in request, and seem to be appreciated by the general public. The Board have decided to light the hospital throughout with electricity, which they consider will improve its sanitary condition and add to the comfort of the inmates. The income for 1897 amounted to £5,110, while the expenditure was £6,209, leaving a deficit of £1,099. The patients treated at the hospital and dispensary numbered 25,024. Mr. Dickens said Salford people scarcely did enough for the hospital. The subscriptions, which amounted to about £1,700 yearly, meant that a penny was not given yearly by each person in the borough. The report was adopted, and the officers appointed for the ensuing year.

THE AFTER-CARE ASSOCIATION.

The last annual report of the After-Care Association for Poor Persons Discharged Recovered from Asylums for the Insane, which does some most valuable work among the poor recovered insane, shows that during the year there were 135 cases before the Council, 106 being women and 29 men. Some few were declined as being unfit to resume the struggle of life. The ways in which cases are assisted are several; some are boarded out in cottages in the country, some receive grants of money, clothing, and so on; for some, occupation is found; and there are other ways, also, of affording aid to those who require assistance in order that they may again take some active and useful part in the work of the world. The subscriptions and donations for the year were about £308; friends of applicants contributed £108; interest on investments yielded about £16; making (aside from a legacy) an income of about £432 odd. The grants to applicants were about £252, and general expenses £170. We feel sure the Council, which comprises many good names, will be very glad to lessen the proportional relation of this last amount to the total available income. The Council appeals for more donations, subscriptions, and legacies.

THE ATTENDANCES OF MEMBERS OF THE HONORARY STAFF.

Mr. Rich. Kershaw (Secretary Central London Throat and Ear Hospital) writes: The question of an attendance book, to be signed by the honorary medical staff, having been under consideration at this hospital, I have ascertained the practice in this respect at other metropolitan hospitals, and the results of my inquiry appear so interesting that they are submitted to you for publication. Although but at few institutions the hour of departure is noted, its adoption was recommended to our Committee, since the record demonstrates the amount of time which is devoted to the patients by the honorary staff, a point hardly appreciated by the general public. The figures include 21 general and 51 special hospitals. At 17 general and 39 special hospitals an attendance book is employed; at 1 it was employed, but fell into disuse, while at 2 others the subject is now under discussion; at 10 only is there no registration. Two institutions did not reply to my inquiry. At 39 institutions the medical staff are required to register their names and the hour of arrival, at 9 both the hour of arrival and departure, and at the remaining 8 the registration is carried out by an attendant. All the hospitals for consumption and diseases of the chest have an attendance book, and at two of them the staff sign both the time of arrival and departure; at all the ophthalmic hospitals an attendance book is in force, at one of them the staff signing both in and out. At 9 out of the 10 hospitals for women, including lying-in, the attendance book is employed. At 6 of the 9 children's hospitals it is in use, and at one of them the question of its introduction is now being discussed. In two of these hospitals the rules on the subject of signing are very stringent. Of the 4 hospitals for diseases of the throat and ear, the staff sign their names together with the hour of arrival and departure, at three of them, and in one case the arrival only.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 6,324 births and 4,009 deaths were registered during the week ending Saturday last, November 13th. The annual rate of mortality in these towns, which had increased from 16.9 to 18.1 per 1,000 in the three preceding weeks, further rose to 19.0 last week. The rates in the several towns ranged from 10.7 in Cardiff, 11.7 in Plymouth, 13.3 in West Ham, and 13.9 in Gateshead, to 23.1 in Liverpool, 24.7 in Sheffield, 25.4 in Preston, and 26.5 in Burnley. In the thirty-two provincial towns the mean death-rate was 18.8 per 1,000, and was 0.6 per 1,000 below the rate recorded in London, which was 19.4 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.2 per 1,000; in London the rate was equal to 2.5, while it averaged 2.0 per 1,000 in the thirty-two provincial towns, among which the highest zymotic death-rates were 3.4 in Bolton, 3.8 in Bristol, 4.1 in Gateshead, and 5.6 in Blackburn. Measles caused a death-rate of 1.6 in Swansea, 1.7 in Croydon, 1.8 in Oldham, and 4.4 in Blackburn; scarlet fever of 2.1 in Gateshead; and "fever" of 2.7 in Bristol. The mortality from whooping-cough showed no marked excess in any of the large towns. The 70 deaths from diphtheria in the thirty-three towns included 46 in London, 5 in Birmingham, 4 in Liverpool, 3 in Cardiff, and 3 in Leicester. No fatal case of small-pox was registered last week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylum Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,685, 3,682, and 3,680 at the end of the three preceding weeks, had risen again to 3,777 on Saturday last, November 13th; 460 new cases were admitted during the week, against 342, 416, and 339 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, November 13th, 900 births and 599 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had declined from 20.3 to 18.8 per 1,000 in the three preceding weeks, rose again to 20.1 last week, and was 1.1 per 1,000 above the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 16.1 in Paisley and 16.6 in Aberdeen to 21.4 in Glasgow and 23.7 in Greenock. The zymotic death-rate in these towns averaged 2.1 per 1,000, the highest rates being recorded in Dundee and Greenock. The 294 deaths registered in Glasgow included 8 from whooping-cough, 6 from scarlet fever, 2 from diphtheria, 2 from "fever," and 1 from small-pox. Four fatal cases of scarlet fever were recorded in Dundee, and 2 of diphtheria in Edinburgh.

DIPHTHERIA IN LONDON

The mortality from diphtheria in London last week showed a further decline. The deaths referred to this disease, which had been 55, 65, and 59 in the three preceding weeks, further fell to 46 during the week ending Saturday last, November 13th. Of the 46 fatal cases, 5 were of persons belonging to Poplar, 4 to Kensington, 4 to St. Pancras, 4 to Wandsworth, 4 to Camberwell, 3 to Fulham, 3 to Clerkenwell, and 3 to Battersea sanitary areas. Thirty of these 46 deaths were of children under 5 years of age, and 16 (nearly all of which were of children under 10 years of age) between 5 and 20 years; while not one fatal case occurred among persons aged upwards of 20 years. The number of notifications of diphtheria in London, which had been 369, 331, and 314 in the three preceding weeks, further declined to 293 during the week ending Saturday last. Compared with recent weeks, there was a further decline in the prevalence of the disease in North, Central, and East London, while in West London the number of new cases corresponded with those recorded in the preceding week, and those in South London showed a slight increase. Among the sanitary areas of West London the 17 new cases of diphtheria notified in Fulham exceeded the number in any recent week, and in Kensington, Hammersmith, and Westminster there was also an increase in the number of new cases. Among the sanitary areas of North London there was a general decline, which was most marked in Hampstead. Among East London districts there was a considerable decline in the prevalence of diphtheria in Mile End Old Town, Whitechapel, and in Bethnal Green, the new cases in the latter district falling to 5, against 13 and 18 in the two preceding weeks. On the other hand, the new cases in Shoreditch, St. George-in-the-East, Limehouse, and Poplar exceeded those recorded in the previous week. In most of the sanitary areas of South London there was an increase last week in the prevalence of diphtheria, which was most marked in Bermondsey, Greenwich, Lewisham, and Lee. In Camberwell the new cases numbered 20, against 29, 22, and 21 in the three preceding weeks. The admissions of diphtheria patients into the Metropolitan Asylum Hospitals during last week were 148, against 149, 166, and 163 in the three preceding weeks; and 1,053 patients remained under treatment in these hospitals on Saturday last.

A PENNY A HEAD.

The Garstang Rural District Council have imposed upon their medical officer of health the duty of attending every council and committee meeting, and propose to give him "a little more pay for it," and in addition to take sanitary business first so as to free him as soon as possible from the irksomeness of sitting out meetings at which matters foreign to his work will be discussed. So far so good. But why the "little more pay"? If our information be correct, Dr. Fisher, the present health officer, devotes a considerable amount of time to the duties of his office for the paltry sum of £50 a year, or less than 1d. a head of population, in a district the acreage of which exceeds 62,000; that is to say, he has the sanitary oversight of some 250 persons and 1,200 acres for each £1 of salary. We trust that the addition to his remuneration will be of substantial kind. He has served the locality in his official capacity for about seventeen years, and hence has become valuable because of his intimate knowledge of its condition and requirements.

A NEW METHOD OF FILTERING PUBLIC WATER SUPPLIES.

Mr. G. Fischer, the eminent German engineer, has devised a new form of filter for public waterworks, which has proved so successful at Worms that it has recently been adopted at several other towns in Germany. It does not claim to yield an absolutely sterile filtrate, but only one equal to that from the best made and managed sand filters in general use, while it occupies less space, a consideration where land commands a high price, is easily cleansed, and costs less in working expenses, since the materials do not require renewal. It is composed of "batteries" or series of porous cells, into which the water percolates by its own pressure from without inwards, the filtered water escaping by apertures in the floor of each cell to the channels conveying it to the storage reservoirs. The cells are rectangular, about 3 feet high, 2 feet wide and thick, and are composed of a mixture of fine sand and powdered glass, compressed in moulds and partially vitrified, so as to obtain cohesion between the particles without loss of porosity. The slime to which the sand filter is believed to owe its power of arresting bacteria and removing a considerable part of the dissolved as well as of the suspended organic matter, forms on the outer surface of these cells, and when so thick as to interfere with the flow, is wholly or partially removed by brushing, and running off the water in which the slimy particles are suspended, such as are left assisting in restoring the film when the unfiltered water is turned on again. The restoration of this film is more rapid than it is on a clean surface of fresh sand, so that the use of the filter is not suspended for several days, as is the practice in Germany, where the filtrate is pumped back into the unfiltered water until the number of bacteria in the cubic centimetre has sunk to fewer than 70. Great care has to be taken in the manufacture of the cells, but, if this be done, the efficiency is stated to be fully equal to that of the best sand filters. The cost of constant renewal is avoided, as well as the risk of accidental failures through shifting of the sand, and the substitution of four perpendicular faces and one horizontal for the single surface of the sand bed effects a great saving in the acreage required.

THE CLIMAX OF AFFAIRS AT FARNBOROUGH.

The latest and most important development connected with Farnborough affairs, sanitary and other, which have acquired an unenviable notoriety, is summed up in the following comments of the *Aldershot News*: At the largest public meeting that Farnborough has ever known, with only three exceptions, the whole company agreed that the present council has been tried and found wanting. Quietly, decorously, and with excellent temper this large public meeting expressed its regret that the present council have not done something for the effective drainage of the neighbourhood, and has passed a resolution urging them "to proceed at once with a scheme that shall have for its object not only the treatment of the present harm, but also the effective drainage of the whole of the parish." It is reported that "a forest of hands" went up in favour of the resolution, which we would say has not been passed too soon.

THE POSTAGE OF NOTIFICATION CERTIFICATES.

I B.—As we stated in reply to a similar inquiry in the British Medical Journal of May 22nd, 1897, p. 1327, the Local Government Board holds that the practitioner must pay the postage, but the county court judge of Lancashire appears to have held to the contrary.

THE NEW INFECTIOUS DISEASES HOSPITAL, LANARKSHIRE.

The new hospital for infectious diseases which has been erected by the District Committee to meet the needs of the Middle Ward of the County of Lanarkshire is the fifth hospital which has been provided by the District Committee. It occupies a site of some six acres, situated near Motherwell, and is said to be the largest county fever hospital in Scotland. There are four main ward pavilions arranged *en échelon* with the axis north and south, each containing two ten-bed wards with two separate single-bed private rooms attached. In addition to the eighty-eight beds thus provided, there are six beds in an "isolation pavilion," and six others in an "observation pavilion," bringing the total accommodation up to 100 beds. The administration and office blocks and the gate lodge form distinct buildings. The main wards are 60 feet by 26 and 13 feet high. Each bed has 12 feet wall space, 156 square feet floor space, and 2,028 feet cubic space. Bathrooms and reception and discharge rooms have been constructed for each pavilion, a low pressure hot water heating apparatus has been provided, and the ventilation of the pavilions has been carefully regulated. There are two systems of drainage, one for sewage, the other for rain water; the sewage is purified before leaving the hospital grounds. A complete system of subways connects the various buildings, and the hospital is lighted throughout by electricity. The total cost will be about £37,000, or £370 per bed. The erection of this hospital completes the scheme which was devised by Dr. M'Lintock, formerly medical officer of the county, and the Chairman of the District Committee was able to point to the striking contrast between the character of the hospital accommodation existing in 1890 and that now available. In 1890, of the fourteen parishes comprising the middle ward, only seven had any means of isolating infectious cases, while the extent of accommodation provided at the present time was somewhat in advance of present needs. The population of the district is, however, rapidly increasing. Dr. M'Lintock, who was present and spoke at the opening ceremony, expressed the hope that the common sense shown in the Middle Ward would be emulated in other places.

INCREASE OF MEDICAL OFFICER'S SALARY.

We see by the *Birmingham Gazette* that at a recent meeting of the Bromsgrove Board of Guardians an increase of salary to the medical officer of the workhouse was agreed to. This change appears to have been made on the recommendation of the Chairman, who said that he considered the statement they had heard from the medical officer in reference to his present remuneration constituted a good case. The increase decided upon was from £30 to £40 a year, but even this can hardly be considered remunerative when it is to include payment for the supply of all medicines. It is much to be regretted that arrangements cannot be made for guardians to supply all medicines prescribed by medical officers for patients in workhouses.

MONEY NO OBJECT.

The St. Columb Major Rural District Council has expressed itself, by the voice of one of its members, as having a mind above money, and on being concerned only with the health of the people. Acting on the expression to which utterance was thus given, the council proceeded forthwith to negative by a majority of 7 (31 voting) the proposal made to adopt the Infectious Disease (Notification) Act. The heroic disclaimer of money as an object of importance in face of the past, and indeed present, sanitary, or rather insanitary, condition of Wadebridge is, to say the least, puzzling; whilst the statement that the council has regard for the health of the district is hard to be credited in the face of the above voting. Will disease notification tend to increase disease? Can such an idea be seriously entertained? If not, why this refusal to adopt the system? To learn of the existence of disease, and to learn it at an early stage, is to be armed with knowledge which becomes power.

THE INFECTIVITY OF TYPHOID.

H. A. H.—While it is generally acknowledged that enteric fever is most frequently contracted through the ingesta, and though polluted water and contaminated milk rank in its highest causation, yet there can be but little doubt that the poison enters occasionally by other means. The facts as stated are not sufficient to enable us to form an opinion as to whether exceptional circumstances may exist in this case.

FEE FOR LUNACY CERTIFICATION.

Dubitans writes to say that he attended as a private patient one who had to be sent to a public lunatic asylum, but as the expense there incurred was beyond the means of the patient's friends, it soon became necessary for other arrangements to be made. To effect this the relieving officer was applied to, who requested our correspondent to visit the patient (then a mile off) and to certify for admission to a public asylum. Dubitans asks whether he is to apply to the relieving officer or to the friends for the fee, and what this fee ought to be?

*** When the relieving officer took up this case the patient became a pauper, and, as our correspondent was then requested by him (the relieving officer) to visit the patient for the express purpose of certifying to lunacy and fitness for removal to a public asylum, he (the relieving officer) ought to be prepared to pay the usual fee of 1 guinea for this certification. If he refuses to do this the magistrate who acted in the case has the power to order the guardians to pay this fee.

THE DUTIES OF MEDICAL OFFICERS OF HEALTH.

M. O. H. asks for a handbook dealing with the duties of a medical officer of health, including the disinfection of houses and sanitary matters generally.

*** *Manual of Public Health*, by A. Wynter Blyth, M.R.C.S., L.S.A. London: Macmillan and Co. 1890. *Hygiene and Public Health*, by Louis C. Parkes, M.D., D.P.H. Fifth edition. London: H. K. Lewis. 1897. 10s. 6d. *Hygiene and Public Health*, by B. A. Whitelegge, M.D., B.Sc. Fourth edition. London: Cassell and Co. 1894. 7s. 6d. *Handbook of Hygiene and Sanitary Science*, by George Wilson, M.A., M.D. Seventh edition. London: J. and A. Churchill. 1892. 12s. 6d., contain much of the information sought. Handbooks, being largely condensations, often require to be supplemented in actual practice. *The Theory and Practice of Hygiene*, by J. Lane Notter, M.A., M.D., and R. H. Firth, F.R.C.S. London: J. and A. Churchill. 1896. 24s. *A Treatise on Hygiene and Public Health*, edited by T. Stevenson, M.D., F.R.C.P., and Shirley F. Murphy. In three volumes. London: J. and A. Churchill. £4., are good books to consult. "M. O. H.," remembering that "conference maketh a ready man," will doubtless avail himself of the Branch of the Society of Medical Offiers of Health in his own neighbourhood.

Presentation.—Mr. J. Maclean Carvell, M.R.C.S., has been presented with a silver-mounted umbrella by the members of the Cyclists' Division of the St. John Ambulance Association on the termination of a course of lectures on First Aid.

A Medical Justice.—Dr. Murison, who has been a member of the Dundee Town Council for two years, has been elected a Bailie by the practically unanimous vote of his colleagues.

MEDICAL NEWS.

DR. NEWTON L. BATES has been appointed Surgeon-General of the United States Navy.

THE annual meeting of the Chester Medical Society was held at the Queen's Hotel, Chester, on October 19th. Dr. Elliott, president for the year, occupied the chair. A large number of guests from Liverpool, Cheshire, and North Wales were present. A pleasant evening was spent, and the usual toasts were honoured.

AT a meeting of the Special Appeal Committee of the Charing Cross Hospital held recently at the Mansion House, under the presidency of Lord Glenesk, it was stated that, of the £100,000 it was sought to raise in five years to clear off liabilities and provide funds for new buildings, £34,626 had already been subscribed.

LORD STRATHCONA AND MOUNT ROYAL, High Commissioner for Canada, has received an offer from Sir Squire Bancroft to give seven readings in Canada of the *Christmas Carol*, in aid of hospitals in the Dominion, next February. Arrangements are being made for readings to take place in the following cities: Montreal, Quebec, Ottawa, Kingston, Toronto, Hamilton, and London.

WE are asked to state that the annual Old Students' dinner of the Dental Hospital of London will be held at the Hôtel Métropole on Saturday, December 4th, under the chairmanship of Mr. A. S. Underwood, M.R.C.S., L.D.S. Any gentlemen now or formerly connected with the school who by inadvertence may not have received an invitation is requested to communicate with the Dean at the Dental Hospital, 40, Leicester Square.

THE BELFAST HOSPITAL FOR SICK CHILDREN.—Several changes in the staff have recently taken place. Dr. Stack has resigned the position of Attending Surgeon, and has been succeeded by Mr. T. Sinclair Kirk, M.B., Assistant Surgeon. To the vacancy thus created, Dr. J. Lynass has been elected.

MEMORIAL TO PROFESSOR BILLROTH.—A memorial to the late Professor Billroth was unveiled in the University of Vienna last week. A very large and representative assembly, including many of the late surgeon's most eminent pupils, attended the ceremony. After Professor Gussenbauer had delivered a speech in which he described the career of Professor Billroth, the memorial was formally presented to the University by members of Professor Billroth's family, and accepted by the Rector in the name of the University.

DR. C. O. HAWTHORNE.—On the evening of November 12th a complimentary dinner was given to Dr. C. O. Hawthorne by his friends in the medical profession in Glasgow on the occasion of his leaving for London. Professor Gairdner, whose assistant Dr. Hawthorne has been for several years, was in the chair, and there was a large attendance. Many letters of apology had been received from prominent members of the profession who had been unable to be present, and the general feeling of these and of the assembled company was one of regret that Dr. Hawthorne was leaving Glasgow, and every good wish was expressed for his future success. Professor Gairdner, in proposing the health of the guest of the evening, paid a warm tribute to the valuable work he had done in Glasgow, and referred to the loss his departure would be to the medical profession and to the medical school of the University. Dr. Hawthorne in his reply spoke of the regret with which he was leaving his old associations, and gave some reminiscences of his life and work in Glasgow. He emphasised also the great influence in the medical school of Professor Gairdner, who had done so much for the advancement of its name and fame. At the earlier period of the day the lady students of Queen Margaret College presented Dr. Hawthorne with a set of Allbutt's *System of Medicine* as an expression of their appreciation of his work as a teacher.

ON November 15th, at Freemasons' Hall, fifty of the Past and Present Students of St. Mary's Hospital were constituted a Lodge of Freemasons, under the title of "Sancta Maria." The ceremony was performed by the Earl of Lathom, G.C.B., Pro Grand Master, assisted by other distinguished brethren. His Royal Highness the Prince of Wales, having graciously consented to be the first Master of the Lodge, appointed Bro. Edmund Owen, F.R.C.S., Deputy Master, and he was installed into the chair by the Earl of Euston, Provincial Grand Master of North Hunts, assisted by the Viscount Dungarvan, Provincial Grand Master of Somerset. During the ceremony the following telegram was received by the Deputy Master: "Hearty good wishes and a successful career to the Sancta Maria Lodge.—ALBERT EDWARD." Among the officers appointed were: The Hon. R. Bootle Wilbrahan, S.W.; J. Ernest Lane, F.R.C.S., J.W.; Malcolm Morris, F.R.C.S., Treasurer; M. Handfield Jones, M.D., Secretary; A. Stewart Brown, I.P.M.; A. P. Luff, M.D., S.D. The brethren, to the number of 120, subsequently dined at the Freemasons' Tavern.

MEDICAL VACANCIES.

The following vacancies are announced:

BOURNEMOUTH ROYAL VICTORIA HOSPITAL. — House-Surgeon. Salary, £80 per annum, with board. Applications to the Chairman of Committee by December 1st.

BRADFORD ROYAL INFIRMARY.—Junior House-Surgeon. Salary, £50 per annum, with board and residence. Unmarried and doubly qualified. Applications, endorsed "Junior House-Surgeon," to William Maw, Secretary, by November 22nd.

CARDIFF INFIRMARY. — Assistant House-Surgeon, doubly qualified. Appointment for six months without salary, but with board, washing, and apartments. Applications to George J. Coleman, Secretary, by December 1st.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer; unmarried; doubly qualified. A knowledge of Welsh desirable. Salary £100 per annum, with furnished apartments, board, attendance, fire gas, and washing. Applications to Howell Howell, 3, Morley Street Carmarthen, by November 23rd.

CHELSEA HOSPITAL FOR WOMEN, Fulham Road, S.W.—Registrar. Post tenable, subject to annual reappointment, for not more than three years. Honorarium, twenty guineas per annum. Applications to Herbert H. Jennings, Secretary, by November 27th.

DENTAL HOSPITAL OF LONDON AND LONDON SCHOOL OF DENTAL SURGERY, Leicester Square.—Demonstrator. Honorarium, £50 per annum. Applications to Morton Smale, Dean, by November 22nd.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Assistant House-Surgeon. Appointment for six months. Honorarium of £10 after six months satisfactory service, together with board, residence, and washing. Applications to Walter G. Carnt, Secretary, by December 11th.

DURHAM COUNTY ASYLUM.—Third Assistant Medical Officer. Salary to commence at £100 per annum, with board, lodging, etc. Applications to Dr. Smith, Superintendent, Winterton, Ferryhill, by November 24th.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis Road, Shadwell, E.—House-Physician. Board, residence, etc., provided, and an honorarium of 15 guineas at completion of six months' satisfactory service. Application to Thomas Hayes, Secretary, by December 11th.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, Bloomsbury. —House-Surgeon to Out-patients (non-resident). Appointment for six months but eligible for re-election. Salary, 25 guineas. Applications must be on forms to be obtained from the Secretary, to whom they must be sent by November 23rd.

LONDON SCHOOL OF MEDICINE FOR WOMEN, 30, Handel Street Brunswick Square, W.C —Lectureship of Physiology. Salary, £200 a year. Applications to the Secretary by November 24th.

MANCHESTER: OWENS COLLEGE.—Junior Demonstrator in Anatomy. Stipend, £100, rising by yearly increments to £150. Applications to the Registrar by November 30th.

MERCER'S HOSPITAL, Dublin.—Gynæcologist. Applications to the Registrar at the Hospital by November 23rd.

NEW HOSPITAL FOR WOMEN, 144, Euston Road.—Two qualified medical women as House-Surgeons. Applications to Margaret M. Bagster, Secretary, by November 24th.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, Shoreditch, N.E.—House-Physician, doubly qualified. Appointment for six months, and at the expiration of that term will be required if eligible to act as House-Surgeon for six months. Salary as House-Physician at the rate of £60 per annum, and as House-Surgeon at the rate of £80 per annum. Applications to the Secretary by November 30th.

PRESTATYN URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £20 per annum, to include travelling and all other expenses. Appointment for one year. Applications, marked "Medical Officer of Health," under seal, to John Hughes, Clerk to the Council, by November 24th.

RADCLIFFE INFIRMARY, Oxford.—Honorary Physician. Applications to the Secretary by December 11th.

READING: ROYAL BERKSHIRE HOSPITAL.—House-Physician. Salary, £60 per annum, with board, lodging, and washing. Assistant Medical Officer; appointment for six months. Board, lodging, and washing provided, and an honorarium of 10 guineas if duties are performed satisfactorily. Applications to the Secretary before December 6th.

ROUSAY AND EGILSHAY, Parish of.—Medical Officer (Resident). Salary, £51 sterling per annum. Applications to the Clerk of Parish Council Rousay, Orkney.

OYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C. — Non-resident Assistant House-Surgeon in Out-patient Department. Salary, £75 per annum. Applications to the Secretary by December 6th.

OYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, West Strand.—Clinical Assistants. Appointment for six months. Applications to T. Beattie-Campbell, Secretary, by November 27th.

. GEORGE'S AND ST. JAMES'S DISPENSARY, 6, King Street, Regent Street, W.—Dentist; must be L.D.S.Eng. Applications to the Secretary by November 22nd.

'. GEORGE'S UNION, London.—Medical Officer for the Workhouse, Wallis Yard, Buckingham Palace Road, S.W. and for the No. 4 Medical Relief District of the Union. Salary attached to the former post, £50 per annum, and to the latter, £150 per annum, with usual medical extra fees. Doubly qualified, and must reside within or near the district. Applications to Thomas Worlock, Clerk, Clerk's Office, St. George's Vestry Hall, Mount Street, W., by November 24th.

UNTON AND SOMERSET HOSPITAL.—Honorary Physician; must reside within two miles of the hospital. Applications to J. H. Biddulph Pinchard, Secretary, 13, Hammet Street, Taunton, by December 3rd.

CTORIA HOSPITAL FOR CHILDREN, Queen's Road, Chelsea, S.W.—Physician to the In-patients; must be F or M.R.C.P.Lond. Also Assistant Physician to the Out-patients; appointment for two years, at the expiration of which he will be eligible for appointment as Physician to the In-patients. Applications to the Secretary by November 27th.

ALLASEY DISPENSARY.—House-Surgeon, unmarried, must devote his whole time to the duties. Applications to Mr. William Heap, Elm Mount, Penkett Road, Liscard, Cheshire, by December 1st.

ESTERN GENERAL DISPENSARY, Marylebone Road.—Honorary Physician, must be F. or M.R.C.P.Lond. Applications to the Honorary Secretary.

EST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House-Surgeon. Appointment for six months. Board, lodging, and washing in the hospital. No salary. Applications to the Secretary, at the Hospital, by November 26th.

EST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician and House-Surgeon. Appointments tenable for six months. Ophthalmic Surgeon, must be F.R.C.S. of London, Edinburgh, or Dublin; and Assistant Anæsthetist (honorary and non-resident). Applications to R. J. Gilbert, Secretary-Superintendent, by December 8th.

MEDICAL APPOINTMENTS.

MITAGE, Edward, L.R.C.P., L.R.C.S.Edin., reappointed Medical Officer of Health to the Grimsby Rural District Council.

RKER, Gordon C., M.A.Camb., M.D.Brux., M.R.C.S.Eng., L.R.C.P., appointed Anæsthetist to the Brighton and Hove Hospital for Women for ten years.

DDARD, A. P., M.A., M.B, B.C., M.R.C.P., appointed Assistant Physician to the West London Hospital.

RTRAM, Thomas Dun, J.P, M.B.Glasg., C.M., appointed Government Medical Officer for Coonamble, N.S.W., *vice* Dr. E. O. Newland, resigned.

TLER, C., M.D.Brux., M.R.C.S., L.R.C.P., appointed Anæsthetist to the Samaritan Free Hospital for Women and Children.

NCH, T. Aldous, M.D.Edin., appointed Pathologist to the Durham County Asylum.

TDON, F. W., F.R.C.S.I., appointed a Visiting Surgeon to the Sheil Hospital, Ballyshannon.

WFORD, Dr., appointed Medical Officer for the Pembury District of the Tonbridge Union, *vice* W. Maldon, M.B.

IGHTON, R. H., B.A., M.B., M.A.O., R.U.I., appointed Visiting Surgeon to the Sheil Hospital, Ballyshannon.

ALD, Hugh Callighan, M.B., C.M., F.R.C.S.Eng., appointed Acting Surgeon to the Infirmary, Paisley.

DNER, A., M.B., C.M., appointed Medical Officer of Health to the Kirbymoorside District Council.

RDING, Richard, reappointed Medical Officer of Health to the Kingston Rural District Council.

RGREAVES, W. H., M.R.C.S., L.R.C.P., appointed Medical Officer to the Hospital and Public Vaccinator to the District of Akaroa, New Zealand.

RPER, Henry C., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer for the No. 5 District of the Stow Union, *vice* J. W. Harper, M.R.C.S.Eng.

LY, Daniel, L.R.C.S.I., L.R.C.P.Edin,, appointed Resident Surgeon to the Sheil Hospital, Ballyshannon.

KPATRICK, Dr. S., appointed Medical Officer of Health to the Connah's Quay Urban District Council.

TER, Cecil, M.D., B.C, B.A.Cantab., appointed Honorary Medical Officer to the St. Andrew's Convalescent Home, Folkestone.

G, Jacob Edward, B.A.Lond., M.R.C.S.Eng., reappointed Medical Officer of Health to the Reigate Rural District Council.

LLIPS, Hubert C., M.R.C.S., M.&L.S.A., F.E.S., appointed Surgeon to the Westbourne Provident Dispensary, *vice* Dr. Murphy, resigned.

HELL, E. Percy, M.B., B.S.Durh., appointed Surgical Casualty Officer to the General Hospital, Birmingham.

ESTER, W. G., L.R.C.S., L.R.C.P.Edin., appointed Assistant House-Surgeon to the Sussex County Hospital, Brighton.

TLEY, Hubert, M.B., C.M.Camb., M.R.C.S., L.R.C.P., reappointed Medical Officer for the Sellinge District of the Elham Union.

DIARY FOR NEXT WEEK.

MONDAY.

London Post-Graduate Course, London Throat Hospital, 204, Great Portland Street, W., 8 P.M.—Mr. Griffith C. Wilkin: Syphilis as it may Affect the Pharynx and Larynx.

Medical Society of London, 11, Chandos Street, Cavendish Square, W., 8.30 P.M.—Dr. Samuel West: Case of Pyoneumothorax of 5 months' duration, cured by Free Incision, with remarks on the General Treatment of Pneumothorax. Dr. Symons Eccles: The Mechanotherapy of Movable Kidney.

TUESDAY.

London Post-Graduate Course, Bethlem Royal Hospital for Lunatics, 2 P.M.—Dr. Craig: Puerperal, Lactational, and Climacteric Insanities. Hospital for Diseases of the Skin, Blackfriars, 4.30 P.M.—Dr. Abraham: Drug Eruptions.

National Hospital for the Paralysed and Epileptic, Queen Square, W.C., 3.30 P.M.—Mr. Marcus Gunn: On Paralysis of the Ocular Muscles.

Royal Medical and Chirurgical Society, 20, Hanover Square, W., 8.30 P.M.—Discussion on the Prevention of Enteric Fever, to be opened by Dr. G. V. Poore.

WEDNESDAY.

London Post-Graduate Course, Parkes Museum, 74A, Margaret Street, W., 4.30 P.M.—Professor Wynter Blyth: Infectious Diseases, etc.

The Clinical Museum, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

Hunterian Society, London Institution, Finsbury Circus, 8.30 P.M.—Dr. Dundas Grant: The Diagnosis and Treatment of the Varieties of Dry Catarrh of the Middle Ear. Mr. J. H. Targett: The Value of the Microspical Examination of Uterine Curettings.

Hospital for Consumption and Diseases of the Chest, Brompton, S.W., 4 P.M.—Dr. Fowler: The Treatment of Bronchiectasis.

West London Post-Graduate Course, West London Hospital, W., 5 P.M.—Dr. A. Whitfield: Medical Cases.

Evelina Hospital, Southwark Bridge Road, S.E., 4.30 P.M.—Dr. Soltau Fenwick: Marasmus, its Pathology and Treatment. Post-Graduate Course.

THURSDAY.

London Post-Graduate Course, Central London Sick Asylum, 5.30 P.M. Mr. R. Barwell: Clinical Lecture.

Harveian Society of London, Café Monico, Regent Street, 6.30 for 7 P.M.—Annual Dinner.

Hospital for Sick Children, Great Ormond Street, W.C. 4 P.M.—Dr. Lee Dickinson: Demonstration on Selected Cases.

FRIDAY.

London Post-Graduate Course, Bacteriological Laboratory, King's College, W.C., 3 to 5 P.M.—Professor Crookshank: Erysipelas and Suppuration, etc.

Clinical Society of London, 20, Hanover Square, W., 8.30 P.M.—Adjourned discussion on Messrs. A. H. Tubby and R. Jones's paper: Some Cases of Pott's Curvature of the Spine, treated by Immediate Reduction of the Deformity. A paper by Rédard will be read, and Mr. W. Watson Cheyne, Mr. J. Jackson Clarke, and others will speak. The following paper will be read:—Mr. C. B. Lockwood: A Case of Radical Cure of Inguinal Hernia: Injury to the Bladder: Formation of Phosphatic Calculi: Lithotrity: Recovery.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office order or stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTH.

Kent.—At Lillieslea, Lenzie, Dumbartonshire, on November 13th, the wife of R. T. Kent, M.A. (Oxon.), F.R.C.S.Eng., of a daughter.

MARRIAGES.

Carruthers—Dickson.—On the 11th instant, at St. John's Church, Buxton, by the Rev. C. C. Nation, M.A., Vicar, and the Rev. G. T. Carruthers, M.A., father of the bridegroom, E. J. W. Carruthers, M.D., Moody Hall, Congleton, to Mary I. K. Dickson, elder daughter of F. K. Dickson, J.P., L.R.C.P.E., Wye House, Buxton. No cards.

Herbert-Dixon—Horsfall.—On November 13th, at Attenboro' Church, Notts, by the Rev. Chas. Leighton, B.A., assisted by the Rev. J. Smaridge, M.A., James Herbert Dixon, M.B., C.M.Edin., of Pembroke House, Higher Tranmere, Birkenhead, to Estelle Horsfall, fifth daughter of Henry Horsfall, M.D., Yorkshire. No cards.

James—Richards.—On the 10th instant, at Llanstephan, Carmarthen, by the Rev. W. James, Gwilym P. James, M.R.C.S., of Llanelly, to Amy, daughter of James Richards, Esq., of Pantynathro, Carmarthen, and Hampstead, London.

Mason—Hamilton.—At Willowbank, Strathaven, on the 10th instant, by the Rev. A. W. Donaldson, B.A., William Mason, M.B., C.M., Crofthead, Strathaven, to Isabella Orr, only daughter of William Hamilton, J.P. No cards.

DEATH.

Fairland.—On October 21st, 1897, at Glen View, Gravesend, Emma Maggie, the wife of Brigade-Surgeon-Lieutenant-Colonel Edwin Fairland, A.M.S. (r. p.), and daughter of the late General W. B. Thomson, C.B.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 12.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W., S., 1.30; Eye, Tu. S., 9; Ear, S., 9.30; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Tu., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30; Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. W. F., 1.30; Eye, M. Th., 2; Ear, M. Th., 9; Skin, W., 1.45, S., 9.15; Throat, M. Th., 9 Dental, W., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M., Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies.*

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are directed will be found under their respective headings.*

QUERIES.

M.B., L.R.C.P.EDIN. wishes to know the best books to read for the diploma of the Medico-Psychological Society.

EX H. S. is treating a man with an extremely sensitive stricture of the urethra. The passage of the bougie causes the most acute pain. He would be grateful if someone would suggest a means of relieving the pain during the use of the bougie without giving a general anæsthetic.

FOOD POISONING.

DR. PHILIP G. LEE (Cork) writes: I would wish to draw attention to a rather peculiar case I have lately met. A patient of mine, while shooting a short time back, shot a hawk in the very act of killing a curlew with the same shot he brought down both birds. He had the curlew cooked after a few days, and at dinner ate a considerable portion of the bird. At the time he was in excellent health. That night he was suddenly seized with all the symptoms of irritant poisoning, and nearly collapsed. He is better, but still far from well. I would like to know from your readers if a bird killed by a hawk is poisonous, or if a curlew at this time of year is unfit for food, as evidently one or other of these conditions brought about the severe symptoms I have mentioned.

THE BICYCLE AND NASAL DISEASE.

MR. W. R. H. STEWART, Surgeon to the Ear, Throat, and Nose Department, Great Northern Central Hospital (Devonshire Street, W.), writes: As a considerable majority of the patients who have lately consulted me for nasal trouble have complained that the sensation of obstruction has either commenced or considerably increased since they have taken to the bicycle, the question arises, Are we to place this otherwise healthy, and almost necessary, mode of locomotion among the causes of nasal mischief? It is to me quite conceivable that the quick rush through the air, inhaling large quantities of dust on the country roads and all sorts and conditions of dirt on the London ones, might cause considerable irritation to the nasal mucous membrane, with consequent thickening. It would be interesting to hear if others have had their attention drawn to this connection of the wheel with nasal trouble.

THE WARMING OF CONSULTING ROOMS.

SENEX writes: Would you kindly give me information respecting an anthracite stove for a consulting room? If any better stove is made in any other way, except a gas one, that would do. What is required is a stove or fire which would keep the consulting room always warm. It is a great bother turning out and lighting a gas stove.

*** What is wanted in a consulting room is that the whole place shall be warm, and that there shall be in it such a reserve of heat that the windows can be thrown wide open after a patient leaves without materially chilling the room. This cannot be obtained by a gas stove lighted just at the moment of use, and gas, unless a condensing stove is used, is too expensive to be kept constantly burning. The "Radiant Stove" (the Radiant Stove Company, 36, Mortimer Street, Cavendish Square, London, W.), which has lately been introduced into the rooms of the London Medical Society with very good effect, appears to be an admirable heat producer, and on inquiry we understand that it gives very little trouble and keeps alight all day without attention if it is properly cleaned and charged. Anthracite is the fuel used. For a small consulting room, however, we fancy it is likely to be found too large, although no doubt it can be made to burn slowly. Another anthracite stove is the "Choubersky," which is to be seen burning all the winter through in the window of the London Warming and Ventilating Company, 105, Regent Street. It is in the shape of an ordinary grate, but is enclosed by large mica doors, so that, although the fire is visible, it is practically a closed stove. It is very efficacious and the consumption of coal appears to be small. We should think this would be very well suited for a consulting room. It looks comfortable, and it has this advantage that the doors can be opened and any light substance that has to be got rid of can be burned. Anyone who, after being accustomed to an open fire in his consulting room, takes to gas soon finds out how he misses the facility for destroying odds and ends which is given by the former. There is no doubt that the Choubersky keeps alight for a long time without attention. Sometimes, however, there is a difficulty in obtaining anthracite, and when obtained, in keeping it separate from the ordinary coal. In such cases the well-known tortoise stove may be used, but a pleasanter plan is to have a Teale grate. Either a Teale or an Abbotsford grate will keep in a long time without attention, but we would especially recommend for the purpose required in this case a Teale grate with a sunk fire and a large hearth. These grates keep in a long time; they can at any time be stirred up to give a cheerful blaze; they afford a good reservoir of heat, and being open fires they do give a certain amount of ventilation. It must always be remembered that with any form of closed fire in a consulting room, some special means of ventilation must be supplied in place of the chimney. With the Teale or the Abbotsford and their various modifications this is not necessary. The great advantage of the Teale grate over the others is the large reservoir of heat it gives, and the fact that by pulling out the regulator a very low fire can be quickly revived.

ANSWERS.

.B.—When an appointment is advertised it is generally held that anyone is at liberty to apply for it.

. R.—We should apprehend that the history of the Jews and some other races negatives our correspondent's hypothesis.

ISUNDERSTOOD.—So far as we are aware, no such custom as our correspondent suggests is in existence. In making calls upon new comers, the wives of medical men are expected to follow the ordinary rules governing social life.

MASON.—We are informed that it is usual in such cases, if the feeling is at all general, to cause an intimation to be made to the proposer or seconder of the candidate that as his presence is unlikely to promote the harmony of the Lodge, it would be better to withdraw his name before it is put up for ballot.

:. W. HENRY LEWIS asks as to sources from which he may obtain details of the history of the Public Health Acts?

*** Sir John Simon's *English Sanitary Institutions*, of which a new edition is about to be published, gives a very full account of the circumstances which led to the passing of the Act of 1848, of the working of the sanitary legislation of that epoch, its defects, the Royal Commission of 1869-71 and its recommendations, the legislation of 1871-2, afterwards merged in the consolidating Act of 1875, and of the demands leading to the Acts up to and including the Notification Act of 1889. The Report of the Commission just mentioned, and the Introduction to G. A. R. Fitzgerald's *Public Health Act*, 1875, might also be consulted. The recent editions of Glen and Lumley have got so bulky that the historical part has been left out. The last edition of Glen still gives in the margin of each clause the section of the older Act from which it has been taken.

TREATMENT OF HARD CORNS.

HE following answers have been received to "M.D.(retired)'s" query as to the treatment of this affection:—

R.C.P. suggests rubbing the centre with a dry pencil of potassa fusa cum calce every night, the anterior part of the foot being then wrapped in a water dressing with oil-silk over it. By this means the corn is removed in a day or two.

H. cured one in himself by the use of salicylic plaster renewed daily about ten times. Recurrence was prevented from causing pain by the occasional shaving off of thin slices.

:. C. M. JESSOP (Clare Lodge, Redhill, Surrey) refers to the *Practitioner*, September, 1883, p. 223. He will be happy to send the prescription on receipt of "M.D.'s" address.

SCHOOL CERTIFICATES.

W. S.—We have always advocated that medical certificates required by the School Boards should be paid for by those bodies; but in the case mentioned by our correspondent there is probably no fund from which the School Committee could pay the fees, and the Committee would not, we believe, have power to use the moneys of the district for such purposes.

QUACK ADVERTISEMENTS.

MEMBER.—The patient could probably obtain redress by applying for an injunction to prevent the further issue of the advertisement. If the statements contained in such advertisement are untrue, the Court might grant the application, and damages (general, not special) would most likely be obtained if asked for. A solicitor ought to be consulted.

STAMMERING.

D. writes with reference to the question on this subject, published a few weeks ago, that he himself from the age of 10 to that of 40 was a most inveterate stammerer. He then received systematic instruction from Mr. Van Praagh, 11, Fitzroy Square, W. In a short time he experienced some measure of improvement, and at the end of eighteen months could speak fluently. There has been no relapse during the last six years.

SOUTH OF ENGLAND WINTER RESORTS.

. A. R. F. EVERSHED (Penzance) writes in reply to "A. T.," who in the BRITISH MEDICAL JOURNAL for October 23rd, page 1222, inquires as to winter resorts in the South of England suitable for a case of incipient phthisis: I would suggest Penzance as a suitable locality for his patient. The choice of a boarding house or apartments depends rather upon the disposition of the patient. The advantage of Penzance is the mildness and equability of the climate, and the length of time which can be spent in the open air; this is a very important addition to any medicinal treatment.

UNREGISTERED DENTISTS AND ANÆSTHETICS.

NTAL.—In reply to a similar query, the following was published in the BRITISH MEDICAL JOURNAL of February 9th, 1895. "The precise point of the case described in our correspondent's letter does not appear to have hitherto been brought before the General Medical Council, and we cannot say what interpretation the Council would put upon their covering resolutions in this connection. A person not registered as a dentist is not forbidden by the law to practise dentistry so long as he does not hold himself out to be a registered dentist or a surgeon-dentist. To give chloroform for an unregistered person practising dentistry does not appear to be a clear case of covering of unqualified practice. We should be disposed to recommend our correspondent to bring the case to the notice of the President of the General Medical Council, who would, no doubt, cause inquiry to be made on the legal aspects of the subject."

NOTES, LETTERS, Etc.

THE LATE PROFESSOR ANDREW BUCHANAN, OF GLASGOW.

, D P. STEWART (Kirkintilloch) writes: It may interest some of your readers to know that even prior to the days of Lord Lister attempts were made at what may well be called antiseptic surgery. So early as the year 1853 I was studying cholera in Glasgow, and often was present in the surgical wards of the late Dr. Andrew Buchanan, Professor of the Institutes of Medicine in the University. I have repeatedly seen him in amputations wash the surfaces of the flaps carefully over, after all the vessels had been tied, with a weak solution of sulphuric acid. In addition thereto, he generally made an incision through the lower flap and introduced a seton for drainage. Most probably such treatment was more or less empirical, and probably at that time Dr. Buchanan had no idea of the germ origin of inflammation. Still it seems to me that this treatment which I saw in the Glasgow Royal Infirmary is worth recording. It was in the same hospital that Lord Lister first enunciated the antiseptic treatment of wounds and put his theories into practice. It may not be out of place to recall the fact that Dr. Buchanan was one of the foremost physiologists of his day, and was the discoverer of the changes which take place in coagulation of the blood. It is much to be regretted that no memoir of so distinguished a man has ever appeared.

USE OF SPLINT IN THE TREATMENT OF CANCER OF THE BREAST.

MR. EDWARD COTTERELL, F.R.C.S. (West Halkin Street, S.W.) writes, with reference to our report of his case shown at the Medical Society on November 8th: The patient was shown to demonstrate a method of dressing by means of a rectangular splint cases where it is necessary to remove breast, etc., for cancer or other tumours. The arm is kept by the splint in a position of abduction, and the advantages claimed for this system are: (1) Very great comfort to the patient; and (2) free movements of the shoulder when wound has healed. My friend Mr. Heaton suggested the idea to me.

ICHTHYOL AND GLYCERINE SUPPOSITORIES.

DR. PERCY NEWELL (Crowborough, Sussex) writes: I have been interested in reading the remarks of Drs. Callaghan and Wilson *re* ichthyol and glycerine "suppositories." For a considerable period I used them in different varieties of gynæcological cases, and I never could satisfy myself that there was any more benefit derived by my patients from their use than by the ordinary glycerine tampon, and they have great disadvantages; they soil the patient's linen—in fact, some patients refuse to use them for this reason—and also have an abominable odour. It is impossible to make the suppositories except with a gelatine basis, using as small amount as possible.

Dr. Atkinson says "patients are able to use them without help, not so the glycerine tampon." This no doubt is quite true, and if the patient is suffering from some affection of the vagina may answer—but if the disease is at the os or cervix (the sort of case they would most likely be of use in), I do not think much if the drug will reach this situation if introduced by the patient herself. Why call them suppositories and not pessaries?

LECTURES ON ETHICS AND LAW.

DR. F. W. COLLINGWOOD (Brighton) writes: We hear a great deal in the medical and other papers as to the pernicious and other effects produced by medical trading companies, and indiscriminate distribution of medical advice at the out-patient departments of our large hospitals. Is it not a fact that many practitioners follow in the footsteps of their predecessors without inquiring into the ultimate effects of their acts in connection with these undertakings and institutions, while at the same time well-intentioned governors and greedy but invincible trade combinations are working to either reduce the practitioner of medicine to the condition of a pauper or to that of a fairly well-dressed serf, and there appears little or no desire on the part of the consultant to help the practitioner to remedy these evils? Would it, therefore, not be beneficial in the face of these growing evils to institute lectures on ethics and laws relating to medical practitioners, which would guide and form the young practitioner's mind on these important questions?

MARRIAGE AND LONGEVITY.

DR. SCHWARTZ, of Berlin, has come forward as a supporter of the view that marriage is conducive to longevity, as of 200 persons who attained the age of 40, 125 were married and 75 single; at 60 the proportions were 48 to 22; at 70, 27 to 11; and 90, 9 to 3. Among 50 centenarians not one bachelor or spinster could be found, nor, indeed, one married couple; all these venerable individuals being widows or widowers. It may be urged that these statistics only prove the numerical superiority of married folk, but Dr. Schwartz declares the rate of mortality for husbands and wives between the ages of 30 and 45 to be 18 per cent., whereas unwedded persons perish at the rate of 28 per cent.

MEDICAL MEN AND TRANSFERENCE OF DISEASE.

DR. A. HANBURY FRERE (Stradbroke) writes: In the BRITISH MEDICAL JOURNAL of October 23rd you point out the importance of careful precautions being taken by medical men against making themselves bearers of infection. I should like to mention, therefore, a method of procedure which seems to me very reliable.

Immediately on return from an infectious case make use of a laryngeal spray (made from bichloride by adding solution of potassium iodide until the precipitate which forms is dissolved) containing a solution of biniodide of mercury (1 in 2,000). Spray all over but more especially the mouth and throat, the nose and ears, and lastly, the hair, then wash the hands in Jeyes' fluid. After this I believe one is safe to go anywhere without the slightest fear of carrying infection. If it be true that the chief fear of transference is of scarlet fever to the lying-in woman, I think it quite possible that my practice in these cases may have some bearing on the point in question. To put it shortly, in midwifery I rely upon iodic hydrarg. (Burroughs, Wellcome and Co.), both as a lotion for hands and instruments and as a lubricant; in a case of scarlet fever I paint the patient's throat, once a day till it is clear, with a 1 in 500 biniodide of mercury, and give the same drug internally in ordinary doses. This treatment of scarlet fever has in my hands proved wonderfully successful, and in my opinion shortens the period of infection in a marvellous manner, and the patients are convalescent in a few days.

Between the dates of August 14th and October 9th I was in attend-

ance on cases of scarlet fever; between the same dates I find that I attended twelve confinements, one of which was instrumental. All did well without any sign of feverish symptoms whatever. I shall be glad to communicate with any who may desire to know further details. I have found this method of precaution a great comfort to myself, and I believe it to be absolutely reliable.

Muzzling Orders.

Dr. Jas. Taylor (Tanderagee, co. Armagh) writes: It is to be hoped that no inference may be drawn as to the value of this order, as such would be fallacious owing to defects in the order and the manner it has been carried out. My experience is that except in towns and their immediate vicinity it has been utterly disregarded. It is impossible for the police to be in every place, and as soon as they are safely out of sight the muzzles are removed in the majority of instances; and very few of the country dogs are muzzled at night. Prejudiced persons of both the educated and uneducated classes argue that muzzling does more harm than good, and by their example induce the careless and ignorant to disregard it. The order should apply to all dogs not so inclosed as to prevent the possibility of their coming in contact with dogs without their inclosure. It is absurd that dogs in a field, lawn, park, or farmyard not properly walled in should be exempt on the ground that they are not in a public place. No fewer than three dogs suspected of rabies were reported in this immediate neighbourhood within the past fortnight, and one of them bit two persons. It is only necessary to infer that they infected other dogs.

LETTERS, COMMUNICATIONS, Etc., have been received from:

(**A**) Mr. R. B. Anderson, London; Professor T. Annandale, Edinburgh; F. C. Abbott, M.B., London; A. B.; Dr. G. E. Armstrong, Montreal; Mr. A. R. Anderson, Nottingham; C. H. Aitken, M.B., London; Mr. T. H. Anderson, London; Dr. T. C. Askin, Woodbridge. (**B**) Dr. J. W. Ballantyne, Edinburgh; Dr. D. Buxton, London; Dr. A. G. Bateman, London; Dr. Barbour, London; Dr. Bond, Gloucester; Dr. A. G. Barrs, Liverpool; Mr. W. C. Brown, Penang; Dr. T. L. Brunton, London; Miss Breay, London; Dr. J. S. Bolton, Nottingham; Mr. J. A. Brown, London; British Gynæcological Society, The Secretary of the, London; J. F. Bullar, M.B., Southampton; Miss E. T. Brighurst, York; Dr. T. D. Bertram, Coonamble, N.S.W.; Dr. F. Bagshawe, St. Leonards-on-Sea; Bath and Bristol Branch, The Secretary of the, Bath; R. L. Brander, M.B., Apsley Guise; Dr. J. S. Bury, Manchester; Mr. A. P. Beddard, London; Mr. L. A. Bidwell, London. (**C**) J. Cantlie, M.B., London; Dr. W. S. Church, London; Correspondent; J. L. Carstairs, M.B., Leeds; Mr. A. Clark, London; Dr. J. Cock, London; Mr. J. M. Cornell, London; Mr. E. Cotterell, London; Dr. T. A. Clinch, London; J. Craig, M.B., Llandudno; Dr. H. Campbell, London; Dr. J. W. Cook, Colchester; R. H. Creighton, M.B., Ballyshannon; Mr. J. Couldrey, Scunthorpe; Dr. W. B. Coley, New York; Dr. F. W. Cock, London; Mr. F. W. Collingwood, Brighton; Mr. H. G. Crews, Manchester; Mr. H. H. Collins, London; J. Carslaw, M.B., Glasgow. (**D**) Dr. A. W. W. Dowding, London; Mr. H. P. Dunn, London; Dr. B. Duke, London; Dr. J. Dodd, Leicester; Dental; Dr. C. R. Drysdale, London; Dr. E. Deanesly, Wolverhampton; F. J. Dixon, M.B., London; Professor S. Delépine, Manchester; W. Downie, M.B., Glasgow; Dr. J. Dreschfeld, Manchester; Mr. J. J. Durrant, London; Mr. M. B. Doine, London; Mr. A. C. Domford, London. (**E**) Ely; Enquirer. (**F**) Dr. P. J. Freyer, London; Dr. T. Fentem, Bakewell; Mr. T. J. Frost, Llanhilleth, Mon.; W. P. Fooks, M.B., Isleworth; W. E. Foggie, M.B., Dundee; A. P. Fiddean, M.B., Cardiff; N. M. Falkiner, M.B., Dublin. (**G**) C. G. Gooding, M.B., Barbados; Mr. O. Golgey, St. Lucia; St. G. Gray, M.B., Castries, St. Lucia; Messrs. Charles Griffin and Co., London; Mr. E. Gooddy, Llandudno; General Practitioner; Mr. W. F. L. Green, North Curry. (**H**) Dr. V. Harley, London; Mr. H. N. Hardy, London; Mr. C. J. Herrick, Granville, U.S.A.; Mr. T. C. Hodgkinson, London; Mr. V. D. Harris, London; Dr. F. Hinds, Worthing; Dr. W. P. Herringham, London; Hygiene; Mr. H. Hill, London; Dr. W. H. Hargreaves, Okaroa, N.Z.; Mr. T. G. Horder, Cardiff; H. S.; Dr. P. Horrocks, London; Mr. W. F. Haslam, Birmingham; Dr. R. D. Helm, Carlisle; Mr. N. A. Humphreys, London; Mr. H. Hiscott, Birmingham. (**J**) Mr. A. C. Jones, London; Dr. W. Johnston, Montreal; Mr. F. B. Jessett, London; Mr. T. V. Jackson, Wolverhampton; Mr. J. Jacobs, Baltimore; Dr. W. R. Jack, Glasgow. (**K**) E. M. Knowling, M.B., Tenby; R. Kennedy, M.B., Glasgow; Messrs. J. 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Senior, Levenshulme Mr. W. G. Silvester, Brighton; Dr. T. D. Savill, London; Mr. H Strachan, London; Mr. W. P. Stocks, Salford. (**T**) Toiwan; Mr. V. G Thorpe, Sheerness; Mr. W. P. Tomlinson, Madras; Mr. J. Taylor Tandragee; Mr. W. T. Thomas, Liverpool; Dr. F. C. Turner, London Mr. A. H. Tubby, London; Dr. J. C. Thresh, Chelmsford; Dr. S. G Toller, London. (**V**) Vieux Jeu. (**W**) Mr. C. F. Williamson, Horley Mr. H. W. White, London; Dr. F. J. A. Waring, Brighton; Dr. T. J Wood, Bradford; Mr. R. O. Wynne-Roberts, Oswestry; Mr. E. F Wawn, Bramley; R. H. Woods, M.B., Dublin; etc.

BOOKS, Etc., RECEIVED.

Therapie der Hautkrankheiten. Von Dr. L. Leistikow. Hamburg ur Leipzig: Leopold Voss. 1897. M. 6.

The Gospel of Humaneness; Selections from the Writings of Count L. N Tolstoï. London: Ideal Publishing Union. 1897. 1s.

A System of Medicine; by many Writers. Edited by T. Clifford Allbut M.A., M.D., etc. Vol. IV. London: Macmillan and Co. 1897. 25s.

Constipation in Adults and Children. By H. Illoway, M.D. London Macmillan and Co. 1897. 17s.

Atlas der Syphilis und syphilisähnlichen Hautkrankheiten. Von Dr. J Chotzen. Heft 3 und 4. Hamburg and Leipzig: Leopold Voss. 18 M. 3 each.

Medical Diagnosis; a Manual of Clinical Methods. By J. J. G. Brow M.D. Fourth Edition. Edinburgh: W. F. Clay. 1897. 9s.

Traité de Diagnostic Médical et de Sémiologie. Par Dr. Mayet. Premiè Partie. Paris: J. B. Baillière et Fils. 1897.

Le Torticolis et son Traitement. Par Dr. P. Redard. Paris: G. Carré C. Naud. 1898. 6 francs.

Yearbook of Pharmacy. 1897. London: J. and A. Churchill. 1897.

Sickroom Cookery and Hospital Diet. By Maude Earle. London: Spo tiswoode and Co. 1897. 3s. 6d.

The Principles of Bacteriology. By A. C. Abbott, M.D. Fourth Editio London: H. K. Lewis. 1897. 12s. 6d.

Mastoid Abscesses and their Treatment. By A. Broca, M.D., and Lubet-Barbon, M.D. Translated and edited from the French by H. Curtis, B.S., M.D., F.R.C.S. London: H. K. Lewis. 1897. 6s.

Lectures on Angina Pectoris and Allied States. By William Osler, M. New York: D. Appleton and Co. 1897.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections in Phot Lithochromes from Models in the Museum of the Saint Louis Ho pital, Paris. Edited and Annotated by J. J. Pringle, M.B., F.R.C. Part XII. London: Rebman Publishing Co. 1897. 10s. 6d.

Transactions of the Clinical Society of London. Volume 30. Londo Longmans, Green, and Co. 1897.

Die Krankheiten der Frauen. Von Dr. H. Fritsch. Achte neu bea beitete Auflage. London: Williams and Norgate. 1897. 12s. 6d.

Report of an Investigation ot the Epidemic of Malarial Fever in Assa or Kala-Azar. By Leonard Rogers, M.B., B.S., F.R.C.S. Shillon Assam Secretariat Printing Office. 1897.

*** In forwarding books the publishers are requested to state t selling prices.

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SIXTY-FIFTH ANNUAL MEETING
OF THE
BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF LARYNGOLOGY AND OTOLOGY.

Greville MacDonald, M.D., President.

RECENT PROGRESS IN THE SURGICAL TREATMENT OF MALIGNANT DISEASE OF THE LARYNX.

By D. Bryson Delavan, M.D.,
New York, U.S.A.

N the past two years several important papers and at least ne extensive work upon malignant disease of the larynx ave been published. These articles give not only the per- onal results of distinguished operators, but two of them at east, the Lettsomian Lectures of Mr. Watson Cheyne and the laborate treatise of Sendziak, are most important additions o the general knowledge of the disease. The description of he operation and the after-history of the case reported by Dr. . Solis Cohen, of Philadelphia—in which the free end of the rachea was brought out at the wound in the neck and there ttached, all communication between the trachea and the harynx being thereby cut off, the man now alive more than ve years after the operation, possessed of a good voice and ithout artificial aid either in breathing or speaking—marks n era in the history of laryngectomy, and constitutes a rilliant addition to the resources of conservative surgery. he reports of cases operated upon by Mr. Butlin and Sir F. emon, of London, show that by the diligent care which they ave bestowed upon their patients, the fertility of their in- ention in suggesting new devices or adapting old ones to eir necessities, and the keen perception with which they ave obtained the earliest possible diagnosis in doubtful ases, they are fully justified in the brilliant results which ave been their well-deserved reward. Another valuable ontribution is the exeellent report of cases of thyrotomy by rofessor Clinton Wagner, of New York. In the latest publi- tion on the subject Schmiegelow, of Copenhagen, gives a aluable *résumé* of the diagnosis and treatment of laryngeal ncer, and reports twelve radical operations for its cure. ocher is continuing his skilful work in this direction in ermany, while in the United States as elsewhere the influ- ce of the improved methods and ideas which have come to s is gradually being felt and appreciated.

Turning now to the statistics of major operations performed on the larynx for malignant disease there is evidence of a arked improvement, as, even during the past six years, the ortality from them has been greatly diminished. Thus, up to 1880, according to Holmer, the mortality was 42 per nt. Tauber reports between 1886 and 1890 a rate of 60 per nt. Between 1880 and 1888 Shier found that the rate had llen to 34 per cent.; since 1890 the same observer finds that e rate for that period has been reduced to 22 per cent." himegelow himself, carrying the reports up to the present me, finds that the percentage of cures since 1890 has been ·5 per cent., and of immediate mortality 18.7 per cent. The ost successful series of cases yet published is that of Butlin d Semon, who report a rate of cures of 63.6 per cent. It ould be most gratifying if the flattering statements as to the proved statistics of this class of operations could be ac- pted as actually representing their true position at the esent time. Undoubtedly in the cases of certain individual erators who, like Hann, Butlin, Schmiegelow and some hers, have faithfully and without reserve reported all of eir cases, good and bad alike, we are able to gain from their ports deductions of genuine value. It is both discredit- able and unfortunate, however, that many operators have failed to publish their unsuccessful cases, and have only reported such as have resulted well.

Time and again the operation has been attempted under unfavourable conditions, and by unskilled but venturesome men, whose rashness has quickly robbed the patient of what little hope belonged to him, and who, having nothing favourable to report, have avoided publicity. If the whole story were to be told, it is likely that the completed statistics would be discouragingly bad, not because the methods of treatment have not been vastly improved, but for the reason that in the hands of some operators the work has been so unskilfully done. This being the case in the surgical world at large, it cannot be insisted upon too urgently that carcinomatous cases requiring laryngectomy are desperate at the best, both as to immediate and as to ultimate results, and that with our present comparatively limited knowledge of the subject no amount of caution, however great, will avail in preventing a high percentage of failures. With the sources of danger so numerous, constant, and subtle it is impossible that too great foresight or experience be brought to bear against them, or that the urgency of this demand be overstated. Doubtless the best preparation for the work on the part of the surgeon would be a thorough knowledge of operations upon the tongue, neck, and lower jaw in general. In the after-care of the patient also it is not by any means enough that the watchers should be ordinarily qualified in the care of severe surgical cases. Nothing short of special fitness in the department of this particular class of cases, both on the part of surgeon and attendants, will yield the best results.

Turning now to the methods of operating which have of late appeared to meet the best success, we find that they may be divided into three groups:

1. Thyrotomy, with or without partial laryngectomy.
2. Complete laryngectomy by the method adopted in Solis Cohen's case.
3. Complete laryngectomy in cases of extensive laryngeal disease with glandular involvement.

Examples of all three are beginning to multiply to such an extent that it will not be long before we shall have a collection of details sufficient to afford fairly positive knowledge of their real value, together with a fund of technical information relating to the subject which cannot fail to be of material aid for future guidance.

A short consideration of these methods would not be without interest did time permit. Full and complete descriptions of them have already been given to you, however, and may readily be found in the columns of the Journal of this Association, in the *Transactions* of the American Laryngological Association, and in the London *Lancet*. If there should be anyone who contemplates operating upon a patient suffering from malignant laryngeal disease it will be well for him, however experienced he may otherwise be, to study the writings of Butlin and Semon, of Solis Cohen, and of Watson Cheyne with diligent care. Let it be said, further, that such operations are too dangerous to be entrusted to any but the most careful and experienced hands.

In the diagnosis of malignant disease of the larynx the past year has brought little that is new. Indeed, investigation has of late succeeded not so much in developing a knowledge of new diagnostic points as in proving the unreliability of several which have hitherto been regarded as useful. Thus, the microscope has not succeeded in enabling us to differentiate between a simple growth of the papillomatous variety and one which in its earlier stages resembles a papilloma and fails to give the distinctive marks of malignancy, but which is in reality, or at least becomes, malignant. True, the clinical evidence in a given case may aid the histologist in arriving at a correct interpretation of doubtful microscopic appearances, and, on the other hand, he must not be held to too great accountability for errors or uncertainties arising from faulty specimens—that is, from specimens of insufficient size or not inclusive of the full thickness of the growth. The practical difficulties in the way of utilising the microscope to advantage in the earliest stages of the growth are very great. What is needed is some unerring sign or unmistakable reaction which will prove that there is a difference between cases which now appear identical.

In looking for an early sign of laryngeal cancer some have thought that the position of the growth was more or less diagnostic. Thus, a suspicious papilloma originating upon the anterior half of a vocal band was probably benign, while a similar appearance upon the posterior half of the band or in the posterior commissure was malignant. While the latter proposition may often be the case, the same cannot be said of the former, as has been the experience of the writer in more than one instance.

When the growth originates well forward in the larynx there is often the loss of another sign, namely, the restriction or abolition of the natural movement of the larynx in inspiration due to infiltration of the neighbouring muscles. The writer has lately seen a patient in whom, with well-marked epithelioma of the anterior half of one side of the larynx, the laryngeal movements were complete and absolutely symmetrical. Finally, hoarseness of the voice, the earliest and most constant sign in most cases of cancer, is also present in nearly every other disease which affects the interior of the larynx. Even if the true cause of it were to be surmised, the difficulty of proving the actual nature of the case so early in its course would make it impossible to apply surgical means for the attempted eradication of the disease on such slender grounds.

It has seemed for some time past that, while much progress was being made in the technique of laryngeal operations in general, and in the care of the patient and of the local wound after operation, the subject of tracheotomy preliminary to extensive laryngeal operation had never been satisfactorily considered. Thus, most writers upon the subject treat of it in combination with operations upon the parts above, not always appearing to realise that the conditions as between excision of the jaw and laryngectomy may greatly differ and that what might be true for the one class of cases would not necessarily follow for the other.

Preliminary Tracheotomy.

We will consider two principal propositions regarding it:

1. Is preliminary tracheotomy a necessary measure in the surgical treatment of laryngeal cancer?
2. If required, at what time with relation to the major operation should it be performed?

The necessity for a preliminary tracheotomy is generally conceded, and there are few surgeons who would attempt to operate under existing methods without resorting to it.

Murray in a recent article on the subject,[1] advocates its use on the well-known grounds that it prevents the entrance of blood and septic matter into the trachea during the operation, and at the same time admits of the continuous and convenient administration of the anæsthetic, thus permitting a complete and satisfactory operation. The possibility of the entrance of considerable blood into the trachea is a danger peculiar to these cases, and calls for every precaution on the part of the surgeon to avoid its occurrence. Should such an accident happen, sudden death by asphyxia may follow, or, if the patient be rescued by prompt tracheotomy, he may later succumb to septic pneumonia. While the degree of danger no doubt depends upon the quantity of blood which may gain access to the trachea, still it is not impossible that the entrance of even a small amount may be very disastrous. The liability of the aspiration of blood is increased in operations requiring considerable time, and where complete anæsthesia, together with a recumbent position of the patient, is of advantage, and it is in this class of cases that the preliminary measure is of the greatest value. Of equal importance is the prevention of the entrance of septic matter. These, with other considerations which will be dealt with later on, prove without doubt that preliminary tracheotomy is a necessary adjunct to extensive operations performed upon the larynx.

More important than the subject just discussed, because less understood and appreciated, is the vital question as to when with relation to the major operation the preliminary tracheotomy should be performed. Some excellent surgeons, among them Mr. Watson Cheyne, advocate the insertion of the cannula immediately prior to the main operation, on the ground that the patient is thus saved the anxiety and shock of two separate procedures, and because, as is claimed, that no special advantage is likely to be derived from its earlier application.

In the case of operations upon the tongue, the jaws, or th pharynx, this may possibly be true. In operations upon th larynx requiring tracheotomy, however, there is no doub that many of the conditions are essentially different fror those present in the procedures mentioned above, and that for special and important reasons, the plan of operating mus be so conducted as best to meet them. The condition referred to affect not alone the convenience of the operato nor the mere comfort of the patient. They are based upo reasons physiological, pathological, and surgical. Upon th intelligent and skilful treatment of them will often depen the success of the case, and even the life of the patient. It i necessary to understand, therefore, what they are and ho they may best be met.

Of the physiological conditions which distinguish exter sive operations upon the larynx from those performed highe up in the air passages, the most important is the clos proximity of the pneumogastric nerve to the site of th operation. Just how much influence upon the successfu progress of the case may be exerted by injury to this im portant trunk during operation or by irritation to it after wards from some of the various accidents of inflammatio which may follow is difficult to say. Doubtless, if the histor of past cases of laryngotomy could be fully understood, muc interesting and valuable information on this point would b brought to light. As a field for study it is yet a comparativel open one. There are many cases, however, in which th symptoms of phrenic irritation seem to have been distinc and not a few others in which obscure symptoms would ver probably have found their explanation in it.

With regard to the insertion of the cannula, it is certai that the irritation of this and other neighbouring parts is ap to be more severe immediately after operation, and that wit the lapse of a few days the tolerance of the patient to th presence of the tube is greatly increased.

More important even than the above are the changes whic the tracheal tube necessitates in the physiology of respir tion. The sudden elimination from the process of breathir of almost the whole of the upper air tract, with all which th implies; the exposure of the trachea and bronchi to air th deprived of suitable preparation for its reception to the lung and, finally, the sudden increase in the amount of oxyge admitted in cases where pre-existing stenosis of the laryn has been severe—all tend to disturb the general equilibrium the patient, and to cause locally a greater or less amount annoying, or even dangerous, irritation. It is desirabl therefore, that at the time of the major operation and afte wards the patient should be relieved of as many of the complicating matters as possible.

Another consideration of interest in this connection is th in performing an early tracheotomy the changed conditio of respiration are assumed at a time when the patient is in quiescent state, and when being mentally and physically le disturbed than it is likely that he could be after the maj operation, he can, with the least physiological irritation, a the maximum of convenience to himself, acquire a sufficie knowledge of the mechanism of the tube, the peculi management which it requires, and the effect of its use up himself. The value of this preliminary experience has oft been underestimated. Indeed, with a patient of fair intel gence, it is a good plan to fully instruct him beforehand the different points upon which he should be informe Thus, after operation, the patient will be able to receive wi intelligence and with far less difficulty the directions whi may be given to him, and his physical comfort and men quietude be thereby greatly increased.

The performance of an early tracheotomy is thought some to subject the patient, after the major operation, to t danger of septic infection from the tracheal wound. Wh it must be admitted that this is not impossible where t cannula is inserted within a few days before laryngectomy does not follow that it will take place if the tracheotomy performed at a time sufficiently long before the former allow the wound to be tolerably well healed. Septic inf tion or pneumonia, if they were to develop, could hardly due to the influence of the tracheal wound if the latter h passed the stage in which infection is likely to occur. Aga the general condition of the patient suffering from progr sive laryngeal stenosis is invariably less favourable th

hen normal respiration is possible. The restoration of a ufficient supply of oxygen to the system is sure to be fol-owed by improvement, especially in the anæmia, malnutri-ion, and depression which are generally present. In this espect, therefore, the early operation is of great value as reparatory to the successful issue of the later one.

The effect of laryngeal stenosis upon the bronchial mucous iembrane is of course irritating, and, especially in cases here the dyspnœa has existed for some time, bronchitis is ften present. This will be materially benefited by the free dmission of air to the lungs and by the generally improved one of the system which follows tracheotomy. Finally, there s one consideration which seems to have escaped general ttention. In all cases of serious inflammatory disease of the arynx the severity of the symptoms is increased by the phy-iological use of the organ. The state of quietude which fol-ows tracheotomy, from the consequent abolition of the espiratory movement of the larynx, is almost always accom-anied by a marked amelioration in the local condition, which ay continue to advance for several weeks. The advantages f this at the time of the main operation are obviously many nd important, and in cases where the congestion is such as o make it difficult to distinguish between diseased and ealthy parts are sufficient in themselves to fully warrant he sacrifice of a few days' time. Where the diagnosis of a mall and unirritated intralaryngeal growth has been made arly, and where in consequence there is no great amount of ongestion, and therefore little prospect of improvement after racheotomy, the above remarks do not apply. Cases are not nknown, however, where they are found to be of distinct alue. It is hoped that they will be accorded the considera-on which they deserve.

Several of the surgical advantages claimed for early trache-tomy have been generally recognised. Thus:

Much valuable time is saved at the performance of the later peration; the patient is spared a certain amount of shock, nd possibly of hæmorrhage, and the undivided attention of he operator can be concentrated upon the difficult task hich confronts him in the removal of the larynx.

Again, the administration of the anæsthetic through the annula is rendered easier both for the anæsthetist and the atient than when given in the usual way.

Lastly, a point of great practical importance has lately ome to my notice in connection with the method of aryngectomy practised by Dr. J. Solis-Cohen. In that opera-ion the larynx is entirely removed and the severed end of he trachea is turned forward and fastened to the edges of the xternal incision in the neck. In a case of this kind orally eported to me several months ago there had been no early racheotomy, and, in consequence, there was no cicatricial dhesion of the parts, and when the edges of the trachea were titched to the cervical wound there was free movement of he former with every effort of respiration, and the sutures ntirely failed to keep the parts properly together. Thus nion could not take place, the operation was a failure, and he patient died.

With an early preliminary tracheotomy considerable cica-icial adhesion takes place between the walls of the trachea nd the wound in the neck, and while this is attended with o special disadvantage to the patient, it becomes a matter of ital importance when he must submit to Cohen's method of xtirpation of the larynx. For the larynx having been emoved and the severed end of the trachea brought out at he opening of the neck, the soft parts of the neck are already afficiently adherent to the trachea by means of the cica-icial tissue to hold the united surfaces in steady apposition, nd thus, with the aid of the proper sutures, secure satis-actory union. The value of this is obvious and therefore eed not be dwelt upon.

The truth of the above statements being admitted, there an be no doubt that early tracheotomy possesses advantages hich should insure its employment in all suitable cases. It ould also appear that the greater the interval of time within easonable limits between the preliminary operation and the ajor one, the better, at least ten days being a desirable inimum. Of course, if the disease within the larynx is aking evident progress and the speedy removal of the dis-ase is imperatively necessary, the surgeon must be guided y the best judgment at his command. In most cases, how-ever, the delay of a few days will be more than compensated for by the advantages which I have tried to describe.

REFERENCE.
[1] *Annals of Surgery*, May, 1897.

DISCUSSION ON THE ULTIMATE RESULTS OF OPERATIONS ON THE MASTOID.

I.—F. BULLER, M.D.,
Surgeon to the Royal Victoria Hospital, Montreal.

GENERAL INTRODUCTION.

THE pathological conditions which necessitate operations for the removal of inflammatory products pent up in the bony spaces of the mastoid region may be considered under two headings:

1. Those in which the bone is inflamed and softened, with or without purulent infiltration, or more circumscribed collections of pus, but in which there is no actual caries of the bony structure.

2. Those in which actual death of the bone has occurred more or less extensively, either in the form of caries or necrosis or both.

In the first class decomposition of the inflammatory exudation or of the tissues involved has not taken place, there is no fœtid or ichorous pus. I am not prepared to say that fœtid pus may not occur in this class of cases, but I have not seen it. As a distinct type of mastoid disease we meet with these cases during or shortly after acute purulent disease of the middle ear, and more often in adults than in children.

The second class occurs in the more chronic forms of middle-ear suppuration, and more often in children than in adults, though by no means rarely in the latter. In these cases the carious bone may not be confined to the mastoid, but often involves other parts, such as the walls of the external auditory canal, the tympanic cavity, and, in fact, any part of the temporal bone adjacent to the mastoid or tympanum. It is obvious that this class of mastoid disease is far more serious than the former, and the results of operative treatment are correspondingly uncertain, the cure more difficult, and often less complete.

I cannot at short notice give a definite statement, sustained by recorded facts, as to the final results of the many operations I have performed in both varieties of mastoid disease; but of this I am certain, that in the first class I have never seen an unfavourable result when the bone was opened before the occurrence of intracranial complications. All such cases recover perfectly in a few weeks after operation, even to the extent of regaining perfect, or almost perfect, hearing, and I have never known this form of mastoid disease to recur on the operated side, though I have seen many of these cases ten, fifteen, and twenty years after the operation. In other words, the cure is always permanent.

The results may be very different when there has been extensive caries of the bone, or perhaps only a limited caries, in an inaccessible position. When an operation is to be done under these circumstances no definite rules can be followed; the operator is simply obliged to follow, trace out, and remove diseased bone and inflammatory *débris* as he goes along, only staying his hand when he has removed all the diseased bone, etc., that can be reached, or when in his judgment prudence dictates that he should go no further. There is no particular reason to dread penetrating the lateral sinus, but the facial nerve is the structure which gives the operator greatest anxiety. He may find extensive destruction of the tympanic walls, the walls of the sinus, or adjacent cranial cavity. If such be the condition of things found, it is not to be expected that healing will always promptly ensue, that the discharging ear will at once become healthy, that hearing will be restored to any considerable extent.

Although most of these cases do ultimately recover—or, at least, do not terminate fatally, a certain proportion succumb to intracranial complications, others only get well after prolonged suppuration from the middle ear, or from fistulous tracts leading to deep-seated residual diseased bone, often with great impairment, or sometimes total loss of hearing in the diseased ear.

The worst and most tedious cases of this kind are those in which there is obviously a strumous diathesis; but even

here the prognosis is not altogether hopeless, and much may be accomplished by prolonged and careful treatment, both local and general. Diseased bone, which could not at first be safely removed, may in time loosen and come away of itself or be removed by means of secondary operations. My experience of operations for the relief of intracranial complications is so limited that I do not feel justified in making any positive statement as to the results attainable in such cases. I have only seen one case in which an abscess in the temporo-sphenoidal lobe was reached, after opening the mastoid by trephining the skull, and successfully evacuated, though I have seen several in which brain abscess might have been evacuated had a positive diagnosis been made soon enough.

I do not believe that the gravity and importance of mastoid disease is as yet fully appreciated by general surgeons. The writer of a well-known work on operative surgery speaks of the operation: "This little operation may be performed so-and-so." He evidently imagines the surgeon has done all that can be expected of him when he has succeeded in boring a hole through the outer table of that part of the skull. We otologists may be excused for thinking differently; we have learned that the more thoroughly we remove the diseased tissue the better will be our patient's chance of recovery. We know that the operation may be easy, simple, and safe; but also that it may be most tedious, difficult, and dangerous.

We never know exactly what we are going to meet with until we have begun the operation, and we never meet with two cases that are exactly alike in every detail. For individuality, mastoid disease bears the palm against all surgical conditions, hence the increasing respect it commands from all experienced otologists.

[Dr. Buller also reported the following case, and observed that, although some notes of the case had appeared in previously published hospital reports, it had never been recorded from an otological point of view; the following notes had been made in order that the case might go on record as illustrating the course and progress to recovery of a very severe sequel to suppurating middle-ear disease. For the report he was largely indebted to Dr. H. S. Shaw, late House Surgeon in the Royal Victoria Hospital, and formerly his assistant there.]

MASTOID DISEASE WITH SINUS THROMBOSIS: EVACUATION OF SINUS AND LIGATURE OF INTERNAL JUGULAR VEIN: RECOVERY.

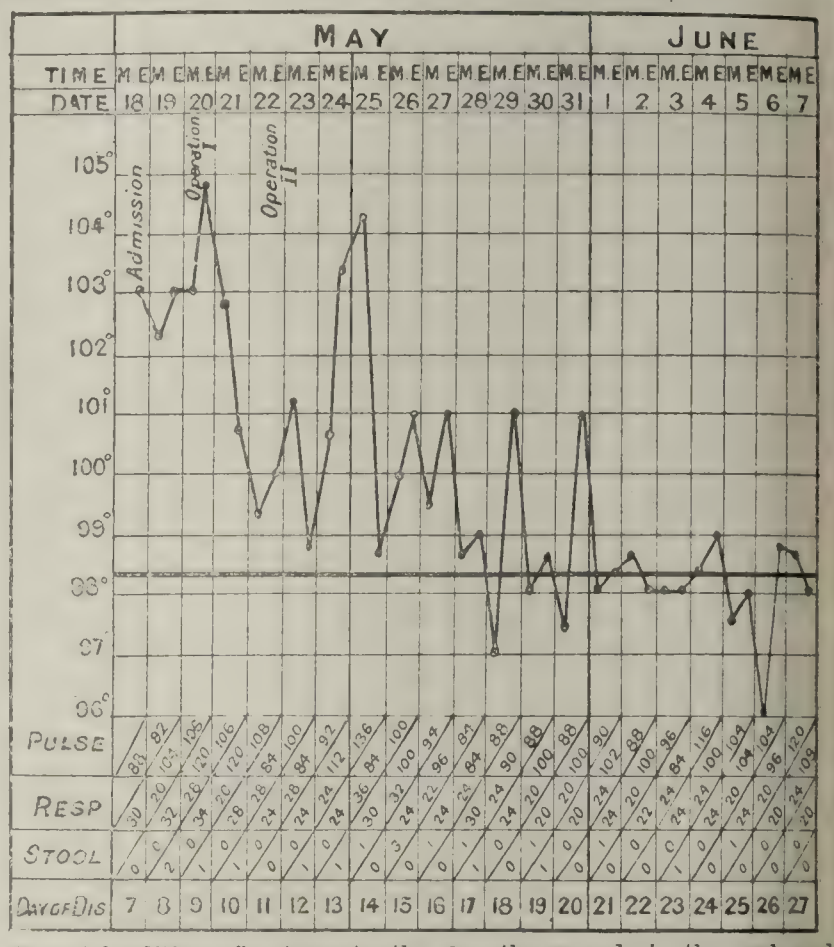
D. K., aged 10 years, was admitted to the wards of the Royal Victoria Hospital on May 18th, 1894, complaining of severe frontal headache and pain over the left mastoid process.

History.—Five years before admission, after a severe cold and sore throat, the patient's ears began to discharge, and have been discharging intermittently since then, and there has been marked deafness. On May 12th he was feverish, felt dizzy on standing up, and complained of frontal headache and pain over the mastoid region. The pain continued to increase, so that the patient got no rest by night or day. There was no history of rigors, but occasionally vomiting occurred before his admission to hospital.

Condition on Admission.—The patient was a well-nourished boy, rather dull of comprehension, but evidently suffering greatly. The temperature was 103°, pulse 88, respiration 30. The annexed chart shows the subsequent excessive fluctuations. There was chronic suppurative otitis media of both ears; on the left a comparatively recent exacerbation with pain. The left mastoid presented no external abnormality except tenderness over the surface and posterior border, but without a trace of swelling. There was, however, moderate swelling and tenderness in the neck immediately below the ear, beneath and anterior to the sterno-mastoid muscle. The left auditory canal contained a small quantity of very fœtid secretion, which when syringed out was found to consist of epithelial *débris* and fœtid purulent matter. The floor of the canal was occupied by a polypoid excrescence, about half filling the lumen. The state of hearing could not be determined certainly, but by Politzer's inflation there was found to be perforation of each tympanic membrane. Other organs were normal.

Treatment.—On the day after admission, the patient's condition being unimproved, Dr. Buller cut down on the mastoid. The surface of the bone showed numerous enlarged emissary veins behind the meatus, and the bone, easily penetrated by a cutting scoop, was soft and porous. At a depth of a few millimetres the softened bone was found carious and infiltrated with pus: following this an opening was soon made into a large cavity, evidently the sigmoid sinus, which was found filled with fœtid *débris*. After removing all the discoverable diseased bone and cleansing out the sinus, the wound was packed with iodoform gauze.

Ligation of Internal Jugular.—Two days later, May 21st, as the temperature had not subsided, it was deemed advisable to ligate the internal jugular vein. Under chloroform Dr. Bell cut down over the course of the vein and came upon the sheath of the vessels, which formed a firm mass of infiltrated tissue, in which it was found very difficult to distinguish the structures. For the purpose of getting at the sheath more readily the omo-hyoid muscle was divided and the jugular vein found empty at this part, which added to the difficulty of dissecting it out from the œdematous tissue. The jugular was divided between two ligatures. The plugging was removed from the mastoid wound, and a considerable quantity of grey sloughy tissue removed with a gouge. After thoroughly cleansing the interior of the sinus, the membranous outer wall was pushed backward and inward, and the cavity packed with iodoform gauze. Subsequently the patient made an almost uninterrupted recovery, and left the hospital on July 4th with directions to return for treatment of his otorrhœa.



Present Condition.—On August 30th, 1897, the wounds in the neck and over the mastoid are marked by small scars. He has no pain or trouble in or about the ears except that both ears are still discharging. The right ear has very fœtid pus coming from a perforation in Shrapnell's membrane surrounded by granulations. The left auditory canal is filled with a polypoid growth but the discharge is not offensive. The watch is heard on contact in front of and behind the left ear but not over the meatus, and on contact in the right ear. The case is now one of ordinary suppurative otitis media, which could be much improved by treatment, but is entirely neglected in his present surroundings.

II.—ALBERT H. BUCK, M.D.,

New York.

ACUTE AND CHRONIC CASES.

IN considering the question before us I shall follow the example of Dr. Buller and limit my remarks to those cases in which the disease is more or less strictly confined to the mastoid region and middle ear. For our present purposes these cases may be considered in two separate groups—the acute and the chronic. In cases belonging to the former group the operation is almost always successful; and if, in course of time, it be found that operative interference has not arrested or entirely cured the disease, the inference is warranted that our methods of procedure have been in some respects defective. In the chronic cases an equally favourable result may be expected from a thorough removal of all bone tissue that is diseased. There, however, the interference required is apt to be much more extensive than in the acute cases. It is not always an easy matter to decide, from inspection and from the degree of firmness which the bone manifests, whether we may safely allow it to remain. A high degree of vascularity, as shown by the colour and by the persistent and copious character of the bleeding from the cut surface, and especially any evidences of an established stasis in some of the vessels, should be accepted as indications that the bone so involved is not likely to return to a condition of health, and consequently should be removed. The mere presence of granulation tissue in the pneumatic cells (without any recognisable amount of pus) is also a good indication that the bony framework in their vicinity should be entirely cut away. The grosser indications of disease will

scarcely escape detection, provided the field of operation is made large enough to bring all the suspected parts into view.

III.—Hugh E. Jones, L.R.C.P., M.R.C.S.,

Assistant-Surgeon, Liverpool Eye and Ear Infirmary.

Risks and Complications.

I will limit my remarks to cases of chronic suppurative middle-ear diseases which have presented no acute symptoms —at any rate within the few weeks or months preceding the operation; that is to say, cases in which the operation has been one of expediency rather than of urgent necessity. Within these limits, my experience has extended to about thirty cases.

The operation I have performed in the cases under discussion is the radical one known as the Stacke-Schwartze, or Panse-Körner operation. This is now so well known that it requires no description. The possible objections based upon results are:

1. *The Possibility of a Fatal Result.*—No fatal result has occurred in my cases. I have had two deaths in cases which do not come within the limits prescribed above. A baby (probably syphilitic) aged 3 months, with a large mastoid abscess, died from convulsions a few hours after a simple operation (incision and opening of the antrum). A man with extensive necrosis of the mastoid died of diabetic coma five days after the operation. The necropsy revealed no intracranial extension of the septic process.

2. *Facial Paralysis.*—This is undoubtedly a most distressing result when it does occur, but I think the operator suffers a great deal more than the patient. I have had two cases of temporary and two of permanent facial paralysis following operation. They all occurred in my first dozen cases. I think those who prefer the risk of intracranial complications to the risks of facial paralysis underrate the magnitude of the former and overrate the disadvantages of (partial) permanent facial paralysis—I say partial, because in my experience the paralysis has never been quite complete. One patient, a good-looking young schoolmistress, told me four years after the operation that she had not regretted the operation, because the relief from pain and discomfort had more than counterbalanced the disfigurement of the facial paralysis. The operation was done chiefly to relieve persistent pain in a densely sclerosed mastoid. Both the otorrhœa and pain had ceased entirely. In order to avoid injuring the facial nerve it is imperative that the operator should see well into the depths of the cavity he is making. The difficulties in the way of this are the trickling of blood into the cavity and the unmanageableness of the partially detached auricle and the soft parts of the meatus. I have tried all sorts of metal retractors and guides without being entirely satisfied, and have resorted to a very simple plan which seems to me to meet the difficulty. A simple strip of linen 10 inches long, 2 or 3 inches wide at one end and tapering to a point at the other, is used as a retractor in the following way: After the auricle has been partially detached and drawn forwards and the soft parts separated from the meatus, the narrow end of the linen strip is pushed down to the bottom of the cavity so made; the blades of a pair of sinus forceps are then introduced into the meatus proper and the end of the linen strip caught and drawn through until the wide middle part covers the cut surface of the auricle; the ends are then given to an assistant, who pulls both forward together until the auricle and soft parts of the meatus are well out of the operator's line of sight. The pressure exerted on the cut surface stops the oozing of blood very quickly. I have had a similar instrument made out of india-rubber, with bands for fixing it in position without the aid of an assistant, but I prefer the simple linen strip. This can be cut at a moment's notice from a linen or calico bandage, can be boiled, is never used twice, and costs nothing.

3. *Giddiness and Vomiting* never lasted more than twenty-four hours, and caused much distress in one case only.

4. *Tinnitus.*—I have had no complaints of tinnitus as a result of the operation.

5. *Increased Deafness.*—Two cases of obstinate progressive deafness continued to get worse after operation.

6. *Failure to Improve Hearing.*—The great majority of my cases were definitely and several greatly improved. At least two cases improved from watch 2″ or 3″ to watch 18″ or 20″. This improvement has, however, not been maintained. As cicatrisation proceeds the hearing becomes worse again until watch 3″ or 4″ is reached. With the exceptions of the cases under the last heading, I am not aware that any case has ultimately been worse than before operation. Including the above exceptions, I can remember five which did not improve after operation.

7. *Failure to Relieve Pain.*—I can recall 5 cases operated on chiefly on account of pain. They have all been very much freer, and some entirely free from pain since the operation.

8. *Failure to Completely and Permanently Arrest the Discharge.*—This is perhaps the objection most frequently heard, and as the operation is in the majority of cases performed with the principal object of stopping an intractable suppuration, it is an objection which requires very careful and fair consideration. I am not prepared to quote accurate statistics, but relying largely on my memory, I give what I hope is a fair account of my results. Of cases which have passed from observation from three to six months after operation, the great majority had ceased to have any discharge, though in some a little mucus could generally be detected lying in the fundus of the tympanum. Of those who have continued to come up for inspection at intervals, about half have dry tympana with slight accumulation of wax. Four or five others have kept well for several months at a time, and then have had mild attacks of muco-purulent catarrh. The remaining 4 or 5 have never been perfectly free from a slight inodorous discharge of a mucus or muco-serous nature. Not one has, so far as my knowledge goes, had persistent offensive or blood-stained discharge. I have been able to compare with these cases concurrent ones of a similar nature in which operation had been declined. I have no hesitation in saying that the comparison has nearly always resulted in favour of the cases which have been operated upon.

At first sight this statement may not appear to be a very favourable one, but if the following points are taken into consideration the reverse will be the case. The operation has only been done after all other means of stopping the discharge have been thoroughly applied. What does an intractable offensive discharge mean? To me it means a diseased area which cannot be effectually reached by remedies applied through the meatus. The operation under discussion, if properly performed, brings the whole of the diseased area within reach of effective treatment. In a fair proportion of cases it also disposes, for the time at any rate, of the whole of the diseased tissue, but whether it does or does not then and there, or ultimately, stop all discharge of any kind whatsoever does not appear to me to be a question which affects the position of the operation as a sound surgical procedure. In the first place, the operation provides free drainage and brings the whole area of disease within the range of subsequent treatment; consequently I have never known it to fail in leading either to cessation of the discharge or to a complete alteration in its character. In the next place, recurrence of inflammatory attacks in any organ exposed to the action of germs introduced from without cannot be entertained as an objection to an operation which makes those attacks comparatively harmless.

Again, as I have pointed out elsewhere, it is absurd to expect any cavity lined with mucous membrane to be entirely free from moisture. An absolutely dry tympanum is no more a healthy organ than a dry mouth, and for my part I am better pleased with the cases which continue to have a little mucus secreted in the tympanum than with those in which, owing to complete destruction of the mucous tissue, absolute dryness results.

IV.—Clarence J. Blake, M.D.,

Boston, Massachusetts;

Aural Surgeon to the Massachusetts Eye and Ear Infirmary.

Selection of an Operation: Bacteriology.

The purpose of this communication is to present a series of 36 cases of mastoid operation occurring consecutively in my last three months' service in the aural department of the Massachusetts Charitable Eye and Ear Infirmary; they serve to illustrate certain important points, and include both the

simple and uncomplicated, and the more serious and complicated forms of mastoid disease. They may be classified as, first, cases of acute inflammation of the mastoid, originating in acute inflammation of the middle ear confined to the contents of the mastoid process, and in which thorough evacuation of the mastoid contents and establishment of free communication with the middle ear through the mastoid antrum, followed by filling of the operative cavity with blood and closure of the external wound, resulted in what was practically a healing by first intention.

Secondly, cases of mastoid disease in which the mastoid cortex had become more or less involved in the destructive process, and the operative procedure consisted not only in the evacuation of the mastoid contents, but also in the removal of portions of the surrounding wall without attempt at primary healing.

Thirdly, cases in which, in addition to the disease already mentioned, there was implication of structures surrounding the mastoid process, and invasion either of the cranial cavity or extrusion of the suppurative mastoid contents posteriorly towards the occiput or downward into the muscles of the neck.

Since it is possible to determine by examination of the outer contour of the mastoid process the corresponding contour of its inner wall, and, within certain limits, the depths to which the sinus wall projects into the lumen of the mastoid process, a tactile examination of the mastoid process before operation, or, if the contour of the mastoid is obscured by swelling of the soft tissues, a tactile examination of the mastoid of the opposite side is often of considerable service. Examination of a large number of crania has shown that marked deformity and asymmetry of the mastoid processes occurs in about only 8 per cent., and that as a rule the narrow, small, and pointed mastoid has a deep groove for the sinus, and a consequently small operative triangle, while, on the contrary, the broad, blunt, and rounded mastoid process is deeper posteriorly, and has an operative triangle of correspondingly greater size.

At the meeting of the British Medical Association in Leeds, Professor Macewen made the statement that American aurists were "afraid of the lateral sinus." This statement was perfectly just, and is more true than it should be to-day, after the splendid lessons which he has taught.

Of the 35 cases of mastoid disease requiring radical operation, and occurring in the term of service above mentioned, one required a secondary operation, and another required operation upon both mastoids, making 37 operations in all These 35 cases may be classed under five heads:

In Class 1 were 5 cases, all occurring in adults, all acute, but with caries of the mastoid cell walls, redundant granulations, and pus in the mastoid. In these cases, after the usual opening through the outer cortex, the diseased contents were thoroughly removed by means of the curette, the healthy cortical wall being left untouched. This cavity was then allowed to fill with blood, the edges of the wound in the soft tissues were united by sutures, and an aseptic gauze dressing was applied. One of these cases was discharged well in seven days after the operation, one on the eighth day, two on the tenth day, and one on the twelfth day. These 5 cases were kept under observation in the out-patient department for two or more months, and remained solidly healed, without symptoms of the recurrence of mastoid trouble. One of these cases three weeks after his discharge from the infirmary reported in the out-patient department with an acute inflammation of the middle ear on the operated side. The ear rapidly improved after a free paracentesis of the drum head, and the patient was discharged well at the end of ten days, having had in the interval no mastoid pain or tenderness whatever, and the discharge from the ear remaining serous during that time. Attempts to obtain primary healing were also made in 12 other cases, making a total of 17. This experiment was made in continuance of that of previous years in order to determine the class of cases to which this procedure might be more especially applicable. Of the 17 cases in question, 11 were acute and 6 chronic. The attempt at primary healing failed in all the chronic cases, but was successful in 5 out of the 11 acute cases. This observation confirms that previously made and first reported to the American Otological Society in 1891, and would seem therefore to justify the use of this method in all acute and uncomplicated cases of mastoid disease. No possible harm can result from it, since if the blood clot breaks down the sutures can be easily removed and the wound allowed to heal by granulation.

Class 2 included 18 cases (10 acute and 8 chronic) in which primary healing was not attempted, and in which it was no necessary to remove any portion of the mastoid cortex. O the acute cases, all did well with the exception of 1, for which a secondary operation was necessary, and this case, therefore comes under Class 3. Of the other acute cases, 8 were discharged well at the end of periods varying from six to eigh weeks after operation; the remaining case, a diabetic, is still under treatment, three months after operation. Of the chronic cases, 5 had been operated upon previously, and had been very slow in recovering, 1 required a secondary operation, 2 were well three months after operation, and the remaining 4 are still under treatment.

Class 3 includes those cases in which, in addition to thorough evacuation of the mastoid, portions of the cortex were removed and the dura exposed. There were 9 cases, acute and 3 chronic; of the acute cases, 1 died of septi cerebro-spinal meningitis ten days after operation; 1, with convalescent mastoid, was transferred to the south department of the Boston City Hospital on account of measles, and died there two weeks later; 1 was discharged well in three weeks, 1 at the end of five weeks, and 2 are at present convalescent in the out-patient department. Three chroni cases are still under treatment in the out-patient department and are slowly improving. In these 9 cases pus was found in contact with the dura; in 5 the sinus wall was exposed during the operation, and in 2 accidentally opened with resultant hæmorrhage.

Class 4 includes 3 cases, all acute. All did well, and in al the abscess was very nearly in the same situation, namely between the dura and the posterior superior angle of the mastoid. There were granulations on the dura, and in cases the sinus was exposed for an inch or more by the operation; all of these cases were discharged well within six weeks after operation. In one of these cases the inner wal and the tip was removed from both mastoids, and the pu was followed back into the jugular fossa, and the contiguous bony wall thoroughly curetted with good results.

Class 5 includes 1 acute and 1 chronic case.

In the acute case there was a small abscess in the brain over the mastoid antrum. The bony structure of the mastoid was very much diseased, and it was necessary to expose the dura over a large area, both superiorly and posteriorly, The patient had had for a few days before operation a characteristic septic temperature; this still continued, and the blood count showed marked leucocytosis, and there was also commencing retinitis on the affected side. Through an opening in the dur there projected a small hernia of the brain 1.5 cm. in diameter. This wa at first supported by a firm packing in the wound, but gradually becam covered with granulations. The wound is now completely healed an the patient well.

The second case was that of a poorly-nourished Italian child, aged years, who had had a suppurative discharge from the ear for four years For two weeks before admission into the infirmary there had been marke swelling behind the ear and daily chills and fever, and at the time of admission there was a fluctuating area above and behind the ear, 3 inche in diameter antero-posteriorly and 2 inches in diameter vertically, it centre being just over the spine of the meatus. Pressure upon thi swelling caused an outflow of thick offensive pus from the canal. Th patient had marked general *malaise*, the temperature was 105°, the puls rapid and weak, and there was marked stupor. Examination of the eye showed beginning retinitis, and the blood count a leucocytosis of 35,00 The case was immediately operated upon, the large abscess cavity bein first freely opened and curetted. The mastoid was extensively diseased and the bone, including the cortex, was easily removed by means of th sharp spoon, and the dura exposed over an area an inch and a half in diameter posteriorly and superiorly. The opening in the bone being the extended a distance of an inch above the mastoid limit, the sloughin dura was removed and a large abscess found in the cerebellum, fro which 3 or 4 drachms of pus were evacuated; the walls of the cavity wer thoroughly curetted, and the wound carefully washed out and packe with aseptic gauze, and subsequently cleansed with peroxyde of hydrogen and dressed with boric acid. Cultures from the pus showed numerou staphylococci.

During the two weeks following operation the patient had daily chil followed by sudden rise of temperature to 106° or 108° F. This rise i temperature was followed by great prostration, with a thready an tremulous pulse and a condition requiring vigorous stimulation. T examination of the blood for the malaria plasmodium gave negativ results. Ten days after the first operation signs suggesting presence a pus focus were so marked that under ether a thorough examinatio with an aspirating needle was made, but no pus found. The temperature however, gradually decreased, the chills ceased, and at the end of thre weeks after operation the temperature had become normal. At th present time the brain hernia is about the size of a pullet's egg, pulsate synchronously with the heart, is very sensitive to the touch, and is bein

radually covered by granulation tissue. The patient is speedily gaining n strength, and is evidently making a good recovery.

The fatal case of septic cerebro-spinal meningitis also presents some points which are of interest.

The patient was a woman 21 years of age, neurotic, and in poor general ondition. She had acute inflammation of the left middle ear with astoid tenderness four weeks before admission to the infirmary, and ne first night before the mastoid operation had a chill, followed by a rise f temperature of 104° F. The mastoid cortex was found to be very thick, nd the mastoid cavity divided into numerous compartments by bridges f very hard bone, which, however, broke down under forcible curetting, evealing small cavities filled with pus under considerable pressure. The oftened and carious bone was thoroughly removed by curetting and the ound syringed, the water passing freely through the antrum and middle ar. The dura was not exposed, the cortex being apparently sound. A mple aseptic gauze dressing was used. Cultures from the pus showed reptococci and diplococci. The wound did well, and the patient was ischarged to the out-patient department three weeks after the operation. uring the last week in the infirmary, however, she had complained of evere frontal headache, and there was also occasional slight elevation f temperature. Examination of the eyes showed an error of refraction hich was supposed to be sufficient to account for the pain. After leavig the infirmary the headache grew rapidly worse, and the patient was rged to re-enter the house two days after her discharge; this, however, e refused to do, and did not return until a week later. As pain had in e meantime considerably increased a further operation was decided pon. The ear was perfectly dry, no bare bone could be felt in the astoid wound, nor was there any tenderness even upon deep pressure out the mastoid. The temperature, however, was 103° F.; a blood unt gave leucocytosis of 20,000, and there was also a suggestion of tinitis. The next day the pain grew worse, the patient became delirious, id the pulse dropped from 120 to 48 within an hour. The mastoid wound as immediately reopened and enlarged, all the remaining cancellous ructure as well as the tegmen and the posterior wall were removed, id the opening thus made exposed to view the dura to the whole depth the mastoid and the sinus for over an inch; no pus was found, and e bone was only moderately softened. The sinus was accidentally ened and bled very freely, requiring plugging. The pulse became much proved, and at the close of the operation was 90. The patient passed restless night, was still unconscious, and had a morning temperature 105° F.; the head was slightly retracted, the neck rigid, the pupils ieven and responding to light very slowly, the reflexes were nearly rmal.

Dr. J. J. Putnam saw the case in consultation, and performed lumbar incture, withdrawing about 15 c.cm. of a turbid fluid. The sediment as examined and found to contain streptococci, which were later obined in pure cultures. The blood was examined daily, but with negae results, but the variations of the leucocytosis were very interesting. fore operation the count gave 20,000, as the disease progressed it went to 40,000 on the seventh day, and then gradually declined to about 000. Slight facial paralysis was noted on the sixth day, and an eruption along the course of the facial nerve. The wound showed no signs healing, was dressed daily, and the sinus bled quite freely when the cking was removed after the first three dressings; it then became sed with a firm blood clot. The exposure of so much surface of dura rmitted observations similar to those previously made in like cases in ildren as to the effect of lumbar puncture on the cerebral tension; is seemed to be much decreased after the withdrawal of 30 c.cm. of inal fluid, and the respiration dropped from 56 to 32 within a period of e minutes, and to 26 within an hour; this decrease lasted several urs. The lumbar puncture was repeated daily for a week, the fluid came more and more turbid, and the sediment from the last puncture nstituted half the bulk of the fluid. As pure cultures of streptococci re obtained from all these punctures the house officer, Dr. White, to om I am indebted for the summary of the cases here presented, shed to try the antistreptococcus serum. Beginning with the fourth y after the mastoid operation, it was therefore given in quantities of m 30 to 60 c.cm. daily without, however, any apparent effect on the mperature, respiration, pulse, or general condition. The patient deloped septic broncho-pneumonia on the eighth day and died on the th, but in the meantime the meningeal symptoms had decreased, and dura was more normal in appearance. No necropsy was permitted.

It is interesting to note in the brief review of these cases at all of the cases of acute mastoid disease did well in the nse of speedy recovery, with two exceptions, and that the same ay be said of 50 per cent. of the chronic cases. The other per cent. of the chronic cases were either very slow in aling or required secondary operations. Six of the chronic ses had been previously treated, but 3 did well in the sense rapid recovery. It is interesting to note also that the astoid was found to be diploëtic in 22 cases, pneumatic in and sclerotic in 1. In pursuance of the purpose to determine both the character and course of the infection, cultures re carefully made in all cases. In 23 but one germ was und, in 12 there was a mixed infection, and from 2 no owths were obtained.

treptococcus	was found pure in	12	cases			
taphylococcus	,,	,,	,,	,,	5	,,
iplococcus	,,	,,	,,	,,	6	,,
treptococcus and diplococcus	,,	,,		,,	5	,,
treptococcus and bacillus fœtidus	,,	,,		,,	3	,,
treptococcus and bacillus pyocyaneus	,,	,,		,,	1	,,
treptococcus and diplococcus	,,	,,		,,	1	,,
treptococcus, staphylococcus, and diplococcus	,,	,,		,,	2	,,

The streptococcus cases were by far the most serious, though one healed by first intention. An interesting fact was noted in the series of cultures in regard to the infection of the mastoid from the middle ear; as a rule the same germ was obtained by paracentesis as was later found in the mastoid. In one case cultures from paracentesis gave staphylococcus and diplococcus, while from the mastoid a pure culture of diplococcus was obtained, thus showing that the germ in the middle ear to commence with was diplococcus, which infected the mastoid, and that later on the middle ear was infected with streptococcus.

The results obtained from blood counts were also very satisfactory; wherever pus was in contact with the dura leucocytosis was found, while with the mastoid cortex intact, even though the mastoid was filled with pus, no leucocytosis was observed.

In conclusion, it may be said that this series of cases emphasises the conclusions drawn from previous experience that all diseased bone, cortical or otherwise, should be removed and the pus followed to its ultimate extension; that where possible, after thorough surgical cleansing by the operative procedure, healing by first intention should be favoured, and that, in case of hæmorrhage from the lateral sinus or from meningeal arteries, by rapidly enlarging the opening in the bony wall of the cranial cavity the normal brain pressure may be utilised to plug the vessels, and the operation continued without other interruption.

V.—H. Lee Morse, M.D.

Points in Anatomy which have a Practical Bearing upon Operations on the Temporal Bone in Disease of the Ear.

I wish to call attention to the position of the field of operation in Schwartze's and the Stacke's operations, and to the comparative danger, in the two operations, of injury to the lateral sinus, the facial nerve, the tendon of the stapedius muscle, the stapes, and the horizontal semicircular canal.

Diagram and bone preparations are exhibited in illustration of the points discussed. Two of the diagrams show, in connection with Schwartze's operation, the point where the lateral sinus approaches most nearly to the field of operation. The thickness of the bony wall which separates these two cavities at that point is 6 millimetres. If the distances of the field of operation from each of these dangerous points were noticed, it would be seen that in each case there is a reasonable space. In other diagrams showing Stacke's operation the sinus is laid bare. The field of operation, if carried inward to the inner bony wall, is seen to strike the horizontal semicircular canal. It strikes also the Fallopian canal in which lies the facial nerve. It comes close to, and almost touches, the tendon of the stapedius muscle.

We are told in the description of the operation (Politzer) to be careful not to penetrate too deeply on account of these dangers, and measurements are given to guide us, but the bones vary in dimensions so that no absolute depth can be laid down, and it is difficult in a deep operation in so confined a space to tell just how deep the tip of the curette has penetrated, and therefore it is not surprising that sometimes the facial nerve is cut, with consequent facial paralysis, especially when we consider that the nerve sometimes has no bony covering, or its covering has been softened or partially destroyed by disease of the middle ear.

The chorda tympani nerve is almost of necessity cut, as it lies directly in the track of the operation. The wall of the semicircular canal, on account of its ivory-like character, is not very likely to be softened by disease, but it is possible that we might find it so, especially in children.

The tendon of the stapedius muscle and the stapes itself lie so close to the field of operation that, in our endeavours to scrape out granulation tissue or softened bone, the tendon would be very easily cut, the stapes dislocated, and the way laid open into the inner ear, by a slight variation in the direction given to the curette. All these considerations lead one to choose, whenever the choice is possible, the Schwartze operation,

The preparations I exhibit of the two temporal bones from the skull of a child show that the thickness of the bone separating the field of operation from the sinus is the same in both operations, half a millimetre in each case; but all the other distances, namely, from the field of operation to the

facial nerve, tendon of stapedius muscle, stapes, and horizontal semicircular canal are sharply contrasted, and speak strongly in favour of the Schwartze operation.

In another preparation the chorda tympani is again seen cut by the operation. These preparations bring out another point worth mentioning, which is that most of us are in the habit of using in children curettes which are too large and too clumsy. When one sees how small the spaces are in which he can operate safely, and how thin and soft all the bones are, it seems wonderful that so few accidents occur. Another preparation serves to emphasise the safety of the Schwartze operation, and the abundance of room in which to operate that may exist in a favourable bone, while another preparation shows in addition unusually well the chorda tympani, as it is given off from the facial nerve and passes through the tympanic cavity. This was a diseased ear during life. The membrana tympani has two calcareous deposits in it. The malleus and incus are gone, but were very likely removed in the dissecting room before the bone came into my possession, as the tegmen tympani was already gone when I got the bone. The stapes, however, is intact and was movable, while the specimen was still moist.

In a second specimen from a diseased ear, the malleus has adhesions on it, the membrana tympani was partially destroyed before I made the section through the bone, which tore it still further, and the incus is gone. This preparation is an unusually good specimen of an eburnised (sclerosed) temporal bone. There is no cancellated structure and no mastoid cells; it is ivory-like bone throughout.

I have tried up to this point to show why, in cases in which there is a choice, it is better for anatomical reasons to choose Schwartze's operation; but we sometimes come upon temporal bones where, also for anatomical reasons, Schwartze's operation is impossible. This is shown in another preparation from a diseased ear; it is an example of one form of these abnormal temporal bones. There is a large perforation in the thickened membrana tympani; all the ossicles are embedded in a firm mass of epithelium (cholesteatomatous mass) which would have been very difficult of removal in life through the meatus, and which must have impaired the hearing very materially. This is also an example of a sclerosed bone, but the most important point is that the sinus comes so far forward that there is absolutely no mastoid antrum to be found, and any attempt to perform Schwartze's operation must have laid bare the sinus as soon as the cortex of the mastoid was penetrated. In such cases as this, Stacke's or some similar operation, such as that of Hartmann, Küster, von Bergmann, and others, is the only operation possible.

In cases like the above, or those in which complications in the meatus, the tympanic cavity, or the mastoid antrum (the results of disease of the ear) make a Stacke's operation advisable, what guides, if any, do these preparations give us to the direction in which we should aim to operate? Examination of the bones seems to me to lead one to direct the opening in the posterior superior wall of the inner end of the external auditory canal strongly upward, and as soon as the bone has been penetrated to indicate the gentle use of a small bent curette still in an upward direction. By so doing, injury to the facial nerve, the stapes, and semicircular canal is most likely to be avoided, and the mastoid antrum and attic of the tympanic cavity more surely to be reached. We have as our chief danger injury to the roof of the mastoid antrum and tympanic cavity. At these points the bone is usually thin, and is sometimes partially absent, but they are further away from the point of the instrument used to clear out the diseased tissues than the other dangerous points, and are usually so much higher that they are less likely to be injured.

In conclusion I would repeat that, wherever there is a reasonable chance, the Schwartze operation will give a satisfactory result, and where the situation of the sinus, as determined during the course of the operation, does not prevent it, Schwartze's operation rather than a Stacke's should be done; where the latter is called for the operation, when removing the posterior superior portion of the inner end of the external canal should be directed sharply upward, and the probe and curette used gently, still in an upward direction, when the bone has been cut through.

In operating the smallness of the spaces in which operation can be undertaken with safety must be remembered, and small and delicate curettes used with very little force.

VI.—Gorham Bacon, M.D.,
New York.

Dr. Bacon said, with reference to Dr. Blake's observations o fluctuation in the temperature in one of his cases, that he ha noticed the same condition in several cases operated upo last winter at the New York Eye and Ear Infirmary. I these the temperature varied from day to day, suggesting th advisability of further operation. Several consultations wer held, but, after waiting a few days in each case, the patient recovered. He believed that in such cases the rise in tem perature was due to absorption of pus; and that a sudde fall in temperature should not be expected in all cases imme diately after operation. When Professor Macewen was i America in 1896 Dr. Bacon asked how it was that he had s many operations on the cranial cavity following mastoid dis ease, and Professor Macewen had replied that as many woul be found in New York if they were looked for. Since then h had seen 20 cases of operation for brain complications due to ea disease, of which 15 were successful, and the speaker felt sur that such cases were much more frequent than was usually sup posed. He concurred in what had been said in regard to th importance of exposing the lateral sinus. It was imperativ in operations on the mastoid to make a very free incisio through the soft parts so as to enable the surgeon to lay bar and remove in a most thorough manner all the diseased bone According to his experience, there was very little danger i aseptic principles were carried out in exposing the sinus an thoroughly investigating it, as well as the cranial cavity, i necessary. He had much more dread of injuring the facia nerve in such operations.

VII.—J. Ward Cousins, M.D.Lond., F.R.C.S.,
Senior Surgeon to the Royal Portsmouth Hospital.

Mastoid Disease.

Dr. Ward Cousins considered that generally acute symptom occurring in the course of chronic disease required surgica treatment, and that in every case it was desirable to test th hearing power before the operation. The great purpose o the operation was to remove all the necrotic tissues an establish drainage, and often the removal of a large portio of the external wall of the mastoid was an excellent proceed ing. In cases in which the tympanum was opened he used small vulcanite flesh-coloured tube which the patient wor for a variable time, regulated by the favourable course of th disorder. He never operated in a case in which he considere it desirable to close the mastoid wound immediately, an after many of his operations the hearing power had consider ably improved.

Replies.

Dr. Clarence J. Blake said that the general surgical rul of removal of all inflamed tissue, presumably incapable o recovery or of tissue already diseased, was as applicable i the mastoid region as elsewhere. He did not consider th procedure of thoroughly evacuating the mastoid, allowin the cavity to fill with blood and closing the external woun as at all experimental. If a pus focus remained and th blood clot broke down, the wound was reopened by a touch of the probe, and the case treated as ordinarily by packin and drainage; if not, there was the advantage of a speedy and as had been shown by observation of a number of these cases, a complete recovery with but few exceptions.

Dr. A. H. Buck thought that it was not a good surgical les son to promulgate—that surgical wounds might be shut up. He preferred to leave the wound open and to relieve all pres sure.

CHRONIC ARYTENOID LARYNGITIS.

By Price Brown, M.D.,
Toronto.

In saying a few words upon this subject, I use the above title, inasmuch as it directly indicates the extent and character of the disease referred to. I know that chronic laryngitis is not usually supposed to affect the arytenoid commis-

e, without also affecting to a more or less extent the surnding mucosa, particularly of the ventricular bands, aryglottic folds, and the arytenoids. The experience, how-, I have had in the treatment of a number of cases has factorily demonstrated, to my own mind at least, that nic laryngitis, of a persistent and severe character, cond to the commissure, does sometimes occur. This accords ome measure with Professor Chiari's third division of ydermia laryngis; but as this term is by the profession ally confined to disease of the vocal processes, attended he formation of nodes, I would request the members of Section to tell me whether the cases I have the honour eport to-day are cases of pachydermia laryngis or not.

SE I.—In September, 1894, Miss B., aged 39, applied for treatment. A ier, whom she had nursed for a long time, died eighteen months ously of phthisis. She had herself been affected with throat catarrh oarseness for years, attended by cough and expectoration. On exation, no indications of lung disease were found. Vocal cords were d with slightly-coloured catarrhal secretion. In abduction a film d stretch across the opening of the glottis, which would only give when abduction was made complete by deep breathing. Ventricular s and arytenoids seemed normal; but the interarytenoid commis- was grey, thickened, and corrugated, the enlargement extending e vocal cords and preventing their complete closure during phona-

ay treatment relieved the catarrhal condition, but had no perceptible upon the commissure. I then tried brushing with a 10 per cent. ion of menthol in albolene. This was used daily for some time without perceptible effect. I next tried 10 per cent. sol. arg. nit. on nate days, the throat being daily cleansed first with a spray of l's sol. followed by a spray of menthol in albolene. The nitrate of , although always preceded by an application of cocaine, seemed to uce sorenees and hyperæmia of the larynx, without reducing the ydermic appearance. So after continuing its use for some time, I ituted 33 per cent. sol. of lactic acid in its stead, brushing the com- ire with it every third or fourth day. This drug gave marked relief, was more easily borne. After using it three or four times, the gth of the acid was increased to 50 per cent. The improvement was y, and in a few weeks the chronic inflammatory thickening had en- disappeared. The soreness had passed away, and the voice re- d its normal tone. Since that time, now nearly three years, the nt has continued quite well.

E II.—In August, 1895, Mrs. B., aged 34, presented herself for treat- . She had been troubled with soreness of throat and harshness y all her life. Never had indications of specific disease. No tuber- is symptoms in herself nor any members of her family. With the tion of her throat, always healthy. On examination no intranasal , no adenoids, no catarrh of naso-pharynx. The tonsils, however, hyperplastic. Within the larynx there was no inflammatory or rhal condition except in the interarytenoid commissure. Here there lecided thickening. The mucosa had lost its natural pink colour, orrugated and grey in appearance, and was fissured in different tions. The enlarged, hypertrophied tissue extended down between ocal cords, and prevented complete closure during use of the voice. was no swelling of the arytenoids, and no tendency to the forma- of nodes.

he treatment of this case I removed the tonsils by galvano-cautery, ng smooth surfaces between the pillars. Spray treatment was tried me time, but ineffectually. I then resorted to brushing the larynx arly on alternate days with 50 per cent. solution of lactic acid. The ficial effect was marked but very slow. One remarkable thing was lerance of the larynx to the drug. It produced neither pain nor , although applied without the previous application of cocaine. nonth after commencing treatment with the hope of more rapid im- ment, I curetted the commissure. This was followed by hæmor- , but it did not quicken the cure. For a whole year there was little ge in the treatment, except that the intervals between applications lengthened. Two or three times I substituted 10 per cent. arg. ol.; but it was not borne so well as the lactic acid. During the d year the intervals between treatment lengthened to one, and then weeks. The improvement was constant, and four months ago the f the thickened mucosa disappeared, and the commissure resumed rmal appearance and pink colour. The vocal cords adduct fully in ation, and the voice is restored.

E III.—Mr. A. A. C., aged 40, came first for treatment four years ago. long time he had been a frequent sufferer from naso-pharyngeal rh. Some time during that period an over-zealous physician, either cident or design, had removed the whole of his uvula. Whether this cause or not his larynx, upon any sudden lowering of atmo- ic temperature, would be attacked by soreness. Every winter he l have hoarseness, with hawking and expectoration upon any sud- hange occurring. Menthol and thymol sprays would usually relieve ymptoms, but gradually the interarytenoid commissure thickened, n October, 1896, his condition became alarming. He had just re- d from deer hunting in Montana, a thousand miles away, and hav- aught cold while travelling in a sleeper, had an attack of acute gitis as a consequence. This confined him to bed for a number of s. The subsidence of the acute symptoms left behind an enormously ened commissure; it was grey, spongy, and fissured. Dr. Shurly, of it, kindly saw the case in consultation with me. Having been suc- ul with lactic acid treatment in the former 2 cases, I tried it in this. lied a 33 per cent. solution at intervals of a couple of days a number of ; it was not borne well, however; it seemed to irritate the larynx, o apparent progress was made. This was followed by the applica- of glycero-tannin pigment at similar intervals, with little if any r result. At last, under cocaine, I brushed the comm sure with it. sol. 10 per cent., at intervals of three or four days, for a number nes After the first treatment the thickening commenced to become less, and in a few weeks it had almost entirely disappeared; the only thing that could be observed being a relaxed and stretched condition of the commissure. By the end of January he was well enough to leave for California for his health. He returned in May looking and feeling well, but on examining the larynx I found there was still a little central pachydermia, and I fear that with the return of winter there will be a recrudescence of the disease.

CASE IV.—Mrs. W. L., aged 35, soprano vocalist. Seven years ago she came for treatment for chronic hoarseness, believing that she would have to resign her position as leading singer in one of our city churches on account of it. Under treatment she recovered and retained her position. Off and on from then until now she has frequently required throat treatment, but she always retained her voice. Among other things she had hypertrophied pharyngeal tonsil. Two or three years ago, after applying cocaine, I removed a portion of it. The pain was more than she anticipated, and she has persistently declined to have the rest removed without I would have chloroform administered, which, so far, I have refrained from consenting to.

For nearly a year a slight commissural thickening has been forming, but this did not affect her materially until March last, when it culminated in soreness with muffled voice but without hoarseness. On examination I found the symptoms much the same as in the other cases. The commissural membrane was grey, and swollen, and corrugated, but did not extend far enough down to interfere with the adductor muscles. The one-sided adenoid enlargement did not appear to interfere with nasal respiration, but how far it might have contributed to the condition in the larynx I could not say.

As in the other cases, sprays alone had no effect in diminishing the hypertrophy. Lactic acid 50 per cent. solution, also at intervals of several days, was rubbed into the commissure, but had no visible effect. Then, after applying cocaine, I resorted to brushing with 10 per cent. arg. nit. sol. This had a good result. The outside epithelium quickly peeled off, and a few applications at intervals of several days, resulted in the entire disappearance of the commisural thickening, and of the symptoms arising from it.

In concluding this brief record of cases, I may say that microscopical sections of none of them are made; but microscopically the appearances of all were almost identical in character. The ventricular bands, the arytenoids, the epiglottis, in each were free from apparent disease. The vocal cords in the first were more catarrhal than in the others. This was the only visible distinction, as the commissural appearance in all four varied only in degree. Yet two succumbed to nitrate of silver, lactic acid being in effect useless, while the other two yielded to lactic acid, the nitrate being out of place.

I would ask the question, Were these four cases pathologically alike? If so, Why the difference in amenability to treatment? Or was the first case tuberculous? And lastly, Should they be classed as instances of pachydermia laryngis?

Dr. PERMEWAN was familar with the class of case, but doubted whether they were all of one character. Some were tuberculous and some could be classed as pachydermia laryngis. He had found lactic acid the most useful astringent in these cases, whatever their nature.

Dr. DELAVAN also made some observations, and exhibited a electrolytic needle for use in these cases.

Dr. PRICE BROWN, in reply, thought that Dr. Delavan's suggestion of the use of the electric needle might be of excellent service, judging from its efficiency in the reduction of nasopharyngeal fibroids. The anatomical fact that the region of the commissure was supplied more freely with muscles and glands than any other part of the larynx, and also that it was the roadway over which the ciliated epithelium carried the secretions from the larynx over into the œsophagus, must be the reason why this region was so liable to thickening.

PHOSPHORUS-NECROSIS OF THE TEMPORAL BONE.

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PHOSPHORUS-NECROSIS is described as a characteristic maxillary bone disease commencing after several years' contact with phosphoric fumes, occurring especially among workmen in match factories, affecting 11 to 12 per cent. of those exposed to the fumes.[6] It very rarely affects persons with sound teeth, but occurs mainly in those whose teeth are carious; where the teeth have been extracted and the alveolar process exposed exceptionally predisposes to the disease. The earliest case was reported[5,6] in 1845, being noticed in 1839, about

eleven years after the opening of match factories in Vienna. It is much less prevalent now than formerly, on account of better hygienic surroundings in the factories, improved artificial ventilation, the vaporisation of turpentine,[6] and the rigid inspection to which the workmen are subjected. The red amorphous phosphorus is comparatively harmless, and is now generally used. The first symptoms are toothache, followed by pain in the jaw, swelling and tenderness of the gums, and formation of abscesses discharging fœtid pus through the cheek, roof of mouth, or even the aural cavity,[2] leaving fistulous openings. The patient acquires a peculiar pasty appearance of the face and puffiness of the cheeks.

The usual complications are chronic bronchial catarrh, chronic gastro-enteritis, and constipation. The patients rapidly deteriorate in general health. The most rare complication is pointing of abscesses or continuation of the ostitis to the bones of the external auditory canal, which, as far as I can find, is described by only one author.[2] After subsidence of the acute symptoms the bone is found to be necrosed. The disease is always chronic, and almost imperceptibly slow in the upper jaw, but in the lower is sometimes acute and attended by high fever. The lower jaw is most frequently attacked. The disease begins in the periosteum, is due to local irritation, and ends in the death of the bone. The sequestrum adheres firmly to the underlying bone, becoming encrusted with a pumice stone-like material.[1-3-4] The disease may affect only small parts of the jaw or even the whole bone.

The treatment advised by all authors is dietary, hygienic, and stimulant, together with tonics, antiseptic washes, and removal of the sequestrum by operation. Operations for removal of dead bone are generally very successful. Billroth cured 20 out of 23 cases.[6] Of neglected cases, 35 to 38 per cent. die of complications and of sepsis.[6] I beg to submit the history of the following case, in which the aural complication has proven to be the principal factor.

January 6th, 1896. . J. W., aged 58, American, employed in one of the principal match factories in the United States, first as a fireman in the boiler room for fourteen months, then as watchman for two years, and then as a melter of phosphoric composition and a rollerman for six weeks. His father died of apoplexy at 78; mother of epidemic influenza at 69; brother and sister in good health. Two sisters and one brother died in infancy. Claimed to have always been in good health, except diphtheria at the age of 23 and epidemic influenza five years ago. Three years ago he had painful left upper jaw, having two teeth extracted, and later had all of them removed, after which he wore a plate. He was kept from work for five weeks, felt very good, but after this noticed pain in the ear which was referred to the mastoid region. About January 1st, 1895, he had pain in the ear, which was referred to the mastoid region. About January 1st, 1895, he had pain in the ear, and foul muco-pus discharged. The patient lost decidedly in flesh. About this time he was struck on the left side of the head by a match composition which covered the side of his face and filled his ear. His mouth was so sore at times that the plate could not be worn. In May, 1895, a sequestrum from the upper maxilla was removed by a dentist, after which he was little troubled.

January 1st, 1896, he was sent to me for treatment of his ear. His condition was the following: Weight about 130 lbs., tall and angular, face of pasty appearance; the left alveolar process swollen and puffy, there being two fistulous openings on the buccal side and one in the roof of the mouth; examination with probe showed roughened denuded bone. The left external auditory canal was full of fœtid pus. There was decided periostitis, swelling, and tenderness over the mastoid region. The posterior wall of the canal was reddened and swollen, being painful to touch of probe. There were granulations at the lower portion of the membrana flaccida which covered a small perforation, the membrana tympani being apparently intact, but a perforation whistle was heard on inflation. In the right ear the membrana tympani was retracted and thickened. The temperature was 101°, and patient apparently very weak. During the week before he had had several chills, considerable headache, and had been confined to bed. The patient would not submit to immediate operation, and left my office and returned in two days, when he had a temperature of 103° and apparent septicæmia, so he was immediately sent to the hospital.

Operation.—Under ether narcosis, the mastoid cells and antrum were opened, the posterior and superior wall of the canal removed, the bone of the last two places being found necrosed. The mastoid cells were apparently healthy, although the antrum was filled with foul greenish pus. The wound was packed with iodoform gauze, and dressings made every second day. By the operation the mastoid, antrum, the cells, the attic of the tympanum and the external auditory canal were converted into a large cavity.

When he returned home (January 25th) he had gained about 10 lbs. under diet and tonics. He was treated at his native city under my directions by a physician, but returned to me on June 1st, 1896, having lost flesh, being reduced to 128 lbs. He had recurrence of chills and temperature; a loose sequestrum was found in the sinus back of the ear, so under narcosis, the antrum was again opened, the dead bone removed and tube inserted for drainage, which was free from the sinus through the middle ear and auditory canal. This time he remained for several months until the sinus at the back of the ear was allowed to close He gained nearly 40 lbs. under hospital diet and tonics. There was r replacement of the posterior wall of the canal by a new growth of b so great that its lumen was almost closed. The company dentist at time scraped the carious upper jaw, after which he was again ab wear his artificial teeth.

April 22nd, 1897, he returned for treatment, stating that he worked for several months, but that he had great pain in the ear head. The ear had been occasionally treated by antiseptic washes, there was now a slight fœtid discharge. It was found that the grow the posterior wall of the canal had sclerosed and shrunken so that canal was now nearly of normal size. The sinus back of the ear healed, and the discharge seemed to come from granulations near osseous ring by the tympanic attic. There was a large perforation, an jections were easily made from the canal through the Eustachian t The granulations were removed, and the patient treated by antisepti jections. Patient remained here two months, again gaining in we nearly 40 lbs., and when he returned home there had been no disch from the ear for several weeks.

August 20th, 1897. After this report had been prepared for the Ass tion meeting the patient unexpectedly returned, stating that he worked for two weeks after leaving my care, but since that time he been again failing in general health and lost in weight. For about weeks there had been purulent discharge from the ear, concer which he had written me and had been ordered to treat the sam injections of boric acid solution. After two weeks he had consider pain at the back of the ear and had but little sleep. On examina there was found purulent discharge from the middle ear, the wall the external meatus, particularly the posterior, being swollen and ten Dizziness was experienced from mopping out of the ear. The pa weighed but 135 lbs., had acquired a waxy appearance of his face, complained greatly of his symptoms. There was no periostitis over mastoid or other symptoms except tenderness upon pressure. patient, being suspected of malingering, was sent to the hospital carefully watched for four days. The temperature during this time normal. Largely on account of the patient's complaints I conclude again open up the mastoid antrum and cells, the operation being dee warrantable on account of the chronic suppurative disease.

Operation, August 24th, under ether anæsthesia at the Milwa Hospital: The mastoid was chiselled and drilled open, the exte layer being found hard and cancellous, under which there was fou pasty mass of necrosed bone from which exuded greenish fœtid pus. posterior wall of the canal was soft and friable and readily remove the spoon. It was found that the superior wall had been largely re duced, and thereupon the triangular piece of bone between the attic the tympanum was removed and granulations taken away from tympanic attic. Since that time the wound has been dressed tw being apparently free from pus. The patient will be expected to ma good recovery.

It may be questioned whether the temporal bone disea of phosphoric origin. It has been shown[2] that abscesses the upper jaw may discharge through sinuses in the exter auditory canal or middle ear, and this may have been starting point for the phosphorus-necrosis. The characte the maxillary disease and the patient's occupation leave room for doubt in my mind but that the necrosis of the j had its origin in phosphoric absorption. Another possibil of the middle ear and mastoid affection is the fact tha mass of the phosphorus paste was by accident thrown i his ear and was probably insufficiently removed, after wh it discharged and perforation of the drumhead occurred. T character of the middle ear and mastoid disease was simi to that of the upper jaw, very chronic in its course, a yielding but slowly and incompletely to treatment, prese ing a contrast to other mastoid cases.

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A CASE OF FOREIGN BODY (METALLIC SHO HOOK) REMOVED FROM THE LARYNX BY THYROTOMY.

By Chas. H. Knight, M.D.,
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Foreign bodies in the larynx owe their importance in t first instance to their individual size and shape; and secon arily to the position they may happen to assume in t laryngeal cavity. The dimensions of a foreign body are immediate interest as regards the respiratory function of t larynx; its shape has an important practical bearing upon t method to be employed for its extraction, as well as upon t phonatory function of the larynx. An object so small as slip through the chink of the glottis and fall into a bronch may be quite as serious in its ultimate results, as one so lar as to fill the larynx and necessitate a rapid tracheotomy. smooth round object of moderate size is apt to find its w

below the vocal bands, or may be disposed of by an expulsive cough. A rough or sharp-pointed body is very likely to engage itself in one of the recesses of the glottis, or to become embedded in a projecting fold. Its removal under such circumstances is much more difficult, and is attended by greater risk of damage to the structures of the larynx.

In the management of a case of foreign body in the larynx we have to consider the age of the patient, his temperament, and the degree of local irritability. In a nervous individual, with an intolerant pharynx, the necessary manipulations are to be accomplished, if at all, with the greatest difficulty. Young children are notoriously intractable, especially when the fright associated with the accidental inspiration of a foreign body is aggravated by the view of preparations for attempting its removal. If we have time, a patient of reasonable age may be reassured, and perhaps trained to submit to the introduction of instruments into the larynx.

In some cases cocaine is of great service, not only as an anæsthetic, but in reducing congestion and swelling, and thus facilitating the dislodgment of an impacted body. My impression is that the value as well as the dangers of cocaine have been overestimated. Its effects seem to be limited to the site of application: moreover, they are sometimes annoyingly transient and variable, even in the same patient on different occasions. On the other hand, it is surprising how the exercise of patience and tact will at times establish a condition of tolerance even in a most unpromising subject. Cocaine toxæmia in my experience is extremely rare, although I use the drug with the utmost freedom. In former times a patient would occasionally become faint from surgical shock of an operation, or even from nervous excitement during an examination. Nowadays similar cases are erroneously attributed to cocaine. I do not wish to be understood as recommending its unrestricted use, or entrusting it to patients. The latter practice seems to me especially reprehensible. In a certain proportion of cases cocaine fails to abolish sensation, and general anæsthesia may be required. The difficulties and dangers of endolaryngeal manipulations are vastly increased in the latter condition.

The catalogue of articles which have found their way into the upper air passages at various times is extremely voluminous. The hero of my history selected a somewhat unusual one. His case is also remarkable for the comparatively trifling disturbance the invader caused, and for the ultimately favourable result of operative interference.

A boy, 7 years of age, was brought to me in February, 1897, with aphonia, said to be due to the presence in his larynx of a metallic shoe-hook or fastener. The lad was in excellent general condition, and no other symptoms of any kind were presented. The father stated that the boy had inhaled the foreign body five weeks previously. Immediately there was a violent attack of coughing and dyspnœa, which subsided in a few moments. With the exception of loss of voice and whistling respiration during sleep there was nothing to suggest that the hook had entered the larynx. A week was spent in attempts to restore the voice by means of the electric current, when the patient came under the care of Dr. J. F. Ott, of Binghamton, New York, who promptly discovered the foreign body in the right ventricle of the larynx, near the anterior commissure. At that time an enlarged tonsil interfered very much with manipulations, and it was excised. Numerous attempts at removal, both with and without ether, as well as by means of the so-called "autoscope" of Kirstein, were unsuccessful. It became apparent that an external operation would be required, and the boy was accordingly sent to New York. A very few days convinced me that extraction through the mouth would be impracticable; therefore, on February 13th, six weeks after the accident, ether was given preparatory to opening the larynx. Before proceeding I made a final trial of Kirstein's instrument, but without success. It would not be fair to hold the instrument responsible for my failure, which was attributable rather to my own clumsiness and lack of familiarity with it and to a somewhat imperfect light at my disposal. Subsequent experiments with the "autoscope" have persuaded me of its value in some cases, but have not seemed to me to substantiate the claim of its inventor. The removal of the hook was accomplished without noteworthy incident. The incision included the second ring of the trachea and the lower half of the thyroid cartilage. The foreign body could be plainly felt, and finally seen through the tracheal wound quite firmly incarcerated in the swollen tissues of the right ventricle close to the anterior commissure. It was gently loosened by means of pressure with the finger tip, care being taken to avoid unnecessary damage. The parts were replaced and held by three deep silk sutures, a trachea-tube being left at the lower angle of the wound for thirty-six hours. The wound healed within two weeks, and the patient was discharged still aphonic, but breathing naturally and in good general condition. At this time the larynx was still hyperæmic. The vocal bands did not come together well on phonation, partly at least in consequence of the presence of a nodule of granulation tissue at the site of the laryngeal wound. The bands were intact. Several weeks elapsed without any improvement in the voice, and the parents became so anxious that they were tempted to adopt a course of local treatment which had been suggested. Fortunately, I believe, they concluded to follow the advice I had given them from the first "not to meddle," and in about ten weeks after the operation the lad surprised himself by making a loud noise. He was so delighted that he kept on using his larynx, and in a very few days he regained absolute control of the organ.

This case may be looked upon as a striking demonstration of the value of expert use of the laryngoscope. Until the mirror was employed the presence of the foreign body in the larynx was not proved. Had there been any need the situation of the object undoubtedly might have been shown by means of the fluoroscope. The result of the operation is instructive and encouraging as an illustration of the comparative superiority of partial laryngo-fissure. My attention was first drawn to the advantage of this method by an article by D. N. Knox in the *Glasgow Medical Journal*, April, 1883. The upper segment of the thyroid cartilage not being disturbed, exact reposition of the parts is feasible. Hence, provided the mechanism of the larynx has not been irreparably damaged, there is much more favourable chance for recovery of the voice than after complete division of the cartilage. In watching the progress of this case the question often recurred, How far is it judicious to prolong efforts at removal by the natural passages? The two objects we had in view—first, to remove the foreign body, and, second, to preserve the voice—were accomplished, and the final result would seem to justify the course pursued under the circumstances, although it is possible that early intelligent attempts at extraction through the mouth might have been successful.

ACUTE SYPHILITIC STENOSIS OF THE LARYNX: INTUBATION: RECOVERY.

By J. O'Dwyer, M.D.,
New York.

There is still much difference of opinion regarding the value of intubation in the various forms of acute stenosis of the larynx in adults. Several causes contribute to this, the most important of which is inexperience. Cases of this nature are comparatively rare, and for this reason, the manipulative skill necessary to intubate rapidly is seldom acquired. The operation is also much more difficult in adults than in children, and asphyxia is more liable to occur, from prolonged attempts at introduction, in the former than in the latter. The disastrous results following the use of children's tubes in adults, many cases of which have been reported, have also served to bring discredit on the operation in this class of cases.

The following case illustrates the relief which may be given by a tube of suitable dimensions:

On April 11th, 1897, I received an urgent call from Dr. L. W. Zwisohn to intubate a woman, aged 40, who was reported to be in imminent danger of suffocation from obstruction in the larynx. I found the patient suffering from severe dyspnœa, and immediately inserted a hard rubber adult tube of medium size with complete relief. The first symptom of disease of the larynx had begun only three days previously with hoarseness, croupy cough, and painful deglutition; on the second day the voice was lost, dyspnœa was beginning, and there was complete inability to swallow anything. The patient spent the night preceding my visit sitting up in bed, and obtained no sleep owing to the severity of the dyspnœa. A deep tertiary ulcer was discovered on the posterior wall of the pharynx, and several old cicatrices existed in the same region. Severe nocturnal headaches had also been complained of for several months. Some hours after intubation Dr. W. K. Simpson made a careful laryngoscopic examination, and reported intense swelling and redness of the arytenoids, aryepiglottic folds, and epiglottis, without any evidence of ulceration in the parts that were visible. The swollen tissues partially overlapped the head of the tube, and secondary dyspnœa from this cause was anticipated. It occurred twenty hours after intubation, and the attendant, as instructed, removed the tube by pulling on the string which was left attached for that purpose. One hour and a-half later I inserted a larger tube, which gave complete relief. This tube was allowed to remain in position for ten days, after which there was no return of the obstruction.

Owing to the patient's complete inability to swallow even a drop of water, feeding by the stomach tube was resorted to before intubation, and was continued afterwards, with the addition of 15 grains of the iodide to each feeding; under this treatment the severe headaches promptly disappeared. One month after the removal of the tube there was still complete aphonia, and the vocal cords were found to be fixed in the semi-abducted position, arytenoids swollen and red. At the present writing, over four months from the first intubation, the patient is in perfect health, with only slight impairment of the voice remaining.

The transverse diameter of the head of the tube used in the first instance was three-quarters of an inch, that of the other a little less than seven-eighths of an inch. In other words, less than one-eighth of an inch in the size of the head of the tube made all the difference between urgent dyspnœa and complete relief. Had no larger tube been at hand, tracheotomy would have been required in less than twenty-four hours from the first intubation.

Intubation will relieve dyspnœa due to any form of acute stenosis of the larynx in adults as certainly and as promptly

as it does in children, provided a tube of proper size and construction can be introduced. But this is not always possible. For instance, in certain forms of phlegmonous inflammation of the throat, including the larynx, the mouth cannot be opened widely enough to permit the guiding finger to reach the epiglottis, in which case intubation should not be attempted. In very stout persons with prominent cheeks the same difficulty of reaching the epiglottis may occur, but in the latter the mirror could be used as a guide, while it would be useless in the former.

EUCAINE AS A LOCAL ANÆSTHETIC IN THE SURGERY OF THE THROAT, NOSE, AND EAR.

BY

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and

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IN a preliminary communication upon this subject, published in the BRITISH MEDICAL JOURNAL of January 16th, 1897, we described our experiences with eucaine hydrochloride in relation to the surgery of the throat, nose, and ear. The number of cases then recorded was 32, and, although that number was small, the results obtained and the debatable ground opened up were sufficiently encouraging to justify further research, and we now offer to the meeting of the British Medical Association the conclusions to which the investigation has so far led us. In order to do so we have taken from our notes the first hundred consecutive occasions upon which the drug was used, deeming that number sufficient to illustrate our remarks.

Before describing our further experiences, however, it will be well to recall those forming our earlier communication. After a summary of the work of Vinci, Liebreich, Berger, Charteris, Deneffe, Foster, and others, we indicated that the points on which attention should be directed were: (1) The strength of solution required: (2) the rapidity, intensity, and extent of the anæsthesia; (3) the general and local action upon the circulatory system; (4) the after-effects. In investigating these, other points presented themselves: the amount of hæmorrhage following operations done under its influence; the question of hyperæmia or ischæmia as a result of its application to the turbinate bodies; and the occurence of increased salivation from its use. These new points required further consideration, and we have paid particular attention to them, side by side with what may be called our four cardinal points, in our endeavour to decide upon the utility of eucaine.

As regards the strength of the solutions, those used were 2, 5, and 8 per cent., applied by instillation (ear), swabbing (throat), and on pledgets of cotton wool (nose). These methods of application being in our opinion satisfactory, we have not altered them. The anæsthesia we found as efficient as that of cocaine. In speaking of the action of eucaine upon the circulation, we stated that our investigations were not conclusive. In 3 cases unpleasant after-effects were noticed; these could be fully explained by other factors present. The effects upon the pulse appeared to be *nil*, or very slight. Other observers had remarked upon the drug causing hyperæmia of the turbinate bodies, and we were consequently somewhat surprised to find it caused ischæmia, although an ischæmia not comparable to that of cocaine. We noted, also, that hæmorrhage following operations under its influence was less than that after cocaine, and never excessive. We pointed out, also, the effect of eucaine upon the salivary secretion, as a phenomenon likely to detract from its usefulness in operations upon the oral cavity, but one requiring further investigation.

With the exception of the three cases already referred to, we had not noted a single instance of what might be called a toxic effect of the drug, and we found that patients who had experienced the after-effects of cocaine did better under eucaine and preferred it to the former drug.

Before passing to our further experiences we wish to refer to the work of Hobday[1] in the clinic of the Veterinary College, which has appeared since our first communication. This observer used eucaine in 40 cases, and some of his conclusions are as follows: The toxic dose of eucaine is larger than that of cocaine; for operations upon the cornea it compares very favourably with cocaine, although anæsthesia is less rapidly produced; injected subcutaneously, or applied locally to parts other than the eye, it is not by any means so good as cocaine; a mixture of cocaine and eucaine possesses the better anæsthetic properties of cocaine, and can be tolerated in larger doses than cocaine alone. As regards the safety limit of the subcutaneous dose of eucaine he found that in the case of the cat or dog it was about one-fifth of a grain to each pound of body weight. Four grains of eucaine produced toxic symptoms in a dog of 12 lbs. weight, but the animal eventually recovered, whereas such a dose of cocaine would certainly have caused death. In a cat in which local anæsthesia was attempted by one grain of eucaine in solution no toxic symptoms followed, but by a mistake a couple of days later a grain of cocaine produced in the same animal toxic symptoms and death. The toxic symptoms are not noticeable so rapidly as those of cocaine; hyperæsthesia is present but not to such an extent; the rectal temperature rises, salivation takes place, but not so thin and watery as with cocaine, and gulping movements are not so well marked. Similar clonic involuntary spasms take place as with cocaine but at much longer intervals, and the animal becomes prostrate; respiration is accelerated; in the cat the pupil certainly becomes widely dilated; consciousness is not lost until shortly before death, and there is not the same peculiar quietness and absence of moaning which is so characteristic of cocaine. In one case death appeared from cardiac failure as there were a few distinct respiratory efforts after the heart had ceased.

Post-mortem appearances show nothing very pathognomonic if examination takes place within a short time after death the back of the pharynx, œsophagus, and in some cases the stomach as well are found full of frothy mucus, but if the *post-mortem* examination be delayed some hours even this will have disappeared.

Dr. J. Gibb, of Philadelphia, sums up in the *Philadelphia Polyclinic* of January 23rd, 1897, his observations upon the drug as follows: (1) Eucaine is equal to cocaine in its anæsthetic effects. (2) Eucaine is nearly, if not quite, as effective as cocaine in reducing engorged turbinates. (3) Eucaine is superior to cocaine in that it is much less likely to produce toxic symptoms. (4) Eucaine is superior to cocaine in that it produces far less unpleasant subjective symptoms, and especially is this true in the pharynx.

Following our previous classification, the first hundred consecutive occasions on which we have used the drug may be grouped as follows:—

A. Examinations:	
1. Ear	2
2. Laryngoscopy and posterior rhinoscopy	15
B. Operations:	
1. Ear.	
Myringotomy	5
Furuncle	1
Aural polypi	3
Curetting	3
Eustachian catheterisation	2
2. Nose.	
Galvano-cautery	20
Spurs	6
Polypi	7
Other growths	2
Turbinectomy	3
3. Throat.	
Tonsillotomy	20
Post-nasal growths	2
Galvano-cautery to granular pharyngitis	7
Endolaryngeal operations	2
	100

Not one of the several points we have investigated in endeavouring to ascertain the value of eucaine can be described as settled. The question must be one for time and experience; and the present communication does not attempt to do more than lay before the meeting further clinical evidence of what uses the drug can be put to in our special branch of medicine.

THE STRENGTH OF THE SOLUTION REQUIRED.

Pure eucaine is very little soluble in water, but the hydrochloride obtainable in the form of 5-grain soloids is readily

soluble in water at room temperature to the extent of 10 per cent. At first the solubility of the soloids presented some difficulty, but this has been completely overcome, and we now find the 5-grain soloids of eucaine hydrochloride the most practical form in which to obtain the drug for the preparation of fresh solutions. One of these added to 110 minims, or approximately, 2 drachms of water at room temperature, will readily give a 5 per cent. solution, or two soloids added to the same amount of water will yield a 10 per cent. solution.

Two solutions of these strengths will be found quite sufficient for the purposes we have tabulated. For the examinations referred to in the table, a 4 per cent. solution was used, and as we have already remarked in our preliminary communication, a 2 per cent. solution at times is sufficient. For operations, an 8 per cent. solution was found sufficient, and making allowance for the fact that the drug we then had in use did not remain in solution to the extent of more than 5 per cent., the solutions we used were hardly equivalent to 3 per cent.; a 10 per cent. solution freshly prepared in the way we have indicated will probably be found sufficient for the performance of the operations commonly done under a local anæsthetic.

Boiling we found to be in no way detrimental to the solution. It is not intended to discuss in this paper the merits of a mixture of eucaine and cocaine.

The Rapidity, Intensity, and Extent of the Anæsthesia Produced.

Before a drug can make good its claim to being an ideal local anæsthetic, it must fulfil three conditions; it must be the means of reducing the patient's pain to a minimum, of increasing the operator's facilities to a maximum, and it must cause no unpleasant effects during its application or afterwards. And before condemning a drug as not fulfilling these conditions it is as well to take into consideration the method of application, the temperament of the patient, and the skill of the operator.

Upon the method of application of the drug will largely depend the degree of anæsthesia produced, and consequently the degree of comfort afforded to the patient and the facilities to the operator. Eucaine has been described by some as not such a good anæsthetic as cocaine; it is possible that with experience we may incline to the view that proportionately as it is less toxic it is less powerful, but at present we have found it efficient, and as this may be due to the method of application it may not be amiss to enter into further detail on this point.

In the case of the ear a few drops instilled and kept in contact with the part to be operated upon by inclining the head is far more efficient than the insertion of a pledget of cotton wool saturated in even a stronger solution and placed in the meatus. It is important that the meatus should be as clean as possible: inspissated pus or dead epithelium prevents proper contact with the tissue to be anæsthetised.

Now, as can be readily understood, the reverse is more efficient in the case of the nose. A spray blindly used in the fares, or however skilfully played upon the part to be treated, will not produce so uniform an anæsthesia as a saturated pledget of cotton wool carefully adjusted. Speaking generally, a globular pledget introduced on forceps is not so efficacious as one spindle-shaped. A spindle-shaped pledget, an inch to an inch and a half in length, can be conveniently made by lightly wapping absorbent wool round the tapering end of a whale bone probe, which after being dipped in an 8 per cent. solution of eucaine can be slipped into the nose so as to lie parallel with the turbinate body in its entire length, the pledget being steadied with the points of forceps whilst the whalebone probe is withdrawn. We find that the anæsthesia thus produced is sufficient for the application of the galvano-cautery, or even to do a partial turbinectomy. To the tonsils, fauces, soft palate, or pharynx the drug is best applied by swabbing with pledgets of cotton wool. For endolaryngeal operations anæsthesia was obtained by dropping the drug on to the part to be treated from a curved syringe.

These different applications require more care, and perhaps more trouble than general haphazard spraying, but the trouble taken is amply repaid by the anæsthesia produced. Moreover, sprays involve a waste of the drug, and in the case of cocaine are no doubt responsible for some of the toxic cases.

It will be noted that no mention is made of brushes. Brushes cannot be cleansed, and on that ground are to be condemned. By the temperament of the patient we mean that combination of mental and physical characteristics which may aid the operator or the reverse; and it must be within the experience of all of us to have met with patients developing toxic symptoms under cocaine which could not be entirely attributed to the drug. The different effects eucaine and cocaine may have on the same individual we shall have occasion to revert to in discussing the after-effects and the toxic properties.

Action upon the Circulation.

General.—After making allowance for mental influence we found that the pulse was not materially affected in either rate or character by the solutions we had in use. So far we have not met with a case in which the drug *per se* influenced the cardiac action.

Local.—It has been stated that eucaine induces hyperæmia and on this account the drug is inferior to cocaine, which produces an ischæmia so serviceable in investigating diseases of the nose. Upon the application of a 5 or 10 per cent. solution of eucaine to the mucous membrane hyperæmia will occur as an immediate result; this is in the majority of cases but an initial blush, rapidly passes off, and gives place to an ischæmia, which, as seen in the nose, is generally less marked than that produced by cocaine. Upon a further application there is no recurrence of hyperæmia, and the ischæmia may be increased. In no case have we met with excessive or unexpected hæmorrhage following operations done under eucaine anæsthesia, such as is not uncommonly met with after the use of cocaine; this is no doubt accounted for by the action of eucaine upon the peripheral vessels already alluded to.

Salivation.—In our previous communication we noted the occurrence of increased salivation. We have further investigated this point, and have found that eucaine in the presence of an acutely-inflamed tissue (for example, acute tonsillitis or pharyngitis, active laryngeal tuberculosis, etc.) is followed by an increased flow of saliva; but in the presence of a diseased but not actually inflamed tissue, such as hypertrophied tonsils, etc., this effect has not been noticed. The increased flow of saliva is but initial after the first application; a further application can be made without leading to similar effects. In the absence of any better explanation it seems reasonable to associate the increased salivation with the initial hyperæmia. This conclusion receives further support from an experiment made upon one of ourselves whilst suffering from an attack of parotitis.

One parotid gland had become infected from the adjacent submaxillary, and after the swelling had reached its height and whilst the parotid was subsiding, a 10 per cent. solution of eucaine was applied to the tonsil and mucous membrane of the mouth on that side. This was immediately followed by throbbing and increased swelling of the inflamed gland; the tonsil was also enlarged and subacutely inflamed at the time. The throbbing and increased swelling gradually passed off, and, together with the increase of saliva, ceased by the time anæsthesia was established.

This action of eucaine upon the salivary glands, with exceptional cases, need not be a bar to operating under eucaine anæsthesia.

After-Effects.

As regards the disturbances of sensation following the anæsthetic action of the drug, more particularly in the case of the pharynx, these are not only less unpleasant and less marked than those produced by cocaine, but more transient, and, speaking generally, after the lapse of an hour from the time of application, the subjective sensations may be described as normal. Those who have experienced the effects of both drugs have expressed a decided preference for eucaine.

Passing to a comparison of the toxic potentiality of the two drugs; we are able to supplement those cases in our preliminary paper, in which operations had to be abandoned on account of an idiosyncrasy for cocaine, but had been practical under eucaine, by quoting a case which came under our notice in a medical man:

A 10 per cent. solution of cocaine was applied to the right naris for a galvano-cautery operation. In two minutes the patient was much excited, gesticulating and talking loud and fast; three minutes later this gave place to great depression; the pulse became weak, slow, and slightly

irregular, and there was a feeling of oppression in the cardiac region. He gradually recovered on lying down, but complained of tingling and numbness in the calves of the legs, and a feeling of great weakness in the back which lasted the remainder of the day.

Four months later an 8 per cent. solution of eucaine was used for a similar purpose. The pulse remained the same in rate and character throughout. Anæsthesia was sufficient for the galvano-cautery. The only after-effect noted was "a hot taste" at the right side of the pharynx lasting fifteen minutes.

Were eucaine to be of no further service than to act as an efficient substitute in cases such as we have mentioned in which an idiosyncrasy for cocaine precluded an operation, even then this new local anæsthetic could not be regarded otherwise than of importance.

So far in our experience with eucaine we have not met with a case in which a single symptom supervened in the least way suggestive of a toxic effect of the drug.

REFERENCE.

[1] *Journ. of Com. Pathology and Therapeutics*, March 29th, 1897; BRITISH MEDICAL JOURNAL EPITOME, pp. 91, 92, June 5th, 1897.

ON THE PHYSIOLOGICAL AND PATHOLOGICAL RELATIONS BETWEEN THE NOSE AND THE SEXUAL APPARATUS OF MAN.

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[ABSTRACT.]

PHYSIOLOGICAL.

THAT an intimate physiological relationship exists between the sexual apparatus and the nose, and especially the intra-nasal erectile tissue, is sufficiently evident from the following facts:

I.

1. In a certain proportion of women, whose nasal organs are healthy, engorgement of the nasal cavernous tissue occurs with unvarying regularity during the menstrual epoch, the swelling of the membrane subsiding with the cessation of the catamenial flow.

2. In some cases of irregular menstruation, in which the individual occasionally omits a menstrual period without external flow, at such times the nasal erectile bodies become swollen and turgid, as in the periods when all the external evidences of menstruation are present.

3. The monthly turgescence of the nasal corpora cavernosa may be bilateral or confined to one side, the swelling appearing first in one side and then in the other, the alternation varying with the epoch.

4. The periodical erection may be inconsiderable and give rise to little or no inconvenience, or, on the other hand, the swollen bodies may occlude the nostril and awaken phenomena of a so-called reflex nature, such as coughing, sneezing, etc.

5. In some cases there seems to be a direct relationship between this periodical engorgement of the nasal erectile bodies and the phenomena referable to the head that so often accompany the consummation of the menstrual act.

6. As a natural consequence of the phenomena above described the nasal mucous membrane becomes, at such periods, more susceptible to reflex-producing impressions, and is therefore more easily influenced by mechanical, electrical, thermic, and chemical irritation.

7. The conditions (engorgement and increased irritability of the nasal mucous membrane) indicated above, together with the phenomena that accompany them, are also found during pregnancy at periods corresponding to those of the menstrual flow. There is also reason to believe that similar phenomena occur during lactation and the menopause.

II.

THE PRESENCE OF VICARIOUS NASAL MENSTRUATION.

A. It is a familiar fact that women are occasionally found in whom the menstrual function is heralded or established by a discharge of blood from the nostrils. This hæmorrhage, which may be accompanied by other phenomena referable to the nose, such as sneezing, etc., may be replaced afterwards by the uterine flow, but sometimes continues throughout the menstrual life of the individual. In the latter case some malformation or derangement of the sexual apparatus seems to be usually, though not always, responsible for the nasal flow.

B. Epistaxis also occurs, now and then, from the suppression of the normal flux. This was considered as a favourable sign by Hippocrates, and by Celsus, who followed closely in his footsteps.

C. Hæmorrhage from the nose may occur as the vicarious representative of mensturation during pregnancy; toward the close of menstrual life as the premature or normal herald of the menopause; or it may be observed as a recurring phenomenon after the establishment of the change of life, or after the removal of the uterus and its appendages.

D. These vicarious hæmorrhages are, moreover, not confined to women, but make their appearance not infrequently in boys at or near the age of puberty, or upon the full development of their sexual powers.

III.

The well-known sympathy between the erectile portions of the generative tract and other erectile structures of the body must be remembered. There is no reason why the sexual excitement that leads to congestion and erection of these organs, as, for example, in the case of the nipple, may not, under similar circumstances, cause engorgement of the nasal erectile spaces.

IV.

The occasional dependence of phenomena referable to the nose during sexual excitement (such as, for example, epistaxis, stoppage of the nostrils, sneezing, and other reflex acts), either from the operation of a physiological process (erythism), or during the consummation of the copulative act.

V.

The reciprocal relationship between the genital organs and the nasal apparatus is furthermore illustrated by the occasional dependence of genito-urinary irritation upon affections of the nasal passages. Retarded sexual development, too, may possibly depend upon the coexistence of nasal defect.

VI.

It is finally quite possible that irritation and congestion of the nasal mucous membrane precede, or are the excitants of the olfactory impression that forms the connecting link between the sense of smell and erethism of the reproductive organs exhibited in the lower animals, and in those individuals whose amorous propensities are aroused by certain odours that emanate from the person of the opposite sex.

These facts point conclusively to an intimate physiological association between the nasal and reproductive apparatus, which may be partially explicable on the theory of reflex or correlated action, partially by the bond of sympathy which exists between the various erectile structures of the body. That a relationship exists by virtue of which irritation of the one reacts upon the circulation and possibly nutrition of the other, is accordingly rendered highly probable by the evidence of clinical observation. If this excitement be carried beyond its physiological limits, then comes a time, sooner or later, when that which is a normal process becomes translated into a pathological state, according to a well-known law of the economy. Hence it is *a priori* conceivable and eminently probable, not only that stimulation of the generative organs, when carried to an excess, may become an etiological factor in the production of congestion and transient inflammation of the nasal passages, and especially of their cavernous tissue, but that repeated and prolonged abuse of the function of these organs may, by constant irritative influence on the turbinated tissue, become the starting point of chronic changes in that structure.

PATHOLOGICAL.

The following data, derived from personal clinical observation, may possibly throw some light upon the subject.

I.

1. In a fair proportion of women suffering from nasal affections the disease is greatly aggravated during the menstrual epoch, or when under the influence of sexual excitement.

2. Cases are also met with in which congestion or inflammatory conditions of the nasal passages make their appearance only at the menstrual period, or, at least, are only

iently annoying at that time to call for medical atten-

Occasionally the discharge from a nasal catarrh will be- offensive at the menstrual epoch, losing its disagreeable r during the decline of the ovarian disturbance. In many of ozæna the odour is much more pronounced at times sponding to those of the menstrual flow.

Excessive indulgence in venery seems to have a tendency tiate inflammation of the nasal mucous membrane, or to vate existing disease of that structure. There are those, ample, who suffer from coryza after a night's indulgence nereal excesses, and the common catarrhal affections of ose are sometimes undoubtedly exaggerated by repeated nnatural coition.

The same is true in regard to the confirmed habit of rbation. The victims of this vice in its latter stages nstantly subject to nose-bleed, watery or mucous dis- e from the nostrils and perversion of the olfactory

The co-existence of uterine or ovarian disease exerts imes an important influence on the clinical history of disease. This fact has been shown in practice in cases ich the nasal affection has resisted stubbornly all treat- and in which it has only been relieved upon the recog- and appropriate treatment of disease of the generative atus. The recent researches of Fliess seem to indicate he converse of this proposition is true.

se observations, therefore, encourage the belief, if they establish the fact, that the natural stimulation of the luctive apparatus, as in coitus, menstruation, etc., carried beyond its normal physiological limits, or ogical states of the sexual apparatus, as in certain ed conditions, or as the result of their overstimulation enereal excess, masturbation, etc., are often the pre- ing, and occasionally the exciting causes of nasal con- n and inflammation and perversion of the sense of on. Whether this occurs through reflex action pure mple, or as the sequel of an excitation in which several of the erectile structures of the body participate, the g point of the nasal disease is in all probability the ed stimulation and congestion of the turbinated erec- sue of the nose. It is highly probable that this erectile r organ, so sensitive to reflex-producing impressions, correlative of similar vascular areas in the reproductive and that the phenomena observed may therefore be ned by the doctrine of what we may call, for want of a name, reflex correlated action.

Lennox Browne said that some courage was needed to forward such a subject with the thoroughness with Dr. Mackenzie had treated it; and he felt sure l would agree in congratulating the author. The inter- aural observations of Dr. Clarence Blake might be well applied to the larynx. Mr. Browne believed rritation of the sexual organs was just as fre- y—probably more so—a reflex from the nose as the con- and he related a case in which masturbation in a f only 4 years of age was promptly cured after removal noids; somewhat analogous results had been freely d by others in connection with nocturnal enuresis.

Bryson Delavan had seen a case similar to the one d by Mr. Lennox Browne, in which habitual masturba- a girl, aged 6, was immediately permanently cured by noval of an adenoid thickening at the vault of the x.

Clarence J. Blake said that an illustration of the made by Dr. Mackenzie was to be found also in the slowly progressive impairment of hearing occurring g and middle-aged women, and due to tissue changes egion of the stapes, consequent upon a suspense of tor inhibition, and resulting in a greater or less degree s fixation, with corresponding deafness and circula- nnitus. The occurrence, in a large number of these of a circumscribed congestion of the stapedal region rwise normal ears, at the menstrual period, and par- y in cases of dysmenorrhœa or under the influence of and nervous overstrain, justified the inference of re- sation, and a reference of the cases to the gynæcologist that in nearly 80 per cent. there was some form of pelvic disturbance, usually a malposition of the uterus with erosion of the os.

NON-OPERATIVE TREATMENT OF CHRONIC SUPPURATIVE DISEASE OF THE ANTRUM AND VAULT OF THE TYMPANUM.

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Recent otological literature is full of treatises which deal with the subject of new operative methods for the cure of chronic suppurative processes in the vault of the tympanum and the mastoid antrum. Of these operations, ossiculectomy (for those cases in which the disease is limited to a small area within the tympanum) and the so-called Stacke's operation (for those in which the antrum is also involved) are the two representative types. Both of these operations have passed the probationary stage, and are now generally accepted by otologists as safe and effective surgical procedures for the cure of the pathological conditions referred to above. Conceding, therefore, as I do the value and the safety of these operations, I am nevertheless disposed to believe that they are resorted to in many cases in which the simpler cleansing methods would be found to be quite as effective in curing the disease.

I should perhaps qualify this remark by stating that it has reference mainly to cases which are seen in private practice. In the treatment of infirmary patients it is not often possible, in large cities, to devote at least half an hour twice or three times a week to a single case; and, furthermore, our experience in New York has shown that infirmary patients cannot be depended upon to attend the institution regularly for treatment. But, unless these cleansing procedures are carried out in a minute and painstaking fashion, and at rather frequent intervals (two or three times a week), at best only a temporary amelioration of the disease will be secured. I am satisfied, therefore, that in dealing with this class of patients the otologist is quite right in urging the operative rather than the non-operative mode of treatment.

In private practice, however, the conditions are quite different. The surgeon can give to this class of cases all the time that may be required, and the patients themselves can be depended upon to be regular in their attendance. Then, again, many private patients object strongly to being subjected to an operation which requires the use of ether or chloroform as an anæsthetic, and may keep them confined to the bed or to the house for several days.

It is not in every case, however, be it clearly understood, that we can safely offer this choice to a patient. Symptoms may have already developed which point to an extension of the disease to important neighbouring organs, and in that case we must recommend strongly the more radical plan of treatment by operation—either Stacke's or the regular mastoid operation. But in most, if not all, of the cases in which a simple ossiculectomy is performed, and in quite a large proportion of those operated upon by Stacke's method, no such threatening symptoms exist, and consequently we are at liberty to deal with the problem before us in a more leisurely manner. If, in such cases, the opening in the tympanic membrane through which the pus and other products of the disease escape into the external auditory canal is fairly large—say two or three millimetres in diameter—and particularly if it occupies a high position, there can be no question about the propriety of giving the cleansing method a fair trial. On the other hand, if the opening is small—perhaps not more than a millimetre in diameter—or if it occupies a low position, the simple cleansing method is more likely to fail. But even here a limited myringectomy may suffice to overcome this drawback, and so place these cases on a par with the others. If the pus, however, finds an outbreak through the membrana flaccida, it is better to proceed at once to an ossiculectomy (including, of course, a myringectomy). The necessity for the Stacke's operation (or for a mastoid operation) in this class of non-urgent cases, becomes clear when both the cleansing method and a simple ossiculectomy (including the anvil as well as the hammer) have proved successful in arresting the foul-smelling discharge.

As regards the details of the cleansing method, it is enough

to state here that it consists essentially of only two steps: (1) The removal, chiefly by mechanical means, of all granulation tissue, cast-off epithelium and detritus from the diseased tympanic cavity of antrum; and (2) the destruction, by chemical means, of all pathogenic germs. Injections of hydrogen dioxide, through variously curved glass tubes, play a very important part in the procedure, not simply on account of the germicidal action of this fluid, but largely because the active effervescence which at once takes place when it comes in contact with decomposing organic material, aids in dislodging the obstructing substances. When once the cavity has been cleared of all these and rendered aseptic, powdered iodoform or one of the more recent antiseptic powders (europhen, aristol, etc.) shall be introduced in liberal quantity and allowed to remain there indefinitely. This, in brief, is the mode of treatment which I have termed the cleansing method.

In conclusion, permit me to bear further testimony to the beneficial results which are obtained from the faithful and persistent employment of this method. I believe that I do not exaggerate when I say that in a decided majority of the cases treated in this manner the results have been successful; and I base this belief not simply upon my own personal experience, but also upon that of other otologists with whom I have had an opportunity to compare notes.

FAVOURABLE RESULTS IN OBSTRUCTION OF THE TRACHEA BY DIPHTHERIAL MEMBRANE FROM THE INTRODUCTION OF CREASOTED OIL THROUGH THE TRACHEOTOMY TUBE.

BY

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The following case is of interest as an instance of recovery from a desperate condition, and it is of some importance as showing that we need not regard cases of tracheal and bronchial diphtheria as beyond the scope of active treatment even after tracheotomy has failed to relieve the obstruction. It may be of use to others in similar emergencies.

A. S., aged 2 years and 4 months, admitted on October 31st, 1897. Laryngeal stridor and dyspnœa since the middle of the night. Face dusky, lips bluish; temperature 102°; tonsils and fauces red, but no membrane to be seen; nose free; much inspiratory recession of lower intercostal spaces. Tracheotomy was performed, low down, with instant relief; no membrane was coughed up or seen *in situ*; 4,000 units serum were injected.

November 1st. Temperature remained above 101°, pulse 160, respirations 52. Throughout the day the breathing was gradually getting worse, but no membrane was coughed up.

November 2nd. Temperature 99° in the morning, 101.8° in the evening. There was now some inspiratory recession of intercostal spaces. At 4.30 the breathing became very difficult; the tube was changed, an oiled feather passed into the trachea, and oxygen given to inhale, with much relief to the patient, whose colour was improved. Dr. Ewart, being informed of the child's dyspnœa, had prescribed creasoted oil (1 in 20) to be dropped into the trachea. Owing to an accident this was not supplied to the nurse, but olive oil was used instead, the oil being dropped from the feather used for clearing the tube. This supply of oil was kept up every half-hour from 4.30 P.M. Still, in spite of the oil, there was no effort at coughing and no membrane brought up. At 6.30 P.M. there was urgent dyspnœa, the face dark and sweating, the teeth clenched, and much inspiratory recession of lower spaces and ribs. Mr. Eames passed a silk catheter down the trachea twice through the outer tube; each time it was withdrawn covered with membrane; some coughing was set up, large quantities of membrane being expectorated through the tube. Brandy and oxygen administered. 8.30 P.M. 4,000 units antitoxin injected.

November 3rd. Had a fairly good night. At 2.30 A.M. a piece of membrane the size of a two-shilling piece was coughed up; this was the only piece coughed up since the catheterisation. At 9 A.M. the treatment by creasoted oil was begun; a large drop of the oil being introduced into the trachea through the tube every half hour, Each time this was done cough was set up, and membrane was expectorated freely.

November 4th. The temperature had dropped to normal after a good night. Three doses only of creasoted oil of two or three drops each were used during the night, with the same result. The treatment was continued during the day with much success, the membrane coming up easily; the total amount expectorated during the last two days being very large.

November 5th. Breathing easier. No membrane expectorated. At 12 noon the tube was plugged, with very little discomfort.

November 7th. Tube removed; voice returning; child much improved.

November 15th. Wound healed; child practically well. The child treated internally with quinine, strychnine, and brandy.

Remarks by Dr. Ewart.

Recovery in this case was due to the careful way in wh the treatment was carried out, and to the timely and ski catheterisation of the trachea. I had long made it a rule introduce twice a day carbolised oil into the nostrils as p of the toilet of diphtheria during the acute stage and dur convalescence; but the idea of the systematic use of first occurred to me whilst writing an article on Pla Bronchitis for the forthcoming volume of Professor Clif Allbutt's *System of Medicine*, and it happily came to m again at the moment I heard of the child's danger. It h pened that simple olive oil was used at first instead of creasoted oil which has been prescribed. We gained exp ence from this accident which, owing to Mr. Eames's cessful operation, did not affect the result. The effect of olive oil was to facilitate the removal of the membrane the catheter, when this was used; but the olive oil did save the child's life, as it failed to set up spontaneous co or expectoration of membrane, and cannot therefore credited with having done more than assist the work of catheter. The quantity of membrane which was dischar during the next two days showed that all danger had ceased; enough remained or was freshly formed in the tubes to have led to further obstruction or to pneumonia. moment, however, the creasoted oil was substituted for olive oil, cough was set up, and large pieces of membr were expectorated with conspicuous ease. In this resp this treatment carries out the objects of the time-honou treatment of croup by emetics, but in a more easily regul fashion.

The direct access to the trachea rendered the introduc of the oil a simple matter, so that it could be entrusted trained nurse. Whatever the results may be in future ca we are glad to think that in this instance there was not e a suspicion of any drawback. The satisfactory effects nessed suggest that the usefulness of the treatment may be limited to cases of urgent danger, and perhaps not to c in which tracheotomy has been performed, and that w tracheotomy has shown that the membrane extends below larynx its systematic employment might be begun early.

The application of creasoted oil might safely be trie diphtheria of the fauces, and its action could then be wate with relative facility. Whether it may be possible or pedient to use it as an intralaryngeal injection is a ques for future consideration. Our experience for the presen limited to the case narrated, and we shall have to feel way with the details of the treatment. Dropping the into the trachea is clearly better than the sudden injectio a quantity of it. In this way we escape the danger of ad to the obstruction by the bulk of the oil. When creas oil of proper strength (1 in 20 in this case) is used this da is much less likely to arise, since the effect of the remed to excite cough and clear the air passages. If due cau be exercised in respect of the strength and of the quan of the oil used, the publication of the case may lead, hoped, to none but satisfactory results.

Sanitary State of Madeira.—Medical men who wer fluenced last year by the unfavourable reports concer typhoid fever and defective water supply at Madeira, hear with interest of the large annual grant which has voted in Lisbon for the amelioration of the island. D Grabham announces that the district of Funchal is to rec a copious supply of pure water from the high, uninhab mountains behind it, and the town is to be drained accor to modern principles. When these plans, which are state be in a forward state of preparation, have been carried Madeira will doubtless become again as popular as ever, will attract its full share of visitors from England, espec that class of invalids likely to be benefited by its m equable, warm, marine climate. The construction of roads, which is likewise contemplated, will open up scenery of the interior of the island.

The Council of King's College, London, have receive anonymous donation of £15,000 towards the liquidatio the College debt.

SUPPLEMENTARY CROONIAN LECTURE
ON
POINTS CONNECTED WITH THE PATHOLOGY AND TREATMENT OF DIABETES.

Delivered before the Royal College of Physicians of London on November 11th, 1897.

By F. W. PAVY, M.D., LL.D., F.R.S.,
Consulting Physician to Guy's Hospital.

(Concluded from page 1496.)

Whatever may be the means by which it is effected, it may be regarded as certain that to keep the sugar proceeding from the food out of the urine it must be kept out of the general circulation. The power by which this is accomplished falls within what we understand to be meant by the term "assimilative power," and it is through this power being at fault that in diabetes sugar gets into the urine from the food. In proportion as the power in question is diminished so is there a diminution in the amount of carbohydrate that can be taken without influencing the urine.

The position of things may be exemplified by a vertical column, representative of the power under consideration, with the maximum degree of power, or that belonging to health, standing at the top and successive stages of decrease, corresponding with what may be found to exist in different cases of diabetes, following on below until we arrive at the bottom where the power is *nil*. The maximum power is such as to be sufficient for providing for the disposal of the carbohydrate that is taken within ordinary limits; and thus it happens that under these circumstances no influence is exerted upon the urine. If carbohydrate, however, should be taken to an undue extent, and especially if introduced into the stomach in a soluble form and at a period of fasting, the tax upon the assimilative power surpasses the capacity to meet it, and as a result, notwithstanding we are in the presence of a healthy system, a portion escapes being disposed of, and is permitted to reach the general circulation as sugar, and in this state to find its way into the urine. This may be looked upon as the explanation of the saccharine urine, which it is known can be produced in both man and the lower animals by excessive ingestion of carbohydrate.

With rather less assimilative power existing than is normal, a given amount of carbohydrate that can be taken by a healthy person without producing any noticeable effect gives rise to glycosuria. Cases of this nature are not infrequently met with in practice, and prove perplexing to the medical man and to the patient. By one practitioner the patient is told that there is sugar in his urine, and for awhile he may be inspired with gloomy forebodings. He possibly later on seeks the opinion of another practitioner, who pronounces the urine to be perfectly right, and by this he is consoled till matters that he is afterwards told again that there is sugar present. This apparently puzzling state is entirely due to the amount of carbohydrate that may happen to have been ingested just previous to the urine being examined. When in excess of a certain limit, sugar is voided; when, on the other hand, below it, no sugar is found, the assimilative work to be performed being within the capacity existing for performing it. Like to what has been said with regard to the healthy person, saccharine and non-saccharine urine follow in response to the particular amount of carbohydrate ingested. The only difference between the two cases is that an amount of carbohydrate that suffices to lead to the production of saccharine urine in the glycosuric does not suffice for doing so in the healthy person. It is to be remarked that the effect is noticeable within two or three hours after the food has been taken. Before the meal there may be no sugar in the water, and a short time afterwards a more or less notable amount may be discoverable. These are the cases that are frequently referred to as cases of intermittent diabetes; the intermittent character noticeable is due to variations that may happen to occur in connection with the food.

As it runs on. Different grades of power are met with in different cases, and it is found that an amount of carbohydrate that one glycosuric may be able to take without its leading to the passage of sugar suffices to determine its escape in another. The person has his fixed limit of power, just as we, as healthy subjects, have, but the limit of power stands lower, and is of varying degree in different cases. In each instance, as long as the carbohydrate taken is within the capacity existing of assimilating or properly disposing of it the urine remains uninfluenced; whilst, when the capacity has been exceeded, sugar becomes discoverable, the quantity standing in relation to the extent to which the capacity has been surpassed.

A case at a given time may be advancing in the direction of loss or in the direction of gain of power; but, taken at other times, the steadiness that is noticeable from day to day, week to week, month to month, or even year to year is most striking. The patient has his fixed point of assimilative power. In addition to the restricted diet for the diabetic, he may be able to take a certain weighed quantity of ordinary wheaten bread without sugar appearing in the urine. In other cases, the quantity that can thus be taken may be larger and larger. The limit belonging to the case is ascertainable by observation, and subsequently the state of the urine will depend upon whether carbohydrate is taken to a greater or to a less extent than the equivalent of that contained in the specific quantity of bread found to be permissible. When the patient is living close up to his boundary line, sugar is apt upon occasions to be met with. This, from the variation that is liable to occur in his daily food looked at in its entirety, is only what may be reasonably expected. When, however, thoroughly below his boundary line, there is sufficient assimilative capacity to spare to cover any little variation, and prevent the urine being influenced.

It is not for a moment to be understood that in the restricted diet there is a complete exclusion of carbohydrate matter. Even purely animal food contains a certain amount, and in the substitutes for bread variable quantities according to circumstances exist. All that can be accomplished is to carry the exclusion as far as is practically consistent with the provision of a supply of food that the patient can satisfactorily eat and subsist upon.

As the object of the restricted diet is to reduce the supply of carbohydrate matter so that, if possible, it may fall within the assimilative capacity existing, it is of paramount importance that we should be able to rely upon the articles that are sold to take the place of bread. Without security in this matter the dietetic treatment of diabetes may not merely prove fruitless, but at the same time absolutely misleading to the medical practitioner. Unfortunately, either from ignorance or unscrupulousness, articles are put into the market for sale as appropriate food for the diabetic which are literally no more suitable for the purpose than the food they are designed to replace. Both medical man and patient require to be vigilantly on guard to escape from the infliction of grievous physical harm and subjection to vexatious disappointment. Even with foods of the better class character considerable variation exists in the produce (particularly the gluten flour and thence what is derived from it) of different makers, and want of success in treatment may result from the article employed not being of the degree of purity looked for. Fortunately, the high-class makers of diabetic foods in this country are fully alive to the importance of conscientiously attending to the question of purity, and the more this is realised and acted up to the better the position in which the medical practitioner is placed. It must be acknowledged that the matter is not devoid of difficulty. Palatableness has to be looked to, and ordinarily palatableness suffers at the expense of purity. The art called for is to produce food which is palatable and at the same time suitably constituted to meet the requirements of the complaint. The producer has at one and the same time to use his endeavours to please the patient and satisfy the physician, and amongst those who have exerted themselves in a right way to attain the object desired, I consider Mr. Callard deserves to be mentioned.

The state of the urine constitutes a tell-tale in relation to the food that has been taken, and errors in diet, in whatsoever way occurring, are unfailingly revealed. A reliable quantitative determination of the sugar is, of course, required for the purpose, and with a specimen of urine taken for examination from that passed on going to bed at night, and another from that passed on rising in the morning, the

one being under the influence of the food of the day, and the other under that of fasting during the night, we obtain a disclosure, if there is any to be made, of the effect of what has been ingested. The night specimen is under the influence especially of the food taken in the latter part of the afternoon and the early part of the evening, and from this circumstance it is not infrequently found to contain sugar whilst the morning specimen may be free. On the other hand, should food be taken shortly before bedtime—in other words, should the last meal be a supper at the end of the evening instead of a dinner at the early part of it, the position may be reversed through sufficient time not having elapsed for the night specimen to be influenced, and the effect of the food being thrown instead on the morning specimen. Under such circumstances, sugar may be found in marked amount in the morning urine, and less or none in that passed at bed time. So sensitive is the urine to the influence of food, that in the case of a glycosuric requiring a strict observance of the restricted diet for maintaining the urine in a sugar-free state, the starchy matter contained in a thin water biscuit may suffice to impart to it a distinctly saccharine character. Whatever the nature of the article containing the carbohydrate, it equally tells upon the urine, but on account of the solubility of sugar in contradistinction to starch, articles containing the former produce a more speedy effect than those containing the latter. I need not dwell upon the delusion so extensively prevalent that toast from bread is allowable when bread itself is not, or that the starchy matter of the potato stands in a different position from that from other sources.

Removal of sugar from the urine by reducing the carbohydrate taken does not mean cure of the disease. What is wanted for cure is restoration of the assimilative power; and in proportion as this is brought about, so can more and more carbohydrate be taken without leading to the passage of sugar. If, indeed, in a diabetic case the power should become fully restored, the patient would be placed in a position to be able to take the ordinary diet without its influencing his urine, and he might then be truly told that he had shaken off his complaint.

But control of the elimination of sugar by diet is of paramount importance in promoting improvement, and may be looked upon as an indispensable measure of treatment. It is not the mere fact of the waste of food occurring with the discharge of sugar that constitutes the great source of trouble in diabetes. It is the state of system which stands as a preliminary factor to the elimination that occurs. The blood forms the connective link between the urine and the food. The sugar present in the urine has previously passed to it through the blood, and in doing so has created in this fluid a deviation from the natural state which tells injuriously throughout the entire system. It is not natural for the blood of the general circulation to contain more than a certain small amount of sugar—an amount varying but little under healthy circumstances. With the presence of an increased quantity as a result of the faulty assimilation of the carbohydrates of the food it is thrown into an unnatural state, and its constitution altered in such a way as to interfere with its fitness for administering to the proper performance of the nutritive and various other processes of life. All the symptoms and results of the complaint depend upon the unnatural presence of sugar in the contents of the circulatory system, and on this condition being altered, as it is shown to be by the disappearance of sugar from the urine, the symptoms and ill-effects immediately subside. It may then be said, that so long as this state can be maintained the patient has nothing to fear from diabetes. Diabetic coma is the condition most to be dreaded as an issue of the disease. With the sugar in an uncontrolled state the condition is liable at any time to supervene and speedily carry off the patient. If any other complaint of an acute nature, as influenza, pneumonia, etc., should set in, great danger is incurred of a fatal termination through the supervention of diabetic coma. A diabetic in the great majority of instances does not die in a direct manner from the superadded complaint, but from the development of diabetic coma. Not so, however, when the elimination of sugar is thoroughly under control. Such a patient is to all intents and purposes, except in relation to food, in the same position as an ordinary person. In all my experience I have never come across the supervention of diabetic coma in a case where the urine has previously been a sugar-free state.

To control the escape of sugar by adaptation of the diet only a rational procedure, and cannot be otherwise than rig There is a diminished assimilative power existing, and bring the conditions to a properly balanced state there shou be a corresponding diminution in the class of food calling f the exercise of the power. When the amount of carbohydra matter of the food is shaped so as to be properly adapted the power existing of disposing of it, there is no disturban of the required harmony between the two, and the syste escapes being prejudicially influenced by the effect of t deficient power that has to be dealt with—escapes, in oth words, being thrown into an unnatural state by the presen within it of sugar which ought not to be there. The passa of sugar that can be controlled by reduction of ingested carb hydrate means neither more nor less than the unnecessary infl tion of harm, and the harm inflicted stands in proportion to t amount of sugar that is allowed to reach the system, and then to escape with the urine. The fact of the voidance of sug affords evidence that the system is already overburden with carbohydrate, and any addition will have the effect increasing the abnormal condition existing. If the case one in which the sugar in the urine is not susceptible removal, its reduction in quantity does good by establishi within the body a closer approach to the natural state.

As I have asserted, what is to be sought for by treatment the restoration of assimilative power over the carbohydrate and this is often demonstrably attainable. Let me give illustration of the kind of case I am not infrequently meeti with in my experience. A patient, say above middle age, h become diabetic, but from some cause or other does n happen to fall under proper treatment till he has reached very bad state. His symptoms have been persistently gro ing more and more marked, and at the time of falli under observation he may be suffering from great thir passing an enormous quantity of urine, and having becor much reduced in weight and strength. We will suppose th he is placed on the restricted diet, which is loyal attended to, and that codeine, opium, or morphi is administered. Even within a few days a very mark change is produced. The thirst and excess of urine subsid and the patient picks up in weight and strength. The sug falls and ultimately disappears. In some instances t happens with surprising rapidity, but in others it may not till after the lapse of some days, or even of a longer time th this, that the urine is found to have lost its saccharine ch racter. The satisfactory progress continues. The patie feels as though he had shaken off his complaint, and perha wonders why he should have to keep to his measures of tre ment. Any relaxation in diet, however, would immediate lead to a return of sugar. The power of disposing of carb hydrate matter has not yet become restored. For awh the improvement is well maintained, the weight, which in t first place underwent increase, being afterwards kept u Later on, but when cannot be foretold, a change may set which is not unlikely to excite gloomy forebodings by lea ing to the apprehension that a relapse has occurred. It m be at the end of some weeks, or more likely months, a c crease of weight may set in, and the patient may feel weak and be reminded of the state that existed before the tre ment was commenced. If with this alteration the uri continues free from sugar, it may be read off as sure sign that a restoration of assimilative power h commenced to take place. A return to ordinary fo would indubitably bring back the sugar. The impro ment of power that has occurred is only likely to be sligh and requires to be met by a correspondingly slight allowan of carbohydrate matter. It appears to me that bread is t article most missed from the ordinary dietary, and this the fore I am in the habit of suggesting for employment as t representative of carbohydrate food. I begin with 3 ozs. I diem in portions of 1 oz. at each of the three principal mea Under the circumstances depicted it may reasonably be e pected that no sugar will be made to appear in the urine, a such being the case, in the course of ten days or a fortnig a trial is made of $1\frac{1}{2}$ ozs. in place of 1 oz. three times dai This also is ordinarily found to be tolerated, the indicati of toleration being that the carbohydrate does not pass off

sugar. Interesting to note, with the administration of the bread the patient immediately begins to recover his lost weight and to feel himself again. Later on another drop in weight may occur, and it is to be taken as an indication for a further increase of bread. In this way I frequently work up during a space of, it may be, two or three months to 7 or 8 ozs. of bread per diem. I sometimes find that the capacity exists for the quantity to be raised to 9 or 10 ozs., and I have known cases where I have been able to proceed as far as 12 ozs., and upon rare occasions a greater latitude of diet than even this involves has been unattended with the passage of sugar. If sugar should reappear in the urine it must be looked upon as meaning that the mark has been overstepped and that a retrogression must be made to the quantity found to be tolerated.

Let us for a moment pause and give thought to what the return of the capacity of taking carbohydrate matter without its escaping as sugar implies. To begin with, for a while there may be a passage of sugar with the limited supply of carbohydrate associated with the restricted diet. Then this sugar disappears, and next more and more carbohydrate can be taken without running off from the system as sugar with the urine. Surely this must indisputably mean that the system has regained a power that it had previously lost.

An important principle is involved in connection with what I have just set forth, and the facts stand in harmony with what may be rationally looked for. It is certainly a notable point that everything should work out as harmoniously as it does. The effect of carbohydrate food in health is diametrically opposed to its effect in diabetes. In health, as we well know, it contributes to the increase or to the maintenance of weight. In diabetes where sugar is being voided it does exactly the reverse. If it runs off as waste material with the urine it naturally cannot be expected to go towards maintaining or increasing weight. As a matter of fact, it leads to decrease of weight through waste occurring, and the wrong state of system induced by the abnormal presence of sugar in transit from the food to the urine. Who has not noticed the marked decline of weight that occurs in a diabetic before subjection to dietetic management and the rise that immediately follows its adoption? The circumstances in diabetes, then, are such as to lead to the supply of carbohydrate producing a loss, and restriction from it a gain of weight. The healthy person on the other hand gains weight upon its full supply, and loses weight if the supply is restricted. Now, in proportion as his assimilative power becomes raised so is the position of the diabetic brought into conformity with that of the healthy person, and so is the necessity created for his being similarly dealt with. As long as carbohydrate food fails to be utilised its supply does harm. Directly the system regains the power of utilising it, it is found, as in the case of the healthy person, that it is wanted, and that if it is not supplied, the want is betokened by a decrease in weight and a decline of strength. The principle to put into force is to give it short of producing saccharine urine; and decreasing weight with sugar-free urine may be read as meaning that the supply is not equal to what is permissible and, moreover, wanted.

In cases where the assimilative power is not recovered, observation shows that the restricted diet is borne without the occurrence of loss of weight, and it is permissible for me to state that the circumstance may be safely taken as a guide in practice. I know of patients who have gone on for years with the restricted diet with a thorough maintenance of weight. They are not the patients to bear the supply of bread. The system cannot want or be benefited by that which it has not the power of properly disposing of but allows to run off as waste material with the urine. It is only that which can be properly disposed of that can render service to the system.

The loss of weight attendant upon unneeded restriction from carbohydrate food may afford assistance from a diagnostic point of view. If at starting, the case has not been properly diagnosed, and it should prove to be one where from simply undue concentration of urine, the high specific gravity and the slight indication of reaction with the copper test often met with under the circumstances, an erroneous inference has been drawn, and the patient has been unnecessarily put on the dietetic management for diabetes, a loss of weight, sometimes of a marked nature, will ensue. Equally also, loss of weight will ensue if the case is one of mild glycosuria, and it is treated as one of ordinary diabetes. Rightly appreciated, the result noticeable will be suggestive that curtailment of the supply of carbohydrate matter is being carried to an uncalled-for extent.

From the remarks I have made it will be gleaned that food stands as the great factor in the treatment of diabetes. As I have stated, the object really before us for attainment is restoration of assimilative power. My experience leads me in an explicit manner to say that I believe this is promoted by the medicinal employment of opium or its alkaloids, and I think the view accords with the result of the general experience of others. The older physicians, before the dietetic management of diabetes stood in the position it does now, empirically arrived at the conclusion that an amelioration accrued from the administration of opium.

Although the great factor in relation to the amount of sugar eliminated, food is evidently not the only one. The pathological condition which stands at the foundation of the wrong action constituting the immediate source of the elimination is presumably influenced by incidental circumstances. In many cases, it is true, it may be noticed that the assimilative power stands with remarkable constancy at a fixed point for a prolonged period, but in others evidence is presented pointing to the patient being liable to be influenced by collateral conditions, especially of a mental nature, having the effect of altering to a greater or less extent the amount of sugar eliminated upon a given quantity of carbohydrate when sugar is being passed, and of leading to a certain amount of elimination when the urine has previously been in a non-saccharine state.

The phenomena I have hitherto been speaking of belong to what is appropriately styled the alimentary form of diabetes, which I would certainly say from my own experience is far more common than the other, but at the same time is not the form that most frequently finds its way into the wards of the hospital. Besides the cases controllable by attention to food, we meet with others in which no amount of dieting will remove the sugar from the urine. These present us with the classical type of the disease, and may be grouped into what may be called the grave form of diabetes—a form belonging especially to the period of life below middle age. A superadded condition exists which leads to sugar being derived from the tissues as well as from the food. The glucoside constitution of the nitrogenous principles of the body supplies an intelligible source for sugar, all that is wanted being a pathologically-developed ferment possessing the power of breaking them up with the liberation of their sugar molecule, just as occurs with amygdalin in the presence of emulsion.

Cases progress from the alimentary form into the grave form, and it is upon the extent to which the progressive tendency exists that the issue depends. Amongst persons above the middle period of life the progressive tendency is usually susceptible of being held in check; and often, as I have shown, progress even in the opposite or right direction is to be brought about. I think it may be definitely said that allowing the complaint to run on in an uncontrolled state promotes the passage from the alimentary into the grave form, but undoubtedly there is nothing like the same proneness for the occurrence of the passage amongst elderly that there is among young people. It is indeed the strongly-marked progressive tendency that gives the formidable nature to diabetes in young subjects. A striking analogy is presented to the progressive diseases of the nervous system; and—but this is a point that time precludes my entering into here—may we not have at the foundation of diabetes a wrong nerve condition implicating and operating through the vaso-motor system? In its early stage, the complaint may be just as controllable in a young as in an elderly person, but as time goes on, the difference becomes manifest, and it is found in the former that through the advance that has insidiously taken place the measures that before produced a satisfactory state no longer succeed in doing so. The rate of progress may vary considerably. In some cases with an inherited history I have known it extend over many years.

And now, Mr. President and gentlemen, let me in concluding this lecture express the hope that I have succeeded in clearly placing before you what is in my own mind as the

outcome of the lifelong attention I have given to the subject upon which I have addressed you. The views I have set forth have sprung entirely from experimental physiological work on the one hand, and from practical experience in connection with diabetes on the other. With this foundation, they harmonise with the assemblage of facts to be dealt with belonging alike to physiology and pathology; and, at one and the same time, they bring the whole matter into a state of great simplicity, and supply a working basis upon which the treatment of diabetes may be rationally and reliably conducted. With the glycogenic doctrine the teachings of diabetes are absolutely irreconcilable, and it may, moreover, be said that modern research has removed the support upon which it was originally based. And yet the doctrine still lingers in the mind, influencing its conceptions and shaping its views, for persons seem unable to look at the points belonging to the subject otherwise than through the prepossessions that have been engendered thereby. The chapter, however, will have, sooner or later, not simply to be revised, but completely rewritten; and the sooner this is done the better, I feel I am justified in saying, will it be for the right comprehension of diabetes by the medical profession.

CASE OF PYOPNEUMOTHORAX OF SEVERAL MONTHS' DURATION CURED BY FREE INCISION: WITH SOME REMARKS ON THE SURGICAL TREATMENT OF PNEUMOTHORAX.*

By SAMUEL WEST, M.D., F.R.C.P.,
Assistant Physician to St. Bartholomew's Hospital, and Senior Physician to the Royal Free Hospital.

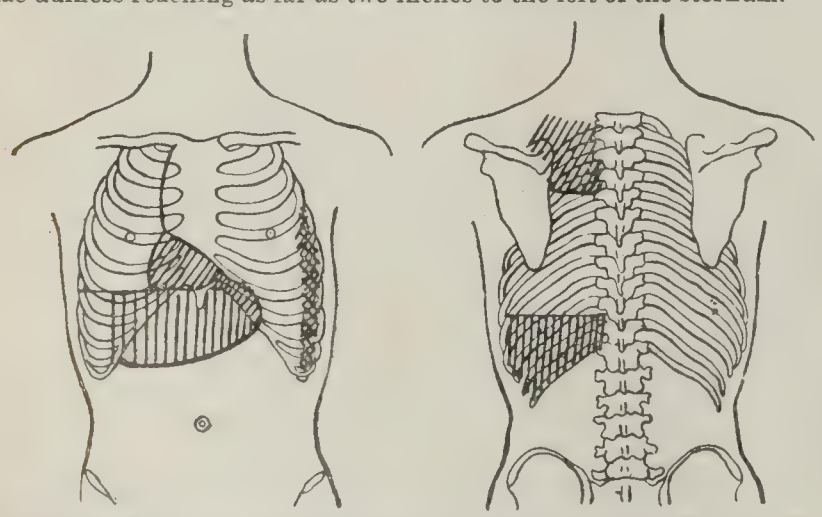
I WILL in the first place relate the history of the case to which I desire to call attention, and afterwards make some remarks on the debatable points which are raised by it.

W. T., aged 34, a blacksmith, was admitted to the hospital under my care on March 8th, 1897, complaining of cough and difficulty of breathing. He proved to have a pyopneumothorax of the left side.

His previous history was this: On November 2nd, 1896, he was taken suddenly ill while at work, with sharp pain in his left side, which was unbearable on coughing. He went home to bed, and stayed there for eleven weeks. He was told that he had pneumonia and pleurisy. Shortly after Christmas time, soon after getting up, he had an attack of violent dyspnœa, during which he became unconscious for a short time. He had had two slighter attacks since, and had been very short of breath on any exertion. For the last six weeks the patient had noticed a peculiar splashing sound in his chest as he walked, and he had shooting pains in different parts of the left side of the chest. His cough during this time had been frequent and paroxysmal. There had been much dark, thick expectoration but no hæmoptysis.

On January 4th the patient went to the Convalescent Home at Sandgate, where he remained five weeks, and while he was there the doctor drew off a small quantity of clear fluid from his chest.

Returning from Sandgate, the patient went to St. Bartholomew's Hospital, where he was shortly after seen by me and recommended for admission. During his illness he had lost two stone in weight, but he lost three during the first part of his illness, and regained one subsequently at Sandgate. There was nothing in the patient's previous history or in the family history which had any bearing upon the case. The patient looked pale and ill, and had evidently lost a good deal of flesh. He was disturbed frequently by paroxysms of coughing, which were occasionally very severe. He presented the signs of left-sided pneumothorax, the cardiac dulness reaching as far as two inches to the left of the sternum.



The diagram shows the limit of hyper-resonance as the patient lay upon the back; in front the voice and breath sounds were amphoric in character, and the bell sound audible over the whole hyper-resonant area; behind, the breath sounds were absent at the base and altered in character at the apex, and the bell sound stopped at the limits shown upon the diagram; above and below between the two lines the bell sound and amphoric breathing and voice sounds were present, as in front. Succussion was easily elicited. The lung, it was thought, was adherent at the apex behind. The hole in the lung, in spite of the amphoric breathing, was evidently closed. As a cyrtometer-tracing showed, the affected side was rather smaller than the opposite one.

March 16th. A needle was inserted into the seventh intercostal space behind in the mid-axillary line and sero-purulent fluid obtained.

The patient had a pneumothorax with sero-purulent effusion. He was very ill, and quite incapacitated for work. He had been invalided for some months, and was getting steadily worse.

The question was: How was he to be treated? The fluid might be removed by paracentesis, but experience of similar cases was not encouraging. He could be left alone, but it was pretty evident what this would end in, and that to do nothing was tantamount to permitting the man slowly to die. Free incision seemed a better alternative than this, for it would give the patient, at the worst, a chance, even though so much time had been already lost. My own opinion was in favour of the treatment of pyopneumothorax on surgical principles by incision, and I did not take the unfavourable view of the prognosis after incision which was usually taken. Finally, if the side was to be opened at all, the sooner it was opened the better.

Accordingly, after giving the patient the advantage of a few days' rest and feeding in the hospital, I decided to have the side freely opened.

On March 30th a simple incision was made into the side in the sixth space in the posterior axillary line; a large amount of sero-purulent fluid escaped, probably about 4 pints. An examination with the probe immediately after the operation was completed showed that the lung was not more than an inch from the chest walls everywhere, so that it had expanded directly after the operation. Directly the side was opened the patient began to cough, and coughed violently. This might have been due to the irritation of the tube which was inserted, but was more probably owing to expansion of the lung. The patient took chloroform well, and bore the operation satisfactorily. A few minims of laudanum were given on the tongue to check the cough.

March 31st. The patient had been comfortable after the operation, except that once or twice during the night he seemed a little faint, and required some brandy. The next morning, when the wound was dressed, air was found to enter the whole of the left lung, and friction sounds were audible not far from the seat of incision. The patient complained of a good deal of pain in the left side, which was probably connected with this friction.

The discharge from the side was very free, so that for the first few days the patient had to be dressed twice daily. After this the discharge decreased greatly, and it was sufficient to dress the side once daily.

On April 7th the discharge became very offensive, some small pieces of sloughing tissue were removed from just inside the wound, and it was thought that a spot of bare bone was felt by the probe. The side was washed out with a weak solution of iodine and with boracic acid; the discharge rapidly lost its offensive smell, and the spot where it was thought the bone was bare healed over.

From this time the discharge rapidly diminished in quantity, and on April 25th it was about 2 or 3 ounces daily, and it continued to this amount for a good long time. Examination with the probe showed that the lung was in contact with the chest walls all round the incision, but that the track in which the tube lay extended for a distance of about 5 or 6 inches straight into the chest in the direction of the spine.

On May 19th the patient began to complain of a good deal of pain in the chest, sometimes round the wound and sometimes a little deeper, but no cause for it could be ascertained. The sinus had, up to the present time, been regularly washed out with carbolic acid solution. This was now stopped, and the pain was a little relieved, but as the pain continued various experiments were tried with the tube, as it was thought to be connected with some irritation the tube produced. The tube was shortened, but the pain was not much relieved.

On June 16th, on probing, a tender spot was found far back, and it seemed to me that at this spot the tube pressed on an intercostal nerve, and thus caused the pain. The tube was removed, and a longer one of smaller diameter inserted, and from this time the patient suffered no more pain. On June 25th it was stated that the patient felt very much better; he had been up some little time, and he managed to go up and down stairs moderately well; the amount of discharge was still about the same, but not more than could be accounted for by the irritation of the track of the tube. On July 8th he had some pain in the leg, which proved to be a little periostitis. This was rapidly cured with belladonna and glycerine, and gave no further trouble. The discharge was now not more than about an ounce in the twenty-four hours; the patient was up daily, was gaining strength and weight.

On October 12th the patient's weight was 10 st. 11 lbs.; the discharge was very slight, but, as it did not completely cease, the sinus was injected with creasote dissolved in olive oil (25 per cent. solution). Although this caused a good deal of smarting, it seemed to do a great deal of good. By the end of the month the tube had been considerably shortened, and by November 1st the tube was out, and the wound completely healed. On November 2nd I made the following note: "The patient is in excellent health, looks fat and well, and says he never felt better in his life, and feels quite able to go back to his work, that of a blacksmith." The side was a good deal contracted, but no very large amount of deformity had

* Read before the Medical Society of London, November 22nd, 1897

been produced. The vocal vibrations and vocal resonance were felt right down to the base behind. The percussion, at the lower parts especially, was still somewhat impaired; the breathing was audible over the whole side, though of course not as loud as on the opposite. The temperature was normal. The patient had gained 2½ lbs. during the last week.

As regards the temperature, all that need be said is this: that at the time of admission and up to the date of operation the temperature was normal, or rather somewhat subnormal, and remained subnormal for the first few days after the operation; it then began slowly to rise, and remained moderately hectic, varying daily from about 102° to 99·5° for about a week or ten days, after which it became subnormal again and continued so, with few occasional rises for a day or two, throughout. The patient may be regarded now as completely cured.

Remarks.

Here is a case of pneumothorax of several months' duration with a purulent effusion. The patient had been under the care, shortly before I saw him, of an eminent authority, who had dismissed him as incurable; yet, as the result has shown, the case was not incurable when treated on general principles.

We may ask why are such cases as these regarded as incurable? Why are they left alone, that is to say, left to die, without the chance of recovering being given them which surgical interference might provide? The answer is—because of certain theories which are commonly accepted and frequently acted on, and which I believe to be erroneous.

1. That where the lung has been collapsed and compressed for some time, whether by air or fluid, it will form adhesions, and be bound down and be thus incapable of expanding again, so that if the side be opened a large cavity will be left, which cannot contract, and can only heal by the falling in of the ribs on one side, and by granulating up on the other. If this theory were true, of course operation would be undesirable, for there would be a chronic cavity left which could not close, and the patient would suffer from the results of prolonged suppuration, and die probably of exhaustion or of amyloid disease, and this is what is stated commonly to occur.

Now, is it correct to assume that when the lung has been compressed in the way I have described it must necessarily be bound down and be incapable of expansion? Can we make this a general statement or general rule of practice and act upon it? Certainly not. Of course it may be admitted at once that in many cases where patients have died after long-standing empyemata, or pyopneumothorax, or sometimes even with serous effusion, the lung has been found tightly bound down by dense adhesions, and therefore would have been incapable of expanding and healing; but it must be remembered that these cases have been left alone with nothing done, and it does not follow that if some operation had been performed in early times the lung would have been found down in that way.

We must also admit that there are cases in which very shortly after an inflammation of the pleura has taken place, as for instance with a common serous pleurisy, the lung has contracted adhesions enough to considerably hamper its expansion. These cases however, again, are quite exceptional, and we have daily evidence of the fact that the lung may be collapsed for a considerable period of time by serous effusion, and yet not contract these adhesions. Though the idea that these adhesions were likely to form was used as an argument some years ago in favour of the early performance of paracentesis in serous effusion, experience has shown that this fear is not well grounded.

That the lung is not bound down, even after a very considerable lapse of time, both in serous and purulent effusions, I will quote three or four cases to prove.

A young man, aged about 24, had been discharged from the army in July because he had a discharging empyema, which had made its exit through the side and also through the lung, so that he was expectorating about a pint of pus daily, and losing about a similar amount daily through the opening in the side. He came under my observation six months later, and as he was in good general health I decided to perform an operation upon him before his health began to fail. Accordingly a free counter-opening was made low down in the posterior part of the axilla so as to provide free drainage.

Within about a week from this time all expectoration through the lung had ceased, and within five weeks from the time of operation the wounds were closed and healed. The lung had expanded well, and breathing was audible over the whole side. The patient came to see me for some time after that, and I know that he remained in excellent health for some months as long as he was under my observation, and I have no reason to believe that his health suffered afterwards.

Three years ago I read to this Society an account of the case of a lady who was suffering from a large right-sided serous effusion which had been deliberately, and after consultation, left alone for a period of eighteen months without even once being tapped. I tried paracentesis several times, and when this failed I ultimately decided to have the side laid freely open and the case treated as if it had been one of empyema. Paracentesis had shown me that the lung was not bound down as I had at first had reason to believe, for after each paracentesis it came out into contact with the ribs. I had hoped, however, after the repeated paracenteses, that the lung would have formed adhesions with the costal pleura, but to my surprise, when the side was opened, no adhesions were present, and the lung collapsed completely. However, this made no difference in the ultimate result, for the lung rapidly re-expanded and came into contact with the chest walls, and formed adhesions there. Soon nothing was left but the track in which the tube lay, and ultimately this also healed.

This case shows, first, that the lung in a case of serous effusion may be collapsed for at least eighteen months, and still be capable of ready re-expansion; and, secondly, that even after repeated paracentesis no adhesion need necessarily take place between the two layers of the pleura.

I have recently had another case of the same kind in a man who had been allowed to have a serous effusion not operated upon for about twelve months before he came under my observation. With him I tried also the effect of repeated paracenteses, but, encouraged by the experience of the previous case, after a few paracenteses I decided to have the side opened. Accordingly the side was opened, the fluid let out, and a drainage tube inserted. Within a week from the time of operation the lung was in contact with the chest walls over the whole side, and nothing was left except the long sinus in which the tube lay.

As I propose shortly to bring this case before one of the Societies, I need not describe it further here.

In the case which is the subject of this paper, again, although the lung had been compressed for some months, within a week after the incision had been made in the side the lung was in contact with the chest wall over the whole side, and the pleural cavity closed except for the sinus in which the tube lay.

We have, therefore, a series of cases: one of empyema, two of serous effusion, and one of pneumothorax, in which, in spite of the lung having been compressed by effusion for a considerable period of time, it was not bound down, but was capable of ready re-expansion when placed in a position to expand.

These are extreme cases, and although, on the other hand, it must be admitted that the lung may form adhesions which may bind it down quite early in a case of pleurisy, still there is no evidence that this always occurs, or even that it is the general rule; on the contrary, the evidence all points the other way. If this theory be unsound, the practice based upon it will be wrong.

2. A second theory, which is commonly stated in textbooks and is very widely accepted, and which has been often used as an argument against surgical interference, is that the compression of the lung by effusion or air, as the case may be, checks the progress of tubercle in it; so that though the presence of effusion or air in the pleura is an evil, it is outweighed by the advantage of checking the development of tubercle in the lung, and therefore no operation should be performed.

This again is, I believe, a completely erroneous theory though the statement is commonly made and has many distinguished names to support it; still I do not know that it rests upon any conclusive evidence, but remains a matter of opinion only; indeed, what evidence there is leads to the opposite conclusion. It is not the case that the compression and collapse of the lung does necessarily check the development of tubercle in that lung, for tubercles of recent formation may be found in the lung which is collapsed, and of date, as far as can be judged, subsequent to the time when the lung became collapsed. Certainly the collapse of one

lung is not infrequently followed by the rapid development of tubercle in the other.

The same theory was used at one time as an argument against the performance of paracentesis for serous effusion, and no doubt it was under the influence of this theory that the two cases I have recorded were deliberately not interfered with; but as a matter of fact at the present day this theory does not really affect our practice at all in respect of pleural effusions. They are tapped, and I believe rightly tapped, without any consideration as to the effect the removal of the fluid may have upon tubercle in either the one lung or the other.

In the case of empyema again we have almost forgotten that such a theory ever had any influence at all. No one nowadays thinks of leaving an empyema alone because of some possible effect it might have upon tubercle in the lung.

I maintain that these theories should have no more weight in relation to pneumothorax and its treatment than they have in relation to the treatment of empyema or of serous effusion.

3. Another argument that is used as against the treatment of pneumothorax by free incision, is that experience shows that the results are unsatisfactory. "Leave pyopneumothorax alone because the patient will die any way, and operation will only accelerate that result," used to be the teaching of not many years ago; and indeed on this point Fagge, who can hardly even yet be regarded as antiquated, was very precise.

"Operate only when driven to it," was another form the advice sometimes took. What would be the result upon our statistics if the same were applied to empyema, and if we never opened a side until the empyema was pointing, and never touched it even then if the empyema by good luck would discharge through the lungs?

A question of this kind must be settled by experience, and we cannot take the results of some years ago as a guide to practice at the present day in pneumothorax any more than in empyema.

In this respect, namely, the operative treatment of pneumothorax, we have to make our own experience over again; we cannot be guided by the experience of many years ago; especially when we remember that the statistics are based upon the cases of pyopneumothorax which were never operated upon unless operation became absolutely imperative.

I think I have shown, therefore, that there is no valid theoretical reasons why sero-purulent and purulent effusions in pneumothorax should be treated in any different way from sero-purulent or purulent pleurisies, and that the presence of air should not make any material difference.

Of course it is quite true that in the majority of cases of spontaneous pneumothorax the cause is a tuberculous cavity near the surface of the lung; but these ruptures frequently heal, and there is no reason why, when the rupture has firmly healed, the lung should not come into contact with the chest again, and the condition of the patient return to that which existed before the pneumothrax occurred.

Physicians have been in the past, it is true, too much inclined to leave things alone, though I do not think we can say the same of the present day, and it will be something in pneumothorax if we can brush aside the erroneous theories which have hitherto given an excuse for avoiding surgical interference.

If pneumothorax may be treated by incision when necessary, it next remains to consider when it becomes necessary.

1. *During the Early Stage.*—It is in the early stages of pneumothorax that the risk to life is greatest, and it becomes less and less as time goes on. This is due to the sudden embarrassment of the respiration and circulation, caused by the sudden collapse of one lung and the congestion of the other. If life is prolonged and time is given, the lungs and heart adjust themselves to the altered conditions and the urgent symptoms pass off.

To relieve these urgent symptoms in the early stage, paracentesis is often necessary, and may have to be repeated. If, after paracentesis, the conditions again became urgent in a very short space of time, so that paracentesis has to be repeated at short intervals, it may be wise to consider well whether the side should not be incised. This would have the effect of giving a permanent vent to the air, and relieving all pressure symptoms; but it would have two obvious disadvantages: first, the lung, being partly expanded, would be in a less satisfactory condition for the perforation to heal soundly; and, secondly, an incision would almost certainly end in this case, as in others, with the production of an empyema. It is wise for these reasons to entirely avoid, if possible, a free incision in the early stage of pneumothorax; or, at any rate, postpone it as long as possible. All the relief that is requisite can usually be given by means of repeated paracentesis. However, if paracentesis should fail, I should not myself hesitate, even in the early stage, to lay the side open; and I should be inclined to do this in preference to using any form of valve tube. The only tube of this kind which I should be inclined, under any circumstances, to employ would be a fine trocar connected with a small india-rubber tube, extending, say, to the floor from the bed and opening under water; in this way a fluid valve would be formed which would permit the escape of the air from the pleura, but not allow any air to pass back, The objection to any of these tubes is that, do what we will, in most cases the puncture suppurates and sometimes leads to an opening into the pleura which might perhaps otherwise have been avoided. I should prefer in these cases repeated paracentesis, and, if that failed, I should be inclined to proceed to incision.

2. *During the Later Stage.*—If the early hours and days of pneumothorax pass over without symptoms of such urgency as to call for incision, the question of incision becomes one which may be considered at leisure, without hurry, and deliberately decided upon.

(*a*) If no fluid form, and the case remain one of simple pneumothorax, the air in time will be absorbed and recovery be complete. This may take some days, or even two or three week, but in the end the air will all be absorbed. I have never seen a case of simple pneumothorax in which the air did not in the end spontaneously disappear, and that as a rule in not many days. It is well, as a rule, not to interfere with these cases in any way, even by paracentesis; and if, with the view of accelerating recovery, paracentesis is performed, the aspirator should not be used, but the air removed without any suction. If suction be employed it should be limited to a few inches of water, say ten or twelve at the most. These cases are, however, best left alone untouched.

(*b*) Where serous effusion develops, so that the case is one of hydropneumothorax, it should be treated on the general lines of serous effusion; paracentesis may be performed without suction, care being taken to remove the fluid rather than the air. Cases may be cured in this way by paracentesis, but sometimes they spontaneously cure, the air being absorbed and fluid taking its place. Under these circumstances the subsequent treatment becomes that of serous effusion, and it may be that where frequent paracentesis has failed to cause the disappearance of the fluid, incision might become necessary, just as it does sometimes in cases of simple serous pleurisy.

(*c*) Where the effusion is purulent, that is to say, where we have a case of pyopneumothorax to deal with, and careful paracentesis fails to give relief, incision will become necessary. The chance of pus being spontaneously absorbed in pyopneumothorax is very much less than it is in empyema, and there it is as a rule small. Sooner or later incision will become necessary, and there should not be too long delay in deciding upon this operation. The indications for operation in pyopneumothorax are, I think, simply the same as those for operation in empyema, and the presence of air in these cases may, I think, be disregarded. What makes the prognosis in these cases less favourable than in ordinary cases of empyema is that in so many cases of pneumothorax tuberculous lesions in the lung are present, while they may be absent in empyema.

The indications for incision in cases of empyema are so well known that it is not necessary to refer to them here. The object of this paper is to show that there are no special reasons why the same considerations should not apply to pneumothorax as to empyema; and I do not hesitate to say that if they are—that is, if in the future cases of pneumothorax are treated on the same general principles as govern our practice in empyema, the results will be much more favourable than they have been hitherto.

N OPERATION IN SOME CASES OF TERTIARY SYPHILIS.

By W. WATSON CHEYNE, F.R.C.S., F.R.S.,
Professor of Surgery in King's College.

was with much regret that I found myself unable to be esent in the Therapeutic Section at the discussion on philis published in the British Medical Journal of vember 6th, for there was one point which I should have ed to have heard discussed, and which apparently was not uded to, namely, the advisability of operative interference some cases of obstinate tertiary syphilis. We all know it cases of tertiary syphilis sometimes occur which are exmely obstinate to treatment by iodides and mercury, in wever large doses the former are administered; and, under table circumstances, I believe that a cure may be effected operative intervention. I may cite two such cases, the t from memory as I cannot find my notes.

Some ten years ago a man, about 40 years of age, consulted on account of an obstinate syphilitic ulceration of the eek. The patient had acquired bad syphilis some years ore, and for two or three years had suffered from a serpigius ulceration of the cheek in front of the ear which was of ost obstinate character. He had been under careful antiphilitic treatment since its first appearance by men of the hest authority, and although the condition improved der treatment, no sooner was it left off than the trouble reeared. As I could not suggest anything better in the way medicinal treatment, and as the trouble was limited out the size of a florin), I suggested excision of the diseased ue. This was performed, and the gap filled up by a plastic ration. The wound healed, and the disease had not rered some years later when I last saw the patient. The tis was examined microscopically, and simply showed inmatory tissue, no trace of rodent ulcer or tuberculosis; , indeed, from the history and clinical characters there ld be no doubt as to its syphilitic nature.

he second case was that of a married woman, aged 44, who admitted to the hospital on April 20th, 1896, with symtrical ulcerated patches on the extensor surfaces of both arms. The history of the trouble was that it began about ar previously, with swellings about the upper part of the arms which were opened. At the same time she noticed umber of swellings over the extensor surfaces of both foreis, which became red and ulcerated and soon ran together a raised brawny patch occupying the greater part of the ensor surfaces of both forearms, and covered with numerous ers. She was treated for some time at another hospital efly by boracic poultices without any improvement. In the umn of 1895 she went to the country, also without any efit. In February, 1896, she came under my care, and was ered large doses of iodide of potassium and mercury, the de being increased up to 90 grains a day. Under this tment improvement followed, a considerable portion of the rated surfaces healed, and the patches became less proent. After a time, however, the improvement ceased, ration began again, and, as she was suffering much pain he arms, she was admitted to the hospital.

he patient was a weakly anæmic woman, who had been in ifferent health for some years. She stated that after mare she had a healthy child, then a miscarriage, and then a ng child who developed, shortly after birth, snuffles and ; in fact, from her description there could be little doubt the child suffered from congenital syphilis. No satisfac history of syphilis could be obtained as regards herself, since the miscarriage her health had been bad. On the nsor surfaces of each forearm was an extensive red, ed, brawny patch, practically symmetrical on both sides, nding from about 3 inches below the olecranon to about ches above the wrist, and almost reaching the sides of the arm. The surface of the patch was covered with numerous rs, and punched-out holes varying from a shilling to a n in size, some circular, but many of them having run ther into irregular forms. The patches were very tender. case was shown to several authorities, who, with one ption (who thought it tuberculous) pronounced it to be iary syphilis. I may say with regard to this question of tuberculosis, that there was no thin undermined skin around the ulcers, as is so characteristic of tuberculous disease. Iodides and mercury had a distinctly beneficial effect. Microscopical examination failed to show any tubercles, and animals inoculated with portions of the tissue remained well, and did not develop tuberculosis.

As she was incapacitated from work, and as it had not healed under antisyphilitic treatment, I determined to excise the patch on one forearm in the first instance. This was done on the right side on April 25th, 1896. An incision being made all round the affected part and about half an inch beyond it, it was raised with the fat and fascia beneath, and removed. The extensor muscles were left exposed over the whole extent of the wound, which was then completely covered by skin grafts on Thiersch's method. All the grafts took, and the patient left the hospital on May 16th with the arm well. When she was admitted she was at once put on large doses of iodide of potassium, combined with drachm doses of liquor hydrarg. perchlor., and emplastrum hydrargyri was constantly applied to the left arm. Under this treatment the left arm improved markedly, the brawny swelling went down, and most of the ulcers healed. After her discharge the same treatment was continued, but very soon improvement ceased, her attendances became irregular, and in a short time the arm was as bad as before.

I readmitted her on November 24th, 1896. The left arm was in the condition previously described, and extremely painful; the right arm was perfectly healed, no tendency to recurrence and no imperfection in the movements of the fingers or hand. On November 25th a similar operation was performed on the left side as has just been described as regards the right. The grafts took well, and she was discharged on December 24th quite well, and has remained so since.

I remember, also, seeing half a tongue excised for an obstinate ulcer, which had resisted large doses of iodide of potassium, and was looked on as epithelioma, but which did not prove to be so on examination by the microscope, and in which I found another gumma in the substance of the tongue. The patient lived for several years, and had no further syphilitic disease of the tongue.

In tertiary syphilis affecting bones the possibility of doing good by operative interference is much greater and more frequent. In cases of gummatous bone disease with ulceration of the skin over it I have obtained healing without recurrence by thoroughly removing the affected soft parts and chiselling away the diseased bone just as one would treat a tuberculous disease, constitutional treatment being of course continued. One has only to look at a case of syphilitic necrosis, say of the frontal bone, to understand how slow must be the cure if it occurs at all by medicinal treatment alone. Not only is the sequestrum firmly fixed in parts and very slow in separating, but the bone around is extremely condensed and the circulation in the diseased area must be very imperfect. One can thus readily understand how by chiselling away the sequestrum, the diseased bone, and some of the condensed bone naturally without any intermission of the constitutional treatment healing may be greatly favoured. Apart from this form of bone disease I believe good might be done by operation in cases where there is much thickening of an individual bone with great pain where the effect of the iodide is only temporary, and where in order to be comfortable the patient has to go on taking iodides for an indefinite period. Such cases might quite well, I think, be treated in the same way as chronic periostitis and osteitis due to other causes, namely, by cutting down on the bone, dissecting off the thickened periosteum, and freely chiselling away the affected bone.

In the opinion of many a gumma does not contain the syphilitic virus, and is some peculiar after-effect of the poison. My own belief is that when the virus of syphilis is discovered it will be found in gummata as well as in the earlier syphilitic lesions, though possibly altered in its characters, and no longer capable of causing a general disease. The general clinical history of gummata is not unlike that of tuberculosis, and gummata often remain localised for a long time, a patient with gummata in the leg, for example, often going on for a very considerable time without the appearance of disease elsewhere. Hence the local treat-

ment of gummata by removal in cases which will not yield to medicinal treatment, or where the patient cannot bear a thorough course of treatment, is no less worthy of consideration than the local treatment of tuberculous lesions. Iodides are admittedly only temporary remedies, and unless combined with mercurial treatment no permanent freedom is certain. Indeed, in some cases iodides alone seem to have the same disadvantage as was attributed to tuberculin, namely, that the virus is, so to speak, liberated, and after the cessation of the treatment leads to fresh lesions in the neighbourhood, and the removal of the local lesions may prevent the occurrence of further lesions in the vicinity, which rather seem to spread by local infection than by fresh deposit from the blood.

I do not, however, propose to enter into a disquisition on the natural history of the syphilitic virus, and merely wish to point out that in certain obstinate cases of tertiary syphilis of skin and bones much benefit may be gained from surgical intervention, with the view of removing the local lesion, as is done in the case of tuberculosis. I might suggest, also, that in very rapidly breaking down gummata, in parts where the result may be serious, as in the palate, thoroughly clearing out the gummata might be advantageously combined with vigorous antisyphilitic treatment, but this is merely a suggestion; I have never carried it out. I wish it also to be clearly understood that in mentioning this matter of operative interference I would in no way intermit vigorous general treatment, nor do I think that operation is necessary except in a limited number of cases.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

TETANUS SUCCESSFULLY TREATED WITH ANTITOXIN.

On September 25th I was called to see a boy, A. F., aged 12, who complained of a pain in the back between the scapulæ and some difficulty in stooping down. On making him jump from a chair to the floor he felt considerable pain, but was able to walk without any discomfort. I ordered him rest in bed. On seeing him the following day the pain had extended to the lumbar region, and I ascertained that about a week previously he had got a splinter of wood under the nail of his right thumb, which had been extracted at the time, and the wound was quite healed, and there was no pain whatever in in the part. I, however, put on a carbolic poultice—1 to 20.

On September 27th the muscles of the neck, back, and lower extremities were quite rigid, with marked opisthotonos; the jaws could only be opened about a quarter of an inch, and the boy experienced the greatest difficulty and pain in swallowing.

I obtained some Tizzoni's antitetanus serum on the following morning. Before the first injection at 2.30 P.M. on September 28th the temperature was 100.3° F. I injected 35 grs., half the entire quantity at once (an adult dose) into the thighs and buttock. At 9 30 P.M. the temperature had risen to 102°, and a vesicular eruption had made its appearance in the region where the injections had been made.

The following morning the temperature was normal, and in the evening I injected 8 grs. more of the serum, and there was slight diminution of the symptoms.

On September 30th 8 grs. were again injected.

On October 1st the boy showed considerable improvement, suffering less pain, although at this time there was not much less muscular rigidity.

On October 2nd 8 grs. were again injected into the back; by this time the rash had almost covered the whole body, with the exception of the head and neck; it was specially well marked over the internal malleolus of each foot, and some of the vesicles in these parts were the size of a hazel nut. The arms were now more rigid, although the muscles of the trunk and legs showed marked relaxation, which steadily increased; and on October 4th, being the sixth day after the first injection, the boy was free from pain, and could swallow without difficulty and move himself round in bed.

On October 6th the patient complained of great pain in the the adductor muscles of the right thigh, but without any rigidity, and this lasted for three days, but was relieved by counter-irritation.

Chloral was given in full doses from the onset of the disease, but before the injection of the antitoxin had little effect. The dried serum is not readily soluble in cold sterilised water unless reduced to a fine powder in a pestle and mortar, and then first made into a paste with a few drops of the given quantity of water.

The patient was able to be out of bed on October 21st completely free from the disease, and had it not been for the pain in the thigh would have been able to be up a week sooner.

This is the tenth case of tetanus which has come under my observation, and without exception each case has terminated fatally and in great suffering. This case I also considered hopeless, as also did Dr. Moorhead, who saw the case several times with me, and I can attribute recovery solely to the injection of the antitoxin.

Duns. John McWatt, M.B.Edin.

COMPOUND TINCTURE OF BENZOIN IN ENTERIC FEVER.

Lately I have had under my care several cases of enteric fever with excessive diarrhœa. I have in these cases tried a mixture of compound tincture of benzoin and water with marked success. I start by giving a dose of ♏v of the tincture every two hours, and if the diarrhœa does not decrease in twelve hours I then double the dose. In all the cases after twenty-four hours' administration I have found marked benefit, the diarrhœa decreases, the stools are not so offensive, and the temperature is decidedly lowered, and the patient feels very much more comfortable. I attribute the success in these cases to:

1. The internal antiseptic property of the drug.
2. The mixture forming a protecting coat to the inflamed bowel.
3. The antipyretic action of the drug.

Spennymoor, Durham. James C. Potter. M.B., C.M.

HYSTERO-EPILEPSY WITH RAPIDLY FATAL ISSUE.

Miss O., aged 28, whose father and mother are alive and healthy, has one sister suffering from exophthalmic goitre, one brother subject to alcoholic excess which brings on epileptiform attacks, and another brother who suffers from glycosuria. Up to twelve months ago the patient had been considered strong and healthy, when she began to overdo herself with dancing, bicycling, etc. Two or three months ago she had a fright while out on her machine, nearly having an accident. Ever since she had been showing signs of hysteria, easily getting excited, and had had frequent attacks of laughing and crying with little or no cause. Menstruation had been painful and irregular for some months.

On July 31st, 1897, a very hot day, she overdid herself by playing tennis and going to a flower show, and went to bed very tired and sleepy.

Next morning (August 1st) when her sister came into her room to wake her, she found her very stupid and queer, and she became "stiff all over, and foamed at the mouth," and seemed to be unconscious. This lasted about half an hour. When I saw her a few minutes later, she was only dull and dazed, and complained of a headache, telling me she did not know what had happened to her. She had not bitten her tongue or passed urine in the attack, and there had been nothing of the nature of an epileptic cry at its commencement. Sensation, motion, and reflexes were normal. I prescribed bromides and rest in a dark room.

At 6 P.M. the same evening she again became unconscious, and at 6.45 P.M. I found her lying on her bed, somewhat rigid all over, and moaning continuously. She did not answer when spoken to, or even when shouted at. The conjunctival reflex was present but rather sluggish, the pupils were equal, fairly dilated, and reacted to light. The teeth were clenched, the tendon reflexes were normal, and there was no sign of paralysis anywhere. The pulse was 90, and the temperature 98.6°, and she had been sweating freely. She could swallow nothing. I applied cold effusion to the head and shoulders with no result. I then tried a fairly strong interrupted

urrent, at which she cried out loudly and rolled about the ed, when stimulation was stopped, her groaning ceased, and he went off into a heavy sleep for some hours. On awakening in the middle of the night she swallowed a dose of otassium bromide (gr. xv) and some milk and brandy, and elapsed into her former condition. There was no spasm or onvulsive movement limited to any group of muscles, but nly general resistance to passive movement. She now passed rine involuntarily.

Next morning (August 2nd) Dr. Barr saw her in consultaon with me, and after removing some false teeth which equired some force and entailed a good deal of struggling, ne roused up a little, looked round her, and put out her ngue when asked. There was no organic disease to be found. he pulse was now 100, and the temperature 100.5°. The rine had not been examined before the attack as there was o indication, and now it was passed involuntarily. She was dered tincture of assafœtida 3j every three hours, and to e fed with milk, brandy, and eggs every hour.

After Dr. Barr had left she relapsed into the same semionscious condition as before, and would not swallow. She as then fed with nutrient enemata every four hours, and a ttle tincture of assafœtida forced between the teeth at tervals. Her condition remained much the same until ext morning (August 3rd), when it became very evident at she was dying. The face was getting a dusky blue, the mperature was 100.2°, and the pulse 140, weak, while the eath-rate was 60 per minute. A few coarse *râles* were to be ard at the bases of both lungs. Urine and fæces were ssed involuntarily. The temperature ran up about noon to 5.5° F., and came down with cold sponging to 103°. She pidly sank, and died at 3.15 P.M., forty-five hours after the mmencement of the attack. There was no *post-mortem* amination.

Liverpool. J. C. M. Given.

REPORTS
ON
EDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

TOWN'S HOSPITAL, GLASGOW.

PERFORATION OF ŒSOPHAGUS BY FISH BONE: PYOPNEUMOTHORAX: SUBCUTANEOUS EMPHYSEMA.

y John McC. Johnston, M.A., M.D., Medical Officer; P. Stedman Buchanan, M.B., C.M., Assistant Medical Officer.)

textbooks on pulmonary diseases, setting forth the causes pyopneumothorax and of subcutaneous emphysema, we nowhere find mention of such a sequence of events as is strated by this case. The primary lesion was not susted during life, because, in the first place, the condition of respiratory organs masked that of the œsophagus, and impaction of the fish bone was unknown to the patient: l because, in the second place, perforation of the pleural rity from the œsophagus must be of somewhat rare occurce.

On February 18th, 1897, P. K., aged 50, a man of fairly ust physique, was brought to hospital by ambulance, suffing from subcutaneous emphysema. Great dyspnœa and neral distress made detail of previous history impossible, he gave the following particulars in gasps:

He had suffered from cough for over four months. About ee and a-half months from date he had brought up about f a cupful of bright red blood, and a small quantity on the ning before admission to hospital. He had sought medical vice, but his cough had become gradually worse. There l never been much expectoration, but fits of coughing were re violent and more prolonged than formerly. He was a ourer, much addicted to drink, and had been intoxicated day before. During the night of February 17th the cough s unusually severe. He slept none, was not aware of a sation of "something giving way in his chest," but found neck swelling under the strain of the cough.

The emphysema extended over the whole of the chest, front and back; the tissues of the neck were so puffed out that the prominence of the chin was scarcely visible, and the swelling had spread over the face to the level of the lower eyelids. With no evidence of injury to larynx or ribs, physical examination gave no information as to the state of the lungs beyond the fact of uniformity in note and sounds over all parts. The heart sounds were pure; the apex beat slightly displaced outwards; the pulse regular, 70 per minute; respirations 32, with orthopnœa. He had violent spasms of coughing, during which his face became darkly congested; some vomiting of milk occurred, and he expectorated a small quantity of frothy mucus.

In the course of the next few days the emphysema gradually diminished; the temperature was fairly uniform, varying throughout between 100° and 102°. The pulse-rate was seldom over 100 or under 90, and the respirations ranged between 34 and 40 per minute. By this time a dull area had been observed at the base of the right lung behind, extending upwards to the level of the ninth rib. Above this the right lung was slightly hyper-resonant. Rhonchi were general over both lungs, but little sound of any kind was audible at the right base.

By February 27th, this dulness had extended about an inch higher, and signs of effusion suggesting exploration, a thick creamy pus was withdrawn by syringe, from the pleural cavity.

Vomiting had now disappeared, but breathing was more laboured, congestion of face and extremities greater, and the general condition worse.

On the morning of February 28th he was *in extremis*. Cocaine was injected, and a free incision made under the ninth rib, through the pleura. A quantity of foul-smelling gas, and, when turned on his back, pus containing little masses of casein, escaped. The diaphragmatic surface of the pleura could be felt with the finger, thick and roughened in piles, like rough cloth. About $2\frac{1}{2}$ inches higher, an irregularly-thickened pleura covering the base of the lung was reached. The cavity was gently washed out with weak boracic solution, in order to expel the caseous masses, and a glass drainage tube inserted. Some improvement followed until night, when the pulse became very small—120 per minute—and he died on the following morning.

A necropsy was made on March 3rd. Over the upper part of the thorax slight traces of subcutaneous emphysema remained. The heart was large, the muscular fibre firm, valves normal, weight 15 ozs. The left lung showed small emphysematous bullæ, generally distributed, at its borders and under the pleura. There was one unimportant adhesion to the parietal pleura over the middle of the eighth rib. The right lung was extensively adherent in front, laterally, and behind, over the third, fourth, and fifth ribs; but the adhesions were easily detached. The visceral pleura was much thickened along the inner surface of the lung, from the root downwards, and also over the base, which lay free and concave about $2\frac{1}{2}$ inches above the diaphragm. In this space a little blood clot and a few small pieces of caseous material were seen. Both lungs on section presented similar appearances—namely, emphysematous borders, general œdema, and congestion. They weighed, right $27\frac{1}{2}$ ozs., left 25 ozs. Not a trace of tuberculous or other chronic disease was found nor indication of rupture or perforation. On exploring the thoracic cavity, a thin flat fishbone with pointed extremities, $1\frac{5}{8}$ in. in length, was discovered, lying behind on the diaphragm on the right side. The larynx, trachea, and bronchi were intact, their mucous surfaces inflamed; 5 inches above the stomach the œsophagus showed two oval perforations with rounded edges, the long or vertical diameter of which measured $\frac{3}{8}$ in. These perforations were on the same level. The prevertebral connective tissue to the right of and behind the œsophagus was soft and sloughing from this point downwards for about 3 inches. The stomach contained putrid gas, some grumous fluid greyish in tint, and a number of small masses of hard dry casein—identical with those found in the abscess cavity—the largest of which would be about the size of a cherry. The liver, large and fatty, weighed 5 lbs. 2 ozs. All other organs were normal.

Judging from the duration of symptoms the impaction of the fish bone in the œsophagus must have occurred at least

four months before the fatal issue. How the man should have been ignorant of the accident seems to admit of but one explanation. In the lower parts of Glasgow fish suppers are very popular in the small restaurants, many of which remain open after the closure of public-houses. The chances are that next day he had no recollection of having eaten fish at all. The subcutaneous emphysema was derived either from the escape of gas from the alimentary tract, through the œsophageal perforations, or from the subpleural connective tissue during the violent expiratory efforts made while coughing. It seems hardly possible that perforation of the visceral pleura by the fish bone had taken place, or, if so, it must have been months before the emphysema occurred, and all traces of it had long been obliterated. The great extent of the emphysema, its sudden development, its appearance late in the illness, the presence of double pulmonary emphysema with air under the visceral pleura, its absence from the posterior mediastinum, and the small size of the œsophageal openings, seem to point to its origin in escape of air from the lungs into the subpleural connective tissue, and thence to the neck. The course of events seems to have been as follows: The fishbone slowly ulcerated its way through the œsophagus, passed downwards and to the right, along the posterior mediastinum and perforating the parietal pleura, finally rested on the diaphragm. Violent coughing fits caused gas and particles of food to follow in the same tract; and so a condition of pyopneumothorax was produced. Then followed extensive inflammation of the right pleura, ending in adhesion of the middle third of the lung, with great thickening and roughening below. The coughing spasms produced pulmonary emphysema, small subpleural ruptures, and escape to the surface of a large bulk of air, which masked all under it. The caseous masses washed out after operation were hard and dry, crumbling on pressure, and suggested rupture of some old tuberculous mass in the lung. Unfortunately none of these were seen in the vomit, which was passed with expectoration into a small cylindrical spittoon, and which consisted chiefly of milk recently swallowed; otherwise their identity might have suggested the existence of the primary lesions in the œsophagus.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

W. H. DICKINSON, M.D., President, in the Chair.

Tuesday, November 23rd, 1897.

SPECIAL DISCUSSION ON THE PREVENTION OF ENTERIC FEVER.

DR. G. V. POORE opened the discussion. The contagion of enteric fever was contained in the excreta, and might gain access to the bodies of the healthy in drink or food or air. When enteric fever became suddenly epidemic it was most often through contamination of the drinking water, and sometimes, through the water, of the milk or other beverages. Short records were given of 46 instances within the last thirty years of contamination of public water supplies, and in 29 instances where the figures were given the number of cases amounted to 16,486. These public water supplies were contaminated at the source, in their course, and at the periphery. Of the contaminated sources 8 were streams and rivers, 11 were wells, and 3 were upland gathering ground (?). Of the polluted wells 7 were deep wells in the chalk; these chalk wells were polluted by leakage from a sewer (2), by accidental defilement of an adit (1), by the tricklings from the surface of an adjacent sewage farm (1), by backflow from a river (1), by leakages from foul ponds and cesspools (2). Those sources of water farthest removed from dense populations were probably safest, but moorland waters were not free risks; some of them acted unduly upon lead; and it was interesting that Glasgow had a mortality from enteric slightly higher than the average for England and Wales. Given the fact of contamination, wells and springs were dangerous because there was no escape for the polluting matter except into the supply pipes. In rivers there was the advantage of oxidisation and sunlight, and only a small proportion of polluting matter at most was likely to be taken up. With regard to pollution in the course, the most common but by no means the only cause was the insuction of foul air or liquid by leaking water pipes during intermissions in the supply. Pollution at the periphery—that is, through the taps, was the most important. It was liable to occur whenever a tap was left turned on and a vacuum was produced in the supply pipe by intermission of supply, so that foul gas or liquid, or even solids, were sucked back into the house pipe or main. This peripheral pollution was well understood, and its frequent occurrence raised a doubt whether the abolition of the house cistern did not endanger the purity of the water flowing in the mains. The maintenance of constant pressure in the pipes, although theoretically desirable, was not practically attainable at all times. The liability to peripheral pollution raised the question whether all public supplies were not liable, to a certain small extent, to automatic pollution. It must be remembered that in big towns there were many foul places other than w.c.'s over which there might be open taps. A common source of peripheral pollution was the leakage of standpipes (as occurred at Worthing), and the flooding of the street with sewage, as often happened when drains were flooded out. Public water-supplies must be regarded as causes of the epidemicity of enteric fever. They diffused the poison with a completeness which was absolute, and insured that it was "laid on," as it were, to our very mouths. These epidemics showed the danger of "putting too many eggs in the basket," and the necessity of arranging water-supplies with as many independent subdivisions as might be feasible, and of never mingling supplies from different sources. Water-pipes and sewer-pipes should be placed in subways if possible, so as to be open to ready inspection, or one set of pipes should enter at the front of a house and the other leave by the back. To have them running in close proximity, and out of sight, was attended with obvious danger. Water companies should be made answerable for damage just as are other trading companies, and the householder ought to have the right of being supplied by meter. It was impossible to see much increase of safety in handing over water supplies to the care of public bodies where individual responsibility was non-existent. Our safety lay in vigilance. The notifications of enteric fever should be forwarded at once to the water authorities, and the sewer authorities, and the companies should guard their supplies with a constant vigilance, such as was exercised by the great dairy companies. Careless or wilful waste of water (when not supplied by meter) should be punishable by fine. Plumbers who attend to drains and sewers ought not to touch water-pipes and cisterns without a complete washing and change of raiment. In the treatment of excreta chemical disinfection was untrustworthy. Burning was the most certain mode of destruction. Enteric excreta should never be mixed with water, because it was pre-eminently a waterborne disease, and the property of water was to return to its source. This is illustrated by familiar examples, thus: w.c., sewer, sea, oyster. It was said that sewage was good for our fisheries; at present we had distinct evidence of evil and none of good. Again, w.c., leaking sewer, chalk well, drinking water; or, w.c., sewer, river, watercress, drinking water; or, w.c., leaking sewer, leaking waterpipe, drinking water; or (as at Caius College) fæces might be sucked directly from the watercloset into the waterpipes. The great cause of the increase and wide epidemicity of enteric fever in recent years had been the watercloset. The year 1849, in which the non-identity of typhus and typhoid was settled by Sir William Jenner, was the year of cholera, the year of the Broad Street pump, the year in which the great fact of waterborne disease was established. The conditions which gave us the great outburst of cholera in 1849, when the Thames was at once our cesspool and our source of water, were eminently calculated to furnish sufficient enteric fever to establish its identity. Dr. William Farr fully recognised that the cholera of 1849 was produced by the watercloset, but he hoped that by better management our drinking water might escape pollution. When water leaked incessantly from one spot (whether it be cesspool or sewer) it soon began to exercise pressure, and might trickle any distance. A drainpipe or sewer was quite as dangerous for the water supply as a cesspool. It was probable that the dry privy of our ancestors had a very slight polluting effect upon the soil. Enteric stools in country places might quite safely be applied to the surface of well-tilled soil. They must not be mixed with

ntiseptics, and must not be buried deeply. There was no vidence that fæces treated in this way had ever been pro- uctive of harm. The writer, speaking with an experience of ourteen years, was convinced that fæces could not be washed ut of well-tilled humus by any amount of rain. In such a posi- ion the bacilli were almost certainly destroyed, for in tillage hey were exposed to air and sunshine. In such a position hey were not likely to be eaten or drunk, and there was very ttle likelihood of their being raised as dust, being hygro- copic. In such a position fæces disappeared in a few weeks. well-tilled humus was probably the most perfect protection o our water supplies conceivable, as the writer had set forth length in his published works. The fact that the enteric acillus will live in sterilised soil did not prove that the soil as dangerous when properly managed. The fact that icrobes will live in gelatine had merely taught us how to void the dangers of gelatinous food, which was as popular as ver. The pollution of the soil in our great towns was due to ne incessant soaking, from spilling excess of water and irty fluids, and from the leakage of subterranean receptacles liquid filth of all kinds. There could be no purity of soil ithout tillage, and organic filth must be placed upon the umus to increase our food supply, and not beneath it to danger our water supply. The writer did not think it at l likely that town populations would hastily abandon their aterclosets—in London it seemed impossible—but it was me that the people were taught that excreta properly used ere a source of health, wealth, and beauty. This import- t matter held no place in our national education. There ere no municipal gardens for demonstrating how excreta ight increase the attractiveness and prosperity of a district. n the contrary, our populations were silently taught that e only decent (!) way of treating fæces was to mix them th water, to brew sewer gas and ensure the aërial as well the aquatic convection of enteric fever. A man who had house with a quarter of an acre of ground might be per- tly independent of the sanitary authority, and might get od water from a private well. But such persons who really ed to keep their houses clean and wholesome received no couragement in the present state of the sanitary laws.

Professor W. T. Gairdner had not come to speak, and for last thirty years his experience in Glasgow had been all, as the fever hospitals had been taken over by the local horities, so that what he had to say would be historical l from long past experience. He had been present at that per of Dr. Murchison at this Society when he sketched out great work on continued fevers. At that time Dr. Mur- son was probably aware of the waterborne origin of eric fever, but contemporary opinion pointed strongly sewer gas as the cause of enteric fever. Even now luted water did not acoount for all the cases of enteric er, and this was especially true in Glasgow, where the ex- ience of the medical officer of health, Dr. Russell, pointed ngly to milk and not to water as being the means by ich typhoid was spread. He gave several examples of , and pointed out that they now had control over the ries within thirty miles of Glasgow. In conclusion, he e eloquent testimony to the invaluable results of the care- investigation by public health medical officers of epidemics h in town and country, often in the face of great diffi- ies.

Sir Richard Thorne Thorne said that public water sup- s and sewers, the evils upon which Dr. Poore laid stress, existed for forty years, and as a result of the Public Health s passed in 1872 and 1875 hundreds of thousands of pounds been spent on public works. In the earlier part of this od no data were in existence, inasmuch as enteric and us fever were then not differentiated; but comparing available statistics it was shown that the mortality had n from 3.7 to 1.7, and it was manifest that an enormous ng of life had resulted. Before the institution of these lic works enteric fever was mainly endemic, now it was sionally epidemic. It was perhaps hardly fair to com- the mortality of a mighty city like Glasgow with that of land and Wales, since the latter contained such extensive l districts. In the years 1865 to 1869, before Glasgow ob- edits present water supply, the mortality from enteric fever 510 per million, while in the last ten years it was 193 per ion. At the present time enteric fever occurred in epi- demics which were certainly startling, but the total amount was trivial as compared with what it used to be. Many epi- demics were due to faults in the public water supply, and to arrangements which were no longer countenanced, but the re- sults of these faults did not justify our condemning public water supplies. He emphasised the statement that water companies should be held responsible for neglect, and that the public should insist on this being made law. He pointed out that while epidemics chiefly occurred in urban districts, the remedies suggested by Dr. Poore were applicable to rural districts, and could not be generally applied under present conditions. It would be impossible to obtain a sufficient amount of well-tilled soil at the present time, and, except in the most isolated rural districts, shallow wells would tend to render enteric fever endemic. Nature had made arrangements for dealing with healthy excreta, but he was doubtful whether specific excreta should be treated in the same way. Burning was the most satisfac- tory plan of dealing with them. He referred to Dr. Sidney Martin's experiments on different kinds of soils. After sterilising two samples of soil, and inoculating them both with typhoid bacilli, it was found that the sample saturated with organic matter retained typhoid bacilli for over 220 days, whereas the sample which was comparatively free from organic matter only contained them for 23 days. He also referred to experiments of Dr. Robertson on unsterilised earth, much contaminated with refuse, which showed that the bacilli died down in the winter only to multiply freely in the summer.

Professor R. Boyce insisted on the great importance of bacteriological investigation not only for accurate diagnosis (serum test), but in the prevention of the disease. Enteric fever might be spread by (1) sewage and dust, (2) water, (3) milk and milk products such as butter, ice creams, (4) shellfish and other raw food stuffs. It was most important to establish bacteriological stations for the routine bacterio- scopic examination of the sewage of the town, and to investi- gate constantly (*a*) the output from dwellings, and especially from hospitals, for, as already pointed out by Dr. Poore, typhoid infection might be spread from *post-mortem* rooms, (*b*) the intake, and (*c*) the output at the sewage farm. In this way a competent knowledge of the flora of sewage was obtained, and the recognition of the bacillus typhosus rendered easier. To be of any use the bacteriological examination of the water supply must be constant, and must be made at various points. In this way a knowledge of the bacteriological flora was obtained, and the presence of any intruder detected and the cause investigated. There should be one public water supply for the town, and private wells and tanks should be abolished. In Liver- pool he had examined only a small number of specimens of milk—150, and had been struck by the rarity of the colon bacillus, which had been reported to be common in London milk. In two specimens of ice cream he had found the bacillus zopfii in overwhelming numbers, which had got in accidentally, just as the typhoid bacillus had in a small outbreak recently traced by Dr. Hope to ice creams at a school treat. He insisted on the essential importance of supervision being established over milk and ice cream vendors. He had examined hundreds of oysters, and had been struck by the frequency with which the colon bacillus was present. In conclusion, he again emphasised the im- portance of starting bacteriological laboratories in connection with public health departments.

Dr. D. S. Davies (Bristol) pointed out that in the last five years the fever-rate had been conspicuously low in Bristol, and that enteric fever especially had been infrequent, the last epidemic, until this autumn, had been in 1879, and had been due to infection of the water obtained from a pump. He described the epidemic of milkborne enteric fever through which Clifton has just passed. On October 21st 2 cases of enteric fever were notified, and suspecting that some recent cases of "influenza" might be of this nature, he volunteered to examine the blood of such patients by the Widal reaction. Seventy-six specimens of blood were examined, and most of them gave a positive reaction. This showed the value of the test in cases that appeared to be obscure or doubtful cases of influenza. The epidemic was of a virulent character; the notifications per week ran as follows: 16, 100, 60, 19, 10, 0.

There had been 20 deaths, and it was to be feared there would be more. The epidemic had, in spite of considerable difficulties and complications, been conclusively traced to an infected milk supply in the short space of four days, and the supply being at once stopped the epidemic was arrested. The spread of the epidemic was illustrated by plans showing the distribution of the milk supply. One institution containing over 60 inmates had been served by the infected milk supply, but owing to the milk being boiled no cases occurred there. Dr. Davies insisted on the importance of the control of farms and dairies, and of the county council controlling the rural authorities.

MEDICAL SOCIETY OF LONDON.

ARTHUR ERNEST SANSOM, M.D., F.R.C.P., President, in the Chair.

Monday, November 22nd, 1897.

DR. S. WEST read a paper on a case of Pyopneumothorax of some months' duration cured by free incision, with remarks upon the surgical treatment of pneumothorax, which we publish in full elsewhere.

Dr. F. DE HAVILLAND HALL said he himself had been impressed by some unfortunate cases that had come under his notice which had possibly led him to take a less sanguine view than the author. In one case of empyema the lung failed to expand, and ultimately the patient sank from asthenia. Such a case in private practice could not but damage the reputation of the surgeon in charge. He insisted on the importance, in arriving at a decision in respect of operative measures, of the previous history. If a patient had a fairly healthy lung operation might be followed by a good result, but he presumed that even the author would not advise operation if he knew that the lung was riddled with cavities, for example. He referred to a case in which pneumothorax had developed in the course of lung disease followed by the effusion of fluid in the chest and hectic fever. Knowing the condition of the lung he had not done anything, and the *post-mortem* appearances justified his abstention. He recalled a story often related by the late Sir Andrew Clark of a man with pyopneumothorax who for years was utilised to teach students the physical signs of this condition. During his temporary absence his deputy opened the chest and the man died, thus affording one more example of the fact that good results did not always follow operation.

Dr. THOROWGOOD remarked that though one could treat pyopneumothorax in the same way as empyema the results would not be the same, and he disadvised operative interference unless there were urgent symptoms. Formerly they used to wait longer before operating in cases of empyema, with the result that the lung was often bound firmly down. Early operation usually gave good results, and he instanced the case of a man who recovered completely within six weeks of the operation.

Mr. MARMADUKE SHEILD mentioned a case he had seen with Dr. Ewart, of a man with pyopneumothorax and gangrene of the lung. He was almost moribund when operated upon, yet he made a rapid and complete recovery. In another case of doubtful nature, incision of the chest gave exit to gas; but, as the disease had existed six months previously, he declined to remove any rib, foreseeing what must happen if he did so. He pointed out that anæsthesia in such cases entailed considerable risk, and he advised as small an amount being given as possible, and the patient being placed in such a position as to allow free play to the other lung. Then, too, the incision, removal of rib, etc., should be done rapidly. He deprecated applying a fixed dressing to the chest for a day or two, preferring the use of pads of wood wool to absorb the discharge, which was often copious. He added that surgical cases of pneumothorax stood on quite a different footing, for the air would often undergo spontaneous and rapid absorption.

Dr. BOWLES referred to two cases published in the *Lancet* under the heading of "death under chloroform," in which the patient had suddenly developed dyspnœa on being turned over, thus illustrating the risk that existed of patients drawing pus, blood, etc., into the opposite lung.

Dr. WEST, in reply, said the remarks as to position did not apply to the cases under consideration, in which urgent symptoms were not usual. Referring to Sir Andrew Clark's case, he said his sympathies were with the younger physician, for the case had probably been left too long untreated.

MECHANOTHERAPY OF MOVABLE KIDNEY.

Mr. A. SYMONS ECCLES read this paper. Since the year 189 21 cases of movable or floating kidney, with local pain and tenderness, had come under observation and treatment. O these, 16 had been treated by the "rest cure," with specia attention to abdominal massage and exercises for period varying from fourteen days to eight weeks, and of these were recorded in detail, 7 were lost sight of within fou months of treatment, 1 was a complete failure—the only cas in which immediate benefit did not follow; 5 were greatly improved by abdominal massage, exercises, and the applica tion of the pad and belt; 1 of these had been free from all dis comfort for five years, and another for two years, whereas both had previously suffered from pain and general discom fort for prolonged periods. The results obtained in the ma jority of these cases were so satisfactory that they bea favourable comparison with records of those treated by opera tion, and in view of certain cases which have occurred, ther was something left in favour of employing milder means fo the relief of nephroptosis than surgical interference involvin either nephrorrhaphy or nephrectomy. Early diagnosis, re position, and the maintenance of the organ in its norma position by methods which also conduce to the improvemen of general health, would appear to go far towards the relief o the patient from the necessity of having the kidney stitche into its place or removed from the body, as the advocates o early operation advise. Sufferers from floating kidney shoul first be treated by rest, massage, and exercises, before the were exposed to risks which certainly existed, however smal they might be rendered by the skill of the operator. Th cases for detailed description were selected as typical of th conditions under which nephroptosis occurred in males an females.

The PRESIDENT advised that patients should not be mad aware of the possession of a movable kidney, as the knowledg tended to make them very miserable.

Dr. HALL mentioned the case of a lady who came to hi complaining of dyspepsia and abdominal troubles for whic she had long been under treatment without benefit, in whor he discovered a movable kidney. He had a pad and bandag applied, and the lady had remained well ever since.

Mr. P. J. FREYER said he had recently operated on fiv cases of movable kidney. He said he had never seen th slightest benefit attend massage and mechanical appliance He mentioned one case of a very stout lady in whom all trac of fat had disappeared from around the kidney, and he attr buted this absence of fat to a severe course of massage she ha gone through before coming to him.

Dr. ECCLES, in reply, mentioned a case of movable kidne in which the patient, who was not aware of her condition, ha an attack of tachycardia every time she placed herself in certain position, and to which she ultimately succumbed. H remarked that a patient with a right movable kidney was mo at ease on the left side, with the right knee flexed and brough over to the other side, and the right arm extended above th head. All his patients save two were aware of their condition None of his cases had existed for less than two years, showin that in some cases at any rate an operation could be dispense with.

HARVEIAN SOCIETY OF LONDON.

R. H. MILSON, M.D., President, in the Chair.

Thursday, November 18th, 1897.

HERNIA OF THE ABDOMINAL CICATRIX AND OPERATIONS FOR ITS CURE.

MR. ALBAN DORAN read a paper on this complication. When mere digital protrusion it could be kept back by pressure, bu the advanced form was very troublesome. An operation wa sometimes needed to set free strongly adherent intestine, bu did not always completely cure the hernia. The author rea full notes of four particularly bad cases where he operated (1) Hernia of ovariotomy wound, two years; large sac wit secondary pouch; circular sharp-edged neck in middle cicatrix, with intimate adhesion of transverse colon. (2 Hernia of extraperitoneal hysterectomy wound, four years

large sac with large secondary pouch; in lower extremity of cicatrix, circular sharp-edged neck; firm adhesion of small intestine and omentum to fundus of sac. (3) Hernia of cicatrix of incision on outer border of right rectus, abscess opened two years; large sac, no true neck, elongated secondary pouch with narrow neck almost strangulating contained omentum; intimate adhesion of omentum to fundus of sac; both appendages removed for papillomatous disease. (4) Double hernia of median abdominal wound, exploratory incision three years; large sac with two secondary pouches and long, narrow neck; small sac with narrow circular neck lower down; strong adhesion of small intestine and omentum to fundus of larger sac. In all these cases the patient recovered. The author referred to cases where he had been the original operator, and hernia had developed in the cicatrix. In one a small protrusion appeared five years after an operation for tubal pregnancy. He had observed that the hernia lay often in the middle of the scar, and not invariably in the lower angle. The best method and best material for suture remained quite uncertain. Mr. Doran discussed this question at some length. The mass of statistics recently collected by La Torre included the most contradictory evidence, and important sources of fallacy were indicated.

In reply to Mr. Butler-Smythe, Mr. Doran remarked that the edge of the rectus muscle, as well as its sheath, should always be included in the suture, whether the aponeurotic layer were united separately and continuously, or simply closed by deep interrupted sutures passed through all the layers of the parietes.

Empyema of the Antrum of Highmore.

Mr. E. W. Roughton read a paper on this subject. He limited his remarks to those cases in which the ostium maxillare was patent and the symptom complained of was a discharge from the nose. The discharge was usually purulent, unilateral, intermittent, and affected by posture. An examination of the nose by speculum and light revealed pus in the middle meatus; after clearing the nose pus reappeared when the head was hung down and towards the unaffected side. As aids to diagnosis he mentioned transillumination of the antrum, catheterisation through the ostium maxillare, percussion of the teeth, and exploratory puncture through the nose, alveolus, or canine fossa. He also insisted upon a careful examination of the teeth in the upper jaw. A carious first or second molar was a very common cause of empyema, but any tooth in the upper jaw might involve the antrum; it was also important to bear in mind that a tooth which was quite free from caries, and to the ordinary observer apparently healthy, might have an alveolar abscess at its root. The indications for treatment were: (*a*) removal of the cause by dealing with dental or nasal disease; (*b*) evacuation and drainage of pus; (*c*) antiseptic irrigation; and (*d*) removal of morbid tissue (when present) from the antrum. He advocated that an alveolar tube should be fitted in every case. In acute or subacute cases a cure would often be effected, provided that the tube was of large calibre—at least an eighth of an inch—and that its upper extremity was on a level with the floor of the antrum. The length of the canal from the gum to the floor of the antrum could be best determined by means of a small catheter *à boule* used in the same way that it is used to measure the position and length of a stricture of the urethra. In chronic cases, or those that resisted treatment by the alveolar tube for six months, it was necessary to open the antrum through the canine fossa and thoroughly remove all morbid tissue found therein. The canine fossa operation should always be supplemented by an alveolar tube to facilitate drainage in the after-treatment. He had had no experience of opening the antrum through the inferior meatus of the nose, as he considered that there was no case which could not be effectually treated by the alveolar tube with or without the canine fossa operation. In some cases the nasal discharge continued after draining the antrum; attention should then be directed to the frontal sinus or fronto-ethmoidal cells.

After some remarks by Mr. Lennox Browne,

Dr. Scanes Spicer said the points he regarded as essential to the success of the radical operation were (1) a large opening through the canine fossa; (2) thorough curettement of diseased antral mucosa; (3) very free counter opening from nose into antrum; (4) no drainage aparatus.

Dr. Wm. Hill, speaking of chronic cases, said he had recently had a case in which an alveolus had been drilled and a tube inserted without marked relief; so that it was necessary to make an opening in the canine fossa and scrape out the antrum.

Mr. Sefton Sewill said that the operation of puncturing through the alveolus was a simple one, and one which, in conjunction with a drainage apparatus, was esteemed efficient treatment by distinguished surgeons.

Dr. Dundas Grant spoke of the frequency with which the unciate process of the ethmoid became diseased, and led to accumulation of pus in the antrum. Such cases wese purely nasal, and demanded nasal treatment.

Mr. Roughton briefly replied.

LIVERPOOL MEDICAL INSTITUTION.

Richard Caton, M.D., F.R.C.P., President, in the Chair.

Thursday, November 18th, 1897.

Radiographs of Shot in Orbit.

Mr. C. Thurston Holland showed radiographs of a No. 5 shot in the left orbit of a boy aged 17.

Thyrotomy for Epithelioma of Larynx.

Mr. Bark showed a man, aged 41, in whom he had removed the right vocal cord, ventricular band, and arytenoid cartilage for epithelioma by thyrotomy. Hahn's tube was used for seven days. The patient made an uneventful recovery. The man had suffered for two years from hoarseness previous to the operation. There was now, eight months after operation, no sign of recurrence. He had a strong, though hoarse, voice.

Dr. Hunt said it was not unusual for a malignant papilloma to remain quiescent for some years, causing no symptoms except hoarseness. He preferred to remove Hahn's cannula immediately after operation on account of the risk of septic pneumonia.

Mr. Rushton Parker mentioned a case of thyrotomy in which he had removed the Hahn's tube immediately, but had been obliged to reintroduce it later.

Nine Operations on the Liver.

Mr. Rushton Parker read notes of nine operations on the liver. Three were abscesses, four were hydatids, and two were cases of gall stones impacted in the ducts. All were successful. In one case of hydatid, punctured less than twenty-four hours before extraction of the cyst, universal peritonitis had resulted. There was vascular injection of the peritoneum and purulent effusion, with large non-adherent flakes in the pelvis. This was treated by copious washing and by pelvic drainage through an additional supra-pubic incision. The desirability of avoiding puncture of hydatid cysts, except when the operator is prepared to remove the cyst immediately, and certain features in the diagnosis of hepatic abscess were dwelt upon.

Dr. Bradshaw wished to emphasise the fact that the absence of pyrexia for longer or shorter periods by no means excluded hepatic abscess. In the third case of Mr. Parker's series the temperature was normal or subnormal during the five days the patient was in hospital before operation. The abscess when opened was found to contain 3 pints of pus. The diagnosis was based upon a history of tropical diarrhœa, pain in right shoulder, tenderness in region of liver, and remarkable enlargement of the organ in an upward direction.

Mr. Paul said he used the aspirator for hydatid of the liver in children, and had met with several cures. In both abscess and hydatid he had had the misfortune to meet with cases in which a communication had been established with the bile ducts previous to operation. They all ended fatally sooner or later. In reference to gall stones he thought the question of recurrence extremely important, apart from inaccessible stones left behind it seemed to be very rare.

Dr. E. T. Davies thought the use of the exploring needle for diagnostic purposes was to be deprecated unless immediately followed by operation.

Mr. Banks, Dr. Finegan, Mr. Larkin, and Dr. O'Hagan also made remarks.

Ice Cream and Typhoid Fever.

Dr. E. W. Hope read a short paper upon the dangers of ice cream as sold by the itinerant vendor. He had obtained some street-sold ice creams, and had submitted them to Professor Boyce for bacterial examination. These had shown an enormous number of sewage bacteria. Some cases of typhoid fever had been distinctly traced to ice cream sold at a fair in a suburb of Liverpool. In the future the manufacture of ice creams would be regulated in the same manner as the milk traffic.

Dr. Hill said he was engaged at the present time in an investigation into the micro-organisms of sewage. He was struck by the marked similarity between plate cultivations of the ice creams referred to and those of sewage. It was difficult to distinguish between them, both from the number and nature of the organisms present, many being identical in character and appearance.

Professor Boyce, Dr. Barr, and Dr. Logan also spoke.

The Clamp and Cautery Operation for Hæmorrhoids.

Mr. Banks read a note on some details in the clamp and cautery operation for hæmorrhoids. He considered the operation a good one and permanent in its results. Paquelin's cautery, if properly cared for, was a most reliable instrument. He mentioned various small details which he had found useful to the patient in saving pain and to the surgeon in saving time and annoyance.

Mr. Robert Jones condemned the clamp and cautery as a method not in accord with modern surgery. It possessed no advantages over cleaner methods. He had for some years practised a method of suturing hæmorrhoids which promoted rapid healing, rendered bleeding impossible, and saved the patient much pain. Dilatation of the anus should always be performed as a preliminary.

Mr. Thelwall Thomas had abandoned the cautery for years, and now treated hæmorrhoids by clamp, removal of excess, and suturing the stump with a crossed and reef-knotted stitch. It was painless and uneventful. Patients were out of bed on the sixth or seventh day. Hæmorrhage could not occur. Forcible stretching of the anus was always used as a preliminary.

Mr. Paul supported Mr. Banks's contention that, properly carried out, clamp and cautery was the most safe, effective, and permanent cure for hæmorrhoids.

Mr. Rushton Parker thought the principal aid to operation and painless recovery was the stretching of the anus.

Mr. Banks replied.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

James Braithwaite, M.D., President, in the Chair.

Friday, November 5th, 1897.

Removal of the Scapula for Sarcoma.

Mr. Littlewood read notes of a case of removal of the scapula for sarcoma in which he had operated by placing the patient in the prone position and turning inwards a large semilunar flap. The patient, a man aged 52, who was operated upon on August 16th, 1897, was shown. He had a fair amount of movement in the new joint, and could get his hand up to his mouth and to the opposite shoulder. The specimen was shown. The growth involved nearly all the bone and infiltrated some of the muscles. The whole of the bone was removed with the exception of the acromion. The growth was a fibro-sarcoma in which some of the cells were arranged in alveolar spaces.

Mr. Moynihan remarked he had lately excised a scapula for malignant disease in which there was only two months' history of growth. Recurrence took place in a few weeks, and the clavicle was removed. The disease then spread internally, and the patient died six weeks later.

Malformation of Auricle.

Mr. H. S. Walker showed a child, aged 9 months, with a malformation of the right auricle and temporal bone. The auricle was shrivelled and deformed in the usual manner, but there was no meatus. The ear was dissected forwards, and there was not a mark or a depression in the temporal bone indicating any attempt at the formation of an auditory meatus. The pharyngeal end of the Eustachian tube was normal. The child was too young to notice a tuning fork. Probably, as the Eustachian tube was normal, there would be a more or less perfectly formed middle ear.

Acute Diffuse Myelitis.

Dr. Campbell (Bradford) read notes of two cases. They both presented a fairly definite train of symptoms, which although in many respects they correspond with those met with in the closely allied Landry's paralysis, yet in other respects were quite characteristic of acute diffuse myelitis. In both cases there was a rapidly spreading loss of power, of sensation, of both superficial and deep reflexes, and of control of the sphincters. In one the temperature was considerably raised, and the course was rapid; whilst in the other, except when rigors occurred, the temperature was not materially raised, and the course was somewhat protracted. After describing the cases in detail, Dr. Campbell discussed the pathology of the disease, and its relation to Landry's paralysis and to acute disseminated myelitis, especially referring to the probable causal connection of micro-organisms with all three diseases.

Drs. Braithwaite, Churton, Leech, Griffith, Barrs Bampton, Eddison, Wright, and Mr. Lawford Knaggs took part in the discussion; and Dr. Campbell replied.

Chronic Intestinal Obstruction due to a Tumour of the Ileum.

Dr. Selby (Doncaster) related a case. A woman, aged 45, presented herself on June 21st, 1897, with a history of a sudden attack of epigastric pain and vomiting in December 1895, when she was laid up for a week. Afterwards she suffered from similar attacks of variable duration, recurring at intervals of from twenty-four hours to a fortnight, of gradually increasing severity. The symptoms were made worse by taking food. The appetite was good and the bowels acted regularly, the stools being normal. Nine months after the onset the bowels began to be constipated, and abdominal distension with flatulence was noticed during the attacks. In May, 1897, the pain became almost continuous, the vomiting very severe although never fæcal, and the constipation almost absolute in spite of aperients. During the illness her weight fell from 11 st. to 7 st. When seen on June 21st, 1897, there was general emaciation and anæmia. The tongue was thickly coated and the breath foul; the temperature was normal. There was moderate general abdominal distension, with special distension of an intestinal coil in the left iliac region, and visible peristalsis of the gut which ceased abruptly at a point at the lower and inner part of the left iliac region just below the specially prominent coil. The percussion note was uniformly tympanitic. The abdominal wall moved normally with respiration. There was no tenderness on palpation and no tumour could be felt. The liver dulness was normal. Rectal examination was negative. The urine was normal and the other organs of the body were healthy. The patient was admitted into the Doncaster Infirmary on June 30th. She had in the meantime used a simple enema daily, which brought away a little motion, and on two occasions a considerable quantity of blood. The enemata were continued, and after a few days completely overcame the obstruction, a large amount of motion coming away, with relief to all the symptoms. On July 6th an incision 3 inches in length was made in the left iliac region, and subsequently enlarged to admit the whole hand. The sigmoid at first, and afterwards the whole colon, was found empty and contracted. The small intestine was then followed upwards from its junction with the cæcum, and after a few feet of ileum had been passed through the fingers a distended coil appeared, through the wall of which could be felt a firm substance within the bowel, which could be moved up and down a short distance, when it was stopped by a dragging on the mesenteric border, on the peritoneal surface of which was a distinct dimple close to the attachment of the mesentery. The coil being drawn out of the wound and isolated was incised longitudinally along its free border to the extent of about 2 inches, disclosing a tumour attached to the mesenteric border by a short broad pedicle. The pedicle was transfixed and tied in two pieces with stout silk ligatures, as close as possible to the wall

the bowel; the tumour was then cut off close to e ligatures. The incision in the bowel was closed by mbert sutures, and the coil having been returned, the dominal wound was closed in three layers with silk. ıe wound was dressed on the ninth day and found to be aled. The bowels were opened on the tenth day by an ema. The patient was up at the end of three weeks, and t the hospital at the end of four weeks. Three months er the operation she was quite well, with a sound scar, and r weight was 9 st. 12 lbs. The tumour, when fresh, was ovoid mass, measuring 2 inches by 1½ by ⅝, of uniform firm nsistence, covered by apparently normal mucous membrane e from ulceration, and thrown into folds. Sections showed e substance of the tumour to consist of nucleated, vascular, rous tissue, with possibly a few smooth muscle fibres, thout any glandular elements. The mucous membrane vering it was somewhat thickened but otherwise normal. e growth was therefore a fibroma (or fibromyoma?) de- loped from the submucous tissue of the bowel.

Dr. Barrs considered that in a large number of cases of intinal obstruction percussion was useless, and in some cases solutely misleading. He believed that visible peristalsis ways meant chronic obstruction, and persistent vomiting ere disease.

Mr. Littlewood disagreed with Dr. Barrs as to the chron- y of disease when visible peristalsis was present, and ke of two acute cases where the symptom was noticed.

Dr. Eddison agreed with Mr. Littlewood, believing that istalsis is frequently seen in acute cases when the amount at in the abdominal walls is small.

Cases and Specimens.

he following were shown: Mr. Littlewood: (1) A patient whom he had operated for Popliteal Aneurysm by removal the aneurysmal portion of the vessel. The specimen was wn. The patient, a man aged 25, was operated on on June 1, 1897. The wound was quite healed when dressed on e 25th. He got up on June 29th, and left the infirmary nteen days after the operation, and has since been doing usual work. He had a great deal of pain before the opera-, necessitating the administration of morphine, but has no pain since. (2) Specimen of a Testicle removed from adult. The testicle had never descended into the scrotum, the spermatic cord was completely twisted.—Dr. Gordon RP: Specimens of the Mescal Button.—Dr. Barrs: (1) thalmoplegia Externa with Proptosis; (2) Abdominal urysm; (3) Perforation of Intestine (enteric).—Dr. Tre- YAN: (1) A case of supposed Syphilitic Spastic Paralysis; a specimen of Multiple Tuberculous Tumour of the Brain. r. Hillier: (1) Adeno-fibroma of the Mamma, with ndary changes; (2) Ovarian Cyst strangulated by twisted icle; (3) Congenital Defect in Hand.—Mr. Moynihan: Endarteritis Obliterans, with subclavian aneurysm on t side; (2) Sarcoma of Scapula.—Mr. Ward: (1) Urinary ns from a patient who was four times cut for stone; (2) a of Gastrostomy by Frank's method; (3) Renal Calculus oved by lumbar nephrotomy.

ATHOLOGICAL SOCIETY OF MANCHESTER.

C. E. Richmond, F.R.C.S., President, in the Chair.

Wednesday, November 10th, 1897.

How Milk becomes Pathogenic.

fessor Sheridan Delépine read a paper on this subject, h will be published in a later issue.

Aneurysm of the Abdominal Aorta.

. Judson Bury showed a specimen of aneurysm involv- the upper part of the abdominal aorta, taken from a man 39. Anteriorly it consisted of two rounded swellings, above the cœliac axis; posteriorly it had ruptured nd the peritoneum, and the boundaries of the rupture isted of eroded vertebræ (the last dorsal and first three ar) and retroperitoneal tissue, which was infiltrated blood and laminated clot. The chief symptoms of the had been rigidity of the spinal muscles in the lumbar n, and severe pain and cutaneous hyperæsthesia in the and along the distribution of the twelfth dorsal and first three lumbar roots. Pain in the back was probably the earliest symptom, and began about four years before death. The patient was under observation during the last four months of his life, and in addition to the symptoms already mentioned there was a pulsating swelling in the left hypochondrium, and pulsation could also be felt behind, over and below the last two ribs.

Suppuration Occurring in a Simple Fracture.

Mr. W. P. Stocks related the case of a girl aged 2 years and 9 months who sustained a simple greenstick fracture of the ulna, which followed the usual course for two weeks and then took on acute suppurative inflammatory action, leading to infection of the lower epiphysis about two weeks later, and slight necrosis at the seat of fracture. No source could be found for the pyogenic cocci. Mr. Stocks referred to Kocher's experiments on the production of osteomyelitis in injured bones when the animal was fed on large quantities of putrid food, but in his case the intestinal tract appeared healthy.

Spinal Meningocele.

Mr. Westmacott exhibited a specimen of spinal meningocele which he had removed from a child, aged 3 months. The tumour, measuring 9 inches in circumference, was pedunculated, and issued from the spinal column through the incomplete posterior arch of the atlas. There was no hydrocephalus before or after the operation. With Roentgen rays and a fluorescent screen the aperture in the arch of the atlas could be distinctly seen after the wound was healed.

Deciduoma Malignum (so-called).

Dr. Fothergill referred to the alleged origin of malignant new growths from the products of conception.

Card Specimens.

Dr. Alcock: Specimens of Fractured Bones in Camelus Dromedarius.—Mr. Herbert Lund: Murphy's Button *in situ* forty-eight hours after operation.—Dr. Arthur Helme: Uteri extirpated for: (1) Fibromata; (2) Carcinoma of Cervix; (3) Malignant Tumour of Body; (4) Hypertrophy and Procidentia.—Dr. Kelynack: Carcinoma of Gall Bladder.—Mr. Richmond: Tumour of Œsophagus.—Mr. Percy Stocks: (1) Specimen from a case of Ovarian Hernia; (2) Hydrocele of Canal of Nuck.—Dr. E. S. Yonge: Microscopical Preparations of Nasal and Laryngeal Specimens.—Mr. Ray: Drawings of Dissections of Prostate Gland and Base of Bladder.—Mr. Wolstenholme: Cysticercus Cellulosæ in Measly Pork.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

Sinclair White, M.D., President, in the Chair.

Thursday, November 11th, 1897.

Surgical Treatment of High Degrees of Myopia.

Mr. Simeon Snell made some remarks on the surgical treatment of high degrees of myopia. He had recently operated on 8 cases by removal of the crystalline lens. In three instances the patients had undergone operation in both eyes, with most satisfactory results. In each case the patient had returned after the first operation and asked to have the other eye treated in a similar manner. The patient shown was an example. To use his own words, he now saw better than he had ever done before. Myopia of 26 D. in the right and 25 D. in the left was, after operation, reduced to 2.5 D. and 2 D. respectively, and vision had risen from $\frac{4}{24}$ to $\frac{6}{18}$.

Cases, Specimens, etc.

Mr. Simeon Snell showed the following cases: (1) Double Papillitis, following influenza. The patient was a girl, aged 18. The attack, six weeks ago, appeared to have been severe, and she had been confined to bed for fourteen days. The dimness of sight was noticed whilst she was in bed. Now in each eye V = $\frac{6}{36}$. (2) Conical Cornea in Each Eye. The patient, a man, was introduced to illustrate the reflections occasioned by Placido's Disc and the exhibitor's disc of radiating lines. (3) Embolism of the Central Artery of Retina. Current restored by massage. Loss of sight in a middle-aged man occurred suddenly on November 9th, at 7 A.M. At 11.30, when first seen, the retina was bloodless, the arteries empty. Massage of the globe was adopted, and a

change of the appearance of the retina quickly observed. The next day the retinal circulation was apparently re-established. The arteries and veins in all parts carried blood. He could detect fingers.—Mr. Archibald Young showed for Mr. Pye-Smith: (1) An Infant with Syphilitic Chancre of Eyelid; (2) A Large Sarcoma of Kidney, removed by a successful operation.—Dr. Gray Newton related and made remarks upon two anomalous cases of Antipyrin Poisoning which had recently been under his care.—Dr. Hunt showed specimens of Aneurysm of Innominate Artery, Sarcoma of Lung, and Cancer of Liver, and gave particulars of the cases.—Dr. Wilkinson demonstrated a striking case of Associated Movements of the Hands.—Mr. Priestley showed a Child with Congenital Absence of Certain Toes and of both Fibulæ.—Mr. Cuff exhibited new Orthopædic Instruments.—The President, Mr. Snell, Dr. Sweeten, Dr. Wilkinson, Dr. Martin, Dr. Cuff, Dr. Hunt, Dr. Husband, Dr. Addison, Dr. Waddy, and Dr. Burgess made remarks on the cases and specimens.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Pathology.

J. M. Purser, M.D., President, in the Chair.

Friday, November 5th, 1897.

President's Address.

The President delivered his opening address.

Suppurating Kidney.

Dr. McWeeney (the Secretary), in the absence of Mr. J. S. M'Ardle, exhibited an enormous suppurating kidney which had been removed by Mr. M'Ardle some eight days previous by nephrectomy. The kidney was riddled with abscesses, which differed in many respects from those met with in tuberculous disease, and microscopical examination of the material which came from them did not reveal the presence of tubercle bacilli; it did, however, reveal a considerable number of organisms of different sizes and shapes, which proved on cultivation to be bacillus coli. Shake-cultivations on sugar-agar showed the cylinder of substratum quite broken up by the development of gas, which was exceedingly characteristic of bacillus coli, and as the result of this gas development, and the appearances on gelatine, there could be no doubt that the micro-organism contained in the pus, and probably responsible for the condition of the kidney, was bacillus coli. Bacillus coli had a tendency to invade the organs of the body *post mortem*, but this kidney was removed during the life of the patient, and the bacillus coli was the only organism found in the pus. The speaker was inclined to look upon the case as a primary infection of the kidney with bacillus coli. So far as he (Dr. McWeeney) knew there was no very good description of the state of the kidney when primarily infected by this organism. Should careful further examination of microscopic sections prove the case non-tuberculous, then it should be regarded as a type specimen, and one upon which might be founded a description of the conditions found in the kidney as the result of primary infection with bacillus coli. The patient (a female) was making a good recovery.

Genito Urinary Organs from a case of Imperforate Anus.

Dr. McWeeney (Secretary), in the absence of Dr. A. J. Horne, showed the genito-urinary organs from a case of imperforate anus, showing persistent cloacal arrangement, bicornuate uterus, and unilateral cystic degeneration of the kidney. The specimen was obtained from a female child, aged some 8 months, with imperforate anus, under the care of Dr. Horne. Colotomy had been performed by Mr. M'Ardle, and the descending colon brought to the surface in the lumbar region and successfully opened. The child lived for two days after this procedure. Some fæces had come through the artificial anus, but, nevertheless, at the end of two days the child died. Shortly before death it was noticed that on pressure being applied to the suprapubic region fæcal matter exuded from the vagina. On examining the specimen the rectum was seen to become gradually narrower, and, running forwards, to join the neck of the bladder, so as to form a sort of cloaca which was continuous below with the vagina, and which received on each side the aperture of a uterine cornu. Both cornua were very greatly distended, forming thin walled structures larger than the urinary bladder, and containing urine. The left kidney possessed a ureter, which was at first very thin and narrow, and then becoming swollen out into a tube as wide as the small intestine, was lost upon the side of the left cornu of the uterus. It was this kidney which had furnished the urine which had distended the bladder and uteri; owing to the distension of the left uterine cavity the ureter had been pressed upon and undergone obliteration. The same process might have occurred at an earlier stage on the other side, for the right kidney was reduced to a small hydronephrotic sac, and its ureter was completely obliterated. The cloaca received the orifices of the bladder, rectum, and two uterine cornua, and was continued as a narrow tube directly into the vagina, opening externally between the two labia minora. Of the proctodæum there appeared to be no trace. With regard to the family history, the child previous to the present was born with the left hand amputated at the carpus. The first child was perfect.

Osteo-arthropathy.

Dr. O'Carroll showed casts and microscopic sections from a case of mixed tuberculosis and carcinoma of one lung, in which pulmonary osteo-arthropathy was an early and well marked phenomenon. The patient, aged 49 at death, had been a year under observation in the Whitworth Hospital. Admitted on account of "pains in his joints," he was found to have mischief in the upper portion of the left lung, and he gave a history of cough dating from a year before. The condition was at first diagnosed as cancer, but later, when signs of excavation manifested themselves, phthisis was suspected even though the bacilli of tubercle were not found. This latter fact might be in part, perhaps, explained by the hæmorrhagic rather than purulent character of the sputum. Finally, the presence of cancer was made certain by the protrusion outwards into the axillary area of a tumour which involved three of the ribs and intercostal spaces. The necropsy showed the left lung reduced practically to a single large abscess sac, in the wall of which, and continuous with the costal tumour, was a large alveolar cancer. Sections of a gland at the root of the lung showed similar cancer areas side by side with tuberculous areas. The increase in the size of the extremities was easily differentiated from that of acromegaly by the characteristic shape and by the presence of bulbar terminal phalanges. The pains were not due to chronic rheumatism, for they ceased and never recurred after his admission. There was no stiffness of the joints nor pain on passive movement. The spine showed the lower dorsal kyphosis described by Marie. The case was of interest as demonstrating the existence in the lung of cancer and tubercle side by side, and of Marie's osteo-arthropathy developed within a year after the onset of lung disease which remained to the very end confined to one side. Professor O'Sullivan had made the microscopic part of the investigation of the case.

Dr. McWeeney said one section hardly seemed to reveal any structural details; the other section unquestionably showed carcinoma. He had not been able to see anything which seemed to him to give evidence of tuberculosis.

Dr. O'Carroll, in reply, said there were difficulties in the case, and the diagnosis was in favour of malignant disease. Clinically there were difficulties regarding the tuberculous signs. He thought that the case would bear some further study.

South-West London Medical Society.—The second meeting of the session of this Society was held at the Town Hall, Wandsworth, on November 10th, Mr. T. A. I. Howell (President) in the chair.—Mr. P. J. Freyer read an interesting paper on the Modern Methods of Diagnosis of Stone in the Bladder, giving a summary of 900 cases, and showing the instruments employed in the treatment of these diseases. A cordial vote of thanks was awarded to Mr. Freyer at the close of the meeting.

Manchester Medical Society.—A meeting of this Society was held on Wednesday, November 3rd, Dr. H. G. Brooke, Vice-President, being in the chair.—Mr. Whitehead related the particulars of two successful cases of Amputation of the Entire Upper Extremity. Full details are reserved for subsequent publication.—Mr. Montgomery made a communication on the relations of the Appendices Epiploicæ of the Sigmoid Flexure. It was shown that, in the upper 6 or 8 inches of the

gut, the appendices are always very much more developed on the right or mesial border of the untwisted bowel. With this fact in view, the upper end of a loop drawn out in colotomy could always be distinguished from the lower, even though a twist existed. It was suggested that in colotomy for malignant disease the gut should be twisted on itself before fixation, and the lower opening made the acting one. At the same time the mesenteric stitch should be passed through the abdominal wall well in the upper angle of the wound. This course would diminish the tendency to prolapse, and would give a better permanent opening, with a minimum of exposed mucous surface.—Mr. Stanmore Bishop showed two male patients, aged respectively 15 years and 2 years and 10 months, upon whom Suprapubic Lithotomy, with immediate closure of bladder and abdominal wall, had been performed without drainage. He drew attention to the advantages of this method, by which greater safety to the patient, with immense decrease in the work required from the nurse, is obtained.—Dr. Gardner read a paper entitled Vomiting.

Newport Medical Society.—At a meeting on November 3rd, Mr. O. E. B. Marsh, President, in the chair, Mr. C. B. Gratte read notes of two cases of Puerperal Septicæmia.—Dr. Garrod Thomas read notes on a case of Abdominal Cyst.—Mr. Marsh related a case of Pelvic Hæmatocele due to Ruptured Tubal Pregnancy.—Dr. J. Howard Jones communicated Three Cases of Disease of the Liver, the first being a case of Hepatic Abscess simulating Typhoid Fever; the second a case of Hydatids and Abscess, the third a case of Lymphosarcoma.—Pathological specimens were exhibited. The cases were all of much interest, and a considerable discussion took place, in which most of the members present took part.

Birkenhead Medical Society.—The first meeting of the current session was held on November 12th, Dr. R. Sydney Marsden (President) in the chair.—The President delivered an inaugural address, entitled Preventive Medicine in Relation to the Psychical and Hereditary Elements in Disease. Dr. A. C. E. Harris moved and Dr. James Lambert seconded a vote of thanks to the President for his address, and Dr. Marsden replied.

Nottingham Medico-Chirurgical Society.—At a meeting on November 3rd, the President delivered an address on Medicine during the last Twenty-five Years. He said the great leading characteristic of medicine during this period was its advance by means of the experimental method. The introduction of the antiseptic treatment and the rapid progress of bacteriology were noticed at length. In the injection of the serum of immunised animals it seemed as if we had found a method full of hope in the treatment of diphtheria and other infective diseases. The discovery of the nature of myxœdema and its treatment by means of thyroid extract had been a brilliant piece of scientific and practical work. The effects of extracts of the other ductless glands were undergoing investigation. The greatest number of new drugs belonged to the classes of hypnotics and antipyretics, but very few of these were of first importance. The tendency to prescribe alcohol in the treatment of disease was certainly declining. The greatest progress had been made in the differentiation of diseases of the nervous system. The progress in all branches of surgery had been most remarkable, but chiefly in the cavities of the head, spine, and abdomen. Our modern knowledge of extrauterine gestation and its relations with pelvic hæmatocele was one of the greatest results of abdominal surgery. Cerebral and spinal tumours and abscesses were not only better diagnosed, but could now be cured by surgical interference. A vote of thanks, proposed by Dr. W. B. Hanson and seconded by Dr. Powell, was carried unanimously. At a meeting on November 17th, Dr. Cattle (President) in the chair, Mr. E. C. Kingdon and Dr. J. S. Risien Russell had a paper, illustrated by lantern slides, on Infantile Cerebral Degeneration, with Symmetrical Changes at the Macula. The disease was stated to be rare, and often attacked more than one member of the family. Commencing in the early months of infant life by muscular enfeeblement, especially of the neck and back, it progressed to almost complete paralysis, and terminated in the death of the patient about the end of the second year. The ophthalmoscopic appearances, which appeared early in the disease, and persisted unchanged during the remainder of life, consisted of a whitish-grey patch at each macula, with a red centre; later on optic atrophy supervened. Microscopic examination of the brain and spinal cord in two cases of the four seen by the authors showed marked degeneration of the large pyramidal cells of the cortex of the whole brain, with descending degeneration of the cord.

REVIEWS.

On Induction and its Association with the History and Progress of Medicine. By W. F. Cleveland, M.D. The Harveian Lectures, 1896. Reprinted from the *Medical Press and Circular*. 1897.

The ever-increasing demands and advances of medical science render her a jealous mistress. The times when a doctor was a learned man first and then a physician are passing away, and the cry is "specialise"—and too often "specialise early." It is, therefore, a pleasure to read the philosophical and scholarly lectures given by Dr. Cleveland before the Harveian Society, and we are glad to have them reprinted in a convenient form.

He has in clear and well-expressed language traced the rise of induction or the Baconian method of reasoning throughout the history of medicine, starting with Hippocrates and ending with bacteriology. In the course of his remarks he shows the germs of the inductive process long before Bacon's time, draws attention to examples of hasty and imperfect induction, and illustrates his points with interesting anecdotes and stories of the masters of medicine and physicians of bygone days. Like Buckle in his *Civilisation in England*, he has much to say in praise of John Hunter's use of induction and of his wonderful patience and caution in drawing generalisations. The histories of Jenner's discovery of vaccination and of the epoch-making researches of Pasteur, Lister, and Koch are told in simple and attractive terms, and the important part that careful induction played in their development insisted on. The accounts of the ephemera or sweating sickness of the sixteenth century and of the Plague of London (1664), and of the efforts made to combat them, form interesting reading.

The first two lectures deal, as has been said, with the history and progress both of induction and of medical science. In the third and concluding lecture the subject is practically illustrated by clinical cases from the lecturer's experience. Several of these are intrinsically of great interest, such as the passage of a decidua vera from the unimpregnated horn of a uterus bicornis a short time after the termination of successive pregnancies.

In conclusion, we can warmly congratulate Dr. Cleveland on a course of lectures at once profitable and pleasant to read.

Mitteilungen und Verhandlungen der Internationalen Wissenschaftlichen Lepra-Conferenz zu Berlin im October, 1897 [Transactions and Proceedings of the Scientific Conference on Leprosy]. Bd. i and ii. Berlin: August Hirschwald. 1897. (Demy 8vo, Bde. i, pp. 508, M. 16, Bde. ii, pp. 210, M. 6.)

The first International Conference on Leprosy sat in Berlin from October 11th to the 16th, this year, and the first two volumes of its *Transactions* are already published. This is a feat which we believe to be unprecedented in the annals of international congresses, and our congratulations—mitigated, indeed, by certain defects to which we refer below—are due to the energetic officials whose praiseworthy promptitude contrasts so favourably with the extraordinary dilatoriness of the officers of some international congresses.

The first volume, which was, in fact, in the hands of the members on the opening day of the conference, contains all the communications bearing upon the subject which were received by the Secretary before the end of September, and

among them are to be found important articles by Professor Neisser, Professor Virchow, Professor Besnier, Professor v. Babes, Professor Kaposi, Dr. Hansen, Dr. Arning, Zambaco Pacha, and many other recognised authorities on leprosy. Several of the papers are in the English language, and of these one of the most noteworthy, from the point of view of novelty, is that by Dr. C. Lawrance Herman, on the Bacillus of Leprosy in the Human System at Different Periods of its Growth (illustrated by 20 microphotographs). Dr. Herman demonstrates that the bacilli lie in large masses in the lymph spaces and vessels, and also in the blood vessels, and that they also are occasionally seen within cells; and he believes that a younger stage of the bacillus has been hitherto overlooked in consequence of its not retaining the red stain when treated with acids.

Dr. White, of Boston, communicates a short paper on Leprosy in the United States and Canada; Dr. Impey one on Leprosy in South Africa; Dr. Donovan one on Leprosy in Jamaica; Dr. Numa Rat writes on the Geographical Distribution of Leprosy in the West Indies; Dr. Orvananos on Leprosy in Mexico; Dr. Ashburton Thompson on the History and Prevalence of Leprosy in Australia; Dr. Tonkin on Leprosy in Western Africa; Dr. Ashmead, of America, also makes two communications. Of the French contributions may be enumerated Professor Besnier's on the Etiology of the Disease; M. Darier's on the Pathological Anatomy of the Erythemato-Pigmented Patches; M. Jeanselme on the Localisations of Leprosy in the Nose, Throat, and Larynx; M. Barillon's Experiments with Serotherapy by the Carrasquilla Method; Zambaco Pacha's long communication on the Relations of Morvan's Disease, Syringomyelia, Sclerodema, etc., with Leprosy; MM. Gémy and Raynaud's Study of Leprosy in Algeria; M. Bayet's Leprosy in Belgium and in the Congo State; M. Raemdonek's Leprosy in Central Asia; M. Rosolimos's Leprosy in Greece; M. Sabadini's Leprosy in Jerusalem; and M. Hallopeau's the Lepers in Paris.

Several of the papers are copiously and excellently illustrated; for instance, those of Dr. Leopold Glück on Leprosy of the Upper Respiratory and Alimentary Passages, and on Leprosy of the Larger Veins; that of Professor v. Babes on the Histology of Leprosy, Dr. Herman's communication already alluded to, and some others. The volume on the whole is well got up, but several misprints and typographical errors are to be observed, especially in the English communications.

The second volume comprises an account of the various demonstrations which were given before and after the regular sittings during the week, as well as a full report of the discussions which took place at those sittings, and of the resolutions at which the conference arrived. It contains also the text of Mr. Jonathan Hutchinson's paper on Leprosy and Fish Diet. It is rather to be deplored that this volume has not been edited with greater care, for while many of the speeches are given at length and with great accuracy, others, and especially the remarks of the English-speaking members of the Conference, teem with printers' mistakes, and are sometimes quite unintelligible. It is difficult to understand, indeed, why the proofs were not submitted to the special secretaries appointed for the different languages; the few days delay which such a course would have entailed would have been well justified. But notwithstanding this weak point, these two instalments of the *Transactions* of the Conference are to be regarded as among the most important contributions ever made to our knowledge of leprosy, for they are full of facts and observations bearing upon every aspect of the question, some of them being new and all of them interesting.

The third volume, we understand, will contain the remaining papers presented at the Conference, or received too late for insertion in the first volume.

PATENTS FOR INVENTIONS: ABRIDGEMENTS OF SPECIFICATIONS: CLASS 81: MEDICINE, SURGERY, AND DENTISTRY. Period A.D. 1884-88. London: Printed for Her Majesty's Stationery Office by Messrs. Darling and Son, Limited. 1897. (Roy. 8vo, pp. 212, many woodcuts. 1s.)

THIS valuable work is issued by the Comptroller-General of Patents, Designs, and Trade Marks, as a specimen volume of a series of classified abridgments covering all inventions in medicine, surgery, and dentistry during the period A.D. 1884-88. The published price is only a shilling, but it may be seen free of charge at the Patent Office and other free and public libraries both in London and the provinces.

The design is an excellent one, because the patent laws of this country make no provision for an official search as regards novelty, and all patents are taken out at the risk of the inventors. It is therefore incumbent on any person desiring to obtain a valid patent for an invention either to cause a search to be made, or himself to make a search, as to the novelty of his invention. By omitting such a search many a patentee has found, after paying his fees, that his treasured patent is worthless because it has been anticipated. Of course, in this case the first applicant or patentee possesses all the patent rights, and the second has absolutely no rights at all; but a complete and exhaustive search through published specifications of patents is no easy task, for the number of printed specifications is well over a quarter of a million. A series of indexes and abridgments has been published to obviate this difficulty, and the present volume deals with patents granted for things medical, surgical, and dental. Each specification is a short and clear account of the instrument or method patented, often accompanied by an illustration of the apparatus. The specifications are arranged in years. Each has a distinctive number, with the date of the day and month when the patent was applied for, together with the name and initials of the patentee. There are also two full indices, one of the subject matter and the other a name index.

The members of the medical profession do not as a rule patent any appliances which they may find to be more suitable for the use of their patients than those in common use. The great bulk of the specifications are therefore connected with trusses, pill-making machines, electric appliances, inhalers, and the like. A few deal with artificial teeth, whilst some are interesting from the misapplied ingenuity which they show.

For the use of those who desire to make a careful study of patents, the Patent Office also publishes an "Abridgment Class and Index Key," which shows in detail how inventions are classified, abridged, and indexed throughout its publications. A printed copy of any specification can also be obtained at an inclusive price of 8d., through any post office, by a special postcard (Patents Form C.).

NOTES ON BOOKS.

REPORTS AND TRANSACTIONS.

The eightieth volume of the *Medico-Chirurgical Transactions*, published by the Royal Medical and Chirurgical Society of London (Longmans, Green and Co.), equals if it does not surpass, in interest most of the yearly volumes issued by the "greatest medical society in the empire," as its President (Dr. W. H. Dickinson) styled it in his address at the annual meeting on March 1st of this year. It contains twenty-two papers on medical and surgical subjects read during last session; many of these papers are well illustrated by engravings, photographs, and photo-micrographs. The papers are not all of equal value or importance, but some are of a high order of excellence. It is agreeable, too, to have the President's address *in extenso*, and to read his kindly critical remarks on the Fellows who had died during the previous year; this list included 1 honorary and 23 ordinary Fellows, of whom 3 were past Presidents and 7 were Fellows of the Royal Society. Notwithstanding the formation and extension of many other medical societies in recent years, the Royal Medical and Chirurgical Society added to its numbers last session no fewer than 48 new Fellows, a larger number than in any previous year.

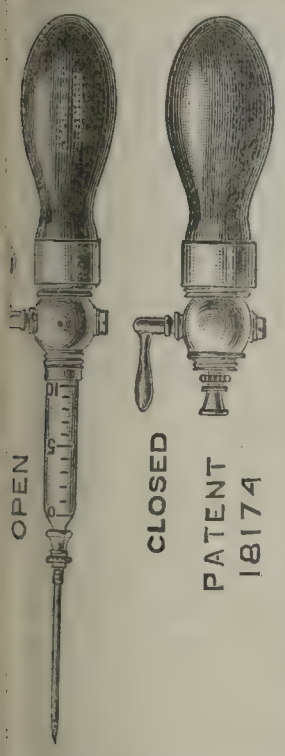
A Textbook of Veterinary Ophthalmology. By GEO. G. VAN MATER, M.D., D.V.S., Professor of Ophthalmology in the American Veterinary College, etc., New York. (New York: W. R. Jenkins. 1897. Demy 8vo, pp. 160; 71 illustrations. 8s.)—Dr. Van Mater excuses himself "for perpetrating this work" by "shifting the blame on the students, who so often

have asked him to recommend something that could be studied, without the perusal of many pages." As is commonly the case with productions in response to similar requests, the material supplied is apparently designed to satisfy an aim not very lofty. The illustrations, which form one of the more striking features of the book, are to a great extent evidently representations of the human eye. Though here and there we notice reference to conditions special to veterinary subjects, the text conveys to us the impression that the work is not the outcome of veterinary practice, and comparatively little applicable to it.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

IMPROVED PISTONLESS HYPODERMIC SYRINGE.

Surgeon-Captain John W. Cockerill, A.M.S., sends us a description of an improved pistonless hypodermic syringe which has been made according to his design by Messrs. Evans and Wormull.



This syringe is a modification of Koch's, which is too bulky for general use. The illustration shows the arrangement, which makes a compact instrument, and is easily carried in the waistcoat pocket. The stopcock is furnished on both sides with a thread, which screws into a ring upon which is mounted a cylindrically-shaped elastic air chamber. To close the syringe, remove the needle and then reverse the stopcock, passing the barrel into the cavity of the air chamber, and screw up. The needle can be inserted into the barrel through the stopcock being kept in place by a thread screwing into it. This stopcock has a double action, so that when turned to cut off the connection between the barrel and the air chamber the latter communicates directly with the outside air.

It is claimed that this syringe is very easily rendered aseptic; as it dispenses with a piston which is the use of trouble and frequent delay, while the leather usually fitted is difficult to cleanse. This instrument, it is stated, can be prepared for use in a few seconds, and owing to its simplicity it does not get out of order. No force is required, as there is no piston to jamb. If care be taken to turn the stopcock as soon as the upper surface of the solution is seen the reach the point of the barrel marked o, no air can be injected into the tissues. The fact that this can occur is an objection to a pistonless syringe, but the advantages are many, outweighing this solitary disadvantage, which can be avoided by taking proper care.

The Radcliffe Library.—The Radcliffe Library has a historical interest for the medical profession, having been founded by Dr. Radcliffe considerably over a century ago. It has become, however, far too small to meet the growing demand on its space; moreover, the ground which it now occupies is much needed for the purposes of the medical school. Both these wants are now, it is satisfactory to know, likely to be met by the munificence of the Court of the Drapers' Company. That Company has undertaken, at a cost of £18,500, to erect a new building as the future home of the Radcliffe Library. The space which it now occupies will be utilised for the much-needed extension of the medical school. The plans for the new library building have been prepared by Mr. T. G. Jackson, R.A., and have been submitted by the authorities at Oxford for their approval.

THIRTY-NINTH ANNUAL REPORT OF THE GENERAL BOARD OF COMMISSIONERS IN LUNACY FOR SCOTLAND, 1897.

There has been a considerable increase in the lunatic population of Scotland during 1896. The whole number coming under the cognisance of the Board on January 1st, 1897, is reported to be 14,500, as compared with 14,093 on January 1st, 1896. This represents an increase of 407, as compared with 241 in the previous year. The ratio to the general population has risen in like manner from 330 to 336 per 100,000. The report indicates (Table V of Appendix A) the proportion of lunatics registered each year who had never previously been registered per 100,000 of the general population, that is to say, an approximate index of the "occurring" insanity of the country. The proportion for 1896 is 57.2, as compared with 56.0 in 1895, and 59.3 in 1894. In this last-named year, however, the increase had attained its annual maximum, but the average of the last ten years is only 53.9.

Of the whole number (14,500), 2,217 were maintained from private sources; 12,221 by parochial rates; and 62 at the expense of the State. The general results of the year 1896 are as follows: There was a total increase of 383 registered lunatics (excluding those in training schools for imbeciles and the Lunatic Department of the General Prison), of whom 12 were private patients and 371 were pauper patients; the increased number in establishments was 414, and the decrease in private dwellings 31; of the increased number in establishments, 10 were private patients, and 404 were pauper patients. As the average annual increase in the number of private patients in establishments in the five years, 1891-95, was 49, and of pauper patients 206, the increase in the number of private patients has been below, and of pauper patients considerably above the average annual increase shown by that quinquenniad. All pauper patients continue to be provided for in institutions of a public character.

In the Lunatic Department of the General Prison there was an increase of 5, and in training schools for imbeciles there was an increase of 19.

With reference to the distribution of the insane in the different classes of the establishments, the numbers on January 1st, 1897, were: In the Royal and District Asylums, 8,812 (an increase of 17 private and 502 pauper patients); in private asylums, 137 (a decrease of 7); in parochial asylums, 1,505 (a decrease of 109); in lunatic wards of poorhouses, 852 (an increase of 11); and in private dwellings, 2,780 (a decrease of 31).

The private patients admitted to establishments during the year numbered 33 fewer than in 1895, while the pauper patients numbered 111 more.

The recovery-rate has been steadily diminishing of late. It cannot but retrograde *pari passu* with the increasing number of aged, infirm, paralytic, and chronic cases accumulating in all classes of establishments for the reception of the insane. In this respect, however, 1896, on the whole, compares favourably with 1895, for the percentage of recoveries on the admissions is 36 against 35 in Royal and District Asylums, 40 against 26 in private asylums; 41 against 46 in parochial asylums; and the same (6) in lunatic wards of poorhouses. Altogether, there 209 private and 1,131 pauper patients discharged recovered.

The number of private patients discharged unrecovered, excluding transfers, was 126, which is 7 below the average of the five years 1890-94. The number of pauper patients discharged unrecovered was 394, being 49 under that average.

The death-rate in establishments was 1 per cent. lower during 1896 than in the preceding year, that is to say, 7.7 calculated on the number resident compared with 8.7 per cent. This reduction has taken place entirely among the pauper class in all establishments. General paralysis continues to claim a larger proportion of victims year by year. In 1895, 21 per cent. of male, and 3 5 per cent. of female, deaths were due to this malady, and in 1896 the increase amounted to 26.2 and 5.8 respectively. This constitutes a very serious question for the public generally, as well as for the medical profession. It cannot be that this increase in Scotland is accounted for by failures of diagnosis of late years. The fact is that general paralysis is a disease of great cities, and, whether syphilitic

or not, a concomitant of excess in the lives of those prodigal of energy and careless of health.

The Commissioners refer with regret to the increasing number of attendants and servants who have left the employment of the asylums, and rightly ask for consideration on the part of those responsible for local administration of the emoluments and comforts of the staff. They state that married attendants constitute the highest class and secure permanency of service, and they therefore recommend the erection of comfortable separate cottages for such attendants where such accommodation is not to be had in the immediate neighbourhood of the asylum.

That great improvements in the nursing of the insane have been initiated cannot be denied, that these improvements are permanent few will question. As a consequence the class of domestic servants is becoming differentiated from the class of nurses. We regret that the Commissioners do not emphasise this important fact in dealing with the subject. The restless character of the former class is not likely to be modified by any reasonable increase of wages and consideration of comforts. We should follow with the greatest interest statistics relating to attendants only, in the hope that these would show some sign of improvement, that we might mark where the tide begins to turn as it comes to be recognised that the nursing of the insane is a worthy department of human activity.

It should be noted that the number of escapes (180) during 1896 was considerably lower than of recent years. The figures given per 1,000 patients in establishments are 16 for 1896, 18 for 1895, 18 for 1894, 20 for 1893.

Twelve suicides occurred during the year, twice as many as in 1895. The Commissioners make no remark upon the circumstances attending these serious incidents, and it does not appear that they are to be attributed to the liberty of action accorded to so many of the insane in Scotland. The report, as usual, recapitulates the law under which it is laid upon the superintendent of the asylum to give immediate notice of such accidents to the Board of Lunacy and to the Procurator-Fiscal, who makes such inquiry as he may deem necessary.

The number of private patients provided for in private dwellings, with the sanction of the Board, on January 1st, 1897, was 113; of these, 42 were in houses specially licensed for not more than four patients, and 71 were in houses in each of which there was only one patient. The number of pauper lunatics in private dwellings diminished during the year 1896 from 2,700 to 2,667, a decrease of 33. The Commissioners attach no special significance to this decrease, unless in so far as it is probably in part due to their restrictions upon the tendency to place more than two patients in one house, and to aggregate patients in certain localities. They believe that these restrictions will only have a temporary effect.

We are accustomed to find in the reports of the Scottish Lunacy Board evidence of administrative capacity and suggestions of high value. This year is marked by a powerful appeal on behalf of the poor private insane, and a measure of relief to the ratepayers.

The Commissioners have repeatedly in previous reports called attention to the fact that asylum accommodation for private patients who are able to pay rates little, if at all, above those charged for pauper patients is inadequate. Private asylums which received patients at low rates of board were never regarded as satisfactory, and we are glad to say that they are now all but extinct in Scotland. The only institutions therefore now available for the care and treatment of such patients are Royal asylums and district asylums. The means possessed by the district asylums for receiving this class of patient have, however, always been very limited, and are yearly becoming more so. District Lunacy Boards have power to provide accommodation for pauper patients alone; they can only receive private patients when accommodation provided for pauper patients happens to be vacant.....A few district asylums still receive private patients, but those received are limited strictly to patients of small means who belong to the district which the asylum serves.....Rich patients can always command excellent asylum care either in public or in private asylums, and the law has provided a right to ample and good accommodation for all who, through inability to pay for their own support in asylums, are maintained at the cost of the ratepayer: but patients who are able to pay for their own maintenance upon a plain yet sufficient scale, though not at a rate which could be expected to yield any profit to asylums receiving them, form a third class which have special claims to consideration and aid.....When, as is often the case, parochial authorities realise the sad position of these patients.....it is from every point of view.....a highly undesirable state of matters that such patients should be driven.....to the necessity of asking to be pauperised in order to obtain asylum care.

The increasing difficulty with regard to the accommodation of this deserving class of patients has caused us much anxiety, but hitherto we have been hopeful that the difficulty would be met by the Royal asylums. New lunacy districts have been formed having asylums of their own, and it was hoped that, on the removal to them of the pauper patients at present accommodated under contract in the Royal asylums, the latter would be placed in possession of vacant accommodation sufficient for the wants of all the poorer classes of private patients. We have, however, come to the conclusion that there is unfortunately no near prospect of this expectation being realised. The Royal asylums provide admirable accommodation for the more affluent class; but the increasing demands for the reception of this class.....continue to limit more and more their power to receive private patients at unremunerative rates. It must not be understood that they do not provide for a large number of private patients at very low and sometimes at merely nominal rates. On the contrary, most of them maintain many such patients. Still their action is mainly confined to special cases, and to the counties and localities in which the asylums are situated.....But there are large areas of Scotland, such as those of Inverness, Fife, and Ayr.....which contain no district asylum possessing accommodation for private patients, and which have no special claim on any Royal asylum for the accommodation of their insane; and in the case of some Royal asylums, where such claims may be said to exist, the pressure on their accommodation and resources is such that.....only a very few of the demands for accommodation of patients at low rates of board can be met. The doors of some of the Royal asylums are, indeed, practically closed to all but two classes—the comparatively rich and the pauper patients of certain districts or parishes for whose reception contracts have been entered into. The poorest class of private patients, pressed between the growing demands of these two classes, are being thus gradually placed in a position of increasing difficulty.....

The impossibility of finding accommodation at a low rate of board for such patients results in some of them, for whom asylum care is urgently needed, being kept at home, and in others being placed in Royal asylums at rates much beyond what their relatives can really afford, in the hope that recovery may be rapid, or, if the hope should not be fulfilled, that a reduction may be made in the rate of board. But the great majority have no course available but to apply for assistance from the parish council.....As soon, however, as the relatives realise that the patient is by this procedure completely pauperised, and no longer therefore in a position in which he can derive any benefit from their contributions, they not unnaturally endeavour to escape wholly, or as far as possible, from the burden of maintaining him. It must be a matter of great difficulty for parish authorities to control this, in the absence of any certain knowledge of the capacity of the relatives to pay, especially where there is no legal obligation to do so.....

We have therefore, in consideration of all the facts before us, come to the conclusion that fresh legislation on the subject is desirable, both in the interests of private patients of the poorer class, and of the ratepayers. In the report of 1891 of the Committee on Lunacy Administration in Ireland, of which Sir Arthur Mitchell.....was chairman, it is recommended that District Boards should be empowered to provide accommodation for private patients, and a like permissive power, which is being largely taken advantage of, is conferred upon county lunacy authorities in England under the Act, of 1890. We think that the time has now come for conferring a similar permissive power upon District Lunacy Boards in Scotland.....

In the framing of a measure empowering District Lunacy Boards to provide accommodation for private patients in district asylums, we think it would be desirable that the following principles should be kept in view:

1. District Lunacy Boards should be authorised to receive private patients, and also to provide accommodation for such patients, if they should see fit, by erecting separate buildings or by setting apart for the purpose sections of existing buildings.

2. Private patients being once received should be regarded as having a right of accommodation, and should not be liable to be removed to make room for pauper patients.

3. The rate of Board chargeable for maintenance should not be higher than the maintenance rate charged for pauper lunatics, with the addition, if the District Board should see fit, of a sum in name of rent for the accommodation afforded.

4. This sum in name of rent should not exceed a charge calculated on the net cost of what may be required to provide the buildings, and we believe it would be an eventual saving to the ratepayers if the District Board were empowered to charge the maintenance rate only in cases where they are satisfied that a higher rate cannot be afforded.

We attach great importance to the limit of the rates of board indicated in heads 3 and 4. Permission to District Lunacy Boards to charge higher rates than those indicated would not only bring district asylums into undesirable competition with Royal asylums which have sunk large sums in providing for private patients, but would defeat the very objects for which the measure is proposed. It would not be one of its objects to lessen the burden on the ratepayers by the profits from keeping private patients, but to prevent burdens falling on the rates by offering no excuse for the acceptance of parochial aid. Anything in excess of the lowest charge in repayment of expenditure would both nullify the encouragement intended to be held out to relatives to support their insane, and would tend to replace the class of the insane for whose benefit the proposed legislation is specially intended, in the position in which they are at present. It is believed that the class of private patients referred to would not, as a rule, differ greatly from the class from which many of the pauper patients are drawn. Pauper lunatics are not drawn wholly from the classes of the community which produce ordinary pauperism; they include all, from the poorer or less successful professional man or man engaged in commerce downwards. Private patients in district asylums may be therefore expected to be drawn chiefly from those occupying much the same social status as many of the pauper patients. They might be engaged in useful healthy work, such as the present pauper inmates of asylums engage in, and they would not require a better dietary or more expensive accommodation than that provided for pauper patients.

We have reproduced this important section of the report in considerable detail, as the circumstances in regard to lunacy administration in Scotland have undergone a complete change of late years, and it is evident that legislation

ıust keep pace with the times. The interests of the Royal sylums deserve to be conserved, but it is apparent that they re unable to cope with the difficulties involved. Of late ears the Glasgow Royal Asylum has been devoted to the on-pauper class, and every effort has been made to receive ll the cases seeking admission at the lowest payment. Notithstanding the accumulations of funds under Dr. Yellow·es's able management, last year's report stated that the irectors would be unable to do so much charitable work in ıe future. As prudent men of business they had to conder their position in regard to expenditure, and as men of ɔnour they had to consider to what degree the more lluent class were to be burdened with the support of the ɔorer.

It will be noticed that the Commissioners ask for extension Scotland of the powers granted to county lunacy autho·ɔies in England, and that they guard against an evident and reatening danger by proposing very definite restrictions on e rates to be charged by District Boards of Lunacy. If this ange in the law is required, it is entirely in the interest of e poorest class, and not to be wrested from them in favour those who are able to command accommodation without e help of the ratepayers.

The Commissioners enter into statistics relative to the aintenance of pauper patients, and set forth their conclu·ɔns in terms as comfortable as possible. The burden of uper lunacy cannot be expected to grow lighter, while year year the asylums are growing and receiving so many aged, ·ble and broken down cases. And, further, any apparent ıdual fall in cost must be considered in connection with e very cheap rates at which provisions and clothing are now ught.

The entries of the Visiting Commissioners in reference to e new asylums at Govan and Hartwood are specially in·esting.

We note that the Master of Polwarth has been appointed airman of the Board in place of Sir Thomas D. Gibsonrmichael; and that Dr. Charles Macpherson has succeeded e late Dr. Lawson as Deputy-Commissioner.

The Yellow Fever Outbreak in America.—The American ·ss has recently borne eloquent testimony to the panic ıised by the recent outbreak of yellow fever in the southern t of the United States. This commenced on September h, just as the cotton harvest was causing the whole popu·on to wake to new life, and for six weeks completely alysed the trade of six States. Government regulations ved no check upon the terror-stricken populace, who took law into their own hands and enforced a "shot-gun ıarantine" upon all persons leaving New Orleans or other ected spots. The importation of a single case into mphis caused the exodus of 2,500 people from that city the establishment of quarantine by every town within miles. Dr. John Guitteras, the Government expert, left v Orleans for Galveston to investigate the situation; but 50 inhabitants of a village in Louisiana compelled the ire party to return to New Orleans. One village on a road could and did interrupt communications throughout entire system. The epidemic has been practically con·d to the cities on the Gulf of Mexico, but it did not begin die out till half a dozen heavy frosts came on at the inning of this month, and is not expected to be entirely nct at such places as New Orleans and Mobile before the ımencement of December. Those districts which escaped e had to pay a very heavy toll in commercial loss. To e a single example: it is computed that 20,000 miles of way were compulsorily idle for a month. One result of outbreak is, however, the creation of a national sentiment favour of giving the Government authority to deal with ·ases coming, as yellow fever does, from foreign ports.

Successful Vaccination.—Dr. P. L. Benson, of Steeple rdon, has been awarded by the Local Government Board grant for efficient vaccination for the sixth time in ession.

R. Conolly Norman in his report presented to the fortıtly meeting of the Governors of the Richmond Asylum, ·lin, on November 16th, stated that there had been four· fresh cases of beri-beri and one death in the asylum ng the preceding fortnight.

SEMI-CENTENARY OF THE INTRODUCTION OF CHLOROFORM AS AN ANÆSTHETIC.

The Society of Anæsthetists celebrated this notable event in the history of anæsthesia—which occurred in November, 1847—by a *conversazione* given at 20, Hanover Square, on Thursday, November 18th, for which some 1,500 invitations were issued.

President's Oration.

The President, Dr. Dudley W. Buxton, having received the guests, delivered an oration entitled Empiricism or Science? Anæsthetics 1847-1897. He said that although the exact period when anæsthesia was established as a surgical possibility could not be very definitely fixed, the demonstration of the practical use of nitrous oxide in 1844 and that of ether in 1846 were fixed points. The horrors of pre-anæsthetic surgery told upon the strong nerves of even such men as Abernethy, Cheselden, and Liston, and appalled the sensitive nature of Simpson. His use of ether led him to seek for a more efficient substitute; this he found in chloroform. His method of employing that anæsthetic constituted the plan now commonly designated Syme's, although that surgeon distinctly repudiated any personal claim to the method. Simpson's views were based largely or entirely upon clinical observations. He taught that death from chloroform might arise from over-narcotisation of the medullary centres and from a direct action upon the heart; and in his remarks upon the deaths which he had he emphasised this, and expressed his opinion that most of the fatalities arose in this way. Snow at once investigated the action of chloroform from the physiological standpoint. His remarkable researches had been confirmed and extended by more modern experimenters. It was noteworthy that Snow with the very inexact method at his disposal should have produced such accurate and lasting contributions to our knowledge. Thus he showed that the introduction of given quantities of chloroform vapour in such a way that the atmosphere inhaled contained known percentages could bring about progressive degrees of narcotism. He demonstrated that when this proportion was below 6 per cent. anæsthesia was gradually produced, and if the narcotism was allowed to invade the medullary centres respiration stopped, and subsequently the circulation came to a standstill. When, on the other hand, a proportion of from 8 to 10 per cent. was given the heart suddenly stopped even before anæsthesia had been induced. This, he explained, was due to the direct action of the chloroform upon the heart itself. Snow's research led him to believe that the method of Simpson was based upon inexact knowledge. He deprecated any method which did not allow of the exact proportioning of the chloroform in the air inhaled. To achieve this end he introduced his inhaler. One of Snow's greatest claims upon our gratitude was his careful analysis of the deaths with which he had become acquainted. He sought to show that they were capable of being classed according to particular experiments which he had made upon the lower animals, and so were explicable by causes which he knew had brought about death in these test experiments. The Commission appointed by the Royal Medical and Chirurgical Society undertook to investigate the subject. Their conclusions were, upon the whole, in accord with those of Snow, although they recommended as a half-way plan the employment of the mixture of chloroform, ether, and alcohol suggested by Harley. The name of J. T. Clover was associated with that report. The disadvantages which the Commission alleged against ether were to be completely removed by Mr. Clover's rare gifts and ingenuity. With the work of Snow was associated the late Sir B. W. Richardson. The range of Richardson's work was a wide one, but the bias of his mind tended towards the production of a perfect local anæsthesia, which would, he thought, eventually supersede general anæsthesia. The investigations of the Commission, although more exact than the preceding ones, were to be supplemented by more precise researches made with more reliable apparatus. The investigation undertaken in Glasgow at the instance of the Scientific Grants Committee of the British Medical Association was a step in this direction. They dealt with a large number of anæsthetic substances recording their results by the graphic method. They pointed out that there was a uni-

form fall of blood pressure under chloroform, and they regarded this as being independent of respiratory failure. They spoke of capricious action of the heart affected by chloroform, and were unable to decide upon what this depended. Upen the whole they preferred the dichloride of ethidene as a safe midway anæsthetic between chloroform and ether. The final epoch of the fifty years' work upon chloroform was grouped about the reports of the two Hyderabad Commissions, with the second of which was associated Dr. Lauder Brunton. Thus MacWilliam in 1890 undertook a research which led him to believe that the fall of blood pressure described in the Hyderabad reports as of a protective and therefore harmless nature, since it lessened the passage of chloroform-laden blood to the nerve centres was in point of fact due to a paralytic dilatation of all the cavities of the heart. Hare and Thornton were led to believe that the fall of blood pressure under chloroform, although possibly contributed to by cardiac dilatation, was mainly caused by vasomotor action. Gaskell and Shore were disposed to discard vasomotor action, as the cross-circulation experiments which they made appeared to show that the fall in blood pressure occurred under conditions which precluded the medullary centres from playing any part in its causation. The elaborate and careful experiments of the Hyderabad Commission were at variance with many of these findings, since in no case were examples of primary circulatory failure found in their experiments. Nearly all observers, however, had shown that chloroform was of its nature a protoplasm poison, lessening or destroying functionation in muscle, and a recent research by Waller had proved also in nerve. An important communication recently made by Leonard Hill had carried the matter a step farther. If his experiments were to be accepted, chloroform, by removing the impediment to the action of gravity imposed by vasomotor action, allowed the blood to pass out of the arteries into the veins, and thus depleted alike the heart and the nervous centres. In this way was brought about failure of respiration as a secondary effect to failure of circulation. In conclusion, it was pointed out that the knowledge derived from fifty years' experimental and clinical research had rendered more exact methods of giving chloroform possible, and by forewarning the chloroformist it armed him to fight more successfully against chloroform accidents. The methods of empiricism were always fraught with danger; those of science were potent to save.

Sir J. CRICHTON BROWNE, in proposing a vote of thanks to the President, remarked that his oration had been not anæsthetic but stimulating. It had shown in a trustworthy manner how anæsthesia had been guided from empiricism to the scientific basis on which it should rest. The various efforts made in past times to find an anæsthetic had curiously enough nearly all been attempts to act through the respiratory system; the nostrils, both in ancient and modern times, had been considered the great portals of anæsthesia. The real germ of modern practice and advance in anæsthesia was planted in the first year of the present century by Davy, when he used laughing gas to annul toothache. The discovery of anæsthesia had already conferred an incalculable benefit on mankind, but not even yet had all its advantages been manifested. During the last fifty years the growth of machinery had multiplied accidents amongst workmen; further, diseases for which the knife had to be used (he referred especially to cancer) had become more prevalent; and lastly, people had become more sensitive. So that, without anæsthesia, we should be haunted by visions of the scenes being enacted in the surgical theatres around us; but, having anæsthesia, people in general were more composed, and slept more soundly. Not only was the pain of the sufferers lulled, but anæsthetics had diffused abroad a general feeling of safety. And one might reasonably look for still further victories in the reign of anæsthesia. By the general public the work of the anæsthetist was considered a very simple, straightforward affair; but great skill and experience were needed by him. The quantity of the drug to be used, the position of the patient, and possibly even the anæsthetic itself, had to be modified as the case passed on, and a careful watch must be kept for the earliest signs of danger. Safety, in fact, lay not in the anæsthetic used, but in the man who gave it. The Hyderabad Commission had for one of its great merits the great fairness with which it published its conclusions. He would like to see other Commissions equally temperate in the use of language toward opponents. The manufacture of chloroform was still progressive; and although much was used in the composition of spiritus chloroformi, the most frequently prescribed of all drugs, yet it was certain that the use of chloroform as an anæsthetic was still growing.

Dr. SANSOM, in seconding the resolution. said that his interest in the matter in past days was great, when he was associated with Snow and Anstie at King's College Hospital and when he assisted the latter to follow out experiments on animals which Snow had begun. *Eheu! fugaces labuntur anni.* It would be impossible to compress into an address a more excellent account of the progress which had occurred in chloroform anæsthesia than that given by the President, to whom he tendered the cordial thanks of the members and their visitors.

Dr. DUDLEY BUXTON briefly thanked the proposer, seconder, and all present. In regard to the Hyderabad Commission and their opponents, he thought there had probably been polemical errors on both sides.

EXHIBITS.

There were on view all the evening in the rooms of the Royal Society of Literature various exhibits of interesting and obsolete anæsthetic apparatus, with photographs, portraits, tracings showing the action of chloroform, and books and autographs illustrating the early days of anæsthesia. Among these were the following:

TRACINGS.

Cardiographic Tracings by Hill and Barnard. Showing dilatation of the heart following the intravenous injection of chloroform.
Tracings by Gaskell and Shore. Showing failure of heart and cross-circulation experiments, the blood supply of the chloroformed animal being shut off from the brain of the animal whose blood pressure fall. This shows fall of blood pressure is due to causes other than nervous influence, respiration remaining intact.
Tracings of the Hyderabad Commission shown by Dr. Lauder Brunton. Show gradual fall of blood pressure under chloroform and failure of respiration, effect of vagal stimulation, etc.
Tracings by Waller. Showing the action of chloroform on nerves.

ORIGINAL MANUSCRIPTS.

Original Manuscripts of Snow, Clover, with original sketches of his First Ether and Chloroform Inhalers.
Autograph Letter of Simpson.
Facsimile of Dr. Crawford Long's account of the first use of Ether for Surgical Anæsthesia (1842).

BOOKS.

Early Books on Anæsthetics.
Production of Factitious Airs. Thomas Beddoes. 1795. With description of his Pneumatic Apparatus.
Books and Pamphlets. By Simpson, Snow, Richardson, Truman Smith, Murphy, Kidd, Sansom, etc.
"Anæsthesia Semi-centenary," Boston, 1896

PORTRAITS.

Portraits of Humphry Davy, Simpson, Morton, Crawford Long, Horace Wells, Clover, Richardson.

PICTURES.

First Operation under Ether, with portraits of Warren, Morton, Gould, Parkman, Bigelow, etc.
View of the Massachusetts General Hospital, Boston, where the first operation under ether took place.
House in Bathgate, Edinburgh, in which Sir James Simpson was born.
Dining Room of 52, Green Street, Edinburgh, in which Sir James Simpson discovered the anæsthetic properties of chloroform, November 4th, 1847.
"Saint Anæsthesia." Photograph of the lady who was the first child born under chloroform. November 10th, 1847.
Sir James Simpson's Grave.
Various Photographs illustrating the introduction of chloroform.

APPARATUS.

The earliest chloroform and ether inhalers showing evolution of those now in general use:—Jacob Bell, Snow, Protheroe Smith, Sansom, Sibson, Murphy, Ellis, Clover's chloroform, Clover's ether, Murray, Townley, Hawksley's, and others.
Chair used for tying down patients during operations before the introduction of anæsthetics.
Memorials of Snow and Richardson, from the collection of the late Sir B. W. Richardson.

After the oration smoking and music were started; and the programme of the latter and its performance by the string band of the Royal Horse Guards were much appreciated.

MEDICAL MAYOR.—Mr. John Edward Dunn, M.R.C.S., L.R.C.P., has been elected Mayor for the Borough of Preston.

SURGICAL NOTES FROM THE INDIAN FRONTIER.

Some Fortunate Escapes and Unhoped-for Recoveries.

We are indebted to Surgeon-Captain J. F. Donegan, A.M.S., for the following notes from the British General Base Hospital of the Malakand field force at Nowshera. They illustrate the curious chances to which a man may owe his life, and also, we are glad to think, the recuperative power of British soldiers under circumstances which appear to be very unfavourable.

Case I.—Lieutenant G., Sikhs, was in an exposed position with two companies of his regiment in the attack of Inayat Kila on September 16th. About 3 P.M. he was shot with a Martini bullet fired from a distance of about 500 yards. He was hit ⅛ inch outside the outer angle of the left orbit, the bullet passing backwards and outwards through the lobule of the ear, and grazing the mastoid process. There was profuse hæmorrhage, and no medical assistance near. Though knocked out of time for a few minutes, he resumed his duties, at which he remained till the company was ordered to retreat at 4 P.M. As they retreated the Mamunds got into their ranks, and a hand-to-hand fight ensued, in which he received a cut from a *tulwar* (large Indian sword) nearly 9 inches long, behind the scapula both on the left and right sides. Being then cut down he was rescued by some men of the Guides, and before he reached camp he was slightly wounded in the arm and shoulder. He was sixteen hours without food, and received no medical treatment whatever till the next morning. When transferred to this hospital he was convalescent, and on October 18th was discharged to return to his regiment, having quite recovered. He owes his rapid recovery to the fact that he was only just returned from England after a ten months' furlough. There is still a large scar leading backwards from the orbit, but it causes him no pain or inconvenience. In defence of his own life he shot four of the enemy at close quarters, and when his revolver jammed hit another over the head with it, knocking him down also.

Case II.—Lieutenant W., R.A., was with his mountain battery on the night of September 16th outside the village of Saklot, when the guns were left with but a small escort. Every officer present, except one, was disabled, including the Brigadier-General. It was a dark night, and the small party was under fire from a short range. As most of the mules were either killed or wounded, it was out of the question to move the guns, so there the party remained till two companies of the 35th Sikhs drove the enemy out of the village at 12.30 A.M. About 11 P.M. this officer was shot from a distance of twenty yards by a *jezail* (a native gun, about twelve bore, with a long barrel) loaded with slugs. The charge entered the outer side of the left thigh at the junction of the middle and lower third, making a hole about 6 inches in circumference. Three slug bullets passed right through the thigh; one passed through the right also, ½ inch above Hunter's canal, and was cut out on the outer side of the thigh; the other two did not enter the other limb. There was tolerably severe hæmorrhage at the time, and no medical assistance at hand till the party got into camp at 9 A.M. the next morning. At present this officer is recovering rapidly. The wound of the right thigh is quite healed, the large hole of entrance is granulating up from the bottom in a most satisfactory manner, and the probability is that the after-effects will be but slight. Taking into consideration the distance from which he was shot, the fact that the thighs were both shot through without any injury to nerves, vein, or arteries, to say nothing of the fact that he received no medical assistance till the next morning, his escape was lucky, to say the least of it.

Case III.—On September 19th, Second Lieutenant K. was wounded in the attack on the village of Zagai. When hit he was talking to a senior officer with his hand at his side and his sword in the scabbard. The bullet, a Martini, passed right through the left forearm 2 inches above the wrist through the basket hilt of his sword, which it smashed, and then entered 1½ inch behind the anterior superior spine of the ileum, and was subsequently extracted 2½ inches above the pubes in the middle line. At first it was thought that the bone had been penetrated, but if this had occurred the bladder and intestines could not wsll have escaped. My opinion is that the bullet, deflected by the sword hilt, passed forwards and inwards beneath the skin in front of the anterior superior spine to the point of exit. The officer is now quite recovered, and there is no doubt that he owes his life to his sword hilt.

Case IV.—Private N. was wounded on September 20th at Inayat Kila. When shot the party were marching at ease, carrying their rifles any way they wished, getting over the ground as best they could. Private N. was carrying his rifle upside down, with the stock next to his face and the barrel in his hand. The stock of his rifle was hit, the bullet passing through, splintering the woodwork, and entering his face just above the zygoma on the left side. It was easily extracted, but the surrounding parts were greatly contused and lacerated by splinters. For some days there was loss of taste and slight ptosis, but he has since recovered, and has been discharged to duty. He owes his escape to his total disregard of the orthodox manner of carrying a rifle.

Case V.—Private H. was wounded on September 24th, 1897, and transferred to this hospital on October 1st, 1897, from the Mamund Field Force. His regiment, which had been burning villages, was returning to camp when he was shot by a Martini rifle from a long range. The bullet entered at the right side of the spine, and near the angle of the scapula, and passed out of the chest wall through the posterior fold of the axilla, 2 inches below the point of entrance on the right side, injuring the left lung in its course. It then entered the left arm through the biceps, shattering the humerus, and passed out close to the insertion of the deltoid, 2 inches below where it entered. His transfer documents state that the hæmorrhage from both lung and arm was so severe that it was considered inadvisable to operate, the case being thought hopeless from the first. On admission to this hospital the wounds looked healthy, but he was in a very collapsed condition, the journey from the front having increased the coughing and blood spitting. He complained of severe pain over the stomach and the injured lung, his face was flushed, and the temperature 102° F., but it fell to 99.4° F. the following morning. No pulse whatever could be detected at the wrist of the injured arm, both sensation and power of movement were completely lost, and the humerus was greatly shattered. The patient is now (October 27th) bright, cheery, and happy. The whole four wounds have healed completely, and he suffers from no important lung trouble except a slight cough. The bone is uniting, but there is still great wasting of the muscles, though sensation is returning slowly. Time will tell the exact injury to his arm, and should amputation be required it can be done under better surroundings than when first proposed. He is able to move about, which proves that there has been no injury to the spine; how it escaped is hard to explain. When it is remembered that the bullet passed through his lung with such force as subsequently to fracture his arm, his recovery must indeed be considered marvellous. On admission to this hospital he was treated by Surgeon-Captain Whitestone, A.M.S., and when he came under my care on October 10th, 1897, he was progressing most favourably and almost convalescent. His treatment has been simple in the extreme—local dressings to wounds, the position of the arm regulated by splints, careful nursing, and suitable dieting.

Dorset County Home for Nurses.—The Earl of Ilchester, Lord Lieutenant of the County of Dorset, has offered to give £500 to start a Dorset County Home for Nurses, subject to tho conditions :(1) That the home should meet with general support; (2) that the poor were to be nursed as well as the rich; (3) that the home should be in touch with the county hospital. At a public meeting held recent in Dorchester, under the chairmanship of Lord Digby, the offer was gratefully accepted, and a provisional Committee appointed to draw up a working scheme for a home for trained nurses at Dorchester, and to arrange a plan of amalgamation with the County Home for Nurses at Blandford. The Committee consisted of four ladies, four laymen, and four medical men (Dr. Rendall, Dr. Curme, and the two Secretaries of the Dorset and West Hants Branch of the British Medical Association, Dr. Lush and Mr. C. H. W. Parkinson).

REPORTS
ON
THE NURSING AND ADMINISTRATION OF PROVINCIAL WORKHOUSES AND INFIRMARIES.

SPECIAL COMMISSION OF THE "BRITISH MEDICAL JOURNAL."

BATH WORKHOUSE.

WE are much gratified at being in a position to place before our readers a marked instance of some good results following on the reports on the condition of the sick in the workhouse infirmaries published in the BRITISH MEDICAL JOURNAL. It may be within the recollection of some that the report on the Bath Workhouse Infirmary (July 7th, 1894, p. 26) represented a very bad condition of things, and that the same was subsequently confirmed by the report of the medical inspector. This report, as was to be expected, aroused much adverse criticism at the time, but the accompanying contrast between the infirmary in 1894 and 1897 will show that the Guardians took the lesson to heart, and began to set their house in order:

1894.	1897.
Wards dark, crowded, untidy, and unpainted.	Wards painted, decorated; beds better spaced, easy chairs, comforts, plants.
No hot water service.	Hot water on each floor.
Bath rooms "few and far between," cold water supply only.	Bath rooms attached to each floor.
No ward kitchens.	Duty kitchens on each floor.
Watercloscts old, and in direct communication with the wards.	Modern waterclosets on each floor, with disconnecting lobby, and ample flush.
Beds and bedding "narrow, with laths, thin mattresses, flock, or chaff."	Wire-woven beds, flock or chaff mattress, according to the case.
Three roller towels in common to a ward; brush and comb for general use.	Separate towels, lockers for brush and comb and personal property.
Utensils under the beds; medicine on window sills.	Utensils in lavatories, medicine in ward cupboards.
Lying-in ward, four beds; no labour ward.	Lying-in ward, six beds, labour ward attached but separate.
One nurse and two untrained assistants; pauper night "nurses."	A superintendent, with ten trained nurses by day and four by night, total fifteen.
Nurses' sitting-room, the surgery.	Cubicle bedrooms, sitting room and dining room.
Inmates assist in nursing, the same sleeping in the wards; the "night nurses" sleep by day in the wards they serve by night.	Inmates do the work of scrubbers, and eat and sleep in the body of the house; the night nurses are placed in quiet rooms to the front of the house.
Five separate laundries, with no efficient appliances.	One large steam laundry, with tanks for disinfecting and rinsing.

Our Commissioner now reports that it is hardly possible to believe that it is the same place, so complete is the transformation which has taken place, showing what can be done even with an old building, when the authorities have grasped the fact that the old appliances cannot be made to serve for the requirements of modern days.

THE ASYLUM

for the imbecile and feeble-minded class is all that can be desired; it is a detached building to the rear of the infirmary, divided by an administration block into male and female wards. On the ground floor are the recreation rooms, bright with pictures, flowers, singing birds, and all that humanity can suggest for the alleviation of the sad lot of the patients. On this floor also are the separate rooms for the troublesome patients and the padded rooms; on the floor above are the sick wards and the dormitories where the chronic and epileptic patients sleep. The whole is under the charge of paid attendants, two on each side by day and one on each side by night. The females are employed in laundry work for this section and in needlework, and the attendant gives them a good character for industry. The airing courts are spacious enclosures partly laid out as gardens and partly in asphalte courts; they are provided with seats, some of which are under cover. There is accommodation for 56 females and 34 males, and their contented appearance showed them to be on the best terms with their keepers.

THE DIETARY.

Much care is bestowed on the dietary, both in the infirmary and in the asylum; it is liberal in quantity and is well served. The beef-tea is excellent, and the dinners are carried in hot tins to all the wards. The guardians have with much good sense sanctioned the serving of the diets in the bulk to the infirmary, the same being cut up by the nurses according to the needs of the patients; this plan has already resulted in a saving on the total quantity, besides being more appetising to the patients.

THE MEDICAL OFFICER,

Mr. Craddock, has our hearty congratulations on the success which has attended his efforts on behalf of the sick paupers, and we trust that others in his position fighting an up-hill battle will take heart and redouble their efforts. We see by the *Bath Herald* of November 10th that the Board has decided to build a new infirmary, and thus to meet the required increase of accommodation for the body of the house; the infirmary will then be occupied by the aged and infirm, and the sick will be even better cared for in the new buildings. We must not omit from our report a brief notice of the

COTTAGE HOMES

for the children. These have only recently been established, and are yet in the nature of an experiment. Small houses accommodating from 10 to 12 children are rented in various quarters of the city, in neighbourhoods favoured by the artisan class. The children, boys and girls, are boarded with a "mother;" they go to the National Schools, and do the work of the house themselves, living as far as possible the life of a working man's child. They have nothing whatever to do with the workhouse. Thus far the guardians are satisfied with the results of the experiment; the children are happy and in good health, and are on good terms with their "mothers;" but some years must elapse before the full effects of this movement on the wellbeing of the community can be estimated by the gradual decay of pauperism. Nevertheless, this is a step in the right direction. We shall watch it with interest, and in the meantime we would convey our hearty congratulations to the Board on the enlightened course they are pursuing.

POOR-LAW ECONOMICS.

DR. DOLAN, of Halifax, in a paper read at a conference of Yorkshire guardians at Leeds, November 12th, 1897, sought to impress on all Poor-law guardians in England the fact that their position is one which involves serious responsibilities in reference to the sick poor, as they have to provide for all their medical requirements when suffering from any form of serious illness, and have also to make all necessary provision for the incurable, the infirm, the aged and the dying; and that, as the funds raised to enable them to do this do not come from any voluntary source, but are derived from a direct tax on the ratepayers, the motto of all engaged in this public duty should be "economy with efficiency."

Dr. Dolan, who speaks from long experience as medical officer of the Halifax Union Infirmary, and from a special study of the subject carried out also in Germany, France, Austria, Russia, and Belgium, asks the question, Is it economical to supply trained nurses, provide good food, and carry on union hospitals on the most improved principles? Statistics are quoted to show that only about 18 per cent. of those disabled by illness become so from causes within their own control, and very properly asks the question whether the disabled condition of the larger percentage, namely, 82, is to be regarded with indifference, or whether this larger number is consequently to be "penalised" on account of the past improvidence or misconduct of the smaller section.

Dr. Dolan contends that early help in sickness is invaluable; that this does not consist in simply providing medicine; that something more than that is wanted in any case of sickness—pure air and surroundings, suitable food, and, above all, the intelligent application of medical principles—and that under such conditions disease is cut short, the period of absence from work is lessened, and the expense of maintenance is diminished. It is stated that at Halifax the time of detention in hospital has been materially shortened in all curable cases by careful medical supervision supplemented by efficient nursing, and this we can easily under-

stand; but in reference to treatment of the many cases of ulceration of legs, Dr. Dolan appears to us to speak rather too confidently when he states that "under efficient nursing these cases are quickly cured." If by this he means permanently cured, we congratulate him on his success; we regret we cannot speak so satisfactorily as to the result of treatment of these cases elsewhere. The matter of stimulants is well expressed. Dr. Dolan's excellent words are: "The medical officer should exercise vigilance on this question, but his hands should not be in any way tied." There will be few, we apprehend, who care to dispute this. We commend the views of Dr. Dolan to all those who take any interest or are in any way engaged in the management of union hospitals, either as paid officials or as legally appointed supervisors. He has evidently given great consideration to what he admits is a difficult question, and has expressed his own opinion in reference to it in very temperate and appropriate terms.

THE ARMY MEDICAL SERVICE AND PUBLIC OPINION.

In continuation of extracts from influential sections of the public press, which we gave in the British Medical Journal of October 30th, on the army medical question, we reproduce some further comments.

The *Liverpool Daily Post* says: "The statement of grievances indicates the essential reforms. There are, first and greatest, the grant of army rank and military titles in a consolidated army medical corps; fair amount of ordinary and study leave; recognition and rewarding of professional merit; and reconsideration of the possibility of connecting medical officers with regiments for a term of years."

The Dublin *Daily Express* speaks very strongly; the army medical question is one that appeals "to hundreds of the best educated and most energetic young men of Ireland;" and, "to hundreds of parents who are anxiously groaning with the eternal question, What to do with our boys." After alluding to the admirable address of Sir William Thomson, President of the Royal College of Surgeons, it goes on to say: "It is neither the danger of the occupation nor the badness of the pay that keeps our young surgeons from entering the Army Medical Service. It is the false pride of a prejudiced class; the hereditary contempt of young cadets, who have been taught no better; the educated scorn of older men who might to know very much better; and the weakness or blindness of those military authorities which permit, if they do not encourage, an iniquitous system of ignoble jealousy and sterile exclusiveness.....In view of such facts as these, it is not surprising that the members of the Army Medical Service are discontented with their present lot, and that the service has been practically boycotted by the rising medical generation."

The *Newcastle Leader* observes: "The young surgeon of character and ability does not offer himself as a candidate. The medical man with a proper sense of self-respect declines to submit to the conditions of service which prevail in the army. At every turn he is subject to slights from the combatant officers, who use one-sided regulations for the purpose of maintaining an absurd system of caste.....The policy which treats him as a non-combatant is ridiculous.....The authorities would do well to listen to those whose position entitles them to speak for medical men, and to endeavour to remove admitted evils."

The *United Service Gazette* declares: "There can be no doubt that the most pressing reform needed, as we have before and times out of number stated, is the formation of a consolidated Army Medical Corps, with army rank and titles, to place the medical officers in a position of equality with all other officers—a reasonable enough demand.....The status of the army surgeon can never be definite without the corps. We find in the American and Italian armies proper combatant grades; for example, Colonel So-and-so—Surgeon ——, and we have never yet been informed that this titular system interfered with professional ability or professional services, or has expressed a wish for general command."

We alluded in the British Medical Journal of November 9th to the powerful article in the *Times*. It states: "The army surgeons are prohibited by the rules of the service from pleading their own cause in any effectual manner. But what they are unable to do has been done for them, on the part of their profession, by a subcommittee of the British Medical Association, which has gone very fully into the subject, and has put forth a temperate and well-reasoned manifesto explaining the causes of the present discontent and the reforms by which it might be removed." It goes on to say that "the reason for army rank and military titles is not, as asserted by many of their opponents, that they wish to act as military officers rather than as doctors, but simply that the possession of military rank and military authority is essential to the proper performance of their duties.....The actual rank, which is the first thing asked for, and without which it does not seem likely that the service will ever again become attractive, would at once remove the social difficulty, and as it would undoubtedly lead to the easy filling of the existing vacancies, it would also remove the grievances arising from the undermanned condition of the department.....The question is one which must soon become urgent, if, as is expected, Parliament should soon be called upon to consider proposals for a considerable augmentation of the army." Finally, the leading journal declares, the War Office must either concede the demands made or show good cause for rejecting them, or "be prepared to remove the existing discontent by reforms or alterations of its own devising."

Referring to the article in the *Times*, the *World* writes: "'Printing House Square' has espoused the cause of the army doctor, and has done it in a way which will be generally approved. It is fully time that the public were told the truth about the mismanagement of the War Office. The treatment meted out to the doctor of late years has been a disgrace to us as a civilised people, and the present condition of affairs must end. It can only end in one way. The medical profession is esteemed everywhere, and the tone adopted by some in authority with regard to the officers of the Army Medical Staff is not to be defended. Naturally the army doctor complains when he is told that he is not a soldier, but a civilian hanger-on."

These extracts go to show that public opinion on army medical reform has vastly extended and matured, and it will be a very perilous matter for the War Office to ignore it.

LONDON WATER SUPPLY.

On November 22nd the Royal Commission appointed to inquire and report on the condition of the London water supply, held its first sitting in the Moses Room of the House of Lords. It will be remembered that the Commission was appointed last session to investigate the following points: (1) Whether, having regard to financial considerations and to present and prospective requirements as regards water supply in the districts within the limits of supply of the metropolitan water companies, it is desirable in the interests of the ratepayers and water consumers in those districts that the undertakings of the water companies should be acquired and managed either (*a*) by one authority, or (*b*) by several authorities; and, if so, what should be such authority or authorities; to what extent physical severance of the works and other property and sources of supply of the several companies, and the division thereof between different local authorities within the limits of supply, are practicable and desirable; and what are the legal powers necessary to give effect to any such arrangements. (2) If the undertakings are not so acquired, whether additional powers of control should be exercised by local or other authorities; and, if so, what those powers should be. (3) Whether it is practicable to connect any two or more of the different systems of supply now administered by the eight metropolitan companies; and, if so, by whom, and in what proportion, should the cost of connecting them be borne, and what are the legal powers necessary to give effect to any such arrangement.

The first witness called was Mr. H. L. Cripps, the parliamentary agent of the London County Council. In the course of his evidence, given in response to questions by the Chairman, Lord Llandaff, Mr. Cripps said that the views of the London County Council as to the purchase of the existing undertakings were expressed in the Bills of 1895 and 1897. The latest decision of the Council upon the point was that the

undertakings should be purchased at a fair and reasonable value. In the case of Bills introduced by the water companies since 1880, the view taken by the Committees to which they had been referred had been that the water companies should not obtain to the full the powers for which they were asking, on the ground that such large additional powers might in their turn have to be the subject of purchase ultimately. On the question as to whether the City were not really identical in interests with the rest of London, he said that the policy of the City was to have a supply of water by meter, so that they might only pay for the actual quantity which the population consumed, and not according to the rateable value, as in the rest of London. Proceeding to give other reasons in favour of purchase, he pointed out that London was supplied by eight different companies. The rateable value of the premises supplied had outgrown the rateable value at the time when the water rates were originally fixed to a much larger extent than in provincial towns. In London, again, the burden of the water rates fell more heavily upon the occupiers of the smaller houses than upon the richer classes. Elsewhere, too, the water companies were under obligation to supply water up to the topmost storeys of the houses, but, owing to special exemptions which were granted to some of the metropolitan water companies, there were some portions of London in which the inhabitants, almost alone amongst civilised communities, had no means of getting water supplied to the tops of their houses.

The Commission adjourned till Monday, December 6th.

SMALL-POX IN CERTAIN LARGE TOWNS, 1892-93.

DR. COUPLAND'S REPORTS.

APPENDIX VIII to the final report of the Royal Commission on Vaccination is a volume which cannot but prove to be of great interest and assistance to all medical officers of health in our large towns and urban districts, seeing that it deals with a variety of places of importance that were visited by small-pox in 1892-93.

SCOPE OF REPORT.

Dr. Coupland includes within the volume an account of prevalences of small-pox at Glasgow, Liverpool, Salford, Manchester, Oldham, Chadderton, Leeds, Sheffield, Halifax, and Bradford, and he relates the main lines of action of the several local authorities. Thus we learn what was done in the several towns in regard of notification, isolation, removal of the sick, disinfection of premises, and quarantine. We are told of the unfortunate position of Leeds at the time, owing to the absence of compulsory notification; and also of the excellent quarantine arrangements in that town and in Glasgow. We cannot here dwell upon the detailed accounts which are given of these several phases of preventive action; but the volume should be in the hands of the responsible officials of local councils with a view of learning from the pages of the reports what to imitate and what to avoid under circumstances of similar visitation.

VACCINATION IN RELATION WITH SMALL-POX.

The total number of cases of small-pox dealt with by Dr. Coupland is 2,701: 249 proved fatal, or 9.2 per cent. This total comprised 186 cases concerning which no evidence as to vaccination was forthcoming, or which were undergoing primary vaccination when attacked: of these 29 were fatal, or 15.6 per cent. There were 2,129 vaccinated sufferers, and 99 of those died, a rate of 4.6 per cent. Of the 386 unvaccinated patients, 121 died, or 31.3 per cent. Had deaths occurred among the 2,701 cases at the vaccinated rate the 249 would have been replaced by 124; but had the unvaccinated rate obtained, the 249 would have become 845 deaths, or nearly seven times as many. These data are for all ages and for all classes of vaccination. At Manchester the case mortalities in vaccinated and unvaccinated were 4.3 and 21.6 per cent. respectively; at Leeds, 1.3 and 35.0 per cent. respectively; and at Halifax, 4.0 and 45.5 per cent. respectively.

AGE AT DEATH.

At Manchester, in respect of which ages are tabulated, there were no deaths among the 11 vaccinated cases under 10 years of age as compared with 7 deaths, or 19.4 per cent., in 36 unvaccinated cases. Up to 30 years of age the fatality-rate among the vaccinated was only 1.3 per cent. against 20.0 per cent. in the unvaccinated class. At 30 years and upwards the rates were 8.6 and 37.5 per cent. respectively. At Bradford, at ages 0-10 years, in 17 vaccinated cases there were no deaths, while of 51 unvaccinated cases 22 proved fatal, or 43.1 per cent. Up to 15 years of age vaccination protected against deaths in the 46 cases, whilst 27 of the 76 cases in unvaccinated persons died. These towns are typical of the rest.

TYPE OF DISEASE.

At Salford, at all ages, in the 33 vaccinated cases, 54.5 per cent. were discrete attacks, but only 25.0 per cent. of the 8 unvaccinated cases. At Leeds, of 154 vaccinated cases, 79.5 per cent. were discrete or mild; of 18 unvaccinated cases only 16.6 per cent. At Halifax, of 261 vaccinated cases, 77 per cent. were discrete; of 55 unvaccinated cases, only 17 per cent. were discrete. At ages, 0-10 years, all the 4 vaccinated cases were discrete; but only 19 per cent. of the 38 unvaccinated cases.

AËRIAL CONVEYANCE OF SMALL-POX.

Dr. Coupland reproduces a diagram drawn by Dr. Evans, Health Officer of Bradford, illustrating the proportionate distribution of infected houses in successive quarter-mile zones round the hospital. Taking the hospital as a centre, the percentage of total houses infected in the zones were 10.4, 6.5, 2.1, and 1.3 respectively. These data seem to be confirmatory of mischief wrought by the hospital when used by small-pox patients. The quadrants, as well as the zones, with only one exception, bear out the same theory.

INFECTION FROM UNREPORTED CASES.

In Halifax 16 overlooked or unreported cases of small-pox acted as so many foci of infection, and gave rise in all to 62 other cases. Thirteen attacks were traced to one such case, 8 to each of two others, 7 to another, 5 to another, 4 to each of three others, and so on.

ARCHÆOLOGICA MEDICA.

XXXVIII.—ST. THOMAS, SOUTHWARK.

TIME and the increasing value of land in our great towns destroy many landmarks, and it is therefore a matter of congratulation when an historic site can be preserved to its original use. It is announced that "The Mayor and Commonalty and citizens of the City of London," as Governors of St. Thomas's Hospital, will apply to Parliament in the ensuing session for an Act to make provision for uniting the ecclesiastical parish of St. Thomas, Southwark, to and merging it in the ecclesiastical parish of St. Saviour, Southwark, for all ecclesiastical purposes, and for forming the united parishes into one benefice and cure of souls. The Act will contain clauses authorising and providing for the conveyance by the Governors to the Ecclesiastical Commissioners of all their estate and interest in the church of St Thomas and the adjoining land held therewith, and of the fittings, etc., of the church, excepting the Communion plate for the removal and preservation of which provision will also be made in the Act. Authority will be sought to empower the Ecclesiastical Commissioners to appropriate the Church of St. Thomas as a Chapter House for the collegiate Church of St. Saviour, or for such other purpose as may be prescribed or authorised by the Act, or to pull down the fabric of the church and to sell and dispose of the materials and site thereof, and the land and other property to be conveyed to them under the Act, and to make provision for the application of the proceeds.

The church itself is of no great interest. It was rebuilt of brick in 1702, with a square tower closely resembling that of a former church; but the history of the parish of which it forms the centre is most interesting, for the close was occupied by the great glass painters of England, whose work is still to be seen in the windows of King's College Chapel at Cambridge, glazed between 1515 and 1531 by Bernard Flower the King's Glazier, and four other glaziers resident in London. These windows, says Mr. Clark, form the most important specimens of English glass painting that have been preserved, the glaziers contracting to place in the windows "good, clene, sure, and perfyte glasse, and oryent colours, and imagery of the story of the old law and the new

aw." The first church appears to have been erected when 'ope Honorius (1216-27) gave his mandate to the Venerable 'eter de Rupibus, Bishop of Winchester, that the hospital—ıen known as Becket's Spital, now as St. Thomas's—should ave a cemetery. The brethren were also to be allowed to elebrate divine service in the hospital, and they were per-ıitted to have two bells of not more than 1 cwt. each. A ıarket for corn and other produce, which was wont to be eld in the courts of the hospital, was also confirmed, and as ordered to be held at the very door of the church.

In 1489 the church of St. Thomas the Martyr contained a rinity altar, an altar of St. John, and an altar of Our Lady, ıe chancel being dedicated to St. John the Baptist, and con-ıining an image of the saint therein. The charter granted by dward VI to St. Thomas's Hospital appoints amongst other fficers "two fitting ministers," one for the poor and officers the hospital—called the hospitaller—the other for the arish of St. Thomas's Hospital. On January 27th, 1613, the gister is said to record the marriage of the father and other of John Evelyn, and in 1639 the matron of the hos-tal was dragged out from the altar where she was praying, ıd was lodged in one of the Borough prisons for debt. A w years later the hospitaller, who was also the curate, was questered for saying that God will have no mercy on those ho die in the Parliament service, who are all rogues and scals, adding that those who died at Edgehill in the service the Parliament went to the devil. Even as late as 1732 and the church still standing strange things happened, for dward Davis is enjoined immediately after divine service ıd sermon in the vestry to repeat with a loud voice before e minister, wardens, and offended persons his confession repentance for injurious language used by him of Ann nes.

NOTES ON HEALTH RESORTS AND SANITARIA.

KIMBERLEY SANATORIUM, SOUTH AFRICA.

MEMBER of the Association sends in the following notes on mberley, and a new sanatorium opened there recently:

The advantages of the high inland plateau of South Africa the treatment of cases of incipient pulmonary phthisis are o well known to need recapitulating. Hitherto, however, o grave drawbacks have been constantly complained of by ose visiting the interior of the Cape Colony in search of alth—first, the almost impossibility of obtaining really od accommodation even for those to whom expense is no ject; secondly, the dreary monotony of most of the villages which invalids are recommended to stay. Kimberley elf, as far as climatic conditions are concerned, is as good, not better, than any of the more frequently selected places, t suffers from the disadvantages inherent to town life in a country—too much dust in the air during the later winter nths, and a naturally more or less impure atmosphere on ount of the crowding together of houses. In other respects njoys all the advantages in the matter of amusements, etc., a go-ahead English colonial town.

The new sanatorium, which is now advertised as open for reception of visitors, meets these difficulties, as it is ilt on rising ground well outside Kimberley, but within a ne's throw of the tram line connecting Kimberley and aconsfield, so that it secures plenty of atmosphere, as well easy access to the town, with its club, library, and so forth. e charges will be found well within the reach of those with nparatively modest means, while the building is so anged that suites of rooms can be engaged by those who h to live luxuriously, and are prepared to pay for it. There no resident doctors or nurses, as the institution is not ended for the reception of grave cases of disease, but Kim-ley is well supplied with capable medical men, and there an excellent hospital not far from the sanatorium, with vate wards for paying patients, should any visitor require cial attention or treatment. There is also a nursing insti-ion in the town, from which trained nurses can always obtained if required.

The sanatorium has been founded by the Right Honourable il Rhodes, with funds placed in his hands by the De Beers npany for public purposes, and is built on ground given the London and South African Exploration Company. The administration has been placed by the founder under the charge of a committee of well-known local gentlemen.

DEATHS UNDER ANÆSTHETICS.

The Administration of Chloroform on Lint.

Mr. George Foy, F.R.C.S.I. (Dublin) writes: Since 1886 I have been carefully noting all cases of deaths under anæsthesia. I find that of deaths under chloroform administered by the open method, fully 70 per cent. of the cases occurred when the chloroform was given on lint. This autumn, whilst operating on a child to whom chloroform was given on a piece of thick lint, I had just completed the operation, when I noticed that the breathing had ceased, and the child became deadly pale; the heart continued beating fairly well. My friend the chloroformist inverted the patient, and in a little time breathing was recommenced. I found, however, that an hour after the resuscitation of the child the lint smelt strongly of chloroform. We seem to ignore the fact that lint absorbs a great deal of the drug, and that although the further addition of chloroform is discontinued when the patient is anæsthetised, nevertheless the patient is breathing in the chloroformed air from the surcharged lint. In my case the lint was not wholly to blame, for the child's mother had most imprudently given it a currant bun a short time prior to the operation, a fact which was revealed by the vomiting of the contents of the stomach. Might it not be well in all cases of death under anæsthesia to examine the stomach? From what I have said I think it is plain that thick lint is an unsuitable material for the administration of chloroform; that if lint is used it should be of the thinnest quality. But, in my opinion, the best material is a fine thin web of stockingette, and failing this, a piece of a lawn pocket handkerchief spread on a Skinner or an Esmarch's apparatus. The great importance of the question of how to administer anæsthetics is my excuse for reiterating the rule I formulated in 1886 in *Anæsthetics, Ancient and Modern.*

Chloroform.

We are indebted for the following particulars of a case of death under chloroform to Mr. J. Spencer Hall, L.R.C.P., M.R.C.S., Assistant House-Surgeon, St. Thomas's Hospital. The patient, a boy aged 15 months, was brought to the hospital on account of a swelling on the right side of the scrotum, which was first noticed a few weeks ago. This proved to be a congenital hydrocele. The child also had a long and tight prepuce. The mother was then informed that the child ought to be circumcised, and directions for the usual preparations for an anæsthetic were given to her.

Three days later the child was again brought to the hospital for operation. The mother said he had never enjoyed very good health, consequently the chest was examined carefully. The heart sounds were healthy and strong. The chest was not well formed, being somewhat rickety; the breath sounds, however, were normal, and there was no evidence of bronchitis, etc. Chloroform was now given on a folded piece of lint, drop by drop, at regular intervals. The child struggled a little at first, but was under the anæsthetic in about three minutes. Up to this time between 15 and 20 minims had been given. Respiration was quiet, the pulse regular, and the corneal reflex absent. The prepuce was now cut away, and the most painful part of the operation being over, only a few more drops were given, when suddenly respiration became irregular and the face blanched. The administration of chloroform was immediately stopped, the tongue pulled forward with forceps, and artificial respiration commenced. The pupil meanwhile was becoming more and more dilated. The child, however, only drew one or two inspiratory gasps. Sixteen minims of ether were injected subcutaneously, but a few minutes later the heart had definitely ceased to beat. Artificial respiration was performed for about half an hour. When the fatal collapse occurred not more than half a drachm had been used, and the vapour was freely mixed with air. The pulse and respiration appeared to cease simultaneously. *Post mortem* the heart was found to weigh 2 ounces, and was perfectly normal. The lungs were healthy, except for some slight emphysema at the margins. The other organs were normal.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1897.

Tuesday, November 23rd.

SIR WILLIAM TURNER in the Chair.

THE winter session of the General Medical Council was opened on Tuesday, November 23rd.

In proposing that Sir WILLIAM TURNER should occupy the chair in the unavoidable absence of the PRESIDENT (Sir Richard Quain),

Sir DYCE DUCKWORTH said he might be permitted to express in a very few words the feelings which all the members of the Council entertained at the absence of Sir Richard Quain from the presidential chair. The cause of his not being present was known to the members; but they had the satisfaction of knowing that his mind was clear and keen, and that he was with them in spirit. Their President was fully aware of every item of business on the programme, and he would be deeply interested in all that was done during the present sitting. This was about the twenty-fifth meeting of the Council at which he (Sir Dyce Duckworth) had been present, and he did not recollect a single opening meeting at which Sir Richard Quain was not present in his place either as an ordinary member or as President. That, he thought, was a remarkable record. Under the circumstances he begged to move:

That, owing to the unavoidable absence of the President, the chair be taken by the Chairman of the Business Committee.

Sir William Turner's great business capacity and urbanity, and his very great knowledge of the affairs of the Council, were well known, and he was sure the members felt that the duties of chairman could be entrusted to no better hands.

Mr. BRYANT seconded the motion, which was agreed to.

Sir WILLIAM TURNER then took the chair.

NEW MEMBERS.

The Council received the official notification of the appointment of the following members: (*a*) Sir Christopher John Nixon as representative of the Royal University of Ireland for five years from July 29th, 1897; and (*b*) as direct representative for five years from October 16th, 1897; Mr. Victor Alexander Haden Horsley, M.B., B.S., in place of Dr. Robert Reid Rentoul, resigned.

Sir CHRISTOPHER NIXON was then introduced by Dr. BENNETT, and took his seat on the Council, as did also Mr. VICTOR HORSLEY, who was introduced by Dr. GLOVER.

COMMUNICATION FROM THE PRESIDENT.

The following communication from the President, addressed to the members of the Council, was then read:

"67, Harley Street, London, W., November 23rd, 1897.

"DEAR COLLEAGUES,—I deeply regret that, though my health is improved, I cannot undertake the risk of presiding at your meetings during the present session; and, if it be your pleasure, I shall be glad if Sir William Turner, the Chairman of the Business Committee, will discharge for me the duties of the office. Since the last session of the Council, notwithstanding my illness, I have continued, with the valuable assistance of the officials of the Council, to give close attention to its business; and I think you will find on the present occasion that the various matters that will be placed before you are in as complete and forward a state as usual. To some of the subjects that appear on the programme I should like to draw your special attention. It is a source of great satisfaction to me to be able to announce that some progress has been made with regard to the question of disciplinary or penal powers exercised by the various licensing bodies. Following the example of the University of Cambridge, the University of Durham has now obtained a charter under which it has the power of taking away any degree from a graduate who has been convicted of a crime for which he has been sentenced to penal servitude or imprisonment. Similar steps, I am informed, are being taken by the Victoria University, its Court having decided to make an application for the necessary amendment of its charter, so that in a very short time that University also will be in possession of extended powers. In Scotland also some further steps have been taken in regard to this question. The Edinburgh University Court has again considered the question of obtaining power to remove from the roll any graduate who may be found guilty of a criminal offence or other misconduct: and the Court has decided to intimate to the other University Courts that, while remaining of opinion that the difficulties of the question are very great, it is willing to confer with the other universities, and to appoint representatives to a joint committee which might report to the various courts. The Court of the University of Glasgow, also, on July 8th, 1897, adopted a memorandum in which it expressed its willingness to take joint action with the other Scottish Universities, and suggested to the Universities' Commissioners that although the Commissioners regarded the subject of additional disciplinary powers as not within their province, it might be possible for them to leave on record in their final report an expression of opinion in regard to it; but in reply the Commissioners appear to have adhered to their former opinion, and state that they have no Parliamentary powers to deal with the question, nor any instructions to report upon it. The Universities of Aberdeen and St. Andrews will, no doubt, be prepared to adopt a course of action similar to that taken by Edinburgh and Glasgow. There is the one remaining case of the Royal University of Ireland, from which no information has been received as to any steps taken to obtain additional powers. With regard to the new edition of the *British Pharmacopœia*, I have much pleasure in informing the Council that the arduous and important work of preparation, that has now occupied about three years, is well-nigh finished. The work is now practically complete, every question of principle having been decided, and if the Council will accept the draft, which will be placed before them in the course of the present session, it will only be necessary to allow a short time for putting into action certain legal details, so that it might be confidently expected that the work may be published at an early date. The Council will be aware that during the recess Dr. Rentoul, who had been elected as one of the direct representatives for England, suddenly resigned, and it became necessary to hold a new election. As many members of the Council were absent from home at the time, the arrangements for this, as well as the responsibility, had to be entirely undertaken by myself. The election resulted, as members know, in the return of Mr. Horsley at the head of the poll. The number of penal cases engaging the attention of the Council at the present session is larger than usual, but I have no doubt that the Executive Committee will be able to arrange that the hearing of these cases may interfere as little as possible with the consideration of educational and other equally important subjects. The question of medical aid associations has received the careful attention of the committee appointed to consider it. A report on the subject will be submitted to the Council, the evidence obtained by the committee having been already placed in your hands. Other important reports will also be presented: by the Education Committee on the subject of Preliminary Examinations; by the Executive Committee on the resolutions of the Council in regard to the employment of unqualified assistants; and by the Dental Education and Examination Committee in regard to the recommendations of the Council to the Dental Licensing Bodies. Again expressing my regret at not being able to be with you at this session—the first from which I have been absent during a period of thirty-four years—and trusting that I have clearly indicated the nature of the business to be brought before your attention.—I remain, yours faithfully, RICHARD QUAIN."

The CHAIRMAN said he had been in frequent communication with the President as to the arrangement of the business to be transacted, and he should like to bear out what had fallen from Sir Dyce Duckworth, that Sir Richard Quain's mind was as intellectually active as ever, and that he had a thorough grasp of all the details of the business to be brought before the Council. He was sure they all deeply sympathise

with the President in his enforced absence and prolonged ill-health. He begged to move:

That the Council expresses its sympathy with the President in his illness, and regrets his unavoidable absence from the chair. The Council also directs that the communication from him be entered on the minutes.

Mr. Teale seconded the motion, which was agreed to.

On the motion of Sir Dyce Duckworth, seconded by Mr. Carter, it was resolved:

That, in accordance with the desire of the President expressed in his communication to the Council, Sir William Turner, the Chairman of the Business Committee, be requested to discharge during the present session the duties of the Chair.

Examinations for the Naval and Military Services.

On the motion of Dr. Heron Watson, seconded by Sir Richard Thorne, tables showing results of competitions (*a*) for commissions in the medical department of the Royal Navy, held on May 17th, 1897; (*b*) for commissions in the medical staff of the Army, held in August, 1897; and (*c*) for commissions in the Indian Medical Service, held in July, 1897, were received and entered on the minutes.

Dr. Heron Watson then moved:

That the thanks of the Council be conveyed to the Director-General of the Medical Department of the Royal Navy, to the Director-General of the Army Medical Department, and to the Examining Board of the Medical Department of the Indian Medical Service, for the statements they have respectively furnished to the Council of the degrees, diplomas, and licences of the candidates for commissions in those departments of Her Majesty's Service of the dates mentioned, showing the numbers of vacancies to be competed for, the numbers that did and did not pass, the number obtaining commissions, distinguishing the qualifications, both medical and surgical, under the several licensing bodies, and indicating the subjects in which those who did not pass were found to be deficient; with the request that these returns may in the future be continued to be furnished to the General Medical Council.

Sir Richard Thorne seconded the motion.

Dr. Glover, although he would not move any amendment, would ask Dr. Watson whether he would not couple with his resolution a request for fuller information on certain points.

Dr. Heron Watson pointed out that the tables had been obtained as a matter of favour and not as a matter of right. A good deal might be read between the lines which, he thought, it would not be advisable to make too public. The information was asked for by the Council so that it could be studied by the bodies in order that they might have the opinion of an outside body as to the results of candidates going up for competing examinations.

The motion was agreed to.

Dr. Heron Watson moved:

That it be remitted to the Examination Committee of the General Medical Council to consider and bring up a report during the present session upon the letter of date June 16th of the present year from the Director-General of the Army Medical Department, in which he conveys to this Council the expression of his regret that he is unable to accede to the request (namely, that he should notify to this Council where the Preliminary Examination in Arts had been passed, and the date of such Preliminary Examination, of any candidate who may have evinced marked deficiency in preliminary education on the occasion of his examination for admission to the Army Medical Department), as there are, to his mind, serious objections to dealing with this subject in the manner proposed.

Sir Richard Thorne seconded the motion.

Sir Dyce Duckworth said that the Council wanted to reach the bodies who passed candidates in the Preliminary Examination in Arts under what must obviously be insufficient conditions. Very few opportunities presented themselves of ascertaining what those conditions really were, unless they dealt with the examination of candidates who had already obtained diplomas. The Examining Boards entirely washed their hands of all responsibility in the matter, and threw it upon the Council, saying that it was its business to see that the candidates entering the profession were properly prepared. It was thought that by discovering the defects of the candidates for the Navy, Army, and Indian Service they might bring home to those bodies cases of gentlemen who had passed their examinations, and which examinations must have been of a very inferior order. The Examination Committee would be glad to know what the feeling of the Council was on the subject. He thought it was the business of the Council to investigate the matter and thoroughly satisfy themselves as to the quality of the examinations.

Dr. MacAlister said he thoroughly endorsed all that Sir Dyce Duckworth had said. He thought the Council should make another vigorous effort to get at the root of the matter. The motion was agreed to.

Unqualified Assistants.

The Council then proceeded to the consideration of the report of the Executive Committee on the growth of opinion of the General Medical Council in regard to the employment of unqualified assistants and "covering" unqualified persons. The report, which was signed by Mr. Bryant, was originally drawn up by a Special Committee of the Executive Committee, in response to a resolution of the Council requesting the Executive Committee to consider whether the Council's resolutions on the employment of unqualified assistants as they appear in the advertisements inserted in the medical journals, might not be rendered clearer and more stringent. The report was read by Mr. Bryant. It recited the various resolutions passed by the Council, and the decisions arrived at with regard to the cases tried by the Council from April, 1883, to November, 1897, and concluded with the following paragraph:

(16) The General Medical Council having now had this question of the illegitimate employment of unqualified assistants before them for fourteen years, and that of "covering unqualified persons" for more than ten years; and having, by frequent advertisements in the medical papers during these last ten years, by censures in some cases, and removals from the *Register* in other cases of a graver nature, proved to the members of the medical profession their entire disapproval of the employment of an unqualified assistant in the practice of medicine, surgery, or midwifery on behalf and for the benefit of such registered practitioner, either in complete substitution for his own services, or under circumstances in which due personal supervision and control are not, or cannot be, exercised by the said registered practitioner (February 27th, 1888); and having also made it widely known that they regard the practice of "covering" as "infamous conduct in a professional respect," the procedure known as covering having been defined by the Executive Committee as follows: "That, in its view, a registered practitioner covers an unregistered person when he does, or assists in doing, or is party to, any acts which enable such unqualified person to practise as if he were duly qualified" (February 27th, 1888).

The Council now give notice that on and after January 1st, 1900, the employment of any unqualified assistant in the practice of medicine, surgery, and midwifery, will be treated as an offence under the Medical Act, and may be regarded as "infamous conduct in a professional respect," but with special proviso that such resolutions "should" not hinder any duly regulated training of pupils in medical schools or otherwise by legally qualified practitioners, nor the use of trained pupils in partially treating the sick or injured under the direction, supervision, and responsibility of such practitioners, nor any legitimate employment of nurses, midwives, or dispensers.

Attached to the report was the following appendix, signed by Dr. MacAlister:

NOTICE.

Employment of Unqualified Persons as Assistants or otherwise. Whereas it has from time to time been made to appear to the General Medical Council that some registered medical practitioners have been in the habit of employing as assistants in connection with their professional practice persons who are not duly qualified or registered under the Medical Acts, and have knowingly allowed such unqualified persons to attend or treat patients in respect of matters requiring professional discretion or skill; and whereas, in the opinion of the Council, such a substitution of the services of an unqualified person for those of a registered medical practitioner is in its nature fraudulent and dangerous to the public health: The Council hereby gives notice that any registered medical practitioner who is proved to have so employed an unqualified assistant is liable to be judged as guilty of "infamous conduct in a professional respect," and to have his named erased from the *Medical Register* under the 29th Section of the Medical Act, 1858.

Further, in regard to the practice commonly known as "covering," the Council gives notice that any registered medical practitioner, who by his presence, countenance, advice, assistance, or co-operation, knowingly enables an unqualified or unregistered person (whether described as an assistant or otherwise) to attend or treat any patient, to procure or issue any medical certificate or certificate of death, or otherwise to engage in medical practice as if the said person were duly qualified and registered, is liable to be judged as guilty of "infamous conduct in a professional respect," and to have his name erased from the *Medical Register* under the said enactments.

But the foregoing notices do not apply so as to restrict the proper training and instruction of *bonâ fide* medical students and pupils, or the legitimate employment of dressers, dispensers, and surgery attendants, under the immediate personal supervision of registered medical practitioners.

The Committee then went on to state that,

Having considered this subject as set forth in the foregoing statement on the growth of opinion in regard to it, and having considered also the proposed alteration of the Council's resolution, drafted by Dr. MacAlister and entered in the appendix, directed that Paragraph 16 of the foregoing report should be published annually in the medical journals, in lieu of that now inserted.

Dr. MacAlister thought a good deal of explanation was necessary to make the report clear. He was asked by the

President to draw up something for the information of the Executive Committee as to the kind of notice he had in view when he moved the resolution in May last that the notices of the Council might be made clearer and more stringent. Having gone through the memorandum of Mr. Bryant, showing the gradual growth of opinion on the part of the Council, he drew up the notice appearing in the appendix and sent it to the President, who made some suggestions, and, after a few verbal alterations had been made by the legal advisers, it was sent to the Committee, who had simply placed it as an appendix to the report. He could not understand how the Committee could think paragraph 16 of their report was in any sense a notice, for by itself it obviously required the preceding fifteen paragraphs to make it intelligible. It was necessary to have a notice which could be placarded or advertised complete in itself, and for that reason he considered the notice drawn up by himself to be the most suitable for the purpose.

The CHAIRMAN pointed out that no date was fixed by Dr. MacAlister's notice.

Dr. MACALISTER said that everything included in the notice had already been dealt with by the Council. There was nothing really new in it. It was an unmistakable statement of their present stand in the matter rather than any extension of legislation; and that being so, he did not see why the notice should not be given at once. He moved:

That the notice to be inserted as an advertisement in the medical journals be that set forth in the appendix to the Executive Committee's report.

Dr. BRUCE seconded the motion. He thought the notice contained in the appendix put the whole thing in a plainer and more direct way than the Committee's report.

Mr. TEALE felt very strongly that the proposal in the report fixed for the year 1900 was a new departure—and it was intended to be a new departure, The previous definitions of the Council had left a considerable margin between what was legitimate and what was illegitimate, and people could say they were not entirely breaking the rules. What the Council wanted to do was to make it absolutely clear where the line was drawn between pupilage and unqualified assistants. If it was clearly settled that any person was employing an unqualified assistant in his practice, and that unqualified assistant did not come under the definition of a pupil, then it should not require much proving to find a man guilty. If such a sharp line as that was going to be taken two years was not too long a notice to give, seeing that throughout the country there was an enormous amount of work done by unqualified assistants. In giving the notice the Council should make it so clear that no man could say he was being dealt with unfairly. He thought that when the notice was settled it should be sent from the Council to every man on the *Register*, and a copy should also be given to every person thereafter placed upon the *Register*. With regard to the definition between pupilage and unqualified assistantship he had had conversations with men who told him that the doing away with the old pupilage had been to them a very great loss in their practice, and who considered that they might use the senior students more than they had done. He thought the Council would make that absolutely safe if they were to define a pupil as a person who had not been for more than six years registered as a medical student.

Sir RICHARD THORNE considered that in some respects Dr. MacAlister's notice was distinctly clearer than that of the Committee. The latter would seem to show that anybody could employ unqualified assistants up to 1900, but that after that it would be regarded as infamous conduct in a professional sense, whereas for years the Council had been striking men off the *Register* for the offence.

Mr. GEORGE BROWN said he did not think anything the Council could do would receive the approbation of the profession at large more heartily than the attempt on its part to restrict the employment of unqualified assistants to what was really their legitimate duty—the indoor work of an ordinary surgery. He was sorry Mr. Teale was in favour of a long notice being given, for the Council had for the last fourteen years cautioned medical practitioners against the employment of unqualified assistants. It was now a question whether the time had not arrived for the Council to take more stringent steps, and enforce the restriction of their employment. In many mining districts it was a common custom for practitioners to put unqualified men in distant parts of the district and allow them the sole control of the practice; and that the Council should sanction that for another day would be discreditable. He would rather that notice should be given that the more stringent regulations would be put in force at the next session. He could quite understand that there might be certain cases where men had passed certain examinations but had been unable to qualify fully, but he thought the Council would be able to deal with cases reported to them on their merits, and it would be quite time to adopt more merciful views when the cases were before them. He supported Dr. MacAlister's proposition, which seemed to him to be more to the point than that of Mr. Bryant. He thought that Dr. MacAlister's notice might be amended by making it refer to "unqualified" persons instead of "unregistered," for he knew of no Act which compelled a qualified practitioner to be registered. A man obtained his qualification to practise before he registered, and the object of registration was to enable him to recover his fees and sign death certificates. He knew of young men who were too poor to pay the fee for registration for several years after they had qualified. Dr. MacAlister's proposition said nothing about the employment of midwives, while Mr. Bryant's exempted those who employed them under their immediate supervision. If the proposed Bill for the registration of midwives became law, it might be necessary for many general practitioners to employ midwives, and therefore no resolution ought to be passed which would operate against a medical man in the legitimate practice of his profession.

Mr. CARTER said he did not think the Council was called upon to consider what would be received with approbation: it was called upon to consider and, as far as possible, do what was right. Mr. Brown, he thought, had forgotten that the Council had no recognition of qualified practitioners who were not registered. Assuming a practitioner had a qualified unregistered assistant, he could not employ him to attend any case which was likely to terminate fatally because he would be obliged himself to give a false certificate. There was another point on which he thought the profession generally would not sympathise with Mr. Brown, and that was his view that there were a certain number of people who had entered the profession in such a condition that they were unable to pay the registration fee. It appeared to him (Mr. Carter) that nothing would be more unfortunate for the profession than to encourage the entrance into the profession of men so situated. They all knew that there was, perhaps, no harder trial to sound principle than great poverty, and if they were to have men practising who were unable to scrape together £5 for the registration fee the probability was that before long they would have those men before them in some kind of trouble, even if they did not come before courts differently constituted. He trusted therefore that the possible existence of qualified and unregistered practitioners might be wholly omitted from the consideration of the Council in the question.

Dr. ATTHILL asked whether it would not meet Mr. Teale's view if the dates were left out altogether?

Dr. CAMERON agreed with Dr. MacAlister that the notice in the appendix was much more explicit and clear than that of the Executive Committee, but he also agreed with Mr. Teale that a little time should be allowed to pass before it came into force, and that it should be made clear what was a pupil in contradistinction to an unqualified assistant.

The CHAIRMAN considered it desirable that the Council should have the rider before them which had been handed to him by Mr. Teale:

That it be a rider to the proposed resolution on the employment of unqualified assistants: that the decision and definition of the Council be issued to every medical practioner on the *Register;* and that the definition of pupil assistant, as approved by the Council, be "a medical student in whose case not more than six years have elapsed since his registration as a medical student."

Mr. TEALE hoped that the Council would decide 1900 as the date when it would take the new departure sharply and clearly.

Dr. MCVAIL believed that if the rider was added by Dr.

MacAlister to his resolution it might be carried unanimously. Then the question could be considered as to when it should come into operation.

Dr. MacAlister pointed out that as a notice was inserted every year in the medical journals in October, his resolution would appear in October next.

Dr. Heron Watson said that Mr. Bryant's notice stated that "on and after January 1st, 1900, the employment of any unqualified assistant in the practice of medicine, surgery, and midwifery will be treated as an offence under the Medical Act, and may be regarded as 'infamous conduct in a professional respect.'" He believed that the Council had all along treated it as an offence under the Medical Act. Why, therefore, should they now speak of it as a matter only in futurity? All that was required was that the Council should reiterate the fact that they did treat it as such. Then it appeared to him there was no need for both "treated as an offence under the Medical Act" and "as infamous conduct in a professional respect," as the Medical Act did not contain any definite offences of any other kind on which a man could be tried.

Dr. MacAlister asked if the Council in the future meant to act both as prosecutor and judge. It was not part of the Council's duty so to act, and that was the view taken long ago.

Mr. Bryant explained that the report was drawn up by him with the view simply of giving information to the Executive Committee, and he had no idea that it would be presented as the report of the Committee. He was sorry to find it was brought forward in antagonism to the very excellent appendix of Dr. MacAlister. He did not wish the Council to adopt any section of his report. With respect to modifying the terms in the last paragraph, he asked Dr. Watson to remember that that last sentence was only a part of paragraph 16, and it was not the intention that that part should neutralise the effect of the whole of the paragraph. It was not his wish or the wish of the Committee to deviate a hair's-breadth from what the Council had hitherto done, except to certify that on a certain date a new departure would be made such as Mr. Teale had emphasised. He liked Dr. MacAlister's form a great deal better than the report, and he should vote for the rider of Mr. Teale.

Sir Richard Thorne and Dr. Glover having spoken,

Dr. MacAlister replied to the various remarks which had been made. A qualified man, he said, had no right to be practising without registration, and he based his contention on Clause 36 of the Act of 1858. There were some persons who held that "qualified" and "registered" were not in all cases synonymous, and therefore it was necessary to use both words. The legal advisers had suggested and required it. The word "midwives" was in the draft, and he did not know how it came to be omitted. He asked permission to restore it.

The restoration of the word "midwives" was agreed to.

Dr. MacAlister, continuing, said that with regard to pupils he thought there was a little confusion in the minds of the Council. It could not be pretended that a six years' student should not be instructed any more, and yet that was the effect of the rider. Clearly the distinction of a practical kind between a pupil and an unqualified assistant was whether or not the pupil paid for his instruction or was paid for his work. He would not put it in his resolution. It was a question of evidence in any given case. He did not believe in the employment of medical students for the advantage of their masters.

Dr. MacAlister's resolution—

"That the notice to be inserted as an advertisement in the medical journals be that set forth in the appendix to the Executive Committee's report—

was then put and carried unanimously.

The consideration of Mr. Teale's rider was then proceeded with, and it was agreed to consider the second portion of the rider first:

"That the definition of pupil assistant, as approved by the Council, be a medical student in whose case not more than six years have elapsed since his registration as a medical student."

Dr. Tuke quoted statistics he had compiled to show that the period of six years would be unfair, as the average period taken by students was six and a-half years, many far exceeding that time.

Dr. MacAlister said they were defining a word which never occurred in the notice. A "pupil assistant" was a new creation of Mr. Teale's.

Sir Richard Thorne thought six years was too short, but did not think it should be more than seven.

Dr. Cameron considered that when a man became a chronic student, if he continued as a student, he would be better at his books than aiding in the practice of a general practitioner.

Dr. Bennett asked whether the receipt of a salary should not be included in the definition?

Mr. Teale said that would necessitate every case being investigated as to payment.

Sir Philip Smyly thought there was a definite regulation that the last year of study might be employed with a practitioner. It seemed to him that the whole question was shutting one door and opening another very wide.

It was agreed to substitute seven years for six; and on the motion of Dr. Tuke, seconded by Mr. Brown, the debate was adjourned.

The Council then adjourned for committee work.

Wednesday, November 24th.

Sir William Turner in the Chair.

The Council had as its first business a letter from Sir Richard Quain, thanking the Council for their vote of sympathy with him in his illness.

The Chairman also reported the resignation of Dr. William Moore, and stated that the President had reported the fact to the Privy Council, in whose hands the matter now lay.

Unqualified Assistants.

The debate on Mr. Teale's rider was then resumed, Dr. MacAlister pointing out that in the last paragraph of the appendix there was a misprint; and that, instead of "medical students *and* pupils," it should be "medical students *as* pupils."

Dr. Tuke objected to the definition proposed by Mr. Teale. The definition, he considered, would exclude a number of medical students from a line of study which was approved of by the Council, for by the regulations of the Council six months could be spent in practice with a general practitioner. Again, he thought it was extremely dangerous to attempt to define in the present instance. It was impossible to foresee what subterfuges might be used to get behind the definition. What was to prevent medical students re-registering and so continuing unqualified medical assistants? It might be even worth the while of some unqualified medical assistants to work up for a few months and pass a preliminary examination, and for seven years to come be able to act as unqualified assistants under the title of pupil assistants. It seemed to him that the position was sufficiently well guarded in the notice which it was proposed to send out. He objected to the term "pupil assistant."

Sir Christopher Nixon agreed with what fell from Dr. Tuke about the objection there was to providing a new term. He thought as it stood at present in the recommendation of the rider the term was simply a synonym for unqualified assistant, and in that way seemed open to objection. He took the very strongest view that the Council should do all in its power to stop the notoriously infamous practice, notoriously infamous having regard not to mere professional interest, but to public interest. What he was afraid of was that the rider, if adopted, would simply provide facilities for continuing the very line of conduct which they condemned, because they provided the general practitioner by specific regulations with assistants which the Council recognised in the most formal way. Those men became assistants in their fifth year of medical study, and they were available then for the general practitioner for two years, and there would be always a very large floating contingent of that class of population, and when the two years had been utilised another assistant could be applied for. The Council also should bear in mind the greater or less vagueness of the words used in defining the duties of those students. He held that if the Council established the rule allowing the employment of pupil assistants for two years they would not be able to obtain a conviction against any man for the use of the students under the present system of regulations, except the suggestion of one of the

members of the Council was adopted clearly defining that the pupils did not work for gain, for that was where the ultimate objection came in.

Dr. McVAIL said he certainly intended to vote for the motion of Mr. Teale, and he voted for it for the very reasons that Sir Christopher Nixon had given for voting against it. Sir Christopher undoubtedly saw a difficulty in pupils attending the sick under any supervision, but that was a form of unqualified practice which the Council had agreed to give a trial to. At the time everybody saw there was a danger of the Council setting going on its own account a form of unqualified practice, but the Council had not got the length of rescinding the resolution which they passed. He thought the appendix of Dr. MacAlister was admirable down to the last clause, and if it had been passed without the last clause then Mr. Teale's motion would not be required. He held that as the Council had passed the final clause, a most dangerous clause, a clause that would allow of a practitio ner in large practice having several men who could go round about in a colliery district and do a great deal of work, some limit must be defined, and he saw no way of limiting it but by some such method as Mr. Teale proposed. One objection to it was the fact that some men gave a long time to the preliminary and scientific work at the universities, and therefore perhaps seven years was somewhat a sharp limit; but he thought it was the most unlikely thing in the world that any of those men who had gone in for a high-class preliminary scientific training should desire to go and live as a pupil assistant with a private practitioner. If the appendix was allowed to go without the resolution of Mr. Teale, the Council would be simply opening the door widely for the admission of unqualified practitioners.

Dr. ATTHILL said he also intended to support Mr. Teale's resolution, but he asked Mr. Teale to modify the terms "medical student" and "pupil assistant." He did not see where they occurred in Dr. MacAlister's resolution. He thought the better words to use would be "medical students as pupils," or "the legitimate employment of dressers, dispensers, and surgical attendants." He asked the Council to consider whether it would not be an advantage to put in the word "registered" medical student as well as the number of years which elapsed since his registration, otherwise a man might take a course of lectures and be a *bonâ fide* medical student although he was not registered, and he might go on in that capacity and then register and go on for seven years more.

Mr. GEORGE BROWN thought the term "pupil assistant" should not be introduced. He supported Mr. Teale's resolution, and declared that it was most desirable that the seven years should be put in, because otherwise it would leave the door open to a great deal of abuse. He hoped if the rider of Mr. Teale's was accepted it would have the effect of *bonâ fide* medical students spending more of their curriculum with the general practitioners in learning the routine of ordinary medical practice.

Dr. MACALISTER thought the discussion had been very useful, and hoped it would get to the knowledge of the profession, as it would show there was a very large prevalence of opinion on the Council that the plea that an unqualified assistant was really a medical student was one which would be scanned very closely indeed by the Council if it was put forward by an accused practitioner. The Council wanted it to be known to the public that the plea would not be received with favour, and that a man would have to produce a great deal of proof indeed before he would be believed. He thought the discussion also showed the danger of trying to amend legal phraseology without due consideration of all the bearings of that phraseology. Very few indeed of the members of the Council who had spoken seemed to have read the clause. The clause was not for the purpose of encouraging students to work with practitioners, not for allowing students up to seven years' upstanding to go and act as assistants, but it was a negative clause which said that unqualified assistants would not be allowed by the Council, but that the Council did not propose to restrict the training and instruction of pupils by duly qualified medical practitioners. The Council did not in any way encourage the use of the student for the purposes of gain in the practice of a medical practitioner. If the practitioner alleged that his assistant was really a student, he would have to prove his good faith in the matter, and the Council ought not to go out of its way to help him to prove it. If the Council were going to help a general practitioner by saying "We shall not ask any questions if your assistant has not been registered seven years" it tied its hands in a very serious way. It practically said the Council would consider no student an unqualified assistant if he had not been registered for seven years. He should like every case to stand on its merits. If a practitioner brought up his assistant as a student the Council could go into the position in which he was employed, the kind of work he did, and the responsibility thrown upon him. Another point, and a serious one, which had been touched upon by Dr. Tuke, was that when they began to define they did more than define; one of the very first things they did by putting in anything of the kind was to suggest to all the ingenious rogues in the profession an easy way of evading the matter. A great many unqualified assistants were not registered medical students, and what was there to prevent those unqualified assistants passing some of the Arts examinations, registering to-morrow, and having seven years clear run before the Council could touch them? What was there to prevent a general practitioner having a succcession of unqualified assistants, advertising that no unqualified assistants need apply who had been registered for more than two years?

Mr. CARTER pointed out that it was only in the last year of study that a student was supposed to be sufficiently advanced to profit by the instruction he would receive at the hands of a registered practitioner. Therefore, if the Council put anything into its regulations which would allow a man to serve as an unqualified assistant prior to the time at which he could receive benefit himself or confer benefits on others, it would be opening a door for a very grave and serious evil. He agreed with Dr. MacAlister that the best way of leaving the question would be to leave it in such a state of indefiniteness that the discretion of the Council might be exercised upon every case as it came up.

Sir PHILIP SMYLY said statements had been made that a man might serve two or three years as an assistant, but the Council clearly had defined that he could not do any such thing. A statement had also been made that the Council had encouraged that kind of thing; but if they looked at the wording of the regulation it would be seen that only six months was permitted.

Dr. LEECH thought there were cases in which men might with advantage go to practitioners for some months after the seven years had elapsed, and therefore to inflict an injury on the few to save the Council trouble would not be fair. He could not support Mr. Teale's resolution.

Dr. GLOVER said that while he felt it very difficult to arrive at a satisfactory definition of the kind of people the Council approved or disapproved of, he could not agree with Mr. Carter in belauding indefiniteness. If the Council were going to pass such a stringent regulation as that now before them, there should be some attempt at precision, and he urged that both in the interests of the practitioner and in the interests of the pupil, if there was to be any improvement of the Council's procedure, if there was to be an effective stop put to what he felt to be a great and continuous evil, there must be precision of language if not definition.

Sir RICHARD THORNE said he suggested on the previous day to Mr. Teale that he should lengthen the period from six to seven years; but he was bound to say now that, as a result of the discussion, he would rather not vote for the rider at all.

Dr. GAIRDNER said the more he looked at the rider the less he liked it, and he agreed with Dr. MacAlister that the object would be better served by not defining, and by leaving each case open to be investigated on its merits. If they were to define, he believed the time limit was not the proper principle to go upon, but that the proper principle was the difference between the man who was paying for education and the man who was receiving money and performing work for his own profit.

Sir WM. THOMSON considered that the rider as it stood was perpetuating the system of unqualified assistants which the Council were trying to get rid of; at the same time, he felt that if the Council did not instruct the medical profession as to what a pupil medical student was, they would spend the whole of their sessions in investigating the cases that would come up for consideration. What he should like to know

would be whether it would be possible for the student, having entered in his fifth year into the employment of a general practitioner, to go on *ad infinitum*.

The Chairman said the resolution passed by the General Medical Council in 1890 was really an instruction to the medical authorities, showing that the Council required five years of medical study. It wished the last year to be spent in clinical work, and it allowed the pupil to go to a medical practitioner for six months of the year. He had reason to believe that there was scarcely a single medical authority in the country that had accepted it as admitting men to their examination: they had preferred that men should get their clinical instruction at some recognised hospital.

Dr. MacAlister said that every practitioner who was allowed to take a student for six months must have been specially recognised by one of the licensing bodies, put on the list as a respectable practitioner, and that was not the man who was going to come into the dock.

Mr. Victor Horsley felt he ought not to record a silent vote against Mr. Teale's rider. He felt very strongly what had been stated by other members of the Council, that they were discussing something which did not exist, a "pupil assistant." If that was so, he respectfully suggested that the discussion was scarcely in order; but at any rate he deprecated any further discussion of the existence of such a being as a "pupil assistant." He felt with Sir William Thomson that when Dr. MacAlister's extremely lucid instruction went to the general practitioners, the general practitioners should have something from the Council by way of help to understand its various paragraphs, although it seemed to him that those paragraphs were perfectly clear. Still, he knew there were some who would not understand them, and therefore he thought they ought to be assisted in that direction.

Mr. George Brown, by way of explanation, said he had been misunderstood, he was afraid, by the Council with regard to his remarks that he should vote for Mr. Teale's motion. It was felt that probably he was going to encourage the definite employment for a long period of time of those who were registered as students in the capacity of unqualified assistants, but nothing was further from his thoughts.

Mr. Teale thought the Council clearly saw what was in his mind. He felt that the Council were taking practically a new departure, and were trying to draw the line between all unqualified assistants and pupil assistants. He was very anxious that the Council should let the profession clearly know what was intended. Although he had proposed the resolution, he thought perhaps it had better not go to the vote. He had been very much convinced by the arguments of Dr. MacAlister and others showing that the Council would land themselves in difficulties if the motion were passed. He had the permission of his seconder to withdraw his rider if the Council would allow him to do so. He thought the discussion would be widely read by those who were employing unqualified assistants and would be of very great value in clearing the atmosphere.

By permission of the Council and of his seconder, Mr. Teale withdrew Section (*a*) of his rider, and substituted for Section (*b*) the following:

That the notice adopted by the Council in reference to the employment of unqualified assistants be issued to every medical practitioner on the Register, and that a copy thereof be given to every person who, in future, is entered upon the *Medical Register*.

Section (*b*) thus substituted was agreed to.

On the motion of Sir Dyce Duckworth, seconded by Dr. Pettigrew, it was agreed:

That the order of May 25th, 1894, respecting the advertisement in the medical journals of the resolution as to unqualified assistants and the offence of covering be rescinded.

Mr. Teale then moved and Dr. Cameron seconded the following motion:

That, with the entire disuse of unqualified assistants—with the exception as to the instruction of *bonâ-fide* medical pupils—an intimation be issued that the Council will act upon this decision on any case which occurs after January 1st, 1900.

Dr. Gairdner said that the Council had declared that a certain thing was fraudulent and dangerous to the public. Were they now going to say that up to 1900 they would give close time?

Dr. Glover said that the General Medical Council itself had given negative sanction to the use of unqualified assistants in cases where there was no gross misconduct. The Council had admitted them, and must take its share of the responsibility of the fraud. It would not do all of a sudden to charge their medical brethren, who had practised the system for generations, with fraud without notice.

Mr. Teale said he felt very strongly that they ought to take the course proposed in his resolution, because when gentlemen had been before the Council the burden of the question had been how far they had transgressed. It had not been "Do you employ such a person as an assistant?"—"Yes, I do."—"Is he qualified?"—"No,"—and the whole thing was ended. On the contrary, there was a long discussion on both sides as to how near he went to what the Council thought was wrong. He thought they must all agree they were taking a new departure, and therefore they ought to give due notice.

Dr. MacAlister maintained that if the Council stated it would not take any action in such cases for two years, it meant they would get no cases of "covering" brought before them for that time; but if they did not fix a time, it was open for them to say they would not take harsh action for two years, whilst if a bad case turned up they would be free to act.

After some further discussion Mr. Teale's motion was negatived by 23 votes against 3.

Length of Speeches.

The next business was to receive the following report from the Executive Committee on the subject of the limitation of the length of speeches, pursuant to the following resolution:

That it be referred to the Executive Committee to consider and report whether it would be desirable for the Council to adopt a standing order to the effect that no member of the Council, other than the President or the Chairman of a Committee introducing a report, shall speak to any motion for more than ten minutes without the permission of the Council being asked from the Chair, and granted by resolution moved, seconded and put without debate.

The Executive Committee reported that they had considered the Council's resolution of May 31st, 1897, and were not prepared at this time to recommend the Council to adopt a standing order to limit the length of speeches.

On the motion of Dr. MacAlister, seconded by Mr. Bryant, the above report was received and ordered to be entered on the minutes.

Medical Reform.

It was moved by Dr. MacAlister, seconded by Mr. Bryant, and agreed to:

That the following report from the Business Committee be received and entered in the minutes.

A Petition as to Medical Reform.

The Business Committee reported as follows:

They have had laid before them copies of a petition headed Registered Practitioners of Great Britain and Ireland to the General Medical Council, signed by fifty-three persons in all. Under Standing Order VII, 16 (p. 14, "No petition shall be received by the Council which is reported..... to refer to more than a single main question." The petition under consideration refers to ten or more main questions relating to the powers of the Council, to the ethics of the medical profession, and to proposals for medical legislation in various directions. The Committee accordingly report that the petition is not in accordance with the standing orders, and is thus excluded from being received by the Council.

Mr. George Brown said he should be glad if the Council could see its way clear to suspend Standing Order VII, 16, in order that the deputation might be received, on the clear understanding that its members should confine their remarks simply to one of the main questions. He begged to move the suspension of the standing order.

Sir William Thomson seconded the motion.

Dr. MacAlister hoped that the standing order, which was for the protection of the Council, would not be suspended. The Council was open to receive a deputation of practitioners who had a definite grievance on a single point and consider their statements, but the standing order was for the prevention of pamphlets being thrown at the head of the Council upon which speeches might be made lasting for an indefinite period.

Mr. George Brown's motion was negatived.

Restorations to the Register.

A report of the Executive Committee was next considered. The Committee recommended that the name of one person

should be restored to the *Register*, and reported in the case of the other that he had no registrable qualification. The first-mentioned case proved to be somewhat complicated, and some considerable discussion took place as to whether he really had a registrable qualification. In the course of the debate it transpired that the licensing bodies, although they might remove a name from their *Register*, had no power to enforce the return of the diplomas which they had granted. As the matter presented some legal difficulties, Mr. Bryant withdrew his motion for the adoption of the recommendation of the Committee, and it was agreed, on the motion of Dr. MacAlister, seconded by Mr. Bryant, that the further consideration of the case should be postponed until Mr. Muir Mackenzie was present.

The recommendation of the Committee with respect to the other case was agreed to.

The Midwives' Registration Bill.

The following report from the Executive Committee was received:

The Executive Committee inform the Council that they have received the following report from the Midwives' Registration Bill Committee: The Midwives' Registration Bill Committee beg leave to report to the Executive Committee that, having regard to the letter from the Privy Council Office of November 20th, 1897, they are of opinion that there is no necessity for them to submit any observations to the Council on the Bill of last session. They are further of opinion that it is desirable that the Council should appoint a Committee to report on any Bill for the Registration of Midwives that may be introduced during next session of Parliament, and that may be referred to the Council by the Government.

The letter from the Privy Council Office stated that there would appear to be no necessity for the General Medical Council to consider the provisions of the Midwives Registration Bill until it is reintroduced.

It was moved by Sir Richard Thorne, seconded by Dr. Glover:

That the Council adopt the report, and appoint the present Committee together with one other member, to report on any Midwives Bill that may be submitted by the Lord President before or during the coming session of Parliament.

Mr. Victor Horsley thought that the function of the Council was a good deal higher than merely altering the Bills sent down to the Privy Council. He therefore moved as an amendment:

That a Committee be appointed to watch the progress of the midwives question.

Mr. Carter said that the function of the Committee, if formed, would be to report to the Council upon the provisions of any Bill submitted to it. It would be useless for the Committee to discuss the general questions, because they would all be discussed again at the Council meeting.

Mr. Horsley withdrew his amendment on the understanding that the functions of the Committee would include what Mr. Carter had said, because it met his point.

The motion was agreed to, Mr. Victor Horsley being elected in the room of Dr. Rentoul.

Dr. McVail then moved:

That the General Medical Council is of opinion that the practice of midwifery cannot be safely entrusted to persons who have a less knowledge of midwifery and of medicine and surgery than is required for admission to the *Medical Register*.

He thought the time had now arrived when the Council should give a clear expression of opinion as to what might or might not be done with regard to the creation of a new branch of the medical profession. Such an opinion would be of very considerable assistance to the Government, and to any members of Parliament who might be induced by a demand on the part of a certain section of the public to introduce a new Bill into the House, and also to Sir Richard Thorne's Committee.

Dr. Glover raised a point of order. The Council had already memorialised the Government to create a class of midwives. They had spent days in discussing the question, and spent hundreds of pounds on it, and if it was now in the power of any member to alter the decision, surely he should begin by rescinding that and other previous resolutions.

The Chairman ruled the motion was in order.

Dr. McVail, continuing, said it was not in the least likely that that class of practitioners would be confined to women. There were a great many men throughout the country who had gone through a part of the medical curriculum, and who had attended midwifery cases as unqualified practitioners. Was the Council to open the door to practitioners of this kind? To attend an ordinary labour involved a large amount of responsibility. In 1874 the Dentists' Act brought a new class of practitioners into being, dealing with matters connected with the teeth. The General Medical Council required that those men should go through a very large part of the ordinary medical curriculum in addition to all the other special matters connected with dentistry. Would anybody suppose that the responsibility of a dentist was in any degree to be compared with that of a person who attended a case of midwifery, where the ordinary condition might in a very brief period become highly complicated, and where the health of the mother and child might both be concerned? He maintained that the two cases were not comparable, and hoped the Council would pass the resolution he had moved.

Dr. Atthill seconded the motion. No one, he said, could have had a more extensive opportunity than he had had of seeing the injuries inflicted on women and infants from want of knowledge of the principles and practice of midwifery; and in his opinion the medical profession were ignorant of the prevalence of the evil. He was not exaggerating when he said that the number of deaths of infants and mothers was enormous as the result of ill-practice. In consequence of that, and of the fact that midwifery was almost the very first branch of practice to which a young man was called when he entered on general practice, it seemed to him that every effort should be made by the Council to enforce a proper standard of education in midwifery on every person put on any form of register.

Mr. Carter had no doubt the Council were in sympathy with the sentiment of the resolution, but he questioned whether they would be acting wisely in accepting it. He was surprised to see a resolution condemning *in toto* a proceeding which a committee had just been appointed to inquire into.

Dr. Glover said all the Bills that had been before the Council only contemplated women practising midwifery under the most limited circumstances and under the supervision of the medical profession. Midwives could not be exterminated, and the only thing to do was to bring them under control and limit their actions. If Dr. McVail's resolution was passed the question would be taken not only out of the hands of the Council, but out of the hands of the profession.

Dr. MacAlister proposed as an amendment:

That it is inexpedient for the Council to commit itself to an abstract resolution which may preclude it from giving full consideration to any future Midwives Registration Bill submitted to it by the Government.

Mr. Bryant seconded the amendment, which was carried, 16 voting for and 4 against.

On being put as a substantive motion, it was agreed to.

Fines under the Medical Acts.

The following report of the Committee on Fines within the metropolitan area was then received and entered on the minutes.

Dr. Glover, as the Chairman of this Committee, informs the General Medical Council that in the course of the last session he had a second interview with Mr. Jesse Collings on the subject of penalties under the Medical Acts and the Metropolitan Police Courts Bill, and at his request on this subject, in the course of which he expressed to Mr. Collings the anxious wish of the Council that fines imposed under the Medical Acts should be paid over, in accordance with the spirit and letter of the Medical Acts, to the Treasurers of the General Medical Council, and in defrayment of the expenses of prosecutions, Mr. Collings expressed much sympathy with the object of the General Medical Council, and willingness to consider it on any suitable occasion, but said that the present measure was so technical and limited in its nature that the subject could not be dealt with in it.

On the motion of Mr. Brown, seconded by Mr. Victor Horsley, it was resolved:

That the question of the payment of fines under the Medical Acts in the metropolitan areas and certain boroughs be referred to the Committee appointed on May 31st, 1897, Mr. Horsley being added to the Committee.

Mr. Brown observed that the Committee might see if the Council could take any action with the view to getting the clause in the Medical Act amended, so that the fines should go to the prosecuting person.

The Council then adjourned.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

SUBSCRIPTIONS to the Association for 1897 became due on January 1st; and notice is hereby given, in accordance with By-law 5, that Branch Secretaries' subscription accounts close on October 31st, and all unpaid subscriptions must be forwarded after that date to the General Secretary, 429, Strand, London. Post-office orders should be made payable to the General Post Office, London.

British Medical Journal.

SATURDAY, NOVEMBER 27TH, 1897.

THE CASE FOR VACCINATION.

Some Recent Evidence.

N the course of its Final Report the Royal Commission on 'accination calls special attention to one feature of the evience submitted in support of the Jennerian prophylaxis. 'uring its seven years' sittings the question of the value of accination had been approached from many different sides, nd many different kinds of evidence had been adduced. he striking fact was that so many lines of argument, and) many groups of facts, should lead in the end to the same nclusions in support of vaccination as an agency both for ie prevention and for the control of small-pox. It is not rprising that the keen intellect and legal training of Lord erschell caused him to give special weight to this concurnce of evidence. The history of vaccination was strongly esumptive in its favour. In many dairy counties in Engnd, and also in parts of Ireland and some places abroad, ere had long been a belief that cow-pox was preventive of nall-pox. This belief was not confined to dairy workers, :t was shared by many medical men. Inquiry and obrvation by Jenner and Pearson, and others, went to ove the truth of these prevalent opinions. The value vaccination was tested in the early part of the cenry, not only by means of intentional insertion of nall-pox matter into vaccinated persons, but also by exsure of vaccinated and unvaccinated persons to infection the ordinary way—a test which, intentionally or uninntionally, was being continually applied in the frequent esence of small-pox, both in households and in communis, in the early years of the century.

The Commission found that if the question were put, ether small-pox mortality had diminished after the introtion of vaccination, the reply was in the affirmative. If question were, whether in houses actually invaded by the ease small-pox differentiates between the vaccinated and unvaccinated inmates, the reply was again in the affirma; the vaccinated escaped, and the unvaccinated were cked, out of all proportion to their respective numbers hin the households. If the question were, whether, in an cted community, small-pox makes the same differentia as in infected households, the answer was the same. h regard to particular classes—postmen, policemen, hosl nurses, etc.—if it were asked whether these, being reinated, are specially protected as compared with the accinated and the unrevaccinated in their respective communities, the answer was again in the affirmative. If the inquiry were whether small-pox, which in former times was a disease of childhood, as measles and whooping-cough are at the present day, has under vaccination departed to a great extent from childhood, and transferred its attacks to later periods of life from which the vaccinal protection has more or less departed, the answer once more was an emphatic "Yes." Similarly, if investigation were made, whether amongst persons actually attacked by small-pox, the vaccinated suffer less than the unvaccinated—have milder attacks and a lower fatality rate—the answer was still the same. Yet again, if the question were whether vaccination well and sufficiently performed is a greater protection than vaccination ill or insufficiently performed, once more the reply fell into line with the answers that had gone before. Cumulative and intercorroborative evidence of this sort was abundantly placed before the Commission, and the strength of it stands out all the more prominently in the face of the time and labour that have been fruitlessly spent by opponents of vaccination in endeavouring to make any effective reply.

For a considerable time now students of epidemiology have been waiting with interest and impatience for the publication of the reports on the various outbreaks of small-pox which occurred during the sittings of the Commission. These reports were prepared not by inspectors of the Local Government Board, but by medical men appointed independently by the Commission itself. Within the last few weeks they have begun to be published, and in such close succession as to provide quite an embarrassment of riches in the shape of evidence in support of vaccination. For Leicester, Warrington, Gloucester, London, Glasgow, Manchester, Oldham, Leeds, etc., they have now been issued. Detailed analyses of these reports have been published in the British Medical Journal.[1] Their publication strongly confirms the view of the Commission as to the importance of the convergence of the lines of evidence which were put before it.

Dr. Luff's report on small-pox in London is very interesting in the full details it affords as to the comparative protective power of good vaccination and poor vaccination as represented by quantity and quality of vaccination scar, and the details he gives as to foveated and unfoveated scars add a most useful chapter to our knowledge of the subject.

The several towns themselves, previous to the outbreak of small-pox in them, had varied much in their practice of vaccination. Warrington was well vaccinated so far as concerns primary vaccination. In London there had been in 1883-91 a vaccination default of some 10 per cent., and in Leicester and Gloucester it had been much greater, reaching to over 80 per cent. in the years immediately preceding the outbreaks of small-pox. These facts are curiously illustrated in connection with the outbreaks. In Gloucester the disease owed its spread very largely to elementary schools. Given an invasion of schools in a town in which infantile vaccination has been largely neglected, rapid and extensive spread of small-pox is what might have been expected, and is what actually occurred. In Leicester scarlet fever was being treated in one part of the hospital while small-pox was being treated in another. Here the infection found its way into the scarlet

[1] Leicester, British Medical Journal, October 23rd, p. 1208; Warrington, November 6th, p. 1346; Gloucester, November 13th, p. 1436; London, *ibid*, p. 1437; Glasgow, Manchester, Oldham, Leeds, etc., November 27th, p. 1536.

fever wards—again among children. While those who were thus attacked by small-pox were retained as patients, the rest of the children in the scarlet fever wards were sent home, and no more scarlet fever was admitted to the Leicester Hospital during the outbreak of small-pox. Then followed a tremendous spread of scarlet fever in Leicester, so that the cases mounted up to thousands. This aspect of the so-called Leicester "system" of dealing with small-pox had, however, not been developed at the time when the Leicester witnesses gave evidence before the Royal Commission.

In Warrington, on the other hand, infantile vaccination had been well attended to, and here, instead of a special incidence of the disease among school children, or a special spread in and from individual schools, we find from Dr. Savill's report that one of the most interesting incidents of the outbreak had to do, not with a place where children were concerned, but with a place occupied by adults. The disease attacked a large ironworks, and was beginning to spread rapidly among the workmen. Then the Committee in charge of a sick fund belonging to the workmen passed a resolution that after a particular date no sick pay would be given to employees attacked by small-pox who had not accepted revaccination. The men were revaccinated in large numbers, so that in a short time some 1,300 or 1,400 had undergone the operation. By the end of another fortnight, small-pox had practically disappeared from among the employees, and some twelve cases which occurred in the subsequent course of the epidemic, were in workmen who had either been foolhardy enough to risk the loss of sick pay, or who had joined the works subsequently to the general revaccination.

Dr. Sidney Coupland was the reporter in the case both of Leicester and of Gloucester, the Gloucester outbreak occurring after that of Leicester, and his observations in comparing the experiences of the two towns are particularly interesting. It appears that in Gloucester the system of isolation of infected persons and quarantine of exposed persons, to which Leicester attributes so much, was adopted in the early part of the epidemic. Very soon, however, the numbers attacked became so great as to make isolation and quarantine alike impossible. With regard to the prevalence of the disease in certain schools, Dr. Coupland says: "It is impossible to ignore the fact that these children must have been peculiarly susceptible to the contagion of small-pox, and no one at all conversant with the data of small-pox outbreaks can doubt that if these children had been vaccinated, so many (if, indeed, any) of them would have been attacked by the disease."

It is now well known that though before the Commission the Secretary to the Gloucester Antivaccination Society had declared, previous to the outbreak in Gloucester, that that town was very clean and very sanitary, yet ever since the epidemic the cry of Gloucester antivaccinationists has been that their town was highly insanitary. Dr. Coupland's report is very interesting here. Comparing Gloucester and Leicester, he says: "Yet, in regard to the actual health of the two places, as judged by the prevalence of zymotics, the important elements of drainage and water supply, and also in that of provision for hospital isolation, there is not much to choose between them, having regard to their relative populations." He points out, however, that, as Leicester is a larger town and has a medical officer of health wholly devoted to his duties, it was in this respect in a better position than Gloucester. The same would be said in comparing the sanitary service of nearly any large town with that of nearly any small town, so that Dr. Coupland is able to report that "This is admittedly superior in Leicester, and during the small-pox outbreak there it was possible for every infected house to be visited by an inspector once a day for the fortnight of 'quarantine,' a duty which also was performed in Gloucester until, with the great multiplication of these infected centres, it became quite impossible to carry it on." But he adds, very significantly, "Would not the same inability have occurred at Leicester had its epidemic been of similar proportions?" Again "It must be admitted that even in Leicester, with its comparatively limited number of cases, the greater part of the time of its able and energetic medical officer was taken up by attention to the cases of small-pox, so that it is clear that if Leicester had been visited with an epidemic of similar severity as was Gloucester, it too would have been overwhelmed by the magnitude of the work required to cope with the outbreak." Its hospital accommodation, moreover, would have been utterly inadequate and unsatisfactory. As regards the escape of the Leicester public schools and the attack of the Gloucester public schools, he says, "I believe I am right in saying that during the Leicester outbreak the one thing that gave rise to most anxiety on the part of the authorities was lest the disease should be imported into the public elementary schools. Had this happened, and it was accident rather than foresight that averted its happening, there is no reason at all for doubting that the larger, better organised, and better equipped community might not have suffered to a parallel extent."

While Dr. Coupland shows the important part which want of primary vaccination played in Gloucester, Dr. Savill is no less emphatic as to the influence of want of revaccination in Warrington. There was good reason to believe that less than 2.7 per cent. of the inhabitants had been revaccinated previous to the outbreak, but the garrison was well revaccinated, and though the 800 persons in it mixed freely with the townsfolk, and resorted to public houses, places of amusement, etc., the only person attacked was a militiaman who had never been revaccinated.

The part played by unrecognised cases, as agencies in spreading the disease, is also dilated on by Dr. Savill. Three such cases had much to do with leading to the outbreak. In the reports regarding Glasgow, Liverpool, Leeds and Halifax, similar facts are recorded. In Glasgow, at the time of Dr. Coupland's visit, steps were being taken to revaccinate the mill hands in a large factory owing to the occurrence of a "missed" case among the workers. In Liverpool "one of the main reasons" for the spread of small-pox was "the occurrence of cases the true nature of which was overlooked in the first instance," and in Halifax Dr. Coupland says, it is instructive in many ways to notice how large a proportion of the patients could trace their infection (directly or indirectly) to cases which had been overlooked or missed. Most of these latter were of such a mild type as to have passed unrecognised at the time, and to be unattended by a medical man." Obviously, no system of isolation and quarantine can take effect with regard to undiagnosed disease, and places which neglect vaccination are in this respect in constant danger, while individuals and

ommunities which choose to avail themselves of all the pro-ection which vaccination and revaccination are capable of ffording, can afford to laugh at all such risks.

It seems to us impossible that any person of unprejudiced ind and well-balanced intellect can peruse these reports ithout having the conviction forced upon him not only at vaccination prevents and controls small-pox, but that it the only agency on which any reasonable reliance can be aced.

THE OPPROBRIUM OF SANITARY SCIENCE.

his address opening the debate on Typhoid Fever, hich was commenced at the Royal Medical and Chirurgical ciety on Tuesday evening, Dr. Poore recapitulated his ews as to the proper method of dealing with excreta. iefly put, they are in fact an adaptation of the old adage, ain to the river, sewage to the soil." Sir Richard orne put his finger at once on the weak point in the stem elaborated with so much brilliancy by Dr. Poore en he said that, if we could go back to Adam and begin over again, we might grant all that Dr. Poore asks; but t, given great cities, great provinces of houses such as ndon, it is practically if not physically impossible to pose of the excreta of a household in the sight of inmates, as Dr. Poore would have us do. Sir hard Thorne, however, raised a very interesting stion when he inquired whether it is any way ain that the soil is as capable of destroying rendering innocuous pathogenic bacteria as it is of ing rid of offensive matter not of pathogenic kind. quoted experiments now being conducted by Dr. Sidney tin for the Local Government Board, which tend to show the typhoid bacillus can live in soil for very consider-periods, months at least, and Professor Boyce, in the se of his suggestive contribution to the discussion, fully urred in recognising the importance of the study of the ophytic stage of the existence of the typhoid bacillus. He a very interesting description of the system which is being adopted in Liverpool for extending the use of erioscopic methods to the study of the condition not of the supplies of water and milk and its atives, such as iced creams, but also of the sewage towns. The bacteriologist, as he becomes better ainted with the flora of these civilised fluids, will, he ipates, gain a greater power of indicating early, if his inations are made systematically and at short intervals, ccurrence of unusual conditions, and will thus be able to he administrative officers of the sanitary authority on mettle to discover the cause. The experiment now tried at Liverpool under the able and enthusiastic nce of Professor Boyce will be watched with great st by health authorities throughout the country, and if n prove, as we hope he may, that systematic bacterio-c examination can be of real and practical assistance in very-day work of health administration, we make no that his demand that every health authority of at least rger urban districts should provide itself with a trained ciologist as it now is provided with a trained medical of health, public analyst, and engineer, will be ed by the weight of public opinion.

of the most satisfactory signs of the times is the amount of attention which has been given by the public press to a discussion of the reasons for the great outbreaks of typhoid fever during the past autumn. The editorial articles which have appeared in newspapers of every shade of opinion have been almost without an exception characterised by a correct understanding of the questions involved and a real grasp of the subject, and the effect upon public opinion of this great mass of intelligent comment cannot fail to be of immense service to the public health.

The *Times* has rendered useful service to health progress in rural districts by its recent forcible articles on the Maidstone epidemic and the lesson to be drawn therefrom. Careful study of the facts published in the annual reports of the Registrar-General, and in the decennial supplements to to those reports, cannot fail to convince the student that health progress, judged by the logic of mortality statistics, while, generally speaking, well marked in urban districts, is far too deliberate in rural areas. Poor-law guardians who constitute the rural district councils, under the influence of agricultural depression and the consequent increased burden of local rates, do not form model sanitary authorities, and, as "Health" pointed out in a recent letter to the *Times*, county councils in many cases have not yet realised their responsibilities in health matters. The Kent County Council had, for example, neither appointed a county medical officer of health nor even a sanitary or public health committee, in marked contrast to the London County Council, which has fully recognised the value and importance of county action in health matters.

It is impossible not to sympathise with very many of Dr. Poore's theories on sanitation, and more specially on rural sanitation; but it is impossible to agree that the figures he published in the *Times* warrant the assertion that "London is sleeping in a fool's paradise." Whatever may be the opinion of experts on the question of water supply and sewage disposal in London—and the report of the last Royal Commission on water supply contained an abundance of such expert opinion—Dr. Corfield is undoubtedly justified in turning the tables on Dr. Poore, and asserting that the lowness of the death-rate in London is among sanitarians, "one of the marvels of the present day." When we consider that the mean density of population is equal to 50 persons per acre in London, while in Kent the population does not average more than 1 person to more than an acre and a-quarter, Dr. Poore's comparative table cannot fail to excite wonder that the death-rate from zymotic disease does not show a far greater excess in London than is the case. To attempt to compare the mortality statistics of London—the largest city in the world—with those of a distinctly rural county like Kent was not a happy thought, and certainly could not enforce Dr. Poore's theory. The closeness of the death-rates from enteric fever in London and Kent is especially remarkable, bearing in mind the marked difference in the density of population. The mean annual death-rate from enteric fever per million persons living in 1881-90 was 187 in London and 158 in Kent, while the mean rate in the whole of England and Wales was 196. Thus the annual rate from this disease in London was 9 per million below the mean rate in the whole country, and only exceeded the rate in rural Kent by 29 per million. The rate in Kent, 158 per million, compares, moreover, very unfavourably with that recorded during the same decennium in neighbouring counties; the

rate was 107 in Surrey, 112 in Hertfordshire, 118 in Berkshire, and 133 in Sussex.

On the other hand it should be admitted that, compared with the death-rate from the same disease in the ten years 1871-80, the rate in 1881-90 showed a smaller decline in London than in any other English county. Taking the rate in 1871-80 as 100, the London rate fell to 78 in 1881-90, showing a decline of 22 per cent.: in the whole of England and Wales the decline was equal to 39 per cent., while in the counties around London the decline in the death-rate from enteric fever was 53 per cent. in Hertfordshire, 51 in Surrey, 47 in Berkshire, 37 in Kent, 32 in Middlesex, and 31 in Sussex and Hampshire. Thus, while the enteric fever rate in Kent was exceptionally high in 1881-90, it showed a greater decline compared with the rate in 1871-80 than the rate in Middlesex, Sussex, or Hampshire.

No one will venture to deny, in the light of recent knowledge and experience, that the Maidstone epidemic was a clearly preventable epidemic; nor that the disaster has a direct connection with the disregard of the importance of health administration shown by the Maidstone Town Council who till recently estimated the annual value of the services of their medical officer of health at "ten guineas and fees," and who appear to have objected to the expense of periodical analyses of the municipal water supply. Whether we regard the action of the Maidstone Town Council or of the Kent County Council in health matters, it is impossible not to express surprise at the halting gait of health progress in the Garden of England. The Royal Medical and Chirurgical Society listened to Dr. Davies's story of the Clifton epidemic of typhoid fever with a just appreciation of the high qualities which he exhibited in tracing out so promptly and conclusively the links of evidence which, when welded together, formed one of the most conclusive pieces of circumstantial reasoning by which cause and effect have ever been brought together in this department of medicine. A systematic collection of facts rapidly made afforded materials for arriving at a conclusion which really left no loophole for interested prevarication, and the complete success of the preventive measures at once imposed, brought to an end in a few days an epidemic which in less able hands might have reached terrible proportions. A calculation of the annual cost of the Health Department of Clifton and Bristol, and of the saving in direct and indirect expenditure, and of loss of trade which that Department has effected during the last few weeks may be commended as an interesting exercise to amateurs in statistics.

Professor Philipson, M.D., D.C.L., has been appointed the Chairman of the Board of Faculties of the University of Durham.

A Reuter's telegram from Zanzibar states that during the recent attack by Nubian mutineers on Fort Lubas Dr. Macpherson behaved with great gallantry. Although himself wounded in the shoulder, he carried Mr. Jackson under a heavy fire to a place of safety.

It is proposed to commemorate the late Mr. J. Greig Smith, M.A., M.B., C.M., Aberdeen, Professor of Surgery at University College, Bristol, by erecting within the precincts of the University of Aberdeen a memorial tablet. A Committee has been formed, and subscriptions will be received by the Honorary Secretary and Treasurer, Dr. James Cantlie, 46, Devonshire Street, Portland Place, W.

SHELLFISH AND TYPHOID FEVER.

The medical officer to the Saddleworth District Council (Mr. W. H. F. Ramsden) lately drew the attention of his authority to a case of typhoid in the district which he thought had been contracted from eating shellfish when on a visit to Blackpool. He was told that visitors and others went to the ends of the pier, where there was much sewage contamination, and knocked off mussels. He feared a large number of attacks of typhoid had been contracted in this way. Whether this particular case of illness originated in exactly this way or not, there can be no doubt that it is high time the beds from which all shellfish come to the market should be under some stringent supervision. We have repeatedly drawn attention to this serious and quite unnecessary risk to the public health. The Blackpool corporation probably have sufficient power to prevent any further mischief from this source now that Mr. Ramsden has called their attention to it, but, as we had occasion to insist some months ago, legislation is needed before this matter can be dealt with generally and efficiently.

NEWSPAPER REPORTS OF OPERATIONS.

The Dublin newspapers recently published an account of an operation done by Dr. Maxwell, one of the assistant surgeons of the National Eye and Ear Infirmary in that city. The report detailed more or less accurately the transplantation of a pig's eyelid to a man who had lost that useful structure. The operation was done in a pig-slaughtering establishment, and the publication of the names of the medical men concerned caused much comment. We are glad to observe that the papers next day inserted a paragraph stating that Dr. Maxwell and his assistants had nothing to do with the publication directly or indirectly, and the profession has exonerated them, although of opinion that Dr. Maxwell was unwise in selecting such an establishment for his surgical procedure. The matter has also been before the Royal College of Surgeons of Ireland, and the Council has, we hear, required individual explanations from all who were concerned in the matter, and who happen to be Licentiates. We believe Dr. Maxwell has been victimised in this matter, and that he is naturally indignant at the use which has been made of his name. But the unpleasantness will not be without advantage if it teaches medical men to be quite sure of the people who witness their operations, and that a reporter zealous for copy is not among the spectators. We cannot help saying that the reports have evidence of some professional prompting, and it will be interesting to know if the offender can be identified.

IRISH GUARDIANS AND PAUPER NURSES.

As was to be expected, the sealed order prohibiting pauper nurses has not been accepted by Irish Boards of Guardians as an unmixed blessing; in fact, many of them have made a determined stand against it, and the medical officers who are compelled to obey the order are placed in a very difficult position, and one which the Local Government Board are bound in common fairness to relieve them from as quickly as possible, by defining exactly the meaning of "attendant." We believe the current view to be that paupers can only be employed as ward servants, but guardians take the view that "attendants" mean assistant nurses, and are pressing medical officers to adopt that view. The matter has been under discussion by the Ballinasloe Guardians for some time, owing to the medical officer, Dr. Duffy, having very properly handed the master a written requisition to procure a second nurse to assist in the night nursing of the ninety patients in his wards. The discussion was a stormy one, and the medical officer got more than his share of abuse. But he stood to his guns. He pointed out that they were precluded

m using the attendants as nurses, since nursing and endance were two separate and distinct things. The attendts were not capable of nursing, and he failed to see w they were going to do without a second nurse. He was t satisfied with one night nurse. He objected to employ attendants as nurses. They might be employed at se- work but were not allowed even to put a single hand to sick. The chairman thought they could meet the diffiy by asking the doctor to put in a few of the attendants. Duffy: "I won't do it; I cannot do it." Chairman: "As endants?" Dr. Duffy: "Yes, as attendants but not as rses. If there is a life lost and the Board accepts the reonsibility I am satisfied." After further discussion the ard resolved to send away the assistant nurse, to make no ointment of an assistant nurse, and ordered the master put the pauper nurses back into the infirmary. We rtily congratulate Dr. Duffy on his pluck and determina-. The Board had no power to order the master to replace pauper nurses. Times are changed, and guardians can- override the authority of the medical officer in his hosals. He is responsible for the nursing now and not the ster or the matron, and he is bound to procure such rses as may be necessary for his patients, and if the guards dismiss them he can forthwith requisition the master to cure others for him. It comes hard upon individual lical officers to be compelled to fight their "employers," he guardians are still called, but it will lead in time to a er state of things, and an improvement in the position of medical officer will be the inevitable consequence.

THE GREAT FIRE AND THE BARBERS' HALL.

disastrous fire which has devastated the City in the mediate neighbourhood of the Barbers' Hall has again ed attention to the very serious danger which is contly incurred by all the City Companies of losing by their valuable collections of plate and pictures—a loss ch it is not too much to say would be of national imance, for the Companies possess some of the most valu- plate in the world regarded merely from an artistic dpoint, and not from that of its intrinsic worth. The ers have recently received two emphatic warnings of dangers they run. The Barbers' Hall is hemmed in by buildings, it is situated in a narrow street, and it is in heart of one of the most combustible centres in London. Hall itself stands far back from the street, and it contains ein's picture painted on a heavy oak panel measuring t in height by 10 feet 3 inches in width. It is impos- to move such a bulky object to a place of safety and out damage in a short space of time without ample tance. But in a case of fire everyone is fully occupied oking after his own premises, and it is by no means to obtain any help at all. Fortunately the danger of s ever present in the mind of the Company, and special s were made on Friday afternoon, not only to remove icture, but to protect the Hall itself, efforts which were ned with complete success.

ADVERTISING DODGES.

RIETORS of patent pills rely greatly upon the Shakean sentiment (altered to date): "*Great* are the uses of *tisement*," and they recognise the importance of making pression upon the plastic minds of the young. Consely, with a great show of philanthropy, overtures are made to teachers of elementary schools to supply itously (or at a nominal price) certain aids to educa- such as tablebooks, atlases, and illustrations for the lroom. Needless to say, advertisements of the patent ums occupy a prominent position in these publications. ave before us a little book of arithmetical tables which to have been scattered broadcast amongst the rising ation by the proprietor of certain pills. On one cover d the statement that during the last eight years no fewer than eleven million copies of this pamphlet have been given away, and on the other are set forth in bold type the virtues of the pills in question. How far such manuals of instruction are recognised by the Education Department we do not know, but it certainly does not seem right that books used in schools supported by public money should be made vehicles for quack advertisements. We are informed that other "cure all" pill-and-ointment-mongers boldly offer to teachers maps and wall illustrations advertising their questionable wares in the hope that the youthful mind may be duly imbued with a knowledge of their so-called remedies whilst professedly following geographical or historical studies. We venture to call the attention of Her Majesty's inspectors and the authorities at Whitehall to the wiles of the pill philanthropists.

CYCLES AND MOTORS.

The twenty-first annual exhibition of cycles and cycle accessories is now being held at the Royal Agricultural Hall, Islington. In spite of the great increase in the use of cycles during the last few years, it cannot be said that any advance in principle, either of material or construction, has been made. Of alloys—mostly of aluminium—a number are now on trial, but none appear to compare with steel in point of intrinsic strength; and of methods of propulsion to replace the chain there is an abundant supply, but the chain works with an economy very nearly approaching the theoretical, and most of the proposed substitutes involve joints or gearing in which the loss from friction is far greater. We had hoped to find some advance in motor cars sufficient to render them fit for rough use in country practice. But as at present made they will, we fear, be apt to prove either too expensive or too complicated for the rough work of general practitioners in country districts. But although we have no intrinsic advance to record, a visit to the show is well worth making. Few people have any idea of the amount of really fine work a modern bicycle requires. Built as it is with the smallest possible margin of safety, it gives an even smaller margin for poor work. As an example of the skill and power required to turn out even snch a small part of a machine as the hub, the American Hub machine is perhaps typical. This machine turns and drills from the solid bar, hubs at the rate of fifteen an hour, each one perfect in every detail. To those whose interest in cycling matters is not simply a matter of record breaking, the machinery shown at the Stanley show will be the most interesting feature.

DIPHTHERIA IN LONDON.

The statistics which we have published week by week for the last two months reveal a considerable outbreak of diphtheria within the metropolitan area. During ten successive weeks, ending November 20th, no fewer than 3,173 cases of the disease were notified in London, a number not only considerably above that recorded in any previous corresponding space of time during this year, but in excess of the corrected average for the similar period of the last ten years. Hitherto the morbility from diphtheria had this year fallen well below the average, with the exception of an outbreak of three weeks' duration at the end of February and beginning of March, and another lasting six weeks in July and August. The present epidemic began in the middle of September, and was at first limited to South and East London; subsequently all the other metropolitan districts were successively involved, but the brunt of the disease has been incident mainly south of the Thames. An analysis of the statistics would tend to show that the outbreak resulting from some unknown external cause in South London spread by direct infection from this focus to other parts, those most densely populated being most affected. Thus West and Central London have suffered least, while the extent of the epidemic in East London is second only to that in what we regard as its primary seat. In investigating the general question, two points come prominently before our notice. In the

first place it must be remembered in comparing the statistics of the last two or three years with those of an earlier date that general employment of the bacteriological method has rendered the diagnosis of diphtheria more accurate than it could ever become if simply arrived at from clinical investigation. This is bound to increase the number of cases notified, for while a few suspicious throats are now proved to be non-diphtherial a conclusive diagnosis is on the other hand arrived at in respect of many throats—to say nothing of nasal and conjunctival cases—in which the physical signs would not have justified notification. And of course there was always a natural tendency on the part of medical men to refrain from declaring the presence of so alarming a disease unless the clinical evidence admitted of no doubt. Many undiagnosed cases developed sequential paralysis, and it would be interesting to ascertain whether the introduction of bacterioscopic diagnosis has diminished the number of cases of this affection seen in the out-patient rooms of our childrens' hospitals, The second point is one of even more practical importance. The accommodation provided by the hospitals of the Metropolitan Asylums Board is totally inadequate for the needs of an epidemic of even moderate severity, such as the present. As we pointed out in a previous article their resources are taxed to the utmost with a notification of 200 per week; beyond this number cases can only be admitted as vacancies arise. Thus of the 3,173 cases already referred to we find that only 1,564 were admitted into the hospitals of the Board. A certain small proportion of the remaining number were no doubt kept at home under adequate conditions as to isolation, but with the vast majority this is, of course, absolutely impossible, and it need not be pointed out how favourable such a state of affairs is to the increase of the disease. The only remedy is increased accommodation; till every case of diphtheria can be efficiently isolated the value of the public fever hospitals is only therapeutic and not prophylactic.

HOSPITAL ADMINISTRATION IN GLASGOW.

AN interesting article has appeared in the *Glasgow Herald* referring to the administration of the hospitals of Glasgow in comparison with other similar institutions in the kingdom. The article points out that in most of the Scottish general hospitals, which are all without exception public charities, the medical and surgical staff have no say whatever in the management of the institution, and in certain instances the members of the staff are recipients of a honorarium which makes them servants of the institution. Under these circumstances all communications between managers and staff are carried on through the medium of the medical superintendent. In Glasgow no member of the staff or any of the three large hospitals is eligible for a seat on the Board of any of them. In Edinburgh the Royal College of Surgeons sent as its representatives to the Board of the Royal Infirmary two of its members who were on the staff of the Infirmary, and it was found that they were eligible for both positions. An attempt to make a new rule declaring a member of the staff ineligible as a manager failed. In Aberdeen the problem is solved by constituting the staff a medical committee, who send two of their number to attend the directors' meetings. The article goes on to show the relations between staff and Board of Management in the chief English hospitals in which, with very few exceptions, the medical officers are *ex-officio* members of the executive, or represented on the excutive by several of their number. The article concludes as follows: "The interests of our hospitals demand a reform in this matter. As a first step it is our opinion that the appointments to the staff should be honorary so long as our hospitals remain charitable institutions. . . . Glasgow hospitals form an exception to the almost universal rule that appointments to medical charities are honorary. This is the case both in Edinburgh and Aberdeen. Secondly, it is our opinion that the staff should have a representation on the Board of Management, and thus a deliberate vote in the affairs of the hospital. This might be done by making all the members of the staff directors, as in many English hospitals; or, and we thing this is a preferable plan, by constituting a Medical Board, consisting of the whole staff, which should send a limited number of its members as representatives to the Board of Management. Third, we find that at no English hospital, save Guy's Hospital, London, is there an official corresponding to the medical superintendent of our Scottish hospitals, and at Guy's at the present time he is a member of the staff. Therefore, we are of opinion that the proper work of the superintendent, being purely administrative, it ought to be in the hands of a resident secretary, while all questions as to the treatment of patients, management of wards, and arrangements for nursing, should be under the jurisdiction of a Medical Board, responsible to the General Board of Management, each medical officer remaining personally responsible in these matters within his own department."

THE WORKHOUSE INFIRMARY NURSING ASSOCIATION.

WE have received from the Secretary a notice convening a meeting at St. Martin's Town Hall on December 2nd, at 3 P.M., to consider a proposition to wind up the work of the Association on account of (*a*) inadequate financial support, (*b*) lack of suitable candidates, and (*c*) the anomalous position of trained nurses in the country infirmaries. We sincerely hope that the meeting, with which rests the final decision, will give the matter its most serious consideration. We are not acquainted with the arguments which have led the Executive Committee to recommend such a step to its subscribers and supporters, but the last reason given on the notice "the anomalous position of the trained nurses in the country workhouses" appears to us to be in reality a very valid cause for continuing efforts on behalf of the workhouse nurses which have hitherto borne such noble results. If these old friends of the nurses and of the sick paupers desert them at this transitional period, who will be found to take up their cause?

THE LATE PHYSICIAN TO THE KING OF ITALY.

DR. CARLO SAGLIONE, private physician to the King of Italy, and formerly to Victor Emanuel, has just died after a considerable period of physical disability following a paralytic stroke. King Umberto had a great regard for Saglione, and treated him as a friend. His physician accompanied him on his shooting expeditions in the Alps and in the forests of Castel Fusano, and was always by his side at reviews. When Dr. Saglione was struck down by illness, the King, although obliged to have another physician about his person, would not appoint Dr. Quirico formally to the post till his trusted adviser had passed away.

REVISED REGULATIONS FOR ADMISSION TO THE ARMY MEDICAL STAFF.

THE revised regulations for the examination for admission to the Army Medical Staff issued this month practically contain nothing new except the important conditions relating to the conjoint or amalgamated entrance examination for the Medical Staff and Indian Medical Service. Any candidate, it is stated, may enter for both services; and afterwards elect for one or other, according to the exigencies of his position in the competition, though certain competitors acceptable for the Indian may not be eligible for the home service; for the condition of "pure European descent" is still enforced in the latter. In this way candidates entering for both, but really only for the Indian Service, and, missing choice as the result of the examination, may, in the excitement of the moment, be disposed to accept commissions in the Medical Staff. To a conjoint examination itself we have no objection, and recognise that it may be convenient, or even expedient, from an administrative point of view. But noting that it was the result of a War Office correspondence, marginally quoted, we,

ith others, have a natural curiosity to discover who riginated the scheme, and what were the real objects ı view? We observe the restatement in these regula- ıtions that in the "public and open competition eld twice in the year, the number of appointments competed or will be not less than half of the number of vacancies hich shall have arisen" in the interval between the half- early examinations. It is doubtless under cover of this rule ıat the total number of vacancies lately and periodically dvertised have just been about half those actually ıisting. The following regulation also is retained: It will be competent for the Secretary of State for ar to fill up the remaining number from such quali- ed candidates as may be proposed by the governing odies of the public schools of medicine in the United King- om and the Colonies." Why is not this power of nominai on exercised? First, probably because the use of such tronage would be contrary to the spirit of the regula- ons; and, secondly, because "qualified candidates" d "governing bodies" would not respond to the invitation ıile reforms are withheld.

HINTS FOR THE MEDICAL WITNESS.

NDER the title of "Medico-Legal Notes," Messrs. Nelson, ırdy, and F. W. Lowndes have contributed a paper to the rrent number of the *Edinburgh Medical Journal*, in which ey lay stress upon two points especially—namely, the cessity for absolute accuracy on the part of the medical tness, and for the strictest impartiality in giving his evi- nce. The first can only be secured by careful observation d record of the facts as they come under his observation en he is summoned to a case of a criminal character; the ond can only be arrived at by a careful weighing of all the ts so observed. The authors suggest that it would be a at benefit if practitioners, when just qualified, or even ilst still in *statu pupillari*, could be made familiar with practice of law courts, by being taken, a few at a time, as students are, to the Assize Courts, and having the more ent medical features of the cases explained to them. The owledge so gained would unquestionably stand them in d stead when in later life they were called upon to give evidence which is generally the central feature of a ninal case.

DEATH OF PROFESSOR TARNIER.

regret to announce the death of Professor Tarnier, the nent obstetrician, of Paris. Professor Tarnier, who was his 70th year, took his Doctor's degree in 1857, and eeded Professor Depaul in the Chair of Midwifery and eases of Women and Children in the Paris Medical ulty in 1884. In 1889 a special Chair of Clinical tetrics was founded for him. In collaboration with . Chantreuil and Budin he produced a great work on etric medicine, which appeared between 1878 and 1886; he was the author of important works on the hygiene of ncy. He took a prominent part in introducing antiseptic ciples into midwifery practice, and was the recognised er in his special department of medicine in France.

ANQUET TO PROFESSOR ALFRED HUGHES AT CARDIFF.

November 20th, Professor Alfred Hughes, of King's Col- was entertained at a complimentary banquet at the l Hotel, Cardiff, given conjointly by the Council and te of the University College, Cardiff, and the members of Cardiff Medical Society. In the unavoidable absence of cipal Viriamu Jones, the chair was taken by Dr. Treharne, mber of the College Council. In proposing the toast of vening, the Chairman alluded to the general regret felt e departure of Professor Hughes from the Chair of omy, and having recalled the good work done by him in arly years of the new medical school, and his universal popularity among the students as their teacher and friend, wished him all prosperity in his new sphere of labour in London. Professor Hughes, in returning thanks, after a graceful eulogy of his successor, Professor Dixon, said the success which the school had achieved, and the rapid developments of the clinical resources of the district, justified them in looking forward at no very distant date to the further development of the school by providing lectures in the final subjects of the curriculum, and if that were done he suggested that the authorities of the University of Wales might then take steps as to acquiring powers of granting degrees in medicine.

THE ROYAL COLLEGES AND THE ARMY MEDICAL SERVICE.

We would call particular attention to the very important resolution carried at the meeting of the Council of the Royal College of Surgeons on November 11th, 1897. It was in the following terms: "That the President of the Royal College of Surgeons of England be empowered to arrange with the President of the Royal College of Physicians, to approach the Secretary of State for War, to impress upon him the necessity which exists for granting medical officers of the British army substantive army rank and military titles in a consolidated army corps." We trust the two Colleges may go hand in hand, and thus place before the Minister of War the combined opinion of such influential bodies. The moment is opportune, for we have good reason to believe that the War Office has the army medical question seriously before it, and is prepared to listen to representations on the subject of a consolidated medical corps. It is also true that some of those in authority who have hitherto been opposed to the claims of army medical officers for army rank and title are now disposed to entertain the proposal. The medical service have not forgotten the successful intervention of the late Sir Andrew Clark on their behalf, and they have equal confidence in the powerful sympathy of Sir Samuel Wilks and Sir William Mac Cormac.

YELLOW FEVER IN JAMAICA.

We drew attention lately to the active measures in the way of inspection that are now being adopted in Kingston, Jamaica, but the early reporting of cases is worth any amount of official inspection after the disease has become fully established. We do not suppose there would be any strong objection on the part of practitioners to a proceeding which has now become so common both in this country and in America. Here the advantages are now felt far to outweigh the occasional inconveniences, and no one would wish to go back. As we have said before, and we are glad to see our remark enforced by the *Jamaica Post*, the safest policy is one of absolute candour. So long as any sanitary authority is suspected of concealing the existence, or even of untruthfully minimising the extent, of the outbreak of a disease of this character, the press and the public will imagine it to be worse than it really is. Yellow fever is not yet compulsorily notifiable by medical men under the Jamaica sanitary law. In consequence, to report such a case to the authorities is not only not necessary, but is liable to be regarded as a breach of confidence, and conceivably might even be considered actionable. Compulsory dual notification, and a full publication of the cases returned every week, is the best way to prevent panic. There is of course the question of diagnosis, but this is rather a theoretical than a practical difficulty. Experience has shown that infectious disease is recognised, not later but earlier, where notification has been longest in force. In these towns a feeling of mutual confidence has, as a rule, grown up between the men in practice and their health officer. There is often some good working arrangement by which they let him know of the existence of doubtful cases in their practice, and he is generally ready not only to help to the best of his power, but to sympathise to the full with the difficulties they feel. It is a matter for

regret that the important aid of compulsory notification has not long since been at the service of preventive medicine in Jamaica.

THE HEALTH OF MR. GLADSTONE.

Some anxiety has recently been expressed as to the state of Mr. Gladstone's health, and we are therefore glad to be in a position to make an authoritative statement. It is the fact that during the past autumn his health has been somewhat less satisfactory than usual. Mr. Gladstone has always had a remarkably slow pulse, a characteristic very often observed in persons destined to attain an advanced age. This autumn it has increased from the usual rate of 62 to about 72, and on two or three occasions it has been for short periods very rapid. The pulse, however, is soft and elastic, and in general perfectly regular; he is quite free from those most serious changes in the great organs often associated with old age, and he has altogether got rid of an affection from which he suffered a good deal of inconvenience a few years ago. The facial neuralgia, from which he has suffered recently, appears to be due entirely to a local condition. Towards the end of last summer he began to suffer from some nasal catarrh of the left side, and while in Perthshire during the autumn the condition became much aggravated after exposure to a cold wind; he suffered severe pain in the cheek, orbit, and over the whole of the left side of the head. On his return to Hawarden the left cheek was red and swollen, and it was evident to his medical adviser, Dr. Dobie, of Chester, that the catarrhal condition had extended into the antrum, and that the pain was due, in part at least, to obstruction of the orifice of that cavity. Under suitable treatment the inflammatory symptoms have subsided, and it is hoped that he will completely recover in Cannes, the air of which place has always exerted a most beneficial effect on his system. Before leaving Hawarden Mr. Gladstone was seen in consultation by Dr. Carter, of Liverpool, and in the opinion of his medical advisers his general condition was wonderful in a man nearly 88 years of age.

SCOTTISH EDUCATION AND CARLYLE.

Sir J. Crichton Browne had recently a congenial task in delivering the inaugural address before the Edinburgh University, Dumfriesshire and Galloway Literary Society, of which he places it on record that he was elected a member just forty years ago, being then a shy country lad of 17. The memory of those days led him to think of his early life in Dumfriesshire and at the University, and to recognise that the Society was founded on a tripod on which the whole Scottish character was based—the love of home, the love of locality, and the day school. He particularly extolled the parish school system as affording an ample means of self-education on the most democratic principles, and deprecated the modern system of sending Scotch boys to boarding schools as tending to manufacture second-rate Englishmen instead of first-rate Scotchmen. He found particular fault with the attempt to substitute boarding for day schools among the lower classes, and expressed the opinion that the failures which occurred among the special class of boys who were sent to the great public schools would be multiplied enormously by the generalisation of the system. He then passed on to speak of one of the greatest products of the old parish school and the most conspicuous son of his own native county—Thomas Carlyle. He defended him with vigorous eloquence against the attacks of Froude and Jowett, and pleaded for an adequate memorial—a statue and a free library—to him in Dumfries. But the most interesting part of the address from a medical point of view was Sir J. Crichton Browne's appreciation of Mrs. Carlyle. He traced out her history from the psychological point of view, starting from her neurotic family history and the excitability and educational overpressure of her childhood. She grew up into a highly nervous woman, repeatedly subject to very severe sick headaches, while her nervous system was further damaged by attacks of influenza and by indulgence morphine, tea to excess, and cigarettes. In 1846, when h distrust of her husband became acute, Sir J. Crichton Brow suggested that she was suffering from climacteric melancholi and he quoted abundantly from her letters to show th although her intellect was unimpaired she was the subject grave psychical disorders. Eventually she developed cerebr neurasthenia, with violent neuralgia and functional paralyse although delusions were absent there was acute ment distress, with frequent temptations to suicide. Her accus tions against her husband thus emanated from her morb imagination, and Sir J. Crichton Browne absolves Carly from all suggestion of cruelty or harshness.

ALCOHOL AND THE DEATH-RATE.

We have received a letter from the Honorary Secretary the National Federation of "Off" Licence Holders' Ass ciations, objecting to a reference to grocers' licences in a article in the British Medical Journal of October 2n That article was the summary of a letter addressed to on insurance offices and publicans' lives, by a compete insurance expert, Mr. W. Bingham, of the Sceptre Li Association. No contradiction is given to any of our stat ments, but it is pleaded that there should be a "statute limitations" to the quotation from the Registrar-General report of 1885, referring to the increased mortality of licens grocers. This report by Dr. William Ogle to Dr. Farr simply an historical fact to which a "statute of limitations does not apply. Nor does it prove anything one way or th other, unless the increase has been observable during th succeeding years. To this the Honorary Secretary migh direct his attention in the interests of his Association. is urged that the increased mortality noted by Dr. Ogle w due rather to the stress and strain of modern competition- plea that might with equal fairness be applicable to oth occupations. We can only repeat that some offices charg an extra on the premium to licensed grocers, and that, Mr. Bingham's opinion, the limited number of these offic is due to the fact that the same amount of consideration h not yet been given to the mortality of licensed grocers as that of publicans. He is also of opinion that the ext charge by a few offices goes to show that in their opinion, derived from their own experience, an extra was deeme necessary to meet the increased risk. Ere long the pr cedure of life offices generally will definitely settle th vexed question, as their action, whatever it may be, will b based not on sentiment but on financial experience.

THE SIZE OF SUPPOSITORIES.

In a paper read at an evening meeting of the Pharmaceutic Society by Mr. G. White, B.Sc., of St. Thomas's Hospita attention was directed to the want of precision in th making of suppositories, the result being that in the ca of morphine suppositories they may vary so much as contain from $\frac{1}{4}$ gr. to $\frac{3}{4}$ gr. of the salt. Such discrepan appears to be due to the use of moulds "of the capacity 15 gr.," without regard to the fact that the specific gravi of the several suppository compositions is not the same all instances. The difference between the volume of 15 g of iodoform suppository and that of 15 gr. of tannic ac suppository would be sufficient to necessitate the use moulds of different capacity: but the makers of suppositor moulds appear to have assumed that the capacity of 15 g is to be understood as a constant volume, and not a volum varying according to the nature of the suppository to b made. Dividing the mass into the number of parts directe in the formulæ would give correct results; but, as the use moulds is considered more convenient, Mr. White sugges that a cylindrical mould should be used, into which th suppository mass could be pressed so as to give it th required form and ensure each suppository containing th proper quantity of material. An experimental arrangemer of this kind was exhibited at the meeting.

THE PROPOSED WESTMINSTER UNIVERSITY.

Formation of a General Committee.

The scheme for a new university for London, of which we were enabled to give some account last week, has since received much additional support, and a general committee has been formed comprising the following representatives of the medical schools and colleges in the metropolis:

Mr. R. Craig Ackland, St. Bartholomew's Hospital.
Dr. Theodore Dyke Acland, St. Thomas's Hospital.
Mr. Henry L. Albert, St. George's Hospital.
Mr. H. W. Allingham, St. George's Hospital.
Mr. William Anderson, St. Thomas's Hospital.
Dr. H. Charlton Bastian, University College Hospital.
Mr. William H. Battle, St. Thomas's Hospital.
Mr. William H. Bennett, St. George's Hospital.
Sir Hugh R. Beevor, Bart., King's College Hospital.
Dr. G. Fielding Blandford, St. George's Hospital.
Mr. Anthony A Bowlby, St. Bartholomew's Hospital.
Sir William H. Broadbent, Bart., St. Mary's Hospital.
Mr. T. G. Brodie, St. Thomas's Hospital.
Dr. J. Mitchell Bruce, Charing Cross Hospital.
Dr. Buckmaster, St. George's Hospital.
Mr. W. C. Bull, St. George's Hospital.
Mr. Henry T. Butlin, St. Bartholomew's Hospital.
Dr. James Cantlie, Charing Cross Hospital.
Mr. R. Brudenell Carter, St. George's Hospital.
Dr. W. Cayley, Middlesex Hospital.
Dr. F. H. Champneys, St. Bartholomew's Hospital.
Dr. W. Selby Church, St. Bartholomew's Hospital.
Mr. Andrew Clark, Middlesex Hospital.
Mr. H. H. Clutton, St. Thomas's Hospital.
Dr. Sidney Coupland, Middlesex Hospital.
Mr. George Cowell, Westminster Hospital.
Dr. Raymond Crawfurd, School of Medicine for Women.
Dr. W. Howship Dickinson, St. George s Hospital.
Dr. Lee Dickinson, St. George's Hospital.
Mr. H. Work Dodd, School of Medicine for Women.
Dr. H. B. Donkin, Westminster Hospital.
Sir R. Douglas Powell, Middlesex Hospital.
Sir Dyce Duckworth, St. Bartholomew's Hospital.
Dr. William Duncan, Middlesex Hospital.
Mr. Francis Eve, London Hospital.
Mr. Percy Flemming, University College Hospital.
Dr. J. K. Fowler, Middlesex Hospital.
Mr. W. Adams Frost, St. George's Hospital.
Mr. J. Addyman Gardner, St. George's Hospital.
Mr. Rickman J. Godlee, University College Hospital.
Dr. James F. Goodhart, Guy's Hospital.
Sir William R. Gowers, University College Hospital.
Mr. R. Marcus Gunn, University College Hospital.
Dr. M. Handfield-Jones, St. Mary's Hospital.
Mr. Warrington Harward, St. George's Hospital.
Dr. Herbert P. Hawkins, St. Thomas's Hospital.
Dr. W. P. Herringham, St. Bartholomew's Hospital.
Dr. G. E. Herman, London Hospital.
Mr. Timothy Holmes, St. George's Hospital.
Mr. J. Hutchinson, jun., London Hospital.
Dr. Theo. B. Hyslop, Guy's Hospital.
Mr. Edward Jessop, St, Bartholomew's Hospital.
Dr. H. Lewis Jones, St. Bartholomew's Hospital.
Dr. E. Klein, St. Bartholomew's Hospital.
Mr. William Lang, Middlesex Hospital.
Dr. Arthur Latham, St. George's Hospital.
Mr. John B. Lawford, St. Thomas's Hospital.
Mr. C. B. Lockwood, St. Bartholomew's Hospital.
Dr. Stephen Mackenzie, London Hospital.
Mr. G. H. Makins, St. Thomas's Hospital.
Dr. Patrick Manson, St. George's Hospital.
Mr. Howard Marsh, St. Bartholomew's Hospital.
Dr. Norman Moore, St. Bartholomew's Hospital.
Mr. John H. Morgan, Charing Cross Hospital.
Mr. Malcolm Morris, St. Mary's Hospital.
Dr. F. Walker Mott, Charing Cross Hospital.
Mr. Charles Mansell Moullin, London Hospital.
Mr. N. C. Macnamara, Westminster Hospital.
Mr. T. W. Nunn, Middlesex Hospital.
Mr. T. H. Openshaw, London Hospital.
Mr. Edmund Owen, St. Mary's Hospital.
Dr. Isambard Owen, St. George's Hospital.
Mr. Herbert W. Page, St. Mary's Hospital.
Dr. Louis C. Parkes, St. George's Hospital.
Mr. Walter C. C. Pakes, Guy's Hospital.
Mr. F. G. Parsons, St. Thomas's Hospital.
Dr. W. Pasteur, Middlesex Hospital.
Dr. M. S. Pembrey, Charing Cross Horpital.
Dr. Penrose, St. George's Hospital.
Dr. W. S. Playfair, King's College Hospital.
Dr. G. V. Poore, University College Hospital.
Mr. Henry Power, St. Bartholomew's Hospital.
Dr. Urban Pritchard, King's College Hospital.
Dr. J. J. Pringle, Middlesex Hospital.
Dr. Henry Rayner, St. Thomas's Hospital.
Mr. H. Betham Robinson, St. Thomas's Hospital.
Dr. H. D. Rolleston, St. George's Hospital.
Dr. A. E. Sansom, London Hospital.
Mr. P. R. W. de Santi, Westminster Hospital.
Dr. Seymour J. Sharkey, St. Thomas's Hospital.
Dr. Lauriston E. Shaw, Guy's Hospital.
Mr. A. Marmaduke Sheild, St. George's Hospital.
Sir Edward H. Sieveking, St. Mary's Hospital.
Dr. Charles Slater, St. George's Hospital.
Mr. Morton Smale, St. Mary's Hospital.
Dr. Scanes Spicer, St. Mary's Hospital.
Dr. John F. J. Sykes, Guy's Hospital.
Mr. Frederick Treves, London Hospital.
Dr. H. G. Turney, St. Thomas's Hospital.
Mr. John Wade, Guy's Hospital.
Mr. W. J. Walsham, St. Bartholomew's Hospital.
Dr. Samuel West, St. Bartholomew's Hospital.
Dr. Thomas T. Whipham, St. George's Hospital.
Mr. Alfred Willett, St. Bartholomew's Hospital,
Mr. Edgar Willett, St. Bartholomew's Hospital.
Dr. R. A. Young, Middlesex Hospital.

Dr. Samuel Clewin Griffith, Master of the Society of Apothecaries, and Mr. Reginald Harrison are also among the members of the medical profession who have joined the committee.

Constitution, Officers, and Powers of the Faculty of Medicine.

It will be of interest to indicate briefly the general outline of the scheme of constitution proposed for the Faculty of Medicine.

Constitution.—The Faculty of Medicine would consist of the Royal Colleges of Physicians and Surgeons, the Society of Apothecaries, and of the twelve medical schools in London.

Council.—The Council of the Faculty would consist of 56 persons in all: I. The President of the Faculty, who would be appointed by the Council, and would be a member of the Senate. II. The Principal of the Faculty, who would be appointed by the Board of Studies of the Faculty. III. Twelve persons to be appointed by the Royal College of Physicians of London, of whom one would be the President of the College. IV. Twelve persons to be appointed by the Royal College of Surgeons of England, of whom one would be the President of the College. V. Six persons to be appointed by the Society of Apothecaries. VI. One person to be appointed by the chief authority of the schools, twelve in number, constituent of the Faculty. VII. Six persons to be appointed by convocation of the Faculty. VIII. Six persons to be appointed by the Faculty of Science. The Council of the Faculty would be its governing body, and would determine the conditions of study and examination which should qualify for the degrees of M.B. and M.D., of B.S. and M.S., and for the diploma in Public Health, and would determine the conditions of award of prizes, scholarships, and other honours.

Board of Studies.—A Board of Studies of the Faculty would be formed, consisting of every professor or lecturer or other teacher, including clinical teachers, appointed by the governing body of a school constituent of the Faculty, provided he be a principal teacher and not under the direction or control of any other teacher as regards his teaching in that department. The Board of Studies would in the first place draft regulations prescribing the course of study and schemes of examination for the consideration of the Council of the Faculty, and subsequently make recommendations for their alteration should emendation appear desirable. The Board would also appoint a Standing Committee of advice in each of the principal divisions, at least, of medical studies.

Examinations.—The Council of the Faculty would conduct the examinations, and would nominate for appointment by the Senate examiners for all examinations in the Faculty, but power would be granted to join with any Corporation constituent of the Faculty at present empowered to grant registrable qualifications in holding any examination jointly. The Council would receive the fees to be paid by candidates for admission to examinations held in the Faculty, and, subject to a percentage payable to the Senate, would dispose of the income thus received.

Convocation.—All graduates of the University in the Faculty would be members of Convocation of the Faculty, and every student of one of the London medical schools for not less than four years, who previous to the establishment of the University (or some subsequent date to be fixed) had been admitted to the Membership of the Royal College of Physicians, or the Fellowship of the Royal College of Surgeons, or who had obtained a degree in medicine or surgery in any university of the United Kingdom, would be admissible to Convocation on payment of a registration fee. Convocation would be empowered to consider any subject within the scope of the

duties and powers of the Faculty, and to make representation thereon to the Board of Studies or the Council of the Faculty.

THE CENTRAL HOSPITAL COUNCIL.

A strenuous attempt was made during the first half of the present year to carry out an important part of the recommendations of the Lords' Committee on Hospitals by the establishment of a Central Hospital Board in London. The attempt was not very fortunate, and perhaps not very discreetly conducted. A large general committee was got together of medical men and other persons connected with hospital work, and more or less interested in the establishment of some sort of central organisation, and a draft scheme of a very comprehensive nature was prepared and partially discussed by them. But whether the movement was overweighted by the magnitude of its machinery and the amplitude of its scheme, whether, as some thought, the hand of the Charity Organisation Society was unduly conspicuous in the matter, or whether the pacific declarations of the promoters, that the Board was to be one of consultation and advice only, were deemed inconsistent with the proposal that the administration of the Prince of Wales's Fund should be committed to it;—whether one or all of these causes was responsible for failure—the project met with little favour among the managers of the larger hospitals, and practically fell through for lack of their concurrence. One indirect result, however, it had. A meeting of delegates from all the large general hospitals with schools attached was held at Westminster Hospital in the month of May to consider the proposed scheme. Opposition to it was generally expressed, but out of the opposition grew the suggestion that the hospitals represented should, on their own account, form the nucleus of such a Board on a more modest scale by delegating each three of its members to represent it. It was resolved that at least one representative of each hospital should be a member of its governing body, and one at least a member of its medical staff. Representatives of other hospitals, it was agreed, might be subsequently admitted. The name of "Central Hospital Council for London" was adopted for the new body, and the entire proposal was formally referred to the twelve hospitals concerned, who all agreed to enter into the new scheme, at least, provisionally, and appointed representatives as follows:

St. Bartholomew's Hospital, Sir Trevor Lawrence, Mr. Alfred Willett, F.R.C.S.Eng., and Mr. W. H. Cross; St. Thomas's Hospital, Mr. J. G. Wainwright and Mr. Henry Hugh Clutton, F.R.C.S.Eng.; Guy's Hospital, Mr. Alfred Cohen and Mr. A. J. Lawrence, C.I.E.; Charing Cross Hospital, Mr. T. P. Borrett, Mr. J. H. Hale, and Dr. Green; King's College Hospital, Viscount Dillon, the Rev. Prebendary Wace, D.D., and Dr. A. B. Duffin; London Hospital, Hon. Sydney Holland, Mr. J. H. Hale, and Dr. Stephen Mackenzie; Middlesex Hospital, Sir Arthur Watson, Q.C., Dr. Fowler, and Mr. F. Clare Melhado; Royal Free Hospital, Mr. Charles Burt, Mr. G. F. Sheppard, and Mr. Willmott H. Evans, F.R.C.S.Eng.; St. George's Hospital, Mr. Timothy Holmes, F.R.C.S.Eng., Dr. Isambard Owen, and Mr. C. L. Todd; St. Mary's Hospital, Colonel Stanley G. Bird, Mr. Malcolm Morris, F.R.C.S.Edin., and Mr. Thomas Ryan; University College Hospital, Mr. Henry Lucas and Dr. J. Rose Bradford; Westminster Hospital, Dr. Allchin, the Rev. Dr. Troutbeck, and Mr. G. G. Tremlett.

The first meeting of the new Council was held at St. Thomas's Hospital on November 16th, when Mr. Wainwright, the Treasurer of St. Thomas's, was appointed chairman, and the details of constitution and mode of procedure of the body were settled.

We shall await with much interest the result of this experiment. If it has been undertaken with a sincere desire to bring about united action on the part of the hospitals, to discuss alleged abuses in a serious spirit, and to concert measures for remedying them, it will be the means of conferring great blessings on the metropolis. Though at present limited to the twelve principal general hospitals, its constitution contemplates further extension, and doubtless the other larger hospitals of London will shortly be represented on it. If it acts so as to earn the confidence of the public, admission to its organisation will by the smaller hospitals be regarded as a distinction, and will eventually become a *cachet* of reputability which no hospital appealing to the public can expect to flourish without. But the future utility of the Council will depend upon the manner in which it buckles to the work awaiting it in its early days. A great responsibility rests upon its original members, and the greatest of all upon the Chairman, for to the guidance and initiative of the Chair in the infancy of such a body as this Council its good or ill success is in most cases mainly due.

HOSPITAL REFORM ASSOCIATION.

In the report of the discussion on Hospital Reform at the Liverpool Medical Club published under the head of "Liverpool" last week, it should have been stated that the meeting was attended by several laymen connected with various hospitals in Liverpool, and that of these Mr. Lancaster (Women's Hospital), Mr. Harper (Royal Infirmary), Mr. Oates (St. Paul's Eye and Ear Hospital), and Mr. Crossfield (Chairman of the Hahnemann Hospital) took part in the discussion. The resolution as given last week contains two verbal errors; its exact terms were as follows:

That, in the opinion of this meeting, hospital abuse exists, and that up to the present no efficient attempt has been made to check it, or even to find out its extent. It is therefore suggested that a Central Hospital Board in Liverpool be formed, consisting of representatives of the hospitals (medical and lay), of the Central Relief Society, and of the Medical Institute and the Liverpool Medical Club. It should take up the investigation of the exact extent of hospital abuse, with consideration of the suggestions for its abatement.

The following is a table of the number of patients attending the various medical charities in 1896 as drawn up by Mr. Horder in illustration of his remarks. The Honorary Secretary of the Hospital Abuse Committee is Dr. Percy Edwards, 1, Newsham Drive, Newsham Park, Liverpool.

Name.	In-patients.	Out-patients.
Royal Infirmary	3,009	15,132
Lock Hospital	140	
Stanley Hospital	1,031	15,488
Royal Southern Hospital	2,109	9,835
Northern Hospital	1,573	5,636
Infirmary for Children	1,076	13,832
Eye and Ear Infirmary	765	8,357
St. Paul's Eye and Ear Infirmary	987	7,167
Hospital for Cancer and Skin Diseases	232	5,948
Ladies' Charity and Lying-in Hospital	174 (1895)	2,119
Hahnemann Hospital and Dispensaries	449	15,000 (estimated)
Liverpool Dispensaries	—	60,149
Hospital for Consumption...	253	—
Seamen's Dispensary...	?	700 (1895)
Newsham Dispensary	—	3,000 (1895)
St. George's Hospital (Skin)	—	1,650 (1894)
Waterloo Provident Dispensary...	No return	—
The Dental Hospital	—	28,514
Totals	11,898	192,527

THE CHAIR OF SURGERY IN GLASGOW AND THE WESTERN INFIRMARY.

The annual meeting of contributors to the Glasgow Western Infirmary was held on Thursday last, and, owing to the pending controversy, was largely attended. The Lord Provost of Glasgow presided.

The reference in the annual report to the subjects of controversy was contained in the following paragraphs:

"The records of the hospital show that in the year ending October 31st, 1896, although the surgical patients exceeded the medical by over 500, there were on an average throughout the year 78 surgical and only 2 medical cases waiting admis

sion. This pressure on the surgical side continues. Gynæcological cases hitherto classified as medical have become almost purely surgical in their treatment. This department has long outgrown the meagre accommodation provided for it, and has been conducted under conditions prejudicial to the interests of the patients. The near prospect of the completion of the new operating theatres made some changes necessary in order as far as possible to bring all surgical wards to the eastern end of the house where the operating theatres are situated. The resignation of Dr. Tennant afforded the managers an opportunity of including in these alterations certain new arrangements which, after careful consideration of their resources and those requirements, seem to afford a fair adjustment. In the meantime, they appointed an additional visiting surgeon and a visiting physician; they also agreed to make certain changes in the gynæcological department. The changes proposed affected the majority of the staff either by adding to or taking from the beds under their care. The Professor of Surgery in the University was one of two members of the staff from whom it was proposed to take beds, being those in a ward which at the time of his appointment was assigned to him 'in the meantime as a convenience to the managers.' While fully realising the importance of the connection with the University and the consequent obligation to make such reasonable provision for the professor engaged in clinical teaching as might be deemed sufficient by the Senate and themselves, the managers did not consider that these rearrangements left this obligation unfulfilled. The Senate, however, did not take the same view. The question is therefore under consideration by the parties concerned. The managers trust that by a frank and dispassionate interchange of views a reasonable consideration of the various interests involved, and of the resources of the infirmary, a speedy and amicable settlement may be obtained."

After the adoption of the report the usual formal motions of thanks were being passed, when Dr. McGregor Robertson interposed to ask if the chairman or managers did not propose to make any statement of an explicit kind regarding the controversy with Dr. Macewen. A reply in the negative was given. Dr. McGregor Robertson then moved an amendment to one of the formal motion to bring on a discussion. An unsuccessful effort was made to prevent this discussion. The result was to elicit some very strong expressions from prominent citizens urging the absolute necessity of the infirmary managers speedily settling this controversy, and putting before Dr. Macewen every possible facility for the carrying on of his surgical work. The amendment was then withdrawn. An objection offered to one of the nominations of the managers for election to the Board was withdrawn.

BATTLE OF THE CLUBS.

The Royal College of Surgeons of England.

Sir,—The President of the Royal College of Surgeons of England, in his remarks on the resolution concerning medical aid associations at the recent meeting of Fellows and Members, appeared to indicate that those who had approached the Council, such as the Plymouth Medical Society and others, had failed because they had not brought specific cases before it. The reason that specific cases were not mentioned was that they they are so common that we thought the knowledge of them to be common property. I think that I can assure him that cases can be produced in abundance. I do not think there will be any difficulty in producing them from this neighbourhood. The President also stated that it was merely a pious opinion on the part of the Council of the Irish College of Surgeons. I venture to think that when the Secretary informed one of their Licentiates that his licence would be withdrawn if he continued to act for the Industrial Insurance Company, which threw in the doctor, much as the advertising grocer throws in a teapot with a pound of tea, to induce persons to insure their lives, it was something more than a pious opinion. My main object in writing is to endeavour to impress on all who take an interest in this matter to bring cases in which Members or Fellows of the Royal College of Surgeons are acting for medical aid associations in which touting and sweating the medical men is allowed under the notice of the Council of the Royal College of Surgeons.—I am, etc.,

Plymouth, Nov. 23rd. G. Jackson.

The Dependent Position of Medical Officers.

Dr. F. W. Collingwood (Brighton) writes: In all controversies on the subject of medical aid combinations much stress is put upon the fact that the doctor's chance of obtaining a livelihood is rapidly disappearing. No doubt this is a serious matter, but to my mind this is only one of the many bad results of this system. The most detrimental effect is that the medical officer of one of these societies is no longer a free agent (as long as he retains his office), as his will and his acts are restricted and limited to such an extent that he becomes little better than an automatic subservient servant of an organised combination of labourers and mechanics, with a good sprinkling of well-to-do tradesmen. One knows that where a body becomes practically absolute, however well intentioned and educated that body may be, it is very apt to become tyrannous; and can we expect better treatment at the hands of a committee of people composed of this class who suddenly find themselves in a position of power? I think reason and experience will say no. It is therefore next to impossible for the doctor to retain a position of reasonable independence and respect. The medical officer to obtain and retain his popularity has to visit more frequently than is necessary—namely, according to the wishes of the patient rather than to the necessity of the case—to pay night visits for trivial complaints and attend patients at their homes when they are perfectly capable, if willing, to attend at the residence of the medical officer. This subservience on the part of the doctor to these demands, fads, and tyrannies is in almost every case necessary to retain the good opinion of this "organised combination of patients," their good opinion being necessary for the retention of the appointment. This state of affairs materially affects the character and position of the doctor, and reflects discredit on the rest of the profession.

The Royal College of Surgeons in Ireland: Canvassing.

At a recent meeting of the Council of the Royal College of Surgeons in Ireland the following resolutions were adopted:

That the occupancy, by a Fellow or Licentiate of this College, of any position which involves the canvassing of the patients of practitioners to induce them to resort to another individual is inconsistent with the reputation, honour, and dignity of the College and with the terms of the Collegiate Ordinance, No. 36, and therefore renders such Fellow or Licentiate liable to the penalties set forth in Clause 18 of the Charter of 1844.

That the representative of the College in the General Medical Council be requested to communicate this resolution to the Council as he may deem best.

TESTIMONIAL TO DR. ARLIDGE.

Dr. Charles F. Moore, 10, Upper Merrion Street, Dublin, Honorary Secretary of the Committee which, as Dr. Ogle mentioned in the British Medical Journal of November 13th, has been formed to present a testimonial to Dr. Arlidge, requests us to publish the following further list of subscriptions:

Received.

	£	s.	d.
T. W. Nunn, F.R.C.S.Eng.	3	3	0
Lionel Beale, M.B., F.R.C.P.Lond.	5	5	0
Mrs. Naomi Daltry	1	1	0
Rev. T. W. Daltry	2	2	0
J. W. Moore, M.D.	1	1	0
Mr. J. Gimson	1	1	0
Thos. Oliver, M.D.	1	1	0
Mr. Jno. Alcock, J.P.	2	2	0
Wm. Dawkins Cramp, H.M.S.I.	5	0	0
Lady Manningham Buller	10	0	0
Mrs. Paddock...	2	2	0

Promised.

Surgeon-Major J. G. Gibbs, M.D.	2	2	0
D. Lloyd Roberts, M.D.	2	2	0

ASSOCIATION INTELLIGENCE.

BRANCH MEETINGS TO BE HELD.

Metropolitan Counties Branch: South London District.—A meeting will be held at the Bethlem Royal Hospital (by kind permission of the Committee of Management), on Wednesday, December 8th, at 3.30 P.M. Cases of clinical interest from the wards of the hospital will be shown, and a demonstration will be given by Dr. Hyslop. All practitioners, whether members of the Association or not, will be heartily welcomed.—Seymour G. Toller, District Secretary, 109, Harley Street, W.

LANCASHIRE AND CHESHIRE BRANCH.—A meeting of this Branch will be held at Warrington on Thursday, December 9th. Members wishing to read papers, exhibit patients, or make any communication should write to the Secretary at once. Applications for membership should be addressed to Dr. BARR, Honorary Secretary, 72, Rodney Street, Liverpool.

METROPOLITAN COUNTIES BRANCH: EAST LONDON AND SOUTH ESSEX DISTRICT.

THE second meeting of the session was held at the Town Hall, Leyton, on November 18th, Dr. ST. CLAIR SHADWELL, Vice-President of the District, in the chair.

Confirmation of Minutes.—The minutes of the last meeting were read and confirmed.

Communication.—Dr. W. S. A. GRIFFITH read a paper on The Normal Temperature of Lying-in Women and the Causes and Treatment of some Variations. He said the temperature of a lying-in woman under normal physiological conditions did not vary more than in a woman in perfect health. If the temperature did vary more the cause was pathological. The temperature should be taken and recorded, whenever practicable, at stated times, 8 A.M., 2 P.M., and 8 P.M. being found the most convenient hours for doing this. The development of the function of lactation did not affect the patient's temperature. If therefore there was pyrexia during this period it could not be assigned to this cause; the cause must be pathological and not physiological. Pyrexia cases were divisible into two classes—transient (one day or less) and continued. Transient were due to emotional, reactionary, and gastro-intestinal causes; continued to gastro-intestinal, mammary, and vesical affections, and to sapræmia, gonorrhœa, and septicæmia. There was also a group of cases which had nothing to do with and did not affect the generative system, but were mere accidental complications, such as tubercle, scarlet fever, typhoid, influenza, and many others. Septicæmia and the extraneous causes were not discussed. The difficulties of differential diagnosis in certain cases were not ignored; the importance of assuming a doubtful case to be septic and treating it as such until it was proved not to be so was insisted on. All inflammations of the breasts and bladder were septic, but pyrexia might arise in connection with these organs without inflammation, from excessive and painful distension. The treatment of the breasts in the earliest stage of inflammation was referred to. Sapræmic cases were divided into two groups—acute, symptoms developing in an unmistakable way in a few hours; subacute, no grave symptoms developing until after the early symptoms had continued for two or three days. The importance of complete closure of the uterine cavity, by the suture of laceration, and of perfect antisepsis as measures for the prevention of septicæmia was discussed. The principles of treatment were to empty completely, disinfect, and close the uterine cavity, to disinfect and close vaginal and vulvar lacerations. The paper was freely illustrated by ten charts from the Queen Charlotte Lying-in Hospital.—A discussion followed.

Vote of Thanks.—A hearty vote of thanks for his interesting and instructive paper was accorded to Dr. Griffith.

OXFORD AND DISTRICT BRANCH.

A GENERAL meeting was held at the Radcliffe Infirmary on October 29th, Dr. PEMBERTON (President) in the chair, and twenty-eight members were present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

New Members.—Surgeon-General Bradshaw, C.B., Drs. Raye, Routh, and Schofield were elected members of the Branch. Mr. T. Goldie-Scott, M.B.Edin., was proposed by Dr. NEIL.

Registration of Midwives.—The consideration of a communication from Dr. R. Rentoul *re* the Registration of Midwifery and other Nurses was postponed to the next meeting.

Army Medical Reform.—Copies of the recently-revised report of the Subcommittee on Army Medical Reform were placed on the table.

Medical Aid Associations.—A communication from the East Anglian Branch *re* medical aid associations was read, and a resolution adopting the suggestion of the East Anglian Branch—

That the Council be asked to pass a resolution to the effect that in future no medical men belonging to medical aid associations be elected members of the Association.

was proposed by Mr. GRIFFIN, seconded by Mr. FREEBORN, and carried unanimously.

Purpura Hæmorrhagica.—Mr. FREEBORN read notes of a severe case in a patient who suffered from hæmorrhages from the stomach, lungs, kidneys, and intestines; also from severe and protracted vomiting. The latter symptom was relieved, after other drugs and treatment had failed, by injections of morphine, which, however, produced quite unusual mental depression, the depression immediately passing off with a discontinuance of the drug. For the hæmorrhages turpentine had at one period been given, but was quickly discontinued, as the patient objected strongly to its nauseous taste.—Dr. COLLIER called attention to the action of the calcium salts in increasing the coagulability of the blood, and invited members to give them a trial and record their experience.—Dr. RICE referred to a case in which the local use of a strong solution of hamamelis had acted most beneficially after other remedies had failed.

Spinal Meningitis.—Mr. HAYMAN read the notes of a case of spinal meningitis. The patient, a young man aged 29, had been ailing for some weeks, when he was persuaded to take a fifty-mile bicycle ride against a strong head wind, and reached home feeling very much exhausted. Four days later he consulted Mr. Hayman for stiffness and pain in the neck; two days later he was seized with severe pain down the whole length of the spine, and acute pains shooting round the ribs. The pain was so severe as to require repeated resort to injections of morphine. The temperature varied from 101° to 102.5°, and there was obstinate constipation. In the course of the next two or three weeks patient's symptoms became less marked, the temperature dropped, and pain diminished. At the end of the fifth week all the symptoms returned with increased severity; the pain in the intercostal nerves was not present, but there was very severe pain over the sternum. At the end of a week the condition again improved somewhat, to be followed a few days later on by a return of all the symptoms, which terminated at the end of the eleventh week in death. During the progress of the illness the patient was seen by two other medical men, who both agreed with Mr. Hayman that the exhaustion following the bicycle ride was a determining factor in the causation of the disease.

Intussusception.—Mr. MORGAN read notes of a case of intussusception in an infant of 10 months in which laparotomy was successful, two attempts by enemata having previously failed to reduce the invaginated gut. Mr. Morgan pointed out the importance of avoiding unnecessary delay in resorting to operative interference after the usual methods had failed.

Chorea Complicating Pregnancy.—Dr. COLLIER read notes of a severe case of chorea complicated with pregnancy. The patient, a married woman aged 21, was rapidly getting worse in spite of all treatment, and was beginning to show signs of exhaustion, when it was decided to produce abortion. The production of abortion was followed by immediate improvement in the patient's condition, ending in rapid recovery. A discussion followed as to the most useful drugs in the treatment of chorea, with special reference to the value of large doses of arsenic.

Cases.—Mr. DOYNE showed a case of Enophthalmos, following injury to the orbit, a fatty tumour between the upper lid and eyeball, and a foreign body embedded in the optic disc.

SPECIAL CORRESPONDENCE.

PARIS.

Criminal Lunatics.—Aid for the Insane after Discharge from Asylums.—Dangers of Underdone Meat.—Morphinomania and Testamentary Capacity.—Changes in Examinations.—The Abuse of Tobacco.—Donations to Universities.

M. BOURNEVILLE, the able editor of the *Progrès Médical*, has urged the Supervising Commission of the Seine Asylums to demand that the police should furnish all judicial information in their possession concerning criminal lunatics. The *chef* who treats these patients has only the summary information given by the medical officer of the Central Prison. It is thus only by questioning the patient on his past life, and inquiring among his family, that his criminal act can be

judged in relation with his psychological condition. These inquiries rarely furnish other data than such as warrant only an approximate opinion. With time the disturbance making confinement necessary disappears, and the *chef* thinks of giving the criminal patient his liberty. A few days after signing the demand to leave documents throwing light on the past of the patient are not infrequently forwarded to the *chef* from the Police Prefecture, and are probably of a nature showing that the patient ought to be kept under treatment and surveillance for a longer period. In these cases it may happen that the prefectorial order keeps the patient under restraint, but it may also occur that the patient is liberated, and the medical man, who was imperfectly informed with regard to the antecedents of the patient, bears all the responsibility of the liberation. Dr. Toulouse is also alive to the importance of the judicial administration furnishing to the medical men treating criminal lunatics all procurable information concerning the past of this class of patients, and likewise of other insane patients. Medical men attached to asylums are always much exercised about discharging their patients. They do not know whether they will be looked after as their condition requires, or if they will find work and that moral support so necessary to the convalescent insane. In the *Revue de Psychiatrie* Dr. Toulouse proposes that the police documents necessary to place a patient in an asylum, together with the judicial papers in the case of criminals, should all be forwarded to the medical officer responsible for the patient's care.

M. Dény, physician to the Bicêtre Hospital, also urges that a "société de patronage" should be organised to succour and keep under supervision insane patients who are convalescent. In 1891 a boy of weak intellect entered M. Dény's wards. The patient's condition improved, and when the time came for serving his time as a soldier M. Dény pronounced the patient to be in a fit condition, whereupon a Seine General Councillor asked the administration why he had been kept all these years at the asylum. M. Dény answered that it was to keep him from being a vagabond. He had repeatedly tried to find him employment, but unsuccessfully. Had there been in existence such a society as that named above for the insane that can be liberated, the permission for his departure would have been signed without anxiety.

Dr. Vallin, in the *Revue d'Hygiène et de Police Sanitaire*, destroys all illusions concerning the healthiness of eating underdone meat. The *bifteks* and *gigots saignants* so dearly loved and firmly believed in by the French nation, are condemned by this authority. Dr. Vallin has controlled the researches made by Dr. Fiore, attached to the Sanitary Institute of Palermo. This sanitarian cooked a number of small pieces of meat, in which were stuck small metal arrows capable of fusion; he thus could estimate the degree of temperature existing in the morsels of meat experimented on. Other pieces of meat, in which various microbes were developing, were treated in the same way. It was thus demonstrated that boiling carried on for a long time is more destructive to pathogenic germs than any other culinary process; it acts not only on bacilli but on spores. This ought to increase the reputation of the "vieux pot au feu français," which is not now honoured in many French households as it ought to be, being regarded more as a means of making broth than as an excellent and wholesome form of food. Braising meat, according to Dr. Vallin and Dr. Fiore, is one of the most unsatisfactory ways of cooking meat from a sanitary point of view; it has no effect on either spores or bacilli. In grilled and roasted meat they are not destroyed unless the temperature they are submitted to is very high.

The Beauvais tribunal has decided that the will of a morphinomaniac is valid if it does not contain any incoherent expressions. This judgment is based on the belief that morphinomania is not a psychosis—a delirious condition resulting in civil irresponsibility of the individual intoxicated, even though it be a chronic condition.

In accordance with the wish of the Society of the Medical Union of the Bureau Central, the candidates at the coming medical competitive examination met to discuss the reforms necessary in these examinations. Two important modifications were demanded: 1. That one yearly competitive examination should replace the series of examinations which now extend over nine months. 2. That there be more examiners, fifteen being the minimum, however few be the candidates. It was also demanded that the clinical examination of two cases should be abolished, and more time given to the different examination tests; all the details which might defer the changes asked being realised were avoided in the discussion.

The Society against the abuse of tobacco has asked the Minister of Instruction to have instruction given in *lycées*, showing the bad effects of tobacco. The Minister replied the first evil to combat is alcoholism, which is a much more serious social disease. The sixth International Congress against the abuse of alcoholic beverages will be held at Brussels on August 30th to September 3rd, 1898. Addresses will be delivered by medical men and eminent members of the Bar who have given special attention to the question. The relation of legislation and medicine with alcoholism will be discussed; also that of feminine co-operation in the struggle against alcoholism.

At a recent assembly of the five Academies, M. Moissan described his visit to Chicago, and gave an interesting and amusing account of the origin of the Chicago University. After praising the princely generosity and public spirit of such men as Johns Hopkins, who bequeathed £100,000 to Baltimore to found a university; Leland Stanford, who gave during his lifetime £2,400,000 to found a university in California, besides many others, M. Moissan expressed his regret that this admirable spirit of private initiative was not shown in France. During the last twenty years, he affirmed, too many diplomas had been created and not enough original research had been made. At the present time there are laboratories and liberty of action. If private initiative lent its help, the universities, rich in traditions, would play a more important social *rôle*.

FLORENCE.

Subcutaneous, Intramuscular, and Endovenous Injections.—The Treatment of Plague by Antitoxic Serum.

Dr. Ferranti Aporti, of the University of Parma, has just published results of experimental research on the endovenous injection of iron and arsenic separately, both in rabbits and anæmic women. His conclusions are as follows: The endovenous injection of arsenic in both cases is followed by an increase in the number of red blood corpuscles. The endovenous injection of the ammonio-citrate of iron into healthy rabbits produced no appreciable increase of red blood corpuscles or of hæmoglobin; when, however, injected into the veins of anæmic women, it increased the amount of hæmoglobin without increasing the number of red blood corpuscles. The author advises small initial doses of the iron salt (1 gr. or less), in order to avoid unpleasant symptoms. Arsenic is administered in doses of $\frac{1}{60}$ gr. of sodium arseniate. The injections should be given every two or three days. The advantage of the endovenous method is that it ensures the introduction of the full dose of the remedy into the blood, whereas in the case of subcutaneous or intramuscular injection, part or possibly all might remain in the surrounding tissues. In this connection, it is worthy of note that the subcutaneous or intramuscular method of administering remedies is very general in Italy. It is the rule to treat anæmic patients with hypodermic injections of iron usually in combination with arsenic. The ordinary dose is 1 mg. ($\frac{1}{60}$ gr.) of the sodium and 7 cg. (1 gr.) of the ammonio-citrate of iron. Cases of nerve degeneration are treated with injections of strychnine (1 mg.) often with a marked temporary improvement in the symptoms. Cases of acute disease (pneumonia, pleurisy, bronchitis) receive injections of strychnine, spartein, caffeine, or camphor every three or four hours for days or even weeks. In short, intramuscular injection is the orthodox therapeutic method of administering drugs at the present time. It is of undoubted value, but is possibly overdone to the exclusion of less pronounced lines of treatment.

Professor Lustig, who visited Bombay accompanied by his assistants Drs. Malevetrini, Galeotti, and Levi, before leaving Florence made certain researches with cultures obtained from a Russian colleague. The bacillus of plague was isolated, and found to be but slightly resistant to disinfectant solutions. From investigations on rabbits and monkeys the collaborators concluded that the bacillus entered the organism through the

skin, lungs, and digestive organs, and more frequently directly into the blood; that the bubonic form of plague was not the most frequent, and that plague was one of those diseases which might be successfully combatted by cleanliness, disinfection, and isolation. They inoculated rats, mice, and other animals, and finally succeeded in immunising them to injections of the most virulent cultures. In doses of 8.35 mg. for every 100 g. weight in the rat the toxin proved fatal, but smaller doses in alkaline solution gave rise only to a mild reaction, which lasted two or three days. In man, the toxin injected in doses oi 2 mg. only gave rise to a slight reaction. At this stage of his investigations Professor Lustig went to India in order to investigate the action of the serum on man and on animals most nearly allied to him. Unprotected monkeys inoculated with plague died within a few days, while those that were protected recovered. In the case of man severe cases only of recent origin were subjected to injections of serum. The effect of such injections became apparent in six hours; the high fever and delirium ceased, and general improvement ensued. The glands ceased to be painful after two or three injections, and convalescence was less prolonged than in the rare cases of spontaneous recovery. Of 30 cases subjected to serum treatment only 4 died. The serum produced no ill effects in healthy persons, but was not efficacious when the bacilli had entered the blood in large numbers, which happens generally between the fourth and seventh day of the disease. Professor Lustig was not able to carry out his wish of protecting a whole community by serum injection on account of local superstitions.

LIVERPOOL.

Want of Provision for Dealing with Wandering Lunatics.—Extension and Municipalisation of Horse Ambulances.—Proposed Dinner of Past and Present Residents of the Northern Hospital.

THE city coroner, Mr. Sampson, has lately done good service to the community by pointing out, in his capacity as police magistrate, that there exists no suitable provision for dealing with persons suffering from the milder forms of mental aberration, and who, while they show no definite marks of insanity, are unable to give any satisfactory account of themselves, and are clearly in a condition in which insane impulses might at any time arise with grave danger either to themselves or to others. Such persons are frequently found by the police wandering at large, and are then conveyed to the bridewell and examined by a medical man. If they are found to be unable to take care of themselves, and yet the medical man does not feel justified in certifying then and there that they are insane, it is manifest that, in the interests both of the sufferers themselves and of the public, that they should be retained in some suitable place until the cause and nature of the mental aberration can be ascertained. Until recently no serious difficulty in dealing with such cases has arisen, since they have been received into the workhouse on a doctor's note, and there dealt with as the occasion demanded. Latterly, however, the authorities of Mill Road Infirmary have declined to receive them, owing, it is stated, to there being no accommodation in the workhouse for the alleged lunatics; and there has been no alternative but to take them back to the bridewell, where there is no proper provision for attending to them, and to bring them before the presiding magistrate the following day. As these persons are not charged with any offence for which they can be committed to gaol, there is no alternative but to discharge them. This is the more to be regretted as a few days' judicious care and restraint might result in complete restoration of mental equilibrium.

Liverpool enjoys the distinction of having been the first city in the United Kingdom to provide horse ambulances in charge of a surgeon for the relief of persons suffering from accidents or sudden illness. The first horse ambulance was started by voluntary subscription in the year 1883, in connection with the Northern Hospital, Major Joynson, the then chairman, being the originator of the movement, which was suggested to him by his experience of the system of horse ambulances as carried out in the United States. The resident staff of the Northern Hospital was consequently increased by the addition of an ambulance surgeon, whose duty it was to accompany the ambulance when it went out in response to calls. The hospital was connected by telephone with the head police office in Dale Street, and the ambulance soon became one of the best-known institutions in that populous and busy portion of the city which lies near the Exchange. Since its introduction fifteen years ago it has given timely help to many thousands of sufferers, and by the promptness with which it has brought medical aid to the injured, and by averting mishaps due to unskilful removal, has prevented an amount of maiming and suffering which it is impossible to estimate. A few years later a similar ambulance was started in connection with the Royal Southern Hospital, and it is probable that the other hospitals would have followed suit but for the feeling justly entertained by many persons concerned with their management, that the duty of bringing accident cases to the hospitals lay with the police, and that it was not right that the work which properly belonged to the municipality should be performed at the expense of a few voluntary subscribers. The Corporation of Liverpool has now agreed to take over the two ambulances at present in existence, and to establish two others to be worked in connection with the Royal Infirmary and the Stanley Hospital. Consequently the whole city will be served with a thoroughly efficient ambulance service available by all both by day and by night and maintained at the public expense.

A proposal is on foot to hold a dinner of the past and present residents of the Liverpool Northern Hospital some time early in the coming year. The old building, which has been in use upwards of sixty years, will be demolished to make room for the new one, probably within the next twelve months, and it is felt that the present time would be an appropriate one for as many of the old residents as can be got together to meet and may be pay a last visit to the scene of their former labours. The past residents still living and in practice do not fall far short of a hundred, many of whom have attained to the highest positions, both in London and in the provinces, and it is hoped that if the project is widely known it will be possible to bring a large number together.

CORRESPONDENCE.

SMALL SUBSCRIBERS TO METROPOLITAN HOSPITALS.

SIR,—At the present time the general practitioners right complain that they are at a disadvantage in the competitio they have to wage with the hospital out-patient department because the hospitals give free medical relief, whereas the necessarily have to charge a small fee. Is it not reasonab to maintain, therefore, that if an unobjectionable syste can be devised which will remove this unequal competitio or materially lessen it, that system is worthy of the suppo of the medical profession? If so, the argument in yo leader, entitled "Metropolitan Hospitals and Workmen: New Scheme," in your last issue must fail on this point. grant you that the hospitals are charities, and that the charitable character must be maintained and enforced befo everything else. But I would remind you that the cotta hospitals, of which there are many hundreds in existence day, are charities too; but from the outset they have grant to their patients the privilege of contributing, wherever po sible, according to their means, towards the expenditure e tailed by their treatment in these institutions. Yet no o has so far contended that cottage hospitals are not charitie and, if this be so, what you state about the poor being t recipients and not the dispensers of charity can no more affe the charitable character of the great hospitals under such system of small subscriptions as I have proposed than e perience proves it to have affected the charitable character the cottage hospital system.

I want the great hospitals, however, to take a new d parture by recognising that the hospital problem involves consideration of the existing conditions of practice not on within but outside the hospital doors. For this reason I ha suggested that it is not enough merely to refuse admission certain out-patients, but that steps should also be taken ensure that the outside practitioner should have access to t

scientific advantages offered by the hospitals as educational centres, and thus should be enabled to give to his patients the same treatment that is current at the time in the most advanced centres of medical knowledge. It should surely not be difficult, and it would be wholly desirable in the interests of the profession and the public, to readjust the present hospital system so as to secure this result. I have never claimed the analogy of Fitzroy House, because there is none between the payments received by Fitzroy House and the proposed subscriptions paid by those who are or may be patients of the existing large hospitals. Fitzroy House is a pay hospital pure and simple, whereas the hospitals are charities, even though the patients contribute something towards their support.

You dwell very much upon the Subscription Book and Stamp Album being issued to attract the poor to subscribe to the hospitals. What do you mean by the poor? I gather from your article that you do not include in this term the lower middle class, but that you confine it to the indigent poor, who are clearly entitled to free medical relief at the hospitals. If this be so your criticism has been based upon misapprehension, for I have never intended, nor do I suggest, that the indigent poor should be invited to give small subscriptions under the new scheme to the hospitals at all. The people whom I wish to induce to become annual subscribers of from half-a-crown to ten shillings per annum by means of the subscription book and stamp album are members of the lower middle class, and all those who, being above the level of the poor, are yet, for special reasons, entitled at times to seek hospital aid. It is perfectly notorious that people are not attracted to hospitals solely by motives of economy, but go there because they believe they get something better in the way of treatment than they can obtain from some medical practitioners to whom they would otherwise have to go. Moreover, this feeling has grown up, not altogether as a mere sentiment, but sometimes as a result of experience among people who have had plenty of opportunity of trying both kinds of treatment. I have never yet seen it contested, nor do I suppose that you will contest, the principle, that in a large number of cases the hospitals may legitimately be used for consultative purposes by the class of people I have in view. At the present time these people get relief at the larger hospitals without contributing anything regularly or at all to their support. Surely, therefore, there can be no harm, but the contrary, in establishing a simple and unobjectionable means whereby members of this class of the population may voluntarily contribute according to their means to the support of the hospitals. The reason that they have not done so heretofore is largely, if not mainly, due to the fact that no means have existed whereby they could possess evidence that they were regular subscribers to the hospitals. The guinea subscriber has his name published in the annual report, but the subscriber of a few shillings is included in a general total under some such title as "sums of less than £1." I am of opinion that the hospitals and the patients are alike sufferers by the system which discourages small annual subscriptions to our hospitals from the mass of the people who cannot give one guinea, but who could give from 5s. to 10s. per annum. All that the subscription books and stamp albums will accomplish is to give the humble subscriber due recognition, and to secure that his gifts shall receive as much publicity as those of the wealthier and more prosperous classes.

Apart, however, from any question of justice to the individual subscriber, there remains the demoralising effect which free medical relief must have upon all who, being above the class included in the indigent poor, accept it without any effort on their part to acknowledge and discharge the obligation to the hospitals under which they labour. My scheme would check, and I believe ultimately remove entirely the pauperising and demoralising influences of the present system. It would encourage thrift amongst a class of people who would be distinctly benefited as individuals by being made more self-reliant and independent in regard to this question of medical relief. I am confident that they have heretofore accepted free medical relief with considerable reluctance, and that they would welcome the opportunity of showing that although they are in relatively humble circumstances, still they are animated by the same feelings of self-respect and proper pride as those classes from whom the private practitioner draws his patients.

I hope, therefore, that with these limitations, and on reconsideration, you will agree that there is nothing objectionable or harmful to the medical profession or to the public, but quite the contrary, in encouraging the small subscriber to give regularly to the hospitals according to his means.—I am, etc.,

Porchester Square, W., Nov. 23rd. HENRY C. BURDETT.

HOSPITAL REFORM.

SIR,—In the BRITISH MEDICAL JOURNAL of November 20th there is a letter signed "General Practitioner," and in which my name is mentioned. I am quite ignorant of the identity of "General Practitioner," but I cannot refrain from writing to say that he is quite correct in his statement that at the Westminster Hospital the number of out-patients seen is no obstacle to thorough clinical instruction. My colleagues on the out-patient staff generally limit the number of new patients seen on one afternoon to 20, and this answers well. Your correspondent "General Practitioner" has inadvertently worded his letter in such a way that it might be supposed I was the only surgeon on the out-patient staff. This, of course, is an error, there being two other assistant surgeons besides myself.

For many years I have taken a very lively interest in the subject of hospital abuse, and during my career as resident at several hospitals, both metropolitan and provincial, have had ample opportunities of judging of its extent.

I have no hesitation in saying that hospital abuse exists very largely, and to an increasing extent. At my *alma mater*, St. Bartholomew's, where I was in years past House-Surgeon, I saw a very minute amount of abuse, and I can say the same of the Westminster, of which institution I am an Assistant Surgeon.

But this has not been my experience of institutions lacking a medical school. At two such general hospitals in London where formerly I was resident, one at least was shamefully abused, and with the knowledge of the lay committee, too. At every special hospital I have worked at, the number of well-to-do patients has been very great, and, as far as I could ascertain, but little, if anything, was done to check the abuse.

Of course patients occasionally turn up at my out-patient department at Westminster Hospital who have no right to free treatment. I either refer such patients to the Secretary for investigation, or more usually ascertain the name of their medical man—this class of patient usually has a medical attendant. I write to the medical man named, stating the facts of the case, and asking for information as to the suitability of the patient for free hospital treatment. I regret to say I do not by any means always get an answer, but when I do I feel I have some guarantee as to the suitability or otherwise of the patient for treatment at the hospital. Though this is my practice, I do not consider it to be the duty of the surgeon seeing out-patients to have to investigate his patients' circumstances. He has quite enough to do diagnosing and treating his patients and instructing his class. I, however, so far have found it the best method of checking abuse.

A point I have frequently observed is that many of these better-class patients think they can come to a hospital and pay a modified fee, and are much astonished when told that no such thing is allowed.

There is a class of patient I have much sympathy with, namely, the poor clerk on a small salary, and an appearance to keep up. Such a patient requiring an operation is in a sad predicament. If he goes to a consultant, his fees and those of a nursing home are far too great for him. His medical attendant is not always willing to perform the operation himself. What is he to do?

I think it is mostly the fees of the nursing homes that drive him to the hospital. Many of the younger generations of surgeons would be glad to operate for a very moderate fee, but the charges of the nursing homes are rarely under and generally considerably over 3 guineas a week, without extras, so that the unfortunate patient finds he has to pay the home a larger sum than his surgeon.

There is, I think, a great scope for some reliable and cheap

nursing home, which would tend, I believe, to lessen a certain amount of hospital abuse, and give a chance to many of maintaining their independence who now have no alternative but to lose it by going into a hospital or so-called charity.—I am, etc.,

Harley Street, W., Nov. 23rd. PHILIP DE SANTI.

SIR,—I think the general experience of hospital secretaries in London—certainly of special hospitals—will be found to differ from that of Mr. Buller, of Southampton.

From long inquiry I have found that not 1 per cent. of the patients presenting themselves at this hospital is a member of either a medical club, sick fund, or provident dispensary, or, at least, the fact is never admitted. Indeed, but few seem to know what a provident dispensary is, for the shop collections to the Hospital Saturday Fund, and the subscriptions to the sick branch of the various trade unions, entitle the provident artisan to have all his needs attended to in case of illness.

Moreover, these societies, such as the Compositors' and the Government departments at Enfield, Woolwich, etc., make annual contributions to one hospital, and doubtless to other special institutions. In fact, specialism is as acutely recognised by these classes as it is by their betters.

One word is to be added. A patient recommended by the Hospital Saturday Fund is rather discouraged by the officials to recognise any obligation to make further contribution to the hospital, whereas those coming from the trades give ready and voluntary effect to it.—I am, etc.,

London, Nov. 23rd. A HOSPITAL SECRETARY.

MR. ADRIAN HOPE'S CHALLENGE.

SIR,—I have seen the letter written by Dr. Browne, which appeared in the BRITISH MEDICAL JOURNAL of November 20th, and have since had the pleasure of calling upon Dr. Browne, when I informed him that if he could supply the Committee with the name and address of the lady whom he saw, the case would at once be carefully investigated.

Many thanks are due to Dr. Browne for his action in this matter, and I feel sure that all who are interested in this hospital will feel grateful to him.—I am, etc.,

ADRIAN HOPE,
Secretary.

Hospital for Sick Children, Great Ormond Street, W.C.

THE AERIAL SPREAD OF SMALL-POX.

SIR,—In your interesting comments, in the BRITISH MEDICAL JOURNAL of November 6th, on Dr. Savill's report on Small-pox at Warrington, you refer to his views on the "aërial convection" of that disease, and to the conditions which he holds to be necessary to prove such a theory. One of these is, "That the proportion of infected houses (where the infection is unaccounted for by direct or mediate means) in a given district around the supposed centre varies with the direction and the strength of the winds." Having made some study of this matter, I have all along been under the impression that strength of wind, instead of aiding a solution of the difficulty, was admitted by everyone conversant with the subject to stand in the way of any scientific inquiry into it. Thus, Mr. W. H. Power in 1884 pointed out that the condition which led to the aërial dissemination of small-pox in a farm that was discoverable around the Fulham Hospital was a calm atmosphere which admitted of the "suspension and retention in the atmosphere above and over the neighbourhood of the hospital of infection-material.....and subsequent descent.....and fairly equably on all sides of the hospital of infection-material previously aërially sustained." And, when he was questioned before the Hospitals Commission as to the influence of wind on such floating particles, he answered: (Q. 919.) "The wind, doubtless, would convey them away, but my view was that the quietness of the atmosphere allowed them to fall upon the neighbourhood immediately around the hospital, and that they would not be, therefore, conveyed out of the area of the hospital."

It has appeared to many that since strong winds would necessarily and rapidly disperse to very long distances—far exceeding Dr. Savill's 500 yards—matter so impalpable as that under consideration, it was useless to attempt to discover whether small-pox was or was not aërially conveyed to the neighbourhood immediately round a hospital during such winds; but, as Dr. Savill indicates "the direction and the strength of the winds" as points to hold in view "to prove aërial convection," it would be very interesting to students of epidemiology like myself to know the grounds which have led him to lay stress on this point.—I am, etc.,

November 24th. EPIDEMIOLOGIST.

MEDICAL DEFENCE.

SIR,—It was decided at the annual meeting of the Association last July that voting cards should be issued to the British and colonial Branches asking for a simple answer to the question whether we should undertake medical defence or not. In a few weeks these cards will be in our hands, and it is to be earnestly hoped that every member will vote. There is no excuse for anyone not having formed an opinion, or for being too careless to fill in a reply post card. It may be of value to recapitulate the arguments in favour of the adoption of defence.

The invasion of the functions and livelihood of general practitioners by illegal practice and drug selling increases steadily, and there is no organised body to withstand it except the present private defence unions. The chartered corporations, in defiance of their charters, refuse to attempt to protect their members, and have resolved themselves into purely examining bodies. Only the expenditure of large sums could force the colleges to reassume their function of protection; it would, therefore, be more practical for the members of the Association (which includes the bulk of the profession) to subscribe for this provision of protection to be administered by their own nominees.

As to the necessity for, or advisability of collective defence many members are doubtful, but none deny that without the safeguard of some co-operative union for defence of individuals practice is quite impossible. The only question is whether the Association or the existing private unions can best administer this office. It is obvious that the larger and richer the administrative body is the better for its members. The existing societies need wider membership and larger reserve funds, both of which the existing organisation of the Association can supply.

We already need a court of arbitration amongst our own colleagues to decide questions of libel and professional conduct. Such questions are often incapable of proper solution by ordinary courts of law; they are too frequent already, and they will become more frequent as the present competition and pressure increase in the ranks of a profession the members of which are becoming less and less regardful of the etiquette of professional life. Such a Board of Arbitration will be afforded by the Association defence committee or committees, and it will be a great advantage to have for further reference, if necessary, of doubtful interprofessional cases the Council of the Association, appointed not for defence but for general purposes.

We have ready made an organisation which has trained its committees in varied legal and parliamentary work. We should have no difficulty in training another one, while we know that most of the skilled executive of the principal defence societies will be placed at our disposal if required. The scientific work of the Association will be no more injured by this departure than it has been by other political work. It is difficult to believe that our members will not accept this measure by a large majority.—I am, etc.,

Westerham, Nov. 15th. ARTHUR MAUDE.

THE BRITISH MEDICAL ASSOCIATION.

SIR,—It must be manifest to members generally that the proceedings of the Council of the Association are not as fully reported in the JOURNAL as they ought to be. We send representatives to that Council, and we are not informed what opinions are expressed by them or how their votes are recorded. This is surely not right. The Council is our parliament, and we have a right to know at the earliest possible date what business has been transacted.

It will be within the recollection of members that at the Bristol meeting a resolution was carried recommending the Council to have an Ethical Section. This was accepted by the Council, and was carried into operation at the succeeding meetings in London and Carlisle. For some reason or other no Ethical Section was held at Montreal; and although no definite statement has appeared in the JOURNAL, it is cur

rently rumoured that the forthcoming meeting at Edinburgh will have no such Section. I maintain that, in spite of little drawbacks, the Ethical Section has justified its existence, and I also maintain that the members have a right to know why such a Section is not to be held next year. It must be allowed that the subject of ethics in connection with the profession is of the utmost importance. Many men are of opinion that the subject deserves to be taught at our medical schools; and on every side we find men of "light and leading" dealing with it in their public addresses. If the British Medical Association hopes to unite the profession, and if it hopes to raise it to a higher level it must have the courage to boldly tackle such vital questions as hospital reform and medical aid associations. And how can it deal with these important subjects if opportunities are not allowed of discussing them at the annual meetings?

For these reasons I hope it is not too late to induce the Council to decide that an Ethical Section shall be held at Edinburgh next year.—I am, etc.,

November 22nd. T. Garrett Horder.

DR. RENTOUL'S RESIGNATION.

Sir,—Dr. Rentoul's manifesto to his late constituents, of whom I was one, enables the other side to be heard. I am strongly of opinion that Dr. Rentoul's return last December at the head of the poll was out of gratitude for past services, and by no means because his constituents considered him the best direct representative of their interests on the General Medical Council. I know several who voted for him, and, while they admired his courage, they disliked his methods, and many of his supporters resented his contemptuous style of addressing his fellow practitioners. He is deficient in the *suaviter in modo*, and there never was a time in which this quality was in such demand as the present.

Let us come to the point. Dr. Rentoul says: "I resigned, as I came to the finding that I could not accomplish any of my work as a member of the Council constituted and worked as it now is." It is unnecessary to say that Dr. Rentoul knew all about this before he became a candidate, so that this reason falls to the ground. Was it "honest" to undertake duties which he admits in paragraph 2 he was unable to fulfil? But in the third paragraph a second—although it is called the "first"—reason in the text is advanced, namely, the loss of confidence, or what he calls the "desertion" of his constituents.

What does Dr. Rentoul advance in support of this assertion? Why, of course, that his Bill for the registration of midwifery and other nurses was ignored by 126 out of 129 medical societies to which he sent it. To a "practical" man this fact would suffice to demonstrate the impracticability of the Bill. I drafted a Bill entitled "the Sick and Obstetric Nurses Bill," an outline of which appeared in the *Lancet*, before Dr. Rentoul's Bill was heard of, and manuscript copies were sent on request to Mr. Skewes-Cox, M.P. (our local member), and the Midwives' Registration Society. I may have it printed before Parliament meets, but it will be at my own expense. It would be unreasonable to expect the profession to pay for the printing of an "unauthorised programme." This brings me to the next "reason," or want of "financial support," for Dr. Rentoul's resignation. This was news to me, as I distinctly understood that the fund collected by Dr. Alfred Cox, of Gateshead, early this year covered Dr. Rentoul's expenses to date. Is this so or not? If so, who authorised Dr. Rentoul to incur a fresh bill of costs to the tune of £81 15s. which he now demands?

Then comes another "reason," which is called the "second" in the text, but the fourth in order—namely, the hopeless state of the "five direct representatives" on the Council. Why should they "fail," and why, above all, should Dr. Rentoul say it, who boasts what he has done single-handed? They have not failed hitherto. Why should they fail in the future? Fancy a man coming forward to represent the profession whose policy was stamped with the word failure. A man may do his duty, and yet "fail" in the sense of securing his immediate object; but what says Lord Lytton of "failure" in one of his charming plays? What said Mr. Disraeli to the Commons who laughed him to scorn in his maiden speech? Lesser lights have striven successfully against enormous odds. The "failure" of Dr. Rentoul to hold his own at the Council table must not be allowed to deter other men from doing their duty, and to justify their resignation; nor must his pleading for increased expenditure by the Council be allowed to palliate his offence of forcing the Council to squander hundreds of pounds in an unnecessary election, knowing that this money has to come out of the hard earnings of his fellow practitioners, whom he now proposes to further tax with an annual registration fee. Having dealt with Dr. Rentoul's "reasons" for resignation, I have only to add in regard to his "pet schemes," for which more funds are asked, that there must be some demand for such, and proof that they are in the right hands before their author can be permitted to lay a further tax on the profession.—I am, etc.,

East Sheen, Nov. 20th. Alexander McCook Weir.

Sir,—Without entering at all into the reasons given by Dr. Rentoul for resigning his position on the General Medical Council, I must say that I consider his suggestion that every registered practitioner should pay a yearly fee for the purpose of providing funds for the proper enforcement of the Medical Acts is a very pregnant one, and, with a fair representation on the Council, I think that few practitioners would object to paying such a fee.

To simplify matters it could easily be arranged that the yearly sum should be paid for a licence to practise. This licence to be issued by the General Medical Council, and a short Act of Parliament passed that no person shall practise for gain in any branch of medicine or surgery without holding such a licence. The Council would then have funds to prosecute in all cases of illegal practice—as well as for the general protection of their licensees—and as they would not issue licences to any but properly-qualified persons, it stands to reason that this would be a most effectual method of putting a stop to the terrible amount of blatant quackery which is going on all around us. One rarely hears of an unqualified person practising law—thanks to the Incorporated Law Society—and as the health of individuals is surely of more importance than their wealth, there ought to be no difficulty in getting the necessary powers to put the suggested arrangement into force. With the subscriptions for the Defence Union, the Protection, and other more or less impotent societies, together with continual calls upon their purses for special items of spasmodic agitation, medical men are now paying much more than the cost of a yearly licence. "God helps those who help themselves" is an old truism; let us try to help ourselves.—I am, etc.,

Manchester, Nov. 23rd. Arthur H. Rideal, M.D.

THE ARMY MEDICAL SERVICE AS A SPECULATION.

Sir,—One has heard that certain individuals are advising men of inferior capacity to secure this their only chance of entering a service which is certain to be improved in the near future, and may therefore, they say, be regarded as a sort of cheap investment. Whether in consequence of this advice or not, there is no doubt whatever that some men are now being accepted by the authorities who can hardly be described as well-fitted for the responsible positions they will be called upon to fill; and there is equally no doubt that, if reform is secured and the service made once more attractive to men of ability and education, the men to whom one refers will no longer have the remotest chance of acceptance.

But their advisers appear to keep back one point which ought to be obvious. When the medical service is reformed those who are unfit now will in most instances be unfit still, and military and medical authorities alike will be very properly anxious to remove them. There are ample means of doing this. The examination which "is intended to test the progress and proficiency of a surgeon-captain in all those branches of knowledge which are essential to his continued efficiency as a medical officer.....before promotion to surgeon-major" is only one example.

One has no hesitation, therefore, in saying that if men who are unfitted to be army medical officers choose to become such at the present time, they must take into their calculations the possibility—to use no stronger word—in the not far distant future of having to seek elsewhere for less responsible occupation. In saying this one feels that one is acting in the best interest of the men themselves, and in the

best interests of the army, for whom a reformed medical service will be the sooner obtained the sooner such candidates cease to come forward to fill the vacancies.—I am, etc.,

M.A., M.D.

OBITUARY.

JAMES CAGNEY, M.A., M.D., M.Ch., M.A.O.R.U.I.

It was our sad duty last week to announce the death on November 18th of Dr. James Cagney from typhoid fever. He had been confined to bed for a little over a fortnight, though he had been ill for some days longer. The immediate cause of death was failure of the heart, associated with some exacerbation of the fever.

James Cagney was born in March, 1860, and was therefore only in his thirty-eighth year at the time of his death, and his powerful frame and athletic habits seemed to promise a long life of successful and useful work. He was the son of Mr. Michael Cagney, J.P. of Cork, and was born at Tivoli near that city. On his mother's side he came of a family which gave many members to the medical profession; her great-grandfather and grandfather practised medicine in the County of Cork, and her father was a surgeon in the army during the Napoleonic wars, and spent many years as a prisoner in France.

James Cagney received his early education at St. Cuthbert's College, Ushaw, and from that school passed the Matriculation Examination of the University of London with honours. He then entered Queen's College, Cork, where he took the degree of B.A., distinguishing himself particularly in classics. He pursued his medical studies also in the Queen's College, but before he had completed the curriculum the Royal University had come into existence, and he took the degrees of M.D., M.Ch., and M.A.O. of that University in 1883. At the same time he had kept up his general reading, and had taken the degree of M.A. in Moral Philosophy in the previous year.

Soon after obtaining his degrees he went for a voyage as surgeon to the *Garonne* of the Orient Line, and visited Australia. Subsequently he made a voyage to the River Plate in a ship which carried a large number of emigrants from Spain, and during this voyage, with characteristic energy and good fellowship, gave up so much time to his charges, that he acquired a good conversational knowledge of Spanish.

He settled in London in 1885, and soon afterwards became attached to St. Mary's Hospital. We are indebted to a member of the medical staff of that hospital for the following note:

"Dr. Cagney's connection with St. Mary's Hospital began in the year 1885, when he became Assistant to Dr. de Watteville in the department for electrical treatment, and in 1886 he was appointed Assistant Demonstrator of Anatomy in the Medical School. There he proved to be, as was expected, a successful and ever popular teacher, and continued to hold this post till he resigned it in 1895. Meanwhile, on Dr. de Watteville's giving up charge of the Electro-therapeutic Department in the hospital, Dr. Cagney was appointed to succeed him. Thoroughly versed in anatomy, a skilled neurologist, of a scientific turn of mind and full of interest in the clinical details of a case, there was probably no one of superior knowledge to Dr. Cagney in the application of electricity to medical treatment, and the staff of the hospital were always glad to obtain his assistance in the examination and treatment of patients. He continued to hold this appointment to the date of his untimely death. Dr. Cagney's fine presence, his charm of manner, his cultured literary tastes, his high character attracted all who came in contact with him, and he was held in high esteem and regard by all who knew him at St. Mary's Hospital."

One of the fruits of the study which he gave to the subject of electro-therapeutics was a translation, prepared in collaboration with Dr. de Watteville, of Erb's *Electro-therapeutics*, which appeared in 1886. One of the most interesting contributions to medical literature from his pen was a paper on the Mechanism of Suspension in the Treatment of Locomotor Ataxy, which was read before the Royal Medical and Chirurgical Society in January, 1890, and published in the *Transactions* (vol. lxxiii). In this paper he showed, in opposition to an opinion then widely prevalent that the effect of suspension was to cause a considerable and effective relaxation both of the cord and of the nerve roots. The late Professor Charcot took occasion to express to Dr. Cagney his recognition of the correctness of his demonstration, and of its important bearing on the use of suspension as a means of treating various chronic nervous affections.

Dr. Cagney was appointed Assistant-Physician and Registrar of the Hospital for Epilepsy and Paralysis, Regent's Park in 1888, and in 1894 became full Physician. He took a great interest in his work at this hospital, and in 1895 was elected a member of its Committee of Management. In 1893 he was appointed Assistant-Physician to the North-West London Hospital. He was one of the Honorary Secretaries of the Harveian Society, and at the meeting of that Society, which took place on November 18th, the day of his death, Dr. Cock, his colleague in that office, expressed in a few words his sense of the great loss which the Society had sustained, and moved that a letter of condolence should be sent to Dr. Cagney's family. This was seconded by Dr. Wm. Hill, and after a few sympathetic remarks from the President (Dr. Milson) was carried in silence by the Society.

Dr. Cagney took a great interest in the work of the Irish Medical Schools' and Graduates' Association, and had been for some years its Metropolitan Secretary. He was an active Volunteer. He was appointed Acting Surgeon to the 20th Middlesex (Artists) Volunteers in April, 1886; Surgeon in February, 1889; and subsequently joined the staff of the Volunteer Ambulance School of Instruction, where he did good work. At the time of his death he was senior Surgeon-Captain of the Artists, and held a commission in the Army Medical Reserve of Officers; he would have been promoted Surgeon-Major next year.

Colonel Edis, the commanding officer of the 20th Middlesex (Artists) Volunteers, has written to us expressing his great personal regret at the death of Dr. Cagney. Colonel Edis adds that his removal will be felt as a great loss to the corps; he was an efficient officer, thoroughly acquainted with the duties of his position, and zealous in their discharge. His personal qualities had endeared him to the officers of the corps, by whom his untimely decease is universally deplored.

All who had enjoyed the personal acquaintance or friendship of Dr. Cagney will feel that his death removes a man of sterling abilities, great kindness of heart, and a high standard of honour.

A special funeral service on November 22nd, at the Catholic Church, Spanish Place, Manchester Square, was attended by a large number of those with whom Dr. Cagney had been associated in various sphere of work. Among those present were Sir William Broadbent and other members of the staff of St. Mary's Hospital, Dr. Stowers of the North-West London Hospital, Dr. Ogilvie and Dr. Guthrie of the Hospital for Epilepsy and Paralysis, Regent's Park, Colonel Edis of the 20th Middlesex (Artists) Volunteers, Captain Annesley (Adjutant), Surgeon-Captain Sleman, and many other officers of the corps, Dr. W. J. Collins (Chairman to the London County Council), Mr. J. L. Carew, M.P., and Judge Bacon.

CUTHBERT WYMAN, M.A., M.D., B.C.Cantab., F.R.C.S.,

Putney.

We regret to announce the death of Dr. Cuthbert Wyman, of Putney, which took place last week. Dr. Wyman was educated at Charterhouse and afterwards at Trinity College, Cambridge. After graduating in Arts he studied medicine, and in due course obtained the degrees of M.B. and B.C., and afterwards that of M.D. from the University of Cambridge. He also obtained the Licence of the Royal College of Physicians and the Fellowship of the Royal College of Surgeons. At St. Thomas's Hospital, where he was a student, he won the Solly Medal in 1890; he also served the offices of House-Surgeon and House-Physician with great credit to himself. Dr. Wyman was appointed Medical Officer to the Opium Commission, of which Lord Brassey was chairman, and in that capacity travelled all over India with the Commissioners, thus collecting much information as to the use and effects of opium, which supplied material for some valuable papers written by him at a later period. On his return from India he became associated with his father in practice at Putney. In this new sphere of activity he quickly won a high reputa

tion for professional skill, and endeared himself to all with whom he came in contact by his genial manner and kindness of heart. Dr. Wyman died of pneumonia supervening on influenza, which was undoubtedly contracted from a patient who died of a similar complication. He thus in the fullest sense of the word died a martyr to professional duty. Dr. Wyman, who was only in his 32nd year, had every prospect of a successful career before him. He was a practitioner of the best type, and his death is a loss not only to his parents (with whom we venture to express our deepest sympathy in their bereavement), but to the patients who looked to him with confidence for relief, and to the profession of which he was a most promising member.

The death is recorded of Dr. Matthew Foster Heddle, Emeritus Professor of Chemistry in the University of St. Andrews. He was appointed to the Chair of Chemistry in St. Andrews University in 1862, on the death of Professor Connell, and held it till 1884, when he retired. The deceased, who was a native of Orkney and was about 70 years of age, was a Fellow of the Royal Society of Edinburgh.

Deaths in the Profession Abroad.—Among the members of the medical profession in foreign countries who have recently died are Dr. Jacquemet, *agrégé* professor in the Medical Faculty of Montpelier, aged 72; Dr. Poisson, Professor of Surgical Pathology in the Medical School of Poitiers; Dr. J. B. Bottero, of Turin, editor of the *Gazzetta del Popolo*, and the oldest journalist in Italy, aged 81; Dr. A. Jazenko, some time *Privat-docent* of Surgery in the University of Kieff, aged 55; Dr. Cristino Cebrian, Professor of Anatomy in the University of Salamanca; Dr. Arthur Scheffer, some time Professor of Chemistry and Physics in the University of Moscow, aged 65; Dr. A. Gadaud, of Périgueux, Senator for La Dordogne, and for some time Minister of Agriculture, aged 56; Dr. Paul Guterbock, *Privat-docent* of Surgery in the University of Berlin; and Dr. Zinn, of Eberswalde, for many years one of the leading medical psychologists of Germany, aged 72.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

The following appointments have been made at the Admiralty: Joseph R. McDonnell, Staff-Surgeon, to the *Trafalgar*, September 9th; Ernest A. Shaw, Surgeon, to a Metropolitan Hospital for a three months' course, December 6th; Edward D. J. O'Malley, Surgeon, to the *Duke of Wellington*, November 22nd; Samuel W. Johnson, Staff-Surgeon, to the *Jaffey*, November 23rd; Samuel Keays, Staff-Surgeon, to the *Devastation*, November 23rd.

ARMY MEDICAL STAFF.

Surgeon-Lieutenant-Colonel C. K. Powell, retired pay, has been appointed to the medical charge of the 18th Regimental District at Clonmel.

Brigade-Surgeon-Lieutenant-Colonel F. W. Trevor, M.B., who is serving in the Bombay Command, has taken charge of the duties of the Principal Medical Officer, Sind District, from October 27th, as an additional duty.

Surgeon-Lieutenant-Colonel Arthur Wellesley Roche died at Folkestone on November 17th, at the age of 55. He was appointed Assistant Surgeon, April 1st, 1867; Surgeon, March 1st, 1873; Surgeon-Major, April 1st, 1879; and Surgeon-Lieutenant-Colonel, April 1st, 1887. He quitted the service on retired pay, August 15th, 1888.

Quartermaster and Honorary Captain D. O'Connor is placed on retired pay. He was appointed Lieutenant of Orderlies, August 7th, 1875; made Quartermaster, July 1st, 1881; and granted the honorary rank of Captain, August 7th, 1885. He was in the Egyptian war of 1882, receiving the medal and Khedive's bronze star, and with the Nile Expedition in 1884-5, for which he was granted the higher rate of pay, and received a clasp.

Sergeant-Major A. Bruce, Medical Staff Corps, is appointed Quartermaster, with the honorary rank of Lieutenant, *vice* Honorary Captain D. O'Connor.

ARMY MEDICAL RESERVE.

Surgeon-Captain T. Lyndon, M.D., having resigned his Volunteer appointments, ceases to belong to the Army Medical Reserve of Officers.

INDIAN MEDICAL SERVICE.

Surgeon-Lieutenant-Colonel Arthur Tomes, M.D., Bengal Establishment, has retired from the service from October 13th. He was appointed Assistant-Surgeon March 31st, 1876, and Surgeon-Lieutenant-Colonel twenty years thereafter.

Surgeon-Colonel G. Bainbridge, Bombay Establishment, recently appointed Surgeon-General with the Government of Bombay, *vice* Surgeon-Major-General H. Cook, M.D., deceased, is promoted to be Surgeon-Major-General from August 16th.

THE VOLUNTEERS.

Surgeon-Lieutenant H. Robinson, M.B., 2nd East Riding of Yorkshire Artillery (Western Division Royal Artillery), is promoted to be Surgeon-Captain, November 24th.

The undermentioned gentlemen are appointed Surgeon-Lieutenants in the corps specified, dated November 24th: Henry M. Macnaughton Jones, M.B., 1st Middlesex Engineers; George V. Worthington, M.B., 4th (Cambridge University) Volunteer Battalion the Suffolk Regiment; Alfred Emson, 1st Volunteer Battalion the Dorsetshire Regiment.

Surgeon-Major W. J. Fleetwood, M.D., 4th Volunteer Battalion the King's Liverpool Regiment, is promoted to be Surgeon-Lieutenant-Colonel, November 24th.

Surgeon-Captain R. A. Murray, M.D., 4th Volunteer Battalion the Cheshire Regiment, has resigned his commission, November 24th.

VOLUNTEER MEDICAL STAFF CORPS.

Quartermaster G. R. Glanfield, the London Companies, has resigned his commission, November 24th.

THE FRENCH FIELD HOSPITAL IN THE TURCO-GREEK WAR.

Dr. Phocas, of Lille, has published in a small pamphlet an account of the working of the Field Hospital sent by the city of Paris to the seat of operations during the Greco-Turkish war. Dr. Phocas, who was in charge of the hospital, discusses the outfit of the hospital, which, although full, left something to be desired. He advocates a table for operations, and abundance of antiseptics, but a lesser amount of more essential drugs and appliances. He records observations in 68 wounds, as follows:

Gunshot, of soft parts	23
,, compound fractures	21
,, of joints	19
,, of vessels	2
,, of viscera	3

Wounds of the soft parts were simply dressed with antiseptics, and afterwards treated with a minimum of interference. The same method was pursued in regard to compound fractures and wounds of joints; but the secondary operations necessary were usually to prevent septic infection. The comparative rarity of visceral lesions in hospital he attributes to the fact that such wounds are usually fatal in the field, before assistance can be given. Among the 68 cases treated, there were only 3 deaths, which he attributes to the free use of antiseptics. The same experience and results were obtained in all the other field hospitals.

CIVIL PRACTITIONERS AT ALDERSHOT.

We have not yet been informed of any appointment for the North Camp (new style, Marlborough Lines). Medical gentlemen have been "approached" with a view to ascertaining if they would be "prepared" to take over temporary charge of women and children North Camp, Aldershot, and perform "orderly duty" as well, taking tours of orderly officer with army surgeons; such tours, falling every third or fourth day, would necessitate twenty-four hours' close confinement to some room set apart for the orderly medical officer, except short periods of absence for meals, when an address where he is to be found must be ticketed on the door of the orderly medical officer's room. In the North Camp some 260 women and 420 children would require to be looked after. Possible candidates among civilian practitioners for all this work are asked "what remuneration they would consider equitable for these services."

FEES TO OFFICERS OF THE INDIAN MEDICAL SERVICE.

The Government of India has recently been called upon to decide a point affecting officers of the Indian Medical Service. The question raised had reference to the right of an officer of the Indian Medical Service in civil employ to demand a fee when called into consultation on a sick military officer by the medical officer in charge of the case. It has been decided that an officer entitled to gratuitous medical attendance is also entitled to gratuitous advice from a medical officer in the employment of the Government called into consultation by the medical officer who is, in accordance with the regulations, in charge of the case It is only when an officer declines the attendance of the medical officer provided by the Government, and calls in another medical officer to attend him in illness, that the usual fees can be claimed by the latter.

THE ARMY MEDICAL RESERVE.

Fair Play writes: I agree with "Justice" that it is wrong to call this body a reserve; it is really a service of assistance to the regular medical officers, and as such I believe it has not caused the least injury to that service; did I think the contrary I would do my utmost to get every man to resign it. "Justice" also says contract rates are not so bad after all if you are paid on a large number of troops; but that is just what you are not in a large station. A reservist may in such a station be put in charge of a brigade of say 2,000 men, besides hospital duties, etc., but at the end of the quarter finds to his sorrow that the total troops are divided between him and the regular medical officers of the station, some of whom may be doing recruiting duties and such like, and he only gets his share—say one-third or one-half, on which he is paid. That is the method of applying contract rates to large stations, for which they were never originally intended. Nor have reservists any choice, but are obliged to take duty, under Article 659 of the Pay Warrant, where the words "shall undertake" occur.

But the reservist has to do other duties besides medical attendance, such as seeing prisoners, attending Boards on rations, examining recruits, etc., which are repugnant to the general practitioner, and for which, if in good practice, he could not afford the time. The reserve is

no reserve, as in the event of mobilisation its officers would all be wanted with their volunteer regiments.

The War Office seems incapable of grasping the medical situation. If it intends to make the regular a foreign service body only, then higher pay and pension, with furlough rules as in the Indian Service, will have to be adopted. But, at the same time, change of troops at home will have to be readjusted

*** The above is from the pen of an old and experienced civil surgeon, who knows all about the reserve. We are glad he substantially agrees with our views, but we are convinced that he is mistaken in thinking that the existence of the so-called reserve is not an important factor in the question of army medical reform. It really is so, for the present dominant spirits of the War Office constantly quote it in their resistance to army medical reform. The method of paying contract rates at the large stations mentioned by our correspondent is a revelation—a nice little method of doing things on the cheap! We are glad the subject of the reserve is now receiving attention.

MIXED BOARDS.

The following is from the North-Eastern District: A Board will assemble to report on certain offices and stores proposed for occupation.

President .....
Major .....
Members.....
Captain .....
Officer in charge of barracks.....
A medical officer will attend.

*** It is six months since the new regulation on Mixed Boards appeared, and the order for medical officers to attend, which should there and then have been cancelled, still remains in force, and is acted on to the setting aside of the newer regulation. We wonder whether this obsolete military order will be cancelled before Parliament meets, because if it then exists the Secretary of State will doubtless have to explain the reason for its retention, and why what is conceded with one hand is taken away with the other.

THE VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

The prizes of the Volunteer Ambulance School of Instruction will be distributed by Major-General H. Trotter, on Thursday, December 9th, at 8.30 P.M., and subsequently a Bohemian entertainment will be given.

MEDICO-LEGAL.

THE POWERS AND DUTIES OF CORONERS: WITNESSES AT INQUESTS.

A CORRESPONDENT has submitted to us the following points for consideration:

1. Is a medical practitioner obliged to obey a verbal message of the coroner conveyed through the local police-constable, and to attend as an ordinary witness when he has been in professional attendance on the deceased, who was his private patient?
2. Is a medical practitioner entitled to the professional fee of one guinea under such circumstances, though not called upon to give evidence?
3. Would a medical practitioner be under any penalty if he disregarded the verbal message of the coroner?
4. Could a medical practitioner demand the professional fee of 21s if he was subpœnaed, and could he refuse to give evidence until the fee was paid?
5. Is the coroner justified in allowing so long a time to elapse as the fifth day after death before holding an inquest?
6. Our correspondent also inquires if, under the circumstances of the particular case to which he refers he has any redress?

*** In reply to the above questions:

1. We are advised that a medical practitioner would not be under legal obligation to attend an inquest as an ordinary witness on a verbal message of the coroner, that is, that he would not be subject to a penalty for declining to attend, unless he were duly summoned. At the same time a medical practitioner could probably be summoned as an ordinary witness if the coroner was informed that his evidence was material. It does not appear that the coroner is bound to require the attendance of the medical practitioner attending the deceased at the time of death, to give medical evidence of the cause of death, or to make the *post-mortem* examination. It is, however, very unusual, we think, for a coroner not to do so, but the words of the Act are that the coroner "may" require, and this may be deemed to import discretion, although such words in Acts of Parliament have been frequently held to import an obligation, and there are inferences to be drawn from the Act in support of such a construction in this case; but it would be a difficult point to contest.

2. We doubt whether a medical practitioner, if summoned as an ordinary witness, would be entitled to a fee of one guinea, even though called upon to give evidence. The expense of witnesses attending at inquests are generally provided for by the local authorities, and paid by the coroner, but we are unaware of any prescribed scale in such cases similar to those obtaining in civil actions or criminal proceedings, and we expect that the fees allowed to witnesses for attending inquests are exceedingly small.

3. We think the reply to the first question will also include the third, but it may be useful to mention that it appears to be a not unusual practice for coroners to send a message to those witnesses whom he thinks material, and then, should they neglect or refuse to attend, to issue a summons for their appearance.

4. To the first part of this question the reply to the second question will afford an answer. With regard to the last part of the question, we are of opinion that it would not be competent for a witness to refuse to give evidence at an inquest until his fee was paid.

5. Probably the time which was allowed to elapse in this case was unusually long, but the coroner may have had a good and sufficient reason for the course adopted.

6. We doubt if our correspondent has any legal redress. We think he might apply to the coroner for a fee of one guinea, as being a proper fee payable to a witness in the position of life of a medical practitioner, and possibly this application might be favourably considered by the local authority for the district in which our correspondent resides.

MEDICAL WITNESS AT INQUEST.

DR. BRAND (Driffield) draws our attention to an inquest in which the coroner, instead of summoning the medical man who was called in immediately by the friends, and saw and inspected the body within half an hour of the decease, sent for another practitioner in the district to make a *post-mortem* examination and give evidence at the inquest. Our correspondent is of opinion that the first medical man called to see the body after death, or who was last in attendance during life should, as a matter of courtesy and custom, be summoned to the inquest, and he feels aggrieved that this practice was not followed by the coroner on the present occasion. Some communications followed between our correspondent and the coroner, in which the latter stated that he was not bound by so-called custom, and he intimated that he acted under statute law and that he could summon such witness as he thought fit.

*** It is certainly within the province of the coroner to summon such witnesses, medical or otherwise, as he may consider necessary to give evidence at the inquest; but if the jury are not satisfied with the explanations given as to the cause of death, they can adjourn, and request the coroner to summon such other witnesses as they may desire. As a rule, the medical practitioner who is first in attendance on a deceased person is usually the most desirable medical witness to summon, and coroners usually avail themselves of such services, for an early inspection of the body may reveal evidences as to the cause of death, which at a later period, may not be so visible, and in cases of rapid decomposition may become entirely obliterated. Nevertheless, the coroner cannot be legally questioned as to his discretion with regard to the witnesses he may think fit to call, and the medical witnesses, if properly summoned, must attend.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,7[illegible] births and 3,927 deaths were registered during the week ending Saturday last, November 20th. The annual rate of mortality in these towns, which had increased from 16.9 to 19.0 per 1,000 in the four preceding weeks, declined to 18.6 last week. The rates in the several towns ranged from 11.3 in Bradford, 13.4 in Portsmouth, 13.8 in Croydon, and 13.9 in Plymouth to 21.3 in Sunderland, 22.1 in Burnley, 24.3 in Liverpool, and 24.7 in Leeds. In the thirty-two provincial towns the mean death-rate was 18.4 per 1,000, and was 0.5 per 1,000 below the rate recorded in London, which was 18.9 per 1,000 The zymotic death-rate in the thirty-three towns averaged 2.2 per 1,000; in London the rate was equal to 2.4, while it averaged 2.1 per 1,000 in the thirty-two provincial towns, among which the highest zymotic death-rates were 3.6 in Gateshead, 4.4 in Burnley, 5.4 in Halifax, and 5.6 in Blackburn. Measles caused a death-rate of 2 in Burnley, 3.8 in Halifax, and 4.0 in Blackburn; scarlet fever of 1.0 in Derby and 1.6 in Halifax; whooping-cough of 1.2 in Newcastle-upon-Tyne, and "fever" of 1.0 in Derby and in Salford, and 1.5 in Huddersfield. The 64 deaths from diphtheria in the thirty-three towns included 37 in London, 6 in Liverpool, and 3 in Wolverhampton. One fatal case of small-pox was recorded in Bristol, but not one in London or in any other of the thirty-two large provincial towns: and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,682, 3,680, and 3,777 at the end of the three preceding weeks, had risen again to 3,792 on Saturday last, November 13th; 397 new cases were admitted during the week, against 416, 3[illegible] and 460 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, November 20th, 877 births and [illegible] deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 18.8 and 20.1 per 1,000 in the two preceding weeks, declined to 18.5 last week, and almo[illegible]

corresponded with the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 16.6 in Dundee and 17.3 in Leith to 21.5 in Aberdeen and 22.1 in Perth. The zymotic death-rate in these towns averaged 2.1 per 1,000, the highest rates being recorded in Edinburgh and Greenock. The 254 deaths registered in Glasgow included 7 from measles, 2 from scarlet fever, 2 from diphtheria, 9 from whooping-cough, 8 from "fever," and 3 from diarrhœa. Four fatal cases of scarlet fever were recorded in Edinburgh and 5 of measles in Greenock.

CUBIC SPACE IN COWSHEDS.

Dr. Barwise, health officer for Derbyshire, has been at pains to ascertain from various experts and authorities their views on the vexed question of cubic space for milch cows in sheds. It is significant that, whilst the average of the spaces regarded as adequate is over 700 cubic feet in existing and over 900 cubic feet in new sheds, the Dairy Farmers' Association recommend 650 cubic feet for each cow. It should not be difficult, and it is assuredly very desirable, finally to settle the much-debated minimum to be inserted in local regulations. As a fixed minimum 800 cubic feet is surely little enough; and when we learn that army horses are allowed double that amount, and bear in mind the immense importance of maintaining health among milch cattle, the space named is small enough to commend itself to all who have the true interests of the milk trade at heart? The Royal Commission on Tuberculosis will, it may be hoped, have something to say on the point.

DIPHTHERIA IN LONDON

There was a further decline in the mortality from diphtheria in London last week. The fatal cases of this disease, which had been 65, 59, and 46 in the three preceding weeks, further fell to 37 during the week ending Saturday last, November 20th. Of these 37 deaths, 4 were of persons belonging to Lewisham, 3 to St. Marylebone, 3 to St. Pancras, 3 to Bethnal Green, 3 to Wandsworth, and 3 to Camberwell sanitary areas. Twenty-four of the 37 deaths were of children aged between 1 and 5 years, and the remaining 13 (nearly all of which were of children under 10 years of age) between 5 and 20 years; no fatal case occurred among persons aged upwards of 20 years. The number of notifications of diphtheria in London, which had declined from 369 to 293 in the four preceding weeks, rose again to 305 during the week ending Saturday last. Compared with the preceding week, there was a decline in the prevalence of diphtheria in West and South London, but an increase in North, Central, and East London. Among the sanitary areas of West London, the 11 new cases of diphtheria notified in Paddington exceeded the number recorded in any recent week, while in nearly all the other sanitary areas there was a decline. Among the North London districts there was a marked increase in the prevalence of the disease in St. Pancras, 21 new cases being notified, against 11 and 13 in the two preceding weeks. In Islington, also, there was an increase, but in Hackney there was a slight further decline. Among the sanitary areas of East London there was a considerable increase in the number of new cases in Bethnal Green, Mile End Old Town, and Poplar; in the last-named district the notified cases numbered 31, against 13 and 9 in the two preceding weeks. In nearly all the sanitary areas of South London there was a decline in the prevalence of diphtheria, notably in Bermondsey, Lewisham, and Plumstead; in Battersea, however, the new cases rose from 10 to 18, and in Wandsworth there was also a slight further increase. The admissions of diphtheria patients into the Metropolitan Asylums Hospitals during last week were 150, against 166, 163, and 148 in the three preceding weeks; and 1,053 patients remained under treatment in these hospitals on Saturday last.

PAROCHIAL MEDICAL OFFICER AS REGISTRAR OF BIRTHS AND DEATHS.

A. R., who is a parochial medical officer and medical officer of health in Scotland, writes to ask whether he could legally hold the appointment of registrar of births and deaths, and, if so, whether it would be *infra dig.* for him to do so.

*** We are not aware of any illegality in these appointments being held by the same individual, nor should we be inclined to regard the appointment of registrar of births and deaths as an improper one for a district medical officer to hold if he would like to have it. In rural districts in England the relieving officer is usually appointed registrar.

DUTIES OF MEDICAL OFFICERS OF HEALTH IN INFECTIOUS CASES.

Northumberland asks: 1. What are the duties of a medical officer of health? 2. How far can that officer interfere with an infectious case? 3. When is a scarlet fever patient in a fit state to be allowed out?

*** 1. These are set out at length in Article 18 of two general orders of the Local Government Board dated March 23rd, 1891. One of the sections says: He shall inform himself, as far as practicable, respecting all influences affecting or threatening to affect injuriously the public health within the district.

2. He may obtain a magistrate's order for removal if without proper lodging or accommodation, etc. He can certify to his authority as to need of disinfection, which must be carried out to his satisfaction where the Infectious Diseases Prevention Act is in force. He can advise his authority as to enforcement of various other sections in the public health and amending Acts.

3. A patient is often fit to go out, and the better for doing so, long before he is free from infectivity. The latter is probably not over till desquamation is completed, and every catarrhal condition removed. Authorities, however, differ.

As to a fourth question (which, as it is personal, we do not print) we think "Northumberland" should call upon his brother practitioner and enquire as to truth of statements made by third party. They may have been inaccurately reported.

FEES FOR CERTIFYING PAUPER LUNATICS.

E. R. W. writes to say that the guardians of his union have reduced the fee from one guinea to half a guinea for certifying pauper lunatics, and inquires: 1. Whether he has to visit the lunatic and appear before the magistrate for this reduced fee? 2. Whether he can refuse to do this unless the full fee is paid? 3. Whether the amount of the fee rests with the guardians or the magistrate? 4. Whether visiting a pauper lunatic and filling in the necessary form (We assume our correspondent means for removal of patient to asylum) can be charged as an extra fee, or whether payment for this duty is included in the salary?

*** 1. A Poor-law medical officer is not compelled to certify to any case of lunacy, this being quite optional.

2. He can refuse, if he thinks proper, on this or any other ground.

3. The amount of the fee to be paid rests with the magistrate, who has power to order the guardians to pay any reasonable fee.

4. The salary paid to a Poor-law medical officer does not include a ment for certification for removal of pauper lunatics to asylums.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

Examinations.—The First Examination Part I (Chemistry and Physics) will commence on Monday, December 13th.

UNIVERSITY OF GLASGOW.

Meeting of University Court.

Appointments.—On the recommendation of the Professor of Clinical Surgery, Dr. George Burnside Buchanan was appointed Assistant to that Professor, in the room of Dr. J. C. Renton, resigned. Dr. L. R. Sutherland was appointed Lecturer on Pathology for the present academic year during the absence of Professor Coats.

Distinctions at M.D. Examination.—The Court received a communication from the General Council thanking them for the manner in which they had met the Council's view with regard to the M.D. distinctions, and requesting that the Court should communicate to the Bellahouston Trustees the Council's appreciation of the liberality which they have shown in providing gold medals.

Foundation of a Mackinnon Scholarship.—A legacy of £2,000 from the late Sir William Alexander Mackinnon, K.C.B., was intimated for the foundation of a scholarship to be called the "Mackinnon Scholarship," to be awarded to the person who shall in each year show the greatest proficiency in a competitive examination in the following subjects, namely: (1) Geology; (2) Natural History together with Comparative Anatomy; (3) Modern Foreign Languages; the examination in each subject to be taken in each succeeding year in rotation, commencing in such order as may be determined.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

The following gentlemen passed the First Professional Examination for the diploma of Fellow at a meeting of the Board of Examiners.

Monday, November 15th:

Messrs. A. S. Barnes, B.Sc.Lond., student of Mason College, Birmingham; H. J. Scharlieb, M.R.C.S.Eng., L.R.C.P.Lond., M.B. & B.S. Lond., of University College, London; R. C. Dun, M.R.C.S.Eng., L.R.C.P.Lond., M.B., C.M., and B.Sc.Edin., of Edinburgh, Berlin, and Berne Universities; H. Collinson, of Yorkshire College, Leeds; H. Lett, of Yorkshire College, Leeds, and London Hospital; D. S. Graves, of Guy's Hospital.

Nine gentlemen were referred back to their professional studies for six months.

Tuesday, November 16th:

S. Smith, of University College, London, and St. Mungo's College, Glasgow; W. H. Passmore and B. A. Nicol, of Charing Cross Hospital; G. A. Clarkson, M.R.C.S.Eng., L.R.C.P.Lond., and C. J. N. Longridge, of St. George's Hospital; and L. A. Walker, of St. Bartholomew's Hospital.

Ten gentlemen were referred back to their professional studies for six months.

Wednesday, November 17th:

R. F. C. Ward, B.A.Cantab., of Middlesex Hospital; C. A. R. Nitch, of St. Thomas's Hospital; J. P. L. Mummery, of Cambridge University and St. George's Hospital; A. M. Cudmore, M.R.C.S.Eng., L.R.C.P. Lond., M.B., Ch.B.Adel., of Adelaide University and London Hospital; J. E. S. Frazer, M.R.C.S Eng., L.R.C.P.Lond., of St. Bartholomew's Hospital.

Eleven gentlemen were referred back to their professional studies for six months.

Thursday, November 18th:

C. A. Worth, M.R.C.S.Eng., L.R.C.P.Lond., of St. Bartholomew's Hospital; G. W. Roll, M.R.C.S.Eng., L.R.C.P.Lond., M.B., B.C.Cantab., of Cambridge University and St. Thomas's Hospital; H. M. Masina, L.M. & S. Bombay, of Grant Medical College, Bombay, St. Bartholomew's and King's College, London; H. R. Nutt, of St. Mary's Hospital; H. D. Pollard, of London Hospital.

Eleven gentlemen were referred back to their professional studies for six months.

Friday, November 19th:

H. Tilley, M.R.C.S.Eng., L.R.C.P.Lond., M.D., B.S.Lond., of University College, London; William S. Low, M.R.C.S.Eng., L.R.C.P.Edin., of St. Thomas's Hospital, Edinburgh, and King's College, London; T. P. J. Hartigan, L.R.C.P. & S.Edin., and J. R. Benson, M.R.C.S.Eng., L.R.C.P.Lond., of King's College, London; and J. Sherren, of London Hospital.

Five gentlemen were referred back to their professional studies for six months.

Of the total number, 73, who presented themselves for this examination, 27 passed and 46 were referred.

ROYAL COLLEGE OF PHYSICIANS IN IRELAND.

AT the monthly meeting of the Fellows held on Friday, November 5th, 1897, the Vice-President, in the absence of the President, Sir George F. Duffey, admitted to the Licences in Medicine and Midwifery the following candidates who had been successful at the Final Examinations held in October, 1897, under the Conjoint Scheme with the Royal College of Surgeons in Ireland:—B. B. Burke, C. W. Caldwell, J. Campbell, D. F. Clarke, G. A. Kearney, S. G. Longworth, H. B. S. Montgomery, F. J. O'Farrell, B. R. Phillipson, R. H. D. Pope, De C. S. Potterton, J. J. W. Prescott, W. Taylor.

At a Stated Business Meeting, held on Friday, November 12th, the President admitted as Licentiates in Medicine the undermentioned registered medical practitioners: R. P. R. Lyle, M.B., B.Ch., B.A.O.Univ. Dubl. 1894, M.D. 1896; M. M'Hugh, M.B.Univ.Dub. 1882, L.R.C.S.I., 1882; A. C. O'Sullivan, M.B., B.Ch., B.A.O.Univ. Dub., 1892; G. J. Peacocke, M.B., B.Ch., B.A.O.Univ. Dub., 1892; M.D., 1896; H. J. Satchwell, L.&L.M.R.C.S.I., L.A.H., 1889.

A letter was received from the Secretary of the Committee of Management under the Conjoint Scheme with the Royal College of Surgeons in Ireland informing the President and Fellows that the undernamed candidates had passed the November Examination for the Conjoint Diploma in State Medicine: W. A. Chapple, M.B., ChB.Univ.New Zealand; H. L. Clare, M.B., B.Ch Univ.Dub.; A. Greenwood, M.B., B.Ch.Vict.Univ.; Surgeon-Major P. Mulvany, L.R.C.P.&S.Edin.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

MR. D. P. O'BRIEN, L.R.C.S.I., etc., having passed the necessary examination, has been admitted a Fellow of the College. The following gentlemen have passed the primary part of the examination for the Fellowship: Mr. R. Allen, B.Ch., etc., Royal Univ. Irel.; Mr. W. J. Corbett, L.R.C.S.I., etc.; Mr. J. M. Redington, L.R.C.S.I., etc.; Mr. Alfred H. Jacob, Mr. C. B. Pasley, and Mr. E. F. Stapleton.

APOTHECARIES' HALL OF IRELAND.

THE Secretary of the Apothecaries' Hall of Ireland sends us the following list of the Examiners appointed by this body to conduct the examinations in Medicine, Surgery, and Midwifery. The Examiners in Surgery have been appointed by the General Medical Council:

Chemistry and Physics: E. Davy, M.B.Univ.Dub., Government Analyst; N. Hartley, F.R.S., F.I.C., Professor of Chemistry, College of Science, Ireland; C. R. Tichborne, F.I.C., D.P.H. R.C.S.I., L.A.H., Ex-Examiner in Chemistry, Dublin University. *Pharmacy:* W. V. Furlong, L.R.C.P. Edin., L.R.C.S.I., L.A.H.; G. A. Stritch, L.F.P.S.Glasg., L.A.H. *Anatomy:* A. Birmingham, M.D., F.R.C.S.I., Professor of Anatomy, Catholic University, Fellow and Examiner, R.U.I. *Biology:* A. J. Blaney, M.B., B.Ch., Examiner in Biology, R.U.I.; J. A. Johns, M.B., B.Ch.Univ.Dub., L.A.H. *Materia Medica:* John Evans, L.R.C.S.I., L.A.H., Ex-Examiner, P.S.I.; S. M. Thompson, L.R.C.P.I., L.R.C.S.I., L.A.H., Visiting Physician to South Dublin Union. *Physiology:* D. J. Coffey, M.B., B.Ch.R.U.I., Lecturer on Physiology, Cecilia Street Medical School; G. B. White, M.B. Univ.Dub., F.R.C.S.I., L.A.H., Examiner R.C.S.I. *Hygiene:* D. E. Flinn, F.R.C.S.I., D.P.H., R.C.S.I.; A. Roche, M.R.C.P.I., L.R.C.S.I., Examiner in Hygiene, R.U.I. *Medical Jurisprudence:* H. A. Auchinleck, F.R.C.S.I., L.R.C.P.Edin., L.A.H., Professor of Medical Jurisprudence, R.C.S.I.; J. E. Kenny, L.R.C.P., L.R.C.S.Edin., Coroner City of Dublin. *Pathology:* E. J. McWeeney, M.D., M.Ch., Examiner in Pathology, Pathologist to Mater and Coombe Hospitals; C. M. O'Brien, M.B.Univ.Durh., L.R.C.P.I., L.R.C.S.I., L.A.H., Ex-Senior Resident Surgeon and Registrar, Jervis Street Hospital, Dublin, late acting Clinical to Out-patients, Middlesex Hospital, London. *Midwifery and Gynæcology:* T. More Madden, M.D., Hon. Causâ R.U.I., F.R.C.S.Edin., Obstetric Physician, Mater Hospital, Ex-Assistant Physician, Rotunda Hospital; R. D. Purefoy, M.B.Univ.Dub., F.R.C.S.I., L.A.H., Master Rotunda Hospital. *Ophthalmology:* A. H. Benson, M.B.Univ.Dub., F.R.C.S.I., Ophthalmic and Aural Surgeon to City of Dublin and Mark's Hospitals; R. J. Montgomery, M.B.Univ.Dub., F.R.C.S.I., L.A.H., Assistant Surgeon to Mark's Hospital, Ophthalmic Surgeon to Drumcondra Hospital. *Surgery:* A. Chance, F.R.C.S.I., L.A.H., Surgeon to Mater Hospital; H. A. Thompson, M.D., B.Sc.Univ. Edin., F.R.C.S.Edin. *Medicine:* W. E. Ashley Cummins, M.D., M.Ch., L.A.H., Professor of Practice of Medicine, Queen's College, Cork, Senior Physician Cork County and City Hospital for Women and Children; J. B. Coleman, M.D., R.U.I., Physician to Richmond, Whitworth, and Hardwicke Hospitals.

SOCIETY OF APOTHECARIES OF LONDON.

PASS LIST. November, 1897.—The following candidates passed in:

Surgery.—J. Cater, King's College Hospital; F. H. Fawcett, Middlesex Hospital.

Medicine.—L. Elkind, Berlin; W. A. B. Smith, King's College Hospital.

Forensic Medicine.—J. Ash, St. Thomas's Hospital; T. H. Bailey, King's College Hospital; S. R. Bhagtani, King's College Hospital.

Midwifery.—F. G. Aldrich, Charing Cross Hospital; T. H. Bailey, King's College Hospital; F. W. Chesnaye, St. George's Hospital; F. R. Greenwood, St. Bartholomew's Hospital; B. S. Mankar, London Hospital; H. H. Monckton, King's College Hospital; A. W. Shea, Sheffield and Dublin.

The diploma of the Society was granted to Messrs. J. Cater, S. R. Bhagtani, F. R. Greenwood, B. S. Mankar, H. H. Monckton, and A. W. Shea.

THE total collection in aid of the West London Hospital, Hammersmith, started under the auspices of the Duke of Devonshire, amounts to £2,830.

MEDICAL NEWS.

H.R.H. THE DUKE OF CONNAUGHT will take the chair at the festival dinner in aid of St. Mark's Hospital, to be held at the Whitehall Rooms on St. Mark's Day, April 25th, 1898.

PRESENTATION.—Dr. C. M. Maxwell, of Lasswade, Midlothian, who is shortly leaving for Australia owing to ill health, has been presented by his patients with £200 and a silver salver. The miners at the Whitehall Colliery, whom Dr. Maxwell attended for seventeen years, have given him two silver dessert dishes.

THE addresses of thanks to the Czar and to the President and Committees of the Twelfth International Congress, signed by 100 British members, have been forwarded this week. They were both tastefully illuminated by Marcus Ward and Co., the one being in the form of a handsome book, bearing the Russian arms on the cover, and the other a vellum scroll, enclosed in a scarlet morocco-leather case.

THE annual dinner of the Cambridge Graduates' Club of St. Bartholomew's Hospital was held in Frascati's Restaurant on November 22nd. The Vice-Chancellor of Cambridge University, Dr. Alex Hill, himself an old student of the hospital, was in the chair. Including guests 75 sat down to dinner, this number constituting a record. A most enjoyable evening was spent, the proceedings being in every way a great success.

FAREWELL DINNER TO DR. DEAN IN ABERDEEN.—A dinner was given at the Palace Hotel, Aberdeen, recently, in honour of Dr. George Dean, assistant to the Professor of Pathology, on the occasion of his leaving Aberdeen to fill the post of Bacteriologist at the British Institute of Preventive Medicine. About thirty of his friends and medical associates were present. Dr. Hamilton, Professor of Pathology, presided, and in proposing Dr. Dean's health, he referred to the widespread regret at his departure from Aberdeen, and general expression was given to this feeling in the speeches made in the course of the evening. The toast was very heartily received.

EDUCATIONAL MUSEUMS.—Mr. Jonathan Hutchinson, F.R.S., intends to found a museum in his native town of Selby, in Yorkshire. Mr. Hutchinson has already established an educational museum at Haslemere, near which he has a country residence, and here he has already a number of objects to spare, so that he hopes to be able to stock the new museum at Selby very rapidly. The new museum also is intended to be strictly educational, that is to say, it will contain objects calculated to convey knowledge to the less instructed, but at the same time it will not be confined to any particular subjects.

DR. T. R. MCINNES, who has just succeeded to the post of Lieutenant-Governor of British Columbia, is a member of the medical profession. He is of Scotch extraction, but a native of Nova Scotia. He holds the degree of M.D. of Harvard and is a member of the College of Physicians and Surgeons of Ontario. He has for many years been on the staff of the British Columbia Hospital, and was appointed medical superintendent of the Columbia Lunatic Asylum in 1878. Dr. McInnes has for many years played a prominent part in the political life of Canada, having been elected to a seat in the Dominion House of Commons in 1878, and a member of the Senate in 1881. He has also been twice mayor of New Westminster.

CASUALTIES AT THE FRONTIER.—The casualties which have occurred on the North-West Frontier, from June 10th to October 28th, as given in the *Pioneer* of November 2nd, amount to 1,090, of which 247 are killed. They are divided as follows: Staff and departmental officers, 1 killed and 5 wounded; regimental officers, 28 killed and 47 wounded; British rank and file, 34 killed and 151 wounded; native officers, 4 killed and 29 wounded; native rank and file, 1 killed and 595 wounded; followers, 8 killed and 16 wounded. These figures do not include the casualties at the Sempagh Pass, but we can put them down at 9 killed and 20 wounded. Some 66,500 troops have been mobilised for the present war, while some 25,907 were mobilised in the Kabul war, 1879-80, with a loss of 158 killed and 608 wounded, excluding the action at Maiwand.

Distribution of Diphtheria Antitoxic Serum in London.—At its last meeting the Metropolitan Asylums Board resolved that in future a supply of antitoxin should be placed in the hands of the metropolitan medical officers of health, as well as in the hands of the Board's medical superintendent, for distribution to any general practitioner who may be called upon to treat patients who may be unable to obtain admission into the Board's hospitals. We understand that the medical officers of health in the metropolis have not been consulted upon the proposal, and we are of course unable to say what view they may take of it. At the first glance, however, it appears to present obvious advantages. The Board has also decided to arrange for a continuance for a period of seven years of antitoxic serum from the laboratories of the Royal Colleges of Physicians and Surgeons.

The Children of the Metropolitan Asylums Board.—The State Children's Aid Association has addressed a letter to the Children's Committee of the Metropolitan Asylums Board congratulating its members on their decision to provide for the continuance of the education of the children while inmates of homes managed by the Board, and also on the decision to limit the homes for feeble-minded children to 8, and those for convalescents to 25. The letter goes on to question the wisdom of providing accommodation for 800 children suffering from ophthalmia in three institutions, with the prospect of each institution being enlarged eventually to contain 400 children. It is pointed out that it was shown in Mr. Stephenson's report that among children in ordinary homes 0.46 per cent. had active trachoma; among those in the London pauper schools the proportion rose to 5.72 per cent. It would, it is urged, be inexpedient to make a large provision for these children until the effect of rearing young children in small groups is known. The Association is anxious, also, that the Children's Committee should have compulsory powers to inspect the children in workhouses and infirmaries, and to transfer them. It is further urged that the homes for children with ringworm should be limited to 15, in order to permit sufficient individual attention.

MEDICAL VACANCIES.

The following vacancies are announced:

ABERDEEN ROYAL INFIRMARY.—Medical Electrician, Assistant Anæsthetist, and Assistant Pathologist. Applications to William Carnie and Chas. M. Brown, Joint Treasurers, 27, Exchange Street, Aberdeen, by November 30th.

BOURNEMOUTH ROYAL VICTORIA HOSPITAL.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Secretary by February 1st, 1898.

BRIGHTON AND HOVE LYING-IN INSTITUTION AND HOSPITAL FOR WOMEN.—House-Surgeon, unmarried, and under 30 years of age. Salary, £80 per annum, with furnished apartments, board, gas, coals, and attendance. Applications to the Clerk, 76, West Street, Brighton, before December 10th.

BRIGHTON THROAT AND EAR HOSPITAL, 23, Queen's Road, Brighton.—Non-resident House-Surgeon. Salary at the rate of £52 per annum. Applications to the Secretary by December 6th.

CARDIFF INFIRMARY.—Assistant House-Surgeon, doubly qualified. Appointment for six months without salary, but with board, washing, and apartments. Applications to George J. Coleman, Secretary, by December 1st.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Assistant House-Surgeon. Appointment for six months. Honorarium of £10 after six months' satisfactory service, together with board, residence, and washing. Applications to Walter G. Carnt, Secretary, by December 11th.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis Road, Shadwell, E.—House-Physician. Board, residence, etc., provided, and an honorarium of 15 guineas at completion of six months' satisfactory service. Application to Thomas Hayes, Secretary, by December 11th.

EDAY, Orkney.—Medical Officer. Salary, Council £50, Medical Association £20 per annum, with practice fees. Applications to the Clerk of Parish Council, Eday.

HEREFORD GENERAL INFIRMARY.—Resident House-Surgeon, unmarried, doubly qualified. Salary, £100 per annum, with furnished rooms, board, washing, gas, coals, and attendance. Applications to Charles B. Beddoe, Secretary, 37, Bridge Street, Hereford, by December 4th.

HUDDERSFIELD INFIRMARY.—Junior Assistant House-Surgeon. Salary, £40 per annum, with board, lodging, and washing. Applications to Mr. J. Bate, Secretary.

LAMBETH: PARISH OF.—Assistant Medical Officer and Dispenser for the Workhouse, Renfrew Road, Lower Kennington Lane; doubly qualified, must reside in the Workhouse. Salary, £100 per year, rising after two years' service to a maximum of £125 per year, with board, apartments, and washing. Applications to W. Thurnall, Clerk, Guardians' Board Room and Offices, Brook Street, Kennington Road, S.E., by November 29th.

LIVERPOOL DISPENSARIES.—Head Surgeon. Salary, £200 per annum, Assistant Surgeon, at £80 per annum for the first year and £90 per annum afterwards. Board, apartments, and attendance provided in each case. Must be unmarried. Applications to R. R. Greene, Secretary, 34, Moorfields, Liverpool, by December 7th.

LIVERPOOL: UNIVERSITY COLLEGE.—Senior Demonstrator of Physiology. Salary, £125. Applications to the Dean of the Medical Faculty by December 7th.

MANCHESTER: OWENS COLLEGE.—Junior Demonstrator in Anatomy. Stipend, £100, rising by yearly increments to £150. Applications to the Registrar by November 30th.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney Road, Shoreditch, N.E.—House-Physician, doubly qualified. Appointment for six months, and at the expiration of that term will be required if eligible to act as House-Surgeon for six months. Salary as House-Physician at the rate of £60 per annum, and as House-Surgeon at the rate of £80 per annum. Applications to the Secretary by November 30th.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Appointment for four months. Salary at the rate of £50 per annum, with board, residence, and washing. Applications to the Secretary by December 6th.

RADCLIFFE INFIRMARY, Oxford.—Honorary Physician. Applications to the Secretary by December 11th.

READING: ROYAL BERKSHIRE HOSPITAL.—House-Physician. Salary, £60 per annum, with board, lodging, and washing. Assistant Medical Officer; appointment for six months. Board, lodging, and washing provided, and an honorarium of 10 guineas if duties are performed satisfactorily. Applications to the Secretary before December 6th.

ROYAL EAR HOSPITAL, Frith Street, Soho Square, W.—Assistant Surgeon. Applications to Donald Murray, Honorary Secretary, by December 4th.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C.—Non-resident Assistant House-Surgeon in Out-patient Department. Salary, £75 per annum. Applications to the Secretary by December 6th.

ST. THOMAS'S HOSPITAL.—Assistant Physician; must be M.R.C.P.Lond. Applications to Mr. E. M. Hardy, Treasurer's Clerk, by December 2nd.

SALISBURY INFIRMARY.—Assistant House-Surgeon, unmarried. Board, lodging, and washing provided, and an honorarium of £10 at the end of six months if found satisfactory. Applications to the Secretary by December 3rd.

TAUNTON AND SOMERSET HOSPITAL.—Honorary Physician; must reside within two miles of the hospital. Applications to J. H. Bidulph Pinchard, Secretary, 13, Hammet Street, Taunton, by December 3rd.

VICTORIA HOSPITAL FOR CHILDREN, Queen's Road, Chelsea, S.W.—Dental Surgeon; must be L.D.S. Applications to the Secretary by December 11th.

WALLASEY DISPENSARY.—House-Surgeon, unmarried Salary, £150 per annum, with furnished house, coals, and gas. Applications to Mr. William Heap, Elm Mount, Penkett Road, Liscard, Cheshire, by December 2nd.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician and House-Surgeon. Appointments tenable for six months. Ophthalmic Surgeon, must be F.R.C.S. of London, Edinburgh, or Dublin; and Assistant Anæsthetist (honorary and non-resident). Applications to R. J. Gilbert, Secretary-Superintendent, by December 8th.

MEDICAL APPOINTMENTS.

Byers, W. Gordon M., M.D., C.M., appointed Junior House-Surgeon to the Royal London Ophthalmic Hospital, Moorfields.

Fallows, J., L.R.C.P., reappointed House-Surgeon to the Royal Ear Hospital, Soho.

Hodge, S. R., M.R.C.S., L.R.C.P., appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women.

Hope, George, D.P.H., L.R.C.P., M.R.C.S., L.S.A.Lond., appointed District Medical Officer to the Seventh District of the Brentford Union, also Divisional Surgeon to the Police for this District.

Johnstone, Dr. J. L., appointed Medical Officer of Health to the Orrell Urban District Council.

Macdonald, John, M.B., C.M., appointed Medical Officer to the Forbes Dispensary, Inverness, *vice* G. A. Lang, M.B., C.M.

Maclennan, D. N., M.D.Canada, M.R.C.S.Eng., L.R.C.P.Lond., appointed Senior House-Surgeon to the Royal London Ophthalmic Hospital, Moorfields, E.C.

MacLeod, Harold H. B., F.R.C.S.Edin., appointed Surgeon to the Salop Infirmary, *vice* William Eddowes, appointed Surgeon-Extraordinary.

Marr, George, M.B., C.M., appointed Clinical Assistant to Out-patients at the Chelsea Hospital for Women.

Mason, F. W., L.R.C.P., L.R.C.S., appointed Medical Officer for the No. 1 and No. 5 Districts of the York Union.

Morgan, A. Lucas, L.R.C.P.Lond., M.R.C.S.Eng., appointed Medical Officer for Outdoor Patients to the Swansea General and Eye Hospital.

Morris, C. G., F.R.C.S., L.R.C.P., appointed Medical Officer for the Third District of the Bath Union, *vice* F. W. Hanham, L.R.C.P.Edin., L.F.P.S.Glasg.

Murray, Wm., M.A., M.B., C.M.Aberd., appointed one of the Resident Surgeons at the Birmingham General Dispensary.

Normington, A. E., M.B., Ch.B.Vict., appointed Resident Medical Officer to the Stoke-upon-Trent Union Infirmary, *vice* W. H. Coupland, resigned.

Roberts, J. S. H., L.R.C.P.Lond., M.R.C.S.Eng. appointed Physician to the Swansea General and Eye Hospital.

Searle, G. P., appointed House-Surgeon to the Wrexham Infirmary, *vice* C. E. Salt, resigned.

STREET, A. Ernest, L.R.C.P.Lond., M.R.C.S.Eng., appointed Second Assistant Medical Officer of the Lewisham Union Infirmary.

WHYTE, Dr., appointed Resident Medical Officer for the East Poorhouse of the Dundee Parish Council.

WILKINSON, J. Howard, L.R.C.P., M.R.C.S., appointed Medical Officer of Health for the County Borough of Dudley.

DIARY FOR NEXT WEEK.

MONDAY.

LONDON POST-GRADUATE COURSE, London Throat Hospital, 204, Great Portland Street, W., 8 P.M.—Dr. Edward Law: Demonstration of Cases.

TUESDAY.

LONDON POST-GRADUATE COURSE, Bethlem Royal Hospital for Lunatics, 2 P.M.—Dr. Craig: Moral and Impulsive Insanities and Lunacy Law. Hospital for Diseases of the Skin, Blackfriars, 4.30 P.M.—Dr. Abraham: Leprosy.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Mr. Victor Horsley, F.R.S.: Surgery of the Nervous System.

HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck Street, 4.30 P.M.—Dr. Thomas D. Savill: On Disorders of the Nervous System characterised by Muscular Tremor; with cases.

WEDNESDAY.

LONDON POST-GRADUATE COURSE, Parkes Museum, 74A, Margaret Street, W., 4.30 P.M.—Hygiene at the Parkes Museum. Professor Wynter Blyth: Disinfection and Disinfectants, etc.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

EVELINA HOSPITAL, Southwark Bridge Road, S.E., 4.30 P.M.—Mr. F. C. Abbott: The Surgery of Rickets. Post-Graduate Course.

DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND, 20, Hanover Square, W., 5. P.M.—Cases, etc.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W., 4 P.M.—Dr. Acland: Data for forming a Prognosis in Pulmonary Tuberculosis, illustrated by Cases.

WEST LONDON POST-GRADUATE COURSE, West London Hospital, W., 5 P.M.—Dr. Ball: Throat Cases.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY, 20, Hanover Square, W., 8.30 P.M.—Dr. John Alex. Shaw-Mackenzie (London): The Treatment of Syphilis by External Methods. Dr. Ernest Solly (Harrogate): The Treatment of Syphilis at Harrogate.

OBSTETRICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8 P.M.—Specimens will be shown by Dr. Macnaughton Jones, Mr. Dauber, Dr. Boxall, Dr. John Phillips, Dr. Lea, Dr. McCann, and others. Papers—Dr. Tate: Three Cases of Pyometra Complicating Cancer of the Cervix Uteri. Dr. McKerron: The Obstruction of Labour by Ovarian Tumours on the Pelvis.

THURSDAY.

LONDON POST-GRADUATE COURSE, Central London Sick Asylum, 5.30 P.M. Mr. John Hopkins: Clinical Lecture.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C. 4 P.M.—Dr. Barlow: Clinical Lecture or Demonstration of Recent Specimens.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Tichborne Street Edgware Road, W., 8.30 P.M.—Mr. Juler: Harveian Lecture: The Syphilitic Diseases of the Eye and its Appendages.

FRIDAY.

LONDON POST-GRADUATE COURSE, Bacteriological Laboratory, King's College, W.C., 3 to 5 P.M.—Professor Crookshank: Tetanus, Rabies, and Cholera, etc.

WEST-LONDON MEDICO-CHIRURGICAL SOCIETY, West London Hospital, W., 8.30 P.M.—Clinical meeting. Cases, etc., will be shown by Dr. F. H. Low, Dr. J. B. Ball, Dr. Seymour Taylor, Mr. Keetley, Mr. Bidwell, and Mr. McAdam Eccles.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office order or stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTH.

HEATH.—On the 18th inst., at No. 3, Cavendish Place, Cavendish Square, W., the wife of Charles J. Heath, F.R.C.S., of a daughter.

MARRIAGE.

COLES—HOSSACK.—On November 17th, at St. Andrew's Episcopal Church, Banff, N.B., by the Rev. R. E. Coles, B.A., Rector of Corsley, Wilts., assisted by the Rev. A. Boyd, M.A., Rector, Richard Ambrose Coles, M.B., C.M., of Barham, Kent, to Kate Bathia, eldest daughter of Garden M. Hossack, Esq., J.P., Sheriff Clerk of Banffshire.

DEATHS.

HORSFALL.—November 23rd, at Masham, Yorks, Henry Horsfall, M.D. St.And., aged 64 years.

M'DONALD.—At Burgh House, Maryhill, on November 11th, Dr. Wm. M'Donald, aged 76 years. Friends please accept this (the only) intimation.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F. 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30 Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F.,

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Ey M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, dail 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ea Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S.,

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetri M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, W., 9; Skin, Th., 9; Dental, Tu 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Opera tions.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Opera tions.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.3 o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.3 Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Oper tions.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Oper tions.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations* —M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Laryn F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.3 (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2, o.p Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Denta Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; female W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu. F 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throa Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.3 Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30 Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.3 Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ea M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30 Electro-therape tics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—1 W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Oper tions.*—Gynæcological, M., 2; W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, F., 1.30; Eye, M. W., 1.30; Ear, M. Th., 9; Skin, Tu., 1.30, F., 2; Throat, M. Th., Dental, Tu. F., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Ey Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electri Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Ey Tu. F., 9.30; Ear, M. Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. T W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFI NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIV ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, Strand, W.C., London; those concerning business matters, non-delivery of the JOURN etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURN are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authe cate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Corresponde of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER A CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial bu ness of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Healt they will, on forwarding their Annual and other Reports, favour us with *duplic copies.*

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRIT MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAG of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

☞ *Queries, answers, and communications relating to subjects to which pecial departments of the* British Medical Journal *are directed will be ound under their respective headings.*

QUERIES.

. J. C. asks to be recommended books for a lecture on healthy pastimes.

'AR AWAY asks for a prescription for scurf of the head, and to allay the accompanying irritation of the scalp.

'. T. asks whether there is an English edition of Esmarch and Kowaltzig's *Operative Surgery* published in this country or America.

Treatment of Seborrhœa.

I.D. wishes to know the best and most convenient treatment for seborrhœa sicca. The patient is a young lady, and there is extensive depilation and profuse dandriff.

Hydramnios.

I.R.C.S. writes: I should be very glad to know, through your columns, whether hydramnios has any tendency to recur in successive pregnancies, leaving out of the question all considerations of pathology, which is admittedly obscure. I have a patient who dreads pregnancy greatly, as she has once suffered from the condition I am inquiring about.

Professional Confidence.

GERTON writes that a maidservant has on her own behalf been attending at his house as a patient, and that her mistress has just written to him asking him to call on her and to give her an account of her servant's condition. He desires to know (1) Should he first obtain the acquiescence of the maid? (2) Should she be invited to be present at the proposed interview? (3) May he charge the mistress a visiting fee for this special visit?

*** (1) Our correspondent may not discuss with the mistress the illness of the maid without the latter's consent, which should be given in the presence of witnesses. (2) If this consent be given there is no need for the maid to be present at the interview. (3) A fee may be charged to the mistress at our correspondent's discretion, but he should let her clearly understand this in the first instance.

ANSWERS.

F. G.'s suggestions have been communicated to the publisher of the series referred to.

G. N.—We doubt whether the matter is one which the General Medical Council would take up, but our correspondent might communicate the circumstances to one of the Direct Representatives.

ABOR.—We believe it to be an error of judgment for any student to specialise his studies before he has obtained his diplomas, or, indeed, for some time afterwards.

UEBEC.—The province of Quebec is mainly an old settled country, and its inhabitants are largely of French-Canadian stock. Owing to the rapid progress of the Western and North-Western parts of Canada, good openings from time to time occur, but the practitioner must be on the spot to take advantage of them. The regulations of the Provinces of the Dominion as to registration are stated briefly in the Educational Number of the British Medical Journal, published on August 28th, p. 560.

Training Schools for Nurses.

T.—The age for probationers in a general hospital is from 22 years and upwards until 35. The age of probationers in a children's hospital is from 20 years and upwards to 35. There is no general rule about fees; in some hospitals no fee is required if the probationer goes through the full course of three years, in others there is an entrance fee. These particulars can only be obtained by inquiry at the hospitals. It is generally more difficult to obtain a vacancy at a children's hospital, because the hospitals are fewer and the applications more numerous.

NOTES, LETTERS, Etc.

. W. Pasteur (Dean of the Middlesex Hospital Medical School) writes: My attention has just been called to an error in your last Educational Number, where you state that the fee to qualified practitioners for hospital practice at this hospital (p. 539) is two guineas. This fee was changed to five guineas at the beginning of this year. I regret that you were not informed of the alteration.

A Coincidence.

CORRESPONDENT writes to ask advice under the following circumstances: A. and B. are practitioners residing in the same district. A. requests B. to attend for him a patient C. in her confinement on two separate occasions. C., about to be confined again, wishes B. to attend her. What ought B. to do under the circumstances?

*** If B. has made use of no improper means to deprive A. of his patient, and C. wishes him to attend her because she has been attended by him on the two former occasions, B. is justified in accepting the engagement; but, before doing so, he ought to satisfy himself that there is no chance of C. going back to her old doctor.

Cheap v. Gratis Practice.

J. writes: Who said that the medical profession was degenerating? It is a base calumny by those who cannot read the signs of the times. Would you, reader, call this degeneration? Three doctors here have large businesses as halfpenny-a-week club doctors; another M.D. gets the pick of the public houses at one penny a head per week; another M.D. has a large visiting list at 1s. a head for advice and medicine. True, a number of the members are poor; for example, one is a property owner, another one of our largest bankers, and so on. One doctor sees patients free for one hour a day. I have a great ambition to be abreast of the age; I have decided to go one better, and see my patients free, gratis, and for nothing, for with prophetic eye I can see we shall soon arrive at that golden era.

Since writing the above, I find I have been forestalled. Witness the following copy of a bill which is posted all over a neighbouring district:

"——— Polytechnic Institute.—To Members: Medical consultations are held on Tuesdays at 9.30 P.M. Consulting room 53, waiting room 59. Fee 6d., to be devoted to the Recreation Fund."

Sunday schools now have their free medical attendants; arrangements are being made to work institutes, day schools, churches, chapels, and mission halls on the same easy terms. The circle in this district is complete by chemists prescribing for patients from one penny to sixpence per head. Is this, I ask again, degeneration?

Practice in Poor Neighbourhoods.

Probe draws attention to a statement which he informs us was made by a secretary of a home mission that the district of St. Luke, Victoria Docks, was so poor that no medical man could live in it; and that those in the neighbourhood would not visit any sick person there unless they were previously paid a shilling for the visit. Surely, he adds, this is an aspersion on the medical men in the district.

*** Our correspondent is probably unacquainted with the exigencies of medical practice in poor districts. His lot has been cast in happier places, and he has not been under the necessity of exacting a guarantee that his modest fee shall be paid in a way which is doubtless repugnant to the feelings of medical practitioners in other localities. He must not forget, however, that many of his poorer brethren would be unable to live if they did not adopt some such method as this; indeed, his sympathy ought to be given to those who are compelled to take such precautions, which are doubtless as distasteful to them as to himself.

Dietetic Preparations.

Dr. T. C. Askin (Woodbridge, Suffolk) writes: I think it is to be regretted that there are no standard dietetic preparations listed say in an Appendix to the *British Pharmacopœia*, or some other standard work which could be ordered with the certain knowledge that they are what they are said to be.

*** Our correspondent points to a real want, but it is not easy to see how his suggestion is to be carried out.

Malformation of Fœtus.

Dr. W. F. Grant (London) writes: On October 23rd I received an urgent message to attend one of the cases of the Royal Maternity Charity. I found a large mass, covered by a membrane, protruding at the vulva, looking rather like blood clot but quite firm to pressure. There was no hæmorrhage going on at the time, and there had been none to speak of previously. On introducing the finger into the vagina anteriorly to this mass a knee was felt. Both feet were then brought down, and following the breech was a membranous sac filled with fluid. The child was extracted without much difficulty. On examining the fœtus it was seen that the mass which had presented at the vulva was its liver covered by a capsule of some thickness. This organ, together with the stomach, small intestine, spleen, right kidney, and bladder were outside the peritoneal cavity. The entire anterior wall of the bladder was absent; behind the posterior wall was a comparatively large-sized Fallopian tube. Behind the peritoneum lining the pelvis could be felt, the uterus, and an ovary. The left kidney could not be seen or felt; the vagina and anus were absent, but there was a transverse depression of the skin below the pubic arch; a large spina bifida extended from the level of the posterior angle of the scapulæ to the sacrum. The umbilical cord was a narrow band, which lost itself in the capsule of the liver. The fœtus was of not more than the seventh month.

Poisoned Arrows.

Medicine men of sorts have played an active part in the recent battles in Uganda, successfully conducted by Major Ternan against the army of the now fugitive ex-King Mwanga. The tribes to the west of the Uganda road had, at the instigation of their medicine man, cut up various parties on the road, and this same medicine man so actively instigated warfare that all traffic was stopped. The wooded ravines were held, says Major Ternan, by an enemy who were armed with poisoned arrows. Dr. Macpherson, who was with Mr. Grant's column, succeeded, however, in discovering an antidote for the poison in which the arrows were dipped. This was the injection of strychnine. Before this, those wounded with the poisoned arrows always died, but afterwards Dr. Macpherson invariably succeeded in bringing the wounded men round in about a couple of hours. Such are the resources of modern medical science. Dr. Macpherson may be congratulated on having played so worthy a part.

The Treatment of Dysmenorrhœa.

Dr. Alexander Duke (Cheltenham) writes: In the last debate in the Gynæcological Society on the above subject, I regret to see no allusion to the employment of my spiral wire stems, which for some years past I have used with gratifying success. The cutting operation would be seldom if ever required if rapid dilatation and the wearing of the spiral wire stem (for at least three months afterwards) was practised. The reason of so many failures after rapid dilatation (or, indeed, any form of dilatation) is that the part is not kept open sufficiently long by a stem so as to conquer all spasm and ensure a patent cervical canal. My practice was when I first designed the spiral wire stem to remove it before the next "period." I found by experience, however, that this was much too soon, and now allow the stem to remain in all cases till loose—that is, has a tendency to come away of itself, and is easily moved and not gripped by any contraction of cervix. I regard rapid dilatation and

the wearing of the stem as almost the radical cure for obstructive dysmenorrhœa. The patient is directed to syringe night and morning for the first fortnight after the stem is introduced, then each night regularly while the stem is worn, even during the menstrual flow, plain hot water being as a rule sufficient, but in some cases a little Condy's fluid may be added if desired. I have had patients of mine wear them with no discomfort, but positive advantage, for periods of three, six, and twelve months, and two patients of mine are wearing stems and riding bicycles with no discomfort whatever.

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BOOKS, ETC., RECEIVED.

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PRACTICAL SUGGESTIONS IN CONNECTION WITH THE TREATMENT OF SOME DEFORMITIES OF THE NOSE.

BY THOMAS ANNANDALE, F.R.C.S.(ENG. AND EDIN.),
Regius Professor of Clinical Surgery, Edinburgh University.

THE difficulty of keeping in proper position the nasal bones and other nasal structures in cases of recent comminuted and depressed fracture, and also after operation for the relief of deformity the result of old-standing injury or of disease, has been experienced by all practical surgeons. Fifteen years ago I showed to one of our medical societies here a simple appli-

Fig. 1.—Before operation.

ance which I had used with good result in a case of this kind, and since then I have employed the same appliance, slightly modified and improved, in several other cases. The appliance, which I here describe and figure, acts upon the principle of "slinging" the depressed textures in position, and at the same time exercises the proper amount of lateral pressure. It consists, (1) of a piece of sheet lead (Fig. 3, A) formed into an arch with a ledge upon each side, which rests upon the cheeks. The arch should rise higher than the nasal bones when they are brought into proper position, and at the points where the pin is introduced and passes out a notch is made through the ledge up to the base of the arch, as shown in the figure. The sheet lead being pliable allows the arch and ledges to be easily shaped so as to adapt themselves to any case.

(2) Of a fine steel pin (Fig. 3, B). This pin has a fixed head at one end, and the other end is sharply pointed. Two-thirds of the length of this pin from the sharpened end consists of a fine screw, which allows a movable and rounded nut (Fig. 3, C) to move along it, and so regulate the lateral compression of the lead arch.

(3) A small cap (Fig. 3, D) which can be screwed on to the sharp end of the pin, and so prevent the sharp point from wounding the cheek.

In Fig. 4 is shown the appliance in position.

In cases of recent injury the bones and other nasal textures are first brought into position by external and internal manipulation; the pin is then passed through the base of the nose from side to side at the point which seems best for supporting or slinging the bones, and the lead arch having been fitted on a piece of silver wire is passed round each end of the pin, and when tightened is twisted and secured over the arch so as to

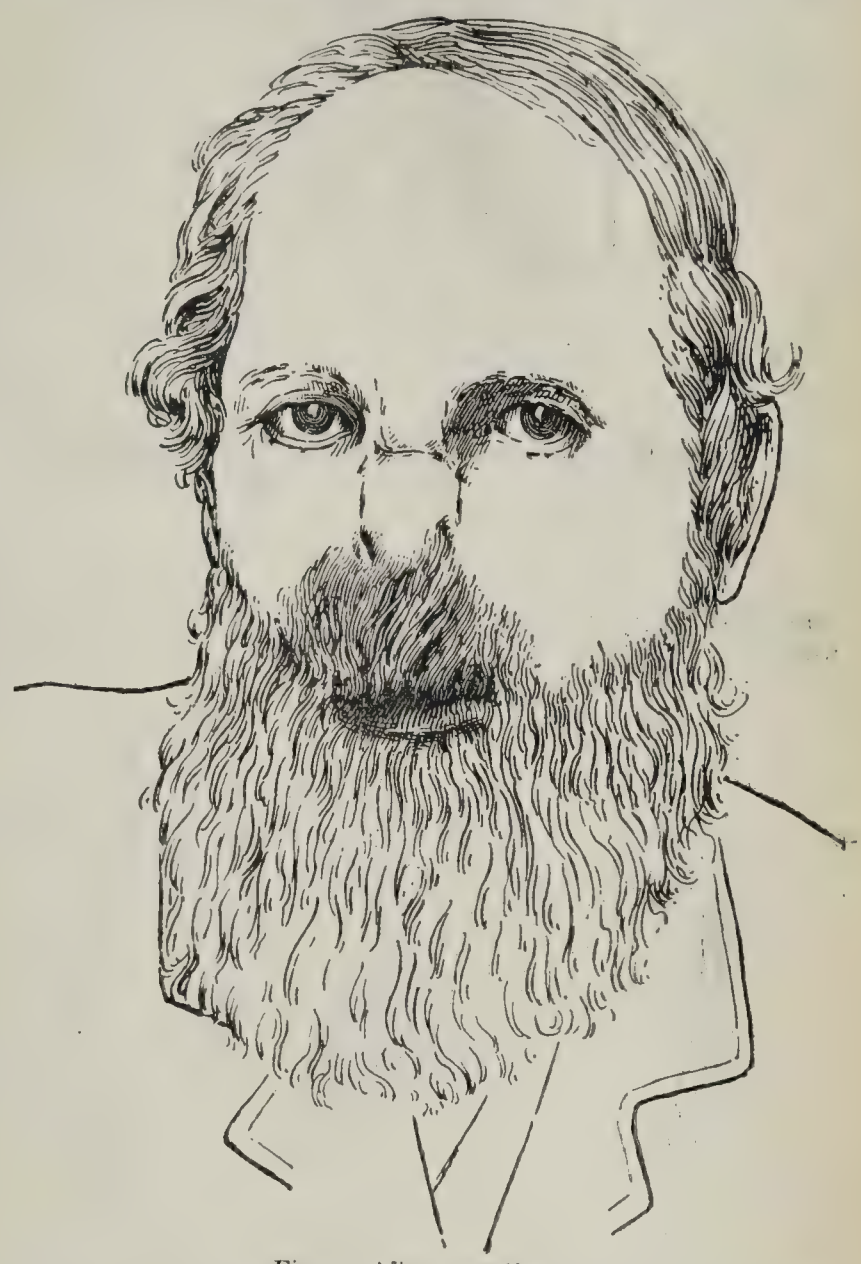

Fig. 2.—After operation.

draw up and sling the depressed bones and their coverings. The movable nut on the pin is now screwed home until the proper amount of lateral pressure to assist in moulding and keeping the nose in good position is obtained. When the cap has been screwed on to the sharp end of the pin the application of the appliance is completed.

In cases of old-standing depression of the nasal tissues from injury or disease, my practice is first to expose the anterior nares by turning up the upper lip, after dividing the mucous membrane, and then to introduce a pair of small bone forceps and separate the nasal bones from their connection with the superior maxilla. In some cases I have nipped across the nasal processes of the superior maxilla, so as to use them also in forming a firmer nasal support. When the bones have thus been loosened the case is treated as one of recent comminuted and depressed fracture, and the pin and arch of lead applied in the manner described after the parts have been manipulated into as natural a position as possible.

"In connection with the subject of nasal deformity, I take this opportunity of describing and illustrating a plastic operation which I performed a few years ago in order to cover over an ugly opening resulting from the loss of the entire nose and surrounding textures of the cheeks (Fig. 1). This patient

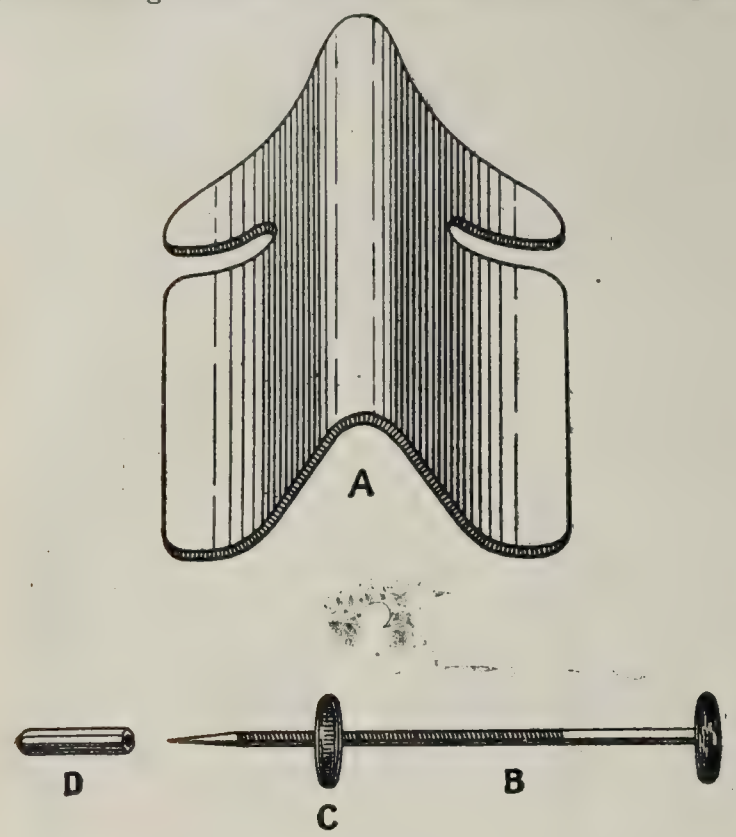

Fig. 3.

had been subjected to several operations for recurring rodent ulcer, which had necessitated the removal of the whole nose

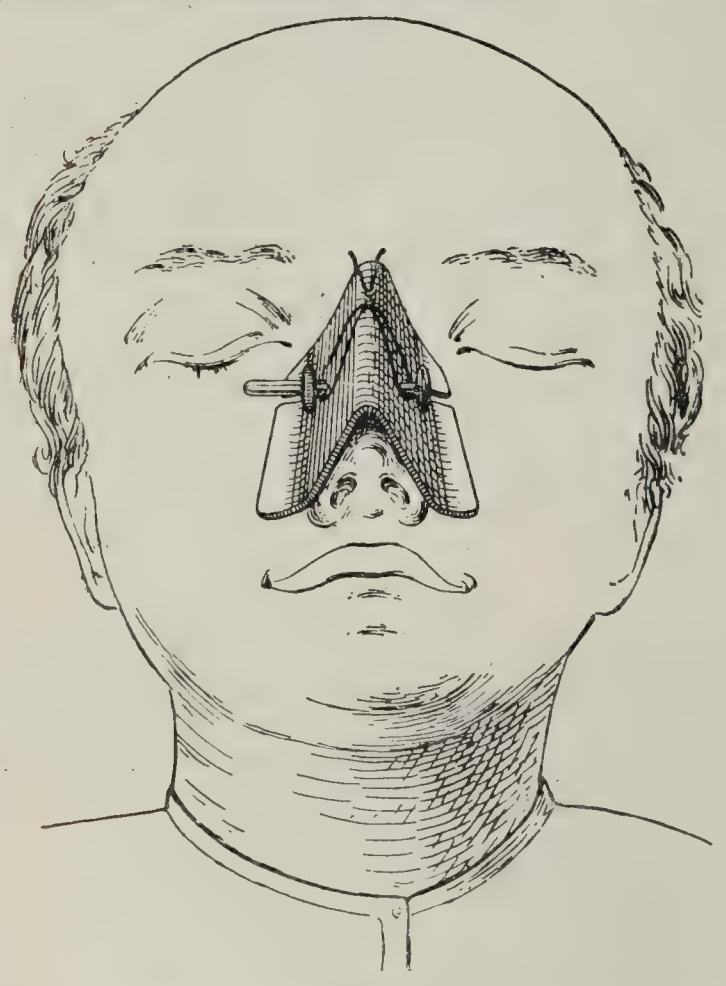

Fig. 4.

and a large portion of the cheeks. The tissues all round the deficiency exposing the nasal cavities were cicatricial, and could not be used to cover over the gap. As the patient was very anxious to have the opening closed, I performed with success the following procedure. One flap (Fig. 1 A) was cut from the forehead, and left attached at its upper end. A second flap, B, was cut from the tissues of the upper lip, its base towards the lip was not carried down through the margin, but terminated a little above the position of the coronary artery, and was left attached there, so that the nourishment of the flap was not interfered with. The edge of the opening were then pared, and the two flaps having been separated from their attachments except at their bases, were brought together over the opening and secured by stitches. When the flaps were stitched together the centre of the upper lip was drawn up so as to expose the front teeth of the upper jaw, but when the the circulation in the flaps had been thoroughly established a second operation for relieving this was performed by cutting through the lip on each side of the drawn-up portion, and then bringing together the divided surfaces of the lip, as in a case of harelip.

In Fig. 2 the result of this operation, which was entirely successful in closing the opening, is shown. One trouble remained, and it was that the lower flap, having been taken from the upper lip, was covered with hair, but the patient preferred this to the unsightly gap which had previously existed.

INTRODUCTORY LECTURE
ON
TEACHING & LEARNING MEDICINE.

Delivered in the Author's Winter Course of Lectures on the Principles and Practice of Medicine.

By BYROM BRAMWELL, M.D., F.R.C.P.Ed, F.R.S.Ed.,
Physician to the Royal Infirmary, Edinburgh; Lecturer on the Principles and Practice of Medicine and on Clinical Medicine in the School of Medicine, Edinburgh, etc.

Gentlemen,—It is not my custom to give a formal introductory lecture. I am usually in the habit of plunging at once into the subject, for the amount of work that we have to do is so great that it is essential to economise time as much as possible; but this year I mean to make an exception, and before commencing the proper work of the course I propose to direct your attention to the method of teaching which I follow, and to the method of study which I would advise you to adopt.

The subject which we are met to study (the principles and practice of medicine) is, as you know, a very extensive one. It is probably the most extensive subject in the medical curriculum, and it is continually and rapidly increasing. Five-and-twenty years ago, when I graduated, our teachers used to tell us that a hundred lectures on the practice of medicine were insufficient, and we students used to think that the amount of work which the subject required of us was very great. Since then enormous advances have taken place in every department of the subject, more especially in the department of nervous diseases and in the subject of bacteriology, which is of such immense importance, and about which little or nothing was known at that time; and there is every reason to hope that during the next five-and-twenty years at least an equal advance and extension will take place.

After hearing this statement some of you may perhaps be tempted to pity the student of the future, and to congratulate yourselves that you have commenced to study the subject to-day, before this further great development takes place. If any of you reason in that way, I venture to think that you are making a mistake, for although the gross extent of the subject which we term "the Practice of Medicine" will undoubtedly have enormously increased in the course of the next five and-twenty years, that very increase will facilitate teaching and learning. Every fresh development and addition to our knowledge enables us to see more clearly the "whys" and "wherefores" of things, to systematise, classify, and intelligently explain the phenomena of disease. In short, with each advance it is possible to make order out of chaos, and to bring facts and phenomena, which before were isolated and disjointed, into intelligent relationship with one another. As our knowledge becomes more certain and more advanced, we need no longer be content with the mere

enumeration of dry facts and bald phenomena; we can then study the subject in a more philosophical, easier, and much more interesting manner.

But although the advance in knowledge facilitates learning and makes teaching easier, since it enables the lecturer to be more intelligible, you must remember that it by no means shortens the subject as a whole. To-day our subject is so large and extensive that it is impossible to deal exhaustively with it in a single course of lectures. I reckon that there are at least one hundred major (large and extensive subjects) and probably at least as many more minor subjects included under the head of the Principles and Practice of Medicine. (By the term major subjects I mean such diseases as typhoid fever, pneumonia, pericarditis; and by the term minor subjects such affections as chicken-pox, hydrothorax, gall stones). Some of the minor subjects are quite as important as the major ones, but, being smaller, much less time is required for their discussion.

Now it is extremely difficult—in fact, impossible—to deal with many of the major subjects in a single lecture, and it is quite impossible to consider all the two hundred subjects with any degree of fulness in a single course. The problem, therefore, which the lecturer on medicine has to solve, namely, how to best treat his subject, is a very difficult one. Some would settle it very easily by giving no lectures at all. Those who think in this way say that there are any number of good textbooks at the present time, and that lectures are therefore unnecessary. That is not my opinion. I am a firm believer in the value of systematic lectures; and I do not think that the hundred lectures required by the Scottish universities for a course of practice of medicine are at all too many when you look at the great extent of the subject and its immense importance from a practical point of view. Nor do I think that attendance on a course of one hundred lectures on medicine need entail any undue burden upon the student. I shall take an opportunity of referring in more detail to the comparative value of systematic lectures and textbooks as methods of learning and teaching in some future lecture.

Now, since it is impossible to deal exhaustively with all the subjects included under the term "Practice of Medicine" in a single course of a hundred lectures, the lecturer has to decide what is best to be done. I have tried several plans. One was to map out all the subjects in a syllabus, to apportion a certain amount of time to each subject in proportion to its extent and importance, to adhere rigidly to the prescribed programme—in short, to cover the whole subject in a single session. This plan was unsatisfactory to myself, and I believe also to the students. It is simply a race through the subject at top speed; it necessarily consists too much of mere enumeration of dry facts; it prevents sufficient explanation of the reason of things; and it does not allow of the teacher impressing his individuality upon the subject, enlivening it with timely anecdote, or enriching it with the records of his personal experience and with practical suggestions as to how the student should grapple with the multifarious difficulties which arise in the management and treatment of disease, and in dealing both with his patients and his fellow practitioners—in short, with the whole method of conducting his professional life.

Such a course of lectures, even if delivered extemporaneously, is necessarily dry and uninteresting, and if merely read from the MS. is a terrible infliction on the student. It resembles a textbook rather than an ideal course of lectures; it is, in fact, not nearly so good as most textbooks, for, however good the matter of the lectures may be, it is impossible for the student to commit it to memory or to paper with anything like the same degree of exactness and completeness that is found in a good textbook.

Another plan which I have tried was to treat some portions of the subject in great detail. One year, for example, I selected for special consideration the diseases of the heart and the thoracic aorta. I published these lectures in the form of a book; it makes, you see, a large volume. If I were to deal with the whole course in the same complete way, I should probably have to publish at least ten volumes of the same size. Another year I gave special attention to the diseases of the spinal cord. These lectures also make a volume of some 650 pages. A third year I treated, with even greater detail, some of the more important acute infectious diseases—namely, typhoid, typhus, relapsing fever, small-pox, chicken pox, scarlet fever, whooping-cough, mumps, influenza, dysentery, and Asiatic cholera. Thirty-six lectures were required for their consideration. They have not as yet been published. In order to treat the whole of the Principles and Practice of Medicine with anything like the same degree of fulness, 350 or 400 lectures at least would be required.

This method was eminently interesting, instructive, and advantageous to myself, for it necessitated an exhaustive study of each subject; and I understand it was highly appreciated by the senior students and by the few graduates who did me the honour to attend the class; but it was not well fitted for the ordinary student. It was far too full and detailed. It necessitated the omission of some important subjects, and obliged one to deal with all the remaining subjects (those which were not elaborately discussed) with an amount of hurry which was very undesirable. Such a method of dealing with the subject would have done very well in olden times, when men took more time to study medicine than they do to-day. Years ago it was, I believe, no uncommon thing for the student and young graduate, before attempting to settle down and practise on his own account, to spend eight or ten years in preliminary study. He was not merely content to study in one school, but he went from place to place to perfect his knowledge under all the great masters and teachers. One has only to look at the students of those days as they are depicted in Rembrandt's great picture, "The Dissection," to see that they were very much older men than the average student of to-day.

I had some of these lectures taken down in shorthand, but the result was anything but a success. One of my objects in having these lectures committed to writing was that I might teach myself; for there is nothing which teaches one so much, or shows one how little one knows of a subject, as the attempt to put one's ideas on paper. The late Dr. Hilton Fagge once told me that one of his main objects in writing his splendid work on the *Principles and Practice of Medicine* was that he might teach himself. I took the hint, and one of the reasons why I have been such a voluminous writer is that I have been anxious to crystallise my ideas, and to make my own knowledge accurate and thorough.

I may say, in passing, that it is difficult to get a shorthand writer who is able to report a medical lecture with anything like accuracy. There are so many terms with which they are unaquainted that they are constantly getting into difficulties and making mistakes. They either omit to report a term altogether, or they make an attempt which is very confusing when you come to read the lecture, and they often make one say a great deal of nonsense and rubbish. Being frequently at a loss themselves, they fail not only to take the medical terms but the context accurately, and they fill in the sentences as they think they ought to have been filled in, often making the lecturer say things which he never could have said, and would never have wished to say. Certainly the reporting of these lectures on fever was anything but a success. It reminded me of the proverbial Scotch dish—sheep's head—which has been described as "a fine mass of confused feeding." You may, of course, say that this was not the fault of the reporter—that it was my own fault. No doubt that is partly true, but I venture to think that it is only in a very minor degree correct, for I have recently had experience of shorthand reporter who is thoroughly familiar with medical terms, and I find that my lectures, when accurately taken, do not read so badly after all.

But this is a digression. I will not ask you to excuse it, for I shall make frequent digressions of the same kind during the course. It is these digressions which give the lighter touches to the subject, which help to set it off and to illuminate it—to soften its hard and dry details. Such digressions, especially if they have a practical bearing on the subject in hand, are often eminently instructive to the student. By means of such sidelights the lecturer is enabled to impress his individuality upon his students and to describe his personal experiences of men and things, and to give the student much valuable information as to how he should deal with and avoid the many pitfalls of professional life.

Of late years I have employed a third method, which is in reality a compromise between the two which have been previously mentioned. It is to consider all the more important

subjects and all the common and everyday diseases in a sufficiently thorough manner to be really useful to the student and at the same time interesting; and to pass very quickly over the unimportant matters and rare diseases. This is the plan which I propose to adopt during the present session.

My object in this course of lectures will be: 1. To give you such information as will be most useful and valuable to you in your future career as practitioners of medicine. 2. To give you as much information of this kind as it is possible to give in the time which we have at our disposal. 3. To try to give it you in an impressive and at the same time pleasant and interesting way.

You must remember that the information which you will manage to acquire during your student curriculum will be your stock-in-trade—the capital with which you will have to trade when you enter practice. It will not, of course, be your whole stock, it will be merely the foundation with which you will have to start. But you must remember that most men who are very successful in business begin in a small way; little by little they extend their operations, and gradually add one department to another: in short, from what is often a very small beginning they slowly but steadily build up a big business.

Now to be successful they must be thorough, and they must begin in the right way from the very start. No slipshod, haphazard plan will do. The same applies to medicine. If you want to be really good practitioners and really good physicians you must follow the same plan. You must first make yourselves masters of the fundamentals; you must not merely learn what you have to learn by rote; but you must bring your intellect and reasoning powers to bear upon it, you must study it intelligently so that you thoroughly understand it. Knowledge acquired in this way will become part and parcel of yourselves.

Further, let me beg of you to remember that your knowledge must not be a mere book knowledge, it must be a practical knowledge; and this leads me to say that your study of the subject in the lecture room and in the hospital should go hand in hand. It is only by combining the practical with the theoretical that you can get a real and sound knowledge. Never be content merely to read in a textbook or in your notebooks a written description of disease. Invariably try to see and study cases in the hospitals in order that they may serve as illustrations of the text.

You must remember that the object which the student has in attending a course of lectures on the practice of medicine is not merely to gain a knowledge which is sufficient for examination purposes. Of course, you should and must necessarily think of your examinations, for you must pass and become qualified before you can enter practice. Your examinations are, therefore, the first thing which you perhaps not unnaturally think of; but examinations are not, remember, the end and object of your training. When you have passed your final examination you have not reached the goal; you have only then got into training and taken your preliminary canter. It is only when you have become "qualified" and when you have done with examinations that you are in a position to make a fair start. The real struggle comes after that; all before has been merely preliminary training. Up to that point everything is, believe me, plain sailing. Provided you are steady and that you work honestly and well, you should have no real cares, no anxieties during your student curriculum. It is very different after you are qualified and when you are about to start in practice In my time it was difficult enough to get an opening; it is much more so now. The profession is everywhere overstocked; in almost every small village where formerly there used only to be one doctor there are now two. The struggle for existence is so keen that it is difficult for men to live. In Edinburgh, perhaps more than anywhere else, this is the position of matters at the present time. During the last fifteen or twenty years, owing partly no doubt to the phenomenal success of the medical school and to the fact that a young man can make a small income by teaching, coaching, or taking boarders during the earlier years of his career, a very large number of young practitioners have started in Edinburgh. In every department of the profession the number of young practitioners is so great that it is difficult to see how all can survive and live. You may, of course, say that the matter will right itself, that the weak ones will go to the wall. Fortunately or unfortunately, there are few weak ones; the great majority are able, very able men; it is a case of diamond cut diamond; it is difficult to foresee the result, for the field for practice which Edinburgh affords is, comparatively speaking, a very limited one.

But this is another digression. I was speaking of examinations and the objects which I would wish you to have in view in studying medicine. I repeat that the passing of examinations, though very important, is not the chief end and object of the curriculum, and I would urgently advise you so to arrange your work and conduct your studies that you always keep the broader, truer, and much more important object in view. Do not concentrate too much attention upon examinations. Endeavour to lay a solid foundation of permanent knowledge. You may, of course, say, "That is all very well for you who are an examiner, but it is very different for us who are to be examined." If any of you reason in that way you are reasoning wrongly. It is because I am an examiner and because I have, since the first year after I graduated, been a teacher in close contact with students; it is because I know your wants, appreciate your difficulties and sympathise with them, and because I am anxious to help you to overcome them, because I desire to advise you for the best—for your future as well as your present good—that I speak so strongly upon this point.

There is, however, one piece of comfort, one assurance, which I can give you. In my experience, a man of average ability who works honestly, steadily, and well, and who does his best to obtain a sound and real knowledge of the subject, has seldom any difficulty in passing his examinations. I do not go so far as to say that such a man never fails; but I will say that an honest worker of average ability, who looks to his future good and does not concentrate his attention merely upon examination work, very rarely indeed fails; his failure is quite exceptional. Of course a man may break down through illness or nervousness, or he may happen to be so unfortunate as to come before a dyspeptic, a crotchety or an unfair examiner, but such circumstances are exceptional. There are, of course, examiners and examiners; but the great majority of examiners are, you may rely upon it, neither dyspeptic, crotchety, nor unfair. Do not believe all the "cock-and-bull" stories which rejected candidates tell you about examiners. Lazy men, ignorant men, those who are rightly rejected, necessarily try to excuse themselves. It is an easy way to lay the blame of their failure upon their examiners. Such "explanations" may satisfy their admiring friends and relatives, and may serve to make things pleasant for the poor unfortunates when they return to the bosoms of their distressed and sympathising families; but you and I, Gentlemen, who understand the "ins" and "outs" of these matters, do not accept all these stories as gospel. In many cases they are mere idle tales. In this, as in so many other departments of medicine, you have to look to the personal equation; before attaching any value to such stories you have to take into account the character and reputation both of the student and of the examiner.

I look upon examinations as conducted at the present day as necessary evils—necessary, because the public must be protected (we cannot of course allow "all and sundry" to try their hand at "killing and slaying;" we must have some sort of guarantee that a man is qualified to practise before he is let loose upon the public)—evils, because the present examination system tends, I think, far too often to engross the attention both of the student and the teacher upon the examinations themselves, to make both learning and teaching subordinate to examination, to cramp and narrow the teaching, to foster cram, to concentrate the attention of the student upon minute details, and to interfere to some extent with his pursuing that method of study which is best calculated to give him a sound and true foundation of real and permanent knowledge.

And here let me say that I am strongly of opinion that the amount of knowledge which is required of candidates for the ordinary pass examination should, in such a very extensive subject as the practice of medicine, be limited. The student should be examined on the common and important diseases, the diseases of every-day life which he is likely to meet with in practice, and upon the great principles of the subject.

He should not be examined upon the rarities and curiosities of medicine.

For the same reason the lecturer on the principles and practice of medicine should not, in my opinion, attempt to describe in detail every rare and recently discovered disease. What is the use of asking a student to cram up the clinical characteristics of a disease which he will probably not see for years after he has entered practice, and perhaps not even then?

And this leads me to speak in passing of the difference between systematic lectures and clinical instruction. It is the business of the systematic lecturer to describe average typical cases, and to teach the great principles of the subject. He should not overburden his descriptions with too much detail; his object should be to draw the main outlines and essential characteristics of the clinical picture, and to draw them boldly and with a firm hand. It is the business of the clinical teacher, on the other hand, to study individual cases of disease, and to contrast and compare the features which they present with those which are typical and characteristic. The clinical teacher should show his students not only the common but also the rare diseases. The more rare cases which you see in hospital practice the better: only do not concentrate your attention on, or attach undue importance to, these rarities; and, whatever you do, do not undervalue the common and every-day things of medical practice. Try to see everything.

The proper plan of studying medicine is, as I have already indicated, to prosecute clinical and systematic study together, to try to illustrate every systematic lecture with at least one actual case in hospital or dispensary practice, and to read up the systematic description of each disease which you happen to come across in your clinical work.

In such an extensive clinical field as our magnificent Royal Infirmary, our large Fever Hospital, our splendid Morningside Asylum, to say nothing of the numerous dispensaries, Oxford, you should find it easy to see all the more common diseases at all events. It is a perfect disgrace that any man should go into practice who has not seen and made himself practically familiar with such common diseases as measles, scarlet fever, chicken-pox, quinsy, etc. Teaching and teachers are sometimes blamed for this. In my opinion quite as much, in fact more, blame attaches to the student. Every man who gives sufficient time to hospital and dispensary work can, if he chooses, see all the common and everyday diseases. You must remember that there is such a thing as making opportunity for oneself, not merely taking advantage of them when they are put before you.

I would beg you to remember that the practice of your profession is to be the business of your lives, and that it is your duty to see to it, not only for your own sakes, but also for the sake of the public—your patients—that you are properly prepared to enter into practice.

I have said that in this course of lectures I will endeavour to give you as much information as possible; to give you the information which will be most useful to you; and to try to give it you in a pleasant form and lucid manner. I shall make it my business to describe all the more common and important diseases, and to lay before you the great principles of the subject. I shall endeavour to make the course as practicable as possible, and to illustrate the lectures with the details of my own personal observation and experience.

We shall commence with the diseases of the circulatory organs; then take up the diseases of the respiratory system; these two classes of diseases are those on which you will have to concentrate a large amount of attention in the early days of your clinical work. We shall then successively study the diseases of the blood and blood glands, the diseases of the alimentary, urinary, integumentary and nervous systems, and the general and febrile affections.

In connection with each subject I shall endeavour to emphasise all the more important points, trying as far as possible to make the different facts hang intelligently together, and endeavouring to teach you the "whys" and "wherefores" and the reason of things, illustrating everything as we go on by cases drawn from my own practice and by the help of drawings, photographs, diagrams, and lantern slides. What I want to try to give you is an intelligent knowledge of disease, not a mere cram knowledge, not a mere parrot knowledge. And here let me say that whenever it is possible I will make the pathology of the disease the basis of my description. The term pathology, remember, is not synonymous with the term morbid anatomy. Morbid anatomy is only a part—a very important part I allow, but only a part—of pathology. By the term pathology I mean not merely the morbid anatomy of the affection, but the etiology and pathological physiology, the processes—mechanical, chemical, and vital—by which the lesion produces the symptoms.

In teaching medicine, in studying disease both at the bedside and in the lecture room, in trying to master and thoroughly understand diseased conditions, and in trying to acquire a real and intelligent knowledge of the symptoms and physical signs produced by organic diseases, both teacher and learner should endeavour to picture to themselves the exact nature of the primary and fundamental lesion which is present, and to realise the alterations in function (manifested externally as symptoms and physical signs) which it (the primary lesion) and the secondary pathological (structural and functional) changes which result from it are calculated or likely to produce in the various organs and tissues of the body.

Knowledge of this kind, knowledge which is acquired in this way, knowledge which is based upon an anatomical, physiological, and pathological foundation, combined with accurate and painstaking clinical observation, is never forgotten; it becomes indelibly fixed upon the memory, and is readily recalled for future use; for, in consequence of the law of association of ideas, the different items of a knowledge which is thus intelligently acquired—the individual and separate facts, which, when taken in combination, go to form a knowledge of any subject—are indissolubly bound up together; they hang together like the links of a chain; the recollection of the fundamental or basal fact (the pathological substratum of the disease), the vivid stimulation of the cerebral cell mechanisms in which the central or basal fact is stored, becomes the starting-point for a fresh stimulus or series of stimuli which, almost of necessity, without effort, reflexly and automatically, as it were, pass on to other associated cell groups, until at length all the cerebral cell groups connected with the basal or fundamental cell groups are vividly stimulated, and until all the facts connected with the subject are revivified and recalled in consciousness.

The man who is able to picture to himself, clearly and distinctly, the morbid changes which constitute the pathological substrata of diseased conditions, and who, by reason of a sound and accurate anatomical, pathological, and physiological knowledge is able to realise (by what Mr. Goschen would term the faculty of scientific imagination) the alterations in function which such changes are calculated to produce, has no difficulty in acquiring an intelligent knowledge of the symptoms and physical signs which go to constitute the clinical pictures of disease. And what is still more important, knowledge which is acquired in this way, provided always that it is supplemented by the careful observation of disease in the living man by a wide practical bedside experience, sticks to a man; it is never forgotten; it becomes part and parcel of the individual; it is always ready for future use, and is readily and easily remembered. Further, by reason of the sound intellectual training which is involved in its acquisition, it not only strengthens the intellect, but, in consequence of the power of intelligent comparison which it enables its possessor to bring to bear upon fresh and allied subjects, it enormously facilitates the acquisition of new knowledge; in short, it fits the man who possesses it for making original observations for himself.

It is very different with mere parrot (cram) knowledge, for cram knowledge consists, be it remembered, of a number of isolated facts which are not intelligently connected one with another. In order to revivify and recall (remember) each of the individual and isolated facts of which a cram knowledge of a subject consists, a separate and distinct effort of memory is required. It is perfectly true that if a number of isolated and individual facts are sufficiently frequently conjoined in consciousness, the stimulus which is excited by the repetition of the first fact (or word in a sentence, for instance) will excite the production of the second, and so on, until the whole series is fluently and easily repeated. Any average

healthy brain, any series of cell groups in the cerebral cortex which is sufficiently frequently stimulated in this parrot fashion, may get into the habit of discharging, after the fashion of a barrel organ. But the labour involved in committing to memory a series of facts in this (parrot) way is, for most of us, enormous; few brains, and probably no old brains, are capable of acquiring, and much less capable of retaining, even if they could acquire, a cram knowledge of this kind of the multitudinous facts which go to constitute a knowledge of systematic medicine. And even if a knowledge of medicine were acquired by dint of prodigious labour and innumerable repetitions in this way, it would be of little or no real use in dealing with disease in the living man. In order to recall a series of isolated facts or sentences which are learned by rote in this manner, the repetition must commence at the beginning, the individual links in the chain (the facts or sentences) must follow one another in a definite and constant order. In repeating such a series of facts or sentences, the less the consciousness is brought to bear upon the matter the better. Should the reciter be nervous, should he be interrupted in the middle of his task, the cortical discharge ceases or the association becomes deranged; he is unable by a voluntary effort to recall the next fact, and he has ignominiously to begin again at the beginning.

Medical facts which are crammed up by dint of much repetition, and without the aid of the intellect, are acquired and remembered very much in the same manner. The labour involved in acquiring them is (comparatively to that involved in the true and intelligent method of learning by means of the understanding) enormous; the result is eminently unsatisfactory, for few brains can retain for any length of time and recall (remember when required) a large number of isolated facts. Cram knowledge, as everyone knows, is essentially temporary and evanescent; it may and (shall I say unfortunately?) it often does, enable a student to scrape through his examinations, but it is of little or no real use in future life.

Now, as I have already told you, what we teachers have to aim at is not merely to supply the student with the information which will enable him to pass and to get qualified, but what is infinitely more important, we should endeavour to give him such a knowledge of the subject as will be of real and permanent use to him in his future career—in his daily life as a practical physician. Probably at least 90 per cent. of our students mean to practise medicine—to earn their daily bread by endeavouring to cure and relieve disease in general practice. And each individual lecturer, whether his subject be practical or scientific, should, I venture to suggest, keep this, the main object of the students' wants, constantly and prominently in view.

I repeat that what we have to aim at in learning and in teaching medicine is to make the facts hang intelligently together. It cannot, I think, be too forcibly and too emphatically stated that a knowledge of pathology (together, of course, with anatomy and physiology) is the true memory basis—the essential and fundamental key to an intelligent knowledge of the principles and practice of medicine; and that a large bedside experience—a first-hand acquaintance with the phenomena of disease as they occur in the living man—and practical knowledge of the effects of drugs in different diseased conditions and of the methods of dealing with disease and diseased men and women is the only sure foundation for true and genuine success—success in the proper sense of the word—in actual practice.

And here let me say that you will find it a most instructive exercise to try to work out for yourselves the clinical phenomena (symptoms and signs) which different pathological lesions produce. When, for example, you are commencing the study of aortic regurgitation, acute croupous pneumonia, poliomyelitis anterior acuta, or any other disease which has a definite and distinct morbid anatomy and pathology, first endeavour clearly to realise the morbid process, and then try to work out—to picture to yourselves—the symptoms and signs which the lesion will be likely to produce in the living man. If your knowledge of anatomy, physiology, and pathology is sound and satisfactory, you should be able to predict many of the leading clinical features of these diseases. After puzzling out the subject so far as you are able for yourself, you should next read the textbook description. You will then read it with interest. If you find that it differs in any particulars—as of course it is sure to do—from the ideal picture which you had formed in your own mind, do not merely be content to note the fact and accept the correction, but try to find out not only where you were wrong, but why you were wrong. I assure you that if you will only conscientiously endeavour to study disease after this method, you will make great and rapid progress; that you will soon get an intelligent grasp of the subject, and you will find that the study of medicine is a pleasure rather than a toil.

FORCIBLE STRAIGHTENING OF THE SPINE IN POTT'S DISEASE.

(With Special Illustrations.)

BY R. W. MURRAY, F.R.C.S.,
Surgeon, Liverpool Infirmary for Children.

FORCIBLE reduction of angular curvature of the spine resulting from Pott's disease is at present being extensively practised, and any facts that may help us in forming an opinion as to the ultimate benefits likely to follow this line of treatment should be recorded.

My experience has been far too recent to permit of any dogmatic statement as to whether forcible reduction of an angular curvature will or will not in the future be a recognised surgical procedure, but as two of my cases have died, and I have had the opportunity of seeing the condition of the spines of these children two and three months after operation, a short description of the condition found will no doubt be of interest.

The first case was that of a boy, 4 years of age, who had suffered from spine disease for three years. He was admitted into the Liverpool Infirmary for Children under my care in September last. There was a marked angular curvature in the lower dorsal region, but the child was otherwise in fair health. There was no abscess, nor was there any paralysis.

Fig. 2.—E. P., aged 3½ years, before operation.

I forcibly straightened the spine under chloroform on September 17th, and applied a plaster jacket. The child was sent home ten days later, and I did not see him again until November 6th, when he was suffering from pneumonia of the right lung, from which he died on the following day. The condition of the spine is represented in the accompanying photograph (Fig. 1), kindly taken for me by my friend, Mr. Robert Bickersteth. The disease had involved three of the

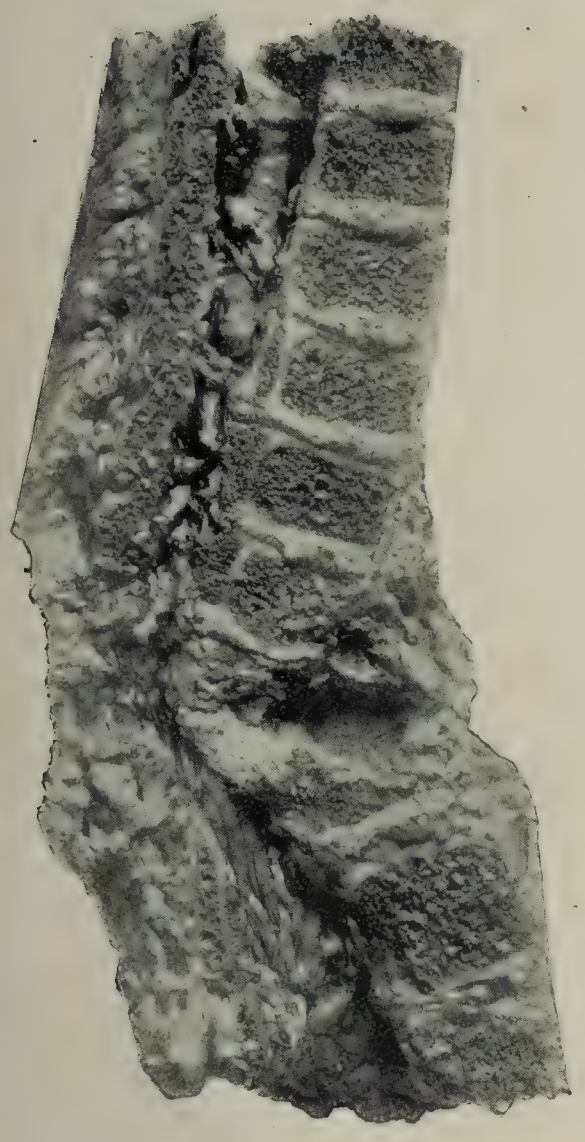

Fig. 1.—A. R., aged 4 years. History of spine disease for three years. Marked angular curvature lower dorsal region; no abscess, no paralysis. Forcible straightening September 17th, 1897. Death from pneumonia November 7th. The disease involved three vertebræ and completely destroyed one. The gap caused by the forcible straightening has resulted in the formation of a false joint, which was bounded by caseous and diseased tissue. There was no evidence of repair. From a photograph by Mr. Robert Bickersteth.

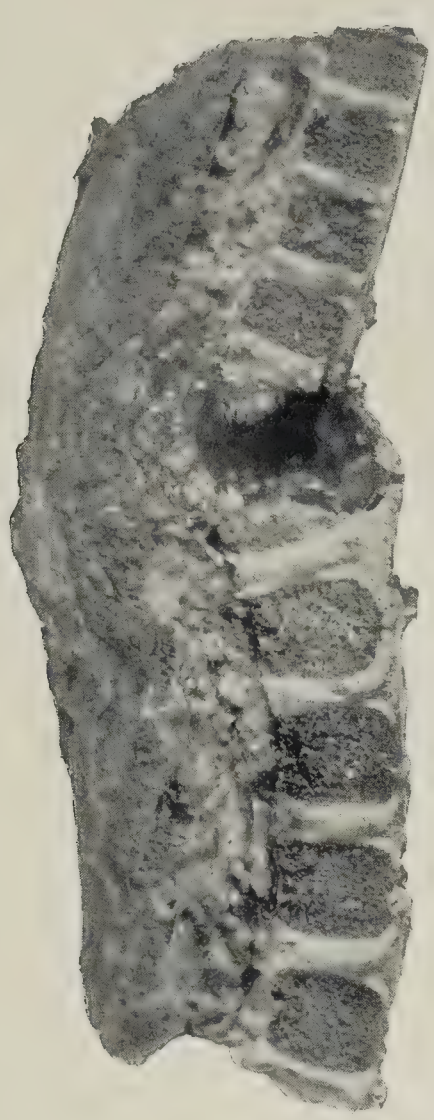

Fig. 3.—Spine of E. P. three months after operation. From a photograph by Mr. Robert Bickersteth.

TO ILLUSTRATE MR. R. W. MURRAY'S PAPER (page 1630).

To show some of the bones affected with rheumatoid arthritis 5,500 years ago. 1. The inferior maxilla showing affection of the condyles. 2, 4, 8, and 9. Bones of the hands, showing affection of joints and the resulting deformity. 3 and 10. The axis showing enlargement and eburnation of the intervertebral articulations. 5. Seventh cervical vertebra, showing

TO ILLUSTRATE DR. PAGE MAY'S PAPER (page 1631).

dorsal vertebræ, completely destroying one of them. There was not the slightest evidence of repair, but the gap formed by the straightening had resolved itself into a "false joint" bounded by caseous and diseased tissue. There was no abscess nor evidence of general tuberculosis, and the immediate cause of death—extensive pneumonia of the right lung—could be in no way attributed to the operation. The specimen of the spine was shown at a recent meeting of the Clinical Society.

The other case was that of a girl, aged 3½ years, who had suffered from spine disease for about two years. She was admitted into hospital in August last, and her condition when is well shown in the accompanying photograph (Fig. 2), for which I am indebted to Dr. Llewellyn Morgan. The spine was forcibly straightened on August 20th, and she was sent to a convalescent home ten days later. She subsequently returned home in good health, but was readmitted into hospital on November 10th with symptoms of meningitis, from which she died on November 15th—three months after her back had been straightened.

After death her back was found to be very "wobbly" at the seat of fracture. The condition of the spine is represented in the photograph (Fig. 3) taken by Mr. Bickersteth, and is much the same as in the other case. Though the child had been kept lying since the operation—that is, for three months—there was not the least evidence of repair nor any attempt at the filling-in of the gap. There was general tuberculosis, the immediate cause of death being tuberculous meningitis.

Knowing as we do the remarkable absence of the formation of new bone in tuberculous disease, the state of affairs found in the above cases is in no way surprising; but, in view of these facts, it will surely be wise to stop operating for the present and await results, even if we have to wait for two or three years.

I feel sure that some permanent advance in the treatment of spine disease will be the outcome of the revival of interest in this branch of surgery. That it will not be such a great advance as some surgeons would have us believe I think there can be little doubt; but I sincerely hope it will be a greater advance than some of us expect.

RHEUMATOID ARTHRITIS (OSTEITIS DEFORMANS) AFFECTING BONES 5,500 YEARS OLD.

(With Plate of Illustrations.)

By W. PAGE MAY, M.D., B.Sc., M.R.C.P.,
Fellow of University College, London; Formerly Medical Registrar and Pathologist to the City of London Hospital for Diseases of the Chest.

I AM indebted to Professor Flinders Petrie for his kindness in allowing me to examine and publish an account of the following interesting and important case. The bones were discovered by Professor Petrie, and form one of the many valuable finds of his last winter's exploration. They are now at least 5,500 years old, and show pathognomonic signs of having been affected with rheumatoid arthritis (osteitis deformans). Professor Petrie has kindly favoured me with the following information respecting them: "The body was found complete (not dissevered), at full length, in wrappings of linen, in a solid block coffin without a lid. The tomb was in the middle of a cemetery of the Fifth Dynasty, at Desheh; and the burial, both in the mode of wrapping and the coffin, was like others of the above date around it. No doubt can be raised as to its being of the same age as the 150 tombs in that cemetery. The hooked position of the fingers is due to disease, and not to intentional arrangement, for no such binding has otherwise been found."

The date of the cemetery is fixed with certainty to the old Empire by the pottery and the scenes in two inscribed tombs, and to the Fifth Dynasty rather than to the Fourth, by the style (very definite and now quite well known) of some statues of Nen Kheft Ka.

Perhaps it will be interesting to give at first the dimensions of the skeleton:

10

	Mm.		Mm.
Left tibia	382	Scapula, height	145
Right tibia	384	,, breadth	105
Left femur, maximum	396	Skull, length to the brow (Broca)	181
Right	451	,, length over brow (Flowers)	180
Fibula, maximum	366	Parietal breadth	139
Humerus, maximum	313	Bi-auricular	121
,, oblique	310	Height	135
Radius, maximum	236	Baso-nasal	100
,, axial	223	Baso-alveolar	90
Ulna, maximum	257	Orbital height	34
,, axial	252	Orbital breadth	42
Clavicle, maximum	152	Nasal height	46
Sacrum, from tip to tip	111	Nasal breadth	26
Maximum breadth	115	Between eyes	24

These are the measurements by Professor Petrie. The skeleton was that of a man between fifty and sixty years old. The skull was well formed, but slightly asymmetrical. The right frontal region and eminence and right parietal eminence are slightly fuller than the left. The interparietal suture is completely ankylosed, and also for the most part, the occipito-parietals. The skull shows nothing abnormal, except in the maxillary joint, which is irregular on both sides. The articular surface is very hard and polished, but without grooves, and at the margins of the articular surface of the glenoid fossa there is a nodular outgrowth of bone, most marked posteriorly, where it forms a projecting lip about one-eighth of an inch deep. At the anterior margin of the foramen magnum there is a small facet, which must have been more or less in contact with the elongated odontoid process of the axis.

Inferior maxilla: There are changes in the articular surfaces on both sides. The left condyle is enlarged to nearly twice its normal size, though the right if anything is a shade smaller than normal. Both articular surfaces are smooth and polished, but towards the margins are somewhat granular. Around the margins of the articular surface, and especially in the sigmoid notches, there is very distinct nodular outgrowth with irregular lipping of bone. On the right side there is some absorption of bone and the distance between the inferior dental foramen and the condyle is less than on the other side.

The condylar surfaces are normal, but the articular surface for the odontoid process is polished, eburnated, transversely ridged, and about twice its normal size; it is expanded upwards into an irregular outgrowth of porous bone, in which are visible several enlarged Haversian canals. The middle portion of the articular surface is quite smooth like glass, but the marginal portion is more or less porous.

Axis: The odontoid process shows pathognomonic changes due to rheumatoid arthritis. Its articular surface with the atlas is strikingly polished, eburnated, transversely ridged, and is expanded upwards. Above, it extends to the level of the small facet on the anterior margin of the foramen magnum, and terminates abruptly in a flattened facet, which was in contact, though not ankylosed, with that small facet. The anterior margin of the lower border of the body of the axis projects a little irregularly downwards. The remaining articular surfaces are normal, but around them there is a little nodular irregularity.

All the vertebræ are distinctly pathological, but the disease seems to have affected the segments of the vertebral column in direct proportion to their mobility. Hence the cervical vertebræ are more affected than the dorsal, and the dorsal vertebræ more than the lumbar.

The bodies of the vertebræ are flattened, while their anterior margins, both above and below, seem squeezed out into irregular lip-like projections, as shown in the plate, and the bone is very porous. The articular surfaces are mostly normal, but here and there, notably the seventh cervical vertebra (see plate), are enlarged, glossy, and eburnated. The dorsal vertebræ show similar but less-marked changes. There is no ankylosis anywhere; the articular surfaces with the ribs are practically normal, but the intervertebral articular surfaces are, in some cases, affected. Shoulder-joints: Distinctly though slightly affected, and more so on the left than on the right side. The cartilage of the glenoid cavity is for the most part smooth, but in the lower portion of the left side shows a crescentic ridge. The bone is partly eburnated. On the outer portions of the articular surface of the glenoid cavity, and especially marked in its lower quadrant, are small nodular bony outgrowths. The left scapula is

slightly smaller than the right, and its processes are distinctly so; the heads of the humeri show similar changes; elbow-joints scarcely affected; wrist-joints slightly affected. The hands still show the deformity produced by the disease, and alone would afford unequivocal evidence of rheumatoid arthritis. Viewed laterally, there is a depression over the centre of the small bones of the wrist. The metacarpal bones are displaced towards the ulnar side (see plate). The proximal phalanges are over-extended (dorsi-flexed) on the metacarpals, and the two terminal joints are strongly flexed, producing a typical example of the deformity known as the claw hand, so frequently seen in the later stages of muscular atrophy or in ulnar paralysis. But the small joints of the hands are swollen and fusiform, with small irregular nodular outgrowths, and present the typical changes of rheumatoid arthritis. The hip-joints are practically normal. The knee-joints are distinctly affected, especially on the left side; they show the cartilages affected with patches of erosion and eburnation, and present irregular nodular outgrowths, with marked swelling of the lower fourth of the femur. Ankles: The articular surfaces are normal, except on each inner side of the astragalus, where there is some erosion of cartilage with polished bone. The joints show slight irregular nodular outgrowths. The bones and joints of the tarsus are for the most part normal, but the calcaneo-cuboid joint is affected, and more so on the left than on the right side. The tarso-metatarsal joints show only slight changes, but the metatarso-phalangeal joints are markedly affected, the peripheral joints more than the proximal. The terminal joints in both feet are ankylosed in the position of flexion (see plate), and show marked irregular outgrowth of the nodules all round the joints.

Through the kindness of Dr. Blaxall, I investigated in his laboratory the microscopic structure of small portions of the articular surface of the lower knee-joint, with the hope that traces might still persist of the special dumbbell-shaped bacillus found by Drs. Bannatyne and Wohlmann, of Bath, in cases of rheumatoid arthritis, and more particularly investigated by Dr. Blaxall. Sections of the cartilage of the condyles of the left femur showed distinct fibrillation of the matrix (as pictured by Ziegler in cases of osteitis deformans).[1]

On staining some sections by the method recommended by Dr. Blaxall with gentian violet and aniline methylene blue for three to five days, and then examining under the high power of the microscope in the ordinary way, one observed small bodies resembling in number and appearance the minute bacilli described by him as occurring in cases of rheumatoid arthritis, but the evidence was so doubtful that one had reluctantly to come to the conclusion that the presence of the specific organisms in this case remained unproved.

It will be seen from the above description that unequivocal evidences of the pathological changes of rheumatoid arthritis are present in these bones. The cartilages and bones of the joints show degenerative changes associated with hyperplastic bony outgrowths, and present a picture which is pathognomonic. The eburnation and grooving of the articular surfaces, combined with nodular outgrowth and lipping of bone, is only found in cases of rheumatoid arthritis (osteitis deformans). Moreover, the widespread distribution of the effects of the disease, and its incidence chiefly in the joints of the hands, producing a characteristic deformity, places the question beyond doubt.

The changes in the articulation of the atlas and axis in the maxillary joint, in the knee-joints, in the joints of the hands or of the feet, are alone in each instance quite sufficient to justify a diagnosis of rheumatoid arthritis. It is interesting to notice, however, that in many so-called cases of symmetrical disease the incidence of the disease is slightly more on one side of the body than on the other. In this case the left side is chiefly affected.

With regard to the position of the terminal phalanges of the hands, the position assumed (so-called claw-shape) is not common in rheumatoid arthritis. In this particular case the left ulna had been fractured during life at the junction of its lower third and upper two-thirds; and therefore it is probable that the ulnar nerve may have become more or less involved, and determining a certain amount of ulnar paralysis, may have alone produced on that side the very commonly associated claw-shaped deformity, or have determined the deformity produced by the affected joints.

In another case which I saw the disease affected the knee-joints only, and in this instance the pathological changes were so marked as to form one of the most striking and typical examples of the disease which could be seen anywhere.

In some bones showing changes of osteo-arthritis brought before the Pathological Society by Mr. F. S. Eve,[2] and dating from the XVIII Dynasty, that is, about 1300 B.C., changes due to periostitis were associated, but in the subject of the present note no such changes were observable.

It is interesting to find evidences of rheumatoid arthritis existing so long ago as 3,700 years B.C., and more especially in a country the climate of which offers one of the best therapeutic factors which we possess for the treatment of this particular disease. It is possible that the person affected in this case may have been merely a visitor to Egypt. Intercourse between the Egyptians and Asiatics or Europeans was extremely common at this period of Egyptian history, and then, as now, persons frequently visited Egypt for the benefit of their health. But it is more probable, both from the characteristics of the skeleton itself, and from its having been found in an Egyptian cemetery, that the subject was an Egyptian. One has merely to observe how the modern Egyptians perpetuate the mode of living of their ancestors in being insufficiently clad, and constantly exposing themselves to varying changes of temperature and moisture, to realise how a disease whose chief causal factors are damp and cold may have originated.

As far as I have been able to find in medical works the above subject is more than 2,000 years earlier than any previously recorded case.

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1 Bannatyne, *Rheumatoid Arthritis*, 1896, p. 72; Ziegler, *Lehrbuch der allgem. Path.*, Band II, 1895, p. 223. 2 Bones of Ancient Egyptians showing Periostitis associated with Osteo-Arthritis and Symmetrical Senile Atrophy of the Skull, *Trans. Path. Soc.*, 1890, vol. xli

CARCINOMA OF PYLORUS: PYLORECTOMY.*

BY T. R. JESSOP, F.R.C.S.,
Consulting Surgeon to the Leeds General Infirmary.

THE operation of pylorectomy for cancer has not, to use a homely phrase, taken hold in the profession to an extent at all comparable with many other modern achievements in abdominal surgery. The difficulties and the uncertainty attendant upon an early diagnosis, the rapidity with which in many instances at least the disease spreads along the wall of the stomach and duodenum, and the consequent magnitude of the mutilation necessitated in its removal, the frequent absence or abeyance of unequivocal symptoms until the very last stages of the disease have been reached, the early infection of associated glands, the marked cachexia and low vitality which characterise a large proportion of the subjects of this disease, are amongst the most potent reasons for this halt in the general acceptance of the operation as an established mode of treatment. If only we could diagnose with certainty pyloric cancer in its early stages, whilst still it is limited in extent, and before it has commenced to disseminate its products, at a time, too, when the patient's powers are but little impaired, the cases already on record sufficiently testify to the immense value of the operation. A patient upon whom I operated in December, 1891, and whose history is given in the BRITISH MEDICAL JOURNAL of January, 1895, is still in robust health and suffers no inconvenience whatever from the removal of her pylorus.

The case I am about to relate—albeit two at least have been published in which more extensive removals were effected—presented by far the largest growth I have ever attempted to remove, and on this account, as well as for other reasons, is deemed worthy of being recorded.

History.—Mrs. D., aged 28, was sent on May 4th, 1896, by Dr. Hogarth, of Morecambe, with a note, in which he informed me that the patient gave a history of daily vomiting

* Read before the Yorkshire Branch at Scarborough.

for a period of three months, and of loss of weight to the extent of 2 st.; that he found a largely dilated stomach; that he felt an oblong, rather large, swelling in the right umbilical region; that he had on one occasion seen half a chamber-pot full of vomited matter, and that he diagnosed pyloric tumour with obstructive dilatation of stomach. The patient's statement was briefly that her ailment, extending over a period of nine months, had been characterised at first by pain and flatulency after every meal, then by vomiting at varying intervals, the vomited matter consisting in the earlier stages of the constituents of a single meal, and latterly of the accumulations of several days' food, and by an ever-increasing loss of strength and flesh, represented by a fall from 10 st. to 7 st. 5½ lb. On inspection the stomach, in a state of visible peristalsis, was seen to occupy a space represented by fully one-fourth of the abdominal surface, and at its right end an oblong tumour could be distinctly seen and felt through the thinned abdominal wall.

First Operation.—I will mention only the salient points of the operation, which was performed on May 11th. The abdomen was opened in the middle line by an incision extending from 2 inches above to an inch and a-half below the umbilicus. The tumour was found in the pylorus, and was approximately the size of a tangerine orange, but extensively infiltrating the lesser curve of the stomach. The growth was isolated by passing elastic tourniquets round the stomach and duodenum, and was removed by scissors. Several bleeding points, especially in the omentum, required ligature. The large opening into the stomach was partially closed from below, and at the upper extremity of the wound an opening equal in size to the duodenal lumen was left. The wound in the stomach was oblique owing to the implication of the upper border. The duodenum and stomach were united by two continuous sutures, one for the mucous membrane and one for the peritoneum. No artificial aids were used. From first to last the operation extended over one hour and forty minutes.

After-history.—The following points only in the after-history are of any importance. For the first three nights ¼ grain of morphine was injected. Sickness, which was singularly free from distress, lasted five days. On the second day soda-water and milk was given by the mouth. On the eighth day she sat up in bed. On the twenty-second day she ate lamb and mint sauce and green peas for dinner. Recovery was complicated by an attack of phlebitis in the left leg on the thirteenth day. On June 15th, five weeks after the operation, she returned to her home. On June 29th she reported herself as weighing 8 st. 5 lb., in the enjoyment of an ordinary diet, and daily gaining strength. On May 11th, 1897, the anniversary of her operation, she presented herself for my inspection. Her weight then had increased to 9 st. 6½ lb., and she had the appearance of a person in good health; but whilst an ordinary dinner was readily digested, she had occasionally vomited after eating fat ham. On July 7th this year, Dr. Foster, of Shipley, who was then in charge, summoned me because of a rapid onset of severe symptoms. For a month vomiting had been gradually on the increase, and for a fortnight had been very frequent, so that she had again fallen off very seriously in strength and in appearance. In the epigastrium we could feel a hard fixed lump of considerable size. It is interesting to observe that on one occasion the amount vomited measured a little over a pint.

Second Operation.—At the urgent wish of herself and her friends she was removed to Leeds for further operation, and on July 12th I again opened the abdomen. My expectation of finding a return of the disease was not verified. A tongue of liver, measuring approximately 2 inches long by ¾ to 1 inch broad, was found adhering anteriorly to the abdominal wall and posteriorly to the cicatricial union of duodenum and stomach, thus forming a tumour-like mass, in which, however, I could find no trace of growth. After separating the hepatic process from its peritoneal adhesion in front, I divided it with scissors, leaving its apex attached in its new position, and cauterised its cut surface to the arrest of hæmorrhage. This procedure allowed the stomach to descend in the abdomen; and as then, upon examination, it appeared that a sufficient release had been effected, and that the union between duodenum and stomach remained firm and efficient, I decided to close the wound. Two days later the patient sank.

Remarks.

I will only detain you long enough to remark upon (1) the extent of the operation, which involved the removal of at least one-third of the stomach, besides a portion of the duodenum; (2) the simple method adopted of uniting the duodenum with the stomach, without the aid of plate or bobbin or button; (3) the rapid recovery from the first operation, and the readiness with which the stomach resumed its functions; (4) the absence of recurrence at the end of fourteen months; and (5) the encouragement the case affords in dealing even with extensive and advanced disease by radical means.

A CASE OF SPONTANEOUS DISAPPEARANCE OF A CONGENITAL CYSTIC LYMPHANGIOMA.

By D'ARCY POWER, M.B., F.R.C.S.Eng.,
Surgeon to the Victoria Hospital for Children, Chelsea.

An impression has long existed among members of the medical profession that cystic tumours of the neck may disappear spontaneously. But the impression, so far as I can ascertain, is based upon the rarity with which these tumours are seen in adults rather than upon the record of any individual instance where such a disappearance has been actually observed. The present case, therefore, is exceptionally interesting, for the tumour has absolutely and entirely disappeared without leaving any trace of its existence; moreover the progress of the child has been watched throughout by careful and competent observers.

L. E. was born in January, 1888, and the hygroma was noticed directly after his birth. It was attributed by his mother, a most sensible woman, and herself the daughter of a medical man, to a maternal impression received during the third month of pregnancy. The tumour remained stationary for a time, but it began to grow when the child was 6 months old, and when he was 14 months old he came under the care of Mr. Edmund Owen, who published an account of the case in his Harveian Lectures.[1] The growth at that time (Fig. 1)

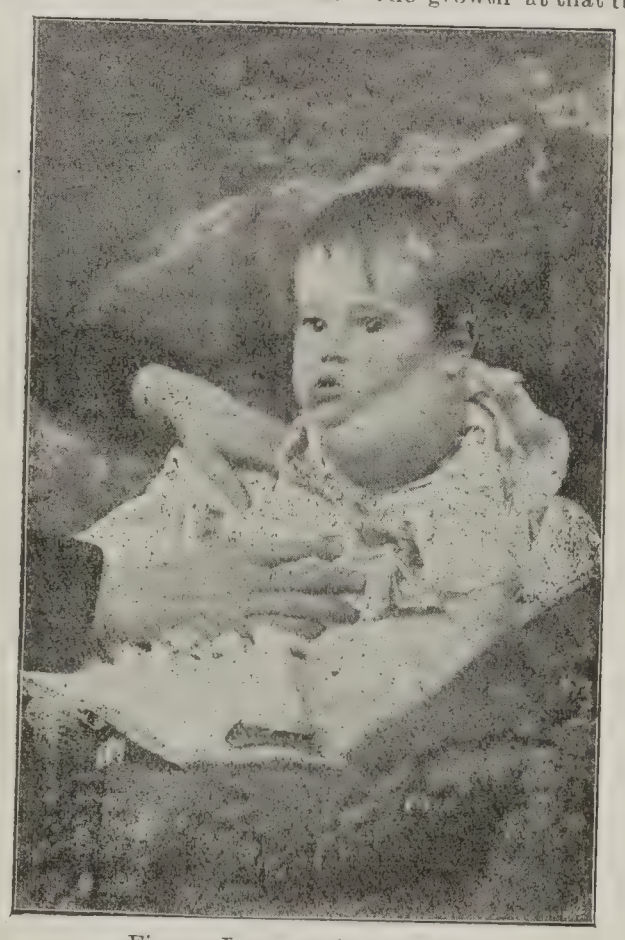


Fig. 1.—L. ., aged 11 months.

occupied the whole of the left side of the neck, reaching upwards behind the pinna of the ear—the lobule of which it had invaded—and extending across the middle line of the front of the neck. Mr. Owen recommended that the tumour should be tapped, and this was done by his ordinary medical attendant about 150 times in the course of the next seven years. The tumour, however, underwent very little change (Fig. 2) in size, and though it did not increase proportionately with the growth of the boy it got no smaller.

The patient was brought to me in August, 1896. The skin over the swelling was then quite healthy, except for the minute scars of innumerable punctures. The tumour beneath it consisted of an elastic

and slightly lobulated tissue, to which the skin was closely adherent. It clearly contained many cysts varying greatly in size and density. With a full appreciation of the difficulties to be incurred I advised that the tumour should be removed, and in due course I extirpated so much

Fig. 2.—L. E., aged 3¾ years.

of it as lay in the left posterior triangle of the neck. The wound healed by first intention, and without any trouble except for a sharp attack of lymphangitis about a fortnight after the operation, due to a long railway journey home in frosty weather.

Two months after the operation the posterior triangle was found to be free from growth, but the tumour extended obliquely from the lobe of

Fig. 3.—L. E., aged 9½ years

the ear, which it still involved causing it to tilt upwards, across the neck to the level of the second or third ring of the trachea on the right side. The swelling was greater at the lower than at the upper part of the neck

Five months after the operation the boy had a second attack of lymphangitis in the tumour, and in the following month he had a third attack. After each attack the swelling seemed smaller. He was brought to see me nine months after the operation when the whole tumour had vanished (Fig. 3), the left anterior triangle being so soft that the beating of the carotid artery was easily felt. The disappearance was quite gradual, and, except for the two attacks of inflammation, the boy's health did not seem to vary in the least whilst the change was taking place. The patient's neck was diligently rubbed every day with belladonna liniment from the time the scar was soundly healed until the swelling had completely disappeared.

The tumour was by no means easy to remove, as it was incorporated with the skin and it had infiltrated the whole substance of the left sterno-mastoid muscle. It consisted of many cysts, varying in size from a millet seed to a large kidney bean, the larger cysts lying more deeply and being filled with blood, the smaller and more superficial ones containing clear fluid.

The piece of tumour after removal looked very much like a piece of ragged sponge. It was hardened, and afterwards examined microscopically. The epidermis and rete mucosum were healthy, and the corium was represented by a layer of dense fibrous tissue in which lay the hair bulbs and the sweat glands. The cysts were only present in the deeper layers of the corium where the fat was situated. The smallest cysts were mere dilatations of the connective tissue spaces in the adipose tissue. The larger cysts were more deeply placed in the subcutaneous connective tissue, and they were separated from the corium by dense scar tissue. The walls of the cysts were lined with a single layer of endothelium. Tags of fibrous tissue seemed to project into the cysts, but this appearance was due in all probability to a shrivelling of the cyst wall as a result of the hardening process to which it had been subjected.

Many of the cases in which congenital cystic tumours have remained to adult life show that the lymphangioma has undergone such internal changes as have led to its conversion into a soft fibroma, causing a more or less unsightly growth which afterwards had to be removed. The practice of repeated puncture may, I think, have something to do with this change. The cysts in these cases continue to be formed for some years. Blood is effused into those which have been tapped, whilst the younger ones, or those which have escaped puncture, contain lymph. The blood remains and undergoes changes of disintegration usually associated with alterations in the surrounding tissue. Such blood cysts are capable of being absorbed, but they are much less likely to disappear spontaneously than cysts which only contain lymph. In the present case I believe that I acted wisely in removing a portion of the tumour, and with it a good-sized piece of skin, even though it was impossible with safety to remove the whole growth. The reparative changes thereby set up, coupled with the unstable nature of the growth itself, were followed by a complete disappearance of the cysts. It is impossible to state with any certainty what was the nature of the changes which the tumour underwent. It is obvious that they were not due to a condensation of the fibrous tissue leading to a strangulation of the lymphatic vessels, for if this had occurred there must have been considerable induration of the affected area, whereas the skin and the underlying tissues on the left side of the neck remained as soft and pliable as those on the right side. It is not so certain that the disappearance was the direct result of the operation, but it is remarkable that the tumour, hitherto indolent, was afterwards subject to repeated attacks of inflammation, and that after each attack it diminished markedly in size.

REFERENCES.

1 The *Illustrated Medical News*, January 18th, 1890, p. 68, and *Selected Subjects in connection with the Surgery of Infancy and Childhood* (Messrs. Baillière, Tindall and Cox), 1890, pp. 27 and 28, Figs. 6 and 7.

SURGEON-CAPTAIN T. H. J. C. GOODWIN, A.M.S., has been recommended for the Victoria Cross for the gallant action described in the following terms in the despatch of Brigadier-General D. R. Elles, C.B., referring to the engagement near Shabkadr on August 9th: "I would bring to very special notice the gallantry of this officer, the only medical officer present with the force. He was attending to the wounded wherever the fire was hottest, and showed great devotion to his duty. He was himself knocked out of time by a stone or spent bullet, but refused to leave his work."

ON THE CURATIVE EFFECTS OF MILK DIET.

By GEORGE THIN, M.D.

It has been long known that many cases of intestinal derangement produced by various causes recover under exclusive milk diet, but the *rationale* of the improvement that takes place in these cases has perhaps not been sufficiently studied; and the possible curative effect of milk diet in diseases which, although not attended by an obtrusively irritated condition of the intestine, may yet be caused by abnormal products of digestion, and in which the treatment has not been yet tried, is a subject which well deserves further experimental investigation.

My own experience of the curative effect of milk diet dates from 1879, when I prescribed it with success in a case of psilosis of extreme gravity, which, until milk was used, had got progressively worse under much and long treatment by drugs and diet. An account of my subsequent experiences of the value of this treatment was contributed to the *Practitioner* in 1883, and afterwards reprinted in pamphlet form. Further contributions to the subject were published in the British Medical Journal, July 8th, 1893, and February 9th, 1895. A more complete account of the value of milk diet in psilosis and dysentery, the method of administration, and the precautions that require to be taken, will be found in the second edition of my work on psilosis,[1] which has just been published. Those who are specially interested in the subject of milk diet, as well as in the treatment of psilosis, I refer to Chapter viii in that book for many details for which it is impossible to find space here.

It is my present purpose to utilise a case which has recently been under my observation in order to show how the health of a very weak patient may suddenly improve when nutritious articles of diet are withdrawn and exclusive milk diet substituted, the condition of the nails in this patient affording a striking object lesson of the poisonous effects of usually wholesome food in deranged conditions of the intestinal canal. I have attempted to show in my book that cases of psilosis may be grouped into two distinct varieties, one being the "psilosis linguæ et mucosæ intestini" (the "sprue" of the Dutch of Java), the other being examples of intestinal psilosis described by Indian writers as diarrhœa alba, white flux, etc. I have at page 252 of the work referred to described this patient's case as an example of the Indian diarrhœa alba.

The patient, a somewhat delicate but healthy man, visited India when he was 30 years of age, twelve years before I saw him. He was only two months in India, and whilst there had a sharp attack of diarrhœa, which lasted a few days. After returning to England he was subject to great drowsiness, and, six months after he came home, he began to find that certain kinds of food produced retching, pain in the bowels, and diarrhœa, attended by high temperature. For eleven years he was much dieted by his medical advisers, and found that he did best when he avoided fibrous vegetables, and lived on mutton chops, game, and such like food. During the several years in which he lived on this diet he continued to suffer more or less, the motions being copious, soft, colourless, and acid. His general health deteriorated, and symptoms of malnutrition of the nervous system began to appear, but temporary improvement followed a short sea voyage and change of climate. On returning to England his symptoms became worse than they had ever been. In addition to certain drugs a liberal diet of strong beef tea, meat three times a day, and alcoholic stimulants were prescribed, with bad results, all his symptoms, particularly those connected with the nervous system, becoming aggravated. He was then sent away from home for a change, and the physician under whose care he was placed prescribed exclusive milk diet, and this was the first treatment, I was informed, which had any beneficial results.

Six months after this I saw him for the first time. He had not been on strict milk diet for some time, but, as he was still passing two large, unformed motions daily, I enjoined once more an exclusive milk diet, with rest and warmth, and there was speedy improvement in the motions. As the case is still under observation, I shall not, at present, describe it further. On examining the patient, I was much struck with the condition of the nails. I found that in the nails of both hands the anterior half of each nail consisted of a broken-down, granular, uneven mass, whilst the posterior half presented a healthy appearance. On inquiring into the history of this condition, I was informed that when he began milk treatment,

six months before, the whole of the nails was in the diseased condition now shown by the anterior halves, but from the time that the milk diet was commenced the new growth of nail began to be healthy. The condition when I saw him

is fairly well shown in the accompanying illustrations, which have been reproduced from photographs which he was kind enough to have taken for me within a week after I saw him.

This description of the case has been given, and the illustrations have been added to it, in order to direct attention to the fact that in certain morbid conditions of the intestinal mucous membrane the ingestion of nutritious articles of diet may not only lead to a continuance of the intestinal symptoms, but may have a special bad effect on the nutrition of some parts of the body which should not be ascribed to simple starvation, but which, in my opinion, is due to some unknown poison generated in the intestinal canal. In this man's case the cerebro-spinal nervous system, and the growth of the horny epithelium from which the nails are built up, were specially affected by this poison. (As a matter of subsidiary interest, it may be noted that the length of good nail shown in the illustrations represents six months' growth).

In connection with the *modus operandi* of milk diet in these cases the question suggests itself, Is it the milk that cures the disease, or does the disease get well because the other foods which the patient was taking are excluded? I have frequently observed that patients suffering from psilosis, and who have been doing well on exclusive milk diet for weeks, experience a severe relapse as soon as a raw or lightly boiled egg is taken, or a cupful of arrowroot given. In such cases the relapse could not be due to any mechanical irritation produced by the egg or arrowroot, and I can only infer that it is caused by those substances constituting a pabulum for the development of some form of fermentation which does not occur when milk alone is given. I infer that an active cause of some abnormal fermentation can develop in eggs and arrowroot, beef tea, etc., but cannot grow in milk or its products during digestion.

In all cases of psilosis there is evidence of much abnormal fermentation in the intestinal canal. In this disease the fluid fæces are often so charged with gases as to cause the surface of the motion to be covered with air bubbles, the fermentation continuing for some time after they have been passed. A small (1 ounce) bottle of semi-liquid fæces was recently sent to me for microscopical examination, the stopper being firmly tied down with string. On cutting the string the pressure of the gas that had been evolved after the stopper was fastened was so great, that it was ejected with violence, with a sound like that caused by the ejection of the cork of a gingerbeer bottle when the wire is incautiously undone.

The anæmia in psilosis, as I have shown in greater length and detail in my book, is probably due to the effect of some poison associated with the abnormal fermentation. It is sometimes so great that I have known a case of true psilosis diagnosed by a distinguished physician as one of essential pernicious anæmia. That the anæmia is not due so much to defective nutrition as to the destructive effect on the blood formation caused by the absorption of the poisonous products of fermentation in the intestine, is shown by the rapid improvement that takes place in the number of the red corpuscles when all food is withdrawn except a small amount of milk. In this connection I may refer to the opinion expressed by the late Sir Andrew Clark,[2] that the anæmia of young women in chlorosis is due to a functional derangement of the intestinal canal, and should be treated by purgatives.

There are other diseases which are probably due to a similar cause. Gout, for example, so common and yet so little understood, is clearly associated with some persistent error in digestion, and if some physician whose opportunities are sufficient were bold enough to treat a series of cases of gout by exclusive milk diet, it would be of great interest to know the result.

I was much struck a number of years ago by the effect of an exclusive milk diet in a severe and fully-developed case of lupus erythematosus, which had been under my care. A woman, in the prime of life, had the fully-developed bat-wing form of the disease, the nose and both cheeks being affected, and during the few months that she was under my care did not materially improve. She disappeared from my observation, and when I next saw her (a considerable time afterwards) the disease had entirely disappeared and the skin was healthy. On inquiring how this had happened, she told me that she had developed some serious abdominal (as I understood her, uterine) affection, for which a physician in Glasgow put her in bed and on exclusive milk diet, and whilst she was under this treatment the lupus erythematosus gradually faded, and eventually disappeared and never returned. I need hardly say that I prescribed the milk treatment for subsequent cases of lupus erythematosus, but unfortunately never again observed the same curative effect.

REFERENCES.

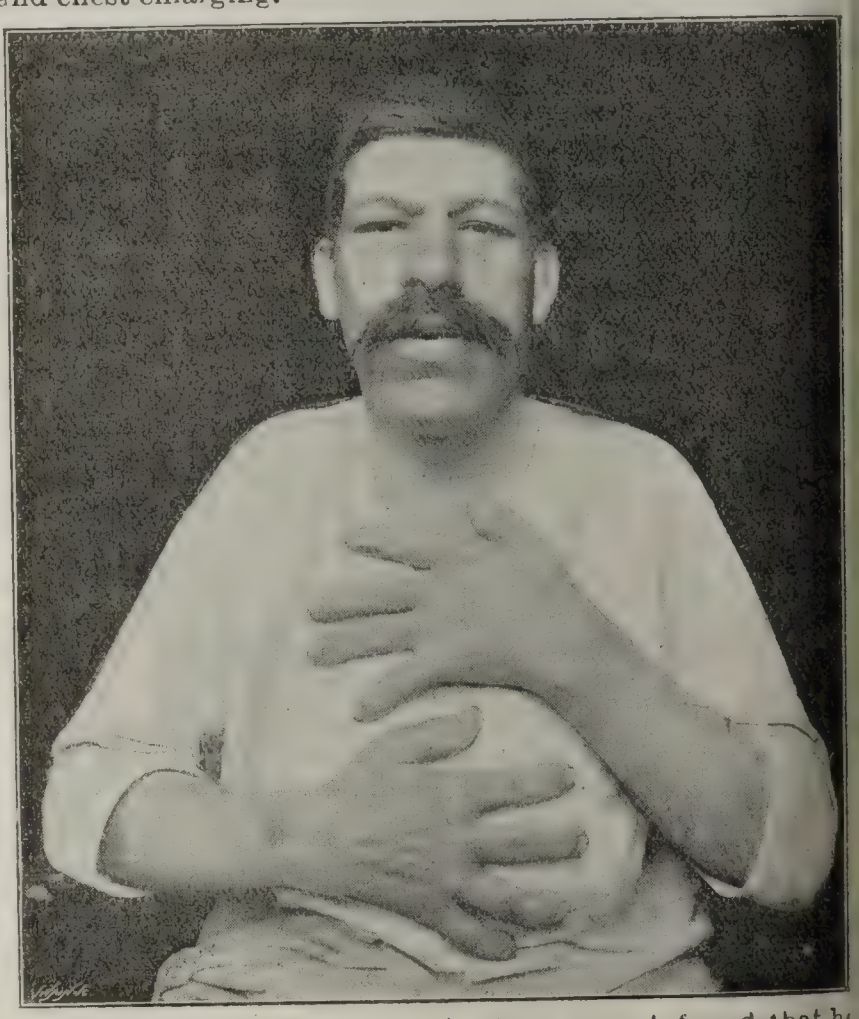
1 *Psilosis or "Sprue": its Nature and Treatment: with Observations on Various forms of Diarrhœa acquired in the Tropics.* Second and enlarged edition. London: J. and A. Churchill. 1897. 2 BRITISH MEDICAL JOURNAL, November 19th, 1887, pp. 1106. Report of a meeting of the Medical Society of London.

NOTES ON A CASE OF ACROMEGALY.

BY JOHN NORCOTT D'ESTERRE, M.R.C.S., L.R.C.P.,

Eastbourne.

J.H., male, aged 39, married; has four children, who are all healthy. His family history is good, and there is no history of a similar complaint in the family. His personal history also is good; he never had any illness until seven years ago, when he had an attack of influenza, after which he noticed his under lip and tongue swelling, and his hands and chest enlarging.



I first saw him on August 24th, 1897, when I found that he was a well-nourished man with ponderous and large hands and that his feet also were larger than normal, but not to such a degree as the hands. His features were heavy, with a very large, thick, projecting under lip, massive underjaw (due to bony growth, and not to any subcutaneous deposit); the teeth of the lower jaw projected in front of those in the upper, and were spreading. The cartilages of the nose and ears were greatly thickened, and probably those of the larynx, as his voice, he informed me, had altered of late to a deep bass. He had prominent frontal eminences, with deep hollows in both temporal fossæ. The skin of the face was slightly pigmented, the orifices of sweat glands enlarged. The senses of smell, taste, and hearing were good. The tongue was enormously enlarged, so much so that when he opened his mouth it appeared to fill the entire cavity. The tonsils and uvula were also enlarged. He complained of difficulty in swallowing at times, and of slight asthmatic seizures. In form the face was ovoid. His eyesight was getting worse, and

optic neuritis was present. By the perimeter he was found to have well-marked bitemporal hemianopia, the nasal half of the field of vision being perfect. He did not suffer from headaches, but if he stooped he felt as though his head was swelling and would burst. The ribs were quite twice the thickness of normal ones, and markedly thickened at the sternal ends. The sternum was enlarged to a considerable degree, and projects forward. The heart was normal. The spleen and liver were not examined. There was no apparent enlargement of the thyroid. He perspired very freely, and suffered much from thirst. He constantly felt drowsy. Memory for recent events was very bad, but he remembered things that happened years ago well. His gait was slow, measured, with a pronounced stoop, and he had difficulty in getting up and down stairs. Both knees and shoulders were affected with rheumatoid arthritis. In the nineteen days he was under my observation he lost 4 lbs.

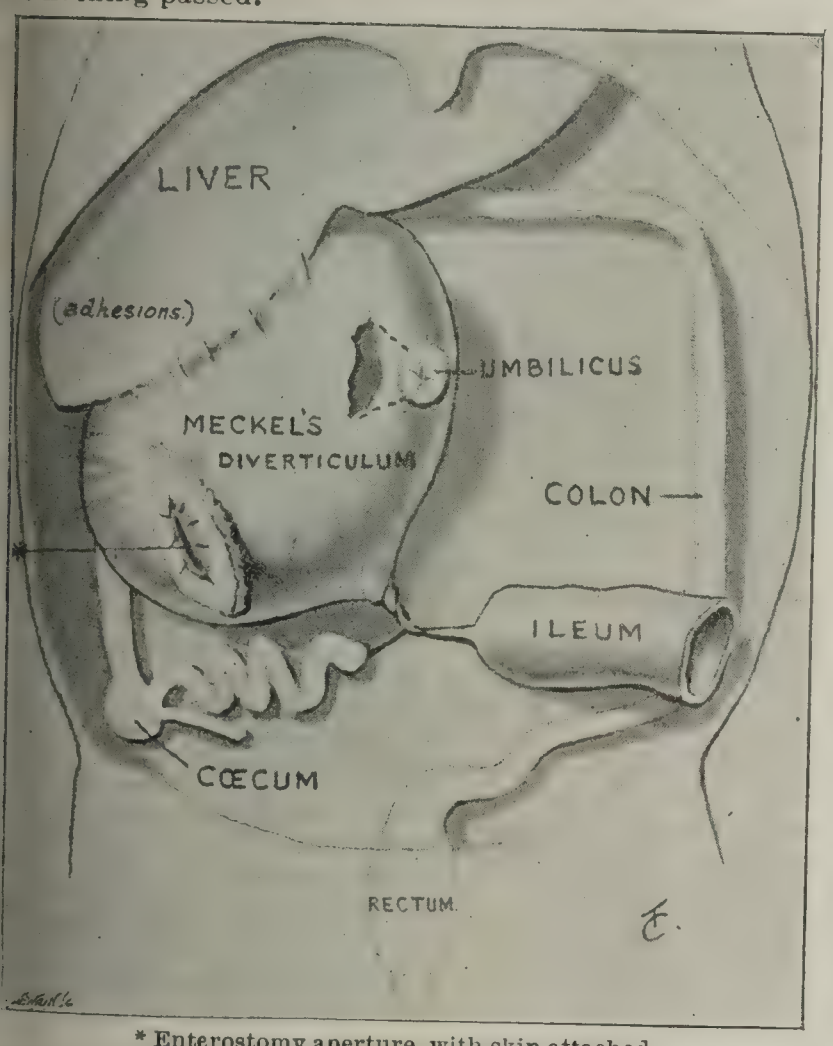
Remarks.

Since August 24th, 1897, the patient has been taking tabloids of "pituitary gland substance," gr. ii (B. W. and Co)., three times a day, with the following result, which I give in his own words, his letter to me being dated November 8th: "I certainly feel much more active than I did, and have lost 8 lbs. since my return from Eastbourne."

VOLVULUS OF MECKEL'S DIVERTICULUM.

By THOS. CARWARDINE, M.S., F.R.C.S.,
Assistant Surgeon, Bristol Royal Infirmary.

L. P., aged 2 days, was brought to the Bristol Royal Infirmary on October 15th, 1897, on account of intestinal obstruction. The child had been repeatedly sick, bringing up a greenish-brown vomit, and had passed nothing *per anum*, nor discharge from umbilicus. The belly was much distended, and exploration of the rectum with the finger revealed no cause. The child was watched and treated for six hours, but nothing passed.



* Enterostomy aperture, with skin attached.

Operation.—The distension appeared more on the left side, and accordingly cœliotomy was performed in the left semilunar line. Here the small intestine presented, very much distended, with lymph upon its surface from peritonitis. The colon, when brought to the surface, was very small, not larger than a crow quill, whitish, empty, and non-sacculated. With the finger in the abdomen I could feel bimanually a mass to the right of the umbilicus. A second incision was therefore made in the right semilunar line, when much distended gut presented, which it was impossible to bring out of the opening, owing to numerous adhesions; and for the same reason the source of obstruction could not be felt, although it seemed almost certain that it was due to an anomaly of Meckel's diverticulum. On making an artificial anus, a considerable quantity, several ounces, of meconium escaped. The cæcum and ascending colon were small, white, and empty. The symptoms persisted, and the child died twenty-four hours later. At the *post-mortem* examination it was found that a meconium-containing cyst had been opened, produced by a volvulus of Meckel's diverticulum of some three turns, as in the figure. Only a fine impervious cord connected it with the bowel below it, and a minute stalk, which would partially admit a bristle, attached it to the distended bowel above, the junction being a ⊥-shaped one.

The points of interest to which attention should be drawn are:

1. The *ante-partum* commencement of peritonitis, as shown by the lymph and adhesions of firm character to parts around.

2. The occurrence of the volvulus of Meckel's diverticulum *in utero*, during late fœtal life, so that a meconium-containing cyst was segmented off from the meconium-containing ileum, and therefore obstruction was not relieved by opening the distended diverticulum.

3. The lower 12 inches of small intestine were empty and tortuous, and the colon small and non-sacculated. No meconium had ever passed into them, yet the cæcum and appendix were well formed. This disposes of a common view as to the development of the cæcum.

TRAUMATIC ANEURYSM OF THE ULNAR ARTERY IN THE PALM CURED BY TYING THE ULNAR ARTERY ABOVE THE WRIST.

By WM. ROBERTSON, M.D.Glas., D.P.H.,
Assistant Visiting Surgeon and District Physician to the Perth County and City Royal Infirmary.

In the British Medical Journal of September 11th Dr. Griffiths has an interesting notice of a case of spontaneous aneurysm of the ulnar artery; and, as he prefaces his report with the remark that aneurysms of small arteries are rare, I am glad to be able to chronicle a somewhat similar case. In this instance there was a distinct cause for the disease; in other words, the aneurysm was traumatic. Briefly, this is the history of the case.

W. G., aged 18, fireman on a railway engine, when seen at the infirmary on August 25th, complained of a painful spot just under the hypothenar eminence of the left hand. On comparing the two hands one could plainly detect a bulging at the affected part. And with this bulging a pulsation was very noticeable. He had more than once remarked on the "beating." It was, however, the pain that worried him. The swelling was nearly an inch in diameter, and almost circular. When its centre was firmly palpated the pain was increased. Only occasionally had he felt any numbness of the little finger and its neighbour. The patient was a healthy, strapping fellow, muscular and well developed. His heart was normal, and he had never suffered from cough. There was no syphilitic history; indeed, he had never had a day's illness.

The pulsation in the aneurysm entirely ceased when the ulnar artery was firmly compressed above the wrist. The interesting part of the case lies in the fact that the traumatic cause is distinct. About five months ago W. G. found the injector of his engine very stiff. He gave it a firm knock with his left hand. This caused a sharp pain in the hypothenar eminence. The tenderness was only aggravated by the persistent knocking required to force the handle of the injector. The swelling and pulsation in the hand were noticed for the first time two months ago. This led him to consult a doctor, who recommended painting with iodine.

The application failed to give relief, and when he presented himself at the hospital I advised him to have the ulnar artery tied.

On August 27th he was chloroformed, and the left ulnar ligatured above the wrist. Immediately after this the "beating" in the sac ceased. The hand and forearm were bandaged on a straight splint, and in the afternoon the young man was allowed to go home.

September 10th. The patient was seen to-day by me, when I found the wound above the wrist had healed. There was felt under the skin a hardish nodule, presumably the clotted contents of the aneurysm. The swelling had gone down, and all discomfort in the part had ceased.

I am quite satisfied that extirpation of the aneurysm as performed by Griffiths is the better operation. Yet, with care, I believe W. G.'s hand will give him no further trouble. The great advantage of dissecting out the sac lies in the fact that the future of such cases need give one no anxiety.

The wonder is that palmar aneurysms are so uncommon, because every engine driver and fireman uses the flat of his hand to start some stiff handle or lever of his locomotive. The blow often does produce a "dirling" sensation in the fingers supplied by the ulnar nerve, but, luckily, rupture of the intima coat of the artery does not often occur.

In conclusion, I may say I had it in my mind to tie the superficial volar along with the ulnar, but when I considered that the superficial arch was alone involved, and that the sac would be filled with firm clot ere the volar had had time to widen, I trusted to the above operation to effect a cure. I think it has succeeded, for W. G.'s hand will be fit for work very soon.

A CASE OF CERVICAL RIBS.

(With a Special Skiagraphic Illustration.)

By HERBERT ALDERSON, M.B., M.R.C.S.

Cervical ribs being rarely met with in the anatomical subject, and less often in the living body, a brief account of the following case with the radiograph here reproduced will, I believe, be of considerable interest.

A young lady, aged 21, consulted me this summer concerning a swelling in the right side of her neck. She complained of a little pain over the swelling, and was anxious to know if the protuberance would grow larger and thus cause a disfigurement; beyond this slight pain, which was not constant, and anxiety as to an increase of size, the swelling caused no inconvenience whatever.

The protuberance was believed to have been present some time, but it was only the last few weeks or so that the patient had taken any notice of it. The patient is a well built girl, accustomed to golfing and other athletic exercises, which are in no way interfered with by her extra rib.

On examination I perceived a slight swelling in the right anterior triangle of the neck, 2½ inches above the clavicle, contiguous to the anterior border of the sterno-mastoid muscle. The protuberance was felt to be very hard, obviously bony, immovable, quite superficial, and over it the skin moved freely; there was no tenderness, a small artery was noticed coursing over the swelling. It appeared fusiform in shape, about the size of a brazil nut minus the shell, traced upwards or downwards it was lost in the deeper structures of the neck.

The left side of the neck appeared in every way normal and nothing could be determined by examination of the neck posteriorly.

The right subclavian artery appears to differ in no way from its fellow on the left; the pulsation of both radials is of equal volume.

The slight pain was easily accounted for by an irritation of the skin over the bony protuberance, caused by friction from a starched linen collar pretty constantly worn.

Supernumerary cervical ribs are frequently classified according to whether they possess a shaft, or merely a head, neck, and tubercle without a shaft. The radiograph reproduced on another page was taken for me by Dr. F. H. Low, and demonstrates the existence of a rib of each class, that on the left side being of the rudimentary class, having only head, neck, and tubercle, articulating with the transverse process of the seventh cervical, but no shaft. Articulating with the right transverse process of the seventh cervical vertebra, a particularly good example of the full-grown supernumerary rib can be seen; the shaft will be noticed to pass under the clavicle to the first intercostal space, and probably joins the second rib by a cartilaginous union, an arrangement which I have not previously seen recorded. The radiograph also demonstrates a break in the continuity of the shaft of the cervical rib, with apparently the formation of a false joint, and it is this rib, with apparently the formation of a false joint, and it is this point which corresponds with the protuberance in the neck.

The patient gives a history of sundry mishaps when quite young, including a broken thigh and collar bone, which might also include a fractured supernumerary rib, or the rib and the collar bone might be synonymous.

The natural obliquity of the ribs is also well shown, the sterno-clavicular articulation and the first rib anteriorly being on a level with the fourth rib posteriorly.

The literature of supernumerary ribs, although not extensive, spreads over a considerable period of time. I find that in the *Edinburgh Medical and Surgical Journal*, vol. 40, Dr. Dymock records a case, with a drawing of supernumerary cervical ribs, met with accidentally in an anatomical subject during the year 1830. Dr. Dymock mentions that Galen, Fallopius, Winslow and others have seen such cases, but have not recorded details, an example not followed by M. Hunauld, who published an excellent paper on the subject in the *Mémoires de l'Académie Royale des Sciences* in 1740.

Professor Gruber, who collected all known cases from 1740 to the year 1809, found 76 examples of cervical ribs occurring in 45 individuals, since which time a few cases at considerable intervals have been recorded. In the *Edinburgh Medical and Surgical Journal* for 1892 a case is recorded where removal was necessary to relieve pain in the neck and arm on movement, and formication and numbness in the hand. The rib was successfully excised by Dr. George Fischer (Hanover) with complete relief to symptoms.

In the *Boston Medical and Surgical Journal* for 1896, Dr. J. Collins Warren records a case which gave rise to symptoms, pain about the middle of the clavicle passing down the arm, completely relieved by disarticulation, and removal of the rib piecemeal nearly up to its point of origin from the seventh cervical vertebra.

Supernumerary cervical ribs are probably more numerous than the literature of the subject would lead one to suppose, Many cases without doubt pass unnoticed, giving rise to no physical sign nor to any symptom, and insufficient dissection may in some cases cause them to remain unnoticed in the anatomical subject.

THE PATHOLOGY OF GENU VALGUM.

(With a Special Skiagraphic Illustration.)

By J. B. FOOTNER, F.R.C.S.,

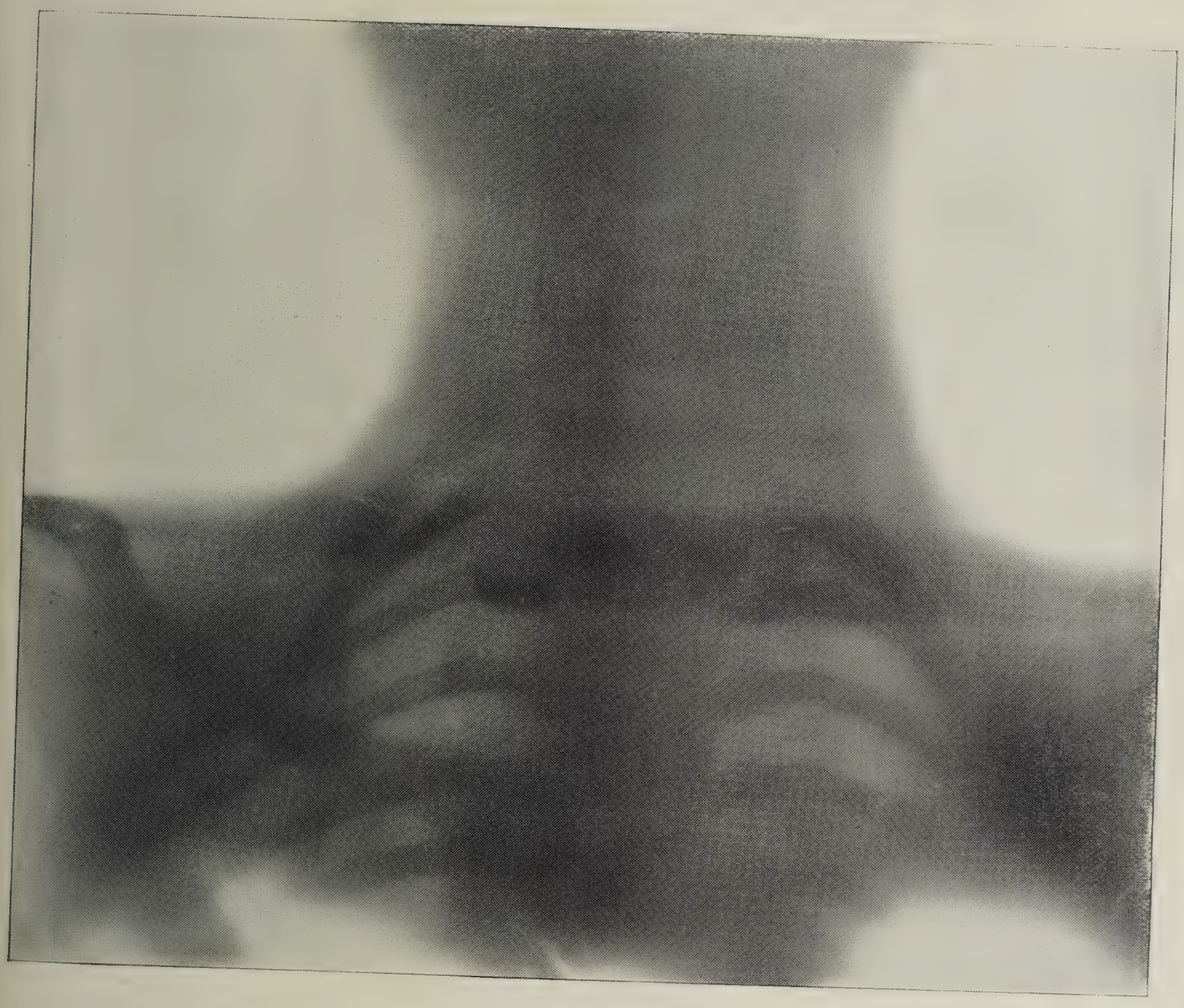
Honorary Surgeon, Tunbridge Wells General Hospital.

In the British Medical Journal of May 29th, 1897, there is a short but interesting communication from Mr. Charles A. Morton on the pathology of genu valgum. He there states that a skiagraph of a case of this deformity failed to show elongation of the internal condyle of the femur, but demonstrated, on the other hand, the presence of a very marked curvature in the shafts of the tibia and fibula.

The skiagraphs reproduced on another page of a severe case of genu valgum in a child aged 3 years tend to confirm his statement. It will be seen that there is some curving of the tibia and fibula, but that there is also considerable elongation of the inner tuberosity of the former bone.

One skiagraph (Fig. 1) shows the condition before operation. The other (Fig. 2) shows that the elongation of the inner tuberosity of the tibia has almost completely disappeared after operation.

I preferred division of the femur rather than the tibia, because the former is in my opinion a much more simple operation, and no important blood vessels or nerves are likely to be interfered with. In dividing the tibia, possibly some injury might be done to the anterior or posterior tibial vessels or nerves. It might also be more difficult to maintain the short



Skiagram showing cervical ribs

TO ILLUSTRATE MR. ALDERSON'S PAPER (page 1638).

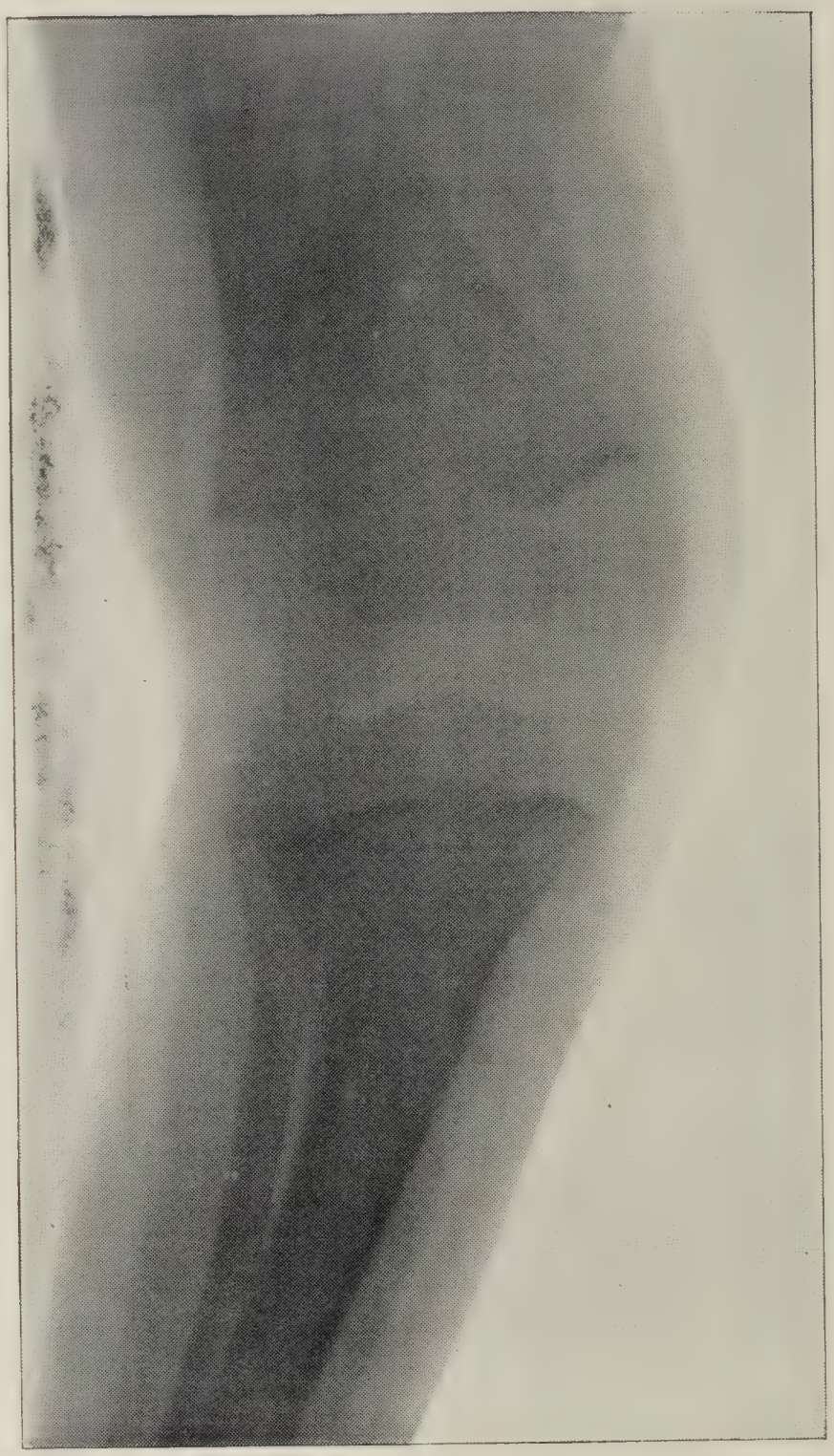


Fig. 1.—Before operation.

Fig. 2.—After operation.

Skiagrams showing condition of bones of knee in genu valgum

TO ILLUSTRATE MR. FOOTNER'S PAPER (page 1638).

upper fragment of the tibia in accurate position. The after-result of division of the femur in this case was good.

I have to thank Dr. Chapman, House-Surgeon of the General Hospital here, for the skiagraphs.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, Etc.

ANTERIOR DISLOCATION OF FOOT.

A painter fell from the roof of a two-storeyed house on August 5th, 1897, and the feet struck the ground first. I found the right foot displaced forward and inverted. The surface of the astragalus forming the articulation with the tibia was prominent, and lay against and in front of the tibia, and the external malleolus projected. There was no fracture. Reduction was easy under chloroform by traction on the foot and eversion by the right hand, and pressure on the prominent astragalus by the left thumb.

The patient remained in bed with lateral splints and foot-pieces for six days, when his ankle was put in a plaster case, and he was allowed to get about on it. Though the external lateral ligament must have been extensively if not completely ruptured very little swelling followed. The plaster case was removed after being worn seventeen days. The joint was found painless, and with normal mobility. There was, however, a slight increase in circumference, which had not disappeared when I saw him last, seven days after. It was so slight that he would not pay any attention to it, as he said he felt the ankle as strong to walk on as the other.

I see Erichsen [1] says the above accident is so rare as seldom to have been witnessed, and Treves [2] says that in the few reported cases one or both malleoli were broken.

C. L. Martin, M.R.C.S., L.R.C.P.Lond.

Umtali, Rhodesia, South Africa.

A CASE OF SPURIOUS ABORTION.

The patient was a multipara (six children), the youngest being 2½ years old. Menstruation was perfectly regular until the end of March, 1897, and she calculated from this time that she was pregnant. As time went on there was a perceptible swelling of the abdomen. On July 8th, 1897, I was called on account of hæmorrhage having set in. This discharge was similar to that described by Dr. Eden in the case of Dr. Oakin, that is, a brownish discharge streaked with blood. The symptoms during the amenorrhœa were slight—slight morning sickness and only slight alterations in the appearance of the breasts. As they had been slight also in past pregnancies, they were of little diagnostic value. The uterus on bimanual examination was firm and enlarged, the fundus being felt just above the rim of the pelvis. The ovaries and tubes were apparently normal. The case appeared to be a case of threatened abortion at thirteen or fourteen weeks.

After six days, in which the patient was kept in bed and the uterine muscles kept as quiet as possible, a cast, not so large as those described by Dr. Eden, was passed. It was 2½ inches long and 1 inch broad. Its outer surface was rough, but there was no apparent placental site or any chorionic structure. On examination microscopically it was found to be decidual tissue, and so far as I was able to see, no tissue of any other character except blood vessels. The patient made an uninterrupted recovery; bleeding ceased on the day following the expulsion of the cast. No pain was experienced during the whole time.

In considering the case, my first idea was of a fertilised ovum which in some way had perished; my second was, whether the fact that the patient was anxious not to be pregnant (which was in reality the case) had anything to do with it.

It would be interesting to know what the desires of the three cases cited by Dr. Eden were with reference to their being pregnant or not. Knowing the influence these conditions have in cases of pseudocyesis, it is within the bounds of reason that it may be a cause or aid in spurious abortion.

Birkenhead. J. Herbert Dixon, M.B., C.M.Edin.

[1] *Science and Art of Surgery*, 8th Edition
[2] *Surgical Anatomy*, 2nd Edition.

DISLOCATION OF THE UNGUAL PHALANX.

The above dislocation is apparently so rare that Erichsen, in the eighth edition of his *Surgery*, says: "I do not think that simple dislocation of the ungual phalanx from the second is possible," and I can only find the record of one case in medical literature. An account of such a dislocation may not be without interest: A young man, a compositor, came to me on October 31st, stating that while playing cricket and standing at slip, in attempting to catch a ball, he was struck by it straight on the end of the second finger of the right hand, the fingers at the time being extended. The terminal portion of the finger was extended while the metacarpal phalanx was somewhat flexed. On examination, the base of the ungual phalanx was both seen and felt resting upon the dorsal surface of the head of the second phalanx. Slight traction upon the terminal phalanx and a little pressure on its base at once restored the bone to position.

Grahamstown, Cape Colony. James T. Bays, M.D.Lond.

WALCHER'S POSITION IN OBSTETRICS.

The following case, in which this position was useful, resembles that recorded by Dr. Mitchell in the British Medical Journal of July 3rd, 1897, and some of those previously described by me in the Journal of October 31st, 1896. The patient was aged about 30, and had had four previous pregnancies. The first and second labours ended in craniotomy; the third labour was induced at the seventh month, but the child was dead when extracted. At the fourth labour the head was crushed during extraction with forceps, so that the patient had never had a living child. When she was in labour for the fifth time at full term her attendant remembered the utility of Walcher's posture, and sent for me as soon as dilatation was complete. She refused to have chloroform, but consented to lie on her back, her legs hanging down over the edge of the bed, her feet not touching the floor. Axis traction forceps were applied, and a living child was delivered after a stiff pull. The head was much moulded, but not injured, and in a few days it recovered its shape. Its measurements were then of very fair size, namely—Diameters: O.M., 5½ inches; O.F., 5 inches; S O.B., 4 inches; B.P., 3½ inches; B.T., 3 inches. Circumferences: O.M., 15 inches; O.F., 14½ inches; S.O.B., 13½ inches. The child was 18 inches in length at birth, and has done well. The pelvic measurements of the mother are as follows: Interspinous diameter, 10 inches; intercristal, 9½ inches; intertrochanteric, 12 inches; external conjugate, 5¾ inches; diagonal conjugate, 3 inches. The pelvis is therefore very flat, and the true conjugate must be about ¾ inch less than the diagonal, or 3½ inches less than the external conjugate—namely, about 2¼ inches, or 1¾ inch less than normal. I might have turned and delivered in Walcher's position, but preferred the forceps. I am convinced, however, that apart from the use of this position, the head in question could not have passed uninjured through the pelvis in question without symphysiotomy.

Manchester. W. E. Fothergill, M.D.

CASE OF RIGIDITY OF THE OS UTERI TREATED BY HOT BATHS.

I was called one evening to attend a primipara, aged 40, who had been in labour for thirty hours. I found her in bed, having very severe bearing-down pains both in the back and abdomen. I was told that the waters had all drained away in the morning, and that she had been having very severe pains for three hours. On vaginal examination I found the head presenting and the vagina very small. The cervix was hard and rigid, and the os completely closed, so much so that I was quite unable to pass a sound into the cervical canal. I ordered warm douches and gave chloroform. I unfortunately had no chloral with me, so was unable to try the effect of that drug. The chloroform had no effect. The pains became more frequent and more severe, the whole uterus being forced down with each pain, without any dilatation of the cervix. The patient showed signs of rapid exhaustion, and I had almost determined to make lateral incisions into the

cervix, when it occurred to me to try the effect of a very hot bath. The patient was kept in the bath for fifteen minutes, the water being kept as hot as she could bear it. The pains ceased, and did not return for three-quarters of an hour. On making a vaginal examination after her return to bed I was delighted to find that I could easily pass two fingers into the canal and further dilate it. The child was delivered with forceps. I had a little difficulty with the perineum, which was extremely rigid, in spite of continuous treatment with hot fomentations for two hours.

I venture to forward these notes in the hope that they may be of some use to a practitioner who has the misfortune to attend a primipara of such an advanced age.

Geraldine, New Zealand. P. W. HISLOP, M.B.Edin.

REPORTS

ON

MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

EDINBURGH ROYAL INFIRMARY.

A CASE OF VERY ACUTE ULCERATIVE ENDOCARDITIS WITH DIFFUSED SUPPURATIVE FOCI.

(Under the care of Dr. ALEX. JAMES.)

[Reported by Dr. E. E. PORRITT.]

HISTORY OF CASE.

W. B., a healthy-looking, well-grown, and well-developed lad aged 18, a mason by trade, was admitted on Saturday, July 31st, 1897, at 5.30 P.M., complaining of pain in the back of his head and down his neck.

There was nothing of importance in the family history. The patient had always been in the best of health, but as will be mentioned later, the sanitary arrangements at his home had been extremely defective. The history of his illness given by his father was as follows: Up to the previous Monday he had been at his work all day. On the Tuesday morning he got up and went to his work as usual, but returned at 9 A.M., and complained of being chilled, and stated that he had a severe pain in the back of his head. He took a dose of salts at night, and next day (Wednesday) he looked better and described himself as feeling so. On the Thursday he still complained of the headache, but nevertheless got up and sat about in the house. On Friday he was in the same state, but on Saturday, feeling himself not so well, he kept in bed. During the day he felt sick and vomited once. A doctor was then sent for, and he was advised to come to the infirmary.

On admission he appeared flushed and feverish, and he complained only of pain in the back of the head; his temperature was 103° F.; pulse 100, regular, but soft and compressible; respirations 34. On auscultating the heart a well-marked blowing systolic murmur was heard at the mitral area; elsewhere the sounds were somewhat muffled. As regards the lungs there was nowhere any dulness, but there was harsh breathing with crepitation at both bases posteriorly, especially at the right. The urine was febrile, and contained albumen, 0.656 gr. per oz. There was no squinting, and the pupils were equal and reacted to light, although a little sluggishly. It was thought to be an early pneumonia with meningitis. An icebag was applied to the head, and calomel (4 gr.) was administered at once, and a mixture of chloral, ammonium bromide, and digitalis was ordered to be given every four hours.

Half an hour after admission, however, the patient became markedly delirious, and the urine, etc., was passed in bed. He was given gr. $\frac{1}{200}$ of hyoscine, but he did not sleep at all. On the Sunday morning the pupils were unequal and dilated, the right markedly so; and there were continued irritative movements of the left arm and leg, and occasional spasms of the left arm. The patient otherwise was quieter, and took a little milk, etc., when put to his mouth, but never spoke at all. His temperature was 103.8° F.; respirations 48, and pulse 120, and very weak. In spite of stimulants, etc., he became weaker and weaker in the course of the day; and the temperature rose to 106.6° F., pulse to 132, and respiration to 60. He died about 12 o'clock the same night.

POST-MORTEM REPORT BY DR. MUIR.

Thorax.—Pericardium contained about 4 ounces of chocolate-coloure fluid, a mixture of blood and seropurulent exudation. Left pleura cor tained about 5 ounces of clear serum; right pleura normal. Posterior at the base of the heart there is slight fibrinous exudation on its surface and in the left ventricular wall there are several deep-red patches O section these are found to be septic foci with early suppurative change in their centre. These foci are confined to the outer part of the hea wall. The mitral valve segments are deeply blood-stained, and on th anterior segment towards the left side there is a recent ulcerated openin about ¼ in. diameter, with soft irregular margins. On the posterior cusp towards the right side, there is a rounded area of early ulceratio covered with a soft pinkish thrombus. There are no true vegetation and there is no evidence of pre-existing valvular disease. The othe valves are healthy. In one of the papillary muscles of the left ventricl there is a small abscess about the size of an oat seed. The cavities of th heart are of normal size, and their walls of normal thickness. At th base of the right lung posteriorly the tissue is almost airless owing t semi-collapse, œdema, and diffuse hæmorrhage; no actual pneumoni Left lung extremely congested at base. No suppurative foci in either lun

Abdomen.—The liver weighed 3 lbs. 13 ozs. Its upper surface is co gested, and shows a large number of yellow points of suppuration und the capsule. On section these are found to be confined to the superfici parts. The liver substance shows advanced cloudy swelling, with son fatty change. The spleen weighed 8 ozs., and was in a state of acute co gestion. The left kidney weighed 7 ozs. On the surface is a larg number of small round areas, the centres of which show a pale colou On section a similar condition is seen both in the cortex and medull There are small secondary suppurative foci, with a great amount hæmorrhage around them. The kidney substance shows marked cloud swelling and early catarrh. Right weighs 6 ozs., in a similar conditio Throughout the small intestine are found in the mucous membrane sma rounded elevations of a dark crimson colour, which on section show pale yellow centre. These are vessels with purulent plugs, and at one two places the small vessel could be seen to be thrombosed for some di tance, and surrounded by hæmorrhage. These secondary foci in th mucous membrane had no special relation to the mesenteric attachmen None are found in the stomach or in the large intestine. The pancre and suprarenals show nothing abnormal.

Brain.—Weight, 3 lbs. 8 ozs. On its surface are found several commen ing suppurative foci in the small vessels with much congestion a hæmorrhage around them. Several are situated on the posterior poi of the mid- and upper frontal convolutions on the right side, and also group of them over the top of the right occipital lobe. On the left si there are several on the upper Rolandic area, and also at the anteri margin and tip of the occipital lobe. There is no meningitis. In the su purative foci numerous micrococci are found, which on cultivation pro to be the staphylococcus pyogenes aureus. There was no ulcer nor brea of surface found which could be looked upon as the primary path of i fection.

REMARKS BY DR. JAMES.

Ulcerative endocarditis occurring in a patient previous healthy is a comparatively rare disease. Presenting addition a course so acute and rapid as was the ca with this lad it is well worthy of being recorded. It is be noted that our patient, although out of sorts for three da previously, was acutely ill for only 48 hours. As regar rapidity of course, therefore, this case will bear comparis with any that have been recorded. How the staphylococc pyogenes aureus had obtained an entrance into the system not very easily explained, but subsequent careful inquiry h elicited the following facts:

1. That the watercloset arrangements at his home had be extremely defective.

2. That four days before the commencement of his fi symptoms he had, in the attempt to improve the waterclos thrust his hand and arm as high as the shoulder into t exit pipe. He had, however, noticed no abrasion of the ski

3. That about a week before the beginning of his illness had had several small boils on the back of his neck.

The diagnosis also merits remark. The doctor who se him to the infirmary suspected meningitis, and I at th time inclined to think it would turn out to be a case of i fluenzal pneumonia and meningitis. The mitral syst murmur was rather a difficulty; it was too loud and distin for a functional murmur, whilst at the same time the hear action seemed too slow (100 per minute), quiet, and regu for acute endocarditis.

The symptoms generally were such as the pathological co ditions would explain, and the very rapid course and colla are to be ascribed to the tremendous potency and diffusi of the poison. Remembering that among the sympto unilateral irritative movements of the left arm and leg h been manifested, we, at the *post-mortem* examination, spected carefully the condition of the cortex at the Rolan areas on the two sides. We thought that the number of s purative foci was rather greater on the right side, but t difference was very slight.

VICTORIA HOSPITAL, ST. LUCIA, W.I.

(Cases under the care of Otho Galgey, M.R.C.P.I., Colonial Assistant Surgeon.)

Chronic Eczema followed by Elephantiasis.

S. M., a male coolie, aged 42, was admitted on October 11th, 1896, suffering from eczema, of many years' standing, on both legs from knees to toes; there were patches also on the elbows, scalp, and ears. About six months ago, after an attack of "fever and ague," the left leg was noticed to be larger than normal, and the skin was hard and tough and furrowed at the ankle (Fig. 1). Incipient elephantiasis was diagnosed, and Esmarch's elastic bandage was applied regularly. This caused irritation, and, on removal each morning, was found covered with thick scales, and we were unwillingly obliged to discontinue its use. All the usual remedies, both local and internal, were prescribed, with very little effect. Early in July I commenced the application of the following ointment: ℞ Ichthyol, ʒj; acid. salicylic., ʒj; acid. pyrogallic., ʒj; lanolini, ol. olivæ, āā ʒx. This acted most beneficially on the eczema, and at the date of writing the scales have entirely disappeared, and the skin of the right leg is smooth but mottled in colour (Fig. 2). The left leg is still in the stage of incipient elephantiasis, a rare disease among the East Indians in this island. I at first failed to detect the presence of filariæ in the blood in this case. This was due to the blood being taken between 9 and 11 A.M. The blood taken after 8 P.M. was found to contain many specimens of filaria sanguinis hominis nocturna.

Fig. 1.

Frambœsia or Syphilis?

M. V., a coloured female labourer, aged 18, was admitted on March 17th, 1897, for chronic yaws, or tertiary syphilis. Weight, 83 lbs. There were (as may be seen in Fig. 3), large serpiginous ulcers, with hard raised edges, on both legs and feet, on the right arm and forearm, and on the left forearm, and a crater-like depression on the frontal bone. The great toe of the right foot was inverted, and there was talipes equinus of both feet from contraction of the tendons. There was wasting of the muscles of the left leg. The ulcerated patches were confined to the arms, legs, and forehead; there were none on the body. There was caries of the frontal bone and of the left tibia. She was given in succession Donovan's solution, potassium iodide, and compound tincture of cinchona and calcium sulphide. The ulcerated surfaces were dressed with iodoform and boric acid ointment. Early in August iodol was applied to the ulcers, and an immediate improvement was noticed. Since then the case has made steady progress towards recovery, and the ulcers are now healed (Fig. 4), but ugly scars disfigure the legs and arms. Her present weight is 116½ lbs., a gain of 33½ lbs. in seven months. This case illustrates the difficulty sometimes experienced in the diagnosis between tertiary syphilis and the ulceration of the legs, etc., frequently occurring in patients suffering from yaws. In the present case the history points to yaws, as the patient states that she had yaws when a child, and the scars left after the ulcers had yielded to treatment resemble those met with in frambœsia. The relationship between syphilis and yaws has been insisted on by Mr. Jonathan Hutchinson in his *Archives*. The presence or absence of scars is said by some to be one of the diagnostic differences.

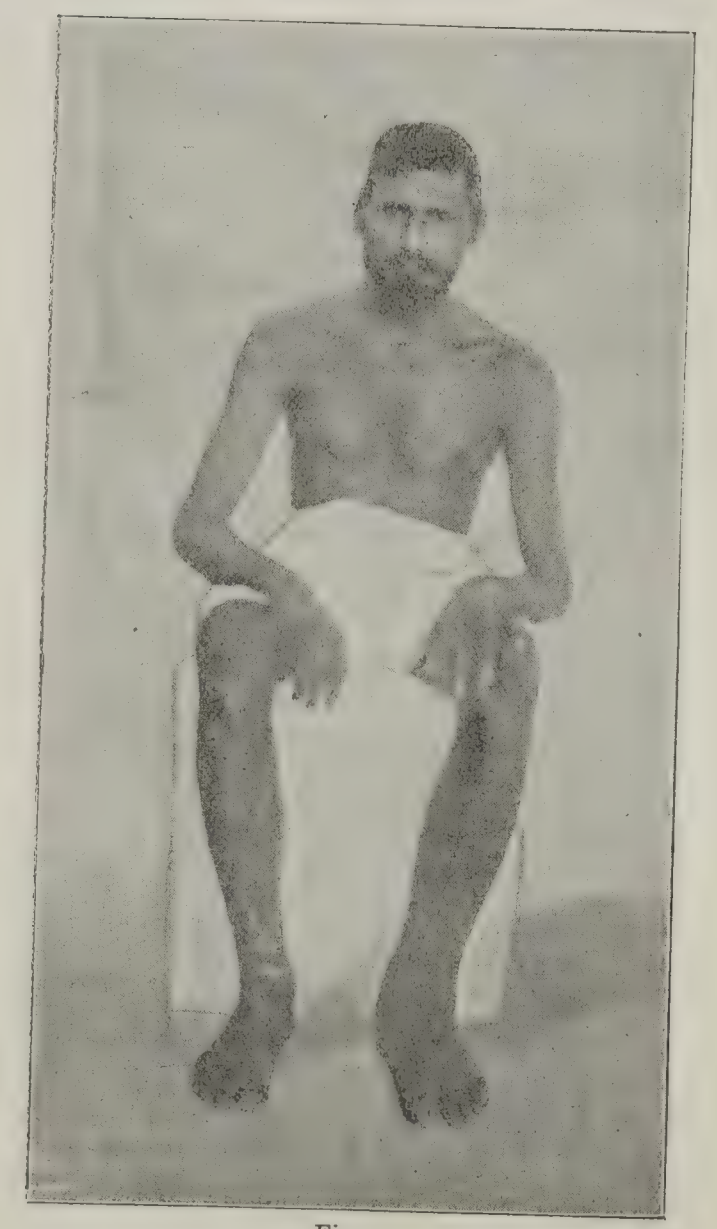


Fig 2.

Lymphadenoma.

S., a free coolie, aged 4 years, was admitted June 14th, 1896. He was extremely emaciated and weighed only 19 lbs. The superficial glands of the neck, axilla, and groins were much enlarged. The syrup of the iodide of iron was prescribed, and inunction of cod-liver oil. She gradually grew worse, and diarrhœa hastened the fatal issue. At the necropsy on July 10th the cervical and submaxillary, axillary and mediastinal glands were much enlarged, hard and movable, not adherent. The mesenteric glands were hypertrophied and formed bunches, like unripe grapes. The glands were round but separate, but connected together by fibrous bands. On section these glands were pale in colour, and exhibited no trace of softening or caseation. The spleen was much enlarged, and displayed, on the surface and also on section, white typhoid patches. Similar patches were found in the liver and kidneys. There was no sign of phthisis. The mesenteric

Fig. 3.

Fig. 4.

tumour measured 3 by 4 inches. The parents were alive a the time, but the mother has since died of tuberculosis. Thi bears out the theory that lymphadenoma only occurs in th offspring of tuberculous parents. One sister is in hospita suffering from caries of the spine.

AMPUTATION OF THIGH IN A YOUNG CHILD.

T. W., female, aged 3 years, was admitted on March 26th 1897, with the left leg extensively lacerated. The integu ment and muscles were completely torn from the bones leaving the tibia and fibula and the lower third of the femu bare. The injury had been caused by a waggon laden wit

Fig. 5.

sugar canes passing over her leg when crossing a bridge, ar by her falling into the river about twenty feet below. Amput tion was performed by me at the upper third of the thigh l anterior skin and posterior muscular flaps. The wound heal fairly well considering the lacerated parts dealt with. Th photograph (Fig. 5) represents the child on crutches, short before she left the hospital.

REPORTS OF SOCIETIES.

CLINICAL SOCIETY OF LONDON.

JOHN LANGTON, F.R.C.S., President, in the Chair.

Friday, November 26th, 1897.

ANGULAR DEFORMITY OF THE SPINE TREATED BY IMMEDIA REDUCTION.

(ADJOURNED DISCUSSION.)

Dr. P. RÉDARD (Senior Surgeon to the Furtado-Heine D pensary, Paris) contributed the following paper, which w read in Dr. Rédard's absence by the SURGICAL SECRETAR "I am a warm partisan of the immediate reduction at o sitting of the curvature in Pott's disease in certain cas My practice of this operation during the past year, amounti to 40 cases, has convinced me that this method, employ with prudence in proper cases, is practical, efficacious, a exempt from danger. All cases of curvature in Pott's d ease are not amenable to immediate reduction. Only tho curvatures can be corrected without danger in which redu tion is easy, or comparatively easy, by slight traction appli to the two extremities of the spine, or by slight direct pre sure applied to the boss itself. The correction of irreduci ankylosed curvatures exposes the patient to serious compli

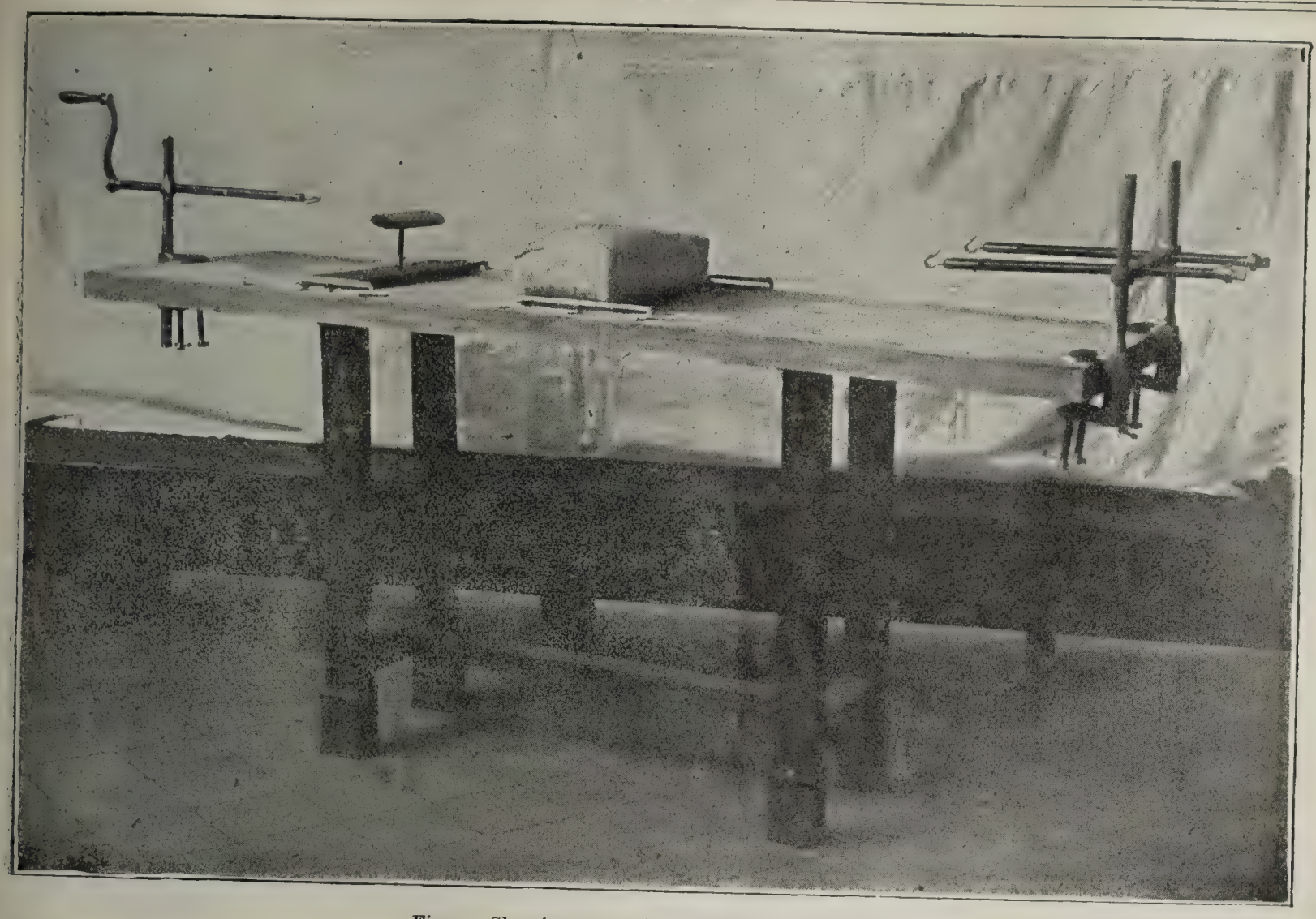
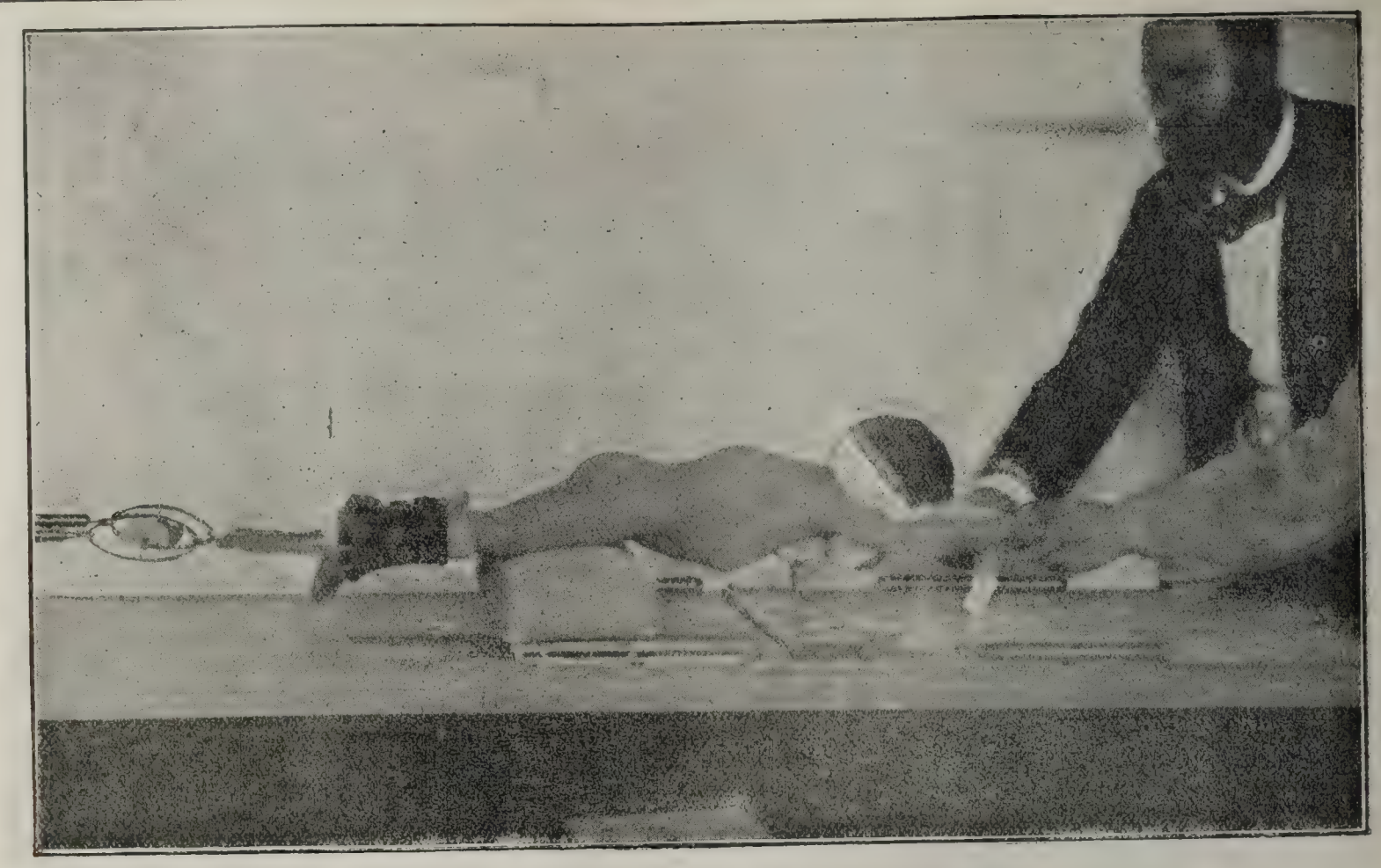


Fig. 1.—Showing apparatus used by Dr. Redard.

ions, and is not to be recommended. Immediate reduction s indicated in reducible curvatures of limited extent, hort radius, and rapid development, also those com- licated by paraplegia of rapid onset. Duration of xistence, size, and extent of the curvature are not to e regarded as contraindications. The only contraindications n my opinion, are irreducibility with the employment of noderate force or traction, a bad general state of health, eneralised tuberculosis, visceral disease, and large cold oscesses. My operative technique consists in obtaining re- uction without roughness or violence. I am absolutely op- osed to forcible, rough, or violent manœuvres. I have now r some time employed the apparatus depicted in Figs. 1, 2, 3 r the purpose. With this apparatus the curvature is reduced y extension of the spine, exerted on the lower extremities and ie head, by means of an endless screw, arranged as shown in the lustrations. The force developed is sufficiently powerful, it graduated, slow, and measured, and can be equably sus- ined for a considerable time without the occurrence of nocks or roughness. Perfect reduction of the curvature is most always effected by this apparatus without the neces- ty of resorting to direct pressure on the boss. The apparatus lows me to dispense almost completely with assistance for e application of the necessary plaster-of-paris corset, and oids any need for prolonged manual compression on the ss during the setting of the plaster. Very slight pain is used by the method, so that the employment of chloroform cases of moderate severity is unnecessary. After reduction employ a plaster corset, including both the trunk and the ad. The plaster bandages are usually applied directly to e skin, but in some cases a jersey or a very small quantity wool is used. My experience has taught me that a large antity of wool applied to the trunk beneath the plaster is favourable to the safe retention of the spine in position, ay result in a redevelopment of the deformity, and exposes e patient to the danger of pressure sores over the angle of e boss if this be not fully reduced. If the plaster corset is ll applied, the spine is held in good position, and the cephalic portion of the apparatus may be omitted, especially in lower dorsal and lumbar curvatures. In the whole number of forty cases of varying duration and severity that I have treated, no complication, either immediate or remote, has been noted, and I have observed many severe cases in which definite correction of the deformity has been obtained. Prolonged immobilisation in good position in a corset of plaster-of-paris after the reduction of the deformity is absolutely favourable to the cure of the disease. To sum up, immediate reduction of the curvature in Pott's disease of the spine is a therapeutic method of very great value, which in a large number of cases renders the most important service."

Mr. Watson Cheyne considered the subject as yet hardly ripe for discussion. They had to deal not only with a deformity, but also with a disease; and the result of the treatment was still in doubt. He admitted that the immediate results of the treatment were not so serious as he would have expected; in one series of 39 cases only 3 suffered bad effects from that operation. The forcible straightening of a tuberculous joint was apt to give rise to general tuberculosis, and the lighting up of acute local inflammation. A cure could not be said to have taken place in these cases of straightened spine until (1) the tuberculous bone disappeared or became encapsuled, and (2) bony ankylosis followed, which was not to be relied upon. Until then, these patients were not out of the wood. Ankylosis was a slow process, and probably took two years for its accomplishment in many cases. Cavities must be left in front of the spine by the straightening, which must be filled with blood clot, fragments of bone, and cheesy material. These conditions would not encourage the formation of new bone; and the vascularisation of that bone must be (theoretically) imperfect. Would ossification occur between the bodies of the vertebræ? Most surgeons would answer that question in the negative. In tuberculous disease of bone one found very little new bone between places around the infected area; no bridging over of the adjacent bone, as in ordinary cases of necrosed bone. With these large cavities it was unlikely that they would be bridged over by bone; suffi-



—A wing patient in position at beginning of operation.

cient ankylosis, therefore, would not occur in the front of the spine. Dr. Calot's suggestion for procuring posterior ankylosis by laminectomy would have to be adopted as part of the treatment, but he did not think the operation justifiable. It was risky to prophesy in surgical matters, but he believed the result of these operations would not be better than those he had obtained for years past by double extension with splints and without laminectomy. A weight of 3 lbs. applied to the head, and another similar weight to the legs, was enough to tire out, after a short time, the muscular action about the diseased area of the spine. Laminectomy was indeed very rarely needed. He did not think this new method of treatment would eventually take its place as one for the general treatment of spinal deformity. It was now on its trial, and should at present be used in a very limited number of cases. Enough had already been done to enable them to form an opinion when the results would be known some two years hence. Meanwhile, let them avoid further operations, for the patients' good, and for the good reputation of themselves and of surgery.

Mr. BARWELL said he would be a bold man who would condemn or praise without stint the new method of treatment. The results were so startling and on the whole good, that it was impossible to say that such things should not be done. The mortality was extremely small. Dr. Calot had spoken of 500 cases, amongst which were only 5 or 6 deaths. But why was there no account of the *post-mortem* appearance of the diseased spine in these cases? Mr. Murray certainly brought a spine removed from the body; but what was the condition of the bones *in situ*? How much pressure, too, might be applied? Dr. Calot spoke of 120 kilos, and had even used 300 lbs. in the case of the young Swedish girl photographed in the BRITISH MEDICAL JOURNAL of November 20th, page 1502. During the application of this force fracture occurred posteriorly, and crackling was heard. Anyone carrying out the treatment was at present working more or less in the dark, and was, in fact, carrying out an experiment. The method originated eight months ago, but they must wait quite twenty months longer to see the ultimate results.

Mr. NOBLE SMITH observed that they had to ask themselves what the condition of these patients would be in two years' time. He had the records of three patients in whom in former years by accidental circumstances the treatment had been carried out. Case I was that of a child, aged 9, with active caries in 1889 following a fall some years before. After eighteen months' treatment by recumbency and a jacket, he was thought to be well enough to get about. Exercises were then resorted to; he was placed on a horizontal bar, the ankylosis was unfortunately broken down, and active caries thereby set up. In spite of treatment, abscesses formed, round pieces of bone came away, and notwithstanding the greatest care the child died three years afterwards. A second case was that of a youth aged 16, who came with marked kyphosis; as there was no rigidity, it was thought there was no caries. He was straightened up in about a week with apparatus, but general tuberculosis supervened, and the patient succumbed. Case III was that of a boy, aged 7, with many diseased vertebræ. He adopted, by force of circumstances, the position of lying on his knees, resting on the elbows, and so the spine had become straightened, and in two years the lad was able to walk about; but a little later he died of tuberculous meningitis. The spine was exhibited and showed that the whole cavity in front of the spine had been filled, when fresh, with bony formation, but that the new bone was so friable that it came away during preparation so that in $2\frac{1}{2}$ years no permanent repair had taken place. Patients under this new method must evidently undergo a long treatment before the new bone could become consolidated. The definition of what could be done safely and not safely had been well pointed out by Dr. Redard. He thought they could more safely bring about the effect they desired by apparatus and gradual extension. He exhibited an elderly woman with spinal caries in whom the deformity had been practically remedied by a suitable apparatus; these gentle and gradual measures had put her in a condition of comfort, and enabled her to resume her occupation; but she would have to wear the apparatus at least a year, and very few could give it up so soon as that. He much preferred the gentle to the violent method.

Mr. JACKSON CLARKE regarded the revival of the operation for the immediate reduction of angular deformity of the spine as an admission that treatment by means of the plaster corset had failed. Of the disease and the deformity, the

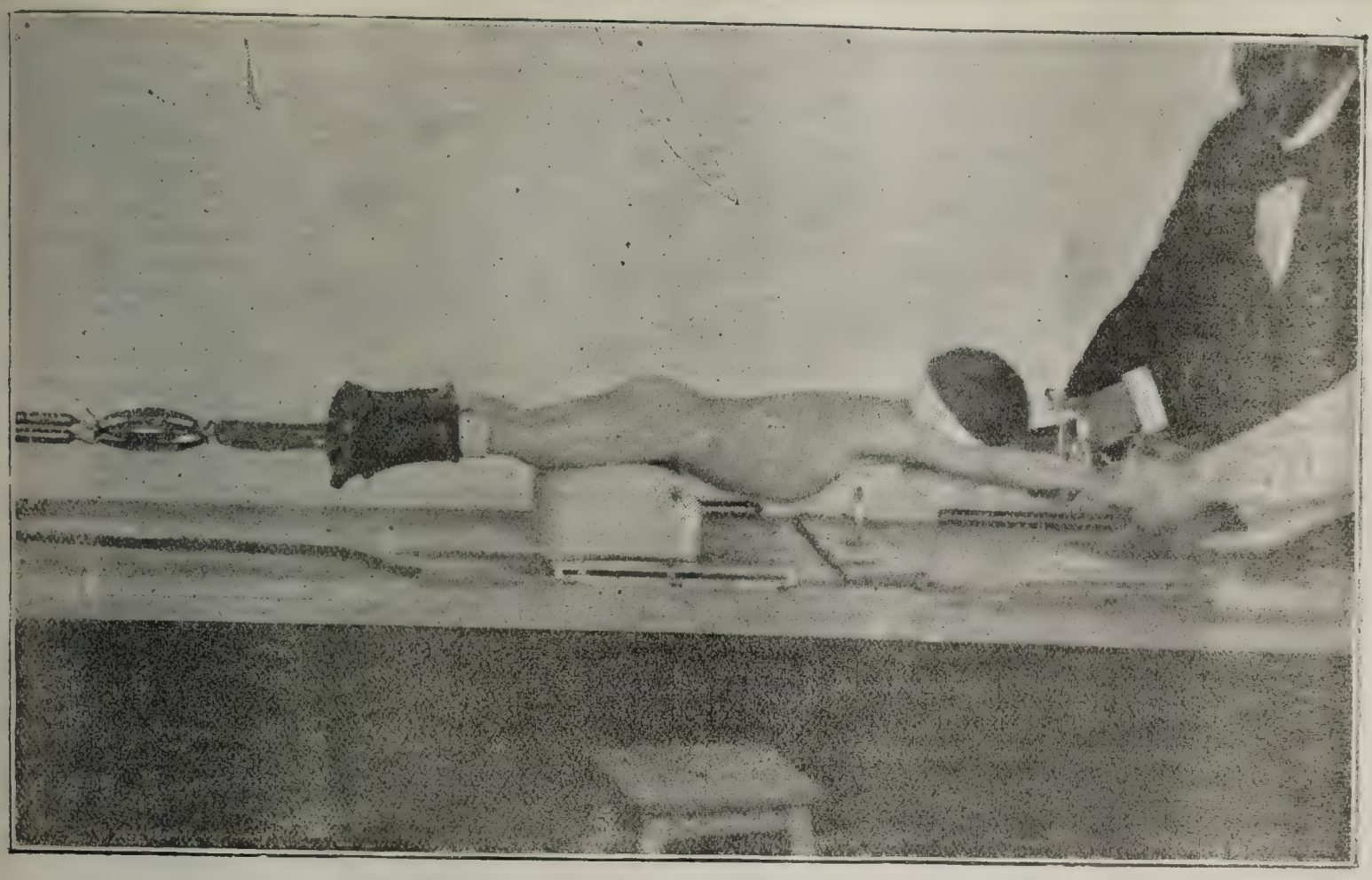


Fig. 3.—Showing patient at end of operation after reduction of the deformity.

ormer was of primary importance, and for some time past he ad used Chance's splint as an important factor in arresting he disease, thus restricting the deformity. There were, however, cases in which, though the tuberculous process had eased, the deformity went on increasing. In one such case f a child, with the hump opposite the sixth dorsal vertebra, e had practised the operation as a preliminary measure to eatment by Chance's splint. The deformity was easily orrected under chloroform. There was a slight crack, and ne hump was replaced by a concavity which disappeared hen traction was removed. Traction was kept up whilst the laster cast was applied. In spite of cleanliness and the application of insecticides, insects appeared beneath the cast, which as removed after six weeks. Another partial operation was one and the splint readjusted. At the end of three months ne spine was practically straight. He thought a Chance's olint with a head and occipital band far superior to the aster cast. Two years in a plaster cast were so serious a atter that he would not attempt to place a child in one. oreover, it was almost impossible for a child thus enveloped a cast who had a cough to get rid of the phlegm.

Mr. W. G. Spencer pointed out that in all early cases they ould in future have the advantage of starting these children ith a straight spine, and he saw no reason to doubt that sification would take place after the operation, just as it ten did without it. Some cases of tuberculosis were hopess, but this did not affect the operation for the reduction of e deformity. He was disposed to think that after the reuction the cavity to be filled would be smaller than before, cause the anterior ligament, which with a curvature was ke the cord of a bow, became more nearly related to the ine. He thought Mr. Murray's specimen exhibited at the evious meeting showed very little. Messrs. Jones and ibby's cases would have to lie for a long time; but they had rted well, and would doubtless after two years more be in horoughly good condition.

Mr. Cotterell related the case of a child admitted with raplegia associated with spinal caries in the upper dorsal gion. He was admitted in May last, and was treated by st and extension until October without any effect on the raplegia. He then carried out this treatment, and within a ek the child began to move the legs, and was now able to walk. He pointed out, however, that as a rule paraplegia was not due to the disease of the bone, but to concomitant tuberculous pachymeningitis, and that by the operation pressure was taken off the spinal cord. The child ceased breathing during the latter part of the operation, and this led him to remark that the position was a trying one for the anæsthetist.

Mr. Thelwall Thomas questioned the actual existence in the living subject of the cavities seen in the specimens. He had seen a good deal of the treatment, and this had convinced him that their physiological pathology must be incorrect, as nothing of the kind they had been led to anticipate had happened. He thought, however, that it was not well to try to straighten large humps. The percentage of good results was already encouragingly great.

Mr. Barker agreed with every word Mr. Cheyne had said, and thought they might now wait awhile to see the results in the cases already operated upon. He mentioned a case in which extension of the spine by Dr. Sayre some years ago had been followed by acute pleurisy due to the rupture of a tuberculous abscess in front of the spine, an accident which he thought they would have to expect in a certain proportion of the cases. Instead of the anterior common ligament being brought nearer the spine by extension, he thought it rather ran the risk of being thereby torn. He objected that there was evidence of bone with tuberculous disease exhibiting a tendency to throw out new bone, especially in quantity sufficient to fill so large a cavity.

Mr. Jones, in reply, said their object was to demonstrate the immediate effects of the operation. They had been encouraged to proceed, though fully conscious of their responsibility, by the unsatisfactory nature of the results obtained by the ordinary methods. Their experience had shown, at any rate, that the theoretical dangers apprehended from this procedure were not to be dreaded. He himself saw no objection to straightening a tuberculous knee-joint, and if the operation did not cure the disease, it at any rate took off the pressure on the articular surfaces. They would be glad to bring forward their cases at a later date. The failure of Sayre's method had, he believed, been due to the defective support used after the straightening. He and Mr. Tubby had now done several cases without using an anæsthetic.

Mr. Tubby, in reply, criticised Mr. Murray's remarks about

the man with the "wobbly hump," a condition of things which, he imagined, none had ever met with. He believed the treatment afforded the best means not only of remedying the deformity, but of curing the disease, for it was a general surgical principle to separate diseased surfaces. He remarked that tuberculous disease of the spine differed from tuberculous disease of other osseous structures in that in the spine there was a tendency to osseous ankylosis, whereas in the knee, for instance, the tendency was to fibrous ankylosis.

EPIDEMIOLOGICAL SOCIETY.

Professor Lane Notter, M.D., President, in the Chair.

Friday, November 19th, 1897.

The International Sanitary Conferences of the Victorian Era.

The President delivered an address on this subject. He said that the first suggestion for an International Conference made by the French Government in 1838, and the second by the British in 1843, fell through for want of any common ground of agreement. In 1851, after the great epidemic of cholera, a Conference met at Paris to consider the question of quarantine in relation to cholera, plague, and yellow fever, but the diversity of opinion prevented any joint action. In 1865 the question again engaged general attention in view of the great development of trade and of steam navigation. In his report to the Privy Council Sir John Simon stated forcibly and clearly the principles that had since guided our practice, the utter impracticability under existing social conditions of absolutely excluding all intercourse between nations or communities, and the inevitable failure of the most vexatious restrictions short of absolute isolation. At the Conference held at Constantinople in the following year it was laid down that cholera always arose in India, followed lines of human intercourse, and might be excluded by quarantine, of which two degrees were defined, the strict and that of observation. In 1873, England officially abolished quarantine and a Conference was assembled at Vienna in the following year to arrange, if possible, uniform and compulsory regulations; when the majority, including all the great Powers, with the exception of France, agreed on the expediency of substituting a system of medical inspection for quarantine. The minority was, however, too strong and numerous to permit of any concerted plan of action, though some important alterations in the existing procedure were conceded. The next conference held at Rome in 1885, and ably reported by Sir Richard Thorne to the Local Government Board, as well as in the *Transactions* of the Society, was marked by a great advance in the recognition of sanitary improvements as the most effectual safeguards against cholera, and that as regards disinfection of merchandise from infected ports or countries, those only which, as rags and clothing, were suspected of being soiled could be considered dangerous, and the substitution of baths for the worthless fumigation of persons. But in the action to be taken at ports of arrival, especially in the Mediterranean, the conclusions of the Technical Commission were retrograde in abandoning the medical inspection recommended by the Vienna Conference, and imposing a detention of twenty-four hours in the absence of any cases of cholera, and a quarantine of three to six days on the healthy as well as the sick when there were such. A Conference was again held at Vienna in 1892 to consider the question of quarantine in the Suez Canal and the constitution of the Sanitary Council in Egypt, when the divergence between English and Continental opinion on the relative values of sanitation and quarantine was keenly felt, Germany alone taking the British side. An effort was made to enforce the detention in a lazaretto of all persons on board a vessel in which a case of cholera had occurred, except troop and mail ships, which might pass through in quarantine—that is, with no communication with the shore. But ultimately it was agreed that when there was no medical officer on board the detention might be varied from two to five days, according to circumstances; that when there was a medical officer, he should decide what persons should be landed, on the ground that they were suffering from cholera, but that others need not be sent ashore unless it were necessary for the purpose of disinfecting the ship, and even then they might be transferred to another vessel for the few hours occupied in the process. This Conference dealt only with the transmission of cholera by sea. The next year—1893—the Conference reassembled at Dresden to consider the precautions to be adopted on land as well as at seaports, and in the special circumstances of the navigation of the Danube; and, further, the constitution of Boards of Health at Constantinople and Teheran, though the last two points were not raised. A minimum and a maximum of precautions were agreed on, the former differing little from our own practice, save that the supervision of persons landing from an infected ship, instead of being conducted in their own homes or places of sojourn, consisted in a detention not exceeding five days from the date of the last case on board. No ship was to be detained in a port where there was a hospital for the sick. Healthy passengers should be allowed to land under medical observation, and all goods were freed from restrictions except rags and articles believed to be soiled with choleraic ejecta. Healthy ships were in no case to be detained. The chief differences of opinion were seen in the estimates of the amount and nature of the disinfection to be required of the ship itself, the emptying of all bilge and drinking water being insisted on as a minimum. On land only persons actually suffering might be detained at the frontier, since as Koch maintained there was less enforced association of healthy and sick in railway trains than on board ship, especially in the case of the crews. Power was given to enact local regulations for overcrowded emigrant and pilgrim ships, but otherwise no State might go beyond the prescribed maximum of five days' detention of suspected individuals from the date of the last case on board. The convention was signed by the delegates of Great Britain, Germany, Austria-Hungary, Italy, France, Belgium, Holland, Russia, Switzerland, Luxemburg, and Montenegro; it was to continue in force for five years, and to be tacitly renewed every five years unless by six months' previous notice of objection given by one of the Powers. The French Government convened another Conference at Paris in 1894, mainly for the regulation of the pilgrim service in the Red Sea and Persian Gulf. The assurance of the British Indian delegates that adequate inspection of pilgrims was carried out at the ports of departure was accepted. The medical officers of the ports were everywhere to be the judges of what articles were contaminated or suspected. The embarkation of infected or suspected persons was prohibited. The details of procedure in the case of vessels belonging to the several classes of "indemns," "suspects," and "infects," were agreed to on the previous lines, but in the last-named all clothing and bedding was to be disinfected. The last International Conference was held at Venice in the present year, in reference to the recent outbreak of plague in the East. One of the first points to be decided was the incubation period, which in the opinion of the majority was not more than three or four days, but ultimately a maximum possible of ten days was agreed on. Sir Richard Thorne maintained that the plague was much less to be feared than cholera, which was often widely spread by pollution of public water supplies, while plague was communicated only from one person to another, and contrasted the local character of the epidemic at Astrakhan, in 1877, with the wide diffusion of cholera throughout Europe when introduced in like manner across the Russian frontier in 1892-95. The principle of international notification was unanimously agreed to, as also that the "infected locality" should mean the town, village, or district where the disease actually prevailed, and not include places into which one or more cases had been imported, but where it had not spread further. Each State was left to choose what restrictions on land traffic it should enforce on its frontiers. Suspected vessels were to be allowed to pass through the Suez Canal by day, or by night with the electric light, to coal at Port Said, and to embark passengers in quarantine; and those actually infected, if having a medical man and disinfecting stove on board, might traverse the Canal in quarantine, having previously landed sick persons and those who had been in contact with them, subject to observation or surveillance for a period of ten days; "observation" implying detention in a special establishment, and "surveillance" permission to proceed to their destination provided they were kept under the supervision of the local authorities. Though absolute unanimity on all minor details was not attained, the delegates

one and all showed a laudable desire to come to such decisions as should be for the public good, and a far more scientific conception of the means by which epidemics were spread and might be checked. The influence of British views and British methods in the later conferences was largely due to the convincing reasoning and persuasive eloquence of Sir Richard Thorne.

Sir Richard Thorne, in proposing a vote of thanks to the President, observed that though Professor Notter had made no reference to the part he had himself taken in the Conference at Venice, and though he had not been one of the chief speakers, no one had worked more indefatigably day and night, or contributed more to the complete triumph of British preventive medicine in the ultimate decisions of the Conference.

MIDLAND MEDICAL SOCIETY.

J. W. Taylor, F.R.C.S., President, in the Chair.

Wednesday, November 17th, 1897.

New Members.

The following gentlemen were elected members of the Society: H. E. Thompson, M.B.Lond., M.R.C.S., L.R.C.P.; C. K. Millard, M.D., D.Sc.Edin.; R. W. Briggs, M.B., C.M.Edin., M.R.C.S.; W. Lamb, M.D.Edin., G. Leonard Hill, M.R.C.S.

Excision of Elbow-joint for Tuberculous Disease.

Mr. Heaton showed a girl aged 7½ years whose left elbow-joint he had excised eighteen months ago for extensive tuberculous disease of the joint, complicated by periarticular abscesses. Excision was performed in the usual way. Passive movements of the joints were commenced on the fifth day. At the present time the child could use the arm almost as well as its fellow. The movements of flexion and extension were perfect, but there was some limitation in the power of pronation and supination.

Colitis.

Dr. Foxwell read a paper on this subject, and in illustration showed a married woman aged 39, sent to him by Mr. J. S. Crabbe. In July, 1894, she had severe urticaria after eating some tinned rabbit. This was followed by diarrhœa accompanied by tenesmus. This became much worse in November, 1894, and was accompanied by two or three severe hæmorrhages. She was confined to her bed for ten weeks, and was told she had typhoid. In January, 1895, the diarrhœa ceased and her bowels became irregular, and have so continued ever since. The stools were either lumpy and scybalous, or else there was diarrhœa. She passed still a good deal of mucus, sometimes resembling "white of egg." Blood only occassionally appeared, but there was constant tenesmus, "even when it's diarrhœa." Her bowels had been blocked about three times; on the second occasion the obstruction was serious, and an operation for its relief was contemplated. Occasionally for more than twenty-four hours she could not pass water; at other times she had done so every five minutes. She had always been subject to sick headache, but had had much more the last three years. She had lost strength, but was fairly nourished, and could attend to her household duties. There was a dyspeptic redness about the face, and the tongue, though clean, was too red. Dr. Foxwell brought the case forward as a typical one of non-amœbic colitis: the bowel irregularity, the stools, the fæcal obstruction, the increase of "biliousness," and the acute exacerbation ("typhoid") being all typical of the disease.

Cyst of Broad Ligament.

Mr. Jordan Lloyd showed a suppurating cyst of the left broad ligament with gaseous contents removed successfully from a woman aged 35, about four months after a premature confinement. Her illness began about a week after delivery with multiple joint pains, and as these subsided an abdominal swelling made its appearance without much pain, but with irregular, septic temperatures. She became anæmic and prostrate, but would not consent to operation until nearly two months after the pelvic swelling had been found and diagnosed. Mr. Lloyd called particular attention to the fact that the tumour was tense and gave a tympanitic percussion note; even when first cut into it had the appearance of a distended intestinal coil.

Syphilitic Lesions.

Dr. Kauffmann showed a set of specimens of syphilitic lesions in the liver, lung, and shoulder-joint, all from the same patient. In the liver there were numerous small gummata, not exceeding a split pea in size, and of characteristic appearance to the naked eye and under the microscope. In the lung the lesion took the form of an extensive mass of white, fibrous tissue of great denseness, forming a stout, solid mass, evidently peribronchial in origin, and spreading in a radiating manner into the lung tissue. In the shoulder-joint the lesion was considered during life to be tuberculous, and this opinion was borne out by the appearance of the joint when opened after death. The clinical points in which the joint conditions differed from the tuberculous, suppurative disease were the comparative absence of pain considering the amount of swelling and destruction, and the wide ramifications of the abscess along the lines of tendon sheaths in the neighbourhood.

Bristol Medico-Chirurgical Society.—At the second meeting of the session, held on November 10th, 1897, in the Medical Library of University College, Bristol, Dr. J. E. Shaw in the chair, Dr. Michell Clarke showed a case of Filariasis, the patient and specimens being shown.—Dr. E. C. Williams showed the following cases treated by the localised application of superheated dry air: (*a*) Monarticular Rheumatoid Arthritis, (*b*) Polyarticular Rheumatoid Arthritis. Dr. James Swain made some remarks.—Mr. C. A. Morton showed the following specimens: (*a*) A large Gall Stone successfully removed from the common duct of a woman aged 72, (*b*) a Renal Calculus detected by means of skiagraph. Dr. James Swain, Mr. Paul Bush, Dr. Skerritt, Mr. Brazier, Dr. Michell Clarke, and Dr. Fisher made remarks on the specimens.—Mr. Munro Smith showed a specimen of Tumour in the mesentery of a fowl.—Dr. F. H. Edgeworth read a paper on Cases of Illness due to opening of the Sewer in St. John's Road. Mr. Munro Smith, Mr. Paul Bush, Mr. H. Wathen, Dr. D. S. Davies, Dr. Rogers, Dr. Harrison, and Mr. J. C. Heaven commented on the paper.—Mr. Munro Smith read a paper on a case of Cancrum Oris. Dr. T. Fisher, Mr. E. Harris, and Dr. D. S. Davies spoke on the subject.—Dr. J. O. Symes gave a demonstration on Widal's Serum Diagnosis of Enteric Fever. Dr. Davies, Dr. Rogers and Mr. H. Wathen made remarks.

Glasgow Southern Medical Society.—At a meeting on November 18th, Dr. Jas. W. Allan, President, in the chair, Dr. Eben. Duncan briefly referred to cases of Diabetes treated with Uranium Nitrate mentioned in his recent paper in the British Medical Journal of October 16th, p. 1044. Since then two cases had been under treatment. He showed a man who had been eighteen months ill, with 26.25 grains of sugar per ounce on admission. Beginning with a 5-grain dose, gradually increased to 10 grains, when diarrhœa set it, it was reduced to 7 grains. Now the patient was taking 10 grains with comfort and decided benefit. He had been previously treated with opium and codeine, with improvement up to a certain point, relapsing when these drugs were stopped; now he had much improved in health and strength, and sugar was absent from the urine; polyuria and other distressing symptoms had been relieved. Dr. Duncan stated that the remedy was harmless; no nephritis or gastritis was produced. Sugar diminished in quantity or disappeared; diarrhœa might be avoided with care, reducing the dose and avoiding overeating. The usual dietetic treatment was adhered to, but all the patients had milk to the extent of two or four pints per diem. The other case was that of a child, who came into the ward feeble and passive, but improved so much under treatment, and became so strong and active, that his dismissal was rendered necessary as he could not be managed or controlled. Dr. Duncan was of the opinion that the remedy had a stimulating effect on the sugar-producing cells, either directly or through the nervous system. Dr. Duncan also showed the following cases:—(1) Syphilitic Gumma of Brain: Woman, aged 49, complained of weakness of left arm and slight aphasia. No weakness in lower limb. Headache. The ophthal-

moscope showed congestion of the disc and filling up of the congenital cup. There was a clear history of syphilis twenty years ago, and since then seven stillbirths. Attacks of Jacksonian epilepsy involving the affected limb occurred while under observation. Mercury and iodide of potash were given; then iodide alone, beginning with gr. x doses and pushed to gr. 130, three times a day. The signs of the disease disappeared, but the patient had cardiac symptoms. Nitrite of in sodium gr. ii doses afforded marked relief to anginal attacks. (2) Chronic Rheumatic Arthritis: Treated by means of baths; Schott system; salophen in gradually-increasing doses, and cod-liver oil. (3) Various Forms of Valvular Disease of the Heart: Enlarged heart improved by bath treatment; double aortic disease; Graves's disease. Dr. Duncan had never seen a patient die from this. Cases remained without much change for many years.

REVIEWS.

DARWIN, AND AFTER DARWIN. By G. J. ROMANES, M.A., LL.D., F.R.S. Part III. London and Bombay: Longmans, Green and Co. 1897. (Cr. 8vo, pp. 190. 5s.)

THIS, the third and concluding volume of ROMANES'S valuable contribution to Darwinian literature, is very welcome, and it is a matter of deep regret to all who knew its accomplished and enthusiastic author that science should have lost at an early age so devoted a son. All interested in the theory of evolution will feel deeply thankful to Mr. C. Lloyd Morgan that he undertook to edit the work and to supply the chapters on physiological selection. The volume itself is in the main devoted to a consideration of isolation in its bearing on the process of organic evolution, and it is a piece of good fortune that at the time of Mr. Romanes's death the three chapters bearing on this particular question were actually in type, and the editor did not consider himself at liberty "to make any alterations of moment in these three chapters."

Romanes attached such a very high value to isolation that he regarded it as one of the most important principles concerned in the process of organic evolution, and he shared with the Rev. J. Gulick the view that "in isolation we have a principle so fundamental and so universal that even the great principle of natural selection lies less deep and pervades a region of smaller extent."

Isolation is defined as the prevention of intercrossing between a separated section of a species or kind and the rest of that species or kind; whether such a separation be due to geographical barriers, to migration, or to any other state of matters leading to exclusive breeding within the separated group. Mr. Romanes is very careful to point out that isolation has been fully appreciated by breeders, fanciers, horticulturists, etc. Darwin thoroughly recognised its importance in the breeder's art. Although Darwin, Weismann, and others have considered isolation as a factor in organic evolution, Romanes is of opinion that the credit of being the first to conceive and state with greater fulness than anybody else its great importance belongs to Mr. Gulick, who was led to recognise the principle not by any deductive reasoning from general principles, but by his own particular and detailed observations of the land mollusca of the Sandwich Islands. These observations cost Mr. Gulick fifteen years of devoted labour. This is an example of love and devotion to science worthy of the great founder of evolution.

Inasmuch as this volume is devoted to a discussion of the varieties and bearings of isolation, it will naturally demand the close attention of all interested in the theory of organic evolution. It is written in the manner of a closely-reasoned argument, and it would have been much more interesting to the general reader had more concrete evidence been adduced. Every individual who has taken the trouble to consider clearly whether a given variation in an animal or plant has been wrought by natural selection, environment, or isolation has felt how difficult it is to form even an approximately true estimate of the part played by each factor. When the theories of evolution can be submitted to the test of experiment some of these questions may be answered, and no naturalist was more thoroughly aware of this truth than the talented author of *Darwin and after Darwin*.

LECTURES ON ANGINA PECTORIS AND ALLIED STATES. By WILLIAM OSLER, M.D., F.R.C.P.Lond., Professor of Medicine Johns Hopkins University, Baltimore. New York: D. Appleton and Co. 1897. (Demy 8vo, pp. 168.)

The subject of angina, after passing through the stage of elaborate treatises, comes before us once more in the concise form of lectures in Professor Osler's neat volume. Within a comparatively few pages it is presented to us in that terse and yet attractive style of which he is a master. He is equally known to us as a polished writer, and as an enthusiastic inquirer into neglected chapters of the history of medicine. In both directions he has made the best use of the opportunity with which his present subject furnishes him.

The history of the discovery of angina is intimately associated with the names of Heberden, John Hunter, Edward Jenner, Parry, and in France with that of Rougnon; and its literature brings up the names of Seneca, of Morgagni, of Stokes, of Latham, and of Gairdner. All these are referred to by the author. Fresh interest is thrown into the old controversy as to the date of the earliest description of angina and as to the rival claims to priority in its discovery.

Dr. OSLER is one of the fortunate few who have seen the famous letter of Rougnon to Lorry, and he favours the contention that this letter contains a description of angina. Nevertheless he gives Morgagni the credit of having been the first to describe a genuine case.

Recognising in angina a group of symptoms rather than a disease, Dr. Osler enters into a classification of its forms and a description of its factors. In connection with its clinical and pathological aspects, we have the benefit not only of the author's own views, but also of a clear and succinct account of those which have been published from time to time during the last hundred years. Although angina is in a special degree a disease of the present age, our knowledge of it is still incomplete, and its bulky literature largely made up of speculation. This is particularly true of the puzzling functional or neurotic group, including the hysterical, the vasomotor, and the reflex varieties, which, together with the toxic group, makes up the divisions of pseudo-angina. The innervation of the heart, an essential factor in all pathological inquiries into these forms of angina, is briefly discussed, and instructive references are made to some of the latest researches. The hereditary, epidemic, imitative, and emotional influences are also dealt with.

Passing to "True Angina," the author describes its etiology pathology, and symptoms with a conciseness which will be appreciated by the student. The predisposing effects of gout, diabetes, syphilis, and also of the specific fevers are also dwelt upon, and the various clinical types are illustrated by cases.

In the chapter on the "Theories of Angina," the author handles a difficult and confusing material with admirable clearness. Our indebtedness to him is great for calling attention to the too long neglected work of Allan Burns, *Observations on Some of the Most Frequent and Important Diseases of the Heart* (1809), in which some important facts and theories subsequently restated by later writers, are set forth in the clearest language.

The perusal of the important chapters on "Diagnosis," "Prognosis," and "Treatment," will well repay the reader and, taken as a whole, the work is one which places before the student with completeness and yet within a small compass the definite results arrived at in the study of angina, and it will be enjoyed by more advanced readers as a scholarly and satifying review of the recent developments both of knowledge and of theory.

NOTES ON BOOKS.

DIARIES.

MESSRS. EASON AND SON, Dublin, have sent to us some ingenious diaries, or rather appointment books in various forms. Those intended for the writing desk are of quarto size, with a thumbnail index for the month. On each opening one week appears, the pages being ruled vertically with

the dates at the top. The hours, from 9 A.M. to 6 P.M. are entered at the margin, with space for morning and evening engagements beyond these hours. The exact hour of any engagement on any day of the year can thus easily be noted, with a minimum expenditure of time, as far in advance as may be desired. The invention seems to be particularly calculated to meet the needs of medical men. The paper used is good. The diary costs 1s., or with a stouter removable cover 1s. 6d. The same firm issues small pocket appointment books on the same principle, for a month, with a thumbnail index for the dates of the month, but if these are used it is necessary to write in the name of the month. These small monthly indexed diaries cost 1d. or 3d. according to the paper used, and cases varying in the degree of elegance cost from 1s. to 2s. 6d.

We have received from Messrs. Cassell and Co. specimens of *Letts's Diaries*, published by them for Letts's Diaries Company. Among these are the *Medical Diary* for 1898, with one week on an opening and space for fifty-four patients daily, bound in cloth 2s. 6d., or in morocco 3s. 6d. The same firm issue pocket diaries in different forms for various purposes, including one with a detachable case, price 2s. 6d., the new insets for future years being obtainable at the price of 1s. We have also received samples of *Letts's Office Diary and Almanack* in two sizes—the quarto, price 10s., and octavo, price 6s. 6d. Both of these diaries show one day on each page, are indexed, and contain much information which it is desirable to have at hand on the writing table.

From Messrs. Walker and Co., Warwick Lane, E.C., we have received a number of specimens of a very convenient form of pocket diary, which is of oblong shape, thin, and has a pencil carried in a loop on the back. They can be obtained, with one week on a page, price 2s. They are arranged also with one week on an opening, and can be had bound in paste grain with gilt edges, price 2s., or in Russia leather, price 3s. 6d. The same principle of carrying the pencil is applied to other forms of diaries, which are published at about the same prices. There is also a form in which the diary for each year can be easily detached and inserted into a morocco leather case, price 8s.

Messrs. John Bale, Sons, and Danielsson have prepared a *Dental Surgeon's Daily Diary and Appointment Book*. It is of quarto size, and shows a week at an opening. The volume contains a good deal of information likely to be of use to dentists, but why they should be reminded every day of the hours of high water at London Bridge we do not quite understand. The price is 6s., or interleaved with blotting paper 7s. 6d.

Christmas Books.

We have received some packages of books of the kind usually considered to be appropriate for gifts to young people at this season of the year. We may assign the place of honour, on account of the graphic description which it gives of life among the poorest in the East End of London, to Mr. Barrie's admirable if unequal story *Sentimental Tommy*. If it is necessary for a medical man to know something of the social conditions, the aspirations and the failings of the people he may be called upon to treat, the book ought to be in the hands of every young medical man whose lot may be cast among the poorest classes in our great towns. The volume is published by Messrs. Cassell and Co. (6s.). From the same firm we have received the annual volume of the *Magazine of Art* (21s.). It is remarkable for the excellent sketches which it gives of the life and work of many distinguished modern artists. The manner in which the many illustrations are reproduced leaves nothing to be desired. Messrs. Cassell and Co. also send us the annual volume of their *Family Magazine* (6s.), a periodical which has well maintained its reputation. They also send a story of adventure suitable for boys entitled *A Hair's Breadth*, by Headon Hill (6s.), and a collection of short stories by Miss E. T. Fowler entitled *Cupid's Garden* (3s. 6d.), as well as a young child's reading book entitled *Bo-Peep* (2s. 6d.).

From Messrs. Macmillan and Co., Limited, has come *The Story of a Red Deer* (4s. 6d.), in which the Hon. J. W. Fortescue seeks, not without success, to communicate to the young that delight in birds and beasts which is the only good foundation for a successful study in after-life of the biological sciences. The same firm have issued a beautifully-illustrated edition of *Undine* (6s.) by De La Motte Fouqué, which to some extent inculcates the same lesson. They have also sent us an excellent boy's book, *Master Skylark* (6s.), by John Bennett, in which the scene is placed in the spacious times of Great Elizabeth, as well as one of Mrs. Molesworth's exquisite little stories for girls entitled *Miss Mouse and her Boys* (4s. 6d.).

One of the most remarkable examples of the power of survival of really good work is afforded by the continued reputation of Gilbert White, of Selborne, who observed Nature in the days before the Darwinian theory and all that it implied, and the application of the microscope to biological inquiry had altered the manner in which what used to be called natural history is regarded. The Roxburghe Press (Westminster) has published *A Bibliography of Gilbert White*, edited for the Selborne Society by Mr. Edward A. Martin (3s. 6d.). The bibliography proper is preceded by a short sketch of the life of Gilbert White and of his achievements as a naturalist. From a tabular summary it appears that the first edition of the *Natural History and Antiquities of Selborne* was published in 1789, while the most recent was issued by Macmillan and Co. in 1895. From the same firm we have Miss Mamie Dickens's reminiscences of Charles Dickens, entitled *My Father as I Recall Him* (3s. 6d.). From her account of his last illness, it seems to be clear that Dickens never completely got over the shock he sustained in 1865 in a railway accident. He does not seem to have sustained any severe physical injury, but when in a train or a cab afterwards he was liable to short seizures, during which he experienced a vague but overpowering sense of dread. The account of his last moments is graphically drawn, and the whole story of his illness can leave little doubt upon the mind of the medical reader that the seizures from which he suffered were from the first of the nature of angina pectoris. In a companion volume on *Pickwickian Manners and Customs* (2s. 6d.), Mr. Percy Fitzgerald traces some of the changes which have come over social customs since the date when Pickwick was published, changes which, as we pointed out in the Queen's Commemoration Number of the British Medical Journal, have not left the medical profession untouched. The Rev. S. B. James, D.D., has edited for the same firm a collection of essays and sermons addressed to boys entitled *Our Boys* (3s. 6d.). Many of them are written by distinguished Churchmen who have been engaged in education at one time or another, including the Bishops of Reading and Wellington, and Bishop Michinson. The essays deal with such subjects as the choice of a profession, sports and pastimes, and corporal punishment. The Roxburghe Press have also sent us a tale entitled *On the Verge of Two Worlds* (3s. 6d.), which is of somewhat unusual interest owing to the fact that it deals with the conditions of life in the colony of Sierra Leone, which has been truly called "the white man's grave." The story is one of adventure, a quality which is not absent also from Mrs. Barkly's volume *From the Tropics to the North Sea* (3s. 6d.), which contains sketches of life in some of the less known colonies, with which the official positions of the writer's husband or father-in-law gave her exceptional opportunities of becoming acquainted.

Messrs. Blackie and Son, of London, Glasgow, and Dublin, have already a great reputation as publishers of wholesome books for children, and the volumes which they have sent us this year will add to this reputation. The first among these is a historical story from the practised hand of the Rev. A. J. Church entitled *Lords of the World* (6s.), dealing with the fall of Carthage and Corinth, and full of dramatic incidents. Mr. G. A. Henty has written for the same firm an excellent story entitled *With Moore at Corunna* (6s.), which gives a graphic description of an expedition which, though unfortunate, reflected the greatest honour upon the British army. The navy is celebrated by Mr. Robert Leighton in *The Golden Galleon* (5s.), a story of the expedition of Sir Richard Grenville, made ever memorable not only by the courage of those who took part in it, but by Tennyson's splendid lyric. Books for younger children, beautifully illustrated and clearly printed, are *Just Forty Winks* (5s.) by Hamish Hendry, *Red Apple and Silver Bells* (6s.) by the same author, and *Adventures in Toyland* (5s.) by Edith King Hall, illustrated by Alice B. Woodward.

Christmas Cards.

We have received from Messrs. Raphael Tuck and Sons, Limited (71, Coleman Street, E.C.), a collection of Christmas cards which show the wonderful amount of artistic skill which is now brought to bear upon the production of these elegant trifles. Some of the "platino-panels" and "portfolios" are indeed specimens of permanent value, well worthy of preservation. Others of the cards take the form of almanacs and diaries elegantly printed, others, again, of booklets in many colours.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

AN INVALID'S PIANO.

There are thousands of patients who are not mentally afflicted, yet are compelled to lie in bed for weeks or months or even years, to whom the power of amusing themselves would be a great boon. Dr. Frederick Spicer sends the accompanying sketch of a pianoforte, which was suggested by Mr. Walter Slaughter for a *confrère*—another eminent musical composer, under the professional care of Dr.

Keser and Dr. Spicer—confined to his bed with a complicated fracture of the leg. The instrument, Dr. Spicer adds, has been made and fitted up by Messrs. Cramer and Co., and leaves nothing to be desired. It is fixed on wheels, and can be brought to the bed or removed to the other side of the room with the greatest ease; it can also be raised or lowered to any height. Dr. Spicer says that he can confidently recommend it as an important adjunct in the treatment of disease in appropriate cases.

A SANITARY ASHBIN.

We have received from Dr. R. H. Quine, of Manchester, whose sanitary ashbin, manufactured by the Pendleton Sanitary Engineering Company, Manchester, was favourably noticed in the Journal of October 30th, p. 1271, a letter with regard to the letter from Dr. H. E. Armstrong, the Medical Officer of Health for Newcastle-on-Tyne, published in the Journal of November 20th, p. 1558. Dr. Quine states that he was unacquainted with the ashbin designed by Mr. Arveschoug, as mentioned by Dr. Armstrong. Dr. Quine desires to point out that Mr. Arveschoug's contrivance, except in so far as it is an attempt to apply the tipping principle to ashbins, differs in every detail from his ashbin. "The tipping principle," he adds, "is as old as history, and is seen everywhere; its application to ashbins occurred to me in 1883, when a ship surgeon; no doubt it may have occurred to others before that time and since, as to Mr. Arveschoug. The practical and quite successful application of the principle, however, is now, after long and careful experiment, for the first time accomplished, and is entirely due to the time, thought, and money I have expended on it."

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

WINTER SESSION, 1897.

Thursday, November 25th.

Sir William Turner in the Chair.

Arising out of the minutes, Mr. Victor Horsley explained that it was not his intention to second any motion placing his name upon a Committee, and he therefore suggested that the resolution referring back to the Committee the report as to fines, should be formally seconded by someone else.

Sir Philip Smyly agreed to his name being placed on the minutes as seconder.

A letter was read from the Privy Council acknowledging the receipt of the President's letter announcing the retirement of Dr. William Moore.

The Council then received *in camerâ* a recommendation from the Penal Cases Committee.

Case of G. H. Wyse.

Strangers having been readmitted, the Council proceeded to the consideration of the case of George Hamilton Wyse, 51, Talbot Street, Southport, registered in Ireland in June 1871, as Lic. Apoth. Hall, Dublin, L.R.C.P.Edin. and L.R.C.S.Edin., who was summoned to appear before the Council to answer certain charges on the complaints of the Medical Defence Union and the Wigan Medical Guild.

Mr. Farrer, the Council's solicitor, attended to advise the Council, and Mr. Muir Mackenzie attended as legal assessor.

Dr. Bateman appeared on behalf of the complainants, and Mr. R. B. D. Acland represented Mr. Wyse.

The complaint related to medical practices carried on under Mr. Wyse's name at 88, Adelphi Street, Preston, and 95, Wallgate, Wigan. The charge against him in respect of Preston was the "covering" of his son, George Wyse; while in respect to Wigan, he was accused of "covering" a person named Cowan.

Dr. Bateman, in opening the case, stated that the facts were not disputed.

Mr. Acland denied this, and said that he proposed to call Mr. Wyse and his son for the purpose of rebutting some of the evidence.

Dr. Bateman then proceeded to read some declarations by persons who had been attended by Mr. Wyse, jun., at 88, Adelphi Street. It was alleged in the declarations that when the practice in Adelphi Street was first opened hand-bills were freely distributed in the neighbourhood containing the following scale of fees: "Medicine and advice, sixpence; visit to your own house when too ill to come to the doctor, one shilling; vaccination with calf lymph, one shilling; club certificates, sixpence; school certificates, threepence." In addition to the sixpence paid for medicine and advice, a penny was charged for the bottle. The documentary evidence also alleged that Mr. Wyse, jun., saw patients and prescribed for them on his own initiative, his father not being present. A club certificate and a school certificate were also sworn to as having been signed by Mr. Wyse, jun. With regard to the case of Cowan, a declaration was put forward by the Wigan Medical Guild, sworn to by the widow of a man who was said to have been attended in his last illness by "a tall thin man with fair complexion and moustache," and this description, it was alleged, applied to Cowan. Dr. Bateman compared the hours of attendance at the different dispensaries, and declared that, as Mr. Wyse lived at Southport, and Wigan and Preston were respectively 17¼ and 35 miles from Southport, it was impossible for Mr. Wyse to effectively carry on the practices.

Mr. George Hamilton Wyse was then called, and denied that Cowan attended the patient referred to. The man was seen by himself on several occasions. He had been carrying on practice for about five years in Wigan, but that in Preston was only open from September, 1896, to February, 1897. He heard no complaint with regard to Preston until eight months

after the surgery was closed. His son, who was studying medicine, had instructions to attend at the surgery and detain any person until witness arrived. He also instructed his son to give no certificates. Witness admitted that one of the certificates produced was signed by his son, but was doubtful as to the other.

At the request of Dr. MacAlister, witness wrote his signature for the purpose of comparison by the Council with that on the certificate. Witness, continuing, said he kept no books, the practice being a ready money one.

He was cross-examined by Dr. Bateman, and answered a number of questions put to him by members of the Council.

Mr. Wyse, junior, also gave evidence. He stated he was registered as a medical student in 1893, but on turning up the *Register* it was found to be 1892. He did not deny that he might have seen patients, and admitted that he had signed a certificate and exceeded the instructions given to him by his father.

Mr. Acland, in addressing the Council on behalf of Mr. Wyse, said he thought that gentleman had serious reason to complain of the way the matter had been brought before the Council by the Medical Defence Union. He deplored the fact that the Council was not in a position to take evidence on oath, but he submitted that Mr. Wyse had come out extraordinarily well from the ordeal to which he had been subjected. He protested against the prejudice which had been introduced into the evidence supporting the charge by the iteration of the terms "sixpenny dispensary," "penny for the bottle," and stress being laid on the small charges. That, he declared, was the result of a limited company taking up the cases and employing a solicitor, who had to do the best he could for his client. He asked the Council to say that on the evidence Mr. Wyse had not been guilty of infamous conduct in a professional respect.

Dr. Bateman, in replying, considered that the charges were fully proved. The Medical Defence Union had been twitted with being a limited company, but so were the British Medical Association and other bodies. He was not prejudiced in the case. His duty was always an unpleasant one, but he hoped he conducted it with a proper respect to the Council and to the parties who appeared before it.

In reply to Mr. Carter, Dr. Bateman said the Union had nothing whatever to do with the preparation of the evidence. The documents had been sent to the Union, who simply placed them before the Council.

The Council deliberated upon the case *in camerâ*; and at the conclusion of their deliberations, on strangers being readmitted, the Chairman announced that the charges with regard to the practices of both Wigan and Preston had been proved to the satisfaction of the Council, but that the further consideration of the case would be adjourned until the next session.

The Chairman, addressing Mr. Wyse, said that the Council expected him to be in a position to assure them, when he came before them next session, that the charge against him would no longer be made. The Council wished it to be understood clearly that they regarded the question of "covering" as one of the most serious charges that could be made against a professional man, and they hoped he would take the matter to heart and be able to report to them that no such charge would in future be brought against him.

The Council then adjourned.

Friday, November 26th.

Sir William Turner in the Chair.

The minutes of the previous meeting having been read and confirmed,

Penal Cases.

The Registrar reported that since the meeting in May last information had been received of the death of Mr. E. E. Cooper, the further consideration of whose case was adjourned to the present session of the Council.

The Council considered the case of William John Patterson, 3, Rodney Road, S E., registered in Ireland, August 27th, 1890, as Lic., Lic. Midwif., 1890, R. Coll. Surg. Irel.; Lic. Roth. Hall, Dubl., 1890. The charge against Mr. Patterson was that he had been tried and convicted (and sentenced to three months' hard labour) for unlawfully and indecently assaulting Fanny Amelia Ker at Brentford, Middlesex, on May 31st last.

Mr. Farrer (the Council's solicitor) stated that Mr. Patterson had put in a statement of defence, in which he asked the Council to postpone the hearing of the case until he came out of prison, and could attend before them in person,

After a short discussion the Council deliberated on the case in private.

Strangers having been readmitted, the Chairman announced that the Council considered that Mr. William John Patterson had been proved to be convicted of misdemeanour, and had directed the Registrar to erase his name from the *Register*.

The next case was that of Charles Day, of 1, Benwell Road, Drayton Park, N., registered in England January 1st, 1859, as Mem. R. Coll. Surgeons Eng., 1841; Lic. Soc. Apoth. Lond., 1846, who was summoned to appear before the Council to answer the following charge on the complaint of the Medical Defence Union: "That he acted, and acts, as cover to an unqualified person named Alfred Henry Day, who, acting or purporting to act as his assistant, was and is permitted, authorised, and enabled by him to carry on medical practice and administer medical treatment to, and sign certificates for, patients, as if he (Alfred Henry Day) were a duly qualified and registered practitioner."

Dr. Bateman appeared on behalf of the Medical Defence Union, and Mr. Day appeared in answer to the charge.

Dr. Bateman explained that although the Medical Defence Union were placed on the record as complainants, that body was not so in the ordinary sense of the term. Some time ago certain newspaper cuttings were sent to them in reference to an inquest held on the body of a child named O'Sulivan, and also another report of proceedings taken by the Registrar-General at the police court, in reference to an unqualified medical practitioner. These were simply forwarded to the General Medical Council for them to take what steps they chose. Later on, hearing that the summons had been issued against Mr. Day, of course the Union had to support that summons by evidence, but in no other sense could they be said to be the complainants.

Mr. Charles Townley, superintendent registrar of St. Mary's parish, Islington, was then called. He stated that he was also connected with the *Islington Gazette*, and confirmed certain reports in that paper from which it appeared that Alfred Henry Day had signed the death certificate of the infant O'Sulivan in his father's name.

Suspicion was aroused on account of the signature appearing firmer than was usual, Mr. Charles Day being an old man of 79. Finally Mr. Alfred Day admitted that he had signed the document, and was fined £10 with £1 13s 6d. costs. He stated that his father had given him no instructions to sign the certificate.

Mr. Charles Day, in his written defence, stated that the child O'Sulivan, an infant aged 3 months, was brought to his house suffering from diarrhœa and sickness, the effect of catarrh of the stomach and bowels. He was in his consulting room when the child was brought in, but, having another engagement, he left the room, directing his son to examine the case and report to him, which he did. He dictated the treatment to be pursued, and during the whole time of the illness continued to supervise and direct it. He left home for two days in consequence of the death of his wife, and gave instructions that if any case requiring special treatment came in, application for assistance should be made to a neighbouring practitioner. During those two days the child, unfortunately, succumbed, and his son signed the certificate. He would not attempt to shelter himself behind his son, but, in his own defence, he assured the Council that his son had acted without his knowledge or consent.

Mr. Charles Day gave evidence in support of his written statement.

The Council then considered the case *in camerâ*, and, on strangers being readmitted,

The Chairman announced that the charge had not been proved to the satisfaction of the Council.

The proceedings in reference to a charge against Mr. Isaac Cohen were, at the request of Dr. Bateman, postponed till the next session.

The Council proceeded to the consideration of the case of

William Robert Nuttall Maloney, of Roden Street, West Melbourne, in the colony of Victoria, registered in England March 3rd, 1886, as Lic. Soc. Apoth., Lond., 1885, who was summoned to appear to answer the following charges: "The matters charged against Mr. Maloney relate to public advertisements by him in Calcutta, Melbourne, and Belfast, and also to his conduct in associating himself with a so-called medical electrician, and in practising and conducting in public a medical electrical treatment; and it is complained against him that he seeks to attract patients by a system of extensive public advertisements of his name and address and qualifications, and of the said treatment practised by him, in and by which persons in need of medical aid were invited to consult him professionally and adopt the said treatment, and that the advertisements systematically published by him were of themselves of a character discreditable to a professional man.

Mr. Maloney was called, but did not appear.

Mr. MUIR MACKENZIE read the complaint brought against Mr. Maloney, which included extracts of advertisements issued by him, and reports of public demonstrations held by him.

Mr. Maloney sent a written defence, in which he stated he had been deceived by Mr. Richard, with whom he had taken part in the demonstrations. He had never seen him since he fled the country, and all cause of complaint had now ceased. His (Mr. Maloney's) name had already been removed from the Roll of the Royal College of Surgeons, England, and surely that was severe enough. As he was a member of the Legislative Assembly of the Colony of Victoria, and the general elections were held at the end of October, it was impossible for him to attend the meeting of the Council. He never, to his knowledge, allowed any advertisement to appear with any reference to his qualifications. They were inserted in some Indian newspapers without his authority, and before he arrived in India. On his arrival he at once caused the advertisements to be altered. At that time he did believe in the exceptional powers of Mr. Richard, but his eyes had since been unscaled.

Mr. BRYANT said that when his College (Royal College of Surgeons, England) first heard of Mr. Maloney's case, the information came from Melbourne; and there were several pages in several journals completely filled by Mr. Maloney's advertisement, in which were copies of his diploma from the College as well as that which he received from the Apothecaries' Hall. Those diplomas could not have got into the hands of Mr. Richard unless Mr. Maloney had handed them to him, so that his statement that they were against his knowledge must be incorrect.

Strangers were directed to withdraw. On their readmission,

The CHAIRMAN stated that the Council had judged Mr. Maloney to have been guilty of infamous conduct in a professional respect, and directed the Registrar to erase his name from the *Register*.

The Council then proceeded to consider the case of William Masson of Cottingham, East Yorkshire, registered in Scotland, December 12th, 1888, as M.B., Mast. Surg., 1888, Univ. Aberd., who had been summoned to appear before the Council on November 26th, 1897, at 4 o'clock P.M., to answer the following charge on the complaint of Mr. Edward Ball of Southport, registered as Lic. R. Coll. Phys. Edin. 1886; Lic. R. Coll. Surg. Edin. 1886; Lic. Fac. Phys. Surg. Glasg. 1886: That he had acted and acts as cover to an unqualified person named George Watson, who, acting and purporting to act as his unqualified assistant, was and is permitted, authorised, and enabled by him to carry on medical practice and administer treatment to patients as if he (Watson) were a duly qualified and registered practitioner. It is particularly alleged against him (Masson) that George Watson attended a woman named Higgins in her confinement, using instruments upon her, and that on the death of the woman he (Masson) signed and gave a death certificate purporting to certify that the woman had died of eclampsia.

Mr. Masson attended in answer to his summons, Mr. J. Scott-Fox, instructed by Mr. George Trenam, solicitor, appeared as counsel for Mr. Masson. Mr. Edward Ball, the complainant, did not appear in answer to his complaint.

Mr. MUIR MACKENZIE read the facts of the case as supplied by Mr. Ball.

Mr. Ball stated that on August 2nd, 1897, Annie Louisa Higgins of Cottingham, Hull, was attended in her first confinement by Mr. George Watson, unqualified, son of the late Samuel Watson (F.R.C.S., Cottingham). When he attended he put on instruments and delivered her of a seven-months child. Immediately afterwards she had all the symptoms of rupture of the uterus. Mr. Watson then sent for Mr. Masson and Dr. Gault. Mr. Masson gave a certificate that she died of eclampsia. He (Mr. Ball) said from the careless use of the instruments.

Mr. MASSON, in his defence, denied all the facts mentioned in Mr. Ball's letter except that Mr. Watson had used the forceps. Mr. Watson had done so without his permission or knowledge.

Mr. MASSON was called as a witness, and answered a number of questions addressed to him by members of the Council.

Strangers were directed to withdraw. On their readmission,

The CHAIRMAN stated that the charge made against Mr. Wm. Masson had been proved to the satisfaction of the Council, but that the further consideration of the charge was adjourned until the next session. He addressed Mr. Masson on the gravity of the offence of "covering" which had been proved against him, and admonished him as to his conduct in the period intervening between the present and the next session.

OTHER BUSINESS.

On the motion of Dr. MACALISTER, seconded by Mr. BRYANT, the report of the Dental Education and Examination Committee was received and entered in the minutes.

Mr. VICTOR HORSLEY asked a question *in camerâ* as to a matter to be referred to the Penal Cases Committee, then the Council adjourned.

Saturday, November 27th.

Sir WILLIAM TURNER in the Chair.

A LETTER was received from the Privy Council announcing the nomination of Dr. James Little to be for five years Crown representative for Ireland in the place of Dr. Moore, resigned.

PENAL CASE.

The Council then had before them the consideration of the case of Julius Mostertz, of 13, Salisbury Road, Noel Park, Wood Green, registered in England as L.S.A. Lond., 1893, who was summoned to appear before the Council to answer the charge of "covering" an unqualified person named George W. Johnson, who, purporting to act as his assistant, carried on at the Noel Park Dispensary a medical practice as though he were a duly qualified and registered medical practitioner. The complainants were the Medical Defence Union, and were represented by Dr. Bateman. Mr. Mostertz was represented by his solicitor, Mr. Ward.

Mr. Muir Mackenzie acted as legal assessor to the Council.

Dr. BATEMAN, in laying the case for the complainants before the Council, said that some years ago a Mr. Henry Johnson opened at 13, Salisbury Road, Wood Green, a chemist's shop, under the name of the "Noel Park Pharmacy." Mr. Johnson was a registered chemist and a member of the Royal College of Veterinary Surgeons, but it was quite evident that in addition to acting as a chemist and veterinary surgeon he also carried on a medical practice. Mr. Johnson died in May, and his business as a chemist was carried on by his widow with the assistance of a man named G. W. Johnson, although in the defence it was denied that such a person as "G. W." Johnson existed. Some short time ago the medical men in the neighbourhood, finding there was a certain amount of unqualified practice going on, called a meeting, by postcard, at the house of Mr. Tomlin, of Wood Green. One of the cards was sent to Mr. Mostertz at his address in Lordship Lane; and Mr. Tomlin the next morning received a letter from G. W. Johnson, in which he said that he had received one of the postcards, and courted the fullest inquiry into his case. At the meeting, which was held on October 15th, Mr. Mostertz admitted that he had handed the postcard to Mr. Johnson, and therefore he was considered by the practitioners present as the man who was covering Johnson. The meeting resolved that unless Mr. Mostertz severed his connection with Johnson, the matter should be brought to the notice of the Council. Mr. Mostertz, in a letter to Mr. Tomlin, declined to be dictated to by the practitioners o

Wood Green, and the matter was placed in the hands of the Medical Defence Union. With regard to the evidence filed, it was possible that the solicitor for Mr. Mostertz might term it "detective" evidence, but it was absolutely impossible always to obtain the evidence of *bonâ-fide* patients; and if no evidence but that of *bonâ-fide* patients was allowed to be brought forward it would be impossible to stop unqualified practice. Dr. Bateman then placed before the Council the documentary evidence filed in support of the complaint, the most important being a declaration made by T. W. Tyrrell, clerk to the complainant's solicitors, in which he set out certain visits paid by him to the Noel Park Dispensary, where he was attended by Johnson.

Mr. T. W. Tyrrell was then called, and in examination by Dr. Bateman confirmed the statements contained in his declaration.

In cross-examination by Mr. Ward, witness admitted having sworn that the rates and the rent of Johnson's shop were paid by Johnson, as he had been informed by the collectors. He did not know that there was a Mrs. Johnson, and that she might have paid them.

Dr. Campbell, a practitioner in the neighbourhood, also gave evidence that he had been seen and prescribed for by Johnson.

In answer to questions by the Council, witness declared that he went to the dispensary out of "pure curiosity."

Mr. Tomlin, of Lordship Lane, Wood Green, confirmed Dr. Bateman's statement with regard to the meeting at his house; and Dr. Foott, of Brandon Lodge, Green Lanes, deposed to having under his care at the present time a patient who had been treated by Johnson at the dispensary.

For Mr. Mostertz Mr. Ward said the question was simply whether Johnson was practising at the Noel Park Dispensary under cover of Mr. Mostertz, and this Mr. Mostertz denied. Mr. Mostertz himself practised at the dispensary and employed Johnson in the capacity of a dispenser. There was no such person as "G. W." Johnson, the name of the person employed by Mr. Mostertz being "A. W." Johnson. Mr. Mostertz was a duly qualified practitioner residing at 27, Lordship Lane. He rented a room from Mrs. Johnson at 13, Salisbury Road, for which he paid her 10s. a week, and he carried on his practice there, which was about 200 yards from his residence. He had always been most careful to see the patients himself, and Johnson was instructed if anyone called out of dispensary hours to send for him at once. If Dr. Campbell had been prescribed for by Johnson, then Johnson had exceeded his instructions; and he (Mr. Ward) submitted that the Council could not visit upon Mr. Mostertz an offence committed by his paid assistant. Mr. Ward read a long declaration by Mr. Mostertz setting forth his position as mentioned by Mr. Ward, and traversing the statements made in the declaration of Tyrrell.

Mr. Mostertz then went into the box, and denied that he in any way covered Johnson. Johnson was paid by him to dispense medicines and generally assist him, but he was instructed not to see patients.

In cross-examination by Dr. Bateman, Witness said that he believed Johnson had been an assistant for twenty-three years. He was not a medical student. Johnson was at Salisbury Road when Witness first took up the practice in August. Johnson had solemnly declared that he never treated patients. Witness rented the room from Mrs. Johnson, and at the time of doing so also engaged Johnson to act as his assistant.

Replying to Members of the Council, Witness declared that Johnson had been told by him now not to prescribe for anyone.

Mrs. Johnson was also called, and stated that the statements made in her declaration were true. She was the widow of the late Henry John Johnson, a registered chemist and druggist, and qualified veterinary surgeon, who before his death in May last carried on business at 13, Salisbury Road. Since her husband's death she had kept the shop open, but not in any way to infringe the Pharmacy Act, and was assisted by her brother-in-law, Mr. A. W. Johnson. She paid the rates and taxes, and the receipts were made out in her name. Her late husband had let a room to various medical men as a dispensary, and Mr. Mostertz took the dispensary of her in August last. He paid 10s. a week for it, and employed A. W. Johnson as a dispenser at a salary of £1 a week. She declared that she heard Mr. Johnson refuse to examine or prescribe for Tyrrell.

Mr. Ward also read a declaration by Mr. A. W. Johnson, but Mr. Johnson was not present, Mr. Ward explaining that he only received Dr. Bateman's notice requiring Johnson's attendance that morning, and therefore had no time to bring Johnson up. In his declaration, Johnson said he was not qualified as a medical man, but he had had twenty-three years' experience as a dispenser and assistant to medical practitioners. He denied that he practised either at the Noel Park Dispensary or elsewhere. He was merely the servant of Mr. Mostertz on a weekly engagement. He traversed the statements made by Tyrrell, and declared that he was convinced at the time that Tyrrell was only acting as a detective.

Dr. Bateman submitted that the evidence went to prove that Johnson did practise in Mostertz's absence, and that Mostertz, by aiding, advising, and assisting Johnson, enabled him to act as though he were a duly qualified registered medical practitioner.

The Council deliberated on the case *in camerâ*. On strangers being readmitted,

The Chairman, addressing Mr. Mostertz, said the Council had come to the conclusion that the charge against him had been proved; but the Council had taken the matter into consideration, and would adjourn the further consideration of the charge until next session.

The Chairman spoke of the gravity of the offence of "covering," and admonished him as to his conduct in the period intervening between the present and the next session.

Monday, November 29th.

Sir William Turner in the Chair.

Preliminary Examination.

The minutes of the last meeting having been read and confirmed, a report from the Education Committee on the measures to secure a higher standard of preliminary education was brought up by Dr. Tuke.

It appeared from the report that on January 9th, 1896, the Council agreed to the following motion:

> That the Education Committee be requested to consider whether the time has not come for erasing from the list of Preliminary Examinations the Examination of a Second Class Certificate (of First or Second Division) of the College of Preceptors.

This motion formed the subject of a report, in which there was the following recommendation:

> That the Council instruct the Committee to consider the requirements of the several junior Preliminary Examinations now recognised by the Council, and to report on the steps that may be necessary for enforcing a higher and more uniform standard therein; that the recommendations which the Committee may propose with this object be brought before the Council at the November session of 1897, in order that if approved they may be brought into force on January 1st, 1900.

The result of the inquiries the Committee had conducted during the past year was that the minimum standard of certain of the junior examinations in general knowledge now recognised by the Council was insufficient to guarantee such a degree of general education as was desirable for persons entering on the study of a liberal profession; and that a considerable number of medical students received certificates of having passed such examinations, though they obtained low marks in particular subjects. The Committee was convinced that the general standard of the examinations was too low. Various educational authorities had also been consulted, and their general opinion was that the minimum standard of the preliminary examinations should be raised; that no difficulty stood in the way of doing so, provided due notice be given to the public; and that the effect of such a measure might be expected to have a beneficial effect on school education in general. After consideration the Committee had come to the conclusion that it would be impracticable to obtain a higher standard in the lowest class of those examinations by merely enjoining a higher pass mark in any or all of the required subjects. The papers were in general of too elementary a character, being evidently adapted to the ordinary capacity of pupils of less than 15 years of age. The Committee were of opinion that the best means of securing the object in view was, in the first instance, to insist on a higher class of examination, the preparation for which must imply more extended training and wider study, such as might fairly be

expected to have been undertaken by students who had attained the age of 16. The Committee did not suggest any increase in the number of obligatory subjects to be taken up by candidates, believing that if a student stood the test of a sufficiently searching examination in English, Latin, mathematics, and in Greek, or a second modern language, he would be prepared to commence the study of the various sciences ancillary to medicine. The Committee had resolved to advise the Council to confine its recognition on and after January 1st, 1879, to such examinations as the Local and Matriculation or Entrance Examinations conducted by the universities of the United Kingdom, and to the examinations of corresponding standard held by the College of Preceptors, the Scottish Education Department, and the Intermediate Education Board of Ireland; and to intimate to other bodies in the United Kingdom, and to the Indian, Colonial, and foreign examining bodies, that on and after the same date no examination of a lower class than those above referred to would be recognised by the Council. So far as the United Kingdom was concerned, the step proposed, if it were approved of by the Council, would serve to secure a higher and uniform standard of Preliminary Examination; but it was manifest that, with regard to Indian, Colonial, and foreign universities and colleges, the procedure would require some time. Not only must due notice of the impending change be given to those bodies, but the new standard of examination must be indicated to them, and they must have time to rearrange their regulations and to satisfy the Council that their amended examinations were worthy of recognition. On the receipt of evidence to this effect the Committee would prepare and issue a list of examinations which they regarded as of sufficient standard. The Committee were therefore of opinion that it would not be expedient for the Council to enforce the new standard of Preliminary Examination before January 1st, 1899.

Dr. TUKE said that the preliminary examination had received a great deal of attention. In the first place the Council prescribed certain subjects, and intimated to the bodies that they required general knowledge upon them. They insisted on mathematics, Latin, one modern language, and English. In order to keep a hold on the examinations the Committee year by year had overhauled the examinations of each body, with the result that in certain instances it had suggested improvements, in others they had erased a name from the list of bodies, and in a few instances had added new bodies. One of the conditions which had been attached to certain of these examinations by the Council was that all the subjects should be passed at one time. That regulation had eliminated weaklings from various examinations—men who, coming up time after time, hoped to pass them piecemeal. During the last nine years there had been a general improvement in the character of the preliminary examinations; but the Committee still believed that it should be materially raised. It was no use, however, to legislate in advance of public opinion. The Committee wished that the Council should communicate in writing with all examining and educational bodies, and obtain from them information so that the Council might be able to judge of the position for themselves. He begged to move that the following recommendation of the Committee be carried into effect:

That the Council intimate to all the Examining Bodies whose examinations in general education are recognised by the General Medical Council as qualifying for the registration of medical students, that, on and after the 1st day of January, 1899, no certificate of lower standard than that of the Matriculation or Entrance and the Junior Local Examinations of the Universities of the United Kingdom will be accepted for registration.

Dr. MACALISTER seconded the motion.

Mr. GEORGE BROWN regretted that the Committee had not seen its way to increase the number of obligatory subjects. He thought that French should be made compulsory, and Greek, together with German or Italian, should be optional.

Sir RICHARD THORNE thought, with reference to a remark which had fallen from Dr. Tuke, that it was the part of the Council to lead public opinion by its legislation. Far from being in advance of the general education of the country, he maintained that the medical profession had lagged behind in a most lamentable way.

Mr. CARTER agreed with Mr. Brown that French should be made obligatory. He thought, however, that it would be impossible to do that as early as 1899, as the intervening time would be insufficient to give a fair knowledge of the language to boys training for the profession. French should have preference to German, because that language was better adapted to educational uses. The Council, too, he thought should enforce a high standard of the English language, which was one of the most important acquisitions a student could possess. One modern language should be made obligatory, French in preference, and Greek might be made optional.

Sir WM. THOMSON expressed his sympathy with the suggestion of Mr. Carter. He had always felt that the requirements of the preliminary examination set out by the General Medical Council had certainly never been of such a character as to be suitable for the admission of any person to the profession, and he would like the matter referred further to the Education Committee with a view to their trying to arrive at what Mr. Carter had suggested—a somewhat higher standard, in English especially. At present there was no indication given by the Council as to the amount of English required, and he thought that should be set out. He also recognised the fact that one modern language, preferably French, should be made compulsory.

Dr. MACALISTER said that what the Committee wanted was that examiners should broaden the scope of the examinations rather than make individual questions more difficult.

The recommendation of the Committee was agreed to.

Dr. TUKE then moved, and Dr. MACALISTER seconded the second recommendation of the Committee as follows:

That the Education Committee be instructed to revise the list of examinations recognised by the Council, with a view to removing from it on the first day of January, 1899, those examinations which are of a lower standard than that indicated in Recommendation 1.

The motion was agreed to.

On the motion of Dr. TUKE, seconded by Sir RICHARD THORNE, it was agreed:

That on and after the first day of January, 1899, Logic be omitted from the list of optional subjects allowed to be taken in the Preliminary Examinations recognised by the Council.

Sir CHRISTOPHER NIXON then moved;

That it be referred to the Education Committee to consider and report to the next session of this Council the procedure necessary for the institution of a Preliminary Examination for medical students of a standard uniform throughout the United Kingdom, such examination to be wholly conducted by the General Medical Council.

He thought that if the Preliminary Examination could be conducted by the Council it would be a considerable advantage, and would greatly improve the standard of education.

Mr. VICTOR HORSLEY seconded the motion.

Mr. CARTER supported the motion. He thought the Council should keep the key of its own door.

Dr. CHURCH dissented from the view that it would be wise for the Council to attempt either to fix a standard or undertake the labour and responsibility of maintaining that standard as far as general education was concerned.

Dr. ATTHILL thought it would be a good thing if the matter could be carried out, but he was aware it could not be done just at present.

Mr. HORSLEY said that with regard to the Council being the proper body to undertake the duty, the average schoolmaster had no knowledge of what would be required for a medical man, whereas those who had passed through the mill did know. The Council therefore, from their special technical knowledge, were more capable of properly judging what preliminary education was required than was the schoolmaster.

The CHAIRMAN pointed out that if the Council passed the resolution it would seem that they committed themselves to the principle.

Dr. TUKE asked if it were a matter for the Education Committee at all? Was it not rather a matter of law?

The CHAIRMAN expressed his opinion that the Council was not the body to undertake the Preliminary Examination in Arts.

The motion was negatived by 19 to 7. The names were taken at the request of Sir CHRISTOPHER NIXON.

Sir DYCE DUCKWORTH then moved that the following report of a conference between the Examination and Education Committees be received:

The Examination Committee begs leave to report that in conformity with the wish of the Council it has conferred with the Education Committee. Pending additional information on the subject, it is not prepared to make any recommendations at the present session, but asks leave from the Council to continue the reference.

He said that the matter really dealt with the position held in examinations by preliminary scientific subjects, and inasmuch as the matter was engaging the attention of at least one of the great corporations, the Committee thought it desirable to wait.

Dr. Pettigrew seconded the motion, which was agreed to.

Report of Executive Committee.

On the motion of Mr. Bryant, seconded by Sir Dyce Duckworth, the third report from the Executive Committee on the subject of the penal or disciplinary powers of the qualifying medical authorities referrred to it by the Council on May 29th, 1897, was received and entered on the minutes.

The report is as follows:

The Executive Committee have pleasure in reporting that some progress has been made in regard to this question since the interim report was received last session.

With reference to the English universities, a communication has been received from the University of Durham informing the Council that a Charter, dated August 25th, 1897, has been granted, from which the following sections have been extracted:

Whereas doubts have arisen whether the warden, masters, and scholars of the University of Durham have power to cancel, revoke, annul, or take away any degree or title conferred by the University of Durham upon any person who shall have been proved to be unworthy to be a member or graduate of a university, and whether such power was at the date of the charter first hereinbefore recited and now is a right or privilege incident to a university established by Royal Charter;

And whereas it is expedient to remove such doubts as aforesaid .....

Now know ye that we do of our especial grace, certain knowledge, and mere motion by these presents for us, our heirs and successors, will, grant, ordain, and declare that the said Warden, masters, and scholars of the University of Durham shall be empowered, and are hereby authorised and empowered to cancel, annul, revoke, and take away any degree or title that has been or shall hereafter have been conferred by the University of Durham upon any person of whom it shall be reported to Convocation by the Warden and Senate that such person has been convicted of a crime for which he has been sentenced to penal servitude or imprisonment, and that such crime is one which renders him unfit to be a member or graduate of the University of Durham.

It has also been intimated to the Council that the Court of the Victoria University has decided to apply for similar powers to those already obtained by the University of Cambridge, and that now it only remains that the application should be formally made to the Crown with every prospect of the power being conferred.

With reference to the Scottish universities, the President has informed the Council that the Edinburgh University Court has again considered the question of obtaining power to remove from the roll any graduate who may be found guilty of a criminal offence or other misconduct; and the Court has decided to intimate to the other University Courts that, while remaining of opinion that the difficulties of the question are very great, it is willing to confer with the other universities, and to appoint representatives to a joint committee which might report to the various Courts.

An official communication has been received from the University of Glasgow, stating that the Court, on July 8th, 1897, adopted a Memorandum in which it desired very respectfully to raise the question whether it might not be possible for the Universities Commissioners even now, without determining anything, to leave on record in their final report such an expression of their opinion as may tend to bring the Scottish universities into line with each other, or with those universities in the United Kingdom which either already possess or have expressed the desire to obtain further disciplinary powers in accordance with the expressed wish of the General Medical Council.

The Glasgow University Court is fully aware of the difficulties of the subject, and has made no attempt to disguise or to override these in its communications to the General Medical Council. The Court is also willing, nay desirous, that the whole subject should be fully discussed from the point of view of the other Scottish universities, so that any attempt made after the expiry of the Commission to meet the wishes of the General Medical Council in respect of disciplinary powers, may proceed as a concert movement on the part of all the Scottish universities. But it appears to this University Court that in no way could this desirable object be more facilitated than by an expression of opinion, after due inquiry by the Universities Commissioners, to be included in their final report. The Glasgow University Court will be willing to place itself at the disposal of the University Commissioners should it appear desirable to take evidence, or to bring about in any way a conference of the Scottish universities with respect to the questions involved in this Memorandum.

The Scottish Universities Commission, in answer to the requests of the Aberdeen and Glasgow Courts, dated October 21st, 1897, however, assert that the matter to which the above Memorandum refers is not within the province of the Commission. They have no parliamentary powers to deal with it, nor instructions to report upon it.

In the Joint Committee referred to above, all the Scottish universities would, no doubt, take their part, and thus united action be taken by all the Scottish universities.

So far no information has been supplied to the Council as to any further steps taken by the Royal University of Ireland.

The decision in this matter was postponed till the next session.

Penal Cases.

The Council then proceeded to the consideration of the case of Alfred Freeman, of 163, Bloomsbury Street, Birmingham, registered in England as Mem. R. Coll. Surg. Eng. 1862; Lic. R. Coll. Phys. Edin. 1879. The complainant was Albert Henry Bygott, Licentiate of the Society of Apothecaries of London, who stated that Mr. Freeman, residing at 278, Nechells Park Road, Birmingham, caused to practise at 65, Benacre Street an unregistered person at a distance of 2 miles, 1,600 yards, or thereabouts, from his house. Also that he allowed an unregistered person to treat patients at another surgery, at 163 and 165, Bloomsbury Street, at a distance of 1,452 yards from his place of abode, without exercising proper supervision over his treatment of patients. Complainant produced written statements from three persons, reporting accounts of the treatment by unregistered persons on behalf of Alfred Freeman.

Mr. Bygott conducted his case in person, and Mr. Freeman appeared, accompanied by his solicitor, Mr. Mead.

Mr. Bygott went into the witness box, and gave evidence in support of his opening statement.

Mr. Freeman, in his written defence, denied the charge, and stated that he had resided at 163, Bloomsbury Street, for the past two years, where he was in general practice, and had always conducted his practice in a strictly professional and straightforward manner, his youngest son, who was in his 18th year, being a pupil under him. His son had never signed any medical certificate whatever, and was entirely under his supervision and control. He had only taken the house in Nechells Park Road for a few months, as he thought the change might be beneficial to his wife's health. His wife had been very ill during the whole time of his residence in Birmingham. The branch surgery in Benacre Street was opened for the following reasons: Having been appointed surgeon to two clubs, he had to attend the patients within a radius of three miles from Bloomsbury Street, and the branch surgery saved patients from walking over two miles for medicine. At that branch his elder son assisted him in dispensing, etc., and he was not aware, until he received the letter from the Council, that his son had signed any certificates whatever, as he had always given him strict instructions not to do so. He had always filled up and signed all certificates personally during the whole time he had been in practice, which was over thirty-four years, after seeing and attending the patients.

Mr. Freeman went into the witness-box, and, after being examined by his solicitor, stated that his elder son had been an assistant to six different medical men, and as *locum tenens*. His son had never been to a medical school, and had only read under himself.

Asked by Mr. Bygott whether his son had not been a jeweller,

Witness replied that he had married a lady who had a jeweller's shop, but they had given up business. The hours at 163, Bloomsbury Street were from 9 to 11 and 6 to 8, and at Benacre Street 9 to 11, 2 till 3, and 6 to 9, as had been stated by Mr. Bygott. Those hours were merely the times when people could attend, and they were kept waiting for him.

Mr. Mead then replied on behalf of Mr. Freeman.

Strangers having withdrawn, the Council deliberated on the case *in camerâ*. On their readmission,

The Chairman informed Mr. Freeman that the charge made against him had been proved to the satisfaction of the Council, and the Council judged him guilty of infamous conduct in a professional respect, and directed the Registrar to erase his name from the *Register*.

Tuesday, November 30th.

Sir William Turner in the Chair.

The British Pharmacopœia.

The Council first considered the report of the Pharmacopœia Committee, which stated that the final draft of the *British Pharmacopœia* was now submitted for the approval of the Council. The estimated amount to be expended on its production would be about £6,000. If 20,000 copies were printed, the cost to the Council would be about 6s. per copy,

and the Committee suggested that the price of the volume might be 7s. 6d., but the power of actually fixing the price rested with the Commissioners of the Treasury. In order that the *Pharmacopœia* might be issued early next year, the Committee recommended that it be delegated to the Executive Committee to adopt the fully-corrected work as the *British Pharmacopœia*, 1898, to communicate with the Treasury as to price; to publish the *Pharmacopœia*, and make the legal announcement of publication by notice in the *London*, *Edinburgh*, and *Dublin Gazettes*.

On the motion of Mr. Carter, seconded by Sir Dyce Duckworth, the above report was received, and ordered to be entered on the minutes.

In moving the adoption of the recommendations contained in the last paragraph in the report, Mr. Carter said that the estimated cost would be £6,200, or 6s. 2d. per volume, instead of the figures mentioned in the report, owing to the increased payment to some persons who had rendered assistance in the the work.

Sir Dyce Duckworth, in seconding the motion, said that the labour in connection with the work had been unprecedented, and that fact ought to be generally known.

The resolution was carried.

Dental Education.

On the motion of Dr. MacAlister, the Council went into Committee for the consideration of the recommendations of the Dental Education and Examination Committee.

Mr. Bryant then moved and Mr. Carter seconded:

That the recommendations of the Dental Education and Examination Committee be approved.

The Final Report of the Committee states:

The report is based upon the "additional report" of this Committee, which was presented to the General Medical Council in May last.

We have reason to believe that the report of the Royal College of Surgeons of England will be favourable to the recommendations of this Committee with respect both to the curriculum and to the examinations. Upon the recommendation of this Committee that the Royal College of Surgeons of Edinburgh should unite with the Faculty of Physicians and Surgeons of Glasgow, and so form one Conjoint Dental Board for Scotland, the Edinburgh College reports that the recommendation was carefully considered by the President's Council of the College, and subsequently at the statutory meeting of the College on October 20th, 1897, when it was resolved that the recommendation of this Dental Committee should neither be accepted nor even entertained by the College. The Faculty of Physicians and Surgeons of Glasgow likewise reports:

"In view of the fact that there appears to exist no statutory provision for sanctioning the suggested combination, and of the doubtful validity of a voluntary or non-statutory union of the two Boards, the Faculty consider that they are at present precluded from taking action in the direction indicated by this recommendation."

With respect to the recommendation of this Committee that the three months' course of materia medica should not be required, it would appear from the remarks of the Royal College of Surgeons of Edinburgh, and the Faculty of Physicians and Surgeons of Glasgow, that such an omission is not by them considered desirable; whereas the London Royal College is in accord with the recommendation, and the Irish College seems to be indifferent to it, as it passes it by. With respect to the recommendation of this Committee that the courses of lectures in physiology, metallurgy, and mechanical dentistry should be helped by special practical courses, the Edinburgh Royal College of Surgeons states that the additional courses suggested already substantially exist in its curriculum. The Faculty of Physicians and Surgeons of Glasgow fully recognises the importance of practical instruction. The London College already acts up to the recommendations, and the Irish College has not raised any objections to them.

The recommendations of the Committee with respect to examinations are covered by the scheme of the London College, and are not criticised by the Irish College. The Edinburgh College states that its First and Second Examinations comprehend substantially all the subjects suggested by this Committee. The College criticises severely the suggestion of this Committee that an examination in general medicine and therapeutics is not required. The Faculty of Physicians and Surgeons of Glasgow is of opinion that, assuming there should be a Preliminary and two Professional Examinations, the grouping of the subjects under these examinations is, on the whole, judicious.

The Faculty also complains that "on the important point of the extent and area of the examinations of dental students in such subjects as anatomy, physiology, and general surgery, the recommendations of this Committee give no leading, and are of opinion that in such subjects the range of topics to be examined on should be less extensive than that for general medical students, and be limited by some consideration for their practical application to dentistry. The Committee feels that it does not fall within the province of the Council to furnish anything like a complete syllabus of any part of the examination; but would suggest that it should include a general outline of anatomy and physiology, and of the principles of medicine and surgery, with only such details in any of these subjects as may have a practical bearing upon the actual requirements of dentistry. Your Committee finally now present to the Council the recommendations as originally drawn up by the Dental Curriculum Committee in 1879, in regard to the education of the dental student, and corrected up to date according to the experience gained by one or other of the four dental licensing bodies. The deviations from the original scheme which have been adopted have, as it were, grown out of experience, and their results have chiefly been to encourage the practical branches of the dental art, and to eliminate what has been found to be unnecessary. Neither radical changes in curriculum nor rigid methods in examination have been suggested, for your Committee are well assured that so long as the examining bodies do not fall behind the main recommendations of this Council, either in the way of curriculum or examination, this Council has no other wish than that the details of the course of study and examinations may vary in the way which seems best to the governing authorities of the licensing bodies, all of which have full liberty of action. But this Committee feels that all the bodies interested ought to work on the same lines. With these objects in view, it is hoped that the recommendations of this Committee will prove acceptable.

A lengthy discussion took place upon the motion, and finally Dr. MacAlister moved:

That it be remitted to the Dental Education and Examination Committee to draw up their recommendations in the form of a series of propositions, each dealing with a single subject, in order that the Council may be enabled next May to come to a definite decision on this subject.

At present there was no clear statement as to what was to be the final outcome of the action of the Council, and it would take an editor and a subeditor to find it out.

Mr. George Brown seconded the amendment, which was agreed to, and, on being put as a substantive motion, was also carried.

The Council then resumed.

On the motion of Dr. Heron Watson, seconded by Dr. McVail, it was agreed:

That an honorarium be voted by this Council to Mr. Tomes, together with the best thanks of the Council, for the inspection he has made, under the direction of this Council, of the dental examinations of all the bodies granting dental diplomas, and for his reports upon these examinations, and upon the requirements of the curriculum in the case of each of the bodies granting a registrable diploma in dentistry.

The Council also resolves that the amount to be awarded be remitted to the Executive Committee for determination.

The Public Medical Service.

Sir Richard Thorne moved that the report of the Public Health Committee be received and entered in the minutes. Knowing how extremely strong was the determination of some people in very high positions to prevent the restitution of those rights to medical officers of health, he thought the Council was to be heartily congratulated. This would prevent a similar attempt being made in England and Ireland.

The following is the report:

The Public Health Committee beg leave to advert to their report to the Council of May 27th, 1897, on the Scotch Public Health Bill, which report was adopted by the Council and forwarded to the Secretary of State for Scotland, the Lord Advocate, and each member of the Committee on Law of the House of Commons then sitting on the Scotch Public Health Bill. In that report the Committee drew attention to the fact that the proposal embodied in Section xxii of that Bill to place the opinion of the sanitary inspector in matters where a judgment has to be formed as to what is or is not liable to constitute a danger to public health on a statutory equality with that of the medical officer of health was calculated seriously to frustrate the efforts which the Council had made to ensure a distinctively high standard of proficiency in the public health service. The Committee now further report that following on the action taken by the Council, the reference to the sanitary inspector was altogether deleted from the section as it now stands in the Public Health (Scotland) Act 1897, and that the hitherto existing status of medical officers of health in Scotland, in the matter referred to, has been maintained.

Dr. Bruce seconded the motion, which was agreed to.

Medical Aid Associations.

On the motion of Dr. Glover, seconded by Mr. Teale, it was agreed that the following interim report from the Medical Aid Associations Committee should be received and entered in the minutes:

The Committee on Medical Aid Associations have to report to the Council that they have met deputations from Norwich and Yarmouth, and have conferred with them on the memorial on the subject presented to the Council. On the suggestion of Mr. E. W. Brabrook, the Registrar of Friendly Societies, the Committee has had an interview with a subcommittee appointed for the purpose by the leading friendly societies, at which an opportunity was given for a full expression of opinion on the matters in dispute between the profession and the associations. In the result, a desire was expressed that the subject should be still further discussed in a similar conference to be held in the course of a few weeks. In view of such conference and of the need for further consideration of the matter by the Committee, the Committee does not see its way at present to give more than this interim report, and suggests to the Council to reappoint the Committee.

English at the Army Medical Examination.

Sir Dyce Duckworth moved, and Dr. Tuke seconded, that the report of the Examination Committee be received and

entered on the minutes, which was agreed to. The report stated that:

The Examination Committee of the General Medical Council of Education and Registration beg leave to report to the Council, with reference to the letter of the Director-General of the Army Medical Department, that it may be well to communicate to the Director-General, for the information of his office, an indication of the aim of the Council in asking him for any information he might be at liberty, from time to time, to communicate to the Council bearing upon glaringly faulty spelling, writing, or composition in the paper work of any of the candidates for appointments in the Army Medical Department brought under his notice by the examiners by whom these examinations are conducted. The information is desired by the Council, not for the identification of candidates, but to enable the Council to exercise, from time to time, a corrective influence upon those bodies from which preliminary examination certificates in general education had been obtained, and which had apparently proved remiss in the exercise of their duty in granting certificates to pupils who do not possess a requisite degree of preliminary educational training; and, further, to indicate to the Director-General that the information asked for was afforded by the Director-General of the Medical Department of the Navy, and by the India Office, and that it had been furnished on former occasions by his predecessor in the Army Medical Department.

Dr. MacAlister moved, and Dr. Tuke seconded,

That the Chairman of the Examination Committee, Sir Dyce Duckworth, be requested to communicate with the Director-General of the Army Medical Department in the terms of the report.

This was also carried.

Other Business.

The report from the Students' Registration Committee was received.

The following report from the English Branch Council was adopted:

That the English Branch Council recommends the General Medical Council to register the name of Mr. G. S. Dobrashian, Mem. R. Coll. Surg. Eng., 1880, Lic. Soc. Apoth. Lond., 1881.

Dr. Atthill was elected a member of the Executive Committee from the members of the Irish Branch Council.

Sir Dyce Duckworth, as one of the Treasurers, stated that he had received a letter from Dr. R. R. Rentoul asking for 20 guineas, as he conceived he was entitled to the extra scale of payment for members of the Council residing more than 200 miles from London. Dr. Rentoul resided in Liverpool, and it had been the custom to pay their former representative from that place at the scale for under 200 miles. Dr. Rentoul included the distance from his house and the hotel to the stations.

Dr. Bruce moved, and Dr. Tuke seconded, a resolution that the 10 guineas should be paid.

The motion was lost by 10 votes against 4.

On a motion from the Chair the Council considered *in camerâ* the action taken by the Executive Committee in regard to the registration of certain dentists.

The Council also received a report from the Executive Committee to the effect that they had considered the question of a letter referred to in a resolution passed *in camerâ* on November 27th, 1897, but they were of opinion it was not a matter in which the General Medical Council could take any proceedings.

A report from the Penal Cases Committee was received, recommending the prosecution of a certain person.

Strangers being readmitted,

The Chairman announced that the following resolution had been adopted:

That the Council direct the Registrar not to act upon the instructions given by the Executive Committee in the matter of certain registrations in the *Dentists' Register* until further orders from the Council.

It was moved by Sir Dyce Duckworth, seconded by Mr. Bryant, and agreed:

That all the examinations of the Apothecaries' Hall of Ireland be regularly reported on by an inspector appointed by the Council.

It was also agreed:

That it be remitted to the Executive Committee to appoint an inspector under the foregoing resolution, and to make the necessary arrangements for the inspection.

It was moved by Mr. Tichborne, seconded by Mr. Brown, and agreed:

That the opinion of the law advisers of the Council be taken on the question of the Executive Committee dealing with the appointment of Assistant Examiners to the Apothecaries' Hall, Dublin, and as to the duties under Section v of the Medical Act, 1886,

Mr. Muir Mackenzie gave his opinion, as desired.

It was moved by Dr. Glover, and seconded by Mr. Bryant,

That the number of members for England on the Penal Cases Committee be increased from three to five,

but, on the motion of Dr. Bruce, the Council passed to the next business.

The Council then considered the following motion *in camerâ*:

That it be an instruction to the Penal Cases Committee that no case be laid before the Council except upon evidence which will be presented orally when the case is heard, or upon evidence given in the form of statutory declaration.

The motion was withdrawn.

Strangers having been readmitted, the following statement was read:

The President informs the Council that, owing to the illness of the Right Hon. Henry Chaplin, and the absence of Sir Richard T. Thorne on the Continent on special business, the Deputation on Death Certificates has not yet waited on the President of the Local Government Board, but that a statement to be handed in has been prepared.

The above communication was received and entered in the minutes.

The following report from the Business Committee was read:

A petition signed by Dr. J. H. Hill and others entitled "A petition on the subject of the choice of persons to be members of the Council by the several bodies represented thereon" has been examined by the Committee. They find that the question to which it refers is one which deals entirely with the legal powers of the medical authorities, and therefore does not come within the purview of the Council. The Committee accordingly recommend that the petition be not received.

Dr. MacAlister moved, and Mr. Bryant seconded, the adoption of the above report.

Mr. Brown moved as an amendment:

That the petition of Dr. J. H. Hill and others be read and entered on the minutes.

Mr. Horsley seconded the amendment.

The amendment was lost, and the motion was then put and carried. The names were taken on the requisition of Mr. Brown, and it was found that 9 voted for the motion, 2 against, 4 did not vote, and 15 were absent.

A vote of thanks to the Chairman, moved by Dr. MacAlister, and seconded by Sir Philip Smyly, terminated the proceedings.

SIR WILLIAM GOWERS AND THE SOCIETY OF MEDICAL PHONOGRAPHERS.

The dinner given by the Society of Medical Phonographers in honour of Sir William Gowers, on the occasion of the recent honour conferred upon him by the Queen, was held at Limmer's Hotel, on Thursday, November 25th.

The toast of "The Queen" having been duly honoured,

Dr. James Neil, Secretary of the Society of Medical Phonographers, read, and the Chairman presented, a framed and illuminated address to Sir William Gowers.

In proposing the toast of the evening, "Sir William Gowers," the Chairman (Sir William Broadbent) said that they were met together to congratulate Sir William Gowers on the honour which had been conferred upon him by Her Majesty during this eventful Jubilee year. Not only were all present admirers of Sir William Gowers, but they had all learnt something from him. There were some present who were his professional pupils, and whatever he (the Chairman) might say he felt he could not rise to the height of their admiration. Physicians senior to Sir William Gowers had learnt, as others had, from his books, but they might have learnt even more if they had been under his actual teaching. Sir William Gowers's fame was worldwide, because his books on nervous diseases, and other works, had been translated, he believed, into every European language. Besides his original contributions, he had taken up knowledge wherever it was to be found; he had taken up what they might call the raw material, and had worked it out into a piece of most beautiful texture, and nothing could be clearer than the way in which he had placed before them the difficult problems of nervous physiology and nervous disease. Then, in the Society of Medical Phonographers they had an instance of his public spirit, because in the work that he had devoted to it, as indeed in all his work, there had been no self-seeking and no advertisement.

Sir W. R. Gowers, in reply, said that he took that evening's recognition of the distinction that had been conferred upon him as expressing its approval by the medical profession, and that to him was the essence of the honour, its real part. He took it also to be given as an expression of the fact that the work he had done had been helpful to the profession. The occasion made him look back to see if he could discern on what depended any help he had given, and it seemed to him that it had been rather the ability to pass on that which he had received than any originating power—a selective appropriation. He looked back along the path he had traversed—which seemed so short in retrospect, so long in its uncertain prospect—to the days when, just after he had passed his sixteenth birthday, he entered the profession by the portal which now was seldom used—that of apprenticeship to a country surgeon. That which the student gained indirectly by the daily intercourse with his teachers, various in character and intellect, had a vast influence on their mental development, and he could clearly trace how much he thus owed the men under whom he had worked. In his career as a student at University College he had the culminating privilege of acting as house physician to Sir William Jenner, with whom he afterwards continued for years in the closest relation as his private secretary. The daily intercourse with that intellect was to him a privilege inestimable. He was sure that any powers of reasoning displayed in his books, in the method in which the subjects were discussed, was due to the influence of Sir William Jenner in a degree that no reader would suspect. That brought him to the influence of shorthand on his career, which was singular. When he entered on the study of medicine, he had first to work for the Preliminary, and he saw that he could use shorthand for all purposes for which the writing of English was needed. He made it his first work to perfect himself in the art, of which he had already acquired the rudiments. He obtained speed by the aid of two Sunday sermons and a sheltered curtained pew, and, by the end of his apprenticeship, he had acquired the art of taking down every word of the sermon and thinking about something else all the while, an art, of course, not habitually employed. The accidental influence of shorthand on his career was too singular to be passed by, for it determined the fact that he became a physician in London instead of a practitioner in the country, and his readers should know that to it their opportunities were due. His acquaintance with it gave him the post of secretary to Sir William Jenner, and also the opportunity of doing medical reporting, by which for some years he kept himself, and bridged over the interval between the impecunious student and the impecunious physician. In conclusion, he felt that words were inadequate to convey his sense of gratitude to them for all that the gathering expressed, and for the most gratifying address presented to him. He would rather follow an example set by one who was with them. It was they whom he served, and he would strive to help with more strenuous energy in the days, be they few or many, which might be before him, and that should be his thanks.

Mr. Howard Marsh proposed "The Health of Sir William Thomson," the President of the Royal College of Surgeon in Ireland. He did so very heartily, because Sir William Thomson stood, in many respects, on the same platform as Sir William Gowers, and they were more than satisfied with the choice Her Majesty had made. Sir William Thomson was too modest a man to have any conception of the great respect and regard entertained for him in England.

Sir William Thomson expressed his very hearty thanks for the way in which the toast had been received, and for the generous words in which Mr. Howard Marsh had proposed it. Among the advantages he had derived from being a phonographer were, first, that it made him a member of that Society; and, secondly, that it had given him the great privilege and honour of knowing Sir William Gowers. He had long before known him from his reputation and writings, but the Society of Medical Phonographers had given him the great advantage of personal acquaintance. He thoroughly agreed with Sir William Gowers as to the educating influence which phonography had upon all.

Dr. Neil, in a humorous and felicitous speech, proposed the toast of "The Visitors," coupling with it the names of Mr. Rudyard Kipling, Sir Henry Howorth, Rev. Dr. Jessop, Rev. Professor Bonney, and Dr. Bruce (Dingwall).

Mr. Rudyard Kipling, in reply, said he was afraid he had to invite their attention to a marked case of nervous collapse, because he did not know when he came there that this sort of lecture was to take place, and he saw from the list of guests that there were about forty doctors present. When he was in India and they saw forty doctors together it generally meant a big campaign and a lot of trouble. He would now make the confession that but for the infinite mercy of Providence he would have been a doctor, for when he was about the age that Sir William Gowers had referred to, he was intended himself for the practice of medicine, and he went so far that he got hold of an interleaved crib of Cæsar, which cost him sixpence. After a little time devoted to Cæsar he gave up the idea of entering the medical profession. But he was allowed, though not on the strength of Cæsar, to play about on the outskirts of St. Mary's Hospital at Paddington, where he picked up a great deal of that half-knowledge which in medical matters was such a dangerous thing. It had also been his privilege and honour in India to mix with doctors, and he had seen them all the world over. He had seen them going to sure and certain death, without hope of reward or honour, because it was their business. He had seen them handling cholera, and dying one after the other, and when dying wiring for a successor. He had seen them in America manage a practice twenty miles in each direction. He had seen them start off to attend an operation ten miles away, and have to dig their horses out of 8 feet of snow, and then go on again. He had seen them in the coolie ships under very different circumstances as to temperature. But wherever he had seen them he had found them good men. It was one of the proudest things in his life that he had been associated with these real fighting men in their everlasting conflict against disease, dirt, filth, and corruption of all possible kinds. But if he might obtain forgiveness, he must draw the line at the praise of phonography. He knew that that was not the place nor the company to do this, but Sir William Gowers had said somewhere it was good for the nerves. Now it was not. He had tried it, and it led to incipient inflammation of the brain, the earliest symptoms of locomotor ataxy, paralysis, and one or two other things; and the trouble about it was that it was more or less like medicine, because, it might be remembered, someone in their profession—Æsculapius or Sir William Gowers or somebody—said a diagnosis was not worth a rap till it had been confirmed by a *post-mortem* examination. It was the same with his phonography; he was perfectly splendid in the diagnosis, he could write a considerable amount of phonography, but when he came to the *post mortem*—that is to say, when he had to translate six or eight hours later what he had taken down in shorthand, it was—well, not a success. Moreover he had just taken the opportunity of asking Sir William Gowers how he wrote his name in shorthand, and he had given him an idiograph that looked remarkably like a dissolute Japanese dog. He had unbounded respect for the gentlemen present, and he had great appreciation of the kindness they had done him that evening, but he would be shot if he would write "Sir William Gowers" like a dissolute Japanese dog.

Sir Henry Howorth said he had known Sir William Gowers long, and if he were to put in one adjective the summary of his character, he would use the term genuine.

The Rev. Dr. Jessop acknowledged the toast in a humorous speech.

Mr. T. A. Reed also briefly replied, and spoke of Sir William Gowers's contributions to shorthand literature.

Dr. Mercier proposed "The Health of the Chairman," which was very heartily received.

Sir William Broadbent replied, and the proceedings concluded with an impromptu recitation by Mr. Rudyard Kipling of his poem "Mandalay," which was greeted with much enthusiasm.

The sum of £500 has been paid over to the Treasurer of the Prince of Wales's Hospital Fund as an instalment resulting from the visits of the public to the Queen's Diamond Jubilee presents which are now being exhibited at the Imperial Institute.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st; and notice is hereby given, in accordance with By-law 5, that Branch Secretaries' subscription accounts close on October 31st, and all unpaid subscriptions must be forwarded after that date to the General Secretary, 429, Strand, London. Post-office orders should be made payable to the General Post Office, London.

British Medical Journal.

SATURDAY, DECEMBER 4TH, 1897.

UNQUALIFIED ASSISTANTS AND "COVERING."

The General Medical Council have at length taken a decided step with regard to the practice of employing unqualified assistants in matters exclusively appertaining to the qualified medical practitioner; and also with regard to the still more reprehensible practice of covering unqualified medical practitioners.

The matter is not a new one, for the General Medical Council have on various occasions taken the subject into consideration, and have from time to time expressed their views in a more or less definite manner, but so far at any rate as concerns the employment of unqualified assistants, nothing very satisfactory has resulted from the expression of their opinion. What is now proposed, however, is of a much more stringent character.

A full report of the debate in the Council appeared in the British Medical Journal of November 27th, but the subject is one of so much importance and the scope of the resolutions so comprehensive and definite that we think it desirable to consider and discuss their effect in some detail. The 29th section of the Medical Act, 1858, enacts that "If any registered medical practitioner.....shall, after due inquiry, be judged by the General Medical Council to have been guilty of infamous conduct in any professional respect the General Medical Council may, if they see fit, direct the Registrar to erase the name of such medical practitioner from the *Register*." The General Medical Council have now, by their notice and resolution, declared that any registered medical practitioner "who is proved to have employed" in the manner referred to in the introductory clauses "an unqualified assistant is liable to be judged as guilty of infamous conduct in a professional respect and to have his name erased from the *Medical Register*."

Further, in regard to the practice commonly known as "covering," the Council give notice "that any registered medical practitioner who by his presence, countenance, advice, assistance, or co-operation knowingly enables an unqualified or unregistered person (whether described as an assistant or otherwise) to attend or treat any patient, to procure or issue any medical certificate or certificate of death, or otherwise to engage in medical practice, as if the said person were duly qualified and registered, is liable to be judged as guilty of infamous conduct in a professional respect, and to have his name erased from the *Medical Register*" under the said enactment.

There is a limitation that the foregoing notices are "not to apply so as to restrict the proper training and instruction of *bonâ-fide* medical students and pupils, or the legitimate employment of dressers, dispensers, and surgery attendants under the immediate personal supervision of registered medical practitioners."

The General Medical Council have here spoken in no uncertain voice. The introductory words form the keynote to the whole, and afford an example of the manner in which the prohibitory clauses which follow are to be interpreted, namely, "that it has from time to time been made to appear to the General Medical Council that some registered medical practitioners have been in the habit of employing as assistants in connection with their professional practice persons who are not duly qualified under the Medical Acts, and have knowingly allowed such unqualified persons to attend or treat patients in respect of matters requiring professional discretion or skill; and that, in the opinion of the Council, such a substitution of the services of an unqualified person for those of a registered medical practitioner is in its nature fraudulent and dangerous to the public health."

It is important to bear in mind that the employment of unqualified assistants even in cases in which they act in the treatment of a patient under the immediate supervision, and merely as "the ministering hand under the directing brain" of the qualified man, is brought within the purview of the restriction. In fact the employment of unqualified assistants must in future be strictly limited to their proper duties as defined in the proviso—namely that of "dressers, dispensers, and surgery attendants." This is the plain meaning of the clause which must henceforth be observed in order to avoid the serious consequences which may follow a complaint to the General Medical Council.

The definition of "covering" is equally wide in its scope. "Any practitioner who by his presence, countenance, advice, or co-operation," knowingly enables an unqualified or unregistered person (whether described as an assistant or otherwise) to attend or treat any patient, to procure or issue any medical certificate or certificate of death, or otherwise to engage in medical practice, is liable to be judged as guilty of infamous conduct in a professional respect, with the penalty which would follow upon such a judgment.

The terms are so explicitly defined that absence of knowledge could scarcely be pleaded with any hope of success, and inadvertence would probably be held to deserve the same result. It will be incumbent, therefore, on every practitioner to give the matter his serious consideration, so that he may hold himself free from liability.

There is no lack of evidence to exemplify the necessity for the course adopted by the General Medical Council. Reports of inquests and other proceedings have constantly shown the impropriety of employing unqualified assistants. Their employment is always liable to be in fact a fraud and source of danger to the community, who should be entitled to have what they pay for, and not to have substituted for a qualified person an amateur, however skilful he may be.

The practice of "covering" an unqualified practitioner is still more pernicious in principle and dangerous in result, and we view with every satisfaction the stringent measures now prescribed for its prohibition.

A blow has undoubtedly been aimed at what may be termed "covert" unqualified medical practice, and possibly this may

pave the way to a movement on the part of the General Medical Council, having for its object the imposition of penalties for the defiant infringement of medical practice on the part of prescribing chemists, and still more on that of the unblushing advertising quack.

RESERVOIRS AND SEDIMENTATION TANKS.

"Those eighteen, upon whom the tower in Siloam fell, and slew them, think ye that they were sinners above all men that dwelt in Jerusalem? I tell you Nay; but, except ye repent, ye shall all likewise perish." Have those in authority at Maidstone or at King's Lynn been more to blame than similar authorities in other towns and areas in other parts of the country? Rather is it not merely that they have been unfortunate enough to furnish striking object lessons which should teach the country at large, from the penalties inflicted upon these towns, the inevitable results of neglecting wittingly or unwittingly to take every precaution to ensure the preservation of the purity of their water supplies?

With the original source of the water supply we are not now specially concerned, as it appears to be impossible in some cases—without the expenditure of larger sums of money than most communities will face—to obtain an ideal natural water supply. Moreover, in certain instances, the physical characters of the surrounding country are of such a kind that any natural improvement of the source of water supply would at present be not only costly but difficult.

Granting all this, and of course the concession is only for the purpose of the present argument, can nothing be done to improve the quality of water, the initial quality of which is, to say the least, doubtful? Undoubtedly much can be done, and water engineers are daily becoming more keenly alive to the fact that in sedimentation and filtration through sand they have two most valuable agencies for the comparative purification of potable water.

The sedimentation of water under favourable conditions has a special value of its own. When water which has been in constant motion is allowed to stand at rest in reservoirs, or settling ponds, or tanks, it will be observed that in a very short time, even in the case of what appear to be very pure waters, a more or less marked flocculent deposit is thrown down. There can be no doubt that certain particles, almost invisible to the naked eye, are gradually deposited, but along with these relatively large fragments more minute particles are carried to the bottom. Amongst these more minute particles bacteria of various kinds must be included, as it is found that if a sample of water be taken just as it enters the reservoir or settling pond and another after thorough sedimentation has been allowed to take place, the former, as a rule, contains a much larger number of micro-organisms than the latter. The result has been obtained so uniformly by all observers that the question has practically been removed from the region of controversy to the realm of well-ascertained fact.

The addition of fine matter in suspension, such as fire clay in the form of a paste, lime, either as a fine mechanical mixture or as a chemical precipitate, will effect a very marked bacterial purification of water, the bacteria, in proportions from a half to nine-tenths, or even more, being carried down mechanically. It has also been observed that the addition of alum, even in very small quantities, to certain waters causes slight precipitation of a flocculent matter. The contained bacteria in this case are so completely entangled in the meshes of the precipitate that the bulk of them are carried to the bottom along with it. How efficient this mechanical sedimentation may be is gathered from the fact that even the enzymes formed by micro-organisms may be entangled and almost completely carried down by a precipitate of phosphate of lime.

This precipitation or sedimentation is entirely a matter of degree, but it will be found that wherever water, protected from surrounding contamination, is allowed to stand at rest in bulk, there is always a deposition of a certain amount of sediment, and that in this process of sedimentation a considerable proportion of the micro-organisms present are, along with other matter, carried to the bottom of the settling tank.

As a process preliminary to filtration, therefore, sedimentation is of very great value indeed. Whether the water is afterwards to be passed through one of the reliable "bougie" filters or whether it is to be passed through a sand filter, it is a matter of the utmost importance, if the filter is to allow a reasonable amount of water to pass for any length of time, that there should be left in the water as little solid matter as possible to be collected on the surface of the filter. In this respect micro-organisms, minute as they are, act as do any other solid particles, and eventually will fill up the pores, even of a sand filter, and prevent the passage of water. The separation of a certain, it may be a large, proportion of the micro-organisms by sedimentation not only leaves less work for the filter to do, but, because of the less amount of material deposited on the surface or in the pores of the filter, allows it to work for a longer time.

It has often been stated that the purest surface waters are those in which there is an alternation of sedimentation and rapid aëration. As examples of this kind of purification may be quoted the water of high lands which alternately passes from a brawling stream to a placid lake or tarn only to pass on again to a rapid stream, and then perhaps ultimately to a lowland lake or river, where final sedimentation and micro-organismal purification may take place. In slowly flowing rivers the bacteria in the water are sometimes very few in number, but in times of flood these bacteria become much more numerous. For this rapid rise there are undoubtedly several reasons, but by far the most important are (1) that the micro-organisms deposited at the bottom are stirred up by the more rapidly flowing stream, (2) that those previously deposited in the mud above the low water mark are again, as it were, brought into circulation, and (3) that the surface water from the land in the immediate neighbourhood brings down along with it numerous soil organisms. It will readily be understood that under these conditions mud and other particles are mixed with the water, and that all the conditions necessary for successful sedimentation and the separation of micro-organisms are exceedingly favourable.

It is now generally accepted that the thin layer of vegetable organic matter which forms on the surface of a sand filter is the real filtering or osmotic layer. Whether this be the case or not there can be no doubt that when the upper surface becomes clogged with mud or with too thick a sediment, the passage of water through the filter becomes so slow that the use of the filter is no longer practicable. It is, therefore

especially necessary in such times of storm or flood, as have been recently experienced in so many parts of the British Isles, that all water to be passed over filters should first of all be carefully sedimented, and it is to be anticipated that sedimentation tanks will become a necessary part of every filtering installation for the treatment of surface waters.

THE BRITISH MEDICAL ASSOCIATION AND THE JOURNAL IN 1897.

The objects which the founders of the Association had in view in its establishment were the promotion of medical and the allied sciences, and the maintenance of the honour and the interests of the medical profession, and one of the modes in which it has sought to attain its objects has been by holding meetings of the Association in different parts of the United Kingdom. This area was extended by resolutions passed in 1896 to embrace the whole of the British Empire, and the first consequence of this change was seen in the highly successful annual meeting of the Association held in Montreal during the first days of September this year. This new departure will render the year memorable in the annals of the Association, and it was a happy coincidence that caused this first meeting of the Association outside of the British Isles to fall in the year in which the celebration of the Queen's long reign has called forth so strong a manifestation of that feeling of brotherhood which binds together the widely separated parts of her vast empire.

The annual meeting of the Association next year, the sixty-sixth, will take place in Edinburgh under the presidency of Sir T. Grainger Stewart, the distinguished Professor of the Practice of Physic in the University of that city, made so justly famous by the past and present glories of its medical school. The meeting will commence on July 26th, 1898, and it will then be twenty-three years since the Association last met in Edinburgh and ten since it last met in Scotland within the precincts of the sister University of Glasgow. The preliminary statement which we publish in another column is sufficient to show that no pains will be spared to render the meeting in Edinburgh in every respect successful and enjoyable. In Sir T. Grainger Stewart the Association will have a President whose fame as teacher and as physician has been carried by his many pupils to the uttermost parts of the British Empire. The readers of general addresses—Professor T. R. Fraser, Professor Annandale, and Dr. Batty Tuke—are equally well known as worthy representatives of the Edinburgh school.

The demands upon the space of the Journal for the discussion of the multitude of subjects, scientific or social, which interest or agitate the world of medicine, while they are sometimes embarrassing to those who are charged with editorial duties, are nevertheless the best evidence that its publication meets the needs of the great body of members of the profession, and that its conduct has been such as to command their support. The increase in the circulation of the Journal, which we have had the gratification of recording during previous years, has been continued certainly in no diminished ratio during that which is now drawing to a close. The number of copies of the Journal which are now printed weekly is over 20,500, and of certain special issues a still larger number are published.

The position of the Army Medical Service has again occupied much of the space of the Journal, and has been continually under the consideration of the Parliamentary Bills Committee, and there seems now to be reasonable ground for anticipating that a real advance has been made towards the solution of a difficulty which has threatened seriously to compromise the efficiency of one of the most important departments of the army.

When the Parliamentary Bills Committee first issued their report twelve months ago, it was believed that the claims made were so fair and reasonable, so obviously in the interests not merely of the Army Medical Service, but of the army itself, that they and the reasons for them had only to be sufficiently widely known to secure the support of all unprejudiced persons. That belief has been amply justified. The public press all over the kingdom has declared itself on the side of the Committee. The *Times* has published a powerful article on the report. The *Lancet*, after deliberation, has done the same. Many of the Branches of the Association have already rendered invaluable assistance. The University of Edinburgh has written expressing its sympathy, and the Royal College of Surgeons of England has empowered its President to arrange with the President of the Royal College of Physicians to approach the Secretary of State for War on the subject. Our pages have recently contained reports of addresses given by leading civil members of the profession pointing out the need for the reforms we have so frequently indicated. Officers of other branches of the army are more and more expressing approval of the measures advocated, and letters of thanks from army medical officers have been received from all parts of the world. Within the next few days the War Office will be asked to receive a deputation from the Committee. It seems not unreasonable to hope that before another year goes by the formation of an Army Medical Corps, with army rank and titles for its officers, will be an accomplished fact. For the sake of our soldiers we trust so.

Another direction in which we have had gratifying evidence of the influence of the Journal and the Association in bringing about necessary reforms has been the stirring of public opinion with regard to the administration of workhouses and workhouse infirmaries, and with regard to the maintenance of pauper children. With regard to the last-named matter, much remains to be done, but the constitution of the Special Committee of the Metropolitan Asylums Board, appointed to take charge of the metropolitan children who come under its guardianship, is a distinct step in advance. In Ireland a better day has already dawned, while in England, in addition to many minor improvements, we are able to point to the complete remodelling of the arrangements for treating the sick, which, as we stated in detail last week, has followed the report of our Commissioner upon the original neglected condition of the Bath Workhouse Infirmary.

During the past year much space has been given to the publication of addresses, reports, and other communications dealing with the subject of hospital abuse, and the evil effects of medical aid associations and certain forms of contract practice. Public opinion has undoubtedly been allowed to drift into a very unhealthy attitude towards the medical profession owing partly to the natural, if not very honourable, desire to get medical services in return for very small fees or for none, and partly to the growing belief in the advantages of specialism. The history not only of the

medical profession, but also of every other, shows that the trend of public opinion in the direction last indicated must be expected to become greater rather than less, and that its influence, so far as it is injurious to the interests of general practitioners, must be met by a wise organisation of our resources. The influences at work to increase the tendency to abuse of hospitals and of the contract system, have claimed much attention during the past year. The subject of medical aid societies, and of the means which should be taken to check a growing evil has been fully discussed in the Journal, and a large body of evidence has been brought together which has not only thoroughly aroused the attention of the profession of all ranks, but has also afforded a basis for action. It has been very generally felt, and from an early period of the discussion we have seen good reason to support the view, that owing to the varying character of local conditions, and the intricate nature of the subject, it was one which could only be dealt with effectually, in the first place at least, by local action. The matter has been engaging the consideration of some of the home Branches of the Association, and certain of them have already adopted resolutions expressing definite views on the subject.

Much of the most important work of the British Medical Association is done by its Branches and their Councils; special facilities are thus afforded for the expression of individual opinion, and for the discussion which is a necessary preliminary for collective action. It is much to be desired that every member of the Association who has not already done so should join the Branch in the district in which he resides. The whole of the United Kingdom is now covered by a network of Branches, and Branches exist also in nearly all the colonies. The Council has recently had the gratification of recognising two new Branches in Canada, at Quebec and Ottawa respectively, and there is good reason to expect that the interest aroused throughout the Dominion in the Association and its aims by the meeting this year in Montreal will not be allowed to diminish.

The increase in the number of readers of the Journal, to which we have already referred, has been attended with a corresponding growth in the number of communications offered for publication. The difficulty thus created has been in a large measure met by the arrangements made in 1895 to increase the size of the Journal for a couple of months after the annual meeting. This has rendered it possible to publish the reports of the discussions and papers in the Sections of the annual meeting at an early date, so that there is not, we believe, at the present time, any annual congress the full proceedings of which are published more promptly than those of the annual meeting of the British Medical Association. This year the annual meeting was held a month later than usual, and in a distant part of the empire, so that the publication of its proceedings necessarily commenced at a much later period of the year. Nevertheless it is hoped, unless accidental circumstances beyond the control of the editorial department intervene, that the whole may be completed in the present volume of the Journal.

Looking back at the events of the past year, we think the Association may fairly congratulate itself on having maintained the honour and interests of the profession in every direction in which effective action was possible, while those responsible for the conduct of the Journal have the consciousness of having done their best, in the way open to them, for the promotion of the medical sciences. If we have not escaped criticism, that is only to say that we are human—even as our critics are. The continued growth and steadily-increasing prosperity of the Association, and the influence which in the course of the past year it has exerted on public opinion and on the Legislature are the best answers to those who in their haste, or in their malice, have said that it is inactive and powerless.

The McEwan Hall of the University of Edinburgh was formally opened with great academic ceremony on Friday. The Chancellor of the University, the Right Honourable Arthur J. Balfour, presided.

Her Majesty the Queen has been graciously pleased to confer the Jubilee Commemoration Medal, 1897, on Surgeon-Major-General H. Sky Muir, M.D., Principal Medical Officer, Army of Occupation, Egypt.

The subject to be discussed by Mr. Alfred Willett, in his Bradshaw Lecture, before the College of Surgeons, on Wednesday, December 8th, will be the Operative Treatment of certain Bony Deformities, with special reference to Genu Valgum and Ankylosis of the Hip.

The annual Richard Middlemore lecture at the Birmingham and Midland Eye Hospital will be given by Mr. H. Eales, Surgeon to the hospital, on December 16th, at 5 P.M. The lecture will be on Exophthalmos, its Causes and Treatment, and will be illustrated by cases and specimens. All qualified members of the medical profession are invited to attend.

The subject of the first Hughlings Jackson Lecture of the Neurological Society of London, which will be delivered at the Rooms of the Medical Society of London, on Wednesday, December 8th, at 8 45 P.M., by Dr. Hughlings Jackson himself, will be The Relations of Different Divisions of the Central Nervous System to One Another and to Parts of the Body.

A meeting of the Executive Committee formed to promote a memorial to the late Surgeon O'Grady was held in Dublin on November 29th. Sir George Duffey was in the chair, and the honorary treasurers announced that a considerable number of subscriptions had been received. The Committee will meet again on December 13th. Subscriptions are received by the Honorary Treasurers, Dr. M. A. Donnelly and Mr. George de Belle Ball.

A BISHOP ON SUNDAY RECREATION.

"The Sabbath was made for man"—for the whole man, body, mind, and spirit—is the text of the remarkable and liberal-minded pastoral letter on Sunday observance recently issued by the Bishop of Chester, Dr. Jayne. "Who would not," he says, "do what in him lay to promote the right use and the full enjoyment of such a golden gift?" Speaking of the Sabbath as a day of rest for weary brains and hard-driven muscles, Macaulay, in his great speech on the Factory Act, made a strong appeal for one day in seven. "Man, the machine of machineries, the machine compared with which all the contrivances of the Watts and Arkwrights are worthless, is repairing and winding-up, so that he returns to his labours on the Monday with cleared intellect, with livelier spirits, and with renewed corporal vigour." The Bishop approves of this doctrine of "rest" and its beneficial results. But then rest is not mere inaction; as a rule rest is found in change of occupation, and granting this, we come to the question of Sunday occupation, and can any form of Sunday recreation, the Bishop asks, be

more laudable than knitting up social ties by family and friendly intercourse? As to bodily recreations, he quotes Bishop Sanderson, who, writing in the seventeenth century, mentions as suitable Sunday recreations, "archery, leaping, pitching the bar, and stoolball (a rudimentary form of cricket)." Bishop Sanderson, Dr. Jayne adds, would "doubtless have included bicycling, lawn tennis, and golf had they been pastimes in his day. Why, even the austere Calvin is said to have played at skittles, or its representative, on Sunday after church. That grand type of muscular Christian, Charles Kingsley, though he encouraged cricket on a Sunday afternoon, after service, among the lads of his village, counselled his own sons not to use that liberty, because they had ample opportunity of such recreation during the week. Who does not feel that those who are similarly circumstanced should on Sundays 'serve God and be cheerful' by ministering as generously and considerately as they can to the rest, edification, and innocent enjoyment of their less favoured brethren?" Here, then, we have a "liberal" programme which bids fair to attract the attention both of the laity and the members of the Episcopal Bench. The Bishop of Chester, in his latest pastoral, undoubtedly expresses views which are in conformity with those of a large number of men whose sole day for rest and recreation is the Sabbath.

IS DRUNKENNESS INCREASING?

The analysis of a Parliamentary return obtained at the instance of Mr. Goddard, showing the taxes and imposts on intoxicating liquors, and the traffic for the year ending March 31st, 1896, recently issued by the *Alliance News*, would at first sight appear to indicate an increase of the habit of drinking among the population with a decrease in the number of licences. The very injurious effect which any such increase in drinking would certainly have upon the health of the people has led us to examine the figures with some care. According to the analysis of the return, the number of licensed brewers has fallen from 13,799 in 1885 to 8,305 in 1897, while the gross number of barrels of beer which paid excise duty has gone up from, in the same period, 27,987,405 to 34,203,049. The barrel of beer formerly reckoned at the specific gravity of 1057 has, since April 16th, 1889, been reduced to 1055. The total number of proof gallons of spirits (home and foreign) has risen from 37,516,987 in 1885 to 41,232,632 in 1897. Yet the whole number of retail licences has diminished from 173,795 in 1882 to 169,011 in 1897—this notwithstanding that there has been a decrease in all classes of grocers' licences except for the retail of spirits in Scotland, where there has been an increase of 240. Curious to relate, the total gross receipts of revenue from the liquor traffic have, though there was a decrease in 1886 and 1887, mounted up from £30,770,161 in 1885 to £36,662,142 in 1897, a rise of over £5,891,000. There has been a continued expansion of the "domestic" trade in wines and spirits, from dealers in spirits, to sell not less than a quart, numbering in 1882 6,023, to (in 1897) 7,701; and from retailers of wine not to be consumed on the premises of 4,927 as against 3,742 in 1882. The natural conclusion is that more business is done under each licence, probably from increased accommodation. It must be observed, however, with regard to these figures that they make no allowance for the increase of population from 36 to 40 millions between 1885 and 1897, or an increase approximately of 11 per cent. We have, therefore, calculated the corresponding percentage increases under the different heads previously enumerated. When thus stated, it is found that the number of licensed brewers has declined 40 per cent., while the gross number of barrels of beer has increased 22 per cent., the number of proof gallons of spirits has increased 10 per cent., and the money spent on liquor of all kinds has increased 19 per cent. It appears, therefore, that, so far as spirits are concerned, the increase of consumption is barely proportional to the increase of population, and that the excessive increase of total expenditure on alcoholic liquors is explained by the increase of consumption of beer, possibly aided—though we do not know if this is so—by a higher price of spirits in recent years. The decline in the number of brewers is no doubt to be attributed to the formation of large limited liability companies, and the slight diminution (2 per cent.) in the number of licensed premises coincident with an increase of 11 per cent. in the population can be regarded with unmixed satisfaction.

THE ASSOCIATION AND MEDICAL DEFENCE.

The Special Subcommittee of the Council, at a recent meeting, settled the form of the inquiry to be addressed to members of the British Medical Association, asking for an expression of opinion as to the desirability of the Association taking up the work of medical defence. It is expected that the post-cards will all be despatched before the end of next week, but the task is one of considerable magnitude, as the number to be sent out is 17,413, comprising 13,722 for the United Kingdom, and 3,691 to Colonial members and members residing abroad.

WORK AND SLEEP.

Sir James Sawyer, who has lately been discoursing on longevity to the members of the Acock's Green Institute, Birmingham, rightly insisted on "a sufficiency of sleep" as one of the things needful to make a man's days long in the land. But what is a "sufficiency?" Sir James defines it as one-third of the twenty-four hours. For what Matthew Arnold called the "average sensual man," that is to say, the man of normal physiological needs and cravings, this amount is probably not too much. But some of the greatest workers of our day have done with much less than eight hours of sleep. Dr. James Legge, Professor of Chinese in the University of Oxford, who has just died at the age of 82, was, it is said, in the habit of rising at 3 A.M., and allowed himself only five hours of sleep. Brunel, the famous engineer, for a considerable part of his life, worked nearly twenty hours a day; friends and assistants have left it on record that he hardly ever went to bed, and yet never seemed tired or out of spirits. After working through great part of the night, he slept in his armchair for two or three hours, and at early dawn he was ready for the work of the day. Sir George A. Elliott, afterwards Lord Heathfield, who was in command throughout the great siege of Gibraltar, which lasted four years, never during all that time slept more than four hours out of the twenty-four. He lived to the age of 84. In a recent number of *Cosmopolis* Professor Max Müller records a conversation which he had with Alexander von Humboldt on the subject of sleep. "As I get old," said Humboldt, "I want more sleep—four hours at least. When I was young, two hours of sleep were quite enough for me." On Professor Max Müller hinting that he found this a hard saying, Humboldt said: "It is quite a mistake, though it is very widely spread, that we want seven or eight hours of sleep. When I was your age, I simply lay down on the sofa, turned down my lamp, and after two hours' sleep I was as fresh as ever." He lived to be 89. Littré gives the following account of his labours during the printing of his dictionary, which was thirteen years in passing through the press: "My rule of life included the twenty-four hours of the day and night, so as to allow the least possible amount of time to the current calls of existence..... I rose at 8—very late, you will say, for so busy a man. Wait an instant. Whilst they put my bedroom in order, which was also my study, I went downstairs with some work in hand. It was thus, for example, that I composed the preface of the dictionary. I had learned from Chancellor d'Aguesseau the value of unoccupied minutes. At 9, I set to work to correct proofs, until the hour of our mid-day meal. At 1 I resumed work and wrote my papers for the *Journal des Savants*, to which I was from 1855 a regular contributor. From 3 to 6 I worked on the dictionary. At 6 punctually

we dined, which took about an hour. They say it is unwholesome to work directly after dinner, but I never found it so; it is so much time won from the exigencies of the body. Starting again at 7 in the evening, I stuck to the dictionary. My first stage took me to midnight, when my wife and daughter (who were my assistants) retired. I then worked on till 3 in the morning, by which time my daily task was usually completed. If it was not I worked on later, and more than once, in the long days of summer, I have put out my lamp and continued to work by the light of the coming dawn. However, at 3 in the morning I generally laid down my pen and put my papers in order for the following day, that day which had already begun. Habit and regularity had extinguished all excitement in my work. I fell asleep as easily as a man of leisure does, and woke at 8 as a man of leisure does." Littré was past 40 when he began this work, he was 59 when he began to print the dictionary, he was 72 when he completed it, and he lived to be nearly 80. These examples may, to use the consecrated phrase of the hagiographers, be more for admiration than for imitation; but they serve to show that longevity and a small allowance of sleep are not in all cases incompatible.

PRELIMINARY EDUCATION.

WE are glad to see that the General Medical Council is attacking the question of preliminary education. We discussed the whole subject at length six months ago,[1] and pointed out that while there were indications that the standard was steadily rising this process should be furthered to the utmost possible, and that in the present crowded state of the profession it was not only an easy, but an almost necessary, task to do so. But though the Council are taking some steps in that direction, we regret to see that they are taking very short steps at a time. The adopted clause runs: "That on and after January 1st, 1899, no certificate of lower standard than that of the Matriculation or Entrance and the Junior Local Examinations of the Universities of the United Kingdom will be accepted for registration." To join these two examinations, the Entrance and the Junior Local, together is so extraordinary, that we thought at first that junior was a misprint for senior. We regret to find that this is not the case. Now the Junior Local Examinations are passed by children of 14 and 15, and it is passing strange that such should continue to be accepted as sufficient for a medical student. It is roundly asserted that those on the Council who are really in earnest are outvoted by members who are anxious to protect certain bodies which find it to their interest to keep their entrance examinations easy. The standard to the level of the Entrance Examinations ought to be advanced, for the best cure for the manifold trials of our profession is that its numbers should be somewhat diminished and its standard raised.

THE CONDUCT OF VACCINATION PROSECUTIONS.

SOME proceedings which have taken place lately before the Croydon Bench of Magistrates in connection with the prosecution of vaccination defaulters seem to emphasise the importance of remarks which we felt called upon to make some time ago on the conduct of vaccination prosecutions.[2] The Croydon Board of Guardians, like some other Boards, appear to have thought it desirable to anticipate legislation in furtherance of the recommendations of the Royal Commission on the subject of honest objectors by themselves recognising such objections as a "reasonable" excuse for not prosecuting defaulters who urged them. It might have been supposed that a line of action which so fully meets the object the Commissioners had in view, even though an irregular if not illegal one under the present law in the case of first prosecutions, would have so far commended itself to all "reasonable" antivaccinators that very little sympathy would have been shown by them for objectors who refused to take advantage of the golden bridge thus offered them by the Croydon Board. That there would still be defaulters might be expected, for there will always be people so wrong-headed or so indolent that they will not meet even halfway the best-intentioned efforts to spare them from the effect of troubles which they bring upon themselves. But one would have hardly expected that those who maintain the antivaccinist agitation, whether the expenses come out of the pockets of local sympathisers or from the funds of the National Antivaccination League, would feel disposed to incur the cost of defending people so determined to put themselves in the wrong. Such, however, was not the case here, and accordingly Mr. Schultess Young appeared in court to meet the prosecutions with all the ingenious resources of which he is such a skilled master. But Mr. Young's *mitraille* of objections, though very effective against those who are unprepared for its discharge, ought to have no terrors for those who are properly equipped for their work. As we pointed out in the article already referred to, Mr. Young has in fact published in a cheap form all the details of the art and mystery which he has developed.[3] Even, therefore, if the vaccination law were much more obscure and contradictory than it really is, so that non-professional prosecutors could not be expected to fathom its profundities, they have only to study Mr. Schultess Young's manual to be able to meet him with his own weapons. But, so long as Boards of Guardians, who may still think it their duty to prosecute vaccination defaulters, will not see that it is also their duty to take care that their cases are properly supported before the magistrates, the discredit of any failures which they may incur must fall upon themselves. It is worth noting that on this occasion Mr. Schultess Young broke some ground which, so far as we are aware, is new to these conflicts. In the manual already referred to Mr. Young cites, as one ground on which a conviction may be quashed, the fact that either or any of the justices hearing and adjudicating is a member of the Board of Guardians prosecuting, if, as such, he has taken an active and actual part in the prosecution. At Croydon a convenient bystander in court handed Mr. Young a slip of paper, after reading which, with an expression of regret which must have added piquancy to the incident, he raised an objection to the presence of Sir F. T. Edridge on the Bench, on the ground that this gentleman "had expressed views on the matter, that he had pointed out the prevalence of non-vaccination in the borough, and had called upon the guardians to enforce the law." Upon this Sir F. Edridge decided to retire from the Bench, notwithstanding the tardily-expressed statement of Mr. Young that "he did not wish it," and his subsequent unconditional withdrawal of his objection. This seems a little inconsequential. Mr. Young must have known well enough that the ground on which he based his objection to Sir F. Edridge did not form a valid disqualification. But, "willing to wound and yet afraid to strike," he seems to have thought a little by-play of this kind would give additional *éclat* to his defence.

THE ABANDONMENT OF TWO BARRACK SCHOOLS.

WHEN we have urged the abolition of the barrack schools our critics have said that the existence of the building was an insuperable objection. We have counselled various methods of segregating children, and have been met by the assertion that their numbers made such plans impossible. It is, therefore, gratifying to learn that two of the largest barrack schools are to be abandoned — we refer to Kirkdale and Sutton. On the appearance of the Departmental Report, the Liverpool authorities contended that their barrack schools were free from the evils discovered in similar institutions in London, and that they desired no better system for the children under their care, but wiser counsels have since pre-

[1] BRITISH MEDICAL JOURNAL, 1897, vol. i, pp. 538, 596, 668.
[2] BRITISH MEDICAL JOURNAL, March 20th, 1897, p. 741.
[3] *Legal Defences to Compulsory Vaccination*, by H. Schultess Young. London: Simpkin, Marshall and Co. 2s.

vailed. Another use has been found for the buildings, and the children are to be provided for in small groups. Some weeks ago we foretold in the British Medical Journal that the days of the Sutton barrack schools were likely to be numbered, news that is now confirmed by the fact that the Metropolitan Asylums Board has decided to purchase that "pauper palace," and after dividing it into various buildings, to use it for some of the classes of sick children for whom they have recently been made responsible. All who have followed our efforts, which have now extended over three years, on behalf of the Poor-law children, will rejoice at this amount of success, although public vigilance must help to keep the central body from falling into the error of institutionalism. What is needed for a child is a home where its bodily health and individual character can both be considered and moulded, but the tendency of Boards is to provide institutions.

THE LONDON UNIVERSITY QUESTION.

The Duke of Devonshire, in his speech at the anniversary dinner of the Royal Society, put in the forefront of the measures which the Government contemplated for the purpose of advancing the study of science, and of improving the condition of education in this country, the creation of a teaching university for London. The Chancellor of the University of London has called a meeting on December 14th of the delegates of all the various educational bodies named in the report of the Cowper Commission, together with the Special Committee appointed by Convocation, to confer with the representatives of the Senate as to what steps should be taken in relation to the proposed legislation for the University. Since the Duke of Devonshire, as Lord President of the Council, is the Minister directly responsible for the Government Bill of 1897, we trust that his observations may be taken as indicating that he is prepared to comply with the request which will no doubt be addressed to him as the result of this meeting—namely, to urge the Government to reintroduce their Bill early next session. The scheme for a Westminster University, the outlines of which were first published in the British Medical Journal a fortnight ago, has since attracted a great deal of attention, and has been the subject of a voluminous correspondence in the *Times*, in which very different opinions as to the wisdom of propounding such a scheme at the present moment have been expressed by eminent authorities. If, however, its promulgation shall have the effect of impressing upon those who are in favour of the compromise contained in the Bill of last year, it will at least have served a useful purpose. It will be seen that since the list published last week about fifty other names have been added to the list, making a total of 153. It is stated that Deans of the medical schools who have joined the committee have done so in their individual capacity, and that this must not be taken as pledging the schools to the scheme, which has not yet been officially under their consideration.

SERUM DIAGNOSIS OF TYPHOID FEVER.

In a recent circular addressed to the President of the Board of Health of Quebec, Dr. Wyatt Johnston states that, after a year's trial, he has found Widal's method of diagnosis of typhoid fever quite satisfactory. He still considers that the use of dry blood for this purpose answers every requirement, and does not find it necessary for routine work to have recourse to quantitative methods. Nevertheless, he has thought it desirable to devise such a method. He measures the blood, as it is obtained from the patient, by means of a metallic loop. The measured drops are dried on a glass slide, or on a piece of non-absorbent paper, and sent to the laboratory, where the blood can be diluted at will. It is interesting to notice that in its present form Dr. Johnston's procedure resembles closely the one introduced fifteen months ago by Professor Delépine, with the difference that the latter finds it simpler to have the blood collected in minute glass tubes, which, after being sealed up, are sent to the laboratory, where blood, bouillon, and culture are measured carefully by means of a platinum loop of definite size. Dr. Wyatt Johnston has also recognised the importance of the reaction of the culture medium. He says that this should be such that 3 to 4 per cent. of normal alkali should be required to make the bouillon neutral to phenolphthalein. This amounts to, say, that the bouillon must be feebly acid. This is in agreement with various observations published previously in our columns and elsewhere,[1] where the danger of using alkaline media is pointed out. It is satisfactory to find that after a year's trial the method is still working well at Montreal. On this side of the Atlantic various opinions have been expressed as to its value, but where the method has been used systematically, and with care, in public health work, it seems to have yielded valuable and very reliable results. This was shown last September at the Leeds Congress of the Sanitary Institute. The results of clinical examination and serum testing of over 400 cases of suspected typhoid fever observed in Manchester being analysed, it was found that the serum diagnosis was supported by the course of cases observed in hospital, and with regard to the cases observed in general practice, the medical attendants testified to the correctness of both negative and positive results in not less than 94 per cent. of them. All the *post-mortem* examinations obtainable had confirmed the results of the serum test.

MADEIRA.

As has already been briefly announced, the Portuguese Government have, with the consent of the Cortes, determined to spend a considerable sum of money annually on making much-needed improvements in the sanitary condition of Madeira. The proposal sanctioned by the Cortes assigns about one-sixth of the annual revenue of the district to its development. A scheme has been approved, and two parts will be at once taken in hand. These are the provision of an adequate water supply from the mountains, and the drainage of Funchal. The annual revenue derived from Madeira by the Portuguese Government and devoted to imperial purposes is a net sum of about £80,000. The justice and necessity of expending some part of this sum on the island have been brought forcibly under the notice of the Portuguese Government by Dr. Michael Grabham, of Madeira, who has received the strenuous and effective support of the present island governor, Señor De Almada. Dr. Grabham was able to show that the repute of Madeira as a health resort, and therefore the revenue derived from it by Portugal, depended upon immediate reform. Whilst external progress during the past thirty years has been enormous, as is shown amongst other things by the increase in the size and comfort of the Cape steamers, and whilst travelling has become expeditious, and even luxurious, Madeira has not kept pace with the progress of sanitation, a defect accentuated by the great increase in its population. Dr. Grabham in his appeal to the Portuguese Government instanced particularly the fact that the water supply, derived from springs issuing in the inhabited districts of the towns, was inadequate and untrustworthy, and had actually to be carried to distant villas on men's shoulders. He pointed out that the existing drains were antiquated and imperfect, rendering an entirely new plan necessary, and further showed that the cemeteries, which are within the town, are overfull and quite insufficient in times of normal mortality. An examination of the possible sources of water for Funchal showed the existence of a copious supply of pure mountain water and the feasibility of its introduction. So also with regard to the drainage of Funchal it was shown that no insurmountable difficulty existed, and the announcement that funds have been provided for these two pressing reforms will be heard with satisfaction.

[1] Technique of "Serum Diagnosis," British Medical Journal, April 17th, 1897.

it would be a great loss to Europe if Madeira, a beautiful island on a great ocean highway, only a little more than three days' journey from England, and possessing in its mountains every variety of winterless climate, should be allowed to sink into oblivion for the want of elementary hygienic precautions. Dr. Grabham is to be congratulated on the success of his energetic action and on having known how to elicit the sympathy of the governor of the island and of the Queen of Portugal in the inception of measures which, if vigorously pushed forward, will undoubtedly restore Madeira to its rightful place among health resorts for Europeans.

BOARD OF GUARDIANS AND HOSPITALS.

WE have received a copy of the *Willesden Chronicle* (November 19th), in which we find a letter from "Medicus," criticising the action of the Willesden Board of Guardians, who appear anxious to arrange with the authorities of St. Mary's Hospital to have all their pauper patients who require operative treatment admitted there, and so by this course escape their own pecuniary liabilities by obtaining all necessary surgical assistance for little or nothing, when by so doing they deprive their own medical staff not only of the fees to which they are by law entitled, but also of the surgical practice which must tend to increase their efficiency. We understand that the secretary of St. Mary's Hospital does not admit that any arrangement has been made with the Willesden guardians for the treatment of cases sent there by them, but that any surgical case requiring operative assistance would be readily admitted at St. Mary's Hospital, whether one of the Willesden paupers or not. It would have been more satisfactory if we could have learnt that paupers, as a rule, are not admitted at that hospital for treatment unless the cases are of some gravity or urgency, or for some special reason cannot be efficiently treated by the parochial medical staff of their own locality. It should be borne in mind that the general hospitals do not at the present time exist for the treatment of paupers, as this class of patient is by law provided for, but that these institutions have been established rather for the prevention of pauperism, by providing treatment for those who might in the future be reduced to this unfortunate grade, if not assisted in some way during their incapacity for employment. We fail to see how a general resolution of any Board of Guardians can be satisfactorily carried out when it is indicative of the line of treatment to be adopted. Are we to understand that the Willesden Board direct that all operation cases shall be sent to St. Mary's Hospital whether fit to be removed there or not, and irrespective of the wishes of the patients? Or do they expect that the less grave cases are to be sent away, and that their own medical staff will at all times be ready to provide the necessary operative assistance for the more serious cases which cannot be removed? It is certainly contrary to the spirit of all Poor-law legislation that general hospitals should be converted into pauper infirmaries. If this change is to be effected we do not see how it can be properly done without fresh legislation.

THE DANGERS OF COCA WINES.

DR. SNOW, of Bournemouth, in his presidential address to the British Balneological Society, spoke of the increase of intemperance amongst invalids from the enormous consumption of coca wine. It is a subject to which we have frequently called attention. The evil, however, is by no means confined to invalids and convalescents, but pervades all classes of society, women and children being the chief victims. The term "coca wine" has no definite meaning, that is to say, there is no official formula for its preparation. Some kinds are made from the coca leaves themselves, others from the liquid extract of coca of the British or United States *Pharmacopœias*, whilst another variety is not made from coca at all, but from hydrochlorate of cocaine. In every case, however, the basis is a strongly alcoholic wine. In one specimen the wine was evidently of Spanish origin, and of the quality usually sold retail in London at from 1s. to 1s. 3d. a bottle. It probably contained from 18 to 20 per cent. of alcohol, and was clearly not of a character to be taken with impunity by, say, a girl at school at 11 o'clock in the morning. A chemist was recently summoned at the instance of the Inland Revenue authorities for selling coca wine without a licence. It was stated in evidence that on analysis the wine was found to contain 29.2 per cent. proof spirit. The magistrate pointed out that it was bought from chemists by women who had given way to drink, and that it was extensively used for that purpose. He imposed a fine of £5, with costs. In an American work on pharmacy we are told that the best coca wine is made by adding an ounce of fluid extract of erythroxylon, an ounce of alcohol, and an ounce of sugar to 14 ounces of claret, but it is significantly added that "in place of claret any other palatable wine may be used according to the demand or preference of the prescriber or customer." The dangers of preparations of this description are obvious. The patient not only acquires a liking for alcohol—which is presented in its most seductive form—but soon falls a victim to what Erlenmeyer calls the third scourge of humanity—the coca habit. The first effects are slight, and are probably overlooked, but continual indulgence creates a craving, which the victim seeks to satisfy at all risks. The ordinary alcoholic stimulants are no longer found sufficient, and coca wine is taken in addition. The sufferer from cocainism soon becomes nervous, tremulous, sleepless, and without appetite, and finally drifts into a condition of pitiable neurasthenia. It is surprising that in recent works on pharmacology and medicine no reference is made to this condition, the only exception being in the case of the fourth edition of the late Dr. Milner Fothergill's *Practitioners' Handbook of Treatment*, where the following statement occurs: "Coca wine and other medicated wines are largely sold to people who are considered and consider themselves to be total abstainers. It is not uncommon to hear the mother of a family say, 'I never allow my girls to touch stimulants of any kind, but I give them each a glass of coca wine at 11 in the morning, and again at bedtime.' Originally coca wine was made from coca leaves, but it is now commonly a solution of the alkaloid in a sweet and strongly alcoholic wine. This is really the gist of the whole matter; coca wine is largely consumed by people who fondly believe themselves to be total abstainers, and who are active enough in denouncing those who take a little wine or a glass of beer at their meals. The sooner their delusion is dispelled the better for themselves and for the unfortunate children over whom they exercise supervision.

FRESHFORD COTTAGE HOSPITAL.—For some years past Freshford, in Somerset, and some of the neighbouring parishes, comprising a population of about 3,000, has had a Queen's Jubilee District Nurse, and in commemoration of the Diamond Jubilee the District Nursing Association, with the help of rich and poor alike, has been enabled to open a home for the nurse, and in the same house has provided four beds and a cot for such cases as cannot be properly treated at their homes. In a separate room there is a bed for a paying patient, but all patients residing in the district are expected to pay something for their maintenance, whilst those not residing in the nursing district will be expected to pay at a somewhat higher rate. The cottage hospital is under the charge of a trained nurse, who acts as matron. All medical men practising in the district are *ex-officio* members of the Nursing Association, and the medical director is *ex-officio* a member of the Executive Committee, which comprises one or two representatives from every parish in the nursing district. Should the provision now made prove insufficient in the future it is thought that the nurse will be able to train in ambulance and elementary nursing some intelligent young woman in each village who might be willing to act as a volunteer under the nurse's direction, and as her assistant.

Fig. 1.—McEwan Hall and University Union.

THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION, EDINBURGH, 1898.

The sixty-sixth annual meeting of the British Medical Association will be held in Edinburgh from Tuesday, July 26th, to Saturday, July 30th, 1898. The date corresponds with the interval between the close of the summer session and Graduation Day in Medicine at Edinburgh University. The arrangement is a peculiarly fitting one in the case of Edinburgh, recalling, as it will, to the memory of the hundreds of Edinburgh graduates who will doubtless flock hither scenes and associations of deep interest. The medical graduation itself, which will be remarkable as the first ceremonial of its kind in the great McEwan Hall, will suitably conclude the round of brilliant functions which may be expected in the ancient metropolis.

Site of the Meeting.

The twenty-three years since the date of the previous meeting in Edinburgh have seen many changes in the medical institutions of the city. In 1875 the Association was located in a number of buildings with no very definite organic unity. On the present occasion this will be different. It is expected that the general meetings will take place in the magnificent McEwan Hall, recently gifted to the University by Mr. William McEwan, M.P. for the Central Division of Edinburgh.

The Sections will be convened in the spacious class rooms in the new medical buildings of the University, which are continuous with the McEwan Hall (Fig. 1). It is anticipated that the academic club rooms of the University Union, which also abut on the McEwan Hall, will be available for the use of members. Accessory accommodation of different kinds will be afforded in the immediately-adjoining class rooms of the School of Medicine of the Royal Colleges. The museum of anatomical and pathological specimens will be fittingly housed in the splendid dissecting room of the University Anatomical Department, while ample accommodation under appropriate conditions will be afforded to the annual exhibition of new drugs, instruments, books, etc., in the very large volunteer drill hall not fifty yards removed from the medical buildings.

Hospitals.

The amenity of the site is still further enhanced by the fact that the Sectional meetings will be separated only by a very few yards from the magnificent edifice of the Royal Infirmary. The illustration (Fig. 2) shows the charming west front of the University buildings, with the entrance to the Meadow Walk—reserved for foot passengers—which leads southwards between the University and the Infirmary. The proximity of the latter institution, with its large medical and surgical theatres, will add much to the convenience of the members in respect of special clinical demonstrations where clinical material is requisite, while the ordinary wards may be inspected during an odd half hour at any time.

Old Medical Edinburgh.

For Edinburgh students of an older generation the meeting place will be found to be close to many of the earlier haunts of the Edinburgh medical—the old University buildings—the old Infirmary, Surgeon's Square, and the sites of Brown Square and Adam Square, and the original Minto House; these and others of more or less sacred memory, may be quickly revisited without straying more than a few hundred yards from the central meeting place.

The Local Committees.

The arrangements for the reception of the Association are already far advanced. A very large and representative Committee has been formed from members of the Association resident in the district of the Edinburgh Branch—the Lothians and Fife:—*Chairman:* Sir Thomas Grainger Stewart, President-Elect. *Local Treasurers:* Drs. Underhill and P. A. Young. *Local Secretaries:* Dr. R. W. Philip and Mr. J. Shaw M'Laren. The Central Committee has been subdivided as follows:

Fig. 2.—West front of University buildings, with Meadow Walk.

Local Entertainment Committee.

Chairman ... Sir Henry Littlejohn, M.D., F.R.C.S.E.
Secretary ... Dr. Stodart Walker, F.R.C.P.E.

Soirée Committee.

Chairman ... Dr. Argyll Robertson, F.R.C.S.E.
Secretary ... Dr. James Ritchie, F.R.C.P.E.

Dinner Committee.

Chairman ... Dr. J. Batty Tuke, Pres. R.C.P.E.
Secretary ... Mr. Alexis Thomson, F.R.C.S.E.

Excursions Committee.

Chairman ... Professor Chiene, Pres. R.C.S.E.
Secretary ... Dr. J. C. Dunlop, F.R.C.P.E.

Hotels and Lodgings Committee.

Chairman ... Dr. Clouston, F.R.C.P.E.
Secretaries ... Mr. David Wallace, F.R.C.S.E.
Dr. Harvey Littlejohn, F.R.C.S.E.

Reception Committee.

Chairman ... Dr. G. A. Gibson, F.R.C.P.E.
Secretaries ... Dr. George Mackay, F.R.C.S.E.
Dr. F. D. Boyd, F.R.C.P.E.
Dr. Logan Turner, F.R.C.S.E.

Foreign Reception Committee.

Chairman ... Professor Simpson, V.-P. R.C.P.E.
Secretary ... Dr. G. Lovell Gulland, F.R.C.P.E.

Museum (Pathological) Committee.

Chairman ... Professor Struthers, V.-P. R.C.S.E.
Secretary ... Mr. Charles W. Cathcart, F.R.C.S.

Exhibition (Drugs, Etc.) Committee.

Chairman ... Dr. F. W. N. Haultain, F.R.C.P.E.
Secretary ... Dr. Norman Walker, F.R.C.P.E.

Finance Committee

Chairman ... Dr. Underhill, F.R.C.S.E.
Secretary ... Dr. P. A. Young, F.R.C.P.E.

Printing and Publishing Committee.

Chairman ... Dr. R. W. Philip, F.R.C.P.E.
Secretary ... Mr. J. Shaw M'Laren, F.R.C.S.E.

Ladies' Committee.

Joint Conveners Lady Grainger Stewart.
Mrs. Argyll Robertson.

Honorary Local Secretaries.

R. W. Philip, M.D., 4, Melville Crescent, Edinburgh.
John Shaw M'Laren, M.B., 14, Walker Street, Edinburgh.

Accommodation and Entertainments.

Edinburgh affords ample accommodation for a very large number of visitors. This has been abundantly tested during the presence of other large congresses, more especially within recent years the British Association. The hotels and boarding-houses and lodgings of the city are both numerous and excellent, and adapted to suit a variety of tastes and purses. It will help much towards the comfort of visitors, however, if early advantage be taken of the information, to be issued in the course of the spring months, respecting hotel and other accommodation. In addition to private hospitalities, the *Soirée* and Local Entertainments Committees have in view a round of afternoon and evening functions and festivities, which will shed brilliance on the more serious business of the meeting. The Excursions Committee have drawn up a provisional programme of excursions for Saturday that will permit the members and guests to enjoy at a minimum expenditure of trouble and expense, some of the most charming bits of Scottish scenery.

General Arrangements Committee.

The Arrangements Committee, consisting of the President of Council, the Treasurer, Dr. Barnes, Professor Chiene, Mr. Andrew Clark, Dr. Handford, Sir Walter Foster, Dr. R. W. Philip, Dr. Argyll Robertson, Dr. William Russell, Sir Thomas Grainger Stewart, Dr. Batty Tuke, and Mr. Verral, have prepared a programme for the conduct of the meeting which will command the interest of the members. This ha

been adopted by the Council, and its details will be published shortly. It may be well to cite in advance some of the leading features. On the evening of Tuesday, July 26th, Sir Thomas Grainger Stewart will deliver his Address as President of the Association. On Wednesday an Address in Medicine will be given by Professor T. R. Fraser, on Thursday an Address in Surgery by Professor Annandale, and on Friday an Address in Psychological Medicine by Dr. Batty Tuke, President of the Royal College of Physicians of Edinburgh.

The number of Sections is larger than usual, sixteen in all. In addition to the regularly recurring Sections, the Council have sanctioned on the present occasion, Sections of Neurology, of Medicine in relation to Life Assurance, and of Tropical Diseases, Anatomy, and Physiology, will also form separate Sections. A complete list of officers will be issued in an early number of the Journal.

THE FESTIVAL OF THE ROYAL SOCIETY.

The anniversary meeting of the Royal Society, held annually on St. Andrew's Day, took place on Tuesday last.

Lord Lister, the President, delivered an anniversary address, in the course of which he said that fifteen Fellows and six foreign Members had died since the last anniversary meeting. Among the deceased Fellows were Dr. Edward Ballard, Sir J. C. Bucknill, Dr. Braxton Hicks, Professor Roy, and the Rev. Samuel Haughton, M.D.; among the foreign Members, Professor Du Bois-Reymond, Professor Heidenhain, and Professor von Sachs. Lord Lister referred to the action which he had taken, at the request of the Council of the Society, to bring under the notice of the India Office Yersin's serum treatment of bubonic plague, and he had reason to believe that the representations made had strengthened the disposition of the Home Government to afford encouragement to M. Yersin. Lord Lister then referred to Dr. Monckton Copeman's observation as to the action of glycerine in causing the disappearance of adventitious microbes from vaccine lymph. Lord Lister was glad to know that Mr. Chaplin was likely soon to propose legislation for the purpose of giving the full benefit of this valuable process to the country of its discoverer. He said that, as the results of the efforts of a special committee of the Society a sum of £859 had been contributed to the International Pasteur Memorial promoted by the French Academy. It was noteworthy that rather more than half the entire sum contributed had come from India, chiefly from the medical officers through Surgeon-General Cleghorn, C.S.I. Sir William Mackinnon, the late Director-General of the Army Medical Department, after making certain legacies, including one of £2,000 to the University of Glasgow, as mentioned in the British Medical Journal of November 27th, had bequeathed the whole residue of his property to the Royal Society, for the foundation of prizes and scholarships for the furtherance of natural and physical science, including geology and astronomy, and for the advancement of original research and investigation in pathology in such a manner as the Society should think best and most conducive to the promotion of those sciences and original discoveries therein, such prizes and scholarships to be called after the name of the testator.

The medals were then presented, among them being the Copley medal, to Professor Albert von Kölliker, in recognition of his important work in embryology, comparative anatomy and physiology, and especially for his eminence as a histologist; and the Buchanan medal to Sir John Simon, F.R.S., for his distinguished services as an organiser of medical sanitary administration in this country, and as a promoter of scientific research relating to public health.

The Council was elected in accordance with the list already mentioned in a previous number.

Lord Lister presided at the anniversary dinner in the evening, and was supported by, among others, the Italian Ambassador, the Ambassador for the United States, the Japanese Minister, the Danish Minister, the Minister for Sweden and Norway, the Duke of Devonshire, Mr. Ritchie, M.P., Lord Tennyson, and many distinguished Fellows of the Society and guests.

In responding to the toast of "Her Majesty's Ministers," the Duke of Devonshire expressed his belief that the divorce which apparently had always existed between the pursuits of politics and science in the United Kingdom had not been so complete in the case of other nations. In many foreign countries eminent men in science had been conspicuous in politics. He looked forward to the time, perhaps not very far distant, when some greater acquaintance with at least the results of scientific investigation and inquiry and research might come to be a necessary part of the equipment of some portion at least even of a British Government. The recent discoveries of science and their practical results had had so profound an influence upon social conditions and upon the industrial progress, and therefore upon the growth and decline of nations that a knowledge of the results, if not of the methods, of scientific discovery would become almost as indispensable a part of the training of statesmen as a knowledge of the instincts, the passions, and the interests of the people to which their studies had hitherto been almost entirely directed. He hoped that at no distant date the Government would be able to make proposals bearing upon projects for making some of the main principles of science more acceptable to the main body of the people, but, in order that Parliament should be brought into a mood to give the necessary attention to such matters—and he referred especially to the reorganisation of secondary education—it was necessary that a widespread public opinion as to their importance and necessity should be created, and he appealed to the Fellows of the Society to use their great influence to bring about such a desirable consummation.

The toast of "The Royal Society" was given by the American Ambassador, and acknowledged by Lord Lister, who observed that, while he desired to pay the highest tribute to the loyalty which he had met with everywhere in Canada, he was bound to add that among the great number of eminent Americans who attended the meeting of the British Association in Toronto, and the British Medical Association in Montreal, there was never a jarring note, never anything but cordiality and kindly feeling towards the old country.

Lord Lister then proposed the toast of "The Medallists," and observed that the Buchanan medal was awarded this year for the first time, and was for the purpose of encouraging those who advanced sanitary science. It was given to Sir John Simon, who was the originator of sanitary science as now understood. It was a great satisfaction to make to him the first award of a medal which was founded by Sir John Simon's distinguished pupil, the late Sir George Buchanan. The toast was acknowledged by Professor A. R. Forsyth, F.R.S., one of the Royal Medallists.

THE MILK SUPPLY OF TOWNS.

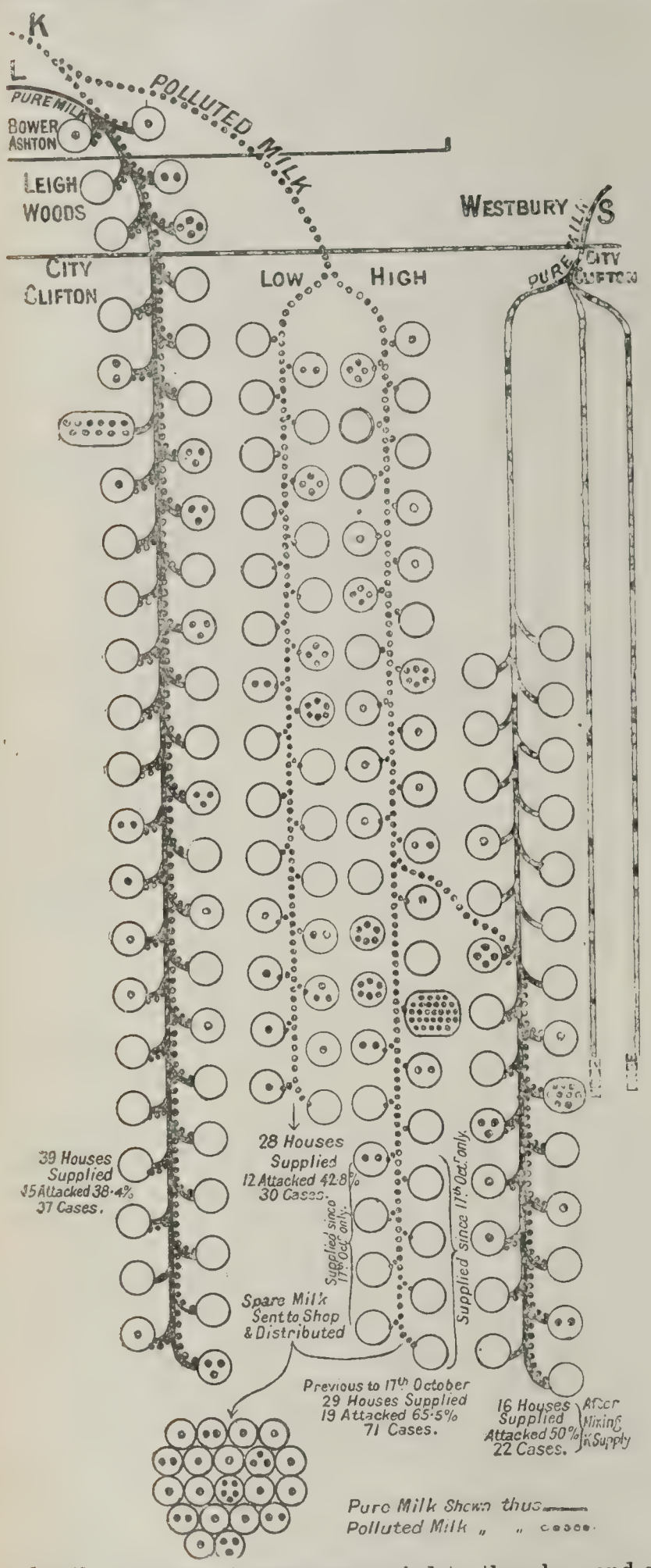
The Outbreak at Clifton and its Connection with the Milk Supply.—The Control of the Milk Supply of Towns.—The Need for Larger Powers.

Dr. D. S. Davies, Medical Officer of Health for Bristol, has printed an interim report describing his inquiry into the recent outbreak of typhoid fever at Bristol. Its contents have been already before our readers, but, as we are able to reproduce in black and white the coloured diagram which accompanies it, and which was exhibited at the discussion at the Royal Medical and Chirurgical Society, reported in the British Medical Journal of November 27th, we will give here a brief summary of the facts.

Dr. Davies reports that a brook, receiving through a 6-inch pipe the sewage of 37 houses, the overflow from a cesspool serving 22 more, the washings from fields over which the drainage of several others was distributed, and the direct sewage from at least 1 other, flows directly through the farm K. The water of this stream and of the farm pump are so similar in chemical and microscopic characteristics that there seems little doubt the stream supplies the pump. This water is highly charged with putrescent organic matter and swarms with micro-organisms.

This water was used for washing the milk cans from the K. farm. The cows at this farm are healthy and other arrangements satisfactory. The milk from farm K. was sent to be delivered directly in Clifton, partly in the upper, partly in the lower part of the town. It was the chief or only milk

supplied previous to October 17th to 57 houses, 29 in upper, 28 in lower Clifton. In 41 of these 57 houses occurred cases of typhoid fever, 19 in the higher, 12 in the lower milk round. In these 41 houses were 101 cases. What milk was not taken



irectly to these 57 houses was carried to the shop and sold over the counter. Twenty households so obtaining it were attacked, adding 33 more cases to the list. Another milkman, L., starting with pure milk, added milk from K. to his supply, and distributed the mixed milks, or one or other of them, afterwards to 39 houses, of which 15 were attacked and 37 cases reported.

Another pure supply (S) was distributed in three separate walks. In two of these no cases have occurred. With the single exception of the servant, in a house close to the shop mentioned, no case occurred in the eleven houses at the beginning of this third walk (S.). At the twelfth house, however, the path of this third distributer (S.) crossed that of the man in charge of the upper round of the K. milk, and at a certain date, being short of milk from the greater demand after the reassembling of the schools, he obtained additional milk from his friend from the K. farm. Of the 16 houses to which he then distributed one or both of the milks, 8 were attacked and 22 cases occurred. Dr. Davies thus traces 94 per cent. of the cases to the milk from the K. farm. The results of the bacteriological examination of the milk and the water from the K. farm are not yet available. But even without them the case against this milk is as plain as a pikestaff.

This quickly quelled, yet sufficiently serious, outbreak of typhoid is an illustration of the dangers that beset the milk can. The town milkman often gets his supply from some country farm, where even the water used to wash the cans is impure. The addition even of pure water is a fraud, however difficult it might be in the face of Somerset House analyses to obtain a conviction, but to this we do not now refer. Even a very small amount of water introduced accidentally, if charged with typhoid bacilli, might start an outbreak. The mere leaving in the cans of the imperfectly sterilised liquid used to wash them, a practice far too common, might be the beginning of a disaster. Many medical officers of populous places complain that, while they are able to exercise a considerable amount of supervision over the farmers within their own areas, they have none over those outside. Section IV of the Public Health Amendment Act, 1890, it is true, allows a health officer "in possession of evidence" that some person in his district is "suffering from an infectious disease attributable to milk" to apply to a justice having jurisdiction there, for an order to visit the farm from which the milk has come, and if accompanied by a veterinary surgeon even to look at the cows. If, then, his suspicions are confirmed, he must report to his own authority, and accompany his report with any report made by the comparative pathologist who has accompanied him (if he has made one). His own authority may then give not less than twenty-four hours' notice to the dairyman to appear before them, and show cause why they should not forbid him to send any more milk into their district. No doubt this piece of weak and roundabout legislation has its uses, but it is scarcely preventive medicine. Before the medical officer of health "is in possession of evidence" he must have heard of more than one case in this man's milk-walk. The earliest of these cases may easily have been ill a week, or even ten days, before the diagnosis was established. Allowing another ten days for the incubation, something like three weeks may have elapsed after the poison was received before information of it reached the sanitary official. Then, perhaps, his troubles come, not as single spies but in battalions, after which he may begin his cumbrous legal formalities. Close upon a month must thus have elapsed before the milk can be legally withdrawn from sale. This surely, we repeat, is not preventive medicine.

What medical officers want, and what the public would insist on their having if it only knew they had not got it already, is a systematic inspection of all milk farms, and of the water supply of every such farm. Mr. Ernest Hart's collection of reports, recently reprinted in convenient form for reference, abundantly show the dangers we are incurring daily. Every dairyman should be bound to give notice of any case of suspicious disease in his own family, or in the family of any of his employees, not only to the medical officer of his own district, but to the officer of the district in which he distributes his milk. It is scarcely enough, in this nineteenth century, that the town consumer should have to take the chance that everything is right, with the comfortable feeling all the time that, when mischief does occur, it will in all probability be three weeks later before his medical officer gets the first intimation that something has gone wrong. It may

of course, be said that it is the duty of the rural authority to inspect the farms in its own district. No doubt it is, and some rural and small urban authorities, to their credit be it said, do so in a way leaving little to be desired. But the majority? It will also be said that the medical officer of a large town does not always wait to go through all the legal formalities before he takes action. Of course he does not. As a rule he visits the farm even outside his district on any suspicion. As a rule also he is well received by the farmer. As a rule also he goes without an order to do so even from his own authority. The more gently he does his spiriting—the more friendly his relations with the farming folks—the more likely are they to give him all the help they can; but he is poaching. One of these poachers has told us that on one side of his borough the water at nearly every milk farm he has thus visited is polluted. The farmer regrets, if he believes in, the pollution. Often he disbelieves. Have not his father and grandfather drunk of this well? Is this new medical officer greater than his father who gave him the well? And the local authority too often echo his reproachful query.

INABILITY TO SPEAK AND DEFENCE TO CRIMINAL PROCEEDINGS.

The case of James Harris, who was last week brought up for trial at the Central Criminal Court on a charge of murder, raises an interesting question of medical jurisprudence in a somewhat new form. It has long been a recognised maxim of English law that a person cannot be punished criminally for acts committed while he was insane (within the legal definition of insanity); and further, that he cannot be put upon his trial—at any rate for a felony—if and while he is insane or otherwise, through no fault of his own, incapable of understanding the evidence given against him and making his defence. This exemption from criminal responsibility includes cases where the accused is mute, from defective organisation, and for that reason incapable of instructing anyone to conduct his defence. But if he can read and write, and thus can be made to understand the nature of the proceedings and can communicate with those who defend him, the mere fact of his inability to speak intelligibly is no bar to the trial proceeding. On the same principle, a foreigner who is ignorant of our language must be considered incapable of understanding the proceedings, and therefore should not be tried until the services of a competent interpreter are secured. Cases have occurred where the judge presiding at a criminal trial in which the accused was a foreigner has taken upon himself to discharge the jury after the trial had begun because the interpreter employed seemed inefficient. A person mute "by the visitation of God" is exactly in the same position as a foreigner ignorant of our language; he cannot conduct his own defence or give anyone such instructions as to enable him to conduct it for him; but the difficulty can generally be got over by the aid of an interpreter—or example, by writing or by the language of signs. Till such a means of communicating with him has been procured he ought not to be put upon his trial.

The protection thus given by the humanity of our law extends, however, only to those who are mute owing to natural infirmity. No such consideration is or ought to be given to those who can speak intelligibly and will not—who, in technical phrase, are "mute of malice"—or to those who misconduct themselves in court so as to render a trial in the ordinary form impossible.

Only the other day Mr. Justice Wills—a most careful and lenient judge—is reported to have ordered the trial of a noisy and abandoned ruffian to proceed, although it was necessary in the interest of decency and order to remove the prisoner from the precincts of the court. Such cases are rare; but they show that the physical presence of a prisoner, and therefore his ability to hear and understand the evidence given against him and to offer a defence to it, is not essential for the validity of his trial and conviction. He may, by his own misconduct, forfeit his claim to the consideration and assistance he would otherwise receive. Apparently this assistance is a matter of grace rather than of right.

Harris, the prisoner recently brought up for trial, after killing his victim had attempted to commit suicide by cutting his own throat. He was a man of 36, admitted into University College Hospital on September 11th, 1897, suffering from a self-inflicted wound of the throat, which passed through the crico-thyroid space, but cut off the upper part of the cricoid cartilage, severed the œsophagus from the pharynx, and exposed the prevertebral muscles, but just missed the carotid vessels. The œsophagus was stitched up all round to the pharynx. The cricoid was also stitched to the thyroid. An india-rubber tube was placed in the œsophagus, a laryngotomy tube in the larynx, and two drainage tubes in the wound. The patient did well; the tube was removed from the œsophagus on the second day, and was subsequently passed every eight hours for feeding purposes. On September 21st, the tenth day, the wound had healed except in the centre, where a little suppuration occurred. On the eleventh day he began to swallow naturally. On the sixteenth day he was allowed to smoke. On October 9th the laryngotomy tube was removed, but it was necessary to replace it. It is to be observed that the branches of distribution of the inferior laryngeal nerves were necessarily divided, and that the vocal cords in consequence occupied the cadaveric position. On October 12th he was allowed to get up. He was kept longer in bed than would have been the case if he had not been under the constant supervision of a policeman. It is obviously inconvenient to have patients with homicidal and suicidal tendencies walking about a general ward. On October 13th he had some follicular tonsillitis, which rapidly subsided. On October 16th he was discharged from the hospital.

It is stated that he cannot read or write. Counsel, instructed on his behalf by his friends, submitted that under the above circumstances he was not in a condition to plead. Mr. Justice Darling asked the jury several specific questions, in answer to which they found (1) that the prisoner could plead to the indictment; (2) that he was sane; (3) that he was not capable that day of instructing his solicitor to defend him; and (4) that this incapacity was in consequence of his own unlawful act.

On these findings the Judge ordered the trial to be adjourned till the next sessions, and said that a further application might be made then. As there seems to be some probability of Harris getting an improved whispering voice, which may serve as a means of communication, the adjournment seems the right course. If eventually the absence of voice should be found to be permanent, the question raised by the jury's last answer will have to be considered and decided. How far are self-inflicted injuries to protect a man from responsibility for his crime? Is loss of voice, consequent on attempting to cut his own throat, to be considered as the "visitation of God"? Or is a prisoner who has so rendered himself dumb to be considered "mute of malice"? Much might be said in favour of either view. This case may lead to its being discussed and decided by the Court of Criminal Appeal, or its solution may be avoided and postponed indefinitely. There seem to be no sure data from which to predict what the decision ought ultimately to be.

The case has given rise to a further difficulty owing to the remarks which Mr. Curtis Bennett made when the prisoner was brought before him in the police court on November 15th. The magistrate is reported to have stated that the man was not in a fit condition to bear the strain, and that this was the second time that this kind of thing had occurred in connection with University College Hospital within the last two months. The magistrate added that if such a thing happened again he would make a report of the circumstances to the Home Office. Mr. Godlee, the Dean of the medical school, has taken up the matter, and has challenged Mr. Curtis Bennett to justify his criticism. This Mr. Bennett has as yet failed to do, having contented himself with forwarding the documents to the Home Office. From the facts before us, it appears to us that the House-Surgeon, Mr. Alfred Trotter, took every reasonable precaution; he instructed the inspector of police who attended with regard to the removal of the prisoner that he should be immediately placed under the care of the police surgeon, who should accompany him to the court where his arrest was to be proved. Further it appears that on the occasion when Mr. Curtis Bennett made the remarks referred to above, the prisoner was brought into court not from University College Hospital but by the police authorities presumably from Holloway gaol.

PROPOSED UNIVERSITY OF WESTMINSTER.

THE following teachers and ex-teachers in London medical schools have added their names to the General Committee since the issue of the list published by us last week:

Dr John Anderson, St. Mary's Hospital.
Dr. Thomas Barlow, University College.
Mr. Peyton T. B Beale, King's College Hospital.
Dr. C Y Biss, Middlesex Hospital.
Mr. W. Watson Cheyne, King's College Hospital.
Mr. Thomas Cooke, Westminster Hospital.
Dr. S. Monckton Copeman, Westminster Hospital.
Dr. W. R. Dakin, St. George's Hospital.
Dr. Norman Dalton, King's College Hospital.
Miss Mary E. Dowson, School of Medicine for Women.
Sir Joseph Fayrer, Bart., K.C.S.I., Charing Cross Hospital.
Mr. George P. Field, St. Mary's Hospital.
Dr. F. de Havilland Hall, Westminster Hospital.
Mr. W. S. Handley, Guy's Hospital.
Mr. Christopher Heath, University College Hospital.
Dr. Peter Horrocks. Guy's Hospital.
Mr. Jonathan Hutchinson, London Hospital.
Mr. S. J. Hutchinson, University College Hospital.
Mr. N. C. Macnamara, Westminster Hospital.
Mr. Charles Arthur Mercier, Westminster Hospital and London School of Medicine for Women.
Mr. Everitt E Norton, Middlesex Hospital.
Dr. John Phillips, King's College Hospital.
Mr. Bernard Pitts, St. Thomas's Hospital.
Mr. Bilton Pollard, University College Hospital.
Dr. Arthur Robinson, Middlesex Hospital.
Mr. Charles Ryall, Westminster Hospital.
Sir Felix Semon, St. Thomas's Hospital.
Dr. David Sommerville, Middlesex Hospital.
Dr. John C. Thorowgood, Middlesex Hospital.
Dr. H. W. Marett Tims, Westminster Hospital.
Dr. Howard H. Tooth, St. Bartholomew's Hospital.
Mr. A. H. Tubby, Westminster Hospital.
Mr. G. R. Turner, St. George's Hospital.
Dr. W. Essex Wynter, Middlesex Hospital.

And also the following Fellows of the Royal College of Physicians, not directly connected with any London School:

Dr. Fletcher Beach.
Dr. John Beddoe.
Dr. E Lloyd Birkett.
Dr. Arthur T. Davies.
Sir B. Walter Foster, M.P.
Dr. Edward Long Fox.
Dr. Arthur Foxwell.
Dr. Thomas Guy.
Dr. W. Ainslie Hollis.
Dr. Donald W. Hood.
Dr. P. W. Latham.
Dr. Thos. W. Thursfield.

Mr. T. R. Jessop, member of the Council of the Royal College of Surgeons, and Mr. Benjamin Whitehead, barrister-at-law, have also become members.

TESTIMONIAL TO DR. ARLIDGE.

DR. CHARLES F. MOORE, 10, Upper Merrion Street, Dublin, Honorary Secretary of the Committee which, as Dr. Ogle mentioned in the BRITISH MEDICAL JOURNAL of November 13th, has been formed to present a testimonial to Dr. Arlidge, requests us to publish the following further list of subscriptions. He also states that Mr. W. H. Folker, F.R.C.S., of Leek, Staffs, has kindly undertaken to receive local subscriptions to the fund; and Sir Thomas Wardle of Leek, President of the Silk Association of Great Britain and Ireland, has joined the Committee.

	£	s.	d.
J. H. Tylecote, M.D...	0	10	0
Thomas Salt, Esq.	1	1	0
Joseph Bell, F.R.C.S.Edin....	1	1	0
Dr. F.	1	1	0
J. J. Ritchie, M.D.	0	5	0
James Holmes, M.D.	0	10	6
Urban Pritchard, M.D., F.R.C.S.	2	2	0
A. Going Pritchard. Esq.	2	2	0
Thomas Twyford, Esq.	1	1	0
Mary Ford	1	1	0
George Menzies, Esq.	1	1	0

THE SPECIAL PLAGUE SERVICE IN INDIA.

all 37 medical men have recently been despatched from London through the India Office for plague work in India. Some few weeks ago 12 medical men were selected and sent at the instigation of the Government of Bombay. The further contingent, 25 in number, has just sailed at the request of the Government of India. In addition, 36 nurses have gone out to take part in plague work. The whole of this staff are distributed in the Bombay Presidency, where alone plague exists in an epidemic form. The Government have appointed commission whose special duty is to deal with the epidemic, and the medical officers and nurses are under their direction. The work entailed is at once arduous and difficult. Not only is the labour incessant, but it has to be carried on under adverse circumstances both as regards the sanitary state of the native towns and dwellings, and in face of the passive (at times active) opposition of the poorer classes. The scheme of operations is as follows:

(*a*) The examination of persons suspected to be suffering from plague.
(*b*) The inspection of premises deemed unfit for habitation.
(*c*) The daily inspection of persons under observation in quarantine camps.
(*d*) The superintendence of infectious hospitals set aside for plague and the treatment of the sick.
(*e*) Disinfection of persons, clothing, and premises.
(*f*) Reporting upon infected areas and dealing with the grosser forms of insanitary conditions.
(*g*) Determining the closing of infected area, and the general control of the house-to house visitation parties.

In out-of-the-way districts the duties will be practically those of a sanitary officer with full powers. The whole scheme depends for its success upon the thoroughness with which these several duties are carried out. We believe plague can be stamped out, but it requires attention to detail in every particular. No mere visitation or general order will suffice, but it is imperative that the work be thoroughly done. This can only be accomplished by subordinate executive officers acting under the immediate directions of the medical authorities. Upon these men, who are of course non-medical, the success of the fight with plague depends. These subordinate officers should be Europeans, vigorous both in mind and body, and capable of impressing those under them that there must be no scamping work. If the Government of India cannot lay their hands upon such men, it is advisable that they should be procured elsewhere with all possible speed.

BATTLE OF THE CLUBS.

THORNE.

THE medical men of Thorne and district have refused to continue any longer in their office as club surgeons, unless the membership of these clubs be confined to working men as far as medical benefit is concerned. As in other places, the suggestion of a wage limit has met with violent opposition, and a public meeting was recently called, to which members of all the local clubs were invited. The doctors, however, were not asked to be present. The attitude they had taken up was made the subject of indiscriminate abuse.

It was decided at the meeting to offer the doctors somewhat higher terms (4s. 4d. per annum per member, to include everything), but to repudiate utterly any claim on their part to take exception to members they might think fit to elect. These terms were refused, and the clubs are now advertising for a medical man to accept the vacant posts, but their efforts have hitherto been without success; several whom they have approached having rightly declined to oppose their brethren in a matter so vital to the interests of the profession.

It is to be hoped the doctors of Thorne and district will persevere in their attempts to put down the abuse of clubs. Men of the class of farmers, butchers, publicans, and employers of labour generally can afford to pay more than a penny a week for their doctor; and if the friendly societies of Thorne are willing to abet such people in the endeavour to save their pockets at the expense of the profession, the result can only be to disorganise that medical aid they have hitherto given to their members, and, whatever the system they adopt, to cause division between themselves and their medica officers.

LITERARY NOTES.

WITH the approach of the new year come the usual announcements of forthcoming new medical journals. As one looks over the vast and not always unruffled ocean of medical journalism, one recalls the words of Goethe:

Geburt und Grab,
Ein ewiges Meer,—

for if many medical journals are born every year, many also pass away "like snaw wreaths in thaw." Yet enough remain (particularly in France and in the United States) to make one inclined to say, with John Abernethy, on entering his crowded lecture room on the 1st of October, "God help you, gentlemen; what is to become of you all?"

Dr. Eugen Ivanoff has obtained from the Russian Govern-

ment the necessary authorisation to establish in St. Petersburg a new weekly medical journal to be entitled *Hippocrates*.

The first number of a special journal, to be entitled the *American Journal of Physiology*, will appear in January, 1898. Each volume will contain about 500 pages, divided into parts or numbers, to be issued whenever material is received. It is expected that not more than one volume a year will be printed. The *Journal* will be edited by H. P. Bowditch, M.D., Boston; R. H. Chittenden, M.D., New Haven; W. H. Howell, M.D., Baltimore; F. S. Lee, M.D., New York; Jacques Loeb, M.D., Chicago; W. P. Lombard, M.D., Ann Arbor; and W. T. Porter, M. D., Boston.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS OF COUNCIL FOR 1898.

Meetings of the Council will be held on January 19th, April 13th, July 6th, and October 19th, 1898. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting—namely, December 29th, 1897, March 24th, June 16th, and September 29th, 1898.

Francis Fowke, *General Secretary*.

Election of Members.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

Francis Fowke, *General Secretary*.

BRANCH MEETINGS TO BE HELD.

East Anglian Branch.—A special meeting of this Branch will be held at the Norfolk and Norwich Hospital, on Tuesday, December 7th, at 2.45 P.M. (before the meeting of the Medico-Chirurgical Society). Business: 1. Report of the Constitution Committee submitted by the Council for the consideration of the Branches. 2. To consider the course adopted by the Journal of the Association during the recent election of a direct representative on the General Medical Council.—Edgar G. Barnes, Michael Beverley, and Thomas Carr, Honorary Secretaries.

South-Eastern Branch: North Kent District.—The next meeting of the above District will be held at the "Black Horse" Hotel, Sidcup, on Thursday, December 9th, at 3.45 P.M., Mr. Wade in the chair. The following papers have been promised: (1) Dr. Dundas Grant: Purulent Rhinitis arising from the Accessory Sinuses of the Nose. (2) Horace G. Turney, F.R.C.S.: Intestinal Obstruction. (3) T. Hugh Smith, F.R.C.S.: Treatment of Leg Ulcers by Unna's Method, with Demonstration. All members of the South-Eastern Branch are entitled to attend and to introduce professional friends.—A. Tennyson Smith, Honorary Secretary.

Metropolitan Counties Branch: South London District.—A meeting will be held at the Bethlem Royal Hospital (by kind permission of the Committee of Management), on Wednesday, December 8th, at 3.30 P.M. Cases of clinical interest from the wards of the hospital will be shown, and a demonstration will be given by Dr. Hyslop. All practitioners, whether members of the Association or not, will be heartily welcomed.—Seymour G. Toller, District Secretary, 109, Harley Street, W.

Lancashire and Cheshire Branch.—A meeting of this Branch will be held at Warrington on Thursday, December 9th. Members wishing to read papers, exhibit patients, or make any communication should write to the Secretary at once. Applications for membership should be addressed to Dr. Barr, Honorary Secretary, 72, Rodney Street, Liverpool.

BATH AND BRISTOL BRANCH.

The second ordinary meeting of the session was held at Bath on November 24th, 1897, Mr. F. Richardson Cross, M.B. (President), in the chair. Forty-seven members and visitors were present.

New Members.—The following gentlemen were elected members of the Association and Branch:—Mr. Lionel H. Williams, Thornbury; Dr. R. J. Coulter, Bristol; Dr. K. Chetwood Aiken, Stoke Bishop; Dr. Alex. Ogilvy, Clifton; Dr. W. B. Morton, Brislington; Mr. D. C. Rayner, Clifton; Dr. P. H. Ryan, Bath; Dr. E. J. Cave, Bath.

Constitution Committee.—Dr. Michell Clarke read the report of the Constitution Committee which had been sent by the General Council for the consideration of the Branch. It was proposed by Dr. Stewart to refer the report to the Local Council; also that the report should be circulated amongst the members of the Branch; and also that the question should be considered at the next Branch meeting to be held in January. This was seconded by Mr. Hopkins and carried unanimously.

Congratulations to the President of the Branch.—Mr. Paul Bush proposed:

That a hearty vote of congratulation be passed to Mr. F. Richardson Cross, President of the Branch, on his appointment to the important position of High Sheriff of the City of Bristol.

This was supported by Drs. Waldo, Stewart, and Weatherly, and carried unanimously.

Communications.—Dr. Jas. Pearse read notes on Pneumonia, and Dr. Goodridge, Mr. Ewens, Dr. Michell Clarke, and Dr. Markham Skerritt joined in the discussion.—Mr. C. E. S. Flemming described a case of Transient Hemiplegia, which was discussed by Drs. Wohlmann, Weatherly, Michell Clarke, Shingleton Smith, and Markham Skerritt.—Dr. Ellis read notes of a case of Inguinal Colotomy, and Mr. Harsant and Mr. Bush commented upon it.—Dr. Wohlmann read a paper entitled The Therapeutics of Emotion.

DUNDEE AND DISTRICT BRANCH.

A meeting of the Branch was held in University College, Dundee, on November 25th, Dr. A. J. Duncan, president, in the chair.

Scottish Parochial Medical Officers.—The Council was instructed to take action in support of Bills putting the tenure of office of the Scottish parochial medical officers on the same footing as that in England and Ireland, and for the compulsory treatment of habitual drunkards.

Report of Constitution Committee.—The report of the Constitution Committee was generally approved, and the Council was instructed to reply in this sense, and to embody certain criticisms on the scheme.

Disciplinary Powers of Universities.—In *re* the disciplinary powers of the universities, the Branch resolved to urge on the university authorities the desirability of hastening proceedings to acquire the same powers as are already possessed by the medical corporations.

ADELAIDE AND SOUTH AUSTRALIA BRANCH.

The annual meeting was held on June 24th, Dr. Lendon (the President), in the chair.

Minutes.—The minutes were taken as read on the motion of Dr. Verco, seconded by Dr. Gregerson.

Report of Council.—The eighteenth annual report stated that during the past year 11 new members had been elected, 5 had left the Colony, 3 had resigned, 2 had died, and 2 were on the suspended list. The Branch had held 11 ordinary meetings, the average attendance being nearly 23; there had also been 3 special meetings, with an average attendance of 32. The Council had held 18 meetings; last year there were 10 only. The interest in the scientific work had been steadily maintained, and the papers contributed were of a high order of merit, and evoked considerable discusssion. The Treasurer's statement showed that the Branch was in a sound financial position, the balance at the bank on June 10th being £195 18s. 9d.

Election of Officers.—The following were elected officers for the ensuing year: *Vice-President:* Dr. H. Swift. *Honorary Treasurer:* Dr. Corbin. *Honorary Secretary:* Dr. W. T. Hayward. *Members of Council:* Drs. Gault, Hamilton, and Michie.

Sir T. N. Fitzgerald.—The President reported that he had sent a telegram of congratulation, on behalf of the Branch, to Sir T. N. Fitzgerald upon the receipt of his newly-conferred honour, and he had received a reply of thanks.

Resolutions.—Dr. Hayward proposed, Dr. J. A. G. Hamilton seconded, and it was carried:

That a vote of thanks should be passed to the Council of the University for allowing the Branch the use of the rooms for holding the meetings.

The PRESIDENT proposed, Dr. J. A. G. HAMILTON seconded, and it was carried:

That the Parliamentary Bills Committee should be re-elected.

Dr. CORBIN proposed, Dr. J. A. G. HAMILTON seconded, and it was carried:

That the Honorary Secretary should act as local editor of the *A. M. Gazette* for the Branch.

Dr. LENDON proposed, Dr. J. A. G. HAMILTON seconded, and it was carried:

That a letter of congratulation should be forwarded to Lord Lister.

President's Address.—The PRESIDENT delivered an address. He then vacated the chair, and inducted Dr. W. Anstey Giles.

Vote of Thanks.—Dr. LENDON proposed a vote of thanks to Dr. Swift, the retiring Secretary, who had held the position for four years. Carried.

SYDNEY AND NEW SOUTH WALES BRANCH.

THE usual monthly meeting of this Branch was held at the Royal Society's Rooms, Sydney, on July 30th, Dr. C. P. B. CLUBBE, President, in the chair. There were forty-two members and two visitors present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

Letters.—Letters were read from Mrs. Eddy, Lord Lister, and Sir T. N. Fitzgerald.

New Members.—The PRESIDENT announced the election of Drs. Angel Money and W. C. M'Clelland.

Case.—Dr. BENNET exhibited a patient suffering from Psoriasis.

Consumptives Hospital.—Dr. SYDNEY JONES resumed the discussion on Dr. Wilkinson's resolutions with reference to the Consumptives Hospital, and moved the following amendment:

That this meeting of the New South Wales Branch of the British Medical Association approves of the resolutions passed at the meeting of the profession held on June 11th.

Dr. KNAGGS seconded the amendment.—Drs. SCOT SKIRVING, FIASCHI, CRAGO, SAMUELSON, READ, ARTHUR, JENKINS, SAWKINS, THRING, and RENNIE took part in the discussion.—Dr. WILKINSON replied.—The PRESIDENT then put the amendment to the meeting, and it was negatived.—The resolutions were carried.

The Medical Bill.—Dr. RENNIE proposed, and Dr. CRAGO seconded:

That the New South Wales Branch of the British Medical Association, having considered the provisions of the Medical Bill now before the Legislative Council, desires to express its entire approval of the same, and hopes that a Bill so urgently necessary in the interests of the public welfare will soon become law.

That a copy of the above resolution be forwarded to the Honourable Dr. Bowker and Sir Arthur Renwick.

Carried.

THE usual monthly meeting of this Branch was held on Friday, August 27th, at the Royal Society's Rooms, Sydney. Dr. C. B. CLUBBE, President, was in the chair, and forty-three members were present. The minutes of the previous meeting were read and confirmed.

New Members.—The PRESIDENT announced the election of the following new members:—Dr. P. Dean Bray, Orange; Dr. W. Kelty, Orange; Dr. F. W. Doak, Mosman; Dr. Zlotkowski, Sydney; Dr. H. S. Maw, Tumberumba; Dr. Pirie, Liverpool. The following were nominated for election:—Dr. R. D. Macgregor, Lucknow; Dr. E. Casperson, Wyalong.

Cases and Papers.—Dr. RENNIE exhibited a patient suffering from Athetosis.—Dr. THRING read notes on a Series of Fifty Cases of Abdominal Section. Drs. SAWKINS, FAIRFAX ROSS, WORRALL, and THOMAS took part in the discussion which ensued. Dr. THRING replied.—Dr. RENNIE read some notes on the case of Athetosis which he had previously exhibited.—Dr. HOGG exhibited a Tumour of the Brain.—Dr. MACDONALD GILL exhibited a specimen—the Brain of a Microcephalic Idiot. Dr. RENNIE made some remarks on the case.—Dr. WORRALL exhibited Six Pathological Specimens, and read notes on the cases.

BRITISH MEDICAL ASSOCIATION.

SIXTY-SIXTH ANNUAL MEETING.

THE sixty-sixth annual meeting of the British Medical Association will be held at Edinburgh, on Tuesday, Wednesday, Thursday, and Friday, July 26th, 27th, 28th, 29th, 1898.

President-Elect: Sir THOMAS GRAINGER STEWART, M.D., F.R.S.E., Physician in Ordinary to Her Majesty the Queen for Scotland, Edinburgh.

President of the Council: ROBERT SAUNDBY, M.D., LL.D., F.R.C.P., Physician to the General Hospital, Birmingham.

Treasurer: CHARLES PARSONS, M.D., Dover.

An Address in Medicine will be delivered by THOMAS RICHARD FRASER, M.D., F.R.S.Lond., Professor of Materia Medica and Clinical Medicine in the University of Edinburgh.

An Address in Surgery will be delivered by THOMAS ANNANDALE, F.R.C.S.Edin,, F.R.C.S.Eng., F.R.S.E., Surgeon to the Edinburgh Royal Infirmary, Regius Professor of Clinical Surgery, University, Edinburgh.

An Address in Psychological Medicine will be delivered by JOHN BATTY TUKE, M.D.Edin., F.R.C.P.Edin., F.R.C.S.E., Lecturer on Insanity, Royal College of Physicians, Edinburgh.

The Scientific Business of the Meeting will be conducted in Sixteen Sections.

Honorary Local Secretaries.

ROBERT W. PHILLIP, M.D., 4, Melville Crescent, Edinburgh.
JOHN SHAW M'LAREN, M.B., F.R.C.S., 14, Walker Street, Edinburgh.

PROGRAMME OF PROCEEDINGS.

TUESDAY, JULY 26TH, 1898.
9.30 A.M.—Meeting of 1897-98 Council.
2.30 P.M.—First General Meeting. Report of Council. Reports of Committees; and other business.
9 P.M.—Adjourned General Meeting from 2.30 P.M. President's Address.

WEDNESDAY, JULY 27TH, 1898.
9.30 A.M.—Meeting of 1898-99 Council.
10 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Second General Meeting. Address in Medicine.

THURSDAY, JULY 28TH, 1898.
9.30 A.M.—Meeting of Council.
10 A.M. to 2 P.M.—Sectional Meetings.
3 P.M.—Third General Meeting. Address in Surgery.
7 P.M.—Public Dinner of the Association.

FRIDAY, JULY 29TH, 1898.
10.30 A.M. to 1.30 P.M.—Sectional Meetings.
3 P.M.—Concluding General Meeting. Address in Psychological Medicine.

SATURDAY, JULY 30TH, 1898.
Excursions.

SPECIAL CORRESPONDENCE.

PARIS.

French Doctors and the Laporte Case.—Visit of the President to the Bicêtre.—Proposed Sale of the Salpêtrière.—Opening of the Boucicaut Hospital.—Funeral of Professor Tarnier.

THE medical press foretold that the condemnation of Dr. Laporte would intimidate medical men when called to a serious case requiring immediate surgical treatment. Dr. De Ribemont-Dessaignes, hospital accoucheur, has met with a case proving that such fears are not unfounded. A few days ago a woman was admitted into the maternity wards of the Beaujon Hospital. The patient, who had albuminuria, had given birth to child in a suburban commune, where the midwife had not been able to bring away the placenta. Profuse hæmorrhage ensued, and the midwife called in a doctor. A few weeks ago he would have attempted to remove the placenta by artificial means, but under existing conditions, established by the issue of the trial of Dr. Laporte, he preferred sending the patient to the hospital. Naturally hæmorrhage continued whilst the patient was on the road to the hospital, and just as she was placed in the hospital bed she breathed her last.

At a recent visit of the President of the Republic to the Bicêtre Hospital, Dr. Bourneville's wards excited the most interest. More than 500 children are brought up in this

section of the Salpêtrière. Among them are epileptic children, paralytic, hysterical, and idiots. There are workshops for carpentering, locksmiths, typewriting, brush making, basket making, boot making, and needlework. M. Felix Faure inquired into the organisation and working of these workshops, and finally asked what became of the children thus housed and trained at the Salpêtrière Hospital when they were grown up. The President was informed that if they are still ill they are placed in another section; if they are sufficiently restored to health they are handed over to their families. It is for these discharged patients, Dr. Bourneville reminded the President, that he has during the last twenty years been striving to organise a patronage society for the purpose of overlooking and befriending all the insane who are discharged cured or improved in condition after treatment in the different asylums. The President was much impressed by the facts placed before him by Dr. Bourneville. He promised to help the undertaking, and he began by leaving a donation of £40 towards it. The President enjoined the Director of Public Assistance to be generous to the Bicêtre, and left another sum of £40 for the benefit of the hospital.

M. d'Echérac, formerly Inspector and General Secretary of the Public Assistance, advises that the Bicêtre and Salpêtrière Hospitals should be sold, and that the inmates should receive a pension of 1s. 3d. a day. There are 5,000 inmates, each of whom costs 2s. 6d. a day; a saving of £80,000 would thus be effected. Furthermore, M. d'Echérac estimates that the sale of these two buildings would raise the capital to £1,200,000, which would bring in £40,000 a year. The Public Assistance would thus, M. d'Echérac declares, succour and keep from despair thousands who wait for admission into this hospital until death comes to release them from the sickness of hope deferred. This beneficent reform could be effected without loss of time. The sole reason, according to M. d'Echérac, standing in the way is the disastrous autonomy with which the Public Assistance is dowered under the form of a "supervising council," which is conservative and resists changes. M. d'Echérac declares that the Salpêtrière is undermined by rats; that it paralyses the commercial activity developing in the neighbourhood of the adjacent railway station; that it is overcrowded to such an extent that the inmates are a danger to each other. Yet there are 8,000 aged poor casting wistful eyes at this Louis XIV. building, which remains inaccessible to them.

The Boucicaut Hospital, which was recently declared open by the President of the Republic, is composed of eight pavilions, four medical and four surgical. In addition to these there is a maternity pavilion containing 20 beds. Special accommodation is reserved for the *personnel* of the Bon Marché. The total number of beds is 152. There are three services: the medical wards are under the charge of Dr. Letulle, the surgical that of M. Marchand, and the maternity pavilion is confided to Dr. Doléris. The nursing staff consists of 8 Sisters of Charity, 50 lay nurses, male and female. Eighty cubic metres of air, renewed every hour, is allotted to each patient. The wards are built of brick and iron. The inner wall is separated from the outer by a layer of air. The wall is constructed of bricks and cork covered with varnished paint. A verandah is constructed at the end of each ward filled with plants and flowers; in the men's wards these verandahs serve as smoking rooms. The floors are ceramic. The system of heating is vapour kept in circulation. The buildings are lighted by electricity. There is a lift to each service, and an underground railway assures communication between them all.

The funeral of the late Professor Tarnier took place on Saturday, November 27th. The religious ceremony was celebrated at the Madeleine. M. Brouardel, Dean of the Medical Faculty, and M. Caventou, President of the Academy of Medicine, were among the chief mourners. Wreaths were sent in abundance, marking the esteem and affection felt for Dr. Tarnier in almost every Parisian circle. A deputation of midwives from the Paris hospitals, and one from the Femmes de France, headed the procession, in company with a deputation of nurses from Dr. Tarnier's wards of the Charité Hospital, and the clinical hospital of the Rue d'Assas, where he was *Chef de Service*. Dr. Tarnier being Commander of the Legion of Honour, military honours were rendered by a battalion of infantry.

THE PARIS WATER SUPPLY.—Our attention has been called to a statement made by our Paris Correspondent in the BRITISH MEDICAL JOURNAL of November 20th to the effect that the water supply of Paris amounts to 120 litres daily for every inhabitant. The supply is, we are informed, in reality much greater, amounting in the week November 14th to 20th to 220, and in August last to 275 litres a day per head.

MELBOURNE.

A New Acarus.—Frozen Meat.—Treatment of Opium Narcosis.

THE family of the acari, or itch mites, has a universal distribution. They are found extensively on grains, meals, and many forms of animal life. A new acarus, called by Dr. Brown the acarus depilis, has recently invaded the tissues of poultry, and is now found distributed geographically over Victoria and South Australia. Fowls of all ages are attacked. The morbid condition set up by the acarus is characterised by the presence of large numbers of little whitish or yellowish-whitish, round or oval bodies of various sizes in the subcutaneous areolar tissues and on the serous membranes. The size and shape of these bodies vary. The smallest nodules are just visible, the largest are about a line in length and half a line in breadth. Some are flat oval bodies, others are flat circular bodies, some have undergone calcification, others are of a soft consistency. These bodies are egg cases containing a large number of ova. The morphological character of the acarus coincides generally with that of acari, with the exception that this new variety is destitute of hairs and spines. The distal segment of all the legs has a movable hollow staff supplied with a sucker. The acari bore their way through the skin to reach the subcutaneous tissues, and as they progress along it deposit their egg cases. In the region of the neck they follow the course of the œsophagus to reach the body cavity; they then bore through the intestines, and reach the external world with the fæces. Wooden fowl houses are the source of infection. In many instances the acari deposit their eggs in the crevices of the wood, so that the only way to exterminate the pest is to pull down wooden buildings and erect iron structures. Cooking readily destroys the acari.

The industry of the frozen meat trade from this country has for some time assumed such proportions that the Government of the Colony has instituted experiments with regard to the best means of obtaining the highest economic food value from these products for domestic purposes. The Government exhibit an anxiety to disseminate information bearing upon the wholesomeness and adaptability of this food for general consumption. Experiments which have been made confirm the opinion that the proper handling of frozen meat renders it indistinguishable in flavour, digestability, and nutritive value from that of meats grown at home. These experiments go to show that extreme cold produces no chemical alteration. Freshly-killed carcasses of mutton were placed in a chamber at a temperature of from 5 to 10° F. The cold retarded the coagulation of the muscle plasma, and, after having been kept four months in the chamber, the carcasses were thawed and rigor mortis, which had been for that time inhibited, commenced. After having been subjected to the process of freezing the tissues undergo a physical change. They become softer and looser and are then more easily digested. One of the objectionable features stated to be associated with the freezing of meat is that of "bone stink." Bone stink is not created during the process of freezing. It is occasioned by the agency of putrefactive micro-organisms. Micro-organisms have reached the seat of the change, and by their growth they produce chemical alteration in the meat, giving the meat an offensive odour and disagreeable taste. In those cases of bone stink where the stink was detected in frozen carcasses only after thawing, the meat had commenced to undergo the putrefactive change before having been subjected to the process of freezing. Cold arrests putrefaction but does not destroy it. Then as soon as the meat is removed from the cold chamber and thawed, and kept at the ordinary temperature of the atmosphere, putrefaction, which may have been arrested for months, again begins, and progresses more and more rapidly. Bone stink cannot possibly be created by freezing. If the carcass were perfectly sound and wholesome when placed in the freezing chamber, then no matter what length of time it is kept there at a low temperature it will when thawed be found to have suffered no deterioration.

When carcasses are hastily transferred to the chilling rooms, particularly during the summer, no complaints of bone stink occur. It has been maintained, particularly by those engaged in the export trade, that bone stink originated from the exterior portions freezing solidly and enclosing a less frozen interior zone. The experiments have disproved this. Freezing does not rupture sarcolemma of muscle. There is some slight escape of the watery constituents of the meat, and also an escape of some of the extractives, in the escaping fluid very little indeed of the myosin and serum albumen is found. Meat that has been subjected to the process of freezing should be gradually thawed, and should not be divided into butcher's joints until the thawing has been thoroughly accomplished. It will then be found that there is less transudation of the sanguineous fluid, and consequently a diminished loss of extractives, serum albumin, and myosin. Moreover, the cooking of this meat requires particular attention; it should be plunged into boiling water; the heat coagulates the albumin of the surface of the joint and prevents the exudation of fluid containing extractives. Even before roasting the joint it should be momentarily dipped into boiling water.

Dr. John Williams, of Melbourne, makes practical use of the axiom that large doses of opium are tolerated in the presence of pain, to treat comatose cases produced from an overdose of the drug by artificially creating pain by means of thumb and finger screws. As Honorary Physician to the Melbourne Hospital—a position which he has filled for many years—he has had many opportunities of testing the efficacy of this simple and harmless method of treatment.

MANCHESTER.

Extension of Time for Sewage Scheme.—Lunacy in Lancashire.—Hospital Saturday and Sunday Fund.

A SHORT time ago the Manchester Corporation prepared a scheme, known as the "Culvert Scheme," for the disposal of the sewage of the city. Roughly, it meant that the sewage was to be carried towards the estuary of the Mersey by means of a great drain or culvert. For various reasons this scheme was rejected by a large majority of the ratepayers of the city. After the result of the new poll of the ratepayers the old "Rivers Committee" resigned, and a new Committee of the City Council had to be appointed to deal with the sewage question. The Corporation are pressed by the Mersey and Irwell Joint Committee to formulate and complete a satisfactory sewage scheme. The Local Government Board advocate land filtration. A new difficulty has arisen, namely, the time during which the Corporation ought to have completed their scheme has more than expired, and hence they were forced to apply to the County Court for an extension of time for the construction of the sewage works. One year was asked for, but that was opposed by the Joint Committee, and at last a provisional extension or adjournment until March 25th was agreed upon.

The Asylums Board of Lancashire—which controls the three institutions at Prestwich, Rainhill, and Lancaster—have for some years past felt the necessity for increased accommodation for the lunatics of the county of Lancashire. All three asylums are overcrowded, and at Prestwich there are about 400 patients over and above the 2,000 which the asylum was built to accommodate. This does not necessarily mean a corresponding increase in the number of cases of lunacy, for it appears that since the 4s. grant by the Government workhouse authorities are sending their hopeless and harmless imbeciles to the asylums, instead of keeping them in their workhouses, as was formerly the case. Moreover, the excellent treatment of and care bestowed upon patients in asylums are having a decided effect on public opinion, so that instead of keeping their mentally-deranged friends at home, or sending them to private asylums, they are sending them to one or other of the great institutions. In any case, the increase has to be provided for, and the Board accepted a contract of a Manchester firm to erect a new asylum at Winwick, at a cost of £253,000. Winwick is about two miles from Warrington, and has been selected on account of its central situation. The site extends to over 200 acres. It is intended to send the chronic cases there, and it is expected that the overplus from the three asylums will more than half fill the new institution, which it is anticipated will be ready for patients in about two and a half years.

At the annual meeting of the subscribers and friends of the Hospital Saturday and Sunday Fund, it was stated that the collections on behalf of these funds were £8,200 in 1895, £8,315 in 1896, and £8,088 in 1897; whilst the amounts distributed were £7,400, £7,500, and £7,500. The falling off this year was no doubt due to the numerous calls made upon the public for other purposes.

LIVERPOOL.

The Result of Want of Room for Emergency Cases.—The Ladies Sanitary Association.—Medical Students' Dinner.

THE remarks of the City Coroner on the deficiency of accommodation for persons of unsound mind at the Mill Road Union Infirmary, referred to in the local correspondence in the BRITISH MEDICAL JOURNAL of November 27th, have been painfully enforced by an occurrence which took place the very day after they were uttered. A young man, the subject of temporary mental disorder, who had been for some time under the care of Dr. Walby, was taken by him to Mill Road Infirmary with a request that he might be admitted with a view to his subsequent removal, if necessary, to the County Asylum. With this request the medical officer in charge was unable to comply, inasmuch as all the accommodation set apart for the reception of such cases was filled to overflowing. A few days later the patient threw himself in front of a train in Sandhills Station, and was killed. Mr. Cleaver, clerk to the West Derby Board of Guardians, pointed out at the inquest that no blame attached to the guardians, as it was no part of their duty to provide accommodation for lunatics but only for imbeciles and other harmless patients. They had accommodation for 75 males and 75 females of that description, and there were then on the male side 4 patients in excess of the authorised number. Since October 28th there had been 21 acute cases of lunacy under the care of the officials at Mill Road. These cases had been taken in pending their removal to asylums, to which they should have been sent under magisterial orders; but only one case had been so removed, so that the guardians were keeping in the infirmary 20 cases which, strictly speaking, ought not to be there at all. It appears that the inability of the guardians to receive emergency cases is really due to the failure of the County Asylums Board to provide the increased accommodation which is necessary to keep pace with the requirements of the growing population. It is stated that the coroner's remarks have been brought to the notice of the Home Secretary.

An excellent society called the Ladies' Sanitary Association, which was founded a few years ago, is quietly carrying on the extremely useful work of instructing the women of the community in the laws of health and the elementary principles of domestic hygiene. The declared objects of the association are to encourage and develop sanitary knowledge, to rouse public interest in the necessity for greater vigilance to prevent the spread of disease, and to raise the moral tone of the population by improving their surroundings. Its methods of work are to provide courses of popular and educational lectures on sanitation and hygiene, to train students as health lecturers, and to provide health lecturers for mothers' meetings, girls' clubs, etc., in Liverpool and elsewhere. It is managed by a small executive committee of ladies, with the support of a medical committee, of which the medical officer of health is a member, and it receives a grant from the city council. The course qualifying for the certificate as Lecturer in Hygiene and Sanitation includes instruction in physiology, chemistry, hygiene, first aid, nursing, and several other subjects, all of which have been entrusted to acknowledged authorities in the several branches. Fifteen past students hold appointments in various parts of the kingdom. Of the five women sanitary inspectors lately appointed by the Liverpool City Council, three have been trained by the association.

A large and successful gathering of the past and present students of the Liverpool School of Medicine took place at the annual dinner, which was held at the Adelphi Hotel on November 27th. The chair was occupied by Professor

Rushton Parker and the vice-chair by Professor Rubert Boyce. A letter was read from Professor Kanthack, now of Cambridge, a former student of the school and medical tutor in the Royal Infirmary, expressing his regret that he was unable to be present, and the pleasure with which he looked back to the days when he was himself a student in Liverpool. Visitors were present representing the other affiliated schools of the Victoria University. The usual toasts were proposed and honoured, and an interesting musical programme was rendered.

CORRESPONDENCE.

"LE DOCTEUR TANT POUR CENT."

Sir,—Some of us, who have once been younger, are apt to think as we read our newspapers, that time, though it has advanced the art, has not equally improved the manners or the morals of our profession. It seems to grumblers like us that in our younger days we did not read nor hear quite so many cases in which medical men behaved to one another with discourtesy and dishonesty, or betrayed all principle in the pursuit of profit.

It may be a matter for regret or for rejoicing that we have not fallen quite so low as others. I have read of late a satire by a French writer on the medical men of her own country—Gyp's *Ces Bons Docteurs*. I hope and believe that no such book could be written here. For many of the scathing sketches of which the book consists there is no doubt just so much truth as to point the fiction. But one character, the "Docteur Tant pour Cent." (Dr. so much per cent.), must be a true picture. He is a consultant whose habit it is to offer to each practitioner who calls him in a large percentage on his fees. He thus outbids his rivals, and at the same time suggests to the general practitioner that nothing could be more to their mutual benefit than a frequent recourse to consultations and to operations: "Vous y gagnerez toujours, et vos malades y gagneront peut-être quelquefois..... on ne sait pas."

Such an idea would not have entered an authoress's head if it had not in fact occurred and been notorious. To this disgraceful partnership, degrading to both concerned, to this union of two swindlers against—for it must so end—the interests of the man whom they are bound by every principle and by every oath to protect, I am glad to think that we have not yet come.—I have, etc.,

November 12th. Vieux Jeu.

SMALL SUBSCRIBERS TO METROPOLITAN HOSPITALS.

Sir,—The scheme by which it is proposed to increase the Prince of Wales's Hospital Fund by means of small subscriptions, described in the leading article in the British Medical Journal of November 20th, demands the most careful consideration of all metropolitan practitioners.

The *Times* of November 19th described the scheme in the following words:

> A subscription book and album for hospital fund stamps is now being issued to the public by the organisers of this fund. The idea is that subscribers of small amounts of from 1s. to 10s per annum should purchase the stamps and enter them in the book in the blank spaces provided for that purpose, writing above them the date of the year. The book also contains portraits of the Queen and the Prince of Wales, and room is left for a midget portrait of the subscriber. The price of the book is 6d.

If the idea were limited to that described in the above words, and if the new "subscription book and stamp album" simply supplied the machinery for such subscription by the poorer members of the community, it would receive the approval of every right-minded citizen, lay or medical.

But this is simply one object of the scheme. Another purpose is also intended, which gives it an entirely different complexion. In the "subscription book and stamp album" it is stated that

> Those who avail themselves of it [that is, the opportunity of subscribing thus made easy] by procuring this stamp album will be able to show the hospital authorities that they are contributing annually to the support of these institutions.

Sir H. Burdett, who claims to be the proposer of the system, said, in answer to a query addressed to him at the conference at St. Martin's Town Hall on October 31st:

> I only wished that out-patients should be able to produce these stamps as evidence of their feeling towards the hospitals, and of the fact that they were willing to do their best to subscribe to them.

and again:

> I am in favour of free medical relief, but if it is right for a poor man to give 4s. 4d. a year to a provident dispensary and to receive medical treatment at that dispensary there can be no harm in that man giving voluntarily half-a-crown or so to a hospital, and if he wants relief and he is a proper case for free treatment, going to a hospital and saying that he has done his best for the hospitals The possession of these stamps and subscription books would be evidence of this fact.

He further emphasises the same view of the matter in his letter published at page 1612 of the British Medical Journal of November 27th last, and asks:

> Is it not reasonable to maintain, therefore, that if an unobjectionable system can be devised which will remove this unequal competition [between general practitioners and hospital out-patient departments] or materially lessen it, that system is worthy of the support of the medical profession.

There is virtue in that "if." But, unfortunately, the new scheme does not fulfil the conditions. It is not unobjectionable, nor calculated to remove or lessen the above mentioned competition, but rather to intensify still more the overcrowding in the out-patients' rooms. This is not to suggest that the author of the scheme has had such an object, though he confesses to being under the impression that many of the cases under the care of general practitioners do not receive "adequate medical treatment." Nevertheless, such the result must be, as the scheme will augment the number of out-patients in exact proportion to the success which attends it. There can be no mistake about that, whatever may now be urged to the contrary. Each subscriber, on producing the subscription book, will consider himself or herself entitled to hospital treatment; and if the hospital authorities should for any reason withhold it, the individual concerned would doubtless cease to subscribe, might proclaim to the world that the compact had been broken, and thus cause others' subscriptions also to cease. Or the mere threat to do this might turn the scale in an undesirable way at the hospital. At present the authorities, if from any cause they consider a patient unsuitable, can refuse their charity; but if the attendance comes to be regarded by poor subscribers as their right in return for the subscription (which is the view they would soon have of the situation, however much the contrary may be desired by the framer of the scheme), hospitals will have far less chance than they now possess of restricting the numbers treated in the out-patient department. Persons of the lower middle, and upper artisan classes will subscribe to obtain a *quid pro quo*, on the *do ut des* principle; and hospitals will *pro tanto* draw patients from general practitioners, and render it yet more difficult for the latter to make a living.

The plan has apparently been originated to increase the incomes of the hospitals of London, but is it quite certain that even this will be the result? Those persons will mostly subscribe who are weakly or likely to require medical assistance for themselves or their families; but a small annual subscription, say from 1s. to 5s., would be soon exhausted by the medicines prescribed in a few visits to a hospital. It seems, therefore, that the scheme offers a precarious chance of materially adding to the resources of the hospitals, whilst it will certainly tend to increase the overcrowding of their out-patient departments, and will run serious risk of causing the general practitioners of the metropolis to consider themselves unfairly handicapped by the hospitals in the struggle for existence.—I am, etc.,

November 30th. A London Practitioner.

Sir,—It is difficult for a practitioner to answer calmly Sir H. Burdett, because the tone of his letter of November 23rd, and of one to the *Times* previously, conveys the impression that our branch of the profession is responsible for the overcrowding and abuse of the out-patient room of the larger hospitals. He says: "It is perfectly notorious that people are not attracted to hospitals solely by motives of economy, but go there because they believe they get something better in the way of treatment there than they can obtain from some medical practitioners to whom they would otherwise have to go." Now, no patient is compelled to go to any one practitioner; there is always the choice of a dozen within a reasonable distance; so that the word "some" might evidently

have been left out. Sir Henry Burdett is a man who has the power to considerably influence public opinion in hospital matters, and it is a pity he should encourage an erroneous idea, which if persisted in will, of course, do more to aggravate the out-patient abuse (to which his scheme more widely pens the door) than anything else could do. It is perhaps superfluous to say anything in defence in a medical paper, but Sir Henry must know that in very many cases there are circumstances wholly unconnected with skill or ability which have influenced the man in deciding not to wait for a position on the staff of a hospital, but to take up the equally arduous and exacting branch of general practice. The practitioner is very often blessed with the same degrees as the hospital physician or surgeon; and, moreover, a member of the latter class in illness will often place himself and family in the hands of a general practitioner, showing that those best able to judge have not the same want of confidence in him as Sir H. Burdett imputes to the out-patient class. It is necessary to say these few words in defence of the practitioner because I am going to argue that the way to cure hospital abuse is to get the practitioner to bear more of the burden of the out-patient department. The "lower middle class" Sir H. Burdett wishes to attract to the hospital. The lower middle class is a most important source of income, almost the sole source of some practitioners; and if the lower middle class is to get medicine, and surgical attendance, and drugs for from "2s. 6d. to 10s." per annum, it will open the hospital doors to thousands of people who at present more or less cheerfully pay a doctor's fee. And what a staff of officials must be kept to investigate each case! For if a charge is to be made, surely it should be justly apportioned; and a man who could afford to bring 10s. worth of stamps should not be seen for 2s. 6d. worth. In fact, when the payment system commences, the most flagrant abuse will creep in. Sir Henry Burdett wishes to encourage a system of small subscriptions to the hospitals, whereby the donors are to consider themselves justified in obtaining medical relief; will this relieve the abuse of the out-patient department? Surely it will attract another class to the exclusion of the poor, for whom the hospitals were originally intended. It is most difficult to decide amongst a number of applicants which are poor, and to what degree; it would be infinitely more difficult to decide justly how much each applicant could pay; and yet if this were not done, I am afraid the lowest subscription, and not the highest, would be tendered. Moreover, the charity, as a charity, would cease to exist. My own opinion is that the extension of the provident dispensary system should be the means of checking hospital abuse; this to be supplemented by the encouragement of institutions for nursing poor patients in their own homes.

I am connected with a provident dispensary which has been established over fifty years, and which has on its books at the present time over 4,000 patients of the working class, with their wives and families, and it is recognised as the greatest boon to the class to which it offers help. I should like to show Sir Henry Burdett our out-patient room; he would see it is merely a miniature hospital out-patient room, and the patients have the same diseases as they have who are applicants for hospital relief; one also has the great advantage of knowing all about the patients. Practice under such circumstances can but be of advantage to all parties, and the encouragement of such a system would rectify hospital abuse and hospital overcrowding.

Everything should be done to encourage the practitioner to accept such posts; there should be a good number of dispensaries conveniently situated, and the portals of admission to its advantages guarded by local committees; and there should be as a *quid pro quo* to the practititioner the same *kudos* attaching to the appointment as to that of out-patient surgeon and physician at a general hospital —I am, etc.,

Hampstead, N.W., Nov. 29th. EDWARD JESSOP.

THE UNQUALIFIED ASSISTANT.

SIR,—The resolution recently passed by the Council in regard to the employment of unqualified assistants is truly hard, if not unjust. I know many who like myself have had a chequered career for want of other necessaries than brains, and under the old regulations we were allowed and encouraged to prosecute our studies by the help of a qualified principal. The penalties set forth for a breach of this rule are so plain and so severe, that it means speedy extinction of the unqualified assistant, and a great hardship upon many a principal whose slender means do not justify the engagement of a qualified man. Hundreds of married men in colliery districts will now be turned adrift.

If the General Medical Council would move in the matter of suppressing the quackery practised by truss specialists, abortionists, oculists, aurists, and swindling pill companies, and leave the *bonâ-fide* unqualified man alone, they would earn the gratitude of thousands of practitioners, especially many who like myself are not ashamed to tell that had this stringent clause been inserted six years ago, I should not have been able now to sign myself

December 1st. M.B.LOND., M.B.VICT.

SIR,—I am in general practice and keep a qualified assistant, also a gentleman—full curriculum—son of a deceased hospital staff practitioner, whom at present I would describe as a "surgery attendant." We all live under the same roof; the attendant keeps my books, dispenses, and stays in the surgery while the qualified assistant and myself are out on our "rounds," he also attends a few midwifery cases when the qualified assistant and myself are otherwise engaged. He does not pay visits in the ordinary course of events; if a message comes when the qualified assistant and myself are out, it waits our return unless there is a pressing and urgent call. Am I to understand that if word is sent to my house to say that one of my patients is in the position of imminent danger from miscarriage, hæmorrhage, precipitate labour, or accident during the absence of myself or assistant that such a competent "attendant" is to shut the door and decline to act in the emergency, while the herbalists and midwives in the district, the very policeman in the street, or some factory operative who have attended a superficial course of ambulance lectures are fit and proper persons to interfere in the hundred and one cases which arise in the every-day life of our manufacturing towns? It is all very well for the consultant majority of the General Medical Council to sit in philosophic armchairs and draw up theoretical, vague, and indefinite resolutions, but I, as a general practitioner and a practical man, would ask for something more definite. Until then I know not what my position is, whether I am a law-abiding citizen or an "infamous" one. Finally, is it the intention of the General Medical Council to drive from within the ranks of the profession a whole army of deserving men who, although unqualified, are in common with their principals actuated by the ethical and moral code of a liberal profession, to swell the decidedly better paid outside ranks of unqualified persons and quacks over whom the Council not only have no control, but, judging by their past and present action, do not seek to control or suppress by those powers which are possessed by other professions?—I am, etc.,

November 29th. G. P.

AN ETHICAL SECTION AT THE EDINBURGH MEETING.

SIR,—The question raised by Mr. Garrett Horder in the BRITISH MEDICAL JOURNAL of November 27th as to whether there is to be any Ethical Section next year at Edinburgh is a very important one, and the sooner it is answered the better, in order that members may be enabled to make their arrangements as to where they will spend their holidays. Everyone admits that the profession is overcrowded, and general practitioners particularly feel that it is so, to their cost, every day. All sorts of schemes are afloat for grabbing patients. Hence the necessity for better organisation and for the promulgation of a sound system of ethics, not only amongst those who are qualified, but also those who are preparing to be so. The meetings of the Ethical Section afford a splendid opportunity for a definite and authoritative pronouncement, not only for the profession, but also for the public, on ethical subjects, as well as for cementing members together from various parts of the United Kingdom who are workers in this line. I met men at London and Carlisle from distant places such as Dublin and the north of Scotland, which not only gave pleasure, but encouragement.

It is important that this question as to whether we are to

have a Section or not should be settled soon, because if it be in the negative I am quite certain that many will be absent from the Scotch metropolis who were present at the London and Carlisle meetings. There is also another reason why we should know at an early date, because I am quite satisfied that this important subject cannot and will not be allowed to sleep. I am certain that Mr. Horder and others would be induced to take steps to have a meeting at some central place in England as a substitute for the Ethical Section at the annual meeting. Hospital reform, medical aid societies, clubs, provident dispensaries, a new Medical Act, dispensing chemists, medical organisation, reconstitution of the General Medical Council, and many other pressing matters would afford pabulum for one or two days' meetings which would be certain to prove useful and interesting.

I am certain that many members here in the north would be disappointed if there were no Ethical Section next year at Edinburgh, as our Medical Guild is in full swing and doing good work. Our Medico-Ethical Association in Manchester is active and preparing for the celebration of the jubilee year of its existence. All this indicates that there is greater interest in ethics than there ever was. Men see more and more every day the necessity for organisation, and I trust that it is not too late for Edinburgh to follow the example of London and Carlisle in affording an opportunity for these vital matters to be discussed. In Mr. Garrett Horder we have an excellent secretary, and all the necessary arrangements could soon be made, and I am certain that to have the Section would tend to a more successful, useful, and pleasant general meeting than if there were none. It will strike everyone that at such a vast assemblage of men from this country and our colonies it is important that all subjects should be discussed in order to afford benefit and pleasure to the greatest number, as well as being an attraction for so many more to attend.—I am, etc.,

Manchester, Nov. 30th. G. H. Broadbent.

GENERAL PRACTICE.

Sir,—I agree to some extent with the remarks of Dr. Hanbury Frere. Nevertheless, for success in practice the personal element must not be ignored, for no matter how good the training, one man will succeed where another fails. I will give an example. Some years ago I established a branch practice, to which I appointed a gentleman, giving him £100 a year and half the proceeds. After three years he resigned, not being able to make a living unless I increased his salary. I gave the post to another gentleman from the same University, with the same qualifications, and presumably with the same training, and in less than two years his cash receipts were considerably over £500 a year. I may say the first was married, but without family, and had all the assistance which a wife is supposed to give; and the second was a bachelor.—I am, etc.,

November 9th. W. K. R.

THE INSTRUCTION OF NAVAL MEDICAL OFFICERS.

Sir,—Your remarks under this head in the British Medical Journal of November 13th on the teaching of tropical diseases and the necessity for increasing the facilities for obtaining opportunities for instruction and study in these diseases for medical men educated in this country have a wide application. It is within my personal knowledge that in our West Indian colonies this deficiency in the study of tropical diseases had been found a serious disadvantage in respect to a large proportion of medical men who have qualified in Great Britain, but have so inadequate an acquaintance with the treatment of tropical disorders that special means have had to be taken at the cost of the colony to secure a class of medical officers for the Government service capable of satisfactorily fulfilling this part of their duty,—I am, etc.,

November 15th. Viator.

MEDICAL DEFENCE.

Sir,—I heartily trust that every member of the Association who receives a voting card will take the trouble to look into the above matter and record his vote; personally, I shall be satisfied whether he votes for or against medical defence, though, as seconder of the proposed resolution in favour of the same, I feel certain that if the Association takes it up we shall all reap the benefit so much desired by the profession—that is, to raise its tone, and protect each other from insult and robbery.

Our Association, numbering many thousands, is surely the body to protect its members, notwithstanding the refusal of chartered corporations to do so; and in the present position of things, when the issue of voting cards has been obtained, do let us have a fair field and no favour in the shape of a full record of votes one way or another. We can well afford to let the details for carrying out the medical defence scheme remain in the hands of the Council or a Committee appointed by that body. At the same time it is worth consideration whether to have our private medical affairs quietly considered and settled among our professional brethren is not infinitely preferable to having them dragged into law courts, and commented upon much to our detriment by a not over-scrupulous public.—I am, etc.,

Upper Norwood, Nov. 27th. Geo. K. Poole, Surgeon-Major.

MEDICAL AID ASSOCIATIONS.

Sir,—Several of the Branches of our Association have adopted, as if as a matter of course, the resolution of the East Anglian Branch that medical men holding office under medical aid societies shall not be admitted as members.

I am no apologist for medical aid societies, and I am decidedly of opinion that it is not proper for medical men to act as their officers, but I question whether the supporters of the above resolution are acting in the best way to further their object, which is, I presume, to maintain the honour and position of their profession, and to improve the well-being of its members, by preventing them from holding these admittedly improper offices. This then, I take it for granted, is the object in view, and not merely the making of the British Medical Association a select body of medical puritans.

How are we most likely to succeed—by force or by reason? What influence can the Association exert on men who are not members? A man who is not guided by fair reason or ethical considerations will probably only be influenced through his pocket, and what will he care if he be excluded from the membership of the Association? He will not be injured one iota in the eyes of the public. There is a fable about the wind making a wager with the sun that it would be quickest to make a man take off his coat; but the harder it blew the tighter the man buttoned up his coat. Then the sun shone, and soon, under its gentle rays, the man felt uncomfortable, and unbuttoned his coat, and at last took it off and put it away from him. So the medical aid officer, if he feels the icy wind of exclusion, will only shut himself up in his own circle and be kept from the genial influence of the meetings and members of the Association. And these, once he had joined them, could, and probably would, exert a rational and moral force that in his new position he would feel it difficult and unpleasant to resist.

It would be creating a dangerous, and possibly inexpedient, precedent to exclude from the Association all persons guilty of improper practices, such, for instance, as advertising, about the impropriety of which there is little question, for although the use in some form or other still unfortunately exists, we may fairly assume that it would have been far worse, considering the competition, and the facilities and temptations there are, had it not been for the various medical associations, which make it easier for men to keep in the paths of medico-ethical virtue, and more difficult for them to digress. I would suggest that a resolution on such a question should be framed as an expression of opinion, as a method of advice, a guide from educated men of science to educated men of science, and not prepared so as to savour of the worst, the selfish and tyrannical methods of trades unionism. Our object should be as far as possible to attract men to the Association, to enlarge it, and in this way to increase the area of its good influence. Such a resolution as that of the East Anglian Branch will, I believe, fail in its ultimate object, and is not worthy of a profession which prides itself that it is generous and catholic.—I am, etc.,

Freshford, Nov. 27th. Charles E. S. Flemming.

EARLY EXPERIMENTAL EVIDENCE CONCERNING CHLOROFORM ANÆSTHESIA.

Sir,—Permit me to correct a wrong inference from my remarks at the *conversazione* of the Society of Anæsthetists held to commemorate the semi-centenary of the introduction of chloroform as an anæsthetic. I am reported, in the British Medical Journal of November 27th, page 1586, to have said that I assisted the late Dr. Anstie to "follow out experiments on animals which Snow had begun." I was not present at a single experiment made by Dr. Anstie. These are recorded in his book on *Stimulants and Narcotics*, published in 1864. My own were quite independent of these, and were recorded in my book on *Chloroform: its Action and Administration*, which was published in 1865.—I am, etc.,

Harley Street, W., Nov. 27th. A. Ernest Sansom, M.D.

SALTS OF LIME AND CIRRHOSIS OF ORGANS.

Sir,—Although I am open to conviction as to the possibility of the potassium sulphate contained in wines being a factor in the production of cirrhosis of the liver in excessive wine drinkers—a point which, in my opinion, is not by any means established by the investigations of Lancereaux—yet I feel fairly confident that the lime salts contained in wines cannot be held responsible for the production of cirrhosis as is stated by Dr. Thorowgood in the British Medical Journal of November 6th. This view is apparently based upon the assumption that a plastered wine is one that is necessarily rich in lime salts. Is this assumption correct?

The plastering of wine consists in adding plaster-of-paris (calcium sulphate) to the must either before or after fermentation. This practice is stated to have for its object the reduction of the amount of the water in the grape juice and the consequent production of a must relatively richer in sugar. It is very doubtful, however, if this explanation be a correct one. The real advantage of plastering to the wine-maker no doubt is that it clarifies the wine rapidly, and allows it to be quickly brought to market. The hygienic aspect of the practice was investigated by a French Government Commission, whose report as to any baneful effects resulting from the process was practically negative. It was found that the addition of the plaster-of-paris decomposes the acid potassium tartrate naturally present in the wine, potassium sulphate remaining in solution, while the tartaric acid unites with the lime to form an insoluble calcium tartrate. Potassium phosphate, also a natural constituent of wine, is decomposed, forming potassium sulphate and insoluble calcium phosphate. According to Nencki's experiments some free sulphuric acid is formed in the plastered wine, and possibly the fact that crude wines sometimes have a tendency to produce constipation may be due to the presence of sulphuric acid so produced.

It therefore appears that the plastering of a wine, while always causing an increase in the amount of potassium sulphate, does not increase the proportion of the lime salts. Moreover, the amount of lime present in young wines is only from 3 to 12 mg. in 100 c.cm. of wine, and even this amount gradually diminishes with age; so that, assuming that the highest proportion is present, a person consuming a large bottle of wine would only introduce 1¼ gr. of lime into the alimentary canal. Is it conceivable that such a quantity of an ingredient, which is a necessary constituent of the human body, could exert any baneful effect on the fibrous tissues?—I am, etc.,

Weymouth Street, W., Nov. 8th. Arthur P. Luff, M.D.

ACQUIRED IMMUNITY.

Sir,—In the Epitome of the British Medical Journal of November 13th (No. 412) there is an abstract of a paper by Gottstein on Acquired Immunity. The main argument of that author against the current opinion that one attack of an acute specific fever confers an immunity against a second is that second attacks are only as rare as one would expect, supposing infection to be a matter of chance. And as an illustration he brings forward the extreme infrequency of a man's twice winning a lottery.

The fallacy in this argument is clearly shown by the following example: The probability that on tossing a penny it will come down "heads" is ½. The probability of "heads" twice in succession is only ¼. At first sight this seems to support Gottstein's argument; but supposing that we have tossed once, and "heads" has fallen, and now we ask, What is the probability of "heads" next time? The answer is ½. And similarly with infection. If a person has had one attack, the probability of infection (assuming that this is a matter of chance—that is, that we do not know the causes of infection) is certainly not less than before the first attack. To say, as Gottstein does, that the probability is less, because he has already had one attack, is to assume that the first attack has an influence in preventing a second, and that therefore the non-occurrence of a second attack is not a matter of chance. The first assumption is opposed to Gottstein's conclusion, and the second violates the premiss that infection is a matter of chance.

The theory of probabilities may, however, be used in another way; and leads to a confirmation of the generally held belief. For example: If a penny fall "heads" nine times running, the odds are in favour of the fall of this penny not being a matter of chance; in other words, there is a definite probability in favour of the presence of some factor causing "heads"—for example, the coin may be weighted.

And so, when we find the attack rate of those previously infected is much less than that of those not previously attacked in any epidemic, there is a probability in favour of the non-occurrence of the second attack not being a matter of chance; that is, of the first attack bringing with it some factor or factors tending to prevent a second.—I am, etc.,

Cambridge, Nov. 29th. W. Myers, M.B.

THE AERIAL SPREAD OF SMALL-POX.

Sir,—In answer to the question addressed to me by your correspondent who writes in the British Medical Journal of November 27th under the cognomen "Epidemiologist," I beg to refer him to the footnote to the quotation (page 69) which he gives from my Warrington report, and which footnote runs as follows: "Some maintain that it is a gentle wind or a foggy stagnant atmosphere which favours the spread of small-pox contagium through the air." It follows, therefore, as a matter of course, that to those who hold this latter view of aërial convection, the proportion of infected houses in a given district around the supposed centre in relation to the direction and strength of the winds, would carry no weight either for or against the theory. I merely give the particulars concerning this question in my report as one of the means that have been employed by some to support the theory of aërial convection; but to those who do not employ it as a means, the point is one of indifference. As for myself, I do not, as your correspondent seems to think, lay stress on this point; indeed, I hold that fresh air, being itself one of the best natural germicides, is very unlikely to become a vehicle for the conveyance of microbes, and that on *a priori* grounds, therefore, one would not expect the germs of small-pox to be carried beyond the limits of an ordinary room.

Your correspondent commences by stating that he has "made some study of this matter;" and as he apparently supports the theory of aërial convection, perhaps he can advance, in accordance with my request contained in the Journal of November 20th, any facts having somewhat the same value in support of the theory of aërial convection, as the two facts I mentioned against that theory—namely, the exemption of the workhouse population of 712 persons—living in a building and grounds only separated from the Old Small-pox Hospital by a wall—from cases which could not be explained by direct infection; and the exemption of a population of 364 persons working all day in a brewery situated near the New Hospital from cases which could not be shown to have contracted the disease in the usual direct or mediate fashion. There were altogether only 6 cases in the former and 4 in the latter.

During the whole period of eight or nine months, when the epidemic was in progress, these 1,076 persons were fully exposed to aërial infection, if such existed. Surely during that period of time some days must have been suitable to the aërial dissemination of small-pox contagium. And, if so, why were not more persons attacked, and why were there none in whom a direct or mediate source could not be traced? I approached

this inquiry with an open mind on this question, but facts such as these, and two others of the same kind, must carry considerable weight against the theory of aërial convection, unless facts of corresponding value can be advanced on the other side. It was for such that I ventured to ask.—I am, etc.,

Berkeley Street, W., Nov. 30th. THOS. D. SAVILL.

OBITUARY.

HENRY WILLIAM FREEMAN, F.R.C.S.I., M.R.C.S.Eng., L.R.C.P.Lond.

It is with deep regret that we chronicle the death of Mr. H. W. Freeman, of Bath, which took place at his residence on November 21st at the comparatively early age of 55. For some weeks past it had been noticed that Mr. Freeman did not seem to be in his usual health, but he continued to work as assiduously as ever, and on October 19th he exerted himself strenuously during the visit of the Duke of Cambridge at the opening of the Pump Room extension. Shortly after this he had an attack of syncope, but he continued to work till November 11th, when signs of severe anæmia and cardiac disorder compelled him to take to his bed; the disease made rapid strides, and in spite of the most unremitting attention proved fatal.

Henry William Freeman was born in 1842 in the neighbourhood of Westward Ho! North Devon, and was educated at Bideford Grammar School; subsequently he passed through the usual pupilage with a medical practitioner. He then entered as a student at the Middlesex Hospital, and became a Member of the Royal College of Surgeons in 1864. The next year he obtained the post of Resident Medical Officer at the Royal United Hospital, Bath, which appointment he retained for one year, when he began to practise in the town. He rapidly acquired a large practice, and always took a keen interest in surgery, but it was not until 1881 that he had any real opportunity for following out his inclination in this direction; in that year he was elected Honorary Surgeon to the Royal Bath United Hospital, and at once began to practise operative surgery in its modern aspects with great activity and success, and devoted during the remainder of his life much time to the welfare of the patients and the improvement of the hospital; almost the last of his professional acts was the performance of a major operation at the hospital very shortly before the final seizure which laid him low, so that he may be said to have died in harness. As an illustration of his activity it may be mentioned that on his appointment as Honorary Surgeon to the hospital the condition was made that he should have a Surgical Fellowship. In spite of the claim of a very large practice he set to work, and in a short time obtained the necessary diploma. This was in 1882, and after he had been nearly twenty years in practice.

He afterwards turned his attention very seriously towards developing the resources of the baths of Bath, and with this object he made a large number of visits to the chief continental health resorts, especially Aix-les-Bains, and those of Bohemia, Germany, France, and Austria. In 1887 he made a journey to the springs of Saratoga and Virginia. In these journeys he made a large number of personal observations which became of great value in guiding the Baths Committee in the enlightened policy of rejuvenating, so to speak, the ancient thermal baths of Bath, and enabling that city to take her old rank as the Queen of Baths. It is no small measure due to Mr. Freeman's activity, counsel, and persistency that Bath to-day can boast the most useful and luxurious system of warm bathing which it now possesses. That his earnestness in this cause was appreciated by the profession at large was well demonstrated in June, 1889; in that year Mr. Freeman, as Mayor of Bath, entertained H.R.H. the Duchess of Albany at the "City of the Warm Vale" on the occasion of the ceremony of opening the new massage baths, and, in addition to the leading people of the county, he was supported by the presence of a large number of physicians and surgeons from London, the chief provincial towns, Scotland and Dublin. In all his municipal work, Mr. Freeman was ably seconded by his amiable, courteous, and devoted wife, and the great success of the opening ceremony was a source of deep gratification to both.

It is impossible to conclude a memoir of Mr. Freeman's life without mentioning his hobby, namely, the breeding of thoroughbred horses. He had a large stud farm, and possessed some valuable animals. His love for the horse was intense, but he never allowed this interest ever to interfere with his practice, and for many years a quiet visit to the farm was a source of great recreation and pleasure to him, and few breeders had a more intimate knowledge of the pedigree of horses than Mr. Freeman.

It is surprising that with the many demands upon his time he should find time for literary work. His best effort was a book on the *Thermal Baths of Bath*, including their history, literature, medical and surgical uses and effects.

It required some perseverance and the possession of no small degree of self-reliance for a man who went to Bath absolutely unknown to obtain such a large practice and the highest honour his adopted city could bestow; but such was the man, and whatsoever he was called upon to do he did with all his might, and by his death Bath loses a devoted citizen, and one who did an enormous amount of good for his adopted city.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Joachim Voss, Professor of Anatomy and Medical Jurisprudence in the University of Christiania, President and founder of the Association of Norwegian Medical Practitioners, and one of the first who performed ovariotomy in Norway, aged 82; Professor Victor Hüter, for many years Lecturer on Gynæcology in the University of Marburg; Dr. Nikolai Kleinenberg, Professor of Comparative Anatomy in the University of Palermo, aged 57; and Dr. M. A. Olivet, Professor of Psychiatry in the University of Geneva, and author of numerous publications on subjects relating to mental diseases, aged 76.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

THE following appointments have been made at the Admiralty: HENRY L. CROCKER, Fleet-Surgeon, to the *Britannia*, November 12th; HERBERT H. PEARSE, Surgeon, to the *Forte*, November 27th: WALTER S. H. SEQUEIRA, Surgeon, to the *Nile*, November 27th; WALTER B. MAURICE and WALTER H. O. GARDE, Surgeons, to the *Victory*, additional; and RICHARD MILLER, Surgeon, to the *President*, additional, for temporary service at R.N. rendezvous and the Medical Department at the Admiralty, November 27th.

ARMY MEDICAL STAFF.

BRIGADE-SURGEON-LIEUTENANT-COLONEL F. W. TREVOR, M.D., who is serving in the Bombay Command, has taken charge of the current duties of the Principal Medical Officer, Sind District, from October 27th, as an additional duty.

INDIAN MEDICAL SERVICE.

BRIGADE-SURGEON-LIEUTENANT-COLONEL C. W. CALTHROP, M.D., Bengal Establishment, is granted the temporary rank of Surgeon-Colonel from October 28th, while officiating as Principal Medical Officer, Presidency District.

MILITIA MEDICAL STAFF CORPS.

MESSRS. ALFRED H. BENSON and WILLIAM FLETCHER, M.B., are appointed Surgeon-Lieutenants, December 1st.

THE VOLUNTEERS.

SURGEON-LIEUTENANT J. G. THOMSON, 1st Ayrshire and Galloway Artillery, has resigned his commission, December 1st.

Surgeon-Lieutenant R. C. BROWN, M.D., 2nd Volunteer Battalion the Duke of Wellington's West Riding Regiment, has resigned his commission, December 1st; and Messrs. LOUIS PETRO DEMETRIADI, and HENRY W. WILLIAMS are appointed Surgeon-Lieutenants in the same corps, from the same date.

Surgeon-Lieutenant C. S. TICEHURST, 3rd (Duke of Connaught's Own) Volunteer Battalion the Hampshire Regiment, is promoted to be Surgeon-Captain, December 1st.

THE CHARGE OF SOLDIERS' WIVES AND CHILDREN AT ALDERSHOT.

WITH regard to our remarks in the BRITISH MEDICAL JOURNAL of November 20th, as to the charge of soldiers' wives and children at Aldershot, we may observe that the words "Dutch Auction" appeared in the leading article in the *Times* on the Medical Department some days ago. The nomination to the charge was stated in the terms used by the correspondent of the *United Service Gazette*, and appeared in inverted commas, showing them to be quoted. The concluding comments were based on the fact that the duties of the charge were of so irksome and harassing a nature

that successive Directors General have found it difficult, if not almost impossible, to get army surgeons to accept these appointments, even although they carried "fixity of tenure" for some years.

CIVIL PRACTITIONERS AND MILITARY DUTIES.

SURGEON-LIEUTENANT-COLONEL (Retired) writes: On my return from foreign service twelve years ago I was sent to a large station, where a civil practitioner had been in charge for some months. I soon discovered that though the local doctor had treated the sick in hospital, the real officer in medical charge was the sergeant of the medical staff corps. It was only after a display of tact and firmness that he resumed his proper place. Just before my arrival the hospital store room had been broken into at night, and a quantity of liquor abstracted. A court of inquiry ordered the loss to be made good by the "hospital authorities." My mild request that this term should be defined led to the hushing up of the whole matter, and I understand that the loss was borne by the regimental canteen fund.

MILITARY TITLES.

A SURGEON-CAPTAIN sends us the envelope of a letter addressed to him as follows, which he very justly thinks must be quite a new variety in nomenclature: "Jno. ———, Esq., Surgeon Chaplain," etc.

MEDICO-LEGAL.

WITNESSES' FEES.

SUBPŒNA ON BOTH SIDES.

M.D.—If a person is subpœnaed by both parties, before giving evidence, he is entitled to be paid by the party actually calling him, all the expenses, after exhausting what he may have received from the opposite side. It is laid down by an eminent writer on the subject (with some hesitation, however) that if a witness chooses to give his evidence without being first paid:

1. He can only maintain an action against the party who has subpœnaed him, if an express or implied contract on the subject can be shown.

2. The jury may, according to the better opinion, in some circumstances reasonably infer a promise to pay from the mere fact of the attendance of the witness at the trial, and where such an inference is drawn the action can be supported by the implied contract.

Referring to the particular case submitted to us by our correspondent, we are not aware of any rule where there is a subpœna on both sides, for the witnesses only to be entitled to claim from each party one-half the fees. There is an element of doubt, however, as to whether in the case in question an action could be successfully maintained against the defendant in the action for the full fees of £3 3s. per diem and travelling expenses, although we think there should be no hesitation on his part under all the circumstances of the case to meet so reasonable a demand.

We cannot too strongly impress on medical practitioners the desirability in all cases where they are requested to attend to give evidence in a single action, first, that they should be properly subpœnaed, and secondly, that there should be an express undertaking either of the party subpœnaing or of his solicitor to pay the usual fee of £3 3s. per diem exclusive of travelling expenses.

CONTRACTS IN RESTRAINT OF PRACTICE.

OROYA submits to us the following point: Six years ago he was assistant to a doctor since deceased. There was no "usual bond," and after a service of nine months the employer gave to our correspondent the following letter to write and sign, and it was dated to cover the whole time he had been in his service:

"I agree to act as your assistant and manager of your branch practice at a salary of £ and half midwifery fees, a month's notice on either side to terminate the engagement. Further, I agree not to start practice within seven miles of —— after leaving your service"

After signing the above document our correspondent received a month's notice, and now inquires:

1. If the foregoing unstamped letter is binding?
2. If it protects the late principal's successor?
3. Whether, if our correspondent bought a practice within the seven mile limit, he lays himself open to action for breach of contract at the hands of the successor?

In reply to the above questions:

*** 1. The fact of the letter being unstamped would not of itself render the contract invalid. It could not, however, be put in evidence without being properly stamped, and it could not be so stamped except upon payment of a penalty of £10.

2. There is some question as to whether the benefit of such a contract accrues to the successor to a practice; we are inclined to think that, assuming the validity of the contract, it would accrue to his benefit.

3. The reply to this question depends upon (1) whether the contract is valid, and (2) whether it accrues to the benefit of the successor.

It is a general rule, according to the law of this country, that there are two essentials to the validity of such a contract: (*a*) The restraint must be partial and reasonable; and (*b*) there must be a good consideration. In the case in point it does not appear to us that there was any consideration for the contract in restraint of practice, and the terms might be held to be unreasonable as inferentially applying for all time, and we think it doubtful if the successor to the practice could obtain an injunction if our correspondent now entered into practice within the prescribed limit. It would, however, be a very serious matter if our correspondent purchased a practice within the limit prescribed, if it should be discovered that under all the circumstances of the case he was bound by the contract, and therefore we think he should only purchase such practice after having been advised by counsel, with all the facts laid before him, that he can safely do so.

ACTION AGAINST A MEDICAL MAN.

THE case Kettle *v.* Brisbane was heard recently before Mr. Justice Mathew and a special jury. It was the second trial of the action for damages alleged to have been sustained by the plaintiff through the negligence of the defendant. In the first trial the jury disagreed and gave no verdict. As reported in the *Times*, the plaintiff's case was supported by Mr. Crispe and Mr. Raymond; the defendant, Dr. Brisbane, was represented by Mr. Dickens, Q.C., and Mr. R. W. Turner, instructed by Mr. W. Hempson, solicitor to the Medical Defence Union, of which society Dr. Brisbane was fortunately a member.

From the evidence it appeared that Miss Kettle, residing in Finchley Road, met with an accident in October, 1895, cutting her wrist in consequence of a fall through a glass partition. She alleged that the defendant in his attendance failed to notice that the median and ulnar nerves were divided, and that in consequence of his neglect she had later to go to the Middlesex Hospital and have two operations for the secondary suturing of these nerves, and that even now the sensory and motor powers of the hand were deficient.

Dr. Septimus Gibbon, of Finsbury Pavement, was called on behalf of the plaintiff.

For the defence, Mr. Victor Horsley, F.R.S., F.R.C.S., Mr. Ballance, F.R.C.S., Dr. Campbell Pope, F.R.C.S., and Dr. Norman Kerr were called, and stated that in their judgment Dr. Brisbane had done everything that a reasonable man would have done. When he found motion and sensation in the hand at the time of the accident he was justified in considering that the nerves were not severed, and he would not have been justified in doing more than suturing the divided tendon. It was quite possible, the experts considered, that the median and ulnar nerves were only partially severed at the time of the accident, and that later they became wholly severed owing to the contraction of the cicatrix in which they were embedded.

The jury found for the defendant. Judgment was given accordingly.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

THE JOHN LUCAS WALKER FUND.—Mr. J. W. W. Stephens, B.A., M.B., B.C., Caius and Gonville, has been elected John Lucas Walker Student in Pathology, *vice* Mr. L. Cobbett, M.A., M.B., Trinity; and Mr. H. K. Wright, M.D., C.M., McGill University, Montreal, has been awarded an Exhibition of the value of £50 from the John Lucas Walker Fund. The Managers express their approval of the work done by Mr. L. Cobbett, M.D., during his tenure of the studentship.

PROFESSORSHIP OF SURGERY.—The General Board recommended that this professorship, which was suspended until January 1st, 1898, be further suspended until the beginning of the Easter Term in order to give further time for making definitive arrangements in regard to it. Meanwhile, Dr. Joseph Griffiths will continue to fulfil the duties of the professorship.

STATE MEDICINE.—Dr. Anningson, Dr. Collingridge, Professor Kanthack, Dr. J. Lane Notter, and Dr. Stevenson have been appointed Examiners for the Diploma in Public Health under the State Medicine Syndicate.

DEGREES.—At the congregation on November 25th, the following degrees in Medicine and Surgery were conferred. *M.D.:* L. B. Hayne, B.A., Caius; H. M. Stewart, M.A., Christ's. *M.B. and B.C.:* G. T. Watson, B.A., St. Peter's; T. L. Jackson, B.A., St. John's.

UNIVERSITY OF LONDON.

THE *Calendar* of the University of London for the year 1897-98 has just been issued. From a table contained in it, it appears that the total number of persons who have passed the matriculation examination since the foundation of the University is 33,456, of whom 4,188 are women. During the seven years 1890-96 inclusive, the number who passed the matriculation was 10 890, of whom 2 487 were women. The total number of persons who have obtained the degree of M.B. since the foundation of the University is 1,917, of whom 55 are women. The number of persons who obtained this degree in the seven years 1890-96 inclusive was 613, of whom 45 were women. The *Calendar*, which contains the papers set at the examinations, will be sent post free on application to the University, Burlington Gardens, London, W., enclosing the net price, 5s.

UNIVERSITY OF EDINBURGH.

IN the Faculty of Medicine 48 candidates passed the recent University Preliminary Examination, 11 passed partly with outside exemptions, 65 passed entirely with outside exemptions, 5 were exempted by the M.A. and other qualifications. Thus there completed the Preliminary Examination in November, 1897, 129 candidates, as against 148 at the same date in 1896; 77 candidates formerly completed the preliminary examination or are otherwise accounted for, thus giving the total number of first year students of medicine as 206.

There are at this date 54 extra-academical graduation women students of medicine, and 1 matriculated woman student. The total number of women students attending the University for this session is 285, two more than last year.

THE MEDICAL COLLEGE FOR WOMEN, MINTO HOUSE, CHAMBER STREET, EDINBURGH.—For session 1896-97 there were 80 students enrolled, and of these 54 were studying for the degrees of the University of Edinburgh. For session 1897-98 (at November 30th) there were 85 students enrolled, of whom 60 are studying for the degrees of the University of Edinburgh

THE SCHOOL OF MEDICINE FOR WOMEN: SURGEONS' SQUARE, EDINBURGH.—For session 1896-97 there were 22 students enrolled, and of these 11 were studying for the degrees of the University of Edinburgh. For session 1897-98 (at November 30th) 17 students were enrolled, of whom 6 are studying for the degrees of the University of Edinburgh.

THE NEW SCHOOL OF MEDICINE, EDINBURGH.—At the New School of Medicine, Bristo Street, Edinburgh, 780 students had down to November 30th enrolled in the various classes.

ENTRIES AT THE EDINBURGH UNIVERSITY.—The following are entries in the Medical Faculty at November 30th:

Session.	1st Year.	2nd Year.	3rd Year.	4th Year.	5th Year.	Total.
1896-97	218	223	202	239	279	1,161
1897-98	205	208	228	193	333	1,167
	Decrease. 13	Decrease. 15	Increase 26	Decrease. 46	Increase. 54	Increase. 6

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following gentlemen, having passed the necessary examinations, and having conformed to the by-laws and regulations, have been admitted Members of the College:

Anderson, W. M.
Anning, G. P.
Aubrey, S. E.
Baylis, H. E. M.
Beath, D. L.
Beavis, J. D. W.
Beit, F. V. O.
Bell, R. H.
Bell, T. H.
Bennett, N. G.
Bidwell, C. H.
Black, C.
Bottomley, T. A.
Boulton, H.
Bousfield, S.
Brickwell, F.
Chatterton, E.
Chenery, A.
Cholmeley, M. A.
Clark, R. W.
Clarke, F. A. H.
Cole, J. W. E.
Corfield, E C.
Cowburn, A. D.
Crossley, H. J.
Cruddas, H. M.
Evans, D. E.
Evans, F. H.
Evans, J. H.
Evans, W.
Falwasser, A. T.
Fanning, W. J.
FitzHugh, R. T.
Forge, G. B.
Foulerton, H. P.
Fremantle, F. E.
Gough, B. B.
Greaves, F. L. A.
Gregory, H. L.
Grove, E. G.
Gutch, J.
Guthrie, T. C.
Hancock, A. E.
Hawkesworth, T. A.
Henshaw, H. W.
Hewitt, H. E.
Hine, H. F. N.
Hornabrook, R. W.
Hutcheson, G.
Jackson, H. H.
James, P. W.
Johnson, A.
Johnston, W.
Jones, E. S.
Jones, T. C. L.
Joynes, F. W.
Judd, W. R.
Leake, J. W.
Lectezio, G. E.
Littlejohn, T. P.
Lloyd, E.
Lucas, G. H.
McAnally, E. A.
Mackay, D. M.
Macnair, N.
Macnamara, E. D.
Markby, H.
Martin, F. R.
Maughan, W. S.
Maunsell, D. F.
May, S. W.
Mayo, E. G.
Modi, S. H.
Mossop, C. H.
Nabarro, D. N.
Novis, T. S.
Oldfield, J.
Page, F. W. T.
Palgrave, E. F.
Palser, J. E. F.
Pearson, T.
Poole, C. C.
Prance, C. H. G.
Prescott, T.
Raper, H. E.
Relph, H. J.
Richmond, R. T.
Rogers, R. J.
Roman, A. H.
Rowe, W. T.
Scott, J. G.
Shea, H. F.
Small, A. A.
Smith, M.
Smith, W. H. M.
Starling, H. J.
Stevens, A. E.
Stevenson, W. B.
Street, A. E.
Sykes, J. L.
Taw, Moung Pha
Thorneley, M. H.
Trewby, H. W.
Tyndale, W. F.
Tyrrell, F. A. C.
Verdon-Roe, S.
Wall, R. C. B.
Walton, H. B. G.
Waterhouse, R.
Watt, J. G.
Weaver, F. H.
Wells, L. T.
White, F. H.
White, H. E.
Wilkinson, F. H.
Williams, J. D. E.

INDIA AND THE COLONIES.

INDIA.

NEW ZENANA HOSPITAL.—The Bengal Government have sanctioned an estimate amounting to 1 lack and 21,000 rupees for the construction of a new zenana hospital in Calcutta, the foundation stone of which will be laid by Lady Mackenzie in the cold weather.

REORGANISATION OF RAILWAY MEDICAL STAFF.—The medical staff of the South Indian Railway has recently been reorganised, and consists now of one superintending physician and nineteen apothecaries. At the more important stations on the line, where the apothecaries are stationed, there is a hospital completely fitted with the necessary medical and surgical apparatus, so that help is ready to hand on any portion of the line. To each hospital is attached a compounder qualified to dispense medicines during the absence of the apothecary on duty on the line.

THE PLAGUE AMONG THE HARDWAR MONKEYS.—A correspondent writes to *The Pioneer* of November 5th, drawing attention to what he calls "the very serious nature of the position," and points out that there is a perfect and regular communication between the monkeys at the head of the canal at Hardwar and its tail at Cawnpore. Nothing seems to stop them in their migration, not even fair-sized rivers, which they swim. The fact of plague having broken out among these monkeys, the writer thinks, may be attributed to their haunting deserted plague-infested rooms in the town of Hardwar. The *Indian Medical Record* says that if this be true there is only one thing to be done, and that is to make a clean sweep of the animals in affected districts. No doubt there will be an outcry from the ignorant and disloyal classes, but it is not a moment for trifling; the danger is serious enough to justify the strongest measures.

ENTERIC FEVER AT AGRA.—The Government of India have forwarded to the India Office extracts from the report of Surgeon-Major Todd, A.M.S., on the outbreak of enteric fever among the British troops at Agra at the beginning of the summer. There were 89 admissions to hospital and 20 deaths, the majority of which occurred in the York and Lancashire Regiment, which had only been a short time in India. The outbreak is ascribed to the contamination of the municipal water supply, the typhoid bacillus being found in the Jumna river near the intake for the filtering beds.

HOSPITAL AND DISPENSARY MANAGEMENT.

EDINBURGH ROYAL INFIRMARY.

FOR the year ending September 30th last the ordinary income of the Edinburgh Royal Infirmary was £30,620. On students' hospital tickets there was a decrease of £112. In detail this meant a decrease of £148 on male students' tickets but an increase of £36 on female students' tickets. The extraordinary income for the year amounted to £10,205.

NEW CITY HOSPITAL FOR EDINBURGH.

A PREMIUM of £50 had been offered for the most suitable scheme for the heating and ventilation of the new Edinburgh City Hospital for Infectious Diseases, and thirteen schemes have been sent in. They have been handed over to a subcommittee of the Public Health Committee, who, with the aid of an expert, will examine, judge, and report.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,409 births and 4,258 deaths were registered during the week ending Saturday last, November 27th. The annual rate of mortality in these towns, which had been 19.0 and 18.6 per 1,000 in the two preceding weeks, rose again to 20.2 last week. The rates in the several towns ranged from 11.0 in Cardiff, 12.5 in Croydon, 13.1 in Portsmouth, and 15.5 in Hull to 23.7 in Sheffield, 24.1 in Burnley, 28.2 in Oldham, and 28.6 in Swansea. In the thirty-two provincial towns the mean death-rate was 19.7 per 1,000, and was 1.3 below the rate recorded in London, which was 21.0 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.6 per 1,000; in London the rate was equal to 3.3, while it averaged 2.2 per 1,000 in the thirty-two provincial towns, among which the highest zymotic death-rates were 3.6 in Oldham, 4.9 in Burnley, 5.4 in Halifax, and 8.3 in Blackburn. Measles caused a death-rate of 1.5 in Huddersfield, 3.1 in Swansea, 3.8 in Halifax, and 7.9 in Blackburn; scarlet fever of 1.0 in Burnley; whooping-cough of 1.2 in Sheffield; and "fever" of 1.3 in Bristol, 1.4 in Preston, and 1.9 in Birkenhead. The 97 deaths from diphtheria in the thirty-three towns included 63 in London, 8 in Leeds, 4 in West Ham, 4 in Burnley, and 3 in Manchester. No fatal case of small-pox was registered during the week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,680, 3,777, and 3,792 at the end of the three preceding weeks, had further risen to 3,818 on Saturday last, November 27th; 375 new cases were admitted during the week, against 339, 460, and 397 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS

DURING the week ending Saturday last, November 27th, 897 births and 581 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 20.1 and 18.5 per 1,000 in the two preceding weeks, rose again to 19.5 last week, but was 0.7 per 1,000 below the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 14.5 in Leith and 17.5 in Dundee to 22.2 in Aberdeen and 25.4 in Greenock. The zymotic death-rate in these towns averaged 2.5 per 1,000, the highest rates being recorded in Greenock and Dundee. The 263 deaths registered in Glasgow included 9 from measles, 5 from scarlet fever, 2 from diphtheria, 15 from whooping-cough, 2 from "fever," and 8 from diarrhœa. Two fatal cases of diphtheria were recorded in Edinburgh and 3 of scarlet fever in Dundee.

DIPHTHERIA IN LONDON.

THERE was a very considerable increase last week in the mortality from diphtheria in London. The deaths referred to this disease, which had been 59, 46, and 37 in the three preceding weeks, rose again 63 during the week ending November 27th, and were 13 above the average. The number of notifications of diphtheria in London, which had been 314, 293, and 305 in the three preceding weeks, declined again to 293 during the week ending Saturday last. Compared with the preceding week, there was an increase in the prevalence of diphtheria in West, North, and Central London, while in East and South London there was a decline. Among the sanitary areas of West London, there was a further decline in the number of new cases in Fulham, while in Kensington and in Chelsea they were above those recorded in any recent week. Among the districts of North London the prevalence of diphtheria showed a further increase in Islington, 20 new cases being notified against 9 and 14 in the two preceding weeks. In Marylebone and in Hackney there was also a slight increase in the number of new cases. In East London there was a very marked decline in the prevalence of the disease, especially in Bethnal Green, Limehouse, and Poplar. In Whitechapel and in Mile End New Town, however, there was a slight further increase in the number of new cases.

In most of the sanitary areas of South London there was a decline in the prevalence of diphtheria. In Lambeth, however, the new cases, which had been 15, 17, 14 in the three preceding weeks, rose to 24 last week, and in Camberwell 23 new cases were notified against 20 in each of the two preceding weeks. The admissions of diphtheria patients into the Metropolitan Asylums Hospitals during last week were 157, against 163, 148, and 150 in the three preceding weeks; and 1,042 patients remained under treatment in these hospitals on Saturday last.

AGE AT VACCINATION.

C. A. W.—The vaccination of a child is required within three months of its birth, unless it have been attacked by small-pox, or its vaccination have been postponed on medical certificate, renewable every two months, or three unsuccessful attempts at vaccination have been made; but in districts where there is no weekly public vaccination, it suffices if the child be vaccinated at the periodic attendance next given after it shall have attained the age of 3 months. (See Sections XVI and XII of the Vaccination Act, 1867.)

MEASLES AT MANCHESTER.

Dr. Niven seems to have inherited the happy knack of his predecessor, Dr. Tatham, of securing the willing co-operation of outside bodies in his efforts in behalf of the public health. We now learn that the school attendance officers aid in serving certificates of exclusion from school of children from infected houses both at the houses of the children and on the teachers in the affected schools, and that each Monday Dr. Niven receives a list of all school children known to be attacked by measles or whooping-cough, enabling him to despatch his sanitary inspectors to each house represented, with instructions and warnings which cannot but be efficacious in preventing the spread and fatal issue of these diseases. Such a system is highly commendable; but why not a daily list of cases from the schools?

NOTIFICATION OF INFECTIOUS DISEASE.

M. B. (Vict.).—If B. is the paid official, responsible for the correctness of the diagnosis, and A. in the position of his assistant, then (unless in a matter of urgency) B. should make the report. If, however, B.'s post is honorary, while A. is paid, then the usage would be the other way. The words of the Section are, "Every practitioner attending or called in to visit the patient shall forthwith," etc.

INCOME TAX AND POOR-LAW SALARY.

Poor-law Medical Officer, who holds both a workhouse and a district appointment, writes to say that his salary for these two is £106 per annum, and that he is charged income tax on £102. He asks whether he cannot claim a further deduction, as he has to keep a horse and supply drugs.

*** In our opinion our correspondent can claim a further deduction, as all necessary expenses must be allowed by way of abatement. We cannot tell what these actually are, but we should imagine about 10 per cent for drugs on both district and workhouse appointments would be quite reasonable. The same percentage might probably be claimed off the district appointment for horse expenses, but whether off the workhouse appointment as well we cannot say, as the distance our correspondent has to travel to attend to his workhouse duties is not stated.

MEDICAL NEWS.

A serious outbreak of typhus fever of a virulent type has occurred at the hamlet of Sconser in the Island of Skye, and already one death has taken place.

Dr. Masius, Professor of Clinical Medicine at Liége, has been elected Rector of that University for the three years 1897-1900.

An International Congress of Balneology will be held in Vienna in March, 1898. Notice of communications must be sent to the General Secretary, Dr. Brock, of Berlin, before December 31st, 1897.

Leprosy in Russia.—According to an enumeration recently made by Dr. W. Grebentschikoff, the total number of lepers in the Russian Empire in the period from May, 1895, to May, 1897, was 1,200. Of these, 633 were males and 567 females.

Infantile Scurvy in the United States.—The American Pediatric Society has instituted a collective investigation of infantile scurvy as it is met with in North America. The Chairman of the Committee is Dr. J. P. Crozer Griffith, of Philadelphia.

University of Innsbruck.—During the winter semester of 1896-97 the total number of students on the books of the University of Innsbruck was 1,009, of whom 285 belonged to the medical faculty. In the last summer semester there were 945 students in all the faculties, of whom 225 were students of medicine.

The late Mr. Thomas Hardy, of Bulwell Hall, Notts, has by his will bequeathed £200 to the Nottingham General Hospital, and £50 each to the Dispensary, the Children's Hospital, the Eye Hospital, and the Women's Hospital, all of Nottingham.

The foundation stone of the Passmore Edwards Convalescent Home for members of friendly societies at Herne Bay, of which we recently gave some account, was laid recently by Mr. Passmore Edwards. The building will contain accommodation for about fifty patients, and will have a spacious garden.

The Hackney Vestry, at a recent meeting, determined to appoint a lady as sanitary inspector, whose special duty it would be to look after the sanitary condition of the workshops, workrooms, and laundries where women and girls are employed. It is stated that the number of women thus employed in Hackney is very large.

The late Sir Thomas Elder, Adelaide, Australia, has by his will bequeathed £3,000 to the Adelaide Hospital; £1,000 each to the Children's Hospital in North Adelaide, the Convalescent Hospital, St. Margaret's, Adelaide, and the Port Augusta Hospital; £20,000 to the Medical School of Adelaide University; and £25,000 to the Adelaide University.

Successful Vaccination.—Dr. J. Wright-Grant, of Wobur Sands, has for the second year in succession received the Government grant for efficient vaccination. This is all the more creditable to Dr. Grant, inasmuch as the local guardians make no pretence of enforcing the vaccination laws.

Dr. G. Lovell Gulland, F.R.C.P.E., has been appointed a physician to the Victoria Dispensary for Consumption and Diseases of the Chest, Edinburgh, in the room of Dr. Ralph Stockman, resigned.

The monthly meeting of the South-West London Medical Society will be held at Stanley's Restaurant (Lavender Hill) on December 8th, at 8.30 P.M., when Mr. Victor Horsley will read a paper entitled "The Medical Acts of Parliament—What They Are and What They Ought to Be."

The Princess Louise, accompanied by the Marquis of Lorne, opened a nurses' home at Paisley on November 30th. The institution was founded by the late Mr. Peter Brough, merchant, of Paisley, who left his entire fortune (£160,000) for philanthropic, charitable, and educational purposes.

The Corporate and Medical Reform Committee.—We have received from the Corporate and Medical Reform Committee a series of letters and other documents referring to the matter of certain petitions presented to the General Medical Council. From these it appears that the number of petitions sent in to the General Medical Council was 68, and that they bore altogether 149 signatures. The petitions appear to have been identical, with the exception of one presented independently by Mr. R. B. Anderson. The petitions or some of them dealt with the question of the mode in which representatives of corporations electing members to the General Medical Council are chosen. In commenting upon the matter the Secretaries of the Committee observe that "the importance of the issue raised will be realised when it is recollected that this right to 'choose' a member of the General Medical Council is the sole right by law—as yet ever possessed by the Members of the Royal College of Surgeons of England—in control of their own Corporation; and that, by open confession, the privation of this right is now ascertained to be assisted by the faulty form of return framed and wilfully maintained by the majority of the General Medical Council."

Ice Cream Poisoning.—In further illustration of the need for legislation on the matter of ice cream manufacture and distribution, Dr. Arnold Evans states that during last year there occurred one death and thirty or forty cases of serious illness as the result of the consumption of a particular consignment of the confection in Bradford. Although unable to make examination of the implicated article, Dr. Evans traced it to the place of manufacture, and found that the ice cream had been made "close to the open mouth of a drain, under such conditions as would not be permitted if there existed powers to register people engaged in the business."

A meeting of the Hospitals Association will be held at the Westminster Hospital on Thursday, December 9th, at 4.30 P.M., when the chair will be taken by the President, Mr. H. Cosmo Bonsor, M.P., Treasurer of Guy's Hospital. A paper on the Work and Aims of the Hospital Saturday Fund will be read by Mr. R. B. B. Acland, Chairman of that Fund; a paper on Existing Systems of Distribution will also be read by Mr. C. A. Cross.

Harveian Society of London.—A large party of members and guests assembled at the annual dinner of the Harveian Society, held at the Café Monico on Thursday, November 4th. Dr. R. H. Milson, President, occupied the chair. Mr. Leetley proposed "The Harveian Society" in an amusing facetious speech, which was much applauded. The President returned thanks, and spoke of the advantages the Society offered to all its members. Dr. R. Boxall, in proposing "The Kindred Societies," six of which were represented at that board by their Presidents, said that there were now 70 medical societies in London. Of the six "sister" societies there represented, the oldest was the Medical, born in 1773. "The Royal Medical and Chirurgical Sister" was also getting on in years, having first seen the light in 1805. She was the aristocratic member of the family, having been presented at Court when 29 years old. In similar terms he described the "Hunterian Sister," born in 1819; the "Pathological and Clinical Sisters," the former over 50 and the latter just 30 years of age; and the "West London Medico-Chirurgical Sister," not yet out of her teens. All were worthy daughters of worthy parents—medical science and medical art—and all were engaged in doing good work. Dr. Sansom, President of the Medical Society, returned thanks. The Harveian Society had, he said, two sides—the scientific and the social—and its members had well followed Harvey's injunctions in these two respects. Dr. Potter, President of the West London Medico-Chirurgical Society, also replied. Letters from Sir S. Wilks, Lord Lister, Dr. Cadge, Sir W. Broadbent, and others, regretting their inability to attend, were read. The President proposed "The Health of Dr. C. J. Hare," who fifty years before had been elected with Mr. Erichsen, Joint President of the Harveian Society, at a time when Dr. Marshall Hall, Dr. C. J. B. Williams, Dr. Theophilus Thompson, and Dr. Anthony Todd Thompson were all members of that Society. Dr. Hare thanked all very heartily for the honour done him. He stated that very few of his companions of those early days were now left; especially he mourned the loss of his friend Sir John Erichsen, his colleague in the Presidency in 1847. During the fifty years the cycle of events had been quite bewildering. Mr. E. Owen proposed "The Health of the President." The President proposed "The Honorary Secretaries," to which Dr. F. W. Cock and Mr. Jackson Clarke replied. A musical programme of music was given in the course of the evening by the Crichton Part Singers, and two much-applauded violin solos by Dr. Arthur Haydon.

MEDICAL VACANCIES.

The following vacancies are announced:

ABERDEEN: UNIVERSITY OF.—Two additional Examiners: (1) Materia Medica for a period of three years; (2) Medical Jurisprudence and Public Medicine for a period of one year. Applications to Robert Walker, Secretary, by January 4th, 1898.

BIRMINGHAM AND MIDLAND HOSPITAL FOR SKIN AND URINARY DISEASES.—Clinical Assistant. Appointment for three months. Applications to J. E. Hartley, Honorary Secretary.

BOURNEMOUTH ROYAL VICTORIA HOSPITAL.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Secretary by February 1st, 1898

BRACKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House-Surgeon, unmarried, who will also undertake dispensing. Doubly qualified. Salary, £70 per annum, with furnished apartments, board, attendance, fire, and gas. Applications to H. Powell Price, Secretary, 6, Bulwark, Brecon, South Wales, by December 15th.

BRIGHTON AND HOVE LYING-IN INSTITUTION AND HOSPITAL FOR WOMEN.—House-Surgeon, unmarried, and under 30 years of age, Salary, £80 per annum, with furnished apartments, board, gas, coals, and attendance. Applications to the Clerk, 76, West Street, Brighton, before December 10th.

BRIGHTON THROAT AND EAR HOSPITAL, 23, Queen's Road, Brighton. Non-resident House Surgeon. Salary at the rate of £52 per annum. Applications to the Secretary by December 6th.

CAMBERWELL: PARISH OF ST. GILES.—Assistant Medical Officer for the Infirmary at Havil Street, Camberwell, and the Workhouse, Cheltenham Road, Peckham, also for relief duty at the Constance Road Workhouse of the parish. Appointment for one year. Salary, £50 with apartments, board, and washing. Applications on forms provided to Charles S. Stevens, Clerk to the Guardians, Guardians' Offices, 29, Peckham Park Road, S.E.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Resident Assistant House Surgeon. Board, lodging, and washing provided, but no salary. Applications to be sent under cover to the Secretary by December 14th.

CATERHAM ASYLUM, Caterham, Surrey.—Assistant Medical Officer, doubly qualified, and must not exceed 35 years of age. Appointment for three years, and afterwards subject to annual re-election. Salary, £120, rising at the discretion of the Committee to £150 per annum, with board, lodging, attendance, and washing. Applications, on forms to be obtained at the Chief Office of the Metropolitan Asylums Board, Norfolk House, Norfolk Street, Strand, W.C., where they must be received by December 9th.

CHORLTON UNION.—Junior Resident Medical Officer at the Workhouse Hospitals, Withington, Manchester. Doubly qualified Salary, £120 per annum, with furnished apartments and attendance (but not rations) in the workhouse. Aappointment for twelve months. Applications endorsed "Junior Resident Medical Officer" to be sent to David S. Bloomfield, Clerk to the Guardians, Chorlton Union Offices, All Saints, Manchester, by December 14th.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—House-Physician. Appointment for six months. Board and residence provided, and salary at the rate of £30 per annum. Applications to the Secretary at the Hospital, by December 11th.

DERBYSHIRE ROYAL INFIRMARY, Derby.—Assistant House-Surgeon. Appointment for six months. Honorarium of £10 after six months' satisfactory service, together with board, residence, and washing. Applications to Walter G. Carnt, Secretary, by December 11th.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Glamis Road, Shadwell, E.—House-Physician. Board, residence, etc., provided, and an honorarium of 15 guineas at completion of six months' satisfactory service. Application to Thomas Hayes, Secretary, by December 11th.

HACKNEY UNION.—Second Assistant Medical Officer for the Workhouse and Infirmary at Homerton, N.E., unmarried, doubly qualified. Salary, £100 per annum, with rations (no beer), furnished apartments, washing, and attendance. Applications, on forms to be obtained at the Clerk's Offices, to be sent to Frank R Coles, Clerk to the Guardians, Clerk's Offices, Hackney Union, Homerton, N.E., by December 8th.

HERTFORD UNION.—Medical Officers for the Second and Third Districts. Salary for the former £29 16s., and for the latter £50. Doubly qualified Applications, on forms to be obtained at the Clerk's Office, to be sent to T. J. Sworder, Clerk, by December 22nd.

LEEDS: YORKSHIRE COLLEGE.—Joint Lecturer on Forensic Medicine. Applications to the Registrar.

LIVERPOOL DISPENSARIES.—Head Surgeon. Salary, £200 per annum, Assistant Surgeon, at £80 per annum for the first year and £90 per annum afterwards. Board, apartments, and attendance provided in each case. Must be unmarried. Applications to R. R. Greene, Secretary, 34, Moorfields, Liverpool, by December 7th.

LIVERPOOL: UNIVERSITY COLLEGE.—Senior Demonstrator of Physiology. Salary, £125. Applications to the Dean of the Medical Faculty by December 7th.

MACCLESFIELD: CHESHIRE COUNTY ASYLUM.—Junior Assistant Medical Officer, doubly qualified, unmarried, and not over 26 years of age. Appointment for three years. Salary, £120, rising £10 yearly to £140, with board (no alcohol), lodging, and washing. Applications to the Medical Superintendent.

MANCHESTER: CORPORATION OF.—Third Assistant Medical Officer. Appointment for one year, and then renewable. Salary, £100 per annum, with board and lodging. Applications endorsed "Appointment of Third Medical Assistant" to be sent to the Chairman of the Sanitary Committee, Public Health Office, Town Hall, Manchester, by December 17th.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone Road, N.W.—Assistant Resident Medical Officer. Appointment for four months. Salary at the rate of £50 per annum, with board, residence, and washing. Applications to the Secretary by December 6th.

RADCLIFFE INFIRMARY, Oxford.—Honorary Physician. Applications to the Secretary by December 11th.

READING: ROYAL BERKS HOSPITAL.—House-Physician. Salary, £60 per annum, with board, lodging, and washing. Assistant Medical Officer; appointment for six months Board, lodging, and washing provided, and an honorarium of 10 guineas if duties are performed satisfactorily. Applications to the Secretary before December 6th.

ROYAL COLLEGE OF PHYSICIANS.—Milroy Lecturer for 1899. Applications to the Registrar, Royal College of Physicians, Pall Mall East, by January 10th.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C.—Non-resident Assistant House-Surgeon in Out-patient Department. Salary, £75 per annum. Applications to the Secretary by December 6th.

STROUD GENERAL HOSPITAL.—House Surgeon, doubly qualified, Salary, £80 per annum, with board, lodging, and washing. Applications to W. J. Naley Marling. The Hospital, Stroud, by December 14th.

UNIVERSITY COLLEGE, LONDON.—Surgical Registrar. Applications to J. M Horsburgh, M.A., Secretary, by December 14th.

VICTORIA HOSPITAL FOR CHILDREN, Queen's Road, Chelsea, S.W.—Dental Surgeon; must be L.D.S. Applications to the Secretary by December 11th.

WALLINGFORD UNION.—Medical Officers for the Aston District, for the Cholsey District. Salary for the former £65 per annum, and for the latter £25 per annum. Will also be appointed Public Vaccinators for the respective districts. Applications to George F. Slade, Clerk, by December 13th.

the respective districts. Applications to George F. Slade, Clerk, by December 16th.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House-Surgeon. Appointment for six months. Board, lodging, and washing provided. No salary. Applications to the Secretary at the hospital.

WEST LONDON HOSPITAL, Hammersmith Road, W.—House-Physician and House-Surgeon. Appointments tenable for six months. Ophthalmic Surgeon, must be F.R.C.S. of London, Edinburgh, or Dublin; and Assistant Anæsthetist (honorary and non-resident). Applications to R. J. Gilbert, Secretary-Superintendent, by December 8th.

WIRRAL CHILDREN'S HOSPITAL, Woodchurch Road.—House-Surgeon. Salary, £30 per annum, with board, apartments, and laundry. Applications to F. Henton Carver, Honorary Secretary, 5, Rumford Place, Liverpool.

MEDICAL APPOINTMENTS.

BATEMAN, W. H., M.B., Ch.B.Vict., appointed House-Physician to the Manchester Royal Infirmary.

BELCHER, H. E., L.R.C.P.Lond., M.R.C.S.Eng., appointed Medical Officer for the North and South Wilford, West Bridgford, and Gamston District of the Basford Union.

BENNETT, Dr., appointed Medical Officer for the Ruddington District of the Basford Union.

BRODRICK, C. C., L.R.C.P., L.R.C.S.Edin., reappointed Medical Officer of Health to the Tavistock District Council.

CLARK, W. W., M.D.Edin., M.R.C.S., reappointed Medical Officer of Health to the Wellingborough Urban District Council.

DICKSON, John D., M.D. R.U.I., M.Ch., reappointed Medical Officer of Health to the High Wycombe Urban District Council.

DYSON, Mr. Malcolm G., appointed Second Assistant Resident Medical Officer of the St. John's Road Workhouse of the Parish of Islington.

ECCLES, C. H., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer for the Naverton District of the Driffield Union, *vice* H. J. Slane, M.B., C.M., resigned.

EDGE, Frederick, M.D., F.R.C.S., M.R.C.P., B.Sc.Lond., appointed Surgeon to the Out-patients at the Birmingham and Midland Hospital for Women.

FLETCHER, James, M.B., C.M., D.P.H.Aberd., appointed Physician Superintendent of the Lightburn Joint Hospital for Infectious Diseases, Shettleston, Glasgow.

FREEMAN, A. R. S., M.R.C.S.Eng., L.R.C.P.Lond., reappointed Resident Medical Officer at the Convalescent Hospital, Cheadle, of the Manchester Royal Infirmary.

FRYER, G. E., M.R.C.S., L.R.C.P., appointed Assistant Medical Officer to the Manchester Royal Infirmary.

KNAPP, Edward M. M., L.R.C.P.Edin., M.R.C.S.Eng., reappointed Medical Officer of Health to the Ross Rural District Council.

LIGHTFOOT, J. P., M.R.C.S., L.R.C.P., appointed Medical Officer to the Bedale District of the Leyburn Union, *vice* Dr. T. Horsfall, resigned.

MULLICK, Sarat, M.B., C.M.Edin., appointed Resident Medical Officer to the National Hospital for the Diseases of Heart and Paralysis, Soho Square, London, W.

PALIN, Henry Venables, M.B., C.M.Edin., appointed Public Vaccinator for No. 1 District, Wrexham, and Divisional Surgeon, Police, Wrexham.

RICHARDS, Dr. B., reappointed Medical Officer for the No. 3 District of the Ross Union.

ROBERTS-DUDLEY, F. J., M.R.C.S.Eng., L.S.A., appointed Certifying Factory Surgeon for the Borough of Stalybridge.

SCOTT, Dr., appointed House-Surgeon to the Teignmouth Hospital, *vice* A. V. Chapman, M.R.C.S., L.R.C.P.

SHELDON, G. H., M.B., Ch.B.Vict., appointed House-Surgeon to the Manchester Royal Infirmary.

SINCLAIR, Norman J., M.B., Ch.B.Aberd., appointed House-Physician and Surgeon to the Aberdeen Royal Hospital for Sick Children.

WILSON, Alexander, F.R.C.S., reappointed Senior Anæsthetist to the Manchester Royal Infirmary.

WOODHOUSE, H. C., M.B., Ch.B.Vict., appointed House-Surgeon to the Manchester Royal Infirmary.

DIARY FOR NEXT WEEK.

MONDAY.

ODONTOLOGICAL SOCIETY OF GREAT BRITAIN, 40, Leicester Square, W.C. 8 P.M.—Communications by Mr. Charles Tomes, Mr. Russell Barrett, Mr. George Thomson, and Mr. H. Lloyd Williams.

TUESDAY.

PATHOLOGICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 P.M.—Professor Rose Bradford: Experimental Atrophy of the Kidney. Mr. S. G. Shattock: Negative Action of Sewer Air in Raising the Toxicity of Non-virulent Diphtheria Bacilli. Mr. H. C. Haslam: A Note on the Morphology of the Colon Bacillus. Mr. Strangeways Pigg: Four Unusual Cases of Melanotic Sarcoma. Mr. F. C. Abbott: Congenital Abnormality of the Sternum and Diaphragm with Downward Displacement of the Heart. Dr. Parkes Weber: A Heart with Extreme Calcification of the Aortic and Mitral Orifices from a Case which presented Exceptional Physical Signs. Dr. F. W. Andrewes and Mr. James Berry: Nose and Lung from a Case of Glanders—Human. Professor McFadyean: Lung from a Case of Glanders—Horse.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Mr. Ballance: Surgery of the Nervous System.

HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck Street, 4.30 P.M.—Dr. Fletcher Beach: On Cases of Epilepsy and other Convulsive Disorders of the Nervous System.

ROENTGEN SOCIETY, 11, Chandos Street, Cavendish Square, W., 8.30 P.M.—Mr. A. A. Campbell Swinton: On Adjustable *x*-ray Tubes.

WEDNESDAY.

NEUROLOGICAL SOCIETY OF LONDON, 11, Chandos Street, W., 8.45 P.M.—Dr. Hughlings Jackson: The Hughlings Jackson Lecture: Remarks on the Relations of Different Divisions of the Central Nervous System to one another and to Parts of the Body.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, 5 P.M.—Mr. Alfred Willett: The Bradshaw Lecture On the Operative Treatment of Certain Bony Deformities with special reference to Genu Valgum and Ankylosis of the Hip.

LARYNGOLOGICAL SOCIETY OF LONDON, 20, Hanover Square, W., 5 P.M.—Cases and specimens will be shown by Dr. Jobson Horne (for Dr. A. Musehold, of Berlin), Dr. Pegler, Mr. Wyatt Wingrave, Mr. de Santi, Dr. J. W. Bond, Dr. Scanes Spicer, and Dr. H. Lambert Lack.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W., 4 P.M.—Dr. Hector Mackenzie: Mitral Stenosis.

HUNTERIAN SOCIETY, London Institution, Finsbury Circus, E.C., 8.30 P.M.—Clinical Evening. Cases will be shown by Drs. Appleford, A. T. Davies, Kelson, and G. H. Sequeira.

WEST LONDON POST-GRADUATE COURSE, West London Hospital, W., 5 P.M.—Dr. Donald Hood: Albuminuria.

THURSDAY.

BRITISH GYNÆCOLOGICAL SOCIETY, 20, Hanover Square, W., 8.30 P.M.—Specimens by Mr. O'Callaghan. Papers: Dr. J. A. Shaw Mackenzie: Hæmorrhagic Endometritis. Dr. Purcell: On the Risks to the Ureters in Performing Hysterectomy.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM, 11, Chandos Street, Cavendish Square, W.—Clinical Meeting. Patients and specimens at 8 P.M.—Cases will be shown by Messrs. W. J. Cant, Hartridge, Holmes Spicer, Morton, Lawford, and others.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Tichborne Street Edgware Road, W., 8.30 P.M.—Mr. Juler: Harveian Lecture: Diseases of the Eye and its Appendages.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C. 4 P.M.—Dr. Colman: Demonstration of Selected Cases.

FRIDAY.

CLINICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 P.M.—Mr. A. Pearce Gould: A Case of Acute Intestinal Obstruction relieved by Operation; Death from Intestinal Toxæmia on the Ninth Day after Operation. Mr. C. B. Lockwood: A Case of Radical Cure of Inguinal Hernia, Injury to the Bladder; Formation of Phosphatic Calculi; Lithotrity; Recovery. Mr. A. E. Barker: Fifteen Consecutive Cases of Acute Intussusception.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office order or stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

FREELAND.—On November 17th, at 22, Beaumont Street, Portland Place, the wife of E. Harding Freeland, F.R.C.S., of a son.

JONES.—On November 25th, at Heathmont, Aberavon, Glamorgan, the wife of J. Arnallt Jones, M.R.C.S., etc., J.P., of a son.

MILLHOUSE.—November 27th, the wife of George Millhouse, M.R.C.S., L.R.C.P., Kirkstall, Leeds, of a son.

WILSON.—At Rochdale, Lancashire, on November 22nd, the wife of S. Wilson, L.R.C.P., L.R.C.S., etc., of a daughter.

MARRIAGES.

GOOD—WILLIAMS.—On November 18th, at Holy Trinity Church, Wallington, Surrey, by the Rev. G. H. Pole, J. Ernest Good, M.B., C.M., of Adelaide, South Australia, to Minnie, second daughter of H. F. Williams, of the Home Office, Whitehall.

MACLAREN—ANDERSON.—On the 26th inst., at 3, Lorne Terrace, Dundee, by the Rev. Colin Campbell, D.D., John Maclaren, M.B.Edin., Oughtibridge, Sheffield, to Agnes Jane Anderson, M.B.Glasg., second daughter of A. B. Anderson, Esq., Dundee.

STANWELL—COX.—On November 24th, at St. Matthew's Church, Ealing, by the Rev. C. Stanwell, M.A., Vicar of Ipsden, uncle of the bridegroom, assisted by the Rev. H. C. Douglass, M.A., Vicar of the Parish, Charles Oliver Stanwell, L.R.C.P. and S.Edin., Darwen, second son of the late William Stanwell, M.R.C.S., of Rochdale, to Sarah Katharine, youngest daughter of the late Henry Rix Cox, Rathmines, Dublin.

YOUNG—LAIRD.—At St. Andrew's Presbyterian Church, Wellington, New Zealand, on September 14th, by the Revs. C. S. Ogg, M.A., and J. F. Elliott, B.A., William Young, M.D.Edin., to Bessie Morrison, eldest daughter of Alexander Laird, Esq., Glasgow.

DEATHS.

CARTER.—On November 10th, 1897, at 70, St. Helen's Road, Hastings, Charles Henry Carter, F.R.C.S., aged 80 years (late of Pewsey, Wilts).

FREEMAN.—November 28th, at his residence, 24, The Circus, Bath, Henry William Freeman, in his 56th year.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 2.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, W., 9; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations* —M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, (Ophthalmic), Tu. Th. 2. Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30;

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30 Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SOUTH-EASTERN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—Gynæcological, M., 2; W., 2.30.

WEST, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

WESTMINSTER COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. F., 1.30; Eye, M. W., 1.30; Ear, M. Th., 9; Skin, Tu., 1.30, F., 2; Throat, M. Th., 9; Dental, Tu. F., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M. Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED UP TO THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents in the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

In order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate* copies.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are directed will be found under their respective headings.*

QUERIES.

NEW ZEALAND.

A MEMBER asks for information concerning medical practice in New Zealand. Are fees good? What appointments are going? Are medical schools attached to the colleges which are affiliated to the University of New Zealand? What facilities exist for combining medical practice with farming, and where?

LUNATIC ASYLUM FOR PAYING PATIENTS.

VIATOR, who has a female patient, aged 30, a monomaniac, whose friends cannot afford to pay a guinea a week, and who do not wish her to be transferred to the pauper side of the county asylum, inquires whether there is any lunatic asylum or licensed house where patients are admitted at 12s. to 15s. a week.

*** The only places are the licensed hospitals such as St. Andrew's Hospital, Northampton. Our correspondent might write to the Secretary there, and state the case to him.

THE INEBRIATES ACTS.

A MEMBER asks where he can obtain reliable statistics and general information bearing on the subject of the treatment of inebriates.

*** Our correspondent might consult *Notes of Evidence, English Departmental Committee on Inebriates,* 1893; *Departmental Committee (Scotland) on Habitual Offenders, Inebriates, etc.,* 1895; *Kerr's Treatise on Inebriety,* third edition (London, H. K. Lewis).

A NEW METHOD OF FILTERING PUBLIC WATER SUPPLIES.

MEDICAL OFFICER OF HEALTH asks for further particulars as to the method of filtering public water supplies devised by Mr. Fischer (BRITISH MEDICAL JOURNAL, November 20th, p. 1543), and inquires whether it would be likely to be of use in improving the colour of peaty waters?

*** Mr. Fischer, of Worms, would probably be willing to furnish full particulars. It is not probable that the system would be of much service in the improvement of peaty waters; for these, limestone filters appear to be the best. The Medical Officer of Health for Keighley gave his experience on the subject in his annual report for 1896.

MOTOR CARS.

DEVON would be glad to know if any country practitioner has tried a motor car in his daily rounds over rough and hilly rounds? If so, what kind was used, and what were the results? Also is there is any pamphlet published on the relative merits and cost of working the various motors?

*** An answer to "Devon" will be found in the reply to "Progress," given in the BRITISH MEDICAL JOURNAL of April 3rd, 1897. Mr. James C. Tuke, of Burleigh Villa, Harrogate, from a letter by whom the reply in question is quoted, offers to send an illustrated pamphlet on application. We should be glad to hear the experience of practitioners who have used motor cars.

HOPEINE.

WE have received from a medical correspondent in New Zealand a sample of a powder which he states is sold under the name of hopeine in New Zealand. Our correspondent informs us that the symptoms produced clinically seemed to him to be precisely those of morphine, and he requests that the substance should be analysed.

*** The analyst reports as follows: "This substance consists of at least 99 per cent. of morphine, but whether it may contain a small quantity of atropine or cocaine, or whether the rest is merely an impurity it is impossible definitely to say from the small amount of material at disposal for examination." We may draw our correspondent's attention to a paper by Dr. B. H. Paul, published in the *Pharmaceutical Journal and Transactions* April 17th, 1886, page 877) under the title of Notes on a Sample of Hopeine. Dr. Paul says in this paper: "The general result that I have arrived at is that the greater part of the substance called 'hopeine' is really morphine, and that if it be not morphine obtained from opium it is so like morphine derived from that source as to be indistinguishable from it."

ANSWERS.

W.A.R.—The ninth International Congress of Hygiene and Demography will take place in Madrid next year, 1898, from April 10th to April 17th.

RUSTICUS.—The *Code of Medical Ethics,* by Jules de Styrap, M.K.Q.C.P.I., is published by Messrs. H. K. Lewis, 136, Gower Street, W.C., price 3s. 6d.

M.B., who inquires as to books to be read in studying for the diploma in Public Health, is recommended to consult the Educational Number of the JOURNAL, published on August 28th, pp. 547-8.

M.D.—It is not usual, we believe, for a separate charge to be made (in detailing an account) by a practitioner for the ordinary examination of a patient's urine, even where the microscope has been used. It might be otherwise where the examination had been of a special character.

SURGICAL ADVERTISING.

J.—We may refer our correspondent to the answer given under this head to a correspondent in the BRITISH MEDICAL JOURNAL of November 13th, page 1467.

CHLOROFORM IN LABOUR.

F.J.S.—Deaths under chloroform have occurred in cases of simple labour and during the performance of obstetric operations, for example version.

THE CLIMATE OF CEYLON.

AORTA, who writes to us from Ceylon, sends us the following answer to "M.B.," who desired to know whether Ceylon was likely to suit a young man with aortic regurgitation and a history of rheumatism who would go in for tea-planting: The tea-planting area in Ceylon consists mainly of very hilly country, very much like the highlands of Scotland, with the tea estates on the sides of the hills. The estates lie at all elevations from sea level to 6,000 feet, and the difference in elevation between the upper and lower boundaries of most estates varies from 500 to 2,000 feet. To get about one must climb everywhere. Climate wet and sunny alternately, genial, somewhat like Devonshire. Rainfall say 120 inches per annum. Cold and wet during S.W. monsoon from May to October, sunny with showers from N.E. from November to April. The flat country near sea coast is dry and hot, near Jaffna and Negombo. Here cocoanut planting is a remunerative industry, giving 8 per cent. per annum after the trees are in bearing, say eight years after planting. Tea-planting entails constant exposure to sun, rain, and cold from 6 A.M. to 4 P.M., as most of the work on an estate is field-work where an assistant is concerned. If "M B." desires any further information I shall be glad to give it to him if he cares to write to me.

M. O. writes: I wish to say that if the gentleman referred to intends to "go in for tea-planting," he could do so only in the low-lying parts of Ceylon, the western and southern provinces, for example Kalutara or Galle. In the higher parts there is rain during more than half the year, and as most tea estates are situated on the hills, the subject of aortic regurgitation could not engage in planting tea there. I would warn the gentleman against entering on an engagement in what is generally known as the Kelani Valley, which is very damp and malarious. If he wishes to come to Ceylon I would advise his taking to cocoanut-planting. Estates already planted can be bought, and the climate of Jaffna or Batticaloa is suitable for those who may be subject to rheumatism.

NOTES, LETTERS, Etc.

PROFESSIONAL CONFIDENCE.

DR. CHARLES EGERTON JENNINGS writes to point out that he is not the author of the letter under this heading from "Egerton" published in the BRITISH MEDICAL JOURNAL of November 27th, p. 1623.

AN UNEXPECTED PREPARATION OF PHOSPHORUS.

DR. J. C. MCWALTER (Dublin) writes: Many practitioners have found that syrupus ferri iodidi had a tendency to produce vomiting and gastric irritability when given to young children. An explanation of this may be found in the fact that some chemists make the syrup from a syrupoid or liquor supplied by certain firms, which contains a notable quantity of hypophosphorous acid. The therapeutics of hypophosphorous acid have, perhaps, not been studied very closely, but to administer a solution of it when the prescriber indicates simply syrupus ferri iodidi seems scarcely fair either to practitioners or patient.

YELLOW FEVER IN JAMAICA.

THERE seem to be two classes of newspapers in Jamaica. One, while not inclined to exaggerate the mischief, persistently advocates thorough measures. The other seems regardless of consequences, and contents itself chiefly in abusing all who try to get at the facts. The natural result of the action of the latter class is to make outsiders imagine there is something to conceal. The *Daily Gleaner* strenuously advocates that the health officer appointed by the city of Kingston at the instance of the Central Board of Health should be a whole-time man. While in principle we agree that a town of 60,000 inhabitants should have its sanitary department under the care of one medical man untrammelled by practice, yet if the appointment has really been made, and good work is being done, we doubt the expediency of agitating for a change. In St. Andrews, Dr. York Moore, although in practice, seems at once to have unearthed some serious sanitary shortcomings. Indeed, it not infrequently has happened that a physician in practice, called in for an emergency, has done yeoman service in reforming sanitary abuses. Still, if the whole management of the department is, as it ought to be, under the direct management of a medical officer, he certainly ought to be free from the cares of private practice.

LETTERS, COMMUNICATIONS, ETC., have been received from:

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BOOKS, ETC., RECEIVED.

Twentieth Century Practice. Edited by T. L. Stedman, M.D. Vo Diseases of the Nervous System. London: Sampson Low, Mar and Co. 1897. 21s.

Zur Thätigkeit der cellulären Körperelemente bei Infectionskrankh Von Dr. B. Schörmayer. Berlin: Oscar Coblenz. 1897. M. 1.

Klinische und experimentelle Untersuchungen über die infekt Krankheiten der Harnorgane. Von Dr. T. Rovsing. Berlin: Coblentz. 1898. M. 7.

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Die Bedentung der Augenstörungen für die Diagnose der Hirn Ruckenmarkskrankheiten. Von Dr. O. Schwarz. London: Will and Norgate. 1898. 2s. 6d.

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THE BRADSHAW LECTURE

ON

THE CORRECTION OF CERTAIN DEFORMITIES BY OPERATIVE MEASURES UPON BONES.

Delivered before the Royal College of Surgeons of England on December 8th, 1897.

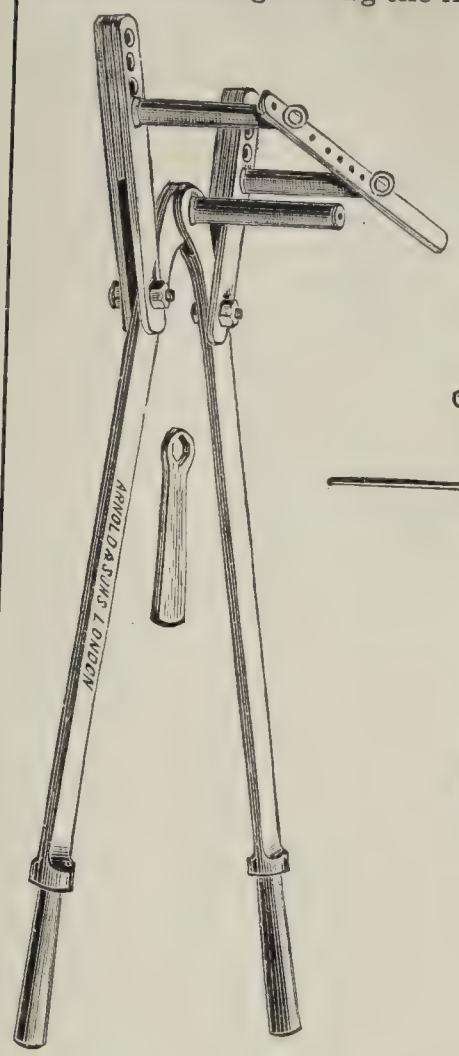
By ALFRED WILLETT, F.R.C.S.,

Examiner in Surgery University of Cambridge and Royal College of Physicians of London; Surgeon, St. Bartholomew's Hospital.

Osteotomy and Osteoclasis.

To Mr. William Adams, of orthopædic surgery fame, must be ascribed the distinction of first placing before the profession—certainly in this country—a definite and carefully-matured plan for correcting faulty position in cases of synostosis at a joint; in the case in point it was the hip-joint, for which he proposed to saw through the neck of the femur. Mr. Adams called his operation—which, by the way, was performed for the first time on December 1st, 1869—subcutaneous osteotomy, since he operated upon the lines of subcutaneous tenotomy, making an incision only just large enough to admit of the introduction of a fine saw he had devised; then sawing in great part through the neck of the femur, and finally wrenching forcibly, he in this way fractured the bone. He instantly closed the wound, and all through the operation carefully excluded the entrance of air. I witnessed one of Mr. Adams's earlier operations, and well I remember how immediately and completely the deformity was removed. I was much impressed by the precision of the whole procedure. Adams's operation was introduced before the days of antiseptic surgery, and although in his cases I believe suppuration rarely occurred, other surgeons who followed his teaching were not so fortunate, suppuration following in not a few instances, while even Mr. Adams himself, Mr. John Croft, and I had each to record a fatal result. At the time Mr. Adams claimed the highest surgical importance for the subcutaneous character of his operation, as introducing a new feature and a wider scope for the principles of subcutaneous surgery: for by open wounds other surgeons both in this country and in the United States had divided bones, taking away even wedge-shaped portions in close proximity of joints for the correction of deformities, the result of synostosis in faulty position after arthritic disease. I only allude to the importance then claimed for the subcutaneous principle in Adams's operation, to say how entirely it has vanished under the universal acceptance of the Listerian law of asepsis in operative surgery.

Osteotomy has been since performed in many somewhat similar deformities, such as faulty position after fracture, the division of, or removal of wedge-shaped portions from, curved rachitic bones and the like. In 1879 Professor Macewen, of Glasgow, brought before the profession a new method of dividing bones by mallet and chisel, applying it specially to the correction of knock-knee; but, with the advent of antiseptic surgery, more extensive operations by open wounds of sufficient magnitude for the necessary manipulation have been introduced; so that now, with but little risk to life or limb, operative measures are adopted for the radical treatment of a large number of deformities. Thus, in addition to the removal of wedge-shaped portions of bone in cases of curved tibiæ, I may give the removal of portions of several bones, as in tarsectomy for inveterate club-foot; and, again, the resection of an entire bone, as the cuboid or astragalus, for the same deformity. Yet another measure must be mentioned—an operation having for its object the production of a simple fracture by powerful, specially contrived apparatus, such as was a few years since introduced by the late Dr. Grattan, of Cork. He gave the name of "osteoclasia" to the operation, and of "osteoclast" to the instrument. I have it here (Fig. 1), as also another Thomas's osteoclast (Fig. 2), which I regard as in every way superior in device and practice. Rapidity of action in an osteoclast is essential, sudden impact also seems necessary to make a bone crack across, as well as to avoid seriously damaging the soft parts by continuous pressure. In all these points Thomas's osteoclast has the advantage over Grattan's. Neither the instrument nor the operation ought to be confused with methods for treating knock-knee, once very much in favour with the Continental surgeons, and known by the names of *redressement forcé*, *ostéoclasie manuelle* and *ostéoclasie mécanique*; for whatever lesions, and they were diverse, were produced on the knee-joint or on its surrounding structures, these procedures aimed at forcible straightening the limb at the knee.



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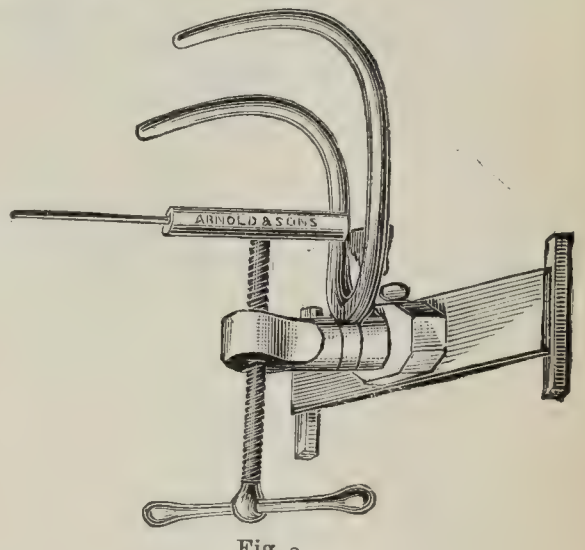

Fig. 2.

Osteotomy is the most reliable operation for deformities involving long bones, and is the one I invariably select for patients over the age of 14. Its performance is characterised by great precision, it is most effective in accomplishing the desired object, and has but very rarely been associated with disaster of any sort, either to limb or life. Whilst, however, its risk in children is almost *nil*, I must confess I undertake Macewen's operation with some misgivings in young adolescents, who are growing rapidly, have large limbs, and whose bones are very vascular, as it is in such patients as these, I have seen osteomyelitis, and necrosis supervene twice, whilst not infrequently a sharp rise in temperature has caused anxiety for a few days. Simple osteotomy—by the term simple I mean division of a bone only—performed either with saw or chisel is, as I have just stated, applicable in cases where, as the result of disease or of accident, deformity so considerable as to call for correction exists. Personally as between saw and chisel, I give preference, where choice may be said to exist, to the chisel, but sometimes when intending to make an oblique section I saw a deep groove, and then chisel through the rest of the bone, thus employing both methods.

Before, however, leaving the subject of osteotomy, I wish to say a few words on the subsequent treatment of the wound. Mr. Adams laid great stress upon the endeavour absolutely to exclude air, and upon the hermetic closure of the wound immediately after the division of bone, as in subcutaneous operations. Very early in my experience of osteotomies I became convinced of the unwisdom—indeed, I would go so far as to say the peril—of this course, because it is not possible

to exclude air entering the wound, and in all these operations, practically I have left the osteotomy wound quite unclosed in any way in the expectation that the blood oozing from the divided vascular bone would escape into the dressings, and in not a few cases I have even passed a wire drain down to the seat of fracture to drain the deeper portion of the wound. I am, I believe, fully borne out by facts in making the statement that where there has been a free escape of blood into the dressings the patient's progress has been absolutely uneventful, and that it is to tension from the retention of blood around the divided fragments I have traced the very occasional symptoms of high temperature and sympathetic irritation.

Fig. 3.

I do not propose at this moment to make any general comments on procedure in more extensive osteotomies, such as involve the removal of bone, but with regard to osteoclasia as accomplished with Thomas's osteoclast I think this operation has not as yet met with that approval from hospital surgeons which I and some of my colleagues at St. Bartholomew's Hospital are inclined to bestow upon it. One objection taken against osteoclasia is that the operator cannot ensure the line of fracture being at a given level with the exactness that is attained in osteotomy. I must say I regard it as immaterial to the success of the operation whether the fracture takes place an inch higher or lower in the bone, for after both operations a fining down of the irregularities in outline may be confidently expected to follow. In support of this contention I show a femur from the Museum of St. Bartholomew's Hospital, from a boy who died of meningitis three years after Macewen's operation for knock-knee, performed by my colleague Mr. Howard Marsh (Fig. 3). The line of the osteotomy is still quite apparent, but it will be observed that it is fully an inch and a-half above the usual site of the division of the bone. This is explained, of course, by the fact of growth from the epiphysial end of the diaphysis in the period between the operation and the boy's death, thus it is manifest that after Macewen's operation the line of fracture is gradually raised in the growth of the patient.

The selection of the supra-condyloid site for division of the femur by Macewen rests less upon any special advantages for this particular site than upon its superiority as regards safety in regard to the position of the vessels. I regard the age of 13 or 14 as about the highest limit at which osteoclasia should be practised. Above this age there must be, owing to the strength of resistance in the bones of the thigh and leg, so much risk of lacerating the soft parts that osteotomy is preferable. But as acquired deformities are mostly seen under this age limit, and as the two deformities, the one at the knee-joint, genu valgum, and rachitic curved tibiæ form a large proportion of the deformities coming under treatment, it follows that since the introduction of osteoclasia, and since reliable osteoclasts have been manufactured, I have adopted osteoclasia very generally at St. Bartholomew's Hospital. I should add, that even in young subjects the osteoclast occasionally fails. This seems due to the yielding condition of bones in the primary stage of rachitis, rather than to any defect in the osteoclast. Only once have I seen any skin lesion, beyond simple bruising, occur. I was acting on that occasion as assistant rather than operator, although directing the steps of it. The case was one of double genu valgum in a rickety child of 4. After one femur had been successfully broken, and whilst breaking the bone of the other limb, a transverse rent of skin only, nearly 3 inches in extent, was made by the middle or driving bar. On close examination of the osteoclast I found that this bar, instead of being loose and so able, as it were, to roll on its pivot on meeting the thigh, had locked, the result being that the skin had been forced tightly against the femur, then the bar of the osteoclast sliding, instead of rolling, the skin was at this point subjected to so sudden and severe a strain that it gave way. No real harm resulted, the wound, after having been thoroughly cleansed by antiseptics, was closed by continuous suture. It united throughout by primary intention, the ultimate result being as satisfactory in this limb as in the other. In the comparatively few instances where I have subsequently performed osteotomy when osteoclasia has failed, the operations have been carried through just as satisfactorily and completely as if no previous attempt had been made to fracture the bones.

STATISTICS.

As the correction of deformities in the upper extremity is so seldom called for, except for faulty position after fracture, I propose only to take into consideration the application of the operations I have mentioned to the deformities of the lower extremities. Upon investigation I find I have performed 634 operations on 383 patients. The proceedings have been as follows:

I.—*Deformities due to Ankylosis at the Hip.*

Operations.		Patients.
11	Adams's	—
20	Gant's	—
31		28

II.—*Knock-knee and Allied Deformities.*

Operations.		Patients.
232	Macewen	137
159	Osteoclasia	83
21	Reeves-Ogston	16
412		236

III.—*Bow-leg.*

Operations.		Patients.
40	Osteotomy	32
105	Osteoclasia	55
145		87

IV.—*Inveterate Club-foot.*

Operations.		Patients.
23	Astragalectomy, tarsotomy, and tarsectomy ...	14

V.—*Hallux Valgus and its Allied Conditions.*

Operations.		Patients.
14	... ...	9

VI.—*Deformities resulting from Fractures of Long Bones.*

Operations.	Patients.
9	9

There have been 2 deaths, 1 after Adams's and 1 after Macewen's osteotomy.

ANKYLOSIS OF THE HIP.

The most common deformity in ankylosis at the hip-joint is flexion, inversion, and adduction; this induces as a secondary result lordosis and lateral tilting of the pelvis. A less frequent, but still well-recognised deformity, is outward rotation, with more or less of abduction and perhaps with flexion. Now as to the nature of the uniting bonds. The cases may be classified as follows: (1) There may be simply synostosis of the head of the femur to the acetabulum (Fig. 5),

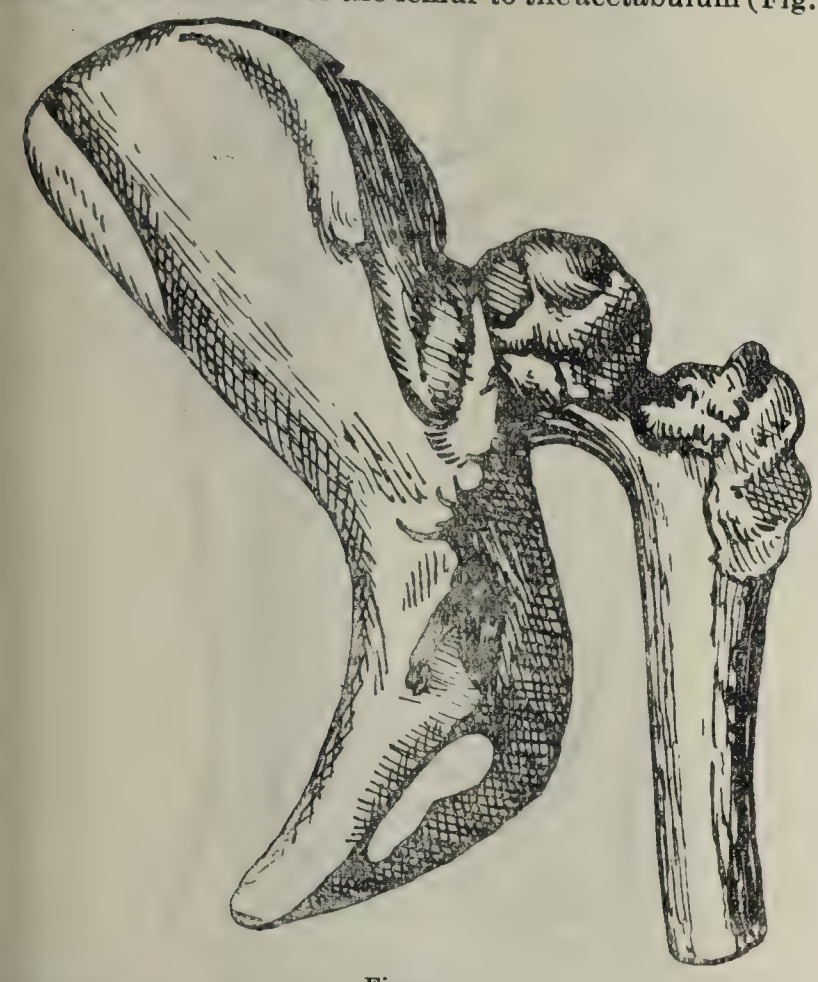

Fig. 4.

ccasioned by some very acute inflammatory affection, most requently of an infective type, such, for example, as gonorhœal rheumatism, in which the stress of the pathological rocesses have been limited to one joint; or (2) the ankyosis, being also bony in character, may be very much more idely diffused, as is commonly seen in tuberculous disease f the hip-joint where caries has extensively affected the bones n either side of the articulation and (3) the ankyosis may be firm, close, and extensive, but the bond of union emains fibrous. This condition may result from more hronic forms of rheumatism and tuberculosis, where the isease remains limited mainly to the synovial membrane and brous capsule of the joint, with, later on, fibroid degenera- on of the cartilages.

Clearly, the surgeon's first duty is to determine the precise ature and extent of the induced deformity. I need scarcely nforce the rule that to do this the patient's trunk must be laced flat and square on the bed. The extent of deformity course varies, and it is hardly possible to lay down dogatic rules for saying that any definite degree of deformity stifies operative measures for its correction, while for a less egree a high-heeled boot suffices. Each case must be dged on its own defects. Obviously if a patient can only t along with a crutch or stick, there will be no question of e expediency of operation *quâ* deformity; in other cases, ie must decide after seeing the patient walk, hearing what e walking capacity is, and the suffering and inconvenience casioned by any over-walking, and also how far the defor- ity is a bar to earning a livelihood.

If we place the first and probably most of the third of the before-mentioned classes into one group, and regard them with Mr. Adams as the rheumatic type, in which the greater trochanter stands out prominently, indicating the existence of a healthy neck of the femur, with, as a rule, absence of old abscess scars, and in which also there is an entire absence of bosses of new bone around the hip-joint (Fig. 4), we have the cases of deformity for which Adams's operation was devised, and for which its author has expressly limited its employment. In the second class, called, by way of contrast, the tuberculous, where scarring, production of new bone with thickening and flattening of the trochanter are present, we have, on the other hand, the cases which Mr. Adams emphatically pronounced to be unsuitable for his operation. It was for this class, forming by far the larger proportion of cases of deformity after hip-joint diseases, that Mr. Gant devised subtrochanteric osteotomy. Thus the aim of both surgeons was to divide the femur where it is healthy, and since Adams and Gant devised their operations for quite distinct conditions, there is in practice seldom any difficulty in deciding which operation should be performed.

Whether after Adams's osteotomy efforts should be made to prevent bony union, and thus to preserve a false joint, is a matter of some importance. The questions are, whether in the first place it is possible to ensure fibrous union, and so procure a false joint; in the second, whether, after all, movement is an essential element in the success of the operation. So far as I can judge from perusing recorded cases, it appears that the same line of after-treatment, such as early passive motion, was adopted both in the few cases where false joints formed as in the far larger proportion where bony union resulted. Mr. Lund's (Manchester) patient was, I believe, the first instance of false joint after the operation in question. Mr. Adams tells me he has never obtained a false joint, whilst Mr. Jessop preserved motion in 1 out of 5 cases. In some three or four of my earlier cases I also failed, having to yield at length to the patient's entreaties to give up the attempt. I have come to the conclusion that in Adams's operation chance has probably more to do with the formation of a false joint than design, that bony union is to be regarded as the normal repair, and that where this fails and a false joint occurs, this result is dependent upon the same processes as influence repair in intracapsular fractures of the neck of the femur. In my later operations I have made no attempt to procure false joints, in the belief that it is immaterial, and also that the attempt entails considerable risk of relapse or return of the deformity, More particularly will this be likely to occur if splints are very early put aside. I regard the occurrence of bony union after Adams's operation as immaterial to its success, so long as the joint disease and its resulting deformity have been single—that is, limited to one hip-joint, for after correction of deformity I have no hesitation in stating confidently that patients walk well, finding adequate compensation for one stiff hip in the movements at the remaining healthy hip-joint and of those in the lumbar spine. After the performance of Gant's operation this question of the desirability of a false joint does not arise, the after-treatment, being the same as for fractures of the shaft of the femur, is directed to ensure bony union.

In the, happily rare, event of synostosis of both hip-joints, it is absolutely necessary in correcting the deformities so to plan the operations as at least to procure one false joint. Something more than simple osteotomy must be done, and in my opinion a modification of Sayre's operation gives the best prospects. Premising with the comment that patients after recovery from excision of the head of the femur by the anterior method have in my experience good false joints, it seemed to me that a resection of the head and neck of the femur, if it were found practicable to detach the head from its connection with the acetabulum, was the best means that could be adopted, and the neck and part of the trochanter, if the head were too firmly united. I have now a girl aged 13 under my care in St. Bartholomew's Hospital. She was admitted with ankylosis of both hip-joints, following disease of eight years' duration. On admission the right limb was fixed in flexion only, at an angle of 130° with trunk; the left, flexed at an angle of 120°, was also inverted and adducted. On November 15th I performed the following operations: Making the usual incision over the front of the

right hip-joint, I deepened it, until reaching its capsule, which was adherent to and blended with the periosteum of the neck of the femur; freeing the connections along the anterior border of the acetabulum, I endeavoured to force the head out of this cavity; finding, however, that complete synostosis had apparently taken place—for although very considerable force was used, there was not the least sign of yielding or any kind of movement between pelvis and head of the bone—I proceeded, partly with Adams's saw and partly with chisel and mallet, to cut out the neck and some portion of the adjoining surface of the great trochanter, leaving a clear interval of about ¾ inch between the pelvis and the femur. On the left side I performed Adams's osteotomy through the neck. Both limbs came down into position extremely well, the girl's trunk lying flat on the double Thomas's hip splint, into which she was placed. The left limb was set at moderate abduction. Weights of 14 lbs. to the right and of 5 lbs. to the left leg were attached after her return to the ward. Passive movement was commenced at the right hip after a week, and already she can flex and extend the thigh slightly.

One other point which I desire to touch upon is the line or position in which the bone should be placed or set after the completion of either Adams's or Gant's operation. I may remark that I use a double Thomas's hip-joint splint in these operation cases. Every surgeon knows if, after hip disease, adduction of the thigh forms one element in the deformity, that then the apparent shortening of the limb will be greater than the real (Fig. 5). On the other hand, if the thigh be abducted,

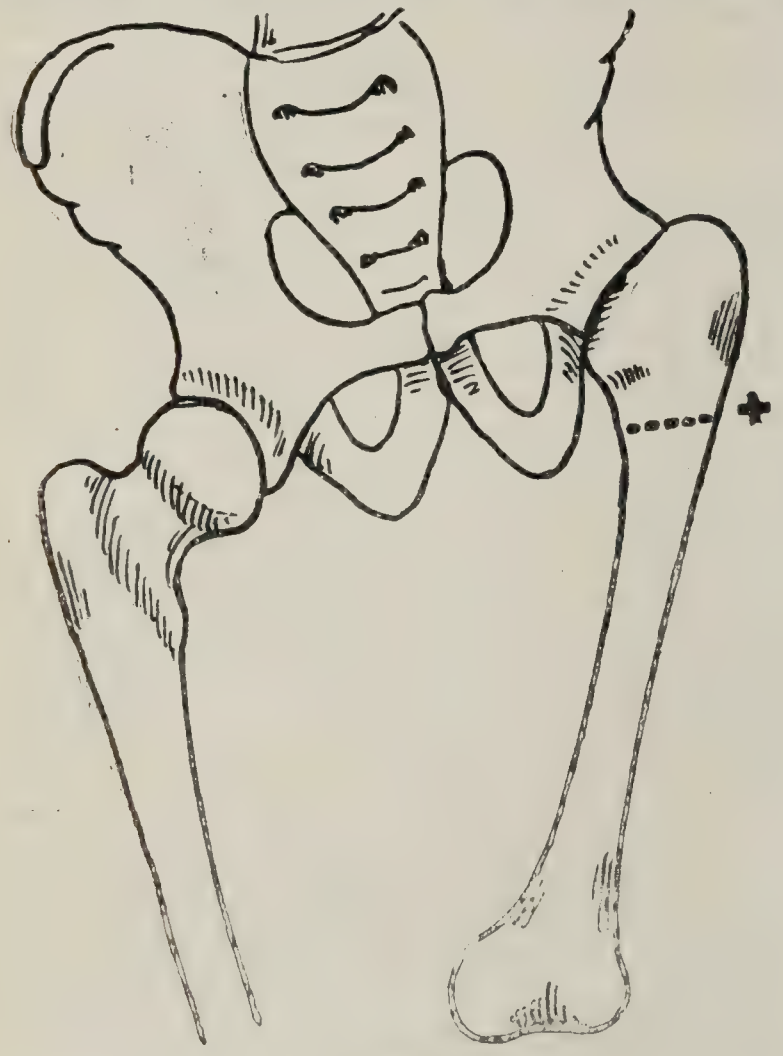

Fig. 5.

the difference is the other way; either the apparent shortening is less than the real, or apparent lengthening is found. Well, if on measuring the two limbs before operation I find actual shortening exists, then, in setting the limb after osteotomy, I place it in the abducted position, the result being when union has taken place that that side of the pelvis is permanently tilted downwards, the apparent shortening is correspondingly lessened, and sometimes so completely as to make it unnecessary to add a sole to the patient's boot. (Fig. 6).

I will briefly mention a few cases in illustration of this view. I performed Gant's osteotomy quite recently for bony ankylosis in a lad, aged 17. The affected limb (the right) was 3½ inches shorter than the left; at least 2 inches of this was accounted for by lessened growth in the thigh and leg bones. The thigh was fixed in eversion of fully 90 degrees, so that the heel of the right foot rested against the inner side of the left leg (Fig. 7). This deformity was the result of an

Fig. 6.

acute arthritis, probably tuberculous, although the patient called it rheumatic, two years previously. The limb fell into excellent position after the femur was divided and was set in abduction. There is only now 1 inch of appararent shortening, although by measurement the real shortening is fully 2½ inches.

A similar result occurred, after Gant's osteotomy performed in 1880, in the case of a young woman with synostosis in extremely deformed position; the angle of flexion was less than 90 degrees with the pelvis, so that after operation, and on bringing the limb down straight, the end of the upper fragment was felt projecting prominently beneath the skin, just below Poupart's ligament; there was considerable real shortening, yet, owing to the limb having been set in abduction and the consequent tilting downwards of the right side of the pelvis when she stood, this woman walks with scarcely perceptible limp, and without any extra sole to her boot.

The photographs (from which Figs. 8*a* and 8*b* are taken are of a patient, aged 64, upon whom I performed Gant's osteotomy on both femora ten weeks since. Those who are acquainted with Mr. Clement Lucas's article on Cross-legged Progression in the Clinical Society's *Transactions* for 1881, will have no difficulty in identifying the man as one of the two patients Mr. Lucas exhibited. The man came to me at St. Bartholomew's, asking if some operation could not be done for him, as, owing to the development of Dupuytren's contraction in both hands, he could no longer firmly grasp stick or crutch, and hence walking was laboured and very slow, causing much pain in his hands, often com-

pelling him to let his sticks drop. He retained about 30 degrees of motion in the right hip-joint. My colleagues encouraged me to do osteotomy below the trochanters in both thighs in the expectation that if he were set upon his feet

Fig. 7

with his legs parallel, he should be able, with the range of movement he retained in the right hip-joint, to walk fairly well. It is, of course, too soon to venture any definite opinion, but it is not in his favour that he has proved an obstinate and self-willed patient.

I have on the table part of a femur and pelvis taken from a woman who died nine years after a Gant's osteotomy. Lately, as a result of injury, her old tuberculous hip disease had broken out again, associated with profuse suppuration, from which she recently died. The specimen shows the extensive character of the disease, and it also shows the angle formed by reunion of the divided femur in its altered position after the osteotomy. For over eight years she had led an active life and had been quite well.

Deformities of the Knee.

It is, I think, unfortunate that there is no generally accepted rule for estimating the extent of the deformity in knock-knee—I mean in relation to the amount of abduction of the leg. Whilst in complete agreement with Professor Macewen, that neither the distance between the two internal malleoli, nor yet the distance of each internal

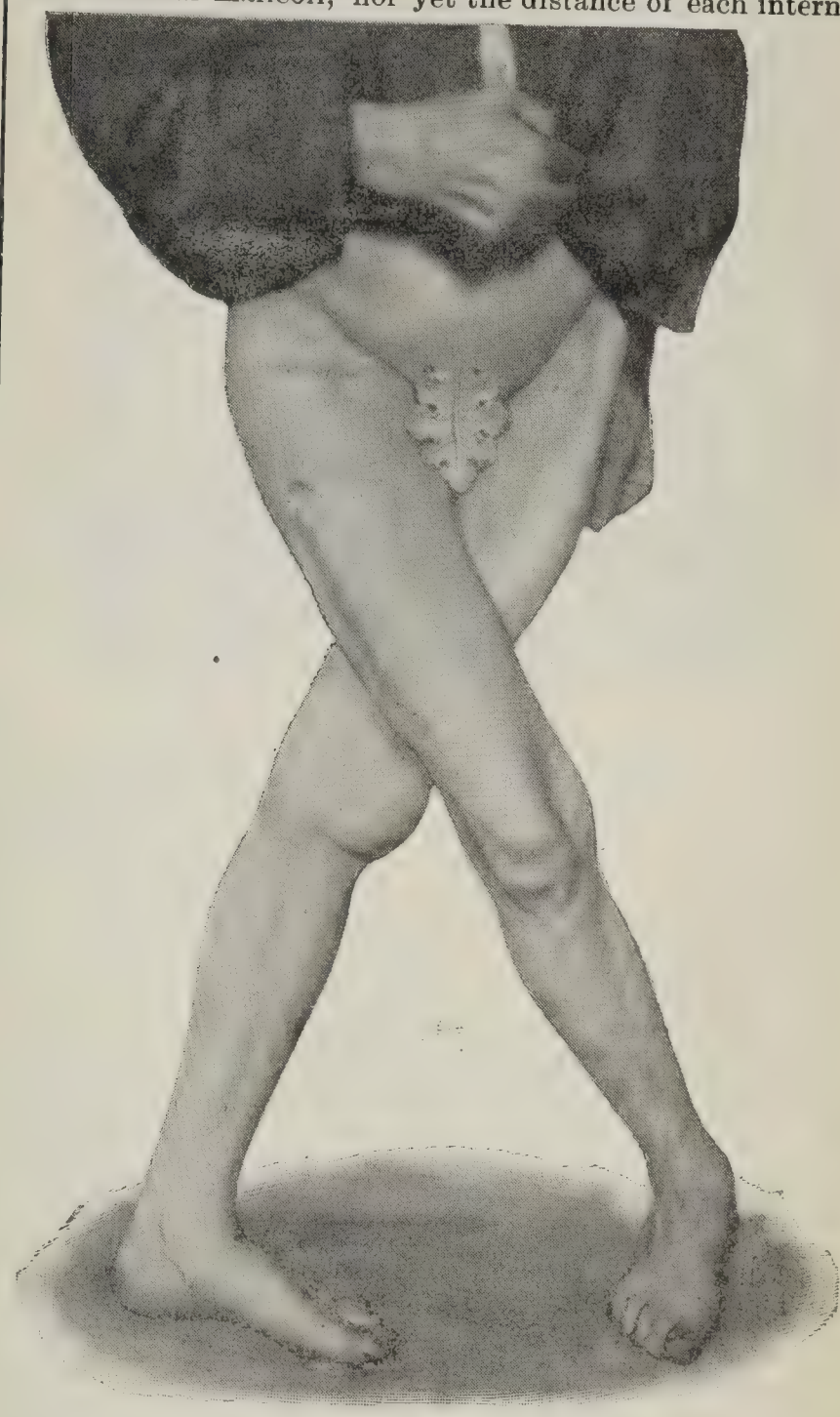

Fig. 8 *a*.

malleolus from the sagittal line, forms any reliable guide to the actual extent of the deformity for the purposes of comparison, I am unable to follow, or clearly to comprehend Dr. Macewen's scheme for recording the degree of deformity (Fig. 9).

The angle which I am accustomed to take for recording the amount of deformity in any case of knock-knee is the one formed at the outer aspect of the knee, by the meeting of two lines, the one drawn downwards from the great trochanter to the external tuberosity of the tibia, passing over the outer surface of the external condyle, and the other upwards from the external malleolus to the outer surface of the external

tuberosity of the tibia (Fig. 10). Of course, in this angle, as in any other way of measuring the deformity in question, some

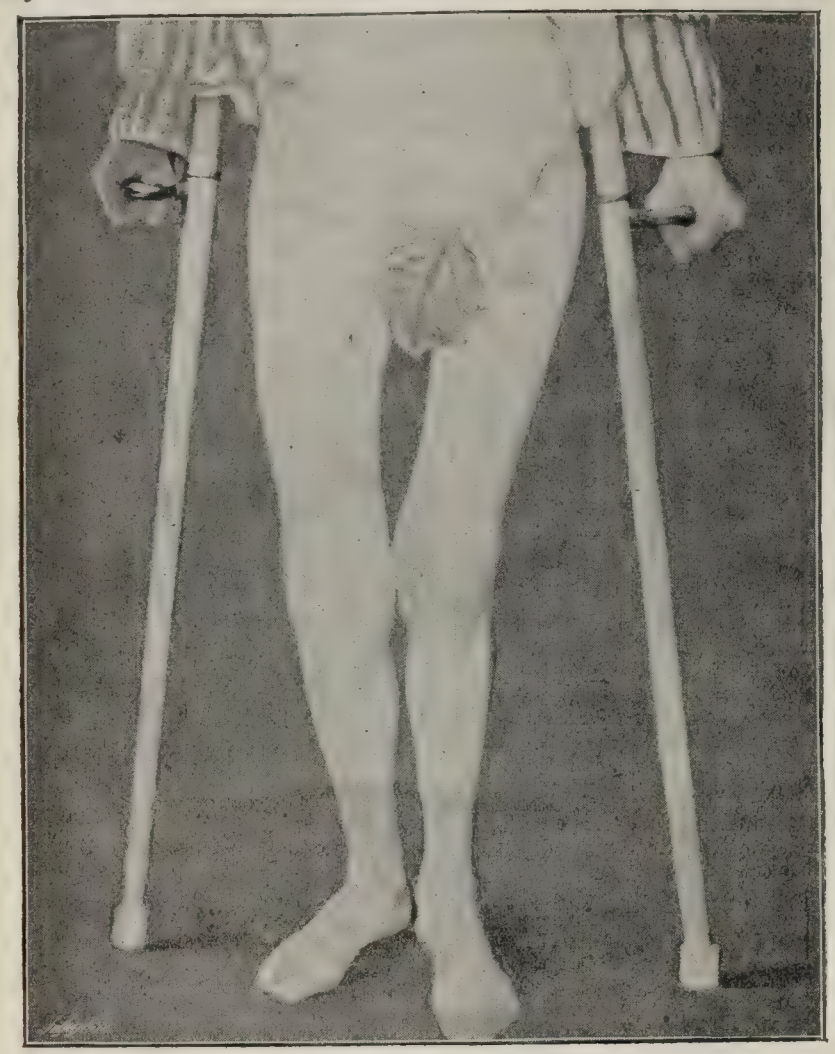

Fig. 8 *b*.

allowance will often require to be made for secondary deformities, arising through curving, or other alteration in shape, of either femur, or tibia, and fibula, or of all of these bones due to rickets, which so frequently exist. It may be objected that, owing to the normal obliquity of the femur, an angle of from 165° to 175° must always be present; but this is quite immaterial, since the actual existence of knock-knee in a patient is always obvious by a mere inspection of the lower limbs. I have laid stress upon the importance of being able to note and record the actual degree of deformity in cases of knock-knee, because upon the two factors, the age of the patient and the degree of the deformity, I rely, in deciding what operation to perform—assuming an operation is necessary—the choice seems to me to lie between (*a*) Macewen's transverse supracondyloid osteotomy, (*b*) an osteotomy detaching the internal condyle by the Reeves-Ogston method, and (*c*) osteoclasia. First, then, for all patients under the age of 13, in whom the recording angle is not less than 120 degrees, I perform osteoclasia (Fig. 11); about four-fifths of all cases fall under this category. Above this age, being those presumably whose femora are too dense to be broken by the osteoclast, I perform transverse supracondyloid osteotomy, and, with the sole exception that I discard Esmarch's bandage, I do the operation on the lines Macewen laid down. I have never intentionally departed from his first description of the procedure, and since 1885, from which date the technique of aseptic surgery has been more and more reduced to almost an infallible system, I have not met with any mishap, such as suppuration, after this operation. In two instances, however, I had to abandon—for the day merely—the completion of the operation on account of smart arterial hæmorrhage, due to an abnormal position of the anastomatica magna artery, and in both I was obliged to enlarge my wound to secure the bleeding vessel. The osteotomy was in each done a week or two later without further incident.

There remain the cases in which the recording angle is less than about 120°; in other words, more nearly approaching a

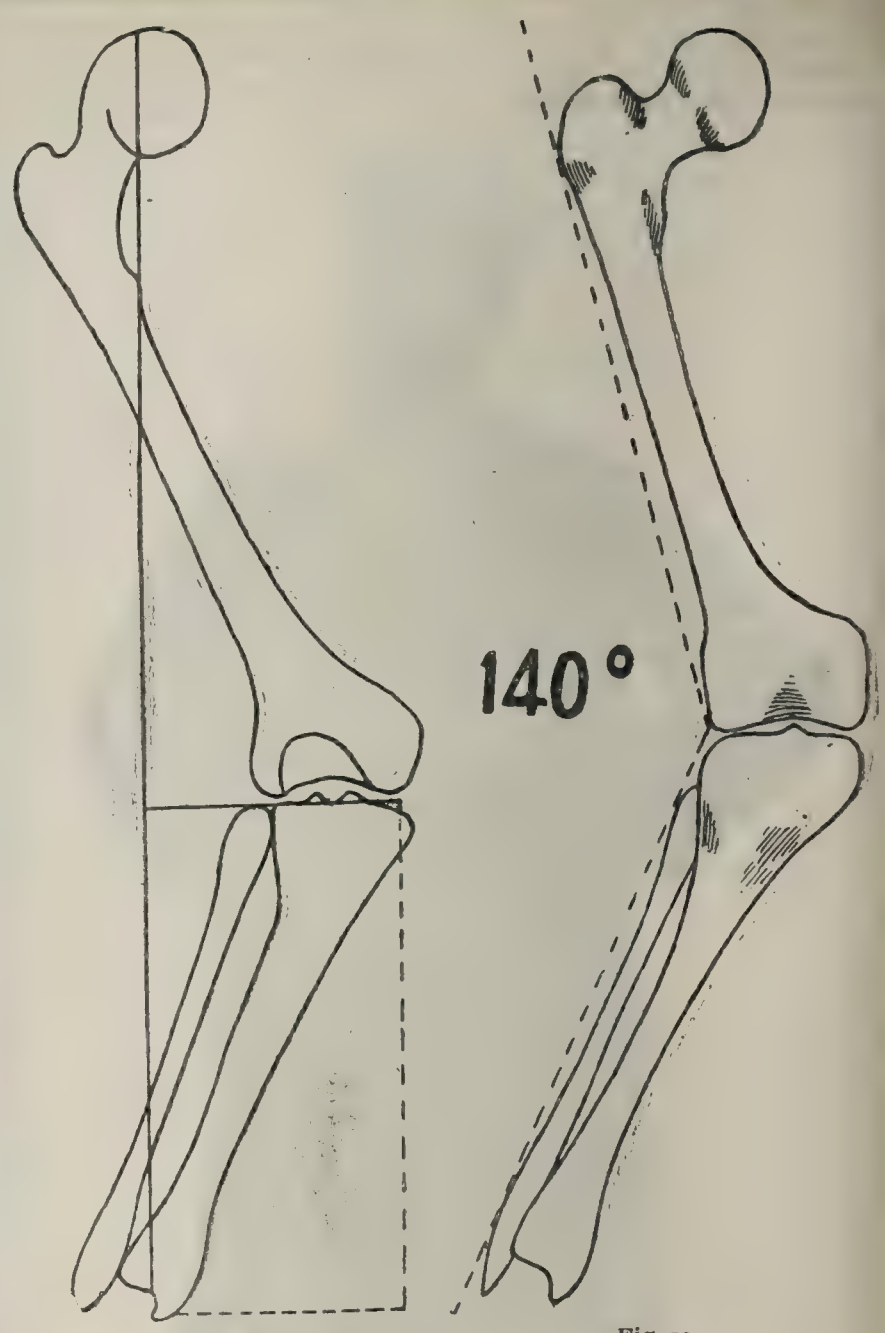

Fig. 9. Fig. 10.

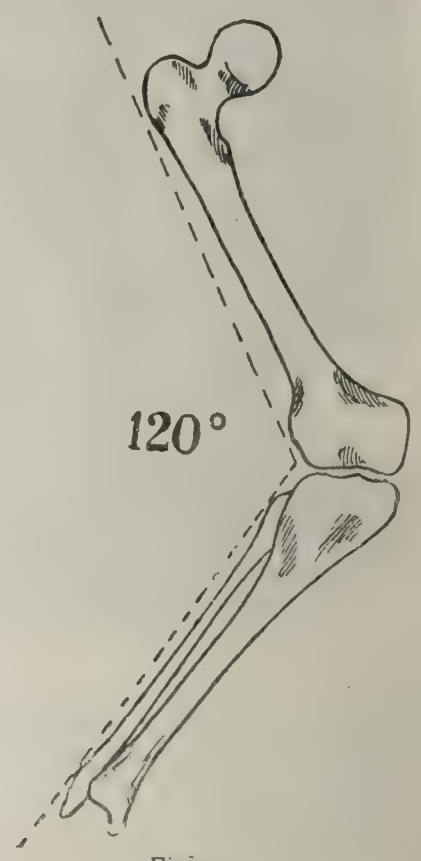

Fig. 11.

right angle (Fig. 12). If it be asked why I draw so definite a distinction between the slighter cases with the recording angle varying from about 165° to about 120°, and the severer cases, when the angle is from 120° to 90°, I reply by mentioning a fact which occurred in one of my earlier operations. In a

Fig. 12.

very severe case, where the deformity was almost rectangular, after performing Macewen's operation I found it impracticable to place the limb straight, because when the deformity was corrected the skin on the outer side of the limb was so tightly stretched over the projecting edge of the lower fragment, that not only I, but all those assisting at or watching the operation, felt convinced the bone would inevitably come through the skin, if the limb were left in the straight line. I was able only to lessen the deformity about half, and at a later period I fully corrected the knock-knee by a Reeves-Ogston operation.

In the diagrams (Figs. 13, 14), which have been drawn strictly according to measurement, I have endeavoured to

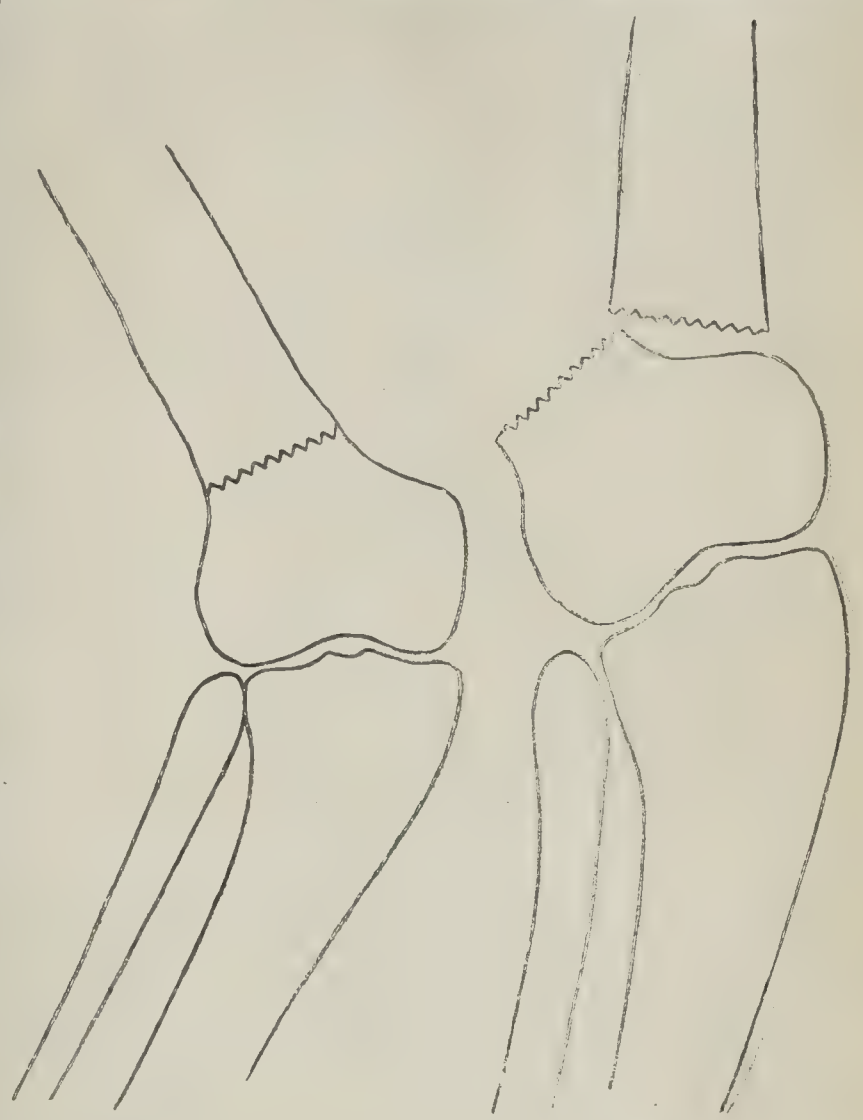

Fig. 13.

Fig. 14.

demonstrate how this difficulty in very severe cases occurs after the supracondyloid operation, and, in consequence, I now make it a rule in all severe cases to treat them by the Reeves-Ogston operation in the first place (Fig. 15), and although in one or two instances I have had to supplement this operation by a supracondyloid osteotomy, yet in nearly all instances the Reeves-Ogston operation has proved quite adequate for the complete correction of the deformity (Fig. 12). I would add that in my hands there has been neither difficulty at the operation nor complication in the after well-doing of the cases, nor any apparent impairment of the integrity of the joint. I concur in Dr. Macewen's opinion, that even in Reeves's modification of Ogston's operation, as a practical question, the knee-joint is opened in detaching the internal condyle, but as the operation in question may not be accompanied by any sign of articular disturbance, such as effusion, owing, I imagine, to the outlet provided for fluid by the side of the severed condyle, I can quite understand anyone believing the joint had not been wounded. It is, I think, generally known that in the Reeves-Ogston operation a chisel is used instead of a saw, and that the internal condyle is penetrated above the line of reflexion of the synovial membrane.

Early in my lecture I implied that for rickety deformities of the bones of the leg in young patients the operation I am in the habit of performing is osteoclasia; and I am confident that my success in correcting deformities in these cases is quite as good, and I am inclined to think better, than by osteotomy, either with or without removal of a portion of bone, while convalescence is greatly expedited.

As rickety bending and bowing of the legs predominates in quite young subjects, I have in recent years had but few occasions for performing osteotomy. I wi l, however, take the opportunity of saying I am not in favour of removing wedge-shaped portions of the tibia in correcting the severer forms of this deformity, partly because union is delayed by

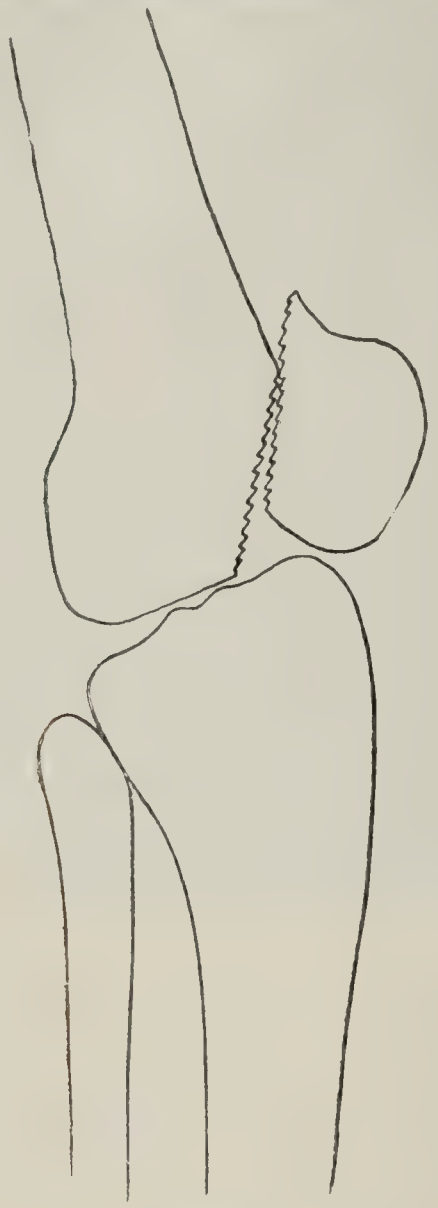

Fig. 15.

this step, but chiefly because I have not found it necessary, for by sawing in an oblique line over the convexity, and completing the division of the bone with the chisel, I am enabled to slide the lower fragment upwards, and by this manœuvre bring the leg straight.

Badly United Fractures.

At this point it will, I think, be convenient to offer a few remarks upon the operative treatment of badly united fractures; by "badly" I mean, of course, to refer to position, thus bringing them under the category of deformities.

In fractures of the long bones, usually from some peculiar incident in the circumstances of the patient's treatment, union may occur in wholly abnormal positions and cause very marked conditions of deformity. In not a few of the cases of this class that have come under my notice the accident has happened in mid-ocean, on board trading vessels having no surgeon on board. I learn that under these circumstances the individuals responsible for the management of the case—it would be an abuse of the word to say treatment of the unfortunate sailor—are the captain and the ship's carpenter. Usually some very rough form of box-splint is manufactured, into which the damaged limb is placed, without thought of position, and of course without any knowledge on the part of these two worthies of the elementary principles of setting a limb. Under these conditions union in very faulty position is of course very likely to follow, indeed one can scarcely see any help for it. If this be, as I have every reason for believing it to be, the actual state of things in the mercantile marine service, I maintain that the time has come for insisting that a course of instruction in "first aid to the wounded" should be enforced upon those who, under such circumstances as I have stated, may be called upon to take charge of an injured person.

Most hospital surgeons must have seen cases such as I have just mentioned, and after a fracture of the femur to enable a patient thus crippled to get about again and walk in some sort of way, various forms of apparatus may be devised; shortening is the most common defect, and lucky is the patient who has no worse complication than this, for then a high-heeled boot, by making up the deficiency in length will meet the necessities of the case. But when the fracture has united not only with much overlapping, but altogether out of position, the patient may be well-nigh absolutely unable to walk at all and condemned to go about on crutches.

In cases like these refracture, permitting reduction into proper position, is imperatively required; if the accident has been tolerably recent this may be easy. Occasionally I have used the osteoclast. Should all efforts fail, osteotomy is the only resource left, and I have obtained very satisfactory results by this operation. I would just mention it is very essential for its success to disengage the fragments very thoroughly, and after careful adjustment, I have generally found it necessary to employ very much more extension weight than in ordinary simple fractures, to ensure full length being maintained; in one instance I used as much as 30 pounds of shot in a canister. The ultimate results, not only as regards union but of position are, in my experience, extremely satisfactory, although constant supervision is needed to ensure success.

Badly united Pott's fractures are by no means infrequent, in some the deformity has not been reduced at the time of accident; in others it is due to the premature removal of splints. I have seen patients reduced to a most helpless condition, complaining of almost total inability to walk; well, if after wrenching, under an anæsthetic, I have failed to materially improve the defective position, I have proceeded in a few instances to operate, chiselling obliquely through the tibia and dividing the fibula at the site of the old fracture, then after wrenching forcibly I have succeeded in materially reducing the deformity.

Club-foot.

I would premise that in my opinion radical operations for congenital club-foot are only justified either by the neglect of treatment by tenotomy in early childhood, or where relapse having occurred, a condition appropriately termed inveterate talipes exists. Indeed, I desire to express the strong feeling I entertain that this affection is not only curable in infants by appropriate treatment, but that this result ought to be obtained practically within the first year of life. I put in the saving word practically because of the proneness to relapse, and because to prevent relapse occurring one cannot too forcibly impress upon parents the imperative necessity of suitable efficient apparatus, worn by night as well as by day for many years. But I hold equally strongly that when this condition is established, a radical correction of the deformity is called for, and that an operation should be performed entailing either the removal of a single tarsal bone, such as astragalectomy, or cuboidectomy, or of some such operation as tarsectomy, involving the removal of parts of several of these bones. Whatever the scheme of the operation, it should in my judgment, to be regarded as adequate, not merely remove the apparent deformity, but it should (1) permit of the complete correction of the inversion and upward rotation of the foot; (2) allow the heel to be fully depressed, thus placing the sole of the foot evenly on the ground; and (3) give moderate flexion and extension movement of the ankle.

Of the above-named or of several other operations which might be named, the one which I have come to regard as the best—although even this cannot be regarded as perfectly satisfactory—is astragalectomy, since it most nearly complies with the requirements I have mentioned. Anyone who studies the condition of the bones of the foot in a case of inveterate talipes, cannot fail to note a special abnormality in the astragalus, and which, I think, has a determining influence

in maintaining much of the deformity in the foot anterior to this bone. This peculiar defect in the astragalus of club foot lies in the inward curving at its neck, for from this circumstance it follows that the scaphoid, cuneiform, and indeed all the bones in advance of it are directed inwards. Again, the astragalus is the connecting bone between the tibia and fibula above, and the os calcis with other bones of the foot below; hence, it will be found that when the astragalus has been removed the foot can readily be placed in a natural position.

What I am anxious to convey is, not that the astragalus alone is involved in the deformity, for all the tarsal bones are altered in shape and position. My point is rather this: Take away, say, the cuboid; saw across the tarsus or even remove a wedge from it; yet after either of these operations the curve in the astragalus will still turn the foot inwards; but excise the astragalus and the foot readily falls into position, which there should be no difficulty in maintaining, and a fair amount of useful movement ought to be preserved. A very marked instance of the superiority of this operation was seen in my wards at St. Bartholomew's Hospital some years ago. A boy, about 10 years of age, was admitted into that institution under my care. He was the subject of congenital double talipes equino-varus. In one foot, the left, previous to his admission, the operation of tarsectomy had been performed at another hospital; the usual wedge-shaped piece had been removed, nevertheless the deformity had not been materially altered; the foot was still turned inwards and upwards, and the boy still walked upon the outer surfaces of his feet. I performed the operation of astragalectomy on the other foot, the right; this foot came at once into good position. The result of this operation was so satisfactory that subsequently I performed the same operation upon the left foot, the ultimate result in both instances being that the patient walked well on the soles of both feet. All the same, the right foot—that from which the astragalus alone had been removed—proved the stronger and better foot, the other being stunted and more rigid. I have in one or two instances, after the operation of astragalectomy, found it necessary to perform tarsotomy to correct the inward turning of the distal part of the foot. I have never performed the operation of merely removing the cuboid; it does not, for reasons already stated, commend itself to my judgment as an adequate means of correcting the deformity.

Of other operations which have been suggested, such as the division of the neck of the astragalus, the division of all the ligaments on the inner side of the ankle or of forcible rectification by crushing up the tarsus collectively—one and all have seemed to me proceedings, either so much more severe than the removal of the astragalus, or wanting the advantages gained by that operation.

Hallux Valgus, Hallux Flexus, and Hallux Rigidus.

These conditions have been discussed very thoroughly by Mr. Davies-Colley in the *Guy's Hospital Reports*, and by Mr. Walsham in his work on *Deformities of the Foot*. Time would not permit me; neither, in view of the writings of these two surgeons, is it necessary to treat of the pathology and etiology of this deformity. But they differ in opinion as to the appropriate operation for the relief of these affections, Mr. Davies-Colley advocating removal of the base of the first phalanx of the great toe, whilst Mr. Walsham prefers to excise the head of the first metatarsal bone. I would remark, I have not equal personal experience of both procedures, for the operation which I have invariably performed is that recommended by my colleague, Mr. Walsham, consisting in the removal, by an open linear incision over the internal surface of the metatarso-phalangeal joint, of the whole of the head of the first metatarsal bone. Much care is needed to place the toe in line with the inner border of the foot, as well as to maintain it in this position for a month or six weeks, in order to obviate relapse, whilst passive movements should be commenced in a fortnight from the operation

Whilst probably either of the before mentioned operations is sufficiently effective for the purpose of correcting the deformity, that is to say, of bringing the great toe back into line with the inner border of the foot, yet I am of opinion that the operation which I have mentioned—namely, the removal of the head of the first metatarsal bone—has advantages over the other, as by it the surgeon is less limited in effecting an adequate removal of bone, a factor in the success of the operation which I deem of utmost importance, and which I am inclined to regard as essential to the preservation of free mobility in the false joint of the great toe. Mr. Walsham points out in the work I have cited that the head of the first metatarsal bone is apparently enlarged, and that to its extreme prominence in hallux valgus, the associated bunion complications are due, therefore, in his opinion—an opinion I entirely endorse—the removal of this portion of bone is indicated. I can add my testimony to the extremely satisfactory results of this operation, not only as regards removing an unsightly and troublesome, as well as a very crippling deformity, but also in preserving a useful foot, or feet, for the deformity is commonly symmetrical. I perform the same operation in hallux flexus and rigidus.

SIXTY-FIFTH ANNUAL MEETING
OF THE
BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF PHARMACOLOGY & THERAPEUTICS.

D. J. Leech, M.D., F.R.C.P., President.

A DISCUSSION ON DIURETICS.

I.—James Barr, M.D Glasg.,
Physician, Royal Infirmary, and Lecturer on Clinical Medicine, University College, Liverpool.

DIURESIS.

The narrow subject of diuretics is much better suited for the pharmacologist than the clinician; I therefore propose to deal with the question of diuresis in a much broader aspect than that of merely limiting myself to a dissertation on those agents which increase the output of urine. From a clinical standpoint, we have usually got to consider those conditions under which we employ therapeutic agents to increase the functional activity of the kidneys. Under normal conditions the kidneys are quite capable of discharging all the duty which they are called upon to perform, and apart from disease of these organs, there is no such thing as renal inadequacy. But when we are dealing with processes of disease, we may find it necessary to increase the excretion of both the water and the solids of the urine. Provided the kidneys are healthy, we have only got to maintain the vigour of the circulation, and if a sufficient amount of blood is driven through the renal vessels, then the kidneys will eliminate both the water and the waste products. Under such circumstances, any increased discharge of fluid will tend to augment the absolute excretion of solids. But when we have got a failing circulation, diseased kidneys, or any obstruction to the elimination of urine, our indications for treatment will be not merely to increase functional activity, but as far as possible to lessen the production of waste nitrogenous products which are chiefly eliminated by the kidneys, and often even to diminish the supply of fluid. When the tissues are waterlogged, you will neither increase the activity of the kidneys nor in any way lower the reservoir by increasing the amount of fluid ingested.

The pharmacologist deals with diuretics from their various actions in increasing the discharge of urine, but as physicians we merely make use of these agents to combat disease. As a rule, our chief object is to increase the elimination of fluid, as we know that it will carry the waste products with it; but in such a disease as granular kidney, where the failure is in the elimination of solids, not in the discharge of water, we must keep down the nitrogenous supply.

In order to assist our comprehension of the subject, we

shall first consider the conditions under which, apart from drugs or even fluid, there is increased diuresis. In health, the amount of urine excreted often varies very considerably from day to day, independently of the quantity of fluid taken in or of the amount lost by other channels, and this is due to the varying capacities of the blood vessels. You all know the diuretic effects, independently of drinking, of hard mental work, and profuse diuresis often follows an hysterical attack or other emotional disturbance, owing to increased vasomotor tone. Cold has a similar effect, and, to a less extent, constipation; in the former case the peripheral vessels are contracted and the renal dilated, and in the latter there is increased vasomotor tone in the vessels of the bowel supplied by the solar plexus, accompanied by diminished watery excretions *per anum*. From a similar cause there is rapid elimination after many febrile diseases. In the early stages of granular kidney there is often profuse diuresis and a free imbibition of fluid, which latter is rather the consequence of the dehydration of the blood from excessive fluid elimination than the cause. This is associated with high arterial tension, but how shall we account for the nocturnal diuresis in this disease when there is at least no increase in the tension nor in the imbibition? It seems to me that the true explanation of this apparent anomaly arises from the fact that in such cases of high tension posture has very little effect on the arterial pressure, but during sleep there is lessened vasomotor tone in the splanchnic area (which has been shown by Leonard Hill to regulate the cerebral circulation), and consequently the renal vessels are dilated and allow a large supply of blood to be driven through the kidneys under well-sustained pressure. The urination after meals arises from dilatation of the splanchnic area, imbibition of fluid, and heightened arterial pressure. In diabetes insipidus there is paresis of the renal vessels, and a large quantity of blood is driven through under moderate pressure; the extreme thirst and excessive drinking are consequences, not causes, of the diuresis.

In diabetes mellitus the excessive filtration is due to the sugar, and has no necessary connection with any rise in arterial pressure. My late friend, Sir B. W. Richardson, in describing some experiments which he conducted in Liverpool, On Some Effects of Hydraulic Pressure upon Animal Tissues and on Vital Hydration,[1] found that beef and brain substances were practically incompressible; even when subjected to a pressure of 2½ tons to the square inch no fluid transuded, but when he added 4 ozs. of sodium chloride to 4 lbs. of lean meat, "a reddish fluid percolated easily through the cylinder, and 18 ozs. of fluid were extracted without difficulty, leaving behind a compact mass of dried or compressed muscular fibre. The fluid or muscular juice contained 10 per cent. of albumen, and, on filtration, allowed almost all the saline substance, with some of the albumen, to pass through the filter." He held that those experiments indicated "the value of salines on excretion; they indicate a service which has not before been considered in relation to excretion, and in relation specially to the value of the salt of the urine, urea. In the absence of such, there could be no excretion of urine. Conversely, in the presence of an excess of urea, or of any soluble salt, such as sugar, there must be an excess of excretion. Urea is the salt that takes up the water from the colloidal substance of the kidney, fixes the water, and escapes with it. Reduce the natural quantity of urea, and, in proportion, the power of the pressure of the circulation to excrete urine is reduced. Increase the quantity of urea above the normal, and albumen will pass over with the excretion, and albuminoid urea will charge the blood."

There can be no doubt but that sugar, urea, and other salts increase the transudation of fluids through the renal capillaries, but my late friend over-estimated the importance of this fact. All the water in the blood is not held as water of hydration of the colloidal matter, and much of the urine excreted after excessive drinking, after an hysterical or epileptic attack, and in diabetes insipidus is almost devoid of solids, and under such circumstances the latter never bear any direct relationship to the amount of fluid excreted. On the other hand, Cohnheim and Senator have unduly minimised the causal relationship between hydræmia and hydræmic plethora to general anasarca. With respect to diuresis neither hydræmia nor hydræmic plethora is necessarily followed by increased discharge of urine, but if you have a vigorous circulation and healthy kidneys any excess of water in the blood is quickly eliminated.

The erect posture and exercise are accompanied by a rise in arterial pressure, and consequently we might expect these states to be followed by increased diuresis, but, although this is not an infrequent it is not a necessary sequence, because, as has been well shown by George Oliver and Leonard Hill, the rise of pressure in the erect posture is due to contraction of the vessels of the splanchnic area, which includes the kidneys, and during exercise the vessels of the muscles and skin are dilated.

We have thus seen that the conditions under which increased diuresis takes place are those associated with (*a*) heightened arterial pressure, (*b*) excess of water, and (*c*) excess of salts in the blood. While excess of water raises the arterial pressure and in the hydræmic plethora thus induced the blood is driven through the kidneys with increased force, the salts in the blood have a selective affinity for the renal epithelium, and carry much water through with them. None of the conditions which we have mentioned imply increased permeability of the renal vessels, though amyloid disease of the kidneys might be placed in this category, such as ascribed by Cohnheim and Senator to the superficial vessels in their explanation of anasarca. On the contrary, in granular kidney, the secretive surface may be reduced to one-half by the obliteration and thickening of the Malpighian corpuscles. All these conditions will receive detailed investigation at our hands, but I should now like to survey the negative side of the picture, and examine those conditions which are accompanied by diminished excretion of urine.

It is lessened or suppressed in cases of shock, syncope, certain mental states—as fear, cerebral exhaustion accompanied by feeble action of the heart, and low arterial pressure, in certain cases of hysteria (in one of Charcot's cases there was no urine for eleven days). It is diminished in sleep, during which the arterial pressure falls, and in fasting, in which there is no hydræmic plethora. In low blood pressure, associated with loss of water from other channels, as in diarrhœa, cholera, obstinate vomiting, intestinal obstruction, acute rheumatism, and in fevers (in which there may also be retention of water within the blood vessels). In heart disease, associated with low arterial and increased venous pressure; in this case there is a sluggish circulation through the kidney with congestion. In cirrhosis of the liver there is an obstruction to fluid entering the general circulation, hence there is no hydræmic plethora, but rather a dehydration of the blood, and the arterial pressure may be low. Again, when there is heightened intra-abdominal pressure, due to ascites, there is a tendency to collapse of the renal veins, a reflex contraction of the renal arteries, and the blood in the aorta flows on in the direction of least resistance, so that the kidneys become anæmic. In this disease, apart from any affection of the kidney, we get diminished excretion without albuminuria, unlike the intravenous pressure from heart or lung disease, in which the lessened urine is often highly albuminous. When the extraneous pressure on the renal veins and kidneys is removed by withdrawal of the ascitic fluid the kidneys are again flushed and the excretion restored so far as these organs are provided with fluid to eliminate.

If one raise the intra-abdominal tension by lifting a heavy weight one may even obstruct the return current from the lower extremities, so that during a couple of minutes the veins of these limbs visibly swell, and the circumference of the calf may increase a quarter of an inch. This is an indirect proof of the effect of pressure in the renal circulation.

The renal veins are so short, and the kidneys situated so high in the abdomen that direct pressure either on the veins or kidneys must be a rare event; but the tension within the renal veins is usually so slight that (except in cardiac disease) any heightened intra-abdominal pressure must interfere with the circulation in the kidneys. Hence in primiparæ, especially in those who try to disguise their condition and preserve their figure by tight lacing, the pressure during the day may be so great as to render the kidney anæmic and diminish the excretion of urine, whereas at night in bed the abdominal tension falls, the kidneys are flushed under moderately high arterial pressure, and the urine is relatively

increased. In such cases if the circulation be vigorous and the tension high there is not necessarily much albumen. The damage arises from alternate anæmia and congestion of the kidneys, with retention of waste products.

In inflammation of the kidneys there is direct damage to the secreting structure, and the tubules may be blocked. In mechanical obstruction to the excretory channels as in pressure on the ureters, renal calculi, plugging of tubules, etc., the excretion continues until the pressure outside the glomeruli balances that inside, and this leads to cystic degeneration. In the terminal stages of Bright's disease, the diminution is due to cardiac failure.

We have thus seen that the urine is diminished or suppressed in cases of (*a*) low arterial pressure, (*b*) high venous pressure, (*c*) lessened water in the blood either from diminished supply or increased discharge through other channels, (*d*) extraneous pressure on the kidneys and renal veins, (*e*) damage to the excreting structure, (*f*) obstruction in the excretory channels of the kidneys and ureters.

We are now in a position to examine more minutely the conditions which give rise to extrarenal secretion. In the kidneys there are two sets of capillaries, for percolation and supplying the excretory tubules, and thus a larger watershed is afforded for collecting the urine. The chief watery discharge takes place from the glomeruli, but the excretion must depend not merely on the total amount of blood in the kidneys at any one time, but on the total quantity traversing these organs. We have thus got to consider (1) the force driving the blood through the kidneys, (2) the state of the blood itself, and (3) the condition of the kidneys—(*a*) permeability of the capillaries, (*b*) freedom of venous flow, congestion, and obstruction, (*c*) state of the secreting structures, (*d*) obstruction in the excretory channels.

The tension in the aorta which drives the blood through the kidneys depends on the heart and the general peripheral resistance in the capillaries and arterioles. Now this tension is a very varying quantity in different individuals, and even at different times in the same individual. In syncope it sinks to a very low ebb. Whereas in cases of high tension it may be sufficient to support a column of blood of 8 to 10 feet in height. The energy imparted by this force, or what engineers term the head in the liquid, may be represented by the formula

$$\frac{MV^2}{2} = \frac{1}{2}\,\frac{W}{G}\,2Gh = Wh = MGh$$

Here h represents the height of the blood column maintained by the force of the cardiac contraction, and the general velocity in the arterial tree depends on this column h (Velocity, $V = \sqrt{2Gh}$). When the mass remains constant any increase in the energy is converted into velocity, but as this increased energy is called forth by increased resistance we have got to see that as far as possible the resistance is not in the kidneys but in the other capillaries and arterioles. The blood in the aorta will travel in the direction of least resistance, so the larger the renal vessels and the less resistance to the outflow through them on the one hand, and the more contracted and greater resistance in the remaining vessels of the systemic tree on the other, the larger the amount of blood which will be driven through the kidneys. These are the conditions that appertain from external cold.

Low arterial tension lessens the force of the cardiac beat, while high tension raises it so long as the heart is capable of meeting the resistance. This, however, may be so great as to overpower the heart, and tell backwards through the lungs on the general venous system, thus tending to equalise the pressure, and so the arterial column h in this case also falls. If the arteries were rigid tubes with a given force, the velocity would be simply inversely as the sectional areas at different distances from the heart, and the current would interrupt between the beats. In cases of high tension a considerable amount of energy is stored up in the elastic walls of the arteries, and this tends to make the velocity more or less uniform. In cases of very low tension the arteries are not much distended, so that they, in great part, act as rigid tubes, and thus the velocity becomes more or less intermittent. In propelling fluid through rigid tubes, a considerable amount of the force is used up in friction of the molecules against each other and against the sides of the tubes. In elastic tubes this waste of force is very much reduced, and so the discharge is much greater.

All these physical conditions come frequently into play in the human circulation. When the aorta and large branches are healthy, and there is moderate tension, the force of the heart is used up in propelling the blood onwards and storing part of its work in the elastic coats of the vessels, which is again expended on the onward movement between the beats. When the aorta is very atheromatous it plays the part of a rigid tube, and when the tension is very low the elasticity is not made use of, so that the heart is in part wasting its energy in pumping blood into unfilled vessels.

High pressure in the aorta raises the velocity of the renal circulation, but it does not necessarily increase the lateral pressure within the Malpighian corpuscles. Just as the arterial pressure depends largely on the resistance in the capillary flow, so the lateral pressure in the capillaries themselves depends on the freedom of the outflow into the veins. Now capillary resistance is directly as the length of the tubes and inversely as the squares of their cross sections, so the enormous capillary area in the kidneys must offer, under normal conditions, very little resistance to the flow in the renal arteries, and thus, no matter how dilated the renal arteries, or how high the tension in the aorta, there will be a free escape for the blood. The greater the velocity in the renal arteries the greater will it be in the glomeruli; but as the velocity is inversely as the sectional area, there must be a great diminution under any circumstances in this very large collective area of capillaries, thus affording time for percolation. In the capillary subdivision of the efferent vessels there is still further delay. With the diminution in velocity the energy is partly converted into statical pressure, so, *cæteris paribus*, the slower the current the greater the lateral pressure. So far as the excretion of water is concerned, this great delay in the renal capillaries is unnecessary, as is evidenced by the great increase of urine in granular kidney when the area of the capillaries of the glomeruli may be reduced to one-half, and consequently the velocity of the blood within them doubled, under equal arterial pressure. If there be free renal circulation so that the total amount of blood traversing the kidney be great, the capillary delay is of great advantage for the excretion of solids by the selective affinity of the renal epithelium. Further, the statical pressure may be said to stand in an inverse ratio to the velocity, and thus to increase directly as the sectional area, because the larger the area the greater the mass and the less the velocity. Hence the total lateral pressure within the capillaries of the kidneys is greater than that within the arteries or veins, in proportion as the area is greater; and, of course, the greater the section of the capillary area the greater the lateral pressure, but the less the resistance offered to the renal circulation. In granular kidney under the high pressure the total quantity of blood passing through the kidney is great, the capillary velocity high, and lateral pressure relatively low, and venous obstruction *nil*, so we get a large excretion of water, little albumen, and other solids. This contrasts very markedly with the low arterial tension of cardiac failure, or this associated with venous congestion, where the total quantity of blood passing through is diminished, the capillary velocity lessened, and the lateral pressure within them relatively increased. These conditions give rise to a small amount of urine, albuminuria from statical pressure within the capillaries, and a relative increase in the solids from capillary delay. It is unnecessary to enter further into the primary importance of arterial pressure in driving the blood through the kidneys. We now come to (*b*) the condition of the blood itself.

If the blood were a perfectly mobile liquid, and free to move without any resistance, the force of the cardiac contraction would be converted into velocity, and there would be very little lateral pressure on the walls of the vessels; but there is no such thing as a perfectly mobile liquid. The blood is a very viscous fluid, and there is also considerable resistance offered to its flow by the arterioles and capillaries, and by the friction against the walls of the vessels and of the corpuscles against one another; thus the velocity is diminished and the statical condition partly maintained. An increase in the supply of water lessens the viscosity of the blood, and thus makes it more mobile, but hydræmic

plethora does not necessarily lead to any marked increase in the secretion of urine. As a matter of common observation, it usually does so, but this is produced by the consequent rise in arterial pressure, which drives an increased quantity of blood through the kidneys. If there be cardiac failure, no matter how hydræmic the blood, there will be no great diuresis. Thus in prescribing one of our best diuretics—water—we should see that the heart is fairly vigorous, otherwise the augmented fluid merely becomes an obstacle to the freedom of the circulation, increases the transudation from the systemic capillaries, and so heightens the evil which we are perhaps trying to remedy. Even with an active heart there may be marked hydræmic plethora, without any extra action of the kidneys; if the systemic arteries are dilated a larger quantity of blood is supplied to the capillaries, the elastic walls of which dilate and allow of a corresponding increase in the volume of blood. This increase in fluid in the body may be limited to over-repletion of the vascular system, which acts as a temporary reservoir; but when the vasomotor nerves cause the arteries and arterioles to contract the arterial tension is raised, the blood is driven with increased velocity through the capillaries, and consequently the lateral pressure within them is diminished, their elastic walls contract and reduce their dimensions; thus the temporary reservoir is abolished, and its contents discharged by an abundant secretion of urine. These conditions are well exemplified in many fevers and the convalesence therefrom.

We have thus seen that although hydræmia is necessary for a free excretion of urine, it is only of secondary importance. We have spoken of the influence of salts in the blood on increased excretion and Dr. Marshall will tell you all about other diuretics.

(c) *Condition of the Kidneys.*—1. *Permeability of the Capillaries.*—Fluids pass very easily through organic membranes such as compose the walls of the capillaries by a process of osmosis, but the capillaries of the lungs and kidneys are well protected by an epithelial covering and do not readily allow the passage of albumen through them, but in certain diseased conditions their secretions may be highly albuminous, not merely from greater permeability, but also from heightened statical pressure within them. In inflammation there is great lateral pressure and greater permeability, but the diminished velocity and obstruction lessen the discharge. In albuminoid disease of the kidneys the greater permeability plays an important *rôle*.

2. *Freedom of Venous Flow, Congestion, and Obstruction.*—The lower the pressure in the renal veins the less will be the obstruction to and the greater the freedom of the capillary flow. When this is associated with high arterial tension the velocity will be great, the capillary delay sufficient for a free excretion of water, though the solids may be relatively diminished, and the slight lateral pressure in the glomeruli will lessen any tendency to albuminuria. When from any cause the pressure within the renal veins is raised the statical pressure within the capillaries is increased and the velocity diminished. If there be also cardiac failure with low arterial pressure these conditions are still further augmented, and so we get a small quantity of highly albuminous urine. If there be extraneous pressure on the kidneys and renal veins from heightened intra-abdominal tension such as occurs in ascites and pregnancy, then as no more fluid will enter the kidneys than what can pass out of them, we get a reflex contraction of the renal arteries, a relative anæmia of the kidneys, and a small excretion of non-albuminous urine, though there may be albumen from other associated causes.

3. *State of the Excreting Structures.*—In acute inflammation of the kidneys there may be such vascular stasis as to lead to complete suppression of urine, and in the large white kidney there may be so much obstruction to the renal circulation, damage of the excreting structures, and plugging of renal tubules that we only get a small quantity of highly albuminous urine. In such cases the salts of potassium are demanded to increase the percolation, dissolve and clear away the *débris*.

4. *Obstruction in the Excretory Channel.*—When we get the ureter blocked, or some of the renal tubules plugged, the excretion will go on until the pressure in Bowman's capsules and the affected tubules equals that within the capillaries; this may be so great as to lead to dilatation of the pelves of the kidney or cystic degeneration, and of course if the obstruction be complete in both ureters we get anuria.

I shall now treat briefly of some of those diseases in which we find it necessary to increase renal activity. The flushing process so largely adopted at many health resorts is mainly based on the idea of washing out waste products, ptomaines, and other poisonous substances. The waters from natural springs have no specific properties which do not equally exist in similar artificial products, and many of the so-called "cures" carried out at mineral springs are nothing more than a gold-extracting process. It is unfortunately too frequently a fact that effete materials retained in the system require to be eliminated, but this can be equally well effected in all countries by an abundant supply of pure mild alkaline water and whey. The fact that so much flushing is so frequently required is evidence that the individual has not been leading a healthy physiological life. Those who imagine that they can preserve their health and longevity by free living, little exercise, and six weeks at a health resort each year will in time discover their mistake. It is much more rational to so regulate the diet, exercise, and all the bodily functions that no more work will be required of any organ than it can easily perform.

In the treatment of granular kidney the defect is in the power of eliminating solids, and the flushing process carried out by nature is of comparatively little use. The best treatment is to cut off all nitrogenous foods, all alcohol, to live on a purely vegetarian diet, to drink whey and mild alkaline waters, regulate the intestinal secretions with an occasional dose of calomel or other mild aperient. The benzoate of ammonia will be found an excellent eliminator, especially when there are uræmic symptoms. Other elements in the treatment are warm clothing, moderate exercise, and, if possible, a warm, dry climate. Some years ago I saw a lady with very advanced granular kidney, great cardiac hypertrophy, and almost totally blind from retinal hæmorrhages. Under the above treatment she recovered her sight, and lived a fairly healthy life for five years, when she died from a pontine hæmorrhage.

In the venous congestion from cardiac failure we must raise the arterial pressure with cardio-vascular tonics, the best of which are digitalis, caffeine, squills, strophanthus, convallaria, ammonia, and senega. These drugs are often advantageously combined with agents which dilate the renal arterioles, such as sweet spirits of nitre, small doses of nitroglycerine or nitrite of sodium, as thus a larger volume of blood is sent through the kidneys, and the arterial tension is prevented from rising so high as to overpower the heart.

In aortic disease, both obstructive and regurgitant, the arterial tension is usually well maintained until near the end, and so we get little or no dropsy unless there be marked cardiac failure, and then our treatment is usually very palliative—rest, mild diet, limited ingestion of fluid, gentle laxatives, and such tonics as strophanthus, caffeine, strychnine, digitalis, and squills.

In mitral regurgitation the arterial tension is usually low, arterioles and capillaries large and full, and venous pressure high. Consequently we frequently get much œdema of lower extremities. The treatment is rest, limited supply of fluid (though this is not so imperative as in cases of advanced mitral stenosis), mild laxatives, and digitalis is the drug *par excellence*. In mitral stenosis the arterial tree is small and tension high, so we do not get dropsy until a very late stage. Then the treatment is rest, a light dry diet, calomel or other laxatives, strophanthus, or small doses of digitalis usually combined with strychnine and minute doses of nitroglycerine. Ammonia and squills are often very useful for the accompanying lung mischief. Pulmonic incompetence is a common sequence in cases of mitral stenosis, and the indications for treatment are to lower pulmonic tension and general venous congestion by free purgation and lessening the supply of fluid. A relatively large quantity of blood should be kept in the arterial side by dilating the arterioles with nitroglycerine.

In tricuspid regurgitation the lines of treatment are much the same as those of the mitral lesions, with which it is usually associated. When tricuspid stenosis occurs it is accompanied by mitral stenosis in a more advanced stage.

The combined lesions do not render the prognosis more grave, but the tricuspid narrowing gives rise to certain distinctive features of its own, such as high pressure in the veins of the neck, with auricular and ventricular pulsation; the obstruction to the return current from the vena azygos and cardiac veins not infrequently gives rise to pleural and pericardial effusions. In this affection we order light dry diet, moderate exercise, warm climate, little fluid, cholagogues, nitroglycerine, and occasional use of cardio-vascular diuretics.

In obstructive lung disease, ammonia, senega, and the saline diuretics are generally useful, and the cardio-vascular tonics are often demanded. In pleurisy and pericarditis the salines are beneficial, but diuretics only take a subsidiary place in treatment.

In cirrhosis of the liver, with ascites, there is an obstruction to the entrance of fluid into the systemic vessels, hence the supply should be strictly limited; we should use vasomotor and cardiac tonics, so as to lessen the size of the vessels supplied by the splanchnic nerves, aud by raising the arterial tension drive the blood under pressure through the portal system. All alcohol should be stopped, and mild saline purgatives should be given. The best drugs for the vascular system and kidneys are digitalis, strychnine, caffeine, strophanthus. Tapping, although only a palliative process, should be adopted early and as often as necessary, as any rise in the intra-abdominal pressure interferes with the function of the kidneys. A large number of cases of ascites are curable if properly treated.

In hysteria and other nervous diseases, accompanied by diminished urine, we can order pure water or whey freely, vasomotor tonics and saline diuretics. In local œdemas similar treatment is applicable, but purgatives are usually more freely required. If there be a recent thrombus, the free administration of strong solutions of ammonia, first recommended by the late Sir B. W. Richardson, is necessary to remove the obstruction.

In inflammatory affections the salts of potash are especially serviceable. In the dropsy attending acute Bright's disease, there is defective elimination of water with consequent hydræmia, the capillaries are overloaded, and the velocity of blood in them is diminished. In the early stages it is important to combat the inflammation of the kidneys, and for this purpose local or general bloodletting and antimony are the most effectual agents. The quantity of fluid ingested should be regulated by the state of the emunctories. In this form of dropsy the free action of the skin is most important, not so much for removing the dropsy as for relieving the kidneys and getting rid of waste products. The emunctory function of the skin is great, and offers the best substitute for inactive kidneys. The bowels should be at first well unloaded with a good cholagogue purgative, and afterwards there should be one free evacuation daily. When the inflammation has subsided and the circulation in the kidneys restored, we should encourage the free discharge of urine. The best diuretics in these cases are bitartrate, acetate, citrate, and bicarbonate of potassium, the benzoate of ammonia, and, we may also add, the salts of sodium and lithium. When the dropsy is subsiding, mild alkaline waters and whey may be given in abundance. In obstinate and chronic cases we may use more stimulating diuretics, such as squills, sweet spirits of nitre, juniper, etc. When the heart's power is flagging and the blood requires more motion imparted, then digitalis, caffeine, and strophanthus are demanded. Of course, the diet should be non-nitrogenous, and the patient kept warmly clothed.

In conclusion, diuretics are mere adjuncts to treatment; there is no disease or process of disease treated purely and simply by their use. I therefore propose to leave this part of the subject to my friend, Dr. Marshall. The number of valuable diuretics in the *Pharmacopœia* or, for all that I know, outside of it, is extremely limited. If you attend to the indications which I have pointed out for their employment, you will have no difficulty in selecting from the limited number the suitable diuretics for use in any particular case. You will not infrequently find your art baffled, which may make you try something new, only to find that it is not a true diuretic; but whatever drugs you employ, I would earnestly recommend you to administer them with a strong infusion of common sense from which all credulity has been eliminated.

REFERENCE.

1 *Asclepiad*, 1892.

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THE ACTION OF DIURETICS.

IN an admirable introduction to this discussion Dr. Barr has already emphasised the fact that the physiology of renal secretion is the basis of our knowledge of the action of diuretics, and I need hardly apologise therefore for prefacing my remarks by an account of this subject. This is more especially necessary as during the past few years numerous researches on the subject have appeared, most of them bearing more or less intimately on the action of diuretics. But perhaps if I indicate the landmarks in the development of our knowledge of renal secretion it will enable us better to understand the question.

THE PHYSIOLOGY OF RENAL SECRETION.

In 1842 Bowman advanced the theory that the water and salts come through the glomerulus, and the urea and similar nitrogenous products, by a process of secretion, through the epithelium of the convoluted tubules. He was followed by Ludwig (1844), who advocated what is known as the mechanical theory. According to him all the substances of the blood plasma, except albumin, filter through the glomerulus, and the proper concentration of the urine is obtained by reabsorption of water in the tubules further down. This theory was modified by Küss (previous to 1856), who stated that all the constituents of the blood plasma come through the glomerulus; the albumin and water being reabsorbed in the tubules as Ludwig supposed. Subsequently Heidenhain (1875) advocated a purely secretory theory; most of the water and salts, according to him, are secreted by the glomerular epithelium; the remainder, with the urea and other products, by the epithelium of the tubules. Senator (1881) controverted this view and practically brought us back to the theory of Bowman. He was afterwards joined by Munk, and together (1888) they formulated the theory that the water and urinary salts mainly transude through the capsule, the specific urinary constituents (urea, uric acid, etc.) and the remainder of the salts being secreted by the epithelium of the tubules, and chiefly of the convoluted tubules. As these are only secreted in the soluble condition, it follows that part of the water also must be secreted by the tubular epithelium, and after the administration of some diuretics these observers believe that the water secreted may even exceed that coming through the glomerulus. Quite recently the theory of Ludwig, with a slight modification, has again been brought to the front. Sobieranski (1895), from experimental observations, concludes that the constituents of the blood plasma, with the exception of albumin, transude through the glomerulus, but reabsorption results from the activity of the epithelial cells, that is, it is a true secretory process. Still more recently another factor has been made prominent. Hellin and Spiro (1897) state that their experiments suggest, but do not certainly prove, that the epithelium (tubular) is not necessary for diuresis. They believe that the capacity of the capsular space has a special significance, and its width corresponds to the amount of water excreted and may even regulate it. Their experiments, however, were mainly of a pathological character, and I shall return to them later. With Tammann's views (1896) I shall deal directly.

For the purposes of this discussion it is unnecessary to detail the arguments for and against these various theories. The mechanical theory of Ludwig as the sole explanation of renal secretion is not tenable. It does not explain the fact that after obliteration of the renal artery for a minute and a-half no urinary secretion occurs for three-quarters of an hour (Overbeck, 1863); that ligature of the renal vein diminishes the amount of urine (Tammann, however, explains this on a purely physical basis); and that increased blood pressure, even when combined with increased velocity, does not always go hand in hand with the quantity of urine excreted (Munk and Senator, 1888). Heidenhain has reduced this theory to a *reductio ad absurdum* by calculating that to produce normal urine 70 litres of plasma would have to be filtered and 68 litres reabsorbed in the 24 hours. But Dreser (1885), according to his exp'a-a-

tion of his experiments, would make this not so improbable, as he estimates the reabsorbing power of the tubules to be ten times greater than the secreting power of the glomerulus. On the principles of osmotic pressure Ludwig's view is not tenable; but this also militates against Heidenhain's theory.

In favour of the mechanical view is the arrangement of the glomerular vessels, and the presence of a narrow thin-walled portion in the course of the renal tubules. The occurrence of urates in the epithelium of the convoluted tubes has been denied (Beal, 1890), although I believe it has been asserted again. Heidenhain's observations have also been severely criticised, and Sobieranski, from similar experiments, has come to an opposite conclusion. Foster (1895), however, vindicates Heidenhain's method, and believes with him and the majority of physiologists that the epithelium of the convoluted tubules is essentially secretory in nature.

The possibility of a physical theory different from Ludwig's has lately received an impetus owing to the development of chemical physics and the more exact determination of the principles of diffusion and osmosis. Filtration cannot account for renal secretion; can filtration with osmosis? But before dealing with this point I will recall to your mind some elementary facts regarding these processes. If we take a solution of salt and pour on it a layer of water, the salt will gradually diffuse through the water until the whole mass becomes of uniform density. And the same thing, speaking generally, will occur if we separate the salt solution and the water by an animal or vegetable membrane. If, however, we replace the membrane by one impermeable to the salt but permeable to water (such, for example, as a copper ferrocyanide one is for sugar) we still have the tendency of the salt to diffuse, but as it is kept in place by the impermeability of the partition a certain force is exerted on the membrane, and this is termed the osmotic pressure. This pressure varies with the kind of salt (or substance), the concentration, and numerous other conditions, and if two separate salts exist in the solution each exerts its own individual pressure, so that the total pressure is the sum of these partial pressures.

This force may be measured against a hydrostatic one. Thus, if the hydrostatic pressure of the water on the membrane equals that of the osmotic pressure of the salt (or salts) the two liquids will remain in equilibrium. There will be no transference of water from one side to the other. Above this point water will filter through until equilibrium is reached; below this point osmosis will establish the balance. Therefore, if we assume the Malpighian capsule to be a semi-permeable membrane, before pure water could filter through it would be necessary for the blood pressure to exceed the total osmotic pressures in the blood. But the sum of the partial pressures of inorganic substances in the blood equals 6.6 atmospheres, or 5,000 mm.Hg., and that of the organic substances 1.1 atmosphere, or 840 mm.Hg. (Tammann), so that physically this is impossible, as the blood pressure is not a tithe of one of these.

The same principle holds good if the water be replaced by a weak saline one or by a solution of another salt. In the case of a permeable membrane the water and salts of the solutions diffuse until an equal percentage of the two salts occurs on each side. In the case of a semi-permeable one, diffusion of water occurs from one or other side until the osmotic pressure of the one salt (we will ignore hydrostatic pressure) equals that of the other. Unfortunately the phenomenon of osmosis is complicated by numerous conditions—the kind of membrane, the solvent, the temperature and concentration of the solutions, the capability of chemical union between two separated compounds, etc., which we cannot enter into now. The question is whether we can explain the secretion of the urine, wholly upon purely physical grounds. Such an explanation has, we know, been attempted for the absorption of fluids and for lymph secretion.

In the case of the kidney we cannot determine the permeability of each anatomical element, but we know, within fairly narrow limits, the blood pressure (filtration pressure) and the osmotic pressures of the constituents of the blood plasma and urine, and from these we can make calculations. The following table, which Tammann has collected from Hammarsten's *Lehrbuch* (1895) shows us the conditions we have to account for.

Table I.

	1000 parts human urine contain	1000 parts blood serum contain
Albumins ...	0	85
Fats	0	1-10
Dextrose ...	0	1-1.5
Uric acid ...	0.5	0.5-1 0
Creatinine ...	0.7	0.7
Other organic substances	1.7	5.0
Na.	3.9	1.5
K.	1.8	0.2
NH_3	0.5	—
Ca.	0.1	0.1
Mg.	0.2	0.05
Cl.	6.0	3.5
SO_4	1.7	—
PO_4	2.1	0.2
Other inorganic bodies	0.1	—

The amount of urea, which is not stated by Tammann, is 1 per 1000 in blood and 20 per 1000 in urine.

You will see that the blood contains 8.5 per cent. albumin, 0.1 per cent. sugar, and 0.1 per cent. urea, while the urine contains none, or practically none, of the first two, and a much larger quantity of the third. Similar incongruities occur in the case of the inorganic constituents. Now, with the exception of the albuminous substances all the constituents of the blood serum are fairly diffusible, and placed in a vessel of permeable membrane would diffuse out readily according to their osmotic pressures and the nature and composition of the external fluid. But does this occur in the kidney? In other words is the glomerular tuft bounded by a permeable membrane? I think we must assume that it is. It cannot be regarded as semi-permeable, and the only other possibility is that it is partially so, that is, permeable to some substances and not to others. De Vries (1882) found that vegetable cells under some conditions were semi-permeable. Overton (1897) states that living cells are impermeable to many soluble substances, for example, many dye solutions; Reid (1895) found the intestinal membrane less permeable to glucose than Grubler's peptone, although with parchment paper the reverse was the case; and evidence of this kind is certainly suggestive of a possible partial permeability. In this connection it is interesting to note that Maly and Plosc (1877) explain the acidity of the urine on the grounds that acid sodium phosphate will diffuse through parchment paper, while the neutral phosphate will not; but Dreser (1885) concluded that the glomerular secretion was alkaline. If the glomerulus is impermeable to anything it ought to be sugar, as this is present in the blood and not in the urine. But such an assumption is not supported by facts. Apart from diabetes, it would be difficult to explain Jacobi's discovery (1895) of a temporary glycosuria after the use of caffeine sulphonate (compare also Bock and Hoffmann (1871) on the injection of large quantities of salt solution) and as far as I am aware it receives no support from what we know of glucose osmosis in other parts of the body. Moreover, the osmotic pressure even of unsalted serum is greater than the blood pressure in the glomerulus. Physically, therefore, we must regard the glomerular tuft and capsule as a permeable membrane, although physiologically this may require some modification.

As the pressure on the two sides of a membrane tends to equilibrium, the difference between the blood pressure in the capillaries and the urinary pressure on the capsular wall must be equalised by the osmotic pressure of substances in the blood, that is, blood pressure *minus* osmotic pressure equals urinary pressure. Now the blood pressure in the capillaries (dog) may be taken at 84 mm. Hg. (that is, 104 mm. in aorta, less 20 per cent. (Wundt) for the renal capillaries) and the pressure in the ureter at 50 60 mm. (Hermann, Heidenhain, Huber) say 64 mm., therefore the osmotic pressure exerted on the capillary walls to make the balance must be 20 mm. (Tammann). With the exception of albumin all the soluble constituents of the plasma exert a greater osmotic pressure than this, and consequently must readily pass through.

Table II.—*Partial Pressure at* 36° C. (*Tammann*).

Albumin	6 mm.
Soluble CO_2	20 mm.
Glucose (0.05-0.1 per cent.)	50-100 mm
Urea (0.01-0.05 per cent.)	30-180 mm.
Creatine (0.03-0.1 per cent.)	110-360 mm

Those of you who are interested in this subject I must refer to Tammann's paper. The question, however, is not as simple as he makes out. The altered diffusibility of sugar, salt, and urea, in the presence of albumin (Lazarus-Barlow); the question of initial osmotic pressures (Lazarus-Barlow); the probability of the tuft wall not being so permeable to all substances as to water (Tammann); the possibility of a true secretion by the glomerular cells (Heidenhain, Dreser), and the fact that amido-acids and acid amides do not diffuse readily into cells (Overton), further complicate the matter. It is very probable, however, that the glomerular excretion is not greatly modified albuminless blood plasma. But this secretion is very different to that of the urine, and by mere concentration (reabsorption of water) cannot be converted into it. Evidently there is some other condition at work. Fortunately, we have good reason to believe that urea and other nitrogenous metabolic products, and probably salts, are excreted by the cells of the tubules; and mainly in this way the composition of the urine is made up. The proofs, or apparent proofs, of this I need not enter into now. Most of them are probably known to all of you.

The question of reabsorption, however, is important. From theoretical reasoning it is difficult to see how this can occur to any great extent, as the pressure in the capillaries (both filtration and osmotic) is greater than that in the tubules; and this being the case, the flow will tend in the reverse direction, that is, from the capillaries to the tubules. On the other hand, it is difficult to account for the existence of Henle's loop except on the reabsorption theory, and Hüfner's comparative investigations lend considerable weight to this view. Dreser's (1885) conclusions from his experiments on this point do not appear to me justifiable, and it is very questionable whether the epithelium of the tubules is capable of reabsorbing ten times the amount excreted by the glomerulus. But even Tammann has found it necessary to resort to the reabsorption theory to explain the disappearance of sugar from the glomerular excretion, and under some conditions he believes that water and salts may also be reabsorbed. To my mind, Tammann's physical explanation of the reabsorption of sugar is not quite satisfactory. I am more inclined to believe that it is of physiological importance, and has a physiological explanation. It is peculiarly striking that the two substances occurring in the blood which do not appear in the urine are substances necessary for the maintenance of life. The one, albumin, is moderately stable and but slightly diffusible; the other, sugar, diffuses readily and is easily broken up. The two conditions go hand-in-hand, and for a physiological explanation are necessary. In considering renal secretion we are perhaps too apt to regard the kidney as an elaborate filtering machine, and to forget that its cells possess a metabolism of their own; that they help to form the heat of the body, and probably contribute to the formation of urea, or possibly the antecedents to urea. Abelous and Biarnès (1896) have shown that the oxidising power of the kidney in frogs is greater than that of the muscles, and in the rabbit is equal to that of the liver. Taking into consideration this metabolism of the kidneys, it seems to me that the most probable explanation of the reabsorption of sugar is that it may be utilised by the renal cells. Apart from any attracting power that the cells may have for sugar, the very fact that this is burnt up within the cell would establish a lower osmotic pressure for sugar within than without, and this would consequently lead to the diffusion of sugar into the cells. This in its turn would be metabolised and the process repeated. It seems to me, too, that the sugar would be more readily taken up from the glomerular transudate than from the blood, as the limiting layer of the cell next to the lumen of the tubule is probably more permeable than the distal layer with its basemeut membrane. Indeed, the function of the basement membrane we do not know. It may act as a partially permeable partition, but we have no definite proof that it does so. It is interesting to note, however, that whereas the cells of the renal tubules possess a well-marked basement membrane, no such structure has been found in connection with the cells of the glomerulus.

At this point I may also deal with the question of the albumin. Why is it that albumin does not appear in the urine under normal conditions? Tammann takes the case of ligature of the renal veins, and explains its appearance by assuming that openings between the epithelial cells, through which the albumin transudes, are produced by dilatation of the capillaries. This appears to me an unwarrantable conclusion. It does not explain why albuminuria should occur after ligature of the renal artery, as in Overbach's experiment, and why, with increased pressure and increased velocity (more dilated capillaries), the albuminuria of the excised kidney should diminish (Munk and Senator). Neither can the explanation be purely one of osmotic pressure. It has been thought that retention in the capillaries may be due to the large molecule of the albumin, but, apart from the evidence that we have from dyes, the fact that egg albumin, which contains two more carbon atoms than serum albumin (Schmiedeberg, 1897), will readily pass through when injected into the circulation, seems to me sufficiently disproving. Sobieranski believes that the reason why albumin is not normally excreted is due to the fact that serum albumin does not exist free in the blood but in a "bound" condition. What is exactly meant by this I do not know. It is probably true that albumin enters into combination with substances (sodium chloride, etc.) found in the blood, but combinations of this kind would be more likely to increase its diffusibility than decrease it. If we set aside the question of the presence of foreign albumins in the blood, it seems to me that the condition of albuminuria is most dependent upon the metabolism of the cell. As soon as this metabolism is depressed albumin appears in the urine; with an ample supply of oxygen and food any albuminuria present tends to disappear (See Table III.). When the food supply, and particularly the oxygen, is cut off, the glomerular epithelium approaches the condition of a dead membrane. The limiting layer of the cells of the Malpighian capsule cannot be impermeable to albumin, otherwise the cells would die. Under normal conditions probably the whole amount (which is small) passing through the limiting layer of the cell on the capillary side is utilised in the cell, but when the cell metabolism is depressed, part of this passes through the capsular layer and appears in the urine. There is no reason for assuming that the capsular portion of the epithelial cell wall is differently permeable to its capillary side, and I do not see any difficulty in accepting the statement of those observers who say that a minute trace of albumin is present in the urine in health. A similar line of reasoning applies to the other parts of the renal tubule which are concerned in the production of albuminuria.

With regard to sugar also, the possibility of a small portion being utilised in the epithelial cells through which it passes should not be forgotten, although it is hardly possible that this can account for the total absence of sugar in normal urine.

The question of the absorption of the water and other constituents of the urine, however probable, is not yet proved. Sobieranski's experiments are open to another explanation. The investigations of Poirier (1891), Tuffier (1894), Huber (1895), only show absorption of drugs in the renal pelvis; Dreser's (1892) reasoning is not quite legitimate; and it is doubtful how far Hermann and Ustimowitsch's experiments of ligaturing the ureters can be taken to explain this condition. The difficulty of accepting reabsorption as a process in renal secretion is due to the antagonism which such an explanation presents to our present knowledge of osmosis (see, however, Leathes and Starling, 1895). At this point I might mention that Huber found that diuretics which scarcely influence blood pressure (urea, potassium nitrate) raise the lower limits at which reabsorption (from the renal pelvis) begins, so that even at an increased pressure no more reabsorption occurs.

Another important factor to be taken into account in any theory pretending to explain renal secretion is the mode of excretion of bacteria. Numerous observers have stated that bacteria do not pass through the healthy kidney, but the three most recent investigators (Biedl and Kraus, 1896, Klecki, 1897) confirm the older view and prove that they do. The excretion of bacteria was found by Biedl and Kraus to be increased by intravenous injections of glucose, but Klecki says that diuretics have no influence on the excretion of these organisms.

If we summarise the chief points in renal secretion we may say

that: (1) Water and the non-albuminous constituents of the blood plasma diffuse into the capsule in proportions approximately equal to their amount in the blood; possibly a little albumen also transudes; (2) a similar process of diffusion occurs during the passage of the urine through the tubules; (3) urea and alloxur bodies, probably salts and water, are excreted by the epithelium of the tubules; (4) reabsorption of sugar, and possibly under certain conditions of water, slight amounts of albumin, and salts occur; as regards sugar, I believe that the metabolism of the renal cells is an important factor in its reabsorption.

Having dealt with the theories of renal secretion and the probable mode of elimination of normal metabolic products, we next turn to the

PHYSIOLOGICAL CONDITIONS WHICH MODIFY RENAL SECRETION.

These may be considered under three heads: (1) Modifications of the circulatory system; (2) alterations in the composition of the blood; (3) changes in secretory activity. Some of these conditions have already been dealt with by Dr. Barr, and I need not repeat his description of them.

As regards the circulatory system, all conditions which increase the blood pressure in the glomerular tuft, and the velocity of the blood through the glomerular vessels, increase also the amount of urine excreted. Thus a rise in general blood pressure within certain limits, especially if accompanied by dilatation of the renal vessels (as after section of the renal nerves) leads to a large increase in the urine. The reverse conditions diminish it. A fall of blood pressure to 40 mm. Hg. (Ustimowitsch), or 34 mm. (Grützner) stops the secretion. According to Heidenhain, an increase in the velocity of the blood is the most important factor, and an increased blood pressure increases urine, mainly because it augments the quantity of blood passing through the renal capillaries. This again increases the food (oxygen, etc.) and the nitrogenous waste products brought to the cells, the increased activity of which is the true cause of the increased secretion. From experiments with caffeine, chloral, and curare, Albanese (1891) came to the conclusion that increased secretion was not dependent on an increased blood supply, and that no parallel existed between them. This may be true as far as these drugs are concerned, but physiologically the opposing position seems unassailable. The volume of the kidney alone, as measured by the oncometer, does not indicate the velocity of the blood flow, although it gives one an idea of the condition of the renal vessels. Chloral, for example, has little influence on urinary secretion, although it increases the volume of the kidney. But chloral reduces blood pressure, and depresses protoplasmic activity generally, and these effects antagonise any increased volume of blood in the kidney produced by dilatation of the vessels.

The effect of blood pressure and increased velocity on renal secretion is well shown in the experiments of Munk and Senator on the isolated kidney. Two of these I show you in the diagram (Table III). In these experiments the kidney is severed from all nervous connections, and the blood pressure is constant and under complete control. The excretion may not be a true renal one (see Munk, 1886, Schroeder, 1888, Jacobi, 1890, Paldrock, 1896); but this is of little moment. Generally speaking, increased pressure and increased velocity go hand-in-hand and produce increased excretion of urine and diminution of albumin. In cases however where the blood pressure and velocity do not run a parallel course the pressure seems to be the more important factor, although in other experiments Munk (1886) found that increased blood pressure only increased the secretion when the velocity was increased at the same time.

Alterations in the composition of the blood are the most important factors in the production of diuresis. The question of the addition of foreign products and their effect upon renal secretion we shall discuss later, but certain conditions connected with renal activity may be conveniently considered at this point. In a sense, modifications in the blood cannot be considered apart from the other two divisions, as alterations in its composition invariably lead to changes in circulatory or renal activity and in most cases in both. The injection of water into the circulation increases the capillary pressure, and in this way leads to diuresis. It also affects the metabolism of cells, including those of the kidney, and in a second way helps to increase urinary excretion. But what I wish to dwell upon just now is the fact that notwithstanding the sudden and profound alterations which may be produced, the blood tends to retain a fairly constant composition. Large quantities of water, sugar, salt, etc., may be injected into the circulation, but they quickly disappear. Most of them according to their power of diffusion and the requirements of the cell for them, enter into the tissues of the body. The greatest strain is placed upon the kidney. This organ presents, so to speak, the condition of an open waterway, whereas other organs and tissues suffer from an ever-increasing resistance. After the first flush of excretion the tissue cells gradually regain their previous condition, the injected material, if not metabolised, is slowly excreted, and the condition of the organism becomes as before. The cells of the tissues also have a tendency to retain a certain metabolism; but this metabolism is not constant; it can be modified within certain limits, and under certain conditions it may be profoundly changed. The life of the cell, in fact,

TABLE III.—*Perfusion of Living Isolated Kidney (Munk and Senator).*

Experiment D; Dog 30 kg.; Urea added to blood; Total blood contained 0.1217 per cent. Extractive-N and 0.594 per cent. NaCl; The blood serum 0.812 per cent. NaCl.

No.	Duration of Observation.	Pressure in mm. Hg.	Velocity of blood per minute.	Amount of urine in 60 minutes.	Albumin per cent.	NaCl per cent.	Extractive-N.
I.	40 minutes	138	52.2 cc.m.	32.4 c.cm.	0.57	0.96	0.2845
II.	60 ,,	95-84	29.6 ,,	5.3 ,,	0.636	0.905	—
III.	20 ,,	130-136	70.0 ,,	44 7 ,,	0.112	0.985	0.269
IV.	60 ,,	94-80	52.3 ,,	4.2 ,,	0 695	0.88	—

Experiment E; Dog 30 kg.; Urea added to blood; Total blood contained 0.123 per cent. Extractive-N and 0.58 per cent. NaCl.

No.	Duration of Observation.	Pressure in mm. Hg.	Velocity of blood per minute.	Amount of urine in 60 minutes.	Albumin per cent.	NaCl per cent.	Extractive-N.
I.	40 minutes.	143-152	49 c.cm.	20.55 c.cm.	0.26	0.91	0.276
II.	60 ,,	91-95	45.6 ,,	3.5 ,,	0.083	0.72	0.1673
III.	15 ,,	138-146	80 ,	79.4 ,	0.016	0.71	0.2296
IV.	60 ,,	96-80	32.6 ,,	2.6	0.125	0.75	—
V.	30 ,,	146-152	36.5 ,,	9.5 ,	0.06	0.715	—

like the life of the individual, may be regarded as an accommodation to its environments. The mode of life of the individual has led to a certain metabolism within the cell and this metabolism it tends to keep. It may be modified by gradually changing the environment of the cell, that is, the life of the individual, but it cannot be influenced by sudden alterations without producing serious results. Living tissues react powerfully to strong stimuli, but if the stimulus is sufficiently reduced it may be constantly applied without producing any effect. The cells, in fact, will gradually become accustomed to its presence, and sooner or later it will become part of their normal metabolism. By gradual increments of this stimulus we may even markedly alter the life of the cell; but only within certain limits. It may, however, be so modified that the stimulus previously applied will have much less influence than before. Davenport and Neal (1896) for example, found that stentor kept two days in 0.00005 per cent. mercuric chloride possessed four times as great a resistance to 0.001 per cent. mercuric chloride as stentor taken from pure water; and similar effects were obtained with quinine. I am even sanguine that by-and-by we shall be able to generalise Weber's law, and make it applicable to the stimulation of cells.

But I have not time to deal with this question in detail, and I only mention it because it presents a principle which I think it is necessary to apply to diuretics. The principle may be illustrated by an example. Schroeder found (and his observation has been confirmed) that caffeine in dogs produced little or no diuresis, whereas in rabbits it was decidedly active. Sobieranski explains this by the want of urine-producing materials in the dog's blood owing to their dry diet, and in support of his contention he adduces Munk's experiments on the isolated dog's kidney, in which diuresis was obtained. He also adds that the tissues of dogs contain less water than those of rabbits. The latter condition cannot have any significance. It is merely due to the different modes of life of the two animals; and as far as my experience goes dogs seem to require more liquid daily than rabbits. Nor do I think that Munk's experiments support Sobieranski's view. Munk used comparatively large doses of caffeine 0.014 per cent.) and we should naturally expect a diuretic effect to follow. (See also Albanese, 1895). The explanation that suggests itself to me is a somewhat different one. Dogs feed largely on animal food containing much extractive matter, their active habits lead to the breaking up of a large amount of nitrogenous material and the formation of xanthine products. The renal cells of dogs, therefore, are normally fed with considerable amounts of nitrogenous waste matter, and to increase them to more active exertion it is necessary that proportionately much larger amounts of xanthine compounds (which we shall see caffeine is) should be given. Moreover, the different composition of the urine of dogs and rabbits and the different metabolism of their tissue cells show us that comparisons between the two animals should not be made hastily; thus, for example, nitro-benzaldehyde given to dogs is excreted as m-nitro-hippuric acid; to rabbits as m-acetyl-amido-benzoic acid (Cohn, 1894). Taurin (amido-ethyl-sulphonic acid) in rabbits is burnt up to sulphates and thio-sulphates; in dogs it appears as ammonium-uramido-ethyl sulphate.

After what we have said with regard to the metabolism of renal cells, we should expect that the occurrence of urine-producing substances in the blood would be of extreme importance, and this is well shown in the perfusion experiments of Abeles and Munk. Abeles (1883) found that he was unable to obtain urine in many experiments until urea had been added to the perfused solution, and Munk (1886) by perfusing the blood of a dog starved 30 to 48 hours, obtained only 1 to 2 cc. of urine per hour, while with blood of well-fed dogs he obtained 4 to 9 cc. in the same time. The connection between urine-producing substances and renal activity is also shown by Sacerdotti (1896) from the pathological side. He found that after extirpation of one kidney hypertrophy and hyperplasia occurred in the other. If the animal was starved no hypertrophy was found.

In order to lay a firm foundation for medical treatment it is necessary to know the functions of organs and the effect of various conditions on them. We know that the function of the kidney is mainly to excrete nitrogenous waste products, the chief of which is urea, and that with these products a certain amount of water is discharged. If we increase the urea we increase the work of the kidney. The activity of the cells is stimulated, and if they respond to the stimulus, more urea is thrown out, and as a consequence more water is excreted. As a matter of fact we know that urea has been found to be a reliable diuretic. In the same way other substances which are concerned in the metabolism of the renal cells act as diuretics, but to a less degree. It is therefore not surprising that practical medicine has found that the most reliable diuretics (caffeine, theobromine, and their derivatives, salts, and the sugars) are those which are intimately connected with substances concerned in the normal activity of the cells. Caffeine, as you are aware, is trimethyl-xanthine; theobromine, di-methyl-xanthine, and both of them in their passage through the body are de-methylated and converted in part into methyl-xanthine (Albanese, 1895; Bondzynski and Gottlieb, 1895). Albanese believes this is merely a step to the formation of xanthine, which in its turn is a forerunner of ammonia and urea. Xanthine itself is a normal constituent of the urine, but it is only present in small amount. Until recently it was regarded as a diurede of dioxyacrylic acid, but owing to further investigations (1897) Fischer believes this formula can no longer be retained. According to his nomenclature it is 2.6, dioxypurin, and caffeine is 1, 3, 7, tri-methyl, 2, 6, dioxypurin. The only point of interest, however, in connection with the chemical constitution of this body is the fact that Schroeder found when a hydroxy-methyl molecule was introduced into caffeine its diuretic action was to a great extent lost.

Sugar, again, is a normal constituent of the blood, and enters into the normal metabolism of the tissues, and an increase of the quantity in the blood increases the amount of urine excreted. With certain reservations, one may even say that the diuresis is practically proportionate to the hyperglyæmia. An increase of sugar in the food, however, does not necessarily lead to an increase in the blood, and even a slight increase in the blood is capable of being utilised in the tissues; consequently, these conditions do not lead to an increase of urine. In this way sugar differs from both salts and urea.

But in all cases it is necessary that a certain percentage of substance should be present in the blood to induce diuresis. The renal cells do not react mechanically, reproducing the same amount of work from a given stimulus under what appears to us the same conditions. Probably this would be true if we could insure identical conditions in our observations, but this, at present, is impossible. In the case of foods, the percentage in the blood requires to be materially increased before a marked diuresis is induced. Thus Munk found that it was necessary to raise the amount of salt to 1.3 per cent. sugar to 0.5 per cent. and urea to 0.24 per cent. before diuresis occurred. Once, however, this limit is reached, the diuresis continues some time. The activity of the cells has been stimulated, the metabolism is increased, and this remains after the condition causing it has passed away. And it is fortunate that it is so. Without the existence of a critical point of this kind, the employment of such a drug as urea or its derivatives would be almost useless, as it would increase the amount of work of the kidney without producing commensurate benefit. As regards salts, Kessler (1877) found that the more concentrated the injection (of sodium carbonate, acetate, sulphate) the greater was the increase of urine. But in therapeutics principles of this kind are confined within narrow limits. Strongly concentrated salts, for example, are irritant, and if not they are only absorbed with difficulty.

At this point it will be convenient to deal with the question of secretory nerves of the kidney. Hitherto no such nerves have been found, although it is probable that they are present. Considering the brilliant investigations of Pawlow and Schoumow-Simanowsky on the secretory nerves of the pancreas and stomach, it is surprising that the question has not been settled on their lines. Pharmacologically, however, their existence is probably of little importance. The use of atropine has given us no results (see Maltravers, 1896, Thompson, 1894, Masius, 1888, Walti, 1895), and it has been found to exercise little influence on the action of diuretics (Walti, 1896, Thompson, 1894).

DEFINITION.

Having dealt with the physiology of renal secretion, we are now at liberty to consider the question of diuretics proper. And the first question that presents itself to us is what is meant by a diuretic. Generally it is defined as a substance which increases the daily quantity of urine above the normal. But Geissler (1891) pointed out that the urinary secretion consists not only of water but of certain metabolic end-products, and consequently that a true diuretic ought to increase not only the fluid, but also the normal solid constituents. Manassein (1886), Burschinsky (1887), Kotlyar (1889) and others have insisted upon a similar definition. Raphael (1892) adds yet another condition, namely, the capability of the urine to dissolve a greater amount of iodine—to increase what is termed the "iod-zahl." This peculiarity of the urine is due to the uric acid, ptomaines, etc., it contains, and under normal conditions the "iod-zahl" is said to be fairly representative of the imperfectly combusted nitrogenous products present. The number, however, is increased by any alkalinity of the urine and by the presence of some medicaments, and it seems to me to unnecessarily complicate the question. In the most recent textbooks there appears to be a tendency to return to the older definition. Kobert (1896) defines diuretic drugs as "substances which increase the urine in patients who are passing too little, and it is quite indifferent whether the concentration or the composition of the urine is changed or not." Fubini, in a work now appearing, defines diuretics as "substances favouring the excretion of urine." Lauder Brunton, in the latest work on this subject, gives a similar definition.

For practical purposes this is sufficient, but from a scientific point of view a more precise terminology for drugs acting on the kidney is desirable. It is to be regretted, for example, that two compounds acting so differently as water and caffeine have to be placed under the same head. So far the only attempt at classification has been in the separation of a subgroup of "tachyuretics." These are substances which increase the quantity of urine for a short time after administration, but do not increase the total amount passed in the twenty-four hours. Let me take an example. Some years ago, in making an investigation under our President, I found, like many others, that nitroglycerine and the nitrites, in health, had very little effect upon the quantity of urine secreted in the twenty-four hours. I knew that Murrell had obtained enormous diuresis in a patient with ectopia vesicæ shortly after giving the drug, and the apparent antagonism troubled me. I made one or two experiments by collecting the urine as often as I could, but without much success. Afterwards, however, I had occasion to investigate the diuretic action on animals, and then I found, after intravenous medication, a marked increase in the amount of urine when the blood pressure again approached the normal (injected into the stomach, however, no decided increase occurred). Nitroglycerine is a type of a tachyuretic, and alcohol, aerated waters, are others of this class. But it must not be supposed that these are distinct from diuretics. The one group merges imperceptibly into the other, and nitroglycerine is an undoubted diuretic in cases of chronic Bright's disease (see Marshall, 1897).

This leads us on to the subject of

CLASSIFICATION.

And here we find how indefinite our knowledge of diuretics as a class really is. Every writer on the subject seems to adopt a different arrangement.

Manquat (1895) divides them into

1. Mechanical diuretics, (*a*) cardio-vascular; (*b*) aqueous. 2. Renal diuretics, (*a*) functional; (*b*) irritant.

And a similar division is adopted by most other French authorities. Kobert (1896) describes them under (1) mechanical (uneigentliche); (2) cardiac and vascular tonics; (3) aqueous; (4) acid; (5) saline; (6) specific; (7) acrid; and (8) household remedies (*Volks-mittel*). Wood (1894) divides them into hydragogue, refrigerant, and alterative diuretics. Fubini (1897) states that in our present state of knowledge no classification is possible, and Brunton (1897) adopts the safe division into (1) those acting upon the blood; (2) those acting upon the circulation; (3) those acting upon the tubules. At present I have no better classification to offer, so I shall pass on to consider the action of diuretics in detail.

From the investigations of Munk and Sobieranski I have compiled tables which will give you an idea of the effects obtained by these observers. Munk (1886), as I have previously said, worked with the kidney isolated from the body. The blood of the animal was diluted with an equal volume of normal saline and a certain quantity of urea was added to it. The conditions were not strictly normal and the urine excreted contained albumin, but notwithstanding these objections I believe his results are of considerable value. The effects obtained in each experiment must not be regarded as quantitative, but the results of the different experiments are comparable. From these experiments (Table IV) Munk concludes that (1) digitalis alone possesses a purely central action; (2) all other diuretics investigated act peripherally, dilating the renal vessels and increasing the excretion of water and solid materials of the urine. He lays special stress upon the capability of these substances to stimulate the secretory activity of the kidney. Paldrock states that the experiments at Dorpat have not been so successful as those of Munk, and in a few perfusion experiments made some time ago I failed to obtain dilatation with urea and glycerine (see, however, Thompson, 1886), while my results with digitalis have been much more marked than Munk's. But notwithstanding these I am inclined to believe that his conclusions are essentially correct.

TABLE IV.—*Perfusion of Living Isolated Kidney.* (*Munk.*)

Substance.	Percentage in blood.	Increased outflow (velocity) of blood.	Increased secretion per hour.
Urea	0.14	Double	4 times.
Sodium chloride ...	1.96-2.18	0	$8\frac{1}{2}$-15 times.
,, ,, ...	1.37	0	$3\frac{1}{2}$ times.
Potassium nitrate ...	0.4-.5	0	6-$6\frac{1}{2}$ times.
,, ,, ...	0.75 and above	0	$6\frac{1}{2}$ times.
,, ,, ...	Large amounts	0	Less than $6\frac{1}{2}$.
Caffeine	0.014 (0.25g. in 1790c.cm. blood)	$\frac{1}{4}$-$\frac{1}{2}$	6
Coffee	0.84 (15g.=.25g. caffeine)	...	$7\frac{1}{2}$
Sugar	0.4	0	0
,, ...	0.8	$\frac{1}{3}$ (in half hour)	8 (in half hour).
Combination—			
Sodium chloride	1.02		
,, phosphate	0.137	$\frac{1}{3}$	$4\frac{1}{2}$ times in half hour.
,, sulphate	0.1024		
,, sugar	0.287		
Glycerine	0.8	Slight increase	$\frac{3}{5}$ times.
,, ...	1.5	$\frac{1}{2}$	$4\frac{1}{2}$
Pilocarpine (HCl.) ...	0.05 gr.	$2\frac{1}{2}$-3	6
Digitalis	1.5 g.	Slight diminution.	Slight diminution.

Quinine, morphine, atropine, strychnine were also investigated.
In all cases where an increase in urine occurred the amount of sodium chloride excreted was also increased.

Sobieranski (1895), with a different method of investigation, has come to an opposite view. From his experiments (Table V) he divides the substances investigated into three classes: 1. Salts, favouring mainly osmosis and filtration in the glomerulus; probably also by increasing the concentration, diminishing the reabsorbing property of the tubuli contorti and depriving the organism of water. 2. Caffeine and allied substances which paralyse the reabsorption function of the convoluted tubules. They do not increase the filtration and the osmotic coefficients in the glomerulus, and they are incapable of producing their effects if the organism is poor in urine-forming substances. 3. Urea, which partakes of the properties of both the former classes; it increases the osmotic and filtration coefficients in the glomerulus, and in certain concentrations diminishes the reabsorbing power of the epithelium of the convoluted tubules. In the face of other experiments it is difficult to uphold Sobieranski's view, and as I have previously said it is possible to put another construction on his experiments. Various other theories have been advanced to explain the effect of individual diuretics, but with these I have not time to deal. Hellin and Spiro (1897) promise us a new explanation of caffeine diuresis, but

TABLE V.—*Compiled from Sobieranski.*

Drug.	Animal.	Dose.	Place of Introduction.	Duration of Injection.	Normal Excretion. g in 10 mins.	Maximal Effect.		Amount Excreted.		
						Time.	Amount in 10 ms.	First ½ hour.	Second ½ hour.	Third ½ hour.
Caffeine-sodium benzoate	rabbit (1940 g.)	0.5 g. in 5 c.cm. H_2O	stomach	—	0.6570	m. 60-70	0.9333	2.7240	9.4124	29,318
—	rabbit (1800 g.)	1.0 g. in 20 c.cm. H_2O	—	—	0.0800	50-60	1.235	0.7700*	3.1430	
=	dog (7654 g.)	5.0 g. in 25 c.cm. H_2O	jugular vein	44 mins. ?	6.0550	10-20	8.412	23.8380	8.6970*	—
Urea	rabbit (2010 g.)	3.0 g. in 30 c.cm. H_2O	stomach	—	0.4420	50-60	1.903	2.4360	5.0960	
Sodium nitrate	rabbit (1900 g.)	5.0 g. in 20 c.cm. H_2O	jugular vein	10 mins.	1.6373	1-10	21.484	51.2630	—	—
—	dog (6200 g.)	12.0 g. in 60 c.cm. H_2O	—	25 mins.	0.5990	10-20	24.116	54.5800	—	
Sodium chloride	rabbit (2040 g.)	5.0 g. in 25 c.cm. H_2O	—	10 mins.	0.2585	20-30	12.150	30.1800	—	—
Sodium acetate	rabbit (2056 g.)	5 g. in 25 c.cm. H_2O	stomach	—	2.6370	10-20	3.276	6.8145	—	—

* Excretion in twenty minutes.

as yet this has not appeared. In an investigation recently published, these authors point out that diuresis produced by caffeine is suppressed or more or less hindered by toxic doses of bodies which practically only produce dilatation of the capillaries. Their method of investigation was to produce nephritis of various kinds by the injection of arsenic, aloin, chromic acid, or cantharidin, and afterwards to test the effect of caffeine or phloridzin, or both. After chromic acid, which produced necrosis of the cortical epithelium, and aloin, which influenced mainly the straight tubules, caffeine produced its normal effect; but when arsenic and cantharidin were used, and severe changes produced in the glomerulus and convoluted tubules, caffeine failed to act. I do not intend to criticise these results; but before passing on to consider the mode of action of individual diuretics I will call your attention to the table from Raphael's paper (1892), which gives the results

TABLE VI.—*Table of the Comparative Action of Diuretics from Personal Investigations by Alex. Raphael. (Kobert's Arbeiten des Pharm. Inst. zu Dorpat, x, 147.)*

After introduction of	Percentage effect.		Amount of urine actually excreted above the normal
	On the day of administration.	The day after administration.	
			c cm.
1000 c.cm. water	+100	—	812
1000 c.cm. CO_2 water...	+73·3	—	645
1000 c.cm. beer...	+100	—9	815
1000 c.cm. red wine	+79	+4	715
1000 c.cm. milk	+153	+0	1231
Sugar of milk 30 g.	+33.7	—9	305
Tartrated borax, 20 g.	+13.12	+0.5	102
,, ,, +1000 c.cm.	+174	—8	1392
Sodium potassium tartrate 20 g... ...	+2	—9	22
,, ,, ,, +1000 c.cm.	+73.7	—9	590
Ol. terebinthinæ (Gale) 0.4 g.	+11	+6	101
Terpene hydrate 1 g.	+23	—	213
Ol. bacc. juniperi cum terpeno 0.2 g.+ 1000 c.cm. water	+111	+6	890
Ol. bacc. juniperi sine terpeno 0.2 g. ...	+0	+4	—
,, ,, cum terpeno 0.49 g+ 1000 c.cm. water	+148	+10	1130
Ol. bacc. juniperi cum terpeno 0 4 g....	+42	+3	380
,, ,, sine terpeno 0 4 g....	+40	+3	570
Ol. fol. jaborandi 0.2 g.	+0	+4	—
,, ,, 0 4 g.	+47	+6	430
Ol. sem. petroselini 0.2 g.	+8	+18	—
,, ,, 0.4 g.	+56	+25	505
Ol. rad. levistici 0.2 g.	+26	—9	240
,, ,, 0.4 g.	+45	+5	410
Ol. rad. angelicæ sine terpeno 0 2 g. ...	+38	—9	345
Decoct. cort. sambuci 10 to 200 g. ...	+47	—8	430
Ext. cort. sambuci agnos, from 10 g. bark	+33	+7	300
Resin-like body from 15 g. cort. sambuci	+15	+6	140
Caffeini sodium salicylate 0.5 g.... ...	+42	—9	380
Diuretin 0.5 g.	+2	+1.6	20
,, 1.5 g.	+14	—	130
, 3.0 g.	+53	+2	485

of a series of experiments made on himself. He was not in exact physiological equilibrium, but sufficiently near it for practical purposes. The paper serves to complement the effect observed on animals, and it is one not accessible to many English readers.

In summarising the action of diuretics I shall only deal with certain types. Of these water is the most generally employed. Injected into the circulation or absorbed from the intestines, it augments the bulk of the blood, raises the capillary pressure, thereby increasing the filtration power and the area of the permeable walls. It also modifies tissue metabolism, not merely of the kidney, and induces increased excretion of waste products (xanthine 100 per cent. after 1½-2 litres. Laquer, 1896). These probably also exert an influence on the diuresis. When aerated, as we have said, it becomes a tachyuretic (Raphael); the rapidity with which the water traverses the body is increased, but it does not increase the amount of urine more than the same quantity of distilled water.

Neutral salts raise the osmotic pressure of the blood, modify the metabolism of the tissues and especially of the renal tissues, and withdraw fluid from the cells, thereby increasing the bulk of the blood. The effect of the increased osmotic pressure, although prominently advanced by most pharmacologists seems to me subordinate. The total osmotic pressures of the blood amount, as we have said, to 5,840 mm. Hg. inorganic 5,000 mm. Hg. (Tammann); the osmotic pressure in force is about 24 mm. Hg.; and even if we allow a wide margin for error, it does not seem as if the small amount of salt gaining admission to the circulation can produce much influence. The increased bulk of blood is a more important factor, but probably the greatest influence is in the activity of the renal cells. The increased salt is foreign to its metabolism, water is imbibed to dilute it, and both are discharged. The salt increases the activity both of the glomerulus and of the convoluted tubules, and if large amounts are given the latter is probably the more active factor. Thus Dreser found that on injecting 10 c.cm. 10 per cent. NaCl. a more watery urine was produced, an effect which must be due to the activity of the cells.

The question of the most suitable salt is of importance. According to v. Limbeck sodium chloride is the most active, but the majority of clinicians would doubtless give the palm to potassium nitrate. This is partly due to the fact that the nitrate is more readily absorbed; potassium salts diffuse more easily than sodium ones, and in the serum of the blood both potassium and nitrates are only present in small amounts. Consequently the difference in osmotic pressure between the blood and alimentary canal is great. According to Röhmann (1881) nitrates do not occur in the organism except after partaking of vegetable food containing them. On a milk and white bread or flesh diet, or during starvation, nitrates, he says, entirely disappear from the urine. They are then to a certain extent foreign to the organism, and in consequence it is possible they may exert a greater stimulating effect upon

the renal cells. I think, however, that the greater diffusive power is of more importance.

The question of the condition of administered salts in the blood is also of interest. We know that the administration of sodium salts has an influence on the excretion of potassium and *vice versâ* (see Bunge, 1873, Brunton, 1887, Pugliese, 1896), and thus although this condition might be partly explained in another way I think it bears some evidence in favour of the view, which we should deduce theoretically, that some double decomposition occurs in the system. According to the theory of Arrhenius, when a salt which readily conducts an electric current is dissolved in water a certain decomposition occurs, and the salt is largely decomposed into its free "ions," that is, NaCl. in solution exists mainly as Na and Cl, and similarly with other salts. Furthermore, when two salts capable of reacting on each other are brought into solution a double decomposition occurs between them, and in the case of potassium nitrate and sodium chloride we have in the solution a number (usually small, but varying with the concentration, etc.) of molecules of KNO_3, $NaNO_3$, KCl, NaCl, and the free ions K, Na, Cl, NO_3.

Without developing this theory further, which would entail many complications, I would point out that it attaches more importance to the osmotic coefficient of a salt when in the alimentary canal than to a direct stimulating influence (apart from that common to all salts of the same saline strength) on the renal tissue. It also explains the fact that the total amount of salts present in the body has an influence in the production of diuresis (see Munk, also Table IV).

With regard to alkaline salts and organic salts forming carbonates in the system, these act in part as neutral salts, but they also have another influence which I think may play a part. Salkowski and Munk (1877) showed that the administration of more acid than was sufficient to combine with the fixed bases in the organism led to a marked increase in the excretion of ammonium salts and a corresponding diminution in the amount of urea. In other words the waste nitrogen of the body was being excreted as ammonia instead of urea. If on the contrary fixed alkalis were given the urea increased, and the whole ammonia usually excreted could be replaced by urea. But urea is a decided stimulus to renal secretion and inorganic ammonium salts probably act only as neutral salts, so that a decided advantage is gained. Under ordinary conditions such an influence may be of little moment, but I do not see that it can be entirely ignored.

The administration of acids and acid salts on the other hand, although leading to a diminution in the urea induce a flow of alkaline fluid from the tissues and thus increase the bulk of the blood in salts and water, which, in their turn, produce diuresis.

The action of sugars we have in part dealt with. I believe that they act in a similar way to salts. The chief difference lies in the fact that they can be metabolised in the cells. When the amount in the body rises beyond its requirements its presence in the cell inhibits activity, mainly as a physical effect. More water is required by the cells to reduce its strength, and this aids the elimination and aids diuresis. The renal cells react differently to those in other parts of the body because they possess much less external resistance and the increased water necessitated by the cell is eliminated into the tubules. It is difficult to decide whether such a condition can be regarded as a true stimulation of secretory activity. The different sugars have slightly different powers of producing diuresis. Lactose is said to be powerful. According to Sée (1889) it is the active diuretic constituent of milk. He believes that it is a true stimulant of the renal cells, and in favour of this view he adduces some interesting pathological evidence. Thus he found that if the albumin in the urine did not exceed 20-30 cg. per litre (0 2-0.3 per 1000) lactose still produced its diuretic action; but as soon as 1 g. per litre (1 in 1000) was reached diuresis failed. According to him this substance is burnt up in the body unless too much is injected into the veins, and he says that it has no effect on the circulation (see however Gioffredi, 1896). At the present time it is generally recognised that lactose is not burnt up in the blood, but is excreted as such when introduced into the circulation (Dastre, 1891). In the intestine, however, it is converted into a mono-saccharide, and when given by the mouth appears in the blood as glucose. This produces its usual effects. One feels loth to attribute all the effects of lactose to glucose, and doubtless some of the lactose is absorbed unchanged. According to Sée 100 g. daily induces diuresis without producing glycosuria, but with 200 g. glycosuria always appears.

The compounds of the xanthine group are perhaps the most widely used diuretics at the present time, and with the action of these I have already dealt. They probably modify the renal metabolism and act in a similar way to urea, to which they are allied. Some experiments have recently been made by Overton (1897) on the action of caffeine on tannin in vegetable cells, but at present these have little bearing upon its influence as a diuretic.

The action of calomel as a diuretic has not yet been settled. Kobert (1896) believes it acts by directly stimulating the epithelium of the convoluted tubules, and that its diuretic effect is one of the earliest signs of mercuralism. Rosenheim (1888) advanced a similar view. It acts when digitalis is uncertain and when caffeine produces only a slight action; but Kobert suggests that the administration should be stopped as soon as polyuria sets it, as the continued use of the drug tends to death and calcification of the epithelium. Dreser (1893) suggests that it paralyses the reabsorbing activity of the renal tubules, but he was unable to determine its action experimentally. The only observations that I know of which are suggestive are those of Rosenheim, who carried out some perfusion experiments similar to those of Munk and under his direction, with asparagin-mercury. He found that the venous outflow increased to double and the urinary excretion seven times (indicating a specific stimulation).

The various terpenes, ethereal oils and resins, which produce diuresis, mainly do so by stimulating the renal tissue, partly also by their influence on the circulation. This influences the kidney directly and indirectly, congestion of the organ resulting from its increased activity. In large doses, as you are aware, they produce inflammation and anuria.

The only other drug with which I intend to deal is digitalis, the type of cardio-vascular tonics. Munk, as we have seen, regards digitalis as a drug with a purely central action, and this I believe is correct; digitalis produces its influence by its action on the circulation. Pfaff (1893), however, in rabbits, obtained increased urinary excretion without rise of blood pressure, and Phillips and Bradford (1890) believe that it may act as a diuretic apart from its effect on the heart. In experiments carried out in a similar manner to those of Pfaff I failed to obtain (with digitoxin and large doses of digitalin) corresponding results. Indeed diminution in the outflow occurred in all cases. This difference in our results, I believe, is due to the quantity of saline solution previously injected, but with this subject I cannot deal now.

Numerous other substances might be dealt with—piperazine and its allies, alcohol, ergot, etc., but I am afraid that I have already exhausted your patience, and considering the conflicting statements concerning them it would lead to no profitable discussion. I have endeavoured to deal with the mode of action of diuretics rather than with the influences of individual members of this class, and I have not hesitated to bring forward points for discussion, although these may still be well within the realm of hypothesis. In conclusion I must apologise for my inability to secure a more worthy representative of British pharmacology, and express my regret that owing to unforeseen circumstances I have been unable to add more original matter of an experimental nature.

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III.—G. ARMSTRONG ATKINSON, M.D.,
Honorary Physician to the Newcastle-on-Tyne Dispensary.

DR. ATKINSON urged that in order to estimate pharmacologically the action of diuretics it was essential to use dogs (bitches) in a condition of physiological balance, and to regulate carefully their diet, amount of exercise, and the temperature of the room in which they were kept, and to catheterise them regularly. In health vascular tonics, as digitalis, strophanthus, etc., and vascular depressants, as nitrites, nitroglycerine, had little effect in moderate doses upon the amount of urine secreted, even in the first few hours after administration of the drug.

IV.—R. SHINGLETON SMITH, M.D., F.R.C.P.,
Physician, Bristol Royal Infirmary.

DR. SHINGLETON SMITH thanked the authors of the two papers for the care with which they had worked out the details, and proceeded to point out that the difficulties of the physiologist and pharmacologist were only exceeded by those of the physician in dealing with conditions commonly more or less complicated, and depending on failure of action of one or another organ, or of many organs combined, and in varying degrees. He hoped that there were indications of increased facilities in the future for dealing with conditions where diuretics were required, but he wished to emphasise the necessity for a philosophical analysis of the cause of this condition before adopting treatment by one or other of the commonly received diuretics. Failures seemed to be frequent, and the number of really efficient diuretics very limited. Digitalis was the one on which all were agreed, and which rarely disappointed rational expectations. With the caffeine group results were more uncertain, but diuretin in doses of 60 or 120 grs. daily had often been found to act remarkably well. He wished to point out the need for frequent changes in the medicinal programme, as the effect of most diuretics was very evanescent, and, further, the necessity for considerable restriction of the food supply in conditions in which there were difficulties in excretion.

V.—THE PRESIDENT.

DR. LEECH said that the time at the disposal of the Section was unfortunately very limited, and it would not be possible to discuss many of the points raised in the able opening papers by Dr. Barr and Mr. Marshall. Especially was this the case with regard to Mr. Marshall's admirable account of the pharmacology of diuretics, in which the method of their action had been so fully discussed. Little progress, however, would be made in determining the value and use of diuretics until by such investigations as those of Mr. Marshall they had gained a better knowledge of their mode of action. Simple observation had proved insufficient. The use of juniper as a diuretic was known 4,000 years ago. It was mentioned in the Ebers Papyrus written before the Exodus. Yet they knew perhaps no more about its uses than the Egyptians of old, because so little light had been thrown on its mode of action. With digitalis it was otherwise; and though their knowledge of the action of this drug was still very defective, it enabled one to employ it with a precision and certainty which placed it in the first rank of the class of diuretics as regards practical utility. Strophanthus seemed more uncertain in its effects. After digitalis he would place caffeine, which, besides acting through its influence on the circulation, seemed to stimulate renal secretion directly, and was of special service in some forms of Bright's disease. The nitrites had a greater value than was commonly attributed to them. Their apparent want of power was due to the fact that as ordinarily given they acted for too short a time to be effective. By large doses repeated a distinct effect could be produced. In judging of the effect of diuretics it must be remembered that spontaneous diuresis was by no means uncommon, especially in kidney and cardiac disease. Some reputed diuretics owed their fame to this fact, and not to their physiological action.

A PRELIMINARY REPORT ON THE ACTION OF BEHRING'S SERUM IN DISEASES NOT DUE TO THE KLEBS-LOEFFLER BACILLUS.

By H. A. MCCALLUM, M.D.,
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ONE of the intuitions that has led medical men to oppose the claims made for Behring's serum in diphtheria has been a necessary belief in specialisation of defence in mycotic disease. The physical law of conservation of energy, which is doubtless as truly a biological law, would suggest that tissue defence was general, not special, and if there be defensive proteids formed in any considerable quantities, these are but the expressed products of the vital energies of the general tissues. While I will readily admit, as suggested by Dr. Lauder Brunton, that the proteids by the readjustment of their molecules can be specialised, yet such specialisation is doubtless not permanent, and once these proteids are in the circulatory currents there is no reason to believe their usefulness is gone in defence against other diseases. On the other hand, the doctrine of tissue tolerance, while tenable for cases rendered immune by long-continued and increasing dosages, cannot be reasonably entertained for sudden change of front seen after a few doses of serum—the development of tolerance must be the work of months, not hours.

While I will not be led afield by a discussion on immunity, I desire to say in passing that I cannot believe that Nature has any single function or metabolic phenomena she cannot fly to for defence in times of peril.

The first and foremost of these defensive agencies, and at the same time the most ancient, is vital movement.[1] The difference in immunities and cures are doubtless differences in emphasis on the several factors in their accomplishment. It had occurred to me that no fair trial has ever been given to Behring's serum in diseases (not diphtheria) in contradistinction to the tests on toxins. From the urticarial rashes produced by it I was led to believe that this serum excited a rapid interchange in the lymph circulation, that is, that it acted as a lymphagogue.

Three months ago I began trial of this remedy in phthisis, and the results encouraged me to extend my investigation to other diseases. These investigations cover nearly forty cases and many diseases, some of which are but recently placed under treatment. I shall, therefore, report a short history of its results in but a few cases, prefacing these with a brief and imperfect indication of its physiological action.

In a non-diphtheritic patient it gives rise to reactions largely dependent on dosage, diathesis, ailment, and local lesion. Under dosage it is convenient to divide the treatment into four periods, all or some of which may be absent: (*a*) A period initial fever 4 to 24 hours after the first and second injection. This stage is very likely to be accompanied by reaction in the local lesions. In the normal individual this stage is absent or slight.

(*b*) A period of pseudo-vaccination 24 to 72 hours after the third dose—(2nd, 4th). This condition bears a strong clinical resemblance to symptoms seen in ordinary vaccination. There are large patches of erythema at the points of injection, most marked in the last; a chill (often slight) in some few cases, marked headache, urticarial rash, and sometimes considerable prostration. This stage lasts about twenty-four hours,

and the patient has comparative immunity to further injections. It is after this stage is reached that one can expect beneficial therapeutic results in chronic disease.

(*c*) A period of sequelæ, 8 to 14 days after the second or third injection in which secondary urticarial rash, arthritic pains, rarely an attack of subacute rheumatism or pains simulating neuritis and sometimes a sore throat may occur. This stage has been recognised in the treatment of diphtheria and wrongfully attributed to septic infection. It seems to me to be due to an accentuated rheumatic diathesis.

(*d*) Period of comparative immunity from stages *a* and *b*. This period usually commences after pseudo-vaccination. I have seen one case of rheumatic diathesis in which I thought a mild attack of subacute rheumatism was provoked by the serum. Gouty and rheumatic patients are apparently more prone to urticarial rashes. The kind of serum is not solely responsible for these rashes. Many of my patients never had a rash—even those who received the greatest number of injections. The tuberculous patient has usually inflammatory action in the lesions.

The action in disease will depend on the stage, for when the system is aroused by this serum it seemingly exercises an intelligent choice of action. The following action of the serum was noticed from clinical observation:—

Digestive.—It increases saliva secretion; in a few days the dry brown tongues of typhoid are replaced by clean moist ones. With this change, taste and appetite are restored toward normal. Constipation becomes lessened and in some cases disappears, and the stools become biliary and yellow under it. More milk is taken without curd appearing in the stools.

Excretory Organs.—The amount of urine is increased and in cases of scanty urine this has been a surprising feature.

Heart and Pulse.—The heart action is made slower and the arterial tension increased. This may explain in part the increased urine.

Blood.—We have increased leucocytosis and a very great increase of the clotting power.

Genital Organs.—It apparently acts powerfully on the pelvic lymph system. It will melt pelvic inflammation in two weeks as no other remedy can do. It has some action on the diseased endometrium.

Skin.—It apparently removed a severe and persistent attack of pruritus in one patient. It gives apparently excellent results in unhealthy granulation and sluggish ulcers.

Nervous System.—It has a decidedly favourable action on insomnia. Restless nights are turned into refreshing sleep. This is due either to excretory adequacy or an excited internal secretion which induces sleep. It clears the atmosphere in depression from auto-toxæmia.

Before I give the histories I will mention the diseased conditions in which the remedy is tried or being tried: Eight cases of pulmonary tuberculosis, seven cases of local tuberculous lesion (renal, testicular, arthritic, glandular, meningeal, and laryngeal), sciatica, supposed mediastinal growth, a retroperitoneal mass of doubtful origin in a patient over 50, multiple sarcoma or Hodgkin's disease, secondary pulmonary cancer, typhoid fever, enlarged spleen, pelvic peritonitis, some of the cases with salpingitis, endometritis, appendicitis, cystitis, multiple sclerosis, leucoderma, gonorrhœal rheumatism, nephritis, erysipelas, and sepsis.

Dr. McPhedran (Toronto) has kindly placed a case of lupus under the serum. Some of these cases were seen in the practices of Drs. F. R. Eccles, J. B. Campbell. C. F. Nue, Teasdale, W. S. McDonald and R. M. Bucke (London, Ontario).

CASE I.—W. J. R., aged 25, had hæmoptysis to syncope, October, 1894, and a recurrence every month or two during the following year. From November, 1895, they became more frequent. At this time speaking became painful and his voice hoarse. In November, 1896, when he came under my care, there were present the physical signs of extensive tuberculous involvement of left lung and pleura; in fact, the whole left chest was flattened and immovable. His weight was 142 pounds, and his chest expansion barely reached two inches. Tubercle bacilli found plentiful in sputum. He was able to take large daily doses of creasote (60-120 grs. in anteric pill form) for months. He would improve for weeks, but a fresh hæmorrhage would more than undo all the gain. By March 1st, his voice had reduced to a whisper. During April and May, fever, restless nights, and night sweats emaciated him to 122 pounds, and left him during the last of May bedridden. In spite of rest, opium, lead, and ergot, the hæmorrhages became of daily occurrence in the last two weeks of May, blanching the patient. This then was a picture of my first serum patient, and on June 1st he received his first dose of 250 units. Three days after a second dose of 250 units were given, and from this day 500 units were given thrice weekly till July 10th. The first and second treatments decidedly increased the cough and expectoration. The hæmorrhages ceased on June 4th, and from that day to the present no tinge of blood has been seen in the sputum. By July 1st his voice was better than it had been for a year, and his strength very much recovered. During the first ten days of treatment he lost four pounds in weight; from this time to August his weight remained stationary. Since August 1st he has gained a few pounds. Directly after the second dose the night sweats disappeared, and he began having refreshing sleep. On July 10th the dose was increased to 1,000 units, which seemingly excited a sharp pleuritic attack lasting three days (without effusion). On July 26th, I ventured a second 1,000 units with a similar pleuritic attack resulting. I then gave him daily doses of 500 units till August 7th, from which time till August 17th, I gave him 1,000 units every second day. From that date forward his dose has been reduced to 1,000 units every four or five days. In all he has had over 25,000 units of diphtheria antitoxin. The physical signs apparently favourable from time to time reminded one of those of resolving pneumonia; and the ease with which sputum was expectorated was suggestive of the same thing. The clearing began at the base and travelled upwards. The crackling pleuritic sounds heard in the left chest on forced respiration before treatment have almost disappeared. His appetite and spirits are better than for eighteen months. Chest expansion three inches. The once immovable left chest has considerable expansion power now.

In the light of results in other cases, I think less frequent dosage would have been better for him, and while the serum by increasing the coagulability of the blood arrested the hæmorrhage, yet in another patient with considerable tension 1,000 units seemingly produced a hæmorrhage by congestion of the local pulmonary lesion.

CASE II.—W. S, aged 36, had tuberculous arthritis in left knee in 1875 and 1876. Five years ago the glands of his right neck became troublesome. These were removed in 1893. Three times in 1894 tuberculous glands were removed, twice by Dr. J. H. Cameron (Toronto) and once by Mr. Clutton (St. Thomas's Hospital). In February, 1897, Dr. Cameron removed some more glands, but on account of the brawny indurated skin being likewise tuberculous and other deeper glands beyond reach being infected no radical removal was attempted. The third of 1,000 units was given August 7th. On August 10th, three days after I saw the patient, his temperature reached 102° F. He had been afebrile before injections. The left knee had swollen and contained effusion, and some of the old scars there were painful and inflamed. The unremoved glands of the neck were swollen and painful. The surgical incisions were red, and one of them in the next few days threatened to suppurate. The subsequent dosage did not have such a violent action. Examined August 20th: There was a softening and thinning of the indurated skin over neck. A favourable change took place in the tuberculous glands. There was diminished periadenitis, and they were less hard.

CASE III.—E. H., aged 17 (Dr. A. McPhedran's patient). Lupus began at point of vaccination eleven years ago. She received four doses. Dr. McPhedran wishes me to say that when seen Friday, August 27th, about ten days after the first dose, there was apparently beneficial results I saw the patient myself on this date, and from her statement I learned that this was the first time in eleven years the lupus was free from discharge.

I must report no more histories, but in brief manner indicate some of the diseases apparently improved. A patient over 50 years had a retroperitoneal mass of two years' growth. It was greatly improved, less tender, more movable and diminished in size. The accompanying insomnia was almost cured; he had five to seven hours' sleep in the night. In pulmonary cancer it apparently diminished the periadenitis and adenitis (superclavicular). It had a similar effect in Hodgkin's disease. I have already mentioned its action in pelvic disease. I do not mean to say it will remove a collection of pus, and yet in a case of gonorrhœal salpingitis examined under chloroform by Drs. Meek and Eccles, something very much akin to that apparently took place.

To summarise (for in a preliminary note I must not write a treatise), I would suggest that, as the beneficial effect of Behring's serum was not well marked till several days elapsed and several injections given, it doubtless acts as a powerful lymphagogue or tissue arouser, such aroused condition being defensive to a degree against all invasion. I cannot say whether all these effects, or some of them, cannot be obtained by ordinary horse serum. Dr. C. F. Nue has consented to undertake the task of seeing if several doses four or five days apart will render rabbits or guinea-pigs more resistant to various toxins than untreated animals.

I have been unable to properly review the literature. Professor Richet, of Paris, in 1889 used horse serum to treat tuberculous patients. Dr. Coley, of New York, has shown that human subjects suffering from cancer are greatly benefited by injections of the toxins of streptococcus—apparently developing a kind of immunity to these toxins which is defensive against malignancy.

Treille (Foster, *Pract. Therapeutics*, vol. ii, p. 174) declares Behring's serum curative in malaria. Fournier (*Ibid.*, vol. ii, p. 178) urges its use in grave scarlet fever angina. Dr.

Williams, of Cardiff (*Ibid.*, vol. ii, p. 7), mentions the beneficial effects of antistreptococcic serum in the delirium and insomnia of sepsis. Roux (*Annales de l'Inst. Past.*, 1894, p. 727) has shown that Behring's serum mixed with abrin retards the fatal effects of this poison.

Antitetanic serum has been shown by Calmette and Professor Fraser to be antidotal to snake venom. It has been long recognised that recovery from one infection often lessens the danger of another. Vedova (*Arch. Ital. di Path.*, 1897) claims that Behring's serum is specific for chronic fœtid atrophic rhinitis due to the false diphtheria bacillus.

Howard Lilienthal (*Med. News*, July 17th, 1897) reports one case of "hospital gangrene" in which staphylococci and streptococci were found, and one case of sepsis (with distended abdomen, rapid pulse, temperature 106° F. six days after confinement) in which Behring's serum apparently led to recovery.

In conclusion, I might point out that my results in any of these cases do not permit me to give my final word—indeed, it may be other serums would be found more potent, yet the result urges me to hope that some animals rendered immune to some other toxin or combination of toxins will give us a serum with which curative results in tuberculosis and cancer may be more confidently expected.

Reference.

[1] See Meaning of Vital Movement, by Author, *Canadian Practitioner*, Oct., 1893.

THE PREPARATION OF DIPHTHERIA ANTITOXIN.

By Alfred T. Bazin, M.D.,
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Statistical results of the use of antitoxin have so persistently been put forward that I have entirely avoided any reference to them, and shall in so far as possible treat of the remedy in its pharmacological aspect, and shall endeavour to touch upon the different points in such a manner as shall focus discussion and bring about interchange of ideas. I shall not attempt in the time allotted to deal with the subject in an exhaustive manner.

Permit me here to express my indebtedness to Dr. Jacob R. Johns of Philadelphia for many details which have been of help to me.

The Mode of Preparation of Antitoxic Serum.

A knowledge of the methods will be helpful to the physician in overcoming antagonism to the employment of the remedy. Unfortunately there are still some who, from prejudice, ignorantly resist its use, and a few who deliberately utter false statements concerning it. One ground of contention is that there is danger of conveying diseases existing in the horse from whom the serum is obtained to the patient under treatment. These diseases can be limited to two—glanders and tuberculosis.

The following is the course adopted:—After carefully selecting the horses with regard to general health and condition, each animal is subjected to inoculation with mallein and with tuberculin, and the effects, if any, noted. The slightest reaction is sufficient to cause the horse to be rejected, aud thus the possibility of transferring the diseases above mentioned is prevented. The surroundings of the horses are made suitable. The stables are bright, airy, and hygienic; the food light and suited to the quiet of the life; the operating room for the inoculation of the toxin and the withdrawal of the serum is a separate apartment, which is cleansed and disinfected before each "operation."

When the animals are in fit condition the process of inoculation and immunisation is commenced. A standardised toxin is taken which is prepared by the growth of Klebs-Loeffler bacilli in bouillon, the bacilli being removed by careful filtration after tests have shown that the solution of toxin produced has reached a certain strength, namely, that 0.01 c.cm. will produce death in 24 to 36 hours when injected into a guinea pig of 300 g. weight.

As an initial dose, 1.0 c.cm. of this solution is introduced beneath the skin of the horse. The results are irritability and increased temperature which last for about three days. After a few days of normal temperature a second and somewhat larger dose is given, and this process is repeated with rapidly increasing doses until in from ten to twelve weeks the animal is receiving an injection of 300 c.cm. with impunity.

A small amount of blood is then withdrawn and the serum tested as to the amount of antitoxin it may contain. This is done by simultaneously injecting a guinea-pig with 0.1 c.cm. of standardised toxin (ten times the fatal dose or "toxic unit") and a given quantity of the serum under trial. The minimum quantity of the specimen serum which will prevent a lethal result under these conditions is said to contain an "antitoxic unit." If the serum does not come up to a certain strength of antitoxic power the horse is for a further period subjected to the injections of toxin and after a time the trial is repeated.

The Relative Strength of Serums.

It is in the relative strength of the serums on the market that very great variation is found. Some serums are supposed to possess but 50 antitoxic units to the c.cm., others 100, 200, 250, and even 500 to each c.cm.

Unfortunately also, there has been found, by inoculation tests, great discrepancy between the advertised and the actual strength of some serums, samples being shown to contain less than one-half the number of antitoxic units guaranteed to be present. Such productions are a menace to the life of the patient and should be avoided by the profession. Absolute and reliable knowledge of the strength of a serum being used, whether it be one of high or low power, is the "first law" of serumtherapy.

Concentrated Serums.

To produce such concentrated serums as possess more than 200 antitoxic units to the c.cm. requires more care and a more prolonged period of inoculation, together with smaller and less frequent bleedings. This necessarily increases the cost of production, but this is amply justified by the advantages obtained. These are in order of importance:—

1. A more rapid absorption of the antitoxin, and therefore manifestation of its therapeutical effects. Clinical experience has shown that the effect is apparent in from six to twelve hours earlier than when non-concentrated serums are employed.
2. Absence of the pain and discomfort of injecting a large amount of fluid beneath the skin.
3. Employment of a much less formidable looking syringe.
4. Ability to give large and double doses rapidly and with but one puncture of the needle.

The serum of the one horse may vary considerably in strength at successive bleedings, therefore it is necessary to subject a sample after each such operation to the tests with the guinea pigs.

Preservatives.

A preservative is then added to the serum so as to prevent all contamination of growth of micro-organisms, and the fluid is placed in sterile bottles; and the label thereon should state the amount of serum, number of antitoxic units, and date of production.

A word as to the preservative used. The ideal is to obtain absolute preservation of the serum without any evil effect on the patient. Many substances are employed, but trikresol is used most widely and in such small amounts as to be perfectly innocuous.

Qualities of a Good Serum.

To recapitulate. All antitoxic serums found on the market should be:—

1. Free from contamination of tuberculosis, glanders, or any other micro-organism.
2. Up to the antitoxic standard guaranteed by the producer for that particular bottle of serum, which strength should be distinctly stated upon the label, which should also bear the date of production.
3. Should contain no substance as preservative which would be injurious to the tissues of the patient.

All these conditions are under the control of the producer, and serums fulfilling them are reliable. All others are unreliable, which is synonymous with danger.

Physiological Action of Antitoxic Serum.

The physiological action of the drug in health is practically *nil*, and is not distinguishable from the effect of a similar amount of pure horse serum.

It has been long demonstrated that alien serums have a certain globucidal action on human blood, and therefore we must look for this action when we are using serum as a vehicle for a drug. This knowledge is also an additional proof of the advantage of concentrated serum, as the smaller the quantity it is necessary to inject the less will be the evil effects.

As to any untoward effects of antitoxic serum when employed therapeutically in diphtheria, it has been clearly disproved from the first that antitoxin in any way causes albuminuria or nephritis, or is responsible for cardiac depression. In point of fact, statistics show that the percentage of albuminuria is decreased, as also the number of cases of sudden cardiac failure.

That rashes frequently follow the use of antitoxin is well known. The forms vary from a slight ephemeral erythema to a well-marked urticaria, or even to a typical erythema multiforme with elevation of temperature and arthritic pains. When studying the subject in 1895, I noticed that, almost without exception, the patients who developed an urticarial rash gave history of having been subject to frequent attacks of "hives."

I have also thought that these rashes were caused more by the irritation of the serum than of the antitoxin, a theory which is strengthened by the lessened frequency with which they are observed following the use of concentrated serum. Incidentally, this is another advantage of the concentrated product.

The Effects of the Antitoxic Serum upon the Morbid Condition in Diphtheria.

This effect may be divided into local and constitutional, and the latter subdivided into general condition, temperature, and cardiac action.

Effect on the Local Lesion.—Six to twelve hours after the injection of a sufficiently large dose for the individual case, the white membrane (slough) becomes surrounded by a red line of demarcation. This I learned to look for as the most trustworthy sign of a favourable termination of the disease, provided no complications were present. The diphtheria is cured, and in no case where the lesion is so situated that this line can be seen to be entire, need a further administration of antitoxin be given. Shortly after the formation of the line of demarcation, the membrane begins to separate and comes away in large pieces, sometimes *en masse*. In the larynx and lower respiratory tract particularly does the membrane loosen readily and rapidly, and this may mean danger. Many observers have stated that after injection of antitoxin an existing laryngeal stenosis would rapidly disappear without operative assistance. Granted: but even my comparatively slight experience has taught me to be exceedingly watchful of such cases, for sometimes an excessively rapid and complete obstruction will ensue, often brought about by a slight cough, and demanding immediate relief. This can be easily explained. Given the vocal cords covered by layers of membrane, which are closely adherent to the underlying tissue, but still are obstructing to an appreciable extent the glottis; few hours after the administration of the antitoxin, these layers simultaneously loosen from the underlying tissue so as to completely close the glottis, but are still firm enough to withstand removal by the act of coughing. Of course, intubation affords prompt relief, but suffocation progresses much more rapidly than when the stenosis is due to the growth of the membrane, and coughing and vomiting do not relieve but may increase the condition by loosening a small portion only of the membrane. The tube in these cases need remain in position only for a very few hours.

Local Treatment.

While considering the effect of antitoxin on the local lesion it will be well to refer to the employment of local treatment. I think it wise to condemn the practice of entirely witholding local treatment and trusting all to the antitoxin. It is simply a plan of counteracting the ravages of the Klebs-Loeffler bacillus, and trusting to a kind providence that streptococci and other pus organisms will not be absorbed from a highly absorptive surface in a state of impaired vitality. The course is not rational; as well treat a case of tertiory syphilitic ulceration with potas. iodid. and neglect to cleanse the ulcers and treat the surrounding cellulitis. On the other hand, too rigorous local treatment is to be deplored. It smacks of the days of pepper, sulphur, lactic acid, and strong hydrogen peroxide. A median course which supplies a gently cleansing solution to the inflamed part is one to be recommended.

Effect on General Condition.—The depression so marked in diphtheria is replaced in one to two days by a feeling of well-being which is surprising. This is a most certain index of the effectiveness of the dose. Antitoxin also prevents the anæmia so constantly caused by diphtheria, both by antagonising this effect of the toxin and by shortening the disease. Convalescence is, therefore, very rapid.

Effect on Temperature.—This is twofold. First there is a reactionary rise of from 0.5° to 3.0° F., followed in from four to six hours by a drop to, or almost to, normal, and, if the dose has been sufficiently large, a normal course thereafter. This condition is not a constant, but is the common one. If the dose has not been sufficient, the temperature will evidence a tendency to rise to or above the level existing previous to the administration of the antitoxin.

Effect on Pulse.—This is irregular. To a large extent, the pulse, in rate and volume, responds to variations in the temperature. After twelve hours have elapsed from the time of injection, a sudden change in cardiac action could hardly be attributed to the antitoxin.

Dosage.

The dosage will here receive but little attention. I will mainly follow the tables laid down by the American Pediatric Society. In cases of ordinary severity, children under one year, 500 units. Older children and adults, 1,000 to 2,000 units. In cases of increased severity, including laryngeal and, I wish to emphasise, nasal diphtheria, children under one year, 1000 to 1,500 units. Older children and adults, 2,000 to 3,000 units.

If the lapse of eight to twelve hours have not brought about an amelioration of the symptoms, these doses should be repeated and, if necessary, a third dose should be administered after a similar interval. It is better to be sure than sorry and therefore to err on the right side. With the use of concentrated serum where the effect is so rapidly seen and judged of, the same results may be obtained with somewhat smaller doses. But the physician must constantly be on the watch for apparently mild cases which are deceptive, and in these cases should administer the antitoxin with lavish hand. The importance of the early administration of the remedy cannot be too greatly emphasised. As the serum is innocuous it is not necessary—more, it is foolhardy—to wait for a bacteriological confirmation of the diagnosis. Clinical diagnosis, even "clinical suspicion," if I may coin a term, is sufficient to warrant the injection of the serum, and then let the bacteriological examination be made rather to confirm the decree as to the necessity of continued isolation of the patient, and the immunisation of those exposed.

Immunisation by the Serum.

There is a further use of antitoxic serum which I wish to bring to your attention, and one which is too often neglected at the present time—that of immunisation of persons exposed to the contagion of diphtheria. The happy results obtained in hospitals and institutions for the care of children sufficiently recommend the procedure. To Dr. Hermann Biggs (New York) is especially due the credit of pursuing and investigating this branch of the antitoxin treatment, and in his article which appeared in the New York *Medical News*, November 30th, 1895, he points out that 50 to 300 units, dependent upon the size of the patient, should be given, and that the immunity thus conferred continues to be effective for a minimum period of thirty days.

Even to children suffering from other maladies, both acute and chronic, the immunising dose is harmless, as in December, 1896, we immunised 19 children in a ward of the Montreal General Hospital, and not a single disturbance of temperature or general condition could be detected. The contagion was conveyed to the ward by a case of conjunctival diphtheria and one other child became infected. On the following day all the inmates of the ward received an injection of antitoxin, and no further cases developed.

Dr. J. B. Fraser (Toronto) inquired as to the percentage of deaths occurring while antitoxin alone was used. In the Toronto Isolation Hospital the death-rate for the three years 1894-95-96 was 13.12 per cent.; and the experience of antitoxin was against the use of the serum. Having no prejudices against or for the serum, he desired to ask for information as a guide to dealing with diphtheria patients in the best manner. With reference to Dr. McCallum's paper, he expressed the belief that dependence was often placed on the serum alone, where better results would have been obtained by stricter attention to diet, etc. One case that came under his notice, suffering from lupus erythematosus discordes, did not improve under the use of the serum (although thoroughly tried), but improved rapidly when her indigestion was cured, combined with the use of pyrogallic acid externally.

ON THE MUSCARINE-LIKE PHYSIOLOGICAL ACTION OF COPRINACETOXIME.

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[From the Pharmacological Laboratory in Marburg, Germany.]

At the request of Dr. A. D. Blackader, Professor of Pharmacology and Therapeutics in McGill University, Montreal, I visited Professor Hans Meyer, of Marburg, Germany, in whose laboratory, thanks to the help of the professor and his assistant, Dr. Rost, the following investigations were carried on. Zehner, working in Professor Meyer's laboratory, investigated camphoroxime ($C_{10}H_{16}NOH$) and proved that, in addition to the effect of camphor, this body produced in cold and in warm-blooded animals most pronounced rigidity of muscle, being a local effect. This suggested the question, Can we point to this muscular rigidity as an effect of the oxime group (NOH) as such? In order to answer this question, Professor Meyer requested me to investigate other oximes. The first body which we investigated led to the hope that this muscular rigidity was, indeed, the peculiar effect of the oxime body, for on administering acetophenonoxime $CH_3C\begin{matrix}\diagup NOH\\ \diagdown C_6H_5\end{matrix}$ hypodermically to the frog we observed the same muscular rigidity, appearing at the site of injection and gradually spreading over the body. This rigidity appeared earlier and more pronounced in Rana temporaria than in R. esculenta, thus corresponding with the effect of caffeine as shown by Schmiedeberg, and it was proved to be a local condition by the Claude Bernard experiment. This rigidity was also observed when experimenting with warm-blooded animals (white rats).

But on investigating other oximes our theory was exploded, as several oximes showed no local effect on the muscles whatsoever. Pyridinacetoxime, pyridinacetophenonoxime, trimethylacetophenylammoniumoxime, cinnamylaldoxime all failed to show any local effect on the muscles either of the frog or guinea-pig. Oenanthaldoxime gave rise to the most remarkable muscular rigidity, but the same is produced by oenanthol. Coprinacetoxime also failed to produce the muscular rigidity, but it showed some other interesting features which led to our offering the present short contribution.

Coprin is the name given to trimethylaminacetonchloride and is prepared by the bringing together of monochloraceton and trimethylamine. Its formula is—

$$N\begin{matrix}\diagup (CH_3)_3\\ -CH_2COCH_3\\ \diagdown Cl\end{matrix}$$ (v. Niemikowicz).

Exner of Vienna reports that the physiological action of coprin is curare-like, but it also diminishes the muscular irritability and leaves a certain tone in the muscles so that the paralysed frog retains his sitting posture. Our experiments proved a typical narcosis in the frog and in the guinea-pig, the above-mentioned muscular tone in the frog, which was proved to be a peripheral effect, and from large doses in the frog a curare-like paralysis.

Coprinacetoxime is made by bringing together coprin and hydroxylamine; water passes out and

$$N\begin{matrix}\diagup (CH_3)_3\\ -CH_2C(NOH)CH_3\\ \diagdown Cl\end{matrix}$$

is left. This is a yellowish amorphous powder, readily soluble in water. Of it we made a 5 per cent. solution and began our investigations. Our first experiment shows:—

Medium-sized Esculenta.

4.47. Injection of 0.25 c.cm. of 5 per cent. solution under the skin of the right thigh.

4 52. Frog endures the dorsal position. Reflexes normal. Relaxation of muscles. No respiratory movements can be detected. From without one can see no cardiac movements.

5.00. Heart exposed and seen to be paralysed in diastole. Electrical tests of the spinal cord, nerve trunks and muscle substance normal. No muscular rigidity.

This turned our attention to the heart as the follow experiment shows:—

Medium-sized Esculenta.

5.15. Injection of 0.25 c.cm. of 5 per cent. solution into the muscle of the left thigh, after the heart had been exposed and suspended, according to Englemann's method. Heart-beats 42 in the minute, with perfectly normal character (curve).

5.20. Injection of 0.33 c.cm.

5.21. Heart slower 28, the diastole lasting much longer than before.

5.27. Heart (24) still slower; character of beat is pronounced diastolic and becoming more so every beat.

5.28. Arrest in diastole. A trace of atropine solution (1 per cent.) brought into neighbourhood of the heart. In a few seconds the heart commenced to beat again, and gradually increased in frequency until, in 7 minutes

5.35. The number and character of the beats became normal, proving that the effect can be wholly set aside by the administration of atropine.

This result was amply confirmed by repeated control experiments, one of which I will describe to show the inability of muscarine to affect the heart when the latter was under the influence of coprinacetoxime.

Small Esculenta.

11.45. Injection of 0.25 c.cm. 5 per cent. coprinacetoxime solution into the abdominal cavity, after the heart had been laid bare. Heart beats 40 in the minute. Character normal.

11.55. Pronounced diastolic character, slower.

12.00. Heart beats 16. A trace of muscarine (2 per cent. sol.) brought into the neighbourhood of the heart.

12.05. Beats still 16, ½ drop 2 per cent. sol. allowed to fall on the heart.

12.10. Beats still 16; ½ drop more.

12.23. Beats still 16; ½ drop injected into the abdominal cavity.

12.33. Beats 16. Atropine brought into the neighbourhood of the heart.

12,35. Beats 34.

Thus, by showing that muscarine had no effect on a heart under the influence of coprinacetoxime, and that the effect was completely set aside by atropine we proved that our substance acted by stimulating the vagus nerve precisely as muscarine does. It is also effective in infinitesimal doses like muscarine and atropine. On warm-blooded animals, too, we observed a muscarine-like effect. On injecting 5 c.cm. of a 5 per cent. solution hypodermically into a large dog we observed in four minutes licking movements, and in two minutes more salivation. In two minutes more mucoid secretion from the nose, and lachrymal secretion from the the eyes, and saliva from the mouth mingled in great threads from the head to the floor of the kennel. The dog now appeared ill, and remained in any position it was placed in. A guinea-pig when given a small dose showed the same increased activity of glandular function and remarkable intestinal movements as well. On the pigeon: A drop of a 5 per cent. solution was allowed to fall into the left eye once every ten seconds. In five minutes the pupil began to contract. Half an hour later the pupil was exceedingly contracted and irregular. In the course of an hour after the cessation of the administration the pupil was again normal. That is, the action is that of artificial muscarine. An experiment on the pancreatic secretion was now undertaken after the method of Gottlieb (Heidelberg). A rabbit, having received 2 grammes of urethane by the mouth and 1 decigramme chloral hydrate hypodermically was tied down to the operating table, and the peritoneal cavity opened. A fine glass tube was introduced into the pancreatic duct. At 5.45 this tube was exactly full, and in exactly eleven minutes a drop of secretion fell from the end of the tube. 1 c.cm. coprinacetoxime 5 per cent. solution was now injected into the external jugular vein, and in precisely eleven minutes a second drop fell. Six times a drop fell, but each time after an interval of eleven minutes precisely, though three large additional doses of coprinacetoxime had been injected. That is to say the pancreatic secretion proceeded quite unaffected by the intravenous administration of large doses. Lachrymal, salivary, and sudorific secretion was hugely increased, and

violent intestinal movements were produced. No increased diuresis was observable. Here apparently was a difference between our substance and muscarine. But it must be remembered that natural muscarine acts in some particulars quite otherwise than artificial muscarine, and our body is a laboratory production. A blood pressure experiment was now made on a rabbit. The curve showed that shortly after administration the pulse became much slower and larger, while the blood pressure remained about the same. All this effect on the heart was promptly set aside by atropine. The increased secretions were in evidence here, and at the height of the excitement an embryo was promptly discharged by the rabbit, thus speaking in unquestionable terms for an action on the uterine muscular fibres. In investigating various oximes, then, we stumbled on a body which on the frog's heart, and on the heart, glands, and non-striped muscles of warm-blooded animals (the guinea-pig, rabbit, pigeon, and dog) has an action which is like that of muscarine.

APOCYNUM CANNABINUM: A DIURETIC PLANT.

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Apocynum cannabinum is the botanical name of a common plant that grows wild from Canada to Florida and west to California. The order Apocynaceæ was so called from its supposed poisonous qualities toward dogs (ἀπο from, in the sense of opposition, and κύων dog), and dogsbane is a popular name for the order as well as for more than one species under it. The common name for apocynum cannabinum is Canadian hemp, and it is also vu garly styled Indian hemp, using "Indian" as the common designation for the American Indian. Another species with which it is frequently confused is the A. androsæfolium, which also is very widespread. Both of these, but particularly the Canadian, have a tough fibrous bark which may be used for textile purposes, and is so used by the aborigines, hence Indian or Canadian hemp. The common name in the French and the German is also Canadian hemp, of which of course cannabinum is simply the Latin translation. This, on the other hand, has no relation, botanical or medical, with the commercial hemp, cannabis sativa, nor with the East Indian variety, cannabis indica. Both species of apocynum when wounded exude a milky juice and hence are known, as are some other native growths, as milkweed. In different regions still other names are locally applied, so that it is difficult to identify the plant in question by common speech. It is best distinguished in a growing state from the androsæfolium "by the leaves at the bases of the branches being single and sessile, instead of in pairs"[1] A curious illustration of the confusion in the identification of indigenous medicines appears in the continued use as a hydragogue cathartic of a variety of asclepias (incarnata) also known as milkweed, under the belief that it was apocynum.[2] Dr. Griscom refers to the asclepias as having similar qualities.

The medicinal virtues of apocynum, which are conspicuous under proper conditions, reside in the root, which when dried, the *United States Dispensatory* says, "is brittle and readily pulverised, affording a powder resembling that of ipecacuanha."[3] The same authority describes the drug as powerfully emetic and cathartic, sometimes diuretic and as promoting diaphoresis and expectoration. It does not give the diuretic dose, but says that three or four grains of the watery extract three times a day will generally act on the bowels, and that fifteen or twenty grains of the powdered drug will generally produce copious vomiting and purging. It adds that the decoction is a more convenient form of administration. It is probable that these formidable virtues, if such qualities may be thus styled, have deterred those looking for an efficient diuretic who may have fallen upon this account from using the apocynum. The truth seems to be that violent catharsis and emesis follow its abuse and not its intelligent use, and that it is a really trustworthy and singularly efficacious hydragogue, especially in anasarca. Dr. Rush, a distinguished American physician of the early part of the century, called it the vegetable trocar: some notice of it was published by Dr. M. L. Knapp[4] about seventy years ago; but the first extended account is that of Dr. John H. Griscom,[5] of New York, in 1833. Dr. Griscom's attention was drawn to it when a student by an oral expression of its great value by a physician of established reputation. Later statements of its usefulness have appeared in print from Dr. Harvey Jewett,[6] of Canandaigua, New York, in 1869, and Dr. Hutchins,[7] of New York, in 1875, through society proceedings. But the fact remains that apocynum is not a classical drug, it has not a recognised place in the literature of medicine, and its reputation only spreads by the ancient and homely way of neighbourhood gossip. It has not yet received the stamp of some high authority in therapeutics. Nevertheless it is a real diuretic of great power, and it seems to have no exact equivalent either in thoroughness or in promptness of action.

The medicine is officially known in the United States as apocynum, which is described as the root of the plant in question, and the whole root is designated as active. It is credited with two active principles, apocynin and apocynein, in which its virtues are supposed to reside,[8] but neither of which seems to have been isolated or used medicinally. The official fluid extract, extractum apocyni fluidum, is prepared from the powdered root, using glycerine as a menstruum. Its dose is 5 minims, and fifteen or twenty minims act as an emetic. The American Pharmaceutical Association contains in its national formulary of unofficial preparations the extractum apocyni cannabini fluidum. This uses no glycerine, and the strength is presumed to represent one grain in every minim. The glycerine or official process yields a product 5 per cent. weaker. Both of these use the entire root as the therapeutic basis. The watery extract referred to in the *Dispensatory* does not appear in the formal list of preparations, but under the general rule the whole root would have been treated by water and the solid residue reduced to a powder.

As already observed, according to the *Dispensatory* the root is the medicinal part of the apocynum, but on the authority of Dr. Hutchins,[9] its real qualities are so little known that the whole root, its woody fibre, and even the leaves and stems of the plant are on the market. Following Dr. Jewett,[10] I believe that the bark of the root contains the active principle, and that it is best extracted and employed by infusing 1 drachm of the bark in 8 ozs. of water, of which the standard dose would be ½ oz. once in six hours.

The true value of properly-administered apocynum is as a diuretic. Its administration as a cathartic or with a hydragogue is ordinarily not good practice as inducing irritation. According to Biddle,[11] apocynum exerts a sedative action without increasing the blood pressure, but Sokoloff[12] describes it as stimulating the heart and the vasomotor centres, causing a pronounced rise of the arterial pressure, and then acting as a paralysant, gradually reducing the pressure to zero. This is probably the true account, for the apocynum of the shops has sometimes been substituted for digitalis. This is not its best nor indeed its true *rôle*, but it has been injudiciously used for organic heart disease, where the life that it had depressed was only saved by abruptly abandoning the apocynum and using strychnine freely.

The practical point to which all this leads is that apocynum properly administered is a very remarkable diuretic. Doubtless it acts indirectly by increasing the arterial pressure, but in my judgment it must also be a direct renal stimulant, and cause dilatation of the renal arterioles. So far as I know, this has not been demonstrated, but the effects point to such a mode of action. Its influence is best seen in those general effusions that depend upon a want of vascular tone, and, whatever the reason, the empirical fact remains that most remarkable results have followed its use. Owing to circumstances, my personal experience with apocynum has been limited but satisfactory, but I feel warranted in extracting from the authorities already mentioned illustrative cases that are not likely to have been brought to your notice. Unfortunately, the exact diagnosis of the older cases is not well made out, but the condition is clear.

Case 1.—A temperate man of 68, after exposure to cold and fatigue, had difficulty of breathing while recumbent or after going upstairs. He was somewhat relieved after bleeding, but the lower extremities soon became œdematous, and there was ascites. After unsuccessful use of the ordinary treatment of the period, he was given the decoction of apocynum. This produced nausea and occasional vomiting, followed by active catharsis and profuse perspiration. The distinctly diuretic action was slight in this case, but the dropsical symptoms soon began to abate, and in a short time all the fluid disappeared. Except at the beginning, no medicine besides the apocynum was used.

CASE II.—An active man of 66, with shortness of breath on exertion, difficulty in lying down, and œdema of the feet and ankles, found that apocynum controlled these symptoms, and for his own convenience and that of others he cultivated it in his own garden. He ultimately died from the organic trouble, but the dropsical symptoms were kept down.

CASE III.—A large, sanguine man of 50, after "inflammatory affections of his chest and liver," was found breathing with difficulty and scarcely able to speak from effusion in the chest and abdomen, and general anasarca. He was put upon a decoction of apocynum and juniper, with a little gin. Its diuretic action set in strongly on the second or third day. He was promptly relieved, and at the end of three weeks resumed his ordinary work. Death ultimately occurred suddenly from organic heart disease.

CASE IV.—A child of 16 months was at the point of death from a ten days' meningeal inflammation. The cranial sutures had opened, the forehead projected, the sight of one eye was lost, that of the other was greatly affected, there was a general stupor and suppression of urine. Within 24 hours of beginning to use the infusion the kidneys resumed their function, the sight was restored, and a rapid and perfect convalescence set in.

This group of cases, and others not quoted, occurring between 65 and 70 years ago, illustrate the practice of the time in accepting violent catharsis and emesis as everyday, if not necessary, accompaniments of treatment. But notwithstanding that A. cannabinum may act harshly if abused, Dr. Jewett[13] is probably correct in supposing that A. androsæfolium, which many regard as the equivalent of if not the true drug itself, is what is actually employed when such violent habitual effects follow. This practitioner, who has had much experience with it and who seems to have collected his own specimens, insists that in cases not complicated with organic disease of the kidneys he has invariably found that it acted promptly in exciting the urinary secretion and in effecting a radical cure. The following are illustrative cases:

CASE V.—A robust man of 56 with fulness of the abdomen and swelling of the feet and ankles from cardiac disease was directed to use an infusion of the fresh root, which always entirely relieved these symptoms.

CASE VI.—A teacher of 32 was disqualified by ascites from following her vocation. The usual remedies having failed the fluid was drawn off by a trocar, but as usual it returned. She was then placed on apocynum, the kidneys secreted freely, the accumulated water was taken up and for 25 years she has been free from all such symptoms.

CASE VII.—A woman of 45 was unable to sleep or to breathe, except when sitting up, from hydrothorax, ascites, and general anasarca. All the cellular structure was pervaded with hardness, and the skin was tender and red as with erythema. An infusion of 1 drachm of the bark of the root to 8 oz. of water, of which ½ oz. was given once in six hours, acted as a diuretic and within three weeks she was relieved.

CASE VIII.—Dr. Hutchins reported[14] the case of a man of 60 who was suffering extreme dyspnœa from a pleuritic effusion and hydropericardium and who also had general anasarca. In 48 hours the fluid was entirely absorbed. In this case various specimens of the drug from the shops were inefficacious, and the result was obtained by the specially collected medicine. The man died from the essential disease a year later, but the fluid was always kept down.

Dr. Hutchins also reports a case of scarlatinal dropsy and one of phlegmasia alba dolens recovering under this treatment.

CASE IX.—Dr. Armor reports[15] a case of general anasarca with immense local accumulations of fluid treated in vain by the ordinary remedies where apocynum, which was suggested by the consultant, reduced the patient to a skeleton within 72 hours.

CASE X.—Dr. Burge reported[16] that after confinement a lady had ascites and general anasarca with highly albuminous urine. Ten drops of the fluid extract every three hours caused profuse and persistent diuresis. The anasarca was promptly and permanently relieved, but at the end of three weeks the peritoneal cavity was evacuated by a trocar.

CASE XI.—Dr. Burge also reported the case of a child six months old, restless, with hot, dry skin, a staring countenance, the fontanelle prominent and fluctuating and urine scanty. It was given half a drop of the extract in a pleasant vehicle every three hours. After several doses it vomited once and the medicine was then given three times a day. After the second day the fontanelle was perfectly natural and the child recovered.

What has been cited is to my mind perfectly satisfactory evidence as to the medicinal value of this plant. The practical difficulty is that of getting the genuine drug unmixed with inert or acrid substances. Dr. Jewett, to whom we are chiefly indebted for drawing renewed attention to it, believes that the bitter fibre of the wood has little value and that it induces the vomiting and diarrhœa sometimes experienced. If the makers of our books were more accurate and the collectors of the material better instructed, it would be to the advantage of both practitioner and patient. The cases cited have been those where apocynum was used by itself. There could be no objection to the simultaneous employment of an infusion of juniper or of medicinal doses of gin as an adjuvant. Their influence is over the same lines, but is weaker. But it is unnecessary to depend on them with the major remedy at our hands. Manifestly it would not be indicated when the dropsy might depend on a seriously damaged kidney. And equally it can only be expected to remove the effusion, not to modify any organic disease on which that might depend. But with those limitations borne in mind, the apocynum cannabinum is confidently recommended as a prompt and effectual diuretic.

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ON THE TREATMENT OF THE HEART FAILURE OF ARTERIO-SCLEROSIS.

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THE present paper is merely an appendix to an investigation which I made some time ago on the antagonistic action of digitalis and the members of the nitrite group.[1] The research was suggested by the increasing use of vasodilators with digitalis in practice and the knowledge that little was known of their effect when given in combination. This treatment was first introduced by Huchard,[2] to counteract the vasoconstricting influence of digitalis, and of late years it has been advocated by Balfour,[3] Whittaker,[4] Sansom,[5] Le Fevre,[6] Da Costa,[7] Forchheimer,[8] Dabney,[9] and Husemann[10]. It has not, however, received universal approval (see Grainger Stewart[11]) and further information on the point seemed necessary.

The cases of heart failure in which vasodilators combined with digitalis are recommended, are those in which this condition is associated with thick-walled arteries. Here the peripheral resistance is increased, and it is obviously undesirable to augment it. Digitalis, although it braces up the heart, also contracts the blood vessels, and in this way sets up a barrier to its cardio-tonic effect.[12] When the vascular tone is lost this contracting influence is beneficial, but in the aged this is rarely the case. "The old bear digitalis badly," and I believe this is due to the fact that their arteries are thickened and less elastic.

As far as the heart failure is concerned, it is immaterial whether the arterial changes are the result of age or disease. In both cases the course of affairs, if the disease is allowed to continue, is the same. The simplest case is the physiological one, if such it may be called. From birth to death the structure of the arteries seems to be gradually changing. With the approach of old age the arterial walls become thicker and their elasticity diminishes; the peripheral resistance is increased and the heart hypertrophies. But sooner or later the arterial blood pressure reaches its maximum, the heart begins to fail, and unless treated rapidly runs a downward course. The disease called the "senile heart" (Balfour[13]) has developed. In arterio-sclerosis a similar evolution occurs; heart failure sooner or later appears and the vascular becomes a heart affection. As pointed out by Huber,[14] the condition of the small vessels of the heart is an important factor in the production of this heart failure. These vessels undergo the same changes as arteries in other parts of the body, and, as they serve for the nutrition of the heart, their effect is greater. Under the term "cardiopathies arterielles" Huchard[15] has described several clinical types of this disease, but these are perhaps best considered as part of the general affection.

From a therapeutic point of view the condition may be divided into three stages.

1. Early stage—thickened arteries with slight enlargement (hypertrophy) of the heart; increased intra-arterial blood pressure.

2. Later stage—arteries somewhat thicker; marked cardiac hypertrophy; high arterial blood pressure.

3. Last stage—arteries unchanged or somewhat dilated, but heart failing; marked cardiac dilatation; gradually sinking blood pressure.

The last two stages Huchard denotes as "cardio-artérielle" and "mitro-artérielle" respectively. The first stage he calls "artérielle" (pre-artérielle, Ferreira)[16], although he believes the

primary change is in the heart and not in the vessels; and to a certain extent this view seems to me to be supported by an experiment of Thoma.[17] Balfour,[18] however, says, "there is a consensus of opinion that the arterial system . . . . is that upon which the finger of decay is earliest laid," and my own limited experience agrees with his. From a therapeutical point of view, however, the origin of the condition is not of great importance; when treatment is required the arteries are always changed.

With the first and second divisions of this table we are not concerned. The symptoms are legion, and as regards treatment probably nothing is so useful as the iodides with an occasional mercurial or saline purge; vaso-dilators are advocated by some, but this treatment has not met with general approval. When, however, symptoms of heart failure set in depletive measures should be avoided and digitalis or some other cardiac tonic given. The question of the vessel-contracting influence of digitalis now becomes of importance. Is it injurious? In some cases I think not. Even in the heart failure of old age, or approaching old age, we sometimes find the pulse of low tension, although the arteries have thick walls, and in such cases digitalis alone, at least in the earlier stages, is by no means harmful. In the majority of cases, however, the arterial factor is an important one, and as far as possible should be relieved. But can vaso-dilators do this? In other words, are nitrites or the members of the nitrite group antagonistic in this respect to digitalis? Experimental observations lead us to conclude that they are; but not absolutely so. The two groups of substances, in fact, seem to be mutually antagonistic. As far as the effect on the blood pressure of animals is concerned, digitalis diminishes the effect of nitroglycerine, and in part nitroglycerine counteracts the effect of digitalis. A similar action is obtained in man, but on account of the smaller dosage, digitalis exerts less influence on the action of vaso-dilators. The commencement of action of these is delayed, the degree of action is somewhat less marked, and in some cases the duration of action is slightly curtailed. But even in advanced cases of heart disease which have been treated with digitalis for some time, sodium nitrite and its allies will act, although the effect is often comparatively slight. Nitroglycerine is least affected, the solid organic nitrates (erythrol tetranitrate, mannitol hexanitrate) most. As regards nitroglycerine, the delay in its action is rarely more than one minute, and the extent of reduction is but slightly modified; the principal change seems to be a curtailing of its effect. The indications for treatment are clear. For therapeutic purposes vaso-dilators are antagonistic to digitalis, but they seem to require more frequent administration than under normal conditions. The powerful physiological action of nitroglycerine and the comparatively large toxic dose enable us to push it to a considerable extent. But generally this is unnecessary, as digitalis is only given to produce a mild tonic effect. By carefully regulating the dose of this drug I believe that the use of vaso-dilators can to a large extent be avoided, but in such cases the dose must of necessity be small. The depressing effect of the vaso-dilators on the heart is of no therapeutic significance in this connection. It is true that experimentally, in large doses, nitroglycerine will antagonise the cardiotonic effect of digitalis, but in medicinal doses the depressant action of nitroglycerine is comparatively insignificant, and may be neglected.

The conditions in which the combined use of digitalis and vaso-dilators are indicated are numerous. Just as the only, or almost the only, indication for the use of digitalis is a failing heart, so the only indication for the use of vaso-dilators is a more or less incompressible pulse. Wherever the two are combined, that is, whenever a comparatively high tension pulse exists with heart failure the combination will be of use. These conditions I need not specify. I will only refer to angina pectoris. According to one eminent authority,[19] anginal attacks most usually occur when arterio-sclerosis is combined with coronary atheroma. It is generally acknowledged that cardiac pain is often accompanied by contraction of the arterioles, but this not invariably the case, otherwise vaso-dilators would always prove of service, which they do not. In the majority of cases, however, an increased peripheral resistance exists, and sooner or later this reacts markedly on the heart and more rapid weakening follows. The anginal attacks now often subside and symptoms of heart failure develop; as it has been said the anginal case becomes a cardiac one.[20] The administration of digitalis in these has not proved of unmixed benefit. It has toned up the heart, but it has contracted the vessels and the anginal attacks have again developed. To obviate this, combination with a vaso-dilator has been tried and apparently with success.

As regards dose and administration a few words are necessary. It is the universal custom to administer the combined drugs in mixture. This I believe is a mistake. Digitalis acts upon the tissues very slowly. The most soluble preparation —digitalinum verum, Ph. Germ.—will not produce an effect on the pulse under four to six hours,[21] and with other preparations the delay is much longer. Sometimes it does not become evident for days. The vaso-dilators, on the other hand, act rapidly; nitroglycerine affects the pulse within two minutes; within three hours its effects have usually passed away; sodium nitrite acts within five minutes and lasts the same length of time;[22] erythrol tetranitrate, in the solid form, commences in twenty to thirty minutes and continues seven to eight hours.[23] From the mixture, therefore, we shall get nothing at first but the effect of the vaso-dilator; later we shall probably be giving an excess of digitalis. Owing to the slow assimilation and retention of digitalis in the system we get practically a constant effect, at least for short periods, but this is not the case with the vascular drugs, especially where these are given infrequently. To keep down the tension of the pulse nitroglycerine and sodium nitrite should be given at least every three hours and erythrol tetranitrate every six. Given less frequently the patient is periodically subjected to periods of high arterial tension of varying duration, which is what we wish to avoid. As in many cases it is sufficient to give digitalis once a day after it has commenced to act, it would seem advisable to give the two substances separately—the vasodilator frequently, the digitalis less frequently. If I might suggest a type of combination it would be the administration of erythrol tetranitrate every six hours and one of the French granules of digitalin every one, two, or three days, according to the progress of the disease and the effects of previous treatment. If a greater vascular effect was desired nitroglycerine frequently would probably be most beneficial. Other combinations might be used, but it is essential that the drugs should be used rationally and with a knowledge of their pharmacological action.

The combination of digitalis and spiritus ætheris nitrosi in mixture form seems highly reprehensible. The active vaso-dilator of this substance is ethyl nitrite, a gas insoluble in water; consequently it rapidly disperses when made into a mixture, and in a comparatively few hours has almost totally disappeared. If given at all sweet spirits of nitre should only be mixed with water at the time of administration.

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ACTION OF CERTAIN DRUGS ON THE GASTRIC SECRETION.

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IN this short paper it is desired to call attention to the action of a few drugs on the gastric secretion with special reference

to the total acidity and the HCl. These have been estimated with the ordinary decinormal solution of caustic potash and Günzburg's phloroglucin-vanilin test.

Each observation was made on my own gastric filtrate under as nearly as possible the same conditions; that is to say, in the morning after ingesting Ewald's test breakfast consisting of 300 c.cm. of weak tea and 35 g. of bread. As a subject I am particularly well suited, since I possess the power of regurgitating my food at will, and am thus able to avoid the somewhat disagreeable necessity of passing the stomach tube. The observations were as much as possible separated by an interval of days and repeated as often as time would allow. We are all familiar with the general rule that acids before meals diminish the secretion of acid, the reverse obtaining in the case of alkalies, nevertheless I think the figures which I present in tabular form for the sake of brevity will be found somewhat interesting.

Unfortunately my own gastric secretion under normal circumstances is rather deficient in HCl, and somewhat variable, but from the number of the observations a fairly accurate idea may be gained.

I.- Normal gastric secretion without any drug (10 observations).
(*a*) Total acidity:
Greatest total acidity, 56
Least " " 34
Average, 38
Ewald gives as normal 40 to 65.
(*b*) Free HCl:
Greatest amount of free HCl, 0.175
Least " " " 0.123
Average, 0.134
Ewald gives as normal 0.14 to 0.24

II. Antipyrin gr. x before meal (3 observations).
(*a*) Total acidity:
Greatest total acidity, 80
Least " " 76
Average, 78
(*b*) Free HCl:
Greatest amount 0.214
Least " 0.204
Average, 0.2118

III. Antipyrin gr. x after meals:
(*a*) Total acidity:
Greatest amount, 76
Least " 64
Average, 70
(*b*) Free HCl:
Greatest amount, 0.218
Least " 0.196
Average, 0.2069

IV.—Phenacetin gr. x before meal.
(*a*) Total acidity:
Greatest amount, 68
(*b*) Free HCl:
Greatest amount, 0.2334

V. Phenacetin gr. x after meals (6 observations).
(*a*) Total acidity:
Greatest amount, 80
Least " 48
Average, 65
(*b*) Free HCl
Greatest amount, 0.2334
Least " 0.1604
Average, 0.205

VI.—Quinine gr. iv before meals (1 observation).
(*a*) Total acidity, 40
(*b*) Free HCl, 0.0583

VII. Quinine gr. IV after meals.
(*a*) Total acidity:
Greatest amount, 72
Least " 60
Average, 66
(*b*) Free HCl:
Greatest amount, 0.2406
Least " 0.1604
Average, 0.2323

VIII.—Dilute HCl. m xx before meals.
(*a*) Total acidity
Greatest amount, 80
Least " 68
Average 72
(*b*) Free HCl
Greatest amount, 0.2406
Least " 0.204
Average, 0.2219

IX. Dilute HCl, m xx, after meals.
(*a*) Total acidity:
Greatest amount, 80
Least " 74
Average 74
(*b*) Free HCl:
Greatest amount, 0.2328
Least " 0.204
Average, 0.21859

X.—Sod. Bicarb. gr. xx, before meals.
(*a*) Total acidity:
Greatest amount, 84
Least " 64
Average, 76
(*b*) Free HCl:
Greatest amount, 0.233
Least " 0.1604
Average, 0.216

X.—Sod. Bicarb., gr. xx, after meals.
(*a*) Total acidity:
Greatest amount, 80
Least " 60
Average 70
(*b*) Free HCl:
Greatest amount, 0.20417
Least " 0.1167
Average 0.1603

Acid Salts.—With respect to these it may be said that they were nearly always present, although not in large amounts. In the cases where sod. bicarb. had been taken they were absent on several occasions.

Proteolytic and Rennet Ferments.—These were tested in every instance, but in no case could I determine that their action was impaired, except in the case of quinine before the meal.

It is also worthy of notice that in the cases in which I took quinine before the meal and HCl after that I had great difficulty in regurgitating much of my stomach contents, and even then there was much more solid matter proportionately than in any of the other cases.

THE GENERAL THERAPEUTIC ACTION OF THE ALTERNATING HIGH FREQUENCY CURRENT.

By Drs. G. APOSTOLI and BERLIOZ,
Paris.

As a result of the physiological discoveries of Professor d'Arsonval, the high frequency current has become firmly established in medical practice. It was first applied locally by Dr. Oudin, and afterwards by Dr. G. Apostoli, as a general application in disorders of nutrition and in nervous affections. In a former communication to the Académie des Sciences, March 18th, 1895, we have given the results of auto-conduction during one year of practice. After many experiments and modifications in the apparatus we have a better knowledge of the indications and contraindications for its use. The treatment by autoconduction in the cage or large solenoid has been supplemented as follows:

1. By auto-conduction in the solenoid with simultaneous contact of the patient by the hands to one electrode.
2. By the patient lying down on a condenser bed and making contact by the hands to one pole.
3. By employing the same position of the patient as in (2) with local revulsion by a special electrode.
4. By the direct application on the patient of a current produce by a small solenoid.
5. By local applications to the skin, vagina, or uterus of one pole only with Dr. Oudin's electrode.[1]

We give to-day only the results obtained with the bed and the cage, with or without contact. Later we shall write some observations concerning the other applications of the same high frequency current. From January, 1894, to July, 1897, Dr. G. Apostoli has treated 518 patients with 12,728 applications of the high frequency current; 231 patients received 7,424 general applications (bed or cage with or without contact); 65 patients have been treated locally 553 times; 226 patients received 4,751 applications, either general or local.

The treatment was given every day during 10 to 30 minutes. All special regimes and medications were excluded. After three years and a half of study and active practice, we have come to these conclusions: There is an increase in the secretions of all the glands of the body. Easier elimination

[1] The solenoid is a short helix of copper wire, through which Leyden jar discharges are passed in rapid succession by means of a Rhumkorff coil or a transformer. In "Autoconduction" the solenoid is of such a size that a patient can stand up in its interior, and his body becomes the path of induced currents; otherwise it is small, and wires are led off from its extremities. For the condenser bed one wire is held by the patient, and the other is connected to a large plate of metal placed near to but insulated from him. The patient then, as it were, forms one plate of a condenser. The apparatus is usually in the form of a couch, where the patient lies on a thick insulating mattress, which in turn lies on the metal plate.

of the excreta; greater organic combustions, and the proportion of uric acid to urea became normal.

(The chemical analysis of the urine has been made 761 times by M. Berlioz for 280 patients.)

With the same patients M. Berlioz observed that the treatment by the condenser bed increases the secretion of water, while the cage increases the secretion of uric acid, phosphoric acid, urea, and chlorides, but the proportion of the phosphoric and uric acid to the urea were the same in both cases.

The results obtained by high frequency currents are: Progressive amelioration in the general health, increasing of the strength and energy; appetite, sleep, and digestion are improved, the patient becomes more cheerful and can work and walk better. The contraindications are hysteria, neurasthenia, and neuritis, and especially patients with fever are not well influenced by high frequency currents.

The special indications for their use are found in all cases of defective nutrition. Thus, arthritism in its various forms received great amelioration from this treatment. Chronic rheumatism is favourably affected; the power of movement and walking, and later the pains, are very well influenced. By the effect of the increased organic combustions obesity is benefited. Asthma, anæmia, and chloro-anæmia are influenced favourably. The treatment has given very good results in the cases of diabetes. Very often the quantity of the sugar became smaller, and even when the decrease was small, the general condition of the case was ameliorated.

Our conclusions are that high frequency currents possess valuable therapeutic properties. Their special place among the various forms of electric treatment is found in the class of chronic affections. All patients suffering from debility resulting from some defect in nutrition are very well influenced as a rule. In acute diseases and nervous affections the treatment is not well supported. While the statical current is the treatment *par excellence* of nervous diseases, the high frequency current is the greatest modifier of the general nutrition.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

A SEVERE CASE OF FACIAL ERYSIPELAS TREATED BY ANTISTREPTOCOCCUS SERUM.

ON May 23rd I was called to see a case of facial erysipelas in a lady of about 52 years of age. She had felt sick and ill the day before, her nose and cheek had tingled and burned in the evening, and she had spent a bad night. The face was of a dusky crimson colour, and much swollen and distorted, and on the second day the eyelids were tensely œdematous and pouting, and the lips enormously swollen. Several large bullæ appeared and a number of smaller vesicles. The infection was limited strictly to the face and ears, though the chin did not escape entirely.

The temperature ran from 102° to 104°, the pulse from 110 to 140, the tongue was thickly furred, the throat painful, and the lymphatic glands enlarged. I gave large doses of perchloride of iron and stimulants, and had the face dusted with zinc and starch powder, and covered with a gamgee-tissue mask. I was called at 2 A.M. on the third day to find her in a wildly delirious condition, struggling to get out of bed. I gave her 15 gr. of antipyrin and 4 gr. of citrate of caffeine. She had six hours' quiet sleep. When she awoke she was much better, but as the temperature was still elevated (100.8°) I injected 10 c.cm. of antistreptococcus serum in the back below the right scapula. That evening the temperature was normal, and did not rise again throughout her illness.

On the morning following, the swelling of the face was much reduced, the bullæ were dried up and desquamation was taking place; she could see again from between her eyelids, the tongue was clean, pulse 80, and generally she was fairly well. On this account I did not see any need to repeat the injection.

Two days later my attention was called to a fresh infection on the shoulders. It had started at the nape of the neck, the patient having evidently inoculated herself there by scratching. The redness was not very vivid, and the advancing edge but little raised; it had extended to the level of the middle of the shoulder blade. The patient did not, however, complain in any way, and the temperature remained normal. I injected 10 c.cm. more of the serum some 3 inches from the advancing edge, but by next day the red blush had spread over the area of injection and beyond the puncture mark, although the advancing edge was not raised perceptibly above the sound skin. I had a "cordon" of iodine painted around the affected area, and repeated several times that day. The trouble did not spread further, and the case cleared up. How much credit is due to the antistreptococcus serum it is difficult to decide. Resolution of a facial erysipelas on the third day is not common, and the fact that a reinfection in a new site did not cause the temperature to rise, nor prevent the patient's general condition from rapidly improving, certainly speaks in favour of the serum. On the other hand, the first dose of serum did not confer any immunity against even an immediate second infection, nor did the second dose prevent the streptococcus from pushing its way over the site of injection, which, although deep, might reasonably be supposed to have charged the lymphatics overlying with its bactericidal serum. The serum was obtained from Messrs. Burroughs, Wellcome, and Co.

Leeds. W. MCGREGOR YOUNG, M.A., M.B., Ch.M.

ASEPTIC VACCINATION.

THE inoculation of disease by vaccination is of such rarity as to be a curiosity, but what may be called the accidents of vaccination, such as diffuse erythema, cellulitis, and even erysipelas do occasionally occur, and they commonly arise from no fault of the surgeon. The child leaves the surgery or vaccination station with several recent abrasions exposed to the air, and, especially if they are not quite dry, in a favourable condition for the cultivation of bacteria, streptococci, etc. About the sixth day the vesicles are frequently broken, and a fresh opportunity arises for germ introduction. But if strict antiseptic precautions are of untold value in surgical operations, why are they not adopted for vaccination, which is itself a minor operation?

There are some little practical difficulties attending the dressing of vaccination wounds, but, after trying a number of different methods, I find the following gives completely satisfactory results. My armamentarium contains the following appliances: Discs of oiled silk kept in absolute alcohol, salicylic wool, perchloride of mercury gauze, a reel of $\frac{1}{2}$-inch strapping, a $1\frac{1}{2}$-inch crêpenette bandage, and germicide soap solution.

The arm is first washed and dried. The usual number of scarifications is made over, or a little below, the insertion of the deltoid with a lancet which has been previously held in a spirit flame. The discs are taken out of the spirit with aseptic forceps and dried upon wool. The blood that has oozed is wiped off, the lymph, blown upon the lancet, is spread on the scarifications, and a disc is laid over each. A layer of wool, allowing a good margin, is placed over the discs, a piece of gauze follows, secured by two transverse and one vertical strip of plaster, and the whole is covered with two or three turns of the bandage. At the end of a week the arm is examined, and if necessary pricked. The dressing is then renewed *minus* the discs, and is directed to be untouched for another week.

With these precautions there is practically a complete guarantee against germ introduction, and also against the application of unsuitable dressings, such as cold water cloths. The additional time required is slight, and there is no tedious—and perhaps dangerous—waiting for the abrasions to dry.

I have searched, as far as my time allows, for evidence that this somewhat obvious method has been already adopted; but the only treatment at all similar is the antiseptic pad devised by Mr. Bark. This, however, is not used until the eighth day, and, although advantageous as far as it goes, is open to the objection of shutting the stable door after the steed is stolen.

It is not suggested that the superiority of the aseptic method is proved. It would take many thousands of cases

to do this. But it is claimed that a *primâ facie* case has been made out for its more general adoption. Lymph can now be obtained which is not distributed until the calf has been demonstrated to have been healthy by a necropsy, and, coupled with the use of such lymph, the above method probably renders vaccination at least as safe as the operations of the hairdresser.

Kennington Park Road. RALPH W. LEFTWICH, M.D.

A CASE OF POPLITEAL ANEURYSM FOLLOWED BY HERPES IN THE AREA OF DISTRIBUTION OF THE MUSCULO-CUTANEOUS BRANCH OF THE EXTERNAL POPLITEAL NERVE.

EARLY in April, 1897, F. R., a Colombian stonemason, came to me complaining of pain in the right knee. I found him to be suffering from a popliteal aneurysm the size of a small walnut. He would not rest, and continued at his work. On May 6th it suddenly began to enlarge very rapidly, and he suffered very acute pains shooting down the leg.

On May 7th the aneurysm was the size of a large duck's egg, extremely painful, and the skin over it was reddened. There were numbness and tingling affecting the outer side of the leg, both front and back, from the knee downwards to the ankle, as well as the sole and dorsum of the foot, with the exception of a small portion of the skin situated below the inner malleolus. That afternoon I tied the femoral artery at the apex of Scarpa's triangle. The pulsation immediately ceased, and the pains were partially relieved. On May 9th there was slight recurrent pulsation in the sac, and the limb was warm, circulation being evidently well maintained, but next day a crop of herpetic vesicles appeared on the dorsum of the foot and the lower and outer third of the leg. The vesicles were pretty thickly scattered over the dorsum of the foot, spreading well on to the toes, with the exception of the space between the first and second and their adjacent borders. Above the ankle they were more sparsely distributed.

Ten days later the operation wound had healed and the eruption nearly disappeared, but the aneurysm had not decreased in size to any appreciable extent, and the numbness and tingling were still present. The aneurysm fluctuated distinctly, and as I formed the opinion that though circulation had ceased blood coagulation was delayed, I injected 3 or 4 minims of a 20 per cent. solution of tincture of perchloride of iron into the sac in three places. The result was most striking. In two days the size of the aneurysm had visibly diminished, and on palpation it was evident that consolidation was taking place.

From this time the patient improved rapidly in every way, and left the camp seven weeks later. I have since heard from him to the effect that he can use his leg "as well as ever." It will be seen that the herpes was limited to the area of distribution of the musculo-cutaneous nerve—the other cutaneous branches of the external popliteal, namely, those to the outer and upper part of the leg and the small portion of skin supplied by the anterior tibial nerve escaping. The attack of herpes cannot, of course, be put down to the effect of the operation. Both the external and internal popliteal nerves were evidently affected by pressure of the aneurysm, though why one portion only of the external popliteal should have been specially affected and the remaining portion of it and the internal popliteal—which from its relation to the popliteal artery one would have imagined to be the more liable to a manifestation of grosser lesion, if indeed a herpes can be considered as such—should have escaped it is difficult to say.

Panama, Panama. T. H. L. TYLECOTE, M.B.Vict., Surgeon Darien Gold Mining Co.

THE thirty-fifth annual meeting of the Surgical Aid Society was held on December 7th at the Mansion House, under the presidency of the Lord Mayor. The report presented to the meeting stated that during the year 14,550 patients had been relieved and that the total receipts amounted to not less than £4,600. Originally a London society, the area of the charity had been extended by the opening of seventeen branches in various parts of the country, with the result that many long and painful journeys had been spared to sufferers resident beyond the metropolitan boundaries.

REPORTS
ON
MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

GREAT NORTHERN HOSPITAL.

NOTES OF A CASE OF AORTIC ANEURYSM: DEATH AFTER A FEW DAYS' ILLNESS: NECROPSY.

(Under the care of Dr. H. W. SYERS.)

[For these notes we are indebted to CHOWRY-MUTHU, M.D.Brux., M.R.C.S., L.R.C.P.Lond., Clinical Assistant.]

W. E., aged 33, a railway labourer, unmarried, attended at the beginning of March, 1897, complaining of tightness in the chest and hoarseness.

History.—He had been a soldier from 1882 to 1890, six years of which he spent in India, where he had slow fever (enteric?). He gave no history of syphilis; had always enjoyed good health.

Present Illness.—He was quite well till two months before, when he caught a chill working between two arches and exposed to draught. A month later he noticed tightness in the chest, and hoarseness and cough, and was getting worse ever since. Shortness of breath, which was easier at night than after getting up in the morning; pains in the back and between the shoulders.

Condition When First Seen, March 1st.—He was a short and well-nourished man, and had a clanging, metallic cough. The pupils were equal, rather sluggish to light; no superficial veins were dilated. There was no pulsation in the left radial, left ulnar, left brachial, left subclavian, and left carotid arteries. There was complete paralysis of the left vocal cord. There was no pulsation or dulness anywhere, but general rhonchi all over the large tubes. There was no definite inequality of breath sounds. The power of grasping and blood supply were apparently equally good in both arms. The right forearm measured about half an inch more in circumference than the left, the difference being not so marked between the arms. The temperature was normal, and there was no albumen in the urine.

From March 5th to 8th the cough became more distressing, hoarseness was worse, and he had shortness of breath and looked ill and anxious. The temperature was 103.8°. He was admitted into the hospital on March 8th.

March 9th: The temperature was normal in the morning, but went up to 102° in the evening.

March 10th: The temperature was normal in the morning, but 100° in the evening. He had difficulty in breathing and in swallowing liquids. He had slept badly, and cough was worse. No pulsation was visible anywhere. There was no œdema nor albuminuria, and no enlargement of superficial veins.

March 11th. Cough was incessant and ringing in character. He swallowed fluid with difficulty, and had dyspnœa. The temperature in the evening was 99.2°. No moist sounds were heard over the lungs. The expectoration contained numerous small air bubbles, and was slightly blood stained.

March 12th. As the patient suffered from severe dyspnœa and battled for breath tracheotomy was performed at 5 A.M. with little relief. Later a soft tube was passed through the tracheotomy wound; it passed to the right and afforded considerable relief to the breathing. Unfortunately this was only temporary, and the patient died at 11 A.M.

Necropsy.—Body well nourished. Rigor mortis well marked; no abnormal dulness or swelling. There was an aneurysm about the size of a tangerine orange situated in the posterior wall of transverse arch at the junction of descending arch of aorta, involving the left carotid and left subclavian, both of which were flattened, and their lumen occluded by firm adherent blood clot, which extended about an inch in the lumen of the vessels. The aneurysmal orifice was the size of a shilling, the clot was laminated. Owing to pressure of the aneurysm on the left side of the trachea the latter was bulged inwards, and its diameter was greatly diminished in its lower portion. The aortic valves appeared shrunk; all other valves were normal; left ventricle was

dilated. The aorta was the seat of scattered patches of atheroma. Lungs œdematous and showed signs of bronchitis, extending to small tubes; lower lobes were tough and airless, most marked in the left lung. Liver slightly fatty. Intestines and all other organs were normal.

REMARKS.—The chief features of the case are: (1) The patient was quite well till two months before he came under notice; the short duration of his illness, which rapidly proved fatal. (2) There were no signs of dulness or *bruit* or any abnormal heart sounds; no enlargement of superficial veins, the symptoms of aneurysm being more or less negative. The three chief symptoms which led Dr. Syers to diagnose the case to be aneurysm were: (*a*) Loss of pulsation of left radial and ulnar, brachial and subclavian. (*b*) Paralysis of left vocal cord. (*c*) Ringing, metallic, laryngeal cough. (3) Tracheotomy was of no avail on account of the pressure lower down in the trachea, but the subsequent passage of a tube through the wound gave considerable relief.

STATION HOSPITAL, NAINI TAL, INDIA.

(By Surgeon-Captain M. O'HALLORAN, A.M.S.

CASE OF PERNICIOUS MALARIAL FEVER: RECOVERY.

E. F. M., aged 24 years, three years and a half in India, was seized with fever and delirium on December 4th, 1896, whilst doing duty at Jubbulpore. He reported sick next day, complaining of headache, fever, and constipation, for which he could assign no particular cause. The morning temperature was 101.8°, and the evening temperature 102.4°. He was ordered phenacetin gr.vj, and calomel gr.ij, which relieved constipation.

On December 6th the temperature was normal. He said that he had passed a good night, but a companion said that he had been delirious; but the headache continued in the frontal region. The pulse was steady, but the tongue was heavily coated with a whitish fur. He took 10 gr. of quinine sulphate in the morning, and 5 gr. at noon. At my evening visit he said he felt much better, and was only troubled slightly with headache. The temperature was 99°.

On the following morning (December 7th) he was suddenly taken very ill at about 5 o'clock, when he was found in a most critical condition. He lay on his back quite unconscious and collapsed. The eyes were wide open, and the pupils partially dilated. His breathing was rapid and stertorous. The heart's action was muffled, very weak, and rapid. The pulse could not be counted; in fact, it had practically disappeared, and the extremities were cold. The face was somewhat pinched and bloodless, and there were well-marked tetanic spasms affecting the extremities and facial muscles. The cases of lungs were slightly congested, and the temperature had risen to 104.4°. Urine was passed involuntarily. Sinapisms were at once applied over the cardiac region, the bases of the lungs, the nape of the neck, and the calves of the legs. The body was sponged with tepid water, and hot-water bottles were put to his feet.

He began to rally very quickly. The temperature fell to 101.6°, the pulse was greatly improved, and the respiration fell to 22. There was a partial return of consciousness, and he could swallow some nourishment. Muscular spasms decreased, and for the time being a fatal issue was averted. He was given gr.x of quinine sulphate, as it was seen that the disease had now assumed a pernicious character.

I accompanied him whilst he was conveyed to hospital in a dhoolie. Towards the evening he was quite conscious, and only complained of headache and weakness. Temperature was 99°, respirations 18, and pulse 112. Spasms and other untoward symptoms had disappeared. He passed a fair quantity of highly-coloured (smoky) urine, in which no traces of blood or bile could be detected.

Next day his highest temperature was 99.6°, and on December 9th it was quite normal. The liver was inclined to be sluggish, for which he was given small doses of calomel. He soon began to convalesce, and was given quinine sulphate (gr.x twice a day), and afterwards liquor arsenicalis mixture three times daily. There was no return of fever, but owing to the severity of the attack, which was followed by anæmia and debility, he was sent to England on six months' sick leave.

It is worthy of note that we can have a very severe, if not a fatal, case supervene during an attack of what appears to be nothing else than ordinary malarial fever (ague) with delirium. The rapid appearance of the pernicious symptoms and the speedy convalescence are remarkable.

I should mention that while this officer was in England last year on six months' leave he suffered considerably from "fever."

REPORTS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF LONDON.

J. F. PAYNE, M.D., President, in the Chair.

Tuesday, December 7th, 1897.

OBSERVATIONS MADE UPON DOGS TO DETERMINE WHETHER OBSTRUCTION OF THE URETER WOULD CAUSE ATROPHY OF THE KIDNEY.

PROFESSOR ROSE BRADFORD read a note upon the above. The experiment consisted in the ligation of one of the ureters (under an anæsthetic) and its division near the bladder. After an interval varying from eleven to forty days the distended ureter was exposed, brought to the surface of the abdominal wall, sutured to the skin and drained. The animals were killed at periods varying from seven to fifty days after the second operation, and the state of the kidneys investigated. The ureter was always completely obstructed at the first operation, and distension of the kidney invariably followed, so that at the second operation quantities of urinous fluid varying from 50 to 70 c.cm. were let out on incising the ureter. In most cases a simple hydronephrosis, but in 3 cases out of 12 a pyonephrosis was produced. After draining the distended kidney through the ureter, a condition of atrophy ensued; the kidney reassumed its shape, but was much smaller than normal, being but one-third or one-fourth of the full size. To the naked eye the organ presented a natural appearance, the medulla and cortex occupying their proper positions. The appearance of the kidney was such that it was difficult to believe that it had ever been dilated to any extent, but the quantities of urine obtained at the time of the second operation showed that this dilatation had occurred. Microscopically the kidneys presented no increase of fibrous tissue; some tubules had disappeared; in others the epithelium had been in part shed, but the main cause of the atrophy was the crowding together of the tubules, and more especially the small size of the cells lining them. The renal cells had also lost all their granules, their protoplasm being clear and glass-like; the nuclei stained well.

Mr. T. W. LAWRENCE, in illustration of the preceding paper, exhibited a series of lantern slides showing the microscopical appearances presented by the kidneys. The sections illustrated the discharge of the cell granules of the renal epithelium into the lumen of the tubes, the cells becoming quite clear. The glomeruli might, moreover, be compressed by effusion within their capsules. In some cases the renal epithelium became necrotic, hardly taking any stain in the preparations. The external coats of the arterioles might be thickened.

NOSE AND LUNG FROM A CASE OF GLANDERS.

Dr. F. W. ANDREWES and Mr. JAMES BERRY exhibited the above specimens. They were from a man, aged 37, who was admitted into St. Bartholomew's Hospital with a swelling of one eyelid; profuse discharge from the nose followed, but as the patient was a painter, the possibility of glanders was overlooked. After death, numerous small yellow "tubercles" were found beneath the mucosa of the nose and antrum, some of which had ulcerated; there was ulceration of the lips and palate, but as a past history of syphilis was forthcoming, it was difficult to differentiate the two sets of lesions. Both the lungs were affected; they were studded with firm "tubercles," and there were similar granulomata in the skin about the shoulder and knee. Dr. Andrewes had demonstrated the bacilli in cover-glass preparations from the pulmonary nodules. On potato the typical honey-yellow growth was obtained.

Specimens of Glanders in the Horse.

Professor MacFadyean showed the lungs of two horses affected with glanders. In the horse pulmonary lesions were probably always present. In most cases the lesions took the form of "tubercles" the size of a pea, around which there was a marked hæmorrhagic zone. Histological examination showed that the lesion consisted in the accumulation of leucocytes in the alveoli; beyond this there was an epithelioid zone, then a catarrhal, and then a croupous. Giant cells might be encountered. If time allowed, the lesion underwent necrosis and suppurated. As other forms of lesion, a larger area of the lung might be affected, or the disease might appear as a bronchitis and peribronchitis, or again as a chronic pleurisy.

In answer to Professor Bradford, Mr. Berry stated that, although looked for, there were no abscesses in the muscles in the case on which he had made the *post-mortem* examination.

The Negative Action of Sewer Air in Raising the Toxicity of Lowly Virulent Diphtheria Bacilli.

Mr. S. G. Shattock commenced by remarking that it had at different times been surmised that some causal relationship subsisted between defective drainage and outbreaks of diphtheria—that is, that the inhalation of sewer air determined the occurrence of diphtheria. By some it had been thought enough in refutation of such a view to point out that the diphtheria bacillus could not be conveyed in sewer air, seeing that bacilli are not disengaged by evaporation from the fluids in which they are growing. What was conceivable, however, was that a non-virulent diphtheria bacillus, such as was present in the throat of many individuals, might, in consequence of the inhalation of sewer air, regain its virulence and become the cause of a diphtheritic lesion, which except for this factor would not have arisen. Having for some while had this possibility in mind, the author had put it to the test; and, although the results were negative, they might be of interest, though he did not think that they exhausted this question, but only eliminated one of its possible answers. Two diphtheria bacilli were tested; they were derived from cultures made by Dr. F. W. Andrewes, who had examined them with Professor Kanthack, and they presented the morphological characters of diphtheria bacilli, although upon guinea-pigs their subcutaneous injection was followed by local swelling only. The author had, moreover, tested them on 1 per cent. glucose broth, to which they imparted in twenty-four hours a characteristic acid reaction. The cases from which they came presented clinically the signs of ordinary sore throat. Before commencing the experiment the author had for several days carried the bacilli from broth tube to broth tube (prepared from fermented veal) in order that any toxicity they possessed might be raised to its acme. When tested upon guinea-pigs they were found to be still non-virulent. The method of experiment consisted in growing the bacilli in Duclaux flasks of broth, over the surface of which medium sewer air was continuously and slowly drawn by means of a water pump. The flasks were renewed about every three days for several weeks, the inoculation being made from each pair to its two successors. At the outset the author had been foiled by the impossibility of obtaining sewer air. The main sewer by the side of the Conjoint Laboratories (where the investigation was carried out) was tapped, and the air in it drawn up to the hot room where the flasks were kept, through a leaden pipe after careful sealing at all points, but no foulness was perceptible in two empty flasks used for the test; the sewer, in short, was so well ventilated that no "sewer air" could be got from it. It was necessary, therefore, to improvise a badly-drained sewer, and this was done by drawing air over sewage stored in two tanks, and afterwards through sewage in a capacious Wolff's bottle in the hot room itself. The tube from the latter was conducted to the Duclaux flasks. From time to time fæces were added to the sewage, so that a continuous supply of fæcal air was obtained. This addition had the effect of considerably retarding the growth of the bacilli for some days. One bacillus was cultivated in this manner for two months, the other for five weeks. From the final flask in each case, after growth was pronounced, a test tube of broth was inoculated, and twenty-four hours later the culture in the tube was tested by means of 2 c.cm. injections given subcutaneously to guinea-pigs. The bacilli had remained non-virulent.

Cyst of the Cæcum.

Mr. Morton exhibited a specimen of cyst which projected into the cæcum, near the orifice of the appendix, with which it communicated by a minute aperture. He did not think it arose from distension of a segment of the appendix itself.

Pleomorphism of the Colon Bacillus.

Mr. H. C. Haslam read a paper on the above subject, in which he endeavoured to find some of the causes of the variations in size and shape which occur so extensively in different cultures of the bacillus coli communis. He grew the bacillus on certain pure substances—on albumen, peptone, glucose with only a minute amount of nitrogenous matter, ammonium tartrate, and leucine. He found that the organism varied in shape, size, and structure according to its medium. On proteid the bacillus was pleomorphic, of length generally between 2 and 1 μ. In structure the organism was not uniform, the ends of the bacillus appearing darker and more granular than the body, which was translucent and homogeneous, and these ends stained deeper than the bodies. The appearance was always associated with an alkalinity of the medium, and in neutral or acid media was far less marked. On glucose short coccus-like forms were in the majority; on ammonium tartrate, a highly nitrogenous material, the forms were longer, varying from 2.5 to 1 μ; and on leucine, a substance containing a less amount of nitrogen, the forms were smaller again. And if in a glucose solution the nitrogenous matter was increased, an increase of longer forms took place.

Four Unusual Cases of Melanotic Sarcoma.

Mr. Strangeways Pigg recounted the above. One was from the vulva; a second from the axillary glands. In the latter case a sarcomatous mole had been excised ten years previously from the hand, and no local recurrence had ensued. The other two examples were from the parotid region.

Aortic Disease with Unusual Symptoms.

Dr. F. Parkes Weber showed a heart in which the aortic orifice was stenosed and rigid from calcification. The mitral valve was likewise thickened and calcified. There was great hypertrophy (weight 24 ounces), chiefly of the left ventricle. The main interest in the case depended on the physical signs observed during life. The fact that the cardiac dulness reached higher up on the right than on the left of the sternum suggested aneurysm, but in other respects the clinical features of the case were those of an extreme instance of "pure aortic stenosis," associated with persistent bradycardia and more or less permanent dyspnœa, with occasional syncopal attacks. The systolic murmur was loudest over the second and third intercostal spaces to the right of the sternum; it could be easily heard without a stethoscope if the ear were placed within an inch or two of the chest wall, and was accompanied by a harsh thrill and slight (non-expansile) pulsation. The frequency of the heart's action remained between 44 and 48 beats in the minute, unaltered by exercise or by drugs. The patient, who had lived an active life, had suffered from syphilis when 17 years of age, but had never had rheumatic fever. He had been told that he had heart disease several years ago, but had enjoyed tolerable health till the year preceding that of his death. Dropsy and signs of increasing cardiac failure appeared at the last. In one of the coronary veins there was an adherent, red, comparatively recent thrombus.

OBSTETRICAL SOCIETY OF LONDON.

C. J. Cullingworth, M.D., F.R.C.P., President, in the Chair.

Wednesday, December 1st, 1897.

Specimens.

Dr. McKerron (for Professor William Stephenson) a peculiar Mucous Polypus of the Cervix Uteri.—Dr. Macnaughton Jones: (1) Notes of a case of a Double Pyosalpinx with enlarged Bladder: (2) Uterine Fibroids.—Dr. Dauber: Carcinoma of the Body of the Uterus, also affected with Multiple

Fibromyomata removed by abdominal panhysterectomy.—Dr. ARNOLD LEA: Microscopic sections of Uterine Mucous Membrane immediately before and after menstruation.

PYOMETRA COMPLICATING CANCER OF THE CERVIX.

Dr. WALTER W. H. TATE presented a report of three cases. According to Bürkle's statistics, compiled from German operators, pyometra occurred as a complication of cancer of the cervix in 17 out of a total of 273 cases, giving a percentage of 6.2. The author had met with this condition in 3 out of 28 cases of vaginal hysterectomy for cancer of the cervix. Case I.—Mrs. R., aged 60, widow, nine children; menopause at 45. History of slight discharge, occasionally blood stained for two years, offensive in character for last six months. Cervix greatly enlarged and infiltrated with cancer, which formed a large mass filling upper part of vagina. Vaginal hysterectomy July 9th, 1897. Uterus contained 3 or 4 ounces of most fœtid pus. Recovery. Case II.—Mrs. R., aged 61, married, nine children; menopause at 45. History of slight blood-stained vaginal discharge for nine months, more profuse for three weeks before admission to hospital. Cervix hard and infiltrated with cancer; shallow ulcer around external os; uterus not apparently enlarged. Vaginal hysterectomy July 30th, 1897. Cervical canal practically occluded; uterus distended into a sac, which contained about 3 ounces of very fœtid pus. Recovery. Case III.—Mrs. B., aged 65, married, seven children; menopause at 41. Occasional blood-stained discharge for four years at intervals of a fortnight; for five weeks before admission discharge purulent and offensive. Cervix enlarged and very hard, with irregular ulcerated surface towards the vagina, which bleeds very freely. On examination body of uterus enlarged and elastic, obviously containing fluid. Vaginal hysterectomy August 26th, 1897. Uterus contained 3½ ounces of very fœtid pus. Recovery.

Dr. LEWERS had had 67 radical operations for cancer of the uterus. Excluding 10 of these, which were cases of cancer of the body, there remained 57 operations for cancer of the cervix. Among these he had met with two examples of pyometra, the larger of which he had shown before the Society. In that case he removed the whole uterus not on account of the pyometra, but because the growth had spread so high that it seemed easier to get well beyond it by complete hysterectomy.

Dr. AMAND ROUTH thought that the fact brought out so well by Dr. Tate that cases of pyometra could exist without stenosis of the cervix was of great importance, and enabled one to explain those cases of hydrometra and gushes of large quantities of clear, straw-coloured fluid which were not uncommon after the menopause. Many of such cases had no obstruction of the cervix, and no tubal swelling was present. With regard to the two cases of vaginal hysterectomy where the surrounding tissues were already apparently involved, he said it was impossible to be sure that such indurations were malignant and not inflammatory.

After remarks by Drs. LEA and HERMAN, Dr. TATE replied.

THE OBSTRUCTION OF LABOUR BY OVARIAN TUMOURS IN THE PELVIS.

Dr. R. G. MCKERRON read a paper on this subject. The paper dealt only with those cases where the ovarian tumour occupied the pelvis during labour; 183 instances of this complication had been collected. These were arranged in nine tables, according to the treatment adopted. Two unpublished cases were detailed. A brief reference was made to the various publications on this subject. It was pointed out that there still existed, as evidenced in the more recent publications, a divergence of opinion as to the most satisfactory treatment. The results of the various methods were analysed. To avoid the erroneous deductions to which mere statistical enumerations were liable, account was taken, where the data permitted, of the character of the tumour, of the duration of labour, etc., points which would be found noted in the tables. Attention was directed to a few features of interest in the clinical histories of the cases. Practical observations were made on the various methods of treatment, based on a study of the cases and of the literature of the subject. Reposition should in all cases be first attempted; where it failed a selection, according to circumstances, must be made from the following operative measures—puncture, Cæsarean section, abdominal or vaginal ovariotomy. The indications for each of these methods were given. The author concluded with a brief reference to the after-treatment in those cases where the tumour had not been removed during labour.

The discussion on the paper was adjourned.

HUNTERIAN SOCIETY.

G. E. HERMAN, M.B., F.R.C.P., President, in the Chair.

Wednesday, November 23rd, 1897.

CHRONIC DRY CATARRH OF THE MIDDLE EAR.

DR. DUNDAS GRANT read a paper on the diagnosis and treatment of the varieties of chronic dry catarrh of the middle ear. He pointed out that there were essentially two different forms—one of the nature of an adhesive process resulting from a previous exudative catarrh, the other an apparently primary adhesive process, without evidence of any previous exudation. The former or exudative form arose by extension of the inflammation from the naso-pharynx through the Eustachian tubes; the latter or sclerotic was essentially a primary arthritis of the stapedio-vestibular articulation, and had a tendency to involve labyrinthal structures. In the exudative form there was evidence of nasal disease and narrowing of the Eustachian tubes, and the drum membrane was indrawn. In the sclerotic form the nose, Eustachian tubes, and membrane might be perfectly normal in appearance. In regard to diagnosis, chronic dry catarrh of the middle ear had to be distinguished from an affection of the auditory nerve by the fact that the hearing by bone conduction was better than by air conduction, and usually better than normal, that the loss of hearing power was greatest for deep tones. In nerve deafness bone conduction was less than air conduction, and less than normal, while the loss of hearing was most marked as a rule for high-pitched tones. The diagnosis of chronic dry catarrh of the middle ear having been established, the sclerotic form was to be distinguished from the exudative by its insidious onset, the very early occurrence of tinnitus aurium, the marked hereditary element, the absence of any distinct history of catarrh, the normal appearance of the nose and tympanic membrane, patency of the Eustachian tube on auscultation during inflation, and the improvement in the symptoms on inflation. The sclerotic form was more frequent in the female; it sometimes started at puberty, and there was considerable evidence of its getting worse after the birth of children. There was possibly a bone change, analogous to the osteophytic plates described by Moreau and Ducrest as occurring on the inner surface of the skull of women who died in childbed. In other cases it was probably of an osteo-arthritic nature, and occasionally syphilitic. In many, however, no cause could be made out, and from the diminution of sensation in the membrane and the interior of the tympanum, as well as from the atrophy of nerves found in microscopical examination, it was possible that it was of the nature of a trophic neurosis. The prognosis was generally unfavourable, and more especially in the sclerotic form. It was relatively favourable in proportion as the deafness depended upon narrowing of the Eustachian tubes, which was fairly amenable to treatment. Treatment in the exudative form was to be mainly directed towards the nose, naso-pharynx, and Eustachian tubes. The judicious use of Politzer's inflation, the Eustachian catheter, and above all the injections of liquid vaseline and the passage of solid or hollow bougies for the dilatation of the Eustachian tubes were of the utmost value. In the sclerotic form operations on the nose were on no account to be recommended. Injections and inflations did more harm than good. Massage of the tympanum and rarefaction of air in the external meatus was often the means of producing some improvement. Dr. Dundas Grant had considerable hopes of advantage from the adoption of general treatment appropriate to the dyscrasia, whether syphilitic or osteo-arthritic. He had seen benefit in the latter class of case from residence at Aix-les-Bains, and in all cases a high altitude seemed advantageous.

Dr. KELSON asked if Dr. Grant believed that some of the tinnitus and vertigo might be relieved by application of chromic acid as recommended by Dr. Woakes, and whether

he would advise repeated inflations if the first proved unsatisfactory.

Dr. F. J. Smith drew attention to the possible relationship between sclerosing otitis and the disease known as osteo-arthritis. He had not noted any particular frequency of deafness amongst the sufferers from the joint trouble.

Sir Hugh Beevor referred to the case of a young woman suffering from subacute rheumatoid arthritis, who mentioned deafness occurring in it as part of the disease.

Dr. Fortescue Fox doubted if there was any frequent association of this affection with rheumatoid arthritis proper—at all events in young females, who were the most frequent sufferers from arthritis. On the other hand, chronic catarrh of the middle ear seemed to be relatively common in gout in which all other catarrhs, moist and dry, were met with. If a constitutional state of this kind underlay the catarrh, one might hope that sufficiently early treatment would be effectual.

The President asked as to the value of oxygen in a vaporiser, and referred to the use of chromic acid by Dr. Woakes in the cases of hypertrophied mucous membrane of the nose. He spoke also of arsenic and its value.

Dr. Dundas Grant replied.

Microscopic Examination of Uterine Curettings.

Mr. Targett then read a paper on the value of the microscopical examination of uterine curettings, based on the results of the investigation of more than 200 specimens during the past twelve months. The material consisted chiefly of fragments of tissue removed by operation from the uterus, but included with these were a few other specimens evacuated from the uterus or vagina, whose nature could only be determined by the microscope. A sketch of the routine method of investigation was given, and the importance of certain details emphasised. The results of these 200 examinations were classified as follows: (1) Endometritis and endocervicitis represented 42 per cent. of the cases. In the large majority of these instances the clinical symptoms were suggestive of malignant disease, and the examination was necessary to settle the diagnosis. (2) Malignant disease of all kinds constituted 32 per cent.; a few doubtful cases—probably malignant—had been included in the previous class, with the exception of 3 (2 being sarcomata and 1 deciduoma malignans). All these growths were carcinomata of the squamous or columnar-celled types. (3) In 21 instances—10.5 per cent.—the material consisted of degenerated placental tissue, and, as many of these cases had been suspected of malignant disease, the value of a microscopical examination indicating the line of treatment was clearly demonstrated. (4) Sixteen—or 8 per cent.—of the specimens were classified as "membranes," and of these 8 had the structure of a true decidual cast of pregnancy, and 4 were menstrual in origin. Of the remainder, 2 were fibrinous and 2 vaginal casts, the latter being composed entirely of epidermis shed from the surface of the vagina, due to the use of too astringent injections. (5) On 14 occasions—7 per cent.—nothing but blood clot was found, which was partly due to want of proper care in collecting the curettings at the time of operation. In several instances the clot was partially decolorised, having evidently been retained in the cavity of the uterus. The paper was illustrated by a series of microscopical sections.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

J. Batty Tuke, M.D., P.R.C.P.E., President, in the Chair.

Wednesday, December 1st, 1897.

Cases.

Dr. J. W. Martin showed a case of Thyroid Hypertrophy with aggravated symptoms.—Dr. W. Allan Jamieson showed several cases illustrative of his paper read later.

Specimens.

Mr. Alexis Thomson showed (1) Hydatid Cyst removed from the liver; (2) Gangrene of Small Intestine, the result of strangulation by a band.—Dr. Harvey Littlejohn showed specimens from (1) three cases of sudden death due to Rupture of Aortic Aneurysm; (2) a case of Rupture of a Tubal Pregnancy.—Mr. Cotterill showed two specimens (1) from a case of Enterectomy for Fibrous Stricture of the Appendix; (2) a Perforated Appendix.

The Phonendoscope.

Dr. J. O. Affleck demonstrated an adaptation of the phonendoscope for teaching purposes. This consisted in the use of two very long india-rubber tubes (they might be as long as 20 feet), whereby a large number of students might listen, say, to a cardiac murmur without rising from their seats, and at the same time a patient who was ill was not worried. Indeed, the conditions might be demonstrated while the patient was actually asleep, as had on several occasions been done in his wards in the Royal Infirmary.

The Serum Diagnosis of Typhoid Fever.

Dr. C. B. Ker, Medical Superintendent of the City Hospital, read a paper on The Serum Diagnosis of Enteric Fever. Since February 1st he had examined the serums of all the patients admitted to the City Hospital suffering from enteric fever, or sent in for observation. These examinations were all conducted in the hospital and had become an ordinary part of the hospital routine. The technique adopted was modified from that of Grünbaum, and its main feature was the dilution of the blood to 1 in 10 with beef bouillon at the moment it was taken from the patient. This dilution was obtained by the use of an ordinary Zeiss's leucocytometer pipette. The cultures were made on agar and were in no case more than 18 hours old, and usually were much younger. A loopful of culture was mixed with ten drops of sterilised beef bouillon in a watch glass, and the resulting emulsion was used to perform the test. The diluted serum was subjected to a centrifuge before being mixed with the emulsion. Two drops of the emulsion were then mixed with one drop of the diluted serum on a celled slide. This mixture contained a somewhat indefinite number of bacilli moving freely in a medium of one part of serum to thirty of bouillon. Dr. Ker, while admitting that a dilution judged merely by the eye could not be accurate, claimed that the consistency of his results proved it to be sufficiently so for all practical purposes. He also pointed out that the researches of Gruber and Durham suggested that the actual number of bacilli was a matter of considerable importance, and that partial reactions might be accounted for by too great a number being present and the agglutinin being used up. In his cases, however, partial reactions were rare, so he presumed that the bacilli were not in excess in his mixtures. The time limit given was four hours. In all 169 cases were examined, and of these 121 gave a definite reaction. Eight of these cases were proved on *post-mortem* examination to be enteric. Ninety-nine were undoubtedly enteric from a clinical point of view. Thirteen were cases which had a history of fever before their admission, but presented few symptoms in hospital. Five of them who had been ill for three weeks were probably entering on convalescence and there was reason to believe that the others were abortive. One case only, which it was practically certain was other than enteric, gave the reaction. The patient was accepted as an enteric on admission, but the termination of her fever was by crisis. The admission of her father and sister with typhus some weeks later made it probable that she suffered from that disease. Her blood, however, continued to react until in her convalescence. It was likely she had had enteric fever at some earlier date, but no history of it could be obtained. Forty-eight cases did not give the reaction; of these 3 were proved on *post-mortem* examination to have suffered from other diseases; 41 were clinically diagnosed as other diseases, no fewer than 16 being pneumonias, while the remainder included instances of general tuberculosis, tuberculous meningitis, tuberculous peritonitis, influenza, appendicitis, and typhus. One case was probably not enteric, having only six days' fever, but as the patient spoke no English there was doubt of the history being accurate, although there were no symptoms on admission. Three cases were possibly enteric, but all 3 were sent in by their medical men for observation only, and, though each had one or two symptoms compatible with a diagnosis of enteric, Dr. Ker was inclined to believe they were not suffering from that disease. In Dr. Ker's opinion the results were consistent enough to justify the method being continued as a part of the hospital routine. For private practice, however, Delépine's method seemed the

most suitable. The use of dead bacilli appeared likely to put the test within reach of the general practitioner. In conclusion Dr. Ker thanked Dr. Muir for occasionally renewing his cultures and for much valuable advice.

Dr. Muir thought that diagnosis *post mortem* by the examination of the Peyer's patches was not always reliable. He preferred obtaining a culture from the spleen. He thought that the results given were gratifying, and tended to establish the value of the test. Its great advantage over clinical methods was the rapidity with which a diagnosis could be made.

Dr. Noel Paton reported the results obtained at the laboratory of the Royal College of Physicians. Out of 64 examinations, all in doubtful cases, he obtained 25 positive results. He mentioned one case in the puerperal state, who had never had enteric fever, but whose blood Dr. Hutchinson found reacted well. He also alluded to a case of abortion in the course of the fever where Dr. Fordyce obtained positive results with the blood and peritoneal fluid of the fœtus.

Dr. Dunlop mentioned a case which had had five relapses, and which three consultants had diagnosed as enteric fever on different occasions. The serum of this patient never gave the reaction.

Drs. Affleck, James, Allan Jamieson, Littlejohn, and Gulland also spoke.

Dr. Ker briefly replied.

Cyanosis in Convulsions: How Caused and how Prevented.

Dr. Foulis read a paper on this subject. He said that his communication must necessarily be more or less in the form of a demonstration of his method of carrying out artificial respiration under very trying circumstances—namely, during convulsions. He then proceeded to show by means of limelight illustrations the relation between the tongue and the epiglottis and the pharyngeal wall, in the living person, in the unconscious or insensible individual, and in the dead body; and that in all conditions of insensibility, however caused, the tongue and epiglottis were a cause of obstruction to the entrance of air into the lungs. He then showed how easy it was, by means of the handle of an ordinary tablespoon or of a fork, instruments always at hand, to lift up the tongue and epiglottis away from the pharyngeal wall in such a manner that they could not possibly obstruct the entrance of air into the lungs during the process of artificial respiration. Dr. Foulis then described an epileptic fit, and showed that, as the result of the tonic rigidity of the muscles at the onset of the fit, the blood gradually became charged with impurities, and the patient became markedly cyanotic; and he related cases, in children and in adults, in which during the clonic convulsions he had carried out artificial respiration with such marked effect that the cyanosis quickly disappeared and the clonic convulsions rapidly ceased, leaving the patients in a wonderfully satisfactory condition. He then went on to show that, in all probability, the clonic convulsions in all fits, however caused, were to a certain extent the result of the poisoning of the nerve centres by surcharged venous blood, as seen in the cyanosis or lividity of the patient, and that the nerves connected with the organs of respiration being greatly affected by what the French call the *besoin de respirer*—or the sensation of the want of fresh air in the lungs—so affected the medulla oblongata, the great respiratory centre, that the phrenic nerves excited the diaphragm into violent spasmodic contractions, and air would thus be sucked freely into the lungs, were it not for the flapping together of the alæ nasi, the lips, and the tongue with the epiglottis against the pharyngeal wall, all of which greatly interfered with entrance of air into the lungs during convulsions in the unconscious individual. Dr. Foulis then showed how easy it was by his method of artificial respiration to lift up the tongue with the epiglottis with such effect that they could not in any way interfere with the entrance of air into the lungs during the inspiratory efforts caused by the spasmodic contractions of the diaphragm, and that, as the result of this free breathing, the cyanosis rapidly disappeared, and the convulsions ceased as soon as the irresistible demand for fresh air or oxygen was satisfied.

The paper was discussed by Mr. Cottbrill, Dr. MacGillivray, and others; and Dr. Foulis replied.

Eczema Palmare and Plantare.

Dr. Allan Jamieson read this paper. After sketching the features of the disease as affecting these localities, he discussed shortly its causation and examined its pathology, especially with reference to the parakeratosis which was so prominent a characteristic, referring in particular to views held by Unna. He then considered the diagnosis from psoriasis, lichen planus, syphilis in its various stages, and as complicated with seborrhœic dermatitis, from arsenical keratosis, the eruption due to contact with the primula obconica, and lastly from the symmetrical keratodermia of Besnier and the erythema keratodes of Brooke. Drawings and plates illustrative of these conditions were handed round. The treatment was then taken up, and a method described in which the oxydised pyrogallic acid introduced by Unna as a remedy in lupus erythematosus and psoriasis played a principal part. A series of cases in which this had been markedly successful were related, and the paper concluded with some remarks on the best means of preventing recurrences.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Malcolm Black, M.D., President, in the Chair.

Wednesday, November 24th, 1897.

Specimens.

Dr. John Lindsay showed a Dissection of a case of Mistaken Sex. He had already brought under the notice of the Society about five years ago three cases of doubtful sex in one family, one of whom had been brought up as a boy, and the two younger as girls.[1] He had said at the time that all were males. One of the "girls" whom he showed them had since died of phthisis, and a *post-mortem* examination and careful dissection showed that the subject was a true male, without approach to the female conformation except the hypospadias and the absence of the testicles from the scrotum. The vasa deferentia and vesiculæ seminales were demonstrated on the posterior wall of the bladder by means of a mercury injection. The prostate was apparently normal, and the sinus pocularis not enlarged. Two glandular bodies found in the inguinal canals showed under the microscope the usual structure of testicles.—Dr. J. Nigel Stark showed an Anencephalic Fœtus.

Ante-Partum Hæmorrhage.

Dr. Jardine read a paper on *ante-partum* hæmorrhage, with an analysis of 51 cases of placenta prævia taken from the journals of the Maternity Hospital. He gave notes of 8 cases of placenta prævia (which had occurred in his private and hospital work during the past year), and 4 cases of accidental hæmorrhage. The first child, a male, had a complete placenta prævia, and the edge of the placenta of the second, a female, was within the area of placenta prævia. Both were born alive by version, and the mother made a good recovery. Intravenous transfusion of a pint of saline fluid was resorted to in another case of complete placenta prævia with good results. One case proved fatal from hæmorrhage from a laceration of the cervix. He insisted that each case should be treated on its own merits, and that no one method of treatment sufficed for all cases. Bipolar version was perhaps the method that could be most frequently used, but he warned them against the temptation to deliver too quickly. In the cases of accidental hæmorrhage two were specially interesting. The first one was sent to hospital as a case of placenta prævia, for which it had been treated by plugging. The hæmorrhage had begun twelve hours before admission, and the vagina had been plugged three times. The patient was absolutely blanched. She was stimulated, and given a rectal injection of a pint of saline fluid. On examining he had found the uterus distended and full of clot. She was delivered by *accouchement forcé*, and the placenta, which was completely separated, was at once removed with a very large amount of clot. Hot douches checked the hæmorrhages, but the patient died in half an hour. A further rectal injection of saline was used, and also one into the areolar tissue of the breast. This case had undoubtedly been one of external accidental hæmorrhage, which had been converted into a concealed one. Dr. Jardine drew attention to the statements made in

[1] *Glasgow Medical Journal*, March, 1893.

Jellett's book, both by the author and Smyly, that there was no danger of this happening. He strongly insisted that plugging in external accidental hæmorrhage was a dangerous proceeding. This treatment was based on the supposition that in these cases the uteri were healthy, and that as soon as the pressure inside was greater than the blood pressure, the hæmorrhage would cease. Dr. Jardine maintained that in the majority the uterus was not healthy, and there was, therefore, great risk in converting an external into a concealed hæmorrhage. The second case was one of induction for contracted pelvis. Bougies had been used to induce labour, but the progress had been so slow that he had introduced Champetier de Ribes's bag forty-eight hours after the commencement. The os admitted two fingers easily. The bag when about two-thirds full burst inside of the uterus, and the patient collapsed. The bag was withdrawn at once, when very severe hæmorrhage came on. The placenta had evidently been partially separated. He quickly dilated manually and turned. The child was alive. The patient rallied, but severe bleeding came on, evidently from the cervix, about half an hour later. Six pints of saline fluid were transfused into the median basilic vein, and, after the hot douche failed to check the hæmorrhage, the cervix and vagina were plugged, but she died two hours and a-half later. The bag had been made of rubber. Two others had burst in his hands, but they had fortunately given way in the vagina. He strongly condemned these rubber bags. The bag should be made of silk. In the treatment of concealed accidental hæmorrhage he had found *accouchement forcé* did not give good results. He had not tried Porro's operation, but would be inclined to do so if he were unfortunate enough to have another bad case to deal with. In such a case he would transfuse a saline before operating.

In the discussion of the paper, Drs. Samuel Sloan, Balfour, Marshall, Nigel Stark, Edgar, and Malcolm Black took part.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Medicine.

Sir George F. Duffey, M.D., P.R.C.P.I., President, in the Chair.

Friday, November 19th, 1897.

Pneumonia a Multiple Infection.

Dr. J. W. Moore read a paper on this subject, which he said might be considered from both an etiological (or bacteriological) and a clinical standpoint. The author adduced evidence that the micro-organisms peculiar to erysipelas, to influenza, to tuberculosis, and to enteric fever might one and all give rise to a specific pneumonia or pneumonic fever. So also might Loeffler's diphtheria bacillus and the bacillus of malignant anthrax, as well as other pathogenic bacteria. There was, then, clinical evidence to show that a true pneumonitis might occur in any one of the four diseases with which this communication dealt, that is to say, erysipelas, influenza, tuberculosis, and enteric fever. Further, it was reasonable to suppose that in each case the pneumonitis was directly due to a localisation of the specific poison of the disease in the lung, whether that poison were a micro-organism itself or a toxin derived therefrom. Indeed, in respect of three out of the four diseases named, the evidence from a bacteriological standpoint in favour of such a view was incontrovertible. As regarded enteric fever, the influence of season and weather in determining pneumonic trouble was no doubt considerable, but it could not be accepted as paramount or exclusive. And if it were objected that the bacilli typhi abdominalis of Eberth had not as yet been often found in the lungs or sputum of enteric fever patients, the author felt justified in attributing this to the comparative infrequency with which, so far, search had been made for these bacteria in the pulmonary organs.

Mr. Henry Croly had for many years been familiar with pneumonia as a complication of erysipelas, which he ventured to call "erysipelas of the lung." In these cases there were none of the ordinary symptoms of pneumonia present, but on examination of the lungs he found in several cases solidification with the usual dulness, bronchial breathing, bronchophony, etc. He had been acquainted with the disease for twenty-four years.

Dr. J. W. Moore, replying, said that there was one point which he would like to repeat, as he thought he had been misunderstood, namely, that in very few cases of pneumonia was Friedlaender's micro-organism present. That was not what he had intended to convey, but he had intended to convey that in influenzal pneumonia the specific organism of pneumonia was not often present. It was the streptococcus pyogenes.

Pityriasis Rubra.

Dr. J. B. Coleman read a paper on pityriasis rubra, and exhibited a patient suffering from the disease. E.R., aged 20, a clerk by occupation, was admitted to the Whitworth Hospital on November 4th, 1897, suffering from an eruption which appeared suddenly in May, 1897, in the shape of redness on the back of the hands and wrists, and within a week the man's whole body was red and scaly. He had previously suffered from no form of skin disease, and had enjoyed excellent health. The appearance of the affection was attended with no general symptoms. He never had syphilis, but there was a history of alcoholism and of exposure to cold and wet. His family was free from any gouty, rheumatic, or phthisical taint. Lungs and heart healthy, appetite good, and temperature normal. There was marked leucocytosis, the white corpuscles being increased to 37,000 per cubic mm. The eosinophile cells were also relatively increased, constituting 10 per cent. of all the white cells. Urine normal, bowels confined. Axillary and inguinal glands moderately enlarged. The skin all over his body was dull red, and covered with thin, papery scales; it felt hot, rough, and dry. The patient never sweated. The redness faded on pressure, leaving a yellowish hue. The scales varied in size from branny desquamation on the face to larger flakes as big as a sixpenny piece on the back and limbs. The scales were thin, whitish, easily separated from the adjacent skin, which was red, but neither moist nor infiltrated. During the earlier months of the disease the scales were larger, and every morning about a pint of scales and powdery detritus was found in his bed. Some of his nails were thickened and loose, whilst others were thin and long. The scalp was covered with whitish-yellow matted scales, and his hair was falling out. The epidermis on the palms of his hands was thin (as if newly formed), and superficially cracked; the skin of his soles was thicker and desquamating. When the skin on the flexor surface of the arms, and on the side of his neck and trunk, was relaxed, it presented the appearance of *crêpe*, being covered with fine ridges and furrows, which were replaced by red linear streaks when the skin was made tense. The diagnosis of the case, as an example of Hebra's type of pityriasis rubra, depended on the onset of universal redness of the skin, associated with loosely-adherent, thin, papery scales, and on the absence of thickening moisture, or of any primary lesion.

Dr. Wallace Beatty was inclined to look on pityriasis as a condition which might be primary or which might be secondary to some other skin affection. He described a few cases of skin disease last year, one of which presented all the characters of pityriasis rubra in the beginning; however, the course since shows that it is a case of pemphigus foliaceus. Looking at Dr. Coleman's case for the first time, one might think that it was a case of generalised seborrhœa, but the history must show that it was a case of pityriasis rubra.

Dr. Finny said there were in this case symptoms—namely great thickening of the scalp, with a great quantity of scales, and with alopecia, which symptoms were absent in the only two cases of pityriasis rubra he had ever seen. Also, the scales in those cases were very much larger than those in Dr. Coleman's case. This fact made one look on the case as one in which scaling was taking place after universal erythema.

Dr. R. Travers Smith (the Secretary) asked what Dr. Coleman thought was the significance of the leucocytosis in the case, as he believed it had not been demonstrated in a case of pityriasis before.

Dr. Knott said he had seen a case of pityriasis rubra. The patient was an old man, 80 years of age, and the one symptom that he complained of was sleeplessness, due chiefly to the itching, although not violent itching.

Dr. Coleman replying, said he agreed with Dr. Beatty in saying that secondary cases of pityriasis rubra or exfoliating dermatitis were indistinguishable clinically, except for their

history, from a case such as he had brought forward; but he thought that a distinction might be made on account of the relatively better prognosis of the cases which were secondary to eczema, for instance. In reply to Dr. Finny, he thought that some seborrhœa always existed in pityriasis rubra. Neither some thickening of the skin nor itching were sufficient to upset the diagnosis of pityriasis rubra; in fact, in some of the very chronic cases, a considerable amount of thickening of the skin had been found. Itching had also been noticed in cases now and then as a prominent symptom, although not a common symptom. In reply to Dr. Travers Smith, he presumed that in this case the leucocytosis was simply due to the inflammatory condition of the skin. Neisser had found an increased proportion of eosinophiles in a number of skin diseases. Dr. Coleman himself had found such a condition in a case of pemphigus recently. In reply to Dr. Knott, it was, he thought, fairly true that other skin diseases were not so universally distributed as pityriasis rubra, although there were cases undoubtedly secondary to pityriasis rubra and pemphigus which were just as universal as the case which he exhibited.

SECTION OF OBSTETRICS.

F. W. KIDD, M.D., President, in the Chair.

Friday, November 26th, 1897.

SPECIMENS.

DR. HENRY JELLETT showed a solid Ovarian Tumour and small subperitoneal myoma of the uterus, removed from a patient aged 50. Cœliotomy was performed, tumour removed, uterus incised, and myoma enucleated, the incision was closed by catgut sutures, and abdominal hysteropexy performed.—The SECRETARY exhibited for Dr. W. J. SMYLY—(*a*) Three Uteri removed by *morcellement* for Myoma. All the patients made good recoveries, and were now in good health. (*b*) Uterus removed by Vaginal Hysterectomy for Carcinoma. The diagnosis was confirmed by microscopical examination, and the patient was now in good health and likely to remain so.—Dr. T. HENRY WILSON showed (*a*) Two specimens of Cervical Myoma. (*b*) Case of Pyosalpinx complicated by ovarian and parovarian cysts.—Dr. E. HASTINGS TWEEDY showed (*a*) Ovarian Cyst with adhesions. (*b*) Fibrous Polypus.—Dr. ALFRED J. SMITH showed (*a*) Three large Fibro-Myomata, which he removed for rapid increase in size from patients aged 35, 47, and 45 respectively. He ligatured the ovarian arteries directly, then, having separated the bladder from the tumour until he could see the uterine arteries, he ligatured these and separated the tumour by a wedge-shaped incision at the junction of the vaginal portion with the portio media of the cervix; the peritoneum was then stitched over the remains of the cervix, which was thus left completely retroperitoneal. Recovery in all. (*b*) A large Fibro-Myomatous Uterus removed by panhysterectomy; recovery. (*c*) A large Fibro-Myoma of the Uterus removed by myomectomy; recovery. (*d*) Nine Ovarian Tumours, all recoveries. (*e*) Case of Pyosalpinx removed by cœliotomy from a patient who had had a severe attack of puerperal septicæmia; recovery. —Dr. JELLETT showed for Dr. R. D. PUREFOY (*a*) Five Myomatous Uteri removed by panhysterectomy. (*b*) One Myomatous Uterus removed by vaginal *morcellement*. (*c*) One Myomatous Uterus removed by myomectomy. (*d*) One Fibro-Cystic Myoma removed by supravaginal amputation. (*e*) One Fibro-Cystic Myoma removed by panhysterectomy. (*f*) One Carcinoma of the Cervix removed by vaginal hysterectomy. (*g*) One Carcinoma of the Cervix and Myoma removed by vaginal hysterectomy. (*h*) One Dermoid of the Ovary removed by colpotomy. (*i*) Three cases of Ectopic Gestation treated by cœliotomy. (*j*) Four cases of Ovarian Cystic Tumours. (*k*) Two cases of Ovaries and Tubes removed for Salpingitis, etc.; cœliotomy. (*l*) Two cases of Multilocular Ovarian Cysts; cœliotomy. (*m*) One of Hydrosalpinx; cœliotomy. (*n*) One Parovarian Cyst; cœliotomy.—Dr. JELLETT also showed for Dr. PUREFOY a case of Ruptured Tubal Pregnancy. Patient admitted to Rotunda Hospital, August 12th, 1897. Last pregnancy March 12th, 1897. Stated she was unwell seven weeks after delivery; then amenorrhœa for two months, followed by hæmorrhage and bearing-down pains, and after this had seen nothing since July. Complained upon admission of pain in the back, iliac regions, and of dysuria. An irregular tumour filled Douglas's pouch; uterus was not considered enlarged. Her general condition was bad, and operation was deferred until August 31st. At the operation the uterus was found enlarged to about $3\frac{1}{2}$ months' pregnancy; the tumour in the posterior *cul-de-sac* was adherent, and on removal proved to be a tube distended with blood; as it was thought possible the enlargement of the uterus might be myomatous, the other tube and ovary were removed. The patient left the hospital on September 28th, and the uterus was then the size of a five months' pregnancy; she was subsequently delivered of a premature child on October 22nd. On microscopic examination the tube was found to contain remains of a fœtus and placental tissue.

SOME POINTS OF LIVING INTEREST TO THE TEACHER OF GYNÆCOLOGY AND OBSTETRICS.

The PRESIDENT delivered an introductory address on this subject. He dealt with the position of the "lady student" as regards her attendance on mixed classes of instruction, her position afterwards as a qualified practitioner with regard to the specialities of gynæcology and obstetrics, and her position as a unit of the profession to which she belonged. He drew attention to the fact that the difficulties in their way were: 1. Custom; 2. Men already in possession; 3. Physique; 4. The suspicion, or rather want of confidence, with which one woman usually regarded another woman. He dealt with the question of the improvement in nursing, recognising that it was a boon to both patient and practitioner, but not an unmixed blessing. He drew a fine distinction between "lady nurses" and "nurse ladies." He warned nurses against becoming advertising agents for any particular doctor, even though trained by him. Next he discoursed on the relative positions of ladies' nursetenders and midwives, their duties and differences in the responsibilities of practice, contrasting their teaching and status in this country and in England, congratulating the authorities on the excellent quality of the nursing provided for the poor when in their "hour of necessity," and on the new regulation abolishing "pauper nursing" in unions. He drew attention to the objections of a Midwives' Registration Act, and inferred that there would not be the same amount of interest taken in it in England that there undoubtedly was, if the poor were provided with as good nurses as there were in Ireland. The advantages possessed by students who studied gynæcology and obstetrics in Dublin were clearly pointed out, especially in their facility for getting practical work, while attention was drawn to the fact that the Conjoint Board of the Royal College of Physicians and Surgeons, London, refused to acknowledge a course of practical work for three months taken out at a midwifery hospital, such as the Rotunda or Coombe, saying that they did not recognise them, and entirely ignoring the fact that there was more gynæcology done in these two hospitals than in any general "recognised" hospital he knew of, even in England. In connection with this he drew attention to the fact that this same Conjoint Board in London, so particular in ignoring the Rotunda and the Coombe, accepted as evidence of practical midwifery a certificate stating that the student had "attended" not fewer than twenty labours, and this need only be signed by any one qualified practitioner. They in Ireland, that is, Dublin University, the Royal Udiversity, and the Conjoint Royal Colleges of Physicians and Surgeons—required a six months' attendance on practical midwifery in a lying-in institution, and a certificate of having attended at least thirty labours, of which a considerable number must be conductions. To such regulations as these he attributed the success that always attached to Dublin as a centre for teaching practical midwifery. Dr. Kidd wondered if the General Medical Council honestly considered a certificate of twenty attendances (and how easily could the word attendances be construed) signed by only one registered practitioner a sufficient guarantee that any student had sufficient practical knowledge in midwifery to trust him with the responsibility of the lives of both mother and infant in a difficult case. He thought the Irish representatives on the Council should draw attention to this. He gave the particulars of how a student in Dublin was taught practical gynæcology. With reference to the abuse of hospital charity—those making use of it who could very well pay

for medicine—he advocated a scheme by which they could procure medicine elsewhere at a very reduced tariff, and so save the resources of the hospital. At the same time he recommended a house-to-house collection for hospitals, to try to make those people who most benefited by its advantages bear at least some proportion of the expense, to the same end he had adopted the principle of daily having a locked money-box handed round the patients in the waiting-room. In large dispensaries for women and children he was in favour of distributing leaflets with instructions to the parent how to feed her infant or child, what to avoid, about the preparation of food, clothing, ventilation. He had found it really valuable, and in future determined to distribute one to each primipara leaving the maternal department. If he were to be allowed to prophesy, he thought the effect of the present teaching in Dublin would be soon to make Dublin as renowned in the future for the teaching of gynæcology as she has been in the past for teaching midwifery.

Ruptured Tubal Pregnancy.

Dr. Alfred Smith read notes of a case of ruptured tubal pregnancy in a married woman, aged 29½ years. She was five years married, and had three full-term children. The rupture took place in May 1897, and was diagnosed by Dr. O'Donnell, on whose recommendation she was conveyed in a cab eight miles to St. Vincent's Hospital without much distress. Cœliotomy was performed, and there was removed a Fallopian tube (specimen shown) of the left side which shows a rent through its inferior border at the junction of the ampulla with the isthmus. There was also to be seen a large circular opening, sufficient to admit the tip of the index finger, in the posterior layer of the broad ligament, quite close to the rupture and leading to it. A tuft of chorionic villi, and also a fœtus were enveloped in its amniotic sac. It was about half an inch long, and is approximately the growth of between the eighth and tenth week of gestation. The points of interest seemed to be: 1. The occurrence of a tubal pregnancy in a patient so prolific—she had had three children in five years. 2. The history of a second rupture. Pain first occurred on May 17th last, which was followed by a period of quiescence, and a return of pain on May 22nd confirmed by the pathological specimen which showed evidence of a primary rupture between the layers of the broad ligament, and a secondary one into the peritoneal cavity. 3. The absence of any hæmorrhage *per vaginam*. 4. The fact that the patient was again pregnant since August, so soon after such a serious operation.

Remarks were made by the President, Mr. McArdle, Dr. Lore Madden, and Hastings Tweedy; and Dr. Smith and Dr. Jellett replied.

ULSTER MEDICAL SOCIETY.

J. A. Lindsay, M.D., President, in the chair.

Thursday, November 4th, 1897.

Vote of Thanks to Retiring President.

The out-going President, Professor Symington, M.D., occupied the chair at the commencement of the proceedings, and thanked the Council and members of the Society for the support which they had given him during his year of office. He was glad to say that the past year had been one of great prosperity for the Society. He concluded by introducing the President-elect, Dr. J. A. Lindsay, who then took the chair.

A vote of thanks to Professor Symington for his services during the past year was moved by Brigade-Surgeon M'Farland, seconded by Dr. Kevin, and carried unanimously.

The Problem of the Consumptive Poor.

The President delivered his inaugural address on this subject. He estimated the number of consumptives at present alive in the British Islands as over a quarter of a million, of whom probably not fewer than 200,000 were cases which might require hospital treatment. The consumption hospitals and chest hospitals in existence were enumerated and their number of beds estimated at about 1,160. The inadequacy of the accommodation provided for this class of case was attributed to a general feeling of hopelessness on the part of the public in view of a problem so vast, and also to the want of sufficiently definite teaching on the part of the medical profession as to the best methods of dealing with consumption amongst the poorer class, and in particular as to the necessity for and utility of special hospitals and sanatoria for the disease. A full review was given of the state of the question in other countries, and the existing accommodation in Germany, Switzerland, France, Austria, Russia, Norway, the United States, and the British colonies was described. The methods and principles practised successfully in Germany by Dr. Brehmer and Dr. Dettweiler were explained and commended. The question of the contagiousness of consumption was considered, the speaker adopting the view of Koch and Cornet that the disease was usually communicated by the inhalation of pulverised sputum. Special hospitals for consumption might be expected to lead to the cure of a certain proportion of cases (which would probably be somewhere between the 4 or 5 per cent. obtained at the Brompton Hospital, and the 30 per cent. claimed by Dr. Dettweiler at Falkenstein), to the restoration of a much larger proportion to comparative health and capacity for work, to the relief of much suffering, to the checking of the dissemination of the virus of the disease, and to the education of patients in the principles of hygiene and in preventive measures, which would be useful to them after their discharge from hospital. The success which had attended the stamping out of leprosy was a good omen for the conflict against consumption, as the two diseases had much in common. The leprosy hospitals of the Middle Ages were mentioned, and shown to be much more numerous than the consumption hospitals of to-day. In future times probably every large city, town, or commune would possess its central consumption hospital with co-ordinated sanatoria in the country, the mountains, or at the seaside. It was much to be desired that the medical profession should adopt and propagate definite views on the proper methods of dealing with the consumptive poor. The problem was vast and difficult but the outlook was by no means hopeless.—A vote of thanks was passed to the President for his address on the motion of Dr. Barnett, seconded by Professor Whitla, M.D.

Some routine business having been transacted, the meeting adjourned.

Election of Officers.

The following are the office-bearers for the present session: *President:* Dr. J. A. Lindsay. *Ex-President:* Professor Symington, M.D. *Vice-Presidents:* Professor W. H. Thompson and Dr. M'Kisack. *Council:* Dr. Campbell, Dr. Calwell, Dr. Bingham, Professor Byers, M.D., Dr. Kevin, Dr. Gaussen. *Honorary Treasurer:* Dr. M'Caw. *Pathological Secretaries:* Dr. Lorrain Smith and Dr. Lynass. *Honorary Librarian:* Dr. Shaw. *Honorary Secretary:* Dr. James Colville, 40, University Road, Belfast.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

Pathological and Clinical Section.

R. M. Simon, M.D., in the Chair.

Friday, October 29th, 1897.

Family Chorea.

Dr. Douglas Stanley showed 2 cases of chorea coming on, at the ages of 34 and 23, in a sister and brother respectively. No other member of the family had shown a similar affection so far. The movements, which were very jerky in character, had been gradually getting more marked.

Lead Poisoning.

Dr. Russell showed a case of lead poisoning, in which, in addition to the usual extensor paralysis in both upper extremities, there was atrophy of the muscles of the thumb and little finger and also of those occupying the interosseal spaces. Dr. Russell believed that, in addition to the usual musculo-spiral neuritis, there was a lesion of the cells of the anterior cornua accounting for the atrophy of the hand muscles.

Death from Fæcal Impaction in a Child.

Mr. Barling read a note on this case. The patient was first under observation a year ago with an enormous impac-

tion, which so distended the rectum that it occupied the whole pelvis, and led to suspicion of sarcoma from the pelvic wall. Under anæsthesia an immense quantity of hard fæces and a quantity of plum stones were evacuated, and eventually a regular action of the bowel was established. The child was discharged and was lost sight of until recently, when she was readmitted to the hospital in a dying condition. At the necropsy a huge distension of the abdomen encroached upon the thorax so that the diaphragm on the right side reached to the second intercostal space, and on the left side to the third rib, and the heart was pushed upwards until the upper border of the right auricle was on a level with the clavicles. The whole of the large intestine was enormously distended, but the distension ceased at the ileo-cæcal valve. The rectum at its upper part was 17 inches in circumference, and its muscular coat appeared to have undergone extreme atrophy. The rectum and part of the sigmoid flexure were occupied by a large quantity of fæcal matter, but above that the distension was mainly gaseous. There was no rent in the intestinal wall, nor was there any peritonitis, and death seemed to have resulted from the extreme abdominal distension encroaching upon the thorax and interfering with the action of the heart and lung.

Suppurative Pylephlebitis.

Dr. Codd showed specimens from a case in which suppurative pylephlebitis had followed appendicitis in a lad aged 18. The illness began three weeks before admission, with abdominal pain, vomiting, and emaciation. On admission into the Wolverhampton General Hospital the liver dulness was found to extend from the fifth rib in the front to the level of the ninth dorsal spine posteriorly; it extended on the right side to the level of the umbilicus. The right hypochondrium was bulged, and the chest measured 2 inches more on the right side than on the left. The abdomen was full and tender, and efficient palpation impossible. Pain was espedecially located in the hypogastrium. At 8 A.M. on the morning after admission the patient had a sudden agonising attack of pain. Abdominal respiration ceased, and a fluctuating tumour was felt in the ileo-cæcal region. In the evening he suddenly became worse, and died at 7 P.M., twenty-five hours after admission. On *post-mortem* examination some coils of intestine were found glued together near the cæcum. There was an abscess over the cæcum with the necrotic appendix floating in it, and another extending along the ascending colon. The right colic vein was distended, and contained thrombi and pus. The portal vein was also full of pus and septic clots. The liver was enlarged, and the branches of the portal vein were converted into a series of abscess cavities. This case resembled one shown in the spring, in which there was a quiescent perityphlitis that had caused suppurative pylephlebitis. One of the abscesses had set up a hypophrenic absoess, which had in turn burst into the peritoneal cavity. In both cases there were no rigors or jaundice.

Fibrosis of Lungs.

Dr. Foxwell showed the lungs and heart from a lad of 18, who died in the Queen's Hospital on October 6th. The lower lobe of each lung was completely fibrosed, the two together not exceeding a healthy adult spleen in size. The bronchial tubes of each were greatly and numerously but unevenly dilated in a cylindrical manner. The middle lobe of the right lung was in a similar condition, but its comparative reduction in size was much less, as it was larger than either of the lower lobes. The lungs as a whole occupied as much room as usual, the upper lobes being considerably hypertrophied. There was some dilatation of the tubes of the right upper lobe, with fibrosis and considerable pleuritic adhesion; this morbid change was probably of recent origin. The right ventricle was large and greatly hypertrophied, its wall being as thick as that of the left ventricle. Though the lad's work was laborious he insisted that he had never suffered from dyspnœa or any illness till he had pleuro-pneumonia six months before he died; but ever since this illness he had had bronchitis, increasing dyspnœa, and œdema. On admission he also had much cyanosis, a hard liver reaching to the umbilicus, a slight icteric tinge, some epistaxis, and greatly clubbed fingers. The urine measured from 12 to 26 ounces daily; it was lithatic and contained a little albumen. The condition of the heart showed that the bronchiectasis and fibrosis of the three lower lobes must have been of very old standing, probably congenital; or coming on with whooping-cough or bronchitis in infancy. The case was remarkable for the absence of all apparent symptoms prior to the onset of pleuro-pneumonia; this permanently upset the respiratory equilibrium by throwing nearly the whole of the work upon the left upper lobe. The bronchiectasis of the middle lobe was diagnosed before death: that of the two lower lobes was not; chiefly, no doubt, owing to their being enveloped by the overgrown upper lobes. Consolidation was diagnosed at the left base, but the condition of the right upper lobe prevented any such local differentiation on the right. Naturally, such an extremely rare thing as double symmetrical bronchiectasis was not suspected.

Macerated Fœtus from Extrauterine Gestation.

Mr. Christopher Martin showed a macerated fœtus, six months advanced, which he had removed from a suppurating extrauterine gestation. The patient was married, and aged 24. Fifteen months ago she became pregnant and missed her period for three months. Then she had what was supposed to be a threatened miscarriage. Menstruation returned and became regular. At the sixth month the fœtus died. For some months the patient remained well, when septic symptoms supervened; the fœtus decomposed and the gestation sac filled with horribly fœtid pus. Mr. Martin opened the sac *per vaginam*, extracted the fœtus piecemeal, and packed the sac with iodoform gauze. There was no trace of a placenta. The patient made an excellent recovery.

Abscess of Ovary.

Dr. Purslow showed a specimen which he had removed by abdominal section. Twelve months before the operation the patient, under the mistaken impression that she was pregnant, passed a wooden crotchet hook, with the intention of procuring abortion. A severe attack of peritonitis followed this gradually subsided, leaving, however, a fixed lump in the left posterior quarter of the pelvis; there was severe pain with progressive loss of flesh and deterioration of general health, so that operation was decided on. The mass was densely adherent, and on removal proved to be ovary and tube, the latter not distended, but the former containing four distinct abscess cavities, containing in all about 2 oz. of pus. The patient recovered, and was in much better health after operation.

Dermatological Society of Great Britain and Ireland.—At a meeting on November 24th, Dr. J. F. Payne, President in the chair, the President showed a case of Sarcoma of the Skin in a man of about 60 years of age, the subject of a general dry scaly eczema. Over the right pectoral region there was a well-marked, raised, ulcerating tumour, rather larger than a five-shilling piece, which had existed for three years, and between the shoulders was a second tumour about the size of a walnut; this was much more raised than the anterior tumour, and the surface was but little ulcerated. The tumour on the back, taken together with the general eczematous condition, reminded one very much of the case of granuloma fungoides brought forward by Dr. Abraham at the October meeting. Histologically the malignant elements of Dr. Payne's case showed a spindle-celled sarcomatous tissue.—Mr. Hope Grant showed for Dr. Abraham a case of Xanthoma Diabeticorum. The patient was a robust middle-aged man. His father died at about 50, and his mother at a somewhat younger age; a moderate drinker. The urine when examined had never contained more than a trace of sugar. At the October meeting, in a similar case shown by Dr. Abraham, there was found a large quantity of sugar. There were a number of well-marked, yellow-tipped nodules about the flexor surfaces of the forearms; the nodules were discrete but grouped. They were also plentifully arranged on both surfaces of knees and lower thighs. There were a few scattered nodules over both back and abdomen. The President remarked that the glycosuria in these patients was often of a transient nature, and the amount of sugar found in the urine might be small. He also remarked upon the like physiognomy of these cases, and upon the fact that they were usually robust people. At the Dermatological

Congress it was stated that the histology of these cases was not that of xanthoma.—Dr. Walsh showed a case of Infective Angioma. The case had been published and named by Mr. Jonathan Hutchinson some two years ago. The patient was a fairly healthy-looking girl, about 21 years old, and the condition had commenced when she was about 13. It began on one arm near the wrist, and gradually spread in arborescent lines until it had affected a large portion of the whole surface of the body. Where it had travelled there were left faint cicatrices. There was a more markedly nævoid condition in the left popliteal space. Dr. Savill inquired why it should be called "infective." Dr. Walsh said that the term "infective" was used only in a limited sense to imply that it spread locally.—Mr. Hope Grant showed (for Dr. Abraham) a case of Favus with a microscopical specimen.—Dr. Walsh showed a case of Lupus of the Conjunctiva. There were also many recurrent multiple nodules upon the face, which had been well scraped two years ago. Marked phthisical family history. The question was raised as to whether the condition of the conjunctiva was really of a lupoid nature. Dr. Eddowes remarked upon the local infectivity of lupus.—Dr. Savill showed a case of Localised Sclerodermia in a female. There were large morphœa patches on chest and abdomen. The legs and feet, and arms and hands to a lesser extent, were in a swollen, helpless condition, and the skin over these parts was tighter than usual. One of her toes had been at one time ulcerated, and there had been some loss of substance; there was little evidence of this now. There was no anæsthesia, and no loss of thermal sensation. Dr. Savill was so impressed with the neurologic element of the case, that he mentioned the possibility of Morvan's disease or of syringomyelia. With these suggstions Mr. Pernet did not agree. Dr. Eddowes suggested a nervous origin. The President thought there was osteo-arthritis, together with a sclerotic process.—Mr. Hope Grant showed (for Dr. Abraham) a married man, aged 21. He had a large, considerably raised, Ulcerous Surface, the size of the palm of the hand, upon the flexor surface of the left arm, near the elbow. There was surrounding brawny erythema, and the edges were not everted or hard. It had existed for six months. It commenced "as a 'lump,' which burst and discharged a white substance." There was a somewhat similar but smaller ulcer on one of his legs. The President, Mr. Shillitoe, Mr. Pernet, and Mr. Freeman regarded the ulcers as specific. The patient's wife (a young woman) was with him, and appeared to be in good health.—Mr. Hope Grant showed a case of Dermatitis Herpetiformis in a little girl, aged 7. The disease was universal and very typical. Dr. Eddowes remarked that Unna would have called it pemphigus.

British Orthopædic Society.—At a meeting on November 4th, Mr. Muirhead Little in the chair, Mr. Reeves exhibited: (1) A doubtful case of Congenital Dislocation of the Left Hip, Double Equino-Varus and Paralysis of both Groups of Anterior Tibial Muscles; (2) a child with extreme Equino-Varus on the left side, with Congenital Absence of the Fibula; (3) Congenital Fracture of the Tibia and Malformation of the Hip. Dr. Risien Russell, Messrs. Tubby, Little, and Noble Smith joined in the discussion.—Mr. A. H. Tubby showed a boy, aged 9, upon whom he had performed Arthrodesis at both ankles for Flail-like Foot. Remarks were made upon the case by Messrs. Jackson Clarke, Little, and Robert Jones.—Mr. William Thomas exhibited a photograph and gave details of a doubtful case of Traumatic Spinal Caries which had been the subject of an action at law. He also showed a skiagraph representing an injury to the epiphysial line of the radius with subsequent arrest of the growth of that bone.—Mr. Jackson Clarke showed the skiagraph of a marked case of Flat Foot in a girl about 10 years of age.—Mr. Noble Smith read a paper on Spasmodic Wryneck. He stated that out of 18 cases which he had treated he had operated upon 11 by excision of a piece of the spinal accessory nerve, and in 3 of these cases he had also had to operate upon the cervical nerves. In all the 8 patients he had removed portions of the second, third, and fourth external branches of the posterior cervical nerves. In the 3 cases in which he had not performed this latter operation 2 of the patients were for the present sufficiently contented with the results obtained by division of the spinal accessory alone. In the third case, although the sterno-mastoid was absolutely paralysed by the first operation, the patient could not be persuaded to submit to the completion of the treatment by operation on the posterior cervical nerves; but it was stated that this patient had firmly made up her mind before anything was done that no treatment would relieve her. Mr. Noble Smith contended that considering the almost uniform success of the double operation, this treatment could now be considered as a well established and reliable method. Dr. Risien Russell and other members joined in the discussion which followed.—Mr. Jackson Clarke read a paper and exhibited drawings and skiagraphs of cases of Coxa Vara in Infants. Mr. Keetley made some remarks.

Laryngological Society of London.—At a meeting on November 10th, 1897, Mr. H. T. Butlin in the chair, the designer, Mr. W. Heywood, a jeweller, introduced by Sir Felix Semon exhibited a new Tracheotomy Tube for Permanent Use.—Dr. Donelan showed a Syringe for making Submucous Injections in Laryngeal Tuberculosis.—Dr. J. B. Ball showed a case of Fibro-sarcoma of the Nasal Septum.—Mr. Morley Agar showed a case of Tumour of Tongue, with Specimen. The tumour was removed from the right posterior dorsum of tongue in a lad aged 15.—Mr. W. G. Spencer showed a case of Separation of Old-Standing Adhesion of the Soft Palate to the Pharynx. The patient was a middle-aged woman who had suffered severely from tertiary syphilis. The separation had since then been kept up by the patient passing full-sized nasal bougies, and by stretching at intervals of a fortnight the soft palate by using an aneurysm needle under cocaine. She had lost the pain in the ears, and could breathe easily through and blow the nose. She was now in very good health.—Dr. William Hill showed Two Tonsils, on the surface of each of which a Papillary Growth was seen. They had been removed from a female and male aged 21 and 22 respectively. Mr. Butlin and Messrs. Wingrave, Waggett, Horne, and Yearsley reported having met with similar cases. Dr. William Hill also showed a girl aged 13 who had been cured of Lupus of Nose and Palate, but now the epiglottis was seen to be red, irregular, and granular on the surface, and conforming with the appearances of chronic tuberculous lupus. The patient also had a patch of lupus on the face and on the left foot.—Dr. Jobson Horne showed a case of Cyst of Epiglottis in a man aged 36. The cyst had the appearance of a small grape situated on the lingual surface of the epiglottis, occupying the left half, and was attached by a broad base close to the free edge. The man had been suffering from dysphagia for six months; for some time he had been taking only food fairly chopped, but latterly had to reject even fluid food. The cyst was removed with a hot snare. Since the removal of the cyst dysphagia had completely disappeared, the cough had been less, and the man's health had considerably improved. — Dr. Scanes Spicer showed a case of Paralysis of Right Vocal Cord, Right Side of Soft Palate, and Right Side of Pharynx, probably due to Nerve Lesion high up in Neck in a man aged 72. No evidence of pressure in neck.—Dr. Herbert Tilley showed a case of Chronic Lateral Hypertrophic Laryngitis simulating Malignant Disease in a man aged 38. He had suffered from hoarseness for six months, but no pain or difficulty of swallowing, and had not lost weight. On examination the right vocal cord was seen to be quite immobile on phonation. It was in parts of a pale milky colour. There was an enlarged gland in the right submaxillary triangle.—Mr. Wyatt Wingrave showed a case of Thyro-hyoid Cyst in a little girl aged 5. When first seen complained of a "running sore" in her neck. Ever since a few months old a swelling had existed below her chin, which gradually grew to the size of a cobnut. Twelve months ago it was "cut" by her doctor, and had discharged ever since. The aperture of a fistula was seen in the middle line of the neck, moving with deglutition and discharging pus-like matter, which was found to consist of epithelial cells undergoing fatty degeneration. It was diagnosed as the vestige of a cystic thyro-hyoid duct. It was dissected out.—Dr. Pegler showed a case of Necrosis of the Left Inferior Turbinal with a History of Traumatism. The

patient, a woman, had when young struck her nose violently against a post. The organ was said to have been broken, and there was much epistaxis at the time. Since that time there had been some trouble connected with it. Two pieces of dead bone were said to have been taken away some time ago. A mass of granulation tissue blocked up the left meatus and was bathed in pus. With the probe a rough grating might be felt beneath the granulations like that of dead bone. Dr. Pegler also showed a case of Disease of the Right Vocal Band for diagnosis. The patient was a woman aged 56, who complained of loss of voice. Symptoms commenced five or six years ago by a feeling as of always wanting to swallow; this was followed by a bad cough. Her voice gradually left her, and had never returned. There was no pain in the throat. There was a deep red somewhat conical growth occupying the upper surface of the anterior third of the right vocal band. The arytenoid cartilages moved freely and equally on attempts at phonation, and there was no infiltration of the laryngeal structures.—Dr. WORTHINGTON showed (for Dr. PERCY KIDD) a case of Prolapse of the Ventricle of Morgagni. There was dyspnœa and stridor for three weeks before her admission to hospital, and great dyspnœa on admission; also great œdema of epiglottis, which subsided in a day or two. Dr. STCLAIR THOMSON reminded the Society that it had been shown that no excision of mucous membrane took place in the condition known as "prolapse of the ventricle of Morgagni." Such cases turned out to be solid tumours, cystic or fibromatous, taking their origin from the wall of the sinus.—Dr. LAWRENCE showed a case of Early Tuberculous Laryngitis.

NORTH OF ENGLAND GYNÆCOLOGICAL AND OBSTETRICAL SOCIETY.—At a meeting held in the Medical School of Sheffield on November 19th, Dr. BRIGGS (President) in the chair, Dr. WALTER (Manchester) made some remarks on the relative advantages of vaginal section *versus* abdominal section, and exhibited: (1) a Dermoid Ovarian Cyst, removed by vaginal section; (2) a piece of Glass Drainage Tube removed by vaginal section on the fourth day after ovariotomy; (3) two Suppurating, Intraligamentous, Ovarian Cysts removed by enucleation after abdominal section.—Dr. LLOYD ROBERTS (Manchester) mentioned the excellent results obtained by the administration of Phenacetin as an alternative to opium for the relief of pain in cancer of the uterus, rectum, and mammary gland. Phenacetin did not produce gastric disturbance nor constipation as opium and morphine did. Constipation was doubtless productive of great evils, as the retention of the intestinal contents until decomposition took place tended to the formation of toxic products, which being absorbed were productive of anæmia and dyscrasia. The digestion and assimilation of food not being interfered with by phenacetin, nutrition was more active and life was more or less prolonged. As a rule, phenacetin did not require steadily increased dosage, 30 grains in twenty-four hours being the amount required in severe cases, commencing with 5-grain doses two to three times a day, given on the tongue dry, and washed down with a little water.—Dr. MACFIE CAMPBELL (Liverpool), in a paper on Forceps and Forceps Mortality, endeavoured to show from his own practice that instrumental delivery was not more common among the poor than among the rich; that the amount of disease or injury was not increased by their use, and that the risk to mother and child was not increased. He pointed out the difference between hospital, consulting, and private practice, and showed that the use of forceps in general work was largely a question of whether chloroform was employed or not. Granted chloroform, then in the upper-class practice forceps would be more required. By that he meant the low operation, and, while his own percentage of forceps deliveries was 29 per cent., four-fifths of these were low operations. In his practice the percentage of instrumental cases had increased with the higher rank of his patients. As for disease and injury, it was most difficult to estimate the difference between the past and the present; he thought the gynæcologist was more employed because he could do more, not because there was more to do. That laceration of the perineum occurred in 85 per cent. of forceps deliveries according to Münchmeyer he doubted from his own experience, in which he sutured every case, even the slightest. The diminution of cases of vesico-vaginal fistula was noted by more than one observer, among whom might be quoted Playfair. Dr. Campbell used forceps in powerless labours with the os dilated, in one hour to ninety minutes after the commencement of anæsthesia. He showed a table exhibiting variety of practice from Dr. Collins. 0.16 per cent. to his own 29.75 per cent., bringing out that while with forceps over 10 per cent., the maternal mortality was 0.34 per cent. greater, the infantile was 1.39 per cent. less; statistics were, however, not altogether reliable, as the records were not kept in a uniform manner. Of 107 primiparous forceps cases, Dr. Campbell had lost one mother—a craniotomy case—and four children, three of whom were twins; while of 230 forceps cases (taken altogether) he lost three mothers (two craniotomies and an eclampsia) and nine children. He had collated the records of 360,657 labours, with surprising individual results, but a wonderful agreement in average. His position with regard to this subject was best expressed in the words of the late Dr. Hamilton, of Falkirk: "It is not generally in the early portions of tedious labour that danger is to be apprehended. When the os uteri has become dilated and the head has entered the pelvis.....I hold that the danger to the child usually becomes imminent if it be allowed to remain undelivered much more than two hours."—Drs. RUMBOLL, LLOYD-ROBERTS, WRIGHT, KEELING, and SINCLAIR took part in the discussion which followed; and Dr. CAMPBELL replied.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At a meeting on November 5th, Dr. H. P. POTTER (President) in the chair, Mr. MAITLAND THOMPSON read the history of a case of Cerebral Hæmorrhage in a child. A boy, aged 13, was at school, and had just passed through an attack of chicken-pox, and, while quiet during convalescence one morning, complained of headache and vomited. An hour later he was unconscious. There was no squint; both legs were extended, but there was no voluntary movement in them. Convulsions soon afterwards set in, the temperature rose, and the patient died ten and a-half hours after becoming unconscious. At the necropsy the vessels of the meninges were found much congested, and the brain substance of the right temporo-sphenoidal lobe ploughed up by blood. Mr. Thompson alluded to the rarity of such cases, and to the difficulty of diagnosis. Dr. S. BONTOR mentioned a similar case in a female child, who on rising in the morning felt giddy. When seen shortly afterwards she was dull, and had vomited. There was no evidence of paralysis or of cerebral irritation. The patient died the same evening. *Post mortem* there was a large hæmorrhage on the right side of the brain, which had opened into the ventricle. Mr. BRINDLEY JAMES also alluded to a like case in a boy. Dr. W. COLMAN said the records of the Children's Hospital in Great Ormond Street had scarcely any cases of cerebral hæmorrhage in them. He had, however, seen one case associated with ulcerative endocarditis. Dr. J. D. MORTIMER said he knew of one specimen in the Great Ormond Street museum. He mentioned various causes of cerebral hæmorrhage which might occur in children—asphyxia, purpura, miliary aneurysms, and chronic nephritis. The PRESIDENT mentioned some details of three cases which had been brought before the Pathological Society. In two the hæmorrhage appeared to have been venous in origin, while the third was in a case of infantile scurvy.—Dr. H. J. DAVIS read a paper on Gunshot Injuries in the late Greco-Turkish War, and illustrated it by a description of cases and by specimens of projectiles. After remarks by Dr. THUDICHUM, Dr. SYMONS ECCLES said he had been through the Russo-Turkish war, and alluded to the fact that the wounds of that campaign appeared to differ but little from those of the recent war. Dr. DAVIS, in reply, said it was impossible to find out accurately the proportion of dead to wounded, but he thought that the latter were more numerous. Nearly every man who was injured had a temperature afterwards, and many showed signs of malaria.—At a meeting on December 3rd, Dr. POTTER, President, in the chair, Dr. J. B. BALL showed a case of Acromegaly in a woman aged 51. There was no retrosternal dulness, and the thyroid appeared of normal size. The urine contained a little sugar. No specific treatment had been adopted.—Dr. SEYMOUR TAYLOR showed 3 cases of Symmetrical Nodes of the Radii in women. All the cases were of a syphilitic nature, and two had other signs of syphilis. The lower sixth of the shaft of

each radius was affected. There had been much improvement under iodide of potassium, and Dr. Taylor advocated the use of this drug in small doses at the commencement, instancing the fact that if a large dose be given to start with, much iodide is excreted rapidly in the urine. Mr. Swinford Edwards remarked that he had had very beneficial effects in nodes on the forehead from the use of iodide of sodium combined with carbonate of lithium. Dr. Chapman said he habitually gave the sodium salt. Dr. Morgan Dockrell, Mr. J. R. Lunn, Dr. Mansell Moullin, and Dr. A. Whitfield also discussed the cases; and Dr. S. Taylor replied.—Mr. C. B. Keetley showed one case of Stricture of the Œsophagus with stricture of the pylorus in the same patient, and instanced another similar case. Both cases were the outcome of the swallowing of hydrochloric acid. In one Mr. Keetley had performed Loreta's operation with marked success, but the other had died before an operation could be undertaken. He had formed the opinion that the stricture of the pylorus, which was organic, had really produced a spasmodic stricture of the œsophagus, in much the same way as a stricture of the urethra might affect higher parts of the urinary tract. He insisted on early operative interference as soon as symptoms showed themselves. Mr. J. R. Lunn was not in favour of Loreta's operation. Dr. J. B. Ball also made some remarks.—Mr. McAdam Eccles showed a Boy whom he had trephined for a compound depressed fracture of the frontal bone, and alluded to another case of his of a simple depressed fracture, also of the frontal bone. He advocated the replacement of bone in all cases where there was no septic infection of the same, but doubted the advisability of doing so if there was a suspicion of not being able to secure asepsis. Mr. Bruce Clarke alluded to a case where he had removed fouled bone and washed it, and afterwards replaced it, with primary union following. Mr. Keetley preferred the use of a chisel and mallet to a trephine. —Dr. A. Whitfield showed a girl, aged 18, with Ulcerative Purpura of the Legs.—Dr. F. H. Low exhibited a collection of Skiagraphs, chiefly illustrating the detection of Foreign Bodies in the Tissues.—Mr. Ernest Clarke showed some beautifully prepared ophthalmic specimens of Pseudo-Glioma, Displaced Lens, etc.—Dr. Septimus Sunderland exhibited a Dermoid Cyst, removed by laparotomy from an ovary.

North London Medical and Chirurgical Society.—At a meeting on November 11th, Dr. David Fairweather, President, in the chair, Dr. Sclater Jones read notes and showed skiagraphs of a case of a child in whom a Shilling had remained Lodged in the Cardiac End of the Œsophagus for 6 months. The coin was successfully removed by an umbrella probang.—Dr. Syers showed two cases of Lichen Ruber Planus in female patients, aged 34 and 26 respectively. In the former the rash had been present for two months, and in the latter for five months. The distribution in both cases was typical, and both patients were in good general health. Dr. Syers also exhibited a well-marked case of Dermographia. The affection first manifested itself at the age of 13, and had existed for four years. The slightest injury or irritation of the skin produced marked erythema, followed by the development of urticarial wheals and by a sensation of burning or tingling. There was no connection between the diet and the appearance of the eruption. With the exception of a tendency to constipation, the health had always been very good. A fourth case shown by Dr. Syers was a man, aged 52, from whose left pleural cavity several ounces of chylous fluid had been obtained. Dr. Syers expressed the opinion that it was a case of Chylothorax, due possibly to tuberculosis or to malignant disease of the lung and pleura, which had involved a portion of the thoracic duct.—The Secretary (for Dr. Malcolm) showed a case, aged 10 years, which had been treated for Torticollis by division of both heads of the left sterno-cleido-mastoid through open wounds. The case was treated subsequent to the operation for six weeks by a traction apparatus made of plaster-of-paris and pieces of drainage tube, and now, four and a-half months after the operation, there was no recognisable deformity.—Dr. Clegg exhibited the following cases: (1) Tuberculous Disease of the Testicle in a child 11 months old. The vesiculæ seminales of the same side also contained a large deposit of "tubercle." (2) A very pronounced case of Hallux Valgus. (3) A case of Syphilitic Arthritis of the Knee-joint; and (4) one of extensive Tertiary Syphilitic Ulceration of the Lower Limb. Dr. Clegg also showed a specimen of Black Urine from a patient who had swallowed 4 ounces of Calvert's No. 5 carbolic solution.—Mr. Goring and Mr. Mower White showed a female patient, aged 53, who was admitted to the hospital suffering from the effects of a Gumma of the Cerebral Cortex, involving the upper limb "area." Jacksonian fits, followed by dementia and signs of cerebral compression, occurred after admission, and to relieve these symptoms a large piece of very dense and greatly thickened bone had been removed. The dura mater, which was involved in the gumma, was not opened. The improvement immediately after the operation was very marked, and subsequently large doses of iodide of potassium completed the cure. The President, Dr. Bailey, and others took part in the discussion that followed the exhibition of each case.

Glasgow Southern Medical Society.—At a meeting on December 2nd, Dr. Jas. W. Allan, President, in the chair, Dr. Walter Downie read a paper on the Treatment of Nasal Obstruction and Asthma due to Turbinal Hypertrophies. The paper was thoroughly practical, and was illustrated by specimens and wax casts. Dr. Carmalt Jones's "spokeshave" was recommended as being much more efficient in curing than the cautery or chromic acid. Anterior or posterior inferior turbinotomy, or both, were advised, if indicated, but complete removal of the inferior turbinate should never be done; the intermediate remainder prevented the pharyngitis sicca and laryngitis which always followed complete removal. Drs. MacMillan, Hamilton, Thos. Forrest, Burgess, the President, and others discussed the paper. Dr. Walker Downie, in replying, said hæmorrhage was easily controlled, 1 case in 20 requiring firm packing of the nose. The nasal douche was not required. The "spokeshave" was superior to the cautery because bone in most cases must be removed, as well as destruction of erectile tissue.—Dr. L. Burgess showed photographs of a case of Specific Skin Disease at various stages of treatment with large doses of iodide of potassium, mercury was not well borne; under the iodide rapidly increased. There was striking improvement. The question of dosage of iodide was discussed. Symptoms of iodism called for treatment by doubling the dose.

West Kent Medico-Chirurgical Society.—At a meeting on December 3rd, Mr. Arbuthnot Lane, President, in the chair, Dr. Scholefield read a paper on Some Complications of Scarlatina, in which he pointed out chiefly the characteristics of the so-called diphtherial throat in acute stage of scarlatina. Evidence was brought forward that it neither spread to the trachea and larynx nor produced paralysis afterwards. Nor did it infect other patients in the same wards who were convalescent from scarlatina. Diphtherial outbreaks among scarlatina convalescents presented quite different characters and were much more frequent when both diseases were admitted to the same hospital, cross infection being thus possible. He regarded the white patches as purely streptococcal in origin. Rheumatism, albuminuria, and septic bronchitis were dealt with from a clinical and pathological standpoint. Nasal feeding was recommended in cases that developed difficulty in swallowing and cough after administration of fluids by the mouth. The paper was discussed by the President, Drs. Bowen Williams, Herschell, Taylor, and Purvis; and Dr. Scholefield replied.—Dr. Herschell read a paper on Leucocytosis as Aid to the Differential Diagnosis of Diseases of the Digestive Organs. An increase in the number of white corpuscles was found in many conditions, inflammation, suppuration in any part of the body, absorption of toxins, and in most infectious diseases, except typhoid and tubercle. Besides materially assisting in the diagnosis between the chronic affections of the stomach, the counting of the leucocytes in the blood was of immense assistance in estimating the gravity of appendicitis. A small leucocytosis passing off after a few days showed that the affection was slight and limited in extent. A large leucocytosis maintained without change for a week showed that there was a large collection of pus walled in

which had no tendency to be absorbed, and operation should take place without delay. A leucocytosis increasing from day to day showed that the disease was extending and that the patient was in danger and should undergo an operation at once. If the blood had been examined in the cases of appendicitis reported in journals when a diagnosis could not be made, there would have been no difficulty. The PRESIDENT and Dr. MEGGISON spoke and Dr. HERSCHELL replied.—Mr. MAYO COLLIER read a paper on Respiration, Normal and Abnormal, in which he emphasised the need of making a thorough examination of the nose and throat in all respiratory affections. The PRESIDENT, Drs. SCHOLEFIELD, HERSCHELL, PURVIS, and B. WILLIAMS discussed the paper; and Mr. COLLIER replied.

KIDDERMINSTER MEDICAL SOCIETY.—At a meeting held at the Kidderminster Infirmary, on November 26th, Mr. S. STRETTON, President, in the chair, Mr. LIONEL STRETTON showed (1) a girl, aged 25, suffering from Chronic Rheumatism, with plastic effusion around some of the joints. She was first attacked with rheumatism about twelve months ago, when she had an acute attack lasting about a fortnight. About six months ago the joints began to enlarge, and had remained so since. Various forms of treatment had been tried without benefit. (2) A girl, aged 4 years, who was admitted on September 4th. She had fallen down with a glass in her hand, causing a Jagged Wound in the Palm, and on examination it was found that the whole of the structures down to the metacarpal bones were divided. After a tedious operation the divided tendons and the nerves were approximated. The wound healed without trouble, and there was very fair movement of the fingers. (3) A youth, aged 17, who had an Undescended Testicle in the Left Inguinal Canal. In August, 1897, the canal was opened and the testicle dissected out and pulled down to the scrotum, where it was fixed with a suture. It remained in its position and showed no signs of atrophy, and could be moved about in the scrotum as in the normal condition.—Dr. EVANS showed a farm labourer, upon whom he had performed excision of the elbow-joint for disease following an accident. The man could do his work almost as well as before the accident.—Mr. W. H. MOORE showed a woman suffering from obscure ataxic symptoms, which he thought might be due to a small tumour in the cerebellum.—Mr. A. C. OLDHAM read a paper on Mastoid Disease.

MANCHESTER THERAPEUTICAL SOCIETY.—The second meeting of the prssent session was held on November 24th, Professor DIXON MANN in the chair.—A discussion upon Thyroid Medication was opened by Dr. E. S. REYNOLDS, and continued by Drs. HARRIS, BROOKE, DIXON MANN, WILD, and COUTTS. The points principally discussed were: (1) The indications for thyroid treatment; (2) the relative value of the various preparations of thyroid gland; (3) dosage of the crude gland and its preparations.—Dr. E. YONGE made a preliminary communication on Orthoform, and its anæsthetic action on the upper air passages.—Dr. WILD showed a specimen of the Hydrobromide of Emetine, and also solutions of the salt of convenient strength, as substitutes for the preparations of ipecacuanha.

LIFE ASSURANCE MEDICAL OFFICERS' ASSOCIATION.—The following is the list of members recommended by the Council as officers for 1898:—*President:* Hermann Weber, M.D. *Vice-Presidents:* Charles E. Hoar, M.D., and T. Glover Lyon, M.D. *Treasurer:* C. Theodore Williams, M.D. *Council:* Sir Hugh Beevor, Bart., M.D., Robert W. Burnet, M.D., T. Colcott Fox, M.B., G. A. Heron, M.D., F. de Havilland Hall, M.D., J. F. Payne, M.D., J. E. Pollock, M.D., G. Vivian Poore, M.D., and Sir R. Douglas Powell, Bart., M.D. *Secretary:* Hector Mackenzie, M.D.

MEDICAL MAGISTRATE.—Dr. Robert Gray, of Armagh, President of the North of Ireland Branch of the British Medical Association, has been appointed to the Commission of the Peace for the county of Armagh.

PRESENTATION.—Mr. Alex. M. Erskine, M.B., D.P.H., was on December 3rd presented with a gold-mounted umbrella by the members of the Goole Station Ambulance Class.

REVIEWS.

A TEXTBOOK OF PHYSIOLOGY. By M. FOSTER, M.A., M.D., LL.D., F.R.S., assisted by C. S. SHERRINGTON, M.A., M.D., F.R.S. Seventh Edition. Part III, The Central Nervous System. London: Macmillan and Co. 1897. Roy. 8vo, pp. 915-1252, figs. 96-142. 10s. 6d.)

THIS is for all practical purposes a new book. It is the first part of Professor FOSTER'S seventh edition that has as yet appeared. No one can doubt that the author has been well advised to get Part III out first, as it was just this portion of the subject that so much needed revision. The progress in our knowledge of the central nervous system has, during the past few years, been so remarkable that no wonder Professor Foster felt that mere tinkering with words and sentences was insufficient. In carrying out the herculean task of bringing the physiology of the central nervous system up to date, Professor Foster has secured the help of his old pupil, Professor SHERRINGTON, whose name now for the first time appears on the title page.

Perhaps no feature of modern physiology is so striking as that it rests on a sound anatomical basis. Years passed by, and physiologists sighed for the time when the same might be said for that portion of the science that treats of the brain and nerve centres generally. But this dream is now all but accomplished, and the present book is as much a textbook of anatomy as it is of physiology. This has been rendered possible by the introduction of new methods, notably that of Golgi, and the various improvements in technique in the study of Wallerian degeneration.

The book is more elaborate in detail than most of Professor Foster's writings; here we fancy we can trace the hand of his coadjutor. The tangled labyrinth of nerve tracts with their decussations and cell stations or positions of relay may, however, be successfully threaded by the diligent student with the help of the clear descriptions and useful diagrams with which the pages abound.

Of course much that was written before still stands; but it is not merely the details that are new. The new conception of the nervous system as a collection of anatomically distinct, though physiologically united, nerve units pervades the whole atmosphere of the book.

New facts and new ideas need a revised nomenclature, and we notice that the use of the word "neuron" is very wisely avoided. As originally employed by Waldeyer that word meant the whole nerve unit, but unfortunately some authors have seen fit to employ it synonymously with axis cylinder process. A word with two distinct meanings cannot but be a stumbling block to the student. The nerve unit is here described as consisting of a nucleus, and a cell body or perikaryon; this has processes of two kinds, the dendrites and the axon. One particularly happy new word we notice is "synapsis" (a clasping) for what has hitherto been expressed by such circumlocutions as intermingling of arborisations, or articulation of dendritic fibrils.

The perusal of the book has given us the keenest enjoyment, and it is with the greatest pleasure that we congratulate the authors, and recommend their production to students.

THE NEW PSYCHOLOGY. By E. W. SCRIPTURE, Ph.D., Director of the Yale Psychological Laboratory. London: Walter Scott. 1897. (Demy 8vo, pp. 524, 124 illustrations. 6s.)

A MORE exact title to this book would have been the new methods for aiding the study of psychology. These mainly consist of delicate apparatus constructed by special mechanics for measuring the time occupied by sensory and mental processes, and the changes and breakdowns to which they are subject. Observations are made by comparing our feelings and thoughts with standards of motion which appear to us to be uniform. The description of these instruments is given in detail and illustrated by engravings. Even with this aid these descriptions form tiresome reading, though they will be useful to those who wish to repeat the experiments of the psychological laboratory.

Dr. Scripture begins by showing how we can never dispense with the introspective study of the mind, but that each man's personal equation requires to be compared with those of others. He discusses the proper method of working with statistics, then he goes to the application of the measurements made in his laboratory. We learn the time occupied by sensations, perceptions, and volitions; he has even an instrument called a phantasimeter for measuring the intensity of the imagination. This would be a useful apparatus for a publisher of novels. There are some interesting observations upon mental and muscular fatigue and the sources of illusions.

Dr. Scripture thinks it of importance in the present time that quickness of thought should be especially cultivated in our schools. The author easily shows the weakness of the old-school men, but it is not so easy to prove the use of the new method in psychology. When Galileo introduced the experimental method of research he proceeded by comparing things similar, but it is extremely difficult to pass from outward observation to what takes place in the mind. Mind and brain are not the same, though they have a relation to one another, and we do not learn much about the nature of sensation, thought, and perception by knowing the number of seconds or fractions of seconds in which they occur. No doubt Galileo and Bacon did good to psychology by overthrowing the old slipshod methods of reasoning from unexamined postulates, from authority, from mere confusion of words. Their success taught metaphysicians to observe more carefully, to take less for granted, and to keep closer to methods of reasoning.

Dr. Scripture tells us that the origin of the experimental method of psychological research is exclusively German. Britain has done little in this branch of research. He mentions Mr. Galton with praise, and there is a psychological laboratory at Cambridge, but there are twenty such in the United States, and books on psychology sell much better in America than in this country.

Dr. Scripture looks with hope to the work done by well-trained men in these finely-equipped laboratories, though he modestly observes that many years of laborious development must ensue before discoveries equal in importance to those of argon and the x rays can even be hoped for.

We have already received much instruction from Dr. Scripture's previous contributions to the *American Journal of Psychology*, but this book has greatly increased our admiration of his capacity for diligent research and his power of thought.

Perityphlitis and its Varieties; their Pathology, Clinical Manifestations, and Treatment. By Frederick Treves, F.R.C.S., Surgeon to the London Hospital; Surgeon in Ordinary to H.R.H. the Duke of York. (Reprinted from *A System of Medicine*, edited by T. Clifford Allbutt, M.D., F.R.S.) London: Macmillan and Co. 1897. (Demy 8vo, pp. 62. 2s. 6d.)

Appendicitis and its Surgical Treatment, with a Report of Seventy-five Operated Cases. By Herman Mynter, M.D.Copenhagen, Professor of Operative and Clinical Surgery in Niagara University, and Surgeon to the Sisters of Charity Hospital in Buffalo. New York, London, and Philadelphia: J. B. Lippincott Company. (Demy 8vo, pp. 303. 10s. 6d.)

The able contribution on perityphlitis to Professor Clifford Allbutt's *System of Medicine* will, in this detached form, prove useful to many readers. Mr. Treves has given here an authoritative expression of the views held by leading surgeons in this country on the pathology and treatment of a still somewhat obscure, though very frequent, disease, and this article is the more weighty and important as these views have, to a great extent, been influenced by the practical work and teaching of the author.

In addition to its merits as a source of much clinical instruction, it is likely to do valuable service as a protest against the practice taught elsewhere of early intervention on the part of the surgeon in the treatment of even mild forms of the disease with which it deals.

Dr. Mynter's somewhat bulky monograph is written with the object of proving that appendicitis is "a surgical lesion, and ought to be treated by surgical means." It is evidently meant by this statement that operative interference should be practised in a much larger range of cases, and at a much earlier period than is considered advisable on this side of the Atlantic. Surgeons ought, the author holds, to operate immediately in every case marked by acute and severe pain, vomiting, and fever, in which these symptoms have not receded within twenty-four hours from the beginning of the attack. We cannot operate too early, it is asserted; we are often too late. Such views on the treatment of appendicitis are certainly opposed to those of most British surgeons, who seem to have good grounds for trusting, in a large majority of cases, to an expectant or strictly medical treatment. Mr. Treves, who may be regarded as an authority on this subject, and also as a reliable exponent of surgical practice in this country, strongly objects to the treatment advocated by Dr. Mynter and other American surgeons, and in support of his objections points out that the number of cases which undergo spontaneous cure form an overwhelming majority, that cases in which recovery may speedily occur without operation often begin with very acute symptoms, and that even in cases in which suppuration results the use of the knife will seldom be called for before the fifth day.

The main difficulty in accepting these views as final and conclusive is the frequency of recurrence, which seems to be greater than is generally supposed. Mr. Treves himself, who, as is well known, has operated in a large number of cases of relapsing appendicitis, is disposed to accept the statement that recurrence may occur in nearly 44 per cent. of all cases.

Dr. Mynter has shown great industry in the preparation of his book, and has collected from all available sources much information relating to the pathology and treatment of appendicitis. This accumulated information might, however, have been more condensed and better digested. A large portion of the volume is taken up by records of cases treated by the author, which are given at full length and without comment. The reader will find that the views of different authors have been fairly dealt with, and that the more important articles by English contributors, especially Treves and Hawkins, have been fully considered.

Outlines of the Diseases of Women. By John Phillips, M.A., M.D.Cantab., F.R.C.P., Assistant Obstetric Physician to King's College Hospital, etc. With 120 Illustrations and 2 Appendices. Second Edition, Revised. London: Charles Griffin and Co., Limited. 1897. (8vo, pp. 275. 7s. 6d.)

This work has deservedly reached a second edition, for it is specially fitted for the medical student. There is much about symptoms and diagnosis, and little about major operations. Indiscriminate hysterectomy is not preached, but the author implies that the *serrenœud* is preferable to the intraperitoneal or rather retroperitoneal method—a statement which will be challenged. He rightly holds that removal of the appendages for checking the growth of fibroids may be justifiable and beneficial in some cases. Some judicious additions appear in this issue. Thus there is a note on kraurosis vulvæ. The author states that treatment by scraping and applications of caustic have been recommended, but with uncertain result. He might have added that dissecting away the diseased skin seems preferable. There is a short epitome on deciduoma malignum, as much no doubt as can be safely taught to the student. Dr. Phillips considers that in a typical case the clinical history is very clear, but in a future edition he might profitably warn the student against assumptions, else in future, as possibly in the past, a patient may mistake hæmorrhage for abortion, or a tumour which really began to grow before gestation may be taken for a new growth arising in tissues developed solely for the use of the ovum during that condition. The new passages on sterility, normal conditions of the genital tract, and similar physiological and pathological matters are excellent. Though

Outlines of the Diseases of Women is essentially suited for the student, it may be read with profit by the practitioner, and is a reliable guide to the teacher of gynæcology.

THE CÆCAL FOLDS AND FOSSÆ AND THE TOPOGRAPHICAL ANATOMY OF THE VERMIFORM APPENDIX. By RICHARD J. A. BERRY, M.D., F.R.C.S., F.R.S.Edin. Edinburgh: William F. Clay. 1897. (Demy 8vo, pp. 76, 17 plates with letterpress. 6s.)

THE author has attempted in this book to give a comparative account of the work which has been published on the subject of the peritoneal folds and fossæ in the neighbourhood of the vermiform appendix, together with the results which he has obtained from an examination of 100 bodies. He has produced a very interesting book, which will be read with interest both by the anatomist and by the surgeon.

The peritoneal folds and fossæ in the region of the junction of the ileum and cæcum are divided by BERRY into two groups—first, the pericæcal or primary fossæ, which are those produced by means of peritoneal folds raised from the enteric mesentery by the vessels to and from the appendix. These maintain their form and situation both before and after their removal from the body. The second group includes the retrocæcal or secondary fossæ, which are situated behind the cæcum and ascending colon, and depend for their existence upon the secondary coalescence, sometimes wanting, of the colon, cæcum, and mesentery to the posterior abdominal wall. These are only visible with the parts *in situ*, and are destroyed by removal of the organs concerned in their formation.

Three pericæcal folds are recognised; these are the ileo-colic, ileo-cæcal, and the meso-appendix. These folds give rise to the formation of two fossæ—the ileo-colic fossa and the ileo-cæcal fossa. The author concludes that the pericæcal folds are primary in origin and vascular in function. He thinks that these folds together represent the mesentery of the cæcum, and that the meso-appendix is the true appendicular mesentery. It appears from the constancy of the existence of the meso-appendix and the frequent absence of the pericæcal folds that the appendix is gradually replacing the cæcum in functional activity.

The meso-appendix is constantly present, and is normally situated in 75 per cent. of cases. When normal it is quadrilateral in shape, but when abnormal it may assume any shape and any position. In 6 per cent. of abnormal cases Berry states that the meso-appendix is so situated as anatomically to predispose the subject to appendicitis.

Both the pericæcal folds and fossæ are inconstant, and are of little importance. Two retrocæcal or retrocolic fossæ are described. They are best described as internal and external retrocolic fossæ. They are secondary in origin, and are met with in only a small percentage of cases, but when present they may play an important part in the production of appendicitis. This is due to the fact that one of these fossæ when present frequently lodges the vermiform appendix.

Fifteen full-page reproductions of photographs of the various folds and fossæ in the cæcal region are given. These are of great interest, especially the series which illustrates the different types of the meso-appendix.

A bibliography of the important works which have been published on the subject completes the volume.

NOTES ON BOOKS.

Exercises in Equine Surgery. By P. J. CADIOT, Professor at the Alfort Veterinary School. Translated by A. W. BITTING, D.V.M., Veterinarian to Purdue University. Edited by A. LIAUTARD, M.D., V.M., Principal of the American Veterinary College, New York. (New York: W. R. Jenkins. 1897. Demy 8vo, pp. 130, 56 illustrations. 2.50 dols.) In this volume the exercises in equine surgery given at the Alfort Veterinary School during the scholastic year are described. The author is careful to state in his preface that "all operations are made on the cadaver except those on the animal, while in a state of anæsthesia, secured by an intravenous injection of chloral hydrate." It is satisfactory to find this refutation of serious allegations of cruelty, levelled by some transatlantic anti-vivisectionists against the Alfort surgery class, which appeared in English newspapers about a year since. Professor Cadiot's book commences with the methods of restraint, and goes on to describe in detail the means and methods adopted in performance of the various operations most common in equine surgery. Though here and there we find described methods and details which others perform otherwise, the author has succeeded well in his task. The illustrations, mostly from the pencil of M. Nicolet, are of a very high order, and help most materially to render the text clear. The translator, Dr. Bitting, has done his work faithfully. The editor Dr. Liautard, contributes a preface, and there is little doubt that the hope therein expressed by him will be realised, that "this little work will not fail to prove of some value and advantage to the veterinary student and practitioner."

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

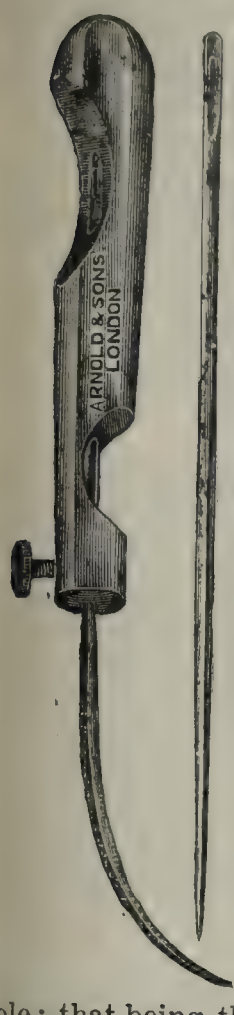
EUQUININE.

A CONSIDERABLE advance has been made of late years in our knowledge of the relation between chemical constitution and physiological action. By modifying artificially the chemical constitution of a drug, it is possible to modify also its physiological action, and similar modification in the chemical constitution of various drugs induce similar modifications in the action of their derivatives. Quinine in large doses causes symptoms to which the term cinchonism has been applied; these consist in a feeling of tightness across the forehead, ringing in the ears, deafness, diminution of the power of sight and accuracy of feeling. This peculiar physiological action of quinine has now been modified by converting it into a derivative—euquinine. It is manufactured by the Vereinigte Chininfabriken Zimmer, and Co., of Frankfurt, and it is stated that the results of its use show that it does not produce cinchonism. Euquinine is chemically the ethylcarbonic ester of quinine. It is produced by the action of ethylchlorocarbonate on quinine, and forms white delicate needles, which are readily soluble in alcohol, ether, or chloroform, but scarcely in water. The solution is alkaline to litmus paper, and with acids it forms crystallisable salts, of which the hydrochlorate is readily soluble in water, the sulphate much less so. Solutions of euquinine in faintly acid water are precipitated by the usual quinine reagents. Chlorine water and ammonia give a green coloration (thalleioquin), and the red coloration produced by chlorine water, potassium ferrocyanide, and ammonia is well marked. The only quinine reaction which does not occur is the formation of iodosulphate (herapathite). Euquinine placed on the tongue is at first perfectly tasteless; a very slight bitter taste becomes noticeable after some time. The dose of euquinine as a tonic is stated to be 1 to 3 grains. This substance being almost tasteless can be taken either with or without water. Milk is an excellent vehicle, especially for children. For adults the cachet form of administration is the most convenient. Euquinine could be given in a mixture, a solution being made by means of a little dilute hydrochloric acid, but such solutions have an objectionable and lasting taste.

DISINFECTANT NIGHT LIGHTS.

MESSRS. PALMER AND CO., of Stratford, have sent us samples of Dr. Trestrail's patent carbolic night lights. It is not claimed for these night lights that they free a room from germs of disease, but they are said to impregnate the air more or less, according to the number used, with volatile disinfectants, and are especially adapted for use in bronchial affections. The disinfectant is contained in the inner wrapper surrounding the night light, and is volatilised by the heat of the flame. On testing the night light by burning two or three at the time in an ordinary sized room there was a phenolic and aromatic odour decidedly perceptible and refreshing, and in that respect the burning of such a light

might be in some cases advantageous, but as a disinfecting agent its value must be infinitesimal. The makers are also prepared to supply night lights with any volatile disinfectant which may be prescribed by medical authority.



A NEEDLE HOLDER.

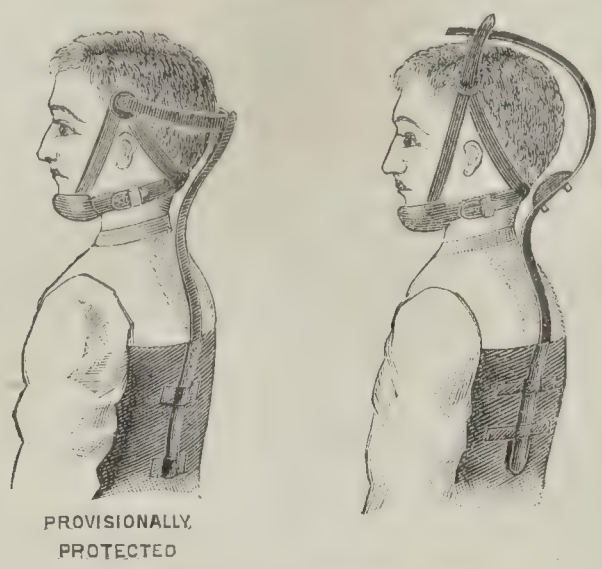
Dr. W. J. Branch, of St. Kitts, W.I., sends us a description of a needle holder lately made for the hospital in that island by Messrs. Arnold and Son, of Smithfield, at the suggestion of Mr. Christian Branch, M.B., C.M., and Dr. W. J. Branch. The advantages claimed for the needle, the design of which is shown in the accompanying woodcut, are: (1) It is adapted to suit either ordinary suture needles or long ones such as are used in abdominal surgery. (2) The needle can be easily threaded after being fixed in the holder and before being passed through the tissues, thus saving delay and trouble in the course of an operation. (3) The needle and its thread can be passed with a continuous movement forwards by loosening the screw after the introduction of the needle, and drawing the latter on with the other hand, thus obviating the necessity of first introducing; then threading at the point; and, thirdly, of drawing back, which pertains to the use of a handled needle in abdominal surgery.

BREAST SHIELD AND NIPPLE PROTECTOR.

Messrs. Ingram and Co., of Hackney Wick, have sent us a breast shield and nipple protector, for which they claim the following advantages: that it is flexible; that being the same shape as the breast it fits closely thereto, thus allowing natural warmth; that it gives less trouble in suction to the child; that it has a firm base (without being either hard or sharp); that it will keep in position without being held, retains its shape, prevents leakage, will not allow the suction of air, and is durable.

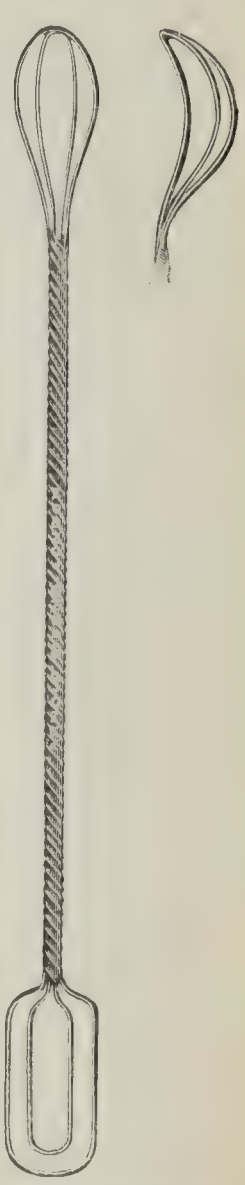
APPLIANCE FOR SPINAL CARIES AND TORTICOLLIS.

We have received from Messrs. Salt and Son, of Birmingham, a modified, and in some respects improved, form of the accessory apparatus used for suspending and fixing the head in cases of caries affecting the cervical portion of the spine. This modification has been devised with the object of remedying certain disadvantages believed to attend the use of the appliance known as Sayre's jury mast, such, for instance, as its unsightly appearance, and the freedom it allows to movement of the head and neck. In the new form the jury mast is carried but little higher than the occiput, and is then divided into two arms extending along opposite sides of the head, and each terminating just above the temple on either side in a firm flat pad. From the centre of each of these pads the head is slung by means of the ordinary straps passing around the chin and occiput. The appliance seems likely to fail in affording the degree of suspension, or rather extension, required by many surgeons. It is very probable, however, that this cannot be attained by any apparatus that has yet been devised, and the centres of suspension in the improved appliance had, it is asserted, been found in practice more satisfactory than those of Sayre's jury mast. The lateral compression of the head by the curved bars and pads is likely to prove useful both in securing continuous rest of the head, and in preventing any sudden and otherwise unguarded movements due to a slip or push. The absence of the elevated bar which forms so prominent a feature in other forms of jury mast is certainly a great advantage not only in respect of appearance, but also in its allowing due attention to proper order of the hair and cleanliness of the scalp. By altering the relative position of the pads, adapting one pad to the chin and establishing a small quadrant action at



the point of bifurcation, this apparatus can be converted into an appliance for torticollis by which the head may be rotated into its proper axis.

A NEW CHOLECYSTOTOMY SPOON.



Mr. Mark Wardle, L.R.C.P., L.R.C.S.Edin., of Bishop Auckland, writes: I have often found that the spoons in use present drawbacks. They are frequently too large, and generally too thick, and unless the operator possess a graduated series, the opening in the gall bladder has to be accommodated to the size of the spoon, which in many cases means that it is larger than necessary, a very important point when it is the intention to close both the bladder and parietal wounds without drainage.

Messrs. Arnold and Sons have made to my instructions an instrument in which the spoon part is formed of malleable wire, which admits of its being pressed by the fingers into the necessary breadth, so that in cases in which the calculi are small a very much smaller opening than usual is sufficient.

The stem portion is also sufficiently flexible to allow the gall bladder to be easily reached when it is awkwardly placed, as by being tucked up deeply under the liver, and held by adhesions, and is yet firm enough not to bend too readily.

It should answer as well in removing the smaller calculi from the urinary bladder in lithotomy.

It is designed not so much for hospitals as for surgeons whose work requires them to take their operation bags with them, and where *multum in parvo* is a desideratum.

The Huntingdon County Hospital.—This hospital, which is situated on a breezy common near the town, has lately been thoroughly renovated, and enlarged so as to contain 42 beds. Teak floors have been laid in all the wards, and the sanitary appliances have been renewed. A small operating theatre has been built, floored with terrazzo and lined throughout with opalite. A mortuary chapel, the gift of one of the governors, is being built. The President of the hospital is Lord Sandwich; the Honorary Secretary the Archdeacon of Huntingdon; and the House-Surgeon Dr. J. H. Paterson.

LITERARY NOTES.

IN America a new weekly entitled the *Philadelphia Medical Journal* will appear on January 1st, 1898, under the editorship of Dr. George M. Gould, whose name is honourably known throughout the world of medical journalism from his previous connection with the *Medical News*, of which he was editor till its publishing offices were transferred from Philadelphia to New York.

A new monthly periodical, entitled *Dermatologisches Centralblatt: Internationale Rundschau auf dem Gebiet der Haut- und Geschlechtskrankheiten*, has recently appeared. The editor is Dr. Max Joseph, of Berlin; the publishers Veit and Co., of Leipzig. The nature and scope of the new periodical are sufficiently indicated by its title.

We are informed by Messrs. Baillière, Tindall, and Cox that the first edition of Sir William Broadbent's recently-published work, *Heart Disease*, was exhausted within a month of its appearance. The publishers are reprinting another edition without alteration.

Messrs. Macmillan announce for publication the *Scientific Papers of T. H. Huxley*, in four volumes. These will consist for the most part of reprints from the journals of scientific societies, magazines, and other publications. They will be edited by Professor Michael Foster.

The Committee to which has been entrusted the duty of preparing the *Transactions* of the Twelfth International Congress held in Moscow last autumn has been so unusually expeditious that a considerable part of the material is already in the hands of the printer. The communications and discussions will be published in three languages—French, German, and English. Only a limited number of papers will be published in Russian.

Dr. Alfred P. Hillier, formerly of Johannesburg, and at one time, we believe, in partnership with Dr. Jameson at Kimberley, has written a book dealing mainly with the recent history of South Africa. While a political prisoner at Pretoria Dr. Hillier kept a diary, and we understand that the greater part of it will be included in the forthcoming volume. It will be ready early in the new year, and will be published by Messrs. Macmillan.

Dr. Weir Mitchell, of Philadelphia, whose recently-published historical novel, *Hugh Wynne*, has had a most favourable reception in the United States, is already well known as a novelist to the reading public of America. His books, *Hephzibah Guinness*, *Roland Blake*, *Far in the Forest*, and *In War Time*, have all met with considerable success, and he is the author of numerous poems and several dramas. Of his latest production, *Hugh Wynne*, 25,000 copies were sold within a month of publication.

The number of theses for the Doctor's degree presented to the Medical Faculty of Paris during the academic year 1896-97 was 640. All these, together with the theses presented to the same Faculty for some years past, may now be consulted in the Library of the British Medical Association. An index of authors and subjects which is also available makes reference easy. It may be mentioned that an index of subjects and authors to the theses presented to the Lyons Faculty during the years 1894-95 and 1895 96 has recently been added to the Library.

The following extract from the records of the Catholic Church of Savannah, which is published by the *Georgia Journal of Medicine and Surgery*, contains an account of what is believed to be the first case of Cæsarean section performed in Georgia, and as such may be interesting to medical antiquaries:

On Wednesday, the twelfth day of March, one thousand eight hundred and six, was buried in the graveyard of Savannah (after being carried to the Roman Catholic Church of said city, where common prayers were performed by the assistants, there not being a regular clergyman at present), the body of N. N. Pouyat, lawful daughter of John Franc s Pouyat, residing in this city, and of Maria La Maignere, deceased, being extracted alive, by surgical operation, from the womb of the corpse of her mother, on yesterday, the eleventh instant, and dead at about six o'clock in the afternoon on the same day, after having previously received the baptismal water, administered by a friend present, in want of a clergyman. The said surgical operation being performed by John Baptist Berthelot and Nicholas Nazaret, physicians and surgeons of this city, and in the presence of James Phillips Rossignol de Grandmont and Picot de Closrivieres, who, said physicians and witnesses, have been requested by Anthony James Du Faure La Jarte, cousin of the deceased, and in the name of the other parents and relatives, to make their declaration respecting the position, time, and circumstances of the death of said deceased infant, as above related, to be inserted into the present, on account of the difference of the form and laws of the United States, and for the future interests and civil concerns of the family as the case may require. Were also present at said funerals, a number of relations and friends, part of whom have likewise signed the present with me, as Secretary to the Vestry and depository of the records of this church.

(Signed) N. Nazaret, P. Berthelot, Lewis Grand Dutreuith, E. Rossignol, Lewis Rossignol, J. P. Rossignol Grandmont, Picot de Closrivieres, Dufaure La Jarte Montrelet.

THOMAS DUPENAUN, Secretary.

The following passage from Bransby Cooper's *Life of Sir Astley Cooper, Bart.*, published in 1843 (London, vol. ii, p. 309) is interesting as showing that cyclomania is not altogether so new a disease as it is believed to be. It also shows that the question of the propriety of a medical practitioner using the economical "wheel" on his rounds (as to which counsel has been sought of us more than once within the last year or two) had been solved for himself sixty or seventy years ago by a strong-minded country doctor, whose victory over Bumble also deserves record on its own account:

Speaking of these breakfast visits brings to my recollection a strange feeling, almost amounting to a delusion, which my uncle possessed with respect to the well-known machines called velocipedes He must have formed his extravagant notions respecting the capabilities of this machine from the enthusiastic account given by those who had an interest in its sale; certainly not from the sober exercise of his own judgment. One morning our visitor was Professor Vince, of Cambridge, and my uncle almost immediately began to talk to him upon the subject of these velocipedes. The doctor said he had heard of them, and admitted the ingenuity of the contrivance, This induced Sir Astley at once to declare all his fears resulting from their universal employment. "Sir," said he, "it will alter the face of the country; no grass will be grown, but all farms will become arable; for who will keep horses when a machine can be substituted which does not cost more than two or three pounds, and the first outlay is the whole expense?" "Sir," said Mr. Vince, "I misunderstood you; the expediency of its application I merely admitted to the extent of a toy, for it can never facilitate or expedite a lengthened journey. It would be contrary to every axiom in mathematics to suppose it could, for it is impossible by any mechanism to increase your velocity without diminishing your power; and as, in this instance, the power emanates from the employer, he would soon become too happy to be satified with the speed of his natural progression, and glad to cease exhausting himself by sustaining an additional weight to his own body. In two months you will hear no more of them."

This prophecy, I believe, was realised; for certainly within six months, at any rate, there was no one who had hardihood enough to confess that he had ever used a velocipede for any other purpose than temporary amusement. A Quaker friend of mine, however, a medical man, who was always eccentric in his habits, though a most strict Friend in dress and demeanour, used to travel about his vicinity and to visit his patients upon this, his hobby horse. My friend soon found that he gained very little by its assistance if obliged to go along the roadway, and therefore betook himself to the footpath. This encroachment, however, the public soon contested; the nuisance was decried in the newspapers, and the magistrates interfered to prevent him from continuing the practice, and so interfering with the right of way of the foot passengers. Undaunted, even by such authority, Mr. —— persisted, when one day the beadle of the parish, meeting him on the pavement, stopped him and told him that he should undoubtedly summon him in a few days. He kept his word, and my friend was fined two pounds by the magistrates. The beadle went home with him, in his official capacity, to receive the fine. Mr. —— at once paid the money, and then said: "Now, friend, give me a receipt," which the unsuspecting parish officer immediately complied with, and, as he thought, put an end to the affair. To his surprise, however, he was soon afterwards himself summoned for giving a receipt on unstamped paper, and in turn was fined, on the part of the parish, in a penalty of five pounds for the offence. This retribution satisfied Mr. ——, who presented the sum thus acquired to a charitable institution, and shortly afterwards put down his velocipede.

Sir Astley was a true prophet after all, and the complacent finality with which his correct appreciation of the capabilities of the cycle is dismissed by his nephew as a "delusion" should be a warning against a too hasty condemnation of new things.

THE NATIONAL DENTAL HOSPITAL.—The annual dinner of the past and present students was held recently at the Holborn Restaurant. There was a full attendance, and amongst the guests were Dr. Samuel West, Professors H. R. Spencer and J. Rose Bradford, and Messrs. Raymond Johnson, Morton Smale, and J. Smith Turner. The chair was taken by Mr. E. W. Roughton, F.R.C.S., Honorary Visiting Surgeon to the hospital, who, in proposing the toast of "The School," mentioned that out of fourteen students sent up to the Royal College of Surgeons of England for the Dental Diploma thirteen were successful. Songs were contributed by Messrs. Alfred Smith, W. H. Wheatley, and Wallis Arthur, ventriloquial entertainments by Mr. Fred Russell, and excellent sleight of hand by Dr. Herschell.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1897

Subscriptions to the Association for 1897 became due on January 1st; and notice is hereby given, in accordance with By-law 5, that Branch Secretaries' subscription accounts close on October 31st, and all unpaid subscriptions must be forwarded after that date to the General Secretary, 429, Strand, London. Post-office orders should be made payable to the General Post Office, London.

British Medical Journal.

SATURDAY, DECEMBER 11TH, 1897.

LONDON OR WESTMINSTER?

The University of London question is once more a topic of general interest and discussion, and that this is so we owe to the action of the small knot of medical teachers who suddenly dropped into the quiet millpond of University politics, if we may use the term, a very big stone in the shape of the scheme for a University of Westminster. Since the Cowper Commission reported the subject has been allowed to lose much of such popular interest as it once commanded. The publication of the Westminster scheme has presented another alternative in a concrete form, and has given to many Gallios an opportunity of taking sides in a contest, and an occasion to find arguments for the faith which is in them.

Most people, however, have very short memories for such matters, and the number of schemes for the reconstruction of the University of London has been so large that some little confusion of mind as to the exact form of the latest plan is very excusable. It has therefore been thought well to reproduce in the British Medical Journal the scheme of the London University Commission Bill, introduced last July by the Lord President of the Council, and passed without much discussion by the House of Lords. At the first hints of opposition in the House of Commons the Bill was dropped, but the scheme was the result of a compromise between many of the parties and institutions interested in the question, and it may be assumed that the Bill which the Duke of Devonshire is understood to have promised to introduce early in the next session will embody proposals practically identical.

As it affects the medical profession, the main interest in the Bill is a desire and a demand that reasonable facilities should be afforded to medical students of the medical schools in London to obtain an ordinary degree in medicine. Such facilities exist in most other great medical centres at home and abroad, and it is unjust that they should be denied to London. All along there have been two main opinions as to how this end is to be achieved—by the creation of a new university or by the reconstitution of the existing University of London. From an early stage of the discussion we have ventured the opinion that the latter alternative afforded the most satisfactory solution, and this opinion has been confirmed by two Royal Commissions, and has been embodied in the Bills introduced into Parliament by the responsible Ministers of both political parties. For three years, however, little more has been done than to mark time, and it is not to be wondered at that some of the more eager spirits should have been anxious to show the way to another means by which the desired end may be attained.

It is claimed for the Westminster University scheme that it would give the metropolis a true local university, and that its undergraduates would therefore experience the inspiration of the *genius loci*, and would gain some of that indefinable, but nevertheless very real and very valuable, academic sentiment and training to which Mr. Balfour referred so happily at the opening of the McEwan Hall of Edinburgh University on December 3rd. Why a similar happy consummation should not be attained through the Duke of Devonshire's scheme published at page 1746 is not very apparent. It is, at any rate, the scheme which at present holds the field, and we are, therefore, glad to see that the lecturers and teachers in the medical school of Guy's Hospital have adopted a resolution in which they "earnestly request Her Majesty's Government to reintroduce into Parliament the London University Commission Bill of 1897, and to pass it into law during the ensuing session."

THE MARRIAGE-RATE AND THE PRICE OF FOOD.

In his annual report on the health of Manchester during 1896 Dr. Niven had an interesting discussion on the connection between the marriage-rate of urban communities and prosperity. It will be remembered that the Registrar-General's annual reports have for many years embodied a table stating the marriage-rate in comparison with the value per head of population of the exports of British produce, the imports, and the average price of wheat per quarter. Since 1860, when the table commences, the marriage-rate for England and Wales reached its lowest ebb in 1879 (14.4), and in 1886-88, when it was 14.2 to 14.4. In 1895 it was 15.0 per 1,000 of population. The general rule has been that the marriage-rate has gone up and down with the value of British exports and with the average price of wheat. It would require some ingenuity to explain why these ratios vary in the same direction year by year, as with few exceptions they have done during the last thirty-five years. The ingenuity was supplied by Dr. Ogle in a paper read before the Royal Statistical Society in March, 1890. His explanation was that marriages increased when the export trade was active, and that this activity caused a rise in freights, which in its turn sent up the price of wheat. If this be not the correct explanation—and it has been stated that when the export trade is active only the freights outwards rise, while the freights homewards are considerably lowered because of the number of empty ships wanting to return home—then the correct explanation of the undoubted fact emphasised by Dr. Ogle still remains to be given.

Dr. Niven points out that the marriage-rate may be affected by the raising or lowering of the age at which people get married, and by the decrease or increase of the actual number of marriages; both these variations usually going together. He gives a table showing that during the last two or three years no relationship is observable between the price of flour and the changes in the marriage-rate. It is necessary in this respect to draw a distinction between urban and rural populations. Thus, as indicated by Dr. Niven, a low price of wheat no doubt affects adversely the grain-

growing parts of the country, and might consequently reduce the marriage-rate. In urban districts, on the other hand, he maintains that cheapness of wheat so far as it is a factor, clearly must have a positive effect in raising both marriage and birth-rates. On the contrary, the rate of wages, taken along with the amount of employment available, is the factor in urban communities which must determine the marriage and birth-rates. Dr. Niven comes to this general conclusion: "The probabilities are, in fact, that a careful analysis of the various factors concerned in the cheapening of grain will lead us, not to the conclusion that cheap and abundant food checks reproduction, which is absurd, but rather to the result that any rapid cheapening of food may indicate bad trade, checked manufacture, agriculture for the time being outstripping the production of those articles against which it barters its produce."

There is still much scope for investigation as to the relation between the price of commodities, the state of trade, and the marriage-rate, notwithstanding Dr. Ogle's standard contribution and Dr. Niven's interesting remarks. Among other points it will require to be remembered that as countries fill up there must come a natural check upon any such relationship between the marriage-rates and birth-rates and the price of wheat as exists at present. Without committing ourselves to the views of Malthus, it is obvious that the world is being rapidly colonised. Ere many decades are past, America—especially the United States—will not be able to export corn, as it will consume all that it produces, and the same remark will apply, though at a remoter period, to Argentina and Australia. Sir R. Giffen has asserted that in the middle of next century the pressure of population will be so great as to show itself very clearly in prices. If this is so, we may have already reached the minimum price of wheat, and the increase in prices per quarter realised during the present year may, in part at least, be more than temporary.

QUID DOCEAT DOCTOR DE DOCTRINA?

The advance of science, which is the special characteristic of this century, has produced an increased cry for reform in education. Not only is the claim put forward that inductive science is as important a part of knowledge as the older learning, but also education has itself been made the subject of observation and experiment, and its present methods criticised by those who have made it a special study. Those interested in teaching may be divided roughly into the "classical establishment" and the "nonconformists." The former class, which comprises nearly all schoolmasters, is supported both by tradition and by great endowments, for nearly all scholarships and the competitive examinations which hedge each entry into public life are arranged for the system of classical education which now obtains. The rebels include most of those who theorise on education, most men of science, and a great many parents.

Of this latter class the views have been lately stated by Mr. Priestley Smith in a vigorous address[1] to the Midland Institute Scientific Society. The aim of education, he says, is first to fit the man for the various duties of life, to earn his living, to rear his children, and to help in the government of the State, and secondly, to add to his happiness. Nature begins it in the nursery, and her methods are those of self-help. The baby learns by touching, tasting, and smelling for himself. This, the natural, is the rational method. The kindergarten teachers have discovered how to apply it to the little child, by making geography, arithmetic, and geometry concrete studies, not rote-learning, and by their leading him from the instance to the principle. But when he goes to school the whole system is reversed. The schoolmaster makes him learn things out of a book instead of showing him how to work them out for himself, and thinks that education is bounded by Latin, Greek, and mathematics, and is not concerned with the facts and laws of the world around. Yet the majority of scholars never look at a Greek or Latin book in after-life, and have no literary style, while they leave school ignorant of all things that are useful, of modern languages, and of physical science. Even in the learning of language the method is unnatural, for instead of learning first how to speak, and next how to speak grammatically, he is drilled in grammar before he knows the language which it rules. In mathematics he learns rules, but is not taught to understand the reason of them or to pursue their problems for himself. Lastly, though the English school has a great power to develop character, it errs in confining its physical training to useless games, instead of multiplying interest by including ordinary manual employments in its routine.

The indictment is sweeping, yet thoughtful schoolmasters, of whom there are a great many, will agree with some of Mr. Priestley Smith's arguments at once. They allow that the teaching of mathematics and geometry is not so well done as it should be, and that the tyranny of games is becoming too strong, but they say that the first fault is gradually corrected, though this reform, like all others in teaching, is delayed by the lack of training for our teachers, while many would gladly supplement games by labour, but find the task too hard. If Eton turned out to make hay, they would make hay indeed. Many also allow that physical science would be a useful addition to the school course, but say that on the one hand time is too short, and on the other that, though science can be well taught to small numbers, it cannot be used for large classes of young boys. There is some truth in this, but there is not enough; and it is one of our duties as a scientific profession to urge upon the public that knowledge of the elementary principles of physics and chemistry ought to form part of every boy's school teaching.

But the "establishment" would to a man join battle with the speaker when he attacks the old learning. They maintain that though education should include the teaching of facts, its chief aim is the training of the mind—first, in concentration or "attention;" and, secondly, in close and accurate reasoning. That for these purposes, they hold, nothing is so valuable as the dead languages and mathematics, because nothing else requires such severe labour, or such skilful analysis. As to the method of teaching language, the conversational method they say fails doubly; it does not exercise the mind to the same degree, and it actually does not teach the language so well. We ourselves know that there is truth in this argument. Of a family of sisters, the eldest learnt German by hard grammatical study in an English school, the others by many months' residence abroad. At one time the latter spoke it much more fluently, but now that they have long lived in England the eldest is far the best scholar; the

[1] *Aims and Methods of Education*, Birmingham, Cornish Brothers, 1897.

others have forgotten what they knew. In other studies it is also true that though the discipline of learning forms a lasting habit in the mind, boys forget the things taught, so that an education wholly grounded on utility would probably fail much in this aim, while it lacked the discipline which grammar gives.

Yet schoolmasters, who are usually ignorant of science, forget that there are other faculties, observation through the senses, and inductive reasoning, which are little exercised by the dead languages and mathematics, but which are of great importance to the mind. They do not realise, as we who fight the never-dying goddess Dulness are forced to realise, how deficient is the general run of men in these powers. It is not so much for their utility that we urge the teaching of physics and chemistry, but because they, in a degree which no language and no mathematics can approach, develop these powers in the mind. Of what grave importance they are is proved by every one of the sanitary reforms which have been forced by the only observant class in the community upon a vast herd of grammar-trained magistrates, town councillors, and members of Parliament.

We cannot be in doubt first that the ground sciences should be a part of every school course, and secondly, that for those who intend to enter trade or manufacture scientific training should take the place of language much earlier than is now the case. We are indeed a nation of rulers, perhaps the best rulers that the world has ever seen, and for this art of government we can well believe that in its main lines the present training is the best. But we must be fed as well, and we are just now finding out that labour depends on science, and that, though other factors play a part, employment sets to that nation which has the best scientific training.

Education is a subject on which most men are obliged to take an interest, and it is of special interest to us since we are so often consulted upon the point. We have, then, many opportunities of pressing such reforms as are needed for the mass, and our care for the individual should be no less. There is no greater mistake than to think that one mill should grind all corn. Boys differ from each other, and while some are best at school early, others are best at home till 14, some ought to go to special schools like those to which Mr. Priestley Smith alludes, and some should not go to school at all. Boys with a strong artistic or scientific bent may be miserable at a public school, and may be dwarfed for life by its effects; those who are specially delicate or backward in mind or body become impressed with their inferiority, and learn a fear of the world which nothing afterwards eradicates, or deteriorate from want of that special care which cannot be given among large numbers. It is a grave and special duty of the doctor to add his authority to the side of reason—usually the mother's, and to impress upon the Gallio of a father that it is of no use to put a quart into a pint pot, or to set a sensitive plant in the east wind.

Yet in all criticism of the intellectual training of English schools we must never under-rate the freedom and elasticity of their system, and the wonderful training in responsibility which makes an Englishman so well able to adapt himself to new circumstances and obtain the best results from imperfect means. We are never tired of quoting the comparison made to us by a French friend of French and English schools: "*Nous voulons leur apprendre quelque chose, mais vous, vous faites les hommes.*" For this and for the schoolmasters to whom it is due we have very great admiration, and, though we think their teaching deficient in the training of some faculties and excessive in its exercise of others; though we feel that alterations should, and must before long, be made in these directions, yet in all that makes English unlike foreign schools, in all that makes English boys unlike foreign boys, we hope no alteration ever will be attempted.

Active steps are already being taken by a committee in Paris, of which Dr. Brouardel, the Dean of the Medical Faculty, is chairman, to arrange the preliminary details of the International Medical Congress which is to take place in that city in 1900, the year of the great exhibition.

Dr. W. J. Collins, the Chairman of the London County Council, who was a student of St. Bartholomew's Hospital, will be entertained at dinner by old fellow students and friends on Thursday, December 16th, at the Trocadero Restaurant. The chair will be taken by Mr. Howard Marsh, Surgeon to St. Bartholomew's Hospital.

Dr. J. J. Graham Brown, F.R.S.E., F.R.C.P.E., was, on December 6th, appointed an Assistant-Physician to the Edinburgh Royal Infirmary, in the place of Dr. Ralph Stockman, appointed Professor of Materia Medica and Therapeutics in the University of Glasgow. Dr. Brown is the author of *Medical Diagnosis: A Manual of Clinical Methods*, a new (the fourth) edition of which has just been published.

It is announced that the monthly *Army List* for December and January will not be published, pending a complete revision, which, we presume, will appear in February. This announcement would seem to indicate that a rearrangement of the existing *List* is not all that is intended, but a complete reorganisation, foreshadowing important changes in the constitution of the army.

PROPOSED CENTRAL HOSPITAL BOARD.

A special meeting of the council of the Charity Organisation Society will be held on Monday, December 13th, at 4.30 P.M. at the Royal United Service Institution, Whitehall, "to adopt the first report of the General Committee for the promotion of a Central Hospital Board for London." Among those who are expected to address the meeting are Sir William Broadbent, Sir Joseph Fayrer, Sir J. Crichton Browne, Mr. Victor Horsley, and Dr. Glover. The chair will be taken by the Right Hon. the Earl of Stamford.

THE WORKHOUSE INFIRMARY NURSING ASSOCIATION.

At the meeting of subscribers and friends of this Association, held at St. Martin's Town Hall on December 2nd, and presided over by Mr. Boulnois, M.P., to determine whether or no the Association should continue its work, there were strong expressions of opinion on both sides. The position of the executive, which was forcibly stated by Miss Wilson, the Honorary Secretary, was that the small amount of financial support, and the dearth of suitable applicants for training as nurses for the workhouse infirmaries, made it an almost impossible task to meet the demands of the guardians. The Committee was of the opinion that it was time to withdraw, and thus to leave the field clear for the work to be taken up, and carried through on a larger scale by the Local Government Board, whose duty it was to provide nurses. The meeting was attended by delegates from the country Boards, which had hitherto drawn their nurses from this Association, and with one consent they deplored the action of the executive,

and urged that the question should be reconsidered. Other speakers followed on the same side, notably Lady Lothian, who, with Lady Montagu of Beaulieu, and Miss Twining, were the originators of the Association. These speakers suggested that the action was premature, and that there was much work yet to be done in the interests of the nurses, especially at this period of transition, when the experience gained in the past would be of service in guiding the work of the future. We share this opinion, and regret that the resolution proposed by Mr. Bousfield, and seconded by Lord Montague, "That the work of the Association must cease," was carried, there being seven against and eight for the resolution in a full meeting. It was proposed by Miss Twining, seconded by Lady Wantage, "That the executive committee and the office should for a time continue as a centre of information for guardians and nurses, and for the maintenance of those nurses and probationers now belonging to the Association." This resolution was carried, and we venture to hope that during this period some scheme may be devised which will bind all workhouse nurses, who at present are isolated units, into some cohesive body. The record of work done by the Association during its seventeen years of existence furnishes satisfactory evidence of the great use it has been to the country guardians.

THE LATE DR. F. W. BARRY.

WE are glad to learn that a number of Dr. Barry's colleagues and other friends have in contemplation a most fitting tribute to his memory. For the last few years of his life he resided at Downe, and the little cemetery there in which he lies was provided mainly through his influence. It has been thought that the addition of a suitable lych gate would be a form of memorial appropriate in itself, acceptable to Dr. Barry's family, and in keeping with his own feeling in such matters. We understand that a private subscription for the purpose has been commenced, which it was originally intended to limit to his colleagues, but it was found that many others desired to share in such a memorial, and it was thought better to widen the basis accordingly, although no special appeal will be made. Sir Richard Thorne, K.C.B., and Mr. Gordon Smith are acting as treasurers.

STRYCHNINE FOR THE HEARTH AND HOME.

IN the supplement to the *Hearth and Home* of December 2nd a correspondent who applies for advice under the signature of "Scherezade" is recommended to get Spiers and Pond "to make up this prescription for you, and take the medicine three times a day and persevere with the treatment for a week or so." The prescription is as follows:—"℞ Potass. bromidi, 10 grains; liq. strych., ♏5; tinct. cinch. co., ½ drachm; aq., ½ ounce. Misce. Ft. haustus. Mitte unc. 6; ter die." We say nothing of the indiscretion of recommending a presumably unknown patient, possibly a delicate young woman, to take five minims of the liquor strychninæ three times a day "for a week or so," and are content to pass over in silence the fact that strychnine and bromide of potasium are pharmacologically antagonistic, but in the interests of public safety we cannot refrain from pointing out that the ingredients of the mixture are chemically incompatible and that they form a combination of a most dangerous character. In fact, this identical prescription is quoted in almost every book dealing with the action of drugs as one to be most scrupulously avoided. The following is from a recent *Manual of Pharmacology and Therapeutics*:—"Sometimes a prescription is 'bad' both on chemical and on pharmacological grounds. For example, a man prescribes strychnine with bromide of potassium. This is bad, for these two drugs are physiologically antagonistic. But it is worse chemically, for after a few hours an insoluble bromide is formed which settles to the bottom of the bottle, so that the patient gets the whole of it with the last dose. The bromide may be in sufficient quantity to form a chemical compound with the strychnine, but not to counteract its powerful physiological action." In Remington's *Practice of Pharmacy*, published in 1895, attention is called to the form of incompatibility resulting from the precipitation of alkaloidal salts by the addition to their solutions of alkalies, alkaline salts, or salts which produce insoluble compounds. This form of incompatibility, it is pointed out, is one of the most dangerous likely to be encountered. "The alkaloids are very largely used, and are nearly all violent poisons; they are usually combined with acids in order to present them in forms which are soluble; strychnine sulphate, for instance, is soluble in about 10 parts of water, whilst strychnine requires about 6,700 parts of water to dissolve it; the combination of an alkali or an alkaline salt with the strychnine sulphate would throw the strychnine out of solution." A prescription is then given containing strychnine and bromide of potassium, on much the same lines as that quoted from *Hearth and Home*, with the following comment: "An inexperienced pharmacist would unhesitatingly proceed to compound the above prescription. A transparent solution would be obtained without difficulty, which would be dispensed without the slightest misgiving, but which in all probability would produce disastrous results. This solution deposits in a few hours the greater part of the strychnine salt as an insoluble bromide, which quickly subsides in transparent crystals. A lady in England lost her life by taking a similar mixture." This sufficiently establishes our point, and we think that the incident points an obvious moral, which those responsible for the contents of our lay contemporaries might well take to heart.

THE ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

A SPECIAL meeting of the Newcastle City Council was held on December 1st, in accordance with the provisions of the Borough Funds Act, for the purpose of confirming the resolution of the previous meeting of the Council granting a site for the new infirmary on the Leazes. After a long discussion, 32 voted for the motion, 14 voted against, and 5 did not vote. It was, however, necessary that there should be an absolute majority of the whole of the Council in its favour—namely, 33—and the Bill was not carried, as only 32 voted for it. It was ultimately resolved that another special meeting should be held in a fortnight to decide "whether the Bill shall be deposited or not." Although there was vigorous opposition on the part of a few, the result of the vote was entirely unexpected, and it is hoped that at the next meeting the Council will extricate itself from the present strange position by which Mr. Hall's generous offer to build a new infirmary at his own cost may be lost by the want of a single vote.

EXPLOSIVE HAIR COMBS.

A CORRESPONDENT sends us an account of a serious accident following the use of combs for the hair made of easily inflammable material. The accident in question was serious enough, but it is not unlikely to find conditions under which the same practice would be followed by results far more serious, if not fatal. A young girl was badly burned about the face, the eyes sharing in the injury. The story was that while the child was bending over a lighted candle, the comb retaining her hair, which was of the kind known as a "crop comb," fell forward, and, though it did not reach the candle flame, caught fire. A similar comb worn by the sister of the child in question was examined by our correspondent, and he sends us the following account of its properties: "It was made to imitate variegated brown and yellow horn, very flexible, but brittle. On exposure to heat it started to burn with explosive suddenness, and was quickly consumed." As is well known, there is a large trade done in this country in such articles. They are all made from substances which is practically identical in chemical composition. There is a large class of bodies known as nitrocellulose compounds, all of which have gun cotton as their near neighbour. These bodies, when mixed with various ingredients form a plastic mass which is capable of

being worked into a variety of forms and of being made to assume a variety of colouring. On account of these properties they are largely used in the manufacture of imitation articles. All the bodies of this class are very inflammable, and many of them are explosive under certain conditions. Some of them ignite at a very low temperature, even as low as 200° C. Now an ordinary spark to be visible must have a temperature of about 600° C., consequently it is quite possible for an article made of these substances to ignite without any apparent contact with a flame or even a visible spark. When once alight they burn at a very high temperature, somewhere near 2000° C. Very little is sufficient to cause them to burn with explosive violence; thus in the case of gun cotton, confinement within a canvas bag is sufficient for the purpose. It would therefore seem to be possible for a comb closely confined as it is in the hair to explode without any apparent cause. The greatest care is necessary in the manufacture of these combs in order to reduce as far as possible the inflammable and explosive nature of the materials of which they are made. The process requires constant watching and the most delicate manipulation, the slightest departure from the prescribed rules being likely to result in the production of a substance almost as explosive as the original gun cotton.

CAMBERWELL AND ITS GUARDIANS.

A great deal of attention has been drawn to certain incidents at the Camberwell Infirmary which have ended in the dismissal or resignation of several nurses charged with various breaches of discipline, among others with cigarette smoking. We are inclined to believe that the Board of Guardians is trying to earn a cheap reputation for zeal and devotion by making examples of these women, who, no doubt, acted indiscreetly. The old infirmary was condemned several years ago as unfit for its purpose, and it remains unfit still. It is deficient in decent accommodation for the nurses, and that sanitary defects exist it is, we believe, admitted. There appears to be a want of discipline throughout the establishment, which is the fault, not of individuals, but of a bad system. A correspondent, a member of the medical profession and a ratepayer, sends us an account of the observations which he made during a recent visit to the infirmary. He condemns it in respect of its defective drainage and ventilation and want of cleanliness. It is, he adds, fair neither to the patients, nor to the medical staff, nor to the nurses that the radically defective condition of more especially the older buildings should be allowed to remain without remedy. The whole infirmary, he says, is like the Irishman's gun, which wanted a new stock, a new lock, and a new barrel.

THE CLASSIFICATION OF DEATH RETURNS.

The letter published at page 1759 draws attention to some difficulties in the classification of death returns which must have exercised the minds of all medical officers of health when they make the periodical tabulation of the causes of death in their respective districts. As to the grounds for recommending the restriction of the term "phthisis" to "pulmonary phthisis," well-established custom appears to to justify this course, although the origin of the word would justify its application to any wasting disease, among the rest, to other tuberculous diseases than those of the respiratory organs. The careful differentiation of phthisis from other forms of tuberculosis in statistical returns appears to be desirable chiefly because there is an increasing tendency on the part of practitioners to enter on death certificates "tuberculosis" or "general tuberculosis," without specifying, as formerly, the chief lesion, which is usually pulmonary. The result is that a portion of the decline shown in the death-rate from phthisis during recent years is fictitious, being caused by this transference of deaths to the Registrar-General's heading "other tuberculous diseases." At the same time there is no doubt that, after due allowance has been made for this factor, a real decline in the mortality from phthisis has taken place. On the other hand, if hydrocephalus and phthisis be stated separately, it will be found that the statistics for England and Wales show little or no decrease in the rate of mortality from the remaining tuberculous diseases. It can scarcely be believed that this represents the real facts; the more probable supposition is that cases formerly returned as "marasmus," or other form of wasting disease, are now registered as "consumption of the bowels," or "tabes mesenterica," and that the transference from the heading "phthisis" accounts for the remainder of the stationary death-rate from "other tuberculous diseases." It is for these reasons that it appears to be desirable to state "phthisis" in tabulated returns separately from "other tuberculous diseases"; and then our correspondent may, if he so wishes, by a process of simple addition, give a yearly death-rate from "all tuberculous diseases." The time appears to have come for the revision of Table A. of the Local Government Board. The instance given by our correspondent is an excellent illustration of the points emphasised in the remarks published in the British Medical Journal of October 9th, p. 1031. The return should appear in a statistical report as Phthisis 43, Other Tuberculous Diseases 20, Total Tuberculous Diseases 63. It is well to specify in the body of the report the number of deaths from each individual form of tuberculous disease, so that exact comparison may be made from year to year. Marasmus must be left under its old heading of "Deaths from Ill-defined Causes." The second instance quoted by our correspondent is equally interesting as bearing upon this difficulty of classification. Had he furnished us with the ages at death under each of the headings named by him ("enteritis," "gastro-enteritis," "catarrhal enteritis," "intestinal catarrh," etc.) we should have been enabled to speak with greater exactitude, but even now we may venture the opinion that the majority of these deaths were caused by the same disease as is now designated under the symptomatic name of "diarrhœa," and consequently ought to go to swell the death-rate from the latter. But it must be remembered that the Registrar-General does not thus include them with diarrhœa, and that much confusion would arise if some medical officers of health and not all were to place all these deaths under one common heading. It is easy to lump things together; they can only be separated subsequently with an infinitude of labour. The best plan, therefore, is to draw attention to the number of deaths from "enteritis" in each report in connection with remarks on the diarrhœal mortality, so that with the lapse of years it can be determined to what extent the transference from "diarrhœa" to "enteritis" is occurring. The Registrar-General would confer a great boon on medical officers of health by the publication of the rules which guide his Department in the tabulation of deaths in the above instances, as this would go far towards helping to secure uniformity of methods of classification in local reports and in the reports issued from the General Register Office. The suggestion that senior medical students should be instructed in the nomenclature and classification of diseases before entering upon the practice of their profession is deserving of general support.

THE INCREASE OF THE ARMY.

It must be borne in mind that in any forthcoming reorganisation of the Army Medical Service any increase in units implies and necessitates a strengthening of departmental bodies to meet the wants of the new battalions. Not only must the present undermanned condition of the Army Medical Service be met, but an absolute increase of its existing nominal establishment must be made, both in officers and men. The *Pall Mall Gazette*, in a recent article which almost bore the impress of "inspiration," says, definitely: "At the present moment all that is absolutely certain is that eight battalions will be raised." This would mean an increase of about 250 officers and 5,000 men. Taking

the present establishment of the Army Medical Staff to be, say, 890 medical officers—one which the late Sir Thomas Crawford pronounced dangerously low—the future establishment should not be less than, say, 920, or perhaps more. Now, as the department is at least 100 short of its effective strength, not fewer than 140 or 150 additional army medical officers will be required to meet the increase in fighting units. This is part of the medical problem the War Office has now before it, and one which cannot be dallied with.

THE ROENTGEN RAYS AT THE INDIAN FRONTIER.

The Roentgen rays are proving of the greatest assistance in dealing with the gunshot wounds among the troops engaged on the Indian frontier. In one case a Sepoy came under treatment who had been struck by a bullet which passed across his chest and through his arm. The injuries were flesh wounds only and were expected to heal rapidly. But inflammatory symptoms appeared, and the medical officers were puzzled, as they were convinced that the bullet had passed out through the arm. The Roentgen rays when applied showed that some foreign substance was lodged in the muscles of the chest. Operation followed, and some splinters of lead were removed; the bullet had broken up by impact on the bones, apparently. In the case of Brigadier-General Ian Hamilton, too, who fractured his leg by a fall from his horse, the rays have shown that the setting of the bones has been perfectly done, and there will be no need now of his proceeding home.

INCREASE OF MEASLES IN LONDON.

Although there is usually a somewhat rapid rise in the mortality from measles at this season of the year, the recent increase in the fatality of this disease in the metropolis has very considerably exceeded the average. For more than twelve months the mortality from measles has been much lower than in many years past, and the number of children unprotected by a previous attack has therefore become unusually large. During the year ending September last the highest number of deaths in London from measles in any one week was 34; but from the first week in October, when the deaths were only 19, the mortality has increased very rapidly, the fatal cases reaching 86, 120, and 108 in the last three weeks, and being almost double the average number in the corresponding periods of the ten preceding years. The disease appears to be much more fatal in East and South London than in the rest of the metropolis, especially in Shoreditch, St. George-in-the-East, Poplar, Mile End Old Town, St. George Southwark, Newington, Lambeth, Camberwell, and Battersea. Of the 108 deaths referred to measles last week in London all but 8 were of children under 5 years of age. Notwithstanding the recent marked increase in the mortality from measles in London, in some of the large provincial towns—namely, Huddersfield, Halifax, Blackburn, and Gateshead—the disease was, in proportion to population, more than twice as fatally prevalent as in the metropolis.

WHERE IGNORANCE IS NOT BLISS.

At a recent meeting at the Oxford House the Bishop of London spoke of the importance to boys of an elementary knowledge of the physiology of sexual function. They are exposed to temptation before they understand the importance of resisting it, and contract habits which deform all the rest of life. It is not to be supposed that knowledge will eradicate passion, but an ignorance of consequences is in many cases responsible for the hold which the passions gradually obtain. Weak at first they acquire strength if their promptings are not resisted, until they reduce the man to a state of slavery which few have the force of character to break. There is no doubt also that there is a great fascination in the unknown. Most medical men know the morbid eagerness with which laymen receive information about sexual matters. The lewdness of boys springs largely from the same sense of mystery, and these hidden things, when explained from the point of view of one who understands them, and looks at them with common sense, neither making light of them nor exaggerating their importance, lose much of their danger. Such an one knows the passion, knows the temptations to which it exposes us. It is a great help to a boy to be be brought in contact with one who has this knowledge, and who at the same time will not minimise either the sin itself or the suffering which it brings in its train. Adult men are sometimes under the impression that chastity is a danger to health, and to them it is often useful to be distinctly assured that such is not the case. It is not right to give public instruction in these matters to boys. Such a course would bring obvious dangers with it. It is a question which should be discussed privately. But it is not easy to do this without whetting the curiosity, or perhaps even turning attention to a subject hitherto unnoticed. A serious interview devoted to this particular topic is open to both these objections. The best method is for parents or responsible persons to use the opportunities that naturally occur in common life, and to give the boy the information which would be naturally given if it were another topic. A boy constantly asks questions, and questions on these subjects should be answered as readily and as simply as others. He can at once be made to understand that it is not a matter for public conversation, and, if he finds no mystery made of it, it becomes a thing as indifferent as any other animal function. Unfortunately parents prefer to shift the responsbility to other persons, partly from false delicacy and partly from ignorance of the matter itself. Yet what would be quite natural in the course of daily talk becomes somewhat unnatural—and therefore, as we have said, somewhat dangerous—when it has to be the subject of a set conversation. It is better, however, that instruction should be so given than not given at all. If a boy's father does not do his duty by him, then he had better receive from his schoolmaster or from some friendly medical man such advice as they think will be of use. Above all, boys should be made to understand the difference between men and women. The lewd ignorance of schoolboys leads them to impute the same desires to women which they feel themselves; and if a boy is taught to recognise this as ignorance, and not manly knowledge which he is apt to think it, it gives him a healthy contempt for such opinions, and a disinclination to mix with those who hold them. And, lastly, it is of the first importance that relations of confidence should be established between the boy and some sensible man, so that he may ask him any questions upon this subject which happen to present themselves, in the certainty that he will be answered fully, truly, and wisely. Since medical men have the fuller knowledge, they can in many cases fill this place, and in doing so we can confer upon the lad one of the greatest benefits he is ever likely to receive.

BACTERIOSCOPIC EXAMINATION OF WATER.

A distinguished bacteriologist writes to us as follows: With reference to the question of bacterial sedimentation, a few words on the tests for the determination of the purity of a water supply may not be out of place. Writing in 1894, Dr. Kelly, of Worthing, in the introduction to his report on the outbreak of typhoid fever in that town, states that his report "shows the difficulty that was found in determining the wholesomeness of drinking water; of the three tests—the chemical, the bacteriological, and the clinical—the first and the second afforded but scanty help, while the third—the test on man himself—was the only one that led to a correct conclusion." Is it a matter for astonishment that lay directors and water committees should be puzzled as to what they should believe and what they should not when statements of this kind become public property? Of course it is evident enough what Dr. Kelly means in this instance, but no layman can be expected

to read into this statement its real meaning. In this matter the medical profession cannot be held blameless of such outbreaks as those that are now occurring. Opinions often based on very little evidence or knowledge are so freely given expression to—opinions as divergent as it is possible for opinions to be—that the lay mind may be excused if it accepts the easier policy of doing nothing if no benefit is to be obtained by making analyses. There can be no doubt that chemical and bacteriological examinations, if made without a due regard to the special points on which they do afford information, and if carried out intermittently and at irregular intervals, are of comparatively little value. Then, too, it must be remembered, the two methods of examination, when used in conjunction, are of far greater value than double the value of the two used separately. When the two methods are employed at regular intervals, and a careful record of every examination is kept for reference and comparison, most valuable information may be obtained. As regards the bacteriological examination, it was at one time supposed to be sufficient to count the organisms in a cubic centimetre of any sample of water, especially if, along with this, an enumeration of the liquefying and non-liquefying species was given. Later the number, nature, and probable source of different species present came to be the factor that was most insisted upon. Although this was a step in the right direction, we now know that a single analysis affords by itself very little information, especially in the case of surface waters; but a series of these analyses read in conjunction afford information of the greatest value to those able to interpret their meaning. A stable water is a good water; an unstable water, either as regards its chemical composition or the number and variety of its contained micro-organisms, is one not to be trusted. As soon as some of the above facts come to be recognised by our own profession, and when we can agree on the importance of this question, then may we ask and expect that lay managers and directors should accept what we have to say on the subject as reliable and worthy of being applied in the sphere of practical politics.

THE BENEFACTIONS OF SIR WILLIAM MACKINNON.

As already stated, the late Sir William Mackinnon, Honorary Physician to the Queen, and formerly Director-General of the Army Medical Department, left the bulk of his fortune in trusts for the advancement of science and scientific education. He bequeathed £2,000 to the University of Edinburgh, and, as announced at a recent meeting of the University Court, a similar sum to the University of Glasgow, for prizes in geology, comparative anatomy, and modern languages. After certain specific legacies, and after providing for life annuities to certain persons dependent upon him, he left the whole of the residue of his property to the Royal Society for the purpose of furthering natural and physical science, including geology and astronomy, and for the furtherance of original research and investigation in pathology by prizes and scholarships. His personal estate has been valued at over £25,000, and the value of the bequest to the Royal Society will probably amount to between £16,000 and £18,000.

MEDICAL APPOINTMENTS TO THE NIGER EXPEDITION.

Three gentlemen—Messrs. C. E. Maguire, M.B., C.M.; J. Fichborne, M.B., B.Ch.; and H. Ensor, M.B., B.Ch.—have been selected by the Colonial Office for service with the expedition which is being organised for the purpose of proceeding to the Niger district of the West Coast of Africa. They were directed in the first instance to proceed for a few weeks to the Army Medical School at Netley in order to obtain some instruction in tropical hygiene and diseases. Dr. Ensor has already been ordered to join the expedition, and the others will shortly follow. These young medical officers will no doubt derive great benefit from the information which they are obtaining at Netley. It would be a wise and sound proceeding to give all young men destined for tropical service an opportunity of undergoing a course of special instruction such as is given in the Netley School.

THE METROPOLITAN ASYLUMS BOARD.

Two points of some interest were raised at the meeting of the Metropolitan Asylums Board held on December 4th. The first was in regard to so altering the form of the returns of the patients in the Board's hospitals, which are presented every fortnight, as to show not only the number of the cases of enteric fever in the hospitals of the Board, but also the number of those which are farmed out by the managers among the various general hospitals. The Statistical Committee, reporting on this subject, considered that it would be impossible to obtain the information from the general hospitals in such a form as could be incorporated in the body of the existing fortnightly returns; but they thought that it would be both possible and useful to give the number of general hospitals admissions fortnight by fortnight. There ought not to be any difficulty about this, and the sooner it is done the better, for at present the returns are distinctly misleading so far as the number of cases of enteric fever treated at the public expense is concerned. The other matter had to do with the fresh distribution of certain of the imbeciles who are under the care of the managers. It is proposed that if the Brighton Road Schools at Sutton should become available, they should be used for the helpless or industrial imbeciles from the Darenth Asylum and Schools; the latter schools being devoted entirely to the reception of children capable of some degree of instruction. More extensive provision would also be made for the continued training and employment, after adolescence, of pupils who have passed through the Darenth School, and for beneficially utilising the labour of any imbecile patients who may be placed under the manager's care. The Children's Committee also reported that they had purchased 28½ acres of land at Brentwood for an ophthalmic school.

THE LIVINGSTONE COLLEGE.

Our little wars, as it is the fashion to call them—wars, however, which are often serious undertakings, and would be absolutely desperate adventures but for the help and protection afforded to our troops by the Army Medical Department—have at least proved that if Europeans are to be sent into tropical countries it is essential that they should be safeguarded in regard to health by all the medical knowledge that civilisation is able to place at their disposal. The incursions which our troops have made from time to time into the African Hinterlands would have been absolutely impossible before the hygienic era, and when English religious bodies despatch missionaries into these same regions, to wage war against heathenism and superstition, they are bound to give to these courageous missionaries at the very least some little knowledge of the diseases which they are sure to meet with, and may have to fight single-handed, far away from help. We confess that we often feel lost in surprise that conscientious and God-fearing people should feel themselves justified in sending young enthusiasts, of both sexes, be it said, to face the exhausting miseries of tropical life and the lonely wretchedness of death in these distant regions. Perhaps the promoters of these missions have not looked at the matter from a medical point of view; but it certainly seems strange that it should be so comparatively easy to raise about a million pounds a year for foreign missions, and yet that a little institution like the Livingstone College should find a difficulty in raising the few hundreds a year which are necessary in order that it may teach to the missionaries who are being sent to the ends of the earth the elementary principles of medical and hygienic knowledge which may enable them to ward off for a time those tropical diseases which exact from them and their wives so heavy a death tax

every year. If we thought that the Livingstone College lent itself to the manufacture of sham medical missionaries we should not say a word in its favour; but in view of the fact that the services of men and women are demanded in the missionary field, steps ought to be taken to ensure that before they go out to face the dangers of tropical diseases, they should be taught how to protect themselves from the most common of the diseases which they will have to face. Livingstone College is undoubtedly worthy of the support of all who believe in the efficacy and necessity of missions.

ENTRY TO EXAMINE WATERWORKS.

The Stockport Town Council the other day resolved to memorialise the Local Government Board, asking them to use their influence to obtain for sanitary authorities powers of entry for their officers to the catchments, reservoirs, and other works of private companies supplying water within their districts. The Corporation desire, very properly, power to take samples at any hour, and from any source of supply. It is well known that the chemical, nay, even the bacteriological, examination of tap water does not always reveal local contamination. Typhoid bacilli, well diluted, may easily escape the chance gallon taken by the analyst from the tap and yet be present in part of the supply in dangerous amount. Frequent examination of the several sources and of the drainage of all buildings near them is essential to the safety of the water supply of our great towns. We congratulate Dr. Porter on the public spirit and wise thoughtfulness manifested by his authority in this matter.

THE VITALITY OF TYPHOID BACILLI.

Sir Richard Thorne, in his remarks during the discussion on enteric fever at the Royal Medical and Chirurgical Society last month, mentioned some experiments made by Dr. Sidney Martin, who found after sterilising two samples of soil (one of which was saturated with organic matter) and inoculating both with typhoid bacilli, that the organism survived for at least 220 days in the solid containing much organic matter, while it was dying out in the other in 23 days. He also referred to some experiments by Dr. Robertson, of Sheffield, who found that on unsterilised earth, much contaminated with refuse, the bacilli died down in the winter months only to multiply freely in the summer. Dr. Edward Germano has made some experiments recently at the Hygienic Institute at Bonn bearing upon this point. They are reported in the *Zeitsch. f. Hyg.*, xxiv, 3. He noted the great difference in the periods for which the bacilli, when dried, retained their vitality, namely, from eight days to five months, according to various authorities, and from 21 to 82 days in the more trustworthy observations of Uffelmann. Dr. Germano began by pulverising, sifting, and sterilising samples of house dust, sand, humus, peat, tufa and loess, which he then saturated with bouillon cultures, the liquefied portion of agar cultures or the actual fæces of typhoid, placing the preparations in porcelain dishes, some in the ordinary dwelling rooms, and others in a moist incubating chamber. In the former case the bacilli had died out from the cultures in twenty-four hours, and from the excreta in six days, but in the latter case all were active after sixty days. Portions of clothing steeped in typhoid fæces, and placed in open saucers in a bedroom retained their infectivity, the linen and cotton for sixty, and the flannel for ninety days, the latter being more retentive of moisture. He concludes that the lifting by currents of air of recently desiccated typhoid germs from drains and cesspits alone or adhering to particles of dust must be admitted as a possible origin of sporadic cases, though outbreaks on a larger scale are invariably waterborne, directly or indirectly. Distant diffusions by winds he rejects as highly improbable and wholly unproven, remarking, for example, that the only instances adduced by a German authority, Mewins, of outbreaks occurring in Heligoland after those in Hamburg and Cuxhaven were far more easily ascribed to the imperfectly-disinfected and apparently dried rugs, woollen underclothing, etc., brought by convalescent visitors from these towns.

THE WATER OF OUR WATERING PLACES.

The unhealthy conditions at Maidstone and at Lynn are stimulating a healthy inquisitiveness in certain quarters not only as to purity of the water supply, but also as to the measures that are being taken to keep it pure. The *Harrogate Advertiser* lately printed a long string of suggestions as to sanitary matters, emanating it is said from a visitor of our own profession. Along with them, and in parallel columns, are the remarks of Mr. Ward, the able and active medical officer of health. In a large proportion of cases the replies show that the visitor's suggestions had been already anticipated, although in some instances hardly so far as he might have wished. Thus to his general statement that "The gathering grounds of all water supplies should be guarded, and guaranteed against all possible sources of contamination—such as gipsy camps and cultivated fields—and not left to chance," it is replied: "This is guarded against, and the danger named could not arise." We all know that quite recently the Harrogate Corporation obtained powers to purchase the works furnishing their domestic supply from a private water company. At the very time they were in Parliament seeking these very necessary powers, a neighbouring borough (who already possess rights over a large gathering ground close to that from which Harrogate derives its supply), finding the difficulty of keeping their larger, but very similar, catchment area free from pollution, were applying to the Legislature for power to purchase compulsorily great tracts of moor and pasture land, and so secure the purity of their water supply by becoming the actual landlords of those farmers whose instincts seem to lead them to pollute any streams near their homesteads. Mr. Ward leaves us in doubt as to what measures are being taken to protect the open moorland and the wide roads which cross the forest of Knaresborough from being the resting place of travelling tinkers, and from their polluting the feeders of of the Harrogate reservoirs. We have no doubt the Corporation, and we are quite sure their medical officer, are honestly desirous of furnishing their guests, as well as their constituents, with pure drinking water—their recent desire to purchase the waterworks is witness to this—but, on the other hand, their visitors, and those of us who send them those visitors, have a right to know what precautions are being taken to keep the rivulets on these gathering grounds free from pollution by tramps no cleaner than hop pickers, and what means are being adopted to teach the farmers at the hill sides the rudiments of sanitation. To say, "Oh, its all right," is not to satisfy this legitimate demand. There are other matters to which we have scarcely space to allude. One point, however, we must mention. The adoption of the Notification Act was suggested, and the engineer was told that it has been in force for more than a year. Why does Harrogate hide its good deeds under a bushel? Doubtless in the future the reports of the medical officers of health will contain a record of the result of the adoption of the Act.

A Catholic Medical Guild.—According to the *Tablet*, the Camillini, or Ministers of the Sick, in Rome, have instituted a Catholic Medical Guild, with the particular purpose of ensuring as far as possible religious succours to the sick and dying. They have placed the Guild, called of physicians and surgeons, under the patronage of St. Luke the Evangelist and Ss. Cosmas and Damian. Felix IV dedicated a church in the Roman Forum in honour of the two Arabian saint physicians, and joined to it the Templum Sacræ Urbis. The church was erected in the neighbourhood where Galen had lived. The epigraph in the apse ran thus:

Martyribus Medicis Populo Spes Certa Salutis
Venit Et Ex Sacro Crevit Honore Locus.

UNIVERSITY OF EDINBURGH: THE MACEWAN HALL.

After eight years' work the McEwan Hall has at length been finished, and on December 3rd, it was, with due pomp and circumstance, formally opened and handed over to the University. The ceremony took place in the presence of a large (some 2,800 persons) and representative company, the Chancellor (the Right Hon. Arthur James Balfour) presiding. From 2.45 till 3.30, Dr. A. L. Peace played selections on the grand organ.

After preliminary devotions, Mr. William McEwan, M.P., the donor of the Hall, made a statement (historical and personal) on behalf of the trustees, and handed over the deed of conveyance of the Hall to the Chancellor as representing the University.

Then followed the reply of thanks by Mr. A. J. Balfour. After referring to the pleasure which all felt in being able to convey to Mr. McEwan himself their gratitude for his munificent gift, Mr. Balfour referred to the infinite pains and the unstinted kindness which had inspired Mr. McEwan at every stage of the development of the great design which was now completed. He congratulated Mr. McEwan not only on having made the noble gift, but also on having set a noble example. He had seen with regret, sometimes almost amounting to shame, the extreme difficulty which there had been, not merely in Edinburgh but in connection with other great seats of learning, in obtaining from the liberality of a not illiberal public sufficient means to make our great British universities all that British universities should be. In this respect we could ill stand comparison with our cousins in the United States. He believed that the educational value of a worthy setting of a great university was not to be despised, for traditions clung around buildings, and they formed a part of that most valuable result of academic training—the love with which those who had been academically trained looked to the freshest, brightest, and the most plastic period of their lives. Next the Lord Rector (Lord Balfour of Burleigh) spoke as Chairman of the University Court, Principal Sir William Muir as representing the Senatus Academicus, the Lord Provost on behalf of the City. The next items on the programme of the day were: A vote of thanks to the Chancellor of the University, moved on behalf of the trustees by Sir William Turner; the oration of the Dean of the Faculty of Law in presenting Mr. McEwan for the honorary degree of LL.D.; the presentation of an address to Mr. McEwan by the Students' Representative Council; and Mr. McEwan's reply.

The new medical buildings, of which the Hall is the completing part on the east, are built on what was formerly Teviot Row and Park Street, between the middle Meadow Walk and Bristo Street. To open up the view and amenity and convenience of the Hall and its adjoining buildings the Edinburgh Corporation spent the sum of £31,690 in clearing away the west side of Bristo Street. The Hall, like the rest of the buildings of which it forms the outstanding feature, is in the early Italian Renaissance style. Based on the design of the ancient Greek Theatre, it is semicircular in shape, thus allowing a large number of persons to see and hear. The internal diameter is 106 feet, the height to the dome light is 90 feet, and to the top of the lantern 130 feet. There are two galleries. On the flattened side is the platform aperture, 52 feet wide, with stalls in oak for the University authorities, and specially marked seats in front for the Chancellor, Rector, and Principal. Above this is the organ gallery, the main part of the instrument being above the back stalls, two smaller parts being high up at the two ends of the platform opening. The electric organ is built with 2,400 pipes, cost £5,000, and is also the gift of Mr. McEwan. Arrangements have been made by which the University stalls on the platform might, on occasion, be covered over by another platform, so as to give space for an orchestra of 300 performers. Thus the hall, in accordance with the wish of the donor, might—till Edinburgh has got its own town hall—be used for concerts, for civic, or great ceremonial functions.

The McEwan Hall, Edinburgh.

The artificial lighting is by electricity, and is very effective, the total being equivalent to 17,920 candle power. Of this, 6,400 candle power goes to the great central light under the dome. The galleries are lighted by lamps round the cornices.

The decoration of the hall was done by Mr. W. M. Palin (London) and occupied three years' time. The dome has received the major part of the decorative work. Fifteen female figures, double life size, symbolise various arts and sciences. Over the top of the platform opening is a large painted panel of 100 feet across, representing the Temple of Fame, while on each side of the platform opening is a large

panel 24 by 13 feet. One of these side panels has for its subject Fame, the other represents Minerva as the deity of the University receiving the gift of the building. There are various other representative figures. On the walls of the clerestory are inscribed names of certain distinguished men who have been connected with the past history of the University. Round the inner edge of the dome runs the legend: "Wisdom is the principal thing: therefore get wisdom; and with all thy getting get understanding. Exalt her and she shall bring thee to honour."

There are seven entrances in the outer wall of the hall, and these lead into an encircling corridor, 12 feet wide, between the outer and inner walls. Five doors lead from this corridor into the interior of the building.

The heating mechanism is in the basement. Fresh air is drawn from the outside by a series of fans, and after being passed over steam pipes is distributed throughout the building.

The McEwan Trustees were, in addition to Mr. McEwan himself, Principal Sir William Muir, Sir William Turner, and the late Mr. John Christian, W.S.

The architect is Rowland Anderson, LL.D., etc., and the clerk of works Mr. Allan E. L. Clark. Although Mr. Clark's name has not appeared in any of the published accounts, he has played a very effective and important part in carrying out details.

First and last, the new Medical School and the McEwan Hall have cost close on £400,000. The Government gave a grant of £8,000 towards the cost of the site of the hall, and the expenditure upon its erection (amounting to £115,000) was paid for by Mr. McEwan. It ought to be noted that not only has Mr. McEwan given this enormous sum of money, but he has given much time and labour in considering every detail of the building, decoration, and equipment of the hall, and his immense business capacity has been of the greatest possible value.

The outside wall bears the carved inscription: "Hanc Aulam Academicam Gulielmus McEwan Universitati Edinburgensi Libens Animo Donavit. MDCCCXCIV."

The hall, with its decorations, adjuncts, and equipments, make one of the most important pieces of work that has been done in Scotland for many a day.

MEDICAL SICKNESS AND ACCIDENT SOCIETY.

THE usual monthly meeting of the Executive Committee of the Medical Sickness and Accident Society was held at 429, Strand, London, W.C., on 26th ult.

There were present Dr. DE HAVILLAND HALL, Chairman, Dr. J. B. Ball, Medical Examiner, Mr. J. Brindley James, Mr. W. J. Stephens, Dr. J. W. Hunt, Mr. William Thomas, Dr. F. J. Allan, Dr. M. Greenwood, Dr. J. Pickett, Mr. Frederick Wallace, and Dr. Walter Smith.

The accounts presented showed that the exceptionally heavy sickness experience of the spring and summer of the present year had at last abated and that the number of sickness claims received in the month of October was well under the expectation. The list of current claims was examined and one or two cases specially discussed, but on the whole the Committee concluded that neither in number nor in extent did the claims exceed the expected average. The Society has now been at work for fourteen years and its records contain a mass of information on the subject of incapacity caused to professional men by sickness or accident which will probably be found to be of the highest value in the future. Hitherto sickness experience has been almost exclusively confined to the records of societies whose members are handicraftsmen, and it is very doubtful whether these records will be found trustworthy guides to the managers of societies formed to give sickness assurance to other classes of the community. So far the average sickness experienced by the Medical Sickness and Accident Society has not materially varied from that of the Manchester Unity of Oddfellows or of the Foresters, but in their nature the claims are very different from those experienced in the great working-class societies. Each year adds to the value of the Medical Sickness records, which now form the only trustworthy basis for an estimate of what may be called "professional" sickness. Prospectuses and all information may be obtained on application to Mr. F. Addiscott, Medical Sickness and Accident Society, 33, Chancery Lane, London, W.C.

THE RECONSTRUCTION OF THE UNIVERSITY OF LONDON.

THE Duke of Devonshire in his speech at the festival dinner of the Royal Society appeared to indicate that it is the intention of the Government to reintroduce the London University Commission Bill, which passed the House of Lords last summer.

This Bill appointed a Statutory Commission to carry out a scheme which was set out in a Schedule to the Bill. As the Bill was introduced just before the long vacation, and as there was no adequate discussion of the subject in either House of Parliament, it is probable that many are unacquainted with the nature of the scheme for the reconstruction of the University of London embodied in it. The subject is now engaging the attention of the committees of the medical schools in London, and it seems desirable therefore to reproduce the terms of the Schedule.

THE BILL.

It should, however, be premised that the Bill contained six clauses. Clause 1 nominated seven commissioners: Lord Davey, the Bishop of London (Dr. Creighton), Lord Lister, Sir William Roberts, Sir Owen Roberts, Professor Jebb of Cambridge, and Mr. E. H. Busk, the Chairman of Convocation of the existing University. Clause 2 nominated Lord Davey as Chairman, and fixed the quorum at three. Clause 3 directed the Commissioners to make statutes and regulations for the University of London in general accordance with the report of Lord Cowper's Commission, but subject to the modifications shown in the Schedule Part I, and to the instructions contained in the Schedule Part II. The Commissioners were, however, directed to make any other modifications which may appear to them expedient after considering the changes which have taken place in London education of a university type since the date of the said report, and any representations made to them by or on behalf of the Senate or Convocation or any fifty graduates of the University of London, or by or on behalf of any body or person affected.

Clause 4 is as follows:

1. When any statute or regulation has been made by the Commissioners, a notice of its having been made, and of the place where copies of it can be obtained, shall be published in the *London Gazette*, and the statute or regulation shall be laid as soon as may be before both Houses of Parliament, and shall not be valid until it has been approved by Her Majesty the Queen in Council.

2. If either House of Parliament within forty days, exclusive of any period of prorogation, after a statute or regulation has been laid before it, presents an address praying the Queen to withhold her assent from the statute or regulation, or any part thereof, no further proceedings shall be taken on the statute or regulation, or on the part thereof to which the address relates, but this provision shall be without prejudice to the making of a new statute or regulation.

3. The Senate or Convocation of the University of London, or any other person or body directly affected by any such statute or regulation, may, within three months after the notification thereof in the *London Gazette*, petition Her Majesty's Council to withhold her approval of the whole or any part thereof.

4. Her Majesty in Council may refer any such petition to a Committee of the Privy Council, with a direction that the Committee hear the petitioner personally or by counsel, and report specially to Her Majesty in Council on the matters of the petition.

5. Thereupon it shall be lawful for Her Majesty by Order in Council either to declare her approval of the statute or regulation in whole or in part, or to signify her disapproval thereof in whole or in part, but any such disapproval shall be without prejudice to the making of a new statute or regulation.

6. The costs of any petition under this section may be regulated by the Committee to which the petition is referred.

Clause 5 gives the Senate of the University, after the expiration of the powers of the Commission, similar powers and statutory regulations subject to the same conditions. Clause

6 directs the Act to be cited as the University of London Act, 1897.

THE SCHEME.

The following is the schedule containing the scheme which the Statutory Commission would carry out subject to the modifications authorised by Clause 3 of the Bill:—

SCHEDULE.

PART I.

In framing statutes and regulations the Commissioners shall give effect to the following provisions:—

The Senate.

1. The Senate shall consist of the Chancellor and of fifty-five other members, appointed as follows:—Five by the Crown; seventeen by the Convocation, of whom the chairman of Convocation shall be one, and the remaining sixteen shall be elected by the registered graduates in their separate faculties in such proportions as the Statutory Commission shall determine; two each by the Royal Colleges of Physicians and Surgeons, four by the Inns of Court and two by the Incorporated Law Society, two each by University and King's Colleges, one by the Corporation of London, two by the London County Council, sixteen by the faculties.

2. The Senate shall be the supreme governing body and executive of the University. All University property shall be administered by the Senate, and (except as hereinafter specified) the Senate shall have the entire conduct of the University and all its affairs and functions, provided always that: (*a*) no religious test shall be adopted, and no applicant for a University appointment shall be at any disadvantage on the ground of religious opinions; (*b*) no procedure to a higher degree shall be allowed without examination or other adequate test, nor shall any honorary or *ad eundem* degree be conferred unless the Senate, in exceptional cases, think fit to confer such a degree on a teacher of the University; (*c*) no disability shall be imposed on the ground of sex.

3. There shall be three standing committees of the Senate: (1) The *Academic Council*, being a committee for internal students of the University.

(2) The *Council for External Students*, being a Committee for those students of the University, whether collegiate or non-collegiate, who are not internal students of the University.

(3) A standing Board to promote the *extension of University teaching*.

The Chancellor, the Vice-Chancellor, and the Chairman of Convocation shall be *ex-officio* members of all the above committees. The functions of these three committees shall be advisory.

The Academic Council.

4. This Committee shall consist of the sixteen members of the Senate appointed by the faculties, the three *ex-officio* members, and a senator or senators selected by the Senate to make the number of members up to twenty.

The Council for External Students.

5. This Committee shall consist of the sixteen members of the Senate appointed by Convocation, other than the Chairman of Convocation, the three *ex-officio* members, and senators elected by the Senate to make the number of members up to twenty-eight.

The Board to Promote the Extension of University Teaching.

6. This Committee shall consist of the three *ex-officio* members and senators elected by the Senate.

The Convocation.

7. Convocation shall include, in addition to those members specified in the said report, future graduates possessing a degree higher than that of Bachelor.

Teachers of the University.

8. The teachers of the University shall be: (*a*) Professors, assistant professors, readers, and lecturers directly appointed as officers of the University; and (*b*) members of the teaching staffs of educational institutions situate within a radius of thirty miles from the University buildings who have been recognised as teachers of the University. The Commissioners shall determine who are in the first instance to be recognised as teachers of the University.

Internal Students.

9. Internal students of the University are students who have matriculated at the University, and who are pursuing a course of study approved by a University in a school or schools of the University, or under one or more of the recognised teachers of the University.

Faculties.

10. The Commissioners shall determine in the first instance what the faculties are to be, and what teachers are to be members of the respective faculties. The number and distribution of the faculties may be altered from time to time by the Senate.

The faculties will consist of:

(1) The professors, assistant professors, readers, and lecturers appointed by the University.

(2) Such other teachers of the University as may be admitted to a faculty from time to time by the Senate.

(3) The examiners appointed by the University.

Members will be assigned to their respective faculties by the Senate, and no person shall be eligible to vote in an election in more than one faculty at the same time.

Board of Studies.

11. Boards of studies shall be constituted for the several subjects of University study.

The members of each Board of Studies shall be appointed by the Senate from (*a*) members of a faculty who teach or examine in the Board's subject; (*b*) other teachers of the University who teach the Board's subject.

The Senate may also appoint such other persons, not exceeding one-fourth of the total number of the Board, as they may think fit.

Adequate representation on each Board shall be secured for teachers of the University not belonging to any school of the University. A teacher of the University may be assigned to more than one Board.

Examinations.

12. Unless the Senate either generally or in a particular case otherwise determine, separate examinations shall be held for internal and external students respectively, and each certificate and diploma shall state whether the candidate has passed as an internal or as an external student; but the degrees conferred shall represent the same standard of knowledge and attainments. Internal students shall be admissible to the examinations for external students if they prefer to graduate on those terms. In all examinations the Senate shall, if practicable, appoint in each subject at least one examiner who is not a teacher of the University.

PART II.

1. The adequate protection of the interests of all classes of students, whether external or internal, collegiate or non-collegiate.

2. The recognition as teachers of the University of duly qualified teachers and lecturers, giving instruction of a University type in public educational institutions situate within a radius of thirty miles from the University buildings, whether such institutions be schools of the University or not.

3. The inclusion, under proper regulations, as internal students of the University of students who have matriculated at the University, and are, under the personal direction of one or more of the teachers of the University, pursuing a course of study approved by the University.

4. The due representation on the Senate and the Academic Council of all subjects of study and all sections of teachers of the University.

On December 3rd a very interesting address was given before the Glasgow University Medico-Chirurgical Society on the Recent Epidemic of Plague in India, by Brigade-Surgeon-Lieutenant-Colonel Arnott, late of St. George's Hospital, Bombay. He discussed the origin of this epidemic, and described in a graphic way the general course of the disease and its different forms. The bacteriology of the subject was also touched upon, and the question of serum treatment. A good demonstration was given of the plague bacillus in culture and film preparations.

THE GENERAL MEDICAL COUNCIL.

British Medical Practitioners in Italy.

Reference has more than once been made in the British Medical Journal to the efforts which have for some time past been made by certain professional bodies in Italy to induce the Legislature of that country to modify the present law relating to the practice of medicine in such a manner as to prevent British and other medical practitioners from practising their profession in Italy, even among their own countrymen. Some months ago Dr. J. J. Eyre, of Rome, on his own behalf and on behalf of other British medical men now practising in Italy, addressed a letter on the subject to the General Medical Council. The Council thereupon appointed a Committee, with instructions to frame and to forward to the Privy Council a representation calling attention to the subject of Dr. Eyre's letter, and asking that the Secretary of State for Foreign Affairs might be moved to take such action as might be possible in regard to the matter. A communication was accordingly addressed by Sir Richard Quain to the Lord President of the Privy Council, in which it was pointed out that the reason assigned for the proposed change of the law in Italy, namely, that Italian doctors were not permitted to practise in other countries of Europe, including the United Kingdom, unless they possess the diplomas of these countries, has, as regards the United Kingdom, no foundation in fact. Sir Richard Quain reminds the Lord President that foreign medical men are absolutely free to practise their profession within the Queen's dominions, not only upon foreigners but upon Her Majesty's subjects; in addition to this great facilities have habitually been given by medical corporations in this country to foreign practitioners of repute to obtain a British diploma. The General Medical Council submits that the proposed legislation in Italy is simply a measure for the "protection" of foreign practitioners. It is pointed out that in the circumstances of the case, the exclusion of British doctors from Italy is not only exceedingly unjust to the practitioners directly affected thereby, but is also calculated to be highly injurious to the many subjects of Her Majesty who travel for recreation in foreign countries, or who frequent foreign health resorts, which in a large proportion of cases owe their prosperity almost wholly to the British practitioners who have settled there. Sir Richard Quain goes on to say that the legislation which is now proposed in Italy, and which has actually been carried into operation in other countries, must materially diminish the availability of Continental health resorts for British people, and must compel British physicians to seek for substitutes elsewhere.

The General Medical Council would regard with entire approval any well-considered arrangements by which the medical diplomas of all countries (of course under proper safeguards with reference to study and examination) could be rendered of international validity; and urges upon the Lord President the expediency of moving the Secretary of State for Foreign Affairs to take such action in this direction as he may deem practicable or desirable. In the meantime it is suggested that the privileges possessed in Great Britain by foreign medical men with only foreign qualifications might with much advantage be wholly withdrawn, and their practice totally prohibited, except in the case of the natives of any colonies or countries the Governments of which were prepared to extend reciprocity of privilege to ourselves. A short Act to amend the Medical Acts would do all that is required, and would enable the Government of this country to negotiate on equal terms for the restoration or preservation to British practitioners abroad of privileges of which they either have been, or are likely to be, arbitrarily and wrongfully deprived.

Payments to Members.

We have received from Dr. R. R. Rentoul a letter with reference to the refusal of the General Medical Council to pay him the sum of 10 guineas, to which he claimed to be entitled in accordance with the extra scale of payment to members of the Council residing more than 200 miles from London. The matter was briefly reported in the British Medical Journal of December 4th, page 1657. Sir Dyce Duckworth, as treasurer, stated that it had been the custom to pay their former representative from that place at the scale for under 200 miles, but that Dr. Rentoul included the distance from his house and the hotel to the stations. A motion to pay the 10 guineas claimed was lost.

Dr. Rentoul in his letter points out that his claim was made under the standing orders of the Council, Section xi, 4: "Each member of the General Medical Council who resides more than 200 miles from London shall receive 5 guineas for the day of his coming and 5 guineas for the day of his return."

Dr. Rentoul stated that the distance between Liverpool and London from station to station is by the shortest railway line (London and North-Western Railway) 201 miles, and that the distance from his residence to the General Medical Council is 204¼ miles.

Under these circumstances Dr. Rentoul maintains that his claim is not affected by the custom referred to by Sir Dyce Duckworth, and the standing order seems clear enough.

Dr. Rentoul in his letter also enters into certain other matters, and repels allegations attributed to Sir Dyce Duckworth. As these matters and allegations were not contained in the report in the British Medical Journal, it appears to be unnecessary to print Dr. Rentoul's letter in full.

MEDICAL REFORM.

At a meeting of the South-West London Medical Society at Lavender Hill, Wandsworth, on December 8th, Mr. Victor Horsley delivered an address on "The Medical Acts of Parliament—as they are and as they ought to be." He said that, amid the loud outcries for reform of the Medical Acts, their real scope and power was a little lost sight of, a position unfortunately due to the attitude assumed by the General Medical Council in the past, under the advice of their legal advisers. The object of the Acts, as stated in the preamble of the Medical Act, 1858, is to enable the public to distinguish qualified from unqualified practitioners. The word practitioner there used shows that the intention of the Act was to stop encroachments by unqualified practitioners on the legitimate rights of the qualified man. What is a qualified man? or, in other words, What is qualification? Misapprehension has prevailed about this, because the legal advisers of the General Medical Council have used the word qualification in the sense as though it were the legal right to practise.[1] A qualification in the sense of the Medical Acts is a diploma which conveys not the right to practise, but confers the right of registration under the Medical Acts. This is the all-important difference that has been lost sight of. In order that there should be no doubt upon this subject the Act of 1858 defined a qualified practitioner as a person registered under this Act (Section xxxiv); this definition is the birthright of the profession, and upon it should have been made to hinge all proceedings taken under the Medical Act, and unqualified practice would easily have been stopped. Certain of the diploma-granting bodies—especially the Apothecaries' Society—claim that their diploma confers a statutory right to practise, and that the Act of Parliament giving that right to the members of the Apothecaries' Society is unimpaired by the subsequent passing of the Medical Acts. The Apothecaries' Act, 1815, confers upon the licensee a right to practise as an apothecary, a condition of things which was not contemplated by the Act of 1858 or by the Act of 1886, for by the Act of 1886 a practitioner must possess a statutory right to practise medicine, surgery, and midwifery, and this can only be obtained by his name being placed in the *Medical Register*. The cardinal fact is thus again reached, that the only person qualified to practise as a duly qualified medical practitioner must be on the *Register*. It was in consequence of such a misconception of the law on this subject that the legal advisers of the General Medical Council positively allowed a report from the Executive Committee to pass, in which it was stated that although a man was struck off the list of the Licentiates of the Society of Apothecaries he nevertheless still possessed a qualification, the context showing clearly

[1] Minutes of the General Medical Council, 1896, p. 63.

that what was intended to be conveyed was that he still possessed a statutory right to practise. In fact a proposition was seconded by the representative of the Apothecaries' Society, Mr. Carter, at the Council to restore the man's name to the *Register* on the score of his possessing a qualification, but the error involved in the advice of the legal advisers of the General Medical Council was pointed out to the Council by Mr. Horsley, who naturally contended that the man could not be struck off the list of Licentiates of the Society of Apothecaries', and yet still be held to possess his licentiateship, which was in fact the position taken up by the legal advisers of the Council. The Medical Act, 1886, clenches this matter of registration by stating in plain terms that only a person registered under the Act is entitled to practise; in other words if he is not registered he should be prosecuted under Section XL of the Medical Acts according to the definition already given of the duly qualified medical practitioner. This view, although standing so plainly written in the Acts, was never introduced to the notice of the Council until Mr. Horsley brought it forward at the present session. If the Law Courts under these Acts are unable to stop quackery and illegal practice and give a decision adverse to this interpretation of the Acts, then of course amendment of the Medical Acts becomes necessary. Mr. Horsley referred to the rights and privileges of medical men under the Acts, and denounced the attacks being made to depreciate their value. Speaking of the audacious invasion of the rights of practitioners in regard to medical certificates, etc., he hoped that before long he would be able to report that the attempt had been arrested.

The CHAIRMAN (Dr. Howell), Dr. ALDERSON, Dr. GAY, Dr. BATEMAN, Dr. DUKE, Dr. JOSEPH SMITH, Dr. BARKWELL, Dr. HILLSTEAD, Dr. DICKINSON, and Surgeon-Major MARK ROBINSON having spoken, Mr. HORSLEY replied, and the meeting terminated with the usual vote of thanks.

TESTIMONIAL TO DR. ARLIDGE.

DR. CHARLES F. MOORE, 10, Upper Merrion Street, Dublin, Honorary Secretary of the Committee which, as Dr. Ogle mentioned in the BRITISH MEDICAL JOURNAL of November 13th, has been formed to present a testimonial to Dr. Arlidge, requests us to publish the following further list of subscriptions:

	£	s.	d.
Rev. C. E. Waller	1	1	0
Prebendary Hutchinson	0	10	0
Miss Littledale	2	2	0
Dr. Pierce	2	2	0
Messrs. Gale and Co.	1	1	0
Rev. W. W. Tyson	2	2	0
John Strick, Esq.	1	1	0
John Kendrick Wynne, M.D.	3	3	0

ARCHÆOLOGICA MEDICA.

XXXIX.—HIPPOCRATES IN THE LIGHT OF RECENT RESEARCHES.

IN a recently-published pamphlet[1] Dr. Spaet has attempted to trace the history of the medical doctrines contained in the Hippocratic writings in connection with a remarkable literary discovery which is likely materially to alter the prevalent ideas about Hippocrates and his school. Mr. F. G. Kenyon, of the British Museum, detected amongst a mass of papyri brought from Egypt a remarkable Greek MS., and at once recognised its great importance for the history of Greek medicine and philosophy. He published a full account of it in 1892, in the *Classical Review*, vol. vi. No more important contribution to the history of medicine has been made for many years than by his brilliant research.

The deciphering of the papyrus presented extraordinary difficulties even to a skilled palæographer, and Mr. Kenyon's official duties prevented his publishing the text himself. However, a Berlin scholar, Dr. Diels, has, with the active collaboration of Mr. Kenyon, succeeded in producing a Greek text which, as reconstructed by the critical skill of the two scholars, is fairly complete and intelligible. This has been made accessible to German readers by a translation, which we owe to Dr. Spaet and Dr. H. Beckh. Those who wish to become acquainted with the actual work should at least procure the German translation, if not the Greek text.

The actual authorship of the MS. is unknown. Scholars think that it may have been a student's notebook, taken down from the lectures of some Greek professor of medicine about the end of the first century of our era. The supposed author bears, therefore, no other name than "Anonymus Londinensis."

The authority of the document is, however, far higher than that of an anonymous student or a hypothetical professor. The most important part of the work was recognised by Mr. Kenyon as containing extracts from a long-lost and desiderated treatise on medicine, compiled by Menon, a disciple of Aristotle, and containing the medical doctrines of the philosopher, who possibly had some share in the compilation itself. This work is spoken of by Galen as extant in his time, and as specially valuable for recording the doctrines of the "old physicians," but no portion of it was known until now.

Mr. Kenyon's attribution has been adopted by all competent authorities, and the Greek text has been published by the Academy of Berlin as a supplement to the great Berlin edition of Aristotle's works. The title given by Dr. Diels to his text may be rendered—"Extracts (by an anonymous author) from the Menonian Iatrics [or Medicine] of Aristotle," just as another work of Aristotle's is known as the *Nicomachean Ethics*. It expresses the medical doctrines of Aristotle though the actual compilation was not made by him.[2]

The most interesting part of this Aristotelian work is the historical. We find recorded the names and doctrines of a number of old Greek physicians, many of whom were not known before, even by name, and a complete reconstruction of the history of Greek medicine in early times will be made necessary. But our present concern is only with what bears on Hippocrates, whose medical character appears in quite a new light.

It has till lately been the custom to draw a sharp line between the so-called genuine works of Hippocrates and the rest. It is certain, indeed, that a large part of the Hippocratic collection was not written by the great physician of Cos. Dr. F. Adams, in his English translation of the *Genuine Works*, published by the Old Sydenham Society, drew the line very definitely; but it has been known for some time that the grounds for this distinction were very uncertain. The practice, broadly speaking, has been to assign to Hippocrates those works which were regarded as the best—that is, those distinguished by objective clinical observation and by freedom from theoretical speculations, also as some think by the style. Hence our idea of Hippocrates is that of the great clinical physician, as distinguished from the philosophical theorisers of earlier or later schools.

But we now learn on the authority of Aristotle (who is specially quoted) that there was an entirely different side to Hippocrates as a physician. He had a highly speculative as well as a practical side. The doctrines which Aristotle ascribes to him are speculative in the highest degree; and the remarkable fact is that these doctrines are little more than a reproduction of a treatise in the Hippocratic collection "On the Pneuma" (translated *De Flatibus*), full of the most misty theories, as we should call them, which has been generally regarded as spurious, and quite unworthy of the Father of Medicine; but if this is a genuine work of Hippocrates, then he must have been, in some respects, a different man from what we have thought him.

The leading doctrine of this treatise is that all diseases are produced by the wind or *pneuma*, which within the human body produces "winds" acting in various ways on the organs; the doctrine is developed in details which cannot here be discussed. The assumption of such a theoretical cause of disease is little in accordance with the mode of regarding diseases which we find in what are regarded as the genuine writings of Hippocrates. It might be conjectured that these theories

[1] *Die geschichtliche Entwickelung der sogenannten Hippocratischen Medicin im Lichte der neuesten Forschung* [The Historical Development of the So-called Hippocratic Medicine in the Light of Recent Research], von Dr. Franz Spaet. Glasgow: F. Bauermeister; and Berlin: S. Karger. 1897. Roy. 8vo, pp. 56. M. 2.

[2] *Anonymi Londinensis ex Aristotele Iatricis Menoniis et aliis Medicis Eclogæ*. Ed. H. Diels, Berlin. 1893. The German translation is—*Anonymus Londinensis*, etc., Deutsche Ausgabe von Dr. H. Beckh und Dr. F. Spaet, Berlin, 1896.

belonged to the earliest stage of the great physician's medical knowledge, or that he held them without allowing them to interfere with his direct observation of disease. Dr. Spaet, however, goes further, and in the light of this new conception of Hippocrates questions the authorship of some of the most distinctly Hippocratic works, suggesting that they may have been written by certain other old physicians mentioned in the Aristotelian MS.

These inferences are open to question, and will doubtless give rise to controversy; as will other conclusions of Dr. Spaet's about the part played by other physicians in building up the Hippocratic doctrine.

The reputation of the Father of Medicine cannot be lightly tampered with, and will not fail to find defenders. We cannot enter on the question here; but can recommend Dr. Spaet's revolutionary and, some would say, audacious pamphlet as well worth consideration. Some articles by the same author, in *Janus*, dealing with the same subject, should also be mentioned.

SIDMOUTH NEW SEWERAGE WORKS.

THE charming Devonshire watering place, Sidmouth, which has lately made such a successful bid for popularity as a winter health resort, has just completed a sewerage scheme. The works, which have been designed by Mr. Mansergh, are probably as complete as it is possible to make them. The scheme is exceedingly simple, the sewage being discharged direct into the sea, but owing to the peculiar local conditions of current and tide special arrangements have had to be made. As the tide flows up the Channel there is flowing along the shore a current in the reverse direction. This current is explained as an eddy caused by the projection of Portland Bill. It is necessary in the case of Sidmouth to discharge the sewage only at such times as it will be carried in an easterly direction—away from the town, esplanade, and public bathing place. Such conditions concur about one hour before half tide on the flood. This has been determined by numerous float experiments which were made by the Council before the inception of the present scheme.

In order that the sewage may be thus intermittently discharged it is necessary to store it in the intervals. This has been effected by constructing tanks, which present some features of interest. The tank is constructed underground, and is divided into three compartments. Into the side compartment the sewage is admitted, and, having travelled to the end, it returns and fills the other two. While traversing the first compartment most of the suspended matter is deposited. The outlet from the whole tank issues from this same compartment. Consequently, on allowing the accumulated sewage to flow into the sea, the deposited matter in the first compartment is flushed out by the force of water in the other two. In this way considerable trouble is saved in removing sludge.

Great care seems to have been taken in every detail of the construction. Thus all the lower parts of the town have been provided with Hassel's jointed pipes, Stanford joints being used for the rest of the work.

It now only remains for the local authority to see that the house connections and internal arrangements are constructed on an equally satisfactory plan.

The baths and Nahheim treatment, as carried out at Sidmouth under Dr. Leon, are now well known, and have already been described in our pages. With such natural advantages as it possesses in the way of climate, and all that has been done for it by art, it should be the means of saving much expense to patients, who would otherwise go abroad to a German or French spa.

DEATHS UNDER ANÆSTHETICS.

"THE MECHANISM OF DEATH UNDER CHLOROFORM."

DR. ROBERT BELL (Glasgow) writes: Referring to the discussion in the BRITISH MEDICAL JOURNAL of November 13th under the above heading, Surgeon-Lieutenant C. A. Lane has cleared the way towards a trustworthy theory of the cause of death from chloroform. It is, indeed, surprising that an attempt should have been made to build up a theory without basing it upon indisputable facts. In none of the cases quoted by Mr. Alexander Wilson and other writers on the subject is the amount of chloroform used nor the length of time elapsed from the commencement of inhalation to the beginning of symptoms of danger stated. Evidently without trustworthy information regarding these two essential points the building up of a theory can be of no value, and amounts to an idle speculation.

My last six years' experience of chloroform anæsthesia enables me to state positively that the question can only be settled in a conclusive and satisfactory manner by an impartial study of the varying amount of chloroform exhibited by the different modes employed in its administration. We all know that if the air the patient breathes contains from 5 to 10 per cent. and more of chloroform vapour, the risk is one of sudden death by syncope—whether the respiration or the heart stops first is of little moment—and if air containing from 4 to 5 per cent. of vapour is breathed for too long a period, death will occur gradually and slowly, and always distinctly by arrested respiration, the heart beating more or less feebly for a few moments longer.

We need only read the very last reports of fatal accidents from chloroform to be convinced that the most experienced, skilled—but not learned—anæsthetists, administering chloroform unmeasured, are at any moment liable to meet with fatal accidents, before during the progress, or minutes, hours, and even days after the completion of a successful operation, whether his whole attention was concentrated on the respiration, the circulation, or on both, in watching for symptoms of approaching danger which tell him that the mischief is done.

On the other hand, my own results, which are uniform with those recorded from time to time in the BRITISH MEDICAL JOURNAL, reveal the positive and indisputable fact that by "Snow's method" perfect anæsthesia, safely and with certainty induced and sustained in 80 per cent. of average adults, with from 0·32 to 1 per cent., in about 15 per cent. with from 1 to 2 per cent., and in about 5 per cent. of the cases reported was the largest percentage of vapour (2.77 per cent.) used in strong muscular male adults.

I need hardly mention that in none of my cases was the inhalation followed by any ill-effect. These facts lead to one, and I hope a final, conclusion, that the safety of the patient under chloroform depends not on the most careful watching for symptoms due to more or less overdosing, but by estimating, as Snow did, the action of inhaled chloroform by the amount administered in a given length of time.

I hold, therefore, that in reporting cases of death under or from chloroform, it is essential, for reasons given by Surgeon-Lieutenant C. A. Lane, that an answer to each of the following questions should be accurately and truthfully reported, on the information of which alone the true cause of death can be traced and found:

1. State the sex and age of the deceased.
2. His or her previous state of health.
3. The nature of the intended or completed operation.
4. The mode and manner in which the chloroform was administered.
5. The amount of chloroform used.
6. What length of time elapsed from the commencement of inhalation to the beginning of symptoms of danger.

Truthful replies being given to these questions, no difficulty will be found in arriving at a correct conclusion whether death was the result of an overdose inadvertently administered, due to the faulty method employed in the administration, to carelessness, or to the nature of the operation.

ASSOCIATION INTELLIGENCE

NOTICE OF QUARTERLY MEETINGS OF COUNCIL FOR 1898.

MEETINGS of the Council will be held on January 19th, April 13th, July 6th, and October 19th, 1898. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting—namely, December 29th, 1897, March 24th, June 16th, and September 29th, 1898.

FRANCIS FOWKE, *General Secretary.*

ELECTION OF MEMBERS.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

FRANCIS FOWKE, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

METROPOLITAN COUNTIES BRANCH: WEST LONDON DISTRICT.—The meeting arranged for this month has been unavoidably postponed. Due notice will be sent to every member when the date for the meeting is again fixed.—THOMAS DUTTON, M.D., Honorary Secretary.

ABERDEEN, BANFF, AND KINCARDINE BRANCH.—An ordinary general meeting of this Branch will be held in the Palace Hotel, Aberdeen, on Wednesday, December 15th, 1897, at 8 P.M. A ballot will be held for the admission of Drs. Bruce, Lumsden, and Snowball, all residing at the Royal Infirmary, Aberdeen. Professor Finlay will give Some Points in Pneumothorax, with illustrative cases.—C. THISELTON URQUHART, J. SCOTT RIDDELL, Joint Honorary Secretaries.

STAFFORDSHIRE BRANCH.

The first general meeting of the session was held at Stoke-on-Trent on November 25th. Mr. G. A. Phillips (President) and nineteen members were present.

Confirmation of Minutes.—The minutes of the last general meeting were approved and signed.

Correspondence.—Communications from the East Anglian Branch *re* medical men belonging to medical aid associations, and from the Worcestershire and Herefordshire Branch *re* venereal disease among the British troops in India were read, and they were ordered to be entered on the minutes.

Constitution Committee.—A report of the Constitution Committee, forwarded by the General Secretary, was read. It was resolved to defer the discussion of it until next meeting, and the General Secretary was to be asked to supply each member with a copy.

Army Medical Reform.—Mr. Spanton brought forward the report of the Subcommittee of the Parliamentary Bills Committee on army medical reform. General approval of the report was given by several of the members, and it was resolved that the moral support of the Branch be given to the Subcommittee's work.

Exhibits. — Dr. Hind showed: (1) A boy, aged 4½, on whom he had done Abdominal Section for acute intussusception at the splenic flexure of the colon; (2) a girl, aged 8, after Excision of Hip and part of the Acetabulum, in whom all the hip movements were perfect, and there was apparently little or no shortening; (3) Calculi removed from the pelvis of a kidney in a woman who developed a renal abscess during convalescence from pregnancy; (4) two Uric Acid Calculi removed by suprapubic lithotomy from a man on whom a similar operation was performed nine months previously to remove a portion of a catheter; (5) a Large Renal Calculus removed from the substance of a right kidney; the same patient had since suffered from left renal colic, and had passed a fair-sized uric acid calculus.—Dr. McAldowie exhibited photographs of the following cases which had been recently under his care: Acute Exfoliative Dermatitis supervening on a severe attack of chorea; Pseudo-hypertrophic Paralysis, three cases; Raynaud's Disease, two cases; Paralysis with Muscular Atrophy of the "shoulder-arm type," two cases; Poliomyelitis, two cases; Amyotrophic Lateral Sclerosis; Muscular Atrophy due to lead poisoning, ulnar type, two cases; *Main en Griffe*, one case.—Mr. T. Vincent Jackson exhibited Three Biliary Calculi removed by cholecystotomy from a woman, aged 67, on October 9th, 1897. Each weighed 50 grains. The woman had suffered for four years from constant pain, but had never been jaundiced. Mr. Jackson explained that the reason of his exhibit was the following practical point—that, during the operation, if from any cause it became difficult or impossible to remove a calculus, it was wiser to desist from attempts which might be hazardous, as there was an assurance that the concretion would very soon travel outwards. This happened in the case related, the third stone being unextracted, and five weeks after the operation it presented at the external wound, and was easily scooped out. Employment of occasional suction by means of a cupping glass or breast exhaust over over the abdominal aperture favoured exit.—Dr. Hatton exhibited: (1) A Gall Stone discharged from a sinus in the abdominal wall; (2) a Concretion found in an abscess connected with the appendix.—Mr. Spanton showed: (1) Adherent Cystic Inflamed Ovary causing symptoms exactly simulating those of ectopic gestation. Abdominal section was performed and recovery ensued. The patient, a married lady, aged 41, who had several children, was seen two months before, having missed one period, and then suffering from metrorrhagia with pelvic pains, nausea, and other indications of early pregnancy. A tumour was felt adherent to the left side of the uterus, and the uterus was enlarged admitting the sound 3½ inches. Everything pointed to tubal gestation, and operation was advised. The tumour, which was separated with difficulty, was about the size of a small orange, and contained a cavity with walls of cartilaginous hardness, and numerous small cysts. No fœtal structures were found, and the Fallopian tube was distended, but had no communication with the cavity. The uterus had since returned to its normal size, and all other symptoms had disappeared. (2) An Ovary containing a true Corpus Luteum removed from a married patient, aged 24, for ovaritis of long standing, who had been perfectly regular, and presented no indications of pregnancy, but passed a six weeks' ovum a month after operation. (3) A large Appendix Vermiformis, containing several concretions, removed from a patient with pelvic abscess. A married lady, aged 27, was confined in May of her first child, and had subsequent grave septic symptoms, with high temperature, and when seen three weeks after had a large abscess over the right iliac region and groin. The uterus was fixed to right side. The abscess was opened and drained, with relief. Improvement continued, but the opening remained. A few weeks ago a swelling the size of a large orange was noticed in the right ovarian region, elastic, and fixed deep in the pelvis, and the temperature at night continued over 100° F. Laparotomy was performed, and a swelling was found in the right broad ligament behind the cæcum, over which a very large appendix was adherent. The external abscess did not communicate. The swelling was aspirated, and some very thick odourless pus removed, and as the edges could not be brought up, a deep drainage tube was put in, and gauze packing, and the patient was making a good recovery. Whether the mischief arose in the appendix or from the uterus was a point of interest. (4) Piece of Slate Pencil, 2½ inches long, removed from the Bladder of a Girl, aged 11. (5) Silk Ligature, with Phosphatic Concretions, removed from the Urethra of a Lady who had undergone vaginal hysterectomy about a month previously. (6) An Ovarian Cystoma the size of a goose egg, with peculiarly dense fibrous walls, removed from a married lady, aged 40, on account of severe pelvic symptoms, which pointed to the existence of ovarian disease for at least five years. She is now well.

Papers.—Dr. Hind read a paper on Some Interesting Surgical Cases. The cases were: (1) Pyloroplasty; (2) Ovarian Cyst and Ascites, with Pregnancy, and rupture of the cyst after twisting of pedicle; (3) a case of Extensive Malignant Disease of Intestine in a child aged 12, of which no symptoms had been noted till a fortnight before death; (4) a case of Enucleation *per vaginam* of a large Uterine Fibroid Tumour.—Mr. J. Clare read a paper on Accident Assurance and Professional Confidence, in which he contended that medical men should not be called upon to give the information which was usually asked by Assurance Companies as to the condition of the assured at the time of the accident.—Mr. Magnus Adler read a paper on Cancer of the Penis. The case illustrating it was that of a married man, aged 34, who in June of last year contracted a soft chancre, for the successful treatment of which a phimosed prepuce had to be slit up. There had never been any abrasion, fissures, or warts, nor were the glands enlarged. In September, 1897, the patient reappeared with the glans and prepuce presenting one large, red, bleeding epitheliomatous mass. Amputation of the penis was performed, and an enlarged gland was removed from the left groin. During the period between the appearance of the chancre and that of the epithelioma he had had no sexual intercourse. The case was remarkable on account of the age of the patient, the entire absence of any previous source of irritation, and the extraordinary rapidity with which the cancer developed in the site of a venereal sore. This last point is, Mr. Adler pointed out, quite unique in the etiology of epithelioma of the penis.

ABERDEEN, BANFF, AND KINCARDINE BRANCH.

An ordinary general meeting of the Branch was held in Marischal College, Aberdeen, on November 17th. Professor Finlay, the President, occupied the chair, and there was an unusually large attendance.

Confirmation of Minutes.—The minutes of last meeting were read and approved.

Surgery of Ureter.—Professor Ogston made an interesting communication on Surgery of the Ureter. He described the method of exploring the ureter through the bladder, and also by incision through the abdominal parietes. He read notes of cases of removal of a calculus from the ureter, also of stricture of the ureter treated by incision and the lodgment of a Neuber's decalcified bone drain. A very interesting account was given of implantation and suture of the ureter, part of which had to be excised in the removal of a retroperitoneal tumour. His last case was one in which an examination had

been made of the pelvis of both kidneys, with the removal of a large calculus from one.

Spinal Caries.—Dr. ASHLEY W. MACKINTOSH read notes of a case of spinal caries. The patient, a man aged 51, had suffered from "weak back" about eleven years before, and since that time had angular kyphosis at the mid-dorsal region. Root pains were complained of lower down, and complete paraplegia developed in the course of six weeks, while later complete retention of urine and complete anæsthesia of the legs developed. The diagnosis made during life was spinal caries implicating the lower two dorsal and upper two lumbar roots, and this was confirmed at the necropsy. Remarks were made as to the cutaneous distribution of certain spinal sensory nerve roots.

Localisation of Needle in Foot.—Dr. FORTESCUE next gave a demonstration of how to localise a needle in the foot by Dr. McKenzie Davidson's method. He showed photographs of some cases where, after failure to find a needle in the foot, he had, by means of the instrument recommended by Dr. Davidson, localised the position of the needle with the utmost exactness, and enabled the operator to cut down upon it with ease.

Votes of Thanks.—Votes of thanks to the contributors brought a most successful meeting to a close.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

THE autumn meeting of this Branch was held at Llanelly on November 23rd, J. L. W. WARD (President) in the chair. Over 20 members were present.

New Members.—The following gentlemen were elected members of the Branch: Messrs. W. J. Thomas, Pontypridd; W. J. Richards, Aberavon; S. Williams, M.D., Llanelly; J. E. P. Davis, M.B., Llanelly; Richard Samuel, M.D., Llanelly; Evan Evans, M.B., C.M., Llanelly; David James Williams, Llanelly; Hugh John, M.B., C.M., Llangennech; David L. Lewis, Ferryside; Robert M'Ghie, M.D., C.M., Abercanaid; David K. Draffin, Merthyr Vale; Thomas Finney, Aberaman; Peter McRitchie, M.B., C.M., Fforestfach; J. D. Davies, M.B., Swansea.

Communications.—Mr. H. LLOYD JONES read a paper on a Heart Case (?) Tuberculous.—Mr. W. F. BROOK showed: (1) Case of Cholecystotomy for Impacted Gall Stone; (2) case of Retroperitoneal Uretero-Lithotomy.—Dr. A. SHEEN showed: (1) Three Abdominal Cases; (2) a Vaginal Hysterectomy.

Inebriates Legislation.—The attention of the members was drawn to the following resolution passed at the General Meeting of the Association in July last:

That in view of the great emergency for amended legislation for habitual drunkards the members of the British Medical Association be requested to urge personally and by letter on their representatives in Parliament the extreme importance of prompt and effectual amendments in the Inebriates Act, 1879 and 1888, providing for compulsory curative detention of habitual drunkards, with provision for the poorest.

Venereal Disease among British Troops in India.—Attention was also called to a resolution passed by the Worcestershire and Herefordshire Branch, of which a copy was sent to the Secretary of State for India:

That in view of the great increase of venereal disease, and especially of syphilis, among the British troops in India, and the grave danger to the health of the community at home caused thereby, this Branch of the British Medical Association strongly urges the Government to take such measures as would, in the opinion of the Indian Government, be most likely to check the spread of the disease; and to leave the Indian Government a free hand in dealing with the question.

SOUTH EASTERN BRANCH: EAST SUSSEX DISTRICT.

A MEETING of the East Sussex District was held at Eastbourne on November 25th, Dr. JAMES ADAMS of Eastbourne in the chair. There were present twenty-one members and three visitors.

Medical Aid Associations.—The meeting expressed its approval of, and recommended to the notice of the Branch Council, the following resolution which had been passed in September last at a general meeting of the East Anglian Branch, namely:

That in future no medical men belonging to medical aid associations be elected members of the East Anglian Branch of the British Medical Associatio .

Communications.—Mr. C. ROBERTS read a paper on the Outdoor Treatment of Disease.—Mr. AYLWARD read an analysis of 95 cases of Diphtheria occurring in his private practice during one epidemic, showing the more favourable results obtained by the injection of antitoxin.—Mr. A. H. DODD showed enlarged photographs of a severe case of Psoriasis Plantaris.

READING AND UPPER THAMES BRANCH.

THE first of a series of professional and social meetings in connection with this Branch was held in Reading on November 25th, and nearly thirty members and visitors were present.

Paper and Discussion.—Dr. MARRIOTT, the President of the Branch, took the chair, and read a paper on the Treatment of Typhoid Fever, and a discussion followed in which several members took part. An enjoyable evening was subsequently spent, which was evidently much appreciated by those present.

SYDNEY AND NEW SOUTH WALES BRANCH.

THE usual monthly meeting of this Branch was held at the Royal Society's Rooms, Sydney, on September 24th, Dr. C. P. B. CLUBBE, President, in the chair. There were twenty-two members present.

Confirmation of Minutes.—The minutes of the previous meeting were read and confirmed.

New Members.—The PRESIDENT announced the election of the following members: Dr. Macgregor, of Lucknow, and Dr. Casperson, of Wyalong.

Communications.—Dr. NEILL exhibited a patient suffering from Delayed Descending Testicle and Congenital Hernia. Drs. CHISHOLM and CLUBBE discussed the paper.—Dr. POPE exhibited six patients upon whom he had operated for Cataract, without iridectomy, and read a paper on the subject. Drs. CLUBBE, POCKLEY, and GORDON MACLEOD discussed the paper.—Dr. CRAGO read notes on a case of Strangulated Umbilical Hernia. Drs. CHISHOLM and SCHRADER made some remarks upon the case; Dr. CRAGO replied.—Dr. RENNIE (for Dr. HENRY, of Grafton) read some notes on a case of Puerperal Infection, treated with injections of antistreptococcus serum. Drs. WEST, BARRINGTON, CRAGO, and WILKINSON discussed the paper.

BRITISH GUIANA BRANCH.

THE annual meeting of this Branch was held on October 7th at the Public Hospital, Georgetown. There were present Dr. PALMER ROSS (President) in the chair, and eleven members.

Office-Bearers.—The following officers were elected for the ensuing year:—*President:* Dr. Godfrey. *Vice-Presidents:* Drs. Shannon and Edmonds. *Honorary Secretary and Treasurer:* Dr. J. F. S. Fowler (late A.M.S.), *Council* (in addition to the past Presidents): Drs. Veendam, Gomes, Daniels, and Dickson.

Communications.—Dr. FOWLER read a paper On Some Cases of Diffuse Suppuration. In the discussion which followed most of the members present took part.—The SECRETARY showed for Dr. OZANNE specimens of a Meckel's Diverticulum and an Ovarian Dermoid Cyst occurring in the same person.

SPECIAL CORRESPONDENCE.

PARIS.

A Statue to Pasteur at Melun.—Medical Practitioners and the Law.—The Preparation of Therapeutic Serum.—Female Medical Officers for Girls' Schools.—French Gymnastic Societies.—A Statue to Lavoisier.

A STATUE has been erected at Melun to the memory of Pasteur by the conjoint efforts of the agriculturists and the veterinary surgeons of the Seine and Marne Department. The ceremony was preceded by a banquet. M. Nocard, Director of the Veterinary School at Alfort, in an able speech gave a summary of Pasteur's work. He recalled an expression of an admirer of Pasteur, who declared he could not answer if he

vere asked which was Pasteur's greatest discovery. M. Nocard believes that no one now would be in the same difficulty; notwithstanding the immense value of Pasteur's work on fermentation, the silkworm malady, beer and wine ferments, and the important researches on spontaneous generation, etc., no previous work can be compared with the progress resulting from the application of Pasteur's methods to medicine. In consequence of this, etiology, sanitation, and public hygiene have been entirely reconstructed. Hospital gangrene, septicæmia, puruient infection, puerperal fever, have been banished from hospital wards thanks to Pasteur's teaching. Surgery is now so safe that the most daring operations can be performed with little risk. Then there is the prophylaxis of infectious diseases founded on the attenuation of viruses. M. Nocard believes that notwithstanding all that has been achieved we are only at the beginning of an era which will render Pasteur's name still more glorious. The veterinary profession and the agriculturists were the first who benefited by Pasteur's work. The periodic and repeated losses have been checked by preventive vaccination, and the past disasters are scarcely remembered. The new and brilliant discovery of serumtherapy is of service in veterinary medicine. It is the best treatment for certain equine affections, especially tetanus, whether surgical or otherwise.

The Obstetrical and Gynæcological Society of Paris has appointed a Committee composed of Dr. Porak, Dr. Doléris, M. Poitou-Duplessis, and Dr. Lutaud to draw up a proposition to modify the law concerning preliminary imprisonment of medical men.

M. Martin, acting officially, has visited several pharmacies to assure himself that therapeutic serum is not made in them. A law passed on April 25th, 1895, decrees that such serum shall not be prepared without a special authorisation from the Minister of the Interior. The delinquents declare they were under the impression that they were doing honest work. M. Raulaud, *juge d'instruction*, is in possession of the results of M. Martin's inquiry.

Dr. Levraud, at one of the recent meetings of the Municipal Council, urged that body to appoint lady doctors to the post of physicians at schools for grown-up girls. Women doctors are appointed to girls' *lycées*. When the proposed decision is taken, the Sophie Germain School, the Edgar Quinet School, and the six professional schools of the City of Paris will each have a lady doctor in attendance to treat the pupils requiring medical care.

The forty-ninth Congress of the Union of Gymnastic Societies of France was held a few days ago. The twenty-fifth anniversary of the foundation of the Union will be celebrated during the Whitsuntide holidays. The President of the Republic will be present. The Congress is inquiring into the means of organising an *école normale civile de gymnastique*, and an assurance fund in case of accidents.

A statue to the memory of Lavoisier, the great chemist, is to be erected in front of the house situated behind the Madeleine Church, where Lavoisier lived for many years.

MELBOURNE.

A Medico-Legal Case.—Treatment of Snake-Bite.

In a place called Eaglehawk, in Victoria, a sort of ultima Thule of civilisation, a Mrs. Hall was found one morning dead, in a position which seemed to show that she had died whilst preparing to wash herself in a tub of water. She was buried without any comment being made at the time. Shortly afterwards, "from information received," the Criminal Investigation Department despatched a detective to the township for the purpose of making further inquiries, and an exhumation of the body was ordered. On this occasion, which was 14 days after the interment, Dr. J. E. Neild, of Melbourne, made the *post-mortem* examination. The certificate of death in the first instance was to the effect that decease met her death through drowning, probably syncope in the first place, and then the fall forwards into the tub of water. Dr. Neild discovered that the skin over the nasal protuberance was discoloured, and the cartilages slightly sunken in; he observed a looseness in the front teeth, and finally stated that the deceased had not met her death through drowning, but had been murdered. As the chief evidence at the trial was the medical evidence, and as the man was sentenced to be hanged, I will attempt to give in a few words how Dr. Neild was able to state that it was impossible in this instance for death to have been due to drowning. "When drowning takes place," says Dr. Neild, "water is found in the air passages and bronchi, and on or about the fourth day it begins to exude through the pleural membrane into the pleural cavity. Up to that time the lungs, when the sternum is removed, are found to be ballooned and full of fluid and bulge up. In this case no fluid was found in the pleural cavity, and the other indications of drowning were absent. There was a redness between the tracheal rings, while the tissues covering the rings were of the colour of dirty grey of putrefaction. The fact of the tracheal redness, combined with congestion of the lungs, indicated to my mind, when taken in conjunction with the external signs of injury, that deceased met her death through suffocation." The heart was empty, and the explanation given is that of syncope. From a view of the value of forensic medicine this case is of great importance, and the whole credit of unravelling a case bristling with so many complications and surprises is due to Dr. Neild. Both the judge and the Crown prosecutor expressed to Dr. Neild their keen appreciation of the valuable services which he had rendered to the cause of justice.

Dr. C. J. Martin of the Melbourne University, has been experimenting with antivenomous serum, and in a recent paper he deals with the subject by relating his own researches in this field. Reserving a report of these very interesting experiments for another occasion, it will be sufficient to mention one practical conclusion which may be drawn from the reading of Dr. Martin's paper. When a victim is bitten on a limb a ligature should at once be applied with sufficient firmness so as to arrest the circulation. This ligature should be retained on the limb for about half an hour. Below the ligature the limb after a while becomes œdematous, the vascular walls are so interfered with that absorption is indefinitely delayed. A healthy limb ligatured in a similar manner does not exhibit these changes. With regard to the efficacy of Calmette's serum in the treatment of the venom absorption from Australian snakes Dr. Martin is not able to speak favourably.

LIVERPOOL.

Appointment of Professor Boyce as Bacteriological Expert to the Corporation.—The Ladies' Charity.—The Eyesight of School Children.

The Corporation of Liverpool has taken an excellent step in appointing Professor Rubert Boyce to the office of analyst. The terms of the appointment show that the work will be for the most part bacteriological; but the provisions of the Food and Drugs Act only authorise the appointment of an analyst, so that it was necessary to retain the latter title instead of adopting that of bacteriologist. Professor Boyce will receive a permanent salary of £230 a year from the Corporation, and he has undertaken to perform not more than 200 analyses of food—meat, milk, etc.—and 100 analyses of water. Analyses in addition to the number specified will be undertaken by special agreement. This arrangement is an extremely advantageous one for the community, since by securing the services of Professor Boyce the city will not only have the highest available knowledge of bacteriology at its disposal, but will have the benefits arising from the use of the whole machinery of the splendid Thompson-Yates pathological laboratories which will shortly be completed.

It is stated that the committees of the Ladies' Charity are about to alter the laws of the institution so that it may give help to unmarried women in the case of a first confinement.

The triennial report of the Liverpool School Board contains a valuable statement as to the condition of the eyesight of the children attending the schools. Regulations for testing the vision have been drawn up and types chosen by Mr. Robert J. Hamilton, Assistant Ophthalmic Surgeon to the Stanley Hospital, the actual carrying out of the investigation being entrusted to the teachers. The tests are applied when the children are leaving Standard II, and again while they are in Standards III and IV, and the parents or guardians are informed if any defect of vision is found. As the result of

the first examination, applied to 9,038 children, it was found that 21 per cent. had visual errors. This percentage is considerably less than that obtained as the result of a series of investigations personally conducted by specialists in the London, Liverpool, and Bradford Board Schools, which gave a proportion of errors amounting to 38 per cent. It is much to be regretted that the investigations in Liverpool have so far led to very little practical result. Out of the total of nearly 2,000 cases in which defects of vision were notified to parents or guardians, in only 324 was any action taken with regard to it. The School Board is highly to be commended for having inaugurated this inquiry, which, if it be persevered with, cannot fail to prove of great service to the community, and to promote the best interests of education. At the same time, the small percentage of errors observed compared to what most certainly exists shows the need for greater care in testing the children's vision; and the indifference of parents to the existence of defective sight proves the necessity for inculcating a wider knowledge of the serious disabilities it entails and of the means available for its mitigation. The lecturers of the Ladies' Sanitary Association might with advantage pay some attention to this department of public health.

CORRESPONDENCE.

UNQUALIFIED ASSISTANTS.

SIR,—The General Medical Council has at a blow destroyed the livelihood of a number of men whom the unwritten law of the profession had for ages confirmed in their manner of gaining an honest living. No one can doubt that the services of unqualified assistants have for years past been given and taken with the full knowledge and consent of everybody concerned. Whether or no this was desirable is not the question; if undesirable, due notice should have been given of the intention to mend or end the practice, and then the men themselves could have looked about for new occupations, or, as "M.B.Lond. et Vict." has done, have got qualified. As it is, they are flung upon the world with a mark of infamy attached to them, and all for not having passed an examination—as no question of their efficiency has been raised so far, and many are known to be competent.

Is this just? It is certainly not generous. Are we all acting within the letter of the law? Would every member of the General Medical Council be prepared to abandon every legal fiction and every tolerated practice? I think not at a moment's notice.

Meanwhile can no *modus vivendi* be found? Why not register existing men for the time being; let the despised Apothecaries be permitted to hold a special examination for them, and so temper the wind of justice to the innocent shorn lamb.—I am, etc.,

M.B., B.Ch.Oxon., M.R.C.S., D.P.H.Eng.,
December 7th. L.R.C.P., L.S.A.Lond.

SIR,—Your correspondent "M.B.Lond., M.B.Vict.," in the BRITISH MEDICAL JOURNAL of December 4th, has given me courage to express my feelings on behalf of myself and fellow "unqualified assistants," who are much disturbed in mind, and likely to suffer keenly at the resolution recently passed by the General Medical Council.

May I state my case? I have taken out my full course of lectures and hospital work to the satisfaction of my lecturers, etc., and at the end of that period I had passed all but my Final. I then launched out as an unqualified assistant, so far quite in accordance with the views of the General Medical Council. My first assistancy proved very unfortunate for me—too much night work—so much so that I was totally unfit to pursue my reading; my next assistancy proved no better; there I was worked nearly to death, with an average quantity of night work, and one incessant rush of work from the time I commenced in the morning until the time I went to bed at night. Utter collapse of health forced me to resign and seek rest, and it was three months before I could attempt to take another berth. This, of course, cost me all my hard-earned savings, which would have paid my fees for the Final.

I now hold another assistancy, working in the usual way under the direct supervision of my principal, with plenty time for reading, and therefore with a fair hope of getti beyond my troubles as far as qualification is concerned. A I, after this hard fight, to be turned adrift from entering t medical profession?—which must be the case, because cannot afford to further pursue my studies for examinati without the help of assistantship.

May I suggest, in order to meet such cases as mine, th such cases, by application, be allowed to continue as "unqua fied assistants;" the permission to be only granted to tho who either are registered medical students or who have tak out a full curriculum? Having been trained from youth f the medical profession, it would be a hard thing for me turn to anything else.—I am, etc.,

UNQUALIFIED ASSISTANT.

SIR,—In the BRITISH MEDICAL JOURNAL of December 4 "G. P." confesses to find himself in a difficulty in regard his position as an employer of one of "a whole army deserving men, although unqualified."

May I suggest that as "honesty is the best policy" might in future engage as a second, or even as a third assi ant, a member of "a whole army of deserving men," althou qualified and labouring under the disadvantages attenda thereon. All doubt and difficulty as to his status will th be cleared away.—I am, etc.,

December 7th. ANOTHER G. P

HOSPITAL REFORM.

SIR,—It is apparent that some of your correspondents co sider that the abuse of hospitals consists solely in the tre ment of persons who could afford to pay private practition for that treatment. That this is only a part—and a very sm part—of the abuse that exists is well known to those w have had any experience of the work that is performed in t out-patient and casualty departments of our large gene hospitals. It must be evident, judging from the retur issued by the hospital officials, that the conclusions arriv at nearly thirty years ago by Sir William Fergusson's S committee are quite as applicable to-day as they were wh they were written. It may prove useful to reproduce them

That a very large proportion of the out-patients of general hospit (variously estimated at from three-fifths to nine-tenths of the whole) c sists of trivial cases which do not require any special skill and might properly left on the hands of ordinary medical men. An inordinate n ber of trivial cases wastes the time of the consultee, wearies the attent of the students, and fosters a habit of hasty diagnosis and careless ob vation, which tend to erroneous and ineffective treatment. In fact, patient work as generally conducted neither conduces to the so advancement of professional knowledge nor to the advantage either the students or the public. And bearing in mind that the staff cons exclusively of consultees, and that clinical teaching is one of the m important advantages derived by the public and the profession from institution of public hospitals, the Subcommittee are of opinion t some special claim ought to be made out for perfectly gratuitous hosp advice, such as sudden emergency; surgical requirements; long-contin ineffective treatment; peculiar, obscure, and complicated disease; foreseen and unavoidable distress, or some other special cause makin desirable that the attention of a consultee should be given to the c As the hospital staff consists of consultees, not general practitioner is only consistent that their services should be asked for chiefly in c of peculiar difficulty, prolonged anxiety, deep professional interest, it is altogether unreasonable to call upon them to treat case after case many hours together without, it may be, the occurrence of any si point of interest. The Subcommittee therefore believe that the foun tion of a series of provident dispensaries is a necessary condition of improvement in the out-patient department of our public hospitals. law has, in their opinion, amply provided for the careless and impr dent, and the funds contributed by the benevolent should be give preference to the assistance of those who are inclined to help th selves.

The following extract from the report of the Birmingh Hospital Reform Inquiry Committee (1891) amply confi the conclusions of the Subcommittee:

It is plain that the question whether a patient is a fit subject for pital treatment depends partly on pecuniary and partly on medical siderations. No one but a skilled medical man can be trusted to whether a case is serious or trivial. But wherever the line shoul drawn between fit and unfit cases the great weight of evidence sh that as regards out-patients it is widely transgressed in Birmingham. Committee had little direct evidence that the hospitals were to any extent used by persons who could be described as otherwise than p but as there is no systematic inquiry into patients' means, pursued w necessary by outside investigation, the evidence is inconclusive. certain inference can be drawn from the unsupported and intere statements of the patients themselves in these cases where any inq is made. On the other hand, there was conclusive evidence that the pitals are very largely resorted to in trivial cases. This misuse of

hospitals is naturally much greater in medical than in surgical cases. Dr. Simon estimated that out of 10,000 cases which he referred to 4,000 were trivial cases. Mr. Jordan Lloyd stated that very many of the cases he attended at the Children's Hospital were merely cases of neglected dirt. Mr. Lawson Tait was of opinion that many patients came to the Hospital for Women "to see old friends and make new ones." When they came to be medically examined, they described impossible symptoms, and he found that there was nothing the matter with them. Mr. Marsh, on the day he gave his evidence, had been consulted at the hospital for a spot on the arm which proved to be a flea bite, for a small superficial abscess, and by a woman who thought she must have cancer because her husband was said to have it. However, putting aside insignificant cases which ought to be promptly dealt with by the physician or surgeon before whom they come, the Committee would define trivial cases as including all such cases as could be efficiently treated by any qualified practitioner, and which require no special medical or surgical skill. Cases so defined are *primâ facie* unfit for hospital treatment.

Subscribers to the hospitals do not subscribe with the intention of diminishing the incomes of the medical practitioners not connected with the hospitals ,yet this is the inevitable result of the admission of improper cases to hospital treatment. If trivial cases ("first aid" to slight accidents of course excepted) were excluded from the hospitals, the results would be twofold. A certain number of improvident people on the verge of destitution would be driven to seek medical relief from the Poor-law authorities, but in the opinion of the Committee a far larger number of persons would join provident associations of one kind or another. A direct stimulus would be given to thrift and self-help, and an addition would be made to the incomes of the medical men connected with such associations, which at present they seem to be unfairly deprived of.

It may be as well to mention that this Birmingham Inquiry Committee consisted of eleven gentlemen, only three of whom were medical men.

It appears to me highly important that the views of these Committees should receive due weight at the present moment, and for the following reason:—The Hospital Sunday Fund Council and Sir Henry Burdett are evidently of opinion that hospital abuse is going to be reduced to a minimum by the appointment of inquiry officers. That such a proposal will not be effective in preventing the form of abuse referred to is conclusively proved, I venture to say, by referring to the returns of the two hospitals where inquiry officers have been in existence for some years past:

I.—ST. BARTHOLOMEW'S HOSPITAL.

Date.	No. of Out-Patients.	No. of Casualty Cases.
1890	18,901	132,912
1891	17,812	137,536
1892	16,143	142,745
1893	15,541	167,701
1894	15,192	144,660
1895	15,792	143,271

II.—THE LONDON HOSPITAL.

1890	120,158	The casualty cases are included in these returns.
1891	112,092	
1892	112,962	
1893	127,094	
1894	128,315	
1895	154,617	

Dr. Herringham has just given us in the pages of the *Medical Magazine* the result of his personal inquiries into the circumstances of a certain number of patients who attended the casualty department of St. Bartholomew's Hospital. Out of a total number of 106 he found only eight unsuitable cases. I take it that Dr. Herringham means by "unsuitable" that the patient could afford to pay for medical attendance. I must observe that the wage limit adopted by him is decidedly too liberal, as I think most of your readers will agree. It was as follows:—Single men, £1; married men without children, £1 5s.; married men with two children, £1 10s.

It would have been more satisfactory if Dr. Herringham, instead of selecting 106 out of 600 cases, had taken full notes of the first 100 cases that came under his observation, and had also informed us whether there were members of the patients' families earning wages. It is also to be noted that all his patients are males. Are there no women and children to be found in his casualty department?

I cannot forbear from quoting the following extract from Dr. Herringham's article: "It is true that we have more cases than we can possibly examine thoroughly, though there are seven qualified men at work, and that in a certain number we come to a diagnosis from the patient's own statement." If Dr. Herringham found 8 unsuitable persons out of the 106 he examined, it may, I think, be fairly assumed that the other medical officers attached to St. Bartholomew's Hospital would find on inquiry a like proportion. If that is the case, then it follows that there would be 80 (or thereabouts) persons in every 1,000, and that in the total number attended during the year (say, 1895), there would be over 10,000 persons who are not entitled to claim hospital treatment. Under such circumstances one is entitled to ask the question, What is the use of an inquiry officer?—I am, etc.,

Cardiff, Nov. 29th. T. GARRETT HORDER.

MEDICAL DEFENCE.

SIR,—Seeing from a paragraph in the BRITISH MEDICAL JOURNAL that a voting card will be sent to every member of our Association by the end of the week, I presume to point out that it is the duty of every member to give an early decision on such a vital question. In order to decide it will be necessary to consider whether medical defence will be conducive to the honour and interests of the profession and of the Association.

It is not in the nature of things for any living organism or organisation to remain stationary. Medical defence has been shown to be a need by its numerous societies, and, if our Association is to grow more powerful, it must adapt itself to the needs of the times. The most successful commercial undertakings are those which combine and carry out all branches connected with their business.

Numbers without organisation are useless. No association, community, or nation succeeds without organisation. Of this there are now too many examples in our daily papers. With a united front should we be so often and so unnecessarily dragged through the mire? and would the rear rank of our profession be so sweated by medical aid associations?

I might also remind members that medical defence has been carried at general meeting after general meeting, and that the responsible Executive cannot be expected to act unless they have irrefragable evidence that it is the decision of the bulk of the Association.—I am, etc.,

Sittingbourne, Dec. 7th. WILLIAM GOSSE.

AN ETHICAL SECTION AT THE EDINBURGH MEETING.

SIR,—I have read with mingled feelings Dr. G. H. Broadbent's letter in the BRITISH MEDICAL JOURNAL of December 4th, expressing his anxiety that there should be an Ethical Section at the meeting at Edinburgh.

It is possible that Dr. G. H. Broadbent may be in the state of innocent ignorance which characterised me when (now many years ago) I joined the Manchester Medico-Ethical Association, that I might read a paper on the evils arising from medical men in England dispensing their own drugs.

In that paper I went pretty fully into the subject, and showed that it was one great cause of chemists in England prescribing as they did, an evil to which I notice Dr. G. H. Broadbent incidentally refers in his letter. That Medico-Ethical Association which Dr. G. H. Broadbent tells us is still active and preparing to celebrate its jubilee, sat upon me most completely, one distinguished member saying that he would go on selling as many bottles of physic as he could. I did not from my experience on that occasion see any reason to think that those who set themselves up as authorities on matters ethical in Manchester were calculated by their example to improve our ethics; and during the remainder of my time at Manchester I avoided that Medico-Ethical Association falsely so called, and never found myself again in such company till I sat in the Ethical Section at Carlisle. This second experience of medico-ethical gentlemen reminded me strongly of my first.

On the whole, with my experience of what one may expect from enthusiasts as to medical ethics in England, and with my knowledge of practitioners in Scotland I am convinced that an Ethical Section at Edinburgh would be entirely out of place.—I am, etc.,

Denholm, N.B., Dec. 5th. JOHN HADDON, M.D.

MEDICAL AID ASSOCIATIONS.

SIR,—I was very pleased to see the letter of Mr. Charles E. S. Flemming on the subject of medical aid in the BRITISH MEDICAL JOURNAL of December 4th. With most of what he there says I cordially agree. Though not approving of these societies, I do not think it is wise, or even fair, to taboo and ostracise, as it were, the medical officers attached to them in

the way that is now being done in many quarters; it only renders them more hostile to their medical brethren in general. We should rather invite them to join us in social intercourse, as by being present at our Branch meetings, so as to show them the error of their ways, and induce them to depart from them. No doubt most of these gentlemen regret, as much as others, and feel the painfulness of, the position they hold, and would be only to glad and ready to improve it on the first opportunity. In the meantime they must live.

I have often wondered why so many medical men hold themselves aloof from the Branches of the Association, while still belonging to the parent society; but our present action explains much, and will undoubtedly be the means of increasing the list of "unattached members."

I know gentlemen who are anxious to join Branches, and yet are deterred by an uncertainty as to whether the Societies to which they are attached would be included under the obnoxious title; and all this for the want of an authoritative definition, which would be applicable for all cases and all localities.—I am, etc.,

December 6th. A GENERAL PRACTITIONER.

THE POSITION OF ARMY SURGEONS.

SIR,—During the last general election a prominent Radical, who had become a Conservative, said to the political committee here, "Most doctors are Conservatives, and can, where elections are at all close, if only they be united, by their collective influence amongst their patients, turn those elections." At the next election, therefore, let all medical men, before promising their support to any candidate, first obtain his pledge to support army medical reform.—I am, etc.,

December 4th. VERBUM SAP.

IRISH POOR-LAW MEDICAL OFFICERS.

SIR,—The time is at hand when the members of the Poor-law Medical Association of Ireland should formulate ideas as to how they can serve their best interests in connection with the new Local Government Bill for Ireland. The Association might approach the Chief Secretary for Ireland directly, or indirectly do so by using their influence on their Parliamentary friends, in order to bring about a more satisfactory management of the conditions under which the Irish Poor-law medical officers do their work. Clauses might be inserted in the Bill which may make or mar their fortunes. I am at present on a Committee of the Blackrock Township Commissioners whose duty it is to watch the Bill in the interest of the ratepayers, and I should be very happy to be of any help to the above-mentioned Association or to any Poor-law medical officer who may have plans for bringing about a more satisfactory state of things than exists for these hardly used practitioners at the present time.—I am, etc.,

Monkstown, co. Dublin, Dec. 7th. ARMSTRONG TODD, M.D.

GENERAL PRACTICE.

SIR,—I have been in practice for thirty-seven years, and have always done my best to keep up the dignity of the profession. Difficulties of late years have beset my path. The powers that be have deprived me of rights and privileges, and have imposed burdens lowering my income and increasing my liabilities. A premium having been paid in my case as articled pupil, I had reason to suppose that I might some day take pupils to reimburse me, but that right has been taken away and no compensation offered. For copy certificates of the cause of death I used to receive payments varying from 1s. or 2s. 6d. in the case of poor people, to one guinea or two guineas in the case of large insurances; now the registrar has the exclusive right of copying my certificate and charging for it.

At considerable labour and expense I qualified myself as an accoucheur, and formerly attended a fair proportion of confinements, but now a nurse with a certificate is allowed to put a brass plate on her door and attend as freely as if she were a qualified practitioner, and taking rather less than a doctor can afford to do, my income from that source has vanished.

Casual fractures and other street accidents are promptly attended to by the active and intelligent constable, who appears to have special instructions to avoid calling in proper professional aid, so that it is a rare thing for me to have the chance of earning the wretched 3s. 6d. which the police regulations allow. As I am debarred from taking pupils, I am driven to choose between two evils—a qualified assistant, who expects me to pay him while I teach him his practical work; or an unqualified assistant, with the risk of being treated as a criminal should anything go wrong with any patient whom he may have first interviewed.

As a last straw, some of my neighbours have allied themselves with medical aid societies, and by their agents systematically call on my patients and press them to join the "doctor's club," as they call it, and thus so many are enticed away from me that my income has distinctly dropped £190 during the last two years, and I am approaching a condition of annihilation. My youngest son has commenced his third winter at the hospital, and has received notice of exclusion from lectures if the fees are not paid this month, in which case the £80 already paid will be lost and an eager and painstaking student stopped in his career, which for him as well as myself will be heart-breaking work; but what can I do?—I am, etc.,

December 7th. PATERFAMILIAS.

WALCHER'S POSITION IN OBSTETRICS.

SIR,—Perhaps Dr. Fothergill's living child may owe more to a "much-moulded head" and axis traction forceps than to the adoption of Walcher's position. I base my opinion on the following:

First, skiagraphs I took in Germany in 8 cases gave really no increase, maximum $\frac{1}{8}$ inch. I am convinced that all any change in position of the pelvis can do in labour is to alter the pelvic inclination, say, from 57 degrees in a lithotomy position to 12 degrees in that of Walcher. Secondly, in not a few cases of well-marked flat pelves I have delivered live children for the first time with axis traction forceps. Only the other day I was comparing my first crude idea of a perineal curve, which I first used in 1874, with Milne Murray's present accurate well-worked-out tractors.

Again, in these days, when many prefer that which is *in Deutschland gemacht* to that which is English, it is to me most interesting to find in the midwifery notes taken by my father in 1838 at University College, London (probably from Hall Davis), Walcher's position described. Again, thirty-five years later Graily Hewitt spoke to me of the position in using his long straight forceps in the high operation, and in twenty-five years' practice in the country I have known several men use it.—I am, etc.,

Hereford, Dec. 6th. PETER GILES.

THE MONTREAL DEBATE ON THE TREATMENT OF SYPHILIS.

SIR,—The important debate on the treatment of syphilis at Montreal, reported in the BRITISH MEDICAL JOURNAL of November 6th, contains many most interesting and novel features when compared with the result of the Admiralty Commission of 1865, the Parisian discussion in 1867, and those of the Pathological Society of London, and that of Philadelphia in 1876. The influence of the discoveries of Pasteur are evident in this last debate, and it now seems admitted that syphilis is caused by a microbe, and it is supposed that mercury and iodide of potassium act as germicides or antitoxins. Mercury, being a germicide, is said by most to be a specific in all stages of syphilis; but all the speakers favoured small "tonic" doses of the metal, such as a few grains daily of grey powder, green iodide, or calomel, for one or two years in every case of true syphilis, or about a drachm daily of German mercurial ointment (33 per cent.) for about three months at a time in all cases. One London physician was cited as advising occasional specific treatment for all cases of the disease for five years.

Excision of the hard sore is confessed by all to be no preventive, since it is a sign that the poison has entered the system; but many allege that they cure syphilis usually easily if they treat the initial sore with small doses of grey powder; others deny this. On this point I might cite the late Professor Boeck, of Christiania. In his laborious *Recherches sur la Syphilis*, he mentions that this matter was tested as follows: 1,008 cases of primary sore were treated with mercury, and secondary symptoms followed in 242 cases, or 24 per cent.; and 522, treated without mercury, were fol-

lowed by secondary symptoms in 77 cases, or 14 per cent. From that trial it would appear (and my personal experience confirms the result) that it is doubtful if mercury ever prevents the occurrence of some slight secondary symptoms after hard sores. But it must be remembered that Professor Boeck, like some other distinguished men, thought that soft sores had some relationship with syphilis, an opinion which I venture to think is untenable.

I have been accustomed to think that the treatment of syphilis is divisible into two periods: (1) Before 1836, in which year Dr. Wallace, of Dublin, published his cases of syphilis treated by iodide of potassium,[1] and (2) the period since 1836, since when iodide of potassium has been prescribed by all experienced practitioners in the treatment of gummata in the palate, the bones, testes, brain, etc. Before 1836, those who will take the trouble to read of the horrors of syphilis in the works of Ulrich von Hutten, Samuel Cooper, Fergusson (1812), Hennen (1818), Desruelles (1828), and Fricke (1828), will see what an intractable disease this was before the introduction of iodide of potassium. Since then, it has been ascertained by Mauriac and others that about 10 per cent. of all cases of syphilis are followed by affections of the palate, bones, testes, brain, or nerve. Mercury is now far more carefully used; but, as M. Ricord taught, it is a most dangerous practice to use mercury in ulceration of the hard or soft palate. In such cases iodide of potassium should be given *largâ manu*, and no mercury employed. Tertiary symptoms are most severe if mercury alone is used, and often are healed at once with large doses of the iodide. The majority of the speakers at Montreal preferred small tonic doses of grey powder, perchloride of mercury, or green iodide for two years or so for every case; and I must say I cannot see why five years should be mentioned. Why not ten or twenty as well? I think we should only use remedies when symptoms are present. Courses of mercury for years seem to require too much faith in the unseen. Some cases of syphilis, like some cases of measles, scarlet fever, or small-pox, are mild; others very severe, and even fatal in some cases, however well treated. Discrimination in treatment is wise. Viruses vary in intensity, too; for instance, small-pox is at present very fatal when it attacks the unvaccinated.

In conclusion, I hold that the present treatment of syphilis is far superior to that before 1836; but would add that syphilis, however ably treated is still a most formidable contagion. It should therefore be made a notifiable disease, and persons communicating it to others, knowing themselves to be infected, should be punished with fine and imprisonment.—I am, etc.,

London. C. R. Drysdale, M.D.

Sir,—Your report of the discussion on the treatment of syphilis at the annual meeting will have commanded universal attention. In the opening paper, among matters of great value Dr. Whitla brings forward a theory as to the antidotal nature of the syphilitic virus to mercury, and claims that it affords a key to the vital questions of dosage and duration of treatment; it is therefore necessary to take it into serious consideration. This theory is stated by Dr. Whitla in the following sentences taken from his paper. The italics are mine:

> There is another aspect of the question which though it appears to be obvious is singularly overlooked, namely, *that syphilis is a true vital antidote to the poison—mercury.* In this statement will be found the key to the difficulty of *dosage, duration of treatment*, and many other puzzling questions. *I believe that so long as the living virus of syphilis remains in the blood and tissues of the victims of this disease mercury will spend its poisonous force upon the virus without fear of injury to the patient. As soon as the living antidote to the mercurial poison is exhausted or destroyed, then, and not till then, will mercury begin to act deleteriously.*

I cannot accept this theory as true or probable. It is admitted that syphilis is the result of a microbic infection. No one will claim that any other infection will prevent mercurial poisoning; why then assume so incredible and abnormal a property for the microbe of syphilis? Further, Justin has demonstrated[2] that fairly large doses of mercury cause an immediate fall in the amount of hæmoglobin in active syphilis (when the "antidote" is abundant), but that this reaction does not follow during remissions, when the "antidote" is latent. This is against the theory as far as hæmoglobin is concerned.

Using his theory as a key to dosage and duration of treatment, Dr. Whitla concludes: (1) "As long as there is abundance of syphilitic virus the drug may be pushed." (2) "Often a fall in the body weight is the first sign that the syphilitic virus has been completely destroyed."

I submit that these conclusions are contrary to experience. I have seen two cases of active syphilis complicated by organic disease treated on these fearless lines. In one 6 gr. of blue pill produced sloughing stomatitis, with grave danger to life; in the other the inunction of 2 drachms of blue ointment caused death. In both the "antidote" was abundant. Conversely in cases in which symptoms have disappeared, and with them the "antidote," we ought to find a marked increase of susceptibility to mercury. I have treated many hundreds at the Lock Hospital, and have seen nothing of the kind.

A fall in weight will occur at any stage of syphilis during an outbreak, quite apart from mercurial treatment; while overdosing with mercury will cause a fall in weight independently of syphilis. The two conditions combined will not cancel (like antidotes), but will reinforce each other. Further, in a case of syphilis under treatment, either condition may arise without the other. Hence, overdosing may cause loss of weight without the presence of lesions. After long treatment it is likely enough that an undue accumulation of mercury may cause loss of weight and indicate a rest; but to assume that such a loss is any indication that the virus is completely destroyed, or any guide to the duration of treatment, is to fly in the face of the most experienced.

Dr. Whitla adduces no reasons in support of his theory, except the necessary corollary that syphilitics tolerate mercury better than healthy people. This is not my experience in the few cases in which I have given full doses to men practically healthy, for example, with chronic thickening in the corpora cavernosa. This experience leads me to believe that every man can stand a certain dose for an indefinite time, and that any cause of debility, syphilis, or another, renders him more susceptible. Such a conclusion with regard to any other poisonous drug would seem obvious;—why should mercury differ?

I am thus driven to conclude that this antidote theory is neither founded on fact nor supported by experience; but that it is one of those specious fallacies which, when winged by a great name, fly far, and are only too likely to be snapped up and relied upon as "life-long rules of procedure."—I am, etc.,

Grosvenor Street, W., Dec. 6th. Arthur H. Ward.

[1] *Lancet*, 1836.

[2] *Brit. Journ. Derm*, 1897, p. 65.

THE VACCINATION PROBLEM.

Sir,—Dr. Francis Bond, of Gloucester, has favoured me with a copy of his pamphlet on which you recently commented in the pages of the British Medical Journal. Adopting the recommendations of the majority of the Royal Commissioners, Dr. Bond strongly advocates the postponement of infant vaccination and the general adoption of calf lymph, and it is upon these two points I wish to say a few words.

To begin with, I was one of the first to adopt and advocate the use of calf lymph, and about eighteen years ago visited Dr. Warlomont's Institute in Brussels, and saw the process of calf vaccination, and from that date carried on private vaccination with calf lymph only. No lymph was taken from the arm, and lancet points were generally used. After some years I abandoned it for the following reasons: (1) The percentage of failures was high; (2) very bad arms resulted; and (3) a diffused papular eruption was common. Calf lymph is well known to be slow in its action, not maturing before the ninth or tenth day, and convalescence is prolonged, repeated scales forming and being thrown off over the site of the vesicles for a month or six weeks.

Some of these objections may have resulted from impurities in the lymph, but, as regards No. 1, my success was no greater with glycerinated calf lymph, and I am inclined to think that the high percentage of "insusceptible" cases—especially in London—reported on page 1281 of the Journal is directly due to the use of calf lymph by private practitioners. Indeed, I can prove the truthof this state-

ment from the returns of private calf lymph vaccination in my own district.

Preserved lymph of all kinds is more or less inert, but lymph direct from the arm never. Hence the remarkable contrast between the vaccination of the public vaccinator and the private practitioner (*vide op. cit.*). At present calf lymph has caught the public ear, and medical men respond, and the supply grows apace; but the cautious parents refuse to have more than two "places" on the arm, and the doctors acquiesce without a murmur! Of all the flaws in the vaccination laws this is undoubtedly the most glaring, namely, that public vaccinators are rigidly inspected, while private vaccinators are permitted to certify successful vaccination if they obtain a papule as big as a pin's head after two or three attempts with calf lymph! Let us have an Act of uniformity or none at all. The present state of vaccination is one of downward competition, of chaos and disorder.

Dr. Bond, in discussing the legal aspect of the vaccination problem, claims exemption for a very large proportion of antivaccinators, classifying them under three or four heads, but he spreads his net so as to catch them all at the door of the infant school, and again at the end of the school period. The compromise is, therefore, postponement of infant vaccination and calf lymph, and this is undoubtedly tantamount to the repeal of the present Act requiring vaccination at the age of three months. It would be impossible to administer a compulsory law that was not compulsory on all. Moreover, outside the pale of the anticompulsory towns and districts there is no demand for postponement of the age to two or four years, or even to six months. I find that out of 600 cases of primary vaccinations during the last four years no fewer than 107, or nearly 18 per cent., were under three months of age, and were voluntarily submitted for vaccination at that tender age by their mothers, on the ground that vaccination should be done before teething, and the older the child the more troublesome. This is the best answer to Dr. Bond's remarks on "The Mother as an Objector."

Then, if the first two years of life are the most susceptible to small-pox, and the case mortality under 5 years, 56 per cent. among the unvaccinated (Gayton), what is to come of the thousands of infants who shall have escaped vaccination through Dr. Bond's proposed alteration of the law? I am a good deal surprised at this from a medical officer of health, who would transfer public vaccination from the guardians to the health authority, and who would also constitute the medical officer of health referee in all such cases. If vaccination is a prophylactic against small-pox (and there is no doubt of this) it is *par excellence* the prophylactic for infancy. I will only say in conclusion that to carry vaccination to the people's homes would result in confusion worse confounded, as the class who frequent the public stations are seldom to be found at home, most of the infants being in charge of day nurses while the mothers are at work; and if adverse to vaccination they would not admit the public vaccinator, or would wilfully absent themselves when he is expected. The case of Scotland and Ireland affords no criterion, for in these countries the "doctor" is still respected. In a word, there is no alternative between a strict administration of the existing law and the abolition of compulsory vaccination. Let those who want calf lymph pay for it (only 1 of the 600 asked for it), but whatever lymph be used, inspection by the officers of the Local Government Board should be universal and compulsory.—I am, etc.,

East Sheen. ALEXANDER MCCOOK WEIR.

THE CONDUCT OF VACCINATION PROSECUTIONS.

SIR,—I must thank you for your kindly reference to my conduct of defences, but ask you to allow me, with that catholic justice which characterises the BRITISH MEDICAL JOURNAL, to correct an erroneous conclusion you have arrived at. I refer to your remarks respecting myself and Sir F. Eldridge, J.P., at Croydon. You complain that "willing to wound and yet afraid to strike," I made a semi-objection to that magistrate's sitting on the score that he had set the prosecutions in motion. You add I must have known this was not a valid objection.

Now, the facts are these. I am bound as a lawyer to immediately raise my objection to a magistrate's jurisdiction the moment I become aware of it. Wisely the law demands that one shall thus act, and not sit mute hoping to win with such an objection up one's sleeve to be displayed if one loses. Therefore, as soon as I was aware of the fact I called Sir F. Eldridge's attention to it. It applied to all those justices sitting, and all offered to leave the Bench if I so required. I replied I did not wish anyone to do so, but was compelled to mention the fact, and, while engaging to make no later use of it, to leave the magistrates to act as they thought proper. It was impossible to act more generously. As to its not being a valid objection, that has been settled long ago. The Queen *v.* Milledge rules plainly that no person can be prosecutor and judge. It is a matter of substance and of fact if anyone is in that position; but very little substance and fact will do, and the gap once opened by Lord Esher has now closed up again. A magistrate with £50,000 per annum having a mere £100 share in a railway company cannot sit and try a boy charged with defrauding that company out of 2d., and in a very recent case it was decided that a licensed pilot, though retired, cannot sit and judge the case of an unlicensed pilot.

My objection, if persisted in, was valid; but, believing then as now in the integrity of the magistrates, I mentioned it only to state the intention of not pressing it. Had I not mentioned it there might have been difficulty in restraining proceedings, for feelings run high in the Borough, where vaccination has admittedly not hitherto been carried out in the manner prescribed by law.—I am, etc.,

Essex Court, Temple, Dec. 8th. H. S. SCHULTESS YOUNG.

THE AERIAL SPREAD OF SMALL-POX.

SIR,—I have to thank Dr. Savill for his assurance that, notwithstanding the wording of his most interesting report on small-pox at Warrington, he does not lay stress on "the direction and strength of the winds" in connection with the theory of aërial convection. He now asks me two questions—namely, why there was "exemption of the workhouse population of 712 persons" living near the first hospital from small-pox; and why there was a similar "exemption of a population of 364 persons" working in a brewery near the new hospital. In all, we thus have 1,076 persons who, according to Dr. Savill, were exposed to aërial infection "during the whole period of eight or nine months when the epidemic was in progress."

In answer, I would state that several obvious fallacies underlie these statements. The 712 persons were not exposed in the workhouse during these eight or nine months; the mean population at any one time during this period was 294 only. Then, again, there was no "exemption" of either the workhouse inmates nor of the workers at the brewery. That which Dr. Savill very properly terms "the Warrington small-pox epidemic, 1892-93" led to an attack-rate of 1.2 per 1,000 in Warrington. Now, the attack-rate on the mean number of inmates who alone can be considered as having been exposed during the eight or nine months was 20.4 per 1,000, and even on his 712 it was 8.4 per 1,000; and, again, on the 364 brewery hands, it was 11.0 per 1,000. And even this excessive incidence of small-pox on the workhouse and brewery communities took place notwithstanding the fact that during the period he refers to there were 98 revaccinations between August 27th and September 1st in the workhouse, and 337 revaccinations amongst the brewery hands on two days, namely, November 17th and 24th.—I am, etc.,

December 6th. EPIDEMIOLOGIST.

PREVENTIVE INOCULATION FOR RINDERPEST.

SIR,—I desire to direct your attention to a statement under the heading of Preventive Inoculation for Rinderpest, which occurs in the BRITISH MEDICAL JOURNAL of October 9th, and which is inaccurate.

In my annual report for 1896 I have already drawn attention to the method I had devised for preventing the coagulation of the blood by the employment of neutral citrate of potash, not citric acid as is stated in the issue under consideration.

I found that rinderpest blood in which coagulation has been arrested by keeping aseptically for eight to ten days at summer heat will, if inoculated subcutaneously into healthy cattle, produce a measure of temporary and passive immunity so that the animals will withstand a subsequent inoculation

0.2 c.cm. of virulent blood on the tenth day subsequent, d that it is possible to give a cubic centimetre ten days er passing by subsequent increasing doses to 200 or 0 c.cm.

To obtain blood in the manner I have described was not an sy task in the field, and as the application of any method volved its use all over the country simultaneously it emed scarcely practicable to make use of this material, hough the addition of glycerine as a preservative against trefactive changes largely simplified matters. As, however, le stations were being started in many districts, and as ports were in constant circulation that fresh bile in- ulation was spreading the disease by inducing it in althy cattle, I determined on experimenting with bile on nilar lines, and I have found that if bile taken from a nderpest animal at a late period of its illness is mixed th glycerine in the proportion of one part of the latter two of bile, and the mixture then kept for eight days so to ensure that the virus may be allowed to die the oculation of healthy cattle with 20 c cm. of this mixture oduces a temporary immunity. The passive immunity thus oduced is such that the animals withstand the injection of c.cm. of virulent blood on the tenth day subsequent, and giving increased doses of virulent blood at intervals a very gh degree of immunity can be obtained. The results tained by this method have been on the whole very good, t in some cases considerable mortality has followed the od inoculation.

noculation with fresh bile made by Dr. Koch and some perimental inoculations made by myself and others have ven splendid results, but the fact remains that inoculations th bile, either plain or glycerinated, only produced a tem- rary immnnity, which breaks down after a variable period of m fifteen days to three months; consequently, we have now cided to start no more bile stations in fresh areas, the more ecially as only a moiety of the cattle now remain unin- ulated, and these are scattered over less populous areas. r these cattle rinderpest serum will be used, as also to h cattle in which bile immunity breaks down. We could t, however, have adopted the serum method unless we had ted cattle in the country, and for this we are largely in- ted to the bile inoculation method of Dr. Koch.—I am,

., ALEXANDER EDINGTON, M.D.

acteriological Institute, Graham's Town,
Cape of Good Hope.

THE CLASSIFICATION OF DEATH RETURNS.

SIR,—A few weeks ago I addressed a question to you as to probable correctness or otherwise of certain registrations deaths from "general tuberculosis." You accorded my ter a prominent position, and in your comments you vised the careful differentiation of "phthisis" from eneral tuberculosis" in all tables and reports.[1]

My point, Sir, is this. In "Table A" supplied by the al Government Board, and ordered to be appended to all nual reports, the heading of Col. 16 is the single word hthisis." I ask with all respect, and for information, upon at grounds you restrict this to "phthisis pulmonalis"? ing that the disease is the product of the tubercle illus, would it not be more scientific to group together all ths from disease caused by this bacillus, whether pul- nary or otherwise?

During 1897 I find the following deaths registered in my tricts—namely: "Phthisis," 41; "pneumonic phthisis," fibroid phthisis," 1; "tuberculosis," 3; "general tuber- osis," 3; "miliary tuberculosis," 1; "tubercular men- itis," 7; "tubercular peritonitis," 1; "tabes mesenterica," "marasmus," 11. I shall be glad if you or any of your lers will point out which of these are "phthisis" and ch are not, giving reasons for inclusion or exclusion of h class.

similar difficulty arises with regard to "diarrhœa" as one he zymotic diseases, as correct classification is necessary re a correct zymotic death-rate can be worked out. I ask guidance in classifying the following: "Diarrhœa," 45; nteritis," 5; "gastro-enteritis," 7; "enteritis and peri- tis," 1; "catarrhal enteritis," 6; "ileo-colitis," 1; "gastric ation," 1; "gastric catarrh," 1; "intestinal catarrh," 1; "gastro-intestinal catarrh," 1; and, finally, "chicken-pox, diarrhœa, and convulsions," 1.

I think the above illustrations afford strong support to Dr. Berry's sensible suggestion that further instruction in "nomenclature of disease" is required by senior students and by newly-qualified medical men.

The practical importance of the questions I have asked to myself, and doubtless to other medical officers of health, must be my excuse for trespassing again upon your space.—I am, etc.,

Knutsford, Cheshire. T. W. H. GARSTANG.

[1] BRITISH MEDICAL JOURNAL, October 9th

THE TEMPERANCE QUESTION.

SIR,—When, as in his letter in the BRITISH MEDICAL JOURNAL of September 4th, Mr. Whyte, of the United Kingdom Alliance, divides the whole community into abstainers and non-abstainers, uniting in the latter class both moderate and excessive drinkers, there can be no doubt that he is right in his contention that abstainers, on the average, live longer than non-abstainers. But when on this is is founded an argument that the race would be benefited by national abstinence, then there are grave reasons for demurring to his conclusion.

Whenever a race has been long afflicted by a prevalent and deadly zymotic disease it undergoes evolution against it. Thus, through the continued survival of the fittest and the elimination of the unfittest, West Africans are now much more resistant to malaria than Europeans, who, on the other hand, are much more resistant to tuberculosis than West Africans. Alcohol, according to Mr. Whyte's own showing, is a great cause of elimination—indeed, it is probably a greater cause of elimination than any disease—and therefore since the individuals whom it eliminates are in particular those who crave for excessive indulgence in it, its continued use should result in an evolution against itself, that is, paradoxical as it may seem, its racial use should tend towards ultimate racial sobriety. That this evolution actually has occurred is proved by abundant evidence. Alcohol has been very cheap and plentiful in the South of Europe for thousands of years, and of all races on earth the South Europeans are now the most temperate. It has been less cheap and abundant in the North of Europe, and North Europeans are much less temperate than South Europeans. It has been unknown, or known only in extremely dilute solutions, to savages, and savages in all the zones of the earth are so prone to drunkenness that, given the opportunity, they poison themselves and perish. Moreover, it is a highly significant fact that the South Europeans were formerly much more drunken than at the present day; for example, in ancient Greece the temperance question was a burning one, and unhappy Helots were forced to furnish "awful examples" to the aristocratic youth.

Again, it is highly significant that the natives of India, where opium, another deadly narcotic, has been in use for hundreds of years, never or very rarely take it to excess; that the Chinese, who have used it for about 200 years only, more frequently take it to excess; and that Burmans, to whom it has recently been introduced, take it to such excess, and perish of it in such numbers, that we are obliged, in their own country, to prohibit its use to Burmans alone, while permitting it to all other races, just as in North America we are obliged to prohibit the use of alcohol to the Red Indians alone. Clearly, then, the racial differences with respect to the craving for alcohol are due to protective evolution. They are not due to climate, for savages in all climates are exceedingly drunken; they are not due to education, for it is inconceivable that there is anything in the education of the Italian which tends to render him more sober than the Englishman, or in the education of the South Frenchman which tends to render him more sober than the North Frenchman; they are not due to differences in the form of alcohol used, for no matter in what form it is used, North Europeans and savages are much more drunken than South Europeans. Thus during the Peninsular war, Wellington's British soldiers were vastly more drunken on the wines of the country than their Spanish and Portuguese *confrères*.

Now every species, plant, or animal on withdrawal of selection tends to revert to the ancestral type; thus indiscriminate breeding tends to result in the reversion of the racehorse to

the ordinary horse, of the various fancy breeds of pigeons to the common blue rock, of cultivated garden plants to the wild variety. Man is not exempt from the operation of natural laws, and therefore, when any race which has undergone evolution against a disease or narcotic ceases to be selected, it must revert towards the ancestral condition when its powers of resistance were weaker. Indeed, as regards alcohol it is only reasonable to suppose that a race from which potential drunkards are eliminated will differ from what it would be were they not eliminated, in that it will tend to be more sober.

The banishment of alcohol, like the banishment of a deadly and prevalent disease, would therefore necessarily result in weakened powers of resistance. But there is this essential difference between alcohol and disease—no man craves for disease, but many men crave for alcohol. Therefore if we banish a disease the consequent retrogression of the race will not matter, for no man will strive to bring it back; but if we banish alcohol, then because the craving for deep indulgence in it would increase in generation after generation, its ultimate reintroduction would be certain, when the last state of the race would be worse than the first. Moreover, with improved sanitation, we may hope to utterly exterminate this or that species of pathogenic micro-organism; but for obvious reasons we cannot hope to exterminate the organisms which produce alcohol.

It is, then, surely plain enough that if national sobriety is to be achieved, it must be by the elimination not of drink, but of the excessive drinker. The method of his elimination does not concern us here; I have discussed it somewhat fully elsewhere.[1] Here I merely attempt to place the matter of temperance on a scientific basis, and to prove that the means Mr. Whyte advocates cannot but defeat his ends.—I am, etc.,

Southsea. G. Archdall Reid.

"NEW MECHANICAL TREATMENT FOR PHTHISIS."

Sir,—We have read with interest your summary of Jacoby's treatment for phthisis in the Epitome of November 6th, par. 389. We have for some time held his views as to the importance of the part played by comparative local anæmia in the production of this disease. The rarity of phthisis in mitral stenosis and its frequency in narrowing of the pulmonary orifice, hardly admit of any other explanation.

For some months we have been treating our consumptive cases by the postural method, urging them to spend some time daily with the limbs and trunk raised above the level of the chest; and we have now in use a portable stand and hammock devised for this purpose. It has occurred to us to use an Esmarch's bandage lightly applied to the limbs to further aid the flow of blood to the lungs, but so far we have not carried this out. The treatment is too recent for us to be able to give results, but we hope to publish notes of our cases after giving the method a fair trial.—We are, etc.,

James Craig, M.B.
Llandudno, N. Wales. Edward Gooddy, F.R.C.S.

THE LATE SIR JOSEPH THOLOZAN.

Sir,—I notice in the British Medical Journal of August 21st that you mention credence is given by some French papers to the report that Sir Joseph Tholozan, Physician to the late Nasr ed Din Shah, was poisoned on account of his being in possession of State secrets. This is a gross calumny upon His Imperial Majesty the present Shah and his Government, by whom Sir Joseph was deservedly loved, and with whom he was most popular. He had known His Imperial Majesty Mouzaffere Din since his childhood, and was always most affectionately received by him, and spoken kindly of by His Majesty behind his back as well as in his presence. If Sir Joseph did possess any State secrets, both the Shah and his Government knew very well they were perfectly safe in his hands.

Sir Joseph had suffered for some years from slight attacks of angina, which had become frequent of late, and from which he died quite suddenly. If he ever wrote to a friend saying his life was not safe, it was to this cause he attributed it insecurity, and not from any fear of the Persians, by whom he was universally loved and respected. I attended him professionally, in conjunction with Dr. Wishard, during the past year, and know perfectly well that his death was due to natural causes.—I am, etc.,

Hugh Adcock, C.M.G.,
Teheran, Persia. Physician-in-Chief to H.I.M. the Shah.

*** In the British Medical Journal of September 18th p. 728, we published a translation of a letter addressed to a French newspaper, a son-in-law of the late Sir Joseph Tholozan categorically denying the report alluded to by our correspondent.

"CANCER HOUSES."

Sir,—The publication in the British Medical Journal of November 20th of a note from your Paris correspondent referring to a paper of Dr. Leon Noel's on the distribution of cancer, seems to warrant my writing to say that I have been making some rather similar observations in this neighbourhood. I find that cancer is much more prevalent in the parts of the town where certain kinds of trees grow, and I am inclined to associate the occurrence of cancer with the parasites of these trees.

I have not yet seen Dr. Noel's paper, but I gather from the note of your Paris correspondent that he does not yet attach especial importance to any *kind* of plant. My observations point distinctly to certain kinds of trees, if not to certain kinds of parasites.

I have gone far enough in my observations to be able to identify the kind of house in which cancer is likely to occur. Three times recently I have seen a house in a district new to me, and said: "That should be a cancer house," and in all three instances the history of cancer was forthcoming.

My observations are yet far from complete, but I hope to send a fuller account of the matter to the Journal during the coming year. It is satisfactory to find that Dr. Noel's results and mine are both tending in the same direction.—I am, etc.,

Cambridge, Dec. 6th. E. Lloyd Jones.

THE INTRACRANIAL CIRCULATION.

Sir,—In his valuable paper on the "Intracranial Circulation in some of its Aspects," published in the British Medical Journal of November 13th, Dr. George Elder assumes that changes in the calibre of the intracranial veins are capable, by modifying the pressure of the cerebral substance, of influencing the calibre of the corresponding arteries. This seems to me highly doubtful. If, for example, distension of the cerebral veins is to cause contraction of the cerebral arteries, the pressure in the former, and consequently of the cerebral substance, must be greater than in the latter, and this can never be the case. Wherefore, assuming with Dr. Elder the incompressibility of the cerebral substance and the constancy in the volume of the intracranial cerebro-spinal fluid, we must conclude that respirations have no influence on the calibre of the intracranial veins, but only on the rate of flow in them. On the other hand, there is no reason why the cardiac pulsations in the cerebral arteries should not cause pulsations, in obverse order, of the veins, owing to the high pressure in, and powerful recoil of, the former. Two minor points: (1) How does Dr. Elder reconcile the case he quotes of pulsating lateral sinus with his statement that the sinuses are incompressible? (2) Dr. Elder refers to the expansion of the brain during mental activity. Is the author here referring to the closed skull? If so, how is it possible for the brain to expand if the cerebral substance is incompressible and the quantity of intracranial cerebro-spinal fluid constant?—I am, etc.,

Wimpole Street, W. Harry Campbell.

DR. RENTOUL'S RESIGNATION.

Sir,—In spite of the abuse that is being poured on Dr. Rentoul by certain sections of the profession, there is a considerable number who sympathise with him and who regard him as one of a long list of public benefactors who have sacrificed themselves for the public good, and have received in

[1] *The Present Evoluton of Man*, pp. 346-9 (London: Chapman and Hall, 1896); also *Fortnightly Review*, November, 1896.

return no hing but ingratitude and desertion, coupled with the sneers and malice of a few petty minds.

What would have happened among a non-medical electorate under the same circumstances as those leading to Dr. Rentoul's resignation of his seat on the General Medical Council? He was returned at the head of the poll, and was regarded as an admirable representative of general practitioners and as one of the leaders, if not the only leader, in the cause of medical reform. A man who had spared neither time nor money to further the cause, and who was pledged to carry out certain objects.

When he arrives at the Conncil room he finds at the very beginning that opposition of a very technical kind is before him, and that he is prevented from pursuing the object he has in view by side winds and by the force of numbers. What course was open to him? Was it any good to attend the meetings knowing that all he did would be "useless" and merely waste of time. No, he took the only course open to an honest man, and resigned.

Now, what was our duty in the matter? We ought to have sent him back with an increased majority, to show that we were determined to show the General Medical Council that in slighting Dr. Rentoul they were slighting the whole body of general practitioners. That is what has been done in parliamentary life over and over again. Why not in this case?

It is a sad but undoubted fact that doctors do not love one another. As Dr. Rentoul says: "There seems to be a secret feeling of satisfaction when another practitioner fails." What is true in a small town, where one constantly finds all the doctors at loggerheads, is true of the whole country. There is no union among us, and I pity the man who endeavours to represent such a divided electorate.

It is almost incredible that only 45 out of 4,000 practitioners vouschafed any reply to Dr. Rentoul's appeal for financial support in carrying out his programme against the Midwives Bill. Yet such was the case. The Northumberland miners put us to shame. They subscribed £600 a year to their parliamentary representative. We sent Dr. Rentoul £26 6s. 6d.

It is "neither fair, businesslike, nor honest" on our part. So long as we adopt this apathetic attitude, and are content to allow our representative to do all the work, defray nearly all the expenses, and then abuse him because he won't stand it any longer, so long will the medical profession continue on the down grade.—I am, etc.,

Folkestone, Dec. 8th. ARTHUR E. LARKING.

PERIPHERAL NEURITIS CONNECTED WITH PREGNANCY AND THE PUERPERAL STATE.

SIR,—With your permission I will offer a short criticism on an article with the above heading, by Dr. E. S. Reynolds, which appeared in the BRITISH MEDICAL JOURNAL of October 16th, p. 1080.

If the conception of a true puerperal neuritis (and under this term the neuritis of pregnancy may be conveniently included) is to mean anything, it must mean the production of neuritis by causes peculiar to that condition; for example, an alcoholic woman who develops neuritis during the puerperal period is not to be dubbed a case of puerperal neuritis. When the hypothetical cause is the commonest event in the world, not even excepting death, the chances of coincidence are obviously considerable. The diagnosis, then, is justified only by a rigorous exclusion of all other possible causes of neuritis.

Septicæmia, whatever the channel of infection may have been, is a well-recognised cause of neuritis, and yet Dr Reynolds says: "In many cases reported it is difficult to find any cause for the neuritis of pregnancy and the puerperium, but personally I look upon sepsis or on incessant vomiting as the most potent factors in producing the condition. In septic poisoning it is admissible to assume that the toxins set up neuritis just as occurs in diphtheria." This is as if one should give lead as a cause of alcoholic neuritis. It is this failure to appreciate the importance of the septicæmic factor that vitiates so many of the records of supposed puerperal paralyses. The case reported by Korsakoff and Serbski, and referred to by Dr. Reynolds, is a good example of what I mean. In this case a decomposing fœtus was removed from an abscess cavity in the iliac region, the gestation having been extrauterine. The first symptoms of neuritis were observed eight weeks after the operation—one can hardly call it a delivery—and after six weeks of severe septicæmia. How, I should like to ask, can such a case be regarded as one of puerperal neuritis, stretch the term as one will?

Dr. Reynolds's second case falls under the same category, though it is not such a flagrant instance. I cannot avoid the conclusion that no inconsiderable number of the forty-nine cases which Dr. Reynolds states he has collected would be eliminated if they were subjected to a justly rigorous criticism. At all events, two out of the five to which he gives a detailed reference should certainly be cut out for the reasons I have offered. Somewhat less than a year ago I myself collected, so far as I was able, all the cases of puerperal and pregnancy neuritis on record, and to these I added three of my own. The detailed results are embodied in a work which will shortly appear, but I may mention that the total number that I could actually verify was less than forty.—I am, etc.,

Portland Place, W. H. G. TURNEY, M.D.

INABILITY TO SPEAK AND DEFENCE TO CRIMINAL PROCEEDINGS.

SIR,—In the BRITISH MEDICAL JOURNAL of December 4th there is a very interesting article dealing with the case of the prisoner, James Harris, charged with murder. In the last paragraph of this article there is a statement which is rather misleading. It is to the effect that when Harris appeared at Marylebone Police-court on November 15th (this should be November 12th), the magistrate, Mr. Curtis Bennett, remarked that the prisoner did not appear fit to undergo the fatigue of a public examination. It is further stated that Harris had been taken to the court by the police, presumably from Holloway Prison. I was in the police-court on that day during the whole of the proceedings connected with this case, and heard the remarks made by the magistrate. They referred to the physical condition of the prisoner when he first appeared at the police-court on October 16th, before he had been at Holloway Prison at all. So far as I know no suggestion has been made as to his being unfit to appear on any of the occasions when he was sent from here.—I am, etc.,

JAMES SCOTT,

Her Majesty's Prison, Holloway, Dec. 6th. Medical Officer.

TERMS USED TO INDICATE MYOCARDIAL CHANGES: HYPERTROPHY AND DILATATION.

SIR,—In the BRITISH MEDICAL JOURNAL of October 30th is a short article and discussion on the above subject, and I consider the matter of such importance that I would beg permission to emphasise Dr. Tyson's main point, one which I am constantly trying to impress upon students, namely, that hypertrophy of the heart has one constant meaning to everybody at all times, but dilatation has two separate and distinct ones. The first meaning of dilatation is the alleged increase in the size of a cavity as the result of valvular disease when well compensated; the second meaning is totally different and even antagonistic to this, and is the failure of the myocardium to cope with the work it has to do.

The former of these phenomena has, and can have, no clinical interest; it may have been proved to exist in every case, but this, if true, only shows that it is essentially beneficial to the heart, and, to my mind, does not really require any special term to designate it, though I would submit "enlargement of cavity" as fairly satisfactory, and, at any rate, free from ambiguity. The latter phenomenon is quite the antithesis of the former, and is the equivalent of heart failure or exhaustion (temporary or permanent) and is *the essential cause of all the symptoms of morbus cordis;* to this condition I would urge that dilatation be solely applied. The matter is simply one of nomenclature; the conditions are both capable of being called by other names, but for students in the examination room this is of great importance—that all terms used should be free from ambiguity, and have one, and only one, meaning; misunderstandings between examiner and examinee as to ambiguities of nomenclature frequently form

the first step in the downward path that leads to flurry and rejection.—I am, etc.,

Christopher Street, E.C. Fred. J. Smith.

"THE RELATION OF BACTERIA TO CATARRHAL CONDITIONS."

Sir,—Dr. William Hunter's paper on Cholelithiasis in a recent number of the British Medical Journal was extremely interesting, as showing the important part played by bacteria in catarrhal conditions and their results. It may be of interest to refer to Melchior's book *Cystitis und Urininfection*, as the experiments and results there given in connection with another great system of the body are strikingly analogous to those mentioned by Dr. Hunter. For a more detailed account of the experiments the book itself should be consulted by those interested in the subject, but I should like to draw attention to the more important pathogenetic points of resemblance between the bladder and kidney on the one hand and the gall bladder and liver on the other as conspicuous after a perusal of Melchior's book. The bacterium coli commune is the chief offender in producing cystitis, being present in two-thirds of Melchior's cases, but, with the exception of one bacillus (proteus hauser), none of the bacteria could produce cystitis unless some predisposing cause—especially retention of urine or injury—was present. This strongly corroborates Naunyn's results in producing inflammation of the gall bladder after ligature of the common bile duct and consequent stagnation of bile by the injection of the bacterium coli. This bacterium produced an exactly similar result under the analogous conditions. The bacillus typhosus, amongst others, is also found to be a cause of cystitis occurring during typhoid fever.

With regard to Dr. Hunter's paragraph on "excretion through the liver as a cause of catarrh," the experiments of Melchior on the relation between the bacterium typhosus and nephritis are interesting. He says: "It appears, therefore, that no constant relation exists between the typhoid nephritis and the bacteria; the bacillus can occur in nephritis, but this can arise without the typhus bacillus being found in the urine or kidney. The view is, then, probable that the typhoid nephritis stands only in an indirect relation to the typhus bacillus, and is to be ascribed to a separation through the kidney of toxic substances produced by the bacilli in different parts of the body (the intestine). We will mention in this connection that Rosenstein already numbers the typhoid nephritis under the 'catarrhal nephritides' produced by irritating substances." This would seem to correspond to Dr. Hunter's intrahepatic catarrh produced by excretion of irritating products. Naunyn's experiments mentioned by Dr. Hunter in connection with the precipitation of the constituents of gall stones in the gall bladder and ducts are tempting as pointing to the possibility of finding some analogy between these results and the formation of stone in the urinary organs.—I am, etc.,

Tenby. Ernest M. Knowling, M.B.Cantab.

THE TREATMENT OF OTORRHŒA.

Sir,—My attention has been called to a statement in the *Medical Annual* for this year, that I have made a sweeping condemnation of operations on the mastoid. Two years ago I certainly protested against the suggestion of Dr. Macewen that all cases of otorrhœa should be operated on, and I still think this was very bad advice. Such a protest, however, is very far from a sweeping condemnation of all mastoid operations. I have frequently to operate upon the mastoid in neglected cases where the bone is diseased, but I have never yet had to do so in cases that I have had under treatment for otorrhœa. I have treated many cases during the past two years, and I am still satisfied with the results of irrigation. Fortunately, I have several hospital beds at my disposal, and I take in cases of otorrhœa for irrigation, not for operation. I can only remember one case amongst those admitted that disappointed me. In this case the perforations were very small, and though I enlarged them the patient got tired before the cure was complete. I admit that results in the out-patient room are not so satisfactory, but now that the profession is waking up to the gravity of otorrhœa, why are not these cases more often admitted to the wards? Is the excuse of an operation necessary for their admittance? It seems ridiculous that it should be so, but in how many hospitals has the indoor irrigation system been tried?

I am satisfied that we get good results with this method, though I do not hesitate to attack the mastoid when that bone is diseased.—I am, etc.,

F. Faulder White, F.R.C.S.Eng.

Coventry, Nov. 29th.

CHLOROFORM *VERSUS* ETHER.

Sir,—I have read with great interest the account of Dr. Waller's experiments and your comments. I fear, however, the impression left on the mind of most readers will be that chloroform is seven times more dangerous according to its "immobilising" effects, and thirteen times more dangerous judging by statistics.

Now, my object in writing is to point out that this is not a fair deduction from Dr. Waller's experiments. He only proves chloroform to be seven times stronger than ether, but not necessarily more dangerous, and as to statistics, I place no confidence in any deductions founded on them, as they apply to administration by the "open" and reckless method.

The chief danger in chloroform inhalation is due to the fact (as Dr. Waller has pointed out) that the safe limit (18 minim in the blood) is so easily exceeded; but this limit need not be exceeded if a regulating inhaler is used, by which as little as $\frac{5}{8}$ of a minim can be given with each inspiration.

If chloroform were being dispensed for administration by the mouth, the pure drug would be carefully measured in a minim glass; the dilute drug, spirit of chloroform, in a drachm glass; and aqua chloroformi in an ounce glass, or even the amount guessed. But when given by inhalation, the pure drug is guessed, not measured, and consequently over-dosing and death takes place.

The same result would take place with hydrocyanic acid, strychnine, or other poison if administered in the same reckless fashion.—I am, etc.,

Collompton, Nov. 26th. John Hope Potter.

TYPHOID FEVER AMONGST NATIVES OF INDIA.

Sir,—In a letter from Surgeon-Major Maitland, I.M.S., published in the British Medical Journal of October 23rd doubt is expressed as to the liability of natives of India to contract typhoid fever. It has been sufficiently proved in recent years by *post-mortem* examinations on prisoners dying in Punjab gaols that natives of India do contract the disease. There is no doubt, however, but that proved cases are sufficiently scarce to be of interest, and for that reason I exhibited at the first Indian Medical Congress pathological specimens of a case occurring in an adult that came under my treatment, the notes of which were afterwards published in the *Indian Medical Gazette* of March, 1895. A paper entitled "Typhoid Fever among Natives of India in the Punjab" was read at the Indian Medical Congress, in which the author (a native of India) stated that probably the diagnosis of typhoid fever in natives was in great measure difficult owing to the disease being much modified by the patients having previously suffered in childhood. The paper, however, failed to convey conviction, as in no one case had the author seen a *post-mortem* examination. There is no doubt that native children are very prone to continued fever accompanied by either constipation or diarrhœa, and possibly his contention may be correct. It is one any way that has been favourably accepted and put forward by many. Until, however, more definite data can be obtained it cannot be accepted as more than a theory. If correct it would be difficult to explain why native children are said to be so prone and English children in India so little prone to contract this disease.—I am, etc.,

Harold Hendley, Surgeon-Major I.M.S.,
Civil Surgeon, Simla.

Royal Commission on Tuberculosis.—For the consideration of their report meetings of the Royal Commission on Tuberculosis were held at 7, Whitehall Place on December 1st, 2nd, 3rd, 4th, 6th, and 7th, the Right Hon. Sir Herbert Maxwell, Bart, M.P., presiding. A further sitting will be held in January next.

OBITUARY.

ANTHONY COLLING BROWNLESS, M.D.,

Chancellor of the University of Melbourne.

We regret to announce the death of Dr. A. C. Brownless, Chancellor of the University of Melbourne, which took place on December 3rd. He was the only son of the late Mr. Anthony Brownless, of Goudhurst, Kent. Having studied at St. Bartholomew's Hospital and at the University of Liége, he was admitted a member of the Royal College of Surgeons in 1841, and took his M.D. degree at St. Andrews five years later. He practised in London as a physician until the end of 1852, and then went to Victoria, where he was elected Physician to the Melbourne Benevolent Asylum. In 1854 he became Physician to the Melbourne Hospital, and on his retirement in 1866 was appointed a life governor and Consulting Physician of that institution. He founded the medical school in Melbourne University, and was the first to receive at its hands the degree of M.D. For twenty-nine years in succession he was annually elected Vice-Chancellor of the University, and in 1887 succeeded Dr. Moorhouse, the present Bishop of Manchester, as Chancellor. Dr. Brownless also held the honorary degree of LL.D. of the Universities of St. Andrews and Melbourne, and from 1884 was a Fellow of the Royal College of Surgeons of England. In 1870 Pius IX created him a Knight of St. Gregory the Great, and in 1883 Leo XIII made him a Knight Commander of the Order of Pius, conferring nobility. Five years later he was created C.M.G.

Surgeon-Captain JAMES MURRAY, M.B.Aberd.,

Indian Medical Service.

We are grieved to record the early death of Surgeon-Captain James Murray, at the Ripon Hospital, Simla, on November th, 1897.

James Murray was educated at the Chanonry School (Gymasium), and the University, Aberdeen, and graduated M.B., .M., in April 1886. He joined the Indian Medical Service the following year, passing out third from Netley, and aining the Parkes Memorial Medal. On proceeding to India e was appointed to the 15th Bengal Cavalry, and was with is regiment in cholera camp during the hot weather of 1888. was at this time that he first suffered from dysentery, the isease which ultimately led to his death. With his regient he saw service in the Black Mountain expedition of 88, and obtained the medal.

In 1889 he was appointed the colleague of Dr. Watt during ie preparation of the *Dictionary of Economic Products of dia*, receiving the thanks of the Government of India. In 91 he was appointed to the newly-established Professorship Pathology in the University of Lahore, and the rest of his e, when free from illness, was devoted to the organisation his department. Those who were brought in contact with rgeon-Captain Murray during this period will appreciate w much his heart was in this work. He engaged in teachg with his characteristic enthusiasm, and made a high putation as demonstrator and lecturer. His clinical skill, hich was of the highest order, rapidly brought him a conlting practice in the Punjab.

In 1893-94 he had to take long sick leave home as the result chronic dysentery, and again to Australia in October, 1896. hile in Melbourne symptoms of liver abscess appeared reiring operation, but he returned to his post improved in alth and continued his duties. At the end of last hot ason the symptoms of dysentery and hepatic abscess reerred, and he went to Simla; in spite of rest and an appatly successful operation he gradually succumbed.

Dr Murray, in addition to possessing ability of high quality, s one of the most amiable of men and truest of friends. s death is mourned by his comrades and numerous friends India, as well as by old friends at home, who will always r his friendship in loving memory.

WILLIAM FETTES MURRAY, M.D., F.R.C.S.Ed.,

Forfar.

regret to announce the death of Dr. W. F. Murray, a ch-respected practitioner of Forfar, and Medical Officer of Health for the burgh. Dr. Murray was born in Forfar fifty-nine years ago, and after receiving his preliminary education at the Academy of his native town, studied medicine at Edinburgh. He obtained the Licence of the Royal College of Surgeons of Edinburgh in 1863, becoming a Fellow of the same College in 1878, and a Doctor of Medicine of the University of St. Andrews in 1881. After holding resident appointments in the Birmingham Maternity Hospital and elsewhere, he settled in Forfar some thirty years ago. In 1874 he was appointed Medical Officer of Health for Forfar, and he continued to discharge the duties of that office with zeal and ability till the end of his life. From an early period in his professional career he showed himself a resolute advocate of a strong policy in regard to the prevention of the transmission of tuberculosis by milk and by the flesh of diseased animals.

He took a great interest in the question of sewage disposal, on which he read a paper at the meeting of the British Medical Association at Glasgow in 1888, and he took a leading part in establishing the Forfar sewage farm. He also repeatedly drew attention to the danger to infants caused by their mothers resuming work soon after confinement, and to his urgency the adoption by Forfar of the Infectious Diseases Notification Act was mainly due.

Dr. Murray had an extensive private practice, and was beloved as well as trusted by his patients, who belonged to all classes of the community. He was one of the medical officers of the Forfar Infirmary, and took an active part in its management. He contributed reports of a case of successful trephining for compound comminuted fracture of the skull, and of one of intrauterine hydrocephalus, to the medical journals.

Dr. Murray took a keen interest in athletic sports, and was one of the original volunteers in his district; until lately he was the Senior Surgeon-Colonel of the Angus Rifles. About a year ago he retired, on which occasion he received the decoration for long service.

Dr. Murray's funeral was attended by the Provost of Forfar and the Town Council, and by many of the leading citizens of the town. He leaves a widow and two daughters to mourn his loss.

We regret to have to announce the death of Mr. J. R. Meeke, who had been for several years medical officer under the Niger Coast protectorate. He had been ill for some time from climatic disease, and was put on board the steamer *Bonny* for transfer to England. He was then in a very serious condition, and he died on November 21st and was buried at sea. Mr. Meeke was a Licentiate of the Royal Colleges of Physicians and Surgeons, Ireland, 1889, and by his brother officers, as well as in Dublin, where he had many friends, he is very much regretted.

Dr. Harrison Allen, of Philadelphia, formerly Professor of Comparative Anatomy in the University of Pennsylvania, died of angina pectoris on November 14th. He was born in 1841, took his doctor's degree at the University of Pennsylvania in 1861, and served as an army surgeon through the Civil War. In 1865 he was elected to the Chair of Comparative Anatomy in his Alma Mater, and in 1878 he became Professor of Physiology. In 1894, when the Wistar Institute of Anatomy of the University of Pennsylvania was founded, he became its first director. In 1869 Dr. Harrison Allen published a work entitled *The Outlines of Comparative Anatomy and Medical Zoology*, and in 1884 a voluminous *System of Human Anatomy*. Dr. Harrison Allen was not only an anatomist, but a prominent specialist in diseases of the throat and nose. He was a man of fine character, and, though of somewhat retiring disposition, greatly beloved by those who had the privilege of his friendship.

The death is recorded of Mr. William M'Donald, of Maryhill. On November 11th, the day of his death, he reached his 75th birthday. He was born at Leith, and obtained the qualifications of L.R.C.P. and L.R.C.S.Edin., and at different times he held numerous medical appointments in the district. Mr. M'Donald had been in practice for more than fifty years, and in June last he celebrated his golden wedding. He

is survived by a widow, four sons, and two daughters. Two of the sons are graduates of Glasgow, and members of the medical profession.

DR. NEWTON S. BATES, whose appointment to the Surgeon-Generalship of the United States Navy was recently announced in the BRITISH MEDICAL JOURNAL, died of renal disease within a few days of his promotion. He actually took the oath of office on his deathbed. Dr. Bates, who was Physician to the President, entered the American navy in 1861, and prior to his appointment as Surgeon-General, was Medical Director with the relative rank of Captain, and was on duty at the Naval Museum, Washington.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

APPOINTMENTS, ETC.—Dr. W. H. R. Rivers, of St. John's College, has been appointed University Lecturer in Experimental Psychology. Mr. W. L H. Duckworth of Jesus College, has been recognised as a Lecturer in Anthropology. Mr. V. H. Blackman, Hutchinson Research Student of St. John's College, and Mr. W. Morley Fletcher, Fellow of Trinity College, have gained the Walsingham Medals for biological research. Dr. Anningson, Dr Donald MacAlister, and Professor Kanthack will represent the University at the Madrid International Congress of Hygiene and Demography in April, 1898. Professor Kanthack and Mr. Easterfield are appointed members of the State Medicine Syndicate. Mr. G. E. Wherry, M.C., a member of the Medical Board; and Dr. Donald MacAlister a member of the Indian Civil Service Board.

ROYAL COLLEGE OF PHYSICIANS IN IRELAND.

AT the monthly meeting of the President and Fellows held on December 3rd, the President admitted to the Licence in Medicine, Richard Arthur Jackson, M R.C S.Eng , who had been successful at a special examination held on December 2nd and 3rd.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

BARKER ANATOMICAL PRIZES.—A prize of £26 5s is offered for competition, and is open to any student whose name is on the anatomical class list of any school in the United Kingdom. The preparations entered must be placed in charge of the Curator, from whom full particulars can be obtained, before June 1st, 1898. The prize is offered for a Dissection of the Anterior Triangle of the Neck, with special reference to the Operation of Lateral Pharyngotomy. Those competitors who enter dissections for which prizes are not awarded, but which show sufficient merit, may be refunded such amount of the cost of production as the examiners deem fit. The cost and risks of transport must be borne by the student. The College will not be responsible for any damage the preparations may sustain, but those of unsuccessful competitors residing at a distance will be carefully repacked and handed to the carriers for delivery at such address as may be specified by the student.

ENTRIES AT THE MEDICAL SCHOOLS IN DUBLIN.—The returns of students of practical anatomy in the Dublin schools show a total of 453 as compared with 473 in 1896-7. The numbers are distributed as follows: School of Physic, Trinity College, 188; 1896, 185 Schools of the Royal College of Surgeons, 150, 1896, 170. Catholic University Medical School, 115; 1896, 118.

MEDICO-LEGAL.

ALLEGED BLACKMAILING.

THERE is only one sensible course to adopt when a professional man finds himself the victim of an attempt at blackmail, and that is to communicate with the police authorities at once and set the law in motion. We must sincerely congratulate Dr. Leslie Hudson Jones, of King Street and Cheetham Hill, Manchester, upon having followed this plan. According to the report in the *Manchester Guardian* Dr. Jones had been the medical attendant upon a well-known family of the highest social position at Sedgeley Park, and in addition to being the trusted medical adviser was also the personal and valued friend of all the household. Lately Dr. Jones received a type written letter enclosed in an envelope with typewritten address. The contents of the letter were peculiar; the writer demanded £50 as a loan in sums of £10 immediately and the remainder in three days Failing the remittance the writer claimed to be in possession of certain facts relative to the doctor and a patient whose name and address were given, and threatened that the "information" would be made use of were the money not paid. The letter was at once placed in the hands of the police and a "trap" answer by letter was sent to the address and name given of the writer. In the meantime a further letter had been received from the sender of the original document and others followed. The trap answered and finally a registered letter was prepared, and through the agency of the Post-office it was so arranged that when anyone called for it he could be given into custody at once. Later in the day a man called at the post-office and asked for the letter and was immediately upon receiving it taken in charge by the police and formally charged at the police court. Evidence was given of the circumstances detailed above, and upon the prosecution closing their case the counsel for the prisoner said that he took the earliest opportunity of saying that there was not the slightest shadow of foundation for any of the suggestions contained in any of the letters sent by the prisoner to Dr. Jones. The prisoner, it appeared, was a young man of the name of Leech, but who had used the name of Elwood in the correspondence He belonged to a respectable family and his counsel expressed his extreme sorrow that the family mentioned should have been troubled in this way, and the prisoner instructed him to say that there was no truth in the allegations he had made against anyone. Counsel continued that it was impossible to account for the conduct of the prisoner and suggested that he should be mentally examined before the forthcoming assizes. The magistrate refused bail and committed the prisoner for trial.

WOMEN AS VETERINARY SURGEONS.

IN the Court of Session at Edinburgh on December 2nd, Lord Kincairney disposed of an action raised by Principal Williams and another, as proprietors of the New Veterinary College, Edinburgh, against the Royal College of Veterinary Surgeons, in which the pursuers sought to have declared—That women are eligible to be admitted as members of the said Royal College of Veterinary Surgeons if they have complied with all the regulations relative to the professional examinations of that College; that the defenders are not entitled or bound to exclude any such student from examination merely on the ground of her sex. Interdict against the exclusion of duly qualified students was also asked, and £50 were claimed in name of damages. The arguments have been fully reported in the BRITISH MEDICAL JOURNAL.

Lord Kincairney dismissed the action on the ground that the Scotch Court had no jurisdiction, the domicile of the Royal College of Veterinary Surgeons being in England. Lord Kincairney said he did so with some little regret, because, when the action had been brought, it might have been decided here as well as in London. At the same time, he confessed he did not see the necessity or expediency of bringing the case in the Scottish Court. As he had, in his opinion, no jurisdiction, it would not be fitting that he should express any opinion about the pursuers' title, still less about the interesting question on the merits.

SALE OF MEDICINE.

W.H.C.—If the medicine to which our correspondent refers as being sold by a chemist does not contain particulars of the ingredients of which it is composed, and does not bear the Government stamp as a proprietary medicine, it may be that such sale would be contrary to the provisions of the Revenue Acts; and if so, a reference of the matter to the Revenue authorities would quickly put a stop to it Assuming that the ingredients are specified or that the bottles bear a Government stamp, then the nature of the proceedings which could be successfully taken in this country would require to be very carefully considered. We do not think it is a case in which the Pharmaceutical Society would interfere; it would be rather for the representatives of the gentlemen whose names are used as having given the prescription to do so, and they might be communicated with on the subject. It is, we believe, usual for chemists to enter copies of their prescriptions in books which would be transmitted to each successor to the chemist's business, and therefore we think it does not necessarily follow that any express consent has been given by the medical practitioner referred to, or that any implied consent can be inferred.

UNQUALIFIED ASSISTANTS AND COVERING.

C. H. P. makes the following inquiries in connection with the recent resolution of the General Medical Council:—

1. Whether he is correct in believing that for the future any general medical practitioner who shall send any pupil or unqualified assistant to attend an ordinary case of midwifery will be deemed guilty of infamous conduct if he leaves the attendance of that case in the hands of such pupil or unqualified assistant?

2. Should the case need instrumental assistance and the qualified man attends and uses instruments or performs any other needful operation, would this be deemed a covering and render the qualified man liable to have his name erased from the *Register*?

3. Whether our correspondent is correct in assuming that if a qualified man should be sent for to assist a midwife and uses instruments or performs any other operation as version he would not then be deemed guilty of infamous conduct in a professional respect?

Our correspondent adds, "If I am right in my deductions it is a very unfortunate look out for the poor people in this country and a bad look out for the qualified medical assistant of the future, as it leaves him to learn his profession after he is deemed by the Colleges fit to practise."

*** With regard to question No. 1, we think it will not be competent for a medical man to send a pupil or unqualified assistant to attend an ordinary case of midwifery without incurring the liability pointed out by the resolution.

As to No. 2, all the circumstances of any case brought before the Council would doubtless be considered on its merits, and if we read this question correctly we do not see how it could (standing alone) be deemed to be "covering."

With regard to No. 3, we can hardly assume that a medical man would attend a case "to assist a midwife." His services would be quite independent and no question of covering could arise.

WITNESSES' FEES IN COUNTY COURT ACTIONS.

W.—The prescribed scale of allowance to witnesses in actions in the county court differs from that obtaining in the superior courts. In the county courts the allowance to professional men is 15s. to 1 guinea per diem, exclusive of a sum for travelling expenses not exceeding a sum equal to 6d, per mile one way; while in a superior court the prescribed fees are from 2 to 3 guineas per diem (where the witness resides at a distance) exclusive of travelling expenses, and 1 guinea a day when residing in the place of trial. Our correspondent does not inform us whether he was actually called as a witness, but whether or not so if he were required to attend the court for three days, which time we understand he actually attended, he would, we think, be entitled to recover from the party to the action who subpœnaed him from £2 5s. to £3 3s., exclus

of railway fare one way. Unless our correspondent has the personal undertaking of the solicitor to pay the proper fees, any proceedings which may be necessary should be taken against the person on whose behalf he was subpœnaed and not the solicitor. If our correspondent were required to give expert or scientific evidence the fees would be higher. In the answer in the BRITISH MEDICAL JOURNAL of December 4th to a correspondent, "M. D.," we urged the desirability of medical practitioners in all cases where they are required to attend to give evidence, in a civil action, obtaining an express undertaking, either of the party subpœnaing or of his solicitor to pay the usual fee of 3 guineas per diem, exclusive of travelling expenses. That reply had special reference to the fees allowed in the superior courts and where the witness resided at a distance from the court. The allowance is only £1 1s. per day if the witness resides in the town where the action is tried. For attending to give evidence in the county court the fee to be asked for would be 15s. to 1 guinea per diem (exclusive of a sum for railway fare one way).

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

URGEON GEORGE ALLAN, M.B., has been allowed to withdraw from the ervice with a gratuity. His commission dates from August 22nd, 1889.

Staff-Surgeon THOMAS E. H. WILLIAMS is promoted to be Fleet-Surgeon, lovember 19th. He was appointed Surgeon, September 30th, 1876, and taff-Surgeon twelve years therefrom.

The following appointments have been made at the Admiralty: JAMES . FRANCE, Surgeon, to Plymouth Hospital, December 10th; EDGAR F. [ORTIMER, Surgeon, to Royal Naval Barracks, Devonport, December 5th.

MEDICAL DEPARTMENT, R.N.

HE under-mentioned gentlemen, who competed on November 22nd and ollowing days at the Examination Hall, Victoria Embankment, for appointment as Surgeons in the Royal Navy, have been granted Commissions:

	Marks.		Marks.
. Newsom, M.B.	2,702	H. W. A. Cowan, M.B.	2,071
. Cameron, M.B.	2,670	S. H. Facey	2,054
D. S. Miller, M.B.	2,456	G. Taylor, B.A., M.B.	2,343
. W. Hewitt, M.B.	2,323	A. Woollcombe	1,974
. H. Jones, M.B.	2,318	F. Bolster, B.A., M.B.	1,951
. Waterfield	2,285	G. E. Macleod	1,942
. W. W. Townsend, B.A.	2,216	W. H. Pope	1,932
. D. Macnamara, B.A.	2,165	J. W. Bird	1,928
. J. Codrington, M.B.	2,148	J. H. Fergusson	1,924
W. Campbell, M.B.	2,102		

ARMY MEDICAL STAFF.

URGEON-LIEUTENANT-COLONEL C. K. POWELL, retired pay, has been ppointed to the medical charge of the 18th Regimental District at onmel.

Surgeon-Major ALLAN PERRY retires from the service, receiving a atuity, December 8th. He was appointed Surgeon-Captain, January 1st, 35, and Surgeon-Major twelve years after.

INDIAN MEDICAL SERVICE.

RIGADE-SURGEON-LIEUTENANT-COLONEL B. FRANKLIN, C.I.E., Bengal stablishment, is promoted to be Surgeon-Colonel from October 24th, his st commission dating from April 1st, 1869; he will be seconded on the tablishment of Surgeon-Colonels of Bengal while holding the appointent of Surgeon to the Viceroy.

Brigade-Surgeon-Lieutenant-Colonel G. M'B. DAVIS, D.S O., M.D., Bengal tablishment, is also promoted to be Surgeon-Colonel from October 24th, s first commission also dating from April 1st, 1869.

Brigade-Surgeon-Lieutenant-Colonel G. W. R. HAY, Bombay Establishent, is likewise promoted to be Surgeon-Colonel from August 16th. He as appointed Assistant Surgeon, April 1st, 1868.

Brigade-Surgeon-Lieutenant-Colonel R. CALDECOTT, Bombay Establishent, is also promoted to be Surgeon-Colonel from September 15th. He tered the service as Assistant Surgeon, October 1st, 1869.

Brigade-Surgeon-Lieutenant-Colonel C. W. CALTHROP, M.D., Bengal tablishment, is appointed officiating Principal Medical Officer, Presiency District.

Surgeon-Captain R. H. ELLIOT, Bombay Establishment, is appointed Disct Medical Officer and Sanitary Officer, South Canara, and Superintendent of Bangalore gaol, but to continue to act as Secretary to the Surgon-General with the Government of Madras.

Surgeon-Lieutenant-Colonel JEREMIAH MULLANE, M.D., Civil Surgeon, Dibrugarh, died at the Upper Assam on November 10th. He was appointed Assistant-Surgeon, March 31st, 1877, and Surgeon-Lieutenant-Colonel enty years thereafter. He was in the Afghan war of 1878-80, and was esent in the advance to Ghuznee under to Sir Donald Stewart, and in e engagements at Ahmed Kheyl and Urzoo; accompanied by Sir Fredck Roberts in the march to Candahar, and was present at the battle of ndahar (mentioned in the despatches, medal with two clasps, and bronze coration).

THE VOLUNTEERS.

RGEON-LIEUTENANT S. A. D. GILLESPIE, M.B., 1st Ayrshire and Gallo-y Artillery, has resigned his commission, December 8th; Mr. HENRY EXANDER PATTULLO, M.B., is appointed Surgeon-Lieutenant in the ne corps from the same date.

The undermentioned Surgeon-Lieutenants are promoted to be Surgeonptains, dated December 8th: J. P. S. WARD, 2nd Devonshire Artillery estern Division Royal Artillery); J. COWAN, M.B., Galloway Rifles; E. ID, 3rd Glamorgan Rifles.

Surgeon-Captain J. WHITEFORD, M.D., Clyde Division Submarine Miners, Royal Engineers, retires from the service, December 8th.

Surgeon-Captain W. ROSSER, M.D., 1st Volunteer Battalion the Queen's Royal West Surrey Regiment, has resigned his commission, December 8th.

Brigade-Surgeon-Lieutenant-Colonel H. F. HOLLAND, M.D., 3rd Volunteer Battalion the Bedfordshire Regiment, has resigned his commission, December 8th; he is permitted to retain his rank and uniform, and vacates at the same time his appointment as Senior Medical Officer to the Home Counties Volunteer Brigade.

Surgeon-Major R. GRANT, 2nd (Angus) Volunteer Battalion the Black Watch (Royal Highlanders), is promoted to be Surgeon-Lieutenant-Colonel, December 8th.

Surgeon-Lieutenant-Colonel W. T. WHITMORE, 3rd London Rifles, has resigned his commission, retaining his rank and uniform, December 8th.

Mr. THOMAS JOHN BURTON, M.D., is appointed Surgeon-Lieutenant in the 1st Dumbartonshire Rifles, December 8th.

Surgeon-Captains J. H. HAY, M.D., and D. W. CURRIE, M.B., 7th (Clackmannan and Kinross) Volunteer Battalion Princess Louise's Argyll and Sutherland Highlanders, are promoted to be Surgeon-Majors, December 8th.

SOLDIERS WIVES AND CHILDREN AT NORTH CAMP.

SURGEON-CAPTAIN J. TRACY-SIMPSON, Militia Medical Staff Corps, and Dr. C. E Paterson, Farnborough, have been temporarily appointed in medical charge of the wives and children of the troops in North Aldershot and for duty at the 3rd Station Hospital respectively. This is owing, says the *Aldershot News*, to a "scarcity of available officers of the Army Medical Staff."

SANITARY LECTURES FOR QUARTERMASTERS.

SURGEON-CAPTAIN HUGHES has been selected to take charge of the instruction, and seven lectures will comprise the course recently directed by the G O.C. at Aldershot to be delivered to quartermasters of corps. Every quartermaster in the district is to go through this course.

PUBLIC HEALTH
AND
POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns, including London, 6,008 births and 4,172 deaths were registered during the week ending Saturday last, December 4th. The annual rate of mortality in these towns, which had been 18.6 and 20.2 per 1,000 in the two preceding weeks, declined to 19 8 last week. The rates in the several towns ranged from 9.9 in Croydon, 13.1 in Derby, 13.2 in Cardiff, and 14 2 in Salford to 23 8 in Liverpool, 24.6 in Blackburn, 26 2 in Leeds, and 27.9 in Norwich In the thirty-two provincial towns the mean death-rate was 19.5 per 1,000, and was 0 6 below the rate recorded in London, which was 20.1 per 1,000 The zymotic death-rate in the thirty-three towns averaged 2.6 per 1,000; in London the rate was equal to 2.9, while it averaged 2.3 per 1,000 in the thirty-two provincial towns, among which the highest zymotic death-rates were 4.1 in Gateshead, 4.4 in Halifax, 4.9 in Burnley, and 5.6 in Blackburn. Measles caused a death-rate of 2 5 in Oldham, 2.6 in Huddersfield, 3.3 in Halifax, 3 6 in Gateshead, and 4.4 in Blackburn; whooping-cough of 1.3 in Bolton and 1.4 in Norwich; and "fever" of 1 0 in Derby. The mortality from scarlet fever showed no marked excess in any of the large towns. The 89 deaths from diphtheria in the thirty-three towns included 52 in London, 7 in Burnley, 5 in Liverpool, 4 in Cardiff, and 4 in Wolverhampton. No fatal case of small-pox was registered during the week, either in London or in any of the thirty-two large provincial towns; and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,777, 3,792, and 3,818 at the end of the three preceding weeks, had declined to 3,811 on Saturday last, December 4th; 328 new cases were admitted during the week, against 460, 397, and 375 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

DURING the week ending Saturday last, December 4th, 874 births and 583 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had been 18.5 and 19.5 per 1,000 in the two preceding weeks, further rose to 19.6 last week, but was slightly below the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 13.9 in Aberdeen and 16.1 in Paisley to 27.9 in Greenock and 29.0 in Perth. The zymotic death-rate in these towns averaged 2 4 per 1,000, the highest rates being recorded in Glasgow and Greenock. The 265 deaths registered in Glasgow included 16 from whooping-cough, 11 from measles, 3 from scarlet fever, and 2 from diphtheria. Three fatal cases of scarlet fever were recorded in Edinburgh, and 4 of measles and 3 of "fever" in Greenock.

DIPHTHERIA IN LONDON.

THERE was a decline last week in the mortality from diphtheria in London. The fatal cases of this disease, which had been 46, 37, and 63 in the three preceding weeks, declined to 52 during the week ending Saturday last, December 4th, although this number exceeded by 5 the corrected average in the corresponding periods of the ten preceding years. Of these 52 deaths, 7 were of persons belonging to Hackney, 7 to Lambeth, 4 to Kensington, 4 to St. Pancras, and 4 to Lewisham sanitary areas. Thirty-one of the 52 deaths were of children under 5 years of age, and 18 (nearly all of which were of children under 10 years of age) be-

tween 5 and 20 years; while only 3 were of persons aged upwards of 20 years. The number of notifications of diphtheria in London, which had been 293, 305, and 293 in the three preceding weeks, further declined to 263 during the week ending Saturday last. Compared with the preceding week, there was a decline in the prevalence of diphtheria in West, North, and Central London, while in South London there was a slight increase, and in East London the number of new cases corresponded with those recorded in the preceding week. Among the sanitary areas of West London, the 8 new cases notified in Kensington were below those recorded in any recent week, while in Fulham and in St. George Hanover Square there was a slight increase. In the North London districts there was a general decline, although the 18 new cases notified in Hackney showed a slight further increase upon recent weekly numbers. Among the sanitary areas of East London there was a marked decline in the prevalence of diphtheria in Mile End Old Town; and in Poplar the new cases, which had been 31 and 16 in the two preceding weeks, further declined to 14 during the week under notice. In several of the sanitary areas of South London there was a considerable increase last week in the prevalence of diphtheria; in Rotherhithe the new cases rose to 15, against 2 in each of the three preceding weeks; in Wandsworth 21 new cases were notified, against 14 and 12 in the two preceding weeks; and in Woolwich there were 7 new cases, against 1 in each of the two preceding weeks. In Camberwell, however, the 11 new cases were considerably below the number recorded in any week during the past few months. The admissions of diphtheria patients into the Metropolitan Asylum Hospitals during last week were 145, against 148, 150, and 157 in the three preceding weeks; and 1047 patients remained under treatment in these hospitals on Saturday last.

VISIT OF THE DANGEROUS TRADES COMMITTEE TO SHEFFIELD.

THE Committee appointed by the Home Secretary to inquire into certain trades that are reputed to be dangerous have visited Sheffield. The sittings lasted for a week, during which evidence was taken from employers and employed and from medical men regarding the effects of file cutting upon the health of the workpeople. The members visited several of the workshops, and saw much of the peculiar tenemented property in Sheffield in which file cutting, steel grinding, etc., are carried on. As they were empowered to inquire into the breaking of grindstones, which on "flying" frequently cause the death of workmen, they visited several of the workshops where the stones could be seen running, and some of the quarries in the neighbourhood from which the grindstones are obtained. It was their province, also, to inquire into the use of converters in the manufacture of steel by the Bessemer process.

THE PLEASURES OF PAUPERS.

IT would be useless not to recognise the fact that the efforts made by the BRITISH MEDICAL JOURNAL to obtain better medical treatment for the sick and infirm paupers, and more suitable systems of training for the young have resulted in a greater generosity of administration which in its turn has its dangers. This was forcibly brought out at a meeting summoned by working men to protest against the treatment of able-bodied paupers by the Camberwell Guardians. Instances were given of good workmen who had left their employment in order to enter the "house," and the case of one man was recounted who, although a skilled sculptor, had been a pauper for over fifteen years, and had cost the ratepayers £550, notwithstanding that he was able to earn as much as 15s a day. An exguardian reported that this man had once demanded to see the Committee, as he had a complaint to make, the complaint being that his potatoes had not been peeled. Similar examples of the increased popularity of the once-dreaded poorhouse among a degraded and idle class have caused the Sheffield Board, the pioneers in the movement for segregating the children, again to lead the way in reforming matters for the able-bodied.

For couples over 60 years of age worthy of all respect, who have for twenty years kept themselves without assistance, a cottage and maintenance are provided by the rates; for those whose parish history cannot be established beyond twelve years fewer privileges are granted, but these are to be enjoyed in a separate homestead; and to the widow such assistance is to be given as will enable her to rear her own children. Conscious, however, of the active life of the pauper spirit, these discriminating guardians have descended on the undeserving with a severity only equalled by their generosity to the unfortunate; for them they provide bare prison fare, hard test work, and deterrent discipline.

As a result of the searching investigation necessary before such a scheme of classification could be carried out, it was found that, out of 550 paupers, only 10 per cent. were fit for the first class, while 41 per cent. had laid themselves out for the severest treatment. This fact bears out the Camberwell working men's remonstrance.

THE REGISTRATION OF PLUMBERS.

AT a banquet given by the Worshipful Company of Plumbers at Saddlers' Hall on November 23rd, to enable the members of the Company and various educational, municipal, county, and public health authorities to meet the Lord Mayor of London and the sheriffs, some remarks were made by the Lord Mayor and by the Master and Lord Provost of Glasgow which, from their bearing on the question of the registration of plumbers, deserve to be widely known. The Lord Mayor said that he heartily approved of the measure for the registration of plumbers. While deprecating any attack on trades unionism, he expressed the fear that even in the plumbing trade there were those who acted as did trades unionists, declining to allow one set of men to be treated better than their fellows; but if in a particular trade one man actually knew more than another, surely the men possessing the greater knowledge should have the greater advantage. The Master said that the Company desired, as far as possible, to enable the community to have the advantage of the services of thoroughly trained and reliable men, who took a pride in their work. The Lord Provost of Glasgow said that there was a duty to see that sewerage was laid down upon strict sanitary and scientific lines, and to see that the plumbing work of the drains connected with houses was done on strictly scientific principles. It was a duty also before allowing a house to be inhabited to see that the plumbing work was sound. Only of late years had it been realised how much depends upon the sanitary condition of a town, and how much that sanitary condition was due to the state of the plumbing craft.

In the above remarks we have the gist of the arguments in favour of registration, and we are glad to find that such views are held by eminent municipal authorities.

THE COCKERMOUTH GUARDIANS ON NURSING.

SEVENTY-TWO beds; one nurse; twenty-two hours' work. This, according to statements made at a recent meeting of the Cockermouth guardians, as reported in the *West Cumberland Times*, is the work of the nurse at the Cockermouth Workhouse Infirmary. It is hard to believe that such things exist, and that any body of men meeting to do business are to be found who will uphold such a system. The nurse at this infirmary resigns her situation almost immediately because "she did not expect to be on duty day and night....., and after being up the greater part of the night she had to pay 2d. for an egg for her breakfast, as there was not sufficient bacon provided to last out the week." The Cockermouth guardians are much troubled by the frequent changes of nurses: we are not surprised, and we only trust that they may continue to suffer from the "nursing pest" until they have been taught that nurses are after all only flesh and blood.

THE NOTIFICATION ACT.

CANTAB. writes: During my holiday my *locum tenens* was called in to a scarlet fever case and notified it. On my return I notified it (the same case) again. Am I entitled to fee for both notifications?

*** "Every practitioner attending on or called in to visit a patient shall forthwith....." If "Cantab" was called in in the first instance and his *locum tenens* went instead of him, and attended for him and notified for him, the law would be satisfied with such notification. A notification made by "Cantab." on his return would probably not be a notification in regard to a fresh attendance but a notification for the original attendance executed by him by deputy, and it does not seem as if he were entitled to two fees.

EXTRA FEES FOR DISTRICT MEDICAL OFFICERS.

J. P. writes to say that he has been appointed district medical officer in a county union, and that in his contract with the guardians there was a clause stating that no extra fees would be allowed in addition to the salary. Our correspondent has since had his attention directed to the regulations of the Local Government Board, one of which is, that no salary shall include remuneration for midwifery cases, fractures, dislocations, etc. "J. P." wishes to know whether a Board of Guardians can ignore the regulations of the Local Government Board, and decline to pay the usual extra fees for special cases.

*** The regulation of the Local Government Board to which our correspondent refers is seriously misleading, as that Board so frequently suspend the operation of the clause in question when application is made by the guardians. If this has been done in our correspondent's union, as is probable, we fear he has no remedy. He is consequently bound by the terms of the contract he has signed.

CO-OPERATION BETWEEN SCHOOL BOARDS AND PUBLIC HEALTH AUTHORITIES.

DR. F. G. HAWORTH, M.B., C.M., D.P.H. (Medical Officer of Health, Darwen), writes: In the BRITISH MEDICAL JOURNAL of December 4th you remark on the co-operation of outside bodies in the notification of infectious diseases. Since my appointment I have made arrangements with the School Board officers, by which they give me a list of children absent through infectious disease, the name of the child, address, nature of illness, whether attended by doctor or not, school attended. My inspectors immediately investigate the cases, and report to me; by this means we come in contact with cases which would otherwise not be reported. These lists are sent to me four times a week, and on special occasions five times; I then issue notices to all the schools in the borough of the existence of infectious cases at the addresses given, with the caution that children from such must not be admitted to the school. By this means we may prevent the children of one school being taken on at another during a period of infection. The School Board officials here are ever courteous and willing to assist in the work of preventing the spread of disease through the schools.

NOTIFICATION OF PAUPER INFECTIOUS CASES.

J. F. L. W. writes to ask whether one shilling is the proper fee for notification of infectious disease in the case of paupers.

*** We believe this is the proper fee for the notification of all pauper cases.

MEDICAL NEWS.

IT is announced that the Government grants made through the Royal Society are now open for application. Such applications for the year 1898, in order to be considered at the annual meeting of the Government Grant Committee, must be forwarded to the Clerk to the Government Grant Committee, Royal Society, Burlington House, London, W., by January 31st, and must be written upon printed forms which can be obtained from the clerk.

The Honorary Secretaries of the Prince of Wales's Hospital Fund for London have received from the Licensed Victuallers' Central Protection Society of London a cheque for £1,500, being the first instalment of the fund inaugurated by the Board of the Society.

University College Hospital.—In view of a statement which has appeared in a contemporary with reference to the recent closure of fifty beds in University College Hospital, we are asked by the Dean of the medical faculty to state that the number of beds in the hospital is 210, and that the closure of 50 beds therefore reduces the number to 160, which is larger than the minimum required by the General Medical Council.

Royal Society of Edinburgh.—At the statutory annual meeting of the Royal Society of Edinburgh, held on November 22nd, the following office-bearers were elected for the ensuing session:—*President:* The Right Hon. Lord Kelvin, F.R.S. *Vice-Presidents:* The Hon. Lord McLaren, F.R.S.; the Rev. Professor Flint; Professor McKendrick, M.D., F.R.S.; Professor Chrystal; Sir Arthur Mitchell, K.C.B.; Sir William Turner, F.R.S. *General Secretary:* Professor P. E. Tait. *Secretaries to Ordinary Meetings:* Professor Crum Brown, F.R.S.; Mr. John Murray, LL.D. *Treasurer:* Mr. Philip R. D. Maclagan, F.F.A. *Curator of Library and Museum:* Mr. Alexander Buchan, M.A., LL.D. *Councillors:* Sir Stair Agnew, K.C.B.; Dr. James Burgess, C.I.E., M.R.A.S.; Mr. John S. Mackay, LL.D.; Professor Copeland, Astronomer Royal for Scotland; Professor D'Arcy W. Thomson; the Rev. Professor Duns; Lieutenant-Colonel Bailey, R.E.; Professor Geikie, LL.D., F.R.S.; Dr. Batty Tuke; Mr. A. Beatson Bell, advocate; Professor Shield Nicholson, M.A., D.Sc.; Dr. John Gibson. *Honorary Representative on George Heriot's Trust:* Mr. John Murray, LL.D.

Dental Hospital of London.—The annual dinner of the past and present students of the Dental Hospital and School of London was held on December 4th at the Hotel Métropôle. Mr. A. S. Underwood presided; he was supported by Professor Watson Cheyne and Dr. John Phillips. There was a large attendance both of students and guests. The toast of the evening, "The Hospital and School," was proposed by Mr. Watson Cheyne. In the course of his remarks, which were enthusiastically received, he spoke of the great advances which had recently been made in the knowledge of scientific dentistry, more especially in the special department of the bacteriology of the teeth. For an institution like the Dental Hospital and School to work properly it was essential that there should be mutual assistance. More so than in the case of similar institutions was the school essential to the hospital, a large part of the work being done by the students. The new hospital in progress in Leicester Square would when completed be one of the finest of its kind in the world. In responding to the toast of "The School," Mr. F. A. Bevan, one of the trustees for the new hospital, said that the many difficulties that had been encountered had at length been overcome, and he hoped to see a start made on the work in the course of a short time. To provide the necessary funds the old students of the hospital had come forward in a very generous spirit.

Ulster Medical Society.—The annual dinner of this society proved, as usual, a very successful and enjoyable gathering. Seventy gentlemen sat down to dinner, the chair being occupied by the President of the Society (Dr. J. A. Lindsay), who had upon his right the President of the Queen's College (Dr. Hamilton), and upon his left Professor Symington, ex-President of the Society. Nearly all the leading members of the profession in Belfast were present, as well as a considerable number of guests. After dinner, the President, in giving the toast of "The Queen," remarked that the medical profession could claim its full share in the progress which had marked the present reign. In support of this statement he quoted the following passage from Mr. Lecky's work, *Democracy and Liberty:* "Among the many addresses that were presented to the Queen in her jubilee year none appeared to me so significant as that which was presented by the sanitary inspectors, summing up what had been done in England during the first fifty years of the reign. They observed that the general health of Her Majesty's subjects had advanced far beyond that of any past state of Europe or of the United States; that the mean duration of life of all the Queen's subjects had been augmented by three and a-half years; that in the last year's population of England and Wales there had been a saving of 84,000 cases of death and 1,700,000 cases of sickness over the average rates of death and sickness at the beginning of the reign." The toast was heartily honoured. The President also gave the toasts of "The Prince and Princess of Wales and the other members of the Royal Family," and "The Lord Lieutenant and Prosperity to Ireland." To the latter Professor Byers replied in a happy manner. Brigade-Surgeon M'Farland proposed the toast of "The Queen's College and Belfast Medical School," and dwelt upon the great progress recently made in Belfast in medical education, especially in connection with the new physiological and pathological laboratories. He paid a high tribute to the present president of the college, the staff of professors, and the clinical teachers of the Royal Hospital. President Hamilton, Dr. O'Neill, and Dr. Lorrain Smith suitably replied. The next toast, "The North of Ireland Branch of the British Medical Association," was proposed by Professor Symington, and responded to by Professor Whitla and Dr. John Campbell. The toast of "Our Guests" was proposed by Dr. Dempsey and responded to by Dr. Wm. Graham, Mr. Adolfe Smith, F.C.S., and District-Inspector Seddell. The toast of "The President of the Ulster Medical Society" was proposed by President Hamilton in his usual felicitous manner, and Dr. Lindsay, in responding, briefly traced the history of the Society, which has existed for more than 100 years, and numbered amongst its past presidents Sir William MacCormac, the present President of the Royal College of Surgeons of England. The health of the Honorary Secretary of the Society, Dr. Colville, having been heartily drunk, the proceedings came to an end shortly before midnight. A string band played selections during the evening, and Dr. McKisack, Dr. Leslie, and Dr. Morrow favoured the company with some excellent songs and recitations. Altogether the dinner was one of the most successful in the history of the Society.

MEDICAL VACANCIES.

The following vacancies are announced:

ABERDEEN: UNIVERSITY OF.—Two additional Examiners: (1) Materia Medica for a period of three years; (2) Medical Jurisprudence and Public Medicine for a period of one year. Applications to Robert Walker, Secretary, by January 4th, 1898.

BATH ROYAL UNITED HOSPITAL.—Resident Medical Officer; must be M.R.C.S., and either L.R.C.P. or L.S.A. Appointment for three years. Salary, £100 per annum, with board, lodging, and washing. Applications to W. Stockwell, Secretary, by December 28th.

BOURNEMOUTH ROYAL VICTORIA HOSPITAL.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Secretary by February 1st, 1898.

BRECKNOCK COUNTY AND BOROUGH INFIRMARY.—Resident House-Surgeon, unmarried, who will also undertake dispensing. Doubly qualified. Salary, £70 per annum, with furnished apartments, board, attendance, fire, and gas. Applications to H. Powell Price, Secretary, 6, Bulwark, Brecon, South Wales, by December 15th.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Resident Assistant House-Surgeon. Board, lodging, and washing provided, but no salary. Applications to be sent under cover to the Secretary by December 14th.

CAMBERWELL PROVIDENT DISPENSARY, Camberwell Green, S.E.—Vacancy on the Medical Staff. Applications to the Secretary by December 15th.

CHORLTON UNION.—Junior Resident Medical Officer at the Workhouse Hospitals, Withington, Manchester. Doubly qualified Salary, £120 per annum, with furnished apartments and attendance (but not rations) in the workhouse. Aappointment for twelve months. Applications endorsed "Junior Resident Medical Officer" to be sent to David S. Bloomfield, Clerk to the Guardians, Chorlton Union Offices, All Saints, Manchester, by December 14th.

DERBYSHIRE ROYAL INFIRMARY.—Resident House-Surgeon and Resident House-Physician, doubly qualified. Appointment for twelve months, with possibility of extension for a further period of twelve months. Salary of House Surgeon, £100 per annum, and of House-Physician £80 per annum, with apartments and board in both cases. Applications, endorsed on the outside "House-Surgeon" or "House-Physician," to Walter G. Carnt, Secretary, by December 18th.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.—Ophthalmic Surgeon. Applications to the Committee of Management by December 17th.

HERTFORD UNION.—Medical Officers for the Second and Third Districts. Salary for the former £29 16s., and for the latter £50. Doubly qualified. Applications. on forms to be obtained at the Clerk's Office, to be sent to T. J. Sworder, Clerk, by December 22nd.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Resident House-Physicians. Applications to William H. Theobald, Secretary, by December 29th.

KING'S COLLEGE, LONDON.—Professorship of Hygiene. Applications to the Secretary.

MANCHESTER: CORPORATION OF, MONSALL FEVER HOSPITAL.—Third Assistant Medical Officer. Appointment for one year, and then renewable. Salary, £100 per annum, with board and lodging. Applications endorsed "Appointment of Third Medical Assistant" to be sent to the Chairman of the Sanitary Committee, Public Health Office, Town Hall, Manchester, by December 17th.

MORPETH: NORTHUMBERLAND COUNTY ASYLUM.—Clinical Assistant. Board and residence provided. Applications to Dr. McDowall, Northumberland County Asylum, Morpeth.

NORWICH: HEIGHAM HALL ASYLUM.—Assistant Medical Officer. Applications to the Medical Superintendent.

ROYAL COLLEGE OF PHYSICIANS.—Milroy Lecturer for 1899. Applications to the Registrar, Royal College of Physicians, Pall Mall East, by January 10th.

SHANGHAI.—Medical Officer of Health; doubly qualified and hold a Diploma of Public Health. From 25 to 30 years of age. Salary, Taels 4,500 (about £630) a year. Appointment in the first instance for three years. Unfurnished quarters, consisting of bed room, bath room, and sitting room. Means of conveyance provided. First class passage to Shanghai provided by the Municipal Council, and if the officer returns at the end of three years the homeward passage will also be paid. Applications to G. Sims Woodhead, M.D., Examination Hall, Victoria Embankment, London, W.C. (who will supply further particulars), by January 1st, 1898.

SHOREDITCH: PARISH OF ST. LEONARD.—Second Assistant Medical Officer for the Infirmary, Hoxton Street, N. Appointment for six months, renewable by mutual agreement for a second similar period. Salary at the rate of £60 per annum, with rations, washing, and furnished apartments in the Infirmary. Applications on forms to be obtained at the Clerk's Office, to be sent to Robert Clay, Clerk to the Guardians, Clerk's Office, 213, Kingsland Road, N.E., by December 13th.

STROUD GENERAL HOSPITAL.—House Surgeon, doubly qualified, Salary, £80 per annum, with board, lodging, and washing. Applications to W. J. Naley Marling, The Hospital, Stroud, by December 14th.

TAUNTON AND SOMERSET HOSPITAL.—Qualified Assistant House-Surgeon. Appointment for six months without salary, but with board, washing and lodging in the institution. Applications, endorsed "Assistant House-Surgeon," to J. H. Biddulph Pinchard, Secretary, 13, Hammet Street, Taunton, by December 22nd.

UNIVERSITY COLLEGE, LONDON.—Surgical Registrar. Applications to J. M Horsburgh, M.A., Secretary, by December 14th.

WALLINGFORD UNION.—Medical Officers for the Aston District, for the Cholsey District. Salary for the former £65 per annum, and for the latter £25 per annum. Will also be appointed Public Vaccinators for the respective districts. Applications to George F. Slade, Clerk, by December 13th.

WALTHAMSTOW URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £120 per annum. Applications, endorsed "Medical Officer," to E. J. Gowen, Clerk to the Council, Town Hall, Walthamstow, by January 11th, 1898.

WESTMINSTER GENERAL DISPENSARY, 9, Gerrard Street, Soho, W.—Resident Medical Officer. Appointment an annual one. Applications to Joseph M. Madge, Secretary, by December 13th.

MEDICAL APPOINTMENTS.

ALFORD, H. T. M., L.R.C.P., M.R.C.S., appointed a Clinical Assistant in the Special Department for Diseases of the Ear at St. Thomas's Hospital.

ANNINGSON, Bushell, B.A.Cantab., M.D., reappointed Medical Officer of Health to the Chesterton Urban District Council.

BABINGTON, S. N., L.R.C.P., M.R.C.S., appointed a House-Surgeon to St. Thomas's Hospital (extension).

BOSANQUET, Dr. William C., appointed Assistant Physician to the Victoria Hospital, Chelsea.

BROWN, John, M.D.Vict., D.P.H., reappointed Medical Officer of Health for the borough of Bacup, and Physician to the Southall Fever Hospital.

BROWN, J. J. Graham, M.D., F.R.C.P.E., F.R.S.E., appointed an Assistant Physician to the Edinburgh Royal Infirmary, *vice* Ralph Stockman, M.D., resigned.

CARR, J. Walter, M.D.Lond., M.B., B.S., appointed Physician to the Victoria Hospital, Chelsea, *vice* F. G. Dawtrey Drewitt, M.D., resigned.

CHATTERTON, Harold, M.R.C.S., L.R.C.P., appointed Assistant Medical Superintendent to the St. Pancras Union Infirmary, Highgate, *vice* E. Thomas, resigned.

COBB, E. H., L.R.C.P., M.R.C.S., appointed a Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital (extension).

COWBURN, A. D., L.R.C.P., M.R.C.S., appointed a Clinical Assistant in the Special Department for Diseases of the Throat at St. Thomas's Hospital.

DAVIES, J. E. H., M.R.C.S., L.R.C.P., appointed Medical Officer for the No. 6 District of the Wrexham Union.

DEANE, S. R., L.R.C.S.Irel., L.A.H.Dub., appointed Medical Officer to the Children's Homes of the Lincoln Union.

DICKSON, Graeme, F.R.C.P.E., L.R.C.S.E., L.F.P.S.G., appointed Medical Officer of Health to the town of Hay, and Medical Officer for the Radnorshire District of the Hay Union, *vice* Dr. R. J. Sheperd, resigned.

GIBBON, A. H., L.R.C.P.Edin., L.R.C.S.Edin., appointed Clinical Assistant in the Electrical Department at St. Thomas's Hospital.

GILBERT, L., L.R.C.P., M.R.C.S., appointed a House-Surgeon to St. Thomas's Hospital (extension).

GLASSON, C. J., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer of Health to the Ellesmere Urban and Rural District Councils.

GOODE, H. N., L.R.C.P., M.R.C.S., appointed a House-Physician to St. Thomas's Hospital (extension).

GRIFFITH, William V., L.R.C.S., L.R.C.P., appointed Medical Officer for the No. 2 District of the Wrexham Union.

HALL, J. S., L.R.C.P., M.R.C.S., appointed an Assistant House-Surgeon to St. Thomas's Hospital (extension).

HARCOURT, J. C., M.R.C.S., L.R.C.P., appointed Assistant Medical Officer to the Infirmary of the Lambeth Union.

HART, F. J. Lorimer, M.B., C.M.Edin., appointed Divisional Surgeon to the Metropolitan Police, *vice* W. Erskine, M.D., deceased.

HASLAM, H. C., M.A., M.B., B.C.Camb., L.R.C.P., M.R.C.S., appointed a House-Physician to St. Thomas's Hospital.

HEWITT, H. E., L.R.C.P., M.R.C.S., appointed a House-Physician to St. Thomas's Hospital.

HINDLEY, G. D., B.A.Oxon., L.R.C.P., M.R.C.S., appointed Senior Obstetric House-Physician to St. Thomas's Hospital.

HODGES, G. W. C., M.R.C.S.Eng., L.R.C.P.Lond., appointed Medical Officer for the Second District of the Bridgnorth Union.

JONES, Dr. J. H., appointed Medical Officer for the First District of the Launceston Union, *vice* A. M. Hawkes, resigned.

JONES, Thomas Ridge, M.D.Aberd., M.B., M.R.C.S., appointed Consulting Physician to the Victoria Hospital, Chelsea.

JOHNS, J. F., M.D.Durh., D.P.H., R.C.P.S.Eng., appointed Medical Officer of Health to the Cheltenham Rural District Council.

JOHNSTONE, J. L., M.R.C.S., L.R.C.P., appointed Medical Officer of Health to the Upholland Urban District Council.

LAKE, Richard, F.R.C.S., appointed Assistant Surgeon to the Royal Ear Hospital, Soho.

LATHAM, Arthur C., B.A.Oxon., M.B. B.Ch., appointed Assistant Physician to the Victoria Hospital, Chelsea.

MCCLEAN, J. F., L.R.C.P., M.R.C.S., appointed an Assistant House-Surgeon to St. Thomas's Hospital (extension).

MCDOUGALL, W., M.A., M.B., B.C.Camb., appointed a House-Physician to St. Thomas's Hospital (extension).

MCKIE, G. M., M.R.C.S., L.R.C.P., appointed Junior House-Surgeon to the Seamen's Branch Hospital, Albert Dock, E.

M'KIE, John, M.B., C.M., appointed Medical Officer for the Springburn District of the Barony Parish.

MARRIAGE, H. J., L.R.C.P., M.R.C.S., appointed an Assistant House-Surgeon to St. Thomas's Hospital (extension).

MARTIN, F. R., B.A.Camb., L.R.C.P., M.R.C.S., appointed a Clinical Assistant in the Special Department for Diseases of the Ear at St. Thomas's Hospital.

MEADE-KING, R. Liddon, M.D.Durh., appointed an Honorary Physician to the Taunton and Somerset Hospital.

MIRZA, Ahmed, M.B., B.Sc.Edin., F.R.I.P.H., appointed Medical Officer of Health to Chaderghat Municipality, in addition to the Medical Officership to the City of Hyderabad Municipality.

MOSS, Mr. D. E., appointed Medical Officer of the Workhouse of the Wrexham Union.

MURRAY, H. Montague, M.D., F.R.C.P.Lond., appointed Physician to the Victoria Hospital, Chelsea, *vice* Ridge Jones, M.D.Aberd.

MUSSEN, A. A., M.D.Dubl., appointed House-Physician to the Hospital for Women, Soho Square, W.

OSBORNE, O., L.R.C.P.Lond., M.R.C.S.Eng., appointed Medical Officer of Health to the Bexhill Urban District Council.

PALMER, Charles J., L.S.A.Lond., appointed Medical Officer for No. 2 District of the Mansfield Union, *vice* Dr. Webb, resigned, and one of the Visiting Surgeons to the Mansfield and Mansfield Woodhouse District Hospital and Convalescent Home.

PATERSON, W. H. J., L.R.C.P., M.R.C.S., appointed a House-Surgeon to St. Thomas's Hospital (extension).

PRIOR, J. R., M.B.Durh., M.R.C.S., appointed Surgeon to the Seamen's Hospital Society's Dispensary, East India Dock Road, E.

RICHARDS, Dr., appointed Medical Officer and Public Vaccinator of the Swinhope District of the Caistor Union.

SANGUINETTI, H. H., B.A., M.B., B.Ch.Oxon., L.R.C.P., M.R.C.S., appointed an Assistant House-Surgeon to St. Thomas's Hospital (extension).

SHAW, Robert, W. M., M.B. & C.M.Edin., reappointed Medical Officer of Health to the Stockbridge Urban District Council.

STAINER, E., M.A., M.B., B.Ch.Oxon., appointed a Clinical Assistant in the Special Department for Diseases of the Skin at St. Thomas's Hospital (extension).

TATTERSALL, C. H., L.R.C.P.Lond., M.R.C.S.Eng., appointed Medical Officer of Health for Salford, *vice* Charles E. Paget, M.R.C.S.Eng., D.P.H.Eng.

TUKE, A. W., L.R.C.P., M.R.C.S., appointed a House-Surgeon to St. Thomas's Hospital (extension).

TURNER, S. D., L.R.C.P., M.R.C.S., appointed Junior Obstetric House-Physician to St. Thomas's Hospital.

WALKER, J. N., L.R.C.P., M.R.C.S., appointed a Clinical Assistant in the Special Department for Diseases of the Throat at St. Thomas's Hospital.

WESTCOTT, Warren Guy, M.R.C.S.Eng., L.R.C.P.Lond., appointed House Surgeon to the West Sussex, East Hants, and Chichester Infirmary.

YEARSLEY, P. Macleod, F.R.C.S., appointed Assistant Surgeon to the Royal Ear Hospital, Soho.

DIARY FOR NEXT WEEK.

MONDAY.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, Cavendish Square, W., 8.30 P.M.—Mr. Alban Doran: A case of Pancreatic Cyst treated by Incision and Drainage; with comments. Dr. H. D. Rolleston and Mr. G. R. Turner: A case of Peri-pancreatic Cyst. Mr. J. D. Malcolm: A case of complete removal of a Multilocular Cyst of the Pancreas; recovery.

TUESDAY.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY, 20, Hanover Square, W., 8.30 P.M.—Adjourned Discussion on the Prevention of Enteric Fever. Speakers: Dr. J. F. Payne, Surgeon-General Jamison, Professor Kanthack, Dr. A. Macfadyen, Dr. Sims Woodhead, Dr. Edward Seaton, Dr. F. W. Andrewes, Professor Corfield, Dr. Washbourn, Dr. Tivy, Dr. Newsholme, Dr. Seymour Taylor, Dr. Little, Mr. Bokenham, and others.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Dr. Colman: Clinical Lecture.

HOSPITAL FOR NERVOUS DISEASES, 73, Welbeck Street, 4.30 P.M.—Dr. Harry Campbell: On Disorders of the Nervous System, characterised by Rigidity and Tonic Spasm.

WEDNESDAY.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W., 4 P.M.—Dr. Maguire: Abnormal Breathing.

NORTH-WEST LONDON CLINICAL SOCIETY, North-West London Hospital, Kentish Town Road, 8.30 P.M.—Cases will be shown by Drs. Harry Campbell and Boulting, Mr. Jackson Clarke, and others.

WEST LONDON POST-GRADUATE COURSE, West London Hospital, W., 5 P.M.—Mr. L. A. Bidwell: The Surgery of the Liver.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover Square, W., 8 P.M.

ROYAL METEOROLOGICAL SOCIETY, 25, Great George Street, Westminster, S.W., 7.30 P.M.

THURSDAY.

HARVEIAN SOCIETY OF LONDON, Stafford Rooms, Tichborne Street Edgware Road, W., 8 30 P.M.—Mr. Juler: Third Harveian Lecture: The Syphilitic Diseases of the Eye and its Appendages.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C., 4 P.M.—Dr. Barlow: Clinical Lecture or Demonstration of Recent Specimens.

FRIDAY.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Mr. Victor Horsley, F.R.S.: Surgery of the Nervous System.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office order or stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

FRASER.—On December 6th, at Epworth St. Edwards, Southsea, the wife of A. Mearns Fraser, M.B., of a daughter.

PROWSE.—At 5, Lansdown Place, Clifton, Bristol, on December 4th, the wife of Arthur B. Prowse, M.D.Lond., F.R.C.S.Eng. of a daughter.

RAYNER.—On the 1st inst., at Harcourt House, Camberley, the wife of Herbert E. Rayner, F.R.C.S.Eng., of a son.

MARRIAGES.

EVANS—DICKINSON.—On Saturday, November 20th, at St. Thomas's Cathedral, Bombay, by the Rev. F. N. Hill, Samuel (Colin) Evans, of the Indian Medical Service (Bombay), to Gertrude (Daisy) Dickinson, eldest daughter of Mrs. Dickinson, of Stoke Prior, near Bromsgrove.

NEWBIGGING—MARWICK.—At West St. Giles's Parish Church, Edinburgh, on the 8th inst., by the Rev. Alexander Williamson, D.D., assisted by the Rev. John Masterton, Ardrossan, Thomas Duncan Newbigging, M.B., C.M., Seamill, West Kilbride, Ayrshire, to Maggie Somerville, eldest daughter of T. P. Marwick, Esq., architect, 43, Lauder Road, Edinburgh.

WAKEFIELD—CHADWICK.—On November 25th, at Christ Church, New Malden, by the Rev. W. Allan Challacombe, M.A., Christopher Frank Wakefield, M.R.C.S.Eng., L.R.C.P.Lond., of Lincoln Lodge, Horley, to Sophia, eldest daughter of the late James Chadwick, Esq., of York.

WHITE—DAVIES-COLLEY.—On December 1st, 1897, at Julea Mission Church, Ispahán, Persia, by the Right Rev. Bishop Stuart, D.D., Henry White, M.R.C.S.Eng., M.R.C.P.Lond., to Eleanor Constance, daughter of the late T. Davies-Colley, M.D., of Newton, Chester.

DEATHS.

CROOK.—On November 30th, at Prince of Wales Road, Norwich, Kathleen, wife of Arthur Crook, M.R.C.S., L.R.C.P., aged 32. R.I.P.

WYMAN.—On the 21st ult., Cuthbert Wyman, M.A., M.D., B.C.Cantab., F.R.C.S.Eng., L.R.C.P.Lond., second son of Dr. Wyman, of 18, Putney Hill, S.W.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations*.—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances*.—Daily, 1. *Operations*.—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances*.—M. W. Th. S., 2; Tu. F., 5. *Operations*.—Daily.

CHARING CROSS. *Attendances*.—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations*.—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances*.—Daily, 1.30. *Operations*.—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances*.—M. Tu. Th. F., 2. *Operations*.—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations*.—F., 2.

GREAT NORTHERN CENTRAL. *Attendances*.—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations*.—M. W. Th. F.

GUY'S. *Attendances*.—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations*.—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances*.—Daily, 10. *Operations*.—M. Th., 2.

KING'S COLLEGE. *Attendances*.—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations*.—M. F. S., 2.

LONDON. *Attendances*.—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, W., 9; Skin, Th., 9; Dental, Tu., 9. *Operations*.—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances*.—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations*.—M. Th., 4.30.

METROPOLITAN. *Attendances*.—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations*.—F., 9.

MIDDLESEX. *Attendances*.—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations*.—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances*.—M. Tu. Th. F., 2. *Operations*.—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances*.—Daily, 2; Ophthalmic, W. S., 9.30 *Operations*.—Tu. F., 9.

NORTH-WEST LONDON. *Attendances*.—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations*.—Th., 2.30.

ROYAL EYE, Southwark. *Attendances*.—Daily, 2. *Operations*.—Daily.

ROYAL FREE. *Attendances*.—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations*.—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances*.—Daily, 9. *Operations*.—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances*.—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances*.—Daily, 1. *Operations*.—Daily.

ST. BARTHOLOMEW'S. *Attendances*.—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations*.—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances*.—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations*.—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances*.—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations*.—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances*.—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations*.—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances*.—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations*.—W. F., 2.

ST. THOMAS'S. *Attendances*.—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30 Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations*.—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances*.—Daily, 1.30. *Operations*.—Gynæcological, M., 2; W., 2.30.

THROAT, Golden Square. *Attendances*.—Daily, 1.30; Tu. F., 6.30. *Operations*.—Th., 2.

UNIVERSITY COLLEGE. *Attendances*.—Medical and Surgical, daily, 1.30; Obstetrics, M. F., 1.30; Eye, M. W., 1.30; Ear, M. Th., 9; Skin, Tu., 1.30, F., 2; Throat, M. Th., 9; Dental, Tu. F., 9.30. *Operations*.—Tu. W. Th., 2.

WEST LONDON. *Attendances*.—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations*.—Tu. F., 2.30.

WESTMINSTER. *Attendances*.—Medical and Surgical, daily, 1; Obstetric, Tu., F., 1; Eye, Tu. F., 9.30; Ear, M. Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations*.—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies*.

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London*. The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London*.

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are directed will be found under their respective headings.*

QUERIES.

VERAX desires to hear of a home for a girl aged 19, healthy and partly educated; partly imbecile for some twelve years past, and who has now developed nymphomania. The parents can pay 10s. or 12s. a week.

*** The only institutions are the registered hospitals. Barnwood House, Gloucester, might take the patient. Application should be made to the Secretary.

PUBLIC HEALTH IN RUSSIA.

DR. ANDREW DAVIDSON (Edinburgh) writes: Dr. Young, Secretary to the Maine State Board of Health, wishes to know if there is any periodical giving an account of public health work in Russia, published in Russian, or preferably in French or German. Perhaps some of your readers could answer this question.

DRUG STORE CIRCULARS.

A CORRESPONDENT in Cape Town calls our attention to a circular of a chemist's store. The circular contains a list of the names and addresses of medical men who are in connection with the telephone system with which the store also is in connection.

*** In the BRITISH MEDICAL JOURNAL of June 17th, 1893, p. 1296, we stated that the system of having telephonic arrangements with chemists was open to objection, inasmuch as it was very liable to abuse by chemists, who, no doubt for their own purposes, advertised the fact by cards, circulars, or in the press.

THE F.R.C.S.EDIN.

PROVINCIAL wishes for some information respecting the diploma of Fellowship of the Royal College of Surgeons of Edinburgh:

1. The best books to read.
2. The character of the examination on the special subjects.
3. Whether copies of the papers set at previous examinations can be procured.

*** 1. The standard works in surgery, surgical pathology, surgical anatomy, etc. If "Provincial" desires more precise advice, he must name his special subjects.

2. The examination in the special subjects is very searching and up to date.

3. Copies of previous papers will be found in the *Calendar* of the Royal Colleges, compiled by Mr. Andrew McDougall, 1, George Square, post free, 2s.; and in the Medical School *Calendar*, E. and S. Livingstone, 15, Teviot Place, Edinburgh, post free, 2s. 3d.

MODERN OPERATING THEATRES.

JUNIOR SURGEON asks for references to information concerning the erection, structural details, fittings, and furnishing of a modern operating theatre.

*** There has been a considerable advance in recent years in regard to the fitting up of operating theatres, and probably the best plan would be to study modern examples, among which may be mentioned the theatres recently erected at the Leeds Infirmary, the Birmingham General Hospital, the Middlesex Hospital, and St. Bartholomew's Hospital. The following are points worth bearing in mind: The floor, walls, and ceiling should be of hard material, so that they can all be washed down. Plaster, painted and varnished, does well for the walls and ceilings, and marble mosaic for the floor. No instrument cupboard should be placed within the theatre, which should be capable of being washed throughout. The sinks and basins should stand on brackets, not pedestals, and should all stand naked, without any woodwork, and separated by a clear inch from the wall. All water, steam, and gas pipes should enter through the walls, and not through the floor, so that the latter may present an unbroken surface which can easily be cleaned. All the taps to the sinks and basins should be worked by the foot, so that the hands may not be soiled by touching a dirty tap; they should also have laid on to them a hot and cold supply of sterilised water. The wastes should not discharge by pipes, but should pour into an open gutter running a few inches from the wall, along the side of the theatre against which the basins stand, and the floor should slope gently towards this open gutter, the one drain of the room, which should discharge through a trap open to the air. The gallery for students or other spectators should be a scaffolding of steel uprights and oak or teak boards, perfectly open. The window should be large, so as to admit plenty of light. It is a moot point whether there should be a light absolutely overhead, but, if not, the upper part of the window should slope considerably inwards, so that a fairly vertical light shall fall on the operating table. If the window does not face due north, it and the upper light should be provided with blinds of the venetian type, and these should be outside the windows, so that no dust may be produced by their being drawn. It is well to have a small steriliser for instruments within the theatre, but the large steriliser for coats, dressings, etc., had better be outside. If hot water is used for heating purposes the pipes should be naked The surgeon's dressing room should provide every convenience for making a complete change of clothing, and should be furnished with a bath.

ANSWERS.

GRADUATE.—The question of holding an agency to an assurance company has been raised on several occasions, and the opinion has been expressed that it is not unprofessional to do so.

THE SALE OF POISONS.

W.—The sale of articles included in the poison schedule of the Pharmacy Act is regulated by the provisions of that Act, and there is no legal restriction as to the quantity in which they may be supplied, but pharmaceutical chemists would naturally exercise discretion in supplying poisons as circumstances might require. Neither the General Medical Council nor the Society of Apothecaries has any jurisdiction.

INTUSSUSCEPTION OF THE VERMIFORM APPENDIX.

MR. G. A. WRIGHT and MR. KNOWLES RENSHAW (Manchester) write: In the BRITISH MEDICAL JOURNAL, vol. i, 1897, p. 1470, is a short account of a case of intussusception of the vermiform appendix by us, with mention of a mode of reduction by incision of the cæcum and pressure from within. In the corresponding number of the *Lancet* another case was recorded by Mr. Pitts, and later in the year a paper was read by Dr. McGraw, of Michigan, on the subject. Our attention has been further drawn to the matter by a discussion on a similar case at the Clinical Society's last meeting, and, by the kindness of Mr. D'Arcy Power, a copy of *Treatment* for November 25th has been sent us, in which is a record of this case by Dr. Harrison and Mr. Waterhouse. In this paper the writers refer to three other previously-recorded cases by Dr. McKidd, Dr. Chaffey, and Mr. Greig Smith. This appears to be the whole of the literature of the subject; but, if any of your readers have met with similar cases, it will be of interest, we think, to others as well as to ourselves that they should be recorded. The mode of reduction adopted in our own patient might, we think, possibly be of service for other cases of intussusception before proceeding to resection by Mr. Barker's method.

MOTOR CARS.

GEEGEES writes: I have had some experience of the motor cab. Only a few days ago I went a distance of 20 miles, and I think the crowded streets and the up-hill and down-dale character of the journey entitle me to express an opinion on the subject. The motor cab is a heavy inelastic conveyance. After the light springy feel of one's own brougham it feels more like a wagon. I fancy this must always be so, owing to the great weight of the necessary machinery. The internal electric lighting is excellent, and both reading and writing can be indulged in with comfort—on level ground. The cab is quite sufficiently under control, and is fast enough in the streets. I had, I think, a very good driver, and it struck me that on the level the pace was excellent, and that by some internal arrangement of seat the feeling of a locomotive off the line might be got rid of.

Ascending an incline the pace is slow, and it is nearly impossible to stand still on a hill; the cab runs backward at once. Descending a steep decline I should say is positively dangerous—with a bad or tipsy driver fatal. The brake in my case had little control. When it was applied the wheels were converted into catherine wheels, and during a descent, when the driver took off the brake he appeared to be unable to put it on again, and we descended a long and steep hill in a manner which reminded me of tobogganing in Switzerland without the exhilaration. On a long and rapid journey the bearings are apt to get heated, and squeaking result.

It certainly is a great advantage to be able to go ten miles an hour for an indefinite time and without the fear of knocking up your horses or having them catch cold while waiting.

NOTES, LETTERS, Etc.

ERRATUM.—In the editorial article on the Milk Supply of Towns, published in the BRITISH MEDICAL JOURNAL of December 4th, p. 1669, reference was made to Section IV of the Public Health Amendment Act, 1890; it should have been Section IV, Infectious Diseases (Prevention) Act, 1890.

HOSPITAL RESIDENTS—MALE AND FEMALE.

PUDOR writes: I was recently elected as a resident medical officer to an infirmary in England. Immediately after the election I learned, on inquiry, that I should be expected to share a sitting room with a lady doctor, who is one of the three residents to the institution. As this was practically the only sitting room accommodation which the committee could provide—the alternative being the Board room, which serves also for a secretary's office—I felt bound, on principle, to resign the post.

I should like to know whether such an arrangement as the above exists in any other English hospital, and, if not, whether it appeals to your readers as being one likely to become popular.

As far as I know the experiment has never been given a trial in the infirmary in question, and, as the post is still vacant, it remains for someone else to establish in hospital life a custom which is presumably new, and one which surely is a little "before the times."

*** We have communicated the substance of our correspondent's letter to a leading member of the Association of Registered Medical Women, and we are indebted to this lady for the following observations: "There can be no doubt that it is more agreeable and convenient to all concerned that in hospitals where women residents are appointed a separate sitting room should be provided for their use. I believe this has always been done in hospitals of the Metropolitan Asylums Board and the County Council, where women have acted as residents for some years."

SUSSEX SUNSHINE.

MR. CHARLES ROBERTS, F.R.C.S. (Eastbourne), writes: At my suggestion, our meteorologist has drawn up the enclosed statement of the "bright sunshine" registered at the three principal South Coast stations during the past autumn, which has been an unusually dull one in London:

"Inasmuch as the amount of bright sunshine registered daily at Eastbourne, Brighton, and Hastings appears daily in the London journals, and at times these daily values vary considerably, and even the weekly values reveal considerable difference, yet if we take a period extending over ten weeks it is somewhat marvellous to note the exceedingly close agreement. This may be seen from the official publications of the Meteorological Office for the ten weeks ending on Saturday last, from which we find the sunshine values for these three important South Coast towns were as follows:

Hastings...	275.5 hours.
Eastbourne	273.3 hours.
Brighton	272.4 hours.

It is, of course, simply impossible for the individual to distinguish any difference.

"R. Sheward, F.R. Met. Soc., Borough Meteorologist."

"Eastbourne, Dec. 4th.

The return shows how little ground there is for rivalry between the three towns on the point of autumnal weather, and ought to dispel some popular errors on the subject. There is, of course, a good deal of sunshine at all these places which is not sufficiently "bright" to record itself on the Stokes-Campbell instrument, but which adds very materially to the warmth and cheerfulness of our surroundings. Eastbourne is a little more insular than Brighton or Hastings, as it stands on a promontory, and is projected about six miles further into the Channel, and possibly benefits slightly from the higher sea temperature, and its exposure to the prevailing westerly winds, which reach it directly from the ocean, Beachy Head only intervening. Possibly this may compensate for the shelter which Hastings enjoys from the high ground on the east of the town. But high hills cut off winter sunshine, and we cannot have both privileges at the same time.

Food Poisoning

R. J. H. Croudace (Stafford) writes: Mrs. S., aged 40, and her two children, aged respectively 6 and 2, were taken suddenly ill on December 6th at tea time. Mrs. S. told me that she bought a bloater for tea; her son, aged 20, ate the fish, but she and the two children ate the roe. About half an hour after eating it she began to feel swollen and itchy about the face; that was followed by little lumps coming out, which were reddish and very irritable; then she had pains in the chest and stomach, followed by vomiting, which was most violent. The two children were faint and sick off and on for about two hours, especially the elder one. The mother all the time was pale in the face, and had a drawn look. She told me that she felt as though she were going to die; that there was great oppression at the chest, and that at times her heart felt as though it would jump out of her chest. The pulse was quick and feeble. I remained with her for an hour, and administered stimulants, from which she felt some relief. She assured me on the following morning she dared not go to sleep, because as soon as she lay down she felt she would pass away. She still has the oppression at the chest; but not so sick, and there is not so much pain at stomach. There was no diarrhœa at commencement, or during the night. She informs me that the piece she partook of was about the size of a hazel nut, and the children partook of the same quantity. The son who ate the fish had no symptoms whatever.

Bucklebury Diamond Jubilee Nursing Association.

A prospectus of this Association has been received. It would seem to have been instituted for the purpose of supplying a nurse to the poor in sickness, and a trained midwife in their confinements, the same officer acting in either capacity.

The medical profession has always lent a helping hand to every well-considered scheme for benefiting the sick poor; but praiseworthy as this may be generally, it is not altogether free from danger, unless care be taken that this help is not abused, and turned to the injury both of the profession and the public. For instance Rule 4, speaking of a case of sickness, it is to be presumed, says: "When a medical man is in attendance the nurse should work under him, and shall apply to him, etc." The chief nursing associations throughout the country do not allow their nurses to attend any patients, unless under the direction of a legally qualified practitioner, and no medical man could countenance an association which did not insist on the same precaution.

Objections might also be taken to Rule 5, for under no circumstances would the same nurse attend to cases of ordinary sickness, infectious diseases, and confinements.

Rule 16 says: "The nurse should arrange to be in her rooms from 9 to 10 every morning *to see patients*." The italics are our own. The object of this rule is not clear. If it is intended to meet contingencies arising when the patient is not under the care of any medical practitioner, it cannot be too strongly condemned.

Importation of Rinderpest into England.

A correspondent, writing from Cape Colony, informs us that a large consignment of hides taken from animals that have been suffering from rinderpest is now on its way to an English port. Before leaving the colony these hides are submitted to a process of disinfection, it is true, but in view of the lamentable absence of knowledge as to the character of the rinderpest germ, we cannot but feel anxious as to the effect that may follow the importation of infected skins into this country. In any case we trust that the various port sanitary authorities of this country are on their guard, and that they will receive information in advance of the arrival of the hides, so that due preparation may be made for their reception and safe transit. Our correspondent remarks: "The interest of this Colony is to find a market for the hides at home, and not to protect stock from the plague." The position may thus become a very serious one. The disinfection of hides is by no means an easy matter. They are bulky objects to handle in mass, and they are of a nature to conceal infection. Steam cannot be used for sterilising, as it converts the hides into glue, and most of the antiseptics in common use spoil the hides for the subsequent process of tanning.

*** We may observe that some time ago the President of the Board of Agriculture, Mr. Walter Long, in reply to a question in the House of Commons, said: It has not hitherto been found necessary to impose any special regulations with reference to hides imported from countries affected with cattle plague; and in the case of Africa I am advised that, owing to the treatment to which the hides are subjected, the length of time which must necessarily elapse betweed their removal from the animal and their arrival in this country, and the fact that when landed they are not brought into contact with living animals or handled by persons likely to come into such contact, there is practically no risk attached to their importation. The subject is one, however, which naturally causes anxiety, and the hon. member may rely upon my taking immediate action should any necessity arise. Mr. Field then asked the right hon. gentleman whether it would be practicable to prevent the importation into this country of hides from these affected areas. Mr. Long said it would be practicable, but he did not think it would be necessary.

Antikamnia.

Dr. James Cameron (Edinburgh) writes, with reference to a preparation sold under the name of antikamnia, to point out that in Helbing's *Modern Materia Medica* (1891), published by the *British and Colonial Druggist* (21, New Bridge Street, E.C.), antikamnia is stated to be "a mixture of bodies of different crystalline form, determined by analysis to be sodium bicarbonate, acetanilide, and caffeine" in the proportions of 22.2, 67.4, and 9.8 parts per cent. respectively. In a notice of this preparation published in the British Medical Journal of February 1st, 1896, it was stated that an analysis of the sample submitted to us showed it to consist chiefly of antifebrin (acetanilide), together with about 20 per cent. of alkaline carbonate, and that it ought not to be used by persons unacquainted with its properties and the probable effects it may produce; that is to say, it should only be used under medical prescription.

Depressing Effects of Sodium Salicylate.

Dr. Thomas S. Allan (Falkirk, N.B.) writes: In the British Medical Journal of November 20th Dr. Richardson Rice records a case of depressing effect of sodium salicylate. I have used this drug very extensively for the last eight years, and have on one or two occasions seen precisely the same effects produced, due to the fact that an inferior quality had been dispensed by the chemist. If Dr. Rice will invariably give or order "sodium salicylate, physiologically pure (Schering, Berlin)," he will not again have to record a similar result. I can assure him that 20-grain doses of the pure drug can easily be borne, where 10 grains of the commercial salt will depress the heart and cause nausea. Let me also suggest that Dr. Rice, in similar cases to the one he describes, will find it an advantage to give his patient a few doses of an iodide, preferably mercury biniodide, before beginning the sodium salicylate. For further information on the subject, I refer him to Dr. Haig's book, *Uric Acid as a Factor in the Causation of Disease*.

Dr. R. Lynn Heard (Monkstown, co. Dublin) writes: It is well known that the synthetic salicylate drug usually dispensed is more liable to be followed by unpleasant effects than that got from natural sources, so I usually add liquor strychninæ hydrochloratis, 1 to 1¼ minim to each 10 or 15 grains of the salicylate, and find the depressing effects greatly lessened and the drug better borne, especially by weakly patients.

The Proceedings of the International Congress of Dermatology, 1896

A Member of the Congress writes: In your review of the *Transactions* of the late International Leprosy Conference in Berlin you justly remark on "the praiseworthy promptitude" which contrasts so favourably with the extraordinary dilatoriness of the officers of some international congresses in bringing out their reports. A glaring case is that of the Dermatological Congress, which met last year in London, some sixteen months ago, and of which the *Transactions* have not yet seen the light. What reasons there may be for this unconscionable delay I do not know.

The Necropsy of Byron.

A file has recently been discovered of the *Telegrafo Greco*, published at Missolonghi during the years 1824-5. Among other extremely interesting matter concerning the contemporary history of Byron, it contains a report *in extenso* of the *post-mortem* examination of the body, published a fortnight after his death. The examination, says *Literature*, seems to have been exceedingly thorough, particularly as regards the brain, "which, without its wrappings, weighed six medical pounds." The skull was found to be "exceptionally hard, devoid of frontal bosses, and without apparent fissures"; the lungs "perfect, but large, almost gigantic"; the heart "larger than usual, but of deteriorated muscular fibre"; the liver much smaller than usual. The result of the necropsy was to convince the doctors that Byron's life might have been saved had he allowed himself to be bled, as they repeatedly suggested.

Latah.

Mrs. J. Campbell Graham (Bindjez, Deli, Sumatra) writes: Having been much interested in the accounts of the cases of latah which have appeared in the British Medical Journal, may I be allowed to offer the following case of a woman who formerly worked as *ayah* with me in Netherlands, India? She was a Penang Malay married to an Arab, and had two children, aged 16 and 14. I had heard that she was "latah," but for some time saw no evidence of it. One evening after dinner a few friends who were spending the evening with us got up a little dance in the verandah, and in the midst of a waltz the *ayah* glided from one of the bedroom doors which opened on to the verandah, and through which she must have been watching, and commenced a fairly good imitation of the dance, revolving several times before, struck with astonishment, I touched her and led her away. The next attack, which happened some months later, might have had more serious results. My husband—who has practised as a medical man for many years in

Netherlands India—was passing quickly through the dining room where afternoon tea was laid. In joke he seized a knife from the table and stuck it with some force into a cake, left it there, and went out. The *ayah* at the time having a young child in her arms rushed forward, pulled out the knife, and began to stab in the air with it. I went up to her and took the knife, which she gave up without the least resistance. On neither occasion did I remonstrate with her, as I had always understood it was best to take as little notice as possible of these attacks of latah. Some time after on returning home I found she had quarrelled with her husband, and as she had cut him badly about the head with a knife I thought it better to get rid of them both. She was a most intelligent woman, and very handsome. I heard she had Bengali blood in her. Both these attacks were spontaneous, no suggestion being offered.

DEATH IN A COAL TAR STILL.

RECENTLY a man who had been working in a tar still in Dublin died under peculiar circumstances. A bolt having fallen into a still which measures 22 feet deep by 12 feet in diameter, an employee descended through a manhole 18 inches wide to bring it to the surface. A comrade believing that the man had been overcome by the gases inside the still also descended, but he too was overpowered, and it was not until help arrived that both men were rescued in an unconscious condition and taken to the hospital. The man who so heroically descended to help his fallen mate recovered, but the other died 40 hours after the accident. It appears that the still contained material pumped into it from the gas works and that when this was allowed to settle for some days pitch, among other things, was precipitated. It was the usual custom if anything went wrong with a still for no one to enter it until it was quite cool. This usually required two days. By that time it was believed that any poisonous gases that had been present became liquefied, fell to the bottom and ceased to be dangerous, although if the pitch were disturbed harmful gases might again be disengaged. The specified two days had elapsed and yet in spite of this the two men who entered the still were both overcome by the poisonous fumes, which seem to have been carbon monoxide and some sulphur holding gas. From the medical evidence it would appear that the blood gave the spectrum of carbon monoxide. The coroner's jury recommended that before a workman is allowed to enter a still or any confined space wherein poisonous gases are known to accumulate a test of some kind or another should be applied; for example, the letting down of a live mouse for a few minutes; for only thus will death under these circumstances be prevented.

LETTERS, COMMUNICATIONS, ETC., have been received from:

(A) Mr. R. B. Anderson, London; Dr. R. S Anthony, Claremont, Cape of Good Hope; A. M. D."; Dr. T. C. Askin, Woodbridge; Another G. P.; Mr. F. Addiscott, London. **(B)** Messrs. W. J. Bush and Co., London; Mr. W. M. Beaumont, Bath; Dr. J. R. Burnett, Keswick; Dr. P. J. Brayn, Jersey; Mr. E. H. Brun, Rock Ferry; Dr J. Barr, Liverpool; Dr. R. Bell, Glasgow; Mr. L. A. Bidwell, London; Dr. J. W. Batterham, St. Leonard's-on-Sea; A. Brownlie, M.B., Coatham; Dr. E. A. C. Baylor, Dover; Mr. W. Bentley, Lancaster: Dr. P. Boulton, London; F. M. Blumer, M.B., Stafford; Miss A. E. Banks, Sutton-in-Ashfield; Mr. A. E. Barrett, London; H. L. Barnard, M.B., London. **(C)** Dr E. Carver, Cambridge; Mr. H. Cornish, Surbiton; Cantab.; Mr. A. Clark, London; Mr. W M. Clendinnen, Coseley; Mr. W. J. Cant, Lincoln; W. Carling, M.B., Southsea; Dr. F. Calot, Berck-sur-Mer; C. A. O; Mr. J. H. Croudace, Stafford; Miss J. Cock, London; J. Carslaw, M.B., Glasgow; Mr. L. E Creasy, London. **(D)** Mr. A. K. Dresser, Brighton; Mr. G. Dickson, Hay; Mr. A. Davidson, Edinburgh; Dr. T. Dutton, London; D. A. Davies, M.B., Swansea. **(E)** Messrs. Eyre and Spottiswoode, London; Dr. R. T. Edes, Boston, U.S.A.; J. J. Evans, M.B., Birmingham; Messrs. Eason and Son, Limited, London. **(F)** Dr. F. M. Fry, Montreal; Mr. R. W. L. Fernandez, Ackworth; Mr. J. H. Ferguson, Keighley; Mr. T. Fisher, Garstang; Mr. N. F. Freeman, Reading. **(G)** R. J. Godlee, M.B., London; Dr. A. S. Gubb, London; Dr. J. Galloway, London; Mr. R. Gibbs, Coventry; P. G. Griffith, M.B., Hayward's Heath; Mr. R. Gray, Armagh; Graduate; G. P.; Dr. L. G. Guthrie, London; A General Practitioner; Mr. W. Gosse, Sittingbourne. **(H)** Messrs. Hazell, Watson, and Viney, London; Mr. C. E. Hollings, Calverley; A. S. Hedley, M.B., Rothbury; Mr. W. H. Hastings, Sidmouth; Dr. W. P. Herringham, London; Mr. G. L. Haynes, London; Hunterian Society, Secretary, London; Mr. W. Hazell, London; Mr. F. G. Howarth, Darwen; Dr. J. Haddon, Denholm, N.B.; Dr. J. P. Heury, London. **(J)** Mr. H. Jacoby, London; Mr. E. L. Jones, Cambridge. **(K)** Kidderminster Medical Society, Secretary; Kidderminster; E. M. Knowling M.B., Tenby. **(L)** Mr. H. L. G. Leask, Glasgow; L.R.C.P., L.S.A.Lond.; Mr. C. S. Loch, London; Mr. H. C. Ladwick, Burnley. **(M)** Mr. J. A. Marsden, Lightcliffe; Medical Witness; M.R.C.S.Eng., etc.; Dr. R. G. Macdonald, Dunedin; Dr. P. H. Mules, Whalley Bridge; Member of the Congress; M.O.H.; Dr. C. F. Moore, Dublin; Dr. H. Meige, Paris; Mr. J. H. Morgan, London; Dr. T. H. Moorhead, Cootehill; Mr. B. Marshall, Atherton; Dr. A. A. Mussen, London; Mr. C. A. Morton, Clifton; Member of the Metropolitan Counties Branch; Member B.M.A.; Mr. C. T. Millis, London; Dr. R. L. Meade-King, Taunton; M.B., M.Ch.Oxon., M.R.C.S., D.P.H.Eng, L.R.C.P., L.S.A.Lond.; Mr. A. A. Masser, London; Mr. W. H. Moyle, Petersfield; Medicus; A Mere G. P. **(N)** J. Niven, M.B., Manchester. **(O)** Dr. C. Ormerod, Liphook: Dr. T. Oliver, Newcastle-on-Tyne. **(P)** Mr. C. J. Palmer, Mansfield; Pudor; Dr. C. Porter, Stockport; Dr. H. H. Phillips Conn, Reading; Dr. J. Parker, London; Mr. F. A. Parsons, London; Dr. D. N. Paton, Edinburgh; H. J. Paterson, M.B., London. **(R)** Royal College of Surgeons in Ireland Registrar, Dublin; E. A. Rawson, M.B., Carlow; Mr. T. F. Raven, Broadstairs; D. Richmond, M B., Rochdale; J. Richardson, M.B., London; Mr. C. Roberts, Eastbourne; Dr. R. R. Rentoul, Liverpool; A. W. Russell, M.B., Glasgow; Mr. J. W. Rollings, London. **(S)** Mr. J. Stewart, Montreal; L. E. Stevenson, M.B., Penrith; Dr. F. Spicer, London; Dr. T. D. Savill, London; Mr. P. L. Sclater, London; Mr. W. C. Sambrook, London; Mr. R. B. Sellers, Rochdale; Mr. H. Sell, London; Dr. A. Smart, Edinburgh; Dr. J. O. Symes, Clifton; Mr. W. R. M. Shaw, Stockbridge. **(T)** Mr. A. H. Tubby, London; Mr. R. C. Tressider, London; Dr. W. B. Thorne, London; S. J. Taylor, M.B., Norwich; Mr. A. Todd, Dublin. **(U)** Unqualified Assistant. **(V)** S. Vincent, M.B., London; Dr. H. de Varigny, Paris; Verax; Verbum sap. **(W)** Mr. W. A. Wannan, Arbroath: Mr. W. G. Westcott, Chichester; Dr. E. F. Willoughby, London; West London Medico-Chirurgical Society, Secretary, London; G. E. Williamson, M.B., Newcastle-on-Tyne; Mr. A. H. Ward, London; G. B. M. White, M.B., London; Mr. E. W. Walker, Pailton; Dr. C. R. Woods, Dublin, Mr. S. Wells, Goole; W. H. M. A.; G. A. Wright, M.B., Manchester. **(Z)** Dr. T. Zammit, Valletta; etc.

BOOKS, ETC., RECEIVED.

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SIXTY-FIFTH ANNUAL MEETING
OF THE
BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF PATHOLOGY AND BACTERIOLOGY.

Watson Cheyne, F.R.C.S., F.R.S., President.

THE SERUM DIAGNOSIS OF TYPHOID FEVER.

By Fernand Widal, M.D.,
Paris.

The statistics of the serum diagnosis of typhoid fever have greatly multiplied during the last few months, and the number of certain cases has now reached several thousand. In the present communication I will restrict myself to the very rare instances in which the reaction seems to have failed in typhoid patients.

The three latest extensive series of French statistics are those of MM. Gasser, Paul Courmont, and Bensaude. The first relates to 112 cases of typhoid fever, the second to 257, and the third to 61 of the same affection. In no one of these patients did the reaction fail. These statistics agree with those of Breuer, Stern, Haedke, Fraenkel, Dick, Lyman Greene, Dupasquier, and others. I have examined personally the serum of 177 typhoid patients, and have been unable to demonstrate the agglutinative reaction only in one single case. My results are in almost complete accord with those of Wyatt Johnston and McTaggart, and of many other authors.

The most extensive statistics are those collected from different authors by Mr. R. C. Cabot, of Boston, at the meeting of the American Medical Association on June 2nd. The investigation of the reaction in 1,826 patients supposed to be suffering from typhoid confirmed the diagnosis in 1,744 cases, or 95.2 per cent. These figures speak for themselves. The absence of reaction in a certain number of the suspicious cases was no doubt due to the fact that the disease from which they were suffering was not typhoid at all. Again, before it can be asserted that the reaction is absent in a case of typhoid it is necessary that the examination of the blood be repeated as often as possible, whereas one knows that in a certain proportion of the published statistics this examination could be made only once in the same patient. The reaction may be absent at the first attempt, but present on the next or following days. Although it can be observed at times from the fifth or third day, or even exceptionally (W. Johnston and McTaggart, Carl Fraenkel) from the second onward, and although it may in general be depended on after the seventh day there are, however, cases in which it may be delayed, and only appear in the course of the second week. In one case I only observed it on the twenty-second day, and in other exceptional instances authors have only been able to demonstrate it at the end of the disease or the beginning of convalescence. If the examination had not been repeated in these cases one would only have been able to conclude that the result was negative.

By reason of these exceptional facts, I formulated at the Nancy Congress, at the very beginning of my researches, the following rule: "A negative result obtained with the serum of a suspected patient betokens a probability against the diagnosis of typhoid fever, but this is no more than a probability, particularly if the examination was made during the first days of the disease; in that case the examination should be repeated on the following day. The probability is markedly greater when the examination is made at a more advanced date during the illness."

It is necessary, above all, to be certain that the reaction has been properly tried according to the rules for its performance, and particularly that dilution has not been carried too far. I would remind you that I have proposed the use of a mixture of 1 part of typhoid serum with 10 of a young culture. The clumps are generally visible under the microscope at once or after some minutes. In certain cases it is advisable to let the preparation stand for a quarter to half an hour, so that the phenomenon may be better marked. Now, in order that the results under these conditions shall be conclusive it is necessary, as I have repeated incessantly, that the clumps should not alone be characteristic, but should be very confluent, and arranged at all parts of the preparation like the islands of an archipelago.

Nothing should ever be based on a doubtful premiss, and it is essential that the preparation should present so distinctive an appearance as to leave no shadow of hesitation in the mind of anyone who has ever seen a genuine agglutination. Following out these rules, which certain experimenters who have followed me do not seem to have understood, I have never been deceived, in the course of the examination of nearly 390 non-typhoid serums, by the pseudo-agglutinations which some of them exhibit, phenomena which are always scattered and late in their appearance, as well as being quite exceptional. I may add that I have recently shown with M. Sicard how the measurement of the agglutinative power may serve as a confirmatory test.

An absolute criterion is afforded if the *post-mortem* examination of a patient, whose serum has constantly and at different periods of the disease given a negative reaction, reveals the characteristic intestinal lesions, and if cultivations from the organs allow Eberth's bacillus to be isolated. But even under such conditions it is necessary before coming to any conclusions to know whether the serum reaction was sought only during the last days of the disease. The measurements of agglutinating power which I have made with M. Sicard and M. Nobécourt have shown me that in many cases the agglutinative power, which was relatively raised during the height of the disease, may fall during the days immediately preceding death to a figure such as to render serum diagnosis inapplicable. In these cases death has occurred without complications, solely from typhoid intoxication.

I do not propose to offer any theoretical explanation of this *ante-mortem* lowering of agglutinative power which has been observed only in a few cases; but if similar observations are multiplied, we might perhaps be led to find in that an element of prognostic value in certain forms of the disease.

If the reaction is persistently negative, and the patient does not die, it is necessary before recording it as a serum-diagnostic failure to be quite certain that the suspicious disease was actually typhoid fever. There are circumstances under which the clinical course can leave no room for doubt, as when all the classical symptoms of the disease develop in succession, but there are others in which the bacteriological examination alone can give a certain answer.

We have not hesitated, in every case in which the results given by the examination of the serum did not seem to conform to the clinical signs, to inoculate a drop of blood obtained by puncture of the spleen in order to give them a decisive value.

It is by this means that we have been able to convince ourselves of the absence of the reaction in a genuine case of typhoid fever with relapse. The examination of the serum was repeated on many occasions with M. Sicard during both febrile periods, during the intervening stage and during convalescence, and gave constantly a negative result. The study of the power of agglutination had already shown us that each typhoid patient yields a reaction which is more or less early, more or less intense, and more or less persistent, according to his individual peculiarities. In view of these personal and often inexplicable variations, it was possible to foretell, as we did from our earliest communications onward, a sort of idiosyncrasy only allowing the phenomenon to appear very late, or even in an extreme case causing it to fail. This fact, that a subject should recover from a double attack of typhoid fever without his serum ever presenting the slightest trace of agglutinative reaction is so exceptional that it can hardly affect the value of serum diagnosis, but from the theoretical point of view it proves to demonstration that the agglutinative reaction has nothing to do with immunity.

The agglutinative reaction is in fact not a reaction of im-

munity, as M. Gruber has maintained. I have shown, on the contrary, that it was primarily a reaction of the period of infection. Here is, as I have always said, a simple demonstration of fact which does not agree with his theory, a fact which is confirmed every day; if it were not accurate, serum diagnosis would not exist. The agglutinative reaction is often more intense at the beginning of the disease than at its height or during its decline; it diminishes and frequently disappears in man from the first period of convalescence, that is to say, at the moment when immunity is most perfect: it is relatively rare in patients who have been cured of typhoid for more than a year, whereas universal observation shows that such subjects must be in general considered immune, since in them the recurrence of the disease is quite exceptional.

In certain observations on typhoid fever with relapse, the agglutinative power has been seen during the agglutinative period to reach a degree which it had never attained during the first attack; a few days later, nevertheless, came the relapse. M. Kolle has recently shown that the serum of a typhoid patient may possess preventive qualities without yielding the phenomena of agglutination, and I have demonstrated a similar dissociation.

Furthermore, we have seen with M. Nobécourt that in certain kinds of animals such as the mouse the inoculation of a typhoid culture confers immunity before the intermediate reaction has appeared in the blood. We have thus proved that if one immunises mice by injecting into them the filtered urine of typhoid patients, according to M. Bouchard's method, one only succeeds in endowing them with the agglutinative reaction by inoculating them with 25 c.cm. of urine in fractional doses extending over six weeks, while they are first immunised by 4 c.cm. of the same urine administered in seven days.

M. Salinbeni has recently proved that the agglutination of the cholera vibrio, far from occurring in the fluids of the organism within the body, appears only when these fluids are brought into contact with the air, just as blood coagulates only when it has left the vessels.

Finally, at the last Berlin Congress, Dr. Behring distinctly proclaimed himself a believer in the dissociation of the immunising from the agglutinating properties in the same serum.

To sum up: From the practical point of view, the reaction can in general be detected in typhoid patients from the first days of the disease onwards; it may at times be delayed, but is only exceptionally absent (1 case in 177 according to my figures). One can hardly expect more from a method based on a biological reaction always subject to individual and unforeseen variations.

PRELIMINARY REPORT ON THE SERUM DIAGNOSIS OF TYPHOID FEVER IN AN EPIDEMIC DURING WHICH TYPHOID BACILLUS WAS ISOLATED FROM THE PUBLIC WATER SUPPLY.

BY

LOUIS B. WILSON, M.D., and F. F. WESBROOK, M.D.

(From the Bacteriological Laboratory of the Minnesota State Board of Health.)

NATURE OF INQUIRY.

THE application of the serum test for the diagnosis of typhoid fever was begun in the Bacteriological Laboratory of the Minnesota State Board of Health, November 1st, 1896, but up to February 1st, 1897, only about 50 cases had been examined. At this time, however, there commenced an epidemic of the disease in one of the larger cities of the State, and an opportunity to study the test under such conditions has been afforded.

Clinical histories pointed to the public water supply as the source of infection, and on March 18th, 1897, the bacillus typhi abdominalis was isolated therefrom. It may be mentioned that the testing of doubtful single Elsner plate colonies with known typhoid blood proved of very material aid in this examination. Soon after it was obtained in pure culture; the bacillus, grown twenty-four hours in broth, was found to kill 250-g. guinea-pigs in 1 c.cm. doses in twenty-four hours or less.

After some months of careful proving by the recognised laboratory methods the culture was put into use for testing suspected blood specimens, and, when compared with the stock laboratory cultures, showed itself to be slightly more sensitive than they. It is thought, however, that this extra relative sensitiveness is slowly being lost. The property seems to have been only an incident at best, and not sufficient to mark off the culture as a variety, since it was manifest equally well in specimens from patients remote from and those immediately within the area of the epidemic.

From the first the dried blood method of Wyatt Johnston has been followed. Specimens, collected on glass or non-bibulous paper, when received at the laboratory are moistened with distilled water, varying dilutions of 1 in 15 to 1 in 50 have been used, and hanging drop preparations therefrom, inoculated either directly from the surface of twenty-four-hour moist glycerine agar cultures, or from two-hour broth emulsions of such cultures. Controls have been used with every lot of specimens made up. All are examined within half an hour after having been prepared and, again on the following morning—sixteen to eighteen hours later—being kept in the meantime in the dark at room temperature. This second examination of specimens serves as a valuable check on the previous day's findings, and frequently indicates a positive reaction very early in the disease, the result being substantiated by immediate positive reactions later in the history of the case.

RESULTS.

Up to August 20th, 1897, 1,400 specimens have been examined, taken from 817 cases of suspected typhoid and from 76 patients suffering from other diseases. In the non-typhoid cases the results were as follows:

Reported Negatively.

	Cases.		Cases.
Appendicitis	4	Lumbar abscess	1
Bronchitis	2	Malaria	5
Cystitis	1	Mastoid disease	1
Diphtheria	1	Melancholia	1
Entero-colitis	5	Pleurisy	1
Erysipelas	1	Pneumonia	8
Gonorrhœa	1	Rheumatism	2
Indigestion (acute)	5	Tonsillitis	5
Influenza	12		

One positive and one partial reaction were obtained respectively in two cases clinically diagnosed as influenza. One case of acute mania failed to react, but another case gave two positive reactions. Also one case of puerperal mania gave a positive reaction.

Two positive reactions were obtained in a somewhat doubtful case of pulmonary tuberculosis, and a doubtful one in each of two certain cases of the same. Two marked reactions were obtained in the case of a child—inmate of a hospital—suffering from poliomyelitis with paralysis of the lower extremities, and having had an irregular temperature for over a year.

In none of the above 8 cases could a history of previous typhoid be obtained, neither could it with a certainty be excluded in any of them, for these patients were all residents of a city which has had annual epidemics of typhoid fever—due probably to contamination of its public water supply—for the last five years.

One case which had been diagnosed appendicitis, with an operation and the removal of an apparently normal appendix, gave a few days later a positive reaction, followed by the ordinary group of typhoid symptoms.

The 55 cases of supposed typhoid from without the area of the epidemic gave 28 positive and 27 negative findings, while their clinical histories, so far as they could be obtained, sustained the laboratory reports.

The cases from the localised epidemic were of varying degrees of severity in symptoms, from those so mild as to be almost impossible of clinical recognition, to those ending in death. In all, 762 cases from this source were examined; 210 of these gave negative results, 39 were doubtful (only 5 of these were examined twice, however), and 513, or slightly over 67 per cent., were positive.

A subsequent clinical history of typhoid was present in but 9 of the cases reported negatively, and 8 of these were examined but once, and that early in the disease. The remaining case, and the only one which should here be con-

sidered, was pronounced mild typhoid by an experienced clinician, yet gave negative findings on the eighth, eleventh, sixteenth, and twenty-second days of the disease.

Tables showing the day of the disease in which a positive reaction was first obtained are apt to be misleading, owing to the indefinite onset of symptoms, and to the fact that many cases are not examined until late in the disease. The following, however, is given for what it may be worth:—

List of the Days of the Disease on which a Positive Reaction was First Obtained.

In 2 cases on the		1st day	In 28 cases on the		8th day
,, 21	,,	2nd ,,	,, 22	,,	9th ,,
,, 20	,,	3rd ,,	,, 44	,,	10th ,,
,, 43	,,	4th ,,	,, 12	,,	11th ,,
,, 28	,,	5th ,,	,, 20	,,	12th ,,
,, 33	,,	6th ,,	,, 0	,,	13th ,,
,, 60	,,	7th ,,	,, 53	,,	14th ,,

A more accurate idea of the first appearance of the reaction may be obtained from the following:

Table showing the Days of the Disease on which Examinations were made in Cases of Suspected Typhoid.

Findings.			Findings.		
Negative.	Doubtful.	Positive.	Negative.	Doubtful.	Positive.
3	3	5	7	—	11
—	3	7	7	9	13
—	3	8	7	—	15
—	3	12	—	3, 8	14
3, 44	—	7, 14, 42, 84	2, 8	—	9
3	—	7	8	—	10
2, 3, 42	—	6, 12, 14	8	—	11
2, 3	—	8	8	—	12
2, 3	—	8	8	—	13
4	—	5	4, 8, 13	—	28
—	4	6	9, 21	—	12, 19, 20, 25
5	—	7	7, 9	—	19
4, 5	—	8, 12	3, 9	—	24
3, 5	—	8, 10, 21	9	—	26
5	—	8	10	—	14
3, 5	—	10, 12, 21, 28	10	—	16
5	—	10	7, 10	—	17
5	—	10, 14	2, 6, 10	—	18
—	5	9	3, 6, 10	—	21
5	—	11, 21	—	7, 11	16
—	6	9	12	—	13
4	6	10, 18	12	—	14
—	6	10	12	—	14
6	—	10, 14, 35	12	—	15
6	—	11	12	—	15, 24, 29
4, 6	—	13, 21	12	—	16
6	—	14	8, 12	—	16, 27, 32
7	—	8, 20	12	—	28, 42
7	—	9	14	—	15, 16, 20, 28, 24
7	—	10	6, 7, 14	—	16, 20, 24
7	—	10	14	—	21
7	—	10	15, 22	—	25, 28

It will be noted from this table that the reaction was absent or doubtful as late as the—

3rd	day in	9 cases	9th	day in	5 cases.
4th	,,	2 ,,	10th	,,	5 ,,
5th	,,	9 ,,	12th	,,	8 ,,
6th	,,	7 ,,	14th	,,	3 ,,
7th	,,	7 ,,	22nd	,,	1 case.
8th	,,	7 ,,			

As a proof of how fallacious are conclusions drawn from such compilations of cases in which only one negative examination has been made somewhat later in the disease, followed by positives, one case will be cited. This was of a man with an ordinary run of typhoid, in whose blood the reaction was absent on the ninth day, present on the twelfth, absent on the thirteenth, present on the nineteenth and twentieth, absent on the twenty-first, and present on the twenty-fifth day of the disease. It is believed that no mistake was made anywhere in the examinations from this case, and that the disappearance of the reaction on two different occasions was real and not merely apparent. No corresponding variation of the clinical symptoms was observed.

The Reaction in Children.

Seventy-six out of 165 children examined gave positive findings. The reaction as a rule appeared earlier with this class of cases than with older patients, half of the second and third day positives being in this group, though it composed only about one-seventh of the total number of positive cases.

The cases in children were distributed by years as follows:

4	cases at	13 years	9	cases at	6 years
7	,, ,,	12 ,,	11	,, ,,	5 ,,
6	,, ,,	11 ,,	4	,, ,,	4 ,,
4	,, ,,	10 ,,	3	,, ,,	3 ,,
9	,, ,,	9 ,,	4	,, ,,	2 ,,
8	,, ,,	8 ,,	1	,, ,,	2 days
8	,, ,,	7 ,,			

This last case is worthy of a passing remark. The mother, seven months pregnant, showed marked clinical symptoms of typhoid, though her blood failed to react on the fourth day, and again on the sixth day, at which time the child was born. Two days later the infant's blood gave a marked reaction (a specimen from the mother taken at the same time was unfortunately lost in transit). On the seventh and fourteenth days of its life the baby's blood again reacted, as did also the mother's on the thirteenth and twentieth days of her illness. The cases are still under observation.

Among convalescents, in one case the reaction was observed present on the hundred and twenty-fourth day, and absent on the hundred and fifty-fourth; in another, present on the hundred and twenty-fifth, and very faintly marked on the hundred and fifty-eighth. In a number of other cases still under observation it has been found present for periods varying from ninety to a hundred and twenty days from the inception of the disease. In a few cases it has disappeared permanently as early as the thirty-fifth and fiftieth days.

The foregoing report is not intended in any sense as a comparison of methods, but as a simple statement of the results obtained by the use of the now well-known dried blood method of Wyatt Johnston.

THE CLINICAL VALUE OF THE WIDAL TEST FOR ENTERIC FEVER.

By W. Gilman Thompson, M.D.,

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I have gathered data regarding the Widal serum test for the presence of typhoid fever from five of the larger New York hospitals, namely, from my own service, and that of others of the visiting staffs of the Presbyterian and Bellevue Hospitals, from the service of Dr. Frank W. Jackson at the Roosevelt Hospital, from the service of Dr. A. A. Davis at St. Luke's Hospital, and from examinations made by Dr. George P. Biggs, Pathologist to the New York Hospital. In all, 503 cases were analysed, 157 being undoubted enteric fever. The tests in some few of these cases were made by the New York Health Board in their laboratory, in other cases by the pathologist or other physician in the hospital in which they occurred, in every instance by experienced bacteriologists. In a large proportion of cases the blood was furnished to an examiner who had no previous knowledge of the patient, and the test was often witnessed and confirmed by others, so that any element of prejudice for or against its value may be eliminated. As for the manner of applying the tests, the extensive experience of those who made them leaves no room for criticism. Identical cultures and identical methods were employed simultaneously in those cases which responded, and in those which did not.

Both serum and blood were used, usually in proportions of 1 to 10; but in some cases stronger, in others weaker, the serum being obtained by means of a fly blister. Dr. Egbert Le Fevre, in the University Medical College division of Bellevue Hospital, employed twenty-four hour cultures from stock tubes grown in bouillon and agar. Dr. George A. Tuttle, at the Presbyterian Hospital, used cultures of bacilli transplanted at intervals of two to three weeks, from which cultures were grown in fresh beef peptone bouillon for twenty-four hours in an incubator. For most of his tests he used dried blood dissolved in water, the dilution being 1 to 10 or 15. In some cases serum was employed.

A large proportion of all the cases herein reported were tested more than once, many of them, especially the doubtful ones, or those in which clumping was observed without complete loss of motility, from three to five or more times. In general, the intensity of the reaction appeared to increase decidedly as the disease advanced, although slight variations in

degree were noticed from day to day by all observers. One case reported by Dr. Tuttle gave no reaction upon the fifth, sixth, seventh, and eighth day of the disease, but did give a strong reaction during convalescence. "Several cases without reaction when first tested, four days later were doubtful or suspicious, and four days later still gave a good or strong reaction."

Dr. Tuttle's Table showing Increase in Intensity of Reaction as the Disease Progresses. Compiled from Cases at the Presbyterian Hospital.

Case.	Day of Disease and of 1st Test.	Reaction.	Day of 2nd Test.	Reaction.	Day of 3rd Test.	Reaction.	Day of 4th Test.	Reaction.
1	4th	None	8th	Good	—	—	—	—
2	7th	Slight	16th	,,	—	—	—	—
3	Doubtful	Suspicious	2 d. later	Suspicious	4 d. later	Fair	6 d. later	Good
4	,,	Suspicious	1 d. later	Suspicious	4 d. later	,,	—	—
5	6th	None	10th	Good	—	—	—	—
6	Doubtful	,,	4 d. later	Fair	14 d. later	Strong	—	—
7	7th	Suspicious	11th	Good	21st	,,	—	—
8	8th	None	10th	Suspicious	14th	Fair	—	—
9	th	Good	16th	Strong	—	—	—	—

No general difference in intensity of reaction is reported in cases occurring at different seasons of the year.

In answer to the question as to how soon in individual specimens does the reaction appear and how long does it last, Dr. Tuttle replies as follows: "In a large majority of the specimens the reaction is present as soon as the preparation can be placed under the microscope, and lasts indefinitely. In a few cases ten, fifteen, to thirty minutes may be required to develop the reaction. If there is no loss of motility of the bacilli at the end of fifteen minutes no reaction is reported. If there is to be a reaction, decided loss of motility will be noticed within five minutes. Sometimes with the ordinary dilution of blood there will be immediate absolute loss of motility without clustering. If the reaction is feeble, a considerable number of the bacilli may recover their motility after a varying length of time—two, three, or four hours—but where the reaction is strong they appear to be killed at once."

The following is a brief summary of the results obtained from the 503 patients with diseases of all kinds whose blood was tested:

1. Cases diagnosed clinically as typhoid fever in which the test was positive, 157.

2. Cases diagnosed clinically as undoubted typhoid fever in which the test failed completely, 6. One of these was tested on the seventh day and one on the eleventh. One was tested three times, and died of intestinal perforation the day following the last negative test.

3. Ratio of failures of the test in undoubted typhoid fever 1.26, or nearly 4 per cent.

4. Cases diagnosed clinically as probable enteric fever in which the test failed, 11. One of these subsequently developed inguinal adenitis.

5. If the failures in probable cases be added to those of undoubted cases of typhoid fever, the total ratio of failures of the test in typhoid fever rises to 1.9¼, or 10.8, nearly 11, per cent.

6. Cases decisively diagnosed as other than typhoid fever in which the test was positive, 20. In a few of these cases the test, though positive, was not considered strong enough to suggest a typical typhoid reaction.

7. Ratio of these misleading cases as compared with the genuine ones, 1.8 (nearly), or approximately 12 per cent. The diagnosis of some of these 20 cases was as follows:—Carcinoma of pylorus, meningitis (variety?), nephritis and uræmic coma (reaction excellent), appendicitis with perforation (reaction excellent), chronic endocarditis (examined three times, Le Fevre), pneumonia (examined several times, failed after eighth day, Le Fevre), endometritis (moderate fever for ten days, which subsided after curetting), suppurative subdeltoid bursitis (see below), acute bronchitis), pleurisy with effusion (serum, 1 to 10), diarrhœa (blood, 1 to 10), acute endocarditis (blood 1 to 10, feeble reaction), malarial fever (serum, 1 to 10), malarial fever (serum, 1 to 10), malarial fever (blood 1 to 10, reaction moderate on sixth day, absent on eighth day, Jackson), acute articular rheumatism, general miliary tuberculosis.

8. Cases diagnosed clinically as other than typhoid fever, and in which the test failed, 309. I will not recite all the varieties of disease, numbering upwards of 40, in which the reaction has commonly failed, but the following examples will give a fair idea of their diversity. They are furnished for the most part by Dr. Tuttle and by Dr. Le Fevre. The latter for two months tested the blood of every patient admitted to the wards of the University medical division of Bellevue Hospital. His data were compiled for me by Dr. G. L. Wickes, of the House Staff.

Number of Cases.	
15	Malarial fever (tested during paroxysm, plasmodium present).
18	Carcinoma.
17	Pulmonary tuberculosis.
7	Pleurisy.
10	Pneumonia.
3	Peritonitis.
11	Rheumatism.
10	Septicæmia.
7	Gonorrhœal rheumatism.
12	Chronic nephritis.
14	Cardiac diseases.
4	Influenza.

The Widal test is unquestionably ingenious, and it constitutes a most instructive and suggestive bacteriological demonstration; but is it more than this—is it of genuine practical diagnostic value to the clinician? The great majority—fully 75 or 80 per cent.—of cases of typhoid fever need no confirmatory test beyond the plain history and symptoms, and the remainder in which such a test, if accurate and exclusive, would be invaluable are chiefly: (1) Cases of enteric fever seen very early in the course of the disease, principally in private practice; (2) cases of obscure sepsis; (3) severe or protracted cases of malarial remittent fever; (4) certain cases of typhus fever and of acute miliary tuberculosis; (5) various atypical forms of enteric fever.

1. I have inquired as to the earliest day of the disease at which the reaction has been distinctly observed in genuine cases of typhoid fever, with the following result: At the Presbyterian Hospital it has been found once on the fourth and once on the fifth day; at St. Luke's Hospital once on the fifth and once on the sixth day; at the New York Roosevelt, and Bellevue Hospitals, each once on the sixth day. (It is, of course, to be remembered that hospital cases of this disease usually present themselves first as late as the eighth to the tenth day.) It must be admitted that the reaction may be obtained towards the end of the first week, although the reported tests which would confirm an earlier diagnosis—those much oftener seen in private practice, at summer hotels and institutions, and in course of epidemics—are few and uncertain. Some interest attaches to the opposite extreme—the duration of the reaction during and after convalescence—as a means of estimating the prolongation of immunity.

Most of the hospital cases from which these statistics are derived soon pass from observation after convalescence; and often, the reaction having been once obtained, it is not sought again. Thus, at St. Luke's Hospital, the last day of the reaction in any case reported is the thirtieth, at the Roosevelt Hospital the forty-fourth day, and at the Bellevue Hospital the forty-fifth, with earlier cases on the fortieth and forty-second days. Dr. Tuttle assures me that he has found it four and six months after the disease, and several times at the end of a year; and in the case of my own blood, which he tested for me, the reaction was decided four years after I had the fever. Another case has been reported to me from private practice, where the reaction was present eight years after the illness. It is difficult to believe in these extreme cases that the presence of the reaction is more than a mere coincidence, again demonstrating its uncertainty. Further examinations should be made in this direction, for if the reaction is shown to be again obtainable after a period of immunity, a subsequent disease might occur, and be wrongly diagnosed as enteric fever. Dr. J. W. Brannan[1] succeeded in obtaining the reaction from specimens of dried blood which had been kept for four and seven weeks respectively, and clinical experience favours the belief that immunity after enteric fever is lasting except in rare instances.

2. In septicæmia with obscure pus foci one is often in perplexity to differentiate the disease from enteric fever; and again a severe septic infection may mask an existing enteric fever. There is a very troublesome class of cases in which certain typical symptoms of enteric fever, such as the eruptive and intestinal hæmorrhage, are wanting, as well as any ascertainable evidence of a pus focus. Yet the temperature and other symptoms suggest enteric fever rather than septicæmia, and pus may be discoverable only after protracted illness. It is in just such cases that the test proves unreliable, if not positively misleading. Two cases from my own service will illustrate. The first is that of a man whom

I suspected of having had typhoid fever for a fortnight. He had typical temperature and some abdominal pain. The Widal reaction was negative. The symptoms then became locally distinct, and a diagnosis of subphrenic abscess was confirmed by operation. Reliance upon the Widal test in this case would have been justified, yet in the second case it was wholly misleading. In this case a young man gave typical symptoms of enteric fever for a fortnight, but without eruption or hæmorrhage. The Widal reaction was very positive. He had a painless swelling over the right shoulder, which he declared had existed for many months, and which in no wise troubled him; however, I aspirated it, suspecting pus, and when an extensive suppurative deltoid bursitis was subsequently evacuated the temperature immediately fell to normal and the patient promptly recovered. Reliance upon the Widal test in this case would have led to a continuation of the treatment for typhoid fever until the patient became perhaps hopelessly septic.

3. In the diagnosis of typhoid from malarial fever of remittent type we possess a vastly more reliable test in the demonstration of the plasmodium malariæ, and the uncertainties of the serum test are illustrated by the preceding data, in which it was negative in fourteen cases during the paroxysm in which the plasmodium was found, and at the same time was positive in three other cases.

4. The complete failure of the test in differentiating between typhus and typhoid fever is shown by the case above quoted from Dr. Le Fevre, in which the presence of a purpuric eruption with temperature led to the suspicion of typhus fever, and consequent isolation of the patient. The serum test failed, but the subsequent course of the case proved it to be unquestionably typhoid and not typhus fever. Its failure in differentiating between typhoid fever and acute miliary tuberculosis is illustrated by a case cited above.

Conclusions.

From the foregoing brief study of 503 cases of all kinds in which the Widal test was applied, the following conclusions may be drawn:

1. While the test is positive in the large majority of cases of enteric fever, and negative in the greater number of other diseases there is a margin of error of 11 to 12 per cent. on each side of what might be called the normal line, between cases in which the test fails where it ought to succeed, and succeeds where it ought to fail, in order to make it of real clinical value.

2. This total of 23 per cent. of possible error unfortunately includes just those cases in which there is the greater doubt upon the purely clinical side.

3. As a genuine diagnostic aid, the test has about the value of the diazo reaction in typhoid urine, or the study of leucocytosis in pneumonia, that is, it is confirmatory in connection with appropriate symptoms, but misleading if positive reliance be placed upon it.

4. The fact that an expert bacteriologist is required to make the test is offset by the ease of transportation of specimens of dried blood, which long retain the power of reaction, and it is greatly to be hoped that further possible improvements in technique may place this most ingenious test upon a firmer practical basis than can at present be claimed for it.

Reference.

[1] Sero-diagnosis of Typhoid Fever, *New York Med. Journal*, March 27th, 1897.

TECHNIQUE IN SERUM DIAGNOSIS.

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Dilution.

The degree of dilution which should be employed for routine work, and at which it would be safe to make a positive diagnosis, is a subject which has received much attention, but the opinions expressed have been variable. Certainly one to ten should be considered the lowest permissible dilution, but even with this dilution errors occasionally arise. It might be expected that if the dilution be doubled the reaction should be one-half as well marked. This, however, does not seem to be the case. Some of the German observers do not consider a reaction with a dilution of less than one to fifty as conclusive, but in my experience this standard is too high. In view of the observations of Freyer, who found the reaction present, with a dilution of about one to twelve, in ten out of fifteen natives of India supposed never to have had typhoid fever, as well as the possible existence of the phenomenon from a previous unrecognised infection, we should not be called upon to render a decisive diagnosis in specimens sent to us for examination. It should be sufficient to state the extent to which it may be diluted without the disappearance of the reaction. Certainly, in my experience with specimens examined in Professor Osler's clinic, any blood that reacts in the proportion of one to forty is to be considered as pathognomonic of typhoid fever.

Time Limit.

The reasons for a time limit are, that specimens of non-typhoid blood, or even hanging drop preparations of the culture alone, may be found after twelve or twenty-four hours to have undergone more or less clumping; the diagnosis is unnecessarily delayed, when the same result may be obtained in a shorter time by less dilution of the serum; that a fixed time limit is necessary for an accurate comparison of results. It is generally conceded that the greater the dilution the longer is the time required for the reaction to take place. My own experience seems to show that if the time be limited to fifteen minutes the majority of specimens of typhoid blood give a sufficient reaction with a dilution of one to ten, but with higher dilution many specimens of typhoid blood give negative results. If the time be extended to thirty minutes, the reaction almost invariably takes place when diluted twenty times, and in the great majority of cases when diluted forty times. When a dilution of from 50 to 1000 or over be used, the reaction becomes distinct enough for diagnosis at some period between thirty minutes and two hours, depending upon the extent of dilution. With the higher dilutions the reaction seldom takes place with sufficient distinctness within thirty minutes, and when they are employed two hours should be allowed. We must consider, also, the personal equation. What one observer would call a reaction another might not. If the blood solution be a potent one, in a given time all of the bacteria will be found in clumps and all motion ceases. If the observer looks carefully, he will usually find an occasional organism which remains free and often motile. If now higher dilutions be employed we reach different stages at which more and more bacteria remain free and motile at the end of a definite time limit. Many observers believe that we should not recognise as a reaction anything less than a complete clumping and loss of motility of all of the bacteria in the field. This, however, would be placing the standard too high, as we can recognise with certainty specimens of blood which fall far short of this.

The extent to which motility is decreased becomes less as the dilution is increased. Between different specimens of blood we recognise all grades of intensity of clumping and impairment of motility, with the same degree of dilution and the same time limit. Generally speaking, it should always be decreased or lost; but under no circumstances, as far as we at present know, should it be increased, as is so often the case with normal blood. The most characteristic part of the reaction is the clumping. When the reaction is distinct enough for a positive diagnosis, there will be found within a given time from three to eight clumps in each field of an oil immersion lens, each clump containing from 20 to 100 or more bacteria, and the space between the clumps should be approximately clear. Any bacteria which remain free should be motionless, or less motile than the control preparation made from the culture at the same time. The rapidity and completeness of the reaction will depend to some extent upon the number of bacteria employed. It is more rapid and more distinct if a moderate number be used than when there is an excessive number of organisms.

Culture Media.

In regard to the culture media employed by different observers, bouillon seems to have been given the preference; yet its composition seems extremely variable, and, without presenting any appreciable difference otherwise, different specimens show a very different behaviour in their influence

upon the typhoid bacillus. It has been shown that hydrochloric acid used in neutralisation exerts no influence upon the phenomenon of agglutination. If, however, the reaction is carried beyond the point of neutralisation and caustic soda is employed for correction we have here a source of error if in any part of the test undistilled hard water be used. This is due to the precipitation of calcium carbonate, which according to Malvoz, agglutinates strongly the typhoid bacillus. Some specimens of bouillon give rise to a membrane of the typhoid bacilli on top, and a sediment in the bottom of the test tube. These, according to Widal, may be avoided in the test by pipetting the portion to be used from the centre of the medium. Such specimens are, however, better discarded, and a fresh supply made. Spontaneous clumping is more often observed in alkaline bouillon, and the majority of observers prefer a neutral medium both for the growth of the organism and the dilution of the blood. The employment of bouillon possesses the advantage of simplicity but it is often difficult to regulate the number of bacteria, and the culture medium, with the products of the bacteria, comes into closer relation with the reaction when agar is is employed. The reaction of the agar should likewise be neutral, and the emulsion from it is made by scraping from its surface a platinum loopful of the bacteria, and carefully rubbing it up with a drop of bouillon against the side of the test tube containing from 1 to 2 c.cm. of bouillon, and subsequently mixing it with the whole amount. In the same way distilled water may be employed, and further experience may show that it gives the more constant results, although the reaction seems more satisfactory when bouillon is employed both for the emulsion and the dilution. The age of the culture employed should be between eight and twenty-four hours, but it is not practicable to specify within very narrow limits the necessary age. Generally speaking, a culture planted before leaving the laboratory at night will serve for the test during the following day. It should be examined rom time to time to ascertain if pre-existing clumps be present.

The relation of the virulence of the organism to the clumping phenomenon has been differently stated by many writers, and has hardly received sufficient attention, as was pointed out by Professor Welch. It is well known that if too frequent transplantation of the cultures be made a time is reached when all the bacteria will be found to have undergone spontaneous clumping. Until this point is reached the bacteria increase constantly in their sensitiveness to the typhoid serum. It is probable that the less virulent the organism the better it reacts to typhoid blood.

Suggestions for Standard Method and Conclusions.

The method of using glass tubes drawn out into pipettes could be easily done by physicians who are not familiar with the test. A few illustrations will suffice to explain the method of making the necessary tubes and the results would be more accurate. When the serum is available it is always to be preferred to dried blood. It is almost as easy to collect the blood in a spindle-shaped tube, and allow the serum to separate from the clot, as it is to collect the dried blood. The dilutions should be made successively at 1 to 10, 1 to 20, 1 to 40, and 1 to 60. The standard of dilution will depend to a certain extent upon: whether dried blood, serum, or plasma is used, the virulence of the culture, the medium used for dilution, and the time allowed. Accurate conclusions can usually be drawn from the results. In case any doubts exist, control preparations should be made with normal blood and with typhoid blood. The time for the reaction should not exceed half an hour for dilutions below 1 to 50. For dilutions above 1 to 50 two hours should be allowed if necessary. The criteria of the reaction should be the clumping of the great majority of the bacteria in the field, the distinct decrease or loss of motility, with a definite dilution, and a definite time limit. The statement that the reaction is present without the consideration of dilution and time means very little. The media used both for dilution and for the growth of the bacteria should be neutral. The employment of living cultures between 8 and 24 hours old is to be preferred.

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CLINICAL REPORT ON SERUM DIAGNOSIS IN TYPHOID FEVER.

BY

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A series of 100 examinations of blood in cases of typhoid fever, and nearly as many in other affections, were reported by us to the American Medical Association (June, 1897). We obtained a characteristic reaction at some time in the course of every case of typhoid fever examined. The typical reaction was found as early as the seventh day; but in the majority of cases not until a later period of the disease. In one of our cases the reaction, which had formerly been present, was absent at the thirty-eighth day. In a number of cases as convalescence was established we have noted a change in the character of the reaction. The clumps form more slowly and the motion may not cease entirely. This variation should be studied more carefully by accurate bacteriologic methods, regard being had to the virulence of the culture used, the severity of the disease, and the exact time required to produce the result. In our opinion, this is a matter that cannot be definitively established by observations of a purely clinical nature, such as ours have been.

In the majority of cases examinations of blood sent to Public Health Laboratories will be accurate. In a small percentage of cases the results will be misleading. It is useless to send specimens of blood for examination before the seventh day of the disease, and even at this time the result may be negative in a case of true typhoid fever. Another point that should be remembered is that the reaction may be present for a varying time after the cure of typhoid fever (as long as ten years), consequently, blood sent for examination from such a case may present positive results when further clinical observation would tend to show that the disease then present was not typhoid fever.

Since the report of 100 cases above-mentioned we have made 28 observations to determine whether or not bathing had any influence on the character of the reaction. From clinical observation alone we are able to express the opinion that cold bathing has no influence on the reaction. We admit, however, that observations should be made with the same precautions as have been suggested for determining the variation in the reaction by the approach of convalescence before a definite statement can be made.

It has been our fortune to have found the reaction absent in no case of true typhoid fever, nor have we found it present in cases other than the one under consideration. The well-known clinical picture of the disease and the ordinary *post-mortem* examination have been used in verifying the results.

Finally, as clinicians, we must remember that the presence of the reaction does not take from us the responsibility of recognising the occurrence of complications or sequelæ. Thus, a patient may be admitted to the wards with the statement that he has had an attack of typhoid fever, and yet present fever and other symptoms, which would point to the occurrence of the disease. The reaction is found, yet the new symptoms may be due to a terminal infection. One of our patients was admitted with a history of having had typhoid fever. He still had fever and the reaction. It was thought to institute bathing, but it was withheld, and in a few days the undoubted clinical symptoms of meningitis arose. A necropsy showed that death was due to the latter affection, while evidence of recent typhoid fever remained.

THE DIFFERENTIATION OF TYPHOID AND COLI BACILLI.

By Wm. Hallock Park, M.D.,

New York City

Before speaking of the methods of isolating and identifying the typhoid bacilli from stools, urine, etc., I want to touch on a few points concerning Widal's reaction. In New York

we have found a bouillon culture of moderately virulent typhoid bacilli of eighteen to twenty hours' growth at 35° C. to be preferable to suspensions from agar cultures for making the examinations. The specimens for examinations are sent either as dried blood on glass slides or as blister serum in small tubes. The first has the advantage of being quickly obtained, the latter of permitting more accurate work in dilutions. The blister fluid is obtained by means of cantharides plaster, and has proved to be very satisfactory. We depend on the reaction which occurs during the first fifteen minutes after the mingling of the serum and bacilli. A marked reaction occurring in a 1 to 10 dilution of blood or serum we consider to indicate a probable typhoid infection, a marked immediate reaction in a 1 to 20 dilution as indicating a positive typhoid infection. The absence of reaction in any single examination we consider to be of little diagnostic value. We have met with cases where typhoid infection was certain, but where, clinically speaking, typhoid fever did not exist, namely, typhoid abscesses in liver, kidney, etc.

We have recently been greatly interested in trying to obtain the typhoid bacilli from stools, urine, etc., by a new method devised by one of the assistant bacteriologists of the Health Department, Dr. Philip Hanson Hiss. Several months' trials have given very encouraging results.

DR. HISS'S METHOD OF DIFFERENTIATION.

Two media have been devised by him. One for the differentiation of the bacillus typhosus from the various members of the colon group by tube culture, and one for the differentiation of the colonies of the bacillus typhosus from those of the colon group by plate culture. The tube medium contains agar 5 g., gelatine 80 g., NaCl 5 g., extract of beef (Liebig's) 5 g., and glucose 10 g. to the litre, and has a reaction indicating 1.5 per cent. of normal acid, phenolphthalein being the indicator. In this medium the growth of the typhoid bacillus produces a uniform clouding at 37° C. within eighteen hours. The colon cultures do not give the uniform clouding, and present several appearances, dependent upon differences in their motility.

The plating medium contains agar 10 g., gelatine 25 g., NaCl 5 g., beef extract 5 g. and glucose 10 g. to the litre, and reacts 2 per cent. acid to phenolphthalein. The colonies of the bacillus typhosus in plate cultures made with this medium give rise to fringing threads and outgrowths, and are small. The colon colonies are larger and do not form threads. These colonies develop within eighteen hours, and the tube medium may then be inoculated from them. This in its turn gives its characteristic appearance in eighteen hours. The whole process taking but thirty-six hours at 37° C.

The bacillus typhosus alone, of all the organisms investigated during these experiments, has displayed the power of giving rise both to the thread-forming colonies in the plating medium, and to the uniform clouding of the tube medium when exposed to a temperature of 37° C. Hence these two characters in combination have proved of great value in the isolation and identification of the bacillus typhosus, and may even prove diagnostic. The practical application of these media has led to the ready detection and isolation of the bacillus typhosus from the stools and urine of patients suffering from typhoid fever. After the first week the typhoid baciili have been obtained on the first examination in about 50 per cent. of the cases.

THE Company of Grocers has given £250 in aid of the sustentation fund of Guy's Hospital, and £250 towards the funds of St. Thomas's Hospital.

SCOTTISH BRANCH OF THE QUEEN VICTORIA JUBILEE INSTITUTE FOR NURSES.—According to the ninth annual report which we have received, the Council is extending its work, twelve new branches having been affiliated during the year, making a total of ninety affiliated associations with 146 nurses at work. In Edinburgh and Leith, which is nursed from the Training Home, 3,381 cases have been visited; total of visits paid 65,149, the majority of these patients having been sent by the medical men, and out of the number visited only 138 have been sent to hospitals. This is a significant fact, as it points to the value of the nurse's attendance in preventing the patient coming on the hospital for indoor treatment. We are of opinion that it is sound economy to provide liberally for the nursing of the sick poor in their own homes; the services of these valuable nurses should be placed within the reach of every poor person. Unfortunately the report speaks of a serious deficit in the annual subscriptions, and a balance on the wrong side of over £600; this useful Society has suffered with many others in the diversion of funds during this Jubilee year.

A CASE OF PANCREATIC CYST TREATED BY INCISION AND DRAINAGE, WITH COMMENTS *

BY ALBAN DORAN, F.R.C.S.,
Surgeon to the Samaritan Free Hospital.

IN the case of ovarian cysts in the early days of ovariotomy there were at least two points fairly definite. The nature of the cyst was, as a rule, easy to determine, at least anatomically. Its removal was clearly the right course to pursue, whatever the dangers of operation might be. On the other hand, the precise nature and relations of a pancreatic cyst are not always to be made out even by an exploratory operation, nor is it certain that its extirpation is always justifiable even if practicable. Drainage after incision, disastrous for an ovarian cyst, seems to answer well when the cyst is connected with the pancreas.

A patient study of the pathology, diagnosis, and treatment of the disease in question can alone ensure progress in the right direction. Already the literary records of pancreatic disease within the past twenty years have grown voluminous, and the whole subject cannot be discussed satisfactorily in one memoir. The present communication will therefore consist simply of an account of my own case, with comments on its principal features based upon the experience of others.

E. H., aged 24, single, domestic servant, a patient of Dr. J. Williams, of Connaught Street, W., was admitted into my wards at the Samaritan Free Hospital on May 21st, 1897, on account of a prominent abdominal tumour. To all appearances she was a cheerful, well-nourished, healthy-looking girl, who might have passed for 18 or 19 years of age. Her complexion was perfectly clear, free from sallowness, jaundice, or from any of the usual signs of anæmia, nor did her features express suffering. Her pupils were much dilated, and the uvula elongated. The pulse was 84, the temperature normal or subnormal.

The history was somewhat at variance with these appearances. Four years previously she had suffered from melancholia, and the affection returned a year later, lasting over ten months. She was very quiet during the attacks, but then, as in hospital, she was restless at night, often jumping out of bed in her sleep. No history of any fall or injury could be obtained, but it is clear that she might have injured herself under the above circumstances.

For the last two years her friends noticed that the abdomen was enlarging. Nearly eighteen months ago she had fits of spasmodic pain in the epigastrium with nausea, but no vomiting. These pains gradually became more frequent, though not very violent, and, before admission, occurred about every third or fourth day. She, however, gained rather than lost flesh and her mental condition greatly improved.

The abdominal tumour was remarkably prominent, and still more remarkably movable. Fig. 1 shows the range of its mobility. As the patient lay down it appeared to be seated in the left part of the abdomen superiorly, reaching the left loin, the ribs, and the umbilical region; it extended to about 2 inches beyond the middle line to the right, and 3 inches below the umbilicus. It could, however, be pushed to the right till it was perfectly central in position; then there was a clear note in the left loin, and resonance between the tumour and the liver.

The tumour fluctuated distinctly, and its surface felt very smooth. There was no resonance on percussion, excepting occasionally in the course of the first week in hospital, when a clear note could be obtained over a soft prominence on the lowest limits of the tumour to the right. It was evidently part of the alimentary canal, and proved to be the stomach.

The uterus was small and movable, and unconnected with the tumour. I explored the pelvis carefully, as I have removed tumours from the lumbar and hypochondriac regions which proved to be ovarian cysts twisted off their pedicles. The urine was perfectly normal, nor was there any evidence of any hepatic or thoracic disorder. The fæces were solid, fairly dark, and never pale.

* Read at a meeting of the Medical Society of London, December 13th, 1897.

Altogether, the tumour seemed to me to be most probably renal, but I thought of cysts of the pancreas and transverse mesocolon. Unfortunately, the clinical history of spasmodic pain in the epigastrium was not obtained till after the operation. The patient stoutly declared before it that she had never suffered from any pain. Just a day before the operation the

Fig 1.

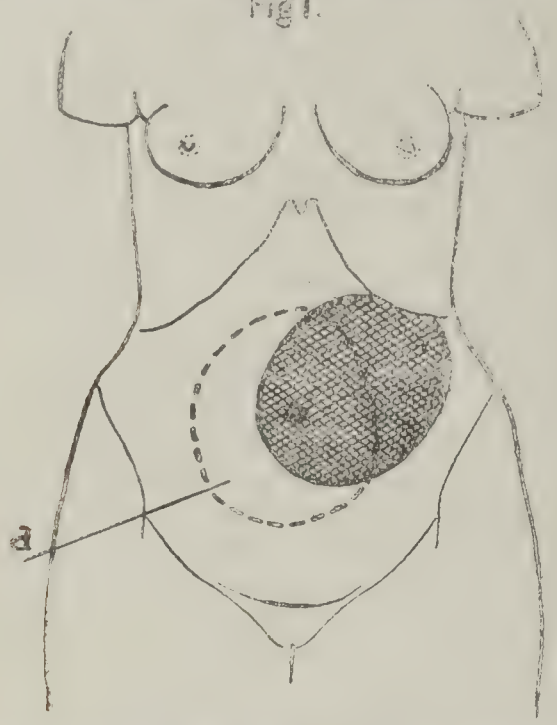

Fig. 1.—Sketch showing range of mobility of pancreatic cyst. Author's case. *a*, Site of a bulging soft structure, which proved to be the stomach.

history of two attacks of melancholia was obtained. When the nature of the tumour was made clear, Dr. J. Williams succeeded, not without great trouble, in getting a complete clinical history. Not knowing the above history, I did not think pancreatic disease very probable.

I strongly object to paracentesis in cases of doubtful tumour, for I know of selected "dull" areas proving to be empty flattened-out gut, and I dread blood vessels and papilloma. On May 29th, 1897, I made an exploratory incision, assisted by Mr. Targett, beginning close below the umbilicus. I had to enlarge the wound freely, upwards and downwards, for the first object I discovered was the stomach drawn tightly over the front of the cyst anteriorly and inferiorly. (Fig. 2.) The lesser omentum was stretched over the upper part. The great omentum hung from the lower border of the stomach, freely downwards; its vessels were extremely dilated and tortuous. It hung down, free from any adhesions, reaching to the hypogastrium, and bore much fat; the transverse colon was completely below the cyst. The pelvic organs were normal. I passed my hands up behind the great omentum, and found that the tumour lay too high to be tapped below the level of the umbilicus. I noticed that the transverse colon could be pushed down; in fact, the transverse mesocolon was certainly not opened up, nor was the mesentery involved.

Having divided two inches of the lesser omentum on the most prominent part of the cyst, I exposed a distinct wall, and there was no trace of clot. By aid of an aspirator, 44 ounces of fluid were drawn off. This fluid was opaque, greasy, ochreous, and free from odour. The Clinical Research Association examined the fluid, and sent me the following report (Mr. Targett carefully searched for hooklets, but could find none, nor was there any trace of old hydatid membrane):

"July 18th, 1897. This fluid is faintly alkaline, of a dark-straw colour; specific gravity 1011, free from odour; it contains a considerable quantity of albumen. On standing, an oily substance formed on the surface, consisting of fat and cholesterine crystals. There was also a crystalline precipitate which proved to be insoluble in alcohol, chloroform, or ether, and was certainly not fatty in nature. In appearance the crystals suggested tyrosin, but did not give the reaction of this substance; the quantity was too small for identification. On microscopical examination, no hairs or other characteristic elements were found.—C. H. WELLS, Secretary."

Fixing a T-forceps on the puncture in the cyst, now well collapsed, I searched with my hand above and to right and left of the cyst. There were no adhesions, the kidneys and spleen could be felt, the diaphragm was not involved, the liver and gall bladder were quite healthy. The base of the cyst did not reach either loin, but was incorporated with a wide area of the pancreas immediately to the left of the head. I cautiously attempted to enucleate the cyst around the puncture, but big veins soon appeared, and I thought it best not even to excise a portion of the cyst wall. As I found that it sprang from the pancreas, and that no pedicle could be formed as in certain cases where a pancreatic cyst has been successfully excised, I did not contemplate the total removal of the tumour.

Fig 2.

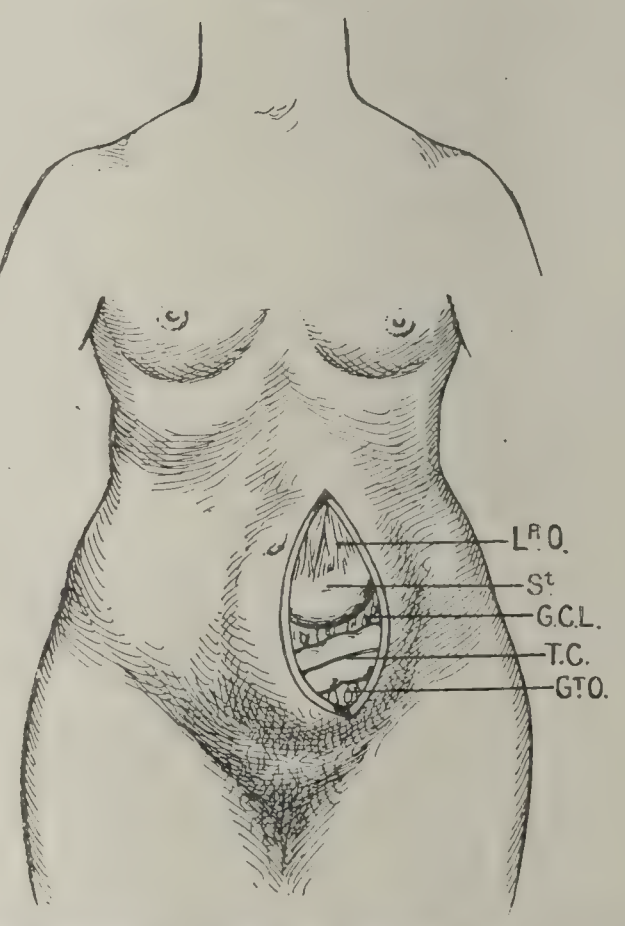

Fig. 2.—Parts exposed at operation. Author's case. Lr. O., lesser omentum on cyst; St., stomach on cyst; G. C. L., "gastro-colic ligament," below cyst; T.C., transverse colon; Gt. O., great omentum, below colon. (See Fig. 4.)

I determined upon thorough drainage, with precautions. I sewed the parietal peritoneum and the cut borders of the lesser omentum to the cyst wall around the puncture, using No. 1 China twist. I passed deep silkworm-gut sutures into the abdominal wound above and below the cyst, tied them, and trimmed away the umbilical cicatrix. To make sure that the cyst was held secure, and acting on a suggestion of Mr. Targett's, I passed a No. 4 silk, both above and below the puncture, through all the layers of the wound, the lesser omentum and the cyst wall, and tied the two silks.

Lastly, the T-forceps was taken off, the puncture enlarged, and a 6-inch glass drainage tube passed into the cavity of the cyst. This tube passed backwards and also very much upwards, as the stomach pressed on the under surface of the emptied cyst. The wall of the cyst was tough, and about an eighth of an inch thick, its outer surface pale yellow, its inner looked dull red and spongy, but was not vascular. The wound was now dressed, and the patient returned to bed.

AFTER-TREATMENT.

The patient went on very well after the operation, but gave some trouble, owing to two complications. An attack of tonsillitis and urticaria set in at the end of the first week, when the weather was intensely hot, but soon subsided, the temperature never rising higher than 100.6°. More serious was the great restlessness during sleep, an old-standing

nervous symptom. When awake, the patient was remarkably quiet and obedient; directly she fell asleep, excitement set in, and she tried to slip out of bed. Her brother informed us that he was troubled in the same way after an operation for hernia, and he seems to have been a somnambulist from childhood.

Owing to the restlessness, I removed the glass tube on the second day, and replaced it by 6 inches of red rubber tubing. From first to last there was free discharge from the cavity of the cyst, staining the dressings; for a day or two after the operation it was pinkish and turbid, but for two weeks afterwards it appeared as a colourless, slightly viscid, alkaline fluid like saliva. According to two reports prepared for me by the Clinical Research Association, this colourless fluid had an extremely well-marked amylolytic power. Towards the end of the month the fluid got mixed up with discharge from the granulations in the integument around the drainage track, and hence could not be satisfactorily analysed.

Although there was much urticaria on the chest and hypogastrium at the beginning of the second week, the skin round the drainage tube never showed any signs of irritation.

The treatment consisted in washing out the cavity daily with a 1 in 20 solution of sulphurous acid. After the middle of the second week the patient rapidly gained flesh. She was discharged on July 7th, 1897. The abdominal wound had united well; it was 4 inches long. The drainage track, opened nearly 3 inches below the ensiform cartilage, and was about 3½ inches deep. The temperature had been quite normal for three weeks, and the patient was strong and able to walk about. There was still enough daily discharge to soak through two layers of gauze and stain the strapping laid over them. A short piece of tubing was left in the orifice of the track, which I thought advisable to keep open for awhile.

At the end of November the patient was in excellent health and had grown stout. The discharge during the first fortnight, which she spent at home, had been very scanty and thick, owing to pus from the granulations around the drainage track in the parietes. Once or twice a week a few drops of clear fluid issued from the track. The last occasion on which I examined the abdomen was November 17th. The cicatrix was strong, the epigastrium concave, and no trace of any tumour could be felt on palpation. The integuments showed no sign of irritation. Having described the case, I will now discuss its principal features of interest.

Age of the Patient.

The patient in this case was of an age at which pancreatic cystic disease is relatively frequent—indeed, a quarter of over 100 recorded cases occurred in men or women between 20 and 30 years old. The oldest case was 76 (Stieda).[1] On the other hand the youngest patient, who was under the charge of Dr. Railton, of Manchester, was a female infant 6 months old. The tumour in this instance was a true cyst springing from the tail of the pancreas; its wall was thick and tough. The youngest patient submitted to operation was a boy under 4 years of age (Schoenborn, see Heinricius). He recovered after incision and drainage with iodoform gauze.

Dilatation or Contraction of Pupils.

The pupils were much dilated before and after the operation. In Treves's case they were contracted almost to pinholes before the abdomen was opened, and remained so for a fortnight afterwards, just as though the patient were under morphine. Theodore Fisher, however, doubts whether the tumour in this case was a true pancreatic growth and not a peritoneal sanguineous cyst. I cannot find any more facts of general value in respect to this question of the pupil in the disease under consideration.

Absence of Glycosuria.

The urine was perfectly normal before and after operation. I have no time to dwell on that deep physiological question—the relation of diabetes to pancreatic disease. Sugar may be absent in the urine when much of the pancreas is taken up by the cyst. On the other hand, Horrocks, of Bradford, recently observed glycosuria in a man, aged 56, who died of exhaustion. A large cyst occupied the site of the pancreas; no normal glandular tissue could be found, and the duct of Wirsung could not be entered by a probe. At the duodenal end of the cyst, however, a stone of the size of a pigeon's egg was felt loosely impacted in the contiguous common bile duct. Churton's case of pancreatic cyst with diabetes is better known. Very remarkable is Zweifel's experience. In his patient the urine was free from sugar when first examined, then he removed the pancreatic cyst. On the eleventh day sugar appeared in the urine and did not disappear for three weeks. In my own case the fæces throughout seemed healthy. The pulse, 84 before operation, was usually about 96 during convalescence. Perhaps the relative slowness before the cyst was emptied was due to irritation of the vagus from pressure on the solar plexus. There was never any dislike to fats or any other article of diet.

Injury as a Cause of the Disease: Epigastric Pain as a Diagnostic Feature.

The history of melancholia is of interest, as depression is noticed in cystic disease of the pancreas. The chief importance of this complication, in my own case, lies in the possibility of injury during one of the attacks of restlessness from which the patient suffered at the same time. The relation of pancreatic cysts to injuries of the pancreas is well known, but time will not allow me to discuss it. I failed to trace any history of direct violence as is common in the blood cysts of the lesser cavity of the peritoneum, so well described by Theodore Fisher and Jordan Lloyd.

On the testimony of her relatives the patient suffered from fits of spasmodic pain, as I have stated. She denied that she ever suffered, and it was not till after the operation that I, with the assistance of Dr. J. Williams, learnt the truth. Her declaration that there had been no pain misled me. We know, however, that pancreatic cysts do not always cause marked pain. On the other hand, other rare tumours in the upper and middle part of the abdomen are painful. In the case of Gooding of Cheltenham (a cyst of the great omentum) there was sickness and occasional vomiting after meals, and a great deal of shooting and aching pain in and about the tumour. Precisely the same symptoms have been noted in patients with pancreatic cysts.

The patient had gained flesh shortly before the operation, which in itself would seem remarkable, since the cyst had a broad attachment near the head, and was of considerable size. Emaciation is seen under such circumstances, and is observed when a large blood cyst presses on the pancreas. I will dwell no longer on this symptom, however, as I think it of little value in this case. The gain of flesh was due no doubt to the disappearance of the mental depression which had troubled her previously.

Broad-based Tumours may Feel Movable: Fluctuation.

The tumour could be moved laterally, yet its base was fairly broad, and there was no pedicle. Similar lateral mobility, however, is seen in perfectly sessile broad ligament cysts, which rise high out of the pelvis, especially when they are not very tense. The majority of pancreatic cysts appear to be movable. Fluctuation was marked, and Heinricius finds that this symptom is the rule, though Treves declares that "fluctuation is very seldom to be obtained."

Tapping Objectionable, even for Diagnosis.

I repeat that I strongly object to paracentesis in cases of doubtful abdominal tumour. I have seen fatal results even where the greatest skill and care had been at the patient's disposal. Experience shows that should the tumour prove to be a pancreatic cyst, the danger is considerable. Churton demurs to treatment by incision in diabetic cases, and prefers aspiration, "even if requiring repetition." "Diabetic patients," he writes, "are more likely to become a prey to septic infection, as happened in the present case." I cannot agree with such an opinion. Dr. Churton's case lived a year after incision of the cyst. On the other hand, I should feel inclined to leave alone altogether one of these diabetic cases—at least, until Dr. Churton or some other able physician had cured the diabetes. Again, in Karewsky's, Le Dentu's, and Jacobson's cases the stomach was inadvertently perforated by the aspirator. Such an accident is best avoided, even when we know that, as in Annandale's case, aspiration may ensure accurate diagnosis. Escape of cyst contents may cause severe sym-

ptoms, as in the case of McPhedran (Toronto), where an incision was made and the abdominal wound closed without drainage—a practice even more dangerous in cases of this disease than aspiration. Senn's theory—that normal pancreatic juice cannot hurt the peritoneum—does not apply here, for the juice is seldom if ever normal in the cyst, though it often becomes so after draining.

DILATATION OF VESSELS OF GREAT OMENTUM.

The extreme dilatation of the vessels of the great omentum, entirely below the tumour, was remarkable. Theodore Fisher has already noted that they are often enlarged in pancreatic cystic disease, and in cases of blood cysts of the lesser peritoneal cavity (Jordan Lloyd, Case 2). On the other hand, cysts of the great omentum do not appear to cause dilatation of its vessels. There was no dilatation in Simon's case, in Sir Spencer Wells's case (where I assisted), nor in Dr. Bantock's, which I described sixteen years since; nor is this condition noted in Gooding's, Ormsby's, or Hearn's cases. As in Hearn's and Ormsby's, the cyst was multilocular (indeed there was solid matter in Ormsby's cyst), the vessels were probably dilated to a certain extent. In my case of pancreatic cyst, the great omentum was otherwise quite healthy. It does not become liable, when a pancreatic cyst develops, to disseminated fat necrosis such as Körte has seen in suppurative pancreatitis.

SURGICAL IMPORTANCE OF DEFINING PERITONEAL RELATIONS.

The relation of the cyst to the adjacent peritoneal folds is one of the most interesting features in cases of this kind; but as a general subject it is so well known that I need not dwell on previous experience at any length. Hersche in his commentary on von Hacker's case (Fig. 3) gives the best description of the different ways in which a pancreatic cyst may displace the peritoneum.

Fig 3.

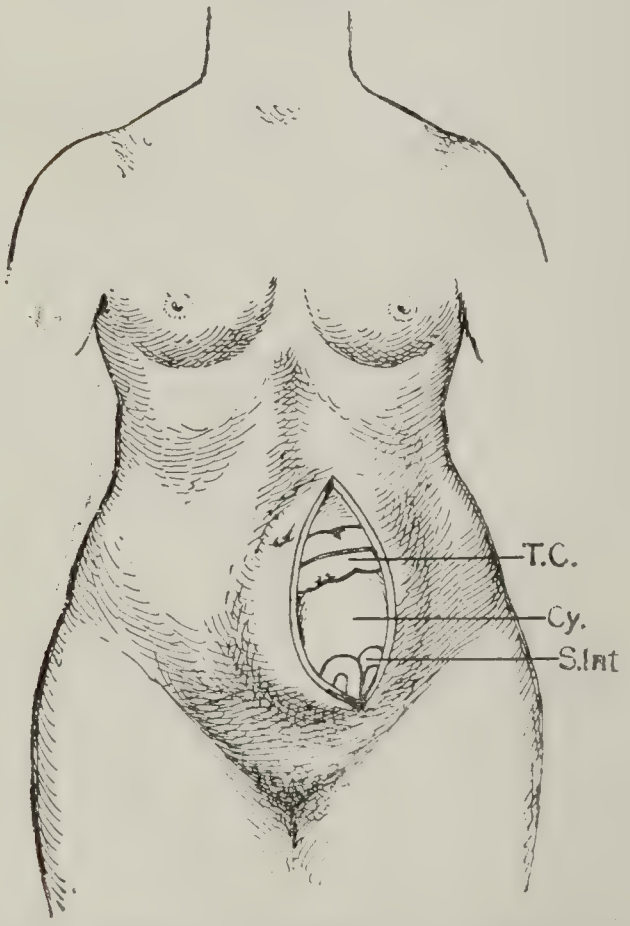

Fig. 3.—Parts exposed at operation. Von Hacker's case (after Hersche). The transverse colon (T. C.) lies on the top of the cyst (Cy.), which is invested in front by the descending layer of the transverse mesocolon. The small intestines (S. Int.) are seen below the cyst. (See Fig. 7).

First, the cyst may project into the lesser cavity of the peritoneum, pushing forward the lesser omentum. The stomach will then lie on the lower part of the front of the cyst[2] (Fig. 4). This is the highest position, in respect to peritoneal folds, that a pancreatic cyst can occupy, and it is a rare position. Hersche and Heinricius can only find a few examples (Riegner, Karewsky). My own case comes in this class. What settled the class in the case under discussion

Fig 4

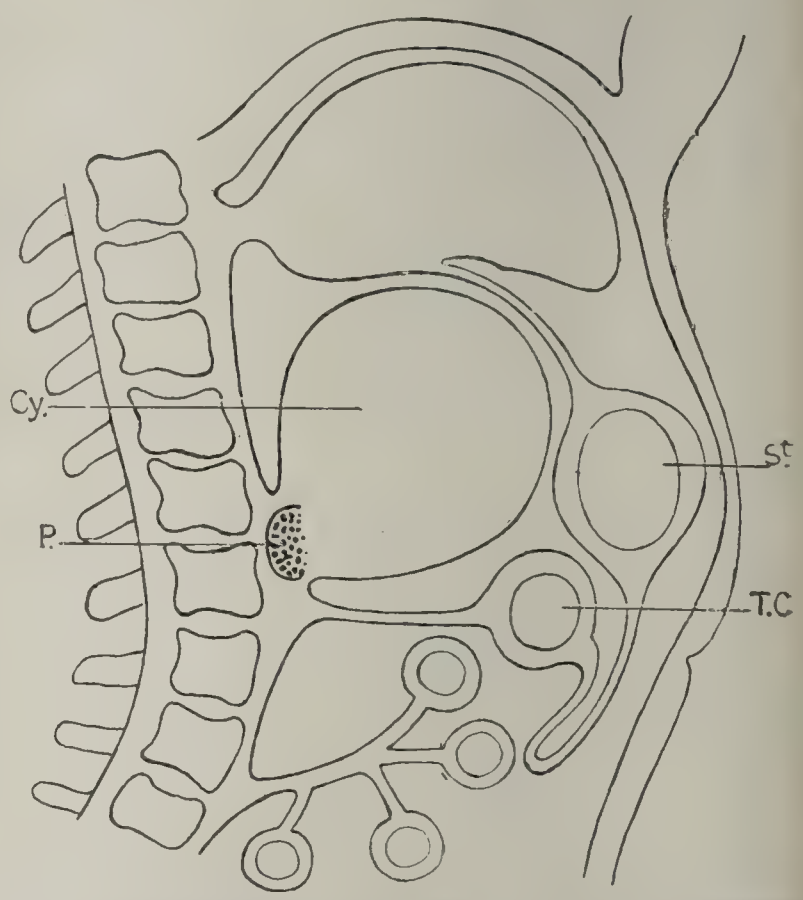

Fig. 4.—Pancreatic cyst in lesser cavity of peritoneum. The anterior aspect of the cyst bears the lesser omentum and stomach as part of its capsule. (Author's case; see Fig. 2.) P, pancreas; Cy., cyst; St., stomach; T. C., transverse colon. (Figs. 4 to 8 are after Hersche and Heinricius)[1]

Fig 5.

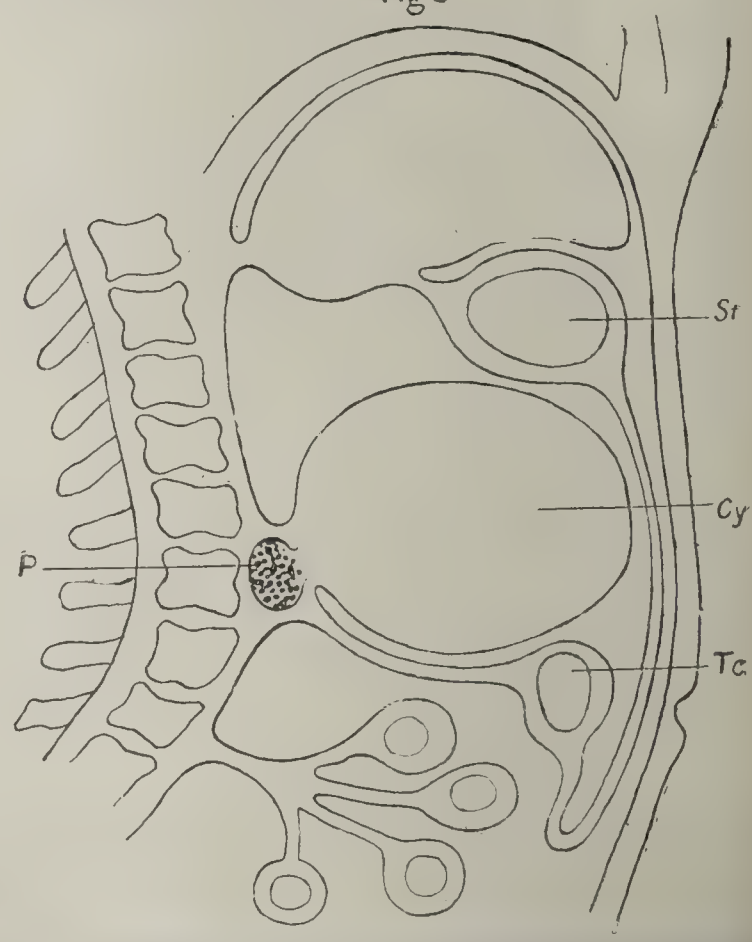

Fig. 5.—Pancreatic cyst in lesser cavity of peritoneum, but lower than in Fig. 4, the stomach investing its upper part. (McPhedran's case.)

was the fact that not only did I see the lesser omentum and stomach on the face of the cyst, but I found the upper part of the great omentum ("gastro-colic ligament") hanging freely from the lower border of the stomach, which precisely corresponded to the lower border of the cyst, and I noted that the transverse meso-colon passed entirely under the tumour.

Fig 6.

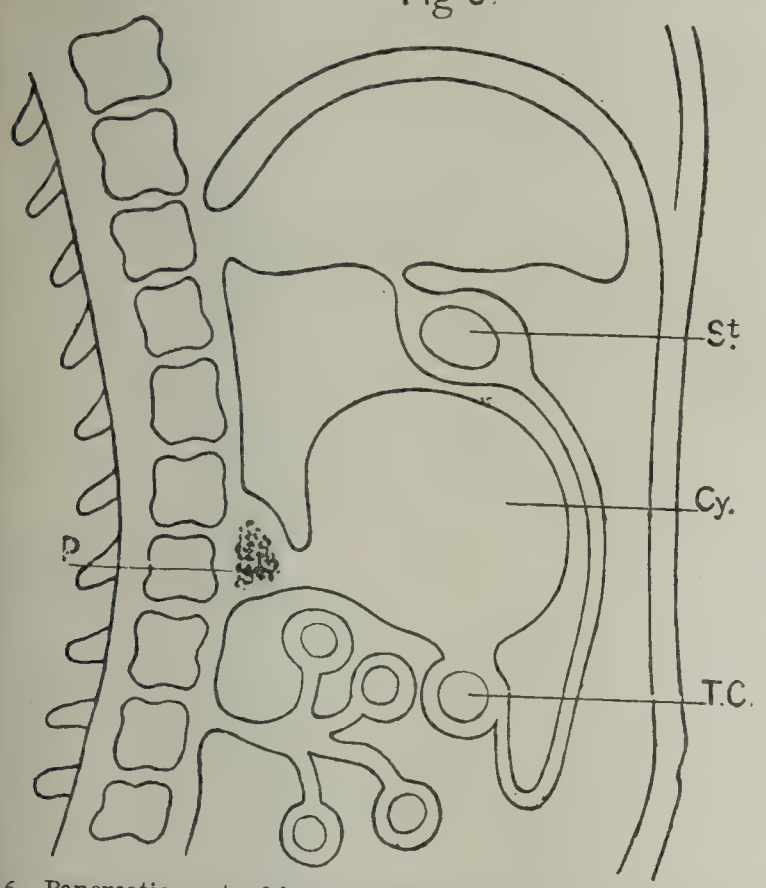

Fig. 6.—Pancreatic cyst, chiefly invested by the upper or ascending layer of the transverse mesocolon. The colon lies low on the anterior surface of the cyst. (Salzer's case.)

Fig 7

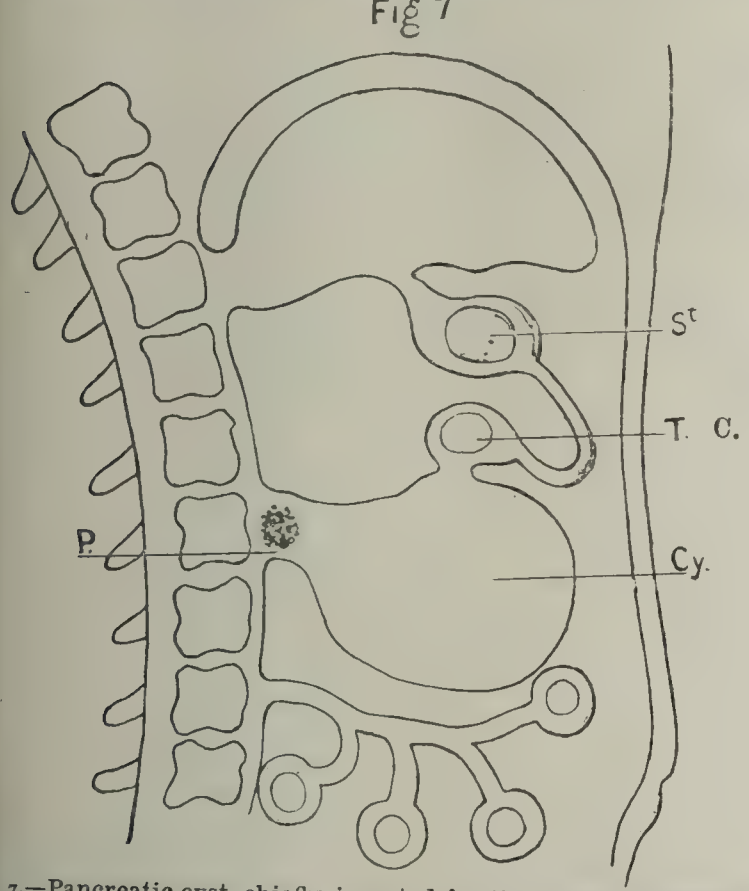

Fig. 7.—Pancreatic cyst, chiefly invested by the lower or descending layer of the tranverse mesocolon. The colon lies high on the anterior surface of the cyst. (Von Hacker's case; see Fig. 3.)

More frequently, when the lesser cavity is occupied by the cyst, the great omentum, especially its gastro-colic portion, is stretched forwards, then the stomach lies on the upper part of the front of the cyst (Fig. 5, McPhedran's case). Sometimes the transverse mesocolon is opened up. Then, as Hersche has lucidly demonstrated, if the layers be opened up evenly, the colon must lie across the middle of the cyst. He notes, however, that experience shows that the layers tend to get opened very unevenly. Then when the upper layer of the transverse mesocolon is invaded, the transverse colon must lie on the lower part of the front of the cyst (Salzer's case, Fig. 6); if the lower layer be principally involved, the colon, as in von Hacker's case, will be found on the upper part of the front of the cyst (Fig. 7). This latter form, as Hersche shows, is rare. Lastly, the lowest position for the cyst is in the general peritoneal cavity below the lower layer of the transverse mesocolon (Fig. 8). Heinricius declares that his second case was of this class; in another instance (Shattock and Bernard Pitts) the true mesentery invested the front of the cyst. The colon and its mesentery lay free from the cyst and far above it, as in my case they lay free from the cyst and well below it. Thus Hersche's simple demonstration will always aid the operator if he bear it in mind, and will make much handling unnecessary.

Fig 8.

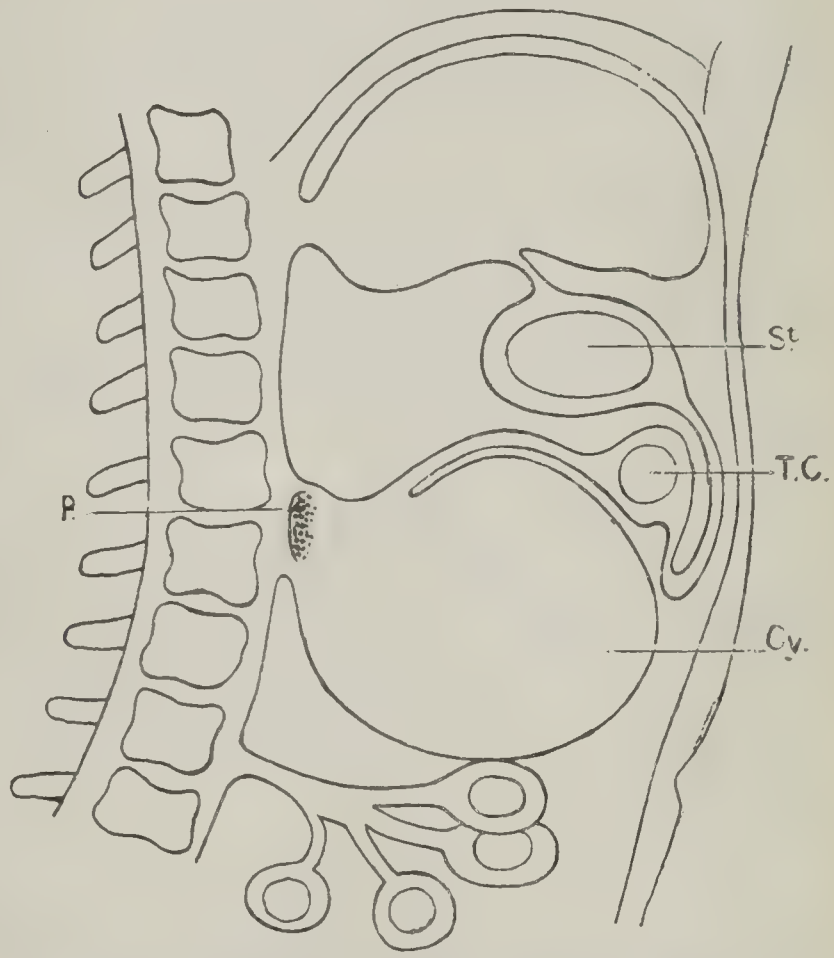

Fig. 8.—Pancreatic cyst in the general peritoneal cavity, entirely below the transverse mesocolon. (Heinricius's case.)

The relations of the cyst to the peritoneum anteriorly were very evident in my case. As to posterior relations, I suspect that growths of this kind sometimes burst through the peritoneum in front of the pancreas so that their outer wall lies free in the lesser peritoneal cavity. Körte and others have shown that rupture of the peritoneum seems common when effusions due to pancreatitis (Körte) or hæmorrhage (Jordan Lloyd) near the pancreas press forwards. Very probably a cyst sets up inflammatory irritation at first, and then perforates the peritoneum. This would account for the occasional freedom of the ascending layer of the transverse mesocolon from any part of the cyst, as I observed at my own operation. Let us remember the relation of the body of the pancreas to that fold, and also bear in mind Hersche's demonstration that the same layer has been known to form the capsule of the cyst, the colon being then stretched over the lower part of the cyst wall. It is difficult to see, then, how a cyst could avoid pushing forwards the ascending layer of the transverse mesocolon unless it perforated the peritoneum,

actually in contact with the pancreas, at a very early stage of its development. A cyst might push forward the peritoneum above the pancreas if it arose entirely from the upper margin of that gland, but in my case the cyst was fixed by a broad attachment to the anterior aspect of the pancreas.

THE WALL OF THE CYST.

I have little or no doubt that the wall of the cyst was a true wall, and not a product of inflammation. I did not cut away a portion for microscopic examination, as I was specially anxious not to let a drop of fluid escape into the peritoneal cavity. We all know that these cyst walls sometimes contain pancreatic glandular tissue, a proof that they arise from the pancreas and not from organisation of lymph around blood after injury, or inflammatory products after pancreatitis. The cyst wall most likely carries many acini along with it as it grows. In this way we can understand why it is often cured by drainage, which would only stimulate the growth of neoplastic glandular tissue in a cyst wall. In Pearce Gould's second case, evidently malignant, this kind of growth possibly existed. But the experience of draining and of extirpation shows that pancreatic cysts are usually of a simple type, and therefore destitute of elements with proliferating power. The traces of glandular tissue detected by Cibert, Heinricius, and others may be pathologically similar to the Wolffian elements which von Recklinghausen detected in the walls of the Fallopian tube and uterus in very old subjects. They are fœtal relics which probably exist in all women, yet rarely burst into growth. The glandular tissue in the wall of a pancreatic cyst probably lies latent in the same way, though something more than a fœtal relic.

The microscope has been so freely used by competent authorities that the pancreatic origin of the cyst wall itself cannot be doubted. Hence I need dwell no further on the pathology and causation of these cysts as compared with sanguineous effusions, merely observing (since peritoneal relations are so important to the surgeon) that neither can open up the layers of the great omentum in an adult, as some writers seem to believe, since those layers are obliterated early in life.

LUMBAR DRAINAGE NOT ALWAYS PRACTICABLE.

The base of the cyst, in my case, did not reach either loin. Thus it would have been useless to tap or drain through the loin, as Pearce Gould and others have done. In Gould's case, where the patient was of the same age as mine, the tumour, which had no defined cyst wall, projected in the lumbar region. Gould recommends drainage from the loin whenever the cyst can be easily pushed to below the twelfth rib, but it should be first explored from the front, and R. Leith, who gives valid reasons for preferring lumbar drainage as a rule, admits that anterior incision and drainage are good in movable cysts which come well forward.

ON DEFINING ATTACHMENT OF CYST AT OPERATION: QUESTION OF CALCULI.

The base of the cyst was sessile, involving the body of the pancreas immediately to the left of the head. About a quarter of the recorded cases are thus inserted, the great majority being attached to the tail (Nimier). I explored the cyst from outside, and easily made out its relations. I did not deem it safe to examine the interior. The insertion of a pancreatic cyst is often easily definable from without (Steele of Chicago and others), whilst searching from within for a calculus (Roswell Park) is barely worth the risk. In the Bernard Pitts and Shattock case the calculi lay in a loculus, not in a duct opening into the cyst—the ideal theoretical position for obstruction. Let it be remembered that even in a necropsy the relation of a pancreatic cyst to the normal duct is often difficult to demonstrate. In Railton's infant nothing more was found than a dimpling of the inner surface of the cyst at the site of attachment to the pancreas. In Mérigot's well-known case, where a blood cyst primarily or otherwise connected with that organ absorbed part of its body by pressure, "the principal pancreatic duct was longitudinally incised, and then found to disappear in the wall of the tumour..... where it was lost."[3] These conditions could not be detected by any amount of searching inside a cyst at an operation. In Durante's case the cause of obstruction was an ascaris in Wirsung's duct, but it was not discovered till after death.[4] An ascaris might easily escape the most careful search at an operation, besides experience shows that the cause of obstruction was quite exceptional in this case. Above all, pathology teaches that this calculus hunting, recommended in some systematic works, is a wild-goose chase. Mr. Targett, as well as Drs. Goodhart and Theodore Fisher, are all opposed to the theory that a pancreatic cyst is usually due to blocking of a duct by any agency. On the other hand, the risks of handling the interior of a pancreatic cyst are not visionary, for it is liable to slough (Wölfler, Karewski Hersche).[5]

OBJECTIONS TO TOTAL REMOVAL OF SESSILE PANCREATIC CYSTS.

Finding that the base of the cyst had a broad attachment to the body of the pancreas near the head and no pedicle, I did not attempt the total removal of the tumour. I objected to face the self-evident risks of a radical operation when I knew that drainage answers very well, and is attended with little peril.

The surgeon must not in dealing with these purely cystic tumours dwell too much on cases of solid growths of the pancreas, which have been successfully removed by Sendler, Ruggi, and possibly Pearce Gould. The tumour in the latter case is now in the College of Surgeons (Pathol. Series, 2354 C), but was apparently confined to the lesser omentum.[6] These solid tumours, if not left alone altogether, must be taken away. Krönlein removed very rightly an angio-sarcoma "as big as a fist." The patient did well for a few days, but died on the seventh from gangrene of the transverse colon due to ligature and division of the colica media artery near its roots.

Extirpation of a cyst of the pancreas is, on the other hand, not essential to cure. Poncet admits that his own successful experience was not encouraging, and in that case the base was attached to the tail of the pancreas, the most favourable position for a radical operation. Seven pairs of forceps were left projecting from the abdominal wound, besides another of larger size fixed to the pedicle. On the second day the seven were removed. On relaxing the big forceps blood freely rose out of the wound, so it was tightened again and the bleeding ceased. It was removed on the seventh day, and free discharge of fœtid pus followed. On the fifteenth day the temperature was 104°, and not till a day later could the Mikulicz drain, inserted at the operation, be removed, as the least handling set up dangerous bleeding.

Another latter-day operator, Heinricius, of Helsingfors, who has twice successfully removed a pancreatic cyst, frankly admits that the operation is not always practicable or justifiable. In his first case the base of the cyst stretched like a pedicle from the pancreas, and was treated as such by double transfixion with stout silk and divided, leaving on retraction a cut surface as large as a florin. In the second the patient was pregnant, and the tumour diagnosed as ovarian. After enucleation from its peritoneal capsule, the base was found inserted on to the pancreas. It was ligatured with silk and divided; then, as the pancreas fell back, severe hæmorrhage took place from several points in its tissue, and ligatures had to be applied by means of curved needles (*Umstechung*). The risk of this necessary manœuvre is self-evident to all who remember the relations of the pancreas. The patient recovered, and was delivered of a live child five months later. In Paul Eve's (of Nashville) case, which must be studied from the original report, "a short pedicle was found attached to the body of the pancreas close to the head of this organ." The transverse colon and mesocolon were torn. The pedicle was easily treated by a Staffordshire knot, and a portion of the pancreatic substance removed with the pedicle. There was little or no hæmorrhage during this operation, and no other ligatures were required." The omentum was fixed to the denuded colon. Recovery was rapid. The extirpated cyst grew from the tail of the pancreas—a favourable position, in cases where the operators were Poncet, De Wildt, Zweifel, Clutton, Mikulicz, and others. My colleague, Mr. Malcolm, will presently report a case of this kind. Kosinski's case is imperfectly reported.

The danger of extirpation lies chiefly in the size and at the same time the difficult accessibility of the important blood vessels lying near the pancreas. What happened in Krönlein's case might occur in removal of a cystic tumour. In

one of Mikulicz's two cases the splenic artery was incorporated with the cyst wall and had to be divided and ligatured. De Wildt had to tie the splenic vein, which proved difficult. Bozeman had a relatively easy experience; the artery in the pedicle was as large as the brachial, but was secured in the pedicle ligature, no other ligature being required. In Mr. Clutton's well-known case, where a portion of the pancreas had to be excised with the cyst, "the cut surface of the gland required many ligatures to arrest bleeding, and even then it continued to ooze, apparently on account of its friable nature, which made it difficult to apply a ligature without tearing some of the surrounding tissue." In Billroth's case both the splenic artery and vein were tied, and the patient died on the tenth day.

Now, it is questionable whether the surgeon ought to perform an operation where the splenic artery may have to be tied whilst simple drainage answers so well. The artery, however, can be seen, though it lies so deep in the abdomen. Unfortunately free bleeding from the surface of the pancreas required in several of these cases ligature by means of curved needles. This practice (*Umstechung*), so valuable in pelvic surgery, is not always safe even in the pelvic region, for the ureter may be tied and large vessels wounded. In the vicinity of the pancreas the danger is even worse, and manipulations are much more difficult.

Out of about a dozen reported cases—I speak indefinitely, as Kosinski's, at least, is doubtful—two died, though neither of these were recent. Several were believed to be cysts of other organs—von Hacker, Heinricius, etc., "ovarian cysts," De Wildt "hydronephrosis"[7]—and the final step taken when it was too late to do anything else. For partial excision of the cyst is questionable, though, out of 8 cases, the 3 deaths all occurred over ten years since. I am, however, exceedingly sceptical about the completeness of these reports. To my knowledge more than one fatal case has not been published. Sir Spencer Wells removed a pancreatic cyst in 1877, and I made a *post-mortem* examination a few days later. Death was from sepsis, not from hæmorrhage. A portion of the base of the cyst was left on the body of the pancreas.[8]

Thus some bold surgeons have succeeded in extirpating more or less sessile pancreatic cysts, nor will I deny that, for reasons some of which have been given, their operations in particular were justifiable. Certainly they were triumphs of skill. In general, however, I consider that when a pancreatic cyst is distinctly sessile extirpation is unjustifiable, and it did not seem advisable in my case. The base was very broad. A fistula is not a very serious after-result, yet it seems about the worst likely to occur if drainage be properly managed. Nor do such cases suffer after the fashion of patients with biliary fistula.

Drainage and its Effects.

I determined therefore upon thorough drainage, with precautions. It may be asked why a pancreatic cyst should be touched at all. The chief reason for operation is that fatal rupture may otherwise occur (Boeckel). In Dr. T. Savill's case the precise nature of the disease was doubtful. Fatal hæmorrhage is not unknown (Bécourt). Reddingius related, in 1892, a case of fatal peritonitis from sloughing of the cyst and escape of its contents; and here the patient was like mine, an active young girl exposed to injuries. Again, the cyst may become of inconvenient size, as in Martin's case left alone for seventeen years.

Lastly, experience shows that incision and drainage performed with ordinary precautions give almost uniformly good results. Out of about 70 published cases of incision and drainage only 5 died, excluding 1 of Pearce Gould's cases that lived four years afterwards, when cancer appeared. Hartmann's died in six weeks of cancer, which must have existed at the time of operation. Richardson lost a case from perforation of the stomach six months after operation; it was of traumatic origin. Reeves's patient died of a low fever of uncertain origin nearly five months after incision. Durante's case does not come strictly under this head as part of the base was detached at the operation. Lull's patient was diabetic, and he did the operation in two stages. The recovery of over 60 cases is, I admit, remarkable. Some at least of these pancreatic cysts bear not only secondary cysts but also distinct glandular elements in their walls.[9] An ovarian glandular cyst would only be made worse by such treatment. The truth remains, however, that drainage cures pancreatic cysts for reasons which I have endeavoured to explain this evening. The cyst in my case was small after it had been tapped, and needed no trimming as in Bernard Pitts's two cases. The precautions which I took to avoid fouling of the peritoneum and to fix the cyst securely have been sufficiently described, and I need not dwell on the dressing. Sulphurous acid is a very good stimulant.

The contents of the cyst were certainly mixed with broken-down constituents of blood and something like tyrosin, and the discharge remained very composite for a few days, then pure pancreatic fluid escaped, as has been observed before; later on the natural secretion was fouled with pus from granulations. The elements of blood are common in old cysts in any region, and do not necessarily imply in this case that the disease was primarily an effusion of blood.

Although my patient had a very tender skin and was worried with urticaria, the flow of pancreatic juice, fairly free at one time, never set up irritation of the surrounding skin, though it ran from June till about the first of October. In some cases the discharge remains bland for several weeks, and then becomes irritant (McPhedran), probably because it is at first diluted with serum or blood, and later becomes charged with an extra strong proportion of digestive principles. In cases like my own, though the discharge was pancreatic fluid, and was amylolytic, it must have been too weakly charged with those principles to damage the skin.

Notes and References.

[1] Eine Pankreascyste, *Centralblatt für allgemeine Pathologie u. pathol. Anat.*, vol. iv, 1889, p. 449. This cyst was accidentally found at the necropsy of a woman, aged 76, who had died of bronchitis. It sprang from the substance of the tail of the pancreas. The wall was "tough connective tissue, poor in cells," and the cavity contained blood. [2] The surgeon must remember that when writers speak of the stomach, colon, etc., lying "on" a pancreatic cyst, they mean that these viscera actually form part of its capsule, as the colon does in a large renal cyst. [3] I have taken the above quotation from the author's own report ("Kyste hématique de l'abdomen, situé entre le pancréas et l'estomac: laparotomie, mort, autopsie," Mérigot de Treigny, *Bulletins de la Société Anatomique de Paris*, vol. ix, 4th series, 1884, p. 428.) [4] This remarkable case was imperfectly reported in Italian and German journals. Professor Durante kindly sent me his original memoir (see Bibliography). At a point where an attempt had been made to detach the cyst from the pancreas, "si vede pendere in corrispondenza del dotto Wirsungiano un corpo rotondo riconoscibile.....per l'avanzo di un ascaride." [5] In von Hacker's case, where much sloughing followed drainage, the process probably began before the operation, where the cyst walls were found very friable and the cavity full of broken-down material. [6] The report of this successful case will, Mr. Gould informs me, be duly published. [7] The true nature of the cyst was not recognised until it was drawn out of the operation wound, and the tail of the pancreas was seen to run into its base. [8] In his last work, *Diagnosis and Surgical Treatment of Abdominal Tumours*, 1885, Sir Spencer Wells writes (p. 206): "But pancreatic cysts must be very rare, as I have never seen one." He informed me afterwards that he had made an oversight. [9] In a case where Mr. Bernard Pitts drained after incision, the cyst was actually multilocular. One cavity contained calculi. Mr. Pitts kindly informed me (October 12th, 1897) that a sinus remained for a few months, but ultimately closed.

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ON SOME PECULIAR PIGMENTED CELLS FOUND IN TWO MOSQUITOS FED ON MALARIAL BLOOD.

BY SURGEON-MAJOR RONALD ROSS, I.M.S.,

(With Note by Surgeon-Major SMYTH, M.D., I.M.S.)

FOR the last two years I have been endeavouring to cultivate the parasite of malaria in the mosquito. The method adopted has been to feed mosquitos, bred in bottles from the larva, on patients having crescents in the blood, and then to examine their tissues for parasites similar to the hæmamœba in man. The study is a difficult one, as there is no *a priori* indication of what the derived parasite will be like precisely, nor in what particular species of insect the experiment will be successful, while the investigation requires a thorough knowledge of the minute anatomy of the mosquito. Hitherto the species employed have been mostly brindled and grey varieties of the insect; but though I have been able to find no fewer than six new parasites of the mosquito, namely, a nematode, a fungus, a gregarine, a sarcosporidium (?), a coccidium (?), and certain swarm spores in the stomach, besides one or two doubtfully parasitic forms, I have not yet succeeded in tracing any parasite to the ingestion of malarial blood, nor in observing special protozoa in the evacuations due to such ingestion. Lately, however, on abandoning the brindled and grey mosquitos and commencing similar work on a new, brown species, of which I have as yet obtained very few individuals, I succeeded in finding in two of them certain remarkable and suspicious cells containing pigment identical in appearance to that of the parasite of malaria. As these cells appear to me to be very worthy of attention, while the peculiar species of mosquito seems most unfortunately to be so rare in this place that it may be a long time before I can procure any more for further study, I think it would be advisable to place on record a brief description both of the cells and of the mosquitos.

The latter are a large brown species, biting well in the daytime, and incidentally found to be capable of harbouring the filaria sanguinis hominis. The back of the thorax and abdomen is a light fawn colour; the lower surface of the same, and the terminal segment of the body a dark chocolate brown. The wings are light brown to white, and have four dark spots on the anterior nervure. The haustellum and tarsi are brindled dark and light brown. The eggs—at least, when not fully developed—are shaped curiously like ancient boats with raised stern and prow, and have lines radiating from the concave border like banks of oars—so far as I have seen, a unique shape for mosquito's eggs. The species appears to belong to a family distinct from the ordinary brindled and grey insects; but there is an allied species here, only more slender, whiter, and much less voracious. My observations on the characteristics of these mosquitos were not very careful, as when I first obtained them I did not anticipate any difficulty in procuring more.

On August 16th eight of them were fed on a patient whose blood contained fair to few crescents (and also filariæ). Unfortunately four were killed at once for the study of flagellate bodies (flagellulæ cysts). Of the remainder two were examined on the 18th and 20th respectively, without anything being noted. The seventh insect was also killed on the 20th, four days after having been fed. On turning to the stomach with an oil-immersion lens I was struck at once by the appearance of some cells which seemed to be slightly more substantial than the cells of the mosquito's stomach usually are. There were a dozen of them lying among (or within?) the cells of the upper half of the organ, and, though somewhat more solid than these, still very delicate and colourless. They were round or oval, 12 μ to 16 μ in diameter when not compressed (that is, considerably larger than the largest hæmamœba in man); the outline sharp but very fine; the contents full of stationary vacuoles; and no sign of apparent nucleus, contractile vesicle or amœboid or intracellular movement. So far it would have been impossible for any but a person very familiar with the insect's anatomy to have distinguished them from the neighbouring cells; but what now arrested attention was the fact that each of these bodies contained a few granules of black pigment absolutely identical in appearance with the well-known and characteristic pigment of the parasite of malaria (large quartans and crescent-derived spheres).

The granules were more scanty in comparison to the size of the cell than in the hæmamœba, and numbered from 10 to 20 in each. They were not dispersed throughout the cells, but were collected in groups, or arranged in lines transversely or peripherally, or in a small circle round the centre (just as in some forms of the hæmamœba). They were black or dark brown, and not refractive on change of focus. In some cases they showed rapid oscillation within a small range, but did not change their position. Owing to their blackness, so different from the bluish, yellow, and green granules and *débris* found in and about the neighbouring cells, they arrested the eye at once; and it must clearly be understood that I have not confounded them with normal objects. In short (except perhaps that rods were shorter or absent) these granules of pigment were indistinguishable from those of the hæmamœba.

The eighth and last mosquito was killed next day, five days after having been fed. The stomach contained precisely the same cells, 21 in all, again toward the œsophageal end of the organ. In this case, however, they were distinctly larger and more substantial than in the seventh mosquito, and had a decidedly thicker outline. The size (along the major axis) appeared now sometimes to reach nearly 20 μ, on a rough computation made without a micrometer. There thus appeared to be a marked increase in bulk and definition between these cells of the fourth and fifth days, suggesting that they had grown in the interval.

Both specimens were irrigated with 40 per cent. formalin, and sealed. The result of the formalin was, as anticipated, that the bodies became slightly more visible than before, as compared with the stomach cells.

In spite of all attempts, I have not yet succeeded in obtaining any more of the species of mosquito referred to. Thinking, however, that I may have overlooked these delicate cells in former dissections, I have again examined a large number of brindled and grey mosquitos, fed on malarial blood. Their stomachs certainly contained no such cells. Next I caught by hand a number of the more slender and white, but allied, species already referred to (I have failed in finding their grubs also), and examined them. Some had not been fed at all, and others had fed themselves on (presumably) healthy blood, two, three, or four days previously. The results were again negative. I may add that I have not yet succeeded in getting this species fed on malarial blood.

To sum up: The cells appear to be very exceptional; they have as yet been found only in a single species of mosquito fed on malarial blood; they seem to grow between the fourth and fifth day; and they contain the characteristic pigment of the parasite of malaria. It would, of course, be absurd to attempt final conclusions as yet; but I think we may venture to draw some cautious inferences on these observations. First, as to the nature of the cells. Judging from the facts that the elementary cells of allied species of mosquitos are always alike, or very similar, and that I have never observed such bodies in previous or subsequent dissections of mosquitos (I suppose I must have examined quite a thousand

more or less carefully by this time), we may reasonably conjecture that these are no normal physiological cells—in other words, that they are parasites; and this view is fortified by the comparative substantiality of the bodies, by the appearance of growth between the fourth and fifth days, and, most notably, by their possession of pigment, a substance in my experience certainly quite foreign to the physiological cells of the mosquito. Secondly, as to the connection of these presumable parasites with the parasite of malaria: they have been found in two consecutive insects fed on malarial blood (owing to their delicacy, and to my attention not having yet been attracted by them, I may have overlooked them in the fifth and sixth mosquitos), a fact which may encourage us to believe that they may exist in a large percentage of similar insects similarly fed; and as they have not been found in an allied species fed on presumably healthy blood, we may hazard a conjecture that their presence in the original species was due to the ingestion of malarial blood. These considerations, taken together with the remarkable fact that the cells contain pigment just like that of the hæmamœba (a characteristic product which is, I believe, unknown in any other protozoa except some allied hæmatozoa) seem to open the question of their being indeed the form of the hæmamœba we are in search of—namely, the alternative form in the mosquito of the parasite of malaria in man.

On the other hand, the parasitic nature of the cells cannot finally be accepted until certain facts as to structure, sporulation, and so on, have been demonstrated. Even if this be done, it remains to be seen whether the bodies are not parasites common in the particular species of mosquito referred to, and quite independent of the ingestion of malarial blood and of the hæmamœba in man. I must, however, confess to feeling personally that the presence of pigment, so distinctive of the hæmamœba, renders this last supposition rather unlikely.

In conclusion I may note that the pigment in the cells may be derived from the hæmoglobin in the insect's stomach, in the walls of which the cells are situated. With reference to their being found as yet only in one species of mosquito, it may be remembered that Manson originally conjectured that each species of hæmamœba might require a special species of mosquito for development extraneous to man, just as filaria embryos do.

The two specimens containing the cells described above will be forwarded to Dr. Manson. Former specimens of microscopic objects sent to England by me have perished *en route*, and lest these should experience a similar fate I have thought it well to have an independent note on the subject on record. With this object I append a description of the cells furnished by Surgeon-Major Smyth, who has very kindly examined the specimens. I should add that his measurements, made with a micrometer, are more exact than mine.

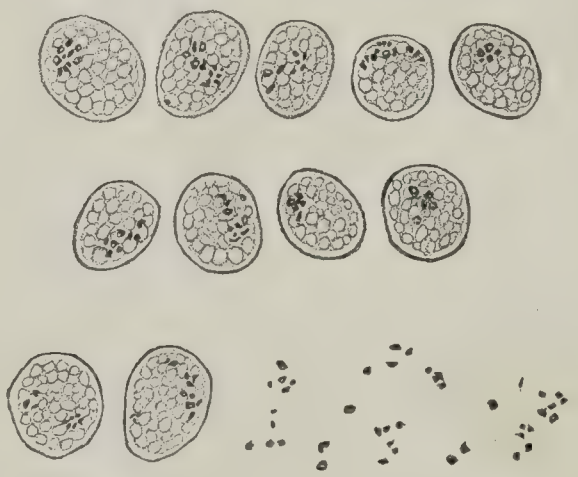
NOTE ON TWO MICROSCOPIC PREPARATIONS OF THE MOSQUITOS BY SURGEON-MAJOR JOHN SMYTH, M.D., I.M.S.

PREPARATION I.—A mosquito dissected and mounted seven-een days ago in 40 per cent. formalin. The mosquito had een fed five days before dissection on blood containing escents. (These particulars were supplied by Surgeon-lajor Ross.) I used for the examination a Leitz $\frac{1}{12}$ o.g, and aker's No. 4 eyepiece.

Description.—Fragments of air tubes and plumes are conicuous in the specimen. Here and there are large oval or early circular cells containing pigment. There are about enty of these in the preparation. Taking a field containing out three of these bodies the following would be a descripon of it: (1) An indistinct groundwork of the altered omach cells of the insect. (2) A few coils of air tube.) The large pigmented cells referred to above. Taking eir major diameters, their size ranges between 0.0187 mm. d 0.0112 mm. They are colourless, faintly granular, present e or two "vacuoles," and have a sharply defined border (a ry delicate cell wall or capsule?). Black pigment granules e found in them, variously arranged, but mostly forming isters. The number of granules varies from ten to eighteen. some of them the clustering is nearly or quite central, in ners it is marginal. When the latter is the case two or ree granules may be seen isolated from the main cluster d arranged in a row along the periphery of the cell. These anules are identical in general appearance with those found in quartan fever; and in *Allbutt's System of Medicine* (1897) the diagrams of the quartan parasite give a very good general idea of the appearances in the specimen I have attempted to describe, the only difference being that the former seem to contain a larger number of granules.

PREPARATION II.—This is a specimen of a mosquito dissected on the fourth day after feeding on blood containing crescents, and prepared on the same date as Preparation I. The only difference observable between this preparation and the other is that the pigmented cells are on the whole slightly smaller, ranging between 0.0175 mm. and 0.0075 mm., and are more hyaline and altogether more delicate in structure.

[Surgeon-Major Ronald Ross has been good enough to forward to us the preparations he describes. We have submitted them to Dr. Thin, Mr. Bland Sutton, and Dr. Patrick Manson, who report as follows. Dr. Manson writes: "I have examined Surgeon-Major Ross's slides with great interest, and find that his description of the pigmented cells he refers to is accurate. There can be no question that these cells contain a pigment optically indistinguishable from the pigment which is so characteristic a feature in the malaria parasite. The cells are evidently in the wall of the insect's stomach, and are quite different in appearance from any other structure in the preparations. They stand out with remarkable distinctness, the outline of the cell wall, if such it be, being sharply defined, the entire body reminding one of a coccidium-invaded epithelial cell. Until these cells have been stained and their exact structure more carefully studied, it is impossible to say if they contain parasites. Considering the peculiar grouping of the pigment in many instances, a grouping that forcibly recalls what one sees in the living malaria parasite, and the distinctness and regularity of the outlines of the bodies, I am inclined to think that Ross may have found the extracorporeal phase of malaria. If this be the case, then he has made a discovery of the first importance. It is just possible, however, that these cells may be something quite other than this. Possibly, if they do contain a parasite, it may be that this parasite is not the malaria parasite; possibly these pigmented cells are normal to the species of mosquito he is working with; possibly the pigment, though malarial, does not represent a living parasite, for we can conceive that a pigment having been set free in the stomach of the malaria-fed mosquito may be taken up by the cells in the insect's stomach. More work is required before the matter can be finally settled. I have been so impressed by the possibilities of Ross's discovery that I had the accompanying drawings made from his preparations."



Mr. Bland Sutton writes: "I have examined Surgeon-Major Ross's specimens, and had an opportunity of discussing the matter with Dr. Manson, and thoroughly endorse his opinion. We must wait until experiments demonstrate the subsequent fate of the intracellular particles before coming to a positive decision. It is a peculiarly interesting and important research, and one which the skill and enthusiasm of Surgeon-Major Ross will doubtless bring to a satisfactory conclusion." Dr. Thin writes: "Dr. Manson has been good enough to show me Surgeon-Major Ross's two specimens. I believe that the objects referred to are epithelial cells, and that the

black granules which they contain are pigment derived from the parasite of malaria. (1) The pigment: The pigment is found in the form of very minute needles, and in small spheres of varying sizes, but none of them large. This coincides exactly with the forms of pigment observed in the human subject when patients have died of malaria. In the cells of the spleen of patients who have died at Sierra Leone, I found in some of the cells minute needle-shaped pigment; in others both needle-shaped and minute spheres in the same cell, in others only spheres of pigment. By the time the cells have reached the liver the pigment in my cases had all become spherical. Even if I had not known that I was looking at a mosquito's stomach, and that that mosquito had been fed on blood containing crescents, the appearances would at once have suggested to me that I was looking at malarial pigment. The position of the pigment in the cells is accurately described by Surgeon-Major Ross. In some of the cells it is irregularly distributed in the periphery, and in others in a small circle towards the centre. There are also small pigment spheres scattered throughout the preparations, without any apparent connection with cells, and the pigment spheres when it was apparently extracellular, were somewhat larger than those which were within cells. (2) The cells: The cells have the outlines of epithelial cells, and they stand out clearly against the other structures in the preparations. I believe they are the ordinary epithelial cells of the stomach of the mosquito which have undergone change, and for the following reason. I saw the preparations twice. The first time I saw them these cell-like bodies stood out very clearly in a field in which the other elements were very transparent and indistinct. The whole field was covered with minute spherical refractive appearances which seemed to be both outside and inside the cells. Before I examined the preparations the second time some change had taken place (probably by the introduction of cedar oil under the edge) which caused all the tissues to refract the light more strongly. The result was to render them much more favourable for observation. The numerous minute spherical particles no longer arrested the attention. The bodies in question were, as before, more distinct than anything else in the field, but in addition a number of other cells of the same size and general shape had come into view, presenting the ordinary appearances of epithelial cells, and in many of them the nucleus was distinct. On closer observation it was seen that the epithelial cells were arranged in rows in contact with each other, and that in some of them minute needles or spheres of pigment were present, and that the cells in which pigment was present stood out more distinctly than those which did not contain pigment. No doubt was, therefore, left in my mind that the bodies in question were the ordinary epithelial cells of the mosquito's stomach containing malarial pigment, and it became evident to me that when one of the epithelial cells of the stomach is infected with malarial pigment it undergoes changes—I have no doubt of a destructive or *post-mortem* character—which alter the refractive character of the cell, and make it stand clearly out on a transparent background. The small circles of pigment which are to be seen in some of these bodies are so arranged as to render it almost certain that they are arranged round the nucleus of the epithelial cell. I found in the Sierra Leone cases, in the large white cells of the spleen that were not much infected by pigment, that the pigment was first found in the outer part as fine needles, and afterwards was grouped in spheres round the nucleus. How can we account for the infected cells standing out so much more clearly than the unaffected cells? I consider this to be analogous to what takes place in the endothelium of the blood vessels in the capillaries of the brain, spleen, and liver in the Sierra Leone cases. The endothelial cells of the capillaries which contain pigment—and many of them do contain pigment—swell and become altered in their substance, shown by their taking up an eosin or cochineal stain when the healthy cells that do not contain pigment do not stain. In the human subject these infected endothelial cells are doomed to destruction. All this was described in the paper which I read at the Royal Medical and Chirurgical Society on October 26th, and illustrated by microscopical preparations. Reasoning from analogy, I infer that the epithelial cells in the mosquito's stomach that absorb pigment are injured by the pigment, are altered by it, and would eventually be killed by it, and that the injured or dead cell possesses different refractive qualities from a living and uninjured cell, and stands out clearly in an otherwise almost transparent field. It is quite natural to expect that if a mosquito is fed on blood containing crescents, the pigment of these crescents should be found, after the crescents have been destroyed, in or about the stomach of the insect, and as animal cells possess the property of taking up very minute granules (the liver cells as well as the capillary endothelium take up pigment), it is reasonable to infer that they might be found in the cells of the stomach of the mosquito. What is to me extraordinary about the matter, and requires further explanation, is why this appearance is found only in one species of mosquito. I see no trace of the parasite of malaria itself in these preparations, but, as they are unstained, it does not necessarily follow that it is not there. It will be evident, from what I have remarked, that I consider that these appearances do not represent parasites, and that the extra-corporeal stage of the parasite of malaria, which Koch and Pfeiffer were, I believe, the first to suggest might be found in the mosquito, has not yet been observed, for, so far, all the changes in the form of the crescent, and in the throwing out of flagella, which take place in the mosquito's stomach, can be produced at will (as has been shown by my friend Dr. Marshall, and afterwards verified by Dr. Manson), by the simple addition of distilled water. Although I have not been able to satisfy myself that these preparations show any development of the parasite of malaria in the mosquito's stomach, I hope it will not be considered that I undervalue the great importance of Surgeon-Major Ross's investigations. His published papers, and not the least the one to which this note is appended, show that he is a patient, skilful, and indefatigable observer. He has already added considerably to our knowledge of the mosquito and its parasites, and after what has been ascertained of the association of the mosquito with the filaria sanguinis hominis (in connection with which Dr. Manson's name is so distinguished), no one can believe that any information regarding the parasites of the mosquito may not turn out to be of great practical value, as it certainly is of considerable scientific interest. It is therefore, I consider, very important that Surgeon-Major Ross, with his exceptional capacity and opportunities, should continue his investigations not only regarding the mosquito in connection with the parasite of malaria, but also by working in any other lines which his observations point out to him as possibly leading to a solution of the unsolved riddle of the existence of the parasite outside the human body, for outside the human body we know it does and must exist. It is a subject of congratulation to everyone interested in the welfare of India, and indeed in that of the whole tropical world, that men like Surgeon-Major Ross should be found willing to devote themselves to this difficult and fatiguing work. Only men endowed with unusual enthusiasm could be found to devote themselves as he has done to such a task. In the interests of science it is therefore most desirable that support, assistance if required, and every facility should be given to him to enable him to continue his researches."

A LIMITED outbreak of diphtheria occurred recently in Leeds, which at first seemed to be associated with the milk supply. Further inquiry, however, proved that the patients had only been getting milk since their illness had commenced. The infection was probably spread by school influences.

ABERDEEN ROYAL INFIRMARY.—In the old Aberdeen Royal Infirmary two of the wards were named after the Queen and Prince Albert respectively, and by permission of the Queen two of the wards in the new medical pavilion will be similarly designated. Wards have also been named after Princess Beatrice and Princess Louise.

THE LIVERPOOL MEDICAL INSTITUTION.—Under the will of the late James Muter Turnbull, M.D., F.R.C.P., whose death was announced in the BRITISH MEDICAL JOURNAL some week ago, the Liverpool Medical Institution receives a legacy of £5 free of duty. Dr. Turnbull was President of the Institution for the years 1876-77.

GUNSHOT INJURIES IN THE LATE GRECO-TURKISH WAR, WITH REMARKS UPON MODERN PROJECTILES.*

By HENRY J. DAVIS, M.A., M.B., B.C.Cantab.,
Late Surgeon National Fund for Greek Wounded, and late House Surgeon to St Thomas's Hospital.

It is almost true to say that all bullet wounds, except those limited to the soft structures, result in fracture of bones. If there is any breach of surface it is of necessity a compound fracture, and is the most unfavourable form of any kind of bone injury, for (1) the wound is an infected one, (2) it is devoid of drainage owing to the long sinus left by the track of the bullet, and (3) the hygienic surroundings are invariably bad. When a joint is opened by a bullet it communicates with the exterior, and being exposed to all the sources of ordinary infective processes it suppurates. A fractured olecranon, a fractured patella, and an impacted Colles's fracture are fractures into the joint, but suppuration does not occur unless contamination is admitted to the seat of injury.

It is not my intention in this paper to give a routine description of bullet wounds, but I will confine my remarks to examples of projectile wounds that I saw in the late Greco-Turkish war. Definitions never cover all the ground, but I remember Sir William Mac Cormac's excellent definition of a bullet wound as "an extreme form of contused wound combined with the dangerous depths of a punctured wound." Shell wounds, of course, differ in the respect that they usually result in extensive lacerations of the soft tissues, with perhaps comminution of the bones as well.

Modern Bullets and the Wounds They Produce.

Practically only three kinds of rifle bullets were employed in the war. The Greeks used the Le Gras French rifle with a Chassepot lever action. In Fig. 2 is shown one of the cartridges (which they sometimes, as a punishment, hammer up each other's noses) and Fig. 7 represents a ball which entered a Greek soldier's back, and which like two more given me in Turkey showed absence of rifling grooves. This I cannot explain. The Turks used chiefly the Martini-Henry, but some brigades were armed with the German Mauser magazine rifle. Only two of these brigades, that is, about 10,000 men, came into action at Domoko, and it was from this battle and that at Phourka that we filled our hospitals with wounded. A Martini bullet extracted from the foot is shown in Fig. 5. It had perforated and fissured the os calcis, but the shape of the bullet is almost unaltered. Another, Fig. 6, extracted from the left nape of the neck, was impacted and wedged between the atlas and axis, but the bones were not, as far as I could see, splintered. The cutaneous wound was as clean cut as though it had been incised with a knife, and hence I inferred that the bullet had ricochetted off a stone, and I think its general flattened appearance bears out the supposition. The swelling and œdema of the neck were enormous. The wound granulated rapidly. All the bullets extracted at the English hospital at Chalcis, and there were not many, proved to be Martinis (with the exception of 1 shrapnel ball and 2 Le Gras bullets, evidently fired by the patient's compatriots. We never found a single Mauser. I believe none were extracted at the English hospital at Athens, and I could get no specimen at the military hospitals at Chalcis. As a great many men were perforated in the part struck by the ball, and were not completely incapacitated, and it is known that the velocity of the Mauser is something terrific—being effective up to 4,000 yards—it is reasonable to assume that this bullet perforates the part struck, including perhaps the bone, and does little damage compared to the Martini, which, when it strikes a bone, such as the femur, fissures and splinters it in all directions. The disadvantages of the Martini rifles compared to the present magazine rifles are, briefly, that they "kick" hard, they do not repeat, they are short ranged, and the cartridges are heavy to carry. Conical bullets never make the wounds that round balls do, but the trajectory is flatter, they carry straighter, and kill at a greater distance. It may be of scientific, though not actually of surgical interest, to mention a few facts about the bullets employed in modern warfare. I have no specimen of the Mauser bullet, but the French Le Bel bullet (Fig. 12) resembles it in every way. This was given me four years ago by a French sergeant. In the cartridge is the patent French smokeless powder, which is yellow, and resembles chopped straw; it is perfectly smokeless. This bullet, like the German Mauser, and to the same extent the first Lee-Metfords used by our entire army, consist of a soft lead core surrounded by a nickel casing. Theoretically on impact the ball flattens or splashes, but this it does not always do. The Le Bel bullet shown in Fig. 12 has been fired as is seen by the rifling, but the nose of the bullet is not altered in shape. In the late Chitral expedition, the English troops noticed that their Lee-Metford bullets did not stop the tribesmen in their wild rushes, and so the ingenious and practical method was resorted to of cutting through the nose of the bullet, or of rubbing it against a stone, thus exposing the soft lead core, which had the desired effect. The velocity of the Lee-Metford is so great that it is said to do more damage at a distance than at close quarters. This was proved experimentally. Three shots were fired, not by me, at an old donkey who was eating hay in a paddock. The bullets passed "clean through" him, but he went on eating as though nothing unusual had happened, and it was not till,

Fig. 1

Fig. 2

Fig. 3

Fig. 1.—Martini-Henry cartridge (Turks). Fig. 2.—Le Gras cartridge (Greeks). Fig. 3.—Mauser German magazine cartridge (Turks).

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 4.—Turkish revolver bullet. Fig. 5.—Martini bullet, showing rifling (it perforated and fissured os calcis). Fig. 6.—Martini bullet embedded against vertebræ of neck (probably a ricochet). Fig. 7.—Le Gras bullet (absence of rifling grooves).

* A paper read before the West London Medico-Chirurgical Society.

I suppose, the symptoms of rapidly advancing peritonitis ensued that he desisted from his meal. The latest Lee-Metford (Fig. 11) has a nose of soft lead projecting beyond the nickel jacket. This umbrellas or mushrooms out, the less yielding metal behind becomes impacted, and the ball opens into a disc and splashes, causing a very cruel wound. A specimen of the bullet in section is shown in Fig. 11. Other Lee-Metford modifications are shown in the diagram. One (Fig. 9) is filled internally with soft wax; this other has

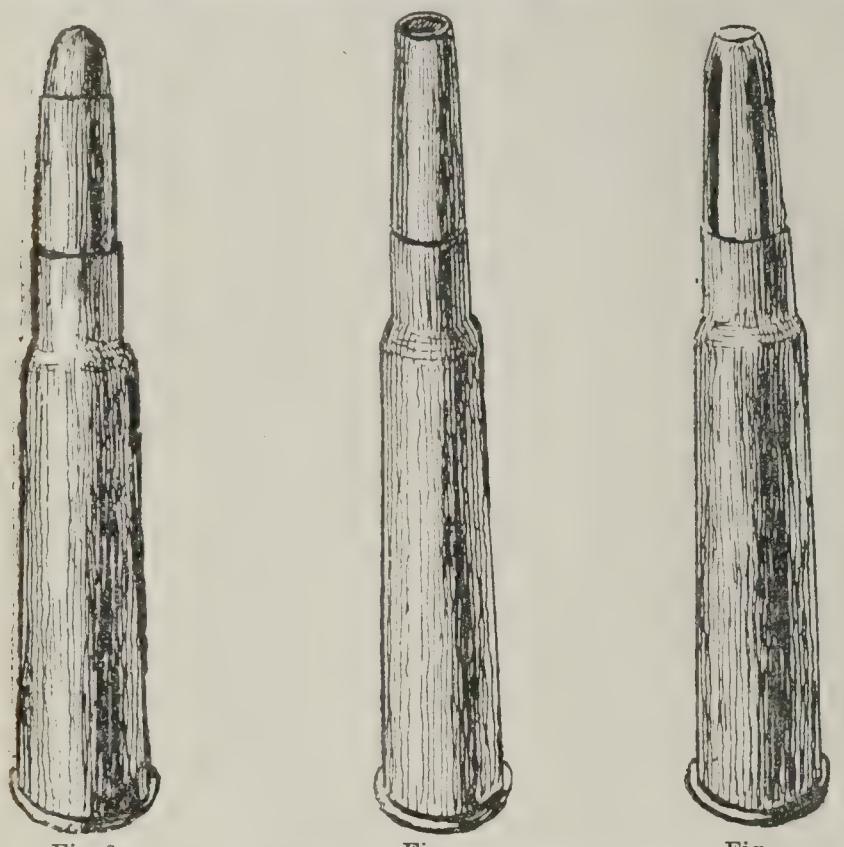


Fig. 8 Fig. 9 Fig. 10

Fig. 8.—Soft nose Lee-Metford. Fig. 9.—Wax-cored Lee-Metford. Fig. 10.—Lee-Metford with lead core and vertical slits in outer nickel casing

vertical slits in the outer casing. These modern bullets are termed "expanding" bullets. The famous Dum-Dum bullets (Fig. 13) are the latest, and derive their name from the Government manufactory in India. They are not made in England. At present they are simply on their trial against the frontier tribes. The bullet resembles a slate pencil, and is a modification of the latest Lee-Metford, but the nickel shield is thinner, and the soft nose is flat and does not project so far beyond the nickel envelope. It was devised in recognition of the facts I mentioned above in the Chitral expedition. I am told on authority that on impact it collapses "like a concertina," making so ghastly a wound that in all probability it would be forbidden in European warfare. Why it should do so more than the Lee-Metford no one seems to know. The expansive principle has been carried to its greatest extent in this "Webley's patent man-stopping bullet. The service revolver bullet (Fig. 14) which looks

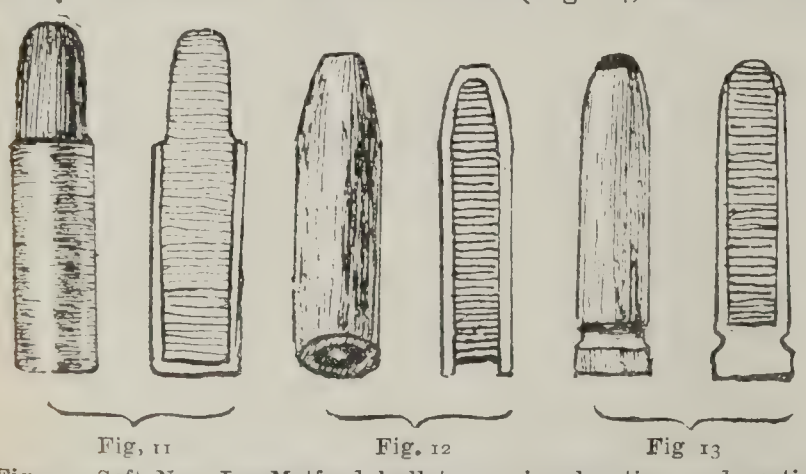


Fig. 11 Fig. 12 Fig 13

Fig. 11.—Soft Nose Lee-Metford bullet, 303, in elevation and section. Fig. 12.—French Le Bel, in elevation and section. Fig. 13.—Dum-Dum, in elevation and section.

big enough, is said to be utterly devoid of "stopping properties" unless it strikes a vital part, whereas the bullet shown in Fig. 15, with its deep cup-shaped depression at each end, gives up the whole of its energy in administering the greatest possible shock. When fired through 18 inches of solid beef it assumes, as is seen from Fig. 15, the shape of a lady's sun bonnet or an antiquated top hat. On entering the body, the front acts like a wadding punch, cutting a clean circular hole, which does not close up, like those caused by other bullets.[1] Expansion commences at once, and after travelling six inches it produces a jagged hole four inches in diameter, a wound doubtless sufficient to finish even a fanatic.[1]

SHELL WOUNDS.

Shrapnel and common shell were employed by both Turks and Greeks. We saw several severe lacerations caused by common shell. The worst was that of a young Greek woman, who had the back of both thighs hugely lacerated, the raw area being extensive. She had no fracture. She was in the Chalcis Hospital for two days on a stretcher, but we shipped her off to the Piræus, where she became convalescent and did well. Pieces of rock and stones are thrown up by shell and may do considerable harm. Shrapnel, which consist of round iron bullets surrounded by the shell casing, did little harm in this campaign. I saw some cases in the Turkish hospitals, but in the English hospital we only saw two in which we were certain that the injuries were caused by shrapnel. One of my colleagues extracted a shrapnel ball embedded in the right trochanter. The femur as far as we could ascertain was not otherwise injured, though there may have been fissures radiating from the cavity. Movement at the joint was always free. The patient convalesced very slowly. The other case was that of a gunner, who had a round shot hole through the left calf, the aperture of exit being extensive. He thought he had only been struck by a bullet, but I noticed scorching of the skin and hairs around as well, and as the Turks were bursting shrapnel at his battery and some exploded near his feet, I have no doubt this was caused by that projectile. A well-known war correspondent who left Greece after the battle of Pharsala owing to ill health, told me that up till then he had not seen for certain a single injury caused by shrapnel among the Greeks. He had seen, at Trikhala I think, two men supposed to have been wounded thus. As no Greek surgeons were at hand he went into the hut where the men were to render assistance. One he found had a large syphilitic ulcer on the leg, and the other he stripped and examined carefully, but he could find nothing wrong with him except a large corn on his left foot. The immunity from injuries due to shrapnel fire, I think, can be explained thus: In common shell there is a bursting charge of powder in the base; on impact a needle in the cone is driven against the percussion cap and the shell explodes, the fragments being scattered in all directions, radiating from the centre. A common shell then does just as much harm if it bursts 100 yards from the gun muzzle or three miles off, that is, at the extreme limit of the range of the gun. But with shrapnel it is very different: the bursting charge in the shell is ignited by an adjustable time fuse and is only just sufficient to release the bullets from their casing, and they fly straight on, their powers of damage depending not on the bursting charge, but on the momentum of the shell at the time of the explosion. Therefore the greater the distance from the gun at which it bursts the less damage the bullets will do. The Greek infantry preferred not to expose themselves to the Turkish shell firing, or, indeed, to any other for the matter of that, and hence their comparative immunity. Shrapnel wounds, then, are practically round shot wounds, and are not as a rule a combination of bullet wounds *plus* the disastrous effects of common shell explosions. The base of a Turkish Horse Artillery shell, a 12-pounder I should think (shown in Fig. 16), was given to me by one of the Red Cross sisters who picked it up on the field of Velestino. The gauge is marked on the base in Turkish letters. It must have burst splendidly. The dangerous zone of shrapnel if it bursts at the right elevation, that is about 80 ft. from the ground, is about 2 acres. The cone of dispersion of the bullets is simply in the direction of the travelling projectile, and the base of course widens the farther the bullets travel. When troops present a small front as in marching up a road, the shell is timed to burst

close to the advancing column, when if properly directed it sweeps the whole line; f a larger front is presented the shell

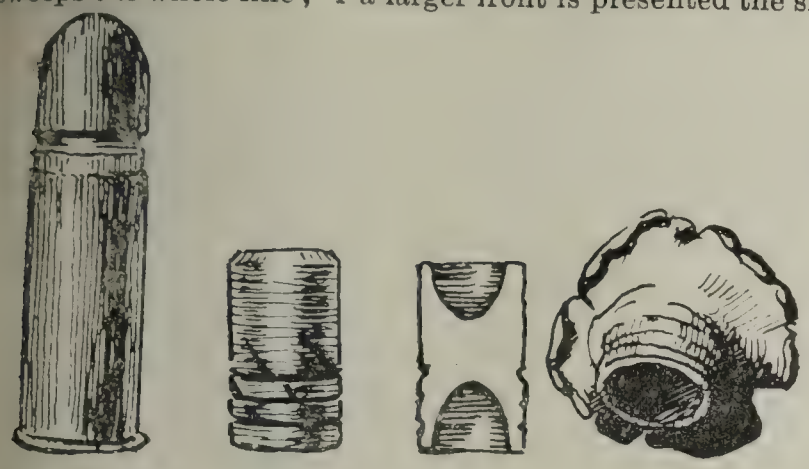


Fig. 14. Fig. 15.

Fig. 14.—0.476 Revolver cartridge. Fig. 15.—Webley's "patent man-stopping bullet," in elevation and section, and the same when fired.

is burst well ahead to sweep a greater area. Shrapnel firing, then, requires a very accurate knowledge of distance and

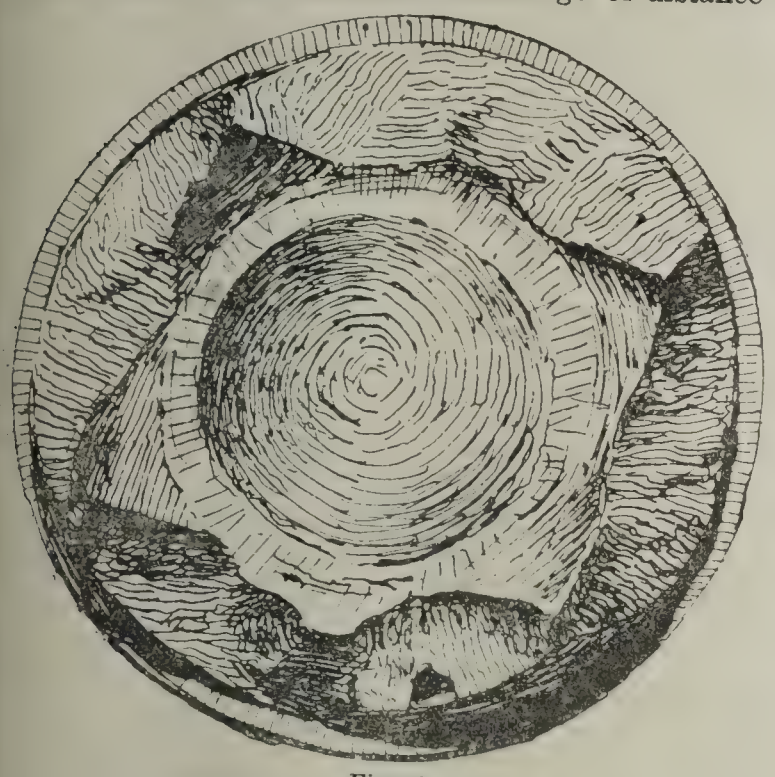


Fig. 16.

Fig. 16.—Base of Turkish common shell. Twelve pounder. Showing complete symmetrical fracture.

gunnery to be effective. The shrieking of bursting shrapnel is caused by the released bullets whistling through the air, and resembles the screaming rockets which are fired at the Crystal Palace. It has a very demoralising effect on troops, and even if no one is hit, all are frightened a good deal more than they would care to admit. I was told by a Turkish surgeon in Constantinople in the Sultan's Hospital, erected temporarily at Yildiz Kiosk, that they had suffered much from shrapnel; in other words, the Greeks were better gunners in spite of the fact that German officers were assisting the Turks, who also fought more in the open and almost scorned to take shelter when advancing. There were many more casualties on the Turkish side than on the Greek, though all the Greek hospitals were filled to overflowing. These remarks may seem to have little bearing on the surgical aspect of my paper, but it is the nature of wounds caused in battles that determines the continued use or the disuse of certain projectiles, and by whom can these be better judged than by the medical men who have the care and charge of the wounded?

Character of Wounds.

If I were asked what were the points that struck me most in injuries of this kind (for with the exception of a few revolver and gunshot wounds which I had seen in hospitals, my knowledge on the subject was very limited) I should say that I was at first surprised at the comparatively little damage done by rifle bullets. In some cases, it is true, it was enormous, but in the majority of wounded men, the ball had passed straight through the part struck, leaving a tiny bluish black hole at each end, resembling to my mind, a magnified leechbite wound of about three days' standing. In most of the cases it was impossible to tell by the appearance of the wounds which was the hole of entry and which was that of exit; the patient himself could rarely say, and it was only by ascertaining his position when struck that this could be determined. Some of the edges of the entry wounds were inverted but not all; some, especially the oblique wounds, were round and gaping. The wounds of exit in many cases seemed the same as those of entry; a few, however, had everted edges. Superficially the wound is nearly always smaller than the bullet producing it. This has been accounted for by the great twist there is on the ball at the time, like the screw on the turning point of a gimlet—but is that really so? I should say that a bullet traversing the whole body would not revolve on its long axis more than, at the most, half a turn, unless it is arrested in the tissues, when theoretically it would spin like a top; hence the area of the internal wound often bears no proportion to that of the external wound. If an express bullet be fired into a thick board it will hardly be possible to pass even a wire down the track of the ball. I asked nearly every wounded man I saw in the war, however slight the wound, excepting perhaps grazes and hand wounds, whether he was knocked over when struck. This seemed to be invariably the case. When hit, he experiences the sensation of a sudden heavy blow. If wounded in the head, trunk, or lower limbs, he does not fall forward as one sees on the stage, but collapses and sinks to the ground, turns pale, sweats, and often vomits. All this may be due to the mental shock, or the consciousness that he has at last succumbed. The ball rips through the tissues, carrying in pieces of cloth or other foreign bodies, which are left in the bullet track, leading to suppuration and the formation of a troublesome sinus, and requiring the continual "tinkering" which is characteristic of these wounds.

I believe it to be a fact that the Lee-Metford and other modern bullets have so high a velocity, that at close quarters, pieces of cloth, etc., are not carried before the bullet in its track. I wish especially to point this out, as it means that the severity of the wounds as regards infective processes is thereby diminished. Another point that struck me was how very difficult it was to tell at a glance whether a fracture existed or not. This may be due to the fact that there is not a complete solution of continuity of the bone, and as the fracture is due to direct violence very little displacement arises. I observed many instances of this. One man, I remember, was struck when the right elbow was flexed in the act of firing; there was one wound over the olecranon and another about $2\frac{1}{2}$ inches above the joint posteriorly. There were swelling, œdema, and extravasation up the arm, but though I was certain that a fracture, and an extensive one, too, existed, there was no backward displacement of the forearm, such as we see in a transverse fracture above the condyles, nor could I detect crepitus. Forcible manipulation was not attempted for obvious reasons. Later, when the œdema disappeared, a great mass and thickening of bone was felt at the lower end of the humerus. The sinus proved troublesome, and the patient suffered considerably. Some time later the joint was opened posteriorly, and the sinus scraped. The fracture was in the process of repair, but there were still evidences of a comminuted fracture of the bones. The man did well.

Another case was that of a bullet wound on the outer side of the left thigh, the patient having been shot from the hills above while fighting through the Phourka Pass. The wound was oblique, and the ball in the limb. A first dressing had been applied by the Greek military surgeons, who are most careful in their antiseptic methods. The patient was huddled up with 300 other wounded in the hold of a collier, used as a transport, which presented the most gruesome sight of tortured humanity I have ever seen. When taken to our hospital, he "hobbled" to a chair, and I redressed the wound. I suspected a fracture from the swelling of the limb; but I thought it might be partial only. When the patient was in

bed, on raising the foot it was quite apparent. Large pieces of bone were resected in this case. The femur was comminuted and fissured in all directions, fragments being driven into the adjacent muscles, and yet the characteristic deformities in which we rely on the diagnosis of fractures, were not apparent. The veriest tyro in surgery could detect, at sight, a fractured femur in the middle and lower thirds in an ordinary accident, unless, perhaps, the fracture was transverse, as often occurs in children. There was no overriding of fragments in this case, as there were practically none left to override. The limb became gangrenous, and it was amputated by one of my colleagues, but the patient died some hours later. A search was made for the ball in vain; it may have been comminuted itself. That it was a Martini I have no doubt, as the Mauser brigade did not come into action at Phourka, where this man was wounded. The wound well exemplifies the fact that the extent of the deep injuries inflicted bear an out-of-the-way proportion to the small area of the external wound.

BONE INJURIES.

I have already mentioned some interesting clinical facts on injuries to bone. It was very noticeable how rapidly wounds of the upper extremities, and severe ones too, such as compound fractures of the humerus, healed compared to corresponding wounds of the lower limb. Some of the cases of fractured radius practically healed under a scab, and in one case there was no exfoliation of bone whatever. The heel and ankle injuries did badly. Unless the fracture is keyhole, there is nearly always comminution, by which we mean secondary fractures at the seat of injury. Many of these little fragments must be stripped of their periosteum but they do not always necrose, for they serve as a mechanical scaffolding for the granulations to grow on and to ossify. The heat produced by a bullet striking a bone may be very great, and it is said to add to the severity of the injury. What we view in a museum specimen is not the bone itself, but the skeleton of the bone. When inflammation resulting from injuries occurs the hard substance merely takes on a passive inflammation, the active inflammation being limited to the soft structures in the Haversian canals, which become swollen and œdematous from exudation with the production of new bone. A bullet injury, apart from the inflammation set up at the seat of fracture, may result in osteitis or even in periostitis. The former is very common and requires continual surgical interference. I saw an admirable example of the latter at Vienna. Here a femur had been amputated for old gunshot injury, but I noticed on its surface, in addition to the deformed mass of osseous tissue at the seat of fracture, a beautiful series of longitudinal grooves extending up the shaft from the enlargement of the periosteal vessels. The condition was that of an osteoplastic periostitis.

WOUNDS OF JOINTS.

That a bullet wound of the knee-joint does not always suppurate, perhaps resulting in irreparable harm, was proved by the Mayor of Lamia, who fired at some sheep in the pass and hit a refugee woman in the right knee. The ball had perforated the outside of the joint. She eventually came to the English hospital at Chalcis, where she was treated an an outpatient. We fixed the limb in an improvised splint, and after a few attendances, and when she was almost well, she disappeared, so it is only fair to assume that she made a perfect recovery. We had another bullet wound of the knee-joint. The ball, a Martini, lodged in the outer condyle. It was extracted, some osteomyelitis was perhaps set up, but the patient when he seemed on the high road to recovery suddenly died with symptoms of pulmonary embolism.

INJURIES TO SOFT PARTS.

1. *Contusions.*—If a man is struck obliquely by a bullet a simple contusion may result. There may also be a subcutaneous fracture. We saw one instance of this. The right ribs were "black and blue" from extravasation. It was assumed that a fracture of rib existed, though crepitus was not detected.

2. *Furrowed Wounds.*—A ball may run parallel to the surface grooving it; "furrowed wounds" as they are termed. A man had been struck in the right cheek and the bullet lodged in the jaw. The cheek was cleanly furrowed, having as the base the mucous membrane of the mouth. There was some necrosis, but a plastic operation was performed by my colleague, Mr. Fox Symons, with admirable result.

3. *Seton Wounds.*—A ball fired obliquely burrows for some distance just under or a short distance beneath the skin and then emerges. A gendarme at Lamia tried to interfere in a quarrel between two other gendarmes who were doing a little pillaging on their own account. A few shots were exchanged, with the result that the spectator was shot through the right pectoral region with a revolver. The bullet burrowed under the right pectoral region and passed out at the axilla. The track of the bullet was marked by a ridge of elevated tissues for the whole of its extent (about 6 inches) with great redness and enlargement of glands. It seemed to be a case in which it was feasible to lay open the whole sinus, and this I did and scraped the track with a Volkmann spoon, removing at the same time several pieces of cloth. I am certain, judging by other cases, that this would have produced a troublesome sinus if not a worse result, but as it was, after paring the edges of the pectoral muscle and inserting some deep stitches, the wound, to my surprise and gratification, practically healed straight away and the patient, though one of the last in, was the first out of the hospital.

4. Sometimes a ball enters the tissues and falls out again. I may give an amusing example of this. A soldier was struck in the middle of the back in the left erector spinæ. There was simply a wound of entry. I asked the patient, through an interpreter, whether the military surgeons had removed the ball. He replied in the negative. I proceeded to search for it, but without avail. There were no signs of abdominal injury. I made a second search next day, enlarging the wound and probably giving the poor fellow much pain. He then inquired what I was doing to him. On being told I was trying to extract the ball he replied, "I have it here in my shoes. I found it in my trousers after the battle." The bullet (Fig. 7) is a Le Gras bullet, evidently fired by his own side, so the wound was not so dishonourable as might appear. There is no rifling on the ball.

5. A bullet may perforate a part of the body struck, and emerge, almost unchanged, or it may undergo comminution itself without necessarily fracturing a bone, though bones are really not so hard as is assumed. An example of the first was that of an English volunteer who had been engaged with the Turkish Mauser brigade. He had been shot under the right clavicle, and the ball had passed out posterior to the scapula, which must have been perforated. The wounds of entry and exit, which seemed exactly of the same size and character, healed rapidly under a scab. How the vessels and nerves about the region escaped was a wonder. He had no hæmoptysis, but some part of the lung must have been wounded. He had been shot at at about 800 yards. The Mauser is good for 4,000 yards, so it presumably passed through the part, and proceeded with almost undiminished velocity. Another remarkable case of vessels and nerves escaping was that of a patient struck in the palm while firing. The ball entered the web of the finger and passed out at the ball of the thumb. There was no loss of sensation or any signs of injury of the median or ulnar nerves, and the palmar arches presumably also escaped. We saw several perforating flesh wounds of the thigh, but the vessels escaped.

CHEST INJURIES.

An Evzone[2] was shot through the left shoulder. The humerus was not fractured. The bullet, a Martini, we found by the *x* rays in the lung. Pneumonia, pleurisy, hæmorrhage into the pleura and empyema rapidly supervened. The chest was first aspirated, and then a portion of rib excised. The patient was extremely ill, and had it not been for the excellent nursing he received at the hands of the Red Cross Sisters he must inevitably have died. The ball will doubtless become encapsuled, as is the case with General Smolenski, who carries a ball in his lungs to this day. Another lung case was that of a man shot through the right chest. The ball emerged to the left of the ensiform cartilage; a fracture of the rib existed. The patient had pleurisy, diphtheria, pleurisy and pneumonia on the other side, and eventually had a biliary fistula in the axillary line about the level of the fourth rib. The ball had perforated pleura, lung,

diaphragm, and injured also the liver. We left both these cases in the Queen's Hospital at Athens convalescent.

Pelvic and Abdominal Wounds.

Pelvic wounds are very serious and used to be a frequent cause of pyæmia. We saw a very severe case. The patient was a Garibaldian volunteer, aged 17. He was fighting the Turkish Mauser Brigade and was struck in the left hypogastrium. He had been in the German Red Cross Hospital at Stylida, but after the battle at Phourka he was sent on to Chalcis. The abdominal tissues were sloughing. The bullet had perforated the small intestine, passed through the bladder, through the rectum (the two holes could be plainly felt by examination), and out through the buttock. There had been localised peritonitis. The matted gut was raised out of the pelvis, which was a cavity filled with pus, large sloughs, urine, contents of intestines and undigested curds. It had to be emptied and dressed every four hours. I used to get my right hand through the abdominal opening into the pelvis and scoop out the stinking contents with the palm. A more disgusting dreadful condition I never saw. The poor fellow became emaciated to a degree, but hung on to life with wonderful pertinacity. He eventually died of exhaustion. Among other interesting cases was one of what at first appeared to me to be a furrowed wound about the level of the natal fold of the left thigh. The ball, I assumed, had not passed into the thigh. There was no dressing on the wound, though the patient had been wounded at Phourka about thirty-six hours before. I found him in the hold of the collier already referred to, and as he looked extremely ill and we only took out the worst cases, the journey from Chalcis to Athens being about twelve hours, I assumed he was more severely wounded than at first appeared to be the case. The wound was dirty, and the clothes covered with mud, grime, and blood were in contact with the wound. The patient had several rigors which he attributed to fever, from which he was a continual sufferer (and I did find the spleen enlarged), and asked for quinine, which is a drug everyone takes as a preventive. Next day I found the thigh immensely swollen, as though hæmorrhage had occurred into the limb, and there was emphysema from the thigh almost to the ankle. Amputation was out of the question, as the abdomen was discoloured; but several long incisions were made, and gas hissed and bubbled out of the limb, mingled with dark venous blood. The stench was awful. The bullet, a Martini, was found just under the skin, which it had undermined for about 2 inches from the spot which I assumed was the exit of the ball. This, then, was a case of acute emphysematous gangrene. The case was hopeless and the patient died four hours later. We isolated him as best we could. He happened before I discovered his condition to be in the next bed (and from want of space they were necessarily closer to each other than was scientifically correct) to the patient whose femur was amputated. I cannot say whether one infected the other. Nothing further of the kind occurred in the room, though there were several severe injuries to lower extremities, splintered tibia, perforated wound of ankle, two of the os calcis, a laparotomy, and several very serious cases beside.

The laparotomy case was that of a man who was shot through the abdomen, the ball passing out in the flanks. He had signs of internal hæmorrhage. My colleague, Mr. Abbott, opened the abdomen and removed clots, but could find no injury to intestine. As there was no hæmaturia presumably the spleen was lacerated. The patient made an uninterrupted recovery. This was the only laparotomy on the Greek side during the war that I heard of. Some had been performed by foreign Red Crescent surgeons with the Turks, but these I am told mostly proved fatal. Whatever correspondents may have thought of the fighting propensities of the Greeks, I must say that the wounded were most heroic in enduring their sufferings and privations. Mr. Abbott is himself reading a paper on his cases later, and I therefore wish to thank him for his courtesy in allowing me to mention them before their publication.

References.

The *Field*, August, 1897. [2] Evzone (*εὐ-ζωνα*, that is, "well belted") a term applied to the kilted regiments of the Greek army.

On and after December 23rd the muzzling order will be extended to Brighton, Hove, Lewes, Worthing, and certain adjacent parts of the county of Sussex.

REPORTS OF SOCIETIES.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

W. H. Dickinson, M.D., President, in the Chair.

Tuesday, December 14th, 1897.

Adjourned Discussion on the Prevention of Enteric Fever.

Dr. J. F. Payne resumed the debate. He said the fundamental question was whether enteric fever was strictly a specific disease or whether it could arise *de novo*. The possibility of the disease originating otherwise than from a previous case had not been entirely negatived by the discovery of the typhoid bacillus. For, assuming the bacterial origin of the disease, the bacilli could conceivably have had a saprophytic existence or have originated from bacilli which had passed through the intestines of a person without giving rise to enteric fever. If the disease always arose from a pre-existing case, the problem of prevention would be very much simplified. Practically this was so in the immense majority if not in all cases. Hence the great importance of preventing the infection spreading from one person to another, for if this was done effectually the disease would be stamped out. These measures, though sometimes hard to effect, were as nothing in comparison with the gigantic enterprise of searching for and destroying the bacilli in streams, sewers, and reservoirs. If every case were efficiently looked after, the disease would, everyone would admit, be greatly diminished or, from the strict specific point of view, exterminated. Our first duty, therefore, was to take such measures as would ensure efficient disinfection of the excreta, etc., of typhoid cases. Assuming that it was possible to destroy all the bacilli in the fæces, burning was the best method, but was often inconvenient from the large bulk of liquid mixed with the fæces, and at any rate in private houses could not always be carried out. If the liquid method was adopted, sufficient quantities of perchloride of mercury or hydrochloric acid must be employed. Fæces were not the only channels by which infection spread; urine, sputa, and even saliva must be taken into consideration. Linen and cotton garments, after being dipped in carbolic acid, should be finally disinfected by boiling; the risk of infection then fell only on the laundress, but was much less than in scarlet fever. Woollen garments, flannels, and blankets, however, were never boiled, and so might go again and again to the wash without being ever properly disinfected. It was not certain that the customary 1 in 40 carbolic acid solution was sufficient to thoroughly disinfect, but there were difficulties in the way of using any stronger solution. Mr. White, of St. Thomas's Hospital, had found that perchloride of mercury so stained and destroyed woollen fabrics as to be useless. In hospitals woollen articles could be disinfected by means of the disinfecting oven, but this was inapplicable in private houses, and some new method was required. This disinfection of fæces, linen, etc., was the first line of defence against typhoid fever, and was the province of every medical man; when the disease had broken through it the matter was one for public health officers. One case of enteric might give rise to a terrible epidemic, and hence the most vigorous measures must be adopted; and, without undervaluing the labours of our sanitary reformers, we should, in our domestic management of cases of typhoid, act as if that second line of defence did not exist. The public were fully convinced of the universality of typhoid infection by inhalation; this was a doubful question, but he could quote cases in which it seemed probable that it occurred.

Surgeon-General Jameson showed charts of the incidence and mortality of typhoid fever in the various military stations. It was lowest in Scotland; admission 0.7, mortality 0.22 per cent. In England and Wales the admission-rate was 0.8 and the death-rate 0.17. The latter corresponded with the rates in the civil population, and inasmuch as the army was largely composed of men at the age most subject to the incidence of the disease, it spoke well for their results. In Hong Kong the ratios were 1.3 and 0.3; then came the Straits Settlements, Canada, Ireland, Ceylon, Egypt, and, last, Bermuda. In some stations the efforts of the medical

service had got the upper hand of enteric fever; in other stations the reverse held true. Wherever the dry closet system was in use typhoid had not diminished. In India, where the dry earth closets were in general use, efforts had been made to cremate all the excreta. It was difficult to know how to deal with the flies which infested dry closets, latrines, etc.; there was no doubt that flies played a part in the spread of typhoid fever; their *rôle* as carriers of disease had been proved by laboratory experiments. It was therefore important to prevent flies infecting food in kitchens. As an example of flyborne typhoid fever he referred to Alexandria, where typhoid had been prevalent since the occupation by British troops. Close to the hospital there was a heap of decaying weeds which attracted hosts of flies to the spot, many of which found their way into the hospital milk. In 1892 enteric fever was very prevalent, the excreta were by contract conveyed to the desert, but on investigation it was found that they were really deposited within a hundred yards of the hospital, and it was probable that the flies, already attracted to the spot, acted as carriers of the infection thus provided. Dairies under control had been established with good results, and it was hoped that milk supplied to the soldiers and their families would be sterilised. In many stations it was impossible to obtain water that could be relied on. Pasteur-Chamberland filters had been tried in place of the old charcoal filters, but it seemed better to rely on boiling the water and on machines for boiling and subsequently aërating the water. On Hankin's suggestion permanganate of potash had been added to the wells, but the results were conflicting. Hankin's assistant, Ghadially, had found a micrococcus, the presence of which was, it appeared, inconsistent with the growth of the typhoid bacillus. In Bermuda, where typhoid fever was very severe, the water was all rain water collected from roofs and open spaces and stored in cemented tanks embedded in porous limestone. The water evidently became infected from the soil. All the conditions seemed favourable for the growth and culture of the typhoid bacillus in the soil, such as warmth, moisture, cesspools. But in New Providence, an island of the Bahamas, the conditions were exactly the same, and yet typhoid never occurred. Perhaps this was due to the primary infection of the soil never having taken place. Experience in India showed (1) that new arrivals and young soldiers were especially susceptible, while women and children were less frequently attacked; (2) that typhoid might break out in epidemics, occurring simultaneously over extensive areas; (3) that such cases might be widely isolated from each other; (4) that typhoid fever might arise when troops were in positions which had never been previously occupied by man. It was therefore difficult not to believe that there were factors in the production of typhoid which were as yet not comprehended. The service was making every reasonable effort to improve the sanitary conditions of the army, and to protect it against epidemics; with a view to accomplishing this bacteriological laboratories were being started.

Professor A. A. KANTHACK entirely agreed that prevention was better than cure. His remarks fell chiefly under two heads: (1) The consideration of the source of supply of the bacillus typhosus; and (2) its distribution. First, with regard to the source of supply, it was generally recognised that the fæces were the chief source, and recently the urine had been shown to contain bacilli. They might be found in abscesses, and not only on those developing during or soon after the disease, but in suppuration arising years after. It was now known that in necropsies on enteric fever patients the bile invariably contained typhoid bacilli; they might remain in the gall bladder for years, as shown by W. H. Welch's case of cholecystitis eleven years after the fever. As to how long typhoid bacilli might be present in the fæces after convalescence, there was no bacteriological evidence, but in cholera the vibrio might be present after the fæces had become solid; it seemed probable that the same would hold in typhoid, especially as the bacilli might remain for years in the gall bladder, and therefore at any time pass into the bowel. A healthy man who had recovered from typhoid fever was therefore a possible source of infection. These points had an important bearing on the doctrine that every case of typhoid fever was to be traced to another, for the connection might be very difficult to establish. With regard to the distribution of the typhoid bacilli, he pointed out that the introduction of Elsner's medium (potato gelatine and iodide of potassium) for the culture of typhoid bacilli had been followed by much fresh investigation. Lösener, who had for years worked at the typhoid bacillus, had found typhoid bacilli in the superficial soil of a field that had not been tilled for years, and Pfeiffer and Kolle had confirmed his diagnosis. He had inoculated a pig with the micrococcus tetragonus, and after its death buried it in sand, and had later obtained typhoid bacilli from it. Babes had also found the bacillus typhosus in conditions where enteric fever could be excluded. There was, therefore, evidence that typhoid bacilli might remain dormant and multiply on the soil, and so under favourable conditions obtain entrance into water. He laid stress on the importance of working out the natural history of the bacillus. The neglect of disinfection of typhoid intestines and excreta was, now that one's attention was called to it, a very grave matter, and should be rectified. The absence of control over water supplies was a serious matter. In Cambridge, for example, there were two supplies, but it was impossible to ascertain whether they were mixed, or the details with regard to their distribution.

Dr. SIMS WOODHEAD said that in connection with the contamination of water supplies, cisterns, though advantageous to the community at large, were a source of danger to the individual houses; for in cisterns conditions existed which were favourable to the development of typhoid bacilli if they once got in, and this might occur from a breakdown of the high pressure in the mains. During the prevalence of the Indian plague at Poona, excellent results had followed notification and a system of inspection, and the adoption of these methods might, as evidenced by Dr. Davies's success in Clifton, cut short typhoid epidemics. It was noteworthy that the course of milkborne and waterborne typhoid epidemics was very different; water infection was a more complicated and difficult problem, even though the source of pollution was found; while milkborne typhoid was more easily controlled. It appeared that the typhoid bacilli persisted longer in waterlogged soils, even though not rich in organic matter, than in dry earth with more organic basis. He laid stress on the importance of regular and systematic examination of water supplies, sewage, etc., as advocated by Professor Boyce; isolated examinations were of comparatively little value. A point of importance that had been brought out in this discussion was the early detection of an epidemic of typhoid fever by means of the Widal reaction. It was important that the epidemics of diarrhœa which preceded typhoid outbreaks should be investigated by the serum test, as it was probable that typhoid fever would be thus detected. Metchnikoff had shown that cholera vibrios might be present in the stools before the outbreak of cholera; probably in like manner the typhoid bacillus might be present in the bowel some time before it produced its special effects. He was inclined to think that in Welch's and other cases, where typhoid bacilli were found in the gall bladder years after the attack of enteric fever, the bacilli had not persisted throughout the interval, but that a second infection had taken place, and that the bacilli did not then produce the same results as on the first occasion. During epidemics typhoid excreta should be burnt, it was not safe to bury them in dry earth. He admitted it might be possible to overestimate the danger of burying typhoid excreta in dry earth, but he insisted it was most dangerous to allow them to pass into waterlogged soil rich in organic matter. At present it was impossible to say what organisms would act in an antagonistic manner to the typhoid bacilli. But typhoid and colon bacilli grew under similar conditions, so where the bacillus coli flourished the typhoid bacillus might, if suitable conditions arose, develop. An active infection of colon and typhoid bacilli might occur simultaneously; in this way, cases where an apparent transition from colon bacillary to typhoid infection had been observed might be explained.

Dr. W. J. TIVY considered that influenza and enteric fever had been epidemic in Clifton during October and November. The cases of influenza had been most puzzling, and many were accompanied with abdominal symptoms, as the medical officer of health (Dr. Davies) stated in his circular of October

25th. In most of these cases the invasion was sudden, the temperature high, ranging from 102° to 104°, and diarrhœa was present in many; there was, however, no splenic enlargement and no eruption, and the cases convalesced in from eight to sixteen days. None of his cases were submitted to Widal's test, as, according to his opinion, the test was deceptive in cases unaccompanied by the usual clinical symptoms of enteric fever. Dr. Davies, however, strongly advocated Widal's test as absolutely diagnostic in all doubtful cases, and mentioned that in over 70 cases the diagnosis of enteric fever was made certain by it. During the time these cases of influenza were about a sudden and most serious type of enteric fever broke out, and in these cases, too, the invasion was sudden, the temperature from the onset high, running from 103° to 105°, delirium was marked, there were severe pains in the limbs, diarrhœa was not present in all cases, the rose rash was uncertain, severe hæmorrhage occurred in many cases, and there was splenic enlargement; in fact, after the first week there was no doubt they were enteric, therefore Widal's test was unnecessary. According to Dr. Davies both of these epidemics were enteric fever, and, as he showed at the last meeting, he had sought to trace them to the milk supply of a small farm having 15 cows, and giving 100 quarts of milk in the morning and 40 in the evening; this amount of milk was said to supply 65 large houses containing about 700 people entirely with milk and 81 houses partially; out of this total 66 houses, according to Dr. Davies's own showing, were not attacked, though taking the alleged infected milk. Dr. Davies stated that the outbreak was due entirely to rinsing the cans and tins, five in number, in impure sewage-tainted water; no allegation was made that water was added to the milk. Now to hear the other side: The farmer, his wife, and daughter, who solely managed the dairy, and had done so for years, positively stated that they always with their own hands rinsed their cans and tins in boiling pump water only, and that they never touched them with cold or unboiled water. The public analyst had not, it was understood, found typhoid bacilli in either the alleged infecting water or infected milk, and no case of enteric fever had been traced to the neighbourhood of the farm. It was said that on November 20th--seven weeks after the first of these cases occurred—a labourer on the farm was found to be ailing, though he had worked every day as usual, and by Widal's test alone his blood then was decided to be enteric. Dr. Tivy's own views were that there have been two distinct epidemics in Clifton—one of influenza, in which many of the cases had abdominal symptoms. The second and most serious epidemic was one of severe enteric fever produced by sewer-gas poisoning, owing to the utter want of ventilation of the main drains of Clifton, and that thus, owing to a prolonged drought in August, September, and October, the drains were not properly flushed, and being ill ventilated sewage gas in volumes was forced back, chiefly into the houses attacked, which stood on high ground, and in close proximity to the large main sewer, which after descending a steep declivity of about 270 feet, emptied itself at all tides direct into the River Avon, a short distance below the Suspension Bridge. The sanitary authorities flushed the drains at the end of October and through November, and heavy rain fell, and thus the epidemic subsided. The stinks of Clifton in the summer had been almost unbearable for years, and unless steps were taken at once to ventilate the main drains and to divert the sewage of Bristol and Clifton entirely out of the Avon, it was much to be feared that the present epidemic would be nothing to what would follow should there again be a prolonged drought.

Mr. Percy T. Adams could not discuss the Maidstone epidemic, as an inquiry into the subject was imminent. He handed round curves showing the remarkable manner in which diarrhœa preceded the outbreak of typhoid fever. It was important to distinguish infantile diarrhœa from this special form. Usually the incidence of autumnal diarrhœa in adults was higher in men, but in Maidstone on this occasion women were the greater sufferers, probably because they drank more of the polluted water. The curve of diarrhœa ran into that of typhoid, and rose and fell with it. A heavy incidence of diarrhœa occurred near one of the possible points of pollution where typhoid subsequently developed.

On the motion of Dr. Corfield, seconded by Dr. G. V. Poore, the discussion was adjourned to the next meeting.

CLINICAL SOCIETY OF LONDON.

John Langton, F.R.C.S., President, in the Chair.

Friday, December 10th, 1897.

Acute Intestinal Obstruction relieved by Operation: Death on the Ninth Day from Intestinal Toxæmia.

Mr. A. Pearce Gould described the case of a man, aged 43, who developed symptoms of acute intestinal obstruction after receiving a strain at his work. On the fourth day the abdomen was opened, and a coil of small intestine was found adherent in the pelvis and twisted on itself. This was liberated, and at once the fluid intestinal matter passed into the collapsed lower ileum and cæcum. Next day a small motion was passed, and two days later flatus passed freely, and also a large formed motion, showing that the obstruction was relieved. For three days after the operation intestinal matter regurgitated into the stomach, and was removed by washing out the stomach on three occasions. The patient took fluid food well, and there were no signs of peritonitis; but the patient's urine continued to give a very dark indican reaction with nitric acid, and gradually he passed into a condition of stupor, deepening into coma, accompanied by a slightly quickened pulse, quickened deep and noisy respiration, a subnormal temperature which was lower in the rectum than in the axilla, profuse diarrhœa, the motions being of a peculiar odour and of a grey-green colour, and a dark erythematous rash which covered the skin. These symptoms first reached their maximum on the sixth day after the operation; 4 pints of saline fluid were injected into a vein, and immediately all the symptoms passed away. He relapsed next day, and saline fluid was again injected with marked benefit. Two days later he again became unconscious, and died, comatose, in spite of a third injection of salt and water. All this time the urine contained a great excess of indican, and Dr. Young found another chromogen, which was converted into dark brown pigment by oxidation, but was not melanic. Mr. Gould pointed out that the symptoms were toxic, and their slow onset, coupled with the marked instantaneous effect of saline effusion and the succeeding relapse, he took as showing the poison was a chemical one, which only exerted its influence when in a certain degree of concentration. The excessive indicanuria was a sign of increased intestinal fermentation; this caused the diarrhœa also. The inference seemed just that the toxic symptoms were also due to some substance absorbed from the intestine, but there was no proof that it was either of the chromogens proved to be present in the urine. Mr. Gould drew attention also to the occurrence of regurgitation of intestinal matter for seventy-two hours after the relief of the obstruction.

Mr. Barker related the case of a lady, aged 56, who, in connection with a growth in the splenic flexure of the colon, developed acute obstruction. He opened the abdomen to see if the growth could be removed, but as this was impossible, he short-circuited the intestine by means of a Murphy's button. There was not a trace of inflammation in the abdomen, and the wound healed by first intention, but there was a little tenderness over the site of the button, and within a few days there was regurgitation of a yellow fluid into the stomach. The temperature rose to about 101° F., and soon after she developed a very brilliant rash over the chest, arms, and front of the abdomen. The bowels did not act, although the lower part was filled with soft fæces, and he believed that this rash was due to poisonous substances absorbed from the bowel, producing symptoms to which she ultimately succumbed on the twelfth day. There was no necropsy.

Dr. R. A. Young called attention to the toxic properties of certain substances contained in normal urine, which were in three principal groups: (*a*) crystallisable organic principles, ptomaines, and leucomaines; (*b*) non-crystallisable extractive principles; (*c*) salines, especially potash salts. As to the ptomaines and leucomaines in group *a*, Bouchard thought that these were probably part of the intestinal ptomaines, etc. The pigments were the organic matter which gave symptoms

most nearly like those produced by the entire urine. The symptoms observed in experiments with these toxic substances were myosis, acceleration of the heart's action, high temperature, frequent micturition, feeble respiration, coma, and death.

The President mentioned the case of a lady who had vomiting and subacute intestinal obstruction, probably caused by disease in the sigmoid flexure. He did colotomy, but did not open the intestine at the time. Next day the patient became drowsy and passed very little urine, which contained some albumen. On the third day when she was comatose the bowel was opened and much fæcal matter evacuated. She soon recovered complete consciousness and became quite well, but eventually died of the disease of the sigmoid.

Dr. W. S. Colman mentioned another case of intestinal obstruction in which the cerebral symptoms were in the direction of excitement. The patient was under the care of Dr. Grubb. Masses in the ascending colon, supposed to be fæcal, came away when enemata were used, and in two days the toxic symptoms passed off. She had had no belladonna or other medicine likely to produce hallucinations. Frequently the use of an enema in childhood was followed by a bright erythematous rash lasting a few days.

Mr. Eastes said that with chronic obstruction ulceration of the mucous membrane above the seat of the disease was often found; and he thought that toxic substances would be absorbed through the ulcerated surface, which would not penetrate the normal mucous membrane.

Mr. Makins asked if the blood or urine of Mr. Gould's case had been examined for micro-organisms. He thought the rash pointed rather to the presence of organisms in the blood. The pulse in the case rose very slowly.

Mr. Gould, in reply, said neither the blood nor the urine had been examined for micro-organisms. He thought the fact that the symptoms abated when salines were injected pointed to the presence of chemical toxins in the blood.

A Case of Radical Cure of Inguinal Hernia: Injury to the Bladder: Formation of Phosphatic Calculi: Lithotrity: Recovery.

Mr. Lockwood described the case of a labourer, aged 23, who had been operated upon by another surgeon in June, 1895, for the radical cure of a right inguinal hernia. He was, however, rejected for the army because of another incomplete inguinal hernia of the left side. In November, 1895, this was operated upon by Mr. Lockwood. Soon afterwards he complained of discomfort in the bladder, and it was ascertained that at the first operation a finger-like extension of the bladder had been opened in dissecting away a mass of fat near the neck of the hernial sac. Pus afterwards appeared in the urine, and a cystoscopic examination revealed the presence of two phosphatic calculi. Mr. Lockwood removed these by lithotrity, and the patient soon recovered. No remains of ligatures could be found in the *débris* of the calculi. It was suggested that in future such injuries should be sutured with sterilised catgut inserted by Lembert's method.

Mr. Barker asked if any cases had been met with in which after ligature in the ordinary way calculi had been formed around the silk ligatures? Did the sutures enter the bladder? If not, how did calculi form around them?

The President said hernia of the bladder in males was not uncommon, and was more frequently found on the right than on the left side. In some cases the herniated portion was entirely, sometimes only partially, surrounded by peritoneum. There were cases recorded of phosphatic calculi in such bladders.

Mr. Gould said some years ago he operated upon a woman, aged 44, with supposed omental hernia in the crural canal. He found a subserous lipoma, removed a quantity of fatty tissue, applied a ligature to the remainder, and closed the wound. She subsequently developed bladder trouble, accompanied by pain, frequent micturition, and extravasation of urine. A protrusion of the bladder had been connected with the lipoma, and had been slightly torn during the operation. In that case the patient was a woman, and the trouble was on the left side.

Mr. Makins said that sutures escaped in the direction of least resistance. Those placed on the outside of the bowel, for example, if they escaped did so by entering the cavity of the gut. The same thing occurred with the urinary bladder.

Mr. Lockwood, in reply, said he had seen phosphatic calculi containing silk, and had known the ligature applied to the pedicle of an ovarian tumour find its way into the bladder. Although he did not find the ligatures inside the calculi, he thought they were the cause of the calculous formation.

Fifteen Consecutive Cases of Intussusception.

Mr. Barker observed that the treatment of these cases was at present difficult to decide, and he brought forward certain conclusions which appeared to him to be justified by his experience of 15 consecutive cases. Intussusception, he observed, was a condition which, if not early relieved, tended to a promptly fatal termination. It was, however, impossible to ascertain with certainty in any given case whether the critical point had been reached. Experience had, however, shown that within thirty hours a hopeless condition of strangulation might be reached; while in other cases the bowel might remain viable for many days. The views of individual practitioners would vary according as they happened to have met with most of one or the other class of cases. It would be just as wrong to say that laparotomy was the only treatment for acute intussusception as to urge that injection was suitable for all cases. Some yielded readily to injection, while others were not and could not be amenable to such treatment. When the invagination commenced in the small intestine, above the ileo-cæcal valve, it was evident that it could not be reached by distension of the bowel from below. Leichtenstein's statistics showed about 30 per cent. of enteric intussusceptions and 8 per cent. of ileo-colic, so that 38 per cent. of all intussusceptions were essentially unsuitable for treatment by distension. Of the remaining 62 per cent., including 44 per cent. ileo-cæcal and 18 per cent. of colic, though theoretically amenable to the distension treatment, as a matter of fact a very large proportion were not brought until œdema and firm strangulation had rendered the walls of the bowel quite unyielding. Then, too, the invagination sometimes apparently yielded to injection, and the bowel uncoiled itself up to the point where invagination began, but no further. Consequently, when the distending force was withdrawn, the invagination resumed; in fact, there had not been perfect reduction. In such cases, they must be on the lookout for a return of the tumour, even before a return of the symptoms, and, in such event, it behoved them to operate at once. In his 15 cases of acute intussusception, this apparent reduction was illustrated in 5, in 4 of which he had afterwards to do laparotomy. Injection failed absolutely in 3 other cases, in addition to the above. It was plain, therefore, that of these 15 cases, injection failed in 8; but subsequent events showed that of the 15, no fewer than 12 could not possibly have been reduced by injection when first seen, so that only 1 in 5 of the whole series had the slightest chance of being relieved by injection. Considering that there were 38 per cent. of ileo-colic and enteric intussusceptions not amenable to injection, and in view of the fact that 8 out of 15 treated by injection proved failures, the chance of success by this method of treatment would seem to be small indeed. He concluded, therefore, that except in the rare instances in which they saw the patient within a few hours of the onset of the symptoms, it was safest not to employ injections, but to proceed at once to abdominal section.

Mr. Lockwood said the first point was to make up one's mind clearly and accurately as to the diagnosis, because, in his opinion, after the first twenty-four hours the sooner the abdomen was opened the better. After twenty-four hours, too, he did not think injection or inflation did any good, though if done earlier than that it might be of some service. A colleague had operated on a case, and discovered that the thickening which he felt through the abdominal wall was the thickened bowel which had been reduced. No danger was attached to laparotomy in a child, and the danger of subsequent ventral hernia was very slight indeed, so that he thought it safer to open the abdomen rather than try injections.

Mr. Roughton said his experience only comprised one case. The symptoms had existed for twenty-four hours, and he opened the abdomen at once and the child recovered. This case made him look up the literature of the subject, and he

found from the published records of cases that the proportion of successes to fatal cases was almost directly proportional to the duration of the symptoms. In the successful cases the average duration did not exceed thirty hours, and there were very few cases indeed that recovered when the symptoms had lasted more than two days. More cases recovered that had been operated upon without previous injection than after injection had been tried. It seemed to him that in many instances the fatal result was due to the delay caused by repeated attempts at injection or insufflation. He had made up his mind that in all future cases, if the symptoms had been present more than twenty-four hours, he would open the abdomen forthwith.

Mr. Barker, in reply, pointed out that it was possible in many cases to reduce the intussusception through a very small incision, and he advised beginning with a small incision. He should hesitate to base any conclusions on published reports of isolated cases, and thought series of cases were far more reliable. In his paper some of the patients were in desperate condition, with cracks through the peritoneum leading nearly down to the mucous membrane, but they recovered after operation.

MEDICAL SOCIETY OF LONDON.

Arthur Ernest Sansom, M.D., F.R.C.P., President, in the Chair.

Monday, December 13th, 1897.

Case of Pancreatic Cyst treated by Incision and Drainage.

Mr. Alban Doran read a paper on this subject, which is published in full at page 1779.

Case of Peripancreatic Cyst.

Dr. Rolleston and Mr. G. R. Turner contributed notes of the case of a man, aged 30, who came under observation with a history of epigastric pain of six months', and jaundice of three months', duration; the fæces had been clay-coloured for five months. The skin was deeply jaundiced, and itching was a prominent symptom. In the abdomen there was a tense tumour, separated from the liver by a band of resonance. From its association with jaundice the tumour was thought to be probably a dilated gall bladder. Laparotomy by Mr. Turner showed, however, that it was a cyst arising from the neighbourhood of the pancreas. It contained 30 ounces of dark brown fluid, which owed its colour to methæmoglobin, and was not due to bile; a considerable amount of blood clot separated on standing. Dr. Arthur Latham, who undertook the analysis, found no evidence of the presence of pancreatic ferments. The cyst was tapped and drained and the patient made a good recovery and lost his jaundice. The cyst was certainly pancreatic; but, in the absence of any positive evidence of its being pancreatic, it was impossible to say that it was not a hæmorrhagic cyst such as might result from pancreatitis or injury. There was, however, no history of traumatism. The association with jaundice was a remarkable feature, and, since it was relieved by tapping the cyst, it was presumably due to pressure exerted on the bile ducts from without. The fact that the fæces were clay-coloured before the onset of jaundice might be due to interference with the flow of pancreatic juice into the duodenum.

Case of Complete Removal of a Multilocular Cyst of the Pancreas.

Mr. Malcolm read notes of a case in which a hydrophrosis of the left kidney was diagnosed. The tumour was a multilocular cyst growing from the tail of the pancreas, and it was removed. There was much difficulty in arresting hæmorrhage, but this was eventually done so completely that the wound was closed without drainage. Convalescence was uneventful. The tumour was shown and its contents were described as strongly amylolytic. Mr. Malcolm said that aspiration should not be employed as a means of diagnosis in such cases. He referred to the liability to hæmorrhages into pancreatic cysts, which made them sometimes very tense. He believed the tumour he removed was a true neoplasm, whereas some pancreatic cysts due to injury were collections of blood and pancreatic fluid in an adventitious cyst. If such collections might be caused by an injury, he suggested that a surgical wound might give rise to a similar formation. Such cysts must be treated by drainage. Quoting Mr. Doran, the author of the paper said that only some dozen cases of complete removal of these cysts were on record, Mr. Clutton's and his own being the only ones operated on and published in this country. A case published in the *Lancet*, vol. ii, 1896, was quoted as showing one mode of death with very obscure and misleading symptoms which might occur when a pancreatic cyst was not treated surgically. The possibility that a tumour might be a pancreatic cyst was urged as a special reason for making an exploratory incision.

The President commented on the difficulties of diagnosis, and expressed surprise that the fluid should not possess greater fibrin-dissolving powers, a fact which he was disposed to attribute to this effect being already exhausted on the blood clot effused. He concluded that the best course when there was any doubt was to advise exploration, leaving the subsequent treatment in the hands of the surgeon.

Mr. G. R. Turner said the cases described as peripancreatic cysts differed little if at all from his own case of undoubted pancreatic cyst. In both his two cases the cyst wall was indistinguishable from peritoneum, and enucleation was obviously impossible, and, if possible, extremely dangerous. He had been able to drain efficiently through the front incision. He thought the induration he had felt was malignant, but the subsequent history showed that this was not so.

Dr. C. W. Chapman mentioned that the late Mr. Leopold Hudson had operated on a similar case with success, the patient being a child. He was not aware of there having been traumatism.

Dr. F. de Havilland Hall mentioned a case in which jaundice was the first symptom to attract attention, and the absence of other symptoms and physical signs led him to diagnose simple jaundice. Subsequently, however, a tumour had made its appearance in the epigastrium which Mr. Gould had cut down upon, and had shown it to be a pancreatic cyst. He observed that the urticarial rash resembled that sometimes met with after tapping a hydatid cyst.

Mr. Battle asked for information respecting recurrence. The cases brought forward that evening had all been operated upon within a year, so that no conclusion could be drawn from them. He raised the question as to the comparative value of the anterior as compared with the posterior incision. He agreed that aspiration of tumours in this situation was inadvisable and dangerous. He referred to a case of jaundice in a patient who presented some enlargement of the liver which was attributed to gummatous growth in that organ as the man had had syphilis. Moreover, antisyphilitic treatment appeared to be having the expected results. A tumour, however, appeared in the region of the pancreas, which he cut down upon, but it looked so malignant that he did not attempt removal. The patient, however, recovered, and it was curious that iodide of potassium, which had not done him much good before the operation, brought about great improvement afterwards.

Mr. Alban Doran, in reply, said he thought pancreatitis had a good deal to do with these formations. He thought Mr. Malcolm's cyst belonged to quite a different category; in fact, he was disposed to think it a retroperitoneal cyst such as were met with in front of the kidney.

Dr. Rolleston, in reply, mentioned that in three cases of acute pancreatitis with fatal termination which he had observed, he had found an effusion of turbid fluid in the lesser cavity of the peritoneum, and he suggested that this effusion might, had the patients survived, have led to the formation of peripancreatic cysts. He said he had more than once mistaken the induration of the head of the pancreas for a malignant growth.

Mr. Malcolm, in reply, said there was nothing to support Mr. Doran's suggestion except that one thin-walled multilocular cyst was very like another; and, on the other hand, there was strong evidence that this tumour was a true pancreatic cyst.

BRITISH GYNÆCOLOGICAL SOCIETY.

G. Granville Bantock, M.D., Vice-President, in the chair.

Thursday, December 9th, 1897.

Specimens.

Dr. R. D. Purefoy (Dublin) showed: (1) Myoma of Uterus removed by Panhysterectomy; (2) Myoma of Uterus removed by

Myomectomy; (3) Ruptured Tubal Gestation coincident with Uterine Pregnancy; (4) Fibroid Uterus removed by *Morcellement;* (5) Dermoid Cyst removed by Vaginal Colpotomy.—Dr. FRED. EDGE (Wolverhampton) showed: (1) Myomatous Uterus removed by Panhysterectomy; (2) Double Hydrosalpinx.—Mr. O'CALLAGHAN showed: (1) Cancer of the Uterus removed by Hysterectomy; (2) Double Pyosalpinx.

HÆMORRHAGIC ENDOMETRITIS.

Dr. JOHN A. SHAW-MACKENZIE read a paper on this subject. In pointing out the difficulties of differential diagnosis between chronic inflammatory conditions of the endometrium and commencing adenocarcinoma in curetted fragments, he exhibited and contrasted microscopic sections of the same. He showed two uteri, with microscopic sections, removed by Dr. Bantock and Mr. Skene Keith for continuous and severe bleeding, rebellious to usual medication and repeated curetting, in women at the menopause. In both hæmorrhage had endangered life, and both since the operation, four years in the first and nine months in the second, were in good health. He associated these cases with the case of the late Sir Spencer Wells, and Dr. Sims Woodhead's pathological report published in the BRITISH MEDICAL JOURNAL of February 25th, 1893, in which the patient had died after hysterectomy from exhaustion, consequent on intractable hæmorrhage, which previous curetting and removal of the tubes had failed to check. He exhibited the uterus which the late Sir Spencer Wells had later kindly given him, and pointed out the microscopic sections were the same as Dr. Bantock's and Mr. Skene Keith's cases. He considered the term "hæmorrhagic endometritis" clinically expressed bleeding from the uterus from various enumerated general and local causes, while the microscopic appearances of the endometrium were those of chronic inflammation of different degrees. He considered that menorrhagia in many cases was due to gonorrhœa and unsuspected syphilis usually associated with ovarian and tubal disease in single women, especially in parous women after abortion and delivery with subinvolution of uterus, and also in young adult women the subjects of inherited syphilis, several cases of which, including sisters, were at the present time under his care. He shortly referred to the clinical and microscopical differentiation between epithelioma, adenocarcinoma, and syphilitic disease of the cervix and os uteri.

Dr. MACNAUGHTON JONES said that many years ago he published a section of a case of hæmorrhagic endometritis, in which the ultimate ending of the case showed it to be one of sarcoma. A great many different conditions had been described under the name "hæmorrhagic endometritis," which was not a very scientific term. In one such case, where the patient had profuse hæmorrhage, a small raspberry-like projection was found in the uterus, which was reported on by the pathologist as being malignant; yet the patient was at present alive and well. He related two cases on which he had recently operated—one a woman of 24, the other of 32. Both were treated by dilatation, curetting, and swabbing out of the uterine cavity with chromic acid. When hæmorrhage persisted in spite of treatment, hysterectomy was the only resource.

Dr. CLEMENT GODSON had seen one of the patients mentioned by Dr. Shaw-Mackenzie five years before she was operated on by Mr. Skene Keith. When he saw her again, at Mr. Keith's request, he was much struck by the change in her appearance; she was pale and thin, and looked as if another flooding must prove fatal. He entirely concurred in the treatment adopted—hysterectomy.

After some remarks from Dr. HERBERT SNOW, Dr. F. EDGE asked if, taking 100 cases of hæmorrhage lasting some years, they were justified in doing hysterectomy in every case because in 10 of them malignant disease developed? It was possible that even in these 10 the malignant disease might have been averted by earlier treatment; for cancer was largely due to continued irritation. He thought that to advise hysterectomy for hæmorrhagic endometritis was to open the door of surgical intervention much wider than some of them would intend.

After some remarks from Dr. C. H. F. ROUTH, the CHAIRMAN admitted that he also had very little confidence in the microscope. He had seen only three cases in which he thought it necessary to remove the uterus for hæmorrhagic endometritis. The first was a married woman, aged 27, who had had numerous curettings done. On dilating the uterus he removed a tablespoonful of soft material, which was pronounced by a pathologist to have the characters of hæmorrhagic endometritis. When he opened the uterus after removal there was a further teaspoonful of the same substance. She was now quite well. The other two patients had passed the menopause. One died twelve months later, apparently from cancer of the liver; the other was alive and well. Dr. Shaw-Mackenzie attributed the origin of the disease in many cases to syphilis; but he thought that if this were so they would meet with the condition much more often than was the case.

Dr. SHAW-MACKENZIE briefly replied.

OPHTHALMOLOGICAL SOCIETY OF THE UNITED KINGDOM.

H. R. SWANZY, F.R.C.S.I., President, in the Chair.

Thursday, December 9th, 1897.

CLINICAL EVENING.

LEADEN PELLET LODGED IN THE EYE.

MR. HARTRIDGE showed a case, with skiagraph. The patient was shot in the right eye by a pellet from an air gun. When seen two hours after the accident there was a large linear wound of the cornea, with prolapse of the iris and hæmorrhage into the anterior chamber. No p.l. T—1. The prolapsed iris was cut off. Two days later, after the blood in the anterior chamber had cleared up, it was found that the lens was wounded. A skiagraph was taken, the plate being placed on the right side of the head and the Crookes's tube on the left, so that the *x* rays passed through the head from left to right. Exposure was fifteen minutes. The result showed that the pellet was lodged about the middle of the orbit. The eye was excised, as it was obviously lost, and the bullet was found lodged in the globe.

Mr. J. F. BULLAR also showed a skiagraph of a fragment of a percussion cap in the orbit.

Remarks were made by the PRESIDENT, Messrs. BICKERTON, JOHNSON TAYLOR, POWER, and HOLMES SPICER.

MULES'S OPERATION FOR PTOSIS.

Mr. W. J. CANT and Mr. A. S. MORTON each showed a case of ptosis treated by Mules's operation, which consists in the insertion of a wire loop from the free edge of the lid beneath the skin to the eyebrow. Mr. Cant's case was one of congenital ptosis of one eye. When the frontalis muscle was put into action the lid was raised by means of the loop, so as to expose the pupil. Mr. Morton's case was one in which ptosis had been present in the right eye twenty years, and in the left eye three years. Referring to the difficulty of tightening the suture, Mr. Morton had had a communication from Mr. Mules, in which the latter said he used silver wire as stout as the lid would bear, and before using it he heated it in a spirit lamp to make it less brittle. After inserting the suture from the free edge of the lid to above the eyebrow, he allowed it to remain five or six days before tightening it. In order to tighten it the wire near the ends was grasped with lead-lined forceps, while the ends were twisted. Mr. Morton had also heard from Dr. Tatham Thompson of his experience, which was entirely favourable. In one of his cases, after two months' use, a blow on the eye caused the wire to snap, but the ptosis was not so bad as it had been before insertion of the suture, a certain amount of cicatrisation of the subcutaneous tissue of the lid having been set up.

NON-RECURRENT ORBITAL SARCOMA.

Mr. MORTON showed this case. The patient had had a sarcoma extending from the upper outer part of the orbit to its apex. The whole of the contents of the orbit was removed and chloride of zinc paste applied. After fourteen months there was no sign of recurrence.

SOLID ŒDEMA OF THE CONJUNCTIVA.

Mr. HOLMES SPICER showed this case. The patient was a young woman, aged 21. The condition was present in the right eye only; it was confined to the ocular conjunctiva; it

had been noticed about three or four months. The only apparent cause was an obstruction to the return of lymph from the eye produced by suppuration and subsequent cicatrisation in the lymphatic glands of the neck two years before. On the affected side the preauricular and cervical glands had both suppurated, and on the other side the cervical glands only. There was no proptosis of the eye; the vision was normal, and the retina and its blood vessels appeared normal. There was no sign of disease in the nasal passages.

The President thought the case was a very rare one.

Mr. Adams Frost thought it was similar to two cases shown at the Society some years before by Mr. Donald Gunn, which were described as syphilitic infiltration of the conjunctiva. In those cases he thought the preauricular glands were also enlarged.

Mr. Silcock referred to a case which he had published in the *Transactions* of the Society similar to this one; he had incised the conjunctiva, and scraped granulation tissue from Tenon's capsule.

Mr. Eales spoke of a case of similar appearance which he had seen.

Traumatic Cyclitis.

Mr. Marshall showed a specimen of traumatic cyclitis, in which the injury had been caused by a piece of wood; there was a dense cyclitic membrane dividing the eye into two cavities.

Specimens of Pseudoglioma.

Mr. Marshall showed one specimen, and Mr. Ernest Clarke another. In the former the child was 7 weeks old; there was a white mass seen behind the lens; the tension of the eye was raised. After excision the case was found to be one of pseudoglioma. Mr. Clarke's case was one of bilateral pseudoglioma, in which there was a record of pseudoglioma occurring in two other members of the family.

Mr. Treacher Collins said that he would have been inclined, apart from the family history, to have regarded this as a case of congenital membrane in the vitreous.

Secondary Sarcoma of the Orbit.

Mr. Ridley showed a case. There were all the signs of a tumour of the orbit; there was also a tumour of the scalp, of the supraspinous fossa, and of one fibula.

Remarks were made by Messrs. Jessop, Eales, Collins, and Nettleship.

Chip of Steel in the Vitreous Eighteen Months.

Mr. Laws showed this case. There was no sign of irritation; the body in the vitreous was encapsuled; there were several red streaks on the lens, and fine red particles all over the surface of the lens; the lens remained clear for 15 months, but had slowly become opaque in its posterior parts.

Perforating Wound of Eyeball.

Dr. Brailey showed this case. The patient's right eye had been struck by a piece of wood. There had been a wound of the cornea and prolapse of the iris; the prolapse had been removed. Without any apparent cause the vision of the other eye, which had remained quite good for two months and a half, was beginning to deteriorate, and had fallen from $\frac{6}{6}$ to $\frac{6}{18}$. There was no sign of sympathetic inflammation and nothing to account for the defect.

Recurrent Membranous Conjunctivitis.

Mr. Batten showed this case. The membrane had been removed several times, but always recurred; it had the appearance of a superficial burn. The bacteriological examination had not been completed.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

Section of Surgery.

Sir William Thomson, P.R.C.S.I., President, in the Chair.

Friday, November 12th, 1897.

Operation in Intestinal Obstruction.

Sir William Thomson delivered his opening address on this subject.

Middle-ear Disease.

Mr. Robert H. Woods read a paper on a case of suppurative middle-ear disease, complicated by lateral sinus thrombosis, extradural cerebellar abscess, and temporo-sphenoidal abscess. The patient, a man aged 27, was admitted to the Hardwicke Hospital suffering from symptoms of typhoid fever. He had had chronic otorrhœa for seven years, the discharge ceasing seven days before admission. Lateral sinus thrombosis was diagnosed, and operation performed. The mastoid antrum was opened and cleared out, and the bony meatus extended back to the groove from the lateral sinus, in which a septic thrombus was found. An extradural abscess on the posterior aspect of the temporal bone was evacuated. Two days later, symptoms of brain abscess persisting, a second operation was undertaken, with the result that a temporo-sphenoidal abscess was tapped, and four drachms of pus removed. The patient made an uninterruped recovery.

Remarks were made by the President, Sir Thornley Stoker, Dr. Finny, Dr. Frazer, Dr. Pratt, Mr. T. Myles, Mr. M'Ardle, Mr. Fitzgibbon, Mr. Lentaigne, Dr. A. R. Parsons, Dr. Harvey, Dr. R. Lane Joynt, Mr. Croly, and Mr. Patteson, and Mr. Woods replied. Dr. Joynt had asked what was done with the clot in the lateral sinus. His reply was, that he had cleared out the lateral sinus as far as he could reach it. He did not tie the internal jugular vein, and he thought that, perhaps, it would have been better if he had done so. Mr. Tobin had asked how to deal with the primary fault in the ear. The procedure which he (Mr. Woods) adopted, and the one which he considered the correct one, was Macewen's—first to get at the mastoid antrum, then inspect it after cleaning it out. Dr. Pratt had instituted a question between mallet and chisel and trephine. In these cases it was comparatively rare, in fact had never occurred to him (Mr. Woods) to find softening of the mastoid bone in cases of intracranial abscess, and he thought that the reason why there was intracranial abscess at all, was because the bone was so hard that the pus could not get out; therefore, it was precisely in these cases that there was the greatest difficulty in getting through the bone, because there was a sclerosing osteitis set up which eburnated the mastoid process, and made it exceedingly difficult to get through, and it was in these cases that the burr was so useful. The possibility of causing concussion of the brain by blows of the mallet was, he thought, a remote one.

MANCHESTER MEDICAL SOCIETY.

Graham Steell, M.D., President, in the Chair.

Wednesday, December 1st, 1897.

Pseudo-hypertrophic Paralysis.

Dr. Ernest S. Reynolds showed a photograph of a man, aged 35, suffering from typical pseudo-hypertrophic paralysis, with well-marked enlargement of various muscular groups. He also showed a boy, aged 18, the son of the sister of the former patient. This boy also was suffering from the same disease, but, at first sight, without enlargement of the affected muscles. More careful examination showed, however, that the calves, the buttocks, the deltoids, the forearm muscles, and especially the infraspinati, were enlarged and increased in hardness. All these groups of muscles were very weak, and the patient had the typical "waddling" gait. The facial muscles were unaffected.

Skin-grafting by Thiersch's Method.

Mr. J. E. Platt showed a young woman, aged 19, who had had almost the whole of the scalp torn off as a result of a machinery accident in July, 1896. The detached portion had extended from the occipital protuberance to within 1 inch of the forehead. The raw surface was afterwards covered up by Thiersch's method of skin-grafting, which was carried out in two stages at periods of one month and six weeks after the accident respectively. Three months after the injury the whole surface was healed. Twelve months later the grafted surface remained quite sound, and had regained a considerable degree of sensibility. The patient almost invariably gave correct answers when asked whether any part of the scalp was being touched, and there was very fair power of recognising two points as distinct, when the scalp was touched in two places a short distance from each other. The method of performing the operation, the precautions neces-

sary to ensure success, and the cases which are suitable for this method of treatment were briefly alluded to.

HENOCH'S PURPURA.

Dr. DRESCHFELD made some observations on the symptoms, pathology, and treatment of this disease, cases of which, though not under that name, had been repeated observed and described in English journals. The disease occurred much more frequently in children, and the principal symptoms were: (1) Pain in and near a joint; (2) a purpuric or erythematous eruption; (3) abdominal pain, accompanied by vomiting and diarrhœa; (4) hæmorrhagic nephritis. In typical cases all these symptoms were present, in other cases one or other of the symptoms might be absent. Relapses were very common. Referring to each group of symptoms, it must be noted: that pain was often the first symptom noticed; it was often slight and transient, and might affect larger and smaller joints; often there also was some œdema near the joint. The skin eruption occurred early in the disease, and might take the form of erythema nodosum, erythema circinatum, or urticaria. Hæmorrhages in the affected patches might take place, and lead to sloughing ulcers; purpuric spots might appear on the lower and upper extremities and on the face: these eruptions might last for some days, then disappear and reappear; this might occur several times. The gastro-intestinal troubles occurred often at a later period, and resembled very much the gastric crisis of locomotor ataxy. The vomiting might be very persistent, the vomited matter consisting of mucus and bile; at other times blood was vomited. Diarrhœa might be present, and become troublesome, and the stools contain blood; the pain was often very severe, the patient felt quite exhausted and might soon become collapsed. Hæmorrhage from the kidney had been noticed in all the 9 cases observed by Dr. Dreschfeld, and appeared to be very common in this disease; the urine besides blood showed hyaline, granular, and epithelial casts; often after the hæmaturia stopped the urine still contained albumen and casts for weeks; relapse of the hæmaturia were not uncommon. Besides the hæmaturia other hæmorrhages (epistaxis, hæmoptysis, retinal hæmorrhages, melæna) had been noticed. The temperature might be normal throughout the disease, but occasionally there was remittent or intermittent pyrexia. The spleen in several of the cases observed was found slightly enlarged. Endocarditis, pericarditis, and pneumonia had occasionally been observed as complications. The prognosis was on the whole favourable; death might take place from the excessive renal hæmorrhage, or cerebral hæmorrhage, or from acute uræmia. Some cases passed into chronic Bright's disease, as described by Osler. Quinine had been found very useful, and turpentine had in several cases checked the renal hæmorrhage effectively. In a case published with very severe hæmorrhage by Sansom, the patient recovered after administration of ½-drachm doses of sulphocarbolate of soda. The disease belonged to the group of purpuric diseases, and was probably due to a bacillus, as shown by the observations of Letzerich, Babes, and others. Bacteriological examination of the blood in 2 cases observed by Dr. Dreschfeld gave negative results.

Dr. EDGE made some remarks on the disease, which had been described by Mr. Hutchinson under the name of "gouty hypertrophic acrodermatitis," and of which Dr. Crocker, in conjunction with Mr. Campbell Robinson, had published a case under the title of "erythema elevatum diutinum." He also showed a girl aged 18, who presented the disease in a well-marked form. He referred more particularly to cases occurring in young people, which both these authors looked upon as constituting a type more or less distinct from those found in men past middle life. Dr. Edge said his case strongly supported the suggestion of Dr. Judson Bury, who was the first to record a case in a young person, that this disease was a disturbance of nutrition, due to altered innervation of the vasomotor system.

CASE.

Dr. ARTHUR HELME mentioned a case of Acute Ascending Paralysis during lactation.

PRESENTATION.—Dr. J. Garvie McNaughton of Turriff was, on December 14th, presented by his nursing class with a set of instruments, including amongst others Potain's aspirator and a laryngoscope.

PATHOLOGICAL SOCIETY OF MANCHESTER.

C. E. RICHMOND, F.R.C.S., President, in the Chair.

Wednesday, December 8th, 1897.

SARCOMATA OF BONE.

MR. C. E. RICHMOND showed (1) a preparation of myxo-sarcoma of femur; (2) a mixed-celled sarcoma apparently arising from the antrum. This had given rise to tooth trouble, and several had been extracted immediately, followed by a rapidly-growing vascular tumour on the alveolus. The upper maxilla was excised, but it was found impossible to remove all the new growth, which rapidly recurred, and the man died within a month of the operation.

CONGENITAL DILATATION OF THE COLON.

A rare and interesting specimen was shown by Dr. A. T. WILKINSON. Details of the case will be published later.

MOLLUSCUM FIBROSUM AND FIBROLIPOMA OF THE ARM.

Mr. WALTER WHITEHEAD and Mr. RAY showed an upper extremity removed for extensive molluscum fibrosum and fibrolipoma. The molluscum fibrosum, of enormous size between elbow and wrist, extended from the wrist to shoulder, and was placed chiefly on the extensor aspect of the arm and forearm. Several small pedunculated fibromata presented on the inner and outer border of forearm, and were shown to be related to certain cutaneous nerves. In the main growth degeneration cavities were noted, and the microscopic characters of the growth in different regions and in different stages of development were described. Underlying the molluscum fibrosum from shoulder to elbow extended a large fibrolipomatous tumour. The entire limb weighed 70¼ lbs. immediately after removal, and the patient made a good recovery. The specimen was from a man aged 32, and he believed the growth first appeared at the age of 7 years, and about eighteen months after a fracture of the bones of the forearm. Photographs of the patient before and after amputation, and microphotographs of some sections of the tumour were also exhibited.

ACUTE TUBERCULOSIS OF PLEURA.

Dr. NATHAN RAW (Liverpool) described the pathological appearances, and showed macroscopical and microscopical specimens of a lung, in which the pleura was the seat of acute tuberculosis without any invasion of lung tissue. Very many interesting points were suggested by this case, chiefly the etiology of pleurisy, and the treatment of tuberculous pleurisy. Modern views did not admit pleurisy as due to cold, but that cold might be a predisposing agent which facilitated the action of micro-organisms. If cold was the only cause of pleurisy a very large number of people who were constantly exposed to cold and wet would suffer from it. Dr. Raw thought the evidence at the present time all pointed to the fact that acute sero-fibrinous pleurisy was always of microbial origin in a very large number of cases due to the tubercle bacillus, in others occurring in the course of rheumatism, septicæmia, or other infectious diseases due to specific micro-organisms. The importance of carefully recognising the subsequent relation of acute pleurisy to tuberculosis of the lung was very great, and especially with regard to examining patients for life assurance. Dr. Raw also recommended that as much of the infected pleura as possible should be removed and scraped away in operations for empyema which had been recognised as tuberculous.

SYPHILITIC CIRRHOSIS OF KIDNEY.

Dr. PERCY R. COOPER and Dr. KELYNACK showed preparations of syphilitic disease of the right kidney. The specimen was removed *post mortem* from a man aged 52, who died after a long illness, in which the most conspicuous symptoms were, vomiting, neuralgic pains in the nerves of right lumbar plexus, hæmaturia, wasting, and progressive enlargement of the kidney. No syphilitic history could be obtained. The organ was greatly enlarged, firmly fixed, of fibrous-like consistency, and microscopically presented a fibrocellular structure. In the liver was a distinct gumma, with much coarse cirrhosis in the parts adjacent. There was an extensive retro-peritoneal expansion of the growth, extending right across the vertebral column and down into the pelvis.

Renal Growths.

Dr. Kelynack also exhibited a series of microscopic preparations illustrating the forms and relationships of the various growths met with in the kidney. The collection included a number of specimens kindly lent by Mr. Paul, of Liverpool.

Card Specimens.

Mr. Burgess: Congenital Absence of Anus, with fistulous communication between rectum and bladder.—Dr. Dreschfeld: Mediastinal Sarcoma, with extensive deposits in both kidneys.—Dr. Fothergill: (1) "Inclusion" Epithelioma of Enamel-organ; (2) Ovum in condition of Fatty Degeneration.—Dr. Fox: (1) Congenital Atresia of Anus; (2) Ulcerative Endocarditis.—Dr. Helme: Sessile and Pedunculated Submucous Fibroids of Uterus removed *per vaginam*.—Dr. Harris: Gangrenous Stomatitis.—Dr. Kelynack: (1) Perforated Duodenal Ulcer: (2) Healed Gastric Ulcer; (3) Malignant Endocarditis.—Dr. Lea: (1) Series of Casts of Uterine Mucous Membrane; (2) Three specimens of "Missed Abortion."—Dr. Leech: Unusual Form of Extensive Ulceration of Stomach.—Dr. Steell: Preparations of Aortic Valvular Disease."—Mr. Wolstenholme: Aneurysm of Renal Artery in the Horse.—Mr. Wright: Osteomyelitis of the Femur.

LIVERPOOL MEDICAL INSTITUTION.

Pathological Section.

F. T. Paul, F.R.C.S., in the Chair.

Thursday, December 9th, 1897.

Changes in the Spinal Cord in Pernicious Anæmia.

Dr. A. W. Campbell read a note on this subject. The patient was a middle-aged woman. The spinal cord in the sacral region was healthy. In the lower part of the lumbar enlargement two small patches of absolute sclerosis appeared in the centre of the posterior columns, one on either side of the posterior median fissure. In the dorsal region the field of sclerosis gradually increased in size, but remained more or less confined to the postero-internal columns, the whole of which it affected, with the exception of a zone of fibres at the periphery, and another zone adjoining the posterior commissure. In the cervical region the change was most extensive, and not only the postero-internal but also to a certain extent the postero-external columns were involved. As in the dorsal region, the sclerosis was separated from the periphery and from the grey commissure by a zone of normal fibres, and at no point in the cord did the sclerosis reach the posterior cornua. The remaining fields of the cord were healthy. The sclerosis was traced up to the nuclei of the columns of Goll and Burdach, but the cells of these nuclei had undergone no important change, nor were the internal arciform fibres atrophied. The posterior spinal roots and some posterior root ganglia, and peripheral nerves which were examined presented no noteworthy alteration. The literature on the subject was referred to, theories concerning the spinal changes discussed, a lantern demonstration was given, and microscopic specimens shown.

Specimens, Etc.

Dr. J. Hill Abram described and exhibited a new Microorganism which he had come across in the blood of a patient suffering from lymphadenoma.—Dr. J. E. Dutton read a note drawing attention to the marked increases in the quantity of Iron in the Liver and Spleen in cases of malaria, there being five times the normal quantity in the liver and ten times the normal quantity in the spleen in 2 cases investigated by him.—Dr. Wiglesworth showed specimens of: (1) Acute Pancreatitis; the pancreas was enlarged, pale yellow, and of diminished consistence; microscopically great proliferation of round cells between the alveoli. The cells of the alveoli were blurred, and osmic acid demonstrated coarse black pigment granules. The gall bladder was inflamed and contained fœtid sero-purulent fluid. No other organ of the body was diseased. The specimen was removed from a man, aged 53, who died after two days' acute illness with vomiting, abdominal distension, and rapid collapse. (2) Hæmorrhage into Pancreas, between alveoli and under capsule, chiefly toward the head of the organ and the omental fat in the neighbourhood, taken from a woman, a general paralytic, aged 37, who died after three days' illness, with urgent vomiting, constipation abdominal distension and collapse. (3) Lymphadenomatous Spleen, which weighed 14½ ounces, and had scattered throughout its whole substance numerous whitish nodules, varying in size from that of a bean to a small shot, very firm in consistence. Similar nodules existed in the lungs. The retroperitoneal and mesenteric glands were much enlarged. The specimen was taken from a woman, aged 38, who had been gradually wasting and suffering from fever, continuous and hectic, for several months. The following specimens were also exhibited:—Addison's Disease, Suprarenal Capsules, Dr. Bradshaw; Fibroma, with Silk Ligature as Nucleus, Mr. Kellett Smith; Sarcomatosis of Ovary, Kidney, Thyroid, and Intestine in a child, Dr. Warrington; Carcinoma of Tibia (Secondary?), Mr. Newbolt; Multiple Neuromata, Mr. Newbolt; Carcinoma of Male Breast, Carcinoma of Stomach and Lymph Gland, Tuberculous Peritonitis, Macroglioma and Nævi of Ear and Scalp, Mr. Rushton Parker; Radiographs, Mr. Thurston Holland; Pinguecula (an epithelial growth apparently), Dr. Buchanan; and Sections of Early Human Embryos illustrating the development of the Wolffian body, Mr. F. T. Paul.

British Balneological and Climatological Society.—At a meeting on Wednesday, December 1st, Dr. W. V. Snow (Bournemouth), President, in the chair, Dr. W. S. Hedley (London) exhibited an Electrical Radiant Heat Apparatus used for treatment of neuralgia, arthritis, and gout, by which any part of the body could be subjected to the influence of dry heat. The results he had obtained were at least as good as those from any known form of heater. Dr. Douglas Kerr (Bath), Dr. Fortescue Fox (Strathpeffer Spa), and the President made remarks.—Dr. John A. Shaw-Mackenzie (London) read a paper on the External Methods of Administration of Mercury in the Treatment of Syphilis, systematically advocated and practised in this country during the last forty years by Mr. Henry Lee. While assuming that mercury, in whatever way introduced into the system, was bactericidal in action, the external methods of administration were both locally and generally bactericidal. He further claimed that in fumigation, elimination of virus was promoted, and in the non-interference with nutritional processes phagocystosis was favoured. He drew attention to the unsuspected syphilitic factor in some of the pelvic conditions, and invalidism in parous women, as also in single women the subjects of inherited syphilis, emphasising the value of mercurial treatment in certain cases, especially in the treatment of subinvolution after abortion and delivery.—Dr. Solly (Harrogate) read a paper on the Treatment of Syphilis at Harrogate, the chief points to which attention was drawn being that treatment by external use of mercury (especially by inunction) combined with sulphur baths and water, known as the Aachen system, had been for many years successfully carried out at Harrogate. The climate being clear and bracing mercury was generally well borne, and the natural mineral waters were of a kind exactly suitable for the treatment. The general plan of treatment as carried out at Harrogate was described, and the way in which the sulphur baths and waters were presumed to act was briefly discussed, it being supposed that benefit was chiefly due to increased activity of the excretory organs (the skin included), this increased activity being largely due to an improvement in the vascular tone of the arterioles. After remarks from Dr. Morgan Dockrell, Dr. StClair Thomson (London) entered a strong protest in favour of using mercury in the treatment of tertiary syphilis of the nose and throat, and preferably by inunction. In tertiary affections of the larynx he had found local fumigation to the air passages of great service in assisting the inunction, especially when the tongue had been affected. Dr. Scanes Spicer (London) had no experience of general fumigation, but found local fumigation applied to the nose and pharynx and the larynx most efficient. The discussion was continued by Dr. Fortescue Fox (Strathpeffer Spa), Dr. Septimus Sunderland, and Dr. Bowen Davis (Llandrindod Wells), and Dr. Shaw-Mackenzie; and Dr. Solly replied.

Folkestone Medical Society.—At a meeting held on December 1st, Dr. Fitzgerald (President) in the chair, Dr. G. V. Poore read a paper On the Use and Abuse of Antisep-

tic and Germicidal Remedies, in which he showed how therapeutics was sometimes a simple subject, and at other times a complicated one, owing to the *post hoc* fallacy. He gave as an instance how it was easy to say that diarrhœa, after a purgative, was caused by the drug, but how it was much more difficult to say that a drug, given in diarrhœa, had stopped the complaint. He mentioned some of the best germicidal remedies, preparations of mercury, allyl compounds, etc. He pointed out how difficult it was to be certain of the action of germicidal remedies on superficial parts, instancing cases of lupus and ringworm, and how much more difficult it was to be certain of this action on remote parts, such as the throat, ear, or stomach. He showed that mercury in syphilis, quinine in malaria, arsenic and many other commonly used drugs were antiseptic. He mentioned especially garlic, the active principle of which was an allyl compound. This was given off by the lungs, and he had given it with great benefit in cases of bronchiectasis, and he thought, too, in cases of tuberculosis, though in this latter case the *post hoc* fallacy was much in evidence. In enteric fever the evidence in favour of antiseptic treatment was not very convincing, and it was pointed out that in a necropsy after acute mineral poisoning inflammation of the stomach and duodenum was found, but of the rest of the intestine only the large bowel was found inflamed. He doubted if the antiseptic ever reached the site of the inflammation in enteric fever, and in giving a drug he liked to be certain that it accomplished the object for which it was given.—After a discussion the proceedings terminated with a vote of thanks to Dr. Poore.

REVIEWS.

YEAR BOOK OF PHARMACY AND TRANSACTIONS OF THE BRITISH PHARMACEUTICAL CONFERENCE. 1897. London: J. and A. Churchill. (Demy 8vo, pp. 492, 10s.).

THIS volume contains the *Transactions* of the British Pharmaceutical Conference at Glasgow, August, 1897, with abstracts of papers relating to pharmacy. materia medica, and chemistry contributed to British and foreign journals from July 1st, 1896, to June 30th, 1897.

A perusal of these abstracts shows that the most notable feature of the pharmaceutical literature of the past year is the large increase in the number of new remedies. Many of these are clearly traceable to scientific work which gave rise to such products as antipyrin, phenacetin, etc., but many others are merely mixtures of chemicals or drugs under fanciful and often misleading names. We note among the new remedies glycosolvol, an antidiabetic remedy, and the alkaloidal derivatives, benzylmorphine and euquinine. Glycosolvol is a combination partly resulting from the action of oxyproprionic acid on peptone, and partly from the action of a theobromine compound on trypsin. It is said to have the power of rapidly decomposing carbohydrates in the organism. Benzylmorphine, obtained by the action of benzylchloride on morphine, is stated to be superior for therapeutic purposes to codeine and other ethers of morphine on account of its greater activity. Euquinine is the ethylcarbonic ester of quinine, and the most notable feature of this preparation is its almost complete tastelessness; therapeutically it acts like quinine, but does not produce the same unpleasant cerebral effects. The study of the cinchona bases has been extended, and various new quinine compounds have been obtained and new methods elaborated for ascertaining the purity of quinine sulphate. The pilocarpin salts of commerce represent variable mixtures of several bases; these alkaloids have received considerable attention during the year, and it is to be hoped that our present knowledge respecting the individual alkaloids hitherto obtained from jaborandi leaves will be extended.

The injurious effects of arsenical wall-papers have generally been attributed partly to the direct action of the pigment detaching itself from the paper in the form of dust, and partly to the development of arseniuretted hydrogen. It is now found that penicillium brevicaule and several other micro-organisms possess the power of developing highly toxic gases from arsenic compounds. The examination of organic drugs with the object of increasing our knowledge respecting their active matters, or of the adultrants to which they are liable, has been carried on to a considerable extent, judging from the number of notes under this head.

About a fourth part of the *Year Book of Pharmacy* is taken up with an account of the proceedings of the British Pharmaceutical Conference at Glasgow. These comprise the President's address and the various papers read at the meetings.

LECTURES ON PHYSIOLOGY. First Series: On Animal Electricity. By AUGUSTUS D. WALLER, M.D., F.R.S. London, New York, and Bombay: Longmans, Green, and Co. 1897. (Demy 8vo, pp. 152, 67 figures. 5s.)

As Dr. WALLER states in his preface, these six lectures represent a series he delivered at the Royal Institution during the spring of the present year, when he was Fullerian Professor of Physiology at that institution. He deplores with justice the absence of a laboratory there in which a physiologist can work. The Professorship of Physiology there has been comparatively sterile in consequence. We can only hope that Dr. Waller's timely protest will be heard in the proper quarter, and that among the benefactors who are striving to make the Royal Institution a real workshop of science, and not a mere hall for the exhibition of pretty experiments to a *dilettante* audience, some will be found who will establish and endow biological laboratories where research can be prosecuted and discoveries be made worthy to rank with those of the Fullerian Professors of Chemistry.

At the present time all that is expected of the Fullerian Professor of Physiology is a course of experimental lectures embodying the results of research carried out elsewhere. Those acquainted with Dr. Waller's work of recent years will hardly be surprised that he has selected animal electricity as his subject; and he deals, after some introductory descriptions, particularly with that special branch of animal electricity that he has made so specially his own. He takes the living nerve as his test object, and the electrical changes it undergoes as the criterion of its activity. This is worked out with great thoroughness in connection, not only with what is called the current of action, but also in relation to the electrotonic currents, which the author places among physiological rather than physical phenomena. Readers of the BRITISH MEDICAL JOURNAL will know the fruitful results of these labours in connection with the subject of anæsthesia.

The shape in which the lectures now appear may be described as a happy mean between the elementary exposition of a spoken lecture before a non-technical audience, and the highly elaborate presentment of the same material such as is contained in the author's Croonian Lecture.

The book will interest physiologists specially, but we venture to hope that it will appeal to physicists also. There is too little *rapport* in the scientific world between the specialists. Physiologists cannot understand physicists when they write on the technical aspects of electricity. Physicists frankly confess that they do not understand the electrical "jargon" of the physiologists. It is just by such publications as the volume we are considering that we may hope the two classes of investigators may come to understand and help each other.

Dr. Waller is so well known as an original thinker and a lucid writer, that it is unnecessary to say that both originality and clearness are to be found in this work. The key note is struck in the first line, when we read that active matter is electro-positive. We wish that Dr. Waller had had the courage to stick to this statement through thick and thin but the faulty phraseology of physiology which states the exact opposite is too strong for him, and he has to evade and compromise the matter by new words; the active positive spot is spoken of as "zincactive," and the relatively negative inactive portions of a tissue are termed "zincable." If we are to be thankful for small mercies, we must say we prefer these new words to "copperable" and "copperactive," which might almost equally well have been hit upon. We are, however, inclined on the whole to think that the new words will only add to the confusion that Dr. Waller wishes to avoid; the words can hardly be defended on etymological grounds, and we doubt if they will prove acceptable for other reasons. They are, for instance, so much alike, that the student even of older growth will confuse one with the other.

In "electropositive" and "electronegative" we have words which would meet the case much better, and it is time that physiologists should learn to use those elementary terms correctly. Even the thoughtful first year's student fresh from his physics class detects the physiologist's error, and asks why it is that the current outside a battery flows from the negative to the positive element, and that in the living battery the reverse is apparently the case. The answer is that physiologists have in a perfectly inexcusable way transposed the use of the two words "positive" and "negative." Is it too much to hope that physiologists will arise who will correct this error in their nomenclature?

This is the only word of adverse criticism we have. For those who want to find stated with detail the arguments that nerve on activity gives rise to carbonic anhydride, by no means the least interesting of the points raised, or who wish to see how the discoveries of the laboratory may be applied in a practical sense to man, or to thread the maze of facts which still have to be satisfactorily unravelled (such as the difference in the behaviour of frog's nerve and mammalian nerve)—to all of these we would say, Get the book for yourselves and read it.

Air, Food, and Exercises: An Essay on the Predisposing Causes of Disease. By A. Rabagliati, M.A., M.D., F.R.C.S.Edin. London: Baillière, Tindall and Cox. (Cr 8vo, pp. 236. 5s.)

The main idea which the writer of this essay appears to desire should be borne in upon the minds of his readers is that "carcinoma is most commonly produced by the too frequent use of starch and sugar in the diet." Had he confined himself to this one proposition his task would, it may be thought, have been one of no inconsiderable difficulty; but, inasmuch as he incidentally refers to and discusses at least fifteen other propositions of a general and, in some instances, eminently contentious character, the essay is necessarily rendered somewhat unconvincing. On page 41 the reader is first introduced to "Triphthæmia," a word the author is reluctantly compelled to employ to avoid the need of using the cumbrous paraphrase "accumulation of waste materials in the blood whether from imperfection of digestion, or from breaking down of the tissues of the body themselves, from imperfect nutrition, over-fatigue, or other causes." Then the notion is elaborated that of all varieties of "Triphthæmia," that most to be dreaded is "Triphthæmia carbonifera,"—the form of "Triphthæmia" induced by the consumption in too great quantity of starchy and saccharine foods. Anyone who attentively studies the cases concerning which particulars are given, may feel inclined to believe that of all carbohydrate foods "Yorkshire pudding" should be held in special abomination. The subvariety of "Triphthæmia" produced by this article of diet, receives, however, no special designation. Then, as to the manifestations of "Triphthæmia carbonifera," these are "herpes labialis, tonsillitis, bronchitis, rheumatism, eczema and pruritus, caruncle, erysipelas faciei, apoplexy, influenza, pneumonia, Bright's disease, diabetes, and carcinoma." Parenthetically the question whether natural motion, the motion of nature, should be represented by spirals is considered, and a new form of spiral temperature chart is described.

After passing in review a number of other topics, some fundamental ideas regarding foods are enunciated, and then exercises and movements come up for consideration, but this is at page 191, and the goal is in sight. Speculative as are some of the views advanced, the essay is interesting, and it contains a certain amount of food for reflection. May he who attempts to assimilate it not fall a victim to mental "Triphthæmia" from undue accumulation of waste materials from imperfect digestion!

NOTES ON BOOKS.

The Living Substance as Such and as Organism. By Gwendolen Foulke Andrews. Supplement to the *Journal of Morphology*, vol. xii, No. 2. (Boston: Ginn and Co. 1897. Royal 8vo, pp. 176. 1.50 dol.) This book is one long note of exclamation. The wonders of the microscope and the deep mysteries of life which it reveals have led the author into poetic flights and a wilderness of words, which make it very difficult to follow her arguments. So far as we can discover, the whole gist of the book might have been put into the following sentences:—The author has wonderfully good eyes, a marvellously good microscope, a lot of leisure time in which to peep through it, and has made the startling discovery that a north light is the best to work with. What she has seen has been the foam-like structure in protoplasm described by Bütschli, only more so. Bütschli would doubtless have seen these additional details if he, poor misguided man, had not used reagents, stains, and other abominations of that kind. Finally the moral and advice in general to biologists: Put your microtomes and apparatus on the shelf and gaze at the living substance. You will see what you cannot draw and can never hope to understand. The mysteries of life are not for such as you and me. Nevertheless the observations here described are to revolutionise the whole biological world.

Notes on Micro organisms Pathogenic to Man. By Surgeon-Captain B. H. S. Leuman, I.M.S., M.B., D.P.H. (London: Longmans, Green, and Co. 1897. Demy 8vo, pp. 102. 3s.)—This small volume contains a useful and accurate set of notes giving a clear and concise description of the life and growth of the chief pathogenic micro-organisms. They will, as the author hopes, serve as an introduction to the subject to those practitioners who have no opportunity of working at the subject themselves. Originally based on notes taken at lectures delivered by Professor Wright at Netley, they have been considerably supplemented by extracts from medical and bacteriological literature generally. The result is a very concise little volume, for which we have nothing but praise. The account of bubonic plague contains the records of much original work by the author, and Chapter xi contains an excellent summary of the important subject of serumtherapy.

Economics, Anæsthetics, and Antiseptics in the Practice of Midwifery. By Haydn Brown, L.R.C.P., L.R.C.S.Edin. (London: J. and A. Churchill. 1897. Cr. 8vo, pp. 108. 2s. 6d.)—The object of this book is stated by the author to be "to go carefully over the simple fundamental management of a midwifery case, and to give principles and methods of procedure according as our more advanced knowledge of everything suggests methods and means, so that the perfected superstructure, as set forth in so many standard works, may have a good bottom to stand upon." If this book is the foundation of the science and practice of midwifery, then the foundation is a very precarious one. It consists of nine chapters on the conduct and deportment of the accoucheur, anæsthetics, the wickedness of nurses and midwives, and antiseptics. On the latter important point we are glad to be able to say the author's teaching is thoroughly sound; but we fear that the commonplace remarks about female delicacy, etc., which have to be read before the excellent precepts about antiseptics are reached will prevent many readers from getting to the final chapters.

The Burdett Series, No. 3. The Midwife's Pocket Book. By Honnor Morten. (London: The Scientific Press, Limited. 1897. Fcap. 8vo, pp. 100. 1s.)—The object of this little work is to tell women how they may get training in midwifery. It contains, first, information about the different training schools in midwifery, their cost, and the opportunities they afford. Then an account of the Obstetrical Society's examination, its scope and method, examples of examination papers, and hints to intending candidates. This part of the book is excellent. But after this we have some elementary instruction in midwifery. This is not so good. The book is not sufficient for a midwife's practice, nor is it always correct. Thus in *post-partum* hæmorrhage, the midwife is told to plug the uterus, a counsel which a midwife certainly ought not to follow. Many obstetricians think it in any case bad practice; it is certainly not a thing for a midwife to do. Nothing is said about the causation of hæmorrhage by retained bits of chorion or placenta. Many will think that a midwife should not put her hand in the uterus, but waiving this general objection, if she does it at all it should be to remove the cause of hæmorrhage, not to plug the uterus. We may add that the reader is not told what she is to plug with.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

COD-LIVER OIL.

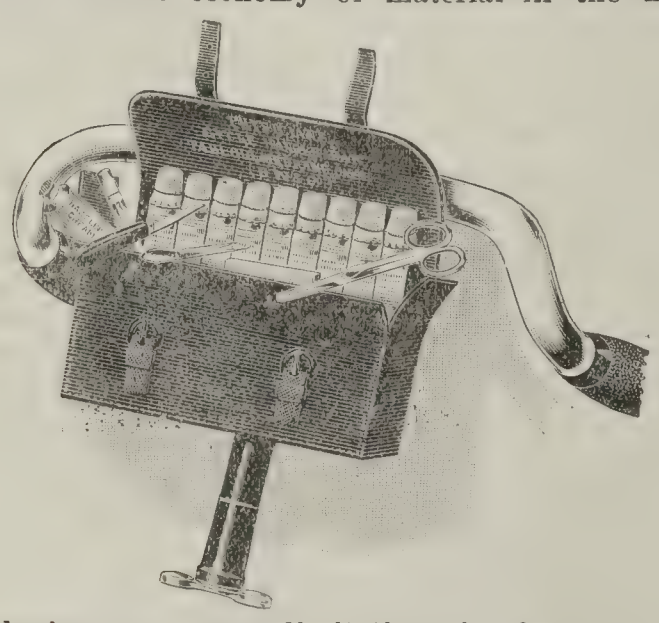
We have received from Messrs. Allen and Hanburys, Plough Court, Lombard Street, E.C., a sample of cod-liver oil to which they apply the term "Perfected." It is stated to be made by their own workmen in Norway. The manufacture of cod-liver oil of the first quality requires attention to temperature, and the use of perfectly fresh and healthy livers. Messrs. Allen and Hanburys' cod-liver oil has evidently been prepared with the most scrupulous attention to every detail of manufacture. It is limpid, nearly colourless, almost odourless, and entirely free from any disagreeable flavour.

WASHABLE TRUSSES.

We have already directed attention to the improvements effected by Messrs. Salt and Son, of Birmingham, in the manufacture of washable trusses and truss pads, in the British Medical Journal of December 3rd, 1892. This firm, by which much attention has been paid to the construction of light, washable, and really elegant trusses, has recently made a further advance in this direction, and now submit a pad moulded in such a manner as to give the least degree of weight consistent with strength and durability. The new form of pad is made up of ivory, celluloid, and porcelain, to suit various purses, and the surfaces of pads and springs have been carefully finished in order to present as smooth a surface as possible to the skin.

A CYCLE MEDICINE CASE.

One of the numerous attempts made to utilise the carrying power of the bicycle for the conveyance of emergency instruments and medicines is a physician's handle-bar tabloid medicine case, made by Messrs. Burroughs, Wellcome, and Co. The extreme economy of material in the machine



naturally imposes severe limitations in the size of such carriers, unless suspended from the stay bar, where they become unpleasant from interference with the rider's movements. This handle-bar case is stoutly made of waterproofed leather, and is secured by three straps to the handle bar and pillar. The case has been tested for us by a country practitioner, who reports very favourably on it. He says that it was not found easy to fix in front of the bar, as shown in the drawing, on account of the brake; while with very low handle bars the lamp does not permit of it. It lies, however, very snugly behind the pillar. It contains nine ½-ounce vials of tabloids and a number of instruments and dressings. Tabloids and cycle should be veritable "wheels within wheels" for an emergency journey, and this case seems well adapted to furnish the combination. Our correspondent adds that he would not now willingly answer a chance call without it. He suggests that it would be improved if space were found for a pocket case and hypodermic syringe.

APPLIANCES FOR SPINAL CARIES.

Dr. Wm. Jas. Fleming (late Surgeon to the Royal Infirmary, Glasgow) writes: In the British Medical Journal of December 11th you describe and figure an appliance for spinal caries and torticollis devised by Messrs. Salt and Son. I have pleasure in enclosing a reprint of an article of mine which appeared in the *Lancet* of April 27th, 1889, from which you will see that the fundamental principles of the appliance are there described and figured as "Hilliard's artificial spine." This, in my opinion, is a much simpler and more effectual form than that proposed by Messrs. Salt. Its chief advantage is dispensing with any strap under the chin, which is the cause of great discomfort to the patient. That this is unnecessary is proved by the fact that a heavy man can be lifted off the ground without discomfort by a properly-fitted head stall consisting of a strap passing under the occiput, connected at the proper angle with one passing just above the orbital prominences. I have treated many cases with this apparatus with great satisfaction, and it has been largely used by other surgeons.

While writing on the subject I may mention that I have for long given up the use of weights in the extension treatment of spinal disease, finding that the best results are obtained by fixing the head to the top of the bed by an elastic cord attached to the head stall, and sloping the bed from the head to the foot at an angle determined by the weight of the body and the amount of extension desired.

Dr. E. Muirhead Little writes: Messrs. Salt and Son's "appliance for spinal caries and torticollis," figured in the British Medical Journal of December 11th, differs only in slight details from the apparatus that has been in use at the National Orthopædic Hospital for many years. At this hospital my colleagues and myself have abandoned the use of what you justly style unsightly, namely, Sayre's jury mast, for more years than I care to count.

Books for the Wounded in India.—The Government of India has issued an appeal, which we hope will be largely responded to, for gifts of literature for the use of sick and wounded soldiers in the military hospitals attached to the forces now operating on the frontier. Books, periodicals, newspapers, and packets of light literature contributed for the use of sick and wounded soldiers in the military hospitals with the Tochi and Malakand field forces, and the Tirah expeditionary force, will be conveyed free of charge by the Post Office of India. Packets should be addressed to "The Principal Medical Officer, Tochi Field Force," "Malakand Field Force," or "Tirah Expeditionary Force," as the case may be, and should be very clearly superscribed "For Sick Soldiers."

The late Mrs. C. Laurie Armitage, the widow of Mr. Edward Armitage, R.A., of 3, Hall Road, St. John's Wood, has bequeathed £4,000 each to the Royal National Hospital for Consumption at Ventnor, St. Mary's Hospital, the Middlesex Hospital, Guy's Hospital, and Queen Charlotte's Lying-in Hospital. If the reversionary estate should not be sufficient to pay these amongst other legacies in full, they are to abate proportionately; but if, as will doubtless be the case, the residue is more than sufficient, then the residue is to be distributed among the Samaritan Free Hospital for Women and Children, Queen Charlotte's Lying-in Hospital, the London Fever Hospital, and the Hospital for Epilepsy and Paralysis in Portland Terrace, until each of these have also received £4,000, and the ultimate residue, if there be any, is to go in equal shares to St. Mary's Hospital, the Middlesex Hospital, Guy's Hospital, and the London Fever Hospital.

BRITISH MEDICAL ASSOCIATION.
SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st; and notice is hereby given, in accordance with By-law 5, that Branch Secretaries' subscription accounts close on October 31st, and all unpaid subscriptions must be forwarded after that date to the General Secretary, 429, Strand, London. Post-office orders should be made payable to the General Post Office, London.

British Medical Journal.

SATURDAY, DECEMBER 18TH, 1897.

HOSPITAL EMBARRASSMENTS AND HOSPITAL ABUSE.

The fact that a hospital, which is the clinical hospital of a medical school so long established and honourably known as University College, London, has been compelled by want of funds for current expenses to close nearly one-quarter of the beds available for patients serves as a convincing proof that the chronic financial difficulties of the hospitals in London have reached a serious crisis. It is no wonder, therefore, that from many sides we hear of efforts to place the metropolitan hospitals in a more satisfactory position by increasing their income, and checking abuses which lead to improper expenditure.

During this week two public meetings have been held in London at which important questions affecting the administration of hospitals were under consideration. The meeting summoned by the Charity Organisation Society to consider the report of the Committee for the promotion of a Central Hospital Board for London led to an interesting discussion, which is reported in another column. Sir William Broadbent's speech is well worthy of careful perusal, and, though he addressed himself especially to conditions existing in London, it contains much which is of more general application. Gratitude is always due to those who, when a defect has been sufficiently exposed, will come forward with a scheme for its remedy. It may not be the best possible, it may even be full of defects, but yet its production will be a public service if it afford occasion for transferring the discussion from the enumeration of evils to the examination of means for their removal.

On the same day, as will be seen from a report on p. 1821, the annual meeting of the Metropolitan Hospital Sunday Fund formally adopted the resolution to which we have already on several occasions called attention to the effect that the existence of a special and efficient officer for detecting abuse in the out-patient department should be an important factor in determining the "merits" of the hospital, and therefore the amount of money which should be allotted to it out of the Fund. With regard to the effect of this resolution, there is little to add to the observation made in the British Medical Journal of November 6th, when it was observed that "If the investigation is to be limited to the applicant's earnings, without any inquiry into the medical circumstances of his case, it will do harm rather than good." Not that we would oppose this or any other investigation. Anything which tends to make out-patient charity more deliberate must in itself be good. A one-sided inquiry which investigates the patient's earnings and leaves his medical condition uninvestigated will no doubt at first do harm also; but that fact will soon become apparent, and the need for a more complete inquiry will be seen. So we rejoice in the decision of the annual meeting of the Fund.

But the plan must be made more intelligible than this bare notice leaves it. The managers of the Fund cannot surely think that one inquiry officer can in the time allotted to out-patients obtain any trustworthy account of the pecuniary circumstances of all the applicants at a large hospital. And what is to be inquired into? and to whom is the result to be reported? and who are to decide? and what is to be the applicant's condition before the decision is given? Is everyone to be seen the first time, and rejected if held unfit on his second application? If so, the evils of the present casualty system, which has to so large an extent usurped the place of the old out-patient departments, will be left almost untouched.

The fact is that this resolution is the first step towards direct interference on the part of the Metropolitan Hospital Sunday Fund with the details of hospital management; and for that purpose some central authority is wanted more representative of the medical departments of the hospitals, and more familiar with their management than the Council of the Fund. The opposition to a Central Board representative of the hospitals and elected by them has been formidable, and may be successful; but if it is, it will only succeed in replacing a body which would be both representative and expert by one which is neither.

A MALARIA PROBLEM.

Long before Laveran's discovery of the parasite of malaria it had been conjectured that possibly the mosquito was in some way mixed up with the causation of this important class of disease. Subsequent to Laveran's discovery not only Laveran himself, but Koch, Pfeiffer, Bignami, and others attached importance to this idea. The facts that the malaria parasite is a blood parasite and, in its extracorporeal state, paludal in habit, and that the mosquito is a blood sucker and also paludal in habit are extremely suggestive of such a connection. But the idea, though present to many men's minds, did not take definite form until Manson in our pages, and again in his Goulstonian Lectures, formulated a clear hypothesis on the subject. Fixing his attention on the well-established facts that all varieties of the malaria parasite possess a flagellating phase, that this phase is developed from what appear to be mature parasites, that it is evolved only when the parasite gets outside the human body, that the flagella when formed tend to break away from what might be designated the parent parasite, that when free the flagella are capable of living for a time as independent organisms, Manson was led to regard the flagellated body as the earliest phase of the malaria parasite outside the human body, just as the rosette body, or rather the spores of which it is composed, are the first phase of the parasite inside the human body. The flagellum he looked upon as being the extracorporeal homologue of the intracorporeal spore.

Recent investigations by Pfeiffer, Simond, and others have

proved that the malaria parasite is not the only organism of its class which is thus endowed with a flagellated phase, and that it is in harmony in this respect with other coccidia.

Manson regarded the flagellum as a flagellated spore endowed with locomotive powers for a purpose, that purpose being the transference of the young parasite from the blood in the stomach of the mosquito fed on malaria blood to some cell in this insect where, in due course, it would enter on a coccidium-like evolution, and become parasitic in the mosquito. In other words, he regarded the malaria parasite as a parasite common to man and the mosquito, circumstances determining which host it should enter, the parasite itself being capable of living in either indifferently and indefinitely, and of passing from one to the other.

Surgeon-Major Ronald Ross was so impressed with the practical and scientific importance of this hypothesis that on his return to India, some two years ago, he set to work with skill and determination to establish or confute it. By feeding mosquitos on crescent-containing blood he first made the important observation that the great majority of crescents were rapidly transformed into flagellated bodies very soon after entering the stomach of the insect, and that subsequently the flagella—or, as he prefers to call them, flagellula—broke loose and became free. He also observed that the flagella attacked cells—leucocytes. Moreover, he proved that it was not the influence of the blood vessels or of any condition peculiar to the human body that prevented the exflagellation of the crescents—or, as he calls them, flagellula cysts—from evolving prematurely while in the human body. He showed that by surrounding a drop of crescent-containing blood with vaseline, the crescents permanently remained crescents, and that they did not proceed in development and evolve flagella until the blood was exposed to the air or to moisture (confirming Marshall's observations). This is a most significant fact as tending to show that the crescent depends on extracorporeal conditions for its start in development. For a long time Ross could get no further. He failed to trace the future progress of the flagellum in the mosquito. In the paper which we publish to-day we may have the explanation of his failure. Possibly he was working with the wrong species of mosquito, for now he tells us that at last, in a species of insect which hitherto he had not an opportunity of working with, he has found in certain cells in the stomach wall peculiar pigmented bodies which may turn out to be the maturing form of the extracorporeal or mosquito phase of the malaria parasite. If he has not quite proved that the malaria flagellum or flagellated spore enters a mosquito cell, he has now almost certainly proved, as attested by Mr. Bland Sutton, Dr. Thin, and Dr. Patrick Manson, that a product—melanin—characteristic of the malaria parasite is to be found in certain cells in the walls of the stomach of a certain species of mosquito after it has fed on crescent-containing malaria blood. The question now comes to be—Does this intracellular melanin belong to a phase of the developing malaria parasite, or is it merely a product of this parasite included, more or less accidentally, by a stomach cell? The settlement of the question is of the highest scientific and practical importance.

We would endorse all that Dr. Thin has said about the value of Dr. Ross's labours, and we trust that the devotion, persistency, and ability which Dr. Ross has already shown will, as it richly deserves, be rewarded with a discovery not less important to humanity than that of Laveran's discovery itself, to which it would be a fitting complement. We also trust, in the interests of British biological and medical science, that every opportunity will be afforded Dr. Ross to prosecute his investigations under favourable conditions, for they are investigations which may be pregnant with benefit to mankind, investigations which nothing should be allowed to hamper. We hope that in this case at least the authorities will take care that the British pioneer in what is truly a medical Africa has not once more discovered territories for the better-subsidised Frenchman or German to step in and occupy.

RECENT EXPERIENCES OF MILITARY SURGERY.

AT the present time much interest is taken in the medical records of recent campaigns, as a natural desire is manifested to learn the consequences of modern developments of the means both of inflicting and of healing wounds in war. The adoption in most organised armies of a small projectile with much increased velocity and range, and the attention that has been directed to the application of antiseptic treatment to the immediate as well as secondary care of injuries received on the field of battle are both likely to bring about a considerable modification, if not a complete revolution, in military surgery. The instructive paper of Mr. H. J. Davis, on gunshot injuries in the late Turco-Greek war, will be read with much interest on account both of the author's experiences amongst the Greek wounded and of his remarks on the effects on the human body of modern projectiles. This report is in one important respect a very sad one, as it shows that the agents used in modern warfare, although improved in accordance with feelings of humanity, have hitherto done very little to mitigate the horrors of war. This, however, may be due to the rashness of the Greeks in their invasion of Turkish country, and to the irregular character of the campaign of which Mr. Davis affords us such graphic details.

Among the comparatively few contributions relating to the modified and improved surgery of recent warfare a prominent place is claimed by a report[1] from Dr. Haga of his experiences whilst acting as brigade-surgeon to a division of the Japanese army in the course of the war with China in 1894-95. From September, 1894, to the following March Dr. Haga was present at eleven engagements, and had opportunities during this period of treating a large number of wounded men. After the end of the campaign he had, moreover, the unusual advantage of renewing and completing his care of those who had not been fatally injured. The record of these experiences, which is a very elaborate one, and evidently the result of much labour, is accompanied by a weather chart, a map of the field of operations, and illustrations of the alterations of form caused by the discharge of different kinds of projectiles.

Dr. Haga had but few opportunities of observing the effects of small bullets. Whilst the Japanese soldiers were provided with firearms of recent and almost uniform character, the equipment of their opponents in this respect was of a very complicated nature. The Chinese army seems to have been

[1] Kriegschirurgische Erfahrungen aus dem Japanisch-chinesischen Kriege, 1894-95, von Dr. Haga, Stabsarzt der kaiserlich Japanischen Armee, *Archiv für klinische Chirurgie*, Band 55, Heft i.

supplied with every known form of rifle, from those of the oldest to those of the most recent construction. Specimens of no fewer than fourteen different kinds of rifle bullet were collected from wounded soldiers and captured arms. Some few of these were Mausers of a recent type, but most of the balls were large, varying in diameter from 11 to 19 millimetres.

In one of his many instructive tables Dr. Haga gives the relative proportions of deaths from injury received on the field of battle, and deaths from disease, in the great wars of modern times. In the division to which he was attached whilst 318 men were killed, either directly or indirectly, by injury whilst under arms, 592 succumbed to disease or ordinary wounds. This proportion—about 180 to 100—though exceeded in the Crimean war and in the contest between the American States, is much higher than those of more recent European campaigns, and seems to have been due to the effects of extreme cold and a defective commissariat.

In a review of a regional arrangement of the different injuries received by the men of his division, Dr. Haga points out that the gunshot wounds of the head exceeded to a considerable extent those of any other part of the body. This fact is attributed to the generally offensive or attacking action of the Japanese, who seem in their advance to have crawled along the ground, and thus presented only their heads as a mark for the enemy.

A very unfavourable view is taken of the prospects of laparotomy in gunshot wounds of the abdomen. Two cases are reported, in both of which this operation had fatal results. The difficulty of a correct diagnosis under the usual conditions of military surgery and the absence or deficiency of essential antiseptic or aseptic means, have led Dr. Haga to the conclusion that such treatment in a field hospital would be a very desperate and doubtful measure. He takes a less despondent view than many modern surgeons of the prognosis of such injuries under expectant treatment, and certainly his own experience supports his belief that cases of penetrating gunshot wound of the abdomen not infrequently take a favourable course without operative interference.

Dr. Haga is to be congratulated on the small proportion of deaths from the results of traumatic infection. Of 1,105 men treated for injuries received on the field, only 8 died from pyæmia—a percentage of 0.7, comparing very favourably with that of 6 in the last Russo-Turkish war and a like percentage in the American war. This is accounted for in part by the rapid motion and heating of modern projectiles; but we are inclined, with Dr. Haga, to regard it mainly as the result of very careful attention to modern methods of surgical treatment, and to the prompt and intelligent use of the packets of antiseptic dressing which seem to have been liberally supplied to the Japanese army.

We regret to have to record the death, in his 84th year, of Mr. Henry Churton, M.R.C.S., coroner for Birkenhead, and for several years the senior coroner of England. We hope to publish a notice of his career in an early issue of the British Medical Journal.

The Prix Parkin of the Academy of Sciences of the Institute of France has been awarded to Dr. A. D. Waller, F.R.S., in recognition of the value of his investigations on the Relations of Nervous Activity and Carbon Dioxide. The prize is of the value of 3,400 francs.

THE ASSOCIATION AND MEDICAL DEFENCE.

The postcards asking for an expression of opinion from members of the British Medical Association as to the desirability of the Association taking up the work of medical defence were all despatched early last week. Opinion was asked upon two points, first of all whether the member considered that the Association ought to undertake the duty; and secondly, in the event of an affirmative answer, whether he would be willing to pay an additional subscription of not less than 5s., nor more than 10s. We are informed that a large number of cards have been returned, but that the scrutiny and counting will not be complete for some time. As it was decided that colonial members should be given an opportunity of voting, the final result cannot be announced for some months.

THE TEACHING OF MASSAGE.

The number of women who have taken up the practice of massage is now very large, and, as we are informed, far in excess of the demand. Further, it is a fact that many of these women are very imperfectly trained, and the efforts of the Society of Trained Masseuses, which was established three years ago at the Trained Nurses Club, 12, Buckingham Street, Strand, W.C., to improve the position, are deserving of commendation. In Sweden the instruction in massage is cared for by the State, and includes teaching in anatomy, and we understand that more than one movement is on foot in London to provide such instruction for persons desiring to acquire the art. We are disposed to hold the opinion strongly that only women who have already had a thorough training in ordinary nursing should attempt to become masseuses, and that, in fact, a masseuse should be a trained nurse who has added this to her other qualifications.

THE QUEEN'S VISIT TO CIMIEZ.

A somewhat curious complication in connection with the sanitary arrangements at Cimiez arose some time ago, and for a time it seemed doubtful whether it would be possible for the Queen to pay a visit to that place next spring as had been arranged. We are glad to be able to state that the matter has now been adjusted in a satisfactory manner. There are two hotels at Cimiez, the Grand Hotel, where the Queen stayed for two years running, and the new Regina Hotel, where Her Majesty stayed last spring. The former hotel stands in a large garden, which stretches for some fifty yards in front of the house. The new hotel has been built immediately in front of this garden, and separated from it by a lane a few feet wide only. As the ground slopes downwards from the old hotel it happens that its garden is on a level with the first (or Queen's) floor of the new hotel. As the new hotel has placed that part of the garden of the old hotel which lies behind it in the shade the owner of the latter chose this portion of his grounds to build this summer some new stables above which are rooms for some of his servants, for whose use there are two waterclosets. There has hitherto been no public sewer for the Cimiez quarter, and for the use of the Regina Hotel a private drain, about a mile in length, was constructed, at a cost of about £800, to carry the sewage to the nearest town main. When the new buildings were constructed at the Grand Hotel a cesspool was made to receive the excreta. This cesspool lay within a few feet of the Hotel Regina, and just behind the particular part of the house used by Her Majesty. As there was no means of ventilating this cesspool properly, and as any effluvia escaping could not fail to enter the back windows of the Regina Hotel, it became necessary if Her Majesty were to stay again at the Regina Hotel that the cesspool should be abolished and a proper system of drainage introduced. The only available means of doing this was to make use of the private drain of the Regina Hotel; but though the owner of

this hotel was willing to allow it to be used without charge during the Queen's stay in the hotel, he maintained his right to sever the connection as soon as the royal visit was over unless he received adequate compensation. On the other hand, the owner of the Grand Hotel declined to allow his cesspool to be touched unless he had an assurance that the alteration would be allowed to continue free of charge. After matters had apparently come to a deadlock the town authorities solved the difficulty by giving a written undertaking to make a public drain next summer from Cimiez to the Nice system. The owner of the Regina Hotel has agreed to allow the stable drain to enter his private drain free of charge until such time as the public sewer is completed and the owner of the Grand Hotel has given permission for the necessary work to be carried out under the direction of an English sanitary engineer. Those who have carefully examined the conditions on the spot are assured that Her Majesty can revisit her old quarters without the smallest risk of exposure to insanitary conditions.

A RETROGRADE MOVE.

Our attention has been directed to some recent proceedings of the Town Council of Reigate. It would appear that small dwellings have been erected with closets, for which no proper water supply was provided except by hand flushing. The medical officer of health and the surveyor of the Board have reported against this condition of things. The report of the Sanitary Committee of the Council has recommended proper provision to be made for cistern flushing. Some time since the then Council passed a vote in favour of this most necessary sanitary provision. It is alleged that at the last election small builders and owners of cottage property were elected as members of Council, and the previous vote in favour of adequate sanitary provision has now been reversed. The poor occupiers of these dwellings are thus left to their insanitary condition. It is no part of our duty to particularise the individuals who have brought about this retrograde vote. The opinion has often been expressed by sanitarians that jobbing builders and owners of small cottage property are not good elements to take part in the proceedings of Town Councils who have the care of the sanitary condition of their district. Reigate has long held a good position, owing to its low death-rate. This cannot continue uninterruptedly if the primary elements of sanitation are to be disregarded. The Council should bear in mind how not many years since the value of property in the borough was seriously affected for some time, owing to the accidental pollution of its water supply. With this experience, and with the examples of Maidstone and Lynn before their eyes, we must hope that Reigate may be aroused to a better and safer frame of mind. At present, not only is an insanitary blot allowed to remain in its midst, inviting the onset of disease, but the isolation hospital is only of a temporary character, and for one disease only. Thus a double danger exists. Disease is invited to come in, and, when it has entered, no adequate hospital accommodation is provided to meet it. When this matter once more comes on for discussion, we will hope that the two members of this Council who did not vote, but sat watching the contest, may wake up to a sense of their responsibilities, and support those who desire to retain the repute which Reigate at present enjoys as one of the healthiest towns in the South of England.

ALCOHOL AND THE DEATH-RATE.

We have frequently had occasion to point out the extraordinary and unwarranted misuse of a table embodied in the report of the British Medical Association's "Inquiry into the connection of diseases with habits of intemperance," which was presented at the Dublin meeting in 1887. Our readers will remember that the table in question showed the average age at death among 4,234 patients reported on, to have been: Of abstainers 51 years and 22 days, and of the decidedly intemperate 52 years and 14 days. These figures, with others, have been widely construed as proving that "teetotalism is dangerous to life." Yet the report contained the distinct statement that from these returns no conclusion could be formed as to the relative duration of life of abstainers and habitually temperate drinkers of alcoholic liquors. Though the fallacy referred to has been exposed again and again in the British Medical Journal by the chairmen of the Committee and of the Association's Inebriates Legislation Committee, and by other authorities, the misuse and misinterpretation are still being persisted in. Mr. James Whyte has addressed to us a letter once more exposing the fallacy on which this misrepresentation is based. The number of living abstainers under 25 years of age is much less than the number of living non-abstainers, abstinence having progressed most largely in the young, so that the average age of abstainers at death must be less. The Sceptre Life Office found that their abstaining insurers were several years younger than their non-abstaining insurers. At 25 the death-rates showed a difference in favour of Rechabites of 0.64. The general Rechabite death-rate has been 7.50 per 1,000, against 24 per 1,000 among general males. Other tables embodied in the report confirm the accuracy of this explanation. When deaths under 30 were excluded the average age of the abstainers at death was about four years more than that of the decidedly intemperate. When all deaths under 40 were excluded, the average age of the teetotallers was one year greater than that of the free drinkers, and more than five years greater than that of the intemperate. In protesting most strongly against this unfounded misrepresentation of the report of the inquiry, we append one of the conclusions of the Committee—that habitual indulgence in alcoholic liquors, beyond the most moderate amounts, has a distinct tendency to shorten life, the average shortening being roughly proportionate to the degree of indulgence.

GIFT OR FEE.

The question of the abuse of out-patient departments does not seem likely to sleep for want of stirring up. We would call our readers' attention to a letter in another column from Mr. Ensor, ophthalmic surgeon to the Infirmary at Newport in Wales, who has received notice of dismissal from his office because he refused to treat as out-patients two persons whom he believed to be able to pay for their treatment. This notice was given to Mr. Ensor by "the directors." We are not sufficiently acquainted with the constitution of the Infirmary to know whether the directors have a legal right to dismiss a member of the honorary staff, or should have referred the question to a general meeting; but leaving aside that point, it will interest our readers and the public to consider the difficulty which there now is in ascertaining what rights, if any, working men obtain by the subscriptions to hospitals now so freely solicited from the workshops. Many of them are far better off than the unbeneficed, and even many of the beneficed, clergy, than clerks, petty shopkeepers, and many others who are rightly held not fit applicants for hospital relief; and it is altogether unreasonable that they should obtain that relief on account of some subscription of quite unascertained and probably very trivial value to a "Saturday fund." Mr. Ensor seems to have proceeded in a perfectly regular way by referring several cases of what seemed to him to be abuse to the directors for inquiry; and it was not till he found that no notice was taken of such references that he took the extreme step of refusing to treat the two persons in question. His refusal may have been technically a breach of the rules, but if the facts are as stated in his letter, it seems to us monstrous to dismiss him from his office. The plain duty of the directors is to frame rules for their out-patient department which shall provide for proper inquiry into the applicant's circumstances, and a proper definition of the privileges (if any) which subscribers to the infirmary, whether direct or through a fund, obtain thereby. Our strong opinion is that there should be no such privileges, that hospital treatment should in all

cases be gratuitous, and not purchasable either by the weekly threepence, which we are sorry to see in vogue at some of our hospitals, or the shilling or half-a-crown a year paid through the workmen's fund; but at any rate, as the question has been raised, it should be settled, and the out-patient department put under intelligible regulations. If these are displeasing to any of the honorary staff they can resign; but to treat a gentleman in Mr. Ensor's position in this cavalier manner is an abuse of authority which we trust will be disavowed by the great body of subscribers to the Infirmary. We observe that the Cardiff Medical Society, having listened to a statement from Mr. Ensor, and having considered the statement of the chairman of the directors of the Infirmary, unanimously expressed its sympathy with Mr. Ensor, and their sincere hope that the Board of the Infirmary might see its way to withdraw their notice. Meanwhile the occurrence throws some light on the effect which Sir H. Burdett's Hospital Fund Stampbook would produce on our out-patient departments.

HEALTH MATTERS IN JAMAICA.

From the *Jamaica Post* we learn that, notwithstanding the known presence of yellow fever in Kingston, a patient had lately to be sent to the Public Hospital instead of the one intended for infectious diseases at Bumper Hall, which was not yet ready. Dr. Murray, the new health officer, however, was able to reassure our contemporary's reporter that matters were being hurried on at Bumper Hall. We hope, therefore, that this hospital's unreadiness may now be a thing of the past. From a correspondent we learn that the last six months have been decidedly unhealthy in the island. Very few Europeans, it is said, have escaped illness of some sort. Three naval officers in the dockyard and two officers of the small garrison have died. The Royal Engineers have lost two non-commissioned officers, while a sergeant-major and a staff-sergeant of the Medical Staff Corps have died of yellow fever. The prompt removal of the other white troops to Newcastle has probably saved many lives. Remittent fever of a severe type and enteric fever have been prevalent among the black troops at Up Park Camp.

THE FILTRATION OF MILK.

The control of the milk supplies at its source is a subject which is engaging much attention at the present time; but, while something has been accomplished, nobody can really answer for the cleanliness of the cows and the milkers at 6 A.M. on a winter morning on small homesteads in the country. The more conspicuous objects, as cowhairs, are indeed removed by straining through coarse muslin, but a quantity of fine dirt, which would suffice to render a transparent liquid visibly turbid, will probably remain. Some of the dirt to be seen at the bottom of a pail, jug, or even a glass, consists of a mineral dust, but the greater part is either more nor less than cow dung—a fact which furnishes an obvious explanation of the myriads of bacillus coli present in so many samples of milk; yet, strange to say, no one seems to think it necessary to filter milk, though it always contains a vast number of the bacilli, a fraction of which would be deemed sufficient to condemn any water as unfit for drinking, and the known outbreaks of typhoid fever traceable to milk are far more numerous than those attributable to public water supplies, for milk presents an excellent culture fluid for the bacilli of the bowel. Sand filtration of milk on its arrival, whether by road or rail, at the central depôt has been practised for several years in some cities, by the Copenhagen Dairy Company and by Messrs. Bolle of Berlin, whose arrangements, alike for the purity of the milk and for the physical and moral welfare of the persons (over 1,000 in number) in their employment, are well worthy of imitation. The filters used in this dairy consist of large cylindrical vessels divided by horizontal perforated diaphragms into five superposed compartments of which the middle three are filled with fine clean sand sifted into three sizes, the coarsest being put into the lowest, and the finest into the uppermost, of the three chambers. The lowest of all is partly occupied by a perforated, inverted, truncated cone, which assists in supporting the weight of the filtering material. The milk enters this lowest compartment by a pipe under gravitation pressure, and after having traversed the layers of sand from below upwards is carried by an overflow to a cooler fed with ice water, whence it passes into a cistern from which it is drawn direct into the locked cans for distribution. It is the rule of this dairy, also, whenever any epidemic or epizoötic occurs in the districts whence its supplies are obtained, to subject the whole before admission to the filter to temperatures first of 160° F., and then of about 220° F., in two apparatus interposed in the course of the pipe supplying the filter. The filtered milk is not only freed from dirt, but the number of bacteria is reduced to about one-third, without sterilising; the loss of fat is in new milk stated to be small, but the quantity of mucus and slimy matter retained in the sand—which is, of course, renewed every time—is surprising.

CASTLEBAR GUARDIANS AND THE NURSING ORDER.

We are glad to observe that the Irish Local Government Board are impressing upon Boards of Guardians the fact that the recent nursing order is not to remain a dead letter. In many unions probationers have been appointed, and we trust that medical officers, for the honour of the profession to which they belong, will, having accepted probationers in lieu of trained nurses, see that they are properly instructed. The Castlebar Guardians have evidently regarded the recent sealed order as of no consequence; for we observe, from the report in the *Mayo Examiner*, that the Local Government Board inspector reports that there is only one nurse in the infirmary, assisted by three paupers. He also reports that several of the beds were disgracefully dirty, and others had apparently not been made. With regard to the want of nurses, the Local Government Board informs the guardians that one nurse cannot look after the patients both day and night, and requires them to "proceed at once to provide such additional nursing assistance as will ensure the proper care and treatment of the sick in hospital." With regard to the state of the beds they request that the nurse may be called upon for a written explanation, so that the Board may be in a position to decide whether she is fit for the position. But we would ask, Why call upon the nurse for an explanation? She is only a subordinate officer acting under the direction of the medical officer, whose duty it is to see that the sick under his care are properly attended to, and to report to the guardians if the nursing is insufficient, either in quantity or quality. If he does so, and the guardians disregard his reports, his responsibility is at an end; but if he does not, we hold that he, and he alone, is responsible for any shortcomings in the treatment of the patients.

SCHOOL BOARD TEACHERS AND INFECTIOUS DISEASE.

More than one medical officer of health in London has had occasion to refer in printed reports to the subject of notification of infectious disease between School Board teachers and local health officers, as of great moment both to schools and to the community. Dr. Reginald Dudfield, in his recent report on Paddington, explains that under the provisions of Section 55 of the Public Health (London) Act of 1891, each head teacher is notified of the presence of every case of infectious illness in the homes of children attending his school. The influence of this regulation in safeguarding the health and lives of the classmates of the sufferers is well known, as the results of numerous actual comparisons of the effects of the attendance of children from a house in which there is a case of, say, diphtheria in the person of a scholar, improperly or imperfectly isolated—with the freedom from

disease of the section or class to which the inmates of the infected house belonged, and which has been temporarily, during danger of infection, rid of their presence. The attendance of children, perhaps themselves in the period of incubation of a disease communicable in its early stage, has been a prime cause of disease dissemination by schools; hence the provision of statutory notification to head teachers by health officers, and its practice by these officers has proved to be a boon to education and sanitary authorities alike. It appears to be forgotten, however, that Article 148 of the London School Board *Code* lays down the rule that, in addition to certain notification to Board officers of all cases of infectious disease in scholars or in the houses of scholars, "the medical officer of health for the district must also at the same time be informed of the child's exclusion, and furnished with the name and address of the child, and the reason for its exclusion, on a form with which the teachers will be supplied by the head office." This reads well on paper, but Dr. Dudfield tells us that "no certificate, as therein provided, has been received by the (Paddington) department within the past four years." A system, excellent in theory, is thus seen to fail in practice. Dr. Harris, not so long ago, had to complain of the way in which he was handicapped in Islington in attempts to check the spread of measles by the same disregard of the rule by teachers in that populous district. This precautionary measure ought not any longer to be allowed to remain inoperative. Why a rule so definite and helpful should have fallen into abeyance demands explanation.

BACTERIOLOGICAL LABORATORIES FOR INFECTIOUS HOSPITALS.

Dr. Wilde's report on the Croydon Infectious Diseases Hospital contains an account of the work of the bacteriological laboratory, of which he is also the director. There are in the new hospital 108 beds and 8 cots. At present 80 are reserved for scarlet fever, 12 for diphtheria, 12 for typhoid, and 12 for probationary purposes or paying patients. As a rule, all patients admitted under a certificate of diphtheria are at once injected with antitoxin. The full benefits of the treatment are thus secured at once, and should there have been any mistake in the diagnosis the dose acts as a prophylactic. The mortality amongst 79 cases admitted was 15. The mortality increased as the period before admission was extended. Somewhat full clinical notes of all the 13 cases of enteric fever are given. These notes, dealing as they do with details of treatment, are perhaps more suited for the pages of a professional journal than of a report presented to a lay board. The research laboratory is situated at the hospital. Stoppered bottles for the collection of sputum, and culture outfits for diphtheria diagnosis are supplied at the sanitary office, and may be had also from certain druggists. When used according to the contained directions they are forwarded to the hospital, and the result communicated next day by telephone or post. Arrangements have also been made to carry out Widal's confirmatory serum test for enteric fever. We congratulate Croydon on the establishment of what is likely to prove so valuable an assistance to the early and exact diagnosis of these infectious diseases.

MR. PICTON'S CONVERSION.

We have no doubt that some of our readers were amused, and possibly puzzled, by a letter from Mr. J. A. Picton which appeared in the *Times* a few weeks ago. The writer felt called on to protest against the possible inference that he could have been one of the members of the Royal Commission on Vaccination, "who was actively opposed to vaccination." This protest was puzzling because, as a correspondent in a subsequent letter to the *Times* points out, Mr. Picton had not only taken an active part in cross-examining, from the antivaccinist point of view, the witnesses who appeared in support of the case for vaccination, but had, before his appointment on the Commission, stated, in an article in the *Contemporary Review*, that he was "rapidly approaching the conviction" that "vaccination is of no use." Indeed, in moving for the appointment of the Royal Commission in April, 1889, Mr. Picton is reported to have gone so far as to assert his belief that vaccination was "just as ineffective as baptism." No one, therefore, was surprised when Mr. Picton associated himself with Dr. Collins on the publication of the report of the Commission, in a report which traversed not only most of the conclusions of the rest of their colleagues, but the facts on which those conclusions were founded. Mr. Picton now declares, in spite of this evidence as to what his opinions were prior to his appointment on the Commission, that he "entered on the inquiry with a belief in Jenner's alleged discovery," and that "it was the evidence laid before the Commission, and that alone," which convinced him that, "as a preventive of small-pox vaccination is absolutely futile." The correspondent to whom we have referred invited Mr. Picton's attention to the facts that as he and Dr. Collins had admitted in their statement that vaccination had some value as "an effective and trustworthy prophylactic," and as they had recommended the maintenance of the State machinery for promoting it, there was some inconsistency in his now stating that it is "absolutely futile," and "a cruel and monstrous tyranny." To this invitation Mr. Picton has made no reply. Probably he thinks that there should be no longer any room for doubt as to the camp to which he belongs, for it is announced that he has "formally notified his adhesion to the antivaccination cause, and has joined the National League." His conversion is now evidently complete.

"NON-COMBATANT" HEROES.

In the *World* of December 15th the following paragraph appears: "Letters from the Indian frontier speak in the highest terms of the services rendered by the officers of the Army Medical Staff. To such an extent, in fact, have many of them distinguished themselves that general officers in command have brought their names specially to notice, and it is more than likely that three, if not four, will receive the Victoria Cross for acts of heroism which come well within the terms of the warrant governing that honoured distinction." Not the medical profession alone, but the army of which they are so essential a part and the nation which they serve so faithfully, have reason to be proud of the officers of the Army Medical Staff. In proportion to their numbers they have among them, we believe, more holders of that most coveted distinction, the Victoria Cross, than any other branch of the service—a circumstance which makes the persistent discourtesy of certain officers of high rank in treating them as "not soldiers" but "camp followers" all the more remarkable. To insist on the fact that a class of men who seem to have greater opportunities than any other of winning a decoration which is awarded specifically "for valour" are "non-combatants" appears to show that the military mind is somewhat wanting in a sense of humour, if not of fairness.

THE FULLERIAN PROFESSORSHIP OF PHYSIOLOGY AT THE ROYAL INSTITUTION.

All who are interested in the advance of physiology must have seen with deep regret the announcement that Dr. Augustus Waller has resigned the Professorship of Physiology and Comparative Anatomy at the Royal Institution. Dr. Waller has lectured in Albemarle Street only one season, but to what excellent purpose he has used his brief opportunity is shown by the brilliant work, *Animal Electricity*, reviewed in another column, which represents only a part of the course of lectures which he delivered last spring. The causes which have led him to resign a position which offered such promise of usefulness may be gathered from a letter published in *Nature* in the early part of July. In that letter Dr. Waller expressed his surprise and disappointment at finding that the duties of the Fullerian

Professorship of Physiology are regarded "in a very flimsy light," and that no provision could be made either in the Royal Institution itself or in the adjoining Davy-Faraday Laboratory, for their more adequate performance. An application made by Dr. Waller for permission to use the Davy-Faraday Laboratory was refused, and subsequent representations to the Managers of the Royal Institution as to the necessity of providing a laboratory room in connection with the Chair of Physiology were met with a civil *non possumus*. This attitude on the part of the Managers is, we venture to think, somewhat ill-advised. The Royal Institution is one of the few places in London where, in the absence of a teaching university, what may be termed the higher physiology can be publicly expounded; and men like Sir Frederick Bramwell and Sir James Crichton Browne know well how essential experimental demonstrations are in scientific teaching. Without a laboratory close at hand, and absolutely at his disposal, it is obviously impossible for the Fullerian Professor of Physiology to supply the amount or quality of experimental illustration that is necessary if his lectures are to be anything more than popular discourses on elementary topics. If that is all the Managers of the Royal Institution intend them to be, they should make their view of the matter clear to candidates for the chair, so that eminent men who seek for the appointment as a means of making the results of their researches known in a way not otherwise open to them may be spared the mortification of finding it impossible to discharge their duties to the satisfaction of their scientific conscience. At present Physiology appears to be treated in Albemarle Street as a Cinderella, in comparison with her sisters Chemistry and Physics. Such a state of things is hardly creditable to the Royal Institution. If, as it is hinted, the Managers have the fear of the vivisection bogey before their eyes, we can only express astonishment that enlightened men could for a moment suppose that any responsible physiologist would be so regardless of the interests of his science and of his own reputation as to do anything so foolish. But if it is assumed that physiologists are fanatically eager to vivisect in season and out of season, surely it would be easy to prevent any such abuse of the Fullerian Professorship by a distinct prohibitive regulation. We can only reiterate our regret that in a place made famous by the work of many scientific investigators of the highest order, so little account should be made of physiology, which in some respects is the most important science of all.

THE WORKMEN'S COMPENSATION ACT.

A correspondent raises the question as to the effect which the Workmen's Compensation Act, 1897, which comes into force on July 1st, 1898, will have on surgeons holding appointments under colliery and other companies included in the Act. A reference to the Act will show that it makes no provision for the payment of medical men in the event of accidents, nor are employers bound to provide surgical treatment for the injured. It will be, however, to the advantage of the employer to supply first aid to the injured, not only from a humane point of view, but also as regards subsequent litigation that might possibly arise. In localities where, as at present, small accident hospitals financed by employers exist, to which injured men are taken, treated, and surgically attended to, all the expense being borne by the firm, it is difficult to say whether such hospitals will be maintained or not. If they are retained it will be in all probability, at least in many instances, under different conditions. As employers are only liable for certain things stated under the Act, it can scarcely be expected that they will provide hospital residence, board, and surgical treatment gratuitously, and in addition pay all the damages legally expected of them. It is more than likely that several of these accident hospitals will have to be taken over by the working men themselves, and managed by them out of their own funds, or maintained by a fund proportionally contributed to by the masters and the men, which can be done under the contracting-out clause of the Act. So far as surgeons holding accident appointments are concerned, the Workmen's Compensation Act throws the responsibility for the payment of medical men upon those who have been injured, and in nowise upon the employer. This will not improve the prospects of medical men.

DR. RENTOUL'S CLAIM ON THE GENERAL MEDICAL COUNCIL.

It is very difficult to understand how the refusal of the General Medical Council to pay to Dr. Rentoul the fees claimed by him under the circumstances reported in the British Medical Journal of December 4th, page 1657, and December 11th, page 1748, can be justified. The Standing Order of the Council appears to be perfectly clear: "Each member of the General Medical Council who resides more than 200 miles from London shall receive 5 guineas for the day of his coming, and 5 guineas for the day of his return." Under this clause Dr. Rentoul claims the payment of 10 guineas, and since there seems to be no doubt that Liverpool by the shortest railway line is 201 miles from London, it is difficult to see why the Council decided to withhold from Dr. Rentoul the payment of the sum to which he appears to be fully entitled. It would seem that the vote of the Council, which was taken apparently at a time when the attendance was scanty, must have been given under some misapprehension.

GLYCERINATED CALF LYMPH.

A report by Sir Richard Thorne on the preparation and storage of glycerinated calf vaccine lymph has just been published by the Local Government Board. The report relates the observations made by Sir Richard Thorne and Dr. Copeman during their visits to calf vaccine stations abroad; and Sir Richard Thorne makes a graceful acknowledgment of the readiness and courtesy with which information was everywhere placed at their disposal. He recommends (1) that it is desirable that vaccination, both primary and secondary, carried out under the auspices of the Government, should be performed exclusively with vaccine lymph derived from the calf; (2) that there will probably be advantage in retaining, for a time at least, the system of calf-to-arm vaccination at the Board's Animal Vaccine Station for such persons as may specially desire it, and for the purposes of comparing its results with those following the use of calf lymph preserved in one way or another; (3) that the distribution of calf vaccine from the National Vaccine Establishment should be limited to glycerinated or similar preparations of lymph and pulp material in air-tight tubes or other glass receptacles; (4) that, to give effect to the preceding recommendations, the Board's Animal Vaccine Station should be reorganised, both as regarded construction and administration, and should include a properly-equipped laboratory under the direct supervision of a bacteriological expert.

THE MORTALITY OF THE MEDICAL PROFESSION.

The report of Dr. Tatham on the mortality of occupations during the three years 1890, 1891, 1892 has just been issued by the Registrar General as a supplement to the report of the Registrar General for the ten years 1881-1890.[1] The report is one which demands careful examination and we hope to refer to it at greater length at a future occasion. We will now only observe that Dr. Tatham reports that the number of members of the medical profession recorded in the last census of England and Wales was 18,936, an increase of 25 per cent. as compared with less than 3 per cent. which had been the rate of increase in the previous ten years. The comparative mortality figure for medical men is 966, as against 821 for lawyers, 533 for the clergy, and 953 for occupied males in the aggregate.

[1] London: Eyre and Spottiswoode. Glasgow: John Menzies and Co. Dublin: Hodges, Figgis and Co. 1s. 6d.

The mortality among them is higher than that of the clergy at every age, while it is higher than that of lawyers at all ages up to the 55th year. Dr. Tatham however has some grains of comfort, for he finds that in the three years with which he deals the diminution in the death rate of ages under 45 noticed by Dr. Ogle has continued, while at ages from 45 to 65 there has been a decrease from the high rate of 1880-82, although the mortality still remains somewhat higher than in 1871. At ages above 65 years there has been a further increase in the mortality. As on the whole the increase has been at ages above 55, Dr. Tatham suggests that it may be partly due to the influenza epidemic which was at its height in 1891, and is known to have been specially fatal to persons beyond the prime of life. It is a remarkable fact that the most frequent of all causes of death not only in the medical but also in the clerical and legal professions are diseases of the heart. Phthisis and diseases of the respiratory system, which in most other occupations stand higher than any others in the scale of mortality, occupy much less important places, the mortality from bronchitis in the medical profession being not more than one-seventh of that to which the general male population is subject. The causes of death to which medical men appear to be especially liable are gout, diabetes, urinary diseases, and suicide. It appears indeed that the tendency to the commission of suicide has notably increased among medical men. The number of deaths attributed to diseases of the liver, of the urinary organs, and to alcoholism has decreased. On the whole, if we omit the increase in suicide, it would appear that the death rate from causes which may be classed as preventable shows a decided tendency to decline in the medical profession.

INFECTIOUS DISEASE IN GENERAL HOSPITALS.

In the British Medical Journal of November 20th we were able to give the views of several well-known London physicians on this subject. They were unanimously of opinion, on various grounds, that cases of enteric fever should certainly be admitted to the general hospitals. The controversy was started by a resolution passed by the Public Health Committee of St. Pancras Vestry to the effect that cases of infectious disease, such as typhoid fever, scarlet fever, and diphtheria should not be admitted into a general hospital, save in case of emergency. A similar resolution was brought up to the St. Marylebone Vestry by the Sanitary Committee on December 9th, but was defeated by an almost unanimous vote.

SCHOOL HYGIENE.

The subject of school hygiene has received very careful consideration in a valuable paper by Dr. James Kerr, which secured for him the Howard medal and prize of the Statistical Society. Dr. Kerr doubts whether any real difference educationally would result whether three, five, or seven years were fixed for the commencement of school life, as the home surroundings and life are of infinitely greater importance at these ages than any school. Except as regards phthisis, he does not find any tendency to increase in death-rate associated with increased school attendance. Under the head of school organisation he speaks of warming and ventilation as *the most urgent and pressing question at present in school hygiene* (the italics are his). For the artificial ventilation of a school by warmed air, he says that 1,000 cubic feet per hour per child should be the lowest estimate, the accommodation being reckoned at 10 square feet per child, 8 square feet in infant departments. The inlets to rooms should allow 13 square inches, from which 10 per cent. is deducted for ineffective area per child, the outlets being somewhat larger; the velocity of the incoming air should not exceed 5 feet per second. The temperature of the room should be maintained at about 60° F. The air is drawn into the building through a large opening, and passes through a filtering screen of coarse jute cloth, kept damp by a small jet of water; it is then drawn through the fan, which must be large so as to avoid the noise inseparable from the use of small fans. The air is warmed in the ducts as near the point of delivery as possible, preferably by large low-pressure hot-water pipes. The specific heat of air being very low, radiators may be needed to help in heating the building at first; a wet and dry bulb thermometer should be kept in the rooms at a difference of 4° or 5°, so that the air may not be too dry. Dr. Kerr deals at some length with the question of the vision of school children; in the Bradford Board schools, which are under his own superintendence, every child has its vision tested annually, with the result that he finds that in the youngest children, that is under 7, 40 per cent. have some defect of visual acuity, the proportion steadily decreasing amongst the older children till it has reached 15 per cent. in those of 12 years of age. The paper concludes with the consideration of what is to be done for blind or deaf children, and for those who are mentally defective without being absolutely imbecile.

RUMINATION IN MAN.

Merycism, or rumination in a human subject, has long been known, and those addicted to the practice are known in France as *mérycoles*. A considerable number of cases has been collected, and M. Nattan-Larrier has recently published an instructive memoir on the subject in the *Gazette des Hôpitaux*. There is no certain evidence as to the influence of sex; certain authorities make out that merycism is most prevalent in the male, but since that opinion has been repeatedly copied in textbooks, Ludwig and several other observers have recorded numerous cases where it occurred in women. According to five independent reports, merycism may be hereditary. Bouchard, of Ghent, has published the clinical history of a ruminating family. Out of ten living members eight ruminated—namely, two brothers and an aunt, the grandfather and four grandchildren. Close scrutiny into individual cases, however, tends to show that merycism may represent an extreme form of eructation, or else be evidence of mental disease. It may be voluntary or involuntary, the latter type often representing the first stage of what becomes the former. No special change in the chemistry of the saliva and gastric juice has been proved to be associated with merycism, but human ruminants are often dyspeptics with sensory-motor phenomena. Involuntary merycism, at least in its earlier stages, is specially prevalent amongst dyspeptics troubled with neuroses. Voluntary rumination, as a bad habit, is a practice observed most frequently amongst idiots, lunatics, and "degenerates," a true intellectual perversion, in fact, where a man wishes to be like a cow. Yet voluntary rumination, on the other hand, may be the result of imitation in fairly sane subjects; on that account it is relatively common amongst children. The mechanism of rumination is the same in man as in animals that naturally ruminate. No malformation or lesion of the stomach or œsophagus has been detected in any case. Treatment to be successful must in every case depend on management of one of the conditions always concomitant with merycism. Hence the dyspeptic ruminant must be treated as a dyspeptic, the neuropathic subject as a neuropath, and these types are found the most satisfactory for treatment. In children the condition is often traceable to imitation. M. Nattan-Larrier holds that the ruminating child must not be spoiled by the sparing of discipline, but believes that suggestion might prove a quicker and more thorough therapeutic agent. It is certain that it would be preferred by the patient. When distinct mental disease is present attempts at cure are seldom successful, and some idiots are very clever at bringing up their food the moment they are no longer watched; they can retain it for hours till they desire its return to the mouth.

PROPOSED CENTRAL HOSPITAL BOARD FOR LONDON.

A special meeting of the Council of the Charity Organisation Society was held on December 13th at the Royal United Service Institution, Whitehall, to adopt the first report of the General Committee for the Promotion of a Central Hospital Board for London. The chair was taken by the Right Hon. the Earl of Stamford, who in submitting the first report of the General Committee for the Promotion of a Central Hospital Board for London, said it would be remembered that there was a meeting not long ago of the Central Board, at which the report was submitted, and at the end of the meeting it was unanimously approved. They were also aware that there had been some feeling expressed in some quarters that this Committee for promoting a Central Hospital Board had done its work, but it was felt that the Committee had still an important function to perform. On the present occasion they wished to submit that issue to a larger constituency to secure discussion upon it, and to come to a definite conclusion on the whole matter. Perhaps the most important paragraph in the report was that at the end concerning the attitude of that Committee towards the Prince of Wales's Hospital Fund Council. That point would be elucidated in the speeches which would follow, and he would set an example of brevity by calling upon Sir William Broadbent to move the first resolution.

Sir William Broadbent, who was cordially received, said the resolution he had been asked to propose, and which he did with great pleasure, was—

That this meeting adopts the first report of the General Committee for the promotion of the Central Hospital Board for London, and expresses its conviction of the great importance of the establishment, at an early date, of a Hospital Board representative of all interests concerned.

This question of a Central Hospital Board had now been under discussion for some time, and certain misapprehensions had, he thought, to some extent, been removed. One of these was that this movement in favour of a Central Hospital Board was in any way hostile to hospitals; that was disproved by the number of names of hospital physicians and hospital surgeons attached to the report, and who supported the movement. On the contrary, so far from being hostile, the whole object of the movement was to render the hospital work of the metropolis more efficient, and the more efficient it was the more certain would the hospitals be to attract support. Another misapprehension had been that the whole movement was an agitation "got up" by the Charity Organisation Society. The question of hospital abuse had been agitated long before the Charity Organisation Society took it up, and there had actually been a Committee of the House of Lords for the purpose of suggesting some means of removing acknowledged abuses. At one time anyone who had money to dispose of felt himself perfectly safe in giving that money to hospitals, and almost to any hospital. But a feeling of distrust had arisen, which it was the object of those who were interested in this movement to remove. It had been shown clearly enough that many people resorted to hospitals who were not proper subjects for hospital relief, because they could well afford to pay for medical advice and treatment. There were others who were much more properly the subjects of parochial relief; and from both sides those who really ought to receive the benefit of hospitals had been hindered and to some extent excluded. For his own part, he had not attached so much importance to the mere question of numbers as had been felt by some supporters of the movement; he would not care how many people were relieved by hospitals, provided they were the proper subjects for relief, and he was quite certain that the hospital physicians and surgeons would be prepared to deal with any numbers so long as assurance existed that only proper persons came before them. There were other abuses besides that of the mere numbers attending general or any special hospitals. There existed at the present time institutions of sorts under the name of hospitals or dispensaries, or what not, which were not only unnecessary and therefore useless, and therefore taking money which ought to go to better purposes; such institutions really were under the guise of hospital institutions for private ends. There was an energetic secretary to get together funds, and who got a commission on those funds, and there was a doctor, or a number of doctors, who had no claim to a position as hospital physicians and surgeons, and who used these institutions for their own private ends. The Hospital Sunday Fund had encouraged a method of sifting these out-patients; it was proposed that officers should be appointed who would examine these out-patients more or less completely, and as far as possible exclude those who had no right to come to hospitals for relief. This process of sifting would no doubt do good, but another process of sifting went on at those institutions. At some of those institutions all and sundry were admitted as patients, and little by little those who saw the patients sifted out those who were capable of paying and appropriated them. That was one of the abuses which it was hoped would be dealt with. The question was how this multitude of questions was to be dealt with. The suggestion made on the part of the Charity Organisation Society was that all grades and all kinds should be represented on what had been so far called the Central Hospital Board. It would be seen that this was no movement on the part of the Charity Organisation Society to get control of the hospitals—to "boss the concern," as it had been expressed sometimes; it was simply a suggestion by which the hospitals should start a self-governing and self-regulating central institution. And even when it had been so started, it was not to have any coercive power; any influence would be indirect. Of course the hospitals electing this body would be much more ready to submit to inquiries instituted by it, and much more ready to accept its suggestions; but even an elected body by the hospitals themselves would have no other than an indirect power, by suggestions, advice, and the recommendation of assistance. It was understood, as he had said, that all interests would be represented—in the first place, the large general hospitals with medical schools. If they were the only institutions to be dealt with there would be no difficulty whatever; the difficulties arose in common with the institutions outside. But the only way in which they could get at these institutions was by giving them also a place on the representative body. Those whose ways would not bear investigating would, of course, take very good care to keep outside—at any rate there would be some means of distinguishing between those which were really necessary and useful and those which served only private ends. It was proposed also that the general practitioner should be represented on this central body, and to that he would himself heartily agree. It had been represented, he believed, on some hands that this had been rather a "general practitioner movement." That again was an error; no mistake could be greater than to suppose that general practitioners were collectively hostile to hospitals. Over and over again in the course of his experience he had known general practitioners direct the generosity of their patients into right channels in regard to hospitals; and it was of the very greatest importance that their interest should be consulted and their influence admitted, more especially because through the general practitioners the hospitals would be able to get information which was not accessible in any other way. Scores of general practitioners knew individual instances around them of patients who were perfectly well to do but who were getting habitual relief from hospitals. The medical men had no means at present by which they could bring this information to the service of the hospitals. It would be ruin to a general practitioner if it were known that he conveyed information to hospitals with regard to his own patients, and yet he had to stand by and see many of his good patients receive gratuitous relief. The Board was intended to be in no way a governing and controlling body; it would sit simply to afford information, and to co-operate with the physicians and surgeons of general and special hospitals and dispensaries to arrive at the best means of eliminating some of these nuisances. He did not think the work of the committee was done. He was quite sure that it had exercised an important influence on public opinion, and he felt that by perseverance some such body as this would be appointed. They could not, of course, hope or expect that this body would now have possession or command of large funds; but there were the large central funds, which would require some guidance, and he knew no better way in which guidance could be afforded to the distribution of the different hospital funds than by the co-operation of the hospitals in a representative body such as had been suggested by this committee.

Mr. Bond, M.P., in seconding the resolution, dwelt on the curious lack of system in many of our departments of social life, which was no doubt due, in large measure, to the vastness of the metropolis, and to the fact of its being composed of what were formerly separate towns and villages. The hospitals of London were placed without regard to the needs of localities, and special hospitals were not created on any definite system. It was because the idea of a central governing body had impressed itself on the House of Lords Committee that the association represented at the present meeting was brought together. He referred to the rivalry and competition between individual institutions. He believed that a central body would bring about vast benefit by a proper distribution of work. He did not conceive that such a Board as was proposed would have any very important effect upon the organisation of the medical charities of London unless it had behind it some power of the purse, and he would like to see the Prince of Wales's Fund administered by the Board if His Royal Highness and his advisers saw fit. He concluded by cordially seconding the resolution.

Sir Joseph Fayrer, in supporting the resolution, said that he was convinced that such an institution as that proposed was supremely necessary. Were there anything in the resolution which seemed to censure or demand interference with the government and arrangements of the great hospitals of London, he would not support it. There were hundreds of men who would gladly give their money to hospitals, but they knew not which to give it to, and consequently the money went to some other purpose. The scheme suggested would benefit deserving institutions and exclude the bad ones.

Mr. Victor Horsley said he rose to support the resolution cordially, and to express the hope that when the Central Board was formed it would be truly representative, and to express another hope—that they would hear more non-medical opinions.

Dr. Glover regretted that Mr. Horsley's remarks had been so brief, as he was so well informed on the matter and no man had taken a deeper interest in the question as it bore upon the general practitioner. He desired to see the question settled, as it was having an unsettling and injurious effect upon hospitals. Sir William Broadbent had on one occasion said that such a question could only be settled slowly, but he would remind them that it had been going on for a quarter of a century. The present Committee could congratulate itself on having given a distinct impulse to the movement during the last twelve months. There were two proofs of this: (1) The hospitals had taken the matter in hand in their own protection and had founded a Hospitals Association, a great step which this Committee could take great credit for; (2) Sir William Broadbent had referred to the fact that the Board of the Hospital Sunday Fund had faced the question of the administration of the out-patient departments. He thought it most important to emphasise Sir William Broadbent's statement that there was nothing in this movement hostile to hospitals; if there had been he would have been of the same mind as Sir Joseph Fayrer on the point. It would be well if this Committee did not press too dogmatically its views as to the exact composition of the Central Board; he was very well satisfied by the steps which had been taken by the hospitals themselves, and he thought that with a little more patience and reasoning they would get them to consent to the Board and to help to make it thoroughly effective. He admitted there was considerable prejudice against the movement. He (Dr. Glover) thought for any body to have effect it should have the giving of a considerable sum of money. He had been one of a deputation to wait on the hospitals themselves. They had been received with infinite civility and courtesy by the governors, but they were not stimulated by their reception and were not led to think they were on the eve of the conversion of that great and admirable body. He concluded by paying a warm tribute to the work of the Charity Organisation Society.

Brigade-Surgeon-Lieut.-Colonel Myers, in speaking against the resolution, said he supposed the great hospitals felt the movement was so impracticable as not to be worth their while to spend time to come to the meeting to oppose it. He went on to state that a Board, consisting of 169 members at present, which the general practitioners would make up to 200, would be too unwieldy to do any work, and if that number were reduced to a few, the hospitals might not be represented at all. Sir William Broadbent had said that there must be no coercion, but other speakers had let the cat out of the bag by saying that if they held the money they would wield the power; which meant, if they did not do so and so they should not have the money. He admitted that the Central Board would have many advantages, and from the point of view of Sir William Broadbent, if it controlled the questionable hospitals it would be doing very valuable service. But this movement might be the beginning of one, for which there was already a strong feeling, to cause the hospitals to be supported by the rates. He believed that if they established this central authority and controlled the funds they would lose the sympathy of people for individual institutions, chiefly in the matter of legacies.

Mr. Fred. Walker urged that one of the results of the formation of the proposed Board would be to prevent the hospital expenses being put upon the rates. He concluded by paying a tribute of praise to the Charity Organisation Society, and expressing his hearty concurrence in the scheme.

Mr. Bousfield admitted that there was distrust on the question of hospitals in some quarters, as shown by the contributions to the Prince of Wales's Fund being smaller than was anticipated; but he attributed that to the lack of organisation in the distribution of the great London charities. He spoke hopefully of the future of a movement which had the support of such a large body of medical men. He had been twenty-one years on the Committee of one of the large general hospitals, and he did not hesitate to say that large numbers of the poor did not always get help from hospitals, and that enormous waste occurred in consequence of the competition of various institutions among themselves, in canvassing and printing. They wanted co-ordination with regard to the general treatment of the ordinary poor. They did not require great reforms thrust upon them from the outside, or from an indignant public. He claimed that the scheme of the Charity Organisation Society was a highly conservative measure. In conclusion, he hoped they would have the support not only of the medical profession, but also of the general public.

The Rev. J. E. Hand did not think the various hospitals would come into a voluntary scheme. The only proper and effective Board would have to come through parliamentary sanction after due inquiry. There should be more direct representation of the public—the working classes and the various municipal Boards should also be represented, such as the County Council. The hospitals of London were at the present time open to very grave abuses. In his work in the East End he often had to refuse a hospital letter to a man who was earning his £2 a week, but who demanded the right to use the general hospitals for gratuitous relief, and if the Committee would remedy that it would do great service, but, as at present suggested, the central authority would be found wanting.

Mr. C. S. Loch, Secretary of the Charity Organisation Society, referring to the criticisms of Brigade-Surgeon-Lieutenant-Colonel Myers in regard to the large size of the Board, observed that another criticism had been that all those concerned were not represented on the Board. Of course all practical administration must take both those points into account, and the mean must be found. The suggestion which was made by the Committee might not be perfect, and it was not urged that it was. It had been said that it was desired to give the general hospitals a fair and sufficient position, but it had also been desired in this original scheme (and that met one of the points raised by a subsequent speaker) to bring in representatives of such bodies as the London County Council and others. It was desired also to put the Board in such a position that it would have the support and goodwill of others without being distinctly dependent on the ratepayers, and without making it a mere municipal body. It would seem that it would be a great thing if the hospitals themselves could join hands in this matter. If they really cared for London and the London poor, and to keep the people strong, and thrifty, and self-reliant, it was their duty to join hands. Mr. Hand seemed to think that nothing but compulsion would answer the purpose. He believed, with Mr. Holmes,

that it would be very injurious if their voluntary system were turned into a municipal system. They believed mostly in persuasion. It had been said that there should be considerable funds at the disposal of the central body. He had always believed that it was necessary, and that there was no disgrace in the fact; it certainly smoothed difficulties, and those institutions which deserved it would receive help. The voluntary system answered splendidly in connection with polytechnics in London; why not in hospitals? They were not relying on an unknown method, and such a course was not without precedent. The Charity Organisation Society in this matter was not seeking power and control; it was suggesting, proposing, and advancing ideas, which would be evident to anyone who consulted the original scheme He believed there was a mean between what was called compulsion and what was the ordinary method of co-operation in voluntary work. He believed they were creating in the public mind by their voluntary and municipal work a spirit of co-operation and give-and-take, and good feeling, which would react upon their whole system, and it was to such a feeling he would prefer to trust to bring about that extremely-wanted reform in their medical charities.

The resolution was then put from the chair and carried, only two voting against.

A LOCAL UNIVERSITY FOR LONDON.

By J. Kingston Fowler, M.D., F.R.C.P.,
Physician to the Middlesex Hospital.

I am glad that you recognise that the appearance of the Westminster scheme has reawakened interest in the university question. That it would have that effect I felt confident, and that, far from tending to delay the settlement of the question, it will force on a speedy decision, is tolerably certain.

The Duke of Devonshire, speaking at the dinner of the Royal Society on the wider diffusion of scientific knowledge and the creation of a "teaching" university in London, is reported to have stated: "But strong as my own convictions or the convictions of my colleagues upon these subjects may be, I am not here to hold out to you any sanguine hope that we shall be able to induce Parliament to devote to them the attention which these subjects, in my opinion, richly deserve. Certainly not, unless we can create in the country a widespread public opinion of their importance and their necessity."

The lack of public interest in the matter is in great part due to the use of the word "teaching" instead of "local," as descriptive of the university required. A "teaching" university has been variously defined; but what the public understand by it is "a university which teaches."

Although the framers, both of the Cowper scheme and of the compromise scheme of 1897, have been desirous that the University of London should assume teaching functions and possess a professoriate of its own, the realisation of their wish obviously depends upon the capacity of the University to attract the necessary endowment. To the objector who asks, "Suppose you do not get the funds, what then?" no satisfactory answer can, so far as I see, be given. If the endowment necessary for a professoriate be not forthcoming the University will not be a teaching body, and its teaching will, as hitherto, be given in the colleges. The same criticism, of course, applies to the proposed university of Westminster. Neither university would therefore *necessarily* be a teaching university in the literal sense of the word.

The promoters of the Westminster scheme desire to establish a *local* university for London, and they maintain that the Capital has as great a right to possess such an institution as any other place in the United Kingdom. Until this is made a local question and London, through its representatives, demands a settlement of it, a limited amount of opposition in Parliament will be sufficient to defeat any scheme, no matter what amount of academic support it may secure. The blame for the delay does not, as is constantly stated, rest upon the Government, but upon those who have failed to appreciate the conditions essential to the attainment of the object in view.

For a really comprehensive local scheme I am sanguine enough to believe that it will not be difficult to arouse the widespread public interest of which the Duke of Devonshire spoke, but no scheme framed merely in the interest of an institution, or of any narrow group of educational bodies, will serve the purpose.

The London teachers of medicine have, I think, cause to be grateful to the promoters of the Westminster scheme for providing them with a conclusive reply to the statement frequently made that the real basis of this movement has been the desire to obtain the power to give "cheap" degrees in medicine to their own students. Had our leaders taken the trouble to ascertain the standard which the teachers themselves have fixed for the diplomas of the Royal Colleges, as tested by the ability of Graduates in Medicine from every university in the United Kingdom to pass the Final Examination of the Conjoint Board, our position in relation to this question in the past would have been very different.

I shall be glad if you will allow me, by giving the facts a place in your columns, to bring them to the notice of the profession at large.

It is perhaps scarcely necessary to state that at that examination the candidates are unknown to their examiners, nor are they aware at what medical school the candidate has been educated, nor whether he is a London or a provincial student, or a graduate of a university.

Analysis of the Results of Examination of University Graduates in Medicine. April, 1887, to December, 1896.

University.	Graduates, before or about the Date of Entry for the Final Conjoint Examination.		University Students who Graduated after Entrance for Conjoint Examination.		Percentage of Failures of Graduates from each University.	Average percentage of failures— University graduates	General average of failures— All candidates (new and previously rejected).
	Failed.	Passed.	Failed.	Passed.			
A	1	12	3	3	21.0		
B	12	24	56	74	38.6		Total 6,898
C	22	18	6	6	53.6		
D	3	16	10	27	23.2		
E	5	14	8	5	40.5		
F	85	43	5	3	66.1		
G	2	3	—	—	40.0		
H	14	7	—	—	66.6		
I	2	—	—	—	100.0		
Totals ...	146	147	88	118	—	47.2	36 0
Foreign and colonial graduates	38	39					

Total number of university graduates examined: 576 (Passed 304, Failed 272)

It is true that examination can never be more than a partial test of education, but judged by this standard it will be seen from the above table that *the percentage of failures of university graduates in medicine is considerably higher than the general average of failures of all candidates.*

From the letter of Professor Silvanus Thompson in the *Times* of November 25th, and from other sources of information, it has become apparent that at the present time the test applied to any scheme for settling this question is not, Is this a good, or the best scheme, for providing London with a real university? but, How will this proposal, if carried out, affect the existing University of London? If the question is to be decided from this standpoint, it is clearly possible that the interests of higher education in London may be sacrificed to the supposed interests of that institution; and in my opinion, which must be taken for what it is worth, these interests, and especially those of the medical schools, will be seriously imperilled if the compromise scheme of 1897 is carried into effect in its present form.

Professor Thompson is of opinion that if a successful local university be established in London, the present University will have received its death blow, and others appear to share

his view. I have, on the other hand, expressed a belief that the effect of a great increase in the number of university students in London—a result which would almost certainly follow upon the establishment of a local university—would, in all probability, augment rather than diminish the number of candidates for the degrees of the London University.

Professor Thompson is forcible in statement and confident in his opinions, but he makes no appeal to facts. Facts bearing on this question are, however, at hand, and I will give them, and leave your readers to judge to which of these two conclusions they point.

In 1880 the Victoria University received its first charter, the constituent college of the University being then Owens College, Manchester; subsequently (1884) University College, Liverpool, and the Yorkshire College, Leeds, were incorporated in the University.

Except as regards the situation of its offices, the London University has no more direct connection with the educational institutions of London than it has with the constituent colleges of Victoria University; and if Professor Thompson's view is correct, *those colleges ought long since to have ceased to send candidates to the London University.* No one will, I think, venture to say that the Victoria University is not a success, or that its degrees in all the faculties have not a high reputation. Moreover, the number of graduates of that University shows a steady increase year by year.

The following return, which has been compiled from official sources of information, shows the number of graduates of the London University (it is impossible to ascertain the number of candidates) in Science (B.Sc. only) and Medicine (M.B. only) educated at the constituent colleges of the Victoria University.

In the case of graduates in Science from Owens College I have taken the ten years preceding the incorporation of the University and the last ten years.

The first graduate in Medicine from Owens College does not appear until 1878. I have taken ten years from that date and the last ten years.

London University Graduates from Owens College.

	B.Sc.		M.B.
1870 to 1879	28	1878 to 1887	29
1888 to 1897	33	1888 to 1897	52

The first graduate in Science from University College, Liverpool, appears in 1883, and in Medicine in 1887.

London University Graduates from University College, Liverpool.

	B.Sc.		M.B.
1883 to 1889 (7 years) ...	8	1887 to 1891 (5 years) ...	8
1891 to 1897 (7 years) ...	10	1893 to 1897 (5 years) ...	9

From the Yorkshire College, Leeds, the first graduate in Science and in Medicine appears in 1876.

London University Graduates from Yorkshire College, Leeds.

	B.Sc.	M.B.
1876 to 1886 (11 years)... ...	4	5
1887 to 1897 ,, ...	27	19

Taking all the Colleges together the number of graduates proceeding to London during periods of five years for the last twenty years is as follows:

	B.Sc.	M.B.	Totals.
1878 to 1882	13	12	25
1883 to 1887	29	23	52
1888 to 1892	35	45	80
1893 to 1897	36	42	78

It may, I suppose, be taken for granted that London students will be more likely to go to a university situated at their doors than students educated in colleges at a distance.

These figures do not appear to me to show that the Victoria University, at any rate, is dealing "death blows" at the London University.

I enclose the return for your inspection, and if you find that the results I have given are in any way misleading I hope you will correct me.

From an analysis of the returns forwarded by University College, Liverpool, and the Yorkshire College, Leeds, to the Education Department,[1] I find that of their graduates in science and medicine from 1869 to 1896, 65.7 per cent. proceeded to the local University, and 34.3 per cent. to the London University, a distribution of favour which may be considered as eminently fair. The returns from Owens College are not given in a form which permits of analysis.

So long as the London University maintains the high standard for its *pass* degrees, and the Senate of the University continues to be constituted as at present, its position is impregnable, and I believe that any addition to the number of local universities in this country will only increase the number of candidates for its degrees. If, however, it seeks to alter its Imperial character, and ventures on the dangerous policy of reconstruction, it is difficult to forecast its future. One thing it can never, I believe, become, and that is, a great local University for London.

In the Cowper scheme there is one important omission which must go far to prevent this, as it contains no provision for the development of the corporate life of the undergraduates. A university which includes London, and extends to thirty miles round and embraces the whole British Empire, and which annually matriculates hundreds of school boys who never intend to proceed to a degree, can receive no recognition in the sphere of student life.

This argument, of course, will not appeal to all, but those who know how essential an element in a great university is its student life will not fail to perceive the importance of it. There may be great universities in which this feature is unrepresented, but I do not know of one.

We are constantly told that the history of the London University movement shows that there is such an incapacity for joint action among the educational bodies in London as to render the interference of an external authority absolutely essential. I confess I can see no grounds for this view; the scheme of the Royal Colleges was framed entirely in the interests of the Faculty of Medicine, without reference to those of other Faculties. The Albert or Gresham scheme failed to secure cordial support because it was believed to unduly favour King's and University Colleges, by whom it was originally promoted, and no other scheme except that of the Cowper Commission was ever, so far as I am aware, seriously before the teaching bodies.

Nothing which has yet taken place affords the least proof that a scheme for a *local* university framed without bias in favour of any particular faculty or institution, in which the internal organisation of each Faculty is determined by its own constituents, and in which the difficult question of the relative importance of faculties is avoided, would fail to secure the support of all the educational bodies interested.

The promoters of the Westminster scheme recognise that many who approve it on its merits feel bound, either by previous engagements or by considerations of policy, to continue their support of the London University Commission Bill, if it is really to appear again in Parliament this year. Should the Bill be reintroduced, the organisation which they have created will not be in any way used to oppose it; if, however, another session should pass without a settlement being arrived at, the promoters will urge the General Committee to adopt a much more decided course of action.

The recent utterances of Mr. Chamberlain at Glasgow and of Sir Rowland Blennerhassett at Cork, are sufficient to show that the movement in favour of establishing local universities, of which the Westminster scheme is an expression, is gaining strength.

[1] Reports from University Colleges participating in the Parliamentary Grant.

UNIVERSITY OF LONDON.

A CONFERENCE was held in the Senate Room of the University on Tuesday last between the Senate and the representatives of about twenty educational bodies named in the report of the Cowper Commission. Lord HERSCHELL, the Chancellor, occupied the chair. He first addressed the meeting, and said that it was understood that early in the coming session of Parliament the Government would introduce a Bill similar to that of last year. Under these circumstances, knowing that there was considerable difference of opinion as to the scheme which should be finally adopted, and seeing that no one could expect to obtain all that he desired, he would suggest that they should all be ready to accept a compromise. The whole question was now in the hands of the Government, and would shortly be under the consideration of Parliament. If the Bill was not passed soon after its introduction, there might be long delay, and probably a worse Bill in the end. He had

reason to believe that the Lord President of the Council would be willing to receive a deputation shortly before next session began. The Senate hoped to take part in such a deputation, and would be pleased to be joined by representatives of other bodies who might be willing to support the new scheme.

Dr. T. B. Crosby (Corporation of London) proposed that as the meeting approved the statement made by the Chancellor, it was prepared to give its cordial support in furtherance of his proposals. He added that the Corporation would join in a deputation to the Lord-President.

Sir Samuel Wilks, President of the Royal College of Physicians, seconded, and Sir William Mac Cormac, President of the Royal College of Surgeons, supported the proposition.

Dr. Silvanus Thompson (Convocation of the University of London) said that Convocation had emphatically expressed its view in favour of the former scheme of reconstruction, many points of which were embodied in the Bill of last session. On the whole, he was confident that Convocation would be prepared to support the new Bill, looking upon the modifications that had been introduced not as the best possible, but as the best that could be obtained.

Mr. Haldane (University College) expressed approval of the new scheme, as did Dr. Frederick Taylor (Guy's Hospital Medical School). Dr. Shore said that the Medical School of St. Bartholomew's Hospital, while not altogether satisfied with the scheme, would be prepared to join the proposed deputation.

Dr. Isambard Owen (St. George's Hospital) stated that the staff of his hospital was of opinion that the Bill would require considerable modifications, and read the resolution given below.

Dr. Wace said that King's College would accept the scheme subject to certain amendments. Mr. W. G. Spencer (Westminster Hospital Medical School), and Dr. W. J. Russell (Bedford College), expressed general approval of the scheme; but Dr. Heber Hart (Convocation), speaking in the absence of Judge Bompas, Q.C., thought the compromise now proposed did not remove all difficulties, and that the establishment of a new Westminster University would best meet the necessities of the case.

The Rev. Dr. Cave feared that the institution of a theological faculty in the new university might be regarded as an open question; but being reassured on this point by the Chancellor, he gave his assent to the proposed scheme.

Mr. E. H. Busk (Chairman of Convocation) said that differences of opinion existed in Convocation. The graduates residing in London were almost unanimously in favour of reconstruction; whilst many other graduates were opposed to it. It was evident, therefore, that the only solution of the difficulty was a compromise. For his part, he hoped the time of warfare had ceased. He also trusted that when once the scheme came into operation, it might be found to work well.

The meeting thereupon ended, no resolution having been put to the vote; but it was understood that a deputation would wait upon the Lord President (the Duke of Devonshire) in February next.

Resolutions of Medical Schools.

We are indebted to the courtesy of the Deans of the several Medical Schools mentioned for copies of the resolutions adopted by the Schools with reference to the London University Commission Bill at meetings held during the last few days:

St. George's Hospital.—At a special meeting of the Medical School Council held on Monday, December 13th, it was unanimously resolved: "The Medical School of St. George's Hospital has taken the London University Commission Bill of 1897 into consideration. The School is of opinion that the provisions of the Bill will need great modification as regards the constitution of the Faculty of Medicine and its Board of Studies if it is to meet the requirements of medical education in London."

Guy's Hospital.—At a meeting of the lecturers and teachers in the Medical School of Guy's Hospital the following resolution was adopted: "That the Medical School of Guy's Hospital earnestly request Her Majesty's Government to reintroduce into Parliament the London University Commission Bill of 1897, and to pass it into law during the ensuing session."

Middlesex Hospital.—"The Committee of the Middlesex Hospital Medical School do not think it advisable to take any further steps in connection with the suggestion made by the School delegates until the amendments have been discussed and time has been given for their consideration."

St. Mary's Hospital.—At a meeting of the School Committee, held on December 8th, it was resolved to send the following letter to His Grace the Duke of Devonshire, K.G., and the Right Hon. A. J. Balfour, signed by the lecturers and teachers in the Medical School of St. Mary's Hospital: "We the undersigned members of the medical and surgical staff of St. Mary's Hospital, and lecturers and demonstrators in its Medical School, beg to approach Her Majesty's Government with the expression of an earnest hope that the Government, in view of the importance of a speedy settlement of the question, will introduce early in the approaching session of Parliament a Bill similar to the London University Commission Bill, 1897, and pass it into law during the same session."

Westminster Hospital.—"(1) That the Government be urged to introduce early in the session a Bill similar to the London University Commission Bill, 1897. (2) That we are of opinion that it is not desirable to take any active steps at the present time in support of the scheme proposed for the founding the University of Westminster."

London School of Medicine for Women.—"That the Executive Council of the London School of Medicine for Women begs the Government to introduce at an early date a Bill similar to the London University Commission Bill, 1897, for the reconstitution of the London University. Further, the Executive Council hopes that upon this occasion the Government will give sufficient time to carry this most important Bill through the House of Commons."

THE ARMY MEDICAL SERVICE AND PUBLIC OPINION.

The latest and most remarkable feature connected with the army medical controversy is the vigorous way in which the cause of the medical officers has been, during the past few months, taken up by influential sections of the press. The fact has evidently at last been publicly grasped, that the decadence of the Army Medical Service in the estimation of the medical profession must rest on some strong and sufficient basis. And so, we find, where we should have perhaps last looked for it, a powerful picture and presentment of the rights and wrongs of that service. In *Baily's Magazine*, a well-known sporting periodical, Mr. Stein, who contributes the said article, not only writes with picturesque clearness, but with a comprehensive grasp of the subject, a critical insight into the past, and a definite prospective for the future. This is refreshing, seeing how often the question has been treated with an ignorant and even grotesque optimism. Mr. Stein begins with a retrospect of the intimate connection between arms and medicine; a conjunction described in the Hindu Vedas; and verified in Roman tablets, whereon the names of the medical officers of legions and cohorts are mentioned. But there are also tablets in existence which prove that the Romans had naval as well as military surgeons.

Coming down to a later epoch, the writer mentions such famous military surgeons in the eighteenth century as Paré in France, Clowes in England, and that famous Scot, Peter Lowe, who, after a distinguished career in the armies of France and Spain, ended his days as founder of the Medical Faculty of Glasgow, in which city he rests under the shadow of the Cathedral.

In the seventeenth century came Woodall and Wiseman, contemporaries of Marlborough; and Sir John Pringle, the medical chief in the campaign in Flanders.

But the greatest of all were in the nineteenth century: Sir James McGrigor, Wellington's "trusted friend and adviser" in the Peninsula; and Baron Larrey, "the constant companion, friend, and favourite" of Napoleon," whom the great captain described in his will as "the most virtuous man I

have ever known." Did these great commanders ever think of banishing their medical chiefs out of sight to the "line of communications?" Assuredly not.

The writer next traces the benumbing effect on our army of the forty years' peace, between Waterloo and the Crimea. On no part of the military organisation had that European truce a more deadening effect than on the medical service. The then regimental medical system, with its whilom popularity and advantages to individual officers, was fatal to broad efficiency, and far too "inelastic and cumbrous" to meet the necessities of modern warfare.

The more modern experience, therefore, ultimately led to unification and organisation of the medical service on a departmental basis; but that organisation has never been carried to its logical and inevitable end—an army medical corps, with officers of army rank, and, if necessary, purely military titles. This Mr. Stein regards as a certain outcome; and, in such certainty, he counsels combatant officers to drop the prejudice of regarding medical officers as "practitioners dressed in uniform," but rather to view their department as "an essential important piece of the country's armour," receiving "as many blows and dints as any other portion of the panoply of war." He addresses a similar warning to certain sections of English society, that anything like social ostracism must be put aside, and the medical viewed as truly an integral part of the army.

Finally, in reviewing the essential part played in the game of war by the medical service, its gallantry and devotion, its risk and hazard of life and limb, he says:

"The men who accomplish this are most assuredly soldiers, and are entirely justified in claiming the full status as such." In the "tremendous duties and responsibilities of medical officers," in being "constantly face to face with the great enemy Death," in "the severe calls made upon nerves and judgment," they are entitled to every consideration. "Round every station where British troops maintain the honour of their country's flag, with death and disease seeking an inlet at every postern, what a grim battle has the medical officer to fight!"

And yet, according to some of our latter-day military commanders, these officers are little better than camp followers!

SMALL-POX IN DEWSBURY UNION, 1891-92.

DR. COUPLAND'S REPORT.

DR. COUPLAND'S report to the Royal Commission on Vaccination on the prevalence of small-pox in the several sanitary districts comprising the Dewsbury Union and registration area has been issued. The records refer to 70 weeks—April, 1891, to August, 1892—and take account of 1,029 cases of small-pox. Of these, 1,021 arose in 645 houses, and 544 houses containing 3,000 inmates, of whom 887 had been attacked by small-pox, were visited.

THE EFFICACY OF VACCINATION.

Of 1,029 cases of small-pox 627 were of vaccinated persons, yielding 16 deaths, 2.5 per cent.; 346 were of unvaccinated persons, yielding 89 deaths, 25.7 per cent. Of cases with "alleged" vaccination 8 per cent. proved fatal, and 14.3 of those "under" vaccination during the incubation period. Only one vaccinated infant was attacked, and it did not die; whilst of 21 unvaccinated infantile cases 16 were fatal, or 76.2 per cent. At ages 1 to 5 years there were 16 cases in vaccinated children, none fatal; 58 unvaccinated cases, 22 fatal, 37.9 per cent.; at ages 5 to 10 years, 27 vaccinated cases, 1 death, 3.7 per cent.; 78 unvaccinated cases, 15 fatal, 19.2 per cent.; up to 15 years of age, 119 vaccinated cases, 1 death, 0.8 per cent.; 196 unvaccinated cases, 56 deaths, 28.6 per cent.; the unvaccinated mortality-rate being to the vaccinated-rate as 36 to 1.

NUMBER AND QUALITY OF VACCINATION SCARS.

Of 461 recorded cases in regard of scars, 11 died, or 2.3 per cent; 42 had four or more marks, and 1 died, or 2.3 per cent; 175 had two marks, and 10 died, or 5.7 per cent.; whilst of 210 with three marks and 34 with one mark, none proved fatal. There were 294 known cases having foveated scars, of which 4 proved fatal, or 1.3 per cent.; 32 had faintly foveated scars, none proving fatal and 90 had smooth or plain scars, and 2 proved fatal, or 2.2 per cent. Of 290 recorded cases having a vaccinated area of half a square inch or more, 3 were fatal, or 1 per cent.; of 27 having a quarter to half a square inch of area, 1 was fatal, or 3.7 per cent.; of 17 having less than a quarter of a square inch of area, 1 was fatal, or 5.8 per cent.

INVADED HOUSES.

Of 3,000 inmates in 544 invaded houses, 75.7 per cent. were vaccinated, and furnished 62.4 per cent. of total attacks by small-pox; whilst 17.5 per cent. were unvaccinated, furnishing 33.1 per cent. of total small-pox attacks, whereas at the rate of the vaccinated sufferers they should have produced only 14.4 per cent. of the attacks. Again, whilst of the whole number of inmates 29.5 per cent. were attacked, of the vaccinated class 24 per cent. suffered, as against 55.7 per cent. of the unvaccinated portion. In 175 houses having single cases only, the attack rate in the unvaccinated was 38.7 per cent., as against 9.5 per cent. in all other classes; and in 120 houses having multiple attacks, the incidence of later cases in the unvaccinated members was 62.1 per cent., as against 22 per cent. in all other classes of inmates.

CONCLUSION.

Dr. Coupland sets forth all the above, and many other, points in detail in tabular form, and by the aid of maps, charts, and diagrams. But the facts here given suffice to illustrate the story of the Dewsbury epidemic of small-pox in regard of the efficacy of vaccination in mitigating both attack and fatal result of attack by small-pox.

THE CHAIR OF SURGERY IN GLASGOW AND THE WESTERN INFIRMARY.

WE are glad to be able to announce that the regrettable differences between Professor Macewen and the Western Infirmary are in process of satisfactory settlement. As a result of conferences between subcommittees of the Managers and the Senate of the University, a recommendation made at a meeting on Tuesday, December 14th, to the managers by their subcommittee, that Professor Macewen be permitted to retain all the wards he has hitherto been in charge of, was unanimously agreed to by the Managers.

We do not forget, however, that this is only one of the points of dispute. It happens to be the only one with reference to which the University has any *locus standi*, and in consequence of the Senate's interposition it has assumed the position of greatest consequence. But the other questions referring to the facilities for operation, the efficiency of the nursing staff, and the supremacy of the surgeon's authority within his own wards are of equal significance from the point of view of surgical science and practice. We trust the managers will approach the settlement of these questions without delay and in the same spirit in which they have considered the difference with the Senate.

THE PLAGUE IN BOMBAY.

REPORT OF THE HEALTH OFFICER FOR 1896-97.

THE report of Brigade-Surgeon-Lieutenant-Colonel T. S. Weir, Municipal Health Officer of Bombay, dated September, 1897, is very interesting reading. The information conveyed as regards plague is precise and wonderfully complete.

Phenomena that Preceded the Epidemic of Plague.—Owing to a heavy flood the low-lying portions of Bombay were under water; sewage was thrown up through the manholes; subsoil water welled up where it had never been seen before, and wells overflowed that had never been full before; the grain stored in the godowns was soaked with water and then allowed to rot in dark and damp granaries. Trees died, seeming to rot in the ground in consequence of the sewage that soaked their roots.

Appearance of Plague.—In the beginning of September, 1895, 4 deaths occurred in the Mandvi District, which, as they were accompanied by enlarged cervical glands, accompanied by high fever and followed by death, were ascribed to diphtheria. The first public notification of plague was made by Dr. Viegas in the end of September, 1895. From the first

Dr. Weir regarded the disease as bubonic fever, so that there was no hesitation in the municipal authorities being informed of the trouble.

High Previous Death rate.—At the time of the appearance of plague the death-rate in Bombay was abnormally high. This has been ascribed to unrecorded cases of plague, but Dr. Weir points out that synchronously with the increase in the total mortality in Bombay there was an increase of the mortality in a number of places outside the city, which could not be put down to plague. From the Thana, Surat, Poona, and Kurrachee districts this increase in mortality was reported, where as yet plague was unknown. It is interesting, however, to note that all these places, reported upon as showing a high rate of mortality, were subsequently attacked by plague in an epidemic form.

The Desire to Wander.—One unvarying symptom present in those who were seized by plague in its initial stages, is the desire for flight, or rather for purposeless wandering. The patient may merely go out into the street, or may take train elsewhere; he may hire a carriage and drive whither his fancy directs; but all these are done whilst in a state of semiconsciousness, the patient not knowing why he started or able to assign reason for selecting his destination.

The First European Case occurred on November 12th, 1895, in the Fort, South. The patient had been to plague-infected districts engaged in photography. Finding himself ill, he too took to wandering, and directed his steps from Bombay to Poona.

Importations by Sea.—Whilst yet plague was young in Bombay, a steward on board a steamer sailing from Suez to Bombay was landed in the latter place suffering from slight fever, but immediately afterwards characteristic signs and symptoms of bubonic plague developed. The steamer had touched nowhere between Suez and Bombay. In another case, a Mr. A., who had been to England for six months, became feverish after leaving Suez, and the glands in neck and groin became enlarged. On landing in Bombay, the case was found to be plague. These are but types of several similar incidents which have not yet been explained.

Rapidity of Death.—"A coachman in the service of the Government was apparently quite well and at work at 2 o'clock. He afterwards complained of pains in his head and body. He lay down, rapid fever came on, and at 5 o'clock on the same evening he died."

Rat Infection.—The infection of the rat is well authenticated, and it is well nigh established that rats are infected before human beings are stricken. Cats were observed to die in numbers, but, although in many enlarged glands were found, bacteriological examination gave negative results.

Haffkine's Inoculations.—Between January 10th and March 5th, 1897, 2,156 persons were inoculated by Haffkine's method. Amongst these only 4 attacks occurred and no deaths supervened. Taking the average infection and mortality amongst such a number of people as that given above, 14 to 16 deaths would be expected had no protection by inoculation been practised.

Yersin's Serum has not fulfilled expectations. "Dr. Thomson reported 27 cases treated by Dr. Yersin's serum in Parel Hospital. He excluded 4 as not being fair cases by which to judge the treatment. Of the 23 cases, 13 died and 10 recovered."

Recurrence of the Disease.—Second attacks of the disease occurred in 3 known cases. One was that of a woman who had had plague in Hong Hong in June, 1894. This patient was again seized with plague on December 6th, 1896, while residing in Bombay, and ran through a well-marked course of the disease; she ultimately recovered. A second case was that of a native of Bombay, who had a first attack on September 30th, 1896, recovered completely by November 5th, but was laid up by a recurrence on December 2nd, 1896. A third case occurred in February, 1897, and after recovery and two months' enjoyment of good health, the same gland as was previously affected became swollen and tender, and a true recurrence supervened. This man is supposed to have contracted the disease whilst nursing a friend suffering from plague. It would thus seem that a previous infection does not confer immunity.

The Future.—Dr. Weir condemns the policy which authorised lessening of the medical and sanitary staff the moment the epidemic began to show signs of abatement. The sanitary evils of Bombay are of such a nature that it is is only the sweeping evidence of an epidemic that can bring home to the authorities the appalling state of hygienic surroundings in which they live.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

An ordinary meeting of the Council was held on December 9th, Sir William MacCormac, Bart., President, in the chair. The minutes of the previous meeting were read and confirmed.

A report was read from the Board of Examiners in Dental Surgery. It stated that—

Having considered the report of the Dental Education and Examination Committee of the General Medical Council, they find that the "recommendations" therein contained have been for some time in force under the Regulations dated January 1st, 1897, and that for this reason they are such as the Council of the College has already approved.

The Board was of opinion that the abolition of the course of Materia Medica was desirable for the reason that Dental Licentiates, not being medical practitioners, should not prescribe: it was further of opinion that the course adopted by the Council of the College of Surgeons of requiring lectures on the surgery of the mouth and on pathology, and of enlarging the practical side of the curriculum, which are not all included in the recommendations of the General Medical Council, are necessary and valuable additions.

The Board also reported that they had, in pursuance of the authority given by the Council, granted the application dated June 4th last from the Secretary of the Glasgow Dental Hospital, for the recognition by the College of that institution as a Dental Hospital and School, whose certificates are accepted for the examinations for the Licence.

The President stated that in pursuance of the resolution of the Council at the last meeting, he had consulted the President of the Royal College of Physicians on the question of approaching the Secretary of State for War respecting the conditions of service in the Army Medical Department, and that, subject to the approval of the Council, they agreed to send a letter to the Secretary of State, expressing a hope that it might be possible to amalgamate the Army Medical Staff and Medical Staff Corps into an Army Medical Corps, homogeneous and complete, at the same time conferring real army rank, with limited command, upon the medical officers, and, with that rank, the military titles which are alone respected, appreciated, and understood. The Council thanked the British Medical Association for the report from the Parliamentary Bills Committee, but decided not to join the deputation to the Secretary of State for War on the subject of the Army Medical Service.

The following was passed in regard to the three resolutions carried at the late meeting of Fellows and Members:

1. That the mover and seconder of the first resolution be informed that the greatest care was taken by the Council to set forth in the elucidatory statement, adequately and impartially, the question at issue, and that nothing advanced at the Meeting of Fellows and Members appears to the Council to justify the allegation that the statement was "misleading and did not adequately represent the facts."

2. That the mover and seconder of the second resolution be informed that under the existing charters the Council represent the whole and therefore all parts of the Corporation, and that in view of the result of the recent poll of Fellows it would be impracticable for the Council, even if they thought it desirable, to obtain a new charter conferring votes on Members.

3. That the mover and seconder of the third resolution be informed that the Council are not prepared to make a formal pronouncement respecting the connection of Fellows and Members of the College with medical aid associations, but are willing to consider evidence which may be submitted to them respecting the connection of any individual Fellow or Member with an association which canvasses for patients to the injury of private practitioners, and allows well-to-do classes to take advantage of rates of payment arranged to meet the necessities of the poor.

The President reported that he had accepted on behalf of the Council, the portrait of the late Sir T. Spencer Wells, Bart., by Rudolph Lehmann, bequeathed to the College by Sir Spencer Wells.

The Secretary reminded the Council that a meeting of Fellows would be held at the College on Thursday, January 6th, 1898, at 4 o'clock P.M.

The President and Mr. Howes were nominated representatives to attend a conference to be held on December 14th, at 4.15 P.M., in the Senate Room of the University of London in reference to the steps which should be taken in relation to the proposed legislation for the University.

The thanks of the Council were given to Mr. Bryant for his services as the representative of the College on the General Medical Council.

An address from the Examiners in Physiology of the College was referred to the Committee of Management to consider and report upon.

The Committee of Management recommended that the Holt Schools of Science and Art, Birkenhead, be added to the list of recognised places of instruction in Chemistry, Physics, and Practical Chemistry; and that the Charterhouse School, Godalming, be added to the list of recognised places of instruction in Chemistry, Physics, Practical Chemistry, and Elementary Biology.

BATTLE OF THE CLUBS.

SOUTH MANCHESTER.

A MEETING of medical men practising in South Manchester was held on December 13th to consider the question of medical clubs, with special reference to the Cavendish Provident Club for Men, Women, and Children, to which attention was directed in the BRITISH MEDICAL JOURNAL of November 6th, 1897, p. 1365.

The chair was taken by Dr. SABERTON, who said that the formation of these clubs was an interference with the interests of the medical profession, and was uncalled for in view of the medical charities already existing. He added, according to the report in the *Manchester Courier*, from which we quote, that the circulars had been distributed to houses rented at £40 or £50 a year.

The following resolution, proposed by Dr. SINCLAIR, and seconded by Mr. STANMORE BISHOP, was adopted unanimously:

That this meeting of members of the medical profession, practising in South Manchester, is of opinion that the interference of laymen without medical assessors and advisers between patients and doctors must be injurious to the interests of the patients, and is an insult to the medical profession.

THORNE.

THE *Yorkshire Post* of December 13th reports that the attempt by the friendly societies of the district to bring in outside medical practitioners to coerce the local profession (under circumstances recorded in the BRITISH MEDICAL JOURNAL of December 4th, p. 1672) has completely failed. Our contemporary writes: "Two of the largest of the sick clubs of Thorne have decided to accept the revised terms offered them by the doctors. This decision, affecting as it does nearly one half the entire membership of the affiliated clubs, means the virtual collapse of the movement to introduce another medical man into the town. Indeed, the efforts of the delegates of the clubs and friendly societies in this direction were not so successful as anticipated."

It is a matter for congratulation that the clubs have conceded the just claim of the doctors to exclude from medical benefit "such as are not deemed *bonâ fide* working men." This is more important than the increased rate per member; the medical profession has never grudged its services to the really poor, even for inadequate payment, but objection is rightly taken when the well-to-do endeavour to take advantage of institutions only intended for the poor.

LITERARY NOTES.

THE publication of a new monthly periodical, *Archives de Médecine des Enfants*, is announced. It will contain original articles, general reviews of current topics, and analyses of papers published in France and abroad. It will be edited by Dr. J. Comby, Physician to the Hôpital des Enfants Malades in Paris, who will be known to many readers, not only as the editor of *La Médecine Infantile*, a periodical which was published for a few years, and as the author of an excellent handbook of diseases of children, but also personally, owing to the part which he took in the work of the Section of Diseases of Children at the annual meeting of the Association in London. Dr. Comby will have for his collaborators in this new venture MM. Lannelongue, Grancher, Hutinel, Sevestre, Brun, Moizard, and Marfan. The *Archives* will be published by Masson, of Paris (120, Boulevard St. Germain), and the annual subscription within the Postal Union will be 16 francs. The first number is to appear on January 1st, 1898.

The *Phonographic Record* for December has a short article on Shorthand in the Army by Miss Hodgson, Matron of the Hospital for Soldiers' Wives, Aldershot; Sir William Gowers gives some useful hints on the Diagnosis of Hysterical Hemiplegia; and Mr. Norman Porritt narrates a case of Septic Cellulitis of the Neck, causing Fatal Spasm of the Glottis.

TESTIMONIAL TO DR. ARLIDGE.

DR. CHARLES F. MOORE, 10, Upper Merrion Street, Dublin, Honorary Secretary of the Committee which, as Dr. Ogle mentioned in the BRITISH MEDICAL JOURNAL of November 13th, has been formed to present a testimonial to Dr. Arlidge, requests us to publish the following further list of subscriptions:

	£	s.	d.
William E. Bowers, Esq.	5	5	0
Frederick Allen, Esq.	1	1	0
George W. Balfour, M.D.	1	1	0
Miss E Constance Brownfield	2	2	0
Lloyd Roberts, M.D.	2	2	0

The names of Mary Ford, printed in the list published on December 4th, and that of John Strick, published on December 11th, should have been Mrs. Ford and Colonel John Strick, C.B., respectively.

THE PUBLIC SERVICES FROM THE MEDICAL POINT OF VIEW.

THE opening meeting of the session of the Belfast Medical Students' Association was held in the McMordie Hall, Students' Union Buildings, on December 10th. Dr. THOMAS HOUSTON, the out-going President, introduced his successor, Dr. O. E. M'CUTCHEON, who proceeded to deliver his inaugural address upon "My Ideal Hospital." It was listened to with much attention and frequently applauded.

THE PUBLIC SERVICES FROM THE MEDICAL POINT OF VIEW.

Dr. LINDSAY, President of the Ulster Medical Society, then gave an address on this subject. He observed that young medical men who had just obtained their diploma had to select one of the many openings into professional life. They might seek the post of resident medical officer to a hospital or an infirmary—and no course was more likely to lead to success and usefulness in after-life. If this should prove impracticable, they might enter private practice, general or special, by purchase or otherwise; or they might take temporary duty as assistants, or as surgeons to a ship; or, finally, they might enter the public services. The various advantages, difficulties, and drawbacks of these different careers were dwelt upon and explained. The public services—the Navy, the Indian Medical Service, and the Army Medical Service—presented certain considerable advantages. The young medical man entering any of these obtained at once, without the usual struggle and waiting for patients, an agreeable position, fair remuneration, pleasant society, and not too onerous work. Also, he had security of tenure, and the prospect of a moderate pension at the conclusion of his period of service. These were great advantages, but it would be well for intending candidates to consider the other side of the question. The public services offered little prospect to any man of exceptional intellect, energy, or ambition, either of the acquisition of wealth or of doing original scientific work, or of attaining a position comparable to that of the leaders of the profession in ordinary practice. Also, it was a very serious thing for a medical man to be compulsorily retired at the age of 46 or 47, with so moderate a pension as £1 per diem. To begin private practice at this age, and practically start life anew, was very difficult and trying, and rarely led to any considerable degree of success. Of the various services the navy was at present the most popular. It appealed to the nautical instincts of the race; the position of medical me in the navy was satisfactory, and no more agreeable set of men existed in the world than British naval officers. The Indian Medical Service was also, on the whole, popular, the only serious complaint arising out of the depreciation in the value of silver. It was otherwise with the Army Medical Service, which, he much regretted to be obliged to tell them,

was at present intensely unpopular, so much so that discontent was rife in the ranks of the service, and the authorities found it quite impossible to obtain suitable candidates to fill existing vacancies. Dr. Lindsay then read the statistics showing the number of vacancies, number of candidates, and proportion of passes at the army medical examinations during the past two years. It was a most serious matter that the number of candidates should in some cases barely equal the number of vacancies; only about one half of them could secure passes. It was evident that really competent men were standing aloof from these examinations. This constituted a public danger, and one which might lead to disaster in the event of a great war. This extreme unpopularity of the Army Medical Service was the more remarkable as no complaint whatever was made as regards pay or retiring allowances. The grounds of complaint were that medical officers had no definite or recognisable rank in the army, that their position was painful and anomalous, that they were sneered at as "non-combatants," although as a matter of fact they often went into action in the discharge of their duties; they had won Victoria Crosses out of proportion to their numbers, and the mortality among their ranks exceeded that of the combatant officers. No body of educated gentlemen could tamely submit to such treatment. The remedy suggested by those most conversant with the subject was the creation of an army medical corps with substantive rank. The Irish medical schools had long been among the chief feeders of the public services. It behoved them at present to exercise some self-restraint, and to be loyal to their profession. He sincerely trusted that no student of the Belfast Medical School would enter the competition for the Army Medical Service until the necessary reforms had been effected.

Professor Symington having offered some remarks, a vote of thanks was passed to Dr. Lindsay for his address. The Chairman, in putting it to the meeting, heartily endorsed the views which had been set forth.

METROPOLITAN HOSPITAL SUNDAY FUND.

At the annual general meeting of the Metropolitan Hospital Sunday Fund, held on December 13th under the presidency of the Lord Mayor, the resolution as to the abuse of out-patient departments to which we called attention in the Journals of October 30th, 1897, page 1290, and November 6th, 1897, page 1351, was formally approved and adopted as an addition to Law 5 of the constitution.

Mr. F. H. Norman, who moved the resolution, which was in the following terms—

> That where any hospital having an out-patient department has appointed a special and efficient officer for detecting any abuse in that department, it shall be regarded by the committee of distribution as an important factor in determining "merits,"

said that the Committee of Distribution had investigated the allegation that the out-patient department of several of the large hospitals had been grossly abused. The Committee had come to the conclusion that the charge had been greatly exaggerated, although they found reason to believe that in some cases the advantages of the out-patient department had been abused.

On the motion of the Archdeacon of London, June 12th was fixed for Hospital Sunday next year.

ASSOCIATION INTELLIGENCE.

NOTICE OF QUARTERLY MEETINGS OF COUNCIL FOR 1898.

Meetings of the Council will be held on January 19th, April 13th, July 6th, and October 19th, 1898. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting—namely, December 29th, 1897, March 24th, June 16th, and September 29th, 1898.

Election of Members.

Any qualified medical practitioner, not disqualified by any by-law of the Association, who shall be recommended as eligible by any three members, may be elected a member by the Council or by any recognised Branch Council.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

Francis Fowke, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

Metropolitan Counties Branch: West London District.—The meeting arranged for this month has been unavoidably postponed. Due notice will be sent to every member when the date for the meeting is again fixed.—Thomas Dutton, M.D., Honorary Secretary.

LANCASHIRE AND CHESHIRE BRANCH.

A meeting of this Branch was held in the Assembly Room, Conservative Club, Warrington, on December 9th, Dr. Samuel Woodcock, President, in the chair, and over seventy members were present.

The Association and the General Medical Council Election.—The following resolutions, which had been already passed by the Council of the Branch, and which were printed on the notice paper calling the meeting, were now proposed from the Chair and seconded by Dr. Carter:—

> That, in the opinion of the Lancashire and Cheshire Branch, the President of Council of the British Medical Association abused his position in giving his official support to a particular candidate for a seat on the General Medical Council without taking the advice of the Council of the Association.
>
> That this Branch condemns the action of the Reference Committee in allowing the Journal to be used officially and by correspondence in furthering the interests of a particular candidate, without any reference to the Council of the Association.

A discussion followed in which Dr. Tisdall, Mr. Colin Campbell, Dr. Rigby, and Dr. Brassey Brierley took part. After the President had replied, the resolutions were unanimously adopted by the meeting.

The Case of Mr. R. B. Anderson.—Mr. R. B. Anderson, of Tobago, who was specially invited by the Council to state his case before the members of the Branch, addressed the meeting for about forty minutes, and received a very attentive and appreciative hearing.—The President, in introducing Mr. Anderson, said that gentleman had sustained wrongs to which any wrongs sustained by himself or others present could bear no comparison. He had been imprisoned and suffered other grievous injuries for the rightful exercise of his profession; but he would himself be able to state the facts and bearings of the case, and he was sure the meeting would hear them with interest and attention.—Mr. Anderson, in an address, which was heard with evident and deep interest and sympathy, said that he was not a stranger to the Branch, for in 1894 the Council had adopted a very strong resolution that the wrongs done to him involved the honour of the profession, which it was one of the special objects of this great Association to maintain. He related the course of events in Trinidad and Tobago, with the systematic encouragement by the Chief Justice of irresponsible litigation *in formâ pauperis* leading up to the medical case of Marshall and wife against him, which resulted in damages being inflicted on him, and on his being sent to prison to compel payment of them; for the exercise of his undoubted right to retire from a case on being insulted. He made clear the point that this right was vindicated by his verdict for £500 damages in the High Court, but this vindication was again destroyed when the verdict was reversed; that the judgment reversing the verdict besides being wrong was in law unsound, because at the time when Lord Esher took part in upholding the judgment reversing the verdict his lordship was defendant in a similar action, and therefore disqualified from sitting and adjudicating in his (Mr. Anderson's) case, so that his (Mr. Anderson's) appeal in fact had never been validly decided; showed that this vindication of professional rights could only be attained by appeal to the House of Lords to recover the remedy of the verdict of the Middlesex jury, and to the Privy Council to reverse and remove the still subsisting original illegal judgment of the Trinidad courts; and he claimed that in his prolonged defence of his rights he had been maintaining, as far as one

man could, the honour and interest of the profession. He then proceeded to point out that the General Medical Council had expressed its sympathy with him, and the Councils of the Royal College of Surgeons of England and of the British Medical Association had united in the constitution of the Civil Rights Defence Committee, and in declaring that the rights of a Fellow of the College and the honour and interests of the medical profession had been violated by the wrongs done to him. He held that such qualifying and certifying bodies had, in honour and probity, a duty to maintain inviolate the rights which they sold us by granting and guaranteeing to us the right to practise our profession, and that it was a special function of the British Medical Association to maintain the interests and honour of the medical profession; yet, when the Civil Rights Defence Committee, presided over by a nobleman like the Earl of Stamford, whom he was proud to have induced to co-operate in vindicating the rights of the profession, asked these bodies (besides moral support and inviting others to subscribe) to give practical, that is to say, adequate financial help in the work they themselves had deliberately approved and were carrying on, these great bodies retired and broke up the Committee—leaving its members, who had been their agents, to defray debts incurred in doing their work; so that Bishop Mitchinson and some other members of the Committee had had to pay £15 to £20 each, and Lord Stamford nearly £100 for work done as, and with, the representatives of those great bodies. He ventured to submit that such a course of abandoning work they had undertaken and from stage to stage approved, and repudiating expenditure incurred by their agents, was unworthy of great and wealthy corporations, one of whose special functions was to defend and maintain these rights. In trying to induce these great bodies to follow this honourable course, and to apply their funds to that great purpose, he hoped to have the sympathy and practical help of the Lancashire and Cheshire Branch.—The PRESIDENT said the means required to bring the matter to a satisfactory result would, he feared, be more than the Branch alone could furnish, and he thought it would be well that, with respect to the Branch funds, they should be sure of such co-operation that the result should be attained.—Mr. COLIN CAMPBELL (Saddleworth) said he had taken much interest in this case, and fully agreed that the wrongs done to Mr. Anderson affected the honour and interests of the medical profession. He felt that the course taken by the Council of our Association had not been consistent with its dignity or honour, nor a fulfilment of its obligations to the Association and its members. Without notice no motion could be adopted binding the Branch, but he thought that the meeting might adopt such a resolution as he had drawn up, which would express their own view of the matter, and which would no doubt receive attention. He begged to move:

That this meeting of the Lancashire and Cheshire Branch, having heard Dr. Anderson's statements, expresses its entire sympathy with him in the grievous wrongs which he has suffered, and hopes that the representatives of this Branch on the Council of the Association will use the strongest efforts to induce that body to take action to defend the rights of the medical profession as affected by Dr. Anderson's case.

Dr. J. HOLMES (Whitefield) said he had pleasure in seconding the motion. Referring to the President's remark, he thought that a bucket could be filled only by the aggregate of drops; and, though the Branch might not itself be able to fill this large one, that should not prevent it from doing what lay in its power to help Mr. Anderson in his defence of rights common to the whole profession, and trusting that other branches of other bodies would unite to make good the necessary amount: whilst to carry on the fight Mr. Anderson stood in need of present practical support.—Dr. RIGBY (Preston) said that before adopting so sweeping a resolution, based on sweeping and startling statements which Mr. Anderson had made without adducing any proof of their correctness, and which impugned the honour of the judicial Bench of this country and the colonies, and of a man of the highest position and integrity like Lord Esher, the meeting ought to be very careful, lest it place itself in a position of ridicule or of very grave responsibility. He should move as an amendment:

That this meeting recommends the Council to appoin a Committee to inquire into and report upon the case

The PRESIDENT pointed out that the resolution was far from being a sweeping one; he thought that if Dr. Rigby would consider it, he would find it a most moderate resolution, and it was quite in order.—Dr. RAYNER (Stockport) said he thought Mr. Anderson's statements had all been thoroughly investigated and found good on the best authority.—The amendment not being seconded, the resolution was put to the vote and carried with one dissentient.—Mr. ANDERSON thanked the meeting for his very kind and cordial reception, and for the strong moral support of the resolution.

Hospital Reform.—The SECRETARY read a letter which he had received from Dr. Garrett Horder on the question of hospital abuse, and he urged the members of the Branch to join the Hospital Reform Association, of which Dr. Ward Cousins was President, and Dr. Horder, Secretary.

Report of the Constitution Committee of the Central Council.—The SECRETARY brought forward this report, and also the report which had been adopted by the Lancashire and Cheshire Branch at the Southport meeting in June, 1896. After some discussion the SECRETARY moved, and the PRESIDENT seconded,

That this Branch again adopt its own report, now subjoined.

This resolution was carried unanimously.

To the Members of the Lancashire and Cheshire Branch of the British Medical Association.

REPORT ON THE CONSTITUTION AND GOVERNMENT OF THE BRITISH MEDICAL ASSOCIATION.

A Committee was appointed at Manchester on April 10th, 1896, in accordance with the following resolutions of the Branch:

(*a*) That this meeting is not satisfied with the present system of government of the British Medical Association.

(*b*) That, in accordance with precedent, the Council of the Association or a Committee of Council selected from members of the Council shall be elected annually at the general meeting.

That the payment of the travelling expenses to the members constituting the Committee of Council be defrayed from the funds of the Association.

(*c*) That the following members be constituted a Committee of the Lancashire and Cheshire Branch, with power to add to their number:—The President, the Secretary, Mr. Colin Campbell, Dr. Rentoul, Dr. Ritchie, Mr. Walter Whitehead, and Dr. Woodcock:—

To formulate, on the lines indicated, a scheme for presentation at the next meeting of the Branch, and that this Branch Committee be empowered to communicate with other Branches of the Association.

REPORT.

Your Committee beg to report that they have met on three occasions, and have had the whole subject of the past and present constitution of the British Medical Association under their consideration, and now recommend the adoption of the following suggestions, and also that such be submitted to the Association during its next annual meeting for consideration and adoption.

Suggested Alterations in the Articles and By-laws of the Association.

1. Every member of the Association residing within the area of a Branch shall be attached to that Branch.

2. In future all persons proposed for membership shall be elected by the Council of the Branch within the area of which the candidate resides, and by a majority of the Council then present. The names and addresses of all candidates for election shall be published in the BRITISH MEDICAL JOURNAL at least six clear days before the date of election by a Branch Council.

3. The subscription to the Association of each member residing in the United Kingdom shall be 23s. 6d. per annum, which shall be allocated as follows: 21s. to the parent Association; and 2s. 6d. to the Branch within the area of which the member resides.

4. That the Association shall undertake the business of medical defence, for which an additional subscription shall be paid.

5. To annual subscribers the BRITISH MEDICAL JOURNAL shall be supplied at 25s. per annum paid in advance, but such subscription shall not entitle the subscriber to any of the privileges of membership of the Association.

6. The British Medical Association shall be managed by an Executive Committee, which shall be appointed each year by the Central Council. The Central Council shall be nominated and elected each year, and it shall consist of Branch representatives, along with the President, President-elect, and Treasurer of the Association.

7. Each Branch, as at present constituted with the addition of the members at present unattached, shall be entitled to one representative on the Central Council, and to a second representative when there are 400 members resident within the area of such Branch, and to an additional representative for every complete additional 200 members. Provided that after the first election of Branch representatives no Branch shall increase its number of representatives, except in the proportion of one representative to every 300 members. Provided also that no new Branch shall be formed within the United Kingdom with less than 200 members. Provided further that the members of the Association in the Royal Navy, in the Army Medical Staff, and in the Indian Medical Service, who have no fixed residence within the area of a recognised Branch, may form themselves respectively into three Branches, one for each service. In case the members of one or more of these respective public bodies do not form one or more Branches, then the duties of such body or bodies as fail to do so shall devolve upon the Central Council and the sum of 2s. 6d. per member shall be a contribution towards the expenses of the Central Council.

8. The Central Council shall be elected by means of voting papers sent

through the post to every Branch member by the Branch Secretary, and such voting papers must be returned by the voters to the Branch Secretary at least ten clear days before the date of annual election.

9. Any 12 members of a Branch shall be empowered to nominate as a candidate any person who is a member of such Branch, and who resides, or has previously resided for at least two years, within the area of such Branch, as a representative on the Central Council, provided the nomination form, duly signed, be sent in to the secretary of such Branch on or before May 1st. Each member may sign as many nomination forms as there are vacancies, and each member shall have one vote only. The Council of a Branch shall also be empowered to nominate any number of persons as candidates not exceeding the number of vacancies. Any Colonial Branch having 200 or more members may nominate and elect a member of the Association, resident in the United Kingdom, as its representative on the Central Council, and an additional representative for every complete additional 200 members.

10. *Notice of Coming Election.*—Notice of every coming election shall be given by the General Secretary in the first March issue of the JOURNAL; or in case of a casual vacancy, as soon after as possible. In the same issue of the JOURNAL the editor shall prepare and cause to be inserted in it a leading article calling attention to the approaching election.

11. *Nomination Form and Voting Paper.*—The secretary of each Branch shall prepare and print a nomination form, and shall, on application by any Branch member, supply such. Only such official nomination form and voting paper shall be valid, and these shall be as near as may be to those marked A and B in the Appendix.

12. *Date of Annual Election of Central Council.* Each Branch shall elect its representative or representatives to the Central Council in the month of June.

13. The result of election of representatives on the Central Council shall be published in the BRITISH MEDICAL JOURNAL as soon as the returns are received from the Branch Secretaries, and reported to the annual meeting of the Association.

14. The Central Council shall meet at least once in each half year.

15. The Central Council shall each year appoint, from among its own numbers, an Executive Committee of ten members, together with the President of the Council and the Treasurer of the Association, of whom a quorum shall be not less than seven. The President of this Council and Treasurer shall be elected each year by the Council, and shall be eligible for re-election.

16. Members of the Executive Committee shall be elected by ballot by means of marked lists at a meeting of the Central Council to be held on the second day of the annual meeting of the Association.

17. The Central Council shall relegate to the Executive Committee such of its powers and duties as it shall think fit, but the Executive Committee shall take the place of, and shall carry on the duties of the Journal and Finance Committee as now defined by By-law 31, and shall generally carry out the provisions of the Memorandum, Articles, and By-laws of the Association.

18. The Executive Committee shall meet each month, and shall keep minutes of their proceedings, copies of which, and also of the agenda papers of each meeting of the Executive Committee, or of any of its subcommittees, shall be printed and forwarded to each member of the Central Council forthwith.

19. Other committees may be appointed from time to time by the Central Council.

20. When the chair is taken at any meeting of the Executive Committee, the roll shall be called, and any member not present before the minutes of the previous meeting are confirmed, shall be deemed absent. No member, after taking his place, shall leave the meeting without permission from the President. A record of the attendance of each member of the Executive Committee at its meetings shall be kept and published annually in the JOURNAL.

21. *Fees for Attendance and Travelling Expenses.*—There shall be paid out of the funds of the Association to each member who has attended a meeting of the Executive Committee the following fees and travelling expenses; (*a*) Five guineas for each complete day of attendance, provided that if any meeting extend beyond one day, only 2 guineas a day shall be paid for each subsequent day. (*b*) Each member who resides more than 100 miles from the place in which the Committee meets shall receive 1 guinea for the day of going to, and 1 guinea for the day of returning from, such meeting, provided that no fees shall have been earned by attendance on Committee on such days. (*c*) A member who attends a meeting of the Executive Committee shall be paid first-class return travelling expenses. (*d*) When a member, who does not reside at the place of meeting, has to attend a Committee for more than one day in succession, he shall receive 1 guinea a day for hotel expenses. (*e*) No member of the Executive Committee shall receive expenses incurred in travelling outside the United Kingdom (*f*) Provided that when the Representative of a Colonial Branch resides outside the United Kingdom, the members of such Branch may combine to defray the travelling expenses of their Representative. (*g*) The members of the Central Council, resident in the United Kingdom, shall be paid first-class return travelling expenses when attending any meeting of Council or Committee of Council.

22. Any existing Articles and By-laws of the Association, or of any Branch of the Association, which are antagonistic to any of these By-laws, are now hereby repealed, and these new By-laws shall come into operation immediately after being adopted by the Association.

23. *Expenses of Election.*—The expenses incurred in printing and sending out notices, notices, nomination form, and voting paper, and the counting of votes, shall be defrayed out of the funds of each Branch.

W. MITCHELL BANKS, President.
COLIN CAMPBELL, WALTER WHITEHEAD.
(Signed) A. BROWN RITCHIE, SAMUEL WOODCOCK.
JAMES BARR, Honorary Secretary.

Venereal Disease.—The SECRETARY brought forward the resolution which had been passed by the Worcestershire and Herefordshire Branch respecting the spread of syphilis among the British troops in India.—After some strong opposition by Dr. CARTER the subject was allowed to drop.

The Midwifery Nurses Bill.—Dr. BRASSEY BRIERLEY and the SECRETARY drew attention to the inaction of the Parliamentary Bills Committee in dealing with the Midwifery Nurses Bill. They pointed out that the best Bill on this subject had been framed by this Branch at much expense and trouble, and now through the lethargy of the Parliamentary Bills Committee and the Central Council this Bill was being practically shelved, and it was highly probable that the very objectionable Bill of the Midwives' Association would be carried in Parliament. The Lancashire and Cheshire Branch Bill safeguarded the interests of the public and of the medical profession and was well worthy of the support of the British Medical Association.—On the motion of Dr. RAYNER, seconded by the SECRETARY, the following resolution was unanimously adopted:—

That this meeting of the Lancashire and Cheshire Branch of the British Medical Association urges its representatives on the Parliamentary Bills Committee of the Association to impress upon the Committee the necessity of preparing without delay and presenting to Parliament a suitable Midwifery Nurses Bill.

That all the Branches of the British Medical Association be invited to co-operate actively in furthering such action of the Parliamentary Bills Committee.

That this meeting is of opinion that the Bill of the Lancashire and Cheshire Branch is a suitable Bill, but is willing to sanction any necessary modifications that may be introduced by the Parliamentary Bills Committee on behalf of the Association.

Medical and Surgical Communications.—The following communications were read and discussed:—Mr. ROBERT JONES: Some points in Connection with the Deformity of Adduction in Hip Disease. He also exhibited photographs of the Immediate Reduction of Deformity in Pott's Disease.—Mr. COLIN CAMPBELL described a case illustrating (1) the Influence of Skin Condition on Surgical Procedure; and (2) the Treatment of Eczema by Counter-irritation.—Mr. RUSHTON PARKER: Cases of Appendicitis treated by Operation.—Dr. WILLIAM ARMSTRONG: The Symptoms and Treatment of Gastric Dilatation.—Mr. DAMER HARRISSON: Two cases of Excision of the Gasserian Ganglion for Epileptiform Neuralgia.

Luncheon.—Those attending the meeting were entertained at a sumptuous luncheon by the members resident in Warrington and the neighbourhood.

Dinner.—Thirty-five members and guests dined together in the evening, under the presidency of Dr. WOODCOCK. The *cuisine* was excellent, the wine good, and the harmony and brotherly feeling such as always prevail in Lancashire. After a most enjoyable day of hard intellectual work the members departed highly pleased with their Warrington *confrères*, and with their genial President, Dr. Woodcock.

EAST ANGLIAN BRANCH.

A SPECIAL meeting of the members of the East Anglian Branch called under By-law 16 by the President and Secretaries of the Branch, was held at the Norfolk and Norwich Hospital on Tuesday, December 7th, at 2.45 P.M. In the absence of the President (Mrs. Garrett Anderson), who was travelling abroad, the chair was taken by Sir PETER EADE. The minutes of the last meeting were read and confirmed.

Report of the Constitution Committee of the Central Council.—The report of the Constitution Committee submitted to the Branches for consideration was read and discussed. It was proposed by Dr. BARNES, seconded by Mr. WHITAKER, and unanimously resolved:

That all members of the British Medical Association be *ipso facto* members of the Branch in the area of which they reside, and that the subscription to the Association be £1 3s. 6d., of which 2s. 6d. shall be for Branch expenses.

It was proposed by Dr. BARNES, and seconded by Dr. THOMSON, and unanimously resolved:

"That the clause requiring that the names and addresses of all candidates for election should be sent to each member of the Branch be omitted," it being considered that it is sufficient to send the names and addresses to each member of the Branch Council,

With these modifications the report was approved; and the meeting desired that in the event of the modifications not being adopted by the Council, it be an instruction to the

Branch representatives on the Council to vote for the report as presented by the Constitution Committee.

The Association and the General Medical Council Election.—A discussion on the course adopted by the JOURNAL of the Association during the recent election of a direct representative on the General Medical Council was opened by Dr. BEVERLEY, and after discussion the following resolutions were unanimously adopted:

1. Proposed by Dr. BEVERLEY, seconded by Dr. BANSALL:

That in the opinion of the members of the East Anglian Branch the action taken by the JOURNAL in giving its support to one particular candidate in the recent election to the General Medical Council should not have been allowed by the Reference Committee, and is prejudicial to the best interests of the Association.

2. Proposed by Dr. EDGAR BARNES and seconded by Dr. OWENS:

They are further of opinion that the President of Council should not in his official capacity have advocated the claims of one member of the Association to the prejudice of another, and that his letters to the Secretaries of Branches, asking them also to give official assistance to the candidate he had adopted were injudicious and unconstitutional.

3. Proposed by Dr. BALLANCE and seconded by Dr. THOMSON:

That copies of these resolutions be forwarded to the Council of the British Medical Association and to the representatives of the East Anglian Branch on that Council.

The meeting closed with a vote of thanks to Sir Peter Eade for presiding.

SOUTHERN BRANCH: SOUTH WILTS DISTRICT.

A MEETING of this District was held at Salisbury on December 8th, Mr. PENRUDDOCKE, Vice-President, in the chair.

New Member.—Mr. J. F. Gillet, M.B., B.C., was elected a member.

Proposed Alteration of By-laws.—Mr. H. J. MANNING proposed two alterations in the by-laws of the District.

Communications.—Mr. WILLIAM GORDON read notes of three cases from the wards of the infirmary in which Mr. Harcourt Coates had operated: (*a*) Anthrax (patient shown); (*b*) Castration for Enlarged Prostate. The operation was followed by great improvement, which had been fully maintained. In the discussion which followed Mr. Manning exhibited the bladder and prostate of a patient who died two weeks ago, on whom Mr. Coates performed unilateral castration two years ago, the result being entire cessation of all the bladder trouble. (*c*) Hysterectomy for Large Fibroid.—Mr. HOGARTH read a paper on Nine cases of Actinomycosis.—Mr. PROCTER read notes of a case of Acute Peritonitis from Ulcerating Appendix, and showed the specimen.—Mr. HARRIS read a paper on the Prophylaxis of Adenoids.

SOUTH-EASTERN BRANCH: EAST KENT DISTRICT.

THE 145th meeting of this District was held at the Kent and Canterbury Hospital on November 25th; Mr. C. H. SCHÖN, of Bridge, in the chair. Sixteen members were present.

Chairman of the Meeting in March, 1898.—It was resolved that Dr. Terry, of Woodchurch, should act as Chairman at the next meeting of the Society at Ashford.

Medical Officers to Medical Aid Societies.—The CHAIRMAN proposed and Dr. FITZGERALD seconded a resolution:

That no medical officer to any medical aid association should be henceforth eligible for election to the South-Eastern Branch.

The resolution was carried *nem. con.*

A Study of Reflexes.—Dr. J. H. EWART (Folkestone) read a paper on the rapidity of the normal ankle clonus, superficial and deep reflexes, with observations on variations of the latter under the influence of various cerebro-spinal affections. A description was given, illustrated by diagrams, of the recording apparatus, and tracings were shown. A method was explained by which photographs were obtained from the smoked cylinder tracings, using them as negatives and printing from them by means of an acetylene gas flame. He had timed the contractions of normal clonus to occur at the rate of 5.3 to 7.5 per second—results similar to those of Sir William Gowers, and bearing out the theory that "the rapidity of ankle clonus is in inverse ratio to the height of the individual." Tracings were shown of the abdominal and cremasteric reflexes, also a table giving the rapidity of the normal knee-jerks. The average rate was shown to be 0.06 second on the right and 0.05 second on the left side. Gowers found about 0.10 second, and other observers about 0.05 second to be the normal rate. A table and tracings were shown comparing the rapidity of the normal knee-jerk with that under various morbid states of the nervous centres. Dr. Ewart drew the following conclusions: That the greater the length the impulse has to travel, the longer the time before the resulting contraction. Disease exerts an influence over the time occupied in the reflex act; there is a definite relation between the rapidity of the reflex and the part affected. He concluded by asking whether the timing of reflexes might not be made an aid to diagnosis.

Continuous Current Water Bed.—Dr. T. WHITEHEAD REID (Canterbury) described an auxiliary in the reduction of pyrexia in continued fever which he styled "the continuous current water bed." It consisted of a water bed through which a current of cold water could be kept continually running, while the patient's bared back was resting on a sheet only above the bed.

Cases.—Dr. GOGARTY (Canterbury) exhibited, with clinical observations, the following cases from the hospital wards: (1) Exophthalmic Goître, (2) Abdominal Aneurysm, (3) Exostosis of First Rib occluding the Subclavian Artery. This case was illustrated by Dr. FREND (house-surgeon) by means of a radiograph. Dr. Frend also showed radiographs of Fractures and Foreign Bodies in the Hand.

SPECIAL CORRESPONDENCE.

PARIS.

The Paris Medical Faculty.—Dissecting-room Porters and their Pay.—Criminal Lunatics.—Psittacosis.—General News.

AT the Academical Council which has recently met, Dr. Brouardel, Dean of the Paris Medical Faculty, made a statement as to the position of the Faculty. From 1896 to 1897 the number of students has fallen from 5,175 to 5,015; 855 foreign students were inscribed, among whom 137 were female students; 44 of these will this session pass the examination of the M.D. degree; 8,971 students have passed examinations, 1,404 have been rejected; 56 theses have been rewarded. At the Faculty library there have been 142,300 readers; 198,000 volumes have been lent. In winter there are generally 1,000 readers a-day. Dr. Brouardel stated that it is necessary that a substantial sum be placed at the disposal of the Faculty for the benefit of the medical library. He also dwelt on the necessity of providing the means for bacteriological research among the students.

The subordinate staff of the Paris Medical Faculty have sent to the Deputies and Senators a petition signed by sixty-four medical men. The petition asks for an increase of salary. M. Porrier, *Agrégé* Professor of Anatomy at the Paris Medical Faculty, puts the following words before his signature: "I declare that the occupation of *garçon de pavillon* is one of the most dangerous and repugnant. Eleven of these assistants are employed at the Faculty dissection pavilions. During five years six of them have died; they were from 30 to 41 years of age. Two shillings and ninepence a-day is insufficient pay."

Dr. Gibert, a distinguished National Correspondent of the Paris Academy of Medicine, writes from Havre to the *Temps* a long and interesting letter in connection with the "shepherd killer, whose crimes are ascertained to be eighteen, and the investigation is not yet finished." Dr. Gibert affirms that there is a considerable number of dangerous criminal lunatics at large who ought to be kept under restraint. French law as well as the customs of the country prevent this; it is only after a series of crimes that the coercive measures so necessary are put in force. Dr. Gibert, in a previous article published in the *Revue Philanthropique*, brought forward proof to support his assertion that a considerable number of children have criminal tendencies from their infancy. He cited the following cases. A young man whom Dr. Gibert had under observation from his childhood had meningitis at 9 years of age. Subsequently a series of morbid phenomena indicating serious cerebral degeneration

developed; he had terrible fits of anger followed by serious naughtiness (frightening his brothers and sisters, threatening to kill them) utterly without reason. He ran away from home; when discovered several months afterwards he was ignorant of what had taken place. Towards the age of 15 years his eccentricities became changed in character: he began to thieve, picking up the articles which pleased him—coloured cravats, jewellery, together with ends of bottles and horse dung, carefully arranging his collection of treasures and curics, including the horse dung. Dr. Gibert was on one occasion able to have this insane criminal removed from prison and placed in an asylum. But a few days after his admission the attack had disappeared, and the *chef de service* liberated him. The thefts were repeated, and he fell again into the hands of the police. The examining doctor, notwithstanding all the facts which Dr. Gibert laid before him, pronounced the young man to be responsible for his acts, and he was accordingly sentenced to fifteen months' imprisonment. After his release he again fell into the hands of the police for theft. This time Dr. Gibert succeeded in convincing the judge and the examining doctor, both remarkably intelligent men, of the irresponsibility of the prisoner. He was sent to a lunatic asylum, but the *chef de service* can at any time, without overstepping his legitimate authority, discharge this patient, who would doubtless again begin to steal. At the Havre dispensary Dr. Gibert has, during twenty years, received and examined four thousand children. He has observed children with the skull considerably modified, and with anomalies of circulation. These children were quite abnormal; many found pleasure only in torturing animals, and the sight of blood was a source of pleasure to them. Dr. Gibert has at present under his observation a girl aged 10. Since the age of 4 she has stolen everything bright that she comes across. No treatment, severe or otherwise, convinced her she was wrong in so doing. Dr. Gibert considers that she will always be a thief, but not responsible. If at some future time she is imprisoned a serious mistake will be committed, and if she is put in an asylum, according to the present system she will be liberated. Dr. Gibert criticises the terribly careless way in which the French press gathers and publishes facts concerning accusations without checking them This eminent authority wishes to see the following reforms effected: Persons recognised as insane ought not to be liberated on the authority of the *chef de service*, but only after a consultation held by several medical men, among whom should always be the family doctor. The French press should never speak of illegal detention without having at least a hundred facts proving its illegality to weigh against one on the other side. Special asylums should be established where those who are manifestly abnormal, but are neither insane nor yet irresponsible, can be treated and looked after from their infancy.

Seventy cases of psittacosis (pneumonia transmitted by parrots) were proved to have occurred in Paris and its environs from 1892 to October, 1897. Every year this affection has levied its tribute. The mortality was 34.28 per cent. Some who have studied this question are of opinion that the epidemic character of the affection has changed to that of endemic. Others affirm that the epidemics of psittacosis depend on the markets, whether the parrots are healthy or not, and according to the localities where they are distributed after purchase.

Professor Mathias Duval has presented to the Academy of Sciences an album containing a reproduction of the anatomical plates of Leonardo da Vinci in the Windsor Gallery. M. Duval draws attention to the precision and scientific value of these plates.

M. Magitot has bequeathed to the Academy of Medicine an annuity of £20 to found a Magitot prize for the best work on stomatology, which is to be given every two years. Also, his personal library.

Dr. Dupierris has bequeathed £1,600 to the Academy of Medicine to be used to found a prize for the best work on anæsthetics and the urinary organs. The prize is to be called the Campbell-Dupierris Prize, and is to be awarded every two years.

Mr. E. A. Hambro has accepted the Chairmanship of the Royal National Pension Fund for Nurses in succession to the late Mr. W. H. Burns.

BRISTOL.

The Recent Typhoid Epidemic: Recognition of the Services of Dr. Davies and Dr. Heaven.

At the last meeting of the Bristol Medico-Chirurgical Society, Dr. E. Long Fox read and presented illuminated copies of the following letter signed by 172 members of the medical profession addressed to Dr. Davies, Medical Officer of Health for the city and port of Bristol, and Dr. Heaven, Assistant Medical Officer of Health, Bristol Port: "Dear Sir,—The medical profession of Bristol and Clifton are anxious to express to you their sense of the services you have rendered in the late epidemic of typhoid fever. The acumen shown in tracing the source of the epidemic, the precautions taken for limiting the mischief, the constant assistance given to the profession at large, and the masterly report on the whole matter, have laid the public and the medical profession under deep obligation to you, and prove beyond all question that Bristol is fortunate in commanding the services of officers of health who are keenly alive to the necessity for constant vigilance, and who will not spare themselves in carrying out with the greatest energy and tact whatever measures may be necessary for the public benefit."

CORRESPONDENCE.

CONSULTATION WITH HOMŒOPATHS.

Sir,—What is the attitude at the present time of the profession towards homœopathy? I ask this question because I have been credibly informed that a London consultant bearing a well-known name, an equally well-known Manchester consultant, and an eminent Bradford practitioner, have severally of late been acting in consultation with one who for many years has represented homœopathy in a large manufacturing town in Yorkshire. The relations between regular practitioners and those professing homœopathy have been discussed again and again, but so far as I know not for a decade or more, and as we live in an age of change it may be useful—it certainly will be interesting—if the opinions of some of the leading representatives of the profession upon the question could be elicited.—I am, etc.,

Leeds, Dec. 6th. T. R. Jessop.

UNQUALIFIED ASSISTANTS.

Sir,—The General Medical Council seem to me not to have seen one side of this question, namely, the assistants' side. As an example, take my own assistant's case: He has been with me eighteen years; before that he was assistant to two different medical men, and previous to that he was apprentice t to a medical man for five years, duly serving his time, when unfortunately his means failed, and instead of now being a medical man, he is my assistant. On January 1st, 1900, what can he do to support his wife and six children? Surely the General Medical Council ought to pass some such resolution as this: "That on and after January 1st, 1900, no unqualified assistant shall act as such, unless his name is registered by the General Medical Council as having been such for the previous five years; any medical man employing any other unqualified assistant shall be struck off the *Register*." —I am, etc.,

Thornbury, Gloucestershire, Dec. 8th. Edward Mills Grace.

Sir,—I fail to see where the hardness and injustice of the recent action of the General Medical Council comes in. Medical registration is for the most part to protect the public by ensuring that every practitioner shall be duly qualified. Any unqualified practitioner is therefore a fraud on the public; that the services of such should be taken "with the full knowledge of the public," as "M.B.Oxon., etc." states, does not alter the point. Cases arise every day bearing out the fact that unqualified assistants undertake work for which they are not legally fitted. Many unqualified assistants are no doubt very able men, but there are also very many whose unqualified state is their own fault. Are all these to be allowed to continue because some have been overtaken by unforeseen circumstances? I believe I am right in stating that ours is the only country in Europe where unqualified

practice is openly carried on. The General Medical Council have been long enough in taking up a definite position, and as it is, the time before the regulation comes into force should be ample to allow existing unqualified assistants who have any wish to do so to pass their final.

Several years' experience of medical students and teaching have shown me that by far the greater number of unqualified assistants are men who have completely mistaken their calling. If a man cannot get qualified with the over-abundant facilities to be found in this country, the sooner he finds some other path in life the better for himself and others. Those whose means do not enable them to follow up their course have also made a mistake in choosing what they cannot pay for. The medical profession has become too congested, too expensive, too unremunerative to be entered without being carefully considered. As it is there is a vast army of unemployed qualified men, as "Another G. P." suggests, but the fact is the unqualified assistant is cheaper. I have been told by a general practitioner that when he could get "an unqualified assistant to do his work at £40 a year he was not going to pay £100 a year for a man with something after his name." It is to be hoped, therefore, that the recent action on the part of the General Medical Council will put an end to these evils.—I am, etc.,

December 13th. M.D.

Sir,—The warmest thanks of the profession are due to the General Medical Council for their prompt action in suppressing unqualified assistants. I live in a colliery district where the employment of qualified assistants is quite exceptional. Many of these unqualified men have never even been to a medical school, and the reason they are employed is because they are cheap, longsuffering, etc. The poor people believe they are qualified men and call them "Doctor" as a matter of course. As for registering existing unqualified men I would have none of it. I would never continue for one day a practice which is so fraudulent and dangerous to the public.—I am, etc.,

December 13th. Yet Another G. P.

Sir,—No one can doubt that the new regulations of the General Medical Council all tend to a better state of things General practitioners who now run large club practices by assistants who have not the means or the qualification that would make them independent will now have to do this work themselves. Patients who now consider they are performing a favour in paying their pennies to medical aid associations will soon be taught to honourably pay the smaller fees of the rising young medico, who to-day is robbed of his legitimate field for work. But cannot something be done for a number of deserving and competent men? If the Apothecaries' Society will not undertake the duty, could not a good practical examination be held once and for all at certain centres at which all these men might present themselves, all those satisfying the examiners being granted certificates allowing them to act in their former capacity? It would be necessary, of course, that each man presenting himself should show the proof of having acted as an assistant, and of character from a former employer. This would, at any rate, prevent a cruel wrong being perpetrated on a large number of men neither undeserving nor uneducated, and supply a something not always to be found in the newly-qualified man.—I am, etc.,

December 13th. L.S.A.

Sir,—The General Medical Council have decided that the employment of an assistant who is unqualified falls under the category of "infamous conduct" from a professional point of view. They, however, make a reservation—namely, in the case of employment of genuine medical pupils of under seven years' standing, provided they are under the supervision of their employer.

Theoretically this is all very well, but practically it is unworkable. In the first place, the majority of unqualified assistants are under seven years' standing, and therefore the question of their employment—namely, unqualified men—remains as it was before. Secondly, as regards "covering." Although the decision of the Council may make practitioners somewhat more careful, it will not in the least do away with the practice, and it will be found that as many unqualified assistants will be employed as previously. Thirdly, it will be found most difficult to distinguish between these unqualified men and the *bonâ-fide* medical student, for most intend to become qualified subsequently. The question which ought to be definitely settled is, Are unqualified men to be employed as assistants or not?—I am, etc.,

December 14th. M.B., M.R.C.S.

Sir,—Although I have not employed unqualified assistants for many years, I cannot but sympathise with "Unqualified Assistant" for the three following reasons: (1) The first Medical Act provided for every unqualified man practising before the Act came into force, namely, by placing him on the *Register*. (2) The *Dental Register* admitted every unqualified dentist practising before a certain date. (3) The Midwives Bill, now before Parliament, has a clause providing for every unqualified midwife.

I think, Sir, in view of the above facts, that it cannot be said that the unqualified assistant is being dealt with in the present instance in accordance with the spirit of British justice.—I am, etc..

December 14th. L.R.C.P., L.R.C.S.Edin.

THE ASSOCIATION AND MEDICAL DEFENCE.

Sir,—I must at once put forward a protest against the reply-paid postcard issued on the question of medical defence. Two questions are asked on that card. The first, a legitimate and correct one as authorised by the last annual general meeting. The second one, which was not mentioned at all at that meeting and therefore illegitimate, and to my mind inserted by some members in committee with a view of furthering their own ends.—I am, etc.,

Park Parade, Harrogate, Dec. 13th. James A. Myrtle.

Sir,—I am one of the members of the British Medical Association who will not return the postcard relating to the Association and medical defence. This is not due to any apathy on my part, but because before doing so I desire further information as to the chief character of the defence to be adopted.

If it be that the Association is to act as detective upon and harass continually those practitioners who employ unqualified assistants, I am against the proposal. (I do not keep an assistant myself.) But I would willingly subscribe more than the 10s. annually if such were to be utilised in a united effort by the whole body and weight of the Association in endeavouring to procure more protection for the profession, by preventing the charlatanism now rampant, by suppressing wholesale quackery and the advertising of patent nostrums; by making each registered practitioner pay annually for a licence, and so rendering it penal for anyone to prescribe or sell medicines without such licence; by abolishing all medical aid societies; by insisting on uniform rates of fees; and by protecting the respectable members of the profession against the unscrupulous blackguards within it and without. It is these evils which militate against the general practitioner and his bread and cheese much more than the poor unqualified assistant, and it is, in my humble opinion, against these evils that medical defence should first be directed.—I am, etc.,

December 15th. X. Y. Z.

WORKMEN'S SUBSCRIPTIONS AND SUBSCRIBERS' "RIGHTS."

Sir,—For more than twelve months there has been a feeling of annoyance among the honorary medical officers of the Newport Infirmary, caused by patients presenting themselves for treatment (and bringing subscribers' recommendations), when they are in a position to pay for the medical treatment they require. Many of these applicants regard the charity as a medical aid society or a club, and when asked if they regard themselves as "objects of charity," say that they support the infirmary and have a right to its benefits, their subscriptions being one or two shillings or more in the course of the year.

During the present year many subscribers' notes have been

referred to the infirmary directors for inquiry, and in no instance had a reply been sent back to the writer till the time of the present dispute, which extends back to the middle of October in this year, when two patients presented themselves, one the daughter of a man earning 45s. per week, or £117 per annum; the other a boy whose weekly earnings (including his father's) was 59s. per week, or £153 per annum. They both came from the same works, where the firm subscribed £10 10s. last year and the workmen £61 2s. 11d. The writer declined to see these cases, as he thought they were cases abusing the charity, and they were not at all urgent, thus protesting against the action of the directors in ignoring the subscribers' notes previously sent to them.

Being refused treatment, these applicants caused complaints to be made to the directors (or Committee) who caused a letter to be sent to the writer, calling his attention to a previous resolution of the Board, namely, "That all doubtful cases are to be referred to the House Committee for investigation and inquiry, but in the meantime the patient must be treated." He replied, protesting at being requested to see patients earning big wages. The Committee ascertained that in one case the wage-earner had been laid up for a few weeks, and called upon him to attend the cases (writing to the applicants that they would be seen). The writer refused again, hoping by so doing the Committee would adopt a wage limit or appoint an inquiry officer, and as a result he was dismissed from his appointment as ophthalmic surgeon.

About eighteen months ago a subscriber of £2 2s. sent a child to the infirmary whose father had a salary of £100 per annum, and was refused treatment by the House Committee, while the cases referred to above were deemed eligible when making £117 and £153 respectively, apparently for the reason that the works refused further subscriptions unless the directors sent a satisfactory explanation for the rejection of the cases.—I am, etc.,

Cardiff, Dec. 8th. HENRY C. ENSOR.

HOSPITAL REFORM.

SIR,—Dr. Garrett Horder has quoted two parts of a paper ately written by me, and has misrepresented both of them. The few who will read the original can see this for themselves, and I beg the many who will not read it, not to accept Dr. Horder's version of it. In his computation of an per cent. rate of abuse he has added another fallacy, that of misquotation, to the many which underlie his statistics.—I m, etc.,

Upper Wimpole Street, W., Dec. 12th. W. P. HERRINGHAM.

THE WESTMINSTER UNIVERSITY SCHEME.

SIR,—Will you permit me to state in the BRITISH MEDICAL OURNAL that I have withdrawn my name from the Committee which is promoting the "Westminster University" cheme.—I am, etc.,

Harley Street, W., Dec. 14th. H. B. DONKIN, M.D.

"SIDMOUTH NEW SEWERAGE WORKS."

SIR,—We the undersigned members of the medical profesion practising in Sidmouth desire to protest against the following paragraph which appeared in your notice of the above the BRITISH MEDICAL JOURNAL of December 11th: "The aths and Nauheim treatment as carried out at Sidmouth nder Dr. Leon are now well known, and have already been escribed in our pages," and to point out that the mention of ny individual name by your correspondent is misleading, nasmuch as neither the Sidmouth baths nor any particular eatment therein is restricted to Dr. Leon or any other edical practitioner.—We are, etc.,

ROBERT GORDON, M.B., C.M.Ed.
A. H. GOODWYN, L.R.C.P., etc.
G. A. LEON, M.D.Brux., M.R.C.S., L.R.C.P.
A. MACINDOE, M.D.
BINGLEY G. PULLIN, M.R.C.S., etc., L.S.A.
THOS. H. S. PULLIN, M.D., F.R.C.S.Edin., M.R.C.S., etc.

December 14th.

*** We regret that our representative who visited Sidouth to inspect the sewerage works should in his report, ritten somewhat hastily to catch the post, have fallen into e error to which our correspondents refer.

THE ELECTION OR APPOINTMENT OF REPRESENTATIVES OF CORPORATIONS ON THE GENERAL MEDICAL COUNCIL.

SIR,—In reference to my letter to you of December 1st, covering copy of a petition and of letters to the General Medical Council, may I (besides insertion, if possible, of the text of a petition that prays in effect for a measure that would tend to render the Council popular and representative) ask the favour of space for some necessary explanations.

The first petition sent in was eventually signed in all by 163 petitioners, residing in all parts of the United Kingdom, within a week from the issue of only a very limited number of copies. It included the reforms contained in the questions addressed to candidates by our President, Mr. George Jackson, and four other electors at the recent election. These proposed reforms and measures to promote them had obtained the high sanction of Sir Walter Foster, M.P., Mr. George Brown, and Mr. Victor Horsley, F.R.S., and the expressed sympathy of Dr. William Bruce and Sir William Thomson, and it is no undue assumption to say that they represent the aspirations of a great proportion of the profession.

The position assumed by the Council in refusing to receive or consider a numerously and well-signed petition praying for reforms so long desired was that the petition contravened the standing orders in referring to more than one, namely, to about ten, main heads or subjects. We desire to correct this misapprehension and misstatement. The petition referred to but one main head or subject, namely, the reform of the Council, to which every subhead in the petition was directly subsidiary and essential. That the Council was merely employing a pretext to get rid of the petition is, we think, a fair inference from its refusal to suspend its standing orders, at the instance of Mr. Brown and Sir William Thomson, to enable it to receive the petition—a very usual course—and one that might with special propriety have been adopted in dealing with a petition representing grievances touching the Council's discharge of its functions.

On this rude rejection of our petition others were immediately prepared and presented, dealing with the principal subheads of the first petition, but all were again refused consideration.

Of these the most urgently pressed—to which in a few days over sixty signatures were obtained—was that of November 26th, on the subject of the mode of choice or appointment of the corporate representatives. It set out the terms of Section VII of the Medical Act of 1886 as follows:

7. After the passing of this Act the General Medical Council shall consist of the following members, that is to say, five persons nominated from time to time by Her Majesty. . . . . One person chosen from time to time by each of the following bodies: The Royal College of Physicians of London; the Royal College of Surgeons of England; and 18 others.

My contention is, and I am fully prepared to support it, that under the Act the whole numbers of those who constitute each "body" mentioned, are entitled to "choose," that is, elect, the member for that body on the General Medical Council; and that the appointment of such member by the governing authority of the body, on behalf of the body, is a usurpation of power contrary to the terms of the Act: as, for instance, that the members of the Royal College of Surgeons of England are the Body Corporate of the College, and are the "Body" intended in Section VII *Supra*, where the Body, the Royal College of Surgeons of England, is expressly named.

Whenever any person is sent on behalf of others to act in a representative capacity some credential is necessary—as, for example, a form of return to authorise others to receive him in that capacity. The General Medical Council has therefore provided a form for the Corporate Representatives to bring, duly executed, from their respective bodies, attesting their right to be Members of the Council; and the petition proceeds to set out the form, which is as follows:

We the in pursuance of the power given to us by the Medical Act, 1886, do hereby APPOINT to be a member of the General Council of Medical Education and Registration of the United Kingdom for the term of years from the day of 18 .

The petition then proceeds to point out that the form does not follow the terms of the Act; that in many of the bodies the governing authorities have assumed and exercised a power of "appointment" contrary to what the petitioners

claim to be the true intent and meaning of the Act; mentioning, as a notable instance, the Royal College of Surgeons of England, the *Members* of which constitute the body, but the Council of which has assumed and exercises the power to *appoint*, and prays for an amendment of the Council's form of return.

I do not know in what precise terms, in the case of the College, the form is filled up; whether, contrary to the Act, "We, the Council of the Royal College of Surgeons of England, etc., do hereby APPOINT." In either case what takes place is *not* by the BODY, and is *not* a CHOOSING but is an "appointment," which is diametrically the opposite of "choice" or "election." In support of this contention I may give the following result of researches on this point:

Chitty's *Statutes*, vol. viii, 5th ed. *Parliament*, p. 4; 3rd Edward I, cap. 5, A.D. 1275: "And because election ought to be free," etc.; 8th Henry VI, cap. 7, A.D. 1429: "What short of men shall be *choosers*, and who shall be chosen *Knights of* the Parliament."....."Whereas the *election* of Knights of Shires *Chosen* to come to the Parliament of our Lord the King..... Provided always that he which cannot expend forty shillings by year, as afore is said, shall in nowise be chosen of the Knights for the Parliament."....

Such authority for the meaning of the word "choose" is the highest, for it is that of Parliament itself, but if other were needed it is contained in the following extract from

Whitney's *Century Dictionary*, word APPOINTIVE. 2. "Dependent upon the exercise of the power or right to appoint: filled by appointment: opposed to election: as appointive offices." And idem. word ELECT. 2. "To select for an office or appointment by a *majority* or plurality of votes."

It is manifest that the General Medical Council has, by varying its terms, assumed a power to amend the Medical Act—by refusing to receive our petition on the ground that *to amend its own form of return into accordance with the Act* would affect the rights of the bodies sending members to the Council, has demonstrated that it is consciously conniving at the usurpation I have pointed out; and, by permitting the *de facto* or supposed corporate representatives to vote on the petition as judges in their own cause has acted illegally and corruptly, and that it did not so act unconsciously my letters to the Council and Sir Wm. Turner taking formal objection to the right of those gentlemen to do so no less clearly prove.—I am, etc.,

R. B. ANDERSON (One of the Petitioners).

Montague Place, W.C., Dec. 15th.

THE VACCINATION PROBLEM.

SIR,—I shall be glad to be allowed to reply to Dr. McCook Weir's criticisms on one of the suggestions issued by the Jenner Society on the above subject; it is the postponement of the statutory period of compulsory infant vaccination.

This is a question rather of policy than of absolute merit, and must be dealt with as such. If there were no other considerations involved than the protection of our infant population from the risk of small-pox, it is obvious that the sooner every infant is vaccinated the better. But unfortunately we have to deal with an active and increasing resistance to vaccination, which is largely assisted by maternal sentiment founded on real troubles incidental to vaccination at such an early age as is now prescribed.

The report of the Royal Commission, in view of the practice in Scotland, recommends that the statutory period should be advanced from three to six months; but there is good reason for doubting whether, if the three months limit is abandoned, it would not be better to extend the period to the German limit—the end of the first year after that in which the child is born. By so doing we should escape the troubles which are apt to complicate vaccination during the first twelve months of life, and be the better able to determine whether the general constitutional condition of the child offered any indication unfavourable to vaccination or not. Dr. McCook Weir's experience of the present method of enforcing infant vaccination seems to have been unusually favourable. He appears to find scarcely any difficulty at all. Yet only 18 per cent. of his cases have presented themselves to him within the statutory period of three months.

The objections to extension of the period are two. The first is the difficulty in maintaining touch with the parents in urban populations, where there is a great tendency to migration from one locality to another. This must be admitted, but it is only in a small percentage of cases that this obtains, and that only in our largest cities. When the school age is reached, these children come again into relations with the State through the machinery of the school. The second objection is in appearance a more serious one, that a large number of infants and young children would be left unprotected, and would be a source of danger not only to one another but to the whole community. And it must be admitted that unless the extension of the vaccination age can be compensated by the prospect of bringing the great bulk of the children who may be still unvaccinated at the school age into the vaccination fold at that time, and by empowering the local authority to enforce the vaccination of all unvaccinated children in case of an outbreak of small-pox, it is open to considerable doubt whether it would be expedient to press it. It is noteworthy in connection with this point that out of the 27 deaths from small-pox which occurred in the whole German empire in 1895, 11 were unvaccinated infants under 2 years, and 7 were children between 3 and 10 years, some of whom were undoubtedly and most of them probably unvaccinated. This is a very small mortality considering the enormous number of unvaccinated children within the limits of the empire at that time, and is not a serious penalty to pay for the advantages gained by postponement. It is scarcely necessary to point out that the adoption of the German limit would not prevent those who might be willing to have their children vaccinated earlier from so doing.

As to Dr. McCook Weir's objections to calf lymph, it is rather too late in the day to raise them now, and it would be a waste of your space to discuss them. There will be much more sympathy with his complaint of the inefficiency of a good deal of the vaccination that passes current. We certainly need a legal definition of what "efficient vaccination" is. But he begs the question when he assumes that there is no medium between a strict administration of the existing law, which is impossible, and a complete abolition of compulsion, without conditions or compensation. This is essentially a case in which the Bismarckian principle of *do ut des* commends itself for adoption. It is possible to recognise the expediency of making concessions to determined objectors, especially if accompanied by new securities generally, without admitting the need for abolishing compulsion altogether.—I am, etc.,

Gloucester, Dec. 13th. FRANCIS T. BOND, M.D.Lond.

THE AERIAL SPREAD OF SMALL-POX.

SIR,—In my letter to you of November 30th (published December 4th) I mentioned two facts which occurred in the Warrington epidemic, which were, in my opinion, distinctly against the hypothesis of the aërial convection of small-pox, namely:

The exemption of the workhouse population of 712 persons—living in a building and grounds only separated from the old small pox hospital by a wall—from cases which could not be explained by direct infection; and the exemption of a population of 364 persons working all day in a brewery situated near the new hospital from cases which could not be shown to have contracted the disease in the usual direct or mediate fashion. There were altogether only 6 cases in the former and 4 in the latter.—P. 1680.

In the following week, December 11th, your correspondent "Epidemiologist" misconstrues my statement into meaning *total* exemption, and then questions its truth. I am at a loss to understand why he should do so, because, even in other parts of my letters in which my statement is not (in order to economise space) so explicit as this, it is obvious from the context that what was meant was exemption from cases not demonstrably due to direct or mediate infection.

I am sorry to trespass on your space, but the facts—and they are given with full detail in my report—are as follows: All the 6 cases in the workhouse could be traced to direct or mediate infection. Thus the *first* case (rash August 19th) had no fewer than four alternate sources of mediate infection; the *second* case (rash Friday, September 9th) was the nurse who carried the first case over to the fever ward on Friday, August 26th; the *third* and *fourth* cases were inmates under nurse case number two; they developed the eruption on the same day as she, and were clear illustrations of conveyance of infection by a third person, who also contracted the disease herself; the *fifth* case (rash October 7th) contracted the disease from another nurse, who now looked after the small-pox cases (which were necessarily retained in the workhouse) to whom he went daily to have his leg dressed. The *sixth*

se (rash October 20th) contracted the disease by making e bed of the fifth case on October 7th, directly ter the latter had been removed to the fever ward. ne four cases in the brewery could also be clearly traced to rect or mediate infection. The *first* case notified contracted e disease from his sweetheart: the *second* case contracted e disease from a neighbour; the *third* case contracted the sease from his wife; and the *fourth* case (296) deserves ving in full, because it well illustrates how without suffi-nt care one may be misled in attributing cases to aërial read which might with a little more investigation be traced direct or mediate infection. Case 296, the last of the four ewers notified, developed the rash of small-pox on November 1. This man, M., was obliged to walk from his home to his rk down Stamford Street, beside the hospital and across an en space at its back; and if my memory serves me an idemiologist in his report on the Warrington epidemic ributed this man's infection to aërial spread incurred in is way. It certainly was some months before any more isfactory evidence as to this man's infection could be made t, though I followed up many clues. I visited his house—rather houses, for he had moved several times and I had to low him up—and had many interviews with him. I con-ntrated my attention on his various movements fourteen ys before the eruption appeared, and at length ascertained that spent the whole of one Friday evening (October 21st) at a rhouse, sitting close beside a man named T. D., whose wife l developed the eruption the day before, but had not been ved to the hospital until that morning, Friday, October 21st. irteen days later M. sickened and on Sunday morning, vember 6th, developed the eruption, fifteen days after the rhouse incident.

n these grounds I regarded these two buildings as exempt m cases which could not be explained by direct or mediate ection, that is, from such cases as the supporters of aërial vection rely upon for the proof of their theory; and as se two buildings were very favourably placed for aërial in-ion, these facts count, in my opinion, against that theory. re were also two other factories only a little further off ch enjoyed *total* exemption, and on the whole I count this demic, when *closely* studied, as affording some of the ngest evidence against the theory which has come to light nodern times.—I am, etc.,

ver Berkeley Street, W., Dec. 13th. THOS. D. SAVILL.

CROSS-LEGGED PROGRESSION THE RESULT OF DOUBLE HIP ANKYLOSIS.

R,—I noticed in Mr. Willett's interesting Bradshaw ure that he has recently operated on one of the two cases strating my paper read before the Clinical Society in 1880, published in vol. XIV of the *Transactions*, on Cross-ged Progression the Result of Double Hip Ankylosis, rein this peculiar and interesting deformity, associated h double hip disease, was first described.

o attention appears to have been directed to this curious rmity since the publication of my paper, and the writers xtbooks, with the exception of Erichsen, appear to be rant of it. The writer in Mr. Treves's recently published *m of Surgery*, for instance, makes no mention of it, gh illustrating the more ordinary deformities.

e deformity is of great physiological interest, since the nts gradually and apparently unconsciously throw their s into the only position which allows of forward progression n both hips are fixed in succession, the limbs crossing one the other like the blades of a scissors, and being at the e time rotated outwards; the knees are thrown into an ue position, and so become serviceable for forward pro-ion, knee-walking being thus substituted for hip-ing.

the two cases published, the boy presented the best iple of physiological accommodation to altered circum-es. He could, at the time shown, hold his own with boys, playing cricket and running with considerable l.

e man on whom Mr. Willett had recently operated had irst hip attacked when he was 37 years of age, and the d about ten years later, so that the means of accommo-n were less supple and the result less satisfactory. Yet at the time I exhibited him he was able to walk considerable distances without the aid either of crutches or stick.

A committee of the Society, including Mr. Christopher Heath and Mr. John Croft, suggested something might perhaps be done under chloroform to reduce the deformity, but the patient was very reluctant to have anything tried. He gained a far larger wage by hawking trifles in the street than an ordinary labourer, and his deformity, I think, was reckoned as part of his stock-in-trade. He for years might be seen either in Gracechurch Street or by the Bank selling collar studs and boot laces. On one occasion I gave him a suit of clothes, but he never put them on, as to do so was likely to, injure his business.

Mr. Willett has performed double subtrochanteric osteotom y or Gant's operation, thereby getting the limbs in line, but the improvement in appearance will be scarcely an advantage unless associated with increased range of movement. Of the ultimate result Mr. Willett seems at present to be in doubt, for he says: "It is of course, too soon to venture any definite opinion, but it is not in his favour that he has proved an obstinate and self-willed patient."—I am, etc.,

R. CLEMENT LUCAS, B.S.Lond., F.R.C.S.

Wimpole Street, W., Dec. 11th.

AN ETHICAL SECTION AT THE EDINBURGH MEETING.

SIR,—I was exceedingly gratified to have been the means of eliciting from Dr. Haddon in the BRITISH MEDICAL JOURNAL of December 11th the fact that he read a paper before the Manchester Medico-Ethical Association against doctors dispensing their own drugs. I was not previously aware of it, or that he had ever been a member of that Association. If he is so satisfied with ethics as practised in Scotland I should think that the very place for an Ethical Section so that they may speak out all the more clearly and fearlessly to the whole of the British Medical Association and the world. If he would undertake to read his paper on such an occasion I would undertake to be present, and will promise that there shall be an interesting discussion upon it. I regret that I never heard it read in Manchester, as it would be prior to the period of my becoming a member. As to the "distinguished member" who expressed the sentiments as reported by Dr. Haddon I have not the least idea who he was, but I certainly do not agree with him.

As Dr. Haddon expresses disapproval in a very general, indefinite manner of utterances by Manchester men at the Carlisle meeting I shall be glad if he will explicitly state what he heard that was unethical.

As he is so supremely satisfied with the ethics in his own country, I would like to say that we in this district do not always find a high standard amongst those of his compatriots who immigrate here, and we should feel a double interest in visiting Edinburgh, especially if all the papers were to be read by Scotchmen, so that we might gauge the whole ground and endeavour to find out why they failed to carry out here what they were taught at home. This is where the advantage of mixed races of medical men practising in different localities joining in friendly discussion would be manifest, and I trust that he will see his way to support the proposal to continue the practice, begun at London and Carlisle, to have an Ethical Section at the Edinburgh meeting.—I am, etc.,

Manchester, Dec. 11th. G. H. BROADBENT.

OBITUARY.

THE death is recorded of Mr. FRANCIS J. POUND, Senior Medical Officer to the Colonial Government at Suva, Fiji. Mr. Pound was educated at Epsom College and at the London Hospital, and took the diplomas of L.S.A. and M.R.C.S. in 1879 and 1880. He held the appointment of House-Surgeon to the Winchester Hospital for a year and a-half. He then entered the Colonial Service, and was sent to Fiji, where after some ten years' service he contracted phthisis, pulmonary and laryngeal. He died at Hook, Odiham, Hants, on December 1st. He leaves a widow and one child.

DEATHS IN THE PROFESSION ABROAD.—Among the members

of the medical profession in foreign countries who have recently died are Dr. Giacomo Sangalli, Professor of Pathological Anatomy in the University of Pavia, and Senator of the Kingdom of Italy, aged 76; Dr. Franz Ritter von Schneider, Professor of Chemistry in the University of Vienna, and author of a commentary which forms part of the official edition of the *Austrian Pharmacopœia*, aged 84.

NAVAL AND MILITARY MEDICAL SERVICES.

THE NAVY.

MR. H. NEWSON, M.B., and the other gentlemen mentioned in the BRITISH MEDICAL JOURNAL of December 11th, have been gazetted Surgeons in Her Majesty's Fleet, dated November 29th.

Surgeon ELYSTAN G. E. O'LEARY has been appointed to the *Magpie*, December 10th.

ARMY MEDICAL STAFF.

BRIGADE-SURGEON-LIEUTENANT COLONEL W. J. FAWCETT, M.B., who is serving in the Bombay Command, has taken charge of the current duties of the Principal Medical Officer, Poona District, from October 28th, as an additional duty.

INDIAN MEDICAL SERVICE.

SURGEON COLONEL J. H. NEWMAN, M.D., Bengal Establishment, has been appointed Inspector-General of Civil Hospitals, Bengal, *vice* Surgeon-Colonel G. C. Koss, retired on a pension.

Surgeon-Lieutenant-Colonel J. S. WILKINS, D.S.O., Bombay Establishment, is promoted to be Brigade-Surgeon-Lieutenant-Colonel from August 16th. He was appointed Assistant-Surgeon, March 31st, 1874, and served in the Afghan war in 1880, taking part in the march to Candahar with the force under Major General Phayre (medal), and with the Burmese Expedition in 1886-7 (mentioned in despatches, medal with two clasps).

Surgeon-Lieutenant-Colonel W. A. BARREN is also promoted to be Brigade-Surgeon-Lieutenant-Colonel, September 15th. His first commission dates from March 31st, 1874. He was in the Afghan war in 1880 in medical charge of the 4th Bombay Infantry (medal), and with the Burmese expedition in 1886-88 (medal with two clasps).

THE VOLUNTEERS.

SURGEON-LIEUTENANT B. D. C. BELL, 1st Orkney Artillery, and Surgeon-Captain A. H. MARSH, 3rd Volunteer Battalion the Cheshire Regiment, have resigned their commissions, December 15th.

Lieutenant Charles S. de SEGUNDO, M.B., 20th Middlesex (Artists') Rifles), has resigned his commission, and has been appointed Surgeon-Lieutenant in the same corps, December 15th.

Mr. FREDERIC MERCER has been appointed Surgeon-Lieutenant in the 2nd Tower Hamlets Rifles, December 15th.

THE ARMY VETERINARY VACCINE INSTITUTE.

SINCE the opening of the institute in 1889 lymph has been prepared for 335,047 persons. Last year it was observed that the original stock of lymph was becoming attenuated, and a fresh stock was obtained from the National Vaccine Institute, Brussels. The effect was immediate. Percentages rose and former figures were beaten. Not only is the army cultivated for, but the Royal Navy has been added to the institute's work. Other important figures are given in connection with the Vaccine Institute in the annual report of the Army Veterinary Department.

SURGEON-CAPTAIN BEYTS, A.M.S.

THE gallant conduct of Surgeon-Captain G. W. Beyts during the operations of the Kurrum Valley, under General Yeatman Biggs, in carrying out of action, when severely wounded, Lieutenant Louis A. North, 1st Battalion Royal Scots Fusiliers, has received special mention in despatches; and we trust our military contemporary the *Army and Navy Gazette's* prediction, that Surgeon-Captain Beyts "is certain to be rewarded by the bestowal of the Victoria Cross," will prove correct.

STUDY LEAVE.

A WRITER in the *Times of India* of November 9th puts the question of study leave for army medical officers, if not in a new, at all events in a forcible, light. The granting of such leave (which we fear has not yet been given in any recent instance) he says is called a concession, a favour. But in all other branches of the army officers are sent as a matter of duty, on full pay, to attend courses of various kinds to improve the knowledge of their calling, which courses are provided by Government; but the medical officer has the great concession of attending such courses not provided by Government at his own expense, and, in the case of Indian medical officers, not even on full pay. Even if a medical officer sacrifices his ordinary leave, and pays his own expenses to acquire the up-to-date science of his profession, it leads to nothing beyond his own satisfaction of knowing his work better. Moreover, professional attainments bring no increase of pay, or promotion, or lucrative appointments; he has, in fact, no inducement beyond that of a personal nature to place enhanced services at the disposal of his employers—the Government. He reasons, therefore, that the agitation for study leave is superfluous; if the Government really wanted superior medical services, to it or them would be the duty or necessity of providing both the opportunity, means, and cost of getting such services. Neither are found.

VOLUNTEER AMBULANCE SCHOOL OF INSTRUCTION.

THE prizes gained during the past year by members of the yeomanry and volunteer corps of the Home District who have been under instruction in this School were distributed by Major-General H. Trotter at St. Mart Town Hall on December 9th. The President, Major Maclure, stated t nearly 2,000 of all ranks had passed through the school, and that a la number of medical officers of British and Colonial corps who had tained instruction there had passed the proficiency examinati General Trotter, in addressing the large company present, congratula the instructors upon the efficiency of their work.

MIXED BOARDS.

TELL writes: Quite recently, in a large garrison, a medical officer ordered to "attend" a mixed Board on a proposed site for buildir When the proceedings had been written out he drew the president's tention to the fact that he was not a member, and so it would not necessary for him to sign the Board, which he was only orderec attend in the event of his professional opinion being required. I th this is the correct stand for all medical officers to take when impropе ordered to "attend" mixed Boards.

*** We agree with our correspondent, but were not aware that me cal officers were ever called upon to sign the proceedings of Board which they were not members. Assuredly, one who has no vote on finding of a Board, however much his evidence before it may have fluenced its decision, should not sign. As "attending" the medi officer is a mere witness, and is purposely put in that position deference to military prejudices.

HONORARY RANK.

SURGEON-MAJOR (retired half-pay), a valued correspondent, writes: ferring to correspondence in your columns, paymasters do have ho rary rank, as do also some officers of the Ordnance Department, Personally, I much prefer substantive army rank, with pure milit titles, and limited command for medical officers; even Surgeon a ——— would be preferable to the present compound title.

The kernel of the matter is rank and title, and it is doubtful if t War Office in any scheme of their own will duly recognise that. T the press is in our favour is a great matter; of course, the War Of may reply that civilians do not understand subjects of the kind in c nection with army discipline. The military authorities will probal do their utmost to maintain the *status quo* in the hope of meanwh attracting candidates. My advocacy of honorary rank and a th years' attachment of medical officers to each corps may be practicat while a fuller and better scheme is not, although I hope it may be.

*** Are we wrong in stating that, before the Camperdown Comm sion, certain high military officers spoke contemptuously of honora even as they did of relative rank? The medical officers should acc no rank that can be decried. If they stand out for real—that is, ar rank, it is only because the highest military authorities—perhaps their own ultimate confusion—have taught them that other rank bogus.

MEDICO-LEGAL.

CARELESS SALE OF POISON.

THE use of a preparation of arsenic for the destruction of weeds appe to be a practice attended with great danger by leading to improper sa of the article. In several instances persons have been accidenta poisoned in consequence of the negligent use of "weed killer," and in case which was last week before the Court of Queen's Bench it was sho that a quantity of "weed killer" containing arsenic enough to pois more than 1,000 persons was recently sold in a shop kept for the supply garden requisites. The prosecution under the Pharmacy Act failed cause it was alleged that the sale was made by the shopman without employer's authority.

NOTIFICATION OF INFECTIOUS DISEASES.

A MEMBER B.M.A. submits the following points for consideration: A. private practitioner, is called in to attend B. and his two children. diagnoses scarlet fever and notifies accordingly, the Notification being in force. C., the medical officer of health, visits the patie with A.'s consent, agrees with the diagnosis, and removes all three the hospital, where there are many other cases. Next day C. becon doubtful of the diagnosis, and calls in E., a consultant who will express a definite opinion, but inclines to the cases being roseola. another consultant, is called in, who decides positively that the ca are roseola. After proper disinfection the patients are sent home a kept under observation, and nothing further develops. B., the patie now threatens to sue for damages What is the legal aspect of the c (1) as regards A., who notified, and (2) C. who removed the patient B. argues that being removed to an infectious hospital he and children might have contracted the disease: but as they did not where lies the ground for damages? What damages could be claimed in a c like this?

*** We do not think that any claim could be successfully maintain for damages either against A. or C., assuming, as regards the lat that had the case really proved to be one of scarlet fever, it was with the scope of his duties to require the removal of the patients to a h pital. In a case where, as regards A., he performs a duty enforc upon him by Act of Parliament, of notifying a case of what he *bond fi* believes, after careful examination, to be an infectious disease with the meaning of the Act, and where, as regards C., he also acts with the scope of his duties, we do not think the is any cause for fear to the result of action by B. for damages.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

Lectureship in Midwifery.—Mr. A. F. Stabb, M.B., B.C., Obstetric Tutor at St. Thomas's Hospital, has been appointed University Lecturer in Midwifery for five years from Christmas, 1897.

Rebuilding of the Medical Schools.—The Vice-Chancellor announces that he has received the following substantial contributions towards the fund for rebuilding the Medical Schools, for which a suitable site has just been assigned by the University:—The Mercers' Company, £1,050; Dr. H. Westwood Hoffmann, £100: the family of the late Sir George Humphry, £600. It is understood that other gifts of importance have been promised for this object, which is already of urgent importance, and that the Lord-Lieutenant of Cambridgeshire, Mr. Alexander Peckover, has given £1,000.

Rede Lecture.—The Vice-Chancellor has appointed Sir Henry B. Irving to the office of Rede Lecturer for the ensuing year. Sir Henry's lecture will be given towards the end of the Easter term, and is sure to attract a large and interested audience.

Examination in Sanitary Science.—Part I this Examination will begin on Tuesday, April 19th, 1898, instead of the first Tuesday in April, as already announced. Part II will begin on Tuesday, April 26th.

Medical Degrees.—The following graduates of the University were admitted to Medical and Surgical degrees at the Congregation on December 9th:

M.D.—O. A. Browne, M.A., M.B., Trinity College; H. M. Tickell, M.A., M.B., B.C., Trinity College.

M.B. and B.C.—H. J. Bumsted, B.A., St. John's College; J. N. Gardiner, B.A., Trinity Hall; L. K. Harrison, B.A., Gonville and Caius College; W. Thornely, B.A., Clare College.

B.C. only.—P. R. Lowe, Jesus College.

UNIVERSITY OF LONDON.

M.B. Examination for Honours.—The following candidates have satisfied the examiners:

Medicine.—First Class: M. Dixon, B.Sc (gold medal), University College; C. H. Fagge (scholarship and gold medal), Guy's Hospital. Third Class: C. W. Alford, Middlesex Hospital; B. Dyball, St. Thomas's Hospital; C. Dykes, University College; F. W. Robertson, St. Bartholomew's Hospital; A. W. Sikes, B.Sc., St. Thomas's Hospital; F. H. Thiele, B.Sc., University College; E. J. Toye, St. Bartholomew's Hospital; W. P. Walker, Owens College and Manchester Royal Infirmary; R. J. Warrington, Owens College and Manchester Royal Infirmary.

Obstetric Medicine.—First Class: C. W. Alford, Middlesex Hospital; T. V. Cunliffe (gold medal), Owens College and Manchester Royal Infirmary; B. Dyball, St. Thomas's Hospital; W. T. Milton, Guy's Hospital; L. A. Smith, London Hospital; E. J. Toye (scholarship and gold medal), St. Bartholomew's Hospital. Second Class: A. Burn, St. Mary's Hospital; M. Dixon, University College; F. W. Robertson, St. Bartholomew's Hospital; A. W. Sikes, St. Thomas's Hospital. Third Class: W. A. Dewhirst, Yorkshire College; Mary Nona Sharman, Royal Free Hospital.

Forensic Medicine.—First Class: M. Dixon (scholarship and gold medal), University College; C. H. Melland, Owens College and Manchester Royal Infirmary; W. T. Milton, Guy's Hospital; A. W. Sikes (gold medal), St. Thomas's Hospital; H. J. Starling, Guy's Hospital. Second Class: C. H. Fagge, Guy's Hospital; R. W. Mayston, Guy's Hospital; G. E. Richmond, B.A., B.Sc., Guy's Hospital; F. W. Robertson, St. Bartholomew's Hospital; L. A. Smith, London Hospital. Third Class: E. W. Adams, University College, Sheffield; T. V. Cunliffe, Owens College and Manchester Royal Infirmary; C. P. Harris, London Hospital; R. W. C. Pierce, B.Sc., St. Thomas's Hospital; Mary Nona Sharman, Royal Free Hospital; F. H. Thiele, University College; A. G. Wilson, London Hospital.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 6,120 births and 4,393 deaths were registered during the week ending Saturday last, December 11th. The annual rate of mortality in these towns, which had been 20.2 and 19.8 per 1,000 in the two preceding weeks, rose again to 20.8 last week. The rates in the several towns ranged from 14.4 in Cardiff, 14.9 in Newcastle-upon-Tyne, 15.3 in Bradford, and 15.4 in West Ham to 25.3 in Gateshead, 26.4 in Liverpool, 26.7 in Birkenhead, and 34.1 in Norwich. In the thirty-two provincial towns the mean death-rate was 20.2 per 1,000, and was 1.6 below the rate recorded in London, which was 21.8 per 1,000. The zymotic death-rate in the thirty-three towns averaged 2.6 per 1,000; in London the rate was equal to 3.2, while it averaged 2.2 per 1,000 in the 32 large provincial towns, among which the highest zymotic death-rates were 4.7 in Swansea, 4.9 in Burnley, 5.4 in Oldham, and 7.2 in Gateshead. Measles caused a death-rate of 2.0 in Burnley, 2.2 in Halifax, 3.2 in Blackburn, 4.2 in Swansea, and 5.7 in Gateshead; and whooping-cough of 1.7 in Bolton and 1.8 in Oldham. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 85 deaths from diphtheria in the thirty-three towns during the week under notice included 58 in London, 6 in Leeds, and 3 in Wolverhampton. No fatal case of small-pox was registered during the week, either in London or in any of the thirty-two large provincial towns: and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,792, 3,818, and 3,811 at the end of the three preceding weeks, had further declined to 3,811 on Saturday last, December 11th; 319 new cases were admitted during the week, against 397, 375, and 328 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, December 11th, 834 births and 603 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had risen from 18.5 to 19.6 per 1,000 in the three preceding weeks, further increased to 20.2 last week, but was 0.6 per 1,000 below the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 16.8 in Paisley and 17.2 in Dundee to 28.8 in Greenock and 29.0 in Perth. The zymotic death-rate in these towns averaged 2.5 per 1,000, the highest rates being recorded in Glasgow and Greenock. The 288 deaths registered in Glasgow included 8 from measles, 7 from scarlet fever, 2 from diphtheria, 14 from whooping-cough, 3 from "fever," and 6 from diarrhœa. Eight fatal cases of measles and 4 of whooping-cough were recorded in Greenock, and 2 of scarlet fever in Dundee.

DIPHTHERIA IN LONDON.

The mortality from diphtheria showed an increase in London last week. The deaths referred to this disease, which had been 37, 63, and 52 in the three preceding weeks, rose again to 58 during the week ending Saturday last, December 11th, and exceeded the corrected average in the corresponding periods of the ten preceding years. Of these 58 fatal cases, 7 were of persons belonging to Camberwell, 5 to Poplar, 4 to St. Pancras, and 3 each to Paddington, Kensington, Shoreditch, Bethnal Green, and Lambeth sanitary areas. The number of notifications of diphtheria in London, which had been 305, 293, and 263 in the three preceding weeks, rose again to 300 during the week ending Saturday last. Compared with the preceding week, there was a slight decline in the prevalence of diphtheria in North London, but an increase in West, Central, East, and South London. Among the sanitary areas of West London, the 5 new cases notified in Westminster considerably exceeded the number recorded in any recent week, and in St. George Hanover Square there was a slight further increase in the prevalence of the disease. In the North London districts there was a marked further decline in the prevalence of diphtheria in Islington, 8 new cases being notified, against 20 and 14 in the preceding weeks. Among most of the sanitary areas of East London there was an increase last week in the prevalence of diphtheria, especially in Shoreditch, Mile End Old Town, and Poplar; in the last-mentioned district the new cases, which had declined from 31 to 14 in the three preceding weeks, rose again to 23 during the week ending Saturday last. Among the sanitary areas of South London there was a further increase in the prevalence of the disease in Battersea, Wandsworth, Lewisham, and Lee; in Battersea the new cases numbered 21, against 13 and 17 in the two preceding weeks; and in Wandsworth there was a very marked increase, the new cases rising to 28, against 12 and 15 in the two preceding weeks. In Woolwich 9 new cases were notified, against 1 in each of the two preceding weeks. On the other hand, the 17 new cases in Camberwell showed a slight further decline from those recorded in recent weeks. The admissions of diphtheria patients into the Metropolitan Asylum Hospitals during last week were 165, against 150, 157, and 145 in the three preceding weeks; and 1103 patients remained under treatment in these hospitals on Saturday last.

PUBLIC HEALTH IN THE CITY OF LONDON.

By an Act of Parliament passed last July the City Commission of Sewers will come to an end on January 10th next, and it is proposed to appoint a new body to be called the Public Health Department. It is proposed that the Court of Common Council shall in future sit weekly instead of fortnightly, and that priority should be given to the business of the Public Health Department at alternate sittings.

DISTRICT MEDICAL OFFICERS AND CERTIFICATION OF LUNATICS FOR ASYLUMS.

S. D. D. asks the following question: Whether we are aware of any objection to a district medical officer certifying for the removal of a lunatic to an asylum after this same medical officer has received an order from the relieving officer to visit the patient in question?

*** We are not aware of any objection to the district medical officer certifying for the removal of such cases, and, after having been officially called in by the relieving officer to any such case, he would appear to be the proper person to do this; but the magistrate who acts in the matter has really the question to decide, he being at liberty to call upon any registered medical practitioner to give the required certificate.

DUTIES OF MEDICAL OFFICER OF HEALTH UNDER THE NOTIFICATION ACT.

M.O.H. has a wide rural district. Notification is being adopted. He is asked to return each reported case fortnightly to his authority till the patient is convalescent.

*** A medical officer of health is expected to visit the locality of any outbreak of infectious disease. This does not imply that he must see every case of scarlatina. The object is to deal with the cause and restrict contagion, and above all to advise generally. A circular acknowledging the receipt of notification might be left by the inspector at the house where the case is. This might contain a blank form of certificate of freedom from personal infectivity to be returned, filled up, and when disinfection was to be done. A list of all cases notified, and houses not yet disinfected, might be furnished fortnightly to the Board. The register itself will probably satisfy them when the novelty has worn off. Or a statement of the number of cases still under observation in each locality might be made out. M.O.H. should not visit the

patients of another medical man as a general rule. Courtesy and consideration on his part will probably secure valuable help from his fellow practitioners.

MEDICAL NEWS.

THE festival dinner of the Royal Hospital for Diseases of the Chest, City Road, London, will be held at the Hôtel Métropole, on April 21st, 1898, under the presidency of Mr. S. Hope Morley, Treasurer of the Hospital.

PRESENTATION.—Dr. and Mrs. Hall, of Bodenham, near Leominster, were on December 8th presented with a silver salver and an illuminated address by the parishioners and people of the neighbourhood on the occasion of their departure.

AT the examination for inspectors of nuisances, held in London on December 3rd and 4th by the Sanitary Institute, 90 candidates presented themselves, of whom 47 were approved. At the same time certificates in practical sanitary science were granted to 4 out of 9 candidates.

AMONG the latest contributions received at the offices of the Prince of Wales's Hospital Fund are £3,668 7s. 3d. from *Lloyd's Weekly* newspaper, including the sum of 1,000 guineas given by the proprietors; £359 18s. 1d. from the American Victoria Jubilee Fund, balance after endowing in perpetuity a bed in Guy's Hospital, Charing Cross Hospital, London Hospital, and Seamen's Hospital (Dreadnought).

THE death is announced of the Rev. W. C. Lake, D.D., who was Dean of Durham and Warden of the University from 1869 to 1894. Dr. Lake was a member of the Royal Commission which in 1858 reported on elementary education in England, and revealed the lamentable deficiencies which then existed. While Warden of the University of Durham he took an active part in the foundation of the College of Science at Newcastle.

AT a meeting held on December 13th at Hampstead, it was reported that, after payment of all expenses, there remained, as the result of the Hampstead Diamond Jubilee Fête and general subscriptions, the sum of £3,337 for distribution. Of this sum, £1,500 was voted to the North London Hospital for Consumption, £1,500 to the Hampstead Hospital, £300 to the Hampstead Nursing Association, and £37 to the Hampstead Provident Dispensary.

THE MEASLES EPIDEMIC IN LONDON.—The mortality from measles in London last week showed a further increase, and exceeded that recorded in any week since May, 1896. The fatal cases of this disease, which had been 86, 120, and 108 in the three preceding weeks, rose again to 122 during the week ending Saturday last, and were more than double the corrected average number in the corresponding periods of the ten preceding years. Of these 122 deaths, 117 were of children under 5 years of age. The disease was most fatally prevalent in East and South London, especially in Shoreditch, Mile End Old Town, Poplar, Southwark, Lambeth, Battersea, and Camberwell; in Fulham also the mortality from measles was exceptionally high. Among some of the largest provincial towns, notably in Halifax, Blackburn, Gateshead, and Swansea, measles was very fatally prevalent last week.

CORK EYE, EAR, AND THROAT HOSPITAL.—The new building of this hospital in Western Road was formally opened on December 11th by the Mayor of Cork in the presence of a large number of subscribers and supporters of the institution from both the city and county. The meeting adopted a cordial vote of thanks to Dr. Arthur Sandford for his untiring exertions in furthering the interests of the hospital, and for his devotion to the cause of suffering humanity. Dr. Sandford, in reply, said that the building was a model of good and substantial workmanship—bright, cheery, and homelike, and well adapted to its purpose, and paid a tribute to the exertions of the members of the Board of Management, the Honorary Secretary, and the lady visitors. Subsequently a resolution thanking the Board of Management, the lady visitors, and the medical staff for their exertions in maintaining and improving an institution of such great usefulness was adopted, on the motion of the Bishop of Cork (Dr. Meade), seconded by Sir Thomas Dennehy.

MEDICAL VACANCIES.

The following vacancies are announced:

ABERDEEN: UNIVERSITY OF.—Two additional Examiners: (1) Mater Medica for a period of three years; (2) Medical Jurisprudence a Public Medicine for a period of one year. Applications to Robe Walker, Secretary, by January 4th, 1898.

BATH ROYAL UNITED HOSPITAL.—Resident Medical Officer; must M.R.C.S., and either L.R.C.P. or L.S.A. Appointment for three yea Salary, £100 per annum, with board, lodging, and washing. Applic tions to W. Stockwell, Secretary, by December 28th.

BATH ROYAL UNITED HOSPITAL.—House-Surgeon, must be M.R.C. Eng. Appointment under October 1st, 1898. Salary at the rate of £ per annum, with board, lodging, and washing. Applications to Stockwell, Secretary, by December 29th.

BOOTLE BOROUGH HOSPITAL.—House Surgeon. Salary, £80 p annum, with board, washing, etc. Applications to Mr. Brooke Clerk to the Bootle Borough Hospital, Derby Road, Bootle, by Dece ber 21st.

BOURNEMOUTH ROYAL VICTORIA HOSPITAL.—Ophthalmic Surgeo must be F.R.C.S. Applications to the Secretary by February 1st, 18

CARDIFF PROVIDENT DISPENSARY.—Additional Members to t Medical Staff. Applications to the Honorary Secretary, Herbert Thompson, Whitley Batch, Llandaff, by December 31st.

CARLISLE: COUNTIES ASYLUM.—Junior Medical Officer. Salary, £ per annum, with board. Applications to Dr. Campbell, Garland Carlisle.

CHELSEA, BROMPTON, AND BELGRAVE DISPENSARY, 47, Sloan Square, S.W.—Honorary Visiting Surgeon to the Western Distric Applications to Austin E. Cooper, B.A., M.D., Secretary, by Decembe 31st.

HALIFAX ROYAL INFIRMARY.—Assistant House-Surgeon; unmarried and doubly qualified. Salary, £50 per annum, with residence, board and washing. Applications to Oates Webster, Secretary, by Decembe 29th.

HERTFORD UNION.—Medical Officers for the Second and Third District Salary for the former £29 16s., and for the latter £50. Doubly qual fied. Applications, on forms to be obtained at the Clerk's Office, t be sent to T. J. Sworder, Clerk, by December 22nd.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST Brompton, S.W.—Resident House-Physicians. Applications William H. Theobald, Secretary, by December 29th.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASE OF THE NERVOUS SYSTEM, 32, Portland Terrace, Regent's Park N.W.—Physician to out-patients. Applications to H. Howgrav Graham, Secretary, before January 1st.

KIRBYMOORSIDE UNION.—Medical Officer for the District of th Union, and Medical Officer for the Workhouse, Salaries £46 and £1 respectively, and usual extra fees. The Medical Officer will also b appointed Public Vaccinators for the whole of the district. Applica tions to Richard Jennings, Clerk to the Guardians, by December 21st.

LEICESTER INFIRMARY.—Surgical Dresser. Term six months. Board and lodging provided. Applications to T. A. Wykes, Secretary, The Infirmary, Leicester, by December 27th.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House-Surgeon. Appointment for six months. Board and lodging provided, but no salary. Applications to C. W. Carver, Honorary Secretary, by Decem ber 20th.

NORFOLK AND NORWICH HOSPITAL.—Surgeon and Assistant Surgeon to the Honorary Staff. Applications to Poole Gabbett, Secretary, fourteen days before the election, which takes place on January 8th, 1898.

NORTH-WEST LONDON HOSPITAL, Kentish Town Road, N.W.—Assistant Physician. Must reside within three miles of the hospital and within the four-mile cab radius. Applications to Alfred Craske, Secretary, by January 7th.

OLDHAM, COUNTY BOROUGH OF.—Medical Officer of Health for the Borough, and Medical Director and attendant of the Infectious Diseases Hospital of the Corporation. Salary for the first year will be £400, increasing by annual increments of £20 to a maximum of £500. Must remain in the service of the Corporation for a period of five years. Applications, endorsed "Medical Officer," to A. Nicholson, Town Clerk, Town Hall, Oldham, by December 31st.

PERSHORE UNION.—Medical Officer for the Eckington District, for the Flodbury District, and for the Upton Snodsbury District. Salaries, £65, £50, and £50 per annum respectively, exclusive of vaccination and extra medical fees. Applications to Joseph Martin, Clerk to the Guardians, Union Office, Pershore, by December 31st.

PLYMOUTH, SOUTH DEVON, AND EAST CORNWALL HOSPITAL.—House-Surgeon. Salary, £100 per annum, with board and residence. Applications to H. H. Shanks, R.N., Honorary Secretary, by December 31st.

ROYAL COLLEGE OF PHYSICIANS.—Milroy Lecturer for 1899. Applications to the Registrar, Royal College of Physicians, Pall Mall East, by January 10th.

SHANGHAI.—Medical Officer of Health; doubly qualified and hold a Diploma of Public Health. From 25 to 30 years of age. Salary, Taels 4,500 (about £600) a year. Appointment in the first instance for three years. Unfurnished quarters, consisting of bed room, bath room, and sitting room. Means of conveyance provided. First class passage to Shanghai provided by the Municipal Council, and if the officer returns at the end of three years the homeward passage will also be paid. Applications to G. Sims Woodhead, M.D., Examination Hall, Victoria Embankment, London, W.C. (who will supply further particulars), by January 1st, 1898.

SHEFFIELD PUBLIC HOSPITAL FOR DISEASES OF THE EAR, THROAT, AND SKIN.—Honorary Physician for the out-patient department for diseases of the ear and skin; doubly qualified. Applications to J. B. Hallam, Honorary Secretary, by December 24th.

SUNDERLAND AND NORTH DURHAM EYE INFIRMARY, Sunderland.—House-Surgeon. Salary, £100 per annum, outdoor. Applications to Jas. F. Potts, Secretary, Eden Vale, Sunderland.

TAUNTON AND SOMERSET HOSPITAL.—Qualified Assistant House-Surgeon. Appointment for six months without salary, but with board, washing and lodging in the institution. Applications, endorsed "Assistant House-Surgeon," to J. H. Biddulph Pinchard, Secretary, 13, Hammet Street, Taunton, by December 22nd.

UNIVERSITY COLLEGE, LONDON (Pathological Department).—Assistant in Bacteriology. Salary, £150. Applications to Professor Sidney Martin.

WALTHAMSTOW URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £120 per annum. Applications, endorsed "Medical Officer," to E. J. Gowen, Clerk to the Council, Town Hall, Walthamstow, by January 11th, 1898.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House-Surgeon. Appointment for six months. Board, lodging, and washing in the hospital, and gratuity of £20. Applications to the Secretary.

WESTERN GENERAL DISPENSARY, Marylebone Road.—Junior House-Surgeon, unmarried. Salary, £60 per annum, with board and residence. Applications to the Honorary Secretary.

MEDICAL APPOINTMENTS.

ANNINGSON, Bushell, B.A.Cantab., M.R.C.S., appointed an Examiner for the Diploma of Public Health at the University of Cambridge.

BLUMER, Fredk. Milnes, B.A.Durh., M.B., C.M.Edin., reappointed Medical Officer of Health to the Borough of Stafford.

BUCHANAN, James, M.B., C.M.Edin., has been appointed Medical Officer for the Poor-law Union of Watford, *vice* Dr. R. A. St. Leger, resigned, and Medical Officer to the School Board at Watford.

CALLANAN, J. J., L.R.C.P. and L.R.C.S. & L.M.Irel., appointed Medical Officer for Ribchester Workhouse, and Medical Officer and Public Vaccinator for the No. 3 District of the Preston Union.

CLARK, Joseph Adam, appointed Junior Assistant Medical Officer to the Glasgow City Parish Poorhouse.

COLLINGRIDGE, William, B.A.Cantab., M.D., D.P.H., appointed an Examiner for the Diploma of Public Health at the University of Cambridge.

DICKSON, Graeme, L.R.C.P.E., L.R.C.S.E., L.F.P.S.G., appointed Medical Officer of Health to the town of Hay, and Medical Officer for the Radnorshire District of the Hay Union, *vice* Dr. R. J. Sheperd, resigned.

DOUGALL, John McPhail, M.D., M.B., C.M.Glas., appointed Medical Officer to the Castle Howard Reformatory.

DUNN, Percy, F.R.C.S., appointed Ophthalmic Surgeon to the West London Hospital.

FITZGIBBON, Henry, M.D., T.C.D., M.Ch., M.R.C.P.I., appointed Consulting Surgeon to the Mercer's Hospital, Dublin.

FRY, W. E., M.R.C.S., L.R.C.P.Lond., appointed Medical Officer for the 4A District of the Malling Union.

GOODALL, J. K., L.R.C.P., L.R.C.S.Edin., reappointed Medical Officer for the Heath District of the Chesterfield Union.

GLENN, John Hugh Robert, B.A.Dub., M.B., appointed Gynæcologist to the Mercer's Hospital, Dublin.

GRAY, H. M. W., M.B., C.M.Aberd., appointed Assistant Anæsthetist to the Aberdeen Royal Infirmary.

HARCOURT, J. C., L.R.C.P., M.R.C.S., appointed Assistant Medical Officer to the Infirmary of the Lambeth Union.

HARKER, Wm. Edmund, M.D.Durh., B.S., reappointed Medical Officer of Health to the Tyne Port Sanitary Authority.

HOLMES, H., B.A., M.B., B.C.Cantab., appointed Junior House-Surgeon to the Royal Albert Edward Infirmary, Wigan.

HULL, A. J., M.R.C.S.E., L.R.C.P., L.S.A., appointed Clinical Assistant to the Hospital for Women, Soho Square.

JONES, Hugh Thos., L.R.C.P.I., M.R.C.S.Eng., appointed Medical Officer of Health to the Hucknall-Torkard District Council.

JONES, J. Williams, L.R.C.P., L.R.C.S.Edin., appointed Medical Officer and Public Vaccinator for No. 2 District of the Chorlton Union, *vice* G. E. Crowe, M.D., resigned.

KANTHACK, A. A., M.D.Lond., B.Sc., F.R.C.S.Eng., appointed an Examiner for the Diploma of Public Health at the University of Cambridge.

LEE, Barnard John, L.S.A., reappointed Medical Officer for the North Wingfield District of the Chesterfield Union.

LE GEYT, Edward, M.R.C.S.Eng., L.R.C.P.Lond., appointed Resident Surgical Officer to the Infirmary, Birmingham.

LEVACK, John R., M.B., C.M.Aberd., appointed Medical Electrician to the Aberdeen Royal Infirmary.

MCMURTRY, W. D., L.R.C.S.&P.Edin., appointed House-Surgeon to the Memorial Hospital, Jarrow-on-Tyne.

MARTIN, Sidney, M.D., F.R.C.P., B.Sc.Lond., appointed Examiner in Pathology to the Victoria University, *vice* Joseph Coats, M.D.Glasg.

MOORHEAD, J. Herbert, B.A., M.B., B.Ch.Dub., appointed Resident Medical Officer to the Suffolk General Hospital.

MORETON, Chas. P., M.R.C.S.Eng., L.S.A., appointed Medical Officer of Health to the Forden Rural District Council.

MUIR, Dr., appointed Medical Officer for the Abertillery District of the Bedwelty Union, *vice* W. E. Williams, F.R.C.S.Edin., resigned.

NOTTER, J. Lane, B.A.Dub., M.D., appointed an Examiner for the Diploma of Public Health at the University of Cambridge.

PERROTT, Chas. John, L.R.C.P., L.R.C.S.Irel., reappointed Medical Officer of Health to the Kingswood Urban Council.

PICKERING, George W., F.R.C.P., L.R.C.S.Edin., appointed Medical Officer for the Fourth District of the Malling Union.

PRITCHARD, W. B., M.R.C.S., L.R.C.P.Lond., appointed Medical Officer for the No. 2 (St. Luke's Ward) District of the Chorlton Union, *vice* Joseph Foster, M.R.C.S.Eng., L.S.A., retired.

REID, G. A., M.B., C.M.Aberd., appointed House-Surgeon to the Royal Victoria Hospital, Bournemouth.

ROBINSON, Henry, L.R.C.P., L.R.C.S.Edin., reappointed Medical Officer for the Hasland District of the Chesterfield Union.

SIMPSON, G. A. Garry, M.R.C.S.Eng., L.S.A., appointed Medical Officer of Health to the Acton Urban District Council.

STANLEY, W. E. S., L.R.C.S., L.R.C.P.Edin., appointed Medical Officer for the Dalwood, Kilmington, and Stockland Districts of the Axminster Union.

STEVENSON, Thomas, M.D., F.R.P.C.Lond., appointed an Examiner for the Diploma of Public Health at the University of Cambridge.

TOLLER, Seymour Graves, M.D.Lond., M.R.C.P., appointed an Assistant Physician to St. Thomas's Hospital.

WOODHEAD, Thos. Fielding, MR.C.S., L.R.C.P., appointed Medical Officer of the Meltham District of the Huddersfield Union, *vice* Dr. T. A. Haigh, resigned.

DIARY FOR NEXT WEEK.

TUESDAY.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen Square, W.C., 3.30 P.M.—Dr. Taylor: Clinical Lecture.

HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, 73, Welbeck Street, W., 4.30 P.M.—Mr. Ed. Cotterell: On the Surgery of the Spinal Column (continued).

PATHOLOGICAL SOCIETY OF LONDON, 20, Hanover Square, W., 8.30 P.M.—Mr. F. C. Abbott: Congenital Abnormality of the Sternum and Diaphragm, with Downward Displacement of the Heart. Dr. Leonard Guthrie: A Femur from a case of Fragilitas Ossium. Mr. Henslowe Wellington: A specimen of Spina Bifida. Dr. William Hunter: Gumma of the Pituitary Body. Dr. T. J. Bokenham: The Immunisation of Animals against (1) Typhoid and (2) Streptococcus Infection, with an account of the Properties acquired by the Serum of Animals thus rendered Immune. Dr. G. F. Still: Congenital Cystic Kidney associated with Cystic Liver. Dr. Arthur Voelcker: Ulceration of a Caseous Gland into the Bronchus; Death from Asphyxia. Mr. Strangeways Pigg: A case of Carcinoma Testis (card specimen). Dr. Ludwig Freyberger will show a specimen.

WEDNESDAY.

THE CLINICAL MUSEUM, 211, Great Portland Street, 4 P.M.—Demonstration by Mr. Jonathan Hutchinson.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office order or stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTHS.

GOUGH.—On November 30th, at Glenallon, Old Torwood Road, Torquay, the wife of John Harley Gough, M.R.C.S.Eng., L.R.C.P.Lond., of a son.

HOBHOUSE.—On the 12th instant, at 36, Brunswick Place, Brighton, the wife of Edmund Hobhouse, M.D., of a daughter.

LAWSON.—At 46, Leytonstone Road, Stratford, London, E., on the 11th inst., the wife of Henry A. Wellesley Lawson, L.R.C.P.&S.Edin., etc., of a son.

SMITH.—On Friday, December 10th, at 33, Strandmillis Road, Belfast, the wife of J. Lorrain Smith, M.D., of a daughter.

SPICER.—On December 9th, at 28, Welbeck Street, Cavendish Square, W., the wife of Dr. Scanes Spicer, of a son.

MARRIAGES.

ALLISON—FLETCHER.—At Kingwood Parish Church, on the 6th inst., T. M. Allison, M.D., of Newcastle-on-Tyne, to Frances Sarah, daughter of the late E. Sinclair Fletcher, and grand-daughter of the late Edward Fletcher, of Gateshead.

SARGENT—BRAY.—On December 7th, at S. Paul's, Shadwell, by the Rev. H. W. L. Robinson, B.A., assisted by the Rev. H. C. Dimsdale, M.A., and the Rev. J. W. Nowell, M.A., George Edward Henry Sargent, Surgeon, of 300, Commercial Road, E., eldest son of the late H. E. Sargent, M.D., to Susan Hone, eldest daughter of the Rev. C. Bray, M.A., Rector of Shadwell.

DEATHS.

POUND.—On December 1st, at Hook, Odiham, Hants, aged 42, Francis Joseph Pound, Senior Colonial Medical Officer, Fiji, son of the late George Pound, M.R.C.S., and grandson of the late Joseph Bayley, M.R.C.S., and brother of Clement Pound, of Odiham, Hants. (Colonial papers please copy.)

WILLS.—On December 3rd, at Waterloo Villa, Greengate, Plaistow, E., William A. E. Wills, L.R.C.S.I. and L.R.C.P.I., in his 27th year.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 2.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric, M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, W., 9; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Tu., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30: Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Tu., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30 Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—Gynæcological, M., 2; W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. F., 1.30; Eye, M. W., 1.30; Ear, M. Th., 9; Skin, Tu., 1.30, F., 2; Throat, M. Th., 9; Dental, Tu. F., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu.. F., 1; Eye, Tu. F., 9.30; Ear, M. Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies.*

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are directed will be found under their respective headings.*

QUERIES.

S.E. asks how and where particulars may be obtained of Swiss homes for cure of female inebriates.

RURAL M.O.H. would like to know how long a midwife should be prevented from attending confinements after having had two cases of puerperal fever.

A MEMBER would be glad to know whether there is any mechanical instrument for prolapse of the bladder in a patient too old for operation, and if so, where such an instrument can be procured. Pessaries have been tried without effect.

THE DOCTOR'S CARRIAGE.

PERPLEXED would be obliged for the experience of any medical men using completely-closed one-horse vehicles in hilly districts.

THE USE AND ABUSE OF ATHLETICS.

A.M., who is about to give a lecture on this subject, asks to be referred to a book or paper which will assist him.

*** The following references will give our correspondent a considerable amount of information on this subject:—*University Oars*, by Dr. J. E. Morgan (Macmillan, 1873). Athletic Exercises as a Cause of Disease of the Heart and Aorta, Dr. W. Collier, *Med. Soc. Trans.*, 1893, p. 64. Cycling and Heart Disease, Sir W. B. Richardson, *Med. Soc. Trans.*, 1895, p. 85. Training, by P. Furnivall, *St. Bartholomew's Hospital Journal*, June, 1896. Affections of the Nervous System in Cyclists, by the same, *Lancet*, May, 1897, p. 1503.

"CHANGING THE DOCTOR."

A CORRESPONDENT writes: A. is attending a patient B.; B.'s daughter, with her mother's sanction, leaves a message at A.'s house, telling him that his services are no longer required. C. is asked to attend B. Is C. contravening any law of medical ethics by doing so?

*** We apprehend that if proper notice has been given to a practitioner in attendance on a patient that his services are no longer required, another practitioner is justified in undertaking the case.

TREATMENT OF SUBACUTE RHEUMATISM: REMEDY WANTED.

NIL DESPERANDUM writes: For a month I have been treating with indifferent success a case of this disease following tonsillitis. The pain is in many joints, but usually no swelling. It jumps about from joint to joint just as acute rheumatism does. It has affected shoulders, elbows, carpus, metacarpal, phalangeal, knees, and spine; a pigment-leaving rash has affected one leg. The pain has been distinctly worse at night. Tongue clean, appetite good, pulse normal, temperature normal, urine clear. Salicylates in large doses control the condition, but as soon as they are omitted the symptoms return.

CYCLING QUESTIONS.

CAUTIOUS asks whether a man, aged 62, who two years ago had an attack of partial right hemiplegia, but who has so far recovered that he has now only some perversion of sensation in the arm and some slight stiffness of the leg, should be allowed to cycle.

*** We are advised that it would be better for the patient not to attempt to ride a bicycle at present, and that the greatest care should be exercised, even if it be thought right that he should do in the future.

C. A. O. asks to be referred to a book or pamphlet in English dealing with the health of cyclists.

*** Our correspondent might consult Mr. E. B. Turner's article on the Hygiene of the Cycle in the last edition of the *Badminton Book on Cycling*, or *Cycling and Health*, by Dr. Oscar Jennings. Translated from the third French edition by T. J. Crosse Johnston. London: Iliffe and Sons. 1890. 1s.

PAYMENT OF SURGEON TO JUVENILE LODGES OF FRIENDLY SOCIETIES.

M.R.C.S. inquires what is the usual charge for attending the members of a juvenile club. He says he has been asked to accept such a club, and is informed by the secretary that the usual remuneration is 2s. per annum per member.

*** It is to be feared that no more than this is paid by many juvenile courts. The amount is quite inadequate, and it is to be regretted that qualified practitioners can be found to accept such posts. Under no circumstances should juvenile members of a friendly society pay less than adult members, as their sickness rate is distinctly higher and the trouble they are likely to give the doctor will certainly not be less.

TYPHOID FEVER AND NOTIFICATION.

NORTHUMBRIAN asks: (1) What is the best recent work on typhoid fever, with special reference to treatment?

(2) Is a medical officer of health supposed to report to the Urban District Council cases of infectious disease notified to him, though the Notification Act is not in force in the district? Or is he justified in reporting "No cases of infectious disease," though such cases have been notified to him verbally?

*** (1) Our correspondent might consult *A Treatise on the Continued Fevers of Great Britain.* By C. Murchison, M.D., LL.D., F.R.S. Third edition edited by W. Cayley, M.D., F.R.C.P. (London: Longmans, Green and Co. 1884. 25s.) And the article on Enteric Fever, by Dr. Dresch-

feld, in the *System of Medicine* edited by T. Clifford Allbutt, M.A., M.D., LL.D. Vol. I. (London: Macmillan and Co. 1896. 25s.)

(2) A medical officer would not, we think, be justified in reporting "No cases of infectious disease," if he knows there are such cases in his district. He should press for notification, and then simply report the number of certificates received. If the Council want notification of infectious cases they should adopt the Act of 1889.

Ventilation of Hospitals.

Dr. J. A. Lindsay (Belfast) writes: I should be much obliged if some of your readers who have given special attention to the subject of the ventilation of hospitals would kindly answer the following queries: 1. Is the so-called "natural" method of ventilation by windows and fireplaces open to serious objection on the grounds of inefficiency, production of draughts, etc.? 2. Is the forced draught (plenum) method superior in any or all respects to the "natural" method? 3. Is the plenum method liable to break down or get out of order owing to frosts or from any other cause? 4. Does the plenum method add to the initial cost of a hospital? 5. Is there any instance of the plenum method having been tried and discarded in favour of the "natural" method? 6. Are there any statistics to show the effect of the two methods upon the results obtained in hospitals? 7. If the plenum method be adopted, should the windows be made to open or not? 8. Is the maintenance of a perfectly uniform temperature in hospital wards in all cases desirable?

Gas Fires and Stoves.

Enquirer writes: Will you kindly tell me what is the best way of heating sitting and bedrooms by gas where there are existing grates with chimneys.

*** So far as we are aware the safest way of using gas for warming sitting and bedrooms appears to be by the use of George's Calorigen. In this apparatus the gas is entirely out of contact with the air of the room, the air to feed the flame coming from the outside and going again to the outside when it is burnt. There is this additional advantage in the Calorigen, that warm air is constantly introduced into the room. The disadvantage is that for its proper setting it requires a couple of holes to be knocked in the outer wall. If it is desired to use the existing chimney an air-warming stove, such as the Euthermic, or Fletcher's "3 F." stove, may be placed in front of the grate, the flue of the stove being carried into the chimney. The more ordinary plan is to use an asbestos or "cobble" fire with atmospheric burner, of which many forms are sold. These are efficient if properly set. Another and very good plan is to have the front bars of the grate removed and replaced by thin upright bars such as are used in a Teale's grate; then to have the body of the fireplace to a large extent filled up with a firebrick, cut to the proper shape and size, and made to extend fairly high up above the old level of the bars, about two inches space being left between firebrick and the front bars; then to place an atmospheric burner, such as is sold for the purpose, as close down on the grate bars as it will lie, and lastly to fill up the remaining portion of the grate with the "cobbles" which are sold for gas fires. This arrangement is not quite so economical of gas as the ready-built open gas stoves, but its less economy is the result of the fire being more under the chimney, which therefore draws away the burnt gases more strongly than is always the case with the open gas stoves which project into the room. One very important point should always be borne in mind about all forms of atmospheric burners, namely, that each burner burns to the best advantage only when at one particular height, namely, just when it draws the proper admixture of gas and air, and that whenever it is turned below that height it tends to go wrong by "striking down," that is, lighting at the bottom and making horrible smells. Practically it may be said that an atmospheric burner should always be used "fully on." It is a most dangerous thing to turn such a burner low in a bedroom, for a very slight puff of wind may cause it to "strike down." The way to obviate this difficulty is to have the burner made in sections, each with a separate tap, so that one or more may be turned on according to the amount of fire required. However small the fire may be the gas for that section is turned full on. Some makers, for example, Sugg of Charing Cross, make their fires after this fashion; but when a cobble fire is being arranged in a grate as above described, it is a very simple matter to have two or three short burners each regulated by a separate tap instead of having one long one; or Wright's "Duplex" burner, to which there are two taps each controlling every alternate jet, may be used. The setting may cost a little more, but that is quickly saved in gas. It is a great advantage for anyone, but especially for an invalid, not to have to stoop to reach taps arranged by the hearth. It is a very simple thing to arrange that the taps shall be in the wall quite within reach from a chair.

ANSWERS.

Public Health in Russia.

Our Special Correspondent in St. Petersburg writes in reply to the inquiry from Dr. Alexander Davidson in the British Medical Journal of December 11th, p. 1771: The first and best Russian periodical dealing with public health matters is the *Messenger of Public Health and Legal and Practical Medicine*. This is the journal of the Medical Department of the Ministry of the Interior. It is published monthly, and the subscription is 7 roubles and 5 copecks annually. The next best is the *Journal of the National Health Society*; also monthly, and only 4 roubles annually. There are other journals devoted to public health, but I am afraid they are all printed in Russian. I do not know of any published in French or German. In all probability Dr. Davidson would find the journal named first the most useful. [Our correspondent expresses his willingness to obtain further information if desired.]

Estimation of Height and Weight in Assurance Examination.

Ignoramus.—In regard to the relation between height and weight of assurance candidates, it is, we believe, usual to measure them in their boots and weigh them in ordinary clothes without overcoat. The increased height due to the boots nearly neutralises the increased weight due to the clothing, so that the proportion is not much altered.

The F.R.C.S.Edin.

In reply to the query of "Provincial," published in the British Medical Journal of December 11th, p. 1770, "P. B. G." writes: (1) Erichsen is the only *Surgery* never refused. M'Lachlan's *Anatomical Landmarks* give all the peculiarities of the school, and with Sheild's *Surgical Anatomy* are enough. (2) Paper, three questions, clinical, oral; a very high standard and up to recent date. Genito-urinary surgery easiest, and midwifery the most unsatisfactory. (3) Mr. Robertson, Secretary to the Royal College of Surgeons of Edinburgh, will forward examination questions gratis. The examination is a good class one: is divided into seven parts; for each there is a maximum of 100 marks, and an average of 60 per cent. is a *sine qud non*. The parts are: (i) Surgical paper; (2) surgical anatomy paper; (iii) special paper; (iv) clinical surgery and clinical of special subject; (v) oral surgery; (vi) oral surgical anatomy; (vii) oral special subject. There is no doubt that the marks made in (i) and (ii) affect the result considerably. As there are things peculiar to Edinburgh, and as surgical and *post mortem* anatomy are severe, "Provincial" will do best to join one of Dr. Menzies Hutton's classes for anatomical demonstrations given ten days before each F.R.C.S. examination. Write 23A, Minto Street, Edinburgh.

NOTES, LETTERS, Etc.

Erratum.—In Mr. Alfred Willett's Bradshaw Lecture (British Medical Journal, December 11th, p. 1689) the illustrations of osteoclasts (Figs. 1 and 2) were accidentally transposed. The *lever* osteoclast is Thomas's and the *screw* Grattan's.

The Seamen's Hospital.

The Secretary of the Seamen's Hospital Society sends us a copy of the following resolution passed April 10th, 1896: "That in future the title of all honorary medical officers appointed to the Branch Hospital be Visiting Physician or Surgeon (as the case may be) of the Seamen's Hospital attached to the Branch Hospital, and that in future appointments to the hospital at Greenwich the title of Visiting Physician or Surgeon (as the case may be) of the Seamen's Hospital attached to the Dreadnought Hospital."

A Correction.

Dr. Alfred Eddowes (London, W.) writes: In the British Medical Journal of December 11th, in the report of a meeting of the Dermatological Society of Great Britain and Ireland, I find with reference to Mr. Hope Grant's case of dermatitis herpetiformis the following: "Dr. Eddowes remarked that Unna would have called it pemphigus." Those who are as well acquainted with Dr. Unna's teaching as I am will recognise the mistake at once. What I said was that I suppose Kaposi would include this case under the group of pemphigus, but I should diagnose it as a case of dermatitis herpetiformis. I did not mention the name of Unna in connection with the case.

Oil of Sandal Wood.

The pale yellow oil distilled from the wood of the santalum album is of comparatively recent introduction as a substitute for copaiba. The wood yields from 2 to 5 per cent. of oil. In India, with imperfect stills, 2.5 per cent. are obtained. The principal point of discussion in regard to sandal wood oil has been its specific gravity. The *British Pharmacopœia* states that it is usually about 960. This figure is lower than is given in the United States and Danish *Pharmacopœias*. The evidence obtained from the examination of oils distilled in this country from East Indian sandal wood points to 970 as the lowest allowable specific gravity for a pure oil. The first distilled is 960 to 964, and the last 980 to 986. The mixed distillates being between 970 to 980, with a general tendency towards the higher figure. The oil distilled in India from santalum album has a gravity of 990, but it is probable that this is due to the crude method of distillation. The rotation of English drawn sandal wood oil also varies between $-10°$ to $-20°$, and it has been urged that it would not be advisable to fix narrower limits than these for rotation.

Advertising Quackery or Unqualified Practice.

L.R.C.P. writes: The apathy of the medical profession in allowing the public to be hoodwinked by quack medicine advertisements in the public press, to say nothing of the loss of life which occurs annually by the sale of these nostrums (some of which contain poisonous drugs), by persons steeped in ignorance and impudence, is appalling. The Government, which derives a large revenue by the sale of quack medicines, take no notice of this danger to the health and lives of the people.

The medical defence societies have done some good service, but appear to be utterly powerless to prevent these abuses, and quackery and imposture are still rampant throughout the land. The editors of London and provincial weekly and daily papers give wide circulation to quack advertisements. The Medical Act is ignored. The penalty for false assumption of medical titles is defied and evaded by persons advertising Dr. So-and-So's pills, sold by Mr. So-and-So, warranted to cure all the ills that flesh is heir to. Madam So-and-So's pills, warranted to remove all obstructions from females, no matter of how

long standing and no matter from what cause proceeding, etc. Neither the Government, the public press, nor the medical profession have done anything to prevent it. In the absence of more stringent measures for the suppression of these flagrant abuses by Act of Parliament, notices should be inserted in all London and provincial weekly and daily papers, at least twice weekly, warning ignorant people against the evils of quackery, after the manner of members of the Stock Exchange, who insert notices in the papers warning the public that none of their members are allowed to advertise for the purchase or sale of stock, and warning the public against outside brokers.

The public should be warned by notice in the principal weekly and daily papers that qualified members of the medical profession are not allowed to advertise any remedy or medicine for the cure of disease, as this would be dangerous without proper medical examination of the patient. That the General Medical Council would consider it infamous, and would order the name of any qualified medical man to be struck off the *Medical Register* if convicted of such conduct. That the Government stamp on patent or quack medicines is no guarantee of the reliability of these medicines, but simply a receipt that the Government duty has been paid. That if the public swallow quack medicines they do so at their own risk. That the law assumes all persons unqualified to practise medicine or surgery unless their names appear on the *Medical Register*. All district registrars should be presented with an annual copy of the *Medical Register* to be open for the inspection of the public in order that they may see who are qualified and who are not. If the Government does not defray the cost it should be paid by the medical profession.

Mechanotherapy of Movable Kidney.

Dr. A. Symons Eccles calls our attention to one or two inaccuracies that crept into the report of his remarks in reply at the last meeting of the Medical Society of London. He actually referred to a patient with movable kidney who suffered from tachycardia. Though unaware of the condition of her kidney she found that the heart symptoms were relieved when she placed herself in a certain position. Moreover, all his patients save two were unaware of their condition, and none of the cases reported as relieved had been free from discomfort less than a year since treatment.

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BOOKS, Etc., RECEIVED.

A Textbook of Mental Diseases. By T. H. Kellogg, A.M., M.D. London J. and A. Churchill. 1897. 25s.

A Textbook of Special Pathological Anatomy. By E. Ziegler. Translated and Edited from the Eighth German Edition by Donald MacAlister, M.A., M.D., and H. W. Cattell, M.A., M.D. Sections ix-xv. London and New York: Macmillan and Co. 1897. 17s.

Les Troupes Coloniales, II. Maladies du Soldat aux Pays Chauds. Par F. Burot et M. A. Legrand. Paris: J. B. Baillière et Fils. 1897. Fr.2.50.

Human Nature, its Principles and the Principles of Physiognomy. By Physicist. Part I. London: J. and A. Churchill. 1897. 2s.

District Nursing on a Provident Basis. By J. B. Hurry, M.A., M.D. London: The Scientific Press. 1898. 2s.

Gynécologie. Par Dr. Betrix. Vols. I et II. Geneva: Georg and Co. 1897.

Obstétrique. Par Dr. Cordes. Geneva: Georg and Co. 1897.

Atlas der Syphilis und der venerischen Krankheiten. Von Dr. F. Mracek. Munich: J. F. Lehmann. 1898. M.14.

Sir James Young Simpson and Chloroform (1811-1870). By H. Laing Gordon. (Masters of Medicine. Edited by Ernest Hart, D.C.L.) London: T. Fisher Unwin. 1697. 3s. 6d.

A Surgical Handbook. By F. W. Caird, M.B., F.R.C.S., and C. W. Cathcart, M.B., F.R.C.S. London: Charles Griffin and Co. 1897. 8s. 6d.

West London Medical Journal. Edited by Percy Dunn, F.R.C.S. Vol. II. London: John Bale, Sons, and Danielsson. 1897.

The Peritoneum. By Byron Robinson, B.S., M.D. Part I, Histology and Physiology. Chicago: C. V. Waite and Co. 1897. $3.75.

Die Haupthatsachen der Chemie. Von Prof. E. Harnack, Zweite, neu bearbeitete Auflage. Hamburg und Leipzig: Leopold Voss. 1897. M.2 50.

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SIXTY-FIFTH ANNUAL MEETING
OF THE
BRITISH MEDICAL ASSOCIATION.

Held in Montreal August 31st, September 1st, 2nd, and 3rd.

PROCEEDINGS OF SECTIONS.

SECTION OF PATHOLOGY AND BACTERIOLOGY.

Watson Cheyne, F.R.C.S., F.R.S., President.

ON CERTAIN NEW SPECIES OF NEMATODE HÆMATOZOA OCCURRING IN AMERICA.

By Patrick Manson, M.D., LL.D., F.R.C.P.,

Lecturer on Tropical Diseases, St. George's and Charing Cross Hospital Medical Schools; Medical Adviser to the Colonial Office: Visiting Physician of the Seamen's Hospital, attached to the Branch Hospital, Albert Docks.

For some years I have been endeavouring, with the assistance of friends and correspondents in different parts of the tropical world, to collect statistics bearing on the geographical distribution and local prevalence of the various species of filariæ sanguinis hominis.

In 1891 [1] I pointed out that the filaria sanguinis hominis of Lewis was not the only nematode embryo inhabiting the human blood. I showed that in west tropical Africa a very large proportion of the negroes of certain districts harbour two other and specifically distinct blood-worms. These I subsequently named filaria diurna and filaria perstans, so as to distinguish them from Lewis's filaria, which is also common enough in the same districts, and which I took the liberty of renaming filaria nocturna.

In 1893, and again in 1895, I received consignments of 152 blood slides from Dr. Newsam of St. Vincent, West Indies, procured by him from residents on that island. In six of these St. Vincent slides I found numerous specimens of filaria nocturna, and in ten of them an entirely new filaria which, at Blanchard's suggestion, I have named filaria Demarquayi. This new filaria is shaped exactly like filaria nocturna and filaria diurna but is very much smaller. I do not feel justified in giving the measurements of the dried organism, the only specimens available, as, in consequence of the shrivelling the parasites have undergone, the dimensions may be materially altered; suffice it to say that filaria Demarquayi is less than half the size of filaria nocturna. At one time I thought filaria Demarquayi was provided with a sheath like filaria diurna and filaria nocturna. After re-examination of the slides, however, I am now inclined to think that on this point I made an error in observation, due partly to the imperfect nature of the slides I had to work with; a certain amount of shrinkage of the parasites in the blood films gave rise to an appearance which I must have mistaken for a sheath. I now think filaria Demarquayi has no sheath, but, like filaria perstans, is naked in the blood. Besides differing in size from filariæ diurna and nocturna, and, possibly, in this matter of a sheath, filaria Demarquayi differs from them in habit; it exhibits no diurnal periodicity whatever, being present in the peripheral blood both during the day and during the night.

Through the kindness of Dr. Mapleton, of St. Kitts and Montserrat, I subsequently had the opportunity of examining blood films from natives of these islands—twenty-eight individuals in all. Of these six had filaria nocturna; I failed, however, contrary to expectation, to find filaria Demarquayi in any of them. Drs. Daniels and Ozzard had made similar examinations of the blood of natives and other residents—negroes, East Indians, Portuguese—in British Guiana, principally inhabitants of the coast districts. Although Dr. Daniels found filaria nocturna in 52 out of 348 individuals examined, and Dr. Ozzard in 24 out of 83, in none of them did they find any other kind of filaria. About the same time I, also, examined blood from 61 natives of Demerara; filaria nocturna was found in 9 of them, but no other filaria. These slides all came from the Demerara littoral.

Last winter, however, and again lately, Dr. Ozzard had the kindness to collect and send to me blood slides from certain tribes of aboriginal Guiana Indians. These aborigines reside in the interior of the country, and have very little communication with the settled districts near the coast. There were 63 examinable slides in all. Strange to say, although it is so common among the inhabitants of the settled country on the coast, I did not find a single example of filaria nocturna in any of these 63 slides, representing 63 individuals; but in 27 of them I found many specimens of two minute filariæ entirely different from that more familiar blood-worm. One of these minute filariæ closely resembled filaria Demarquayi of St. Vincent, being minute and sharp-tailed and without a sheath; the other closely resembled, if it was not identical with, filaria perstans, a parasite which hitherto I had found only in West African blood. The two parasites in some instances were present side by side on the same slide. In none of the slides were they very numerous, resembling filaria perstans in this respect. Of the two, the blunt-tailed parasite was the more numerous.

On informing Drs. Ozzard and Daniels of the discovery they were not long in confirming it. Dr. Daniels sent me six slides from a Demerara buck Indian he had under observation in the hospital at Georgetown. The slides had been prepared at different hours of the day and night. All contained both blunt-tailed and sharp-tailed filariæ. Altogether there were 174 parasites, 145 being blunt-tailed like filaria perstans, and 29 of them sharp-tailed like filaria Demarquayi, the proportion of the two forms being as five to one.

It would be of interest, and possibly of importance, to settle precisely the relation of these filariæ to filaria Demarquayi, to filaria perstans, and to each other. Dr. Daniels in a letter to me suggests that the sharp-tailed and the blunt-tailed filariæ of the Guiana Indians are but different stages of the same species. I doubt this. In appearance they differ considerably. In size and in absence of periodicity and, as Dr. Daniels informs me, in behaviour on the slide while alive, they correspond very closely; but their staining reactions are somewhat different, and the shape of the tail is entirely dissimilar. Dr. Daniels would seem to suggest that the sharp-tailed got rid of the tip of its tail in the blood, and so became transformed into the blunt-tailed variety. I think, judging from its size, staining reactions, and habits, that the blunt-tailed filaria of Demerara is filaria perstans. If this be the case, as I think it must be, it is a curious circumstance, if Dr. Daniels's suggestion be correct, that among the many specimens of filaria perstans I have closely examined in African blood not once have I seen a similar sharp-tailed filaria associated with the ordinary blunt tailed form as in Demerara Indians. Again, it might be suggested that the sharp-tailed filaria is filaria Demarquayi. But if this be the case, and Dr. Daniels's suggestion be correct, it is a curious circumstance that I have never remarked a blunt-tailed filaria in St. Vincent blood slides. If, therefore, my observations on these points are correct, and Dr. Daniels's conjecture be well founded, it follows that the blunt-tailed, sharp-tailed, pleiomorphic filaria of Demerara is a new species. From certain peculiarities in shape and size, and from difference in staining reaction, as well as from other minor details, I do think the sharp-tailed Demerara filaria is a new species and not identical with filaria Demarquayi. As I have said, I do not think it is filaria perstans, but I do think that the blunt-tailed Demerara filaria is identical with the filaria perstans of West Africa. The frequent concurrence of two entirely different species of parasite is too common an event to be advanced as an argument against the view I take of the relationship of these blood-worms. The circumstances favouring the introduction of the one species are probably just those that favour the introduction of the other; thus rhabdonema intestinale frequently concurs with ankylostoma duodenale.

It is probable, therefore, that we know of at least six nematode worms, or embryo nematode worms, inhabiting the blood of man, namely, filaria nocturna (filaria Bancrofti—mature form), filaria diurna, filaria perstans, filaria Demarquayi, filaria Megalhaesi, and this new filaria of Deme-

Region.	Locality	No. of cases examined.	Day or Night Blood.	Filaria Nocturna.	Filaria Diurna.	Filaria Demarquayi.	Filaria Perstans.	Demerara Species.	
								Blunt-tailed Filaria Perstans (?).	Sharp-tailed Filaria Ozzardi.
West Africa	Lukunga (Congo)	14	—	—	—	—	9	—	—
	Banza Manteka (Congo)	61	—	—	—	—	35	—	—
	Old Calabar	27	—	1	1	—	15	—	—
	Lower Niger	53	Day	—	5 (?)	—	3	—	—
	Dahomey	49	Both	2	—	—	1	—	—
East Africa	Zanzibar	1	—	1	—	—	—	—	—
	Mombasa	40	(?)	1	—	—	—	—	—
	South-east Africa	74	—	—	—	—	—	—	—
North Africa	Morocco	6	5 P.M.	—	—	—	—	—	
India	Madras	6	—	1	—	—	—	—	—
	Cochin	88	Night	21	—		—	—	—
	Ceylon*	55	Both	1	—		—	—	—
South Pacific	Samoa	56	Night	27			—	—	—
	Fiji (Dr. Thorpe)	124	,,	30			—	—	—
	Friendly Islands (Dr. Thorpe)	214	,,	69			-	—	—
British Guiana	Georgetown (Dr. Daniels)	348	,,	52	—	—	—	—	—
	New Amsterdam (Dr. Ozzard)	83	,,	24	—	—	—	—	—
	Demerara Indians	63		0	—	—	—	25	10
	Demerara Littoral	61	Night	9	—	—	—	—	—
West Indies.	St. Vincent	152	Both	6	—	10	—		
	St. Kitts, Montserrat	28	,,	6	—	—	—	—	—

* F. nocturna is much more common in Ceylon than these figures indicate. Dr. Thornhill has found it very prevalent in limited districts.

rara, which I propose to call provisionally filaria Ozzardi. Whether Megalhaes's filaria is the mature form of either of the new American species it is as yet impossible to say.

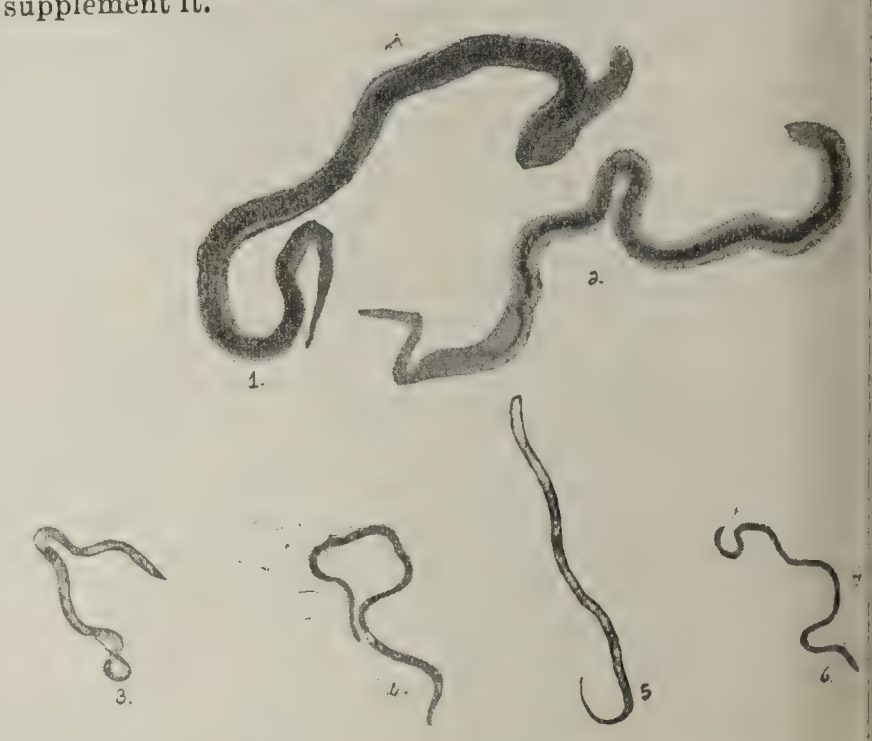
That these American blood parasites have a pathological bearing I do not doubt; but what this may be has yet to be ascertained. Strange to say, although so large a proportion of the Guiana Indians are affected with these worms filaria nocturna appears to be unknown among them. An interesting fact, and doubtless correlated to this absence of filaria nocturna, is the absence of elephantiasis Arabum among these aboriginal Indians. Another striking circumstance, perhaps associated with the presence of filaria perstans among them, Dr. Ozzard mentioned to me in a letter. He says, that when travelling among these Indians a woman, who they stated was always asleep, was brought to him by her friends for medical treatment. Those interested in this subject may be aware that some years ago I suggested that filaria perstans seemed in some way bound up with that mysterious disease, the sleeping sickness of West Africa.

The discovery of these new blood-worms opens up a large field to American investigators. It is only by studies on the spot, and with abundant material at command, that we can hope for accurate pathological as well as zoological information on what may prove to be an important matter. Doubtless these parasites are not limited to one or two small islands, or to one insignificant tribe of savages. Most probably they have a wide distribution in the tropical regions of the western continent.

For the benefit of those who would further investigate this interesting matter, I would suggest the following simple technique for the rapid and exhaustive examination of blood films for filariæ. Prick the finger of the subject whose blood it is proposed to examine. Express a large, full drop of blood and transfer it to a spirit cleaned slip, spreading it out with a needle over a surface about an inch square. Allow the blood to dry thoroughly. Then wash out the hæmoglobin by passing the slide through water three or four times; if the slides are old a little weak acetic acid—one drop to the ounce of water—will assist dehæmoglobinisation. Then dry the slide and fix by immersing in absolute alcohol for five or ten minutes. Dry again, and stain with methylene blue in the usual way; or, if more permanent slides are desired, with logwood and eosin. Mount in balsam in the usual way. Every part of the slide should be carefully scrutinised with a half-inch objective, by which, if present, the filariæ will be readily detected. For a minute study of the filaria, of course unstained and living specimens must be used. To bring out many of the anatomical details to perfection, whether in stained or living preparations, an immersion lens is desirable.

For purposes of contrast, it is well to have some cover-glass films containing a large number of filaria nocturna in stock; if these are stained a different colour and mounted with balsam on slips containing any of the other filariæ, as has been done in one of the preparations under the microscope, differences in size and other points of contrast between the species are more easily apprehended.

Appended is a table embodying the results of the examation of a large number of slides from different parts of the world. I trust that ere long observers in America will largely supplement it.



× 300.

1. Filaria nocturna (West Indies).
2. Filaria diurna (Old Calabar, Africa).
3. Filaria Demarquayi (St. Vincent, West Indies).
4. Filaria perstans (Congo, Africa).
5. Filaria Ozzardi (British Guiana).
6. Filaria Ozzardi (?) F. perstans (?) (British Guiana).

(Photographed by Mr. Richard Muir, Pathological Laboratory, Edinburgh University.)

Note.—Since the foregoing was written I have found in blood from a native of New Guinea (north-east coast), a small, sharp-tailed, sheathless filaria closely resembling, if not identical with, filaria Demarquayi.

REFERENCE.—[1] *Lancet*, January 3rd.

ON CERTAIN CHANGES IN THE CELLS OF THE VENTRAL HORNS AND OF THE NUCLEUS DORSALIS (CLARKII) IN EPIDEMIC CEREBRO-SPINAL MENINGITIS.

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In 1894, Flexner and the writer published from Professor Welch's laboratory the results of an investigation of an epidemic of cerebro-spinal meningitis which occurred at Lonaconing and the neighbouring villages in the Alleghany Mountains of Maryland.[1] In that report were embodied the notes of two cases which came to necropsy—one, a girl of 9 years, who had succumbed to an acute form of the disease, dying on the third day; the other, a girl of 16, who had died in the third week. The nervous system from both cases was obtained for study, the necropsy in the first instance having been made as early as two hours after death. The alterations in general in the grey and white matter of the spinal cord and brain were discussed at length in the communication referred to, and a description of the findings need not be repeated here.

It is the object of the present paper to call attention to some finer alterations in the nerve cells in the spinal cords of these two individuals. Tissues carefully embedded in paraffin were sectioned and stained by Nissl's method, by Held's modification of this method, and by a third procedure which I have found to yield very satisfactory results with nerve tissue, namely, the use of Unna's polychrome methylene blue followed by neutral orcein. The sections, mounted in benzine colophonium, were carefully studied with especial reference to the condition of the stainable substance of Nissl and to nuclear alterations. The changes found in the cells of the ventral horns and the nucleus dorsalis were much alike in the two cases, although the alterations were rather more marked in the subacute than in the acute disease. One description, however, will suffice for both.

On first examination there is very little in the ventral horns which would strike one as being particularly abnormal, inasmuch as the size and general appearance of the cells, including the stichochrome arrangement of the Nissl bodies (von Lenhossék's tigroid), do not seem to be much altered. On closer study, however, it is easy to make out in very many of the cells certain slight deviations from the normal type. These alterations consist in (1) the disappearance of the stainable substance of Nissl from dendrites or from portions of a dendrite or of a cell body; (2) the formation of nodular swellings of the dendrites, these swellings corresponding to pathological accumulations of the stainable substance; and (3) a tendency to disorganisation of individual Nissl bodies, especially at the periphery of the cell. These changes are not at all marked, and are much less emphasised than those of an entirely similar character which are to be observed in certain sections which I have studied from the spinal cord in several forms of intoxication; for example, ricin poisoning, chromate poisoning, and those described by Nissl,[2] Lugaro,[3] and Marinesco[4] in lead poisoning, arsenical poisoning, and other intoxications. These alterations are doubtless to be looked upon as the expression of the direct action upon the nerve cell of the toxins (circulating in the blood and lymph) of the bacteria causing the meningitis.

In a certain number of the cells of the ventral horns, however, pathological changes of an entirely different character are demonstrable. The central portion of the cell body in these shows no well-defined Nissl bodies, but instead the protoplasm in this region stains diffusely of a pale blue colour, the portion adjacent to the axon hillock often remaining almost entirely unstained. Any Nissl bodies still distinctly recognisable as such are situated in the periphery of the cell. Even where no isolated tigroid masses can be made out, the periphery of the cell usually stains of a rather deep-blue colour. The nuclei in the cells under consideration are dislodged from their normal situation, and have come to occupy a position immediately adjacent to the margin of the cell (Fig. 1), often causing a distinct bulging of its periphery.

These lesions are not at all similar to those which result from the direct action of toxic substances upon the bodies of the nerve cells themselves. On the other hand, they are practically identical with the changes which take place in

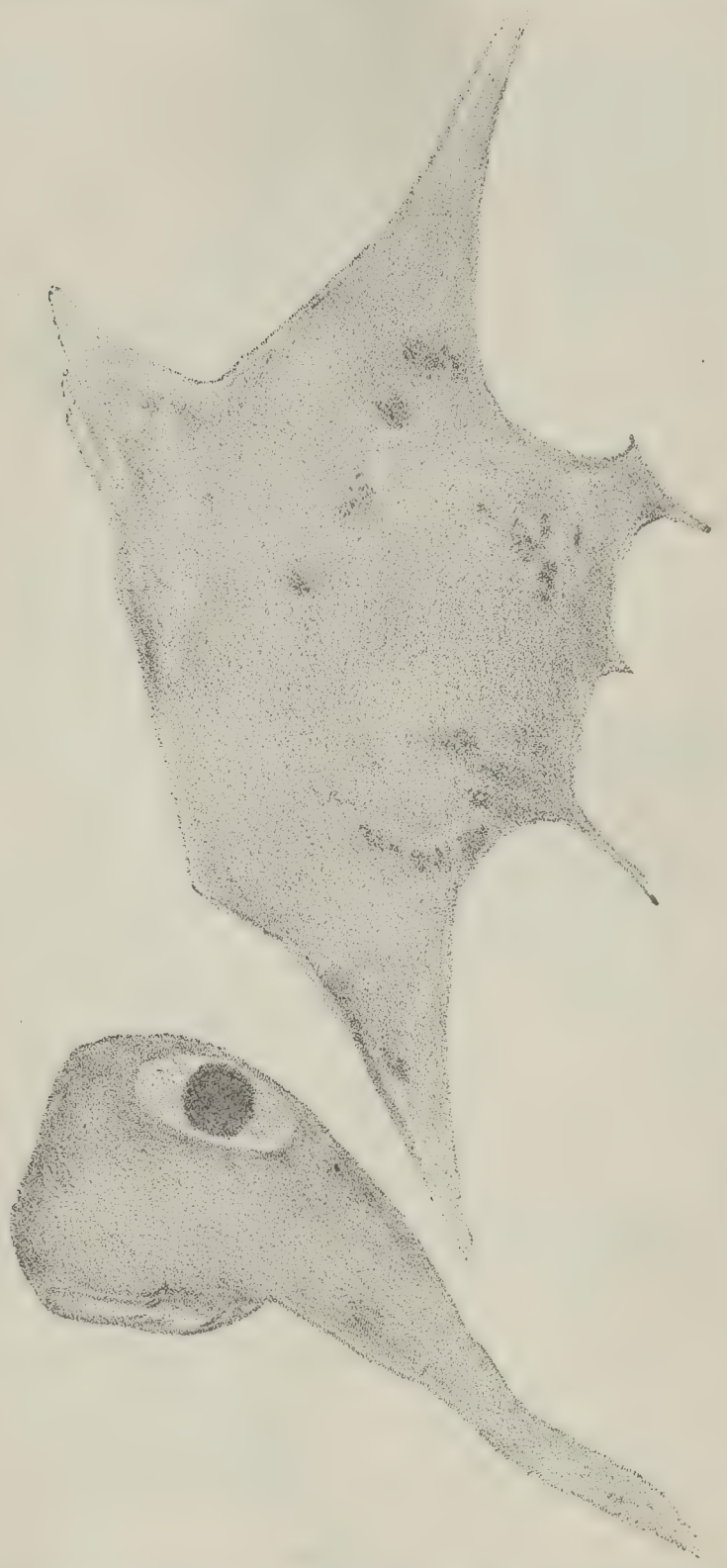

Fig. 1.—Cells from the ventral horn of the human spinal cord in epidemic cerebro-spinal meningitis. The nucleus of one of them is not visible; that of the other is displaced to the side of the cell. Marked disorganisation of the stainable substance of Nissl, the result of the involvement of the ventral roots in the meningeal inflammation.

the cell body of a neuron after solution of continuity of the axon which belongs to it (Nissl,[5] Flatau,[6] Marinesco,[7] Lugaro,[8] and others). If the cells illustrated in Fig. 1 be compared with those shown in Fig. 2, the identity of the lesions will be evident. In Fig. 2 are represented several cells from a section of the nucleus nervi facialis of a rabbit prepared in the anatomical laboratory of the Johns Hopkins University by J. Erlanger, fifteen days after the division of the facial nerve. In Fig. 3 a normal stichochrome motor cell is pictured for comparison.

These changes in meningitis, apparently identical with those secondary to injury to the axon, were found not only in the cells of the ventral horns, but also to a most marked

degree in those of the nucleus dorsalis (Clarkii). The study of a considerable number of sections through this nucleus at

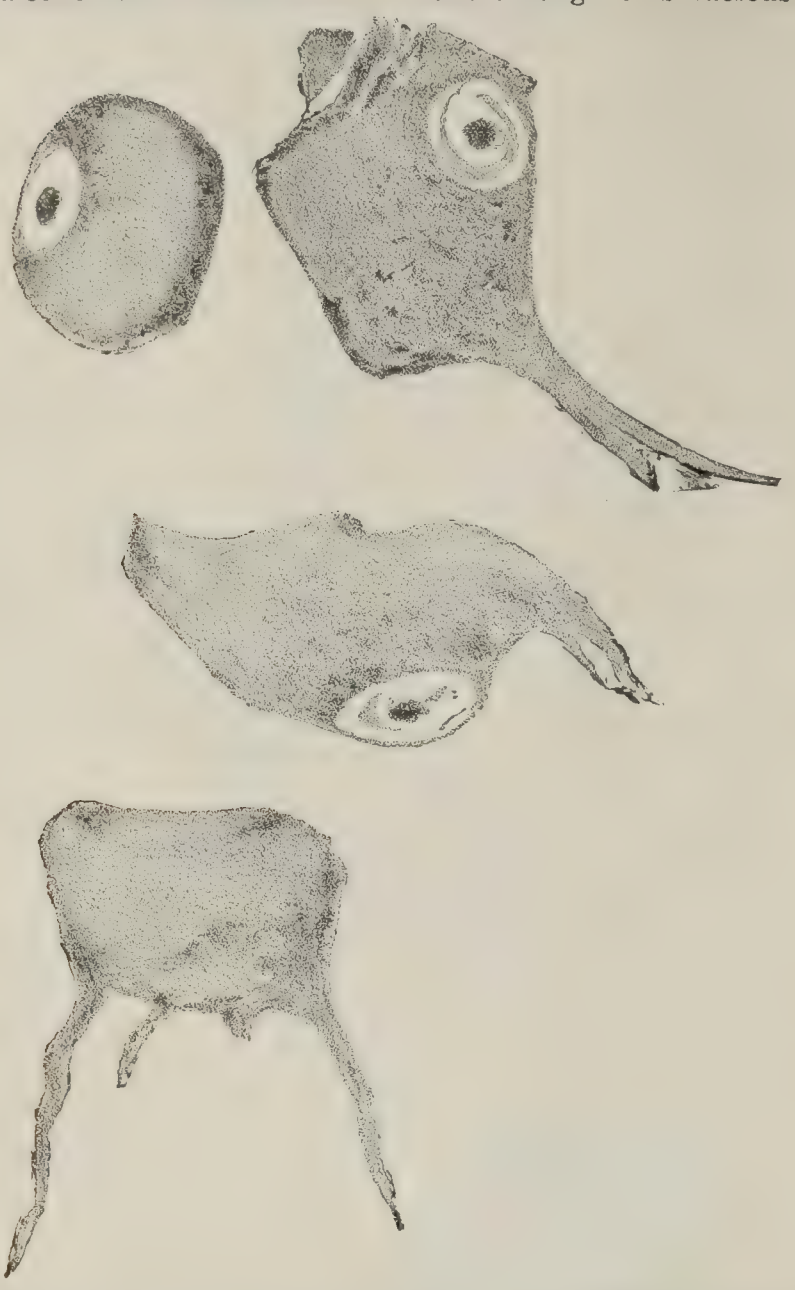

Fig. 2.—Four nerve cells from the nucleus nervi facialis of a rabbit fifteen days after section of the nerve root. Drawing made from one of J. Erlanger's preparations.

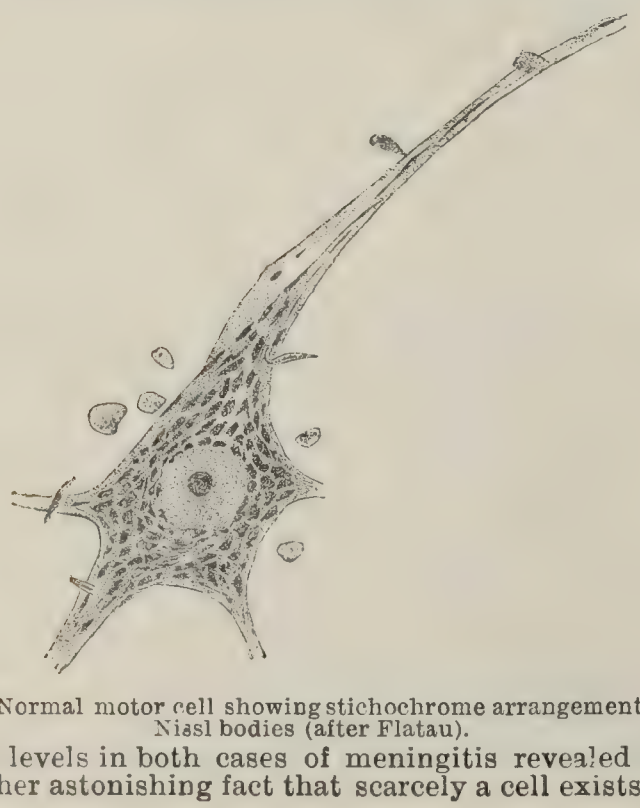

Fig. 3.—Normal motor cell showing stichochrome arrangement of the Nissl bodies (after Flatau).

different levels in both cases of meningitis revealed the, at first, rather astonishing fact that scarcely a cell exists in this nucleus which has not undergone the changes mentioned, the majority exhibiting them in an extreme degree (Fig. 4).

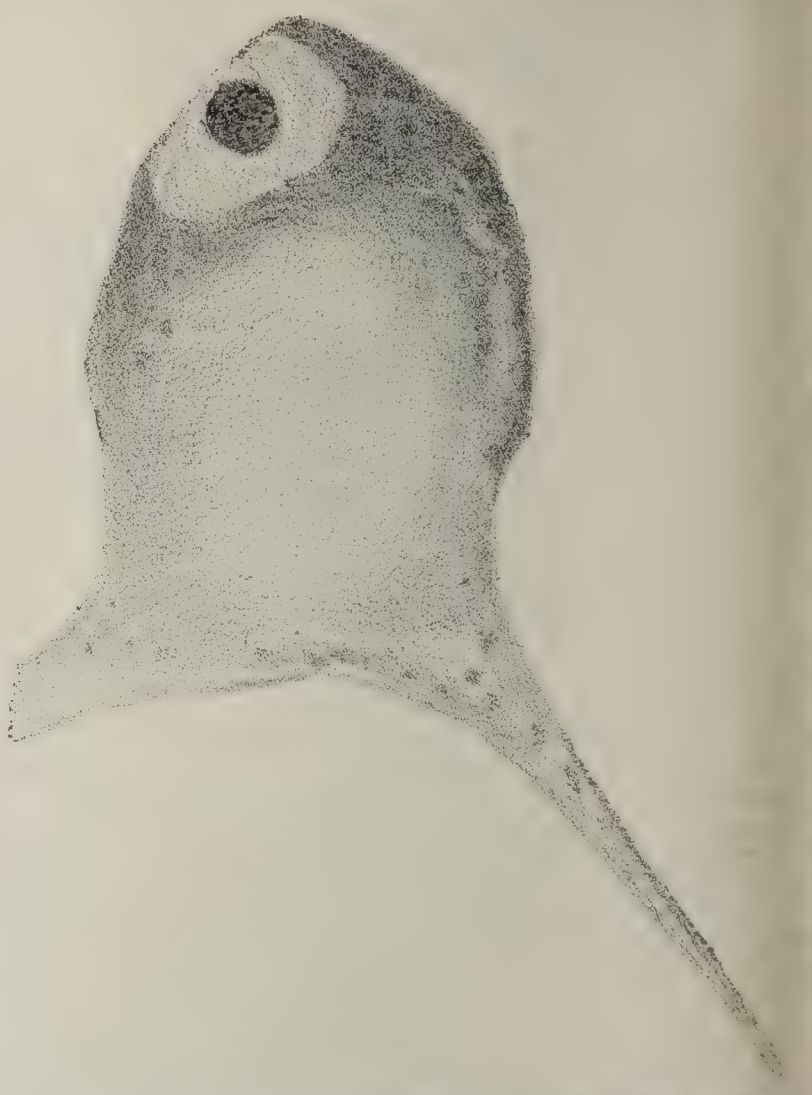

Fig. 4.—Cell from the nucleus dorsalis in a case of epidemic cerebro-spinal meningitis.

The question at once arises, What are the conditions present in cerebro-spinal meningitis which account for these indirect changes in the bodies of the nerve cells?

First, as to the changes in the cells of the ventral horns. In alcoholic and other forms of intoxication giving rise to symptoms of polyneuritis in addition to the primary alterations in the nerve cells in the spinal cord, Ballet and Dutil have described and pictured secondary alterations in the cell bodies, and assume that the latter are in reality the result of direct toxic insult to the axon at a distance from the cell, the change in the cell body following secondarily upon the lesion of the axon. It would not be impossible in an infectious disease like epidemic cerebro-spinal meningitis to imagine an injury to the peripheral motor nerves analogous to that which has been demonstrated in various forms of bacterial intoxication (diphtheria, etc.), the soluble poisons circulating in the blood being capable of causing focal necroses in the peripheral nerve trunks.

A moment's thought, however, concerning the conditions in cerebro-spinal meningitis relieves us from the necessity of seeking so distant an explanation. The clue to the secondary lesions in the cells of the ventral horns lies in the involvement, by the meningeal inflammation, of the ventral roots of the cerebro-spinal nerves. In both the cases here reported in agreement with the findings in general in cerebro-spinal meningitis very distinct alterations in the ventral roots were observed. These changes, which consisted of hyperæmia, hæmorrhages, infiltration with small round cells and swelling of the axis cylinders, varied in extent in different nerve roots, in some places being slight or even almost entirely absent, in other places being well marked. Such an injury easily accounts for the secondary lesions in the nerve cells, since, as Nissl has shown, actual division of the axis cylinders is by no means necessary to call forth the typical alterations in the

cell bodies of the neurons which give origin to them. But the simple application for a given period of certain chemical substances, for example, common salt, amply suffices to give rise to them. We have, therefore, not far to go to account for the fact that in the cell bodies of the lower motor neurons in epidemic cerebro-spinal meningitis we meet with not only the evidences of the direct action of a direct agent upon the cell protoplasm, but also with the secondary lesions characteristic of "reaction at a distance."

The involvement of the nerve roots, ventral and dorsal, will not account, however, for the alterations in the cells of the nucleus dorsalis, for the axons of these cells do not pass into the peripheral nerves, and the interference with the centripetal impulses arriving in the nucleus by way of the collaterals (owing to injury of the fibres of the dorsal roots) would scarcely account for the lesions found in them. The changes they exhibit could not be more typical of lesions which follow injury to axons. In both the cases described by Flexner and myself it was expressly mentioned in the protocols of the necropsies that the meningeal exudate was most abundant on the dorsal surface of the cord and on the lateral surface between the ventri-lateral and dorso-lateral sulci. In the first case the exudate was particularly abundant in the cervical region of the spinal cord. We have very good reason to believe (though so far as I know the direct connection of the axons in the fasciculus with the cells in the nucleus has never been actually demonstrated by Golgi's method) that the axis cylinders of the nerve fibres in the fasciculus cerebello-spinalis (direct cerebellar tract) represent processes of nerve cells situated in the nucleus dorsalis. Flechsig's embryological studies and Mott's observations in cases of secondary degenerations have demonstrated this relation beyond reasonable doubt. The course of the fasciculus cerebello-spinalis is, as is well known, very superficial, the fibres being situated on the very periphery of the cord, lateral from the position occupied by the fibres of the fasciculus cerebro-spinalis lateralis (lateral pyramidal tract). When one recalls the superficial position of the fasciculus throughout the whole length of the thoracic and cervical cord, and especially where it passes over, in the lower part of the medulla, into the corpus restiforme to enter the cerebellum, and when one considers that the fibres throughout the whole distance were very directly exposed to the meningeal inflammation, he will have no difficulty in understanding the possibility of the occurrence of injury to the axons; indeed, it would be difficult to understand how they could possibly escape. The lesions characteristic of "reaction at a distance" met with in the cells of the nucleus dorsalis in epidemic cerebro-spinal meningitis are in all probability, therefore, such in reality.

A further study of the spinal cord and brain in such cases will doubtless demonstrate similar alterations in the cells of origin of many of the axons which lie on the periphery of the cord. Such fibres represent, as has for some time been known, and as Flatau has recently particularly emphasised, those of the longer tracts in the cord. A given fibre in one of these tracts is, therefore, especially exposed to injury, not only on account of its superficial position, but also on account of its great longitudinal extent.

No reference need be made at this time to the clinical significance of these findings. It is, perhaps, not too much to hope that they may be of some service in unravelling the complicated symptomatology of cerebro-spinal meningitis.

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CARCINOMA OF PENIS.

By ALEXIS THOMSON, M.D., F.R.C.S.Edin.,
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A LANTERN demonstration was given by Mr. Alexis Thomson of a series of sections of the penis amputated for cancer by Professor Annandale, Mr. John Duncan, and himself. The sections were prepared by the paraffin method by Mr. Richard Muir, and were stained in hæmatoxylin and eosin; orcein was also employed to demonstrate the elastic fibres.

1. *The type of cancer* present was found to be squamous epithelioma in all but one of the eleven cases; more often formative and tumour-like than ulcerative, resembling cancer of the lip rather than of the tongue. The cauliflower, or warty type, is characteristic. From the glans the disease may protrude from the orifice of the prepuce, more often it perforates the prepuce, especially if there be phimosis. The only specimen not a squamous epithelioma was found to be an alveolar cancer, resembling rodent. It was a soft growth, involving the glans, crumbling away, or ulcerating on the free surface, and was obtained from a patient aged 84. The prepuce was quite loose and free from disease. The cancer was more advanced in relation to the urethra, into the lumen of which it projected. Histologically the tumour resembled "rodent" in the shape and size of the alveoli, in the small size and close packing of the cancer cells. Certain of the alveoli presented indications of a central lumen; the cells bounding the latter tended to assume the elongated shape characteristic of the superficial layer of cells lining the urethra. It is probable that the cancer originated from the urethra, and then extended over the surface of the glans. It differed from rodent in the depth to which it had penetrated the spongy substance of the glans (2.5 cm.)

2. *The commonest point of origin* of squamous epithelioma was the dorsal aspect of the glans, in the region of the corona, and next in frequency the reflection of the prepuce. Least commonly upon the inner aspect or at the orifice of the prepuce. When cancer originates on the inner aspect of the prepuce, it may spread on to the glans. An epithelioma may originate on the external skin of the prepuce; it is then usually horny and circumscribed. In two specimens the cancer originated at two separate points, that is, on the glans and prepuce respectively.

3. *The Existence of Precancerous Conditions of Epithelium.*—The surface epidermis covering the glans or lining the prepuce, apart from that involved by the cancer, may present one or other or both of the following changes: (*a*) A catarrhal condition (balanitis ?) in which the surface layers are shed, the deeper layers are permeated by leucocyte infiltration, and the subjacent connective tissue shows great increase in vascularity. (*b*) More frequently a marked thickening of the surface epidermis along with a rich infiltration of small cells in the subepithelial connective tissue. The overgrowth of surface epidermis may be uniform or papillary, or may present complete branched filiform processes. It ceases abruptly at the edge of the cancer. These conditions of surface epidermis are similar to those observed in the lip and tongue in association with cancer, and have been described by Schuchardt and others under the name of "psoriasis preputialis."

4. *The Method of Extension of the Cancer.*—The wealth of elastic fibres in the erectile tissue is responsible for the great resistance offered by the latter to penetration by the cancer, and it may be also for the tendency of the growth to project from the free surface in the shape of a warty or cauliflower-like mass. The dense fibrous capsule of the corpora cavernosa especially resists penetration by the growth. Penetration does, however, take place in time; the epithelial prolongations penetrate deeply into the substance of the glans and body, usually by continuous cancerous infiltration of the blood spaces, less commonly by the development of outlying foci or secondary nodules of cancer. The latter are to be observed in the erectile tissue; it may be at some distance from the primary growth, and in them the epithelioma partakes more of the alveolar or scirrhus type. A third method of backward extension is that along the main lymphatic vessels in the subcutaneous tissue of the dorsum of the penis, and continuous with the primary growth at the

corona. This was the only specimen of the series in which cancer tissue was found in the immediate vicinity of the line of amputation. In view of the existence of this method of extension it would appear to be safer to discard the method of amputation by dorsal flap, for in making the latter, the main lymphatic trunks are necessarily included. All the other specimens show that the cancer tends to be localised for a long period to the situation in which it originated, and that so far as local recurrence is concerned it should be easy to prevent this by early amputation. Cancer originating in the prepuce itself, that is, beyond the reflection on to the glans, shows the least tendency of all to extend backwards along the body of the penis. In the whole series of sections, there was little evidence of the transference of cancer cells along the lymphatic vessels at a distance from the primary growth, excepting the outlying nodules in the erectile tissue already described, which may be assumed to have first developed in relation to lymphatic vessels. In transverse sections of the body of the penis in cases in which the disease in the glans was well advanced, I was unable to observe cancerous emboli in the lymphatics, like those demonstrated by Stiles in the lymphatic vessels running from the breast to the axilla in cases of mammary carcinoma; in other words, no anatomical explanation was found for the early infection of the lymphatic glands in the groins, which is such a prominent clinical feature in carcinoma of the penis.

5. *The Relations of the Cancer to the Urethra.*—With the exception of the solitary case in which an alveolar cancer had apparently originated from the urethral epithelium, the urethral portion of the glans usually escapes in squamous epithelioma, or it is only involved at an advanced stage when degeneration and breaking down of the tumour tissue are in active progress. These facts are in harmony with the clinical observation that urinary difficulty is exceptional in cases of carcinoma of the penis.

UPON THE ELSNER AND ALLIED METHODS IN THE DIAGNOSIS OF TYPHOID FEVER.

By MARK W. RICHARDSON, M.D.,
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(From the Laboratory of the Massachusetts General Hospital.)

WITH the discovery of the typhoid bacillus by Eberth it was but natural that early attempts should have been made to isolate the newly discovered organism from the dejections of typhoid patients. It took ten years of persevering investigation, however, to perfect bacteriological methods to such an extent that one could be even reasonably sure of demonstrating in typhoidal stools the specific organism of the disease. The difficulties were many. In the first place the characters of the new bacillus were at first very poorly defined, and the task of differentiating it from other closely allied organisms, notably the colon bacillus, was far from easy. Furthermore, the appearance of the typhoid colonies upon plates of agar or gelatine was not sufficiently characteristic, and the isolation of the sought-for organism was largely a matter of chance. Indeed it was practically impossible to make cultivations from stools upon ordinary gelatine, because of the speedy liquefaction of this medium by the other bacteria present. In fact the difficulties had been so great, and the results so inconstant and unsatisfactory, that the bacteriological investigation of the stools had but little value as an aid to the diagnosis of typhoid fever.

Within the last two years, however, two new and practicable methods for isolating from the stools the typhoid bacillus have been devised and published—the methods of Elsner and Capaldi. In the Elsner method use was made of a gelatine medium, so combined with potato extract and the iodide of potash that the growth of practically all bacteria was restrained, except that of typhoid and colon bacilli, and these two organisms grew in such a way as to be easily distinguished from one another.

By the Capaldi method an agar medium was used, and upon this also typhoid and colon bacilli grew in a manner sufficiently characteristic. By this method the only restraining influence was that exercised by the temperature of the incubator in which the organisms were grown. Details of these methods can be found in the *Zeitschrift für Hygiene*, vols. xxi and xxiii.

In my investigations upon typhoid stools I have made use of both methods, and my estimate of their relative value would be as follows:—The Elsner gelatine gives a much sharper differentiation to the typhoid and colon colonies than the Capaldi agar. With the latter medium the colonies of the streptococcus pyogenes and the bacillus pyocyaneus resemble markedly those of typhoid, and thus give rise to some confusion. With this single exception, however, I think all the advantage is with the Capaldi agar, for, first there is with this medium no danger of liquefaction either by heat or bacteria; secondly, the colonies, having grown more rapidly at the body temperature, are ready for examination in 18° instead of 48° or 72°; thirdly, the colonies are much larger and thus more easily picked up. With the Elsner gelatine the colonies were often so small that it was impossible to make inoculations from them. Finally, the Elsner gelatine was infinitely more difficult to make up.

The Elsner potato gelatine has been used by a number of French and German observers, and in the great majority of cases with marked success. The literature upon the Capaldi agar seems to be limited to the original article of Capaldi himself.

Of course the interest in this line of work decreased tremendously with the introduction of the serum test for the diagnosis of enteric fever. I think, however, that there is bound to be a certain amount of reaction favourable to these cultivation methods, especially as we now know that in some cases the blood never gives a serum reaction, or at best the reaction appears late in the disease or perhaps only with a relapse. In such cases an examination of the stools could be of great value, inasmuch as the bacilli appear in the dejections not at all uncommonly as early as the seventh day. With the fall of temperature the bacilli in most cases disappear rapidly from the stools, but this rule is not without its exceptions. In one case, upon the forty-first day of the disease, when the patient was well along in his convalescence, the bacilli were still present.

In my own investigations, which were carried out during the past winter in the laboratory of the Massachusetts General Hospital in Boston, there were examined 109 stools in the cases of forty-nine different individuals. Of these cases thirteen were undoubtedly typhoids in the febrile stage. In this series of patients the typhoid bacillus was isolated in ten cases, nineteen times out of fifty-five stools. Of the three negative cases one should not be counted, inasmuch as but one stool could be examined and that on the sixth day of the disease. The other two negative cases were typical typhoids, but the typhoid bacillus was never discovered in the dejections.

The remaining stools examined were those either of convalescent typhoids or of patients suffering from diseases absolutely non-typhoidal in character. In this series there was but one positive result and that was in the case of a typhoid upon the first day of his convalescence. This result is especially interesting, inasmuch as it is at direct variance with that of Remlinger and Schneider, who claim to have found by the Elsner method, typhoid bacilli in the stools of 50 per cent. of non-typhoidal patients. Remlinger and Schneider are the only investigators who have obtained these remarkable results, and I think we should await their confirmation by other observers before attaching too much weight to them. In the typhoid cases investigated by me the blood showed the serum reaction at least as soon as, and in several cases a number of days before, the bacilli could be recovered from the stools. We see, therefore, that in this series of cases the serum test proved itself much more valuable as a means of diagnosis.

The typhoid cultures obtained in the course of this work were tested as to their identity in the following manner. The organisms were examined—

1. In the hanging drop for size, shape, and motility.
2. As to their growth upon (*a*) a gelatine slant and stab cultures; (*b*) litmus milk; (*c*) sugar agar; (*d*) potato; (*e*) peptone solution; (*f*) two test solutions of Proskauer and Capaldi.
3. As to their reaction to typhoid serum.

From what has been said we see that the isolation of the typhoid bacillus from the dejections of persons ill with typhoid fever is in the great majority of cases a practicable procedure. There are certain cases, however, in which I think we should not expect to find typhoid bacilli in the

stools, and those are the cases in which the disease runs its course with extremely slight intestinal involvement, and that such cases do exist is shown conclusively by the necropsy of a typhoid patient at the Massachusetts General Hospital. (I am indebted to Drs. Wright and Shattuck for permission to report this case.)

During life the patient had shown all the classic symptoms of enteric fever, and the blood, moreover, had given a well-marked serum reaction. At the necropsy the intestine was found to be uninvolved with the exception of two or three small, superficial ulcerations in the ileum, and six or seven similar minute losses of substance in the colon. These latter ulcerations were entirely insignificant and might perfectly well have been the result of fæcal impaction. The three ulcers in the ileum were also extremely small and shallow, not extending in depth below the submucosa. One was situated in a Peyer's patch, but nowhere else in the intestinal tract did the patches of Peyer show pathological change. Thus, as the result of the pathological examination, the clinical diagnosis of typhoid fever was in a position to be largely discredited. At this juncture, however, the bacteriological examination came to the rescue. Cultures had been made from the blood and all the principal viscera, but the tubes were all negative except that from the spleen, which showed a single colony. This colony proved to be the typhoid bacillus. Thus was the clinical diagnosis and the serum reaction vindicated. This patient died before I began my work upon the stools, so that I cannot say that typhoid bacilli might not have been demonstrated in the intestinal contents even in the absence of extended ulceration, but, *a priori*, such a case would seem to offer but a slight chance of success. It is possible that my two negative cases were of this nature.

The above-cited case, moreover, illustrates very markedly the necessity of most thorough bacteriological investigation in all this typhoid work, for without that single colony cultivated from the spleen, the case might perfectly well have been used as a powerful weapon against the diagnostic value of the serum test.

I think we must conclude, therefore, that the serum test in the vast majority of cases is superior to the stool examination as an aid to diagnosis, for it is far more simple and does not require the special knowledge, apparatus, and time necessary for the investigation of the intestinal contents.

In the course of my work I have had occasion to use the serum test a great many times in the diagnosis of suspected typhoid cultures, and for this purpose I have used almost exclusively dried serum. My method, as previously published in the *Centralblatt für Bakteriologie*, 1897, Nos. 11, 12, was as follows:—Typhoid serum was collected at necropsy, poured upon ordinary filter paper, and dried in the air. It was then cut into small pieces approximately $\frac{1}{2}$ square cm. in size. Experiment with several known typhoid cultures showed that when square cm. of this paper was added to $\frac{1}{2}$ c.cm. of a 24° bouillon culture of the typhoid bacillus and allowed to remain minutes all the cultures reacted characteristically. Taking these as standard conditions I have examined 28 typhoid, 15 colon, 1 bacillus pyogenes fœtidus, and 1 mouse typhoid cultures. The non-typhoidal cultures all failed to react in the required 5 minutes. Of the 28 typhoid cultures 26 reacted in minutes, 1 required 10 minutes, and another 45 minutes. These two latter cultures demand especial attention because of their refractoriness.

The culture which reacted in 10 minutes came from a case of cholecystitis following typhoid fever. Its motility was only moderate. After several transplantations upon blood serum, however, the motility increased, and the reaction to the serum paper soon took place in the required 5 minutes. It occurred to me that perhaps this delay in reaction might have been due to the sojourn of the bacillus in the gall bladder. I cultivated, therefore, for a week in normal bile an ordinary typhoid bacillus, but at the end of that time I could detect no change either in motility or in quickness of reaction. In this connection it is interesting to note that the purulent exudate from which the bacillus was cultivated showed itself, when filtered, a considerable clumping power upon independent typhoid cultures. Moreover, the sediment of this exudate showed many and large clumps of bacilli, indicating apparently that the gall bladder had been the seat of a gigantic spontaneous serum reaction.

The other refractory typhoid culture which required 45 minutes for its reaction came from the stool of a case clinically typhoid, and one, furthermore, characterised by a well marked serum reaction with other cultures. Moreover, an exactly similar organism was isolated from five separate stools. The general motility of this culture was much decreased. Individuals, however, retained their active motion unchanged. Transplantation upon blood serum brought no improvement either in motility or quickness of reaction. The cause of this variation in susceptibility to the serum test I am unable to explain. This culture was certainly a marked exception to the rule. Widal, in his exhaustive article in the *Annales de l'Institut Pasteur*, 1897, p. 385, says that the differences in cultures is but minimal.

I have used these typhoid test papers now since November 25th, 1896, and their power is, as far as I can see, absolutely undiminished. They are extremely convenient for laboratory work and for the demonstration of the test in the class room. Of course every serum will have its own strength, and the quickness of reaction has to be determined for each set of papers by experiment upon known typhoid cultures.

NOTES ON HOUSEHOLD DISINFECTION BY FORMALDEHYDE.

By Wyatt Johnston, M.D.

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During the past year the use of formaldehyde as a disinfectant has been greatly increased in America, its efficacy having largely become known through the work of Dr. J. J. Kinyoun and Professor F. C. Robinson. It is astonishing how little we actually know of what actually happens in the ordinary routine disinfection of rooms by different methods in comparison with our knowledge of what happens under more rigid experimental conditions. It seemed that devising simple and fairly uniform methods of testing room disinfection which would enable it to be done by the ordinary sanitary officials in the regular course of their duties, important information could be obtained which would be of service in making a choice of methods.

I have designed a little outfit for use by the Board of Health of the Province of Quebec for this purpose, in which by having the infected test objects (small bits of rubber bands dipped in bouillon culture) placed in muslin packets of distinctive colours, the degree of penetration of steam or disinfectant vapours can be tested by an unskilled person (a red packet is exposed near source of disinfectant, a yellow packet is exposed far from source of disinfectant, a green packet is covered lightly or placed in a pocket, a blue packet is covered deeply in a blanket roll or in a mattress). The packets to go in an envelope marked with blank spaces for details as to cubic space, amount of disinfectant used, etc., and can be sent by post. The use of colours and a small metal fastening for the packets also enables any bleaching or tarnishing effects to be detected. These were invariably present with sulphur fumigation, never with formaldehyde. During the past year, a good deal of disinfection of elegant private houses has been done by us. No injury whatever has been reported from formalin. In planning the test outfit, valuable advice was received from Dr. W. H. Park (New York). Practically these test outfits were found to answer well. Staphylococcus aureus was the test organism chiefly used. Spore cultures were only employed in case of steam. We found that, owing to the high inhibitory powers of even minute traces of formalin, it was best to neutralise the test objects in excess of ammonia before making cultures, or to allow several hours to elapse.

The desiderata in room disinfection we would rank as follows:

1. Efficiency especially as to certainty of result under known conditions. The uncertainty of action with sulphur gas is a great drawback.
2. Freedom from injury to the goods treated.
3. Cost, in which there must be included not only the direct outlay for the disinfection itself, but the cost of apparatus, staff, means of transportation, etc. The methods in general use are disinfection by solutions and fumigation by sulphur or formalin, with steam for articles which require penetration. Preliminary fumigation, so as to disinfect the surfaces of articles to be removed for steam treatment is a safeguard, but causes delay.

What I have to report at present concerns the use of formaldehyde. As is well known, solutions of this substance are powerful and rapid disinfectants, and the vapour has shown considerable powers of penetration. If not so rapid in its

action as steam, it is far more certain than sulphur gas, and has no tendency whatever to destroy goods.

In room disinfection I have chiefly employed regenerators, by which the gas is liberated under pressure from a mixture of equal parts of formalin and 20 per cent. calcium chloride solution. The small apparatus made by the Sanitary Construction Company (New York) has been found on the whole most convenient, though I have tried a number of others. My experience with formaldehyde lamps has been less satisfactory. Their effects seemed uncertain, and a quantity of methyl alcohol vapour passes off unconverted as the draft of the lamp increases. The results as to penetration were relatively more satisfactory when the lamps were used in a small enclosed space than would be expected from the results obtained in ordinary rooms.

We found that it was advisable to use larger quantities of formaldehyde than are generally advised, and our results, at first disappointing, became very satisfactory upon using 1 lb. of formaldehyde per 1,000 cubic feet or 1 quart wood alcohol for the same space, and prolonging the actual time of generating the vapour to from one to three hours. We notice that others who, at first, recommended smaller amounts, now advise larger ones. Most of those who report poor results with formaldehyde use small amounts of the agent. Those whose results are surprisingly good with minute quantities of disinfectant we find usually employ culture methods, which do not exclude all inhibitory effects.

The cost for private disinfection is not considerable, at the rate of 25 to 30 cents per lb. per 1,000 cubic feet, and though this would be relatively high in municipal work, it is not at all prohibitory. With these quantities, we succeeded in most instances in securing sterilisation of the exposed objects, and of a large proportion of these lightly covered, that is, placed in pockets or beneath the bed clothes or pillows, but in room fumigation, test objects placed inside blankets or inside matresses were not sterilised. We have to deal in the contents of an ordinary sick room with several different sets of articles. First, surfaces curtains which are relatively accessible to vapours. Secondly, carpets and hangings, which are less accessible. Thirdly, blankets, mattresses, and pillows, which are difficult to penetrate. In order to disinfect articles of the second and third classes in an ordinary room, a great excess of vapour and consequent waste is necessary. By the use of closed chambers, a greater penetration of the vapour can be secured, and a smaller amount is required. The vacuum method of securing penetration does not appear to give the same rapidity of effect that it does in the case of steam. We have been able to secure complete sterilisation in two hours of test objects placed in a closely rolled blanket, by using a vacuum of 15 inches followed by an air pressure of 10 lbs. In this apparatus, however, the steam jacket had to be incidentally heated in obtaining the vacuum, and the action of formaldehyde is known to be increased in proportion to the temperature. In any case, the use of a vacuum does not make penetration a matter of a few minutes as in the case of steam.

Placing the articles in a cupboard or trunk, and blowing in the vapour usually gave fair penetration, if excess of vapour was used. Pasting up minute cracks does not appear to make much difference. Though no large crevices or draughts should be allowed in the room we found it quicker and less troublesome to generate an excess of the vapour than to paste up cracks. I have devoted some attention to constructing a portable chamber or receptacle suitable for room disinfection. One such chamber, 40 inches by 30 inches by 60 inches, made of galvanised sheet iron was light enough to be carried (with some difficulty) on a stretcher by two men, and could be closed so as to give a vacuum of 2 to 3 inches. This was found clumsy in actual practice, and the saving in time did not permit of its being used in two places on the same day. Out of door disinfection is out of question in a Canadian winter. Recently I have tried the plan of using a tent or canopy with those articles requiring most penetration placed beneath it, spread out on convenient articles of furniture. The gas being conducted under this by a rubber tube gave some increase of penetration, while enough escaped from beneath it to sterilise the exposed surfaces in the room.

My latest attempt in this direction has been the construction of bags which are as nearly as possible air tight or gas tight. The cost does not exceed 5 to 8 dollars for one as large as an ordinary disinfectant chamber, 5 ft. by 3 ft. by 4 ft. By using "enamelled duck" and having a projecting flap round the open end so as to be rolled up with a corresponding flap of the cover, the sealing up is fairly good, though capable of improvement in construction. Owing to an unexpected interruption to work, I have not yet had an opportunity of testing this apparatus thoroughly at the time of the meeting, but it appears worthy of trial to see whether the best results are got by blowing in the vapour and by placing in articles which have been sprayed with formalin solutions. Carpets, rugs, mattresses, and pillows can be well sprinkled without being drenched, and placed in the bag, or when the articles cannot stand direct wetting, clothes drenched with the solution can be placed inside. In this way the effects of disinfectant spraying are greatly enhanced, though to what precise extent this may prove useful in room disinfection I am not at present able to say. From the first, I have been strongly of opinion that methods which permitted of all the articles in the sick room being disinfected without the necessity of removal was very desirable for localities unprovided with larger disinfecting plants and staffs, and that even in cities, economy might be effected by thus doing away with transportation.

With regard to disinfecting solutions, my favourite one is formalin used by means of a pump or spray, as suggested by A. C. Abbott. A $\frac{1}{2}$ to 1 per cent. solution seems sufficient, and the cost of this, though more than than that of 1-1000 sublimate, is only about two cents per gallon. The pump used costs a few shillings, and weighs but a few ounces, but apparently answers just as well as the heavy and expensive Equifex sprays sold for the purpose. The public need clearer ideas of the "effective cost" of different disinfectant solutions—that is to say the cost of a given quantity of solution of effective strength. I think that the adoption of a uniform standard, say, that sufficient to destroy staphylococcus aureus in five minutes would be a convenient strength for house disinfection. The effective cost of several disinfectants is about as follows, when used in amounts generally required for private disinfection:

Carbolic acid, 1-30, costs 7 cents per litre.

Sublimate, 1-1000, costs $\frac{1}{4}$ cent per litre.

Formaldehyde, 40 per cent. strength, 1-200, costs $\frac{1}{3}$ cent per litre.[1]

Few realise the waste of money involved in the use of carbolic acid. The cheaper grades sold as carbolic acid contain practically no phenol at all. Other things being equal, I think that preference should be given to substances which are not poisonous. I need not here go into the matter of formalin vapour for treating goods liable to be injured by steam or disinfecting solutions further than to say that it is a most satisfactory agent for this work for which we previously had no reliable method. Whether the dust in the walls and cracks are absolutely sterilised or not by fumigation, most sanitarians will agree that the average fumigation suffices to remove the danger of infection from exposed surfaces, as far as can be judged from epidemiological evidence.

NOTE.

1 Recent reports seem to show that the very conservative estimate of the effective strength assigned to formaldehyde is too low. Thus Le Dentu (*Sem. Méd.*, 1897, p. 315) stated that instead of the 40 per cent. commercial solution being one-fifth as effective as the same weight of sublimate it is really twice as effective in equal quantities. This, if true, would raise the effective strength of formalin and formol to tenfold what is represented in the table.

NOTES ON SOME CASES OF INFECTION BY THE BACILLUS AEROGENES CAPSULATUS.

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SINCE the publication of Welch and Flexner's[1] complete studies on the Aërogenes Capsulatus in the new *Journal of Experimental Medicine*, cases of infection by this bacillus are being observed with some frequency, proving that this bacillus, isolated and properly described by Welch and Nuttall,[2] is first an organism of very wide distribution, and apparently a frequent inhabitant of the air, the soil, and the alimentary tract.

Cases of *gangrène foudroyante* or gaseous phlegmon, physometra, pneumaturia, gascysts of the intestines, together with that interesting condition known to the Germans as "*Schaumorgane*," where the viscera at necropsy are found to be filled with gas bullæ and the blood with gas bubbles, had been somewhat often observed, but were usually set down as due to "air embolism" or "putrefaction," and the like. Often no adequate bacteriological examination was made. It was reserved for E. Fraenkel[3] to demonstrate the etiological relationship of a bacillus (B. phlegmones emphysematosæ) to gaseous phlegmon, which was afterwards identified with that demonstrated by Welch, Nuttall, and Flexner, as the cause of the more general condition of gas production in the viscera.

Notwithstanding the length of time that has elapsed since the publication of these studies, amounting to an absolute demonstration of the etiological relationship between the bacillus aërogenes and the phenomenon of gas production in the tissues, the subject has by no means attracted the attention that its importance deserves, and the terms "air embolism" and "putrefaction" are still in some quarters employed to cover what, I fear, is often ignorance, or at least imperfect observation. It is quite possible that some of these cases that occasionally occur in the literature of subcutaneous emphysema during labour may be attributed to this cause, for in some cases the usual explanations of bodily strain, or the use of ergot, are manifestly inadequate, and we have ample evidence of the possibility in a case reported by Graham, Steward, and Baldwin, where general subcutaneous emphysema followed abortion—in this case, however, with death. The B. aërogenes was present in pure culture.

Since the end of 1895, six cases of infection with the bacillus aërogenes capsulatus have been observed in Montreal, and are of sufficient interest to warrant publication.

Case I.—F. G., aged 21, admitted October 1st, 1895, under Dr. Bell. No history of previous illness. On September 25th was taken suddenly ill with severe abdominal pain. After first day the pain was intermittent, and he kept at his work till the 28th, when he was forced to give in. For the next two days had attacks of vomiting. The bowels were obstinately constipated. On October 1st the pains again became very severe, and he entered the Royal Victoria Hospital.

On admission his condition was as follows: Abdomen hard, distended, and resistent everywhere. Tympanitic. Modified tympany in right inguinal region, which was very tender: the right flank was also tender. On deep inspiration there was pain in the right side of the thorax, and expansion on that side was much diminished. There was dulness over posterior part of right lung, with absence of vocal fremitus and resonance. No *râles*. Diagnosis of perforative appendicitis made.

Operation three hours after admission. Incision in the usual region. Large amount of pus welled out from loin and liver. Appendix perforated and contained several concretions. Counter opening made in loin for drainage.

October 3rd. Chest aspirated, and 6 ozs. of clear serum removed from right pleura.

October 5th. Fine crepitations and distant blowing breathing in right axilla. Dulness from fourth rib downwards. Moist *râles* over back. Edges of wound becoming sloughy and temperature rising.

October 8th. Pneumonic signs more definite.

October 9th. Pain in epigastrium, and on palpation crackling over præcordium was felt.

October 10th. Præcordium bulging. Marked crackling, resembling metallic tinkle in pneumothorax, heard over heart synchronous with heart beat. Splashing sounds could be heard some distance from patient. Vertical dulness of heart reached from second rib to fifth space, then there was a tympanitic area, followed by dulness for 2 inches until abdominal tympany was reached.

October 12th. Slight pleural friction to and fro, on left side in lower axillary region. Numerous moist *râles* over left base. Dulness over apex, giving way to tympanitic note at fourth rib; the tympany is as great as over epigastrium, and passing downward merged into absolute dulness at seventh rib. On lower part of right axilla loud tympanitic note of deep quality as far back as mid-axillary line. Dulness behind, all over back. Heart sounds muffled, and coin test gave slight metallic ring.

October 13th. Patient died.

Necropsy six hours after death (performed by Professor Adami). Body that of a muscular young man with usual signs of death. Operation wounds in right side of abdomen and in right loin unhealed.

Thorax: Left lung adherent to pericardium by recent adhesions. A few c.cm. of reddened fluid in left pleural cavity. Surface of lung covered with fibrinous tags. On the right side a line of firm but unorganised adhesion, forming the lower boundary of a large empyema cavity, extended over the attachment of the tenth rib to spinal column posteriorly obliquely upwards and outwards to the level of the sixth rib in anterior axillary line, then upwards along antero-lateral aspect of the right lung, down to and including the apex. Thus a large empyema cavity extended over the greater part of the posterior aspect of the lung. The cavity contained 700-750 c.cm. of foul fæcal-smelling fluid of thin consistence. This contained relatively few pus cells. In front the thickened pleura had a peculiarly dry appearance. Both visceral and parietal pleuræ were covered by a thick dirty white layer, firm, rather lumpy, and difficult to scrape off. In addition, there was a small localised empyema cavity 4 cm. by 3 cm. vertically, with dry walls of a similar dirty white appearance. The posterior wall of the cavity was composed of the lower and inner part of the uppermost lobe of the right lung. The anterior wall was formed by the costal cartilages and sternum to the middle line. The right lung was loosely adherent to the diaphragm along its outer half. The inner half was covered with a dirty white layer. Where the vena cava inferior pierced the diaphragm was an area 4 cm. from side to side, which was reddish, grumous, and broken down in appearance, with dissociation of the upper muscular fibres of the diaphragm. There was no true pus. Left lung: Weight 670 g.; upper lobe congested, with patches of lobular pneumonia. Lower lobe more affected still, so much so as to give appearance of large mass of grey hepatisation; yet it still floated. Bronchi much congested. Right lung: Weight 420 g.; surface covered with thick layer of old organising pus. Whole organ carnified and scarcely crepitant. Bronchi as before. Peribronchial glands swollen. Heart: Parietal pericardium much thickened. The surface of heart and inner surface of pericardium presented a very striking dirty white dry appearance, with streaks of dirty blackish red, evidently modified blood pigment. Broad blackened lines indicated the course of the coronaries. On the lower and posterior portion of the parietal pericardium were large superficial blackened patches. Cavity was greatly enlarged, and contained from 20-25 c cm. of a thin dark red fluid, resembling that found in the right pleural cavity with the same fæcal odour. Microscopically very few pus cells, also large putrefaction (?) bacilli, with a smaller form resembling B. coli. There was no perforation into pericardium anywhere. The outer part of the myocardium was almost white, merging insensibly into the epicardium and sharply cut off from the more healthy-looking internal portion. Cardiac valves normal.

Abdomen.—Fairly firm, dark red; visible coils of intestine distended with gas. Cæcum was situated very high up, about 4 c.cm. above pelvic brim. The transverse colon after the hepatic flexure formed an accessory loop backwards towards the right side of the vertebral column and then returned on itself. There was recent adhesive peritonitis in the neighbourhood of the operation wounds. In the retroperitoneum behind cæcum and ascending colon was an extensive cavity communicating with the wound in the loin. This contained thin grumous material with a fæcal odour. Along the inferior vena cava could be traced a tract connecting this with a subdiaphragmatic abscess lying between the posterior and upper surface of the liver and the diaphragm. This was directly contiguous to the necrotic portion of the diaphragm before mentioned. Stomach: Catarrhal gastritis. Small intestine showed some thickening of mucosa with hyperplasia of Peyer's patches. The appendix had sloughed away and the orifice in cæcum communicated with a small cavity 3 c.cm. in diameter lying between cæcum and last part of colon, firmly walled in by adhesions. In the posterior part of the ascending colon was a necrosed area 3 cm. across with two small perforations. This was obscurely connected with a cellulitis cavity behind right kidney. Liver: Weight 1,795 g. Surface where it formed wall of abscess was covered by a thick dirty grey exudation. On section, fatty. Spleen: Weight 190 g. Dark and firm. Two accessory spleens. Pancreas: Weight 90 g. Congested. Kidneys: Both showed acute parenchymatous nephritis. Suprarenals: normal. Bladder and Uterus: normal. Mesenteric Glands: Enlarged and congested. Mesentery of small intestine shortened.

Microscopical Examination.—Diaphragm: Sections through affected portion show diffuse inflammatory infiltration with separation of muscle fibres. Lymphatics dilated. On surface a deposit of fibrin. Stained by Gram-Weigert method the sections show numerous large thick bacilli with square or blunt ends and sometimes slightly curved. No doubt bacillus aërogenes capsulatus. Also a small thin delicate bacillus resembling in appearance the bacillus of mouse septicæmia; also pyogenic cocci. Lungs: Lobular pneumonia (septic). By Gram-Weigert method can be seen numerous streptococci and other cocci also a short thick bacillus. Heart: Cloudy swelling; some interstitial fibrosis, superficial necrosis showing numerous bacilli resembling bacillus aërogenes, and cocci. Spleen: Congested. Kidney: White infarctious necrotic areas. Acute parenchymatous nephritis. Liver: Congested. Suprarenal; cloudy swelling. In arteries of surrounding fatty tissue are numerous emboli formed by B. aërogenes capsulatus. Also small collection can be seen in medulla of organ itself. Pancreas: Areas of coagulation necrosis.

Bacteriological Examination.—From portal blood and spleen pure cultures of streptococcus. From pericardium, pleuro-pericardial adhesion of left side, substernal empyemic cavity and main empyema abundant cultures of a short stout bacillus which rapidly covered over the whole surface of the agar with a white tallowy growth.

Anatomical Diagnosis. — Pyo-hæmo-pneumo-thorax, pyo-hæmo-pneumo-pericardium, purulent hæmorrhagic pleurisy, purulent hæmorrhagic pericarditis, gangrenous appendicitis, subphrenic abscess, necrosis and perforation of posterior wall of ascending colon, retro-peritoneal cellulitis, localised adhesive peritonitis, dry pleurisy on left side, septic embolic lobular pneumonia of left lung, collapse of right lung, acute parenchymatous nephritis, infection with pyogenic cocci and bacillus aërogenes capsulatus.

Clinically speaking this was a very striking case, as the diagnosis pneumo-pericardium was made *intra vitam*, but at the time it was supposed to be due to the bursting of the abscess into the cavity. Another feature was the peculiar appearance of the serous surface of the heart and right lung, which had a dirty grey dried-up appearance like meat exposed to the sun. It is to be regretted that a fuller bacteriological examination had not been made, but as the case occurred before the publication of Welch and Flexner's studies on the subject, anaërobic cultures were unfortunately not made. Yet at the necropsy Professor Adami made the remark that there must have been a gas-prodncing bacillus at work. In a recent careful examination of hardened sections I was enabled to recognise the bacillus aërogenes without any possibility of mistake, as their appearance is very characteristic in specimens stained by the Gram-Weigert method. It is a question whether in such a case as this it would be possible to make a

diagnosis of gas formation due to the B. aërogenes or not. In this case the tympany developed gradually and was not accompanied by the severe pain, shock, and collapse which is usually the case in pneumothorax or pneumopericardium, but rather with the signs of septicæmia. Possibly when severe pain and collapse are absent and there is clear evidence of abdominal suppuration, with gradually developing pneumocavities, we might be justified in giving an opinion in the affirmative. A bacteriological examination of the blood might also throw some light on the question. Of course in cases of subcutaneous emphysema, gaseous phlegmon examination of the fluids of the part would be easy and the diagnosis simple. [Cases II, III, and V have already been reported at length by Drs. Adami,[4] Jamieson,[5] and Hamilton[6] respectively.]

CASE IV.—Mrs. J. V., aged 55, admitted to Dr. Stewart's wards on January 31st, 1896. Complaining of pain in the abdomen, chills and vomiting. No history of alcoholism or syphilis. Had complained ever since age of 19 of cramp-like pains in the abdomen occurring two or three times annually, accompanied by pain in right hypochondrium and vomiting. In July, 1895, had a severe attack with chills, no jaundice, and stools contained bile. Six attacks followed up to January, 1896. On January 29th, had severe pain; chills, sweats, and vomiting; this passed off on following day, but jaundice set in. After remaining in the hospital for a week she left only to return on February 13th with a further attack. Was admitted to surgical side, under Dr. Bell. On admission, temperature 102.4°, pulse 120, respiration 28. Abdomen tender in right hypochondrium and muscles rigid. Indefinite mass over region of gall bladder. Respiratory and muscular systems, nothing special. Urine contained no bile February 15th, operation. Cholecystotomy was performed and gall stones removed, the opening in gall bladder being sutured to the peritoneum, and a tube inserted. March 2nd. Profuse discharge of bile. Stools almost white. June 2nd. Fistula gradually closing. June 22nd. Cholecystenterostomy performed and Murphy button inserted. June 24th. Bowels kept free by enemata. Stomach very irritable. June 26th. Vomited brownish fluid. Had a chill, and complained of much pain in epigastrium. Temperature, 100.8°. Death.

Necropsy (by Dr. C. F. Martin) six hours after death. Body that of a stout, well-nourished woman with usual signs of death. Marked jaundice, senile facies. Teeth absent. Breasts large and pendulous; slight œdema of legs. Abdomen distended; in parts bluish discolorations and about umbilicus some subcutaneous reddening. There was a vertical incised operation wound 15 c cm. long, running upward from a point of 3 cm. below, and 3 cm. to the right of the umbilicus. This contained 10-12 silk worm gut sutures, and showed early healing. In parts it had failed to unite. In upper extremity the wound is firmly adherent; iodoform gauze and the edges here show granulation tissue, and were widely separated. On removal of stitches, the edges of wound separated. The abdominal cavity was dry. Great omentum adherent to abdominal wall on both sides and to operation wound. The bowel adjacent to wound shows a few flakes of lymph. Also hæmorrhage into the mesentery. Appendix was bound down to pelvic organs by old fibroid adhesions. Hæmorrhages on upper surface of diaphragm. Lungs: No pleural adhesions. Left lung: Weight, 525 g., shows empyema and hypostatic congestion. Also a few subpleural hæmorrhages. Bronchi contained red, frothy fluid, and the blood vessels loose clot and foaming blood. Right lung: Weight, 460 g., resembles left. Heart: Weight, 315 g. Flabby, presenting small pericardial hæmorrhages. Tricuspid and pulmonary valves normal. Mitral showed slight fibroid thickening. Aortic valve fenestrated, and showed very early vesicles at line of closure. Endocardium showed numerous local thickenings, and a few fairly large subendocardial hæmorrhages. Blood of heart contained bubbles of gas. Heart muscle parboiled in appearance. Aorta: Early fatty atheroma. Spleen: Weight, 165 g. Soft with tense capsule. On section, soft with multiple minute hæmorrhages. Frothy blood exudes from vessels. Kidneys: Left: Weight, 150 g. Capsule strips with some difficulty. Surface congested with a few cysts. On section, cortex yellow and swollen. Pelvis and ureters reddened. Frothy blood exudes from vessels. Right: Weight, 150 g. Same as left. Intestines: Duodenum deeply reddened, contained a portion of the Murphy button, the other half lying in gall-bladder. No perforation or gangrene. Slight plastic exudation about duodenum. Hæmorrhage into retroperitoneum. Small intestine and cæcum show numerous recent hæmorrhages on top of rugæ. Stomach: Multiple punctate hæmorrhages into mucosa. Slight recent peritonitis about pylorus. Pancreas: Normal. Liver: Large, capsule smooth, multiple miliary abscesses chiefly confined to the lower half of the right lobe. On section, organ is soft, and has a parboiled appearance. Throughout are necrotic areas the size of a pinhead, and also a few larger abscesses the size of small marbles. On pressure the blood exuded contains gas, and coverslip preparations demonstrated a bacillus resembling B. aërogenes capsulatus. Gall-bladder: Murphy button held well *in situ*, and slight evidence of local peritonitis. External fistula. Common bile duct dilated to three times its normal size, and contains a few granules of inspissated bile near the hilus. Cystic duct dilated and tortuous, and presents numerous small sacculations. There was no bile in duodenum. Pelvic organs: Fibromyomata uteri. Parametritis. Bladder: Nothing special. Cultures from all the viscera gave the bacillus aërogenes capsulatus.

In this case the infection was apparently from the intestine into the gall bladder and then into the liver and other viscera. The gas production here was no doubt a *post-mortem* event.

CASE VI.—Mrs. J. S., aged 53, was admitted to Dr. Bell's ward on July 8th, 1897, complaining of hernia and obstruction of the bowels. With exception of scarlatina in childhood there had been no special illness. The hernia, which was umbilical, was of twenty-three years' standing, and for the first ten years had progressively enlarged, necessitating the use of a support. Patient had had numerous attacks of constipation and vomiting, none of which lasted more than two or three days. The family history was negative. Two days before admission patient was taken suddenly ill with crampy pains generalised over the abdomen, which continued until the following day. This was associated with bilious vomiting. The bowels moved slightly on the first day. On the second day flatus was expelled after the use of an enema, but purgatives given *per os* were rejected. On the third day vomited several times and bowels failed to move after use of strong purgatives.

On admission the condition was as follows:—Temperature 101°, pulse 120. The patient was a very large woman, weighing about 240 lbs. The hernial sac is described below. It was dull on percussion in the lower zone, the rest being tympanitic. The abdomen was uniformly distended and very tympanitic. On shaking abdomen succussion splash was heard. The face was cyanotic as in toxæmic conditions. Respiratory system; normal. Heart sounds were weak. The bowels were obstinately constipated. The legs were œdematous. The urine was amber in colour and showed a ring of albumen and a few granular casts. Two days after admission patient was being anæsthetised with a view to operation, when she vomited a large amount of liquid brownish material having a fæcal odour and died in a few moments. The suspicion was naturally aroused of death being due to inhalation of the stomach contents which a necropsy proved to be the case.

Necropsy (by A. G. N.) twenty-seven hours after death. Body was that of a very stout female, presenting the usual signs of death, with the addition that the face and neck were very much swollen, of a livid greenish colour and frothy fluid exuding from nose and mouth; the lower limbs were markedly œdematous, but did not crackle. Breasts large and pendulous. Linea albicantes on abdomen. The hernial sac occupied the centre of abdomen in umbilical region, the upper border being 25 cm. below xiphoid cartillage and the lower border being 11 c.cm. above pubic crest. It measured 28 cm. by 33. The whole tumour formed a mass the size of a football, and was of a blackish green colour in parts and presented three or four excoriations.

On opening body the tissues over sternum crackled under the knife, and both gas and frothy fluid escaped. Gas escaped from the peritoneal cavity and the stomach and intestines were much distended. Subcutaneous fat was very thick, the great omentum, also very fatty, was partially contained in the hernial sac. The peritoneal cavity contained a few drachms of clear reddish fluid, the liver extended 9 cm. below costal margin. Diaphragm on right side in right nipple line reached to fourth space; on left side fifth space. Glandulæ epiploicæ very large and fatty. Brain: Not examined. Lungs: No pleural adhesions. Left lung: On surface can be seen bubbles of gas resembling interstitial emphysema. Apex of upper lobe puckered. No signs of tuberculosis. Upper lobe crepitant, lower lobe firmer, œdematous and deeply congested, but floated on water. Weight of lung 455 g. Right lung presented an exactly similar condition. Weight 510 g. Bronchi reddened, contained frothy mucus. Peribronchial glands enlarged. Heart: Pericardium thickly loaded with fat. Heart large, flabby, and empty. Numerous gas bubbles seen on surface of epicardium. Tricuspid orifice admitted four fingers, mitral three. Endocardium generally shows blood imbibition. All valves normal. Coronaries normal. Heart muscle was very friable and of a dirty brown colour. Weight 485 g. The blood in all large vessels was noted to contain gas.

Spleen: Weight 250 g. 15 by 8.5 by 2.5 cm. Large, flabby, and of a mottled red and green colour, crepitated to touch, and on section was pale, soft, red, and riddled full of small cavities the size of hemp seeds or larger, with ragged walls. Kidneys: Right, weight 220 g. 13.5 by 6.3 by 3 cm. Capsule peeled off with fair ease. Very flabby. On section cortex and medulla are of a uniform dirty yellow-brown colour. Here and there are collections of small cavities with soft, necrotic, and hæmorrhagic looking boundaries. Left kidney crepitated to the touch; with addition of a few recent red infarcts and a small fibroma presented similar appearance to right, including the small cavities. Hernial sac: Removed *en masse* with the intestines. The neck of the sac was a sharp ring about 2 inches in diameter. The inner wall of sac itself was smooth and glistening with numerous fibrous thickenings crossing it. The contents were (1) 50 cm. of the ascending and transverse colon, which was collapsed throughout; the portion in sac contained hard fæcal masses. (2) The ileo-cæcal valve with the appendix, cæcum. (3) 100 cm. of ileum from valve upward. The next 60 cm. of bowel remained outside of sac and was deeply congested. Then a loop re-entered the sac, including the next 50 cm. (4) The mesentery of affected gut. (5) Part of great omentum, which was adherent to bottom of sac by dense old adhesions. At the points where the large and small bowel entered the sac was distinct constriction and complete obstruction. The portion of small bowel was distended, hypertrophied, and œdematous, containing a large amount of liquid contents. Nowhere was there any sign of gangrene, the serous surface being smooth and glistening, although the portion of the small intestine in the sac was very deeply congested. Stomach: Contained fæcal matter, commencing digestion at cardiac end. Duodenum normal. Pancreas: Nothing noteworthy. Liver: Weight 3,000 g. Large, with rounded edges. Surface smooth and presents two lacing furrows. Left lobe prolonged forwards and downwards as an obtuse lingula. Substance pits on pressure. No crepitation. On section fatty, pale, and friable. No gas cavities. Pelvic Organs: Uterus slightly atrophied. Follicular cysts of cervix. A small subserous fibroid the size of a walnut on the right side. Ovaries small, fibroid, and cystic. Old perioöphoritis and parametritis. A smear preparation from spleen showed presence of a large thick bacillus resembling B. aërogenes capsulatus.

Microscopical Examination.—Spleen: Congested, with numerous round cavities. Stained by Gram-Weigert method is seen to be full of bacilli, resembling those in smear preparation and those in the cultures. Kidney: Slight periglomerular interstitial fibrosis. Acute parenchymatous degeneration of cortex and boundary layers amounting in places to necrosis. Also to less extent in pyramidal region. The arteriæ and glomerular tufts are seen to be crowded with bacilli. Numerous cavities are seen around which the bacilli are massed in large numbers. Heart: Fatty infiltration. An occasional bacillus is seen. Liver: Extreme fatty infiltration, with some areas of commencing necrosis. An occasional

bacillus seen. No cavities. Lung: Alveoli contain bile-stained granular droplets, apparently from inhaled stomach contents.

Bacteriological Examination.—Anaërobic cultures from spleen in lactose agar gave a growth along track in twenty-four hours, with evolution of gas in about forty-eight hours. The bacillus was large, thick, formed pairs or short chains, was non-motile and positive to Gram. In every way corresponded to the B. aërogenes capsules of Welch and Nuttall. Aërobic cultures gave a few staphylococci, with a small motile bacillus, positive to Gram, liquefying gelatine but no evolution of gas. It had a tendency to polar staining. Further it was not determined

Here the cause of death was suffocation from inhalation of the stomach contents, a contingency which in this particular was impossible to guard against. The bacillus aërogenes may have gained an entrance during life, but the development of gas was certainly after death.

From a study of these cases, it appears that in at least two, and probably three, there is clear evidence that the development of gas occurred during life, and gave rise to symptoms, and was not merely a *post-mortem* phenomenon. Also, most of the cases were mixed infection. It is doubtless true that in some cases the bacillus aërogenes alone has entered the organism, and produced its characteristic signs with general septicæmia and death, but these cases are the exceptions. It would seem probable that the presence of other organisms which would use up oxygen are necessary to luxurious growth of the bacilli. Experimental evidence is somewhat against this view, but we must remember that we can scarcely reproduce in the experimental animal all the factors that are at work in the human organisms. The commonest germs associated are the pus cocci, colon, typhoid, and putrefactive bacilli.

There are some observers who claim to have observed cases of gas production in the organs due to the colon bacillus. In cases of diabetes, pneumaturia has been observed, and it is not impossible that, when sugar in its various forms or other fermentable material is present, the colon may be the cause of gas production; but in other cases, until more observations are made, we must look upon the etiological relationship of the colon bacillus to gas production with some reserve. The researches of Chvostek upon the organisms present in a body just previous to and after death, have taught us that when a certain micro-organism is found *post mortem*, we must be very careful in necessarily associating it with any given pathological condition, occurring before death, without the clearest proof. The experiments, too, of Morisani, who inoculated the uterus with the colon bacillus, though made certainly from a different standpoint, are against the idea of gas production being due to the B. coli.

Generally, experimental evidence is against the action of the colon bacillus as a gas producer in the tissues of the animal body during life, and even in those rare cases when it does so seem to act, it is probably of merely *post-mortem* occurrence.

On the other hand, clinical and experimental evidence is of the clearest in showing that in a very large proportion of cases of gas production in the tissues the bacillus aërogenes capsulatus is the true *fons et origo mali*.

The relation of the bacillus aërogenes to the colon bacillus, B. tachysporus, and other putrefactive and anaërobic bacilli, is of considerable importance, and deserving of further study.

For the benefit of those who may not have access to the original description of the organism, I may be pardoned for giving a brief account of it. The bacillus is about the thickness of the anthrax, and from 3 to 6 mm. in length, in the form of straight or slightly curved rods, with square or bluntly rounded ends. It occurs singly, in pairs, in clumps, and occasionally in short chains, less often in thread and long chains. It is non-motile, anaërobic, and possesses a capsule which can be demonstrated from smear preparations by Welch's method, and sometimes from agar cultures, but is not always to be found. It grows on all ordinary media rapidly at body temperature. Gas is produced in all cultures containing fermentable material. The colonies in agar are greyish-white or brownish-white by transmitted light, sometimes with a central darker dot. In gelatine there is slow and limited liquefaction. It was at first thought to be non-sporogenic, but Dunham recently has found spores in cultures made upon blood serum. Pigeons are the most susceptible animals.

At all necropsies where gas is found in the tissues anaërobic cultivations should be made, and I feel sure this simple procedure will clear up many hitherto obscure conditions.

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ON CERTAIN RELATIONS BETWEEN BACTERIAL ACTIVITY IN THE INTESTINE AND THE INDICAN OF THE URINE.

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When Baumann in 1880 drew attention to the fact that the aromatic products of proteid putrefaction in the intestine are excreted by the urine largely in conjugation with sulphuric acid, as ethereal or aromatic sulphates, he gave a needed impetus to the study of the relations between bacterial activity in the intestine and the composition of the urine. The work of Baumann and of subsequent observers has taught us that although the putrefactive decomposition of proteids in the intestine is a consequence of the activity of micro-organisms which regularly inhabit the gut, this decomposition often exceeds the limits of health. This excess may be roughly measured by the excretion of the total ethereal combinations of sulphuric acid, or it may be very inaccurately estimated by the sulphuric acid combinations of particular aromatic decomposition products of proteids, such as indol, phenol, cresol, or skatol. Especial interest attaches to one of these aromatic products—indoxyl potassium sulphate ($C_8H_6NSO_4K$) because of its ready detection, and because of the striking increase which it often undergoes in derangements of the intestine. The indol absorbed from the gut undergoes oxidation before it conjugates with sulphuric acid to appear in the urine as a colourless soluble salt, indoxyl potassium sulphate. In the urine the indoxyl radicle, representing the indol of the intestine, is readily converted into indigo blue or indican, through oxidation by means of Jaffe's or Obermeyer's test.

It is the aim of this paper to bring to your notice the experimental evidence which indicates that the indican of the urine depends chiefly upon the activity of the common colon bacillus in the intestine. The study of the products of putrefaction as they occurred in a large number of pathological urines made it clear that there are at least three classes of cases as regards the production of indican. First, cases in which both the indican and the ethereal sulphates are increased largely above the normal. Secondly, cases in which the ethereal sulphates are much increased but in which indican is absent. Thirdly, cases in which the ethereal sulphates are within the limits of the normal but the indican is markedly increased. These relationships between the ethereal sulphates and the indican can most reasonably be explained by supposing that a specific putrefactive process underlies the production of indigo blue, which may vary quantitively, in a considerable degree, in relation to the total ethereal sulphates. Thus, if the putrefaction going on in the intestine were chiefly of the kind that produces indol, we should expect a moderate output of combined sulphuric acid and considerable indican, but if the putrefaction were exclusively of a kind that produces phenol and cresol, we should meet with high sulphates and no indican. The preponderance of the common colon bacillus in the lower part of the human intestine and its known activity as a producer of indol rendered it probable that this micro-organism is concerned with the pathological increase of indican in intestinal derangements.

Acting upon the suggestion furnished by the study of these pathological urines the following experiments were undertaken. Pure cultures grown in 1 per cent. solutions of Witte's peptone of three species of bacteria that normally inhabit the intestine—the common colon bacillus, Hauser's proteus vulgaris, and the lactic acid bacillus. These cultures were introduced into healthy dogs upon an exclusively meat diet, the indican and sometimes the sulphates being

studied before and after the introduction of the culture. In some instances the animals were given the cultures with their food, and took them without aversion. In other cases the growths were introduced with the help of a Dieulafoy aspirator, directly into a loop of the jejunum, with a view to escaping the antiseptic action of the gastric juice. It was impracticable to make quantitative determinations of the indican of the urines studied, and the fluctuations were estimated by means of variations in the strength of qualitative reactions. The oxidising agent employed was a 4 per cent. solution of perchloride of iron in concentrated hydrochloric acid. No significance was attached to moderate variations in the intensity of the reaction, but striking differences were regarded as indicating considerable differences in the percentage of indoxyl potassium sulphate. This assumption is warranted by the results yielded by numerous qualitative observations controlled by actual quantitative determinations, although it is true that in the case of very strong reactions it is impossible to say whether one urine contains more or less indican than another. The following is a brief summary of the outcome of experiments made:

About 100 c.cm. of pure cultures of colon bacillus five days old were injected into the jejunum into two dogs. In both cases the indican reaction and the ethereal sulphates were very markedly increased after the operation. In another dog the same volume of a culture of colon bacillus was injected into the ascending colon. Here again the indican was increased. A meal of from 200 to 300 c.cm. of colon bacillus culture was given to seven different dogs. The cultures were from two to four days old. In each case the administration was followed by a distinct increase in the intensity of the indican reaction. In two cases the ethereal sulphates were also distinctly increased, but in a third case the increase was only slight. It was found that the effect of a single meal of colon bacillus culture upon the indican was generally noticeable for two or three days. In three dogs fed for several weeks on daily doses of several hundred c.cm. of colon bacillus culture the indican was regularly very strong. Pure cultures of several different origins were used in these experiments.

These observations indicate clearly that the introduction of the common colon bacillus in large quantities into the intestine, either by way of the stomach or by direct infusion into the jejunum, is followed by the absorption of indol, and a marked increase in the indican of the urine. But as the cultures used gave indications of the presence of indol it might be that the augmentation in indican was due to indol introduced, and not to the bacteria introduced, although so great an increase seemed disproportionate to the amount of indol infused. Control experiments were therefore made. These gave the following results. It was found that the introduction into the jejunum of large numbers of colon bacilli grown upon agar plates and suspended in distilled water caused strong indican reactions, although the urine had previously been quite free from indican, owing to a milk and bread diet. The introduction of sterile cultures into the intestine was followed by only a slight increase in indican, not perceptibly greater than that which follows the direct introduction of the culture medium alone. The inference is that the small amount of indol introduced in the feeding experiments does not account for the marked increase in indican which was noted, and that this increase is to be attributed to the action of the colon bacilli themselves, growing upon a suitable medium.

Pure cultures of proteus vulgaris, given me by Dr. E. K. Dunham of the Carnegie Laboratory, were introduced into the jejunum in two dogs. The cultures were one week old, and were grown in the same medium as that employed in the case of the colon bacillus. Into one dog 90 c.cm. were introduced, into the other 110 c.cm. In the former dog the result as regards indican was entirely negative. As soon as the dog was fed on colon bacillus cultures the indican reaction became very greatly increased in intensity. The latter case was of interest in that the ethereal sulphates were much increased, although the indican reaction was little or not at all intensified, as the result of introducing the proteus.

Pure cultures of the lactic acid bacillus in Witte's peptone, given me by Dr. Cheeseman (Pathological Department of Columbia University) were introduced into the jejunum in two dogs. The quantities were 115 c.cm. in one case, 100 c.cm. in the other. The indican reaction was strong in both animals previous to the injection. In one dog the indigo blue reaction remained unaffected, in the other there was a distinct reduction in intensity during several days. In the latter dog the administration of 200 c.cm. of a peptone culture of colon bacillus failed to produce any increase in the reaction, this being the only case in which such a failure was noted. In another dog, which had been fed on the colon bacillus culture, and had, in consequence, a large amount of indican in the urine, the administration of several hundred c.cm. daily of a peptone culture of the lactic acid bacillus, was followed by a striking reduction in the intensity of the indican reaction, which was barely obtainable at times. One other observation, relating to the inhibition of the indican reaction, may be mentioned. Four dogs whose urines gave strong indigo blue reactions (owing to feeding on colon bacillus cultures) were fed for several days on bread and milk exclusively. During this time the reaction almost disappeared in one, and wholly disappeared in three. The ethereal sulphates were greatly reduced (from 1 to 9 and 1 to 15 to 1 to 46) in the only case in which they were studied. These results are of interest in connection with the fact that a bread and milk diet often greatly reduces the output of indican in the course of intestinal derangements.

Although the foregoing experiments might advantageously be varied in different ways, and especially as regards the influence of various nutrient media upon indican production, these observations can only be interpreted as showing that the common colon bacillus is capable of playing a highly important part in the production of indigo blue.

In the human intestine other regular bacterial inhabitants which are indol producers may take a share in the production of indican, but it is likely that this participation is ordinarily unimportant. In this connection it is of interest to recall the fact that the indigo blue is usually, if not always, increased in the urine of children suffering from gastro-enteritis, in whom the common colon bacillus is often present in increased numbers, sometimes at the expense of other varieties of bacteria. Similarly the increase of indican which occurs in pathological and in experimental occlusions of the gut is probably referable to increased multiplication of the common colon bacillus. While it is probable that the putrefaction of proteids outside the intestine, as for instance in some abscesses, leads to the production of indol, it is not yet clear that such putrefaction is the sole cause of the indican which has been observed in such cases. Ordinarily various factors may operate to prevent the appearance of more than a trace of indican in the urine. One of these is the influence, demonstrable clinically, of a diet containing a large proportion of carbohydrate food. Another is the influence of milk. In both these cases the formation of organic acids is the probable cause of the inhibition of indol production. It is likely that the lactic acid bacillus in the presence of carbohydrates is an important factor in checking indol formation, at least in the small intestine. We must also remember in this connection that if the supply of ingested proteids be in a form which permits its products to be largely absorbed from the upper portion of the gut, indol production is likely to be less than where a considerable supply of proteid derivatives reaches the ileum and colon. The following inferences may be made from the facts referred to in this paper:

1. The introduction of large numbers of the common colon bacillus into the intestine markedly increases the indican of the urine, and with it the ethereal sulphates.
2. The introduction of large numbers of the proteus vulgaris may increase the ethereal sulphates without increasing the indican perceptibly.
3. The introduction of large numbers of the lactic acid bacillus into the intestine may markedly reduce the indican of the urine, together with the ethereal sulphates.

In conclusion, the prediction may be ventured that clinical medicine and pathological chemistry will before long be enriched by more specific knowledge of the chemical products of the various types of fermentative and putrefactive processes which occur in the intestine under the influence of micro-organisms, acting upon different food stuffs. It is believed that the direct experimental introduction into the intestine, according to the method proposed in this paper, of pure cultures of various bacteria, in different media of known

chemical composition, will aid in the recognition of the origin of certain aromatic and aliphatic substances which find their way into the urine.

ANTIPNEUMOCOCCIC SERUM.

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Since the discovery, some six years ago, of the protective powers of the blood serum of animals immunised to the pneumococcus, a number of cases of pneumonia in the human subject have been treated either with the serum of immunised rabbits, or with the serum of patients convalescent from pneumonia.

To carry out the treatment efficaciously, it is necessary to use larger quantities of serum than is obtainable from such sources as these. I believe I was the first to publish an account of the preparation of an antipneumococcic serum on a large scale, and to describe a method by which its strength could be accurately estimated.[1] Shortly after the publication of my paper, Pane, in a communication made before the Medical and Chirurgical Academy of Naples (March 14th, 1897), described an antipneumococcic serum, which he had obtained from a cow and a donkey, and with which he had successfully treated a number of cases of pneumonia in the human subject.

In my own experiment a pony was the animal selected for the preparation of the serum. After nine months' treatment, first with living and then with dead cultivations, the serum was found to possess marked protective powers.

To accurately standardise the serum it was necessary to determine the minimal fatal dose of the test cultivations, and this entailed the devising of a method for maintaining the cultivations at a constant virulence. By using a special method of cultivation, it was found possible to preserve the virulence of the pneumococcus at an absolutely constant level for a long period. The medium employed consisted of agar streaked with sterile rabbit's blood. The details of this method, together with an account of the experiments demonstrating its reliability, will be found in a paper by Dr. J. W. Eyre and myself, about to appear in the *Journal of Pathology and Bacteriology*. The minimal fatal dose of our pneumococcus for rabbits and mice was 0.000001 loop of the cultivation. (The loop held about 0.5 mg.) Plate cultivations showed that this quantity contained about 200 living cocci. For the purpose of standardisation, the serum, in varying quantities, was mixed with a tenfold fatal dose of the cultivation, and the mixture was injected into the peritoneal cavities of rabbits, control experiments with the minimal fatal dose always being made. The smallest quantity of serum which will protect the animals under these conditions is called a unit. The most powerful serum I have yet obtained from the pony was of such a strength that 0.03 c.cm. protected against the tenfold fatal dose. A cubic centimetre of this serum, therefore, contained 33 units.

In conjunction with Dr. Eyre, I am publishing, in the paper already referred to, a series of experiments made with the object of testing the protective powers of sera obtained from various sources. We have tested the sera from normal rabbits, guinea-pigs, and fowls, and an antistreptococcic serum obtained from a horse. We find that, in large quantities, most of these sera will protect against the minimal fatal dose, but none will protect against a tenfold fatal dose of the pneumococcus.

We have also made a series of observations upon the agglutinative and the bactericidal properties of various sera. We found that the agglutinative and protective powers of a serum do not bear any direct relationship to one another. The antistreptococcic serum of the horse, for example, possesses as great an agglutinative action on the pneumococcus as the antipneumococcic serum of the same animal, although the protective power of the latter is considerable and that of the former *nil*. The serum of an immunised rabbit, on the other hand, possesses more agglutinative power than that of the normal rabbit, but this is by no means proportional to the increase of protective power. In comparing the processes of immunisation with the typhoid bacillus and with the pneumococcus, it appears that the former causes a considerable, and the latter only a slight, formation of agglutinative substances in the blood. Consequently, we cannot hope to obtain results of much diagnostic value by testing the agglutinative properties of the serum of patients suffering from various kinds of pneumonia.

The bactericidal properties of the sera that we tested were variable, but neither the antipneumococcic serum nor any other serum was found to exert a constant bactericidal influence upon the pneumococcus *in vitro*.

We have not yet succeeded in obtaining a satisfactory toxin from cultivations of the pneumococcus, and are consequently unable to say whether the serum is antitoxic or not.

As far as the therapeutic value of the serum is concerned, I find, as would be expected, that larger doses are required to protect the animal if the serum is injected after, instead of at the same time as, the inoculation. My experiments show that 2 c.cm. of the serum will protect when injected during the first quarter of the disease, that is to say, within the first six hours in the case of rabbits. The same dose does not protect when injected at a later period. In applying this method of treatment to cases of pneumonia in the human subject, it follows that the earlier the treatment is commenced the greater the chance of success. As far as the dose is concerned, at least 600 units should be injected twice a day.

From the nature of the serum, no immediate beneficial effect is likely to be observed after injection. It is only after treating a large number of cases that a definite conclusion can be arrived at. The six cases, some of them exceedingly severe, which have been under my own care, have all recovered; but in the hands of others the treatment has met with a more variable success. Of 23 cases treated by Pane with his own serum, 2 died. One of the fatal cases was injected for the first time a few hours before death, and the other case was complicated with interstitial nephritis.

From experimental evidence it would appear that my serum is more potent than Pane's; but, as he does not use the same method of testing as I do, a comparison between the two sera is impossible.

Reference.
1 British Medical Journal, February 27th, 1897.

REMARKS ON ARTIFICIAL IMMUNITY IN TUBERCULOSIS.

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Saranac Lake.

[Dr. Trudeau exhibited a number of photographs and specimens, and made the following observations on the subject of artificial immunity against tuberculosis.] To many minds there seems no reason to hope that any efforts tending to the production of artificial immunity in this disease will ever be successful, and it is true that little can be found in the clinical history of tuberculosis which would lead us to believe that such an immunity ever occurs in the natural course of the disease, and recovery from a tuberculous manifestation in any part of the body does not seem to afford any protection against a subsequent and often fatal outbreak of the malady. It would be presumptuous, however, in view of the recent advances made in this direction in other infectious diseases, to deny absolutely the possibility of solving this problem, and much experimental evidence is accumulating of late which tends to prove that the resistance of the body to tuberculous infection can be greatly increased by preventive inoculation.

I will not here review the work done in this direction by Richet, Héricourt, Grancher, Martin and others, as it is no doubt familiar to you; but I will occupy your time by referring more particularly to my own experience in this direction, not on account of the practical value of the results I have obtained, but because my observations having been made entirely independently seem to add some confirmatory evidence to the success already attained by others in this field, and claimed by Koch in his recent communication. In common with many other experimenters, I failed to obtain any appreciable results by preventive inoculations of the various products to be found in liquid cultures or by the inoculation of the bodies of dead tubercle bacilli. I was driven, therefore, to attempt to reach the end in view by

making use of the living germs themselves, attenuated by various methods.

The first evidence of any protection which I succeeded in obtaining was in 1893, which I detailed in a paper read before the Association of American Physicians in May, 1894. I found that by subcutaneous preventive inoculations of living cultures of avian tubercle bacilli, I was able to increase the resistance of the rabbit to infection with virulent living mammalian cultures. The photographs which I show you demonstrate the degree of immunity obtained. The test inoculations were made in the eye, where the immediate result could best be studied and controlled. The eyes of the controls were gradually destroyed by the progressive tuberculous process, while those of the vaccinated animals, after undergoing a certain inflammatory reaction, returned more or less completely to their normal condition. Unfortunately, many of the animals died of the attempt at vaccination, and complete immunity was manifested only in a few; while in others, similarly treated, the eyes were eventually either partially or totally destroyed. I have also obtained a marked degree of success in protecting guinea-pigs by cultures of mammalian bacilli attenuated simply by prolonged growth on artificial media.

Dr. de Schweinitz was the first to call attention to his results in protecting guinea-pigs by means of living attenuated cultures, and although my results have not thus far been as good as his, my experience in the past four years show that a very marked degree of increased resistance to tuberculous infection can be induced in these animals, as well as in rabbits, by such preventive inoculation. It is of interest to note that the culture used by Dr. de Schweinitz in his experiments was originally obtained by him from me, and is the same with which my own experiments were made. This culture originated from plants made on serum by me from the lesions of a rabbit infected with human tuberculosis in 1891, and have been grown on various media, principally on the ordinary glycerine peptone bouillon, either neutral or slightly acid, ever since. I began to notice after two years' cultivation that a great majority of the guinea-pigs inoculated with this culture lived for many months beyond the usual time, and the virulence of the germ was evidently decreasing. It was not, however, before 1894 that I observed that many of these animals recovered completely from the inoculation, while a few still died of chronic tuberculous lesions. At present, if twenty animals be inoculated with this attenuated germ, which has been grown for six years continuously on artificial media, with perhaps one or two exceptions, all survive and ultimately recover completely. It has been necessary, however, to keep the pigs for a long time, for occasionally some of them would die from a year to eighteen months after the protective inoculation. What the attenuation of the bacillus is due to is still a matter of doubt in my mind. De Schweinitz is of the opinion that the acid in the media greatly hastens the attenuation, and has therefore grown his cultures on very acid media; but the germ undoubtedly loses its virulence if the cultivation is sufficiently prolonged, no matter what the media may be. I have varied the acidity of the media, but as yet have come to no definite conclusion on this point. In favour of Dr. de Schweinitz's view, it may be stated that the tubercle bacillus loses its virulence much more rapidly while growing on potato which is slightly acid than on serum, but these two media differ also in many other respects besides in reaction.

It is a well-known fact that any living organism loses any attribute which through many generations its environment does not call into use. While living a saprophytic existence, the tubercle bacillus has no need for the exercise of that characteristic which is known as its "virulence," and which means the power to cope successfully with the resisting elements of living tissues, and it may be that this attribute is lost to it by its disuse through the millions of generations the germ passes through while growing for so many years on artificial media. However that may be, it is certain that the tubercle bacillus is robbed of its virulence with the utmost difficulty. All other methods of attenuation hitherto employed—heat, time, antiseptics, etc.,—aim a blow at the viability of the germs sought to be attenuated, but do not alter their biological characteristics. They are either killed, in which case they produce no disease, or else they survive sufficiently to grow in the body, and ultimately destroy the life of the animal. Prolonged cultivation, on the other hand, gives us a culture which grows vigorously, but which has lost to a great extent its specific pathogenic powers.

A certain disturbance of health and loss of weight is always caused by the inoculation of this attenuated culture, but the animals after three months seem to have completely recovered. If at this time they are inoculated with virulent bacilli, together with an equal number of controls, the prolongation of life in the vaccinated animals will be apparent in every case. In several lots I have noticed the death of all the controls to occur before a single vaccinated animal had died. Complete immunity, however, has not been attained in my experience so far, by this method, although some of the animals have occasionally lived as long as eighteen months after the virulent inoculation.

I will not weary you with any of the details of these experiments, which are still incomplete, but merely report the gross results which I have obtained thus far in work done on a total of 122 guinea-pigs. In 36 controls the average life was $57\frac{2}{10}$ days, and in the 66 vaccinated animals it was $154\frac{3}{10}$ days, so that the vaccinated animals lived nearly three times as long as the controls. Some of the pigs survived the virulent inoculation as long as eighteen months. This includes all the experiments on guinea-pigs, some of which were made before the germ was sufficiently attenuated to prove harmless. The immunity caused by this preventive inoculation seems, as far as I have gone, to increase rather than to diminish with time, but unfortunately I have as yet but a few animals to prove this fact. Out of four guinea-pigs in which the test inoculation was made a year after the vaccination with the attenuated germs, two of the animals are still living, and have survived the virulent inoculation over eighteen months, the controls all dying within three months. Intravenous inoculation of this attenuated culture protects rabbits to about the same extent, but in them, as in the guinea-pigs, the immunity is relative except in a few cases where the protection seems to be almost complete.

That such a thing as artificial immunity against tuberculous infection is a possibility seems gradually being demonstrated by these and similar experiments, as the marked prolongation of life in the vaccinated animals can be explained on no other ground. These studies seem also to add support to Koch's claim of having solved the problem of having produced a complete immunity in animals by injections of his new tuberculin derived from the crushed body substances of the bacillus, and would lead us to hope that his brilliant results on the subject may soon be confirmed by other experimenters.

ON THE OCCURRENCE OF TYPHOID FEVER WITHOUT CHARACTERISTIC LESIONS OF THE SMALL INTESTINE.

By EUGENE HODENPYL, M.D.,
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OF the acute infectious diseases typhoid fever is the one *par excellence* which is usually associated with a definite and characteristic anatomical lesion. And, moreover, it may be said that in the majority of cases these characteristic lesions bear a more or less close relationship to the severity of the clinical symptoms. So constantly have certain lesions of the small intestine, namely, hyperplasia, and ulceration of Peyer's patches and the solitary lymph nodules been found in typhoid fever, that they are commonly regarded as being among the characteristic or essential features of the disease. It has, however, long been believed that very exceptionally cases of typhoid fever have occurred, either epidemically or in isolated cases in which the lesions of the ileum were absent.

H. Brunschwig[1] in 1870 recorded a case which during life gave the typical symptoms of typhoid fever, and which at necropsy showed a swelling of the solitary lymph nodules Peyer's patches being intact. There was swelling of mesenteric lymph nodes and the spleen. He cites two other cases of Louis and Andral. J. Hoeffel,[2] described a case of a gir

of 21 years who died after a very severe attack of typhoid fever. The *post-mortem* examination revealed a slight reddening of the mucous membrane of the ileum with a moderate swelling of a few Peyer's patches, but with no ulceration. The large intestine was thickly beset with ulcerated lymph nodules. The spleen and mesenteric lymph nodes were swollen. Mettenheimer[3] mentions an epidemic of typhoid fever occurring in the army, in which in 21 cases the intestinal lesions were wholly confined to the colon. H. Schultz[4] claims to have observed 21 cases of typhoid fever without lesions of the ileum in 315 necropsies of this disease. His previous statements are in conflict with these figures, since he states that in 304 cases the lesions of the intestines were moderate in 93 cases, considerable in 115 cases, excessive in 96 cases. He gives no further information as to the exact location of the lesions in these 21 cases. Cantani[5] mentions a form of the disease which he called abeno-typhus, in contradistinction to ileo-typhus, in which there are slight or no lesions in the small intestine. M. Litten[6] mentions an epidemic of 18 cases occurring in one house. All the cases had very much the same symptoms. Three cases died. Only one of the fatal cases showed characteristic lesions. The other two fatal cases showed a catarrh of the ileum with swelling of the spleen and mesenteric lymph nodes. W. S. Church[7] states that in 98 necropsies of persons who died of typhoid fever, three of the cases died before the characteristic lesions were developed. Brouardel and Thoinot[8] say that there are very rare cases of typhoid fever in which the alterations of the large intestine "*constituent la seule lésion intestinale de la fièvre typhoïde.*" They say that Hoffmann has seen such a case; that Brunschwig has collected examples from the clinic of Heitz; that Renault, Cazalis, and Sideray have noted these exceptional facts, and that the name coléo-typhus is used to designate these cases. Chantemesse[9] claims to have had a case of typhoid fever in which the appendix was the only part of the intestine involved. Leibermeister[10] also states that there are certain epidemics of typhoid fever characterised especially by extensive involvement of the large intestine with little or no involvement of the small intestine. B. Reichal[11] reports a case of primary typhoid fever of the larnyx occurring in a man 25 years old who was seized with a chill, followed by high temperature, bloody sputum, headache, and dyspnœa. Four days later the temperature was 41° C., epistaxis, no swelling of the spleen. There was no eruption. The next day the stools became of the "pea soup" character, and the symptoms became more and more characteristic of typhoid fever. On the seventh day the swelling of the spleen could be detected. Death occurred on the eleventh day, broncho-pneumonia having developed. The necropsy showed two ulcers in the larynx. A few of the solitary lymph nodules of the intestine were swollen, but not ulcerated. There was swelling of the spleen and mesenteric lymph nodes.

The diagnosis of typhoid fever in the cases which have just been briefly summarised must have rested upon clinical grounds alone, since they were observed before the discovery of the typhoid bacillus, or at least before the biological characters of this bacillus were sufficiently understood in order to establish the diagnosis upon a biological basis as well. On account of the lack of bacteriological evidence, these cases cannot be accepted as proven to have been actually cases of typhoid fever, however much they may have resembled the disease clinically.

But still more recently cases have been recorded in which the anatomical diagnosis of typhoid fever without definite lesions of the small intestines was corroborated by bacteriological examination. Thus G. Banti[12] reports a case of a woman, aged 31, who died on the twenty-sixth day of a typical and apparently uncomplicated attack of typhoid fever. The necropsy showed no lesion of the intestine, but the stained section of the spleen demonstrated bacteria which Banti regarded as typhoid bacilli. Again, Karlinski[13] reports three cases occurring in a widespread epidemic of typhoid fever, which presented during life the symptoms of this disease. They were affected in much the same way as other fatal cases, which showed at necropsy the characteristic lesions of the small intestine in typhoid fever. The necropsies of these three fatal cases failed to show any involvement of the lymphatic structures, either swelling or ulceration of either large or small intestines. The mesenteric lymph nodes and spleen were swollen in each case. In one case the spleen was five times its normal size. Cultivations from the spleen revealed the presence of the typhoid bacillus in each case, but it is evident from the description of the cultivations that Karlinski did not sufficiently test the bacterium which he isolated in order to differentiate it from species which closely resembled this bacillus. He was obliged to identify his cultures largely on their behaviour when growing on potato, and such important biological characters of B. typhosus such as the indol reaction and gas formation in glucose containing media were omitted. Finally, Du Cazal[14] records a carefully observed case of a man, aged 19, who died of an attack of typhoid fever on the thirteenth day, in which at the necropsy there was found a double pneumonia, swelling of the spleen, and mesenteric lymph nodes, but absolutely no change in the appearance of the mucous membrane of the small or large intestines. A species of bacteria was cultivated from the spleen in pure culture, which in the biological characters that he observed appeared identical with the B. typhosus.

All practical workers in bacteriology are well aware that the identification of the B. typhosus in cultures is by no means a simple matter. It can only be differentiated from other species with certainty after a careful study of all of its biological characters. The evidence of typhoid fever in Banti's case, so far as the bacteriological examination was concerned, consisted in his finding in stained sections of the spleen bacteria which he regarded as typhoid bacilli. It is needless to remark that such meagre evidence as this is entirely unconvincing. From Karlinski's reports his cultural methods, according to the modern requirements of bacteriological technique were not sufficiently elaborate to warrant his conclusions that the bacteria which he isolated from the spleens of his cases were beyond reasonable doubt typhoid bacilli. Du Cazal's case, from his report of the bacteriological findings, is much more convincing, and indeed has been quite commonly accepted as being the first case to be recorded of typhoid fever occurring without lesions of the small intestines in which the clinical diagnosis was confirmed by a satisfactory biological examination.

I desire to put upon record a similar case of atypical typhoid fever in which no lesions of the small intestine were found, and in which a bacillus was isolated from the spleen, which proved after very thorough investigation to be the typhoid bacillus. I desire also to express my thanks to Drs. Wilson, His, and Dyar for their painstaking work in conducting the bacteriological examination.

D. M., aged 31, single, truck driver, native of United States, was admitted into Roosevelt Hospital, August 26th, 1896

Personal History: Patient has a moderate beer and whisky habit, but is intemperate at times. He never had rheumatism or venereal disease.

Present Illness: Patient felt well until about one week before admission to the hospital. He began to lose his appetite, and to have headache and diarrhœa. The diarrhœa was moderate at first; three or four stools each day withous blood or mucus, but the movements were attended with some pain. Later it became more severe. He was able to work until four days before admission, when he was obliged to go to bed on account of the prostration, dizziness, headaches, nausea and vomiting. There were no rigors, no epistaxis, but a continuous fever developed and the diarrhœa became severe.

On admission patient was fairly well nourished. The face was flushed, the tongue was coated in the centre, red at the edges, and was tremulous. The pulse was regular but rapid. There was no increased tension of the the arteries; there were muscular twitchings; patient was apathetic. The abdomen was rather tympanitic, and a few typhoid spots were seen over the upper part. Prostration was marked. Temperature 104.2° F.; respiration 28; pulse 114. The examination of the urine gave negative results.

Physical examination revealed harsh occasionally subcrepitant *râles* over both lungs. There was a systolic murmur heard over the heart in the second left space. The area of splenic dulness was not increased. The patient complained chiefly of headache, dizziness, diarrhœa and prostration. While in the hospital the patient ran the course of a typical typhoid fever of a rather severe type. The diarrhœa continued, the discharges being "peasoup" in character. Restlessness alternating with delirium or stupor developed. The urine and fæces were passed involuntarily. The abdomen became more distended, and was sensitive to pressure. The temperature varied been 99° and 104° F. The temperature curve was considerably modified by the application of baths. Death took place on the seventeenth day of the disease.

Necropsy six hours after death. The body was considerably emaciated. Rigor mortis was slight. Abdomen was moderately tense; urinary bladder was distended. The peritoneum was congested—it appeared dull and lustreless. There was no enlargement of the mesenteric lymph nodes. There were a few old adhesions over the right lung. Both lungs showed a moderate amount of œdema and hypostatic congestion. The heart muscle was pale and flabby; there was a marked thickening of one cusp of the mitral valve. The spleen was moderately enlarged; the parenchyma was soft and congested. The kidneys showed the gross changes of parenchymatous degeneration. The liver was pale; it showed

no lesions to the naked eye. The gall bladder was distended; its mucous membrane appeared normal. The intestines contained a considerable amount of fluid fæces "peasoup." The œsophagus and stomach appeared normal. The mucous membrane of the small intestine was pale. There was neither swelling nor ulceration of the lymphatic structures. Careful examination of Peyer's patches by transmitted light failed to reveal the slightest lesion. The appendix was normal. The colon was dilated and thickly studded with ulcers, varying in diameter from 2 to 15 mm., mostly circular in outline, and having sharp edges and smooth bases. The ulcers were present throughout the entire length of the colon, except the sigmoid flexure and rectum. The pancreas was pale and flabby; the urinary bladder was normal.

Biological Examination: As the necropsy was made during the summer, when the laboratory was temporarily closed, the spleen was wrapped in sublimated cloths immediately after removal from the body, and sent to Dr. Ezra H. Wilson, Bacteriologist to the Brooklyn Board of Health. Dr. Wilson reports that on the culture plates there developed colonies which, with a single exception (an air contamination), showed in the cultured tubes all the biological characters of B typhosus. Dr. Wilson's cultures were later submitted to Drs. P. H. His and H G. Dyar, Assistants in Bacteriology in the Laboratory of the College of Physicians and Surgeons, New York, who, working independently of each other, report that these cultures correspond in all their biological characters with B. typhosus. These cultures presented the usual characters of the B. typhosus in its morphology and in gelatine and agar cultures. They were decolorised by Gram's stain, but did not coagulate milk, and developed in an invisible growth on potato. They gave no gas formation on sugar media. Lactose litmus agar remain unchanged. Indol was not formed. The reaction with typhoid serum was typical.

Microscopical Examination: The liver showed moderate acute degeneration and numerous tiny areas of "focal necrosis," such as have been described in the liver in some of the acute infectious diseases. and notably in typhoid fever. The peritoneum showed a well-marked cellular peritonitis, with little or no exudation from the blood vessels. The kidneys showed the lesions of acute degeneration. Sections of the small intestine, including some of the solitary lymph nodules and Peyer's patches showed no lesions except desquamation of the lining epithelium, probably an artefact. The sections through some of the ulcers in the colon showed hyperplastic lymphatic tissue about the edges, with inflammatory infiltration of their bases. The spleen and mesenteric lymph nodes were not examined microscopically.

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SOME PRACTICAL AND THEORETICAL POINTS IN SERUM DIAGNOSIS.

By ALBERT S. GRÜNBAUM, M.A., M.D., M.R.C.P.

[ABSTRACT.]

[SOME general points, the relative merits of the macroscopic and microscopic methods, modes of collecting blood, etc., were first considered.]

DILUTION OF THE SERUM.

The proper dilution of the serum is an important detail in performing the test because of the inherent agglutinative power of many normal sera in concentrated solution. From my own experiments, with which those of Austrian and German observers are in agreement, I conclude that a dilution down to 5 or 3 per cent. is required. French and Canadian observers consider dilution down to 10 per cent. to be enough. Having seen a fair number of other sera give the reaction in this dilution I deem it insufficient. Consequently the measurements should be done with graduated instruments. Delépine objects to their use as being difficult to clean; I myself have not experienced such difficulty. On the other hand, to his method of placing drops of culture on a slide and mixing a drop of serum with them there is the objection that concentrated serum is brought into direct contact with the culture. From what has already been said, it appears to me highly desirable to dilute the serum before mixing it with the bacilli.

TIME LIMIT.

The necessity for a time limit, first insisted on by me, is now being generally recognised. The effect of leaving a normal serum, highly diluted, a long time to act, is much the same as giving it a shorter time in more concentrated solution. Consequently we have here a possible source of error. To avoid this, as the result of experiment, I have chosen a time limit of thirty minutes. It is rather remarkable to see how very often in the last few minutes the reaction develops itself having left the observer in doubt for the first twenty or twenty-five minutes whether anything is going to happen.

TIME OF APPEARANCE OF REACTION.

A few experiments on animals and on man, as well as observations on actual patients, give us a few indications. In my own experiments on guinea-pigs the reaction generally appeared on the third or fourth day after the injection of dead bacilli into the peritoneal cavity. Wright, in his vaccination experiments, saw the reaction appear sometimes within two days. In either case it takes some days longer to reach the maximum strength. This comparatively long period contrasts strongly with the short time taken for agglutinins injected into the peritoneal cavity in antitoxic serum to find their way into the blood. In twenty minutes the first indications appear, and within six hours the blood has attained its maximum agglutinative power. So that it is possible to artificially produce in the body within a few hours a state of defence which in the natural course of events it would take days or even weeks to attain. This fact is of practical importance in the serum treatment of disease. The long incubation period of enterica sufficiently explains why the reaction may be found very soon after illness is complained of. In cholera with a shorter incubation period, it appears sooner.

VARIATION OF STRENGTH.

The remarkable variation from day to day in the agglutinative power of the serum, first pointed out by me, has now been recognised by Widal and many others. At first I thought it due to some technical error, but while this may play a large part, there is another possible explanation. In my experiments on animals it often occurred that the agglutinative power increased, so to speak, in jerks. Moreover it is known that the agglutinin is used up during its action on the bacilli, this being one reason for employing a constant quantity of culture in serum diagnosis. Consequently it appears possible that a rapid increase in the number of micro-organisms, which may easily occur if they light on some fresh suitable soil, would reduce the amount temporarily below what it had been the day before, and may reduce it below the level of normal blood. The same explanation probably applies to those cases where the reaction disappears before death; all the agglutinin has been used up, and the power to form more has departed. In the same way it appears possible that light cases can have a strong serum and bad ones a feeble serum; in fact it does occur quite frequently.

REACTION OF INFECTION OR IMMUNITY?

Although of little importance this question has some theoretical interest, because the answer depends in part on the meaning attached to "infection" and "immunity" respectively. And it shows how two persons starting from theoretical antipodes may arrive at the same practical equator. Widal laid great stress upon the point that it was impossible to arrive at the idea of serum diagnosis without first disillusioning oneself of the conception that the agglutinative process was a reaction of immunity. Indeed the fact for which he claimed most credit was that he recognised the phenomenon to be a "reaction of infection." However, he has now retired from that position and contents himself with the colourless phrase of a "reaction of the period of infection." It is the opinion of those who have worked most at the subject that the agglutinative power of the serum stands in direct proportion to its immunising power, and is a result of the immunising process. Knowing this, and having seen from my own experiments that the agglutinating substance appears in the blood from three days to a week after the commencement of immunising, it appeared natural to me that similar substances should be present in human serum soon after the subjective commencement of an attack of enterica, the longer period in man being due to the smaller initial dose.

But there are other reasons besides this correspondence with the process of experimental immunity for objecting to

the phrase "reaction of infection." The word "infection" is usually reserved for the action of living *materies morbi*, but the agglutinative action can be produced both in men and in animals by the injection of dead bacilli. It is unlikely that the phenomenon should be common to both infection and immunity, but since the former tends to produce the latter, it is likely that the reaction should appear during the period of infection. That there is nothing inconsistent in its early appearance was shown above. Nor does the occurrence of relapses militate against this view. It simply indicates that the immunity conferred is not complete. The word immunity must not be taken in its etymological significance, and bacteriologically it is only a relative term.

It is not possible experimentally to confer complete protection: the power to kill is always greater than the ability to protect. That a partial protection had been conferred in relapsing cases appears probable from their low mortality. The long duration of the reaction after defervescence is perhaps the strongest reason for considering it to be a reaction of immunity. It is true that the strength of the serum does rapidly diminish. but not proportionately more quickly than in immunised animals, and it certainly remains for a long time above the normal. A reaction of infection should, to justify its name, disappear with the cessation of infection.

Serum Diagnosis of other Diseases.

It is obvious that the principles of serum diagnosis apply to other diseases besides enterica. The method has indeed been used already for the diagnosis of cholera, Malta fever, and glanders. In diphtheria and tubercle it has not yet been successful. It might very well be applied also to the diagnosis of pneumonia, erysipelas, appendicitis and influenza, if required, since it is not necessary that the specific organism should be motile. Agglutination will take place with dead motile and non-motile bacteria. There is, however, at any rate in the case of one coccus, which I have isolated from a scarlet fever case, a phenomenon which seems to take the place of the inhibition of movement of motile bacteria. An emulsion of these cocci presents a marked Brownian movement which stops on the addition of the serum from some other scarlet fever cases. Mere alteration of the specific gravity of the fluid in which the cocci are suspended will not suffice to explain this: there must be some more complicated change in the relations between coccus and fluid. An increase in size by swelling up of the external membrane—Gruber's hypothesis—would account for diminished movement, but we must remember that this expansion has never been microscopically demonstrated.

One general precaution must be mentioned regarding the serum diagnosis of any disease, although it is absurdly obvious, namely, that it is no good applying the test if injections of "antitoxic" serum have been made. One observer remarked, with surprise, that he got no reaction in a case of diphtheria until antitoxin had been injected. It would have been a matter of astonishment if he had not then obtained it—after the introduction of the all-agglutinating horse's serum, quite apart from its specific action. The same will hold good for antityphoid, antipneumonic, and for any other serum which may subsequently be introduced.

Detection of Specific Micro-Organisms.

Not only may the agglutinin reaction be applied to the diagnosis of disease already present, but it is also likely to be of use in the discovery of the specific micro-organisms as yet unknown. For, in spite of the different characters of their mode of infection, it is still held that small-pox, typhus, scarlet fever, measles, and some others are of bacillary origin.

For this purpose bacteria must be isolated from the various tissues affected and their reaction with the serum of patients convalescent from the disease in question ascertained. Naturally any positive result must be controlled with other sera, and by suitable dilution of the specific serum.

There is one source of fallacy against which it is necessary to guard. Some infectious diseases—for example, scarlet fever, and small-pox in the later stages, are nearly certainly cases of mixed infection, more particularly with the organisms of sepsis. Under such conditions more than one micro-organism would give the reaction, and other criteria have to decide which is the specific one. For this and other reasons, I do not consider the coccus above mentioned to be the specific organism of scarlet fever.

I consider it fortunate, from the point of view of clinical medicine, that the reaction is not and must not be considered pathognomonic nor constantly present, so that some room may still be left for the exercise of medical insight and acumen, and diagnosis not reduced to a matter of mechanical routine.

THE FAUNA OF DEAD BODIES, WITH ESPECIAL REFERENCE TO DIPTERA.

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The paper confirms and extends the observations of Megnin. Observations were made upon the bodies of horses, dogs, cats, rats, pigs, snakes, fishes, and men, which had putrefied while exposed freely to the air. Nothing was observed which proved that particular genera or species feed only on particular animals.

A dead animal body is reduced to dry bones in about three years. The process may be divided into two part:

A. Putrefaction and desiccation.

B. Removal of the dried tissues from the bones.

The stages and the workers of each stage, as observed in Europe and America, are given in the following printed list:

WORKERS OF THE FIRST STAGE OF PUTREFACTION

§a. Immediately after death. Body still fresh.

America.	Europe.
Diptera.	
Muscidæ (sens. strict.)	
1. Musca domestica Linn.	Musca domestica Linn.
2. Muscina stabulans Fall.	Muscina stabulans Fall.
,, assimilis Fall.	,, pabulorum Fall.
3. Calliphora vomitoria Linn.	Calliphora vomitoria Linn
,, erythrocephala Meig,	,, erythrocephala Meig.
,, nigribucca nov. sp.	
,, latifrons nov. sp.	

§b. Putrid odour develops.

Diptera.	
Muscidæ (sens. strict.)	
§a., group 3 continues.	§a., group 3 continues.
Caliphora Groenlandica Zett.	
,, variabilis nov. sp.	
Compsomyia macellaria Fabr.	
Lucilia cæsar Linn.	Lucilia cæsar Linn.
,, sericata Meig.	
,, sylvarum Meig.	Pyrellia cadaverina Linn.
Cynomyia americana nov. sp.	Cynomyia mortuorum Linn.
	Onesia spp.
Sarcophagidæ.	
	Sarcophaga carnaria Linn.
	,, laticrus Desv.
	,, arvensis Desv.
Acarina.	
	Uropoda nummularia Megnin.
	Serrator necrophagus.
Amphoipod Crustaceans.	
Sand fleas.	

WORKERS OF THE SECOND STAGE OF PUTREFACTION

Butyric and Caseous Fermentations.

America.	Europe.
Lepidoptera.	
Pyralidæ.	
	Aglossa pinguinalis.
Coleoptera.	
Dermestidæ.	
Dermestes frischii Kug. (?)	Dermestes frischii Kug.
	,, undulatus.
	,, lardarius Linn,
Cleridæ.	
Necrobia sp. (?)	Necrobia coeruleus.
	,, ruficollis Fab.
	,, violaceus Linn.
	,, rufipes Fab.
Diptera.	
Anthomyidæ,	
	Anthomyia vicina.
	,, sp. (?)
Piophilidæ.	
Piophila casei Linn.	Piophila casei Linn.
,, affinis Meig.	
,, nigriceps Meig.	
Prochyliza xanthostoma Walk.	
Acarina.	
	Tyroglyphus siro
	longior.

WORKERS OF THE THIRD STAGE OF PUTREFACTION.
Ammoniacal Fermentation.

AMERICA.	EUROPE.
	Coleoptera.
Silphidæ.	
	Necrophorus humator.
Silpha sp.	Silpha littoralis.
Histeridæ sp.	,, obscura.
Hister sp.	Hister cadaverinus
	Saprinus rotundatus Kug.
	Diptera.
Anthomyidæ.	
Ophyra leucostoma Wied.	Ophyra cadaverina Megnin.
Thyreophoridæ.	
	Thyreophora cynophila Panz.
	,, furcata Fabr.
	,, anthropophaga Desv.
Lonchaeidæ.	
	Lonchaea nigrimana Meig.
Phloridæ.	
Phora sp.	Trineura aterrima Fabr.
	Acarina.
	Tyroglyphus longior.
	,, siro.
	Trachynotus cadaverinus Megnin.
	Glyciphagus cursor.
	,, spinipes Ch. Rob.
	Coepophagus echinopus Ch. Rob.

CONSUMERS OF THE DRIED TISSUES.

AMERICA.	EUROPE.
	Lepidoptera.
Pyralidæ.	
	Aglossa cuprealis Hubn.
Tineidæ.	
Tinea sp. (?)	Tinea pellionella.
	Tineola biselliella.
	Coleoptera.
Dermestidæ.	
Anthrenus sp.	Anthrenus museorum Linn.
	,, dubius.
	Attagenus pellio Linn.

CONSUMERS OF THE REMAINS OF THB OTHER WORKERS.

AMERICA.	EUROPE.
	Coleoptera.
	Tenebrio obscurus Fabr.
	Ptinus brunneus Duft.

It is true of all the cadaver diptera that from the time of depositing the egg through the larval and pupal stages to the appearance of the perfect insect, about four weeks are necessary. Empty pupa-cases of diptera, therefore, if found on a cadaver, show that life has been absent about four weeks at least. Since insect life ceases when the air temperature falls below 43° F., it follows that in our climate no insect destruction of dead bodies takes place during winter; but since bacterial action and desiccation do go on during winter, it also follows that certain groups of the cadaveric fauna may be absent, or very sparsely represented. If the latter condition exists, either their work was interrupted by the advent of winter, or that stage of putrefaction was nearly ended when spring came. In the one case the pupæ found would be mostly dead, in the other they would be mostly empty.

The author then proceeded to discuss points strictly entomological, and attempted such a characterisation of the diptera of the cadaver, that anyone with a little knowledge of entomology might be able to determine them.

MEMORANDA:

MEDICAL, SURGICAL, OBSTETRICAL, THERAPEUTICAL, PATHOLOGICAL, ETC.

ALCOHOL INJECTIONS IN CANCER.

IN the BRITISH MEDICAL JOURNAL of September 25th there is an extremely interesting report of the progress and results of a case of scirrhus of breast treated for ten weeks with repeated multiple injections of a 40 per cent. solution of pure alcohol in water. Then, unfortunately, before the sequel could be observed rapidly fatal secondary hepatic infiltration cut short the case, not, however. before the enlarged and infiltrated breast and axillary glands had dwindled away so as to be barely perceptible.

Whether *post vel propter* as regards the treatment is hardly decided by the *post-mortem* examination, since the presence (on microscopic examination of the breast and hepatic tissues) of similar collections of interstitial tissue and epithelial cells in both raises a doubt in Professor Delépine's mind. It does, however, seem probable that the atrophic process—normal in some forms of scirrhus, though not initiated, was greatly accelerated by the alcohol injected *in situ*.

Whether the effects, beneficial or otherwise, are limited to the area of injection, or are general and widespread also, need not now be discussed. Dr. Yeates remarks that, after the immediate pain of injection had subsided, the patient felt more comfortable generally. This is a sensation often experienced by those who imbibe alcohol.

In support of the thesis that the injections around the tumours accelerated the atrophic process, I may mention a case of genuinely "atrophic" scirrhus in my own practice. The patient, a lady aged 69, when first seen, now eight years ago, presented the appearance of 60, with all her teeth, and feeling—as she had always done—remarkably well. The breasts were still large and fleshy, the right normal, the left containing a lump as big as a walnut, not painful, or but slightly, except on pressure, with nipple normal and no large glands to be felt in axilla. There was a vague recollection of a slight injury, but no other suspicious circumstance, except that shortly before the son had died of cancer of tongue, two years and three-quarters after supposed complete removal thereof, recurrent or revivent in the glands and jaw. Moreover, both mother and son were of the type that is shown by Mr. Roger Williams to be prone to malignant neoplasms; and in this case the diagnosis of scirrhus was confirmed by Mr. G. A. Wright, who advised removal without delay. Operation was declined, and a speedy spread of the mischief anticipated. Whether, however, in spite of or on account of non-interference, no further change occurred, except gradual dwindling of the breast and tumour, finally to the state that Dr. Yeates speaks of in his case, with retracted nipple, for six years, locally or generally. Only after this, during the last year of her life, when now 76, did cachexia supervene, a marked emaciation with muscular weakness, anorexia, extreme sensitiveness to cold, and dryness of skin (suggestive of diabetes; a suspicion not confirmed), but without enlargement of glands, or evidence of deposit in internal organs, till two months before death, when she took to bed, and there appeared in the right loin, higher than the usual site of "decubitus," a hard mass (size of palm) involving skin, and gradually causing it to ulcerate into a foul, discharging sore. This one thought (the breast being now dry and dwindled, and the glands free) might be regarded, situated as it was on the right side, as away and apart from the original deposit, as a terminal but not secondary manifestation (? sarcoma) of the malignant habit of the patient. However that may be (and the objection after as before death to all "cutting" renders this account necessarily incomplete), here was a case of, I think, undoubted atrophic scirrhus that underwent changes similar to those described by Dr. Yeates, and Mr. Windsor, and Professor Delépine, but with this difference, that six years was occupied in the process, whereas the injection of alcohol reduced the process to about ten weeks. Whether the natural process (of shrinkage) when it occurs is the safer one as regards secondary deposits or other remote effects, is perhaps worth considering. One has to reckon with the age and habits of the patient, and if there is aught in recent researches, with the possible presence of an excess of glycogen in the tissues in cancer. I may add that on and off for about one of the six years of "shrinkage," there was slight oozing of serum from a sinus which had formed, but this sinus had closed of itself some time before cachexia, etc., set in.

It seems to be allowed that "atrophic" scirrhus of the breast is both less painful and less often disseminated, and hence, one would presume, more radically removable by the knife, but in cases where operation is declined, it becomes a nice point whether to trust to Nature—slow, and not quite certain to cure—or to resort to some such expeditious (if risky) method as this employed by Dr. Yeates.

T. CARTER BOOTH, M.D.Durh., M.R.C.S.

Manchester.

PRESENTATION.—At a large and representative meeting of the Parsee community in Bombay a presentation of silver vases was made to Dr. K. N. Bahadurji for services rendered to the community during the time the plague was raging.

REPORTS
ON
MEDICAL & SURGICAL PRACTICE IN THE HOSPITALS AND ASYLUMS OF GREAT BRITAIN, IRELAND, AND THE COLONIES.

SUNDERLAND INFIRMARY.

CASE IN WHICH THE SAC OF A POPLITEAL ANEURYSM REFILLED FIVE YEARS AFTER LIGATURE OF THE FEMORAL ARTERY.

(By W. Morley Willis, F.R.C.S., House-Surgeon.)

W. M., a miner, aged 49, was sent into the infirmary by Dr. Gaunt, of Murton Colliery, under the care of Dr. Murphy.

History.—Five years ago the left femoral artery was tied in Scarpa's triangle for a popliteal aneurysm. The swelling gradually diminished until there was nothing to be seen of it three years after the operation, though a small lump could still be felt. He never had any other serious illness; no history or other evidence of syphilis could be obtained. Fifteen months before admission a swelling appeared in the site of the original tumour. This gradually increased, but caused no pain. When admitted it was a tumour the size of a cocoa nut, occupying the lower third of the back of the left thigh. The tumour did not appear to be attached to bone. There was no thickening of the femur. On resisting the action of the hamstrings the tumour was fixed, and the muscles seemed to run over it. This was especially the case with the biceps. The tumour was elastic, even to giving the sense of fluctuation, but was of different degrees of hardness in places. The skin was normal and not adherent. There was no pulsation in the tumour.

Operation.—It was regarded as a sarcoma, and leave was obtained from the patient to perform any operation that was deemed necessary. On September 19th Dr. Murphy made a free incision into the tumour, when it was seen to be the old aneurysmal sac, filled with laminated blood clot for the most part, but a small quantity of recent blood and clot was also present. The whole was removed, and weighed 1 lb. exactly. It was then discovered that the proximal end of the popliteal artery, where it entered the sac, was occluded, and the sac was fed from the distal end. A probe was passed into the artery from the sac, and it was then cut down upon and tied.

The after-history was uneventful.

REPORTS OF SOCIETIES.

PATHOLOGICAL SOCIETY OF LONDON.

J. F. Payne, M.D., President, in the Chair.

Tuesday, December 21st, 1897.

A Fractured Femur from a Case of Fragilitas Ossium.

Dr. Leonard Guthrie exhibited this specimen, which was obtained from a child 2½ years of age. After death similar spontaneous fractures were discovered in other bones; around all of the fractures there was a good formation of callus. The etiology was obscure. There were petechiæ of the intestinal mucosa and "bruising" of the skin, suggesting a condition of scurvy.

Mr. Jackson Clarke had seen a case of similar kind in which the lesions were due to syphilis—whether associated or not with rickets he could not say. The expression 'fragilitas" covered several different forms of osseous weakness, and was a symptom, not a disease in itself.

Mr. J. H. Targett regarded the specimen exhibited as one of scurvy rickets.

In answer to Mr. Raymond Johnson, Dr. Guthrie did not know of instances of fragilitas in carcinoma apart from secondary disease of the bone.

A Specimen of Spina Bifida.

Mr. Henslowe Wellington described a specimen of unusual form, in the lumbo-sacral region, and on one side of the middle line. Tapping was performed twice; death took place three weeks after birth. The cyst was unilocular, formed of dura mater and skin, but projecting into this was a second smaller cyst, due possibly to dilatation of the arachnoid sac or of the central cord.

Mr. S. G. Shattock had little doubt that the second smaller protrusion was constituted by a dilatation of the spinal cord, as he had examined two such cases in which this was so, in both of which the exact anatomy was demonstrated by sagittal section.

Gumma of the Pituitary Body.

Dr. William Hunter recounted this case, that of a woman, aged 47, who presented the signs of marked syphilitic infection in nodes of various bones, caries of the skull, etc. Death occurred from suppression of urine after removal of the right kidney for pyonephrosis. The pituitary body was the size of a small marble, and presented caseous foci which microscopically exhibited the changes due to syphilitic, and not tuberculous, disease; certain remains of the gland tissue were encountered. There were typical gummata in the liver. The author had found records of only three similar cases, two in foreign literature and one by Dr. Cecil Beadles in the Society's *Transactions*. There were no symptoms of any kind referable to the lesion, the neighbouring nerves being intact.

Congenital Cystic Disease of Kidney and Liver.

Dr. G. F. Still recited an instance of this disease in a child which died at the age of 2 months from uræmia. The kidneys showed the usual characters. The cysts in the liver were scarcely macroscopic. Histologically the liver showed excess of connective tissue, and branching cavities lined with subcolumnar epithelium; there was no intercellular fibrosis and no vacuolation of hepatic cells. Whatever was the cause of one lesion the author thought must be the cause of the other. In the case of the kidney he took the view put forward by Mr. Shattock that the condition was due to developmental error, as there was no adhesion of capsule, no round-celled infiltration, and no distension of Bowman's capsules. The amount of fibrous tissue present in the kidney was too large to be accounted for by an inflammatory process—that is, there would not be sufficient time to account for its production *in utero*. He applied the same view to the liver. One of the most important facts was the absence of jaundice, which would be present in such cases were the cystic change due to ordinary cirrhosis. The injection of the bile ducts did not, again, affect the cysts. He regarded the cysts as due to dilatations of aberrant processes from the primitive hepatic diverticulum and its subdivisions; the occasional presence of vasa aberrantia and cæcal protrusions of the bile ducts, which had been observed, showed the possibility of such an explanation. Moreover, it was significant that the cystic condition was associated with other malformations.

Dr. H. D. Rolleston thought it more probably true that the cystic change in both liver and kidney was due to chronic interstitial inflammation. The cystic spaces in the liver were ducts, in his opinion. The absence of jaundice he allowed was difficult of explanation. In one case the cystic condition was found also in the pancreas and brain, and he thought that whatever explanation was adopted it should be one that was applicable to all the organs affected.

Mr. J. H. Targett thought that the cysts in the cystic kidneys of infants were distinct from renal tubuli; there was no obstruction of calyces or ureter. He considered that the cause was a mechanical one of fluid accumulation and not the result of inflammation.

Dr. Parkes Weber observed that congenital malformation of the cardiac valves was mostly to be ascribed to developmental error, as there were no evidences of inflammatory change; a certain few, however, were due to the latter, and so there might be two sets of causes in the case of congenital cystic disease of the kidney. In regard to the liver he thought that the view put forward by Dr. Still was probably the correct one.

The President remarked that the cystic change of the kidney obviously began at a very early period, as the changes were not those that resulted from a cirrhosis arising after the full development of the organ.

Card Specimens.

Dr. L. Freyberger: Suppurating Infarct of Spleen.—Mr. Strangeways Pigg: A case of Carcinoma Testis.

EDINBURGH OBSTETRICAL SOCIETY.

J. Halliday Croom, M.D., President, in the Chair.

Wednesday, December 8th, 1897.

Specimens.

The President showed specimens from: (*a*) Case of Abdominal Hysterectomy for Fibroid; (*b*) case of Vaginal Hysterectomy for Scirrhus.—Professor A. R. Simpson showed: (*a*) Double Parovarian Tumour (double ostium tubæ); (*b*) Uterus and Fibroids removed by vaginal hysterectomy; (*c*) Uterus removed by vaginal hysterectomy for malignant disease; (*d*) Uterus and Appendages removed by vaginal hysterectomy, ovarian abscess on one side.—Dr. Milne Murray showed a case of Meningocele.—Dr. N. T. Brewis showed a Uterus removed by vaginal hysterectomy for Primary Malignant Disease of the Body, also one for Vaginal Disease and one for Cancer of Cervix.—Dr. J. W. Ballantyne showed: (*a*) A Fœtus with Exomphalos and Double Genital Tubercle; (*b*) Fœtus with large Encephalocele; (*c*) Fœtal Ascites and Distended Bladder, not inflammatory; (*d*) Two Placentæ with Hæmatoma.—Dr. Haultain (for Dr. D. W. Johnston, Johannesburg) showed: (*a*) Specimens from three cases of Ruptured Extrauterine Pregnancy; (*b*) specimens from a case of Abdominal Hysterectomy for fibroids; (*c*) Uteri and Appendages of Baboons.—Dr. Haig Ferguson showed: (*a*) Anomalous Placenta; (*b*) Missed Abortion.

The Induction of Premature Labour.

Dr. John Moir, who graduated in 1829, and was admitted a Fellow of the Royal College of Physicians of Edinburgh in 1837, and who is now 90 years age, read a paper on this subject. On lately perusing some of the more recent works on obstetrics he was surprised to find the practice employed in the induction of premature labour so different from what was the teaching from the University Chair in his time, and from what had been his own practice for many years. At the latter end of last century the practice consisted of puncturing the membranes and thus discharging the liquor amnii and then waiting till pains came on. A report by Dr. (?) Morrison in the third volume of the London Medico-Chirurgical *Transactions* showed that a large proportion of the children were stillborn. Dr. J. Hamilton, the Professor of Midwifery in the University of Edinburgh, in his day discountenanced the rupturing of the membranes, and advised that they should be kept entire for the sake of the child. He recommended the separation of the membranes from the os and cervix, and if pains did not soon supervene the drawing off of a small portion of the liquor amnii. This was effected by passing up a male silver catheter some inches between the wall of the uterus and the membranes. The point of the catheter having been cut off and its edges turned in so soon as it was sufficiently introduced the point was turned in towards the membranes, and the stilette passed into them. This was followed by a flow through the catheter, which was withdrawn as soon as a few ounces had escaped. The pressure on the walls over the minute puncture prevented any further flow. Labour generally supervened in a day or two, assisted, if need were, by the introduction of a gum elastic catheter between the uterus and membranes, which was left there and reintroduced if it were forced out. Dr. Moir had to a great extent followed out these principles ever since, modified by longer experience and the necessities of particular cases. Thus he had occasionally had recourse to sponge and tangle tents, and occasionally to a small Barnes's bag as at first introduced, and containing 1 or 2 ounces, not such a one as he saw for the first time within the last few weeks, and which quite horrified him. Further he did not actively interfere so soon as Dr. Hamilton did, further than by dilating the os and cervix, and separating the membranes. Thereby he had saved the lives of many infants, the great object of the operation. Turning was the great cause of stillbirth, and hurrying on the labour meant the greatest risk to the child. Under the modern treatment he much feared that the operation must very often end in disappointment as to a living child. His means had been very simple, less heroic, but the results had been on the whole very satisfactory, though encroaching a good deal on the time and patience of the medical attendant. The following table showed that he induced labour on 26 different women from once up to eight times in one case, in all on 72 different occasions, 73 children being the result, as one was a case of twins:

No. of Times.	No. of Cases.	No. of Children.	Living and Healthy.	Still-born.
Once	8	8	7	1
Twice	3	6	4	2
Thrice	10	31	30	1
Four times	1	4	3	1
Five ,, ...	3	15	8	7
Eight ,, ...	1	8	7	1
Total...	26	72	59	13

Premature labour was thus induced in 26 individuals, who gave birth to 72 children, of whom 59 were healthy, and as likely to live as children born at full time—save one that lived only some hours. Of the 13 stillborn, 8 were the children of 2 women with very deformed pelves, the subjects previously of embryulcia. In two the children weighed 8 lbs. The others were shoulder or breech cases, and the children were lost by pressure on the cord, the version having been had recourse to before the os and cervix were sufficiently dilatable. The proportion of 13 stillborn children out of 72 was very large, but not so if it were remembered that the whole 26 mothers had been the subjects either of embryotomy, of tedious labours, or ending with the use of long forceps. In the case of one who lost four children, three of them lived respectively 1, 4, and 24 hours, and the mother had the satisfaction of having unmutilated infants, which could not have been the case had they gone on to full time. Of his last 16 cases, with 46 births, he lost only one child, besides the embryotomy case last alluded to, where three of the four children were not stillborn. In some of the tedious and lingering cases of this latter set, he did have recourse to turning, but never till satisfied that he could pass the head through the os in one or at most two pains, in which case he thought version quite justifiable, but not otherwise. Till his very last two cases he never had had a death or serious ailment of a mother. Then both mothers died from blood poisoning, one in 1880 and the other in 1884. Before active interference the duration of the pregnancy should be ascertained; the fœtus must be full 7 months. The time allowed to elapse between the end of the 7th month and the operation must depend on the degree of deformity. If great, no time should be lost. If less, one might wait a month longer. He generally began interference a week before he expected the birth. He always had a wet-nurse ready till the mother herself could undertake the duty. For opening up cervix and os he latterly and for many years used a rectal bougie. Its thickness and its bluntness were its advantages. It was passed in and then turned to separate the membranes. This was repeated daily. In a few days the vagina, os, and cervix gradually became soft, relaxed, and dilatable, just as in a full-term case. When this condition had been got, he dilated (with his fingers) the os uteri, but avoided injuring the membranes. Pains came on by degrees, sometimes at long intervals, in others more rapidly, and eventually the case terminated as a natural labour. All this interference was done without pain or inconvenience. Indeed, several of the patients went to Dr. Moir's consulting room, and had the bougie passed. This was done in a few minutes, and they walked home. In one case the patient came ten times, and was eventually delivered of a living child. Occasionally a tangle tent was used to open the cervix, also on one or two occasions a small Barnes's bag where pains had not come on. Sometimes a small quantity of liquor amnii was drawn off. Sometimes the labour pains were continuous from the time they began, at others very slight and at long intervals, but no interference was required so long as there was no undue pressure on the child, nor until the os and cervix were quite soft and dilatable. Dr. Moir then narrated in detail the history of some of his cases.

The President said it must be unique in the history of any

Society to have its oldest member, and the oldest practitioner in the city, a man of 90 years of age, coming to honour them with an interesting and valuable paper such as they had just heard, a paper from which all could and should learn valuable lessons. He begged in name of the Society to offer warmest thanks to Dr. Moir.

Professor A. R. Simpson in a word or two seconded.

Leopold's Account of the Origin of the Placenta.

Dr. A. H. F. Barbour read a note on this subject. Leopold's Atlas, "Uterus und Kind," was the most important contribution made to the sectional anatomy of obstetrics during the past year, and out of sight the most important yet made to the anatomy of pregnancy. It gave sections of the pregnant uterus from the first week up to full time. The most valuable was that of the uterus and ovum at the end of the first week. It was the only one they had at this early date. Its history was that of a multipara of 30 years, who was operated on for cancer ten days after the cessation of menstruation. Intercourse had taken place nine days before operation. A congested mucosa and a slight elevation the size of a lentil seed on the posterior wall near the fundus were found. The mucosa increased to double its thickness as it came near the ovum, diminishing again by one-half beneath it. The appearance thus was that of a stone set in a ring. There was a compact and spongy layer, the former showing the drawn-out necks of the glands, the latter their convoluted bases. The new point brought out was that these changes were present as early as the first week of pregnancy. It showed how rapid was the growth of the mucosa. The reflexa was thick below, but thinned towards the upper pole of the ovum. Glands with epithelium were present at its lower part, but as it thinned its structure became indistinct. The chorion was closely blended with it, and while cells were here and there seen of a decidual character, it was chiefly composed of fibrin. Villi were seen cut in various directions within the reflexa. They had a single layer of epithelium, and vessels were beginning to form in their stroma. A young villus appeared as a wart of epithelium. The ovum rested within the reflexa on a fold of mucosa like a ship resting on a ridge of rock. There was no epithelium on the top of the ridge, though there was on its lower slope. Dilated gland spaces with cylindrical epithelium were seen in this fold, and into the mouths of one of these glands a villus had extended. At one other point there was an appearance as if villi had grown into the glands, but as this was seen nowhere else its occurrence was accidental. The villi were usually applied to the surface of the mucosa, and united to it by a layer of fibrin. Heaps of decidual cells were forming between the villi, the beginnings of the trabeculæ of decidual cells of the fully-formed placenta. The ends of the villi stimulated the decidua to proliferate. The ends of the villi were continually shooting out tendrils winding in all directions, and from this period they were already washed with maternal blood from the open capillaries, and opened up still more these vessels, so that the blood now flowed unhindered between the villi up to the chorion. "It was demonstrated with certainty that the intervillous spaces were supplied with maternal blood from the earliest time of development." The second preparation was of a fourteen days' ovum imbedded in the mucosa. The gland spaces in the mucosa were filled with irregular masses of swollen epithelium, and the capillaries were greatly dilated both in the serotina and in the lower and middle portions of the reflexa. This preparation showed that there was no ground for the idea that the ovum became imbedded in the raw surface as some had suggested. The ovum was perched on a fold of mucous membrane which had its surface epithelium still present on one side of it. This preparation confirmed the mode of attachment of the early ovum which had been generally received since the time of John Hunter. The points brought out by this section of Leopold's were the mode of closure of the upper pole of the reflexa, and the mode of attachment of the ends of the villi. The gist of Leopold's conclusion as to how the ovum got its food at this early stage was that it was what had been described in the fully-formed placenta of the fourth month. In the process of gradual dilatation of the capillaries without rupture, they must look for the beginning of maternal circulation in the placenta. Leopold also gave a series of beautiful sections of the placenta at the fifth and ninth months, as well as a drawing of the structure of the placenta made from an injected placenta by the removal of the smaller villi, so as to make the stems of the villi and the septa of decidua stand out. Leopold differed from Hofmeier and Bloch in maintaining that the processes of decidual tissue carried arteries which opened into the spaces in addition to those which opened at their base. Dr. Barbour did not think that Leopold's sections established his conclusion that "already in the second or third week of pregnancy we have intervillous spaces communicating directly with the blood vessels, and therefore must reject the view hitherto received that the spaces do not develop till the fifth month." If it should be shown that Hubrecht's description of the origin of the placenta in the hedgehog was applicable to the human female there might already be at this period a system of the vascular lacunæ communicating with maternal vessels. Then, too, these cells, which looked like splits of decidua, and the epithelium which suggested a surface of mucosa not yet eroded, were the relics of cells which were analogous to Hubrecht's trophoblast and tropho-spongious.

The paper was discussed by Professor Simpson, Dr. D. Berry Hart, and others; and Dr. Barbour replied.

BIRMINGHAM AND MIDLAND COUNTIES BRANCH OF THE BRITISH MEDICAL ASSOCIATION.

Robert Saundby, M.D., President, in the Chair.

Thursday, December 9th, 1897.

Calcified Myoma.

Mr. Lawson Tait showed a calcified myoma, as large as an orange, all that remained of a myoma as large as an adult head, for which he had removed the appendages in 1889. For five years the patient enjoyed perfect health, never having menstruated since the operation. About two years ago she began to be troubled with chronic diarrhœa and straining. At the request of her medical adviser, Mr. Tait saw her again, and found a mass attached to the uterus, extremely hard and fixed in Douglas's pouch. About a fortnight before the meeting Mr. Tait removed the growth in London, and found it to be one of the nodules of the original myoma, the removal of which had apparently been prevented by the cretaceous layer. The tumour was densely adherent all over its surface, and the operation was one of much difficulty. The patient made an easy recovery.

Removal of Uterus and Appendages in a Case of Epilepsy.

Mr. Tait showed the uterus and appendages which he had removed in a case of epilepsy of the most extreme kind. Mr. Nason, of Nuneaton, and Sir William Broadbent were of opinion that the disease was of peripheral origin, and having exhausted by exclusion all other sources of irritation, Mr. Tait was asked to report on the condition of the pelvis. He found the uterus infantile, retroverted, and fixed. It was therefore agreed to remove all the organs. The patient made an excellent recovery, and the further progress will be reported upon at the expiration of some reasonable time—say, two years.

Tubercle of Fallopian Tubes and Ovaries.

Mr. Tait also showed the Fallopian tubes and ovaries, the seat of primary tubercle, of a patient from Barrow-in-Furness Some constant pelvic uneasiness, increased by exertion to actual pain, and progressive emaciation resulting after six years to an extreme degree. The patient had had one child a year after marriage, and never became pregnant again. There was no history of acute illness. The appendages were felt to be slightly enlarged. The tubes were distended by cheesy material, and small cysts or follicles in both ovaries were occupied by the same stuff.

Tumour of Breast.

Mr. Jordan Lloyd showed a tumour of the breast weighing nearly 5 lbs. It had been removed from a thin 23-year-old woman, and had developed within fifteen months. It was

absolutely painless, coarsely lobulated, free on the pectoral muscle and beneath the skin, and without lymphatic gland enlargement. Before removal it was regarded as a case of progressive hypertrophy. On section, part only of the breast was involved, the tumour was encapsuled, made up of several large lobules of tough, dense, palish tissue, which was cut into with difficulty, the tissue being almost rubber-like in its resistance to the knife edge.

Wiring Fragments in Fracture.

Mr. Lloyd also showed two sequestra of the shaft of the tibia held together by a loop of silver wire which had been inserted twenty weeks previously to maintain in apposition the riding ends of a compound fracture of the lower third of the leg. Mr. Lloyd thought the manipulative disturbance incident to the operation might have determined the necrosis rather than its being the effect of the original injury itself. The specimen was interesting in connection with the modern suggestion that all fractures which could not be easily kept in position by splints should be submitted to operative procedures of some kind for the purpose of fastening the broken ends together.

Papers.

Mr. Barling read a paper on Internal Operations in Appendicitis, chiefly for relapse, with notes of twenty-three cases.—Dr. Codd read a paper on the Utility and Limitation of Intubation of the Larynx.

ULSTER MEDICAL SOCIETY.

J. A. Lindsay, M.D., President, in the chair.

Thursday, December 9th, 1897.

Skin Grafting by Thiersch's Method.

Dr. A. B. Mitchell showed three cases of skin grafting by Thiersch's method, and read notes of the cases. He much preferred this to the older methods. He described the technique of the operation. The results in the three cases shown, especially one of lupus of the nose, were most satisfactory.

Professor Sinclair congratulated Dr. Mitchell on his cases.

Private Obstetric Practice.

Dr. Austin read a paper on Observations on One Hundred Cases of Labour in Private Practice. He attributed the uniformly low temperatures in his cases to: (1) Thorough disinfection of the hands before each examination, and the fact that the majority of his cases had been examined only by himself. (2) Careful douching of the vagina and uterus with corrosive sublimate solution (1 in 4,000) after the completion of the third stage of labour. (3) The repair of perineal lacerations. In 28 of his 100 cases the temperature did not exceed 98.4°, in 42 it varied from 98.4° to 99°, in 17 from 99° to 99.5°, in 7 from 99.5° to 100°, in 3 cases it reached 101.3°, and in 1 case it reached 101.9°, where iron solution had been injected for *post-partum* hæmorrhage. The average of all the cases on each day during the first week was: First day, 98.6°; second day, 98°; third day, 98.6°; fourth day, 98.5°; fifth day, 98.4; sixth day, 98.6°; and seventh day, 98.4. The average pulse-rate was 79. Twenty-seven cases were delivered with forceps. In 19 of these the highest temperature did not exceed 99°. In one case it reached 100°. The forceps cases made as good recoveries as the natural cases. Of 23 primiparæ the perineum was more or less torn in 14, all of which were stitched with silkworm gut, complete union being obtained in each case. Of 12 cases where patients suffered severely from the breasts being swollen and painful, the temperature in 5 cases did not exceed 99°, in 2 cases it reached 101.3°, but was normal within 24 hours.

Hospital Obstetric Practice.

Dr. John Campbell read a paper on Observations on One Hundred Cases of Labour in Hospital Practice. Hospital cases were liable to have higher temperatures than those confined in private, because the patients were dirtier, more of the cases were difficult or complicated, and pupil nurses and students were allowed to examine them. They suffered less, however, from lacerations and less often needed the forceps, partly on account of their first pregnancies occurring early in life and because they got more time in labour. (1) Temperature before delivery was raised by tedious labour, by the presence of decomposing fœtuses, by the introduction of bougies to induce premature labour, and by pleuritic pain, a rise being noted in 9 per cent. of the cases. No serious complications followed delivery in these cases. (2) Temperature at delivery averaged 98.8. It was over 100° in 13 per cent. In eight of these cases there was no obvious cause; in the remaining five it was due to prolonged labour or to the means taken to induce premature labour. (3) Temperature after delivery was over 100° in 48 per cent. Influenza, emotion, delirium tremens, and difficult forceps delivery complicated the cases in which the temperature was highest. (4) Relation of pulse to temperature showed the rise and fall of the pulse to precede that of the temperature, and proved that a falling pulse and a rising temperature indicated that a sudden great drop in temperature would occur within twelve hours. (5) The breasts gave trouble in 10 per cent. of the cases, but influenced the temperature in only 5 per cent. They were most influenced on the third and fourth day. Multiparæ suffered more than primparæ. (6) The forceps were applied in 10 per cent. of the cases. They were used on account of danger to mother and child in protracted labour, danger to child alone in protracted labour, prolapse of cord, and to cardiac disease in mother. Two children were stillborn in the forceps cases. (7) Perineum was untorn in 81.3 per cent. of primiparæ. Conclusions: (1) Douching was unnecessary after a natural labour. As done by the nurse it was often injurious. In private practice preventing the nurse from making vaginal examinations would do more to diminish puerperal fever than anything else. In operative cases one douche after delivery should be given. (2) The forceps should be less often used than they are. (3) The perineum was best preserved by giving it time by retarding the expulsion of the head and by avoiding the forceps as far as possible.

Professor Byers, Dr. Wadsworth, Dr. Rusk, and others offered some remarks, and Drs. Austin and Campbell replied.

Miscellaneous.

Mr. T. Sinclair Kirk read notes of a case of Patent Vitello-Intestinal Duct.—Dr. Tennant showed microscopic specimens from a case of Cancer of the Breast.

LIVERPOOL MEDICAL INSTITUTION.

Richard Caton, M.D., F.R.C.P., President, in the Chair.

Thursday, December 16th, 1897.

Traumatic Cyst of Iris.

Mr. Shears showed a man, aged 35, suffering from a transparent implantation cyst of the iris. A packing needle had pierced his eye sixteen years before; the scar could be easily seen at the upper margin of the left cornea. The sight had never been very good since the accident, but during the previous four months it had failed very much. The eyeball was red and irritable; tension normal; V. = $\frac{6}{24}$. A clear cyst occupied the upper half of the anterior chamber, and hung over the upper part of the pupil. The back wall of the cyst was supported by the uveal layer of the iris, the iris stroma had been pushed on one side or absorbed, the front wall of the cyst was apparently free in the anterior chamber. He proposed to make an incision and remove the cyst.

Note on Chloroform for the Removal of Tonsils.

Dr. Permewan read a note in which he said he thought it was inadvisable and dangerous to use chloroform for the removal of tonsils. In the majority of cases it was quite unnecessary to use any anæsthetic whatever; and in the few cases where an anæsthetic was unavoidable he advised the administration of nitrous oxide. The disadvantages of the administration of an anæsthetic were considerable, both to the use of an anæsthetic and the operator. These disadvantages were fully considered under the following heads: The risk of general anæsthesia itself: Blood in the trachea; the shrinking of the tonsils under an anæsthetic; Recumbent position not convenient: the tongue apt to get in the way.

Mr. Rawdon had removed many tonsils from children and adults, the latter sometimes under chloroform, especially when post-nasal adenoids were attacked at the same time. He had never had any anxiety with the anæsthetic; he took special care that the patients were under, but not deeply under chloroform.

Mr. Bark could not understand anyone using chloroform

for the removal of tonsils only. Enlarged tonsils in young children were almost invariably accompanied by post-nasal growths and it was more important to remove these than the tonsils. He as a general routine removed both tonsils and adenoids at one operation under chloroform.

Dr. Hunt agreed that as a rule tonsils should be removed without an anæsthetic. Where it was necessary he preferred chloroform.

Dr. Carter referred to a method of reducing the size of the tonsils by means of caustic soda.

Dr. Fingland deprecated the practice of administering chloroform to patients in the upright position. If the upright position was preferred in tonsillotomy he advised nitrous oxide or nitrous oxide followed by ether if adenoid growths were to be operated upon at the same sitting.

Dr. Holland agreed that chloroform should not be given for the removal of tonsils.

Dr. O'Hagan thought that in adults tonsillotomy should be always performed without anæsthesia.

Dr. Raw, Dr. Burns Gemmell, Mr. Murray, Mr. Larkin, and Mr. Newbolt also took part in the discussion.

Dr. Permewan replied.

Operations for Cleft Palate and Hare-lip.

Mr. R. W. Murray brought forward some children on whom he had operated for cleft palate and hare-lip. He urged the importance of closing the left palate before the child had learned to talk, and in several cases (shown) where this had been done the children spoke quite naturally.

Mr. Rawdon said that to obtain the best results it was desirable that at whatever age the operation was undertaken, the patient should be well nourished and well grown. He thought no good object was attained by attempting to close a cleft palate under the age of 7 or 8 months, and he knew that the difficulties of operation were much increased.

Dr. Imlach also made some remarks.

Pneumothorax.

Dr. Bushby read short notes on five cases of pneumothorax which had come under his notice during the last twelve months, the first case being one of tuberculous disease of the lung, in which the pneumothorax was recovered from without effusion of fluid; the second, a case of hydropneumothorax of long standing, which came under notice a few weeks before death; the third, a case of pneumothorax arising in a strong healthy policeman, without evidence or history of tuberculous disease. The condition in this case was completely recovered from without effusion of fluid. The fourth case originated in a left-sided pneumonia, passing on into gangrene, which broke down into the pleural cavity. At the necropsy the husk of a grain of wheat was found in the gangrenous patch. The fifth case was in a man whose left lung was almost destroyed by tuberculous disease. Death resulted from the rupture of a small cavity in the apex of the right lung, which was otherwise not diseased.

Mr. S. Kellett Smith drew attention to the fact that in one of Dr. Bushby's cases malaria and tuberculosis had apparently been active at the same time. The old idea of the mutual exclusiveness of the two diseases, which still cropped up occasionally, had been quite negatived by advanced evidence.

Dr. Macalister referred to a case at the Royal Southern Hospital, in which a rabbit bone had set up septic pneumonia with gangrene and pneumothorax. He was interested to hear that in the cases related the thoracic viscera were displaced in the same way as in fluid effusions into the pleura.

Dr. Barr also made some comments upon the cases.

Dr. Bushby replied.

Hunterian Society.—At a clinical meeting on December 8th, 1897, Dr. G. E. Herman, President, in the chair, Dr. Appleford showed a brewer's man, aged 49, who was the subject of a curious Deformity of the Right Hand. The thumb and first finger were remarkable for their size, the latter being $5\frac{3}{4}$ inches in length, and tuberculated. The second finger at the age of 7 had been removed on account of its bulk. The hand was a very useful one.—Dr. Arthur Davies showed a woman aged 26, who had been treated seven years ago with Koch's Tuberculin, since which time the physical signs had remained practically stationary. Owing to a contracting cavity at the left base, the heart had been drawn into the post-axillary region.—Mr. Poland exhibited a rare case of Acute Rachitic Curvature of the Tibia backwards (just before the anterior tubercle) in which he had performed osteotomy with success. The patient, a girl of 17, had fairly severe rickets from infancy, the ends of the long bones being still bulky and the femora much curved. The bend at the upper end of each tibia was at the lower level of the tubercle, and presented an appearance not unlike dislocation of the knee. The rest of the bone in each limb appeared quite normal. At this point the operation was performed; the right tibia and fibula were carefully and gradually divided, and their diaphyses forcibly bent backwards, bringing them into a straight line with their upper epiphyses, and the limb placed on a double inclined plane. Firm consolidation took place readily in the corrected position. Radiographs of the left leg and knee were shown as illustrating the contrast between the two limbs.—Dr. Kelson showed a Rhinolith removed from a woman aged 62, who had suffered from foul-smelling breath and some fœtid discharges from the nose. The rhinolith was easily removed, and all the symptoms ceased.—Mr. A. H. Tubby showed a case of Syphilitic Curvature of both Tibiæ. The patient, a girl of 12, with a history of snuffles and a rash about two weeks after birth, was a stunted child, of pallid and syphilitic aspect. The legs were remarkably curved forwards, which condition, existing since 4 years of age, had been gradually getting worse. The tibiæ were longer than the femora and were very tender, much hypertrophied, with rounded crests and uneven sides; their curve was entirely anterior, not lateral, thus being in distinct contrast to rachitic curvature. The condition was osteoporotic, similar to that found in Parrot's nodes. The teeth were not pegged or notched, but the palate was very highly arched.—Dr. Cotman exhibited a boy aged 12, who for about six months had had a Persistent Ring of Erythema round his mouth, caused by sucking of his lips during and on waking from sleep. Remedies applied and watching him for a few nights effected a cure, but the trouble invariably returned as soon as these were discontinued.—Remarks on these cases were made by the President, Dr. Tregelles Fox, and Dr. Lamplough.

North London Medical and Chirurgical Society.—At a meeting on December 9th, the President (Dr. David Fairweather) in the chair, Dr. Aldren Turner gave a lantern demonstration, showing a number of Microscopical Sections illustrative of the Pathological Conditions underlying the commoner forms of Disease of the Spinal Cord. Amongst these were shown sections of ascending and descending degenerations resulting from compression myelitis, lateral sclerosis, tabes dorsalis, amyotrophic lateral sclerosis, disseminated and combined posterior and lateral sclerosis, A more detailed exhibition was given of sections from three cases of syringomyelia, in which the symptoms observed during life were due to the existence of a new growth in the cervical region of the spinal cord. The causation and nature of some cavities in the spinal cord were illustrated and described; and the demonstration was brought to a close by a brief explanation of the dissociation of the senses of temperature, pain, and touch, which occurs in this disease.—The President, Dr. Bailey, Dr. Beevor, and Dr. Elworthy took part in the discussion which followed the demonstration.

Association of Registered Medical Women.—At a meeting on December 7th, Miss Cock, M.D. (President), in the chair, the President showed a case under her care in the New Hospital for Women. The patient was a woman aged 58, and suffered from a large, prominent, and irregular Tumour, situated in the right inframammary region, probably sarcoma growing from the periosteum of the ribs, and extending from it both anteriorly and posteriorly.—Miss Margaret Pearse, M.D., read an account of a case of Congenital Syphilis in a boy aged 11, with acute symptoms, which terminated fatally forty-eight hours after his admission to the Medical Mission Hospital, Barking Road, E.—A discussion on the Treatment of Retained Products of Conception was opened by Mrs. Stanley Boyd, M.D., with an account of an

illustrative case of Sepsis *post abortum*, admitted to the New Hospital for Women, with marked signs of sepsis, following the discharge of a four-months' ovum. The following points as regards the treatment of cases already septic when coming under observation were then discussed: (1) The danger of intrauterine manipulation where septic thrombi were already present, and yet the necessity of such manipulation, where the products of conception were adherent or retained. (2) Should the curette be used? and if so, to the placental site only, after digital detachment, or to the whole endometrium? (3) Should intrauterine douching be persisted in after emptying the uterus, or should a policy of absolute rest, local and general, be adopted? (4) In what cases might success from serumtherapy or from nucleinic acid be looked for? (5) Was hysterectomy justifiable in cases not amenable to the above methods, and if so, with what objects in view, and with what limitations?—Miss WALKER, M.D., read notes of another illustrative case, and Miss MCCALL, M.D., Miss C. STURGE, M.B., and Miss KEITH, L.R.C.P. and S., joined in the discussion.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—At a meeting on December 13th, Dr. DONALD FRASER (Paisley), the President, in the chair, Professor GAIRDNER showed a specimen of Chronic Aortic Endocarditis associated with a small aneurysm, which bulged into the infundibulum of the right ventricle. The patient was aged 36, and had been in Dr. Gairdner's ward in the Western Infirmary for six weeks, his illness having its apparent origin from strain eight weeks before admission. His previous health had been good, and he gave no history of rheumatism or of syphilis, though he admitted alcoholic excess. The cardiac symptoms—palpitation and dyspnœa—followed immediately on the strain, and persisted thereafter. There was marked tachycardia but no cough, and only slight œdema. There was evidence of hypertrophy of the left ventricle. The murmurs present were somewhat anomalous in their distribution and difficult of precise interpretation, there being both systolic and diastolic murmurs, but the latter especially of greatest intensity to the left of the sternum in the pulmonic area. The results of treatment were on the whole unsatisfactory, and the patient died rather suddenly. The chronic endocarditis found *post mortem* had probably existed for a long time, but the small aneurysm was no doubt the result of the sudden strain mentioned above, and was responsible for the onset of the cardiac symptoms which proved so intractable. The aneurysm originated just beneath the junction of the anterior and the left posterior aortic cusps. There was no atheroma of the vessels.—Dr. GEORGE T. BEATSON narrated three cases of Carcinoma of the Tongue, two of which had been associated with leucoplakia, the third with syphilis. Microscopic specimens were shown illustrating the pathological changes observed, and microphotographs were also exhibited by means of the magic lantern. Some discussion followed on the connection of the leucoplakia and the syphilitic ulceration with the subsequent development of carcinoma.—Dr. R. S. THOMSON showed a specimen of Intestinal Sand (*sable intestinal*) from a young woman, the subject of dilatation of the stomach. The patient had for long been suffering from gastritis, and latterly dilatation had developed. Constipation was a prominent feature, and enemata had to be used. The sand was noticed for a considerable time with each motion, and weighed as much as 6 to 8 drachms on several occasions when dried. It was mentioned that as part of her treatment the patient had been taking a good deal of lime water. Dr. ALEC R. FERGUSON described the chemistry of the specimen. Its inorganic basis (80 per cent.) was found to be calcium, mostly in the form of carbonate and phosphate. The organic basis (20 per cent.) was apparently some derivative of bilirubin, but its exact chemical composition was still being worked out.—Dr. JOSHUA FERGUSON showed a specimen of Diverticulum of the Stomach, situated in the greater curvature near the cardiac orifice.—Card specimens were shown by Professor STOCKMAN: Photographs and Skiagraphs of a case of Hypertrophic Pulmonary Osteoarthropathy; by Dr. L. R. SUTHERLAND: (1) Typical Epithelioma of Skin, (2) Two specimens of Greenstick Fracture, (3) a series of specimens illustrating the Pathology of Perforating Ulcer of the Stomach and Duodenum.

GLASGOW MEDICO-CHIRURGIAL SOCIETY.—At a meeting on December 10th, Dr. GEORGE S. MIDDLETON, the President, in the chair, Dr. W. R. JACK showed a case of *Maladie des Tics*, and read a paper on this rare affection. He also showed a case of *Tic Convulsif* of the common variety, and contrasted the two affections.—Dr. J. LINDSAY STEVEN showed a boy with a Peculiar Spastic Gait, the exact nature of whose illness was not very apparent, but was considered by some members of the Society as probably myopathic. He also related the clinical history of a fatal case of Toxæmic Jaundice, and showed microscopic specimens illustrating the pathology of the case. The patient had suffered from persistent diarrhœa, and in his large intestine there were found numerous small ulcers. There was no apparent obstruction of the large bile ducts, but on microscopic examination of the liver there were seen in the capillary bile ducts numerous plugs of viscid bile. There was some deposition of blood pigment in the spleen. The combination of these lesions was considered important as bearing on the pathology of many cases of so-called non-obstructive jaundice.

BIRKENHEAD MEDICAL SOCIETY.—At a meeting of this Society on December 10th, Dr. R. S. MARSDEN, President, in the chair, Dr. STANSFIELD exhibited (1) a case of Hemianæsthesia affecting the Right Side of the Body; (2) a man suffering from a Tumour of the Ethmoid Bone, most probably of a sarcomatous nature.—Dr. H. BUTCHER showed a man on whom he had performed an Operation to Fix a Subluxated Knee-joint. The case was one of constantly-recurring subluxation due to extreme laxity of the joint structures, so much so that the man could subluxate his joint at will; the result of this laxity was instability, so much so that the following of his employment as a dock labourer was attended with considerable risk, for when any extra strain was put upon the joint it gave way, and the man would fall. He came under treatment at the Borough Hospital, and various methods were tried in the hope of causing some contraction of the surrounding structures of the joint. Knee-caps, caustics, etc., were used, but without success. An operation was performed in the hope of anchoring the patella in position, but this also failed. The patient then migrated elsewhere, where excision was suggested, but to this he would not agree on account of the inevitable shortening. The man returned to Dr. Butcher, who operated in the following manner: A slightly curved incision was made across the front from a back portion of the internal to the back portion of the external condyle of the femur, dividing all the structures down to the bone, and cutting through the ligamentum patellæ, which was turned up; the joint forcibly flexed; the lateral ligaments divided, together with the crucial ligaments, which were quite healthy, and the joint was brought well into view. With a sharp gouge the semilunar cartilages were removed, and the condyles of the femur thoroughly denuded of all the articular cartilage, taking care to remove the portions well back, and also the patellar portion in front. Then the tibia was treated in the same manner, with the exception that the tuberosities were slightly gouged through, so as to make a cup-shaped surface into which to place the convex femur; the cartilage surface of the patella was next removed, and the ligamentum patellæ sutured. The femur was now placed into the hollowed-out tibia, and the whole limb placed on a McIntyre splint. The bones were next secured in position by means of two ivory pegs about 4 inches long, one being driven through the external condyle of the femur into the internal tuberosity of the tibia, and the other from the internal to the external; a few strands of silkworm gut were left in one corner of the wound, the rest being drawn into perfect apposition, and the whole covered with sulpho-cyanide gauze and wool. At the end of twenty-four hours the wound was dressed, and at no time did the temperature rise above 101° F. The limb was placed in plaster-of-paris at the end of four weeks, and the patient was discharged in five weeks from the period of operation. The plaster was removed in nine weeks from the same period, and he was now able to go about without support, and with a limb practically no shorter than its fellow. In the discussion which ensued on the various cases the PRESIDENT, Drs. F. JOHNSTONE-WILKINSON, GIBSON, BRIEN, and W. FLOYD took part, and Drs. STANSFIELD and BUTCHER replied.—Dr.

W. Floyd read notes (1) of a case of Death after Parturition from Uræmic Convulsions, (2) *Post-partum* Peritonitis and Septicæmia in which the antistreptococcic serum had been used.—Dr. Wilkinson read notes (1) of a case of Uterus Bicornis, (2) Rigid Os and where the vertex of the child was bound down by adhesions to the lower zone of the uterus.—The following specimens were shown: Dr. W. Floyd: An Acephalic Fœtus.—Dr. Stansfield: A large Meningocele.—Dr. Carden Pearson: A Pair of Contracted Kidneys and a Perforated Ulcer of Colon.

REVIEWS.

Psilosis or "Sprue": its Nature and Treatment. By George Thin, M.D. London: J. and A. Churchill. 1897. (Roy. 8vo, pp. 270. Three Coloured Plates; Eight Plain Illustrations. 10s.)

In this, the second and enlarged edition of his work, Dr. Thin enters with considerable detail into this important subject, and what he says will well repay perusal, especially by practitioners in the East.

In dealing with the symptoms, he rightly brings into prominence the peculiar condition of the mucous membrane of the mouth and tongue, which is so frequently a feature of the disease. In this edition he has added three admirable coloured plates illustrating these points, and the novice ought now to avoid the mistake of attributing these lesions to syphilis.

The value of the work is much enhanced by the chapter devoted to the literature of the subject, which will enable those who have not had the time or opportunity to read the monographs of Bertrand and Fontan, Van der Burg, and others, to ascertain how much, or we might perhaps say how little, is known about the disease. Under the head of Pathology is described with great care the macroscopical and microscopical appearances of the large and small intestine in two cases which were under the author's care; the observations of Bertrand and Fontan from 208 *post-mortem* examinations are also described.

The author in this edition emphasises the fact that the diarrhœa alba of India should be distinguished from the sprue or sprew of China and the Dutch East Indies, and also from the "sore mouth" of Ceylon. The advisability of attempting a classification of these diseases in the present state of our knowledge may be questioned, and the differences detailed may be no more than clinical variations.

Dr. Thin inclines to the view that the diarrhœa of sprue is due to fermentative changes in the ileum leading to the passage of acid instead of alkaline chyme into the large intestine; this he suggests prevents the action of bacteria, which should render the chyme suitable for absorption. Hardly enough is yet known, perhaps, as to the functions of the small and large bowel to warrant expression of a decided opinion for or against this ingenious speculation.

The treatment recommended is by milk, rest, and warmth. Very many really valuable hints will be found as to how best to carry out this line of treatment. The last portion of the book is devoted to a summary of cases which have been under the author's observation. The whole subject of intestinal flux requires further investigation, and it would prove a profitable study, especially if workers in the tropical countries would carry on their investigations by the same scientific and thorough methods, and on lines parallel to those followed by Dr. Thin.

Children under the Poor Law; their Education, Training, and After-Care. By W. Chance, M.A. London: Swan Sonnenschein and Co. 1897. (Demy 8vo. Pp. 456. 7s. 6d.)

The plan of this book is ambitious. The author seeks in the first place to give a history since 1834 of the provisions made for the education of Poor-law children. He then discusses workhouse schools, district and separate schools, cottage home schools, and detached homes. He refers next to the use made of public elementary schools, a system which he admits answers admirably in country districts where the children in workhouses are usually few in number. With regard to boarding-out he expresses the opinion that the dangers which surround it need to be carefully pointed out in view of the growing popularity of the system. Mr. Chance further describes the use made of certified and uncertified institutions and of training ships, and discusses the various kinds of employment open to pauper children and their after-care. He also devotes a chapter to "ins and outs."

Finally, we come to a chapter criticising some of the reforms which had been advocated recently, and an appendix containing an elaborate criticism of the recent report of the Departmental Committee. The examples which he gives of the errors of this Committee, even if his view of the statements of the Committee were in all cases accurate, are not sufficiently serious to justify the severity of his criticisms. He gives as an instance of the "misleading" inaccuracies of the Departmental Committee the reply given by Mr. Knollys, the Chief Secretary, that he was not aware that children of 8 years old were being worked as half-timers. That, in spite of this reply, the Committee stated the fact in their report Mr. Chance considers a sign of their bias and wilful misconstruction, for he has overlooked the tables in the appendix compiled by the teachers, in which it is stated that in some schools children, some as young as 8, were being employed in the industrial labour of the schools. Perhaps Mr. Knollys's ignorance that the national law was being deliberately broken in State-supported establishments was one of the facts which laid the foundation of the Committee's strictures on inspectors and their system of inspection.

In the present condition of public interest on the subject a book dealing with it in a sympathetic and judicial spirit would have been very interesting. We must therefore regret that Mr. Chance has failed, as it seems to us, to attain these desirable ends. The subject is one demanding full discussion, and it has been our object throughout not to advocate any particular system, but to bring the failures of that which has been in force so long under the notice of public opinion. That we have succeeded in this we have many gratifying evidences.

NOTES ON BOOKS.

Smith's Physicians' and Surgeons' Visiting List, Diary, Almanack, and Book of Engagements for 1898. Fifty-second Year. London: Hazell, Watson, and Viney.—*Smith's Visiting List* has in former years established so good a reputation for itself, and become so well known to nearly all practitioners, that it is unnecessary to describe in detail the present issue, which resembles former volumes, and equals, if it does not surpass them, in the amount of reliable information which its preface contains. In other points, too, its former excellence is well maintained. The list is again made up in various sizes, being arranged for 25, 50, 75, or 100 patients per week.

Reports and Transactions.

The *Verhandlungen des Congresses für innere Medicin*, edited by Drs. E. von Leyden and Emil Pfeiffer, contains the reports of the proceedings of the Fifteenth Congress held in Berlin last June. The volume consists of the papers and introductory addresses, together with reports of the discussions which took place. One of the most important of the discussions was that on the nature and treatment of chronic rheumatism. One of the papers contributed thereto, that by Professor Max Schüller, of Berlin, on surgical treatment, is illustrated by reproductions of photographs of patients and specimens. The volume, which is published by the firm of J. F. Bergmann, of Wiesbaden, has been received by us through Mr. F. Bauermeister, 8, West Nile Street, Glasgow.

Among the *Transactions* recently issued are those of the Clinical Society of London, vol. xxx, containing the proceedings from October, 1896, to May, 1897 (published by Messrs. Longmans, Green, and Co.); the *Transactions of the Pathological Society of London*, vol. xlviii, comprising the report of the

proceedings for the session 1896-97 (published by Smith, Elder, and Co.); the *Transactions of the Hunterian Society* during its 78th session, 1896-97 (London: Headley Bros.); and the *Transactions of the Dermatological Society of Great Britain and Ireland*, edited by Mr. L. A. Bidwell and Mr. George Pernet (London: Mr. H. K. Lewis). This volume, which contains a few illustrations, comprises the proceedings of the Society during its third session, May, 1896, to May, 1897. As we have published reports of the meetings of these societies at the time at which they took place we shall not attempt any formal review.—The seventeenth volume of the *Transactions of the Ophthalmological Society of the United Kingdom* (London: J. and A. Churchill. 1897. Roy. 8vo, pp. 308. 12s. 6d.) contains the proceedings of the Society during its seventeenth session (October, 1896 to July, 1897). The meetings of the Society have been regularly reported in the BRITISH MEDICAL JOURNAL, and it will suffice here to say that the volume is embellished, and its practical value much increased by numerous excellent illustrations, some of them in colours.

THE eighth volume of the *Transactions of the American Pediatric Society* contains the text of the papers read at the eighth session held in Montreal in May, 1896, together with the reports of the discussions which took place. The papers and discussions are reprinted from the *Archives of Pediatrics*, and are edited by the editor of that journal, Dr. Floyd M. Crandall. The Minutes of the Proceedings of the Twenty-second Annual Meeting of the American Gynecological Society, held in Washington in May, 1897, together with the papers read at that meeting and the discussions upon them, are contained in the twenty-second volume of the *Transactions* of the Society, published under the editorship of the Secretary, Dr. J. Riddle Goffe. The volume contains a few good illustrations, including an excellent microphotograph of tubercle bacilli in the breast to illustrate a paper by Dr. Edward P. Davis, of Philadelphia, on Primary Tuberculosis of the Breast during Pregnancy. Appended to the volume are "In Memoriam" notices of deceased Fellows of the Society, including one of Sir Spencer Wells from the pen of Dr. Braxton Hicks, which is illustrated by a characteristic portrait. The *Transactions of the Association of American Physicians*, vol. xii, consists of the papers read at the meeting at Washington last May, and reports of the discussions. Many of these papers have already been noticed in our columns, and the volume in its present form, containing as it does numerous illustrations, is a valuable work of reference which ought to find a place upon the shelves of every public medical library. The second volume of the *Transactions of the Chicago Pathological Society* contains a report of its proceedings from December, 1895, to April, 1897. Some of the papers are illustrated, but the value of future volumes would be greatly enhanced if drawings and photographs were introduced with a somewhat more liberal hand, since the subjects dealt with as a rule lend themselves very well to modern methods. The same remark applies to the report of the thirtieth annual meeting of the American Otological Society contained in the new volume of the *Transactions* (Vol. vi, Part iv). An excellent feature of the volume is the alphabetical index of otological literature from July 1st, 1896, to June 1st, 1897, compiled by Drs. Randall, Myles, and Fridenberg, and appended to the volume.

The Statistical Tables of the Patients under Treatment at St. Bartholomew's Hospital during 1896, prepared by the Medical Registrars, Drs. J. CALVERT and A. E. GARROD; and the Surgical Registrar, Mr. JAMES BERRY, F.R.C.S., (London: Charles Skipper and East. 1897. 8vo, pp. viii and 230) are excellent and elaborate, but it is perhaps open to question whether the labour involved in such a compilation is not out of proportion to the results attained. Primarily the notes are made for the use of the physicians and surgeons of a hospital by the dressers acting under the supervision of a recently qualified medical man. The notes are further elaborated by the Registrars, and are then digested into a series of tables and notes, which in the present instance extend over 230 pages. The amount of work required in the production of such a volume must be immense, even allowing that the authors have freely availed themselves of clerical assistance, yet its permanent value must be doubtful for medical and surgical nomenclature is by no means fixed. A great part of what is more or less correct to-day in medical classification becomes of much less value in ten years' time.

Notes on the Special Hygiene (Physical and Mental) of Childhood and Youth. By T. MORE MADDEN, M.D., F.R.C.S.E. (Dublin: Fannin and Co. London: Baillière, Tindall, and Cox. 1897. Cr. 8vo, pp. 76. 2s. 6d.)—The matter of this pamphlet is based on two lectures on the subject which forms its title, delivered before the Dublin Health Society. We assume that it is largely intended for general circulation, and, as such, main principles are well laid down in it. It is, however, impossible to deal adequately with this subject in so small a compass. The important subject of the management and feeding of infants is treated very briefly, and the instructions given are not sufficiently precise to render them of much use. The author condemns strongly the mental overpressure which he holds to be at present prevalent, especially amongst the children of the poorer classes.

REPORTS AND ANALYSES
AND
DESCRIPTIONS OF NEW INVENTIONS
IN MEDICINE, SURGERY, DIETETICS, AND THE ALLIED SCIENCES.

VEGETABLE EXTRACTS.

WE have already had occasion to refer to these valuable food products which very closely resemble meat extracts in chemical composition and general characters, but which are now stated to be prepared entirely from vegetable extracts. In addition to the ordinary vegetable extract we have received several other specimens of the extract, flavoured and otherwise, as well as in combination in various forms with milk. Biscuits have also been prepared with the material, all of which are of excellent quality and flavour, and are highly commended by many Continental chemists and physiologists. These products can be obtained from the Fromm's Extract Company, 61½, Fore Street, E.C.

APPLIANCES FOR SPINAL CARIES.

MESSRS. SALT AND SON (Corporation Street, Birmingham) write: We notice in the BRITISH MEDICAL JOURNAL of December 18th communications from Dr. W. J. Fleming, of the Royal Infirmary, Glasgow, and Dr. G. Muirhead Little, of the National Orthopædic Hospital, relating to appliances somewhat similar to that of our construction, on which you were kind enough to report in the JOURNAL of December 11th. By the courtesy of these gentlemen we have received particulars of the supports they mention as similar to our own. The difference between them and that submitted for your inspection lies in the principle of suspension. Whereas in our support the head is slung by chin and occipital straps from centres slightly above the lateral axis of the head, in both "Hilliard's artificial spine" and the occipital support referred to by Dr. Muirhead Little, the head is retained by a forehead strap against a fixed rest at the occiput. The question of the merits of these appliances for the treatment of any case must, of course, be determined by the judgment of the orthopædic surgeon; we merely desire to point out the main point of difference. We may say, however, that Sayre's jurymast, condemned as obsolete by Dr. Little, is still not infrequently ordered by surgeons. The principle of our support as applied to torticollis is not adverted to.

PRESENTATION.—Dr. H. T. Heath, on the occasion of his leaving Mansfield Woodhouse, was presented with a silver tea service, of which the tray bore a suitable inscription, and a purse of gold in recognition of the great respect he had won for himself during his long residence in the district.

BRITISH MEDICAL ASSOCIATION.

SUBSCRIPTIONS FOR 1897.

Subscriptions to the Association for 1897 became due on January 1st; and notice is hereby given, in accordance with By-law 5, that Branch Secretaries' subscription accounts close on October 31st, and all unpaid subscriptions must be forwarded after that date to the General Secretary, 429, Strand, London. Post-office orders should be made payable to the General Post Office, London.

British Medical Journal.

SATURDAY, DECEMBER 25TH, 1897.

THE PRINCE OF WALES'S FUND.

The report of the first year's working of this Fund is now before the public; and we cannot but feel that its result is in every way unsatisfactory: in the amount of the collection; in the sources from which it has come; and in the distribution of the money—as far as this is yet determined.

But although we feel compelled to say this, we do not think that this partial failure at all diminishes the gratitude which the whole nation ought to feel to the illustrious author of the scheme. Had the public adequately seconded the Prince, had it even been possible to induce them to comprehend his object, the result might have been very different. Is it too much to hope that a better comprehension of the matter may even yet be arrived at, and that the generous plan of the founder of the Fund may be realised in the near future? Let us at least hope so.

First, as to the amount collected. The total is stated as £187,000, of which only £20,500 represents annual subscriptions, £1,500 the interest up to the present time of the invested capital, which is put down as £99,000, and £38,000 or £40,000 as the produce of the sale of hospital stamps. It does not appear from the official report of the meeting issued to the press whether the money produced by the sale of stamps is to be added to, or forms a part of, the £187,000, nor what it is proposed to do with the large balance which would be left unaccounted for in either case. As Lord Rothschild's figures only account for £121,000, this balance would be £66,000 in one view of the case and £26,000 or £28,000 in the other. Surely all this money cannot have been spent in the collection? We shall await the publication of the details with much interest. But, whatever the final report may show, it is most disheartening that there is only to be distributed out of annual income a sum of £22,000 instead of £100,000 to £150,000, as the Prince had hoped. The money from the sale of stamps is to be distributed as a Jubilee gift, which cannot be repeated, and the yearly income from the investments, exclusive of annual subscriptions, "can hardly exceed £5,000." If this is the result of the first year of the Fund, can we expect that the future years will be better, unless a change comes over the public feeling in respect of this most beneficial and most excellent plan?

For it should be remembered that the sources from which the Fund has been collected are not (as far as our information goes) those which the Prince originally had in view. His wise and benevolent idea was to tap a fresh source of supply, not to draw further on the old reservoirs. He wished to get small annual subscriptions from the vast number of middle-class households which at present either subscribe nothing or salve their consciences with the yearly shilling dropped into the plate on Hospital Sunday. But all we know as yet of the subscriptions to the Prince's Fund leads us to fear that the subscribers are to a great extent the same persons who subscribe to individual hospitals, and that the money provided by the Fund will be to some extent balanced by losses on the annual subscription lists of each hospital. Lord Lister, in speaking to the report, said with truth that these middle and lower class subscribers "had not been sufficiently attacked." He might have gone further and said that the future of the Fund, and the whole prospect of pecuniary stability for our hospitals, depend on whether the original intention of the Fund can or cannot be thus carried out.

The refusal of the Fund to be associated with the proposal to establish a Central Hospital Board for London raises important questions. We have always held that the establishment of such a body is a necessary consequence of that of the Prince's Fund; and the report of this meeting confirms us in that opinion. The precise scheme here attributed to the Charity Organisation Society may or may not be followed; but the main idea of that scheme—that sums so large as those collected by the Hospital Sunday, Hospital Saturday, and Prince of Wales's Fund ought not to be distributed except by a Board on which all the hospitals are fairly represented—will, we believe, derive much support from the result of this year's working of the Prince's Fund. Lord Lister says that it was physically impossible to go into the circumstances, the merits, and the needs of the smaller hospitals this year—this had been deferred to future years. Leaving the question of possibility aside—on which much might be said—we can only say that, whenever this matter is gone into, it must be by a body discussing the question publicly, one of authority, and one on which the institutions concerned are fully and fairly represented. The scheme propounded by the committee formed of members of the Charity Organisation Society and others aimed at these objects, and some such scheme must evidently be adopted if the distribution of these three Funds is to be permanent, and is to give to our hospitals the financial stability which the Prince aimed at giving.

NURSING IN IRISH WORKHOUSES.

Mr. Gerald Balfour, the Chief Secretary for Ireland, was on the whole sympathetic in his reply to the deputation which waited upon him last week on the subject of nursing in Irish workhouses. The primary object of the deputation was to obtain half the amount of nurses' salaries from the Treasury; and, although he could not give a promise on this point, we do not see how the claim can be resisted. Efficient nursing is part of the treatment of the sick, and has its own importance, just as skilled medical attendance and the administration of drugs have; yet half the cost of the two last is paid by the Treasury.

We think Mr. Balfour was right when he suggested that the payment need not necessarily be made except in very poor unions, and that in wealthy districts the cost might fairly be met by the rates. The second claim—that a medical inspector should visit the hospitals—was

conceded, and we are assured by the Chief Secretary that that matter is under consideration.

The request for an assistant lady inspector who has been trained as a nurse we think very important, especially when a new system of nursing is being introduced. But why should the Irish Local Government Board await the result of a trial in London? Has it not power and initiative enough to do the thing, if it is obviously right?

We are glad to observe that the difficulty about the nuns has been overcome, and to have the assurance of Sir Christopher Nixon that they will be trained in metropolitan hospitals. The reform movement has made a distinct advance, and Lord Monteagle and his Association can already point to a fair harvest of good achieved. But he and it must still work on. The Local Government Board needs suggestions and stimulus.

RESULTS OF HAFFKINE'S INOCULATIONS AGAINST PLAGUE.

IN a former issue of the BRITISH MEDICAL JOURNAL, the satisfactory results obtained by M. Haffkine in his preventive inoculations against plague among the inmates of the House of Correction in Bombay were recorded. The later successes which have attended his further efforts in this direction deserve particular attention in view of their importance and of the unsatisfactory results of the Yersin serum treatment. Unlike the antitoxic serum, the prophylactic is easy to prepare, can be obtained in large quantities in the laboratory, and requires no animals in its preparation. It is simply a culture of the plague microbe in bouillon and ghee or clarified butter, which, after a period of six weeks' luxuriant growth, is exposed to a temperature of 70° C. sufficiently long to ensure the death of the microbe. The culture is used without filtration, and in this condition contains the intracellular and extracellular toxins of the microbe, a combination which earlier experiences in anticholera inoculations indicated as likely to prove useful.

The statistics are very remarkable, and would seem to show that in plague inoculations we have at the commencement and during the progress of an epidemic a powerful agent to assist in checking and controlling the disease. Statistics have been carefully collected at Kirkee, Bombay, Mora, Damaun, and Lanowli, the most important being the observations at Kirkee, Damaun, and Lanowli, where at each place the experiments were conducted with the inoculated and non-inoculated under similar conditions. The results have been examined not only by Professor Haffkine and his assistants, but by Surgeon-Major Lyons, the President of the Committee appointed by Government to inquire into the plague in Bombay. Surgeon-Major Lyons visited the localities, and inquired carefully into each case.

In testing the efficacy of the plague inoculations the same method as far as possible is pursued as was adopted in the case of the anticholera inoculations. It consists in the selection of a group of persons living under similar conditions, noculating a portion of that group, preferably a half, leaving the remainder uninoculated, and then noting the incidence of the disease on the two groups. At Kirkee, where plague broke out among the followers of the artillery, an excellent opportunity with these conditions presented itself, and the results were as follows: 875 non-inoculated had 138 cases with 102 deaths; 667 inoculated had 32 cases with 18 deaths. The figures are strikingly in favour of the inoculations, for if the inoculated had had proportionately the same number of deaths as the non-inoculated, they would have had 89 deaths instead of 18, a difference of 71 deaths, which is a reduction of nearly 80 per cent.

In Damaun the results were equally good. In this small town Professor Haffkine inoculated altogether 2,297 persons, but the following statistics are based only on 1,645, which was the number inoculated when the observations were recorded. Of the 6,500 persons in the town who were not inoculated, 1,500 died, while of the 1,645 inoculated, only 33 died, instead of 300, which would have been the number had the deaths been in the same proportion as the not-inoculated. In this series there was a reduction of over 80 per cent. Again, in Lanowli, where inoculations were carried out in two infected and isolated centres, 422 not-inoculated had 68 cases and 48 deaths, and 293 inoculated had 5 deaths. If the deaths among the inoculated had been proportionately as high among the non-inoculated, there would have been 33 deaths instead of 5, which is a difference of 28 deaths in 33, or 84 per cent.

The observations in Bombay and Mora are less instructive, because they are not comparative; still they are interesting and confirmatory of the favourable influence of the inoculations. In Bombay 8,142 persons were inoculated, and among this number 18 were attacked with plague, 16 of whom recovered and 2 died. The 2 fatal cases were ill with plague at the time of inoculation. In Mora Kolaba, a small place in which plague appeared, 419 of the inhabitants were inoculated; 4 of these were attacked, but all recovered.

Such are the observations hitherto made, and it seems to us that with plague gradually creeping from village to village and town to town in the Bombay Presidency, an organised attempt, in addition to other sanitary measures, should be made to limit the ravages by inoculation.

THE QUEEN, through Colonel Sir Fleetwood Edwards, of the Privy Purse Office, has presented a Jubilee Medal to Surgeon-General Maclean, C.B., "to be worn in commemoration of the Sixtieth Year of Her Majesty's reign."

SURGEON-MAJOR-GENERAL JAMES JAMESON, Director-General of the Army Medical Department, has been appointed an Honorary Surgeon to the Queen in lieu of the late Surgeon-General Sir William Mackinnon.

SURGEON-LIEUTENANT-COLONEL AND COMMANDANT ARTHUR TREHERN NORTON, Volunteer Medical Staff Corps, the London Companies, has been nominated an additional member of the Civil Division of the Third Class or Companions of the Order of the Bath.

DR. HENRY JOHNSTONE CAMPBELL has been appointed Joint Lecturer on Forensic Medicine in the Medical Faculty of the Yorkshire College, Leeds. Dr. Campbell retains his appointment as Physician to the Bradford Royal Infirmary, and this appointment of a physician residing outside of Leeds appears to be an evidence of the desire of the authorities of the Yorkshire College to render it a county institution.

A HIGHLY successful annual dinner of the Aberdeen Medico-Chirurgical Society was held in the Society's hall on Friday, December 17th. The President, Dr. Mackenzie Booth, was in the chair, and in the course of his toast to the Society,

mentioned the marked development in the course of the last twenty years as regards both the number and energy of its members. The company included a number of guests, among whom may be mentioned Dr. Farquharson, M.P., and Dr. Stevenson of British Guiana.

EXTENSION OF MARISCHAL COLLEGE, ABERDEEN.

On December 15th the Finance Committee of the Aberdeen Town Council decided to recommend that, in the event of the University Court being able to raise a sufficient sum to complete the whole improvement scheme, the Town Council should give a contribution of £5,000. The draft of the annual report on Statistics of Aberdeen University up to September 30th last, states that the amount received by the factor during the year as subscribed to the extension scheme was £17,900.

A "ROYAL" MEDICAL CORPS.

We have lately received many letters suggesting the title "Royal Medical Corps" in any consolidation and reorganisation of the Army Medical Service. We have frequently pointed out that the granting of the title "Royal" is a prerogative of the Crown; yet, should Her Majesty see fit to bestow it in this instance, it would be hailed by the entire medical profession as a gracious act towards an important body of Her subjects, who yield to none in loyalty and devotion to Her Majesty's person and throne.

THE MANCHESTER MEDICO-ETHICAL ASSOCIATION.

The dinner in celebration of the jubilee of this Association was held last week, when the chair was taken by Dr. Rayner, of Stockport, President. The toast of "The Clergy" was acknowledged by the Dean of Manchester. Mr. Walter Whitehead, in proposing "The Houses of Parliament," stated that there was still much that the Legislature could do for the medical profession. The toast was acknowledged by Sir Joseph Leese, M.P. Dr. Woodcock, in proposing the toast of "The Medico-Ethical Association of Manchester," referred to the objects which, in 1847, its founders had in view. At that time many men were practising who had little or no qualification for their work, and there was no *Medical Register*; since then a great deal had been done to bring about a more satisfactory state of affairs, and the Manchester Ethical Association had always endeavoured to maintain the dignity and at the same time to advance the interests of the profession. Dr. Rayner, in response, said that of late years the Association had taken an active part in medical politics, convinced that that which was harmful to the medical profession could not be beneficial to the community. It had done a great deal of good in promoting a good understanding and a sense of fellowship among members of the profession. Dr. Lloyd Roberts proposed "The Lord Mayor and Corporation of Manchester," which was acknowledged by the Lord Mayor. Dr. Brassey Brierley proposed "The General Medical Council," and the toast was acknowledged by Mr. Victor Horsley, who observed that the Council had done an excellent thing for the profession by abolishing the unqualified assistant. He had no doubt that future legislation would be in the direction of the extirpation of unqualified practice of all kinds.

DISTRICT NURSING ASSOCIATION AND THE MEDICAL PROFESSION.

The development of district or parish nursing in the country and rural towns induces us to offer a few words of counsel to those philanthropic persons, frequently ladies, who control and direct the services of the nurses. The local medical practitioner may be placed in a dilemma because he is not consulted and placed *ex officio* on the committee. Yielding to none in his wish to secure efficient nursing for his poorer patients, he may yet be obliged to ignore the good work that is being done, because the services of the nurses are requisitioned independently of medical advice. The medical practitioner can only regard the independent visits of a qualified nurse as a form of irregular practice which he is bound to discountenance. The difficulty would be at once removed if it were made the rule that the local practitioners were placed on the district nursing committee, and that a nurse should be sent only at the request or with the consent of the medical attendant. We believe that the omission is due to inadvertence, and we draw attention to these matters because we are convinced that by so doing we are furthering the cause of the home nursing of the sick poor, which in a few instances has been hindered by the want of these simple rules.

THE SITE FOR THE NEW INFIRMARY, NEWCASTLE-ON-TYNE.

A special meeting of the Newcastle City Council was held on December 15th to reconsider the question of promoting a Bill in the ensuing session of Parliament for the purpose of granting a site of ten acres on the Castle Leazes for the erection of the new infirmary. An absolute majority of the council is required, that is, 33 votes, and as there were only 32 votes given in favour of the proposition at the special meeting held a fortnight ago, the motion was then lost for want of a single vote. This strange result was unexpected, and apparently unintended, so the special meeting on the 15th was held, as everyone felt that Mr. Hall's splendid offer of £100,000 was endangered and might be lost. A deputation, representing 639 freemen out of a number of 886, appeared before the council to oppose the Bill, the freemen having the right to the "ratage" of the land. After a long discussion it was resolved by 40 votes to 12 to promote the Bill, and, therefore, the absolute majority required has been obtained. The Bill, it is feared, will be opposed when it comes before Parliament partly by the freemen, partly by the owners of property near the Leazes. The freemen can be compensated for the loss of their "ratage" at no great cost, and the opposition of owners of property which overlooks the proposed site is, of course, to be expected.

A MUNICIPAL GENERAL HOSPITAL.

Should the project, suggested by the District Council and endorsed by an enthusiastic town's meeting, of building and maintaining, at the expense of the rates, a general hospital be carried out Barry will be, if not the first, at least one of the first towns to avail itself of the powers in the Public Health Act to erect a hospital in this way for other than infectious diseases. The provision of a ward for accidents was spoken of at the public meeting as of the first importance. Hitherto it has been difficult enough to coax municipalities to provide for their infectious cases, and the hospitalling of the hurt and sick from other causes has been left to unofficial liberality. The same Act, which enables a sanitary authority to erect a hospital, enables them also to sue for expenses. It is not impossible that a new departure in this respect may lead to new developments in others. While medical men have always been ready to give their services gratuitously to charitable institutions, it is not of course to be expected that they should do so to State hospitals, still less to those where a charge is made to the patient. The position of the municipality in regard to infectious disease is somewhat different from what it is in regard to most other maladies. An infectious disease is best treated in hospital, not only because the chances of recovery for the patient are thereby enormously increased, but also because the risk to the community is also greatly lessened. In removing such patients to a special hospital the community are in reality protecting themselves, and it is of course right that they should pay for that protection. We have always advocated that infectious hospitals should be

open to all ratepayers, free of charge. The increased security of the district is well worth paying for, but there is also another ground on which it may be urged that the ratepayers' infectious hospital should be open to all without fee or reward—a plea of justice. The infectious fevers are largely due to insanitary conditions for the continuance of which the community as a whole are of course responsible, and the community therefore ought to do what little they can to make up for their previous lack of service. They have contributed to the disease, they should contribute to its cure; but the case is very different when we come to consider other diseases which are not infectious.

THE MEDICAL PROFESSION AND PUBLIC LIFE.

Dr. W. J. Collins, in responding to the toast of his health at a dinner given to him in London on December 16th, to congratulate him on his election to the Chairmanship of the London County Council, and the manner in which he has discharged the duties which devolve upon him in that capacity, referred with regret to the relatively small part which members of the medical profession take in the public affairs of the country. He expressed the opinion that at the present day, when so large a part of imperial legislation and local administration was concerned with social questions and with the preservation of the public health, medical men were by their training and by the experience which they gained in practice particularly well qualified to take an active part in public affairs. With this opinion we believe all will be disposed to agree. The means which election agents usually consider it necessary to take to attract the attention and command the suffrages of the free and independent British voter in a contested election no doubt deter many members of the medical profession from venturing into the arena; but if this ordeal be faced with courage and good judgment no harm need be done to the dignity of the individual or of the profession to which he belongs. Those medical men who have fought their way into public life have usually commanded a satisfactory position, and we are able at the present time to point to more than one example of conspicuous success. Mr. Howard Marsh, who presided at the dinner to which we refer, was able to quote from both of the parties into which the London County Council is divided tributes to the impartial and judicial manner in which Dr. Collins has presided over its often stormy deliberations. The dinner was given by those who had been associated with Dr. Collins at St. Bartholomew's Hospital, whether as teachers or students; and among those present were Sir Richard Thorne, Mr. Alfred Willett, Dr. Lauder Brunton, Mr. Henry Power, and the three Honorary Secretaries, Mr. Bruce Clarke, Mr. Ernest Clarke, and Mr. R. W. Lloyd.

THE RICHMOND LUNATIC ASYLUM.

The report of the Richmond Lunatic Asylum for the year 1896 has only just been issued, its appearance having been delayed by the illness of Dr. Conolly Norman, the medical superintendent. The chief interest of the document centres in the account of the epidemic of beri-beri, which reappeared in the year in question, and affected a total of 116 persons, including 7 nurses. The history of the asylum for the last ten years has been a remarkable one. In England it is usually considered that if the number of patients in an asylum approaches within a few of the maximum that the building was intended to accommodate a grave state of affairs exists, and the Commissioners in Lunacy call upon the authorities to provide an immediate increase of accommodation. In the Richmond Asylum the number of patients has been for at least ten years in excess of the accommodation, and at the present moment for every 20 patients for which the asylum was originally intended, it actually contains about 35. It is true that temporary accommodation in the form of wooden sheds has been added, but no addition has been made in the laundry and other offices, and until very recently there were wards nearly a mile distant from the kitchen which served them with food. Within the last few months the Lord-Lieutenant has permitted the governors of the Richmond Asylum to use a prison for the accommodation of some of the patients, and in giving this permission he publicly censured the supineness of the body—the Board of Control—which has suffered the present state of things to arise; but it does not appear that upon this Board the censure of the Lord-Lieutenant had any more effect than that of a coroner's jury which reported on a case of beri-beri, that the origin of the disease was mainly in the overcrowded condition of the institution, and that for this overcrowding the Board of Control was responsible. On page 11 of this report there is an extraordinary statement which requires further elucidation. It is there stated that at the inquest just mentioned "the entire medical staff was, by order of the inspectors of lunatics, present, and the medical superintendent and other medical officers in charge of the patient were subjected to cross-examination both as to fact and credit by one of the Inspectors of Lunatics and Commissioners of Control." If we can imagine one of our own Commissioners in Lunacy so far forgetting what is due to the dignity of his office as to appear before a coroner's jury and to cross-examine the medical officers of an asylum as to the correctness of their diagnosis; and if we can imagine that the conduct of the Board on which this Commissioner himself had a place was found by the jury to be contributory to the death under inquisition, we shall realise that a very undesirable state of things may exist in the management of lunatic asylums in the Sister Isle.

REPRESENTATION OF THE MEDICAL STAFF ON HOSPITAL BOARDS.

An interesting question has recently been debated in connection with a new charter which the Dundee Royal Infirmary desires to obtain. The draft charter contained the provision, "No person holding any office shall be eligible to be chosen as a director." We alluded to this subject in our issue of November 13th, and expressed in general terms the opinion that a provision such as this, which would exclude the medical staff of the infirmary from the board of directors, could not be desirable in the interests either of the patients of the infirmary or of the medical profession, which are indeed identical. In some hospitals, as at Dundee, there are two bodies, the general body (here called governors), who meet but seldom, and have only a regulative function, and a managing committee (here called directors) in whose hands all the details are placed. At Dundee the medical officers are governors, and used to be eligible for appointment as directors. Some years ago this was changed. The proposal which was under debate at the quarterly meeting of the Governors on December 13th was one to render the medical officers again eligible as directors. On what grounds are the physicians and surgeons excluded from the management at those hospitals (too numerous we are sorry to say) at which the actual government is placed in the hands of the lay governors only? (1) It is said that, though they know all about the treatment of cases, they are not "men of business." We never could understand this argument. No layman is a man of more than one business; that one he understands, on all others he is as ignorant as the doctor; and a doctor may be as acute a man of business as any other man, and often is so. (2) Then it is said there would be "friction" between the medical and lay element; to which it is enough to reply that in many hospitals there is no difference between the status of the medical officers and any other governors. They are freely admitted to the same share of the management, and no friction occurs or is even thought of. The friction is caused only by the absurd idea that the medical staff are the servants of the lay governors. (3) It is said (and was said in the debate in question) that there is no reason for placing them on the managing committee, because the latter can always ask their advice. But lay governors do not

always know in what circumstances that advice is necessary; besides, men do not care to give advice, or to spend time in attending committees, when they have no vote to influence the result. (4) Another objection we have heard, which is almost too trivial to mention, namely, that the medical officers have not time to attend. Let them be the judges of this; if they have not time they would (like any other governor who has no time) either decline nomination or would not be reappointed. (5) The idea that the medical could overpower the lay element is ridiculous. If the hospital is managed by an open Board—the best form of management—the medical staff must always be in a minority; if by a committee, the proportion which the staff shall bear to the lay element can be fixed so as to produce the same result. The difficulty has been compromised at Dundee by the adoption at the adjourned meeting on Monday last of a resolution rendering the consulting staff eligible for election as directors, with the proviso that at no time should the number of members of the consulting staff in the directorate exceed three. We cannot regard this compromise as altogether satisfactory. There is, in fact, no reason beyond an old-world prejudice for excluding from the management of hospitals precisely those persons whose interest in their good management is the strongest, who know more about the details of the hospital than any other man about the place, and whose contributions to the hospital (even when they do not subscribe their money) are a thousand times more valuable and indispensable than the few guineas subscribed by the lay governor. Let the managers of any hospital calculate the mere cost in money which the services of the staff spare to the institution, and then let them add to this the contributions of those who are induced to subscribe by the connection of the hospital with its staff, and they will appreciate to some extent the absurdity of looking on the staff as the servants and the others as the masters. But the whole extent of the absurdity appears when it is considered that the medical officers are responsible for the successful treatment of the cases, and that this is the aim and object of all the details of the management. How absurd, then, to disqualify the staff from all voice in the administration of those details!

CONTRACTING OUT OF THE SUPERANNUATION ACT.

We publish in another column a letter from Dr. Tisdall, drawing attention to an advertisement issued by the Pershore Board of Guardians, who appear to wish to set at defiance the provisions of the Superannuation Act of 1896. We are informed that the Council of the Poor-law Medical Officers' Association have had this action of the Pershore Guardians under consideration, and that they have taken steps to ascertain whether these proposals can be legally carried out, and whether it will be possible for future candidates to contract themselves out of the provisions of the Act in question, if they have not already done so. The matter is one which requires immediate attention, and we propose to recur to the subject at an early date.

DARENTH ASYLUM.

For some time past a Committee of the Metropolitan Asylums Board has been considering the organisation of their large establishment for imbeciles at Darenth. This consists practically of three more or less connected branches: (1) A school (so-called) for imbecile children; (2) a series of pavilions in which those industrially trained in the schools practise the occupations they have acquired; and (3) a custodial asylum for adult imbeciles and chronic "harmless" lunatics. Hitherto the last-named has been under the charge of one medical superintendent, while the first and second have been under the charge of another medical superintendent. As, however, the buildings are upon the same estate and close to each other, it has been felt by some members of the Board that unification of management might be advisable, and a vacancy in the superintendentship of the adult asylum has brought the question into prominence. In round numbers, each division has accommodated about 1,000 patients, and it is very questionable how far a single chief officer is likely to be able to have a personal knowledge of the 2,000 inmates for whose welfare he would be responsible. To make the matter worse, an extension of the adult asylum for 500 additional patients appears to be contemplated. It may be urged that chronic adult imbeciles do not require a large share of medical attention: the same argument, however, will not apply to the youthful inmates of the schools and pavilions, some 500 of whom are under active processes of training, calling for constant and careful supervision on the part of the medical superintendent. In the course of the Committee's inquiries it would appear that a distinction was drawn between the educable and non-educable children under care within the same institution, and it was felt by some that as the latter largely preponderated at Darenth it would be for the benefit of the former if the improvable cases could be withdrawn from depressing association with those worse than themselves, and placed in a separate establishment of a distinctly educational character. The fact that the Metropolitan Asylums Board were taking over the care of the pauper children now in district schools seemed to offer an opportunity for a better classification, and one section of the Committee was in favour of the educable and improvable children being removed from Darenth to the Brighton Road Schools at Sutton, leaving those who were unimprovable in what would then become the entirely custodial institution at Darenth. Unfortunately, judging the matter from the medical standpoint, other counsels prevailed; and at a recent meeting of the Board it was decided by a majority of 6 that the Sutton Schools should be used for "helpless or industrial imbeciles" beyond the age of adolescence, leaving the children at Darenth, where it is hoped to bring about some improvement of the school arrangements. There is no doubt that Darenth has done good work in the past, and we are glad to find the Lunacy Commissioners commenting favourably in their last report on what they had seen there, and speaking of the establishment as "evidently fulfilling a very useful purpose in the asylums system of the metropolis." Nevertheless, we trust that the managers will not pin their faith upon the traditions of the past merely. Imbecile children require very different treatment from that appropriate to adult imbeciles; and improvable feeble-minded children, at an impressionable age, should as far as possible be spared the contaminating influences incidental to mere propinquity to a huge home for the hopeless.

INDUSTRIAL LEAD POISONING.

Within the last few weeks four deaths from lead poisoning have been reported. There is a feeling that the amount of illness from plumbism has diminished within the last few years, and in all probability it has, but lead poisoning is still rife. Stringent as are the regulations of the Home Office, they do not seem to be drastic enough. Regulations are only effective when loyally accepted and rigidly carried out both by employer and employed. The recent death of a young girl engaged at an enamel works in Wolverhampton, who refused to wear a respirator, illustrates the appropriateness of the above remark. At the coroner's inquest the manager of the works stated that the enamel contained from 15 to 20 per cent. of red lead. Recognising the harmful nature of the ingredients, the firm had provided respirators, and for failing to wear them three girls had been fined a short while ago. The penalty, however, failed to convey the lesson intended, for it was borne by the wrong shoulders. Out of consideration for the poverty of the girls, the manager himself paid the fines to save the girls being imprisoned, and thus the lesson the punishment was intended to teach failed. Hard as the statement may appear, had the penalty been exacted its influence might have been salutary, and it therefore might not have been ours to chronicle the untimely

death of another enamel worker. That her death was due to plumbism there is no doubt, for the county analyst, according to the report in the *Birmingham Gazette*, found ⅓ grain of lead in 30 ounces of her liver, ¼ grain in kidneys and spleen, and about an equal quantity in 40 ounces of brain. Mr. Cramp, Superintending Inspector of Factories for the Birmingham division, reports 631 cases of lead poisoning in the Midlands during 1896, and states that more than one half of these were from the earthenware and china factories of the North Staffordshire potteries. The death from lead poisoning in the potteries is recently reported of a girl aged 18 years, who was employed as a dipper; also that of a man aged 29, who was also a dipper. The man, whose death occurred in a convulsion, had frequently suffered from colic. In both these workers there had been premonitory symptoms. Both had been warned and medically advised to give up the employment, but they returned to their work, and, as so frequently happens on renewed exposure, fresh symptoms of lead poisoning quickly developed, and the fatal issue came even earlier than was expected. Another death from acute plumbism recorded is that of a young healthy coal miner, aged 24 years, employed at Birkenshaw, after only two weeks' illness. It is attributed to the man, in his employment, having used ammonite instead of gunpowder to "blow" a drift in the coal pit. The explosive was contained in lead cases, and as the miner had to handle these boxes several times a day, and was not in the habit of washing his hands before eating his food, the poison probably gained entrance by this channel, for medical evidence showed that death was due to plumbism. The large number of deaths from lead poisoning in the potteries appears to show that something more will have to be done by the Factory Department. The subject is one worthy of the attention of a committee of experts, whose help the Home Secretary should seek to secure, and thus strive to place British industries on a healthier footing.

PAYING FOR BEING ISOLATED.

"By a majority of six votes the Hull Town Council resolved to abolish the charges for maintenance of patients in the Fever Hospital." The *Eastern Morning News*, from which we quote, shows how, when they first established their "sanitarium," the Corporation made no charges. A year ago other counsels prevailed, and a small charge was exacted in every case where it could be paid. The result is amusing. The cost of maintaining the hospital is £4,189, and the maintenance fees collected were under £38, or less than 1 per cent. Our contemporary argues that in all sanitary legislation we compel the defaulter to put things right, and that, by relieving those who are well able to pay, the burden falls in undue proportion upon those who are not. Is it not, however, the case that the wealthy do not send their children suffering from scarlet fever to hospital? Take the case of the artisan with five children living, say, in a six-room cottage. One of his four bedrooms he is willing to give up to the patient. He will put a sheet over the door, and his wife will attend to the patient. Is this sufficient isolation for the safety of the community? Is the mother to move up and downstairs and amongst the rest of the family? Are the other children to run about in the street or to attend school? Nay, is the father himself to work, say, in a clothing factory? Yet, is the medical officer able to say that this patient is without "sufficient accommodation," or will the magistrate say that "sufficient accommodation" means "efficient isolation?" If not, the patient cannot be compulsorily removed, and the exaction of a fee will probably prevent his voluntary isolation. Surely no one can doubt that immediate and prompt isolation in such a case is eminently desirable. As we have said elsewhere, not only does the community profit by the isolation of such cases, but the community is to blame for for their occurrence. If a mob broke the windows of the artisan's house, he would have a claim against his Watch Committee for the damage they had failed to prevent. Has he no moral claim upon the Sanitary Committee for the evil they have allowed to come upon his household? Surely, if he consents to part with his child for the greater common good, the community who so greatly profit by his sacrifice should not mulct him in trumpery costs.

THE WATER SUPPLY OF TOWNS.

The Torquay Town Council has by a large majority adopted the recommendation of the Waterworks Committee for the purchase of the whole of the catchment areas of the Kennick and Tottiford reservoirs, and of the Trenchiford stream. The water supply of Torquay, as is well known, is drawn from a spur of Dartmoor. Within the catchment area are situated several farms, and in heavy rain there is no little danger that the sewage from these farms may be carried down to the reservoirs. Last June the Corporation obtained from Parliament permission to purchase compulsorily the whole of this area, and they are now about to avail themselves of the powers thus conferred upon them. Some other towns, as our readers are aware, have been acting in a similar manner. Birmingham has, we believe, already acquired large tracts of country from which its water supply is derived. Leeds during last session of Parliament obtained extensive powers of purchase similar to those possessed by Torquay, but we have not yet heard whether the Corporation have exercised them. It is one thing to obtain parliamentary powers of purchase and another thing to carry out that purchase, and we rejoice that Torquay in this matter has had the courage of its convictions, and has acted upon the advice given by its medical officer of health, Dr. Paul Q. Karkeek, who, our readers are aware, has for many years urged that steps should be taken. A timely circular on water supply has just been issued to local authorities by the Local Government Board. The Board points out, amongst other things, that where water is derived from gathering grounds or springs, the council should ascertain whether drainage from human habitations, farmyards, and the like finds its way, directly or indirectly, into the reservoir or any part of the water service. Were this inquiry carried out rigorously, many unsuspected but dangerous sources of pollution would, we feel sure, be discovered.

AUGUSTUS CÆSAR AN INVALID.

M. Maurice Albert has found that writers on historical heroes of the old civilisation of the Mediterranean shores believe too much in busts, just as Walter Scott and Victor Hugo put too much faith in the Court-circular style of Froissart and other mediæval heroes. In his *Médecins Grecs à Rome*, M. Albert shows that, judging from reliable classical documents, Augustus was no vigorous athletic chieftain, but a rather sickly intellectual general of the type of King William III. The bust in Livia's Villa was merely sculptured to flatter the lady through her husband. Augustus was seriously ill during three campaigns. He nearly died after the defeat of the Cantabri, and he was too ill to join in the battles of Munda and Philippi, where his wits proved of service to his men. He became slightly lame in the left leg when young, and his right forefinger grew useless, probably from rheumatic arthritis. He was troubled with eczema, and the use of the strigil, as we can well understand, made the cutaneous affection worse. Undoubtedly he was arthritic, and was accordingly subject to well-known pulmonary complications. Above all, he suffered from frequent attacks of coryza, a very unheroic malady, but it was well known as "pose" in the days of the Saxons, who were less civilised than the Romans, and is so termed in the original legend of St. Dunstan. The deeper truth, however, about sickly rulers of men is the fact that the state of civilisation when they flourished allowed them to live and be useful. Physical weakness is not incompatible with the intellectual qualities required for the government of nations, but a certain amount of civilisation is necessary before the weak can be made to live.

THE SCHEMES FOR THE PROPOSED UNIVERSITIES FOR LONDON.

We give below, as far as space allows, a parallel synopsis of the two rival schemes. The details respecting the University of London are from the Bill which passed the House of Lords in July last, but was withdrawn in the House of Commons. There is reason to believe that the Lord President of the Council will, on behalf of the Government, reintroduce this Bill or bring forward a similar Bill early in the coming session. The Bill thus lost last summer differed from the Bill of the previous year in that it gave less liberty to the Statutory Commissioners in dealing with the present University. The several points concerning the Senate, Convocation, the Faculties, Boards of Studies, etc., in which the freedom of the Commissioners was curtailed, were placed in a schedule, and it was the manifestation of this increased regard for the sentiments of certain persons, especially some members of Convocation of the present University of London, which appeased much of the opposition that the Bill would otherwise have encountered. This schedule also enables one to forecast in some respects the leading features of the proposed "teaching" University of London, should the Bill of next session resemble, as it probably will, that of last July, and should it, moreover, be so fortunate as to be placed upon the Statute Book. There are lacunæ in the following synopses due to absence from the Bill on one side or the scheme on the other; they cannot, of course, be filled. Under the London University Bill the provisions as to many points not specified (for example, mode of appointment of Chancellor, income of University) would probably be the same as those set forth in the Charter of the existing University. Respecting the Faculties, their formation and duties, many of the details under the University of Westminster scheme are dealt with in a separate memorandum for each Faculty. Whenever such items are stated below they are taken from the memorandum of the Faculty of Medicine, in which they are described with much detail. One fundamental distinction between the competing schemes is that the passing of the University of London Bill would leave only one University in the field, whereas the establishment of the University of Westminster would involve the presence of two universities in the metropolis.

London University Commission Bill.	Scheme for the Establishment of the University of Westminster.
Chancellor; mode of appointment not specified.	Chancellor and Vice-Chancellor to be appointed in the first instance by the Crown; on subsequent occasions by the Senate. Treasurer to be appointed by the Senate.
Senate, to consist of Chancellor and following members, namely, Chairman of Convocation, 16 nominated by Convocation in their separate Faculties, 2 by Royal College of Physicians, 2 by Royal College of Surgeons, 4 by Inns of Court, 2 by Incorporated Law Society, 2 by University College, 2 by King's College, 1 by Corporation of London, 2 by London County Council, 16 by the Faculties, and 5 by the Crown. (55 persons in all.)	Senate, to consist of Chancellor, Vice-Chancellor, Treasurer, President of each Faculty, 2 members nominated by each Faculty, and 6 by the Crown. (27 persons in all.)
Powers of Senate. — The Senate shall be the supreme governing body and executive of the University; shall administer all University property; and shall have entire conduct of the University and all its affairs and functions.	Powers of Senate specified under 17 heads; amongst these are (*c*) dealing with any property vested in the University without assignment to any particular Faculty; (*d*) amending the Charter by "special Statute" under prescribed conditions, and with the concurrence of the Lord President of the Council; in particular, of providing for the inclusion in the organisation of the Faculties of professorships and lectureships established on a university foundation; and (*f*) admitting, subject to the approval of the Lord President of the Council, additional Faculties into the University.
No procedure to a higher degree shall be allowed without examination or other adequate test, nor shall any honorary or *ad eundem* degree be conferred unless the Senate in exceptional cases think fit to confer such a degree on a teacher of the University.	The Senate may admit persons of distinction to degrees *honoris causâ*, save in the Faculty of Medicine; also may admit graduates of other Universities to *ad eundem* degrees upon the recommendation of the Faculties concerned. With these exceptions, no degrees shall be conferred upon any person who has not pursued the prescribed University curriculum.
No religious test shall be adopted, and no applicant for a University appointment shall be at any disadvantage on the ground of religious opinions.	No test of opinion or doctrine on any subject shall be required by the University or by any of its Faculties as a condition of admission to any University examination, degree, distinction, office, or emolument.
No disability shall be imposed on the ground of sex.	No disability shall attach to sex.
Senate to have 3 Standing Committees: (1) The *Academic Council*, being a committee for internal students of the University, is to consist of 20 members—namely, the 16 members of the Senate appointed by the Faculties, the 3 *ex-officio* members, and a senator appointed by the Senate. (2) The *Council for External Students* is to consist of 28 members—namely, the 16 members of the Senate appointed by Convocation (besides the Chairman of Convocation) and 3 *ex-officio* members, and 9 senators elected by the Senate. (3) A *Standing Board to promote the extension of University Teaching*, to consist of the 3 *ex-officio* members and senators elected by the Senate. The Chancellor, Vice-Chancellor, and Chairman of Convocation to be *ex-officio* members of all the above Committees. The functions of these 3 Committees shall be advisory.	

LONDON UNIVERSITY COMMISSION BILL.	SCHEME FOR THE ESTABLISHMENT OF THE UNIVERSITY OF WESTMINSTER.
SOURCES OF INCOME (not specified in the Bill).	SOURCES OF INCOME.—Senate to receive fees for matriculation and admission to degrees, and to provide from its income for matriculation examination, and for its own administrative expenses and those of the Matriculation Board. Until adequate income from these sources is obtained, the deficiency to be supplied by a grant from the Crown, or by taxation of the income of the Faculties.
CONVOCATION is to include the members specified in the report of the Cowper Commission and future graduates possessing a degree higher than that of Bachelor.	CONVOCATION.—All graduates of the University in each Faculty shall be members of Convocation of that Faculty. In the Faculty of Medicine every person who, after having studied during not less than four years in a London medical school, shall have graduated in any University of the United Kingdom, or become M.R.C.P. or F.R.C.S.Lond. before a certain date (not mentioned), shall, upon payment of a registration fee of 2 guineas, be a member of Convocation, but he shall not call himself a graduate of the University or assume any of its degrees. Convocation shall meet once, and may meet oftener, in each year. It may appoint committees, but its duties are purely advisory.
THE TEACHERS OF THE UNIVERSITY shall be (*a*) The professors, assistant professors, readers, and lecturers directly appointed as officers of the University; and (*b*) The members of the teaching staffs of educational institutions situated within a radius of 30 miles from the University building, who have been recognised as teachers of the University.	
STUDENTS.—The Commissioners, in framing statutes and regulations, are to see that provision is made for securing the adequate protection of the interests of all classes of students, whether external or internal, collegiate or non-collegiate.	
INTERNAL STUDENTS are those who have matriculated at the University, and are pursuing a course of study approved by the University in a school or schools of the University, and under one or more of the recognised teachers of the University.	

LONDON UNIVERSITY COMMISSION BILL.	SCHEME FOR THE ESTABLISHMENT OF THE UNIVERSITY OF WESTMINSTER.
FACULTIES.—The Commissioners shall determine, in the first instance, what the Faculties are to be, and what teachers are to be members of the respective Faculties. The number and distribution of the Faculties may be altered by the Senate. The Faculties will consist of: (1) The professors, assistant professors, readers, and lecturers appointed by the University. (2) Such other teachers of the University as may be admitted to a Faculty by the Senate. (3) The examiners appointed by the University.	FACULTIES.—The Inns of Court and Incorporated Law Society to organise themselves as a *Faculty of Law*, taking in the Professors of Law in University and King's Colleges. The Royal Colleges of Physicians and Surgeons, the Society of Apothecaries, and the 12 medical schools of London, to organise themselves as a *Faculty of Medicine*. University and King's Colleges, and their Professors in Arts and Sciences, and other Colleges and Institutes of the first rank, to organise themselves as the *two Faculties of Arts and Science*. Certain theological colleges to organise themselves as a *Faculty of Theology*. Certain schools of music to organise themselves as a *Faculty of Music*. The organisation of each such Faculty to culminate in a Council of the Faculty. The Council of the Faculty of Medicine to be appointed to the extent of — per cent. by the Faculty of Science. The Council of each Faculty to exercise, in particular, the following powers: (*a*) Of determining, subject to the approval of the Senate, the conditions for admission to degrees and other university distinctions in the Faculty. (*b*) Of holding examinations, in accordance with such conditions, for degrees and other university distinctions in the Faculty. (*c*) Of nominating examiners for such examinations for appointment by the Senate. The graduates in each Faculty to be included in the organisation of that Faculty, with such powers and duties as may be deemed desirable in each case. Each Faculty to be self-supporting or to provide its own endowment. The Council of the Faculty to control the property and income of the Faculty, to determine examination fees and stipends of examiners in the Faculty, to receive examination fees, and to provide from the funds of the Faculty for its expenses both of examination and of administration. The principal duties of the Council of the Faculty of Medicine, which consists of 50 persons, are to determine the conditions of study and examination qualifying for all degrees in Medicine and Sur-

London University Commission Bill.

Scheme for the Establishment of the University of Westminster.

gery; the awarding of honours, prizes, scholarships, etc.; the fees to be paid by candidates for admission to the examinations and the collection of such fees. The Council further shall defray the general expenses of the Faculty, including the stipends of examiners and other officers, and may appoint trustees to hold property on its behalf.

Boards of Studies.

Boards of Studies shall be constituted for the several subjects of University study. The members of each Board shall be appointed by the Senate from:

(*a*) Members of a Faculty who teach or examine in the Board's subject.

(*b*) Other teachers of the University who teach the Board's subject.

(*c*) And such other persons (not exceeding one-fourth of the total number of the Board) as the Senate may think fit.

Adequate representation on each Board shall be secured for teachers of the University not belonging to any school of the University.

The Council of the Faculty shall be charged with the formation of the Board of Studies of the Faculty.

(In the Faculty of Medicine) every professor or lecturer or other teacher appointed by the governing authority of a school constituent of the Faculty to give instruction in such school in any recognised department of study, and to be a principal teacher (whether sole or co-ordinate) of the school in that department (including, therefore, nearly every member of the staff of a London medical school) shall be a member of the Board of Studies.

The power and duties of the Board of studies shall be to prepare draft regulations prescribing courses of study and schemes of examination for degrees.

Medicine and Surgery.—The Board shall appoint committees of advice under the principal divisions of medical studies to report to it or to the Council of the Faculty.

Examinations.—Separate examinations to be held for internal and external students respectively, and each certificate and diploma shall state whether the candidate has passed as internal or external student, but the degrees conferred shall represent the same standard of knowledge and attainments. Internal students shall be admissible to the examinations for external students if they prefer to graduate on those terms.

In all examinations the Senate is to appoint in each subject at least one examiner who is not a teacher of the University.

Board of Matriculation, to be appointed mainly by the Faculties of Arts and Sciences, but including representatives of other Faculties, to determine, subject to the approval of the Senate, the conditions of matriculation in the University, as regards both its nature and acceptance of other evidence of proficiency in lieu of it; to appoint, subject to the approval of the Senate, examiners for the examination, and to make arrangements for holding it. The Senate to receive the fees for matriculation, and to provide for the matriculation examination.

Theology.—No person to be admitted to a degree in theology who has not given adequate proof of proficiency in Arts.

UNIVERSITY OF LONDON.

Resolutions of Medical Schools.

We are indebted to the courtesy of the Deans of the several medical schools mentioned for copies of the resolutions adopted by the schools with reference to the London University Commission Bill at meetings held during the last few days:—

Charing Cross Hospital Medical School.—The following resolution has been adopted by the Medical School Committee: "That the Committee of the Charing Cross Hospital Medical School respectfully urges the Government to introduce early in the ensuing session a Bill on the lines of the London University Bill, 1897. Further, the Committee hopes that on this occasion the Government will give sufficient time and support to the Bill to ensure its passing through both Houses of Parliament."

St. Thomas's Hospital.—The following resolution has been adopted: "That the Medical School of St. Thomas's Hospital earnestly requests Her Majesty's Government to introduce into Parliament a Bill similar to the London University Bill of 1897, and to pass it into law during the ensuing session."

University College, London.—The following resolution has been adopted by the Council of the College (the Medical Faculty does not act independently in such a matter): "The Council of University College, London, have resolved to continue to support the general principle of the London University Commission Bill, but hope that it may be found possible to give the Commissioners a freer hand."

THE BRITISH INSTITUTE OF PREVENTIVE MEDICINE.

The British Institute of Preventive Medicine, which was founded in July, 1891, has in the intervening years done in an unostentatious manner a great deal of useful work, and many papers by workers in its laboratories have been published in our own columns from time to time. It has now been resolved to issue *Transactions*, and the first volume of the series is before us.[1] The volume is issued under the editorship of Dr. Allan Macfadyen, who succeeded to the office of Director of the Institute when Dr. Ruffer accepted an appointment in Egypt.

The Home of the Institute.

Lord Lister, the Chairman of the Council of the Institute, has contributed to this first volume of the *Transactions* an introduction containing an account of the aims and objects of the Institute. It aims to be similar in character and purpose to the Institut Pasteur in Paris, the Hygienisches Institut in Berlin, and other establishments of a like nature existing abroad. Its main objects are to promote the investigation of the means of preventing and curing the various infective diseases of men and animals, and to provide a place where researches may be carried on for this purpose. Hitherto its home has been in Great Russell Street, but these premises are already too small for the expansion in its work, and we are glad to learn that it is hoped that the new building of the Institute at Chelsea will be ready for occupation early in 1898.

[1] London: Macmillan and Co. New York: The Macmillan Company. 1897. Demy 8vo, pp. 176. 5s.

ANTITOXINS.

The third object is to prepare and to supply such special protective and curative materials as may be found to be of value. There has, we learn, been an increased demand made upon the Institute for the antitoxic serum prepared at the Antitoxin Department of the Institute at Sudbury. Researches carried on by the staff of the Institute have led to various improvements in the preparation of these remedies. The strength of the diphtheria antitoxin has been doubled, and the full therapeutic dose is now contained in one-half of the quantity of serum formerly employed for injection. The tetanus antitoxin has been sent abroad in a dried form in considerable quantities. The antistreptococcic serum is being tested by a number of medical men, and the Institute is collecting statistics with reference to the results obtained. At the same time researches are being carried on in the field of serum therapeutics, and these will be published in course of time. The preparation of mallein and tuberculin is also undertaken by the Institute. Our pages have frequently borne witness to the advantages derived by the medical profession from the facilities for the supply of the various antitoxic serums afforded by the Institute, and we may add that the appreciation shown by the officers of the Institute of the needs of actual practice, and the readiness and promptitude with which they have responded to the demands upon them, has been a source of very great satisfaction to those who have cause to make application.

BACTERIOLOGICAL INVESTIGATION AND TEACHING.

The Institute also seeks to provide the means for carrying out investigations in all branches of bacteriology, including those of practical importance to chemists, agriculturists, and manufacturers. In its bacteriological department the staff have conducted a number of investigations at the request of physicians, sanitary authorities, and others, and the department has been visited for purposes of study by workers from all parts of the world, of whom some now hold important bacteriological appointments at home and abroad. One of the objects of the Institute is to provide instruction in preventive medicine, and a laboratory course illustrating the principles of hygiene has been instituted with success. Arrangements have been made, also, for dealing with the chemical aspect of bacteriology, as well as its practical application to industrial pursuits.

THE WATER LABORATORY.

The trustees of the late Mr. Richard Berridge granted a sum of money to the Institute for the purpose of building and endowing a water laboratory, and the applications received by this department have increased considerably during the past year. Among the work carried on in this laboratory may be mentioned an arrangement made with several local authorities for periodical examinations of their water supplies.

THE TRANSACTIONS.

The papers by workers in the various departments of the Institute, published in the first volume of the *Transactions*, include a valuable research on the Sterilisation of Milk, by Dr. Macfadyen and Dr. R. T. Hewlett; and another on the Sterilisation of Water by Filtration, by Mr. Joseph Lunt, F.I.C. The same investigator contributes an account of researches on the cultivation of water bacteria, and on their multiplication in sterilised water, a faculty in which they differ from other bacteria not of this group. Dr. Macfadyen and Mr. Lunt contribute a note of an inquiry as to whether the estimation of the amount of dust in air could be of practical use in affording an indication of the proportion of bacteria in air. It appears that the number of bacteria even in London air is, in proportion to the dust particles, very small; in one experiment, for instance, there was only one living organism to every 38,300,000 dust particles. For this and other reasons the general conclusion reached is that the method is not likely to afford a practical means of estimating the proportion of bacteria in a sample of air. Dr. Hewlett contributes a description of the Morphology, Mode of Growth, and Pathogenic Properties of the Bacillus of Bubonic Plague. Dr. W. Bulloch gives an account of an examination of Streptococcus Pyogenes, and Dr. Hewlett and Miss Edith Knight, M.B., in a paper on the So-called "Pseudo-" Diphtheria Bacillus, arrive at the conclusion that two forms have been described under this term. One of these is morphologically identical with the Klebs-Loeffler bacillus, but is non-virulent, while the other differs in morphology and staining from the Klebs-Loeffler bacillus. This form may occur in healthy throats, and in various diseases presenting mild anginal conditions, and seems in some cases of diphtheria, as they progress towards convalescence, to replace the diphtheria bacillus. Dr. Wm. St. C. Symmers, contributes a note on a Peculiar Movement of Certain Intracellular Particles in Yeast Cells, and Mr. Alexander G. R. Foulerton, F.R.C.S., on Micrococcus Gonorrhœæ and Gonorrhœal Infection. To some of these papers we shall hope to have an opportunity of referring on a future occasion, but enough has been said to show that the Institute is actively and effectively engaged in a much needed work.

NURSING IN IRISH WORKHOUSE HOSPITALS.

ON Tuesday, December 14th, Mr. GERALD BALFOUR, Chief Secretary for Ireland, received a very important deputation in the Castle, Dublin, on the subject of nursing in the Irish workhouses.

Lord MONTEAGLE urged that the Government should pay one-half the cost of trained and certificated nurses as was done in Scotland; and in Ireland in the case of the salaries of Poor-law medical officers and the cost of drugs and medical appliances in connection with the relief of the poor.

Sir CHRISTOPHER NIXON mentioned that arrangements had been made for the hospital training of the nuns who would hereafter be employed as nurses.

Lord MEATH expressed his sympathy with the movement.

Dr. SMYTH (Naas) pointed out that 83,000 sick persons were treated last year in the workhouses; 4,000 were cases of fever and 4,000 of accidents. The question was of national importance. There were not more than 100 trained nurses in the hospitals of Ireland, and not one-third of these would meet the requirements demanded in Scotland.

Dr. J. E. KENNY, ex-M.P., endorsed Dr. Smyth's remarks. The Poor-law system, although beneficent in intention, was a practical fraud on the poor. The nursing could hardly be worse.

Sir WILLIAM THOMSON asked that the hospitals should be inspected by medical men and not by laymen, as at present. They knew nothing about what was essential. In organising the new nursing system it would also be important to employ a trained nurse to act in the capacity of an assistant inspector.

Mr. RICHARD BAGWELL, D.L., supported these suggestions.

There were several other speakers, and

The CHIEF SECRETARY, in the course of his reply, said: In the first place, with regard to the appointment of a medical inspector, I think there is a great deal of force in what the various members of the deputation said on this head. I may say that the subject is now engaging the consideration of the Government, and without going the length of giving any pledge, I think it is not impossible to meet the wishes which you have this evening expressed. I do not feel able to speak with so much confidence as regards the appointment of a lady inspector. The experiment has been tried, I understand, in London only—and tried there for four months only, and it would be rather early to decide whether it has proved a success or not. As it is being tried in London, it would be better to wait a little to see how it turns out, and thus to see whether it is desirable to adopt the same plan here. Now, as to the case of pauper nursing in hospitals, and the payment of part of the salaries of trained nurses, I gladly recognise the approval with which the general order lately issued by the Local Government Board has been met. At the same time I would like to say that in issuing that general order the Board was by no means taking a wholly new departure. The spirit of that order is the spirit in which we constantly acted in our relations to Boards of Guardians for many years past in constantly pressing them to advance on the road along which this general order only marks another milestone. That was our latest advance, and I do not think it will be the last, though it will be for some time yet. Mr. Bagwell reminds us not to expect too much, and I expect it will be some time

before that order is given full effect to in every workhouse in Ireland. The suggestion given me by the deputation is that the process of replacing unskilled by skilled nurses would be very much quickened if a grant in aid were made by the Government towards paying the salaries of trained nurses. I should be very glad indeed if I could persuade the Treasury to give money for this purpose. It would be money well spent. But I am not altogether prepared to allow that Boards of Guardians in Ireland are now so poor that they could not afford—by reason of their poverty alone—to carry this reform into execution, and I am also inclined to think that there is a good deal in what has fallen from Dr. Kenny, that before long the introduction of trained nurses would lead to positive economy. The next point is that if the legislation already proposed and promised for next session were carried out, it would result in giving a great relief to rural rates in the rural parts of the country. Now reference has been made to the case of Scotland; but I do not think that any speaker has called attention to the fact that this was not in the strict sense an Imperial grant in aid made to the salaries, but money already laid at the disposal of the Scotch authorities, and transferred from the purpose to which it was then applied, or taken from the purpose to which it was then applied, and applied to this object. Now, it might be worthy of consideration—I only throw out this as a suggestion—whether it might not be a wise step to allocate part of the general grant in aid, under the bill of next year made to rates in Ireland towards the payment of trained nurses. I do not think that in this matter it is absolutely necessary to treat all unions as on the same footing. There is not the slightest doubt that a great many unions in Ireland certainly could afford to pay for trained nurses. The unions in the western districts undoubtedly are in a much more difficult position, being rural unions, and it might be suggested as a possibility that part of this grant towards rural unions should be definitely allocated to this purpose. Lord Monteagle in his remarks used the phrase "certificated nurse," and I was anxious to know whether by certificated nurse I was to understand a trained nurse in the ordinary sense of the term. In Scotland this grant that has been referred to is only given by the Scottish Local Government Board to trained nurses who realise what the Scottish Local Government Board define as a trained nurse. This is the definition: "A trained sick nurse should be not less than two years in a public hospital, being a training school for nurses maintaining a resident physician or house-surgeon, and she must not be under 22 or over 45 when first registered." There is a full and comprehensive statement of what is meant by a trained nurse, and what I want to ask is this—when we speak of introducing trained nurses into all the workhouses, does the deputation mean a trained nurse in the sense in which the phrase is used by the Scotch Local Government Board?

Sir Christopher Nixon: Certainly.

The Chief Secretary: I would like to ask further, would not that as a matter of fact preclude the nuns in workhouses from receiving any part of the grant?

Sir Christopher Nixon: I think not. Arrangements have now been made to train nuns in a manner similar to ordinary trained nurses for from one to two years, and I do not think there will be any objection to their undergoing examinations and having certificates.

Dr. Kenny: I never used the word nurse in any sense save that of a person who receives proper training, no matter what rank of life she belongs to, and receives a diploma from an examining body. I hope that standard will never be departed from, and that no person who does not possess that qualification will receive any grant.

The Chief Secretary: I may have touched on what is, perhaps, a difficult subject. I have received gladly the words that have fallen from Sir Christopher Nixon on the question of the position of nuns in workhouses. It has, I may say, complicated this question of trained nurses in the workhouses in Ireland, and I merely mention the matter, and call attention to it particularly, because I want you to make up your own minds on the subject, and to understand what are the difficulties, or some of the difficulties, which the Local Government Board has had in the past, and still has to contend with. My own conclusion, from the short experience I have had of Poor-law administration in Ireland is this, that we must be content to go rather slowly ahead. But I ask you to believe that the Local Government Board has done its best, and is doing its best, to secure that progress shall be made, and not to be too much disappointed if we do not attempt to achieve that progress by means of heroic measures.

ANNUAL REPORT OF THE MEDICAL OFFICER OF THE LOCAL GOVERNMENT BOARD, 1896-97.

[First Notice.]

Following quickly upon the issue of his report for 1895-96, Sir Richard Thorne has published his volume for the twelve months ending March, 1897; and we congratulate him on thus giving to the world a volume so interesting and important before the close of the year following that to which it relates. A speedy issue of these reports will be a distinct gain to the public health.

Vaccination and Public Vaccination.

Dealing with vaccination, Sir Richard has to deplore the highest recorded default under the Acts in respect of children born in the year 1894. In the metropolis the percentage of births not finally accounted for by vaccination was 20.6, as compared with 5.7 in regard of children born in 1881, the lowest default recorded; in the rest of England and Wales the percentage was 19.0, as against 3.8 in respect of 1875. If we look at the counties we find Bedford with 70.4, Leicester with 71.0, and Northampton with 60.8 per cent. of default; and Huntingdon 4.4, Westmorland 3.4, and Glamorgan 5.5 per cent, as instances of counties where the Acts are well administered. Similarly, Bethnal Green (64.4), and Whitechapel (5.1); and Hackney (57.0), and Woolwich (3.9), are in striking contrast, as also are East Stonehouse (31.7), and Newton Abbott (2.9); Darlington (47.1), and Hartlepool (8.0); Bury (64.1), and Manchester (2.4); and Scarborough (54.7), and Middlesbrough (7.2), each pair being within the same county. That the Vaccination Acts are still capable of being efficiently administered there is no question, judging by local results.

Insusceptibility to Vaccination.

Under a system of calf-to-arm vaccination, 101,487 consecutive primary vaccinations performed by the Board's own vaccinators have failed to yield one case of "insusceptibility;" but in a total of 629,158 primary vaccinations in England and Wales of children born in 1894, no fewer than 3,032 cases of "insusceptibility" are recorded. At this rate the Board's vaccinators should have had to chronicle some 460 such instances. Comment seems needless; the inference is apparent.

Glycerinated Calf Lymph.

Sir Richard reprints the report by Dr. Copeman and his own introductory remarks on the visits which they made to Paris, Brussels, Berlin, Dresden, Cologne, and Geneva for the purpose of inquiry as to the procedures there adopted respecting glycerinated calf lymph, a report which we have already noticed in our columns.

Departmental Miscellanea.

A glance at the report suffices to show the multifarious phases of work coming within the scope of the medical department—coroners' courts and meat poisoning, hospital provision and scavenging, by-laws and bubonic plague; these and other divergent subjects have fallen to the lot of the medical staff in 1896, and office conferences, local inquiries, and detailed investigations have been held in regard of these and other matters, including outbreaks of indigenous disease and instances of maladministration by District Councils.

Special Inquiries.

Sir Richard dwells at length on such reports as those (which he reprints) by Dr. Thomson on waterborne enteric fever at Bicester, Dr. Bulstrode on enteric fever at Chichester, and Dr. Buchanan on meat poisoning at Mansfield. A report by Dr. Sweeting on school closure in relation to diphtheria at Gillingham affords an opportunity to set out the only course open to a medical officer of health who deems closure of school essential to the stamping out of an epidemic. But how far

the health officer should be harassed as at present by official routine is another matter entirely.

BUBONIC PLAGUE.

A report by Dr. Buchanan on his inquiry as to cases of bubonic plague in the Thames in the autumn of 1896, first sees the light in this volume. It is an interesting and important document, illustrative of the ability of our port authorities to cope with disease of a nature so long quarantinable, but now happily handed over to the care of district bodies. Dr. Buchanan records 2 cases of bubonic plague occurring after the arrival of a steamship from Calcutta in the port of London, one of which was proved bacteriologically to be true plague, as well as a third suspicious case on another vessel; all three occurrences being consistent with infection derived from clothing or other personal belongings not used *en voyage*, but only taken from the men's chests after arrival in dock. The history of the preventive measures adopted is full of instruction for all our port authorities.

ABOLITION OF QUARANTINE.

The final and complete repeal of the Quarantine Acts, and the issue of regulations as to the measures to be carried out by imperial and local officers in connection with cholera, yellow fever, and plague on the same lines, mark a distinct but long-delayed advance in the right direction.

DECLINE OF "FEVER."

Sir Richard reproduces three maps of England and Wales, and a chart, in which are shown the differing decennial fever death-rates in 1871-80 and 1881-90, the rate having fallen from 43 to 22 per 100,000 of population. In the first decennium there were such rates as 58 in South Wales, 59 in the West Riding, and 73 in Durham; as against 25 in the combined counties of Surrey, Dorset, and Sussex. This combination still held low place in 1881-90, and Durham was again head of the list, whilst the West Riding had shown improvement from second to eighth place. But Sir Richard regards diminution for the country as a whole to be now coming to a standstill, and deems the subject of fever prevalence in one and another like area in a persistent differing ratio as calling for further and close study. Meantime, the outlook is favourable for districts and other areas where sanitation has received the attention which it deserves, and which it ever repays.

NOTIFICATION RETURNS.

Quarterly and annual notification data for certain diseases are again given for 81 town districts, including London, in respect of which the data are given weekly also. We are gradually getting built up a most useful set of figures in these annual statements, wherein deaths are placed side by side with notified attacks.

CHOLERA PREVALENCES.

Four attacks, locally deemed, but proved not to be, true cholera, were all that was known of the disease in England and Wales in 1896, seven "infected" vessels in addition coming into our ports without recurrence of cholera. Russia was early in 1896 declared free from the disease, but in Egypt in the year ended with October of 1896 there were recorded 18,105 deaths from cholera.

DR. HALL HAINS'S DEFENCE FUND.

SIR,—The case of Dr. Hall Hains, of Shepherd's Bush, who was recently tried at the Central Criminal Court on an unfounded charge of performing an illegal operation, is doubtless within the recollection of the profession. We have followed the case throughout, and were convinced from the first of the falsity of the charge. It will probably be remembered that the jury stopped the case by the direction of Mr. Justice Ridley, Dr. Hains leaving the court without a stain on his character. Unfortunately he has been put to very great expense in defending this charge, his costs amounting to over £800.

A meeting was held at this address on December 10th, and it was then determined to form an influential committee to aid in raising a fund to help Dr. Hains to defray part of the heavy costs he has had to meet. It is a noteworthy fact that the principal members of the staff of the Westminister Hospital, where Dr. Hains was formerly house-surgeon, have joined the committee and subscribed to the fund. An important letter from Sir Edward Clarke, Q.C., M.P., who defended Dr. Hains, which is enclosed by his permission, bears out the utter groundlessness of the charge. We therefore make an earnest appeal to the profession in general for Dr. Hains, who has been shamefully treated, and who has been financially embarrassed by having to find this large amount. We append a full list of the committee and subscriptions received or promised up to this date, and we beg to remain, Yours sincerely,

JOSEPH SMITH,
Chairman of Committee.
HERBERT CARRE-SMITH,
Hon. Sec. and Treasurer to the Fund.

15, Bath Road, Bedford Park, W., Dec. 20th.

COMMITTEE.

Joseph Smith, M.R.C.S., Chairman.

W. H. Allchin, M.D., F.R.C.P.	F. de Havilland Hall, M.D., F.R.C.P.
J. B Ball, M.D., M.R.C.P.	J. B. Potter, M.D., F.R.C.P.
Alfred Boyce Barrow, F.R.C.S.	Charles Stonham, F.R.C.S.
G. Vere Benson, M.A., M.R.C.S., L.R.C.P.	G. Danford Thomas, M.D.
	James Wilson, M.D.
Henry Disney, B.A., M.D.	Alfred Wills, M.D., M.R.C.P.
H. B. Donkin, M.D., F.R.C.P.	A. P. Woodforde, M.R.C.S.

HERBERT CARRE-SMITH, L.R.C.P., M.R.C.S.,
Honorary Secretary and Treasurer to Fund,
3, Turnham Green Terrace, Chiswick, W.

To whom subscriptions should be sent. Cheques should be crossed "London and South-Western Bank, Shepherd's Bush Branch."

The following is a copy of the letter received from Sir Edward Clarke, Q.C., M.P., and is published with his permission:

Royal Courts of Justice,
December 8th, 1897.

DEAR SIR,—I am not at all surprised that Dr. Hall Hains's brethren in the medical profession should desire to relieve him to some extent from the costs of the recent trial. Each of them is exposed to the danger of having an absolutely false and groundless charge brought against him; of suffering the anxieties of a criminal trial; of having to incur large costs; and of carrying through life the painful recollection of having been the subject of a serious accusation.

Dr. Hains has fortunately been cleared from every suspicion of wrongdoing, and it has been shown that there was not even indiscretion on his part, which suggested, or formed an excuse for, the charge against him.

I think he deserves the assistance of the medical profession, and shall be glad to be allowed to evidence my feeling upon the subject by contributing towards the fund you propose to raise the enclosed cheque for 25 guineas.

I am, dear Sir,
Faithfully yours,
EDWARD CLARKE.

Dr. Herbert L. Carre-Smith.

List of subscriptions received or promised:

	£	s.	d.
S. D. Clippingdale, Esq., M.D., F.R.C.S.	1	1	0
James Browne, Esq., M.B...	1	1	0
A. P. Woodforde, Esq., M.R.C.S.	1	1	0
Sir Edward Clarke, Q.C., M.P.	26	5	0
P. O'H. Brady, Esq., M.R.C.S.	2	2	0
A. H. Walker, Esq., M.B.	0	10	6
E. H. Lendon, Esq., M.B.	1	1	0
H. B. Donkin, Esq., M.D., F.R.C.P. ...	3	3	0
James Wilson, Esq., M.D.	1	1	0
F. de Havilland Hall, Esq., M.D., F.R.C.P. ...	1	1	0
Charles Stonham, Esq., F.R.C.S.	1	1	0
J. Danford Thomas, Esq., M.D.	2	2	0
W. A. Wills, Esq., M.D., M.R.C.P.	1	1	0
J. Brisbane, Esq., M.D.	1	1	0
James Barry Ball, Esq., M.D., M.R.C.P. ...	5	5	0
Joseph Smith, Esq., M.R.C.S.	1	1	0
W. H. Allchin, Esq., M.D., F.R.C.P. ...	5	5	0
G. Vere Benson, Esq., L.R.C.P., M.R.C.S.... ...	0	10	6
Henry Disney, Esq., B.A., M.D.	0	10	6
John Baptiste Potter, Esq., M.D., F.R.C.P. ...	2	2	0
J. Mitchell Bruce, Esq., M.D., F.R.C.P. ...	2	2	0
William Wilson, Esq., M.B.	1	1	0
F. Dingley Pitt, Esq., L.R.C.P.	0	10	6
A. Hill-Wilson, Esq., L.R.C.P., M.R.C.S. ...	0	10	6
Herbert Carre-Smith, Esq.	1	1	0

THE TEACHING OF THE DEAF.—The nineteenth annual report of the Society for Training Teachers of the Deaf and for the diffusion of the "German," or pure oral, system gives an account of the work that has been done at the Training College and Practising School, Castlebar Hill, Ealing. The Society has diffused a knowledge of the system by issuing and circulating publications on the subject, and has proved that children who are born dumb and those who are thought to be deaf can be educated so as to take their place in the world. Besides this it has sent out seventy-five certificated teachers, who are employed in schools or private teaching. Those who are interested in the work should apply for information on the subject to the Secretary at Ealing.

IRISH POOR-LAW MEDICAL OFFICERS.

Mr. Ernest Hart has forwarded the following letter for publication:

Irish Medical Association,
Royal College of Surgeons, Dublin.
December 15th, 1897.
(To Ernest Hart, Esq.)

Dear Sir,—I have great pleasure in sending you the following copy of a resolution unanimously passed by the Council of this Association at its meeting yesterday:

Resolved—That the Council of the Irish Medical Association desire to tender to Mr. Ernest Hart their sincere congratulations upon his recovery from his recent illness, and avail themselves of the opportunity to thank him most heartily on behalf of the Poor-law Medical Officers of Ireland for the assistance which the British Medical Journal has given their efforts to obtain redress of the grievances of which they complain, and also for his able advocacy of the cause of Irish workhouse reform.

I am, yours faithfully,
Thomas Gick,
Secretary.

ASSOCIATION INTELLIGENCE.

COUNCIL.

NOTICE OF MEETING.

A meeting of the Council will be held in the Council Room of the Association, at No. 429, Strand (corner of Agar Street), London, on Wednesday the 19th day of January next, at 2 o'clock in the afternoon.

Francis Fowke, *General Secretary.*

December, 1897.

NOTICE OF QUARTERLY MEETINGS OF COUNCIL FOR 1898.

Meetings of the Council will be held on January 19th, April 13th, July 6th, and October 19th, 1898. Candidates for election by the Council of the Association must send in their forms of application to the General Secretary not later than twenty-one days before each meeting—namely, December 29th, 1897; March 24th, June 16th, and September 29th, 1898.

Election of Members.

Candidates seeking election by a Branch Council should apply to the Secretary of the Branch. No members can be elected by a Branch Council unless their names have been inserted in the circular summoning the meeting at which they seek election.

Francis Fowke, *General Secretary.*

BRANCH MEETINGS TO BE HELD.

Edinburgh (Lothians and Fife) Branch.—A meeting of this Branch will be held within the Royal College of Physicians, 9, Queen Street, Edinburgh, on Friday, January 14th, 1898, at 4 P.M. Agenda: Proposed revision of Constitution of Association, etc. Notice of business and applications for membership should be addressed, not later than January 6th, to Dr. R. W. Philip, Honorary Secretary, 4, Melville Crescent, Edinburgh.

SPECIAL CORRESPONDENCE.

PARIS.

Reading through Opaque Bodies.—Bone-grafting from the Dog.—The Medical Staff of the Paris Hospitals.—General News.

M. Grasset, the distinguished physician of the Montpelier Faculty, publishes the following case: Dr. Ferroul, of Narbonne, mentioned to Dr. Grasset a young woman capable of reading through opaque bodies. Dr. Grasset wrote the following words on a half-sheet of paper: "Le ciel profond reflète en étoiles nos larmes; car nous pleurons, ce soir, de nous sentir trop vivre," then a Russian word, a German word, and a Greek word. This paper, folded with the writing inside, was wrapped in tinfoil, the edges folded over, and placed in a black-edged envelope, which was well gummed down. Dr. Grasset had been warned that string rendered the reading more difficult; he fastened the envelope with a safety pin, and covered it with sealing wax. This envelope with Dr. Grasset's card was put in another envelope addressed to Dr. Ferroul. Dr. Ferroul wrote to Dr. Grasset as follows: "When your letter reached me the person was not at hand; I called and told her to come; she said she would read at once what you had written. Your letter sealed with black sealing wax was on my library table. My house is 300 yards' distance from hers. We were both leaning against a table. I passed my hand across the subject's eyes, and she gave me the following information: 'You have torn the envelope.' 'Yes, but the letter you have to read is in another envelope.' She continued, 'The one with the big black seal; there is tinfoil; there is written: Le ciel profond, etc. There are also words like that,'—indicating with her finger the form of the foreign words." On November 29th, Dr. Grasset laid before the Montpelier Academy of Sciences the letter closed as he had sent it to Narbonne. The members were thus assured that it remained intact. M. Babinski suggests the possibility that purely physical phenomena may exist enabling closed letters to be read, and that the *x* rays may perhaps help to arrive at the solution. M. Babinski intends to go on with some researches commenced some time ago and discontinued.

M. Dubar, of Lille, at a recent meeting of the Paris Academy of Medicine, showed a patient on whom he had made a bone graft six years and a half ago, under the following circumstances: The girl's right wrist was the seat of tuberculous arthritic osteitis, accompanied by suppuration. He removed the first row of the carpal bones excepting the pisiform, also half of the second row. For grafting he used bony-cartilaginous fragments taken from the femur of a puppy of 8 years old. The patient recovered, and is able to use her wrist. The application of radiography shows the traces of bone grafts. M. Dubar considers that it is an open question whether the rays reveal the presence of the primitive grafts or of new bone formation. At the present time the patient follows a trade in which she has to use her right hand; she can do needlework, and knit.

The medical staff of the Paris hospitals is composed of 127 hospital physicians, 70 surgeons, and 10 accoucheurs. In addition to these there are 9 specialists attached to the lunatic asylums, and 10 physicians attached to the hospitals outside Paris and in the departments. Among the 127 hospital physicians there are 19 honorary physicians; the oldest is Dr. Moissenet, nearly 87 years of age. Dr. Potain, 72 years of age, is the oldest of the hospital physicians in active service. M. Widal, 36 years of age, is the youngest. Among the 70 surgeons there are 5 honorary surgeons—M. Cruveilhier, M. Marc Sée, M. Péan, M. Labbé, and M. Guéniot.

The dispensary of the Rue Jean Lautier, between June, 1896, and October, 1897, distributed 9,000 litres of sterilised milk. This distribution has been effected by the generous aid of a Normandy sterilising milk company. Since 1896 77 children have benefited by the supply.

The *Journal de Médecine* has discovered that the Institut Pasteur is inscribed on the budget of the Beaux Arts for £2,000 to keep the building in order and to keep up the flower garden.

M. Cézilly proposes that a "Conseil Medical" should be created, composed of members of all the different medical societies. This defence committee would be at the service of all medical men in circumstances of difficulty.

M. Laquerre has forwarded a note to the Biological Society describing a human monster possessing a double spinal marrow.

CORRESPONDENCE.

THE EPIDEMIC OF TYPHOID AT CLIFTON.

Sir,—The views propounded by Dr. W. J. Tivy at the last meeting of the Royal Medical and Chirurgical Society with regard to an epidemic of enteric fever in Clifton are of so misleading a character as to justify some observations thereon.

There was, perhaps, some little ground for the statement that an epidemic of what was called influenza existed during October and November. There had been cases of an indefinite fever, of the nature of which there was some doubt, and hence they were called by the convenient term which has been so much abused. These cases became "puzzling" from

the point of view of influenza, but when the indefinite form became protracted without pulmonary or other complication, and further, when spots were observed and splenic swelling, with intestinal hæmorrhage, became not infrequent, and, furthermore, when Widal's test gave positive reactions in all cases, then there was no longer any need to call in the aid of the term "influenza" to account for phenomena which could not fail to be recognised as typhoid fever.

Much has been made of the suddenness of invasion, but surely if this pyrexia had been already for a week or two considered to be influenza the invasion of the enteric fever is likely to be somewhat more abrupt than one commonly expects in this disease. In my experience the invasion was not so sudden, for many of the patients were getting about for a week or two after the first onset of an evanescent pyrexia before being kept in bed or treated as cases of typhoid.

In the light of later experience it seems clear that there was only one epidemic, and that one of typhoid; that the cause of this was shown by Dr. Davies's masterly investigation to be milk, and nothing but the milk. It arose in what should be, both by position and attention to sanitation, many of the best houses in Clifton; it bore no relation to the river or to the drains; it did not affect the river banks or the city generally; and it ceased almost as abruptly as it arose as soon as a systematic boiling of the milk became general. The evidence given by Dr. Davies is overwhelming and the conclusion irresistible; that the typhoid bacillus was not found in the water or the milk simply shows that the physiological test—namely, the administration of a powerful dose of poisoned milk on or about September 30th to a large number of persons, many of whom were susceptible—is a more certain method of analysis than the bacteriological examination of the milk from the same farm two or three weeks afterwards.

Dr. Tivy's view that the epidemic was due to sewer gas poisoning has not one tittle of evidence in its favour, and is on a par with other statements which he makes which are equally detrimental to the credit of a city whose health records have never been exceeded, but whose reputation is not unlikely to suffer from the inaccurate statements and the fanciful theories of the only member of the profession in Bristol who declined to sign the address presented to the medical officers of health at the last meeting of the Bristol Medico-Chirurgical Society.[1]

I have no desire to enter into a controversy on this subject, and our medical officer of health needs no assistance in defending himself, but I cannot allow the statements made to the Royal Medical and Chirurgical Society to pass without comment, and hope that they will be accepted as the views of Dr. Tivy himself, and not as in the least degree representative of the profession of Clifton and Bristol.

We think that the unfortunate epidemic which has just occurred has in no way shown that the city is insanitary, as the epidemic was of a kind which might occur anywhere by contamination of the milk cans; and, further, it has been shown that the civic authorities, whilst able and willing to do everything possible to maintain the sanitary reputation of their city, are not likely to be led astray.—I am, etc.,

R. Shingleton Smith, M.D., F.R.C.P.,
Senior Physician to the Bristol Royal Infirmary; and Emeritus Professor of Medicine, University College, Bristol.

December 20th, 1897.

Sir,—Mr. W. J. Tivy's remarkable speech at the Royal Medical and Chirurgical Society's meeting deserves some notice lest it be taken as the opinion of the medical profession generally in Clifton rather than as the divergent opinion of an individual practitioner. In quoting my letter of October 25th, wherein "influenza with abdominal symptoms" was mentioned, he omits to state that this was written before the actual nature and full extent of the milkborne epidemic became apparent and before Widal's reaction had supplemented clinical observation with close and remarkable accuracy.

Mr. Tivy describes, as with authority, the nature of the typhoid outbreak, but as he has only notified a single case (imported from Maidstone) in one house, and two cases in another house (on the infected milk round), he has either failed to notify the cases upon which his "experience" is based or is speaking at random, which may account for the inaccuracy of his description of the outbreak.

When he states that out of 146 houses, 66 failed to be attacked, it is only another way of stating that the remaining 80 were attacked, or 54 per cent. of those supplied a very high percentage in milkborne enteric fever.

He states further that no case of enteric fever was traced to the neighbourhood of the farm. This is incorrect; a farm labourer engaged at work upon fields close to the brook and sloping towards it suffered during the middle and later part of September, according to his own and his wife's account, from an illness accompanied by headache, *malaise*, and diarrhœa; the disease was of "ambulant" type, leading to the deposition of infective material upon the surface of the ground; heavy rains occurred during the latter half of September, facilitating pollution of the brook, and this man's blood, taken on November 20th, showed, according to Dr. Klein, one of the most marked typhoid reactions he had ever seen. The farm pump water was not obtained for analysis until October 23rd, for not till then had the Widal reaction enabled us to establish in the laboratory the actual typhoid nature of the currently-reported "influenza," and to direct attention to the source of mischief. This was more than a month after the man's illness, and therefore the finding of the typhoid bacillus was unlikely; but both the brook and the pump water showed serious organic pollution, the water swarmed with micro-organisms, and the bacillus coli was abundantly present.

Mr. Tivy in no way seeks to explain or to deny the persistent way in which the enteric fever followed the line of infected milk, not through one supply only, but through two other supplies to which it had been added, as detailed in my speech at the Royal Medical and Chirurgical Society's meeting on November 23rd, and in my interim reports.

His suggestion that the enteric fever, of which he had so little experience, was caused by the unventilated condition of the main drains of Clifton, is absolutely untenable. In my interim report on the outbreak I showed that I had already traced 93.7 per cent. of the cases to infected milk. It is inconceivable to any rational mind that sewer gas forced indiscriminately into some 8,000 houses, containing over 47,000 people, should attack with remarkable precision only those who obtained, directly or indirectly, a particular milk, and should select so persistently those who consumed it raw. No reason is alleged, no single fact adduced by Mr. Tivy in support of his belief: had any facts been brought forward there would be some ground for a reply, but a bare statement of this sort, without foundation and without support, falls into the category of children's questions, hard to answer, in that they take account neither of the teachings of common sense, nor of the sum of human experience.

Mr. Tivy certainly gave no assistance of any sort to the Health Committee in their successful suppression of the epidemic, and had not the profession as a body most unselfishly adopted a course of action exactly the reverse of the attitude he chose to assume, the outbreak would not now be a memory of the past.

My experience of more than one epidemic of "influenza" in previous years shows that it is invariably accompanied by a high fatality, so high indeed that the general death-rate is thereby considerably raised. No single death from influenza has been returned in Clifton since May of this year, therefore it cannot have been epidemically prevalent during the autumn, nor indeed have I any evidence that it has existed at all in Clifton. Mr. Tivy may reply, "Yes, but other practitioners in Clifton have mistaken 'influenza with abdominal symptoms' for 'typhoid.'"

No doubt Mr. Tivy would willingly accept the wreath for infallibility, but his claim for this distinction has not yet become apparent.—I am, etc.,

D. S. Davies, M.D.,
Medical Officer of Health.
Public Health Department, Bristol, Dec. 20th.

Sir,—The remarks of Mr. W. J. Tivy, at the last meeting of the Royal Medical and Chirurgical Society, on the pre-

[1] British Medical Journal, December 18th 1897, p. 1825

vention of typhoid fever, are of such a character that no one who has had any practical experience of the recent outbreak of typhoid fever in a very circumscribed area in Clifton can quietly sit down and read them without feeling a sense of duty imposed on him to deny and repudiate in the most emphatic manner the suggestions and insinuations contained in those remarks.

That we have had to deal with typhoid fever, certainly offering many anomalous symptoms, due to infected milk, has been demonstrated to the most complete satisfaction of the profession generally, as well as that of those responsible for the welfare of the sufferers and of the community at large.

At the last meeting of the Bristol Medico-Chirurgical Society an address of thanks for the services rendered by the Health Department in the city of Bristol was presented to Dr. Davies and his assistant medical officer by the medical profession in Bristol. Dr. Davies's report has been characterised by many as "masterly," and he has received acknowledgments for his able services from various quarters, including that of the Head of Clifton College. Therefore I feel justified in protesting against the oracular opinions expressed by Mr. Tivy. He attempts to induce people to believe that the recent outbreak of typhoid fever was due to insanitary conditions in Clifton. He might as well argue that, if dynamite were exploded in my house, it was a proof of defects in my drains.—I am, etc.,

J. Hancocke Wathen,
Alderman and Member of the Health Committee for the City of Bristol.

December 20th.

Sir,—Lest the statements made by Mr. W. J. Tivy at the meeting of the Royal Medical and Chirurgical Society on December 14th, on the recent epidemic of enteric fever in Clifton should be taken as expressing the opinions of medical men in Bristol, I must ask you to insert a short letter to say Mr. Tivy's theories are not held here, either by the public in general or by the medical profession. There has been no more influenza than is usual at this time of year, and enteric fever has been the only disease that has appeared in an epidemic form. Further, I believe I am expressing the unanimous opinion of my colleagues when I say that we are perfectly certain that the fever was spread by a polluted milk supply, as has been shown in Dr. Davies's masterly report, and has been in no way brought about by the "sewage gas" which Mr. W. J. Tivy claims as the cause of the evil. Unventilated sewers may be wrong theoretically, but the low death-rate of Bristol, and particularly of Clifton, certainly convinces me that they are not practically. I challenge, too, Mr. Tivy's statement that "the stinks of Clifton in the summer have been almost unbearable for years."

Mr. Tivy is welcome to his own opinion on the value of Widal's test. I believe it to be of great value, and admit I have had great assistance from it. Will Mr. Tivy please to say where he got the statement he credits Dr. Davies with—that is, that it is "absolutely diagnostic in all doubtful cases"?

I hope I have said enough to show that Mr. W. J. Tivy's opinions are not those generally accepted either on the epidemic itself or on the cause which produced it.—I am, etc.,

Clifton, December 20th. Bertram M. H. Rogers.

UNQUALIFIED ASSISTANTS.

Sir,—Perhaps an agreement with the Pharmaceutical or Apothecaries' Society, or both, for a modified examination to admit unqualified assistants as surgeon's assistants would be agreeable; no man to be eligible to "sit" unless in practice before 1890, or such and such a year fixed upon by the Council. Adverse circumstances and the results of marriage before finishing their curriculum, in the majority, are the causes of the unfortunate "unqualified" seeking his living as such, and there is not one who would not prefer to be qualified. Many are known to be competent (to quote "M.B.Oxon."), and I know several who have gone to the Rotunda and taken out the "L.M." before even being registered as students, with the object of getting better salaries, and eking out their lives at it, until something better turned up; and several have been in this capacity for from ten to twenty years. All this experience surely would qualify them for some post or other as the years of "probation" will qualify a nurse. Many are married and have large families. What is to become of them? Several are already impoverished by the Council's previous decision, as there are but few indoor vacancies for men with "encumbrances."

The full curriculum would not necessarily be required, as many are not in possession of class tickets, having originally been old apprentices, who took out their lectures with the sole idea of becoming assistants, and were not registered at the time.

Let all who can prove they have been in the practice of medicine since 1890, or a longer or shorter period, at the advice of the Council enter for a modified examination in medicine, a searching clinical, and in minor surgery, midwifery, etc., and such men to be allowed to hold posts indoors under the supervision of the principal, and in accordance with by-laws framed by a governing body.

No new men would be created, the old ones would gradually exit by death or promoted circumstances, without causing unnecessary suffering.—I am, etc.,

December 14th. Tango.

Sir,—May I point out that the recent resolution of the General Medical Council *re* unqualified assistants comes into force at once, as several of your correspondents are evidently under the impression that there is a close time until January 1st, 1900.—I am, etc.,

December 20th. Provincial.

Sir,—The position of unqualified assistants is one deserving grave consideration.

I strongly condemn the system of covering in cheap dispensaries, which is about the worst form of quackery, but there are many cases such as that named by Mr. Grace, and surely these gentlemen deserve some consideration. I know a case of one, nearly 70 years of age, liked by the patients, and yet active as a lad of 20, much trusted by his employer, and who has been with him and his father many years; in fact the case is parallel with that of Mr. Grace, and I would support the line advocated by him, but bring it into force sooner, and exclude all persons under 21 years of age. If carried out as it now stands it is certain to swell the ranks of quacks and sham doctors.

I have occasionally employed unqualified men, and as a rule have found them useful and trustworthy.—I am, etc.,

Abberley, Worcestershire, Dec. 18th. J. Swain Scriven, M.D.

Sir,—It is high time that the profession at large united to dispense with the aid of unqualified assistants. We must ever remember that a full curriculum and competency are not synonymous terms. We must all of us know of cases in which an overfull curriculum has been no proof of competency; yet these men are taken on as unqualified assistants; whereas, with less expense than they have incurred, in many cases through laziness and inattention to work, they might have become duly-qualified registered practitioners. If they be so practically efficient as some of your correspondents point out, why do not these principals advance them the money for their final examinations, which are now of a most practical nature, and thereby place them on a legal footing, and abandon for ever the aiding and abetting of an inferior order of practitioners?—I am, etc.,

Bedford General Infirmary, Dec. 17th. S. J. Ross.

Sir,—Is there any way to deal with this question by a qualifying examination for men only on the *Students' Register* with a full curriculum and experience? Has the General Medical Council power to hold or cause to be held an examination, if they choose, for the benefit of those men? At present the condition of things is terrible. Is it fair that no door will be thrown open for those men who are obliged to give up their situations through the recent action of the Council, and having spent their lifetime in the profession are fit for no other position, yet through want of means are unqualified?—I am, etc.,

December 14th. L M.

HOSPITAL REFORM.

SIR,—The question of hospital abuse is at last well to the front, and it is to be sincerely hoped that it will not be allowed to recede until a satisfactory remedy has been found. With regard to the remedy, however, I am alarmed to find it suggested that the universal establishment of provident dispensaries is an essential element. This is the finding not only of the "Fergusson" Committee thirty years ago, but also of the Birmingham Committee (1891). It is one of the articles of the Hospital Reform Association as well as of the Incorporated Medical Practitioners' Association. It may seem rash and not over-modest on my part, in the face of these authorities, to declare my opinion that this conclusion is both inconsequent and absurd. What are the hospital abuses? (1) Unsuitable cases; (2) unsuitable persons. First, the staffs of the hospitals are wearied and burdened by the number of trivial and unsuitable cases; secondly, the benefits of the hospitals are claimed by persons who are not entitled to receive them. If these are the abuses, what would a plain man say ought to be the remedy? Would it not be: "If the staffs are weary of trival cases, let them decline to attend them;" "If the benefits are claimed by improper applicants, let them be denied to them"? Why should the general practitioners of the country be called upon to establish "a series of provident dispensaries" in order to remedy the abuses of hospitals, which might be put a stop to by the action of the hospital authorities at once if they were so inclined? Why should it be "necessary" for the general practitioner to undertake to attend cases of typhoid and diphtheria at the contract rate of a shilling or two a year, in order that the hospital staffs may be relieved of their chronic ulcers and ingrowing toenails? Let the profession be careful lest, in remedying the abuses of the hospitals, they promulgate a system of cheap physic which would in the end degrade it.—I am, etc.,

R. HANSON WOLSTENHOLME, L.R.C.P.Edin., M.R.C.S.

Salford, Dec. 14.

SIR,—Dr. Herringham accuses me of misrepresenting what he has written, but unfortunately he advances no proof of his assertion. It is difficult for me to combat his assertion when he fails to point out where the misrepresentation occurs. If your readers will refer to my letter, they will find that I quoted the exact words of Dr. Herringham in his article in the *Medical Magazine;* and that I simply drew an inference from the number of "unsuitable" cases that he found on investigation. Perhaps it will meet with Dr. Herringham's approval if I quote the whole paragraph in which he relates his experience of the casualty department of his hospital:

> It is true that we have more cases than we can possibly examine thoroughly, though there are seven qualified men at work, and that in a certain number we come to a diagnosis from the patient's own statement. These are cases of indigestion, of sore throat, of cold, of lumbago, and the like. It would be no doubt better if we examined the hearts, lungs, and kidneys of all cases that come before us, but this can only be done if the number is considerably reduced, and I have never yet seen any practical suggestion how to do this without causing more evils than the present. If, for instance, those cases are selected which appear the more serious and the rest discharged without treatment, as is done, I am told, at St. Thomas's, you retain the present evil of cursory examination, since the medical officer does not thoroughly examine the cases he rejects, and you add thereto that many people whose complaints could easily have been relieved are sent away without any attempt to do so. Diagnosis is then made in exactly the same way as in our case, and the amount of relief of suffering is reduced to a minimum.

May I say that it is a pity that Dr. Herringham has not made himself acquainted with the method pursued at St. George's Hospital, and which has been described in detail by Dr. Isambard Owen? Dr. Herringham has no right to assume that the system pursued at St. George's and St. Thomas's is wrong until he is in a position to prove his statements. The whole case against St. Bartholomew's is that people are received and treated for ailments which are of a trivial character, and for which they could well afford to pay the small fees charged by a provident dispensary or a general practitioner. It seems to be idle to talk about the formation of committees of private medical men to report cases of abuse to hospital authorities when these authorities take no efficient means of discriminating between people who require hospital treatment and those who do not so require it. I have had some experience in Cardiff of the result of reporting unfit cases, and I am not prepared to ask my brethren to take the trouble I did in the matter. If Dr. Herringham will study the question a little more deeply, and will make himself better acquainted with what is done at other institutions, I think he will come to the same conclusion as the Hospital Reform Association has done, namely, that the out-patient department should be mainly limited to cases sent by medical men, and that the casualty department should be strictly limited to the treatment of cases of an urgent nature, both medical and surgical.

The schools of medicine are supposed to send men into practice thoroughly equipped for the treatment of disease, and if we find hospital medical officers constantly preaching that general practitioners are not competent to diagnose ordinary diseases, then the responsibility for such a condition of affairs must rest with those gentlemen who have undertaken the responsibility of properly educating the practitioners in question.—I am, etc.,

Cardiff, Dec. 20th. T. GARRETT HORDER,
Honorary Secretary Hospital Reform Association.

P.S.—A correspondent from Northampton suggests that the Hospital Reform Association should be brought more prominently before the notice of the profession, and we should be glad to do this if our funds permitted us to spend money on advertisements. Perhaps some of the members of the British Medical Association will kindly send us a Christmas box.

THE POOR-LAW OFFICERS' SUPERANNUATION ACT, 1896.

SIR,—On page 78 of the BRITISH MEDICAL JOURNAL of December 18th stands conspicuously an advertisement inserted by the Guardians of the Pershore Union which contains the following clause: "Preference may be given to candidates who agree to unconditionally and absolutely contract and bind themselves out of the benefits and provisions of the Poor-law Officers' Superannuation Act, 1896."

Now, sir, I have not to hand a copy of the document referred to, and am therefore not in a position to state whether or not the Pershore Guardians are within their rights in thus endeavouring to make a dead letter of Act wrung, after so many years' hard fighting, from an unwilling public by the Poor-law Officers' Association. But even if it does contain a contracting-out clause, it is to be devoutly hoped that no member of our profession will be found so totally forgetful of his duty, not only to his medical brethren but also to every non-medical officer in the Poor-law service, as to accept office under this retrograde Board on conditions so dishonourable.

The Pershore Guardians are, I believe, the first to make an open attempt to evade the responsibilities placed on all such bodies by the 1896 Act. Let it not be said that the medical profession was the first to furnish men willing to sacrifice the interests of thousands of deserving public servants for their own selfish ends, and the hope of securing the munificent sum of £50 a year.—I am, etc.,

JOHN J. TISDALL,

Liverpool, Dec. 18th. District Medical Officer, West Derby Union.

CORONERS AND MEDICAL WITNESSES.

SIR,—A lady, who had been a patient of mine for many years, was taken suddenly ill with cerebral symptoms while away from home in August last. She was seen by two medical men there, and on their advice removed to her home, near London, so soon as she appeared able to travel. She continued under treatment at home for nearly three weeks, when she became maniacal; and, having regard to her safety, it was considered necessary to remove her to a private asylum, where she died three weeks after admission. Notice of death was at once sent to the coroner, supplemented by a letter explaining the nature of her illness, and informing him that I was prepared to give a certificate of death in the ordinary way. As the case was one of great interest I obtained the consent of her husband to make a *post-mortem* examination after the body was removed home.

I heard nothing further until two days later, when a subpœna reached me from the deputy coroner to attend the inquest on the following afternoon. On the subpœna was a note that if I wished to do so, I could be present at the *post-mortem* examination to be held at the public mortuary, two hours before the inquiry. The result of the examination con-

ducted by a practitioner in the neighbourhood, was a complete confirmation of the diagnosis. After giving evidence at the inquest, the deputy coroner informed me that he was unable to offer me any fee, alleging as his reason for refusal that, having visited this poor lady twice at the asylum, I had acted as a medical officer of the House, under Sections XXIII and XXIV of the Coroners Act, 1887.

I communicated these facts to the Secretary of the Medical Defence Union, and the Council considered the subject to be of such vital importance to members of the profession, that immediate steps were taken by their solicitor, and the fee promptly recovered. I leave your readers to draw their own conclusions from this example of "Crowner's Quest Law." The question I wish to ventilate is, Whether there was any justification for the compulsory removal of the body to a public mortuary, having regard to the fact that her own home was within the jurisdiction of the same coroner? The proceeding caused much additional distress to the relatives in the sorrow of recent bereavement.—I am, etc.,

December 18th. MEDICAL WITNESS.

THE VACCINATION PROBLEM.

SIR,—Permit me to thank Dr. Bond for his courteous reply to my letter. I am sorry he has not paid more attention to the subject of calf lymph *versus* humanised, as the percentage of failures in the former is so high and the complications so severe. It would be a serious step to take and dismiss "arm-to-arm" vaccination until prolonged experience had demonstrated the superiority of animal lymph. Having tried both extensively, I prefer select immunised lymph. I admit that "compulsory inspection" would go far to meet my objections, and in order to encourage "efficient vaccination" a fee of 2s. 6d. should be paid by the vaccination authority for each successful vaccination as in compulsory notification. The public stations should be retained for the reasons stated in my last letter.

Dr. Bond thinks that my "experience of the present method of enforcing infant vaccination has been unusually favourable." By no means. I attribute my comparative success (1) to the zeal and assiduity of the vaccination officer who "looks them up," and can account for every child born in his district; and (2) to the careful selection of vaccinifers and the equally careful performance of the operation. Nothing will compensate for carelessness in either respect, and most of the prejudice against vaccination has resulted from either gross ignorance on the part of the vaccinator, or inattention to necessary details.

Touch the infants lightly and quickly, and above all warn the mother to leave the arm severely alone, and to guard the vesicles from friction as she would her own honour. Dip your lance after each vaccination in clean water or an antiseptic solution, and wipe it with a bit of silk or boric lint and so on and you will see very few "bad arms" and hear fewer complaints against vaccination.

I have a final word to say on the postponement of the age of compulsory vaccination to a year, or to "school age" as suggested by the Jenner Society through Dr. Bond. All mothers agree that the younger the child when vaccinated the less trouble it gives, and to them and to their husbands this is a matter of great moment, as disturbed nights mean disturbed days, dissatisfaction and grumbling at both operator and operation.

Again, all vaccination officers agree that to trace children after six or twelve months is well nigh impossible among working people; and supposing the law allowed "determined objectors" to escape during the first year, would not their example be contagious in the present state of public opinion, until all would become "determined objectors," and I doubt very much if the same objections would not hold good at "school age." It is not a question of "time" with the antivaccinator, but of principle or prejudice or out-and-out ignorance. The mother's stock arguments are: "It is cruel; I hate it; it is a great shame; I won't have it done." Dr. Bond thinks he will compromise the matter with objecting parents. It is impossible. Were I not convinced that vaccination is the only reliable prophylactic against small-pox mortality in infancy I would have none of it, for it is a thankless performance at the best, and it is because of this conviction that I have ventured to protest against the suggestion of the Jenner Society to postpone the age to a year or more, as in practice this will virtually abolish infant vaccination.—I am, etc.,

East Sheen, Dec. 20th. ALEXANDER MCCOOK WEIR.

SIR,—Of all the innovations and suggestions which have lately been made with a view of making vaccination more general and acceptable to the public, I have looked upon the recommendation of calf vaccine as the one solid piece of sound and indisputable improvement. It is therefore with regret and with surprise that I see in the BRITISH MEDICAL JOURNAL of December 11th an indictment against calf lymph from a correspondent who seems to have given it a fair trial, but to have chiefly gained his unfavourable experience many years ago. I refer to Dr. McCook Weir's letter in the JOURNAL for December 11th. His objections, which he sums up as high percentage of failures, very bad arms, and frequency of papular eruptions, may have had some justification at the time he made his first trials of calf vaccine. At that time certainly it did not always keep very well, and bad arms and skin eruptions were not so very uncommon.

But I venture to think that the great bulk of doctors who, when using calf lymph, have made it a rule to observe the desirable slight modifications of the old practice, who scrupulously observe absolute cleanliness, and who obtain their supplies from a well-accredited source, will have a different tale to tell. So far from being frequent, failures are the rare exceptions, and generally due to some accidental cause. It happens—for example, as it did the hot summer of 1893—that the lymph from a calf or two gives rise, for some unknown reason, to an unusual number of failures.

With regard to bad arms, I am confident that, when they occur, they are not generally due to the vaccine itself; so, for example, when ulceration or undue inflammation is observed in one patient only, while a number of others vaccinated from the contents of one and the same tube show nothing abnormal, and all the rest from the same calf acts well.

Slower action and prolonged convalescence again are in no way frequent and not characteristic of calf, as compared with humanised, lymph. The former objection would not in itself constitute a disadvantage, as, on the other hand, precipitated action would do; and if, as your correspondent rightly suggests, some of the faults he has found are due to impurities in the lymph used, his verdict goes against the impurities but not against calf lymph as such.

It remains surprising that even with glycerinated calf vaccine his percentage of failures should still be high. This contrasts strangely with results obtained by many vaccinators, who, after prolonged and extensive use of his preparation, have yet to encounter their first, or may be second, failure. While agreeing with several of Dr. Weir's opinions in his criticism in other respects, I hardly think he has done justice to the claims of calf vaccine. He has nothing to say in its favour, not even its freedom from suspicion of syphilitic contamination, nor the advantage of having unlimited supplies available in times of small-pox epidemics.

I think the growing preference of mothers for calf lymph is justified and deserving of encouragement. It disarms, moreover, a section of antivaccinists who, while not doubting the prophylactic value of vaccination, still oppose it from fear of having other diseases from which the human vaccinator may suffer transmitted in the practice.

These are points which cannot be ignored when it is intended to promote the adoption of vaccination by legislative and other measures.—I am, etc.,

C. RENNER, M.D.

Establishment for Vaccination with Calf Lymph,
186, Marylebone Road, Dec. 12th.

A BISHOP ON SUNDAY RECREATION.

SIR,—"The Sabbath was made for man." These words begin an article in the BRITISH MEDICAL JOURNAL of December 4th. They are words of our Lord, which are often perverted from their proper meaning. He gives us liberty to do good on the Sabbath, but for golfing, dancing, theatricals, worldly festivities, and routs and riots on the Sabbath, He gives no liberty at all. We are told that "we should consider the Sabbath a delight, the holy of the Lord, honour-

able, and should honour Him, not doing our own ways, nor finding our own pleasure, nor speaking our own words."

The Bishop of Chester's pastoral letter is calculated to assist in spreading the French mode of spending the Lord's Day in England, although the French working men are endeavouring to free themselves from the trammels of Sunday labour in order that they may be able to spend their Sabbaths in peace and comfort with their families, as is the case for the most part still in England.

The views and opinions of the late Archbishop of Canterbury on this subject are quite opposed to those of the Bishop of Chester. In his Diocesan Conference in 1895 the Archbishop in plain terms spoke of the desecration of the Sabbath, especially by the upper classes, and of the bad examples they were showing. The Archbishop adds: "It will go ill with this country if the Sunday abuses are not stopped. I am not speaking too strongly. A layman was talking to me the other day on this matter till he cried." It is to be hoped that the vast majority of the members of the British Medical Association are at one with the views of the late Archbishop Benson. Many of the best and wisest men of the day deplore the decadence from the old paths which is taking place.

The sports and pleasures and the running to and fro entail a vast amount of labour, and if this kind of work is insisted upon why not insist on labour in general, and in this way the working man runs a fair chance of losing his day of rest. Now that hygiene has become a positive science it confirms the moral and material necessity for a temporary rest on the seventh day "for the whole man, body, mind, and spirit."—I am, etc.,

WILLIAM O'NEILL, M.D., M.R.C.P.Lond., etc.

Lincoln, Dec. 8th.

ILLUSTRATED BIOGRAPHIES.

SIR,—One of our local weekly journals has now for some little time been publishing the portraits of prominent townsmen with full biographical details appended. Having exhausted the lay element attention is now turned to the medical profession. On December 9th the managing director of the newspaper referred to waited upon me, with the request that I would begin the series, and have my photograph taken by an artist whom he named, and of course free of all expense. I declined, on the ground that what was proposed would, in my opinion, be simply a case of laudatory self-advertisement, and consequently a breach of professional etiquette. I shall be glad to know if you uphold me in this view.—I am, etc.,

December 10th. AD CAPTANDUM VULGUS.

*** We believe that the course taken by our correspondent is correct, and that his action will be generally approved of by the members of the medical profession.

OBITUARY.

HENRY CHURTON, M.R.C.S., L.S.A.,

Coroner for Birkenhead.

BY the death of Mr. Henry Churton, briefly alluded to in the BRITISH MEDICAL JOURNAL of December 18th, the profession has lost one of its oldest members, and one whose name has been before the public for many years as the senior coroner of England. He was a native of Whitchurch in Cheshire, where he was born on December 3rd, 1813, and was educated in the Grammar School of that town. In 1830 he was apprenticed to Dr. Gaitskill, of London, and the following year began his xperience of Asiatic cholera, and made *post-mortem* examinations on cases of that disease at a time when several eminent practitioners declined to do so. He subsequently studied at Guy's and St. Thomas's Hospitals, and became a Member of the Royal College of Surgeons and a Licentiate of the Society of Apothecaries.

In 1837 he commenced practice in Chester, and the following year he married Miss Caroline Gaitskill, of St. John's Wood. Although Mrs. Churton died several years before her husband, she lived to celebrate her golden wedding. Mr. Churton was elected coroner for West Cheshire in 1841, an office which he retained until March in the present year, when he retired owing to failing powers.

In 1878, after the town of Birkenhead was granted a corporation, a deputation from that body waited on him asking him to accept the appointment of coroner to the borough, and he held this office up to the time of his death. In 1845 he became tenant of West Mount, a beautiful residence which he afterwards purchased, overlooking the river Dee, and here he continued to reside for the rest of his life.

His career was an extremely active one, his duties requiring him to undertake long and frequent journeys, often in districts where, until recently, the railway system was scarcely at all developed, and his yearly travels in the county extended to many thousand miles.

Though occasionally somewhat brusque and austere in the conduct of his inquiries at inquests, he invariably evinced a sympathetic feeling for bereaved persons, and his kindly remarks were much appreciated by juries. By some of the oldest inhabitants of Chester he was known as an exceedingly shrewd and skilful medical man, and his knowledge of medicine was often of great advantage to him as coroner. He was a painstaking officer in the discharge of his onerous duties, and during recent years, notwithstanding his advanced age, he conducted with consummate skill inquiries into cases which afterwards grew into important assize trials. He was appointed on the Commission of the Peace in 1878, and for several years acted as *ex officio* member of the Chester Board of Guardians. He leaves a family of three sons.

The funeral took place at Christleton Churchyard, near Chester, on December 17th, and was attended by a large group of mourners, including the mayors of Chester and Birkenhead, and by other official personages in the county.

ON December 15th Dr. WILLIAM ALEXANDER GAVIN, of Strichen, Aberdeenshire, died in his 81st year. From 1837 to 1877 he devoted himself to his profession, and established a high reputation as a practitioner. Besides the keen interest of a sportsman he possessed considerable talent for music, and at the same time took an energetic part in the development of educational matters in his parish. The breadth of his sympathies, his shrewd common sense, and his dignity of character will be long remembered by the community among which he lived.

NAVAL AND MILITARY MEDICAL SERVICES.

CASUALTIES AND INVALIDING ON THE FRONTIER OF INDIA.

To the total casualties, up to October 28th, given in the BRITISH MEDICAL JOURNAL on November 27th, namely, 1,090, of which 247 were killed, have to be added 265 more to complete to November 15th, which now brings us up to a grand total of 1,355 casualties, that is, 339 killed and 1,016 wounded. In the British regiments 9 officers have been killed and 30 wounded, while in the native regiments there were 18 officers killed and 30 wounded. The number of British soldiers invalided from wounds and sickness during field service is so large that special arrangements will be made for sending them home during the trooping service which has begun.

ENTERIC FEVER IN INDIA.

IN consequence of the heavy mortality from enteric fever among British soldiers in India, the Government of India has under consideration a proposal to apply to the Home Government for a loan of the services of Dr. A. E. Wright, Professor of Pathology at Netley, for a period of four months; possibly with a view to vaccination against typhoid, which we noted on November 6th. We understand that no definite arrangements upon this matter have yet been made.

Respecting the mortality from enteric in India, we may give the following numbers in the years 1891 to 1895 inclusive:—

Year.	Admissions.	Deaths.
1891	1,348	380
1892	1,506	374
1893	1,402	370
1894	1,484	408
1895	1,544	383

Total in five years, deaths 1,915, equal to approximately nearly two battalions at full strength. The inefficiency and invaliding are not here considered.

In consequence of the large number of deaths from enteric at Agra, a Special Committee, composed of the military, municipal, and cantonment authorities, will shortly be assembled to inquire into the cause of the outbreak. The establishment of a Government dairy for the supply of milk to the troops and hospitals is under consideration.

VOLUNTEER MEDICAL OFFICERS' EXPENSES.

SURGEON-LIEUTENANT.—The only reason that has ever been assigned, so far as we are aware, by the War Office for withholding the £20 grant to medical officers is that no such difficulty is found in filling the vacancies as is encountered in the case of the combatant officers.

THE IGNORING OF REGULATIONS.

A CORRESPONDENT avers that Section XXI, para. 15, Queen's Regulations, which directs that all sanitary matters must be referred to the Principal Medical Officer, and by him submitted to the General Officer commanding, is, as a rule, ignored. He suggests that the Secretary of State for War should call upon the principal medical officers of districts to report how the rule works, and how it is carried out It would open his eyes, as well as those of the public, to the cool way regulations are ignored where the Medical Service is concerned.

THE PRINCIPAL MEDICAL OFFICER, RANGOON DISTRICT.

SURGEON-COLONEL J. MCGANN, I.M.S., P.M.O. Rangoon District, having expressed his intention of retiring, Surgeon-Major J. Smyth, who is acting for him at Mysore as Durbar Physician, will be confirmed in the appointment. Surgeon-Colonel McGann was for many years Residency Surgeon and Durbar Physician at Bangalore (Mysore), and had a large civil practice.

FURTHER MEDICAL AID FOR THE FIELD.

THE Military Department has asked for ten more officers of the Indian Medical Service for field duty.

THE ARMY MEDICAL RESERVE.

JUSTICE writes: The acceptance of charge of troops by officers of the Reserve is optional; all they have is a "prior claim" for employment if they so desire, see para. 6, Secretary of State's Instructions, Royal Warrant of February 18th, 1888; also, Army Order, January 27th, 1889, which ordains that "the Secretary of State has no intention of calling upon officers of the Army Medical Reserve to perform any local duties with regular troops which would interfere either with their private practice or their regimental duties, except under such circumstances as would apply equally to all members of their respective corps."

COTOPAXI writes: I wonder if it has ever occurred to members of the Reserve what they would do with their private practices in the event of their services being needed by the War Office in a case of sudden emergency? Who would be their *locums* if called away? Would military glory and contract rates compensate for loss of private practice when they returned?

*** The questions propounded by our last correspondent have often been asked but never answered. The individuality of the practitioner is so intimately bound up with his practice, that, on this ground alone, the medical volunteer seems to us to risk more and give more to the State, in the event of mobilisation, than perhaps any other class of Volunteer officer.

THE PRINCIPAL MEDICAL OFFICER WITH THE ARMY IN THE FIELD.

OBSERVER.—We shall be much surprised if, in the expected discussion on Army matters in Parliament, the recent regulation excluding the principal medical officers of an army in the field from the staff of the general in supreme command, will not meet with emphatic public, as well as military, condemnation. The War Office will have to show very cogent military reasons indeed for the retention of an order so contrary to common sense, not to speak of common humanity towards the gallant soldiers. The man of average intelligence refuses to believe that the true place for the indispensable official who is responsible for the succour and transport of wounded men in the front is out of sight and hearing in the rear. It is too absurd. How differently the great Napoleon treated his chief medical officer, whom he kept ever near him

A ROYAL MEDICAL CORPS.

A SURGEON-GENERAL (RETIRED) pleads for the title of "Royal Medical Corps" in the expected reorganisation of the Medical Service, on the following grounds: (1) The title has already been recommended by Lord Camperdown's Commission; (2) All army surgeons already belong to Royal Colleges or Universities; (3) The long and devoted record of service by army medical officers on the battlefield, including many Victoria Crosses. Such an honourable title, granted by Royal favour, would be a prized recognition of past services, and a great encouragement for the future. If the matter were submitted to the highest authority, it would doubtless receive cordial attention.

*** We entirely sympathise with the sentiments of our correspondent, but would again remind him, and others, that the designation "Royal," before a regiment or corps of the army, is a title in the gift of and conferred by the gracious favour of the Sovereign, in a Royal Warrant. The title recommended by the Camperdown Commission was "Royal Medical Staff," but that would be inappropriate in a Consolidated Corps. We trust in a reorganisation of the Army Medical Service that important recommendations of the Camperdown Commission will not be lost sight of.

CONDITIONS OF SERVICE IN THE MEDICAL STAFF.

A CORRESPONDENT writes: For the past ten years, and especially since 1891, the medical department has been steadily going downhill. The conditions of service are becoming very hard; foreign tours are now all five years, and, as the staff at foreign stations is only barely sufficient for the work, with no margin for sickness or leave, it is strained to breaking point. Such strain renders due medical attention to important cases of disease unsatisfactory and sometimes impossible; inefficiency cannot but result. The Medical Staff is becoming practically a foreign service body, and as such must continue while the so-called "reservists" at home take on duty at cheap rates. Things must go from bad to worse in an accelerated ratio unless reforms are speedily adopted. The department has lost 72 officers by death and retirement since January, 1896, and will soon only be manned by the senior rank. There is no more loyal or unselfish body of men than the army medical officers, but their good feeling is sorely tried. No one worth his salt in civil life should think of entering the service under present conditions.

A CORRESPONDENT, with whom we quite agree, says that the new West India tour of five years is too long. Why not, he suggests, follow the Mauritius and Cape precedent of interchange of two and three years respectively, between the West Indies and Halifax, or the Cape? The suggestion, we think, is a good one, and should not be lost sight of. Change and variety, especially from little tropical islands, is good physically and morally.

WE learn from India that one result of the Frontier war, and the straits into which it has driven the medical services, is that medical officers who have completed five years in that country will be retained temporarily. Of course, the exigencies of war set aside all regulations, but this extension of the tour is the direct result not of the war, but of the paucity of medical officers. In fact, we foresee that the so-called concessions, shorter hours, ordinary and study leave, etc., will, and must, all fall through, while the establishment is undermanned. A correspondent asks the Reserve at home to think of the "sweating" that goes on in India!

MEDICO-LEGAL.

TRIAL OF "MADAME" GRAHAM.

MINNIE CHRISTINA GRAHAM, otherwise "Madame" Graham was put on trial at the bar of the High Court of Justiciary in Edinburgh on December 13th. The *Edinburgh Evening Despatch* states there were "four charges of illegal practices" said to have been committed between June 5th and October 5th last.

From the evidence it would appear that the prisoner passed herself off to a chemist as an M.D., U.S.A. Many ladies visited her rooms, there being sometimes six, seven, and thirteen lady patients in a day, and a number of instruments were discovered in her possession when she was arrested.

After a short deliberation the jury found a verdict of "Guilty," and the Lord Justice Clerk sentenced the prisoner to five years' penal servitude.

UNQUALIFIED ASSISTANTS.

ASSISTANT.—We fail to understand the exact force of our correspondent's statement that he is qualified in medicine and midwifery, and not in surgery. What are the diplomas that he holds?

BONDS OR CONTRACTS IN RESTRAINT OF PRACTICE.

M.B., C.M.—A correspondent inquires whether the usual bond is in any way legally binding. He adds that the usual bond in his case is to the effect that if he starts practice within five miles he will forfeit a large given sum.

*** In reply to the general question, if the usual bond is reasonable in its restraint and was entered into for good consideration, it would be legally binding. On the particular question as to the bond to which our correspondent refers we think it might be held to be reasonable, but the form of it would require careful consideration before we could say that the whole amount to which he alludes could be recovered as liquidated damages, and legal advice should be taken on the form of the bond and all the circumstances attending it if our correspondent contemplates practising within the prescribed limits.

CORONERS AND INQUESTS.

D. R. calls our attention to a case in which he was called one night to see the body of a man who was found dead in his garden, and found that he had been so for three or four hours. Our correspondent reported these facts to the coroner's officer, telling him at the same time that the cause of death was unknown, and that to ascertain it a *post-mortem* examination would be necessary. Two days afterwards the coroner's officer called and said that there would be no inquest, as the coroner thought the man had died from syncope. Upon this decision, the family were much dissatisfied, as there were some suspicions that as the wife of the deceased was of unsound mind, and as there had been a violent quarrel between them the same evening, the death might not have arisen from natural causes. The coroner, however, though pressed by the son, declined to change his decision, but told him that his doctor might make a *post-mortem* examination, but that he (the son) must pay for it. A *post-mortem* examination was afterwards made at the expense of the relatives, and death was found to be due to natural causes. Our correspondent further states that he could cite many similar cases in his locality, where the coroner has declined to hold an inquest, and he inquires as to the reasons that may hinder the coroner from taking the usual course in such cases.

*** The law clearly directs that the coroner shall hold an inquiry "in all cases of sudden death where the cause of the death is not known," and the case in question appears to be a typical one where an inquest should have been held, more especially as some suspicions existed from circumstances stated by the relatives, that the death might have arisen otherwise than from natural causes. The coroner has, however, large discretionary powers, and the practice of coroners is by no means uniform throughout the kingdom, although of late years the establishment of the Coroners' Society of England and Wales has tended to promote a more harmonious course of action in the decisions and mode proceedings in the coroners' courts, as well as regards more careful preliminary inquiries. Laxity in the holding of inquests undoubtedly opens the door to crime and the doers of evil are quick to perceive t

loopholes of escape. A coroner should certainly be vigilant in his calling, but at the same time, as "Jervis on Coroners" says: "he should exercise his duties within the limits of a sound and reasonable discretion." In the present case it may be questioned whether the coroner did exercise a sound discretion in refusing to hold an inquest. If a coroner systematically neglects his duties anyone can call the attention of the Lord Chancellor to the fact, but before doing so the complainant should well satisfy himself that any alleged neglect in holding inquests is prejudicial to the security of life, or contrary to the duties of the office as defined by statute law or established custom.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF CAMBRIDGE.

THIRD EXAMINATION FOR MEDICAL AND SURGICAL DEGREES.—Part I: The following candidates have satisfied the Examiners:—

W. C. Ambrose, M.A., Cla.; Brincker, B.A., Joh.; Carsberg, B.A., Gonv. and Cai.; F. P. Cayley, B.A., Trin.; Collingwood, B.A., Gonv. and Cai.; Corner, B.A., Sid. Suss.; Delbruck, B.A., King's; E. R. Hunt, B.A., Trin.; M. B. Johnson, B.A., Trin. H.; E. K. Le Fleming, B.A., Cla.; Levick, B.A., Jes.; Lidderdale, Trin.; C. S. Myers, B.A., Gonv. and Cai; Peatling, B.A., Magd; Percival, B.A., Joh.; Reissmann, B.A., Joh.; Sandilands, B.A., Trin.; Sargent, B.A., Joh.; Tucker, B.A., Gonv. and Cai.

SECOND EXAMINATION FOR MEDICAL AND SURGICAL DEGREES.—The following candidates have satisfied the examiners:—

Part I. Pharmaceutical Chemistry.—H. Ackroyd, Gonv. and Cai.; Barton, B.A., Pemb.; Beckett, B.A., H. Selw.; Burroughes, Trin.; Butler, B.A., Emm.; H. J. Cardew, Cla.; Carey, B.A., Emm.; F. J. Child, B.A., Christ's; Cooper, Jes.; Crowther, Joh.; Dally, Joh.; Davies-Colley, B.A., Trin.; Dodd, Gonv. and Cai.; Dudley, H. Selw.; Elliott, Emm.; W. I. Evans, Joh.; Freshwater, Trin.; Geoghegan, B.A., Gonv. and Cai.; Goss, Jes.; Goyder, Joh.: Greene, Down.; C. H. Gregory, Emm.; Guthrie, King's; Harnett, Joh.; A. W. Harvey, Joh.; H. G. L. Haynes, Down.; Henderson, B.A., Gonv. and Cai.; Hocken, Cla.; Holtzmann, Christ's; A. C. Ingram, Joh.; E. G. Kellgren, Trin.; Kidd, Trin.; Ledward, Trin.; Leighton, Joh.; Leveaux, Joh.; Lloyd-Jones, Joh.; Loveday, Gonv. and Cai.; Lucas, Gonv. and Cai.; Matthews, Down.; Murray, B.B., Joh.; Muspratt, Christ's; Nicholson, King's; Norman, B.A., Joh; Paton, B.A., Gonv. and Cai.; Pellier, B.A., Cla.; Rickett, King's; Riddle, Pet.; H. J.Robinson, Joh.; Rolfe, Cla.; R. N. Salaman, B.A., Trin. H.; Scarborough, Joh.; C. A. St. J. Scott, B.A., Trin.; Sephton, B.A., Gonv. and Cai.: Simpson, King's; Snell, Gonv. and Cai.: B. Spearman, Gonv. and Cai.; Spurrier, Gonv. and Cai.; W. M. Strong, B.A., Trin.; Tuck,Emm.; Ward, Cla.; L. Wigram, Trin.; A. G. E. Wilcock, Gonv. and Cai.; H. C. Williams, B.A., Pemb.; H. M. Wilson, Trin. H.; Woolley, King's; Wylie, Pemb.

FIRST EXAMINATION FOR MEDICAL AND SURGICAL DEGREES.—The following candidates have satisfied the Examiners:—

Part I. Chemistry and Physics.—Aldridge, Christ's; Armitage, Emm.; Beddow, Christ's; Bulley, Emm.; Butterworth, B.A., Christ's; Causton, B.A., Emm.; Cleminson, Gonv. and Cai.; Collingham, King's; Colt, Sid. Suss.; Cooper, Emm.; Cotes-Preedy, Emm.; Cutler, B.A., Cla.; S. Dixon, Trin.; Drapes, Sid. Suss.; R. S. Drew, Pemb.; Droop, Trin.; Ellett, Cath.; Ellis, Down.; H. Falk, King's; Frankenburg, Emm.; D. H. Fraser, Gonv. and Cai.: Gardner-Medwin, Trin.; Ghosh, Joh.; Gibb, Sid. Suss.; M. F. Grant, Trin.; E. Harrison, Trin.; P. Harrison, B.A., Christ's; Harry, Jes.; A. G. Harvey, B.A., Joh.; Heath, Trin.; W. R. Higgins, Gonv. and Cai.; Horsley, Gonv. and Cai.; Kerr, Christ's; Luker, Pemb.; O. May, Joh.; Mollison, King's; Muil, B.A., Gonv. and Cai.; Murphy, Joh.; Neatby, M.A., Joh.; Owen, Gonv. and Cai.; Page, Corp. Chr.; Plowright, Joh.; R. M. Ranking, Pemb.; G. L. Ranking, Pemb.; Rees, Down.; Slade, Cla.; Thresher, Gonv. and Cai.; Ticehurst, Joh.; Toppin, Gonv. and Cai.; A. C. Warren, Emm.; West, Joh.; Western, Pemb.; Wiltshire, Cla.

Part II. Elementary Biology.—Akerman, Gonv. and Cai.; Bacon, Christ's; Bulley, Emm.; Butterworth, B.A., Christ's; J. G. Castellain, Trin.; Cleminson, Gonv. and Cai.; Colt, Sid. Suss.; Crowfoot, Emm.; Curl, Christ's; Day, Gonv. and Cai.; Donnell, Gonv. and Cai.; Drapes, Sid. Suss.; Ellett, Cath.; Fox, B.A., Emm.; D. H. Fraser, Gonv. and Cai.; Ghosh, Joh.; Gibb, Sid. Suss.; Graham, Jes.; M. F. Grant, Trin.; Griffin, Pet.; Hall, Pemb.; P. Hardy, Trin. H.; Harris, Christ's; P. Harrison, B.A., Christ's; Hepburn, Pemb.; W. H. Hills, Pemb.; Hirst, Gonv. and Cai.; Hudson, Cla.; Irving, Joh.; Leech, Cla.; Leslie, Pemb.; Littlejohns, Gonv. and Cai.; C. G. Martin, Down; O. May, Joh.; Molteno, Pemb.; Newington, Gonv. and Cai; Page, Corp. Chr.; Panton, Trin.; Patrick, Christ's; Pellow, Joh.; Pope, Trin.; Prince, Emm.; Skene, Joh.; Toppin, Gonv. and Cai.; Western, Pem.; C. F. O. White, Trin.; E. K. Williams, Gonv. and Cai.; W. V. Wood, B.A., Cla.; Worthington, Cla.; S. L. O. Young, Christ's; Young, B.A., Emm.

UNIVERSITY OF DUBLIN.

AT the Winter Commencements in Michaelmas Term, held on Friday, December 17th, 1897, in the Theatre of Trinity College, the following degrees in Medicine, Surgery, and Midwifery were conferred:

Baccalaurei in Medicinâ, in Chirurgiâ, et in Arte Obstetriciâ.—G. J. S. Archer, F. B. Counihan, E. M. Fannin, T. E. Fielding, G. Glynn, A. M. MacLaughlin (B.Ch., *stip. cond.*), G. E. P. Meldon, W. F. Moore, T. Neill, J. W. J. Scott, W. B. A. Smith.

Baccalaureus in Medicinâ.—W. A. Higgins.

Doctores in Medicinâ.—C. Brew, F. H. M'C. Chetwode-Crawley, R. L. S. Donaldson, W. I. Donaldson, R. A. G. F. Dowdall, A. C. Duffey, R. Friel, J. Henderson, R. P. Hetherington, R. H. Kennan, H. E. Rutherfoord, W. Shackleton, S. H. Sharpe, J. Winder.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE following gentlemen having passed the necessary examinations, and conformed to the by-laws and regulations, have been admitted Fellows of the College:

E. H. Freeland, L.R.C P.Lond., L.S.A.Lond., Middlesex Hospital; C. S. Blair, M.D.Durh., Durham University and St. Bartholomew's Hospital; J. E. S. Barnett, L.R.C.P.Lond., Charing Cross Hospital; W. F. Cholmeley, L.R.C.P.Lond., St. Bartholomew's Hospital; C. H. D. Morland, M.B., B.S.Durh., L.R.C.P.Lond., Durham University and St. George's Hospital; G. E. Manning M.D.Lond., Guy's Hospital; A. E. Martin, M.D.Durh., L.R.C.P.Lond., Durham University and London Hospital; W. A. Bowring, L.R.C.P.Lond., St. Thomas's Hospital; A. Strange, L.R.C.P Lond., London Hospital; G. C. Hayes, L.R.C.P.Lond., Melbourne University and King's College Hospital; L. C. P. Phillips, M.B., B.C., M.A. Cantab., L.R.C.P.Lond., St. Bartholomew's Hospital: H. B. Dickinson, M.B.Lond., M.B., Ch.B.Vict., L.R.C.P.Lond., University College and Royal Infirmary, Liverpool, and St. Bartholomew's Hospital; L. J. Miskin, M.B., B.S.Lond., L.R.C.P.Lond., St. Thomas's Hospital; M. G. Pearson, M.B., B.Sc.Lond., L.R.C.P. Lond., St. Bartholomew's Hospital; W. C. G. Ashdowne, L.R.C.P. Lond., St. Mary's Hospital; A. H. Evans, M.B.Lond., L.R.C.P.Lond., Westminster Hospital; B. Dyball, M.B.Lond., L.R.C.P.Lond., St. Thomas's Hospital; J. P. Maxwell, L.R.C.P.Lond., St. Bartholomew's Hospital; J. Smith, M.B., B.C., M.A.Cantab., L.R.C.P.Lond., Cambridge University and St. Thomas's Hospital; J. B. Christopherson, M.B., B.C.Cantab., L.R.C.P.Lond., Cambridge University and St. Bartholomew's Hospital; H. S. Pendlebury, M.A.Cantab., L.R.C.P. Lond., Cambridge University and St. Bartholomew's Hospital.

Three other gentlemen passed the examinations, but not having yet attained the legal age of 25 years will receive their diplomas as Fellows at future meetings of the Council.

Thirteen gentlemen were referred for six months and 6 for one year.

The following gentlemen having passed the necessary examinations have been admitted Licentiates in Dental Surgery:

J. U. Alder, University College, Royal Infirmary and Dental Hospital, Liverpool; C. Ashby, Charing Cross and the Dental Hospital of London; G. O. Betts, Guy's Hospital, Dental Department and School; E. Bevington, University College, Royal Infirmary and Dental Hospital, Liverpool; F. Billing, Charing Cross and Dental Hospital of London; S. Bonnalie, Charing Cross and Dental Hospital of London; S. Bradford, Charing Cross and Dental Hospital of London; T. W. Bromley, Guy's Hospital, Dental Department and School; H. A. G. Butler, Guy's Hospital, Dental Department and School; H. A. E. Canning, Guy's Hospital, Dental Department and School: J. K. Clark, Guy's Hospital, Dental Department and School; F. E. Corin, Guy's Hospital, Dental Department and School; J. M. P. Crombie, M.B. and B.S.Aberd., Guy's Hospital, Dental Department and School; H. L. Dorrell, Guy's Hospital, Dental Department and School; E. B. Dowsett, Guy's Hospital, Dental Department and School; A. Drake, University College, Royal Infirmary, and Dental Hospital, Liverpool; H. H. Gudgeon, Middlesex Hospital and National Dental Hospital; A. H. Harris, Middlesex Hospital and National Dental Hospital; J. W. Hislop, Charing Cross and Dental Hospital of London; S. J. Holford, Charing Cross and Dental Hospital of London; T. H. Hulme, London Hospital and the National Dental Hospital; E. Joseph, Charing Cross and Dental Hospital of London; A. M. Kempe, Guy's Hospital, Dental Department and School; A. Kendrew, Guy's Hospital, Dental Department and School; H. Kenyon-Jeffs, Charing Cross and Dental Hospital of London; R. H. Manning, St. George's and Dental Hospital of London; G. Marshall, Guy's Hospital, Dental Department and School: T. H. Miller, M.B., Ch.B.Vict, Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; N. Miller, Charing Cross and Dental Hospital of London; R. H. Moore, Charing Cross and Dental Hospital of London, and Meath Hospital, Dublin; H. J. Morris, Charing Cross and Dental Hospital of London; J. M. Murphy, Charing Cross and Dental Hospital of London; E. H. Musgrove, Guy's Hospital, Dental Department and School; A. H. Parrott, Mason College, Queen's and General, and the Dental Hospital, Birmingham; A. G. Peck, Charing Cross and Dental Hospital of London; G. A. Pedley, M.R.C.S.Eng., St. Mary's, National Dental, and Guy's Hospital, Medical Department and School; J. B. Petley, Charing Cross and the Dental Hospital of London; C. H. Preston, F.R.C.S.Eng., Owens College, Royal Infirmary, and Victoria Dental Hospital, Manchester; S. J. Redpath, Guy's Hospital, Dental Department and School; J. C. Round, M.R.C.S.Eng., St. Thomas and National Dental Hospital; W. A. Schlesinger, Charing Cross and the Dental Hospital of London; E. T. Shields, University College, Royal Infirmary, and the Dental Hospital, Liverpool; V. G. Smith, Guy's Hospital, Dental Department and School; C. B. Stainer, Guy's Hospital, Dental Department, and School; G. W. Storey, Middlesex and the National Dental Hospital; B. J. Sumerling, Guy's Hospital, Dental Department, and School; C. B. Thomas, Middlesex and the National Dental Hospital; E. Tilley, Middlesex and the National Dental Hospital; W. J. Trembath, Dental Hospital and School of Ireland, and Royal College of Surgeons, Dublin; E. E. Turner, Mason College, Queen's and General and the Dental Hospital, Birmingham; A. William Walker, Guy's Hospital, Dental Department, and School; A. West Walker, Mason College, Queen's and General and the Dental Hospital, Birmingham; F. Ward, Guy's Hospital, Dental Department, and School; M. White, Charing Cross and the Dental Hospital of London; W. Wilmore, Guy's Hospital, Dental Department, and School; J. C. Wing, Middlesex and the National Dental Hospital; C. C. Wood, Mason College, Queen's and General and the Dental Hospital, Birmingham.

Twenty gentlemen were referred back to their professional studies for six months, and 1 for one year.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

The following gentlemen, having passed the requisite examination, were yesterday duly elected Fellows of the College:

B. H. Nanavatty, L.R.C.S.E.; J. Gray, M.B., C.M.Edin.; H. Bramwell, M.D.Edin.; W. D. Barrow, M.B., C.M.Edin.; B. S. Story, L.R.C.S.E.; P. B. Giles, M.R.C.S.Eng.; H. G. Thomasz, L.R.C.S.E.; and H. G. Parker, L.R.C.S.E.

SOCIETY OF APOTHECARIES OF LONDON.

Pass List: December, 1897. The following candidates passed in:

Surgery.—M. E. Bennett (Section 1), Royal Free Hospital: J. C. R. Curtis, University College Hospital; R. H. Hill, New York and Middlesex Hospital; E. J. Jennings, Edinburgh; P. D. Pywell, St Thomas's Hospital.

Medicine.—F. M. Aldred, Liverpool; C. J. Barnes, King's College Hospital; A. L. Bartram, Cambridge; M. E. Bennett (Section 1), Royal Free Hospital; A. D. Evans, Edinburgh; J. H. C. Fegan, Charing Cross Hospital; M. P. Gabe, Middlesex Hospital; B. Lewitt, St. Mary's Hospital; P. C. Maitland, Middlesex Hospital; G. L. Meredith, London Hospital; H. Munro, Guy's Hospital; G. C. Walker, Liverpool.

Forensic Medicine.—C. J. Barnes, King's College Hospital; A. L. Bartram, Cambridge; M. E. Bennett, Royal Free Hospital; A. D. Evans, Edinburgh; J. H. C. Fegan, Charing Cross Hospital; B. Lewitt, St. Mary's Hospital; P. C. Maitland, Middlesex Hospital; G. L. Meredith, London Hospital; H. Munro, Guy's Hospital; B. J. Nolan, Dublin; A. H. Turner, London Hospital; G. C. Walker, Liverpool.

Midwifery.—A. D. Evans, Edinburgh; J. H. C. Fegan, Charing Cross Hospital; E. J. Jennings, Edinburgh; G. L. Meredith, London Hospital; B. J. Nolan, Dublin; C. C. Pratt, St. George's Hospital and Bristol; G. C. Walker, Liverpool.

The diploma of the Society was granted to Messrs. R. H. Hill, E. J. Jennings, G. L. Meredith, P. D. Pywell, and A. H Turner.

PUBLIC HEALTH AND POOR-LAW MEDICAL SERVICES.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns, including London, 6,638 births and 4,352 deaths were registered during the week ending Saturday last, December 18th. The annual rate of mortality in these towns, which had been 19.8 and 20.8 per 1,000 in the two preceding weeks, declined again to 20.6 last week. The rates in the several towns ranged from 14.1 in West Ham, 14.2 in Croydon, 14.4 in Cardiff, and 14.6 in Portsmouth, to 4.0 in Birmingham, 25 3 in Sunderland, 26.2 in Blackburn, and 27.9 in Norwich. In the thirty-two provincial towns the mean death-rate was 20 4 per 1,000, and was 0 6 below the rate recorded in London, which was 21 0 per 1,000 The zymotic death-rate in the thirty-three towns averaged 2.7 per 1,000; in London the rate was equal to 3.4, while it averaged 2.1 per 1,000 in the thirty-two large provincial towns, among which the highest zymotic death-rates were 3.4 in London and in Bristol, 4.7 in Sunderland, 4,2 in Swansea, and 5.2 in Blackburn. Measles caused a death-rate of 1.8 in Oldham, 2.9 in Bristol, 3.2 in Blackburn, and 3 6 in Swansea; and whooping-cough of 1.1 in Sunderland and 1.9 in Norwich. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 94 deaths from diphtheria in the thirty-three towns during the week under notice included 63 in London, 4 in Liverpool, 4 in Birmingham, and 3 in Leeds. No fatal case of small-pox was registered during last week, either in London or in any of the thirty-two large provincial towns: and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital, which had been 3,818, 3,812 and 3,806 at the end of the three preceding weeks, had further declined to 3,733 on Saturday last, December 25th; 260 new cases were admitted during the week, against 375, 328, and 309 in the three preceding weeks.

HEALTH OF SCOTCH TOWNS.

During the week ending Saturday last, December 18th, 912 births and 606 deaths were registered in eight of the principal Scotch towns. The annual rate of mortality in these towns, which had increased from 18.5 to 20.2 per 1,000 in the four preceding weeks, further rose to 20.3 last week, but was 0.3 per 1,000 below the mean rate during the same period in the thirty-three large English towns. Among these Scotch towns the death-rates ranged from 13.6 in Perth and 15.2 in Leith to 21.0 in Glasgow and 31.3 in Greenock. The zymotic death-rate in these towns averaged 2.4 per 1,000, the highest rates being recorded in Glasgow and Greenock. The 289 deaths registered in Glasgow included 8 from measles, 6 from scarlet fever, 16 from whooping-cough, 2 from "fever," and 5 from diarrhœa. Three fatal cases of scarlet fever and 2 of diphtheria were recorded in Edinburgh; and 3 of measles and 8 of whooping-cough in Greenock.

DIPHTHERIA IN LONDON.

There was a further increase in the mortality from diphtheria in London last week. The fatal cases of this disease, which had been 63, 52, and 58 in the three preceding weeks, further rose to 63 during the week ending Saturday last, December 18th, and were 12 above the corrected average number in the corresponding periods of the ten preceding years. Of these 63 deaths, 9 were of persons belonging to Hackney, 9 to Camberwell, 5 to Islington, 5 to Lambeth, and 4 to Wandsworth sanitary areas. The number of notifications of diphtheria in London, which had been 313, 263, and 300 in the three preceding weeks, declined again to 288 during the week ending Saturday last. Compared with the preceding week, there was an increase in the prevalence of diphtheria in North and South London, but a decline in West, Central, and East London. Among the sanitary areas of West London there was a slight further increase in the number of new cases in Fulham, but elsewhere there was a general decline. In the principal sanitary areas of North London there was a marked increased in the prevalence of diphtheria, especially in Hackney, where 28 new cases were notified, against numbers steadily increasing from 14 to 19 in the four preceding weeks. In East London, however, the prevalence of the disease showed a marked decline, which was most marked in Poplar, where only 7 new cases were recorded, against 16, 14, and 23 in the three preceding weeks. In most of the sanitary areas of South London there was an increase in the prevalence of diphtheria, especially in Newington, Lambeth, Camberwell, and Greenwich. In the last-mentioned sanitary area 22 new cases were notified, against 11 in each of the two preceding weeks. In Battersea and Wandsworth, however, there was a marked decline in the prevalence of the disease; in the latter district the new cases, which had been 12, 15, and 28 in the three preceding weeks, declined to 17 last week. The admissions of diphtheria patients into the Metropolitan Asylum Hospitals during last week were 164, against 157, 145, and 165 in the three preceeding weeks; and 1,102 patients remained under treatment in these hospitals on Saturday last.

RESIDENCE OF DISTRICT MEDICAL OFFICER.

C. D. writes to ask whether it is legal for a Board of Guardians to appoint to a district a medical officer who is not resident in the parish, and by so doing pass over the claims of a fully-qualified man who is a resident there.

*** A Board of Guardians is not bound to appoint a resident as district medical officer, but in the event of a non-resident being appointed by them when a medical man residing in the district has been an applicant for the vacancy, the Local Government Board, before confirming the appointment, will require satisfactory reasons for the rejection of the resident candidate.

EXTRAS ORDERED BY MEDICAL OFFICER AND NOT SUPPLIED BY RELIEVING OFFICER.

B. states that he ordered extras for a pauper child which were not supplied by the relieving officer, and that he made an entry in his report to the guardians that these "had been refused by the relieving officer." The guardians having investigated the matter, decided that the relieving officer did not refuse to give the extras in question, and they have called upon our correspondent to expunge the entry. He asks whether they can compel him to do this.

*** It would appear that our correspondent made his report to the guardians simply on the statements of one or more paupers, and without any further corroborative evidence that the relieving officer did refuse to give the extras he recommended. His report would have been more accurate if he had stated that he had been informed that the relieving officer had refused to give these extras, and it would then have been strictly correct and would have required no alteration, whatever might have been the verdict of the guardians in reference to the action of the relieving officer. As the case now stands, B.'s report appears to be of doubtful accuracy, and if so it had better be expunged in accordance with the request of the guardians.

REMUNERATION FOR MEDICAL ATTENDANCE ON PATIENTS IN ISOLATION HOSPITALS.

Inquirer, who is a Poor-law district medical officer, writes to ask what the custom is in reference to payment for medical attendance on patients in an isolation hospital of a rural sanitary authority to which both paupers and non-paupers are admitted, and this when the medical officer of the district in which the hospital is situated is also the medical attendant of all the cases therein.

*** We believe that the custom varies much throughout the country in reference to this matter, and the fact of both paupers and non-paupers being admitted to the same hospital seriously complicates the question. The claim for medical attendance on non-paupers appears to us to be on the sanitary authority of the district for which the hospital is provided, and it is certainly so when the patients are removed to the hospital on a magistrate's order. In ordinary cases not of this latter class it is now very generally held that it is not advisable for any claim to be made by the sanitary authority on the patients or their friends for repayment of any expenses incurred by hospital treatment of infectious cases, as this would certainly tend to prevent many cases of this class being removed to hospital for treatment. The remuneration for attendance on pauper cases would probably be included in our correspondent's salary, as he would by law be compelled to attend all paupers in his own district when properly called upon to do so, whether suffering from infectious or any other disease.

Among the latest contributions received in aid of the Prince of Wales's Hospital Fund of London are £1,000 from the Fishmongers' Company, being the first annual instalment of £5,000 which the Company have agreed to give in five years. The Worshipful Company of Clothworkers have voted an annual subscription of £1,000 until further orders to the fund.

MEDICAL NEWS.

The Local Government Board has, by a circular addressed to guardians of the poor outside London, called attention to the Act of last session "to Amend the Law for the Better Protection of Infant Life." The Act will come into operation on January 1st, 1898.

The Council of the Yorkshire College have, on the recommendation of the Board of Medicine and Senate, created a Professorship of Public Health. Mr. R. N. Hartley, M.B., previously lecturer on the subject, has been appointed to the chair.

At a meeting of the Metropolitan Asylums Board on December 18th a report of the Children's Committee, recommending the purchase of a site comprising 49 acres at Swanley for the erection thereon of a school for children suffering from ophthalmia at a cost of £5,050, was adopted.

Owing to the resignation of Professor Kelly there is a vacancy in the Chair of Hygiene of King's College, London. It is stated that the candidates at present are Dr. Thresh, M.O.H. to the Essex County Council; Dr. Allen, M.O.H. to the Strand District; and Dr. Bushell Anningson, M.O.H. for Cambridge.

The dispute between Mr. E. T. Hooley and the Hospital Fund Committee at Nottingham has been amicably settled. At a meeting on December 18th it was stated that Mr. Hooley had paid over £7,221, and had instructed his bankers to pay over the remainder of the £10,000 as soon as a like amount was collected by the working men.

"Kismet."—Dr. Browne, of Brynmawr, lately stated to his authority that, when visiting a case of measles, three neighbours came, infants in arm, to help him, and were highly indignant at being turned out. To attempt to prevent children from taking measles they regard as trying to be wiser than Providence. Is it not worth while to try to convince such people that if they can merely postpone the attack of measles on their little ones for a few years they double the chance of their recovery?

Methylated Spirit Drunkenness.—For some years past intoxication with methylated spirit has been steadily increasing in London, though it does not prevail to any great extent. An old man was charged at Worship Street Police-court only last week with being drunk and disorderly and assaulting a constable. Methylated spirit was found on him, and the evidence disclosed the fact that the prisoner had frequently been charged before for offences committed while labouring under this form of drunkenness. He was sent to gaol for a month with hard labour.

Liverpool Northern Hospital Dinner.—The dinner of the residents, past and present, of the old Liverpool Northern Hospital will be held in the Exchange Hotel on Saturday, January 22nd; Dr. Frederick Roberts, of London, a former resident in the Northern Hospital, will take the chair. A large number of old residents, members of the Committee, and others who have been in various ways associated with the hospital, have promised to be present, and it is expected that the gathering will be a highly successful one, and a pleasant *réunion* of former friends and colleagues. Great credit is due to the present resident staff, to whom the happy idea presented itself of holding this dinner, and giving the old residents a chance of visiting the old building once more before it is pulled down to make way for the new one.

Homes for the Feeble-minded.—The Duchess of Sutherland makes an appeal for a sum of £2,000 in furtherance of the plans of the National Association for Promoting the Welfare of the Feeble-minded. The Association, founded about two years ago, claims that it has done good service, both in forming new homes for young persons of deficient intellect and co-ordinating those previously existing. The Society has now the opportunity of acquiring on advantageous terms the occupation free of rent of a block of cottage homes near London. The premises include a steam laundry and other accessories, which would render them suitable not only for the maintenance and education of the feeble-minded, but also for the training of matrons and teachers who would be available for other homes. It may be remarked that the Lunacy Commissioners, in their last report, refer approvingly to "suitable provision for an extensive and necessitous class of persons who are known as 'the feeble-minded.'" With due regard to the discrimination of appropriate cases as distinguished from certifiable idiots and imbeciles, we think that the new departure is likely to be of benefit to the community and worthy of the support of charitable persons. The Honorary Secretary of the Association is Miss F. A. Cooper, 49, Victoria Street, London, S.W.

Obstetrical Society of London.—The election of officers for 1898 will take place on Wednesday, February 2nd, 1898. The following is the balloting list recommended by the Council:—*President:* C. J. Cullingworth, M.D. *Vice-Presidents:* W. Duncan, M.D., J. H. Galton, M.D., *W. R. Dakin, M.D., J. B. Hurry, M.A., M.D. (Reading). *Treasurer:* *J. Watt Black, M.D. *Chairman of the Board for the Examination of Midwives:* Percy Boulton, M.D. *Honorary Secretaries:* J. Phillips, M.A., M.D., *H. R. Spencer, M.D. *Honorary Librarian:* *Amand Routh, M.D. *Other Members of Council:* *A. H. F. Barbour, M.D. (Edinburgh), J. Walters, M.B. (Reigate), J. Thompson (Nottingham), *G. F. Blacker, M.D., A. Nicholson, M.B. (Brighton), R. Pinhorn (Dover), T. W. Eden, M.D., *J. Dysart McCaw, M.D., F. J. McCann, M.B., C.M., W. Gandy, G. H. Pedler, *A. W. Addinsell, M.B., C.M., *J. Ford Anderson, M.D., *A. E. Giles, M.D., Angus Fraser, M.D. (Aberdeen), H. A. Des Vœux, M.D., C. H. Roberts, M.D., *G. E. Herman, M.B. Those gentlemen to whose name an asterisk is prefixed were not on the Council or did not fill the same office last year.

Quarantine of Persons Exposed to Yellow Fever at Jamaica.—A singular account appeared in the *Jamaica Daily Gleaner* of November 25th of the way in which ten persons were shut up in the post office at Shooter's Hill, where the assistant postmistress had died of yellow fever. The original statements were somewhat modified in the next issue, and amount to the detention, on medical advice, of the eight persons in the house, and the disinfection of the house and destruction of the bush around the building. The fatal case, it seems, was regarded as one of bilious remittent fever till shortly before death. Since the inmates were liberated from their ten days' quarantine several of them have been taken ill, two in the post office at Shooter's Hill, two at Santa Cruz, and one who left for May Pen after her illness commenced. One of the two remaining in the house died of yellow fever. It is not easy to ascertain from the accounts sent us how far the district medical officer may have been justified in his action, and how far, if quarantine was attempted, he may have been wise in granting *pratique* so early. The direct evidence of a near neighbour shows that great kindness was shown and every attention rendered to the sufferers both by Dr. Cook and by Dr. Beckwith. Yellow fever is one of those infectious diseases in the causation of which local conditions play an important part; and it is always desirable, if a period of isolation is to be insisted upon for those exposed to the infection, that such probationary period should be passed under the best sanitary conditions, and these are not necessarily to be found at the place where the disease has first manifested itself. With efficient and plentiful isolation hospitals, the rapid removal of patients to them and medical inspection of persons exposed to infection, quarantine might probably be entirely dispensed with. Dr. Cargill is said to be still optimistic as to the future of the outbreak.

Toynbee Hall.—"The impression left by the year's experience," writes the Warden of Toynbee Hall (the Rev. Canon Barnett) in his introduction to the thirteenth annual report of the Universities Settlement in East London for the year ending June 30th, 1897, "is like that left by a prosperous voyage through a cold zone. The measurable gain has been large, but it has been made in an atmosphere unwarmed by the fire of enthusiasm." From this we gather that the work of "Toynbee" has during the last year been progressing steadily along lines previously laid down, but that no startling fresh developments have been made. And this is just what the report tells us. The manifold branching to which the educational work has now extended is slowly

but surely bearing fruit and making a little summer of interest in the monotony of the labour life of the East End of London. Even "Toynbee" cannot expect to introduce startling innovations every year. On looking over the long list of authorities who have, on one subject or another, given lectures or otherwise assisted in the work of the institution, one cannot help being struck with the solidity of their subjects and with the eminence of the lecturers. When we read that lectures on Æschylus, Sophocles, Hebrew literature, economic literature, Browning, and practical biology and physiology have been largely attended, and that large audiences have freely come to listen to such men as Professor Clifford Allbutt, Mr. W. H. Preece, Mr. Victor Horsley, and Professor Flinders Petrie, we feel that the experiment of giving mental rather than bodily luxuries to the labouring man has indeed been justified.

MEDICAL VACANCIES.

The following vacancies are announced:

ABERDEEN: UNIVERSITY OF.—Two additional Examiners: (1) Materia Medica for a period of three years; (2) Medical Jurisprudence and Public Medicine for a period of one year. Applications to Robert Walker, Secretary, by January 4th, 1898.

BATH ROYAL UNITED HOSPITAL.—Resident Medical Officer; must be M.R.C.S., and either L.R.C.P. or L.S.A. Appointment for three years. Salary, £100 per annum, with board, lodging, and washing. Also House-Surgeon, must be M.R.C.S.Eng. Appointment until October 1st, 1898. Salary at the rate of £60 per annum, with board, lodging, and washing. Applications to W. Stockwell, Secretary, for the former by December 28th, and for the latter by December 20th.

BOURNEMOUTH ROYAL VICTORIA HOSPITAL.—Ophthalmic Surgeon; must be F.R.C.S. Applications to the Secretary by February 1st, 1898.

BRIGHTON, HOVE, AND PRESTON DISPENSARY, Queen's Road, Brighton.—House-Surgeon to the Western Branch. Unmarried and doubly qualified. Salary, £140 per annum, with furnished apartments, coals, gas, and attendance (no board). In the event of a House-Surgeon for any of the other Branches being elected, the vacancy so caused will be open to such candidates as may apply in the alternative for the same. Salary at Northern Branch £140, with furnished apartments, coals, gas, and attendance (no board). Applications to the Assistant Secretary before January 1st, 1898.

BRIGHTON: SUSSEX COUNTY HOSPITAL.—House-Physician. Doubly qualified; unmarried, and when elected under 30 years of age. Salary, commencing at £50 per annum, with board and residence in the hospital. Applications to the Secretary by January 12th, 1898.

CARDIFF PROVIDENT DISPENSARY.—Additional Members to the Medical Staff. Applications to the Honorary Secretary, Herbert M. Thompson, Whitley Batch, Llandaff, by December 31st.

CHELSEA, BROMPTON, AND BELGRAVE DISPENSARY, 47, Sloane Square, S.W.—Honorary Visiting Surgeon to the Western District. Applications to Austin E. Cooper, B.A., M.D., Secretary, by December 31st.

FROME UNION.—Medical Officer and Public Vaccinator for the Nunney District. Salary £90, midwifery 10s. per case, certifying lunatics 10s. per case, vaccination 1s. 6d. to 3s. per case. Applications to Geo. W. Bradford, Clerk, Public Offices, Frome, by January 1st, 1898.

HALIFAX ROYAL INFIRMARY.—Assistant House-Surgeon; unmarried, and doubly qualified. Salary, £50 per annum, with residence, board, and washing. Applications to Oates Webster, Secretary, by December 29th.

HARTSHILL, STOKE-ON-TRENT: NORTH STAFFORDSHIRE INFIRMERY AND EYE HOSPITAL.—House-Physician. Salary, £100 per annum, increasing £10 per annum, with furnished apartments, board, and washing. Applications to the Secretary by January 20th, 1898.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.—Resident House-Physicians. Applications to William H. Theobald, Secretary, by December 29th.

HOSPITAL FOR EPILEPSY AND PARALYSIS AND OTHER DISEASES OF THE NERVOUS SYSTEM, 32, Portland Terrace, Regent's Park, N.W.—Physician to out-patients. Applications to H. Howgrave Graham, Secretary, before January 1st.

JERSEY, STATES OF THE ISLAND OF.—Medical Superintendent for the Jersey Public Lunatic Asylum. Appointment for three years at a salary of £300 per annum, with house (and garden) in which the person appointed will be required to reside. Sealed applications to the President of the Committee of the Public Lunatic Asylum, Greffe Office, Jersey, by January 5th, 1898.

LEEDS, THE GENERAL INFIRMARY AT.—Resident Casualty Officer. Salary, £100 per year, with board, lodging, and washing. Applications to the Secretary of the Faculty, General Infirmary, Leeds, by January 8th, 1898.

LEICESTER INFIRMARY.—Surgical Dresser. Term six months. Board and lodging provided. Applications to T. A. Wykes, Secretary, The Infirmary, Leicester, by December 27th.

NEW ABBEY, DUMFRIES, PARISH OF.—Medical Officer and Public Vaccinator. Salary, £50 per annum. Applications to the Chairman, Captain Stewart, of Shambellie, by January 1st, 1898.

NORFOLK AND NORWICH HOSPITAL.—Surgeon and Assistant Surgeon to the Honorary Staff. Applications to Poole Gabbett, Secretary, fourteen days before the election, which takes place on January 8th, 1898

NORTH-WEST LONDON HOSPITAL, Kentish Town Road, N.W.—Assistant Physician. Must reside within three miles of the hospital and within the four-mile cab radius. Applications to Alfred Craske, Secretary, by January 7th.

OLDHAM, COUNTY BOROUGH OF.—Medical Officer of Health for the Borough, and Medical Director and attendant of the Infectious Diseases Hospital of the Corporation. Salary for the first year will be £400, increasing by annual increments of £20 to a maximum of £500. Must remain in the service of the Corporation for a period of five years. Applications, endorsed "Medical Officer," to A. Nicholson, Town Clerk, Town Hall, Oldham, by December 31st.

PERSHORE UNION.—Medical Officer for the Eckington District, for the Flodbury District, and for the Upton Snodsbury District. Salaries, £65, £50, and £50 per annum respectively, exclusive of vaccination and extra medical fees. Applications to Joseph Martin, Clerk to the Guardians, Union Office, Pershore, by December 31st.

PLYMOUTH, SOUTH DEVON, AND EAST CORNWALL HOSPITAL.—House-Surgeon. Salary, £100 per annum, with board and residence. Applications to H. H. Shanks, R.N., Honorary Secretary, by December 31st.

ROYAL COLLEGE OF PHYSICIANS.—Milroy Lecturer for 1899. Applications to the Registrar, Royal College of Physicians, Pall Mall East, by January 10th.

SALFORD ROYAL HOSPITAL.—Honorary Surgeon. Must reside within two miles of the hospital. The present Honorary Assistant Surgeon is a candidate, and in the event of his being appointed there will be a vacancy for an Honorary Assistant Surgeon. Applications to the Secretary by January 2nd, 1898.

SHANGHAI.—Medical Officer of Health; doubly qualified and hold a Diploma of Public Health. From 25 to 30 years of age. Salary, Taels 4,500 (about £600) a year. Appointment in the first instance for three years. Unfurnished quarters, consisting of bed room, bath room, and sitting room. Means of conveyance provided. First class passage to Shanghai provided by the Municipal Council, and if the officer returns at the end of three years the homeward passage will also be paid. Applications to G. Sims Woodhead, M.D., Examination Hall, Victoria Embankment, London, W.C. (who will supply further particulars), by January 1st, 1898.

STOCKTON UNION.—Medical Officer and Public Vaccinator for the Medical District of Stockton, and Medical Officer for the Stockton Workhouse. Remuneration, £170 per annum as Medical Officer for the District, £130 per annum as Medical Officer for the Workhouse, together with usual vaccination fees. Applications to Thos. E. Jobson, Clerk to the Guardians, Union Offices, Stockton-on-Tees, by December 28th.

WALTHAMSTOW URBAN DISTRICT COUNCIL.—Medical Officer of Health. Salary, £120 per annum. Applications, endorsed "Medical Officer," to E. J. Gowen, Clerk to the Council, Town Hall, Walthamstow, by January 11th, 1898.

MEDICAL APPOINTMENTS.

ARBUCKLE, Hugh W., M.D.Aberd., L.R.C.P.Edin., D.P.H.Camb., reappointed Medical Officer of Health of the Thorne Rural District Council.

BOUSTEAD, R. J., L.R.C.P., L.R.C.S.Edin., D.P.H., reappointed Medical Officer of Health to the Hexham Rural District Council.

BURLAND, Dr., appointed Medical Officer of the Cottage Home of the Kettering Union at Burton Latimer.

BURTON, C. G., M.R.C.S., L.R.C.P., appointed House-Surgeon to the North-Eastern Hospital for Children, Hackney Road.

FOSTER, J. J., M.R.C.S., L.R.C.P., appointed House-Physician to the North-Eastern Hospital for Children, Hackney Road.

FRASER, P., M.D., appointed Medical Officer of Health to the Llanrwst Urban District Council.

GERVIS, Charles B., M.R.C.S.Eng., L.R.C.P.Lond., appointed Assistant Medical Officer at Colney Hatch Asylum.

MACLAURIN, Charles, M.B., C.M., appointed Assistant Surgeon to the Prince Alfred Hospital, Sydney.

MATHEW, G. Porter, M.B., B.C.Cantab, L.R.C.P.Lond., M.R.C.S.Eng., appointed Registrar to the Chelsea Hospital for Women.

RICHMOND, J. R. M., appointed Medical Officer of Health to the Overton (Flints.) Rural District Council.

SIMPSON, Reginald P., M.D.Durh., M.R.C.S.Eng., reappointed Medical Officer of Health to the Weymouth Port Sanitary Authority.

WILSON, George R., M.B., C.M.Edin., appointed District Medical Officer and Public Vaccinator for No. 1 District of the Blackburn Union, *vice* T. W. Gregson, M.B., C.M., deceased.

SMITH, H. Lionel, M.R.C.P., L.R.C.S.Irel., appointed District Surgeon at Bulawayo.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcements of Births, Marriages, and Deaths is 3s. 6d., which sum should be forwarded in post-office order or stamps with the notice not later than Wednesday morning in order to insure insertion in the current issue.

BIRTH.

WRIGHT.—December 11th, 1897, at 35, Deane Road, Bolton, the wife of J. Farrall Wright, M.R.C.S.Eng., L.R.C.P.Lond., of a daughter.

DEATH.

ROBERTS.—On December 11th, at the Beeches, Lowestoft, Reginald George Haselwood, elder son of Reginald J. Roberts, M.B., aged 5 11/12 years.

HOURS OF ATTENDANCE AND OPERATION DAYS AT THE LONDON HOSPITALS.

CANCER, Brompton (Free). *Attendances*—Daily, 2. *Operations.*—Tu. F. S., 2.

CENTRAL LONDON OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

CENTRAL LONDON THROAT, NOSE, AND EAR.—*Attendances.*—M. W. Th. S., 2; Tu. F., 5. *Operations.*—Daily.

CHARING CROSS. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. F., 1.30; Skin, M. Th., 1.45; Dental, M. W. F., 9; Throat and Ear, F., 9.30. *Operations.*—W. Th. F., 3.

CHELSEA HOSPITAL FOR WOMEN. *Attendances.*—Daily, 1.30. *Operations.*—M. Th. F., 2.

CITY ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—M., 4.

EAST LONDON HOSPITAL FOR CHILDREN. *Operations.*—F., 2.

GREAT NORTHERN CENTRAL. *Attendances.*—Medical and Surgical, M. Tu. W. Th. F., 2.30; Obstetric, W., 2.30; Eye, M. Th., 2.30; Throat and Ear, Tu. F. 2.30 Skin, W., 2.30; Dental, W., 2. *Operations.*—M. W. Th. F.

GUY'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Tu. F., 1.30; Eye, M. Tu. Th. F., 1.30; Ear, Tu., 1; Skin, Tu., 1; Dental, daily, 9; Throat, F., 1. *Operations.*—(Ophthalmic) M. Th., 1.30; Tu. F., 1.30.

HOSPITAL FOR WOMEN, Soho. *Attendances.*—Daily, 10. *Operations.*—M. Th., 2.

KING'S COLLEGE. *Attendances.*—Medical, daily, 2; Surgical, daily, 1.30; Obstetric, daily, 1.30; o.p., Tu. W. F. S., 1.30; Eye, M. Th., 1.30; Ophthalmic Department W., 2; Ear, Th., 2; Skin, F., 1.30; Throat, F., 1.30; Dental, Tu. Th., 9.30. *Operations.*—M. F. S., 2.

LONDON. *Attendances.*—Medical, daily exc. S., 2; Surgical, daily, 1.30 and 2; Obstetric. M. Th., 1.30; o.p., W. S., 1.30; Eye, Tu. S., 9; Ear, W., 9; Skin, Th., 9; Dental, Tu., 9. *Operations.*—M. Tu. W. Th. S., 2.

LONDON TEMPERANCE. *Attendances.*—Medical, M. Tu. F., 2; Surgical, M. Th., 2. *Operations.*—M. Th., 4.30.

METROPOLITAN. *Attendances.*—Medical and Surgical, daily, 9; Obstetric, W., 2. *Operations.*—F., 9.

MIDDLESEX. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, M. Th., 1.30; o.p., M. F., 9; W., 1.30; Eye, Tu. F., 9; Ear and Throat, Tu., 9; Skin, Tu., 4; Th., 9.30; Dental, M. W. F., 9.30. *Operations.*—W., 1.30; S., 2; (Obstetrical), Th., 2.

NATIONAL ORTHOPÆDIC. *Attendances.*—M. Tu. Th. F., 2. *Operations.*—W., 10.

NEW HOSPITAL FOR WOMEN. *Attendances.*—Daily, 2; Ophthalmic, W. S., 9.30 *Operations.*—Tu. F., 9.

NORTH-WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Obstetric, W., 2; Eye, W., 9; Skin, F., 2; Dental, F., 9. *Operations.*—Th., 2.30.

ROYAL EYE, Southwark. *Attendances.*—Daily, 2. *Operations.*—Daily.

ROYAL FREE. *Attendances.*—Medical and Surgical, daily, 2; Diseases of Women, Tu. S., 9; Eye, M. F., 9; Skin, Th., 9; Throat, Nose, and Ear, S., 3; Dental, Th., 9. *Operations.*—W. S., 2; (Ophthalmic), M. F., 10.30; (Diseases of Women), S., 9.

ROYAL LONDON OPHTHALMIC. *Attendances.*—Daily, 9. *Operations.*—Daily, 10.

ROYAL ORTHOPÆDIC. *Attendances.*—Daily, 1. *Operations*—M., 2.

ROYAL WESTMINSTER OPHTHALMIC. *Attendances.*—Daily, 1. *Operations.*—Daily.

ST. BARTHOLOMEW'S. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetric, Tu. Th., S., 2; o.p., W. S., 9; Eye, W. Th. S., 2.30; Ear, Tu. F., 2; Skin, F., 1.30; Larynx, F., 2.30; Orthopædic, M., 2.30; Dental, Tu. F., 9. *Operations.*—M. Tu. W. S., 1.30; (Ophthalmic), Tu. Th. 2.

ST. GEORGE'S. *Attendances.*—Medical and Surgical, daily, 12; Obstetric, M. Th. 2; o.p., Eye, W. S., 2; Ear, Tu., 2; Skin, W., 2; Throat, F., 2; Orthopædic, W., 2; Dental, Tu. S., 9. *Operations.*—M. Tu. Th. F. S., 1.

ST. MARK'S. *Attendances.*—Fistula and Diseases of the Rectum, males S., 3; females; W., 9.45. *Operations.*—M., 2; Tu., 2.30.

ST. MARY'S. *Attendances.*—Medical and Surgical, daily, 1.45; o.p., 1.30; Obstetric, Tu. F., 1.45; o.p., M. Th., 1.30; Eye, Tu. F. S., 9; Ear, M. Th., 3; Orthopædic, W., 10; Throat, Tu. F., 3.0; Skin, M. Th., 9.30; Electro-therapeutics, M. Th., 2.30; Dental, W. S., 9.30; Children's Medical, Tu. F., 9.15; Children's Surgical, S., 9.15. *Operations.*—M., 2.30.; Tu. W. F., 2; Th., 2.30; S., 10; (Ophthalmic), F., 10.

ST. PETER'S. *Attendances.*—M. 2 and 5; Tu., 2; W., 5; Th., 2; F. (Women and Children), 2; S., 4. *Operations.*—W. F., 2.

ST. THOMAS'S. *Attendances.*—Medical and Surgical, M. Tu. Th. F., 2; o.p., daily, 1.30; Obstetric, Tu. F., 2; o.p., W. S., 1.30; Eye, Tu. F., 2; o.p., daily, exc. S., 1.30; Ear, M., 1.30; Skin, F., 1.30; Throat, Tu. F., 1.30; Children, S., 1.30 Electro-therapeutics, o.p., Th., 2; Mental Diseases, o.p., Th., 10; Dental, Tu. F., 10. *Operations.*—M. W. Th. S., 2; Tu. Th., 3.30; (Ophthalmic), Th., 2; (Gynæcological), Th., 2.

SAMARITAN FREE FOR WOMEN AND CHILDREN. *Attendances.*—Daily, 1.30. *Operations.*—Gynæcological, M., 2; W., 2.30.

THROAT, Golden Square. *Attendances.*—Daily, 1.30; Tu. F., 6.30. *Operations.*—Th., 2.

UNIVERSITY COLLEGE. *Attendances.*—Medical and Surgical, daily, 1.30; Obstetrics, M. F., 1.30; Eye, M. W., 1.30; Ear, M. Th., 9; Skin, Tu., 1.30, F., 2; Throat, M. Th., 9; Dental, Tu. F., 9.30. *Operations.*—Tu. W. Th., 2.

WEST LONDON. *Attendances.*—Medical and Surgical, daily, 2; Dental, Tu. F., 9.30; Eye, Tu. Th. S., 2; Ear, Tu., 10; Orthopædic, W., 2; Diseases of Women, W. S., 2; Electric, Tu., 10; F., 4; Skin, F., 2; Throat and Nose, S., 10. *Operations.*—Tu. F., 2.30.

WESTMINSTER. *Attendances.*—Medical and Surgical, daily, 1; Obstetric, Tu.. F., 1; Eye, Tu. F., 9.30; Ear, M. Th., 9.30; Skin, W., 1; Dental, W. S., 9.15. *Operations.*—M. Tu. W., 2.

LETTERS, NOTES, AND ANSWERS TO CORRESPONDENTS.

COMMUNICATIONS FOR THE CURRENT WEEK'S JOURNAL SHOULD REACH THE OFFICE NOT LATER THAN MIDDAY POST ON WEDNESDAY. TELEGRAMS CAN BE RECEIVED ON THURSDAY MORNING.

COMMUNICATIONS respecting Editorial matters should be addressed to the Editor, 429, Strand, W.C., London; those concerning business matters, non-delivery of the JOURNAL, etc., should be addressed to the Manager, at the Office, 429, Strand, W.C., London.

AUTHORS desiring reprints of their articles published in the BRITISH MEDICAL JOURNAL are requested to communicate beforehand with the Manager, 429, Strand, W.C.

CORRESPONDENTS who wish notice to be taken of their communications should authenticate them with their names—of course not necessarily for publication.

CORRESPONDENTS not answered are requested to look to the Notices to Correspondents of the following week.

MANUSCRIPTS FORWARDED TO THE OFFICE OF THIS JOURNAL CANNOT UNDER ANY CIRCUMSTANCES BE RETURNED.

IN order to avoid delay, it is particularly requested that all letters on the editorial business of the JOURNAL be addressed to the Editor at the Office of the JOURNAL, and not to his private house.

PUBLIC HEALTH DEPARTMENT.—We shall be much obliged to Medical Officers of Health if they will, on forwarding their Annual and other Reports, favour us with *duplicate copies.*

TELEGRAPHIC ADDRESS.—The telegraphic address of the EDITOR of the BRITISH MEDICAL JOURNAL is *Aitiology, London.* The telegraphic address of the MANAGER of the BRITISH MEDICAL JOURNAL is *Articulate, London.*

☞ *Queries, answers, and communications relating to subjects to which special departments of the* BRITISH MEDICAL JOURNAL *are directed will be found under their respective headings.*

QUERIES.

INKPOT asks the name and price of a good book, not too voluminous, on Heart Affections, the work to be up to date; and also the same on Kidney Disease.

*** We refer our correspondent to the review of Sir William Broadbent's book on *Heart Disease* (London: Baillière, Tindall, and Cox, 1897, 10s. 6d., published in the BRITISH MEDICAL JOURNAL of October 30th, 1897, page 1268, and also to the review of Dr. Robert Saundby's book on *Renal and Urinary Diseases* (Bristol: John Wright and Co., 1897, 10s. 6d.), published in the BRITISH MEDICAL JOURNAL of January 9th, 1897, page 86.

EXCISE DUTY ON CARRIAGES.

SPERO inquires whether he is entitled as a medical practitioner to keep a pony and four-wheeled carriage without paying a tax thereon.

*** We are advised that he is not entitled to keep such a carriage without paying the tax, which, if the carriage in question is drawn or adapted or fitted to be drawn by one horse only, would be the sum of £1 1s., payable on January 1st in each year.

CIRCULATION OF REPRINTS.

AB OMNI PECCATO asks whether there is anything professionally objectionable or wrong in a specialist sending reprints of published articles to general practitioners with whom he is personally unacquainted, provided that such published articles are of practical use to the general practitioner.

*** We have on several occasions in the past received letters from general practitioners in various parts of the country protesting against the course mentioned as one savouring of self-advertisement.

FEES AT SMALL HOSPITALS.

S. A. C. writes: Can I charge a fee for giving chloroform at a small general hospital? I was called by mistake to see a railway servant who had been run over by a train. He was taken to this hospital, where I met the surgeon to the railway, and passed the case on to him. He then asked me to give chloroform whilst he amputated the arm at the shoulder. This I did, the operation lasting two hours, and so detaining me from my work, which was very inconvenient for me. I am not on the staff of this hospital, although my partner is, and I do as much work there as he does. I have sent in a claim to the Railway Company for £1 1s., being my fee for giving up the time to see the patient. I should like to know if it would be honourable to send in a further fee for £2 2s.

*** The rule as to honorary service is so widely recognised in regard to the larger general hospitals that we do not think that such a claim as is here suggested would be entertained.

THE DIAGNOSIS OF SCARLET FEVER.

M.B. was consulted at home by a patient with sore throat, and temperature 102°. She returned twelve days later, both hands desquamating, and acknowledged to having had a rash. He then pronounced the case scarlet fever, advised her to stay at home eight weeks, and reported the case to the medical officer. The patient's father is denouncing him as not knowing a case of scarlet fever when he sees it. M.B. asks what shelter he has from this, and what powers the local authority has to deal with what he regards as deliberate concealment of a case.

*** Prosecution for concealment would probably fail. M.B. could perhaps sue for slander, but proof would be difficult, and unless he is a member of a medical defence society he would probably suffer less in the long run by allowing the matter to blow over. In cases of suspicious sore throat it is well to insist on paying a confirmatory visit, as the positive diagnosis of scarlet fever and diphtheria in an early stage may often be quite impossible.

THE WARMING OF DWELLING HOUSES.

M.D. asks for information as to books or source of information dealing with the heating of houses by a stove or otherwise, situated in the basement or cellar. He has already an air-heating gas stove in the lobby, but it is not sufficient.

*** A good deal of information on the subject will be found in Dr. Billings's book on *Ventilation and Heating* (New York, 1893). The work is certainly worth reading, as showing the difficulties which attend any attempt to supply warmth in such a manner to an ordinary house.

As a means of ensuring ventilation and preventing the chilliness of the draughts produced by all purely natural methods, it is certainly a good plan to place a good "cockle" or gill stove, of which there are many forms, in the basement if care is taken to ensure a very free supply of air from a pure source to pass over the stove before entering the house.

It must be remembered, however, that air is a bad carrier of heat, and that to attempt to warm the unused part of a house by warm air from a ventilating stove in the basement is a somewhat wasteful proceeding. The proper use of such a stove is as a means of warming the incoming air required for the ventilation of the house. But even that is a much less simple affair than at first sight it appears if the house is a high one. Theoretically, the fresh air enters into the stove chambers

and on being warmed enters the hall, after which it permeates all the rooms, and passes out by the chimney. Practically the hot air rises rapidly to the upper floors, the staircase becomes a great ventilating shaft, so that air is drawn from the lower rooms instead of entering them, especially if a window upstairs happens to be left open, and while the bedrooms are kept warm the downstairs rooms fail to obtain much benefit.

With careful housekeeping, looking after the windows and doors so that when the one is open the other is shut, and with due attention to the furnace so that the air may not be made too hot, the placing of a stove in the basement and the provision of a pure air inlet, is an admirable arrangement; but so far as heating is concerned it will only carry the heat where the air goes, and unless care is taken of the doors and windows the heat will all go to the top. The maxim to be remembered is that the air inlet by the stove should be large and the outlet small. If the aggregate area of all the chimneys exceeds that of the air inlet, there will be a good chance of one or two of the least used chimneys becoming inlets, a most disagreeable occurrence.

Duties of Certifying Factory Surgeon.

. P. writes: Has a surgeon under the Factory Act usually to visit another's patient in a critical condition and cross-question him as to his injuries and accident?

*** The law requires that a certifying surgeon under the Factory Acts shall with the least possible delay, after receiving notice of an accident, make a full inquiry into the nature and cause of the injury and accident, and within the next twenty-four hours send in a report. In making the inquiry he must take the evidence of the injured person, except when he has been removed to a great distance. To enable him to do this he has special powers conferred on him to enter any room in a building to which the injured person has been removed. Certifying surgeons are usually very careful not to ask the injured persons more questions than are absolutely necessary, generally getting the bulk of evidence at the works. As, however, the occurrence of some accidents renders an employer liable to very heavy penalties (as much as £100), there are cases in which he has to be most particular in taking the evidence of the injured person. Owing to the shortness of time at his disposal, and his frequent ignorance of the name and address of the medical man attending the injured person, he may be unable to inform him of the intended visit. Undoubtedly if the certifying surgeon could inform him it would in many cases save a certain amount of unpleasantness.

ANSWERS.

COTUS.—We are unable to express an opinion upon the legal question. Upon the question of taste we are disposed to agree with our correspondent.

IMIDAS might communicate with the Secretary of the National Health Society, 53, Berners Street, London, W., which publishes various pamphlets dealing with the question of the prevention of fevers in a simple manner.

. E. B.—1. We understand that the preparation referred to contains kola. We are advised that the alkaloids in it are theobromine and caffeine. 2. If our correspondent did not receive a voting paper at the recent election for a direct representative on the General Medical Council, we would recommend him to communicate with the Registrar of the Council, 299, Oxford Street, in order to ascertain whether his name is correctly entered on the *Register*.

MERE G.P.—The custom of the profession as expressed in the *Code of Medical Ethics* is: "All legitimate practitioners of medicine, their wives, and children while under the paternal care, are entitled (not as a matter of right, but) by professional courtesy, to the reasonable and gratuitous services—railway and like expenses excepted—of the faculty resident in their immediate or near neighbourhood, whose assistance may be desired."

Assurance Fees.

ED's question has been repeatedly answered. Almost all assurance offices stipulate that death certificates and other documents required as proof of a claim must be supplied free of cost to the office The medical man who supplies the death certificate must look to the executors for payment. The usual fee is one guinea, but for sums under £100 half a guinea is frequently paid.

Typhoid Fever and Notification.

N the books mentioned in the reply to a question in the British Medical Journal of December 18th, as to recent works on typhoid fever, the title of Dr. John William Moore's *Textbook of the Eruptive and Continued Fevers* was inadvertently omitted. The volume is published by Fannin and Co., Dublin; Baillière, Tindall and Cox, London; John Wright and Co., Bristol: and James Thin, Edinburgh. The last edition was published in 1892.

Treatment of Seborrhœa Capitis.

R. W. A. Wannan (Arbroath) writes: "Far Away" asks, in the British Medical Journal of November 27th, 1897, page 1623, for a prescription for scurf of the head, and to allay the accompanying irritation of the scalp. I would suggest the following: ℞ Hydrarg. ox. rub., gr. xii; hydrarg. præcip. alb., gr. viii; glycerini, mxx; lanolin., ʒj; ol. amyg. amar. c. acid., mvj. Misce. Fiat unguentum. Apply a little to the scalp daily for a time, then twice a week. The yolk of an egg mixed in a little lukewarm water may be rubbed on the scalp; in a minute afterwards wash all off with clean tepid water and dry. Use this once a month. Wright's coal tar soap I recommend, and no pastry or cheese to be taken for a time.

Practice in British Columbia.

Dr. W. A. De Wolf Smith (New Westminster, B.C.) writes: For the information of your correspondent "M.D.Durham," who writes in the British Medical Journal of September 25th, allow me to state that practitioners registered in Great Britain on or before June 30th, 1897, can claim registration in British Columbia upon proof of identity and the production of a certificate of registration, together with the payment of a fee of $100. Those registered in Great Britain after the date mentioned have, in common with applicants from other places, to pass an examination before the Medical Council and pay the fee of $100. It is proposed at this session of the Legislature to ask for an amendment to the present Medical Act, but the points referred to above are not likely to be altered.

Description on Nameplate.

Dubious.—We see no objection to a practitioner holding the qualifications of M.R.C.S., L.R.C.P., describing himself on his nameplate simply by his christian and surname, with the words "Surgeon, etc." appended. It is customary to prefix the word "Mr.," but this is merely a matter of taste. There are doubtless some holding these qualifications who prefix the title of "Dr."

Another Correspondent, who holds the qualifications of L.R.C.P., L.R.C.S.E., L.F.P.&S.G., and L.M., writes that he wishes to put up a brass plate on his surgery door, and inquires if he can use the prefix "Dr." without being ordered to take it down.

*** This subject has been much discussed in the columns of the British Medical Journal, and we would refer our correspondent to the views expressed in the article in the Journal of December 14th, 1895. He will there find it stated that, in the opinion of the writer, "no legal proceedings would lie against a qualified medical practitioner who chooses to call himself 'Dr.,' or even to put that title on his doorplate," and we cannot carry the matter further than this.

NOTES, LETTERS, Etc.

Advertising Quackery or Unqualified Practice.

Alluding to the letter of "L.R.C.P." under the above heading, published in the British Medical Journal of December 18th, we have received a communication from the Editor of *Science Siftings* to the effect that he never accepts quack advertisements for his paper.

Plague in India.

Dr. Porquet (Vire, Calvados, France): Plague in India during the present epidemic has been confined to the Bombay Presidency, the North-West Provinces and to the Indus Valley. Although a few cases have occurred in adjacent States the disease has never attained a hold upon them. Neither in Southern or Central India nor in Bengal has plague obtained a footing. The district where the disease at present exists in its most severe form is in that of Poona, a city situated some 120 miles from Bombay. In the city of Bombay itself the epidemic has declined, so that last six months sporadic cases merely have occurred, and along the Indus Valley the disease has disappeared. The Government of India are exercising more strict precaution than ever, and the relaxation of stringent measures, which at one time threatened in deference to native prejudice, has been relinquished and in place a vigorous policy is being followed. Nowhere as yet has a true recrudescence taken place; but as it is the habit of plague to recrudesce, it is incumbent on the sanitary authorities to maintain their vigilance in the most rigid form. Moreover, the native prejudices have been largely overcome and the work of isolation and segregation is in consequence much more easily fulfilled. Yersin's serum is unfortunately too weak to be of much practical value, but there is no doubt that it is a step in the right direction. Haffkine's serum seems to possess some value as a prophylactic, but the application has been too limited to allow of any real scientific conclusion. The men who have written most fully upon plague are Kitasato, Aoyama, Yersin, Lowson, Cantlie, and Wilm for the Hong Hong epidemic; and concerning the Indian outbreak Yersin, Lowson, Reid, Kanthack, Blaney, Cantlie, and Simpson.

Bombay.—Death-rate.

	October, 1897.	November, 1897.
Plague mortality	189	140
Total mortality for all deaths, including plague	2800	2607

Poona.—Death-rate.

	October, 1897.	November, 1897.
Plague mortality	1011	1203
Total mortality	1300	1513

The Warming of Consulting Rooms.

We have received various letters from manufacturers of gas stoves pointing out the applicability of their inventions to the warming of consulting rooms. The stove produced by the Omega Odourless Gas Stove Company, of Bristol, is an arrangement for burning gas by means of a modified Bunsen's burner in such a manner that the flame is fed with warmed air, so that it is not chilled, and we have no doubt that by this means a very complete combustion is attained. It is a portable stove, and the arrangement described is such that the products of combustion enter the room. Where people are content to have such a stove no doubt it will do very well, but we do not feel justified in recommending any stove for use in a living room which does not remove the products of combustion, however applicable such stoves may be for shops, halls, lobbies, and wine cellars.

The Euthermic Stove, made by the Sanitary and Œconomic Association, Gloucester, is on another principle. It does remove the products of combustion, requiring a chimney, of course, or a vent of some sort for the purpose. It is economical also in the amount of gas consumed, in comparison with some of the ordinary open stoves, and if it is arranged so as to ensure the introduction of fresh air it is a very good warmer. The correspondent who writes to us with reference to this stove says: "We venture to suggest that there would be no need for throwing open the windows after a patient has left if a stream of fresh air is brought into the room continuously through the stove as is done in the Euthermic." This, of course, depends upon circumstances, but he rightly says that "a stove or a fireplace which admits into the room a current of fresh, warm air, is much more effective in flushing out continuously the whole atmosphere of the room" than an ordinary fire. He also very properly adds that "whenever a coal or coke stove is fixed in a room, a supply of fresh air should always be brought into the room immediately under the stove," but this, we suppose, applies also to the Euthermic stove.

Income Tax Assessment.

The Income Tax Repayment Agency (6, Chichester Road, Paddington, London, W.) writes: The Inland Revenue have determined that the assessments from professional and trade profits should this year yield more than ever. We are receiving numerous notices of assessments with complaints that the assessors have taken no heed to the returns, often prepared at great trouble, but have taken fancy figures from no facts within their knowledge. Under these circumstances there is nothing to be done but appeal if these figures are in excess of the three years' average, and it is essential that notice of such appeal should be given within the limit of time mentioned in the notice of first assessment, otherwise the appellant may be ruled out of court. Should he not wish to employ the Income Tax Agency, he should follow the simple instructions given in *Income Tax: How to Get it Refunded*, published by Effingham Wilson and Co., in their series of legal handy books. An appeal made at present is doubly advantageous, as, if successful, it enables the appellant to obtain a refund for the past year.

Popular Medicine.

Philologus writes; All practitioners must occasionally come across distortions of medical terms which make it hard to suppress a smile. Two which have occurred in my experience may be worth a few lines to record as pitfalls of phonetic similarity. An old man who came to me for some "strengthening medicine" on one occasion, told me he had just left hospital. An inquiry as to his ailment resulted in the answer "haricot veins, sir." About ten days ago I was called to a patient suffering from hæmorrhoids. An inquiry as to former treatment elicited the statement that "the doctor I went to at home wrote me a prescription for some sapostrophes."

The Necropsy of Byron's Brain.

Dr. James Adam (West Malling, Kent) writes with reference to a paragraph in the British Medical Journal of December 11th: I believe the average weight of the male healthy brain is usually stated to be about 48 oz.; thus the weight of Byron's brain—72 oz.—seems to have exceeded by 24 oz. It is curious that the fact concerning this great weight of Byron's brain has not been previously brought to light, although it is generally known that Sir Walter Scott had also a very large brain; it is said to have weighed (I speak from memory) 60 oz. It is well known that in some diseased conditions immense brain weight occurs. A striking case is recorded in Tuke's *Dictionary of Mental Science*, when the brain weighed no less than 1,998 g., and was reported to be of normal consistence.

LETTERS, COMMUNICATIONS, Etc., have been received from:

(A) Mr. R. B. Anderson, London; A.M.D.; Mr. E. Armstrong, Nepaul; Mr. F. R. B. Atkinson, London; A. M. S.; Ardent Lady Reader; A. M. **(B)** Mr. D. Blair, Lancaster; Beta; Mr. G. H. Broadbent, Manchester; Mr. W. Bredt, London; Mr. C. W. Beefield, Bristol; Dr. B. Bramwell, Edinburgh; Mr. C Bell, New York; Mr. A. E. Bellairs, Gerrard's Cross; B. G. R.; Dr. R. Barnes, Lyss. **(C)** P. R. Cooper, M.B., Bowdon; Mr. R. F. Clark, Devonport; Dr. H. Cane, Belvedere; Dr. F. D. Crowdy, Torquay; Mr. A. H. Cheatle, London; Mr. E. J. Cross, St. Neots; A Cook, M.B., London; Canadian Produce and Consignment Company, London; Miss J. Crosfield, London; Dr. J. S. Cameron, Leeds; Dr. G. L. Carrick, St. Petersburg; J. Carslaw, M.B., Glasgow; Mr. G. S. Clarke, London; Mr. A. Clark, London. **(D)** Dr. A. Davies, M.B., Swansea; Mr. G. Dixon, Hay (Brecon); Dr. W. Davies, Manchester; Mr. R. H. Draper, Mossley; Mr. P. Dunn, London; Mr. H. R. Davies, London; Dr. C. F. Daly, Silverdale; Mr. St. H. Daly, Pittsburg. **(E)** Mr. G. Eastes, London; Dr. J. Elliott, London; Mr. N. Evans, London; R. E. Evans, M.B., New Castleton. **(F)** Mr. J. J. Foster, London; Mr. G. Fisher, Jena; Mr. G. Foy, Dublin. **(G)** Messrs. Green and Co., London; Dr. A. S. Gubb, London; T. B. Grimsdale, M.B., Liverpool; R. J. Godlee, M.B., London. **(H)** Hunterian Society, Secretary, London; Dr. R. G. Hebb, London; Dr. F. de H. H London; Dr. W. P. Herringham, London; Mr. S. Hyde, London; Mr C. H. Harcourt, Alfreton; G. B. Hunt, M.B., London; Mr. T. H[illegible]nes London; Mr. N. A. Humphreys, London; Dr. T. G. Horder, Cardiff, Dr T. W. Hime, Bradford. **(J)** Mr. H. H. Jennings, London; Mr. H. D Jackson, Brighton; J. W. M.; Justitia. **(K)** Dr. G. C. Kingsbury Blackpool; Mr. P. Q. Karkeek, Torquay; Messrs. Krohne and Sesemann, London. **(L)** Mr. G. A. Leigh, London; Mr. A. C. Lovegrove Northallerton; Mr. T. H. Lewis, Auckland, N. Z.; Mr. J. B. P. Long London; Mr. R. N. Lyon, Lucan; Mr. H. Littlewood, Leeds. **(M)** Mr F, H. Madden, London; Dr. F. C. MacNalty, Winchester; Member; Dr W. F. MacCarthy, Worcester; Mr. W. Marriott, London; M.B.; C. R Marshall, M.B., Cambridge; Mr. A. H. Martin, Evesham; H. T Merrick, M.B., Surbiton; Dr. Moorhead, Cootehili; M.D.; Dr. J. Moore, Dublin; Mr. C. A. Morton, Bristol; Mr. J. H. Morgan, Londo. M. R.; M. C. Moxham, Boston, Lincoln; Mr. C. Mercier, London; D Macdonald, M.B., Port Wallaroo; Mr. A. Macdonald, Kirkoswald; Mr. C. D. Marshall, London. **(O)** Mr. W. H. Ovenden, Christchurch, N.Z.; Mr. C. Ormerod, Liphook; Mr. T. G. Ouston, Newcastle-on-Tyne; Dr T. Oliver, Newcastle-on-Tyne; Mr. M. E. Ogilvie, Bristol. **(P)** Dr. H. S. Pullin, Sidmouth; Dr. E. F. Potter, London; Mr. J. F. Pink, London Mr. Dr. F. S. Palmer, London; Mr. G. B. Price, London; Mr. L. Porri, Grimsby; Mr. J. H. Potter, Cullompton; T. C. Penfold, M.B., London; J. F. Payne, London. **(R)** Mr. J. R. M. Richmond, Overton-on-De- Royal Academy of Medicine in Ireland, Secretary, Dublin; Dr. Robinson, Sunderland; Dr. H. D. Rolleston, London; Mr. T. F. Rav Broadstairs; Mr. G. Rendle, London; Mr. J. T. Rolfe, Claytor Moors; Dr. E. S. Reynolds, Manchester. **(S)** Scotus; Mr. H. de Styr Shrewsbury; Dr. A. W. Sandford, Cork; Dr. W. A. De W. Smith London; Dr. G. H. Savage, London; Mr. P. R. W. de Santi, London Surgeon-Lieutenant; A. T. Simpson, M.B., Morpeth; Mr. H. G. Shore, Newquay; Science Siftings, Editor of, London; Mr. M. Scott, Londo Society of Apothecaries of London, Secretary, London; Dr. R. Saund Birmingham; Mr. H. Symons, Kimberley; Dr. J. S. Scriven, Stoport; Dr. R. S. Smith, Bristol; Mr. M. Smale, London; Dr. F. J. Smith, London. **(T)** Dr. F. S. Toogood, London; Dr. J. C. Thresh, Chelmsford; Dr. H. M. Tickell, Cheltenham; Mr. J. S. Thomas, Cardiff; Mr. J. J. Tisdall, Liverpool; Dr. F. W. Tunnicliffe, London. **(V)** Mr. C. Veale, St. Austell; Dr. C. S. Vines, Newport (Mon.). **(W)** Dr. D. Walsh, London; Dr. E. F. Willoughby, London; Mr. G. E. Williamson, Newcastle-on-Tyne; Mr. E. W. Walker, Pailton; Dr. F. Wesbrook, [illegible]neapolis; G. R. Wilson, M.B., Blackburn; Mr. F. C. Wood, Ripley; G. B. M. White, M.B., London; Dr. A. McC. Weir, East Sheen; R. R. Wishaw, M.B., Croydon. **(Y)** Dr. E. S. Yonge, Manchester; etc.

BOOKS, Etc., RECEIVED.

La Diphtérie et la Sérumthérapie. Par Dr. G. Variot. Paris: A. Maloine 1898. Fr.12.

The Structure of the Human Body. An Elementary Atlas of Anatom Adapted from the German of Dr. P. Ebenhoech by F. J. Warwi B.A., M.B. London: Allman and Son. 6s.

La Vaccine et la Vaccination. Par J. Delobel et P. Cozette. Par Masson et Cie. Fr.3.

L'Appendicite, Par Dr. C. Monod et J. Vanverts. Paris: Masson et Cie. Fr.3.

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On Cardiac Failure and its Treatment. By A. Morison, M.D., F.R.C.P., London: Rebman Publishing Company. 1897. 10s.

Stable Sanitation and Construction. By T. E. Coleman, F.S.I. London: E. and F. W. Spon. 1897.

Technique Microbiologique et Sérothérapique. Par Dr. A. Besson. Paris: J. B. Baillière et Fils. 1897. Fr.8.

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AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(1) Auto-intoxication.

GUSTAV SINGER (*Wien. med. Presse*, 1897, No. 12) discusses this question, with particular reference to tetany and skin diseases. He considers that some confusion has arisen owing to want of care in the clinical descriptions of gastric conditions, whence harmless atony of the stomach (gastroptosis) has been confounded with true dilatation (gastrectasis). He quotes the following interesting case of autotoxic tetany. The patient was a man, aged 41, who was attacked with diarrhœa and weakness after eating roast pork; three days before admission to hospital constipation set in, and this was followed next day by typical tetany. On admission the urine contained no albumen, but indican, diacetic acid, acetone, and aromatic oxyacids; the great curvature of the stomach extended down to the umbilicus. Under treatment with calomel and purges, followed by iodoform internally, the tetany cleared up and the condition of the urine became normal. There can be no doubt that in this case the tetany resulted from the absorption of poisonous products from the intestine, and was determined by the constipation. The author is not inclined to regard the classification of chlorosis among the auto-intoxications with much favour, many cases so described really belonging to the group of secondary anæmias; still, as Meinert has shown, chlorosis is often associated with enteroptosis. With regard to skin affections, Mracek found that in a case of psoriasis the ethereal sulphates and diamines in the urine were increased, and the author after investigating the condition of the intestine in a large number of dermatological cases, proved that all the signs of increased intestinal decomposition were present in acute and chronic urticaria, in acne, erythema, and pruritus. These conditions were best treated by an internal antiseptic such as menthol. Kaposi has also obtained good effects in prurigo by the internal use of carbolic acid; Singer has seen two cases in children of the same family who developed prurigo whenever their digestive systems went wrong, and recovered when these were cured. It must not be forgotten, however, that the skin is only capable of developing a certain number of eruptions, and that in consequence the same lesion need not always be due to identical causes. The proof of auto-intoxication will depend mainly on examination of the urine and of the intestine. Constipation with stagnation of the intestinal contents is the commonest cause, and in cases where constipation and diarrhœa alternate, rashes may come and go. In treatment the greatest attention must be paid to diet, in order to diminish the bacterial contents of the bowel.

(2) The Diagnosis of Diabetes Mellitus from the Reaction of the Blood to Aniline Stains.

BREMER (*Centralbl. f. Med.*, June 5th, 1897) draws attention to the following methods of distinguishing between diabetes and non-diabetic blood. A drop of blood is smeared by means of a slide over a second slide, so as to cover about one-third or one-half of the surface. A number of slides are prepared from diabetic and non-diabetic blood—the latter for control staining. As the reactions can be seen by the naked eye, tolerably thick layers of blood are employed, and these should be, as nearly as possible, of the same thickness. The blood preparations are now heated in a hot air chamber for 6 to 10 minutes, at a temperature of 135° C. It is important to avoid heating the preparations over 140° C.; also they should not be heated for more than 10 minutes. The slides are then stained in a 1 per cent. watery solution of one of the following stains: Congo red, methyl blue, Biebrich scarlet; or, in Ehrlich-Biondi's fluid. Slides of diabetic and non-diabetic blood are treated exactly in the same manner for comparison. The results are as follows: After staining in congo red for 1½ to 2 minutes the slides are rapidly washed in water, and dried. The diabetic blood is not stained, or only indifferently stained, whilst the non-diabetic blood is stained. Methyl blue gives similar results. With Biebrich scarlet diabetic blood is stained deeply, non-diabetic blood is unstained. If preparations be placed in Ehrlich-Biondi's fluid for 2 to 3 minutes, diabetic blood is stained orange, whilst non-diabetic blood is stained violet. Beautiful contrasts are obtained by double staining. Preparations of diabetic and non-diabetic blood are stained in a 1 per cent. watery solution of methyl green for 1½ to 2 minutes. They are then washed in water. Both preparations are green, the diabetic being more deeply stained. They are next placed in a one-eighth per cent. watery solution of eosin for 8 to 10 seconds. The diabetic preparations remain green, the non-diabetic take the eosin stain. Similar results are obtained with methyl blue and eosin.

(3) Tracheal Stenosis.

AUFRECHT (*Centralbl. f. inn. Med.*, January 9th, 1897) describes a new symptom in connection with this affection. The symptoms are at first mostly few and not very definite. With an increasing narrowing of the trachea a characteristic sign is developed, first called by Empis "cornage trachéo-bronchique," which corresponds to a mewing ("fauchende") inspiratory murmur described by the author, most distinctly heard when the patient makes any bodily exertion. If this sound is once heard it cannot be forgotten. Gerhardt drew attention to the absence of or diminution in the excursions of the larynx in stenosis of the trachea. This sign has been looked upon as uncertain. Aufrecht has noted another sign in three cases of tracheal stenosis, two of which were due to mediastinal carcinoma, and the third to a syphilitic affection of the lower part of the trachea. When the stethoscope was placed on the trachea just above the sternum, the usual harsh bronchial inspiration and expiration were replaced by soft low breath sounds of short duration, or were not heard at all. The explanation lies in the fact that when there is a stenosis of the trachea, the vibrations caused by the passage of air from the glottis into the trachea become weaker, and hence the bronchial breath sounds are modified.

SURGERY.

(4) Treatment of Prostatic Retention.

ENGLISCH (*Wiener Klinik*, April, 1897) gives elaborate instructions with many useful hints of practical import, on the treatment of urinary retention, both acute and chronic, due to hypertrophy of the prostate. Whilst advocating catheterism as a valuable and almost exclusive method in a large majority of cases of prostatic disease, he points out the probable dangers of such treatment, and insists strongly on the necessity of avoiding as far as possible irritation and septic infection of the bladder and urethra during the use of instruments. Advanced prostatic disease is so often associated with inflammatory conditions of the bladder and kidneys, and occasionally with uræmia. In cases of recent retention in which the urine is secreted in full quantity, and in an apparently healthy condition, there may be a predisposition to urethral fever and other results from catheterism in consequence of: 1. Anomalies of renal secretion, especially diminished or increased secretion of urea, oxaluria, and diabetes. 2. Tuberculosis. 3. Altered condition of the blood such, for instance, as occurs with malarial fevers. 4. Impaired innervation. 5. Alcoholism. Before the first use of the catheter an attempt should be made to submit the urine to chemical examination. The author is in favour of the soft rubber catheter. In cases in which this cannot be passed he would use Mercier's catheter with either a single or double bend near the extremity, or the ordinary gum elastic catheters stiffened and suitably curved on wire stylets. In relieving the overdistended bladder the author lays great stress on gradual and interrupted removal of the urine. He lays it down as a rule that the longer the retention has lasted the slower should be the process of emptying the bladder. He would at first withdraw from 200 to 250 c.cm. of urine, and then inject about half this quantity of boric solution, and continue this procedure, which it is stated may take from twelve to twenty-four hours, until the bladder is completely emptied. In many cases of prostatic retention, and especially in

those in which the bladder is more or less paralysed, the author would pass a soft catheter, and allow it to remain for several days. Such practice, which should be associated with frequent injections into the bladder and urethra with the view of preventing or removing symptoms of septic irritation, is held to be indicated (*a*) when the passage of a catheter is either very difficult or causes much pain, or is followed by urethral fever; (*b*) when the condition of the urine necessitates frequent injection of the bladder; (*c*) when the relief of the retention is followed by very frequent micturition; (*d*) when false passages exist, and (*e*) when frequent visits of the surgeon to a private patient in the course of the day are very inconvenient, or impossible. With careful and frequent injections a soft rubber catheter may be retained from one to three weeks without causing any serious irritation of the bladder and urethra or incrustation of the instrument. It is acknowledged, however, that in many cases catheterism fails or does mischief, and that it becomes necessary to have recourse to a cutting operation. Suprapubic cystotomy performed with the object of establishing a fistula or removing the enlarged prostate, and also perineal prostatectomy, are regarded as failures. On the other hand, ligature of the vasa deferentia and double castration have been followed by good results.

(5) The Roentgen Rays in Osteoplastic Surgery.

Ollier (*Bull. de l'Acad. de Méd.*, No. 20, 1897) points out that, thanks to the delineations obtained from the Roentgen rays, it is no longer compulsory to wait until the patient's death before the actual dimensions and the exact form of newly-developed bone can be made out. The surgeon is now able to make an autopsy of such formations on the living subject, and to examine them beneath the soft parts almost as distinctly as if they were directly exposed. Two cases are recorded in which the extent and form of new bone deposited after free removal of necrosed tibia were clearly shown by large skiagrams. In one of these cases a portion of tibia about 11 inches in length had been removed from the leg of a girl $8\frac{1}{2}$ years of age, and in the second the patient, who was 11 years of age, had lost about 9 inches of the lower half of the same bone. The drawings, taken some time after complete recovery, show in each case the outlines of the regenerated bone, which is less regular in form than that of the sound limb, somewhat uneven on its surface, but distinctly thicker than the opposite tibia. A third case is reported in which the picture produced by the rays showed a very satisfactory development of new bone produced by a long series of transplantations of periosteal and osseous grafts, practised with the object of filling up a large gap (about $10\frac{1}{2}$ inches) formed after the removal of a large sequestrum in the tibia. The first attempt failed in consequence of necrosis of the graft, which was a portion about 6 inches in length, of the tibia of the sound leg, and the gap was not completely filled up until after repeated transplantation of fragments of bone from sheep and rabbits, and resection of a portion of the shaft of the fibula. Notwithstanding the failure of the effort to transplant a large fragment from the sound to the defective tibia, Ollier strongly advocates in such cases the practice of direct osteoplasty. The transplanted fragment, however, must retain its periosteum, for if this membrane be wanting the operation will certainly prove sterile. The healthy tibia, it is stated, is a favourable source for preparing osteoplastic grafts, as this bone speedily repairs any loss of substance. The picture taken by the Roentgen rays in this case shows that the gap formed by the removal of the long piece of bone has been almost completely filled up. Fragments of healthy bone taken from a limb amputated for the results of recent injury form, it is asserted, excellent grafts.

(6) Retroperitoneal Lipoma.

Adami (*Montreal Med. Journ.*, January and February, 1897) reports two very well marked cases of retroperitoneal and perirenal lipoma which recently came under his notice. He has also tabulated 40 additional cases that had previously been recorded. A retroperitoneal lipoma, he states, may be suspected where there is a very slowly-growing tumour, most often more on one side than the other, accompanied by little disturbance of the general health, save progressive emaciation and eventual dyspnœa, which is crossed by intestine, and gives a sense of fluctuation, from which, further, repeated puncture fails to draw any fluid. The sense of fluctuation distinguishes this from a fibroma, the rate of growth from a sarcoma, and to some extent from a myxoma. The diagnosis from this latter condition, which, however, is very rare, is difficult. The results of puncture exclude ovarian or other cystic formations, and ascites. Removal is possible even when such a tumour has attained enormous dimensions. For the operation to be successful the main precaution to take is to see that the gut crossing the tumour is not deprived of its blood supply, or, if so deprived, is freely removed by resection.

(7) Vesical Calculus in Children.

Froelich (*Rev. Méd. de l'Est.*, February 1st, 1897), has arrived at the following conclusions: 1. The symptoms differ from those in adults in the following points. There is never hæmorrhage and rarely cystitis. There are painful crises which cause the child to be "doubled up." There is incontinence of urine, with attacks of retention, temporary or permanent. The vesical muscles hypertrophy enormously, but the mucosa remains healthy. 2. As regards treatment, owing to the anatomical position of the bladder and peritoneum, suprapubic lithotomy should always be employed to the exclusion of lithotrity. The ideal operation is to suture the bladder, Alexandrow having had 40 successes in 56 cases, but in children only, since the figures are reversed for adults. It is well to tie in a catheter for five or six days.

MIDWIFERY AND DISEASES OF WOMEN.

(8) Diagnosis and Treatment of Rupture of the Uterus.

H. Ludwig, Principal Assistant in Chrobak's Clinic, records (*Wien. klin. Woch.*, 1897, Nos. 11-12) nine cases of rupture of the uterus. In the first the rupture occurred during the extraction of a decapitated breech; the head was subsequently removed by laparotomy. In the second the rupture was diagnosed before delivery, and Cæsarean section performed. In the third a rupture arose during version; the child was extracted, and the after-coming head perforated. The fourth was a case of craniotomy, which terminated the labour, after which the rupture was discovered. In the fifth, also, craniotomy was performed, the rupture not being diagnosed with certainty before birth. In the sixth there was again uncertainty; delivery was effected after decapitation. The last three were all diagnosed; they were delivered by craniotomy, perforation, and cutting through the cervical vertebræ respectively. With regard to diagnosis, Ludwig insists on the valuelessness of individual symptoms such as collapse, bleeding, sudden and severe pain, recession of the formerly fixed presenting part, cessation of pains, etc. He has found the best diagnostic signs to be (1) in lateral rupture the interruption of the natural contour of the uterine quadrant, either a projection or a nodule being formed; (2) abnormal mobility of the uterus; and (3) emphysematous crackling at the seat of rupture. If the head presents and can be pushed back, bimanual examination under deep narcosis should lead to a certain diagnosis. With regard to treatment, delivery may be effected *per vias naturales*, or by laparotomy. The former is indicated when a large part of the child is already fixed in the pelvis, and also when the diagnosis of uterine rupture cannot be made for certain before delivery. In cases in which the child remains in the uterus after the rupture, or has only partially passed into the abdominal cavity, delivery *per vaginam* is only to be preferred when it can be carried out without losing time or increasing or complicating the tear—for instance, in head presentations and the absence of contraction of the pelvis, also where rupture takes place during an operation. Laparotomy is indicated when the whole child has passed into the abdominal cavity, when the passages are not fully dilated, in contracted pelves, in severe hæmorrhages, and in injuries to the neighbouring organs. In partial passage of the child into the abdomen, or with a living child still in the uterus, Cæsarean section is the correct procedure when natural delivery would take too long, and be fraught with danger to the mother. As regards treatment after delivery, of Ludwig's nine cases,

three came into the hospital and were operated on—two by supravaginal amputation and one by abdominal hysterectomy; all recovered. The remaining six were treated outside; five were operated on—four by supravaginal amputation, one by abdominal hysterectomy—of which one recovered and four died of sepsis. There was no death from hæmorrhage except in the remaining case, which was not subjected to operative interference.

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(9) Abortion and Quinine.

SCHWAB (*Annales de Gynéc. et d'Obstét.*, May, 1897) in seven cases of retained placenta after abortion gave a gramme of quinine divided into two "cachets" at ten minutes' interval—$7\frac{7}{15}$ gr. at a dose. The results were encouraging. As a rule the placenta was expelled in four hours and a half by the stimulation of the uterine muscular fibres caused by the drug. In several instances the pains had ceased for hours. Hence the action of the quinine was positive. No bad results were observed, and no tetanic contractions occurred. At the worst the obstetrician can pass to expectant antiseptic treatment or to immediate emptying of the uterus. Neither treatment is prejudiced by the administration of quinine.

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(10) Pyelonephritis of Pregnancy.

NAVAS (*Revue Obstét. Internationale*, May 21st, 1897) has observed this complication eleven times, and believes that it is frequent. Many cases taken for cystitis should come under this class. The symptoms are seldom observed till the later months of pregnancy, as a rule the fifth, sixth, and seventh, never before the fifth. The disease is clearly caused by compression of the ureters and infection of the kidney already congested and damaged by retention of urine in its pelvis. Infection is favoured by fatigue, cold, and overwork, and enters the kidney through the blood, so that it ascends the urinary tract. The bacillus coli is the germ usually detected, and is probably due to constipation. The symptoms show no special character unless one or both of the two abortions in the seven cases were the direct result of the renal complication. The prognosis, according to Navas, is fairly favourable for mother and child, but he admits that two of the eleven mothers died after delivery. It was amongst the remaining nine that the two abortions occurred. After childbed the disease can readily be cured by simple medical treatment.

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(11) Limitation of the Use of the Uterine Sound.

DAUCHEZ (*France Méd.*, No. 19, 1897) states how, in an anomalous case of pregnancy, he fortunately refrained from the use of the uterine sound, although there were many signs and symptoms pointing to the presence of a myoma of the uterus. He thinks that the use of the sound should be reserved for those rare cases in which the gynæcologist is able to convince himself *de visu* that the menstrual flow has occurred, or in which he is justified in believing his patient's statement that she has not run the chance of becoming pregnant. He quotes with approbation Gingeot's reflection that "the fear of the hysterometer is the beginning of wisdom."

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(12) Congenital Dislocation of Both Knees.

W. P. C. HAZEN (*Virginia Med. Semi-Monthly*, March 26th, 1897) reports a case of labour in which there was an entire absence of liquor amnii. The child, a female, had the legs hyperextended on the thighs that the toes touched the abdomen. There was no patella to be felt on either side. The legs could be forcibly flexed, but immediately regained their extended position when the pressure was removed. Dislocation of the heads of the tibiæ forwards was diagnosed; and three months later the dislocations were reduced, and plaster bandages applied. Under this treatment there has been gradual improvement, and the patellæ have developed to their normal size. There is still a tendency to lateral motion at the knees.

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(13) Gonorrhœal Cystitis in Women.

LINDHOLM (*Centralbl. f. Gynäk.*, No. 21, 1897) closely observed a girl of 19 under treatment for gonorrhœa which had distinctly involved the uterine mucous membrane. She began to complain of pain during micturition. On examining the urine gonococci were detected in pure culture. Through the cystoscope the vesical mucosa appeared very vascular, with superficial loss of substance at certain points. The cystitis was cured by washing out the bladder with warm boracic lotion and injection of a 1 per cent. solution of nitrate of siver.

THERAPEUTICS.

(14) Strophanthus.

WILCOX (*Amer. Journ. of Med. Sciences*, May, 1897) records some clinical observations on the use of strophanthus; the preparation used was a 5 per cent. tincture (*U. S. Pharmacopœia*) made from strophanthus hispidus (var. Kombé). The indications for the use of this drug are, he considers: (1) Rapid recurrence of cardiac systole with diminished force and irregular rhythm; (2) Bright's disease, when associated with permanent high arterial tension, and also the conditions of arteriosclerosis and senile rigidity of arteries; (3) any condition where diuresis is required and can be promoted by increased blood pressure. Further, in any of the conditions where a drug of similar action is required, strophanthus is to be preferred if the symptoms are urgent, or if the administration of the drug is likely to be prolonged, for it can be shown that it acts very rapidly, and also that, given in suitable dose, it does not disturb digestion. Strophanthus is to be avoided in cases with advanced degeneration of the myocardium or with extreme mechanical obstruction to the circulation from valvular incompetence or stenosis. This drug was found particularly useful for corpulent persons and for children, and also in chlorosis, anæmia, irritability of the heart, and senile vertigo from cerebral anæmia. Sphygmographic tracings taken in 12 cases show within one hour after administration of the drug strengthening of the pulse, the line of ascent changes from nearly horizontal to almost vertical, the line of descent suddenly falls, the dicrotic wave disappears, and the irregularities and inequalities almost always cease. The writer considers that strophanthus has this definite advantage over digitalis, namely, greater rapidity of action, more powerful diuretic effect, absence of digestive disturbance, absence of cumulation, the drug does not lose its effect with continuous administration, greater value in children, greater safety in the aged. The drug must not, however, be used in large doses, nor with frequent repetition. The dose recommended is ♏v, which should not be given more than three or four times per diem.

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(15) Arsenious Acid in Epithelioma.

CERNY AND TRUNECEK, of Prague (*Sem. Méd.*, May 5th, 1897) have used arsenious acid in the treatment of epithelioma. Trying it at first in powder form, then in glycerine, they found it acted best dissolved in equal parts of alcohol and distilled water. This is applied to superficial and ulcerated growths as follows: After cleansing the new growth vigorously, so that it is made to bleed slightly (for it is essential that the arsenical mixture should come into contact with the tissues in the presence of fresh blood), the application is painted over the surface and allowed to evaporate, no dressing being required. This is followed by a bearable amount of pain, and next day the growth is covered with a slough. The surface of this, which turns from yellowish to black as the treatment continues, is painted daily until the necrotic process has involved the entire mass of the growth, and a line of demarcation appears. When the mummified slough is quite loose it is removed by snipping through any remaining fibrous bands. The arsenic is then applied to the base of the ulcer; if next day it is covered with a thin, easily removable, yellowish film, there are no carcinomatous elements left, but, if the slough is dark and adherent, the treatment must be continued. The strength of the arsenical mixture should be 1 in 150 at first; as the slough becomes thicker, this must be increased to 1 in 100, or even 1 in 80. The resulting ulcer is then treated according to ordinary surgical rules. With intemperate patients, alcohol must be prescribed during the course. Cure is completed in the case of small malignant ulcers in from three to four weeks; extensive or recurrent growths require two to three months, and the application must be made daily. Photographs are given of successful cases before and after treatment, and also of microscopical

sections of the growths. The three cases figured are all of malignant ulcers of the nose in old people which had lasted from two to seven years. One patient died a year after of senile pneumonia, the second is alive now, and there has been no recurrence since the cure in January, 1896; the third also is alive and healthy, the cure being completed in July, 1896. The authors have also tried the treatment in ulcerated scirrhus of the breast, which improved, but did not remain under treatment long enough to decide whether the enlarged axillary glands might disappear. They conclude that the treatment (1) is indicated in cutaneous cancers without enlarged lymphatic glands, especially when they affect exposed surfaces such as the face; (2) it should be tried in epithelioma of the tongue; (3) in large ulcerated carcinomata it is at least a good palliative; (4) it never causes general arsenical poisoning, even when applied to the mouth daily for months. The arsenic is, of course, the chief ingredient in the mixture, but the alcohol is probably of importance by aiding the powdered arsenious acid in the presence of fresh blood to combine with the cancerous elements to form an albuminate. Why fresh blood is necessary and why the remedy does not affect healthy tissues is uncertain.

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(16) Solutions of Iodine in Trachoma.

E. H. NESNAMOFF (*Vratch*, No. 17, 1897) records the results he obtained in the treatment of trachoma by iodine. He used it either dissolved in glycerine or in white vaseline oil, as in these liquids it penetrates the tissues best, without causing irritation. In slight cases of trachoma, where the conjunctiva is covered at the same time with granules, the iodine was applied in a strength of 1 per cent. If the conjunctiva is moist and pulpy the treatment is begun with $\frac{1}{2}$ per cent. (for one or two applications), afterwards a 1 per cent. solution is used. In cases where the infiltration is more uniform—the "gelatinous form" of Stellwag—a solution of 2 to 3 per cent. is used, and in proportion as the improvement progresses the solutions are made gradually weaker. In more serious cases, when the epithelium is hypertrophied, where the coats of the vessels are already degenerated, where there is a beginning of cicatrisation and a thickening of the cartilage of the lid, the results of the treatment were less brilliant. But even in such cases the application of a 2 to 3 per cent. solution gave a good deal of relief. After a few applications the papillæ became much smaller, the surface of the conjunctiva became more uniform and velvety. Pannus trachomatosus and ulcers of the cornea are no contraindication for the use of the iodine; of course atropine should be used as soon as there are any signs of irritation of the iris, or when the size of the ulcer is considerable. Direct application of the solution on pannus crassus which has spread over the whole cornea favours its clearing up. Even in cases in which the cicatrisation is very pronounced, the use of iodine locally gives much relief. In cases of purulent inflammation of the lachrymal sac Nesnamoff obtained very good results by injecting iodine solutions.

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(17) The Internal Treatment of Eczema.

BESNIER'S work, *Traité de Thérapeutique Appliquée*, is summarised as far as concerns the internal treatment of eczema in *La Belg. Méd.*, May 6th, 1897. 1. If pruritus is present an absolute milk diet must be ordered, since so many articles make it worse—tea, coffee, alcohol, veal, pork, fish, tomatoes, etc. No medicine should be given until the case has been under observation for some time, since there are few drugs which may not increase the pruritus. The urine must be examined for uric acid, sugar, albumen, oxaluria, phosphaturia, and peptonuria, and the patient's organs and functions thoroughly overhauled. With infants diet is of still greater importance: (*a*) The most harmless cutaneous antispasmodics are asafœtida and musk in doses up to 30 gr., and valerian in various forms. (*b*) Carbolic acid sometimes succeeds, but the dose must be large—3 to 6 gr. in twenty-four hours in pills after meals. (*c*) Atropine or its valerianiate in doses of $\frac{1}{260}$ gr. almost always allays irritation. More than $\frac{1}{130}$ to $\frac{1}{63}$ gr. in twenty-four hours should be given only exceptionally. (*d*) Opium is generally contra-indicated, being itself a frequent cause of pruritus, but it is sometimes useful for the insomnia. (*e*) For the latter sulphonal or trional in doses up to 30 gr. in twenty-four hours is much surer and generally well borne by the skin. (*f*) Chloral and the bromides alone or together act both as analgesics and hypnotics. In children bromide of potassium is alone suitable. It must be given every evening for four or five days, and then left off for a like time. Otherwise bromide rashes are frequent. The dose must not exceed 3 gr. under 3 months, 6 gr. under 6 months, 9 gr. under 1 year, and 15 gr. under 2 years. (*g*) Antipyrin and better phenacetin sometimes act, but many skins are intolerant of both. (*h*) Salicylate of sodium may be used, but does not suit every eczema. 2. Special drugs and mineral waters. None of these exert a sufficiently specific action on eczema to do away for the need of local treatment: (*a*) Arsenic is useful in chronic cases, such as the dry psoriasiform and lichenous forms. It does not suit acute cases or chronic during subacute exacerbations, with the exception of some varieties limited to the extremities or the head, or in certain individuals. Some patients cannot take arsenic at all, as it causes dyspepsia, palpitations, etc. It may then be given hypodermically, 1 to 4 minims of Fowler's solution in water. All the usual preparations may be given, or arsenical waters such as "la Bourboule." The most effective dose varies with each patient. (*b*) Alkalies. In cases with a gouty diathesis, bicarbonate of sodium acts well. The dose must be moderate if given for a long time. Salicylate or benzoate of sodium and alkaline mineral waters must be used according to the patient's constitution rather than the particular form of eczema. For instance a course at Royat benefits diabetic patients especially. (*c*) Sulphur in small doses is very useful with young anæmic, "lymphatic," or tuberculous patients. It is contra-indicated in neurotic or cardiac cases, or when the eczema is recent and acute. It is best given as natural sulphur waters and the patient may be sent for a course at any of the numerous sulphur baths, such as Uriage, though ichthyol may be given as an alternative.

PATHOLOGY.

(18) The "Agonal" Entry of Micro-organisms into the Blood Serum.

CHVOSTEK AND EGGER (*Wien. klin. Woch.*, 1897, No. 3) have repeated and extended the observations of Wurtz and others on this subject. The question is of the greatest importance, since if micro-organisms are found in the blood *post mortem* in the absence of putrefactive changes it is customary to assume that they were present there during life. Wurtz and his followers have, however, shown that there is in many cases an invasion of the blood by microbes during the last moments of life ("agonal"), and that the *post mortem* condition can no longer be accepted as merely differing quantitatively from the *ante-mortem*. The authors froze 13 rabbits to death, and found organisms in the blood in 4 cases, the control animals remaining free. Of 50 white mice similarly treated, 2 showed bacteria as against only 3 of the control animals. Much appeared to depend upon the repletion or emptiness of the intestinal tract; animals which had been fed upon milk diet were much more likely to show the agonal infection, while the results in starved animals approximated to those in the control experiments. Of 19 mice killed by suffocation 6 gave positive agonal results, the liability to which appeared to vary as the length of time occupied by the process. In the frozen animals intestinal hyperæmia was marked, and obviously resulted from the constriction of the cutaneous and peripheral vessels, but this is not the case in suffocation. A further interesting point is that fewer germs were found in the blood two hours after death than at the moment of cessation of the heart beat; this shows that, contrary to the generally received idea, there is a *post mortem* destruction of bacteria within the blood vessels. The authors conclude that an agonal invasion of the blood by micro-organisms must be regarded as proved, and that it is due in part to hyperæmia of the gut (which is their most important source of origin) in part to lowering of the general vital and resisting powers of the organism, and is most marked when, as in death by freezing, these conditions are combined.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(19) Acute Ascending Paralysis as a Complication of Pasteur's Treatment.

RENDU (*Bull. de l'Acad. de Méd.*, June, 1897) reports a case in which acute ascending paralysis supervened on Pasteur's treatment. The patient, a lad acting as attendant in the *post-mortem* room, pricked his finger while assisting at a necropsy on a man who had died of hydrophobia. As a prophylactic measure he was treated at the Pasteur Institute, and received 16 injections between March 22nd and April 1st. On the latter date he felt cold, and the following day was ill, with a feeling of heaviness in the legs so that he could hardly walk. There was also some pain in the loins like lumbago. The temperature was only slightly raised, and there was some general hyperæsthesia. On April 3rd there was marked paresis of the lower limbs, with muscular pains, and almost complete anæsthesia of abdomen, lumbar region, and lower limbs; there was also paralysis of the bladder. On April 4th paraplegia was almost absolute, and involuntary defæcation occurred about this time. There was no difficulty in respiration or in swallowing. On April 6th some weakness of the upper limbs came on, and the heart became rapid. During this time the injections had been continued, as it was considered important to complete the immunisation. On April 7th improvement began; the arms were no longer weak, and there was some return of power and sensation in the legs. Progress was rapid, and within three weeks the patient was quite convalescent. That the case was one of paralytic rabies seems unlikely, as the incubation was too short and the clinical course unlike it. It seems more likely that an acute ascending myelitis was caused by some toxin in the emulsion of spinal cord which was injected, and that, though usually harmless, the toxin proved virulent in this case owing to the receptive soil produced by the unhealthy surroundings to which a *post-mortem* room attendant is continually exposed.

(20) Paroxysmal Hæmoglobinuria.

RUMPP (*Münch. med. Woch.*, May 4th, 1897) relates two cases occurring in a mother and sister at 8 and 5 years respectively. In the boy there had been previous evidence of congenital syphilis. The disease had lasted three years, the immediate cause being apparently exposure to cold. There was shivering, fever, and vomiting at the time of the attack with great desire to pass urine, which was of a reddish brown colour. The attack only lasted a few hours, after which the urine again became clear. There was occasionally swelling of the feet. The child appeared well. The urine passed during the attack contained much albumen, oxy- and methhæmoglobin, but no red blood cells. In the girl there had also been manifestations of congenital syphilis. The urine during the attack was the same as the above, but contained abundant renal epithelium. An attack could be produced by putting the feet in cold water. Ten minutes after the cold footbath, the blood showed poikilocytosis, and the cells did not run into rouleaux. No colour change in the blood cells could be made out. The cold footbath also produced the attack in the boy. The treatment pursued consisted in keeping the patient warm and in giving a nourishing diet. Antisyphilitic treatment did not appear to be indicated, as the symptoms of the disease were slight. Hereditary syphilis could not be doubted in these cases, yet the hæmoglobinuria first appeared a year after scarlet fever. Perhaps the hereditary syphilis was the indirect and scarlet fever the direct cause of the disease.

(21) Herpes and Tuberculosis.

ROUHER has recently published some interesting details (*Journ. de Méd.*, April 10th, 1897) bearing upon a possible relation between zona and tuberculosis. It may appear under three different conditions: First, towards the end of severe pulmonary tubercle, and it is then of no special interest, but in other cases it is a very early symptom, and may, according to the writer, be looked upon as a premonitory sign. Thus, he quotes cases of patients subject to herpes zoster but who did not complain of any pulmonary affection. On examination of the lungs, however, early tuberculosis was discovered. In other cases, forming the third group, the signs of pulmonary tubercle may be discovered after a short interval, there being no physical indication at the time of the eruption. Although zona seems to affect neuropathic or neuro-arthritic subjects, it results from the author's observations that in every case of this disease the patient should be kept under observation, more particularly as concerns the lungs. The author points out the extreme importance and utility of this question should it be supported by more extensive observations.

(22) Diabetes Mellitus in a Young Child.

L. ROSENBERG (*Wien. med. Presse*, No. 20, 1897) reports the case of a female child, aged $2\frac{1}{2}$ years, who had for eight weeks had much thirst, and had become greatly emaciated. Analysis showed the presence of sugar in the urine. She was a first child, and had been breast fed for seven months; thereafter she had had ordinary infant's food and no sweets. She had measles when 11 months old, varicella at $1\frac{1}{2}$ year, and had for six weeks taken phosphorus and cod-liver oil for rickets. Her parents were healthy, and there was no family history of diabetes. She had a biliteral congenital dislocation of the hip, and slight signs of rickets. The tongue was dry, the breath had no aromatic odour, and the skin was somewhat harsh. The heart and lungs were normal, the teeth were good, and there were no signs of disease in the nervous system. The urine, light yellow in colour, had a specific gravity of 1029, contained no albumen, 5.2 per cent. of sugar, and much acetone. Two litres was the daily quantity passed. Some slight improvement has followed the use of the ordinary antidiabetic remedies.

SURGERY.

(23) Contagiousness of Cancer.

LEON NOËL has collected together (*Thèse de Paris*, 1897) a large amount of information on this subject, more particularly in support of the idea that the origin of cancer should be sought for in some widely spread condition affecting very various organisms both animal and vegetable. This idea, originated by Fiessinger, is based first of all upon the fact that cancer seems to be most frequent in isolated houses on the banks of rivers, especially if close to woods. It has also been observed that trees under these same conditions are affected with veritable tumours which present a curious resemblance to cancer. Among other facts cited by Noël is one which goes to show a certain relation between arboreal "cancer" and that of man: that is not only the frequency of malignant tumours in habitations surrounded by or near woods, but also a considerable mortality from cancer among certain persons whose occupation obliges them to live in these conditions; thus Excise officers who in certain parts of the country pass a considerable portion of their time in isolated paths through woods have frequently been observed to suffer from cancer. The statistics of Julliard, Bierry, and Fiessinger all contain considerable numbers of Excise men, and it is now a known fact that country labourers are very predisposed to cancer, and traumatism, scratches from brushes, etc., have been thought to have considerable bearing on the etiology of cancer. Cancer of the lip is said not to exist at Lyons, and all those who go into hospital there to be operated on for growth in that situation come from the fields. The malignant vegetable tumour is found in woods and orchards. This tumour appears to be contagious, a good number of them being often found in the same neighbourhood. Insects, as shown experimentally by Morau, more particularly the large wasps found in woods, seem to have a certain predilection for arboreal "cancer." Not only do they carry infective material from one tree to another, but they also disseminate it into human food. Ruffer's observation is quoted that large numbers of protozoa live on insects in the form of saprophytes, and it is quite easy to understand how insects could carry any infective material, and the question is asked, Is it possible for a human being to develop cancer as the result of

such infection? It is also easy to understand how water, especially in the neighbourhood of woods, could act as the medium of transport. In point of fact Fiessinger speaks of two different methods in which cancer may be propagated—from food and by the fingers. In the one case cancer of the alimentary tract will result; in the other any external portion of the body may be affected. Although these questions are merely hypothetical, they merit further observation.

(24) Preventive Plugging in Abdominal Surgery.

Lauenstein (*Centralb. f. Chir.*, No. 24, 1897) insists on the practical value of temporary preventive plugging with sterilised gauze in operations on the hollow viscera of the abdomen. He would, in a case of laparotomy for perforating gastric ulcer for instance, after exposure of the stomach and removal by irrigation of its contents, plug the fistulous opening by a long strip of gauze passed into the stomach. He would then apply the sutures in a loose row, and on tying these one by one, would gradually remove the gauze. The discharge of any fluid remaining in the stomach during the application of the sutures or the separation of adhesions, may thus be avoided. This method is also strongly recommended in operations for gangrenous hernia, for cholelithiasis and fistula of the gall bladder, for cancer of the rectum, and for perforating wound and rupture of the intestine and urinary bladder. The author points out, however, that in resection of the intestine plugging is not to be practised independently of temporary compression of the divided intestinal segments by ligature or clamp. The introduction of a long piece of gauze is particularly useful in preventing the flow of urine into the peritoneal cavity during the closure by sutures of an intraperitoneal rent in the bladder.

(25) The Treatment of Hydronephrotic Wandering Kidney.

Cramer (*Centralbl. f. Chir.*, No. 21, 1897) states that extirpation of the affected kidney in cases of advanced and extensive hydronephrosis is a difficult operation, owing to the absorption of perirenal fat and firm adhesions of the sac. Bardenheuer had for some years obtained satisfactory results from this treatment, but was led, by a fatal case in which the patient possessed but one kidney, to resort to methods in which the diseased organ could be retained. The successful results of such attempts have convinced him that even in cases of very extensive hydronephrosis the enormous sac speedily contracts after the relief of urinary pressure, and that in most cases the expanded and atrophied renal structure again becomes capable of performing its full secreting function. Reference is made to a case of hydronephrosis caused by distortion of the ureter near its attachment to the renal pelvis, in which Bardenheuer established with successful results a fistulous communication between the ureter and the most dependent portion of the sac. In a similar case, which is here reported at length, this surgeon performed an operation analogous to that known as the Heineke-Mikulicz method, practised in cases of pyloric stenosis. An incision was made into the bent portion of the ureter in the long axis of this canal, and the cut edges of this wound were brought together by a suture in a direction at right angles to its original direction. The affected kidney was then placed in an artificial pouch formed by detaching the parietal peritoneum from the muscular structures of the lumbar region. This operation, which was completely successful, is similar to one previously described by Fenger.

(26) Dangers of Operative Interference in Cases of Exophthalmic Goitre.

Lejars (*Bull. et Mém. de la Soc. de Chir. de Paris*, March, 1897) reports a case which, together with others previously recorded, indicates that any operative treatment of exophthalmic goître is likely to be attended by serious and quite special risk. The patient, a young woman who had suffered from well marked symptoms of Basedow's disease for eight months, and presented a moderate enlargement of the thyroid affecting mainly the right half, died within a few hours after removal of the right lobe. The operation itself was a simple and easy one, and was attended by very little bleeding. The fatal result occurred suddenly, having been preceded merely by increased rapidity of the pulse and some slight dyspnœa. The necropsy afforded no clue to the cause of death, but the facts of the case, it is pointed out, suggest the probability of the toxic action of increased thyroid secretion on the medulla oblongata.

(27) Operative Treatment of Detached Retina.

Rohmer (*Rev. Méd. de l'Est*, February 1st, 1897) introduced a discussion on this subject in the Nancy Medical Society by reporting a case of detachment of the retina in a non-myopic man 45 years old comprising the lower third of the membrane, which he had cured in five days by puncture and rest in bed after it had been present for a year. He also cited several cases of myopic detachments which he had cured by very similar treatment. He reviewed the other operative methods—discission, drainage, suture, iridectomy, electrolysis, and injection of tincture of iodine—which had all been abandoned after being successful at first in the hands of their inventors. Heydenreich observed that Rohmer's patient was not seen after the fourteenth day, and it was impossible to tell whether the cure was permanent. Guilloz maintained that to gauge the value of operative treatment one must know the proportion of cases cured without operation. Some statistics seemed to show that nearly all recent cases treated without operation were cured, while of those operated on only a third recovered. Rohmer agreed with the speakers that the real value of the operation was uncertain in the present state of knowledge.

MIDWIFERY AND DISEASES OF WOMEN.

(28) Face Presentations.

P. Dreyer (*Norsk Mag. for Laegevidensk.*, No. 3, 1897) emphasises the difficulties met with in malrotated face cases. When the chin is to the front no other treatment than that employed in vertex cases will be needed; but when the chin is posterior one should leave the case to Nature till, after complete or nearly complete dilatation of the os externum and rupture of the membranes, one recognises that in spite of good pains the chin does not in an hour or two pass into the pelvic cavity. If, then, there are signs of danger in the lower uterine segment, and if the fœtal heart beats are diminishing in number, and becoming irregular, the time has come for changing the presentation by "redressement." This treatment the author prefers to version, even when immediate delivery is necessary, and he follows it at once by the use of forceps. He thinks there is less danger in applying forceps to the occiput in its high position than in trying version when the lower uterine segment is much distended.

(29) Habitual Abortion.

Charpentier (*Ann. de Gynéc. et d'Obstét.*, May, 1897) dwells on distinct local conditions in otherwise healthy women free from syphilis, lead-poisoning, and other general disorders. First, he traces abortion to ill-developed uterus; in the infantile type, with its long neck and short body, the muscular coat does not readily soften, yet remains very irritable, contracting and expelling the fœtus about the third month. This condition is rare, but may be readily defined. Next come displacements, and especially flexions. Charpentier insists that the spur at the angle of flexion hypertrophies, and greatly interferes with uterine development. Replacement of the uterus in its normal axis will, in many cases, allow gestation to continue to term. The third cause of habitual abortion is congestion of the body and cervix, due to idiosyncracies. General or local bleeding may prevent abortion. Corporeal or cervical endometritis is a very common cause of abortion. The use of the curette to the pregnant cervix has undoubtedly allowed pregnancy to proceed to term in many instances where the patient would have miscarried without such treatment. In short, the curette prevents instead of provoking abortion in these cases. Lefour applies intrauterine stems to the uterus of a non-pregnant woman, who has suffered from habitual abortien, as he finds that such treatment overcomes the individual intolerance of the uterus, and makes it bear the presence of an ovum.

(30) Deformed Uterus Requiring Operation.

ROSNER (*Monats. f. Geburtsh. u. Gynäk.*, April, 1897) publishes a case where a woman, aged 30, had sought for hospital relief for sixteen years. She had borne one child. She was subject to intense dysmenorrhœa. Uterus bicornis with obstructed left tube was diagnosed. An operation was performed; the left cornu, very ill-developed, was removed with the left appendages. Rosner believed that a hæmotometra had formed shortly after marriage, and opened spontaneously, so that pyometra occurred, there being a history of purulent discharge. The obstructed tube, which was found full of serum, had no doubt been once full of blood; a hæmatosalpinx had, in fact, become a hydrosalpinx. Von Mars had treated this patient in an earlier stage of her illness, and disagreed with Rosner's explanation. He detected, shortly after marriage, a true hæmatocele, and noted at the time that it underwent rapid absorption. He did not believe that there was any hæmatometra. He declared that the pus came from the parametrium and not from the uterus, bursting into the vagina. Von Mars, like Rosner, was surprised that after this serious local disease early in married life the patient managed to bear a child in the normal half of her uterus, and to be safely delivered at term.

(31) Puerperal Infection and Abscess of the Lung.

CHAMBRELENT (*Journ. de Méd. de Bordeaux*, April 4th, 1897) showed, at a recent meeting of the Obstetrical Society of Bordeaux, the results of an necropsy of a woman who had died in puerperium. She was 22 years of age, and had been prematurely delivered at the eighth month of a dead and putrefied fœtus weighing 2,750 grammes. She had a rigor the next day, entailing douching of the uterus; she did not improve, and curettage was had recourse to. This brought away some putrefied fragments. There was improvement for a day and a half, followed by a return of the high temperature, and the development of severe pain in the lower intercostal spaces on the left side. The uterus was washed out twice daily, but the temperature remained high. Signs of pneumonia were now detected, and later those of pulmonary abscess. The patient died on the twenty-sixth day of the puerperium, and at the necropsy a large pulmonary abscess was found, but nothing abnormal in the uterus or peritoneum. Chambrelent regards the abscess as due to a septic pulmonary embolus coming from the putrefied fœtus and placenta.

(32) Post-partum Hæmorrhage from a Laceration in the Vestibulo-clitoridian Region.

AUDEBERT (*Journ. de Méd. de Bordeaux*, Oct. 24, 1897) describes a case of spontaneous delivery followed by hæmorrhage from the vestibulo-clitoridian region. The patient was a primipara, 21 years of age, with a normal pelvis. The head presented in the R.O.P. position, and the second stage of labour lasted one hour. There was some difficulty in the birth of the shoulders. After the labour was over an irregular laceration passing obliquely downwards and to the right was noticed between the clitoris and the meatus urinarius; it was separated from the vulvar orifice by quite 1 cm. of healthy mucous membrane. Free hæmorrhage took place from it till it was arrested by the introduction of three catgut sutures. This was a primary laceration, and was not occasioned by the extension of a tear of the vulvar ring. Audebert dwells on the importance of immediate suture in such cases.

THERAPEUTICS.

(33) Kolanin.

DORNBLÜTH (*Berl. klin. Woch.*, June 21st, 1897) first draws attention to the stimulating action of the kola nut. The investigations of Knebel and Hilger have shown that the nut contains no alkaloids, but a glucoside named by Knebel "kolanin." In the ripe or dry fruit this may be split up into glucose and caffeine. This necessitates a very careful preparation of the nut if the glucoside is to be retained. Kolanin is decomposed by the saliva or by the gastric juice. The author has used this kolanin in tablet form prepared after Knebel's directions in a great number of patients. It rapidly restores the strength after exhausting work without any ill effects. It is considerably superior to caffeine. In one case, however, that of a hystero-neurasthenical woman, 0.2 g. kolanin produced a feeling of uncertainty or trembling in the hands. The good effect of this agent was apparent in cases of exhaustion and in neurasthenics, but in the latter the result was only temporary. Improvement was also observed in cases of neurasthenic cardiac depression, but here again the effect was temporary, and another tablet had to be taken in one to one and a-half hour. Monobromate of camphor also used in this condition sometimes fails, and may give rise to unpleasant after-effects. In some cases of organic cardiac disease kolanin proved useful. In migraine a beneficial action was also obtained, as well as in headaches following upon mental overexertion and upon alcoholic excesses.

(34) Pyramidon.

LÉPINE (*Lyon Médical*, June 13th) has made experimental and therapeutic observations on this new antipyretic and analgesic. It is a derivative of antipyrin, but is about three or four times stronger. In dogs 0.2 g. per kilogrammes of body weight is fatal in a few hours. Lépine has given it to 20 patients without any bad result, and in most cases with great benefit. In a case of tabes with severe lightning pains, which antipyrin and hypodermic injections of morphine were powerless to relieve, doses of 0.7 g. of pyramidon three or four times a day were eminently successful, and quite removed the pains for several weeks. This dose is a large one, and he usually employed 0.25 g. three or four times a day with great success on other nervous conditions often suiting better than antipyrin. It failed, however, in a severe case of neurasthenia. As an antipyretic it proved very satisfactory in a case of typhoid fever.

(35) The Local Application of Salicylate of Methyl in Rheumatism.

LEMOINE (*Sem. Méd.*, May 12th, 1897) reported to the Soc. Méd. des Hôpitaux the results of treating 9 cases of rheumatism by the external application of salicylate of methyl according to the method of Linossier and Lannois (see EPITOME, September, 1896, par. 270). He finds that thus applied it acts in acute articular rheumatism more rapidly in relieving pain than salicylate of soda given internally, and in doses of 154 to 185 gr. causes neither vertigo, deafness, nor tinnitus. It is excreted in the urine as salicylic acid, the amount eliminated being equal to one-tenth of that used externally. The required quantity of oil of wintergreen, which contains 90 per cent. of methyl salicylate, is poured on a compress, covered with gutta-percha tissue, and kept in place with a bandage. It is best to apply it directly to the painful part, but if this is inconvenient it should be applied to the surface of a limb, the good results being chiefly due to its absorption into the general circulation. In the discussion which followed, Siredey stated that the treatment in his hands had been equally successful against the lightning pains of locomotor ataxy, and the pain of Pott's disease. He, however, found that 20 to 30 drops of the methyl salicylate was a sufficiently large amount to use. He had met with one case of intolerance in a woman with acute gouty arthritis, who after 50 drops had headache and tinnitus. Linossier said that this was the only case he had heard of, and the method had the great advantage of avoiding such complications, which were probably of gastric origin.

(36) Irrigation in Gonorrhœa.

VALENTINE (*New York Med. Journ.* June 5th, 1897) advocates this form of treatment, stating that every urethra, not too tightly strictured, and every bladder can be irrigated without a catheter; that irrigation is the quickest cure for gonorrhœa; that internal drugs are futile, and hand injections useless. Valentine employs a glass funnel, raised and lowered by means of a pulley. This is connected by a rubber tube with the nozzle inserted into the urethra. The nozzle is of glass, and made in three sizes to fit different urethras. The patient sits on the front of a chair, with his penis passed through a hole in an india-rubber sheet. The nozzle is surrounded by a bell shaped glass shield to prevent the fluid spurting outside the receiving basin. For irrigation of the anterior

urethra, after cleansing of the external parts, the current is allowed to flow into the urethra in gradually increasing strength, the latter being checked by the surgeon's fingers pressing on the urethra, and thus regulating the force. In irrigating the posterior urethra, sufficient force of current is necessary to overcome the compressor urethræ and sphincter vesicæ muscles, the bladder being therefore irrigated as well. The sphincters are overcome more easily if the patient takes several deep respirations and makes an effort to urinate. After this the patient stands up and urinates. In a few cases it may be necessary to anæsthetise the urethra before irrigation with cocaine, but in most cases this is unnecessary. According to Valentine and others, acute gonorrhœa is cured on the average in 10 days, two irrigations being given on the first 3 or 4 days, afterwards one daily. The solutions used were permanganate of potassium (1 in 6,000 to 1 in 1,000); mercuric chloride (1 in 10,000); silver nitrate (1 in 10,000 to 1 in 1,000); cupric sulphate (1 in 2,000 to 1 in 500); argonin (10 per cent.) Concerning the latter drug, Valentine does not consider it superior to permangate of potassium.

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(37) Iodothyrin.

V. Vamossy and Vas (*Münch. med. Woch.*, June 22nd, 1897) report an experimental investigation concerning this agent. Their object was to decide whether the cardiac and respiratory symptoms, including sudden death, should be attributed to the action of the thyroid gland or to impurities (ptomaines, etc.) producing an intoxication. The authors first record experiments undertaken to show that the iodothyrin used by them was an efficient preparation. (1) Action of iodothyrin upon the blood. Their experiments show that the subcutaneous injection of iodothyrin, even in large doses, produces no changes in the blood, with the exception of a slight and fleeting leucocytosis. When injected into the veins, iodothyrin occasioned a diminution in the specific gravity in the hæmoglobin and in the number of red cells, but this also was only slight and temporary. The increase in the white cells was more marked. (2) Action of iodothyrin on the heart. As a result of their experiments on frogs and dogs, the authors conclude that iodothyrin has not the slightest action on the heart, even when injected into the veins. (3) Action of iodothyrin on the respiration. Here also, even in the largest doses, no effect was observed. (4) Action of iodothyrin on blood pressure. The authors confirm Kobert's conclusions that iodothyrin produces no changes in the blood pressure. Even after a prolonged use of this agent, there is no cumulative action to be observed, The authors are disposed to attribute any unpleasant effects arising during thyroid treatment to the action of ptomaines, and they think that such effects will be reduced to a minimum by the use of Baumann's iodothyrin. Any unpleasant after-effects following upon the prolonged use of iodothyrin are due to sudden changes of metabolism. Just as time is required before tetanoid spasms occur after the removal of the thyroid gland, so also a certain time is needed before iodothyrin leads to the disappearance of the intoxication symptoms. In conclusion, the authors maintain that iodothyrin produces no direct acute action as such either on the nervous system or on the heart, blood, or vascular system, and that it only develops its specific action through a change in metabolism.

PATHOLOGY.

(38) Cancer and Cirrhosis of the Liver.

Pennato (*Rif. Med.*, May 6th, 1897) describes three varieties of primary cancer of the liver with cirrhosis. In the first the duration is short, from 4 to 6 months; there is some ascites, no jaundice, spleen normal or a little enlarged, abnormal development of subcutaneous abdominal veins, and one lobe (generally the right) of the liver enlarged and carcinomatous, the other atrophied and cirrhotic. The second variety, which is much rarer, and of which the author records a case under his own care, is characterised by a diminution in the size of the liver. Macroscopically the organ looks like ordinary cirrhosis, but may show a few granules on the surface; the parenchyma is studded with small yellowish, green, or brown masses of cancer. In the third variety, which is the most common, the ascites is generally hæmorrhagic, jaundice slight (or marked), spleen generally a little enlarged, and the liver usually much enlarged, and presenting an irregular nodulated surface.

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(39) Regeneration of Nerves.

Robert Kennedy, in a paper read before the Royal Society on February 11th, 1897, reports four cases of secondary suture of nerves. In the first the median and ulnar were sutured six months and a half after division in the middle of the forearm. There was total loss of sensation and motion in the distribution in the hand, and marked muscular atrophy. Three days after operation sensation commenced to return; by the nineteenth day touch was correctly localised on all parts of the fingers, and in a month sensation was almost perfect. Improvement in motion was slow and imperfect. In the second case suture of the median nerve was performed three months after complete division above the wrist. Sensation was lost in the median distribution, and opposition of the thumb was impossible. The thenar eminence was markedly atrophied. Two days after operation sensation began to return. Both sensation and motion speedily improved, and at the end of a year recovery was almost perfect. In the third case the median, musculo-spiral, and ulnar were involved in cicatricial tissue at the seat of fracture above the elbow. Two months after the accident there was total anæsthesia in their distribution and paralysis of the muscles. Sensation commenced to return on the fourth morning after operation; the case was followed only for six weeks, at the end of which time sensation was present in the fingers, but there was no return of motion. In the last patient the ulnar was sutured eighteen months after section, the sense of pain being totally lost in its distribution. Five days after this returned in the little finger, and in six weeks sensation was almost perfect, though motion had not improved. The author considers that early return of sensation must be regarded as indicating a restored conductivity of the divided nerve. The imperfect or non-return of motion must be taken to imply atrophy or destruction of the muscles. Microscopically he found that both central and peripheral portions of ununited nerves contained bundles of young nerve fibres, to the sides of which spindle-shaped nuclei were attached at frequent intervals. Where the nerve ends were united by a cicatricial segment without conductivity being restored the segment was found to consist of a dense network of connective tissue containing bundles of young nerve fibres in its meshes. Portions excised from the central ends of the nerves showed no trace of old myelin fibres or of degenerated fibres, but were made up of bundles of young nerve fibres, which could be seen taking origin withi the old sheaths of Schwann. The author finds no evidence of Krause's ascending degeneration, the old axis cylinder and myelin sheath being destroyed in the peripheral segment in the ultimate portion of the central segment. Young nerve fibres are developed in the peripheral segment as well as in the end of the central segment, even while there is no connection between the two. These young nerve fibres arise within the old sheath of Schwann from the protoplasm and nucleus of the interannular segments. The spindle cells formed from the protoplasm and nuclei of the interannular segments elongate and unite to form protoplasmic threads with the elongated nuclei attached to their sides. The central portion of the protoplasmic thread develops into the axis cylinder, while myelin is deposited in drops in the outer portions, the protoplasm of which remains with the nucleus as the neuroblast of the new interannular segment. As long as the conductivity of the nerve is not re-established the development of the fibres proceeds only to a certain stage, and as the new fibres three and eighteen months after division present the same characters this stage may be regarded as a resting stage, depending for its further development on re-establishment of function. The cicatricial intercalary segments of a spontaneously reunited nerve may be permeated from end to end by young fibres without re-establishment of function if the amount of cicatricial tissue present in the mass is sufficient by its pressure to prevent the passage of impulses.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(40) Pyelonephritis in Children.

A. BAGINSKY (*Deut. med. Woch.*, June 17th, 1897) observes that renal affections in children have hardly been as fully studied as is desirable. He then describes pyelonephritis in early life, dividing into two groups, consisting of mild and severe cases respectively. (1) The details of two mild cases are then given and reference made to a further two. They were all characterised by variable fever subnormal temperatures, alternating with considerable rises. The urine also presents characteristic changes; at times it is normal, but at other times it contains albumen and numerous cellular elements, especially pus cells. Thus, this is a disease which might remain very obscure if the changes in the urine were not noticed. A most thorough examination of the patient may at times give rise to negative results. These children generally suffer from severe dyspeptic symptoms, mostly with marked constipation. In one of the author's cases there was a membranous colitis. The B. coli communis was cultivated from the urine in all the cases; but then it must be remembered that this micro-organism is not infrequently found in the urine of healthy children. Perhaps the invasion of the kidney by this bacillus is the cause of the disease. (2) The author then describes four severe and fatal cases where multiple minute abscesses were found in the kidneys. On microscopic examination, casts were found to extend in the straight tubes from the renal pelvis towards the cortex of the kidney. Necrotic foci were also present, as well as hæmorrhagic centres. The cortex was healthy, with the exception of the abscesses. The appearances were such as to make it practically certain that the disease had travelled upwards from the pelvis of the kidney. In these cases diarrhœa was associated with a severe pyelonephritis, which apparently took origin in the changes present in the intestinal tract. The bacillus coli and bacterium lactis were present in the urine during life, and the same micro-organisms along with proteus and bacillus pyocyaneus were obtained from the kidney after death. With such a collection of micro-organisms it was impossible to say which caused the disease. It is important in practice not to overlook the slighter cases, which the author says are relatively amenable to treatment by diet, mild cathartics, and alkaline waters. In one case the use of creasote was rapidly followed by a cessation of the febrile attacks and vomiting.

(41) Congenital Gastric Spasm.

J. THOMSON (*Scottish Medical and Surgical Journal*, June, 1897) under this title describes a disease which produces and is characterised *post mortem* by hypertrophy and stenosis of the pylorus. He has collected about fifteen cases of the disease, and describes one fully. The children may be attacked directly after birth, or after an interval of some weeks, by vomiting, which becomes progressively worse and does not react to ordinary means. Liquid is retained for long periods in the stomach, showing that not only is there pyloric obstruction, but also some impediment to absorption in the stomach. The abdomen is lax from collapse of the intestines, and the hypertrophied pylorus may be made out. The subjects live from three weeks to six months; in some cases where the hypertrophy was most marked life was extremely short, so that it appears probable that the change began on fœtal life. The enlarged pylorus is due to muscular hypertrophy, and not to fibrosis; the muscular hypertrophy extends to the adjacent parts of the stomach, and is due to constant spasm, which in its turn is explained by the nervous inco-ordination due to delayed or imperfect development. It is unlikely that spasm is due to some irritating quality of the liquor amnii, which the fœtus is supposed to swallow during the later months of intrauterine life, inasmuch as signs of irritation of the gastric mucosa are absent. Gastro-enterostomy or excision of the pylorus is suggested by way of treatment.

(42) Prolonged Diphtheria.

JESSEN (*Centralbl. f. inn. Med.*, May 15th, 1897) refers to the rare cases in which clinical manifestations of the diphtheritic process in the upper air passages persist for a long time. There are but few reported cases of this chronic diphtheria. The author records the following case in a girl, aged 19, who first fell ill with a facial erysipelas. This soon got well, but a few days later an ulcerated patch appeared on the right side of the palate. The glands were enlarged, and the temperature was 39.5° C. Virulent diphtheria bacilli were found in the exudation. In the further progress of the case exudation appeared on the posterior pharyngeal wall, and in the naso-pharynx and right nostril, but there was no fever and no albuminuria. Four weeks after the onset there was a definite paresis of the right half of the soft palate. The exudation varied its position, but as time went on its intensity diminished. Virulent diphtheria bacilli were constantly found in the exudation. An injection of 1,500 units of diphtheria serum had no effect on the local lesion, and the same was true of local treatment with all the ordinary applications. Lactic acid destroyed the exudation rapidly, but it formed again. Four months after the onset there was an infiltration of the mucous membrane where the exudation had been, and there were still several white patches in the pharynx not easily detached. The exudation was fibrino-purulent in character, and contained diphtheria bacilli. It is interesting to note that notwithstanding the presence during four months of a local lesion containing virulent diphtheria bacilli, there were practically no general symptoms. Some five months after the onset the exudation disappeared, and the infiltration of the mucous membrane began to diminish.

SURGERY.

(43) The Treatment of Pott's Disease of the Spine.

CHIPAULT (*L'Œuvre Médico-Chirurgicale*, No. 2, 1897) holds that the essential treatment of Pott's disease is based on immobilisation of the patient. In young subjects suffering from the disease in an early stage, but still progressive, this immobilisation should be assisted by the direct application of a metallic ligature to the spinous processes of the affected region. In cases of early and still mobile angular curvature the treatment by immobilisation should be preceded by reduction of the displacement during anæsthesia. This reduction, it is stated, may be readily effected after one or more attempts, according to its extent. If the curvature be of long standing, and ankylosed, support by a corset is alone indicated. When Pott's disease is accompanied by complications, such as paraplegia and chronic abscess, immobilisation is still indicated, and also in many cases reduction of the curvature. Paraplegia very rarely requires any special treatment. On the other hand a purulent collection, whenever it shows a tendency to open either externally or into some internal organ, and when it has become fistulous, necessitates prompt and energetic surgical treatment, consisting in a free exposure of the interior of the sac, and a "toilette" as complete as possible of its walls and of the diseased vertebræ. The author insists on the importance of medical treatment in cases of Pott's disease, and of attention to hygiene, suitable medication, and of exposure to fresh and free air either at the seaside or in certain mineral establishments. Sodium and sulphur chlorides, it is asserted, are absolutely indispensable for assisting the organism to gain the full benefit of local treatment. The surgeon who neglects this portion of the treatment will, notwithstanding the most rational orthopædic and operative measures, run the risk of almost constant failure.

(44) The Operative Treatment of Hypertrophied Prostate.

LENNANDER (*Centralbl. f. Chir.*, No. 22, 1897), in a paper on what he names the sexual operations for prostatic hypertrophy, expresses his views on this treatment in accordance with the results of experience in the surgical clinic at Upsala. A table made up by Floderus gives briefly the details of seven cases of castration, eleven of resection of the vas deferens, and one case in which the

prostate was cauterised by Bottini's method. The author has a very poor opinion of bilateral castration, and cannot conceive of any indication for this operation in cases in which both testis and epididymis are free from grave morbid changes and are not the seat of neuralgic pains. Resection of the vas deferens has given more encouraging results, and is regarded as a good operation in cases of dilatation of the bladder without urinary infection and with but partial retention. It is also recommended in those cases of prostatic disease in which the use of the catheter has failed to afford any good results. When the symptoms indicate the extension towards the kidneys of obstinate inflammatory mischief in the bladder the author would open the bladder above the symphysis pubis, and associate with this operation bilateral vasectomy, with the hope that the latter measure would so far tend to reduce the size of the prostate as to favour, after cessation or decided diminution of the urinary infection, spontaneous micturition and healing of the vesical fistula. In resecting the vas deferens the author now makes it a rule to remove as much as possible of the surrounding connective tissue so as to divide and destroy the numerous nerve fibres passing between the testis and the prostate.

(45) Fracture of the Neck of the Femur in Childhood.

Whitman (*Annals of Surgery*, June, 1897) reports 10 cases of fracture of the neck of the femur in children between $2\frac{1}{2}$ and 8 years of age, and presents two skiagraphs showing the consequent deformity of the bone at the seat of injury. In the course of his paper, the author deals with certain practical difficulties in connection with this injury, especially its immediate diagnosis, and its differential diagnosis from hip disease during the stage of recovery. It is held that the traditional age limit for fracture of the neck of the femur does not exist, and that this injury not only does occur in childhood, but is probably not an uncommon accident which may be recognised, or may at a later period be mistaken for and treated on the diagnosis of hip disease. In opposition to the accepted teaching that the symptoms here regarded as those of fracture are due to separation of the epiphysis of the head of the femur, the author holds that it would be rather extreme violence followed by non-union of the fragments or subsequent disability that would favour the diagnosis of the latter form of injury. The less the violence and the less the immediate disability, the greater would be the probability of fracture when signs of fracture are present, because a bone is more likely to break in its weakest than in its strongest part, and because rapid union and almost normal functional capacity associated, as was observed in all the author's cases, with upward displacement of the trochanter, prove that the solution of continuity could not have involved the articulating surface of the femur. It is stated that this fracture in childhood is peculiar in the fact that although the immediate results are extremely favourable, even without treatment, the final outcome is likely to be a disability even more decided than after fracture in adult life.

(46) New Incision for Nephrectomy.

Abbe (*Annals of Surgery*, June, 1897) has recently reported to the New York Surgical Society a case of hydronephrosis in which the kidney was removed by an unusual method. An incision was made from a point 1 inch inside the antero-superior iliac spine, upward and backward for $4\frac{1}{2}$ inches in a line parallel with the fibres of the external oblique muscle. After separation of the fibres of the abdominal muscles, as is done in the McBurney method the peritoneum is freely exposed, and can be readily stripped from the front of the kidney. By using good retractors the surgeon can now inspect the pedicle and separate the ureter, which can be followed to the brim of the pelvis. This method, it is held, allows nephrectomy in the most advantageous position for both patient and operator. It gives free access to the kidney and ureter, and is almost a bloodless method, as no muscles are cut across. As each abdominal muscle is divided in the direction taken by its fibres the deep portions of the wound readily fall together, and there is much less tendency to the development of hernia.

MIDWIFERY AND DISEASES OF WOMEN.

(47) Face Presentation.

Gessner (*Centralbl. f. Gynäk.*, No. 22, 1897) admits that in individual cases no satisfactory explanation of face presentation can be found. Obstetricians should report every case where fair evidence exists that some condition favours this presentation. In one of his own the patient was in her eleventh labour. He detected a spastic stricture in the lower uterine segment, which projected into the uterine cavity so as to hold back the fœtal occiput. This spasm was suppressed by narcotics and warm applications, and the presentation was spontaneously converted into the first vertex position, and delivery followed. This case suggested, in Gessner's opinion, Freund's theory that rheumatism of the uterus is a cause of face presentation. In a second case there was nothing remarkable at the labour; the child was born asphyxiated, and died on the next day. The cranium was markedly dolichocephalic, and the posterior arm of the head lever was nearly a centimetre longer than the anterior. As the deformity was one of the scapho-cephalic variety, it must have originated in the course of development in the uterus, and not during the process of labour. The case supports Hecker's theory. In the discussion on Gessner's paper Müllerheim supported Freund's theory. He had seen many cases like Gessner's first at Strassburg, where Freund had detected a relation between rheumatism and abnormal presentations, so much influenced by climate. Nagel and others supported Hecker's theory, having detected deformities of the occiput in face presentation.

(48) Effects of Caustics on the Uterus.

Labusquière (*Ann. de Gynéc. et d'Obstét.*, June, 1897) reviews the experience of several recent writers. Hofmeyer reports a case where a 50 per cent. solution of chloride of zinc was injected into the uterus. The nozzle of the syringe was very fine, almost as thin as that of a morphine injector, and the os had not been dilated before treatment. The patient walked home, but died with symptoms of acute peritonitis within twelve hours. The body was disinterred for a judicial necropsy twenty days later. There was no doubt strong evidence of peritonitis; the serous investment of the uterus and its serous folds were inflamed. On the other hand, though the endometrium was represented by an eschar, there was no such appearance in either Fallopian tube. Hence the inflammatory process had extended through the uterine wall, whilst none of the fluid caustic had passed along the tubes. Hofmeyer condemns the chloride solution; he even thinks that it acts as a poison. He refers to Dührssen, who advises its application by means of a Playfair's probe; but Hofmeyer finds that most of the caustic on that instrument is lost on the cervical mucosa; for that reason the advocates of the chloride erroneously believe that it can be freely applied to the endometrium with impunity. A needle-like nozzle should not be recommended for intrauterine injections, as it encourages the evil practice of injecting without preliminary dilatation of the cervix. Much can be injected through a fine nozzle, but that much cannot always escape freely through the os, and the os internum may contract behind it. By dilating the cervix, using a syringe with a fair-sized nozzle, making sure that the fluid can escape from the cervix and keeping the patient in bed, strong caustics may be used with advantage. Bröse thinks that even with these precautions intrauterine injections of any fluid may set up perimetritis. Schroeder recorded that complication when only solution of tincture of iodine had been employed. He advises that a Playfair's probe be used for the application of the chloride solution, which in particular should never be injected. In leucorrhœa, and even gonorrhœa, the cervix should be treated first. Dührssen, on the other hand, is in favour of the injection of strong caustics, but he insists on washing out the uterus with water both before and after the injection of the caustic. He packs the uterus with iodoform gauze on the day before cauterisation, so that the cervix is dilated, and in consequence the action of the caustic will be less painful. Sänger condemns both the 50 per cent. solution of chloride of zinc as injection, and Dumontpallier's treatment with

crayons of that salt. The chloride is an excellent therapeutic agent, but should be used like nitrate of silver, and applied by aid of an ordinary caustic holder. Strong solutions of other salts should be applied in the same way, but never injected. Labusquière notes that Worth and others have recently shown that destruction of the endometrium may not necessarily cure even pure endometritis. In a case where after the use of Dumontpallier's crayons the uterus was removed, it was found that in place of the eschar was a perfectly reproduced endometrium. Unfortunately its pathological changes were reproduced as well. Hence much remains to be learnt about the rational treatment of endometritis.

(49) Latent Rupture of Uterus in Labour.

BÄCKER (*Monatsschrift f. Geburtsh. u. Gynäk.*, March, 1897) relates the case of a woman in her third labour, who seemed to be doing badly, when it was found that the retardation of delivery was rupture of the uterus. This was surprising, as the symptoms were by no means acute. Five hours after rupture the uterus and appendages were removed. The patient died within eight hours after the operation. At the necropsy the cause of death was found to be hæmorrhage. The vascular and œdematous pelvic connective tissue had shrunken up, so that the ligature had slipped. It is clear, says Bäcker, that mass ligatures are insufficient for the hypertrophied and vascular structures around a parturient uterus. Every divided vessel must be secured. The conjugate diameter of the pelvis was $3\frac{7}{10}$ inches.

(50) Ether versus Chloroform in Obstetrics.

IN a paper on "Some Things I was not Taught in Obstetrics," E. S. Boland (*Boston Med. and Surg. Journal*, March 18th, 1897) says a few words in praise of chloroform in midwifery practice. Chloroform he uses hundreds of times to once of ether. Boston, he says, justly proud of her great discovery of that great general anæsthetic, ether, has not been fair to chloroform. He has not found that it predisposes to hæmorrhage. As a routine practice he examines the heart before giving it, and under these restrictions he regards it as an ideal anæsthetic during the latter part of the first stage and during all of the second stage of labour; it is seldom necessary during delivery of the afterbirth or for suturing a perineal tear.

(51) The "Ascites of Young Women."

BOUILLY (*L'Abeille Méd*, No. 26, 1897), under the name "L'Ascite des Jeunes Filles," suggested by Cruveilhier, describes an affection coming on at or soon after puberty, and having tuberculosis of the Fallopian tubes and ovaries as its most characteristic pathological feature. In some forms of extensive pelvic and abdominal tuberculosis there is no fluid effusion at all; but when the tuberculous change is limited to the uterine annexa, the ascites is both characteristic and abundant. Its evolution is slow, and it most commonly affects women between the years of 16 and 24. There is no very great abdominal distension, and the quantity of fluid rarely exceeds 8 litres. There is amenorrhœa, and the patient is anæmic and loses flesh. It is often difficult to distinguish this form of ascites from an ovarian cyst, but variability in the amount of the fluid in the former is helpful in diagnosis. The ascites may after a long time undergo spontaneous absorption, but Bouilly recommends and practises laparotomy.

(52) Retroversion of the Gravid Uterus: Uræmia; Recovery.

BOIMOND (*Rev. Méd. de la Suisse Rom.*, March 20th, 1897) reports a case in a primipara, aged 24. The last menses were on July 20th, 1896. On October 31st, without apparent cause, there were retention of urine and fæces with abdominal pain and vesical and anal tenesmus. Afterwards urine dribbled away and defæcation was involuntary. This condition lasted till November 18th, when general anasarca supervened. On November 27th there were some convulsive movements and loss of consciousness. Boimond saw her then for the first time. The abdomen was the size of a pregnancy at term, owing to the distended bladder which reached four fingers' breadths above the umbilicus. *Per vaginam* a tumour was felt filling the pelvic cavity. The finger could not be passed between this tumour and the pubes, and so the cervix could not be felt. A catheter was passed, and nearly 15 pints of clear urine without albumen were drawn off. An unsuccessful attempt was then made to replace the incarcerated uterus with two fingers in the vagina and one in the rectum, the patient being in the genu-pectoral position. The next day $12\frac{1}{4}$ pints of blood-stained urine were evacuated. The catheter was then left in. By December 1st under this treatment and a milk diet the œdema and uræmia had disappeared: the patient was chloroformed and the uterus replaced by introducing the whole hand into the vagina. Great force was required. Abortion followed on December 2nd, and there was an uninterrupted recovery, except that incontinence of urine lasted till June 16th.

THERAPEUTICS.

(53) Artificial Food Preparations.

G. KLEMPERER (*Deut. med. Woch.*, June 28th, 1897) mentions that these preparations may be made from albuminous, carbohydrate, and fatty bodies, but that the first named are most often employed. Albuminous substances are no longer regarded as possessing the enormous value for nutritive purposes formerly attributed to them. As regards albuminous artificial foods, it was attempted formerly to convert all the albuminous substances into peptones, but it was found that pure peptone irritated the stomach and might produce diarrhœa. Then it was recognised that in gastric digestion the process did not always end in the formation of peptones, but stopped short at the albumose stage. In most of the preparations now made bearing the name of peptone there is a large proportion of albumoses and little peptone. By the introduction into the body of such albumoses the work of digestion is lightened, but this saving to the stomach is not always desirable. Even when hydrochloric acid is absent from the stomach a sufficient conversion of albuminous food stuffs into peptone and albumose occurs. What the stomach cannot accomplish is effected by the intestine. The author states that all finely divided or soluble native albumens are as valuable as the same amount of albumose. Albuminous substances powdered or in a soluble form are thoroughly to be recommended in most cases. Soluble albumens have recently been introduced in the form of nutrose and eukasin. Klemperer then discusses the question of the quantity of these artificial food stuffs to be provided, and contrasts the price paid for the amount which would correspond in nutritive valuable to ordinary articles of diet. Nutrose and eukasin form an important advance here, but there are very few cases in which they are required. The meat extract preparations contain only some 20 per cent. of the albuminous substances in meat. The constituents of meat extracts are harmful to the gouty, to those with renal disease, etc. The meat juice of Dr. Scholl contains 33 per cent. albuminous bodies, 21 per cent. native albumen, etc., and is thus preferable to many meat extracts. According to present opinion, carbohydrates are very necessary to the debilitated and to the febrile. Here allusion is made to the various forms of flour (leguminose, etc.) prepared as soups; they are valuable in the feeding of patients. The author then refers to the artificially prepared carbohydrate food stuffs containing dextrin, maltose, etc. (Nestlé's food, etc.). When salivary digestion is at fault, these preparations are of value. In adults the author thinks it is rarely necessary to substitute the artificially digested for the natural carbohydrate food stuffs. Malt extract is of considerable value as it contains 53 per cent. sugar and 15 per cent. dextrin, but there are substances like honey which are much cheaper and for most individuals equally good. The author employs honey, milk, sugar, and similar preparations. He thinks that the use of beer containing peptones is illusory. There are so many good fatty preparations such as butter, cream, cod-liver oil, etc., that artificial preparations are almost unnecessary. Lipanin is a valuable preparation, but is it necessary to save the body the work of splitting up fats? The author thinks that it is very desirable to return more to natural instead of artificial products.

(54) Koch's New Tuberculin.

MARAGLIANO (*Gazz. degli Osped. e delle Clin.*, July 4th, 1897) gives the results of his experiments with Koch's new tuber-

culin on men and guinea-pigs. According to Koch, the new product differs from the old in producing no pernicious effects and in containing bacillary substances not soluble in glycerine. As regards the first, Maragliano finds that the difference is chiefly one of dosage, and that if the old tuberculin is given in correspondingly small doses, no more bad effects follow its use than with the new product. Moreover, the therapeutic effects are the same. As regards the second, experiments showed that this supposed insolubility in glycerine did not exist. In the author's opinion it is not necessary to induce reaction in the tuberculin treatment, but to stop just short of that; and it is just because the new tuberculin does this (chiefly because of its smaller dosage) that it may be more beneficial.

(55) Acetanilide Poisoning in a Newly Born Infant.

Irving M. Snow (*Arch. of Pediat.*, June, 1897) has met with a case in which acetanilide crystals applied as an antiseptic to the stump of the umbilical cord caused symptoms of poisoning. About 60 grains were used, and two days later (the ninth day of life) the infant became very cyanotic, respiration 60, pulse quick and weak. There were no signs of congenital heart disease or of atelectasis pulmonum. The umbilical hollow was found to be filled with acetanilide powder, below which was a dry granulating surface with no signs of inflammation. Oxygen, whisky, and digitalis were administered, but for ten hours no improvement took place; after twenty-four hours, however, the child slowly recovered, the cyanosis having lasted in all for seventy-two hours. There was a loss of 1 pound in the body weight in three days. Snow has collected from literature a number of cases of acetanilide poisoning in young children.

(56) Ichthyol in Blepharitis.

Darier (*Clin. Ophtalmologique*, February 10th, 1897) recommends the following ointment for application in cases of blepharitis: Icthyol 0.50 cg., powdered starch 5 g., oxide of zinc 5 g., vaseline 25 g. Its use has to be continued for some time, alternating, if necessary, with the application of silver nitrate, etc. In bad cases a little pure ichthyol may be smeared on the swollen lid margins at night, the lids being well washed with boric acid lotion in the morning. While ichthyol diminishes congestion it does not seem to diminish the conjunctival secretion, and where this is marked silver nitrate is called for. In rebellious phlyctenular keratitis with much vascularisation, Darier has obtained good results by introducing daily a minute portion of pure ichthyol into the conjunctival sac. This causes some smarting, which however passes off in about ten minutes.

(57) Intravascular Injections of Sublimate and Quinine.

D'Anna (*Il Policlinico*, March 1st, 1897) has been experimenting on dogs, with solutions of sublimate (1 in 100 and 1 in 1,000 of NaCl solution) and bichloride of quinine ($1\frac{1}{2}$ g. to 2 g. of water). The effects of injecting one or other of these solutions into arteries or veins, against or with the current of blood and also with varying degrees of force, were carefully investigated. With regard to quinine, no matter what the technique or whether it is injected into a vein or an artery, no coagulation takes place. There is no danger in injecting quinine. The case is different with regard to mercury; solutions of sublimate (1 in 100) are absolutely dangerous, 1 in 1,000 solutions cause changes in the vessels (thrombi, endothelial destruction, alteration in the muscular coat), which should theoretically cause damage, although clinically the result is not so deleterious. Possibly the results obtained in dogs may differ from those which have been observed in men. Experiments with cyanide of mercury (1 in 1,000) gave the same results as those with perchloride.

PATHOLOGY.

(58) Pathogeny of Hepatic Cirrhosis.

F. Ramond (*Presse Médicale*, April 21st, 1897) has brought experimental and clinical observations to bear on the etiology of hepatic cirrhosis with a view of estimating what part alcohol plays in the process. Krawkow had observed that the effect of microbic toxins, when taken by the mouth, was to set up cirrhosis of the liver, and from this concluded that alcohol gives rise first to intestinal catarrh, and so to the production of toxins which when carried to the liver caused cirrhosis. Ramond has fed different series of animals on (1) alcohol, (2) on bacterial toxins, (3) on bacterial cultures, and (4) on alternating doses of alcohol and bacterial toxins. These experiments were carried on for several months. The animals fed with microbic cultures died from septicæmia. The effect on the liver of the ingestion of microbic cultures was to produce fatty degeneration of the liver cells, but no cirrhosis such as Krawkow obtained; the effect of alcohol was the same. In one case where alternating doses of alcohol and toxins had been given, the animal after surviving for ten months was found to show some hepatic cirrhosis. Ramond does not think that alcohol merely gives rise to intestinal catarrh, and so to increased formation of toxins in the alimentary canal, for on estimating the toxicity of the fæces of a man first when not taking alcohol and then taking it, he found the fæces were less toxic when the man was drinking. This diminution of toxicity may have been due to the alcohol leading to increased absorption of toxins, for Bouchard find that an alcoholic extract of fæces is richer in toxins than a watery one. The antitoxin function of the liver, or its power of destroying toxins brought to it, appears, like its glycogenic function, to be impeded by alcohol. Thus the urine of a man was found to be more toxic on taking alcohol. Ramond considers that alcohol thus prevents the intestinal toxins being stopped by the liver cells, and that the hepatic cells are also affected themselves; if this process is often repeated and for a sufficiently long time cirrhosis develops.

(59) Gonococcosis.

D'Aulnay (Reprint from *Rev. Internat. de Méd. et de Chir.*, December 10th and 25th, 1896) has published an exhaustive pamphlet on the diseases produced by the gonococcus (a name which he suggests should be modified). He includes tabulated lists showing the order of frequency of infection of various regions in men and women, together with much additional statistical matter. He distinguishes the local and general effects of the micro-organism under the names of gonococcitis and gonococcie, applying that of gonococcosis to the whole subject. He points out that the local effects are produced by the growth of the diplococcus mainly upon mucous membranes, where it brews a toxin which can be absorbed by the circulatory stream. The micro-organism rapidly invades the tissues, particularly the most friable, the cylindrical and serous epithelia, and spreads to the adjoining mucous membranes either by direct cellular infection or by means of the superficial lymphatics. It has considerable powers of penetration, whereby it perforates the vascular walls, and after producing local accidents, such as arteritis, phlebitis, and lymphangitis, enters those organs which are rich in lymphatics and in small vessels. The author divides the general effects of the virus into two categories. First comes the action of the toxins, which is mainly expended upon the blood, the kidneys, the nervous system, the skin, and the serous membranes, especially of the joints. Secondly, there is the action of the micro-organisms themselves, which are conveyed in the blood vessels and lymphatics either separately, enveloped in leucocytes, or entangled in emboli, and which manifest their power of rapid growth when in contact with serum. They tend to the production of pus, which is sterile if the gonococcus is alone, infectious if accompanied by other organisms. In the worst cases without obvious cause gonorrhœal pyæmia may develop.

(60) The Urine in Osteomalacia.

Hoffmann (*Centralbl. f. inn. Med.*, April 10th, 1897) discusses the presence of lactic acid in the urine in osteomalacia. When lactic acid was said to exist in the medulla of bones in osteomalacia, it was assumed on slight evidence that this acid was quickly excreted in the urine. As these views are still accepted, the author details his investigations into two cases where large quantities of urine were examined for lactic acid after Salkowski's method. Notwithstanding that the osteomalacia was advanced in both cases, the author found no lactic acid present.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(61) Chlorosis.

Biernacki (*Wien. med. Woch.*, No. 8, 1897) discusses the diagnosis of chlorosis, which is often difficult, as none of the symptoms can be considered pathognomonic. Much stress has been laid on the colour of the skin, and this has generally been supposed to be due to deficiency of hæmoglobin; but this the writer has found to be incorrect, for with the appearance of profound anæmia there is often only the slightest chemical change in the blood, while with no apparent anæmia the change may be profound. The colour of the skin does not necessarily depend on the amount of hæmoglobin present; there are other colouring matters in the blood of which little is known at present, and it is to these that the colour of the skin is due in chlorosis. Many of the symptoms—for example, dyspnœa, headache, etc.—have been attributed to deficiency of oxygen consequent on the deficiency of hæmoglobin, but deficiency of hæmoglobin does not necessarily diminish the amount of oxygen present, for it has been shown that there may be even more oxygen than normal in such blood. The writer considers that great stress is to be laid on the clear appearance of chlorotic blood, and it is to this clearness, due to some anomaly of the blood pigments, in which hæmoglobin plays little or no part, that the colour of the skin is due. The colour of the skin, however, is not essential to the diagnosis of chlorosis, which may exist with healthy-coloured cheeks; in woman at the climacteric symptoms are sometimes seen exactly like those of chlorosis, with the exception of the colour. The most constant change in the blood in chlorosis is hydræmia—that is, deficiency of albuminous bodies, and although the prognosis of chlorosis cannot at present be determined by examination of the blood, the writer fancies that cases with profound hydræmia get well more quickly than those with only slight hydræmia.

(62) Emotional Dyspepsia.

O. Rosenbach (*Berl. klin. Woch.*, February 1st, 1887) says the prognosis is more favourable in this than in any other nervous dyspepsia if the patient has not become hypochondriacal owing to the long duration of the ailment, or owing to a neurotic predisposition. It is unfavourable when he broods over it, suspecting some severe organic disease, but even here it is not hopeless. It is important to investigate the digestive processes, as the proof that the food stuffs are really digested almost always makes a favourable impression on the patient. It is better here not to give a test meal, but to withdraw a portion of the stomach contents after the midday meal, for the patient is often at his worst in the morning. Treatment is particularly successful when a single emotion has been the cause of the dyspepsia; the success of treatment is interfered with by successive shocks. The demands made upon the stomach should be diminished as much as possible after any emotional shock, but a total abstinence from food is undesirable, unless there is a loathing for it. A certain amount of occupation, walking exercise, and light muscular gymnastics is in most instances to be recommended, but both mental and bodily fatigue are to be avoided. Drinking warm water, and warm applications to the epigastrium are employed to counteract symptoms of colic and spasms. Cold food, etc., should be avoided. The author says that small doses of narcotic and sedative remedies, such as opium and belladonna, are useful when given not on a full stomach. Even a small quantity of cognac is recommended under these circumstances. When digestion is considerably prolonged, washing out the stomach is serviceable, or when that is not practicable pepsin and hydrochloric acid may be given. Sodium bicarbonate can be given in sour eructations, but this remedy can easily be abused. The modern method of overfeeding is never employed by the author in this affection, even if there is wasting. In cases of marked hyperæsthesia of the stomach cocaine may be given with good results. Treatment directed to the mental condition is often more efficient than the use of the prepared food stuffs so popular at present. Prophylaxis is not to be overlooked, and here the author again recommends the use of small doses of opium, belladonna, or cognac, etc. Some interval should be allowed to elapse after the emotional shock before much food is taken.

(63) General Paralysis of Diabetic Origin.

De Holstein (*Sem. Méd*, May 8th, 1897) discusses the relation between diabetes and general paralysis. De Calvi, in 1864, was the first to suggest that the cerebro-spinal complications met with in diabetes were the result and not the cause of this condition. Cases of diabetes may be divided into three groups in their relation to general paralysis: (1) Transitory glycosuria is common in neurotic and insane patients, and has no etiological significance in general paralysis. (2) Glycosuria as a consequence of general paralysis. Two cases have been reported where glycosuria was present for a time, too short for it to be an etiological factor, and then ceased abruptly before the onset of general paralysis. (3) True diabetes causing general paralysis. Three such cases have been reported, two, however, being inconclusive. The third by Landenheimer (*Arch. f. Psychiatr.* xxix. 2) is as follows: A man of good constitution, who had never had syphilis, and was not an alcoholic, but was of a neurotic family, had suffered from diabetes for 20 years When 48 years old intense headaches, vertigo, amblyopia, and loss of memory set in. These symptoms all improved after a course at Carlsbad, which caused a disappearanee of the glycosuria. This improvement was only temporary, and on the return of the sugar in the urine typical symptoms of general paralysis began, and advanced rapidly. Under an anti-diabetic diet, the sugar was reduced, and, *pari passu*, with this reduction the mental condition improved, until the patient was able to act as an assurance agent very satisfactorily, the only signs of his former condition being slight left facial paresis, *plus* knee-jerks, and a difficulty in pronouncing long words. Although clinically undoubtedly a case of general paralysis, it is impossible to prove that it was so pathologically, and so Landenheimer named it "diabetic pseudo-general-paralysis." De Holstein thinks this case strongly supports Charpentier's theory of the toxic origin of general paralysis.

SURGERY.

(64) The Risk attending Forcible Correction of Distortion due to Hip-joint Disease.

Sainton (*Revue d'Orthop.*, No. 1, 1897) states that in cases of faulty position of the thigh, with complete ankylosis of the hip, osteotomy near the upper extremity of the femur is the safest and most effectual method of treatment. If in cases of distortion and stiffness following hip-joint disease, there be still some movement at the joint, and the displacement and rigidity be due to contraction of muscular and ligamentous structures, the limb may usually be restored to a correct position by simple manipulations whilst the patient is under the influence of an anæsthetic. This plan of treatment, however, is held to be a dangerous one by the author, who reports 5 cases in which, after an apparently successful result, death occurred from tuberculous meningitis in the course of two or three months. The relation of the fatal meningitis to the surgical treatment is suggested by the fact that this event occurred in no less than 19 per cent. of 27 cases, in which Kirmisson restored the normal position of a limb distorted after hip-joint disease by a bloodless and not very forcible procedure. The danger of meningitis and other results of tuberculous infection is due, the author believes, to the breaking up of encysted caseous deposits about the seat of the old articular disease.

(65) Operative Treatment of Exophthalmic Goitre.

Schulz (*Berl. Klinik*, June, 1897) reports 14 cases of Basedow's disease under the care of Kümmell, which were treated by partial removal of the enlarged thyroid body. In most of these cases the symptoms of this disease were very severe, and rendered life almost intolerable. Twelve of these patients, it is stated, were completely cured and

enabled to resume their occupations. In the 2 remaining cases the operation was followed by much improvement, and there is every probability of the exophthalmos, the sole persisting symptom of the disease, disappearing in a short time. There could be no doubt, the author asserts, that each of these 14 patients presented well-marked and very decided symptoms of Basedow's disease. Frequent observation of the patients after operation during intervals varying in the different cases from two to seven years have convinced the author that objections to partial strumectomy on the ground of probable relapse, do not hold good. In one case only was there observed any renewed enlargement of the thyroid. In all the others the remaining portion of the gland showed a tendency to shrink rather than to increase in size.

(66) Resection of the Sternum for Tumours.

KEEN (*Med. and Surg. Reporter*, March 27th, 1897) reports two cases of successful resection of the sternum for tumour, and adds a table of seventeen previously reported cases. The first of the author's cases was one of resection of the manubrium, inner third of the left clavicle, and lower third of the left sterno-mastoid muscle for sarcoma. In the second case—one of carcinoma of the left breast and secondary carcinoma of the sternum at the junction of the manubrium and gladiolus—a considerable portion of the sternum was removed until apparently healthy bone was reached. The patient recovered from this operation, which was a very serious one, as it was necessary to remove at the same time the right breast, together with a layer of the pectoral muscle, but death resulted from recurrence six months later. The prognosis of operative interference in cases of tumour of the sternum, for immediate recovery at least, is good. In one of the nineteen cases tabulated by the author the result was not stated; of the remainining eighteen, four died, a mortality of 22.2 per cent. It is pointed out that in cases of tumour—frequently sarcoma—adhesions to the retro-sternal tissues, and especially to the pleura and pericardium, do not take place until late. These tissues are usually pushed before the disease and the tumour; therefore, if the operation be not delayed too long, it may be separated from them with ease. The chest necessarily becomes narrowed when any large portion of the sternum is resected, but this seems to result in relatively slight inconvenience, either as to respiration or from the loss of support of the arm.

(67) Operative Treatment of Chronic Inflammation of the Middle Ear.

MALHERBE (*Rev. de Chir.*, June, 1897) having observed much improvement of hearing after free exposure and scraping of the mastoid antrum and auditory meatus in cases of chronic suppuration of the middle ear, has been led to apply a similar treatment with certain modifications to patients suffering from dry chronic otitis. Five cases are reported in which the results of this treatment proved so satisfactory as to favour the assumption that exposure of the antrum and middle ear is indicated in cases of non-suppurative chronic otitis, which has not been relieved by other means. The main objects of the operation advocated by the author are free exposure of the mastoid antrum, which usually in cases in which such treatment is indicated, is contracted and surrounded by eburnated bone; and removal by gouge and mallet of the bone between this cavity and the middle ear. Any adhesions that may be found are carefully divided, so that the chain of ossicles may be set free. No attempt, it is stated, should be made to detach the base of the stapes from its normal connections. The following rules have been suggested to the author by the experience hitherto acquired of this treatment: Operative treatment, he holds, should not be attempted on patients of advanced age. In cases in which the operation is indicated, it should be performed early, before deafness has become pronounced, and subjective noises have increased to such a degree as to be almost intolerable. It would be useless to operate in cases in which there is no longer any cranial perception of sound. One ear only, and that in which the trouble is more severe, should be treated at the first operation. Experience has shown that an operation on one ear may be followed by an improvement on both sides.

MIDWIFERY AND DISEASES OF WOMEN.

(68) Treatment of the Uncontrollable Vomiting of Pregnancy.

A. POZZI (*Archivio di Ostet. e Ginecol.*, May and June, 1897) has treated successfully 5 cases of severe vomiting in pregnancy by the method proposed by Professor Tibone. In 4 of these the pregnancy had reached two and a-half months, in 1 only a month and a-half. The method referred to was the subcutaneous injection in the hypogastrium of a solution of hydrochlorate of cocaine (1 cg. to 1 g. of distilled water). In 2 of the cases the treatment was begun in the second stage of the vomiting, when there was fever and when cerebral phenomena had begun to manifest themselves. In 2 cases the cocaine was given when the vomiting was still in the first stage, and in the fifth patient the author had to do rather with an exaggerated form of simple vomiting than with the grave incoercible type. In all the cases a great number of other means of treatment—including, in some, replacement of the uterus, had been previously tried.

(69) Pregnancy and Labour after Ventrifixation of the Uterus.

VIGGO ESMANN (*Hospitalstidende*, June 23rd, 1897) records the case of a woman, 33 years of age, who had menstruated regularly since the age of 17, and who had become pregnant after the operation of ventrifixation of the uterus and repair of the perineum "ad modum Tait." She had twice previously been pregnant, 10 and 8 years ago respectively, and prolapse of the uterus, necessitating the ventrifixation (in 1891) had come on soon afterwards. During the third pregnancy she developed a marked ventral hernia in the region of the lower part of the laparotomy cicatrix; for this she wore an elastic abdominal belt. In the hernial sac, and adherent to it, was part of the gravid uterus; there was some ulceration of the sac wall, and slight hæmorrhage from the cutaneous veins. She was kept lying in hospital during the last two months of pregnancy. Labour was tedious, the child presented by the feet, and after twenty-four hours the cervix was sufficiently dilated to allow of its extraction. The uterus contracted well; the placenta was spontaneously expelled; and there was no *post-partum* hæmorrhage. The ventral hernia is to be operated upon later.

(70) Primary Sterility and Gonorrhœa.

VEDELER (*Centralbl. f. Gynäk.*, No. 26, 1897) investigated 310 sterile women, and found that undoubtedly gonorrhœa is the most frequent cause of sterility. The average years of marriage in the series were 3, the minimum 1 complete, whilst 72 of the women had been married over 10 years. Vedeler succeeded in examining 50 of the husbands, and found that 38 had had gonorrhœa and 34 had infected their wives. He calculates that at this rate 235 of the 310 husbands probably had had that disease, and that about 210 must have infected their wives. Lest this calculation should seem fanciful, Vedeler investigated 198 of the women where the health of the husband could not be satisfactorily determined, and found that they had suffered from local inflammatory changes, just as in the case of the 34 whose husbands had undoubtedly infected them.

(71) Puerperal Neuritis.

BAYLE has made some observations (*Journ. de Méd.*, February 25th, 1897) on this hitherto unknown subject. Puerperal neuritis may be divided into two groups: the first characterised by general neuritis, the second by localised neuritis. Of this latter are two types, superior and inferior. The first form manifests itself particularly during pregnancy, being preceded by incontrollable vomiting, which seems to be closely connected with the condition. It may happen that the prodromata appear during pregnancy, but paralysis only after parturition. The affection runs a rapid course, being preceded by pyrexia and then symptoms of alteration in the peripheral nerves, subjective alteration in sensation, such as tingling, shooting pains, feeling of cold, heat, itching, etc. There may even be lightning pains analogous to those of tabes, though less intense in character. These sensory alterations

persist more or less during the whole of the disease, but there does not seem to be either rachialgia or girdle pain. Shortly after these somewhat vague symptoms numbness of the limbs appears, to be followed by the somewhat rapid onset of paralysis, which may affect the lower or upper limbs, the abdominal or the laryngeal and pharyngeal muscles. Most frequently the paralysis appears in the lower limbs, one being affected after the other, and thence passing to the upper, while in certain cases all four are affected at once. In the lower limbs the antero-external group, and in the upper the extensors of the wrist are most affected. The respiratory muscles and the cardiac nerves seem to escape. The bladder and rectum do not show any marked symptoms. Motor effects are in excess of the sensory. Mental alteration has also been observed in these cases, and the author lays stress on more or less modification of the mental character in every case. The patients become capricious, irritable, and restless, objecting to be left alone and lamenting their fate. They also express fear as to the unhappy termination of the condition. In other cases they fall into a kind of apathetic torpor from which it is impossible to rouse them. Towards night they may manifest violent delirium, strange hallucinations, crying and moaning all the time. The following day they may be quite oblivious of all these facts. Sometimes hallucinations persist during the daytime, and the patients may lose knowledge of their surroundings with more or less loss of memory. This latter condition may at times be the only mental symptom, and may only extend to recent events. These psychic symptoms remain, as a rule, for a considerable time, but disappear before the sensory and motor derangement. This generalised form of puerperal neuritis is particularly slow in its course when once developed, requiring, it may be, years for recovery, the most favourable cases extend over several months, and even when cured are liable to relapse. The condition being one chiefly of motor paralysis, the sensory derangements are first to subside. The prognosis is, as a rule, favourable for recovery, though 4 out of 18 published cases ended fatally. The localised form is not always distinct from the general. In the superior type the disease may affect only one arm or sometimes both; the median and ulnar nerves are most frequently affected. Sensation of pricking and burning may appear with elevation of temperature, and the nerve trunks are very sensitive to pressure. Paralysis soon appears in the peripheral branches of the median and ulnar nerves, affecting most frequently the palmar region, the thenar and hypothenar showing marked atrophy. The hand becomes skeleton-like, and the patient loses all power of doing anything for herself. In less severe cases, some coarser actions may be retained; even the muscles of the forearm may be affected, particularly those supplied by the ulnar nerve. Very few cases are recorded in which all the arm muscles became affected. Anæsthesia may be more or less marked. Some cases extend over eighteen months to two years. In the inferior type the condition has been confounded with paraplegia, and attributed to injury caused by passage of the fœtal head. Doubtless some cases of paralysis are due to this cause, but the condition under consideration is different, for it does not appear so early as the traumatic form, nor is there any history of injury to the nerves in the pelvis. There is always some febrile reaction and other evidence of septic complications. The sensory manifestations precede the paralysis, thus differing from those cases due to pressure exerted by the fœtal head in which there is an absence of pyrexia, and motor paralysis comes on early and rapidly. In the inferior form one leg may be affected at a time or both, and even when the two are affected it may be in an unequal degree. In general the prognosis is good, while in a few cases deformity may result. These forms of puerperal neuritis suggest an infective cause, and they appear to be more marked when preceded by severe vomiting. Treatment recommended consists in the injection of ergotin hypodermically or *per rectum*, the amount in the former case being one gramme every two days; otherwise it may be conducted on general grounds as in the more common forms of neuritis.

THERAPEUTICS.

(72) Tetanus Antitoxin.

DÖNITZ (*Deut. med. Woch.*, July 1st, 1897) discusses some questions of considerable interest in relation to tetanus. (*a*) Can the tetanus poison already combined with the tissues be liberated by the antitoxin? It has been known for some time that the tetanus antitoxin could neutralise the tetanus poison circulating in the blood. The tetanus poison used by the author consisted of 1 c.cm. of a 4 per cent. solution, and he found that if the serum be injected within two minutes, 1 c.cm. of a 1 in 1,200 dilution was necessary. If the time amounted to four minutes then a solution of 1 in 600 protected completely against the disease. After thirty minutes a dilution of 1 in 100 no longer sufficed. Thus the amount of serum required to prevent the development of the disease increases enormously with the time that elapses between the injection of the poison and that of the serum. The intravenous injection of the poison was the one adopted by the author. In another series of experiments a 5 c.cm. of a 10 per cent. solution of serum was employed. When the time was $2\frac{3}{4}$ hours tetanus did not develop. Much more favourable results were obtained when the tetanus poison was weaker. The author concludes (1) that the tetanus poison combines with the tissues from the time that it enters the blood; (2) than in four to eight minutes the simple fatal dose is so combined in severe poisoning (3) that the poison thus combined can be liberated and neutralised by the serum; (4) that the separation becomes more difficult the severer the poisoning, and the longer the time between the injection of the poison and that of the serum. Thus the tetanus serum is a genuine curative agent. (*b*) Efforts to cure infected animals. Here experiments were made on mice and guinea-pigs after the first manifestations of tetanus had appeared. Infected splinters were employed to convey the disease. The author's experiments confirm the favourable results obtained by Behring, Kitasato, and Knorr. Of six guinea-pigs with tetanus three were cured. In mice with the earliest manifestations of tetanus a cure could be effected, but later no curative effect took place. Recent experiments on horses have been even more favourable than these. (*c*) Tetanus poisoning without tetanus. The author draws attention here to some results obtained in his experiments. Some rabbits died after great wasting, but with no manifestations of tetanus. In others the tetanus symptoms were very slight, and death ultimately occurred occurred after great wasting. A similar condition has been observed in diphtheria and pyocyaneus poisoning. The author thinks that here the tetanus poison is more widely diffused throughout the tissues, and is not so strictly limited to the central nervous system.

(73) The Treatment of Chlorosis.

ROMBERG (*Berl. klin. Woch.*, July 5th, 1897) concludes his papers on chlorosis by remarks upon treatment. He observes that every-day observation shows that iron cures chlorosis. He has seen 5 cases in which other treatment, continued from $1\frac{1}{2}$ to 4 weeks, produced no improvement. The author has treated cases with "carniferrin," saccharated carbonate of iron, and also with ferratin. Carniferrin contains 30 per cent. of iron in as firm combination as in hæmoglobin. Romberg contends that we are no longer able to speak of absorbable and non-absorbable preparations of iron. The iron leaves the intestine in a micro-chemical form, but it remains to be shown how it is converted into the iron of the blood. The mode of absorption of the various preparations of iron is the same, but it is possible that one preparation may be absorbed in larger quantities than another. It was not proved that the more stable combination of iron in carniferrin was better absorbed than the looser one in the saccharated carbonate of iron. It is only necessary to give small doses of carniferrin. This agent was given in doses of 0.6 gr., the carbonate of iron in 1.8 g., and ferratin in 3-g. doses. The results obtained were much the same. Fifty cases treated with carniferrin showed a percentage of 64 cured, the average duration of treatment being 30.3 days. About 64 per cent. of 47 cases treated with the carbonate recovered in an average of 22 days. Six out of 12 cases treated with ferratin were cured in an

average of 27.1 days. If all the cases are added together, the average duration of treatment was 26.5 days, and the average increase of hæmoglobin in 10 days was 9.9 per cent., and of the red cells 430,645. Leaving out the cases treated by ferratin as too small in number, the agreement between the results obtained by the two other preparations was striking. The author has never observed any gastric disturbance produced by the treatment. The agents were given in powder after meals. One preparation did not prevent relapse any more than another. Those treated as out-patients did not recover as rapidly as those in the hospital. The severe cases improve much more quickly than the slight ones. The hæmoglobin steadily increased in a regular fashion, whereas the behaviour of the red cells was more variable. No rule can be laid down in regard to the red cells.

(74) Chelidonium Majus in Cancer of the Uterus.

Winter and Schmitt (*Centralbl. f. Gynäk.*, No. 27, 1897) made use of Denissenko's treatment of cancer in 14 cases of uterine carcinoma. They employed the watery extract of chelidonium majus as a subcutaneous injection applied to several points in the abdomen once a week. In no case was there the least improvement, but in several the infiltration seemed to extend with unusual rapidity, and ulceration advaneed with greater speed than before. Denissenko claims that the drug lessens the rapid disintegration of tissue, and even brings about encapsulation. No such improvement was seen in any of Winter and Schmitt's cases. In 3 instances, they admit, hæmorrhage was checked. In all the general health was unfavourably influenced, deteriorating far more rapidly than in untreated cases of cancer too far advanced for surgery. The injections caused severe pain. Winter and Schmitt conclude that chelidonium should be rejected as a drug for cancer.

(75) Airol in Diarrhœa.

Venuti and Barbagallo (*Gazz. degli Osped. e delle Clin.*, May 30th, 1897) give the results of the administration of airol in 11 cases of diarrhœa. The dose given varied from 20 cg. to 90 cg. in the 24 hours. No ill-effects were noted, even when given for several days. Good results were speedily obtained in indigestion diarrhœas. Each case is briefly reported. On the whole the results were decidedly good.

(76) Calomel Injections in Lupus.

Scarenzio (*Gazz. Medica Lombarda*, April 19th, 1897) reports three cases of lupus successfully treated with injections of calomel. The first case was that of a man, aged 24, with lupus of the face of seven years' duration. Admitted into hospital in January, 1896, the parts were freely scraped, and some improvement followed. On readmission in November, 1896, the usual remedies were tried without effect; on January 27th, 10 cgr. of calomel were injected deeply into the buttock. The local reaction was rather strong, so that the patient was obliged to go to bed. Four days after the injection there was well-marked improvement. Twenty days later another injection (of 5 cgr.) was given. The patient left the hospital on February 21st, much better in every way. The improvement—when seen later—was maintained. Similar results were obtained in the two other cases recorded.

(77) Feeding in Inherited Syphilis.

Troisfontaines (*Journ. de Méd.*, March 25th, 1897) draws attention to the extreme importance of feeding with sterilised milk in cases of inherited specific disease, more particularly in those cases in which birth takes place before term. In these cases the child is often of extremely diminutive weight, and the author quotes a case recently under his own observation in which on the twenty-fifth day after birth the child only weighed 750 g. There had been repeated attacks of pemphigoid bullæ on the soles of the feet and lower limbs. The child was treated with Van Swieten's fluid, 20 minims being given in the twenty-four hours. The limbs were enveloped in wadding, and the diet consisted of sterilised cow's milk, the child having been weaned shortly after birth. About 18 g. of fluid, consisting of two-thirds sterilised milk and one-third water were given nine to ten times in the day. By six months old he had almost gained average weight, and had had only two slight attacks of intestinal catarrh. At $2\frac{1}{2}$ years old he weighed $13\frac{1}{2}$ kg., and, with the exception of somewhat large and prominent forehead, there was no other morbid appearance, the teeth being well developed and normally situated. The author quotes other cases of a somewhat similar nature, all going to show the great importance of this method of rearing the child.

PATHOLOGY.

(78) Toxins and Antitoxins: A New Theory.

Calmette and Delarde (*Ann. de l'Institut Pasteur*, x, 12) have reinvestigated the natural and acquired antitoxic properties of blood serum from various animals, taking the reaction to doses of abrin as the most frequent criterion. They have arrived at the following conclusions: (1) The serum of animals naturally refractory to such toxins as they have investigated rarely possesses antitoxic properties with regard to those toxins. Thus, while fowls and tortoises resist very considerable doses of abrin their serum is totally inactive with regard to abrin. Similarly, Vaillard has proved that the fowl, although refractory to tetanus, gives a serum which is without action on tetanotoxin. Even when the serum of refractory animals is antitoxic, as in the case of the ichneumon and the hedgehog with respect to serpents' venom, the antitoxic power is always extremely feeble, and by no means in proportion to the degree of immunity. There is thus no relation between the natural refractory condition of certain animals and the antitoxic power of their serums in respect of the toxins by which they are unaffected. (2) While warmblooded refractory animals can produce antitoxins under the influence of repeated non-fatal injections of toxins, coldblooded refractory animals produce none under the same conditions. (3) Coldblooded refractory animals, such as the frog, can acquire immunity against fatal doses of toxin without their serum becoming antitoxic. (4) Antiabric and antivenomous serums can be used practically for the production of passive immunity in man and animals, and also for the diagnosis of the toxins which they oppose. The former has a very marked preventive action when applied to mucous surfaces, and hence may be turned to account in ophthalmology. (5) The active substance of antitoxic serums is not modified by certain chemical reagents, which destroy or profoundly alter the toxins. It does not alter toxins when mixed with them *in vitro*. It appears to exist in great abundance in the leucocytic protoplasm of vaccinated animals, the leucocytes retaining their antitoxic powers after being thrice washed free from serum. It does not dialyse through membranes; it acts as energetically on the leucocytes of fresh animals as do the antimicrobic serums. (6) Certain substances having no specific action on toxins, such as bouillon, normal ox serum, or the serums of certain animals vaccinated against various infections or intoxications can, when injected into fresh animals, act preventively as regards other infections or intoxications. Hence immunity, natural or acquired, cannot be due to the presence in the serum of a chemical substance having the power of destroying or modifying the toxins. The true existence of a preventive substance in the serum of vaccinated animals remains yet to be proved; the authors' experiments suggest that the preventive power may after all be a physical and not a chemical phenomenon. Thus they have shown that the antitoxic function is independent of immunity, since the latter can exist in the absence of the former; further, that both natural and acquired immunity result from a special property of the cells. These, according to the conditions of the surrounding mediums and their own composition, yield passively to the influence of the toxins as a bar of soft iron does to that of a magnet. When these conditions change under diverse external influences, such as the tolerance of certain poisons, the functional state of the cells is modified at the same time. This may be compared to the conversion of the soft iron into steel by tempering; the steel can preserve its magnetisation, and transmit it temporarily to other bars of soft iron or permanently to other bars of steel. The authors maintain that a similar physical explanation can be offered of the susceptibility or temporary permanent resistance of organisms to infections and intoxications.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(79) Lead Poisoning and Gout.

NOBÉCOURT (*Sem. Méd.*, April 23rd, 1897), discusses the part played by lead in the production of gout. Lead slowly permeates the whole system, and the intoxication progresses, though the characteristic features of lead poisoning may, owing to the tolerance of the organism, long be absent. There are cases in which the lead poisoning seems to be the sole etiological factor, and others in which it is associated with heredity or defective hygiene. In half the cases lead poisoning seems to be the only cause. Alcoholism does not produce it, at least in those not already predisposed. Every individual reacts in his own personal manner. Lead colic is very common, lead palsy less so, and lead encephalopathy exceptional, but lead is nevertheless the cause of all these conditions. Gout is most frequently met with in house painters, who as a class take up the work in early life, and are subject to a long and slow process of intoxication. It is rare among workers in white lead, as these workers are usually recruited from the unemployed, are in poor health, suffer early from symptoms of lead poisoning, and give up the work. Saturnine gout appears at about the same age as ordinary gout, between 30 and 40 years. The anterior period of intoxication is long, the average being twenty-one years. The coexistence of a hereditary predisposition to gout does not shorten the duration of the period of intoxication. The diathesis created by lead intoxication can be transmitted by heredity equally with the other trophic peculiarities which constitute hereditary gout. A form of gout therefore exists related to saturnine intoxication. It is slowly established. The patient does not exhibit the various morbid phenomena of latent gout common in subjects of this diathesis throughout their early life. He is subject rather to colic, arthralgia, encephalopathy, apoplexy, albuminuria, paralysis, dorsal tumour of carpus. He is, unlike the hereditarily gouty, pale, thin, and anæmic. The mode of evolution of saturnine gout is analogous to that of ordinary gout. It resembles in some respects the gout of patients debilitated by any cause. The distinguishing features are frequent repetition of the attack, rapid generalisation of the arthritis, and one frequent solitary visceral manifestation—namely, interstitial nephritis. Less common phenomena are the rapid transformation of the acute into the chronic form, and the early development of tophi. Diagnosis is based on the same considerations as in ordinary gout. When it has become chronic and deformities exist, diagnosis must be made from ordinary rheumatism; cases often remain doubtful. Again, gout in a saturnine patient is not necessarily saturnine gout. The patient's habits, history, conditions, and the duration of the intoxication must be ascertained. On these latter facts depends also the prognosis. If the lead intoxication has been of short duration the lesions may yet be amenable to treatment, and the course run be that of ordinary gout. After a long intoxication, lead being the sole factor, hope of cure is small, and the gout will probably take on a dangerous form. Both diseases benefit by the same treatment. Baths and vapour baths are good, but sulphur baths are injurious, increasing the formation of uric acid. Iodides in moderation are good, facilitating the elimination of lead by the kidneys. When nephritis exists general tonic and constitutional treatment should be carried out.

(80) Spindle-shaped Dilatation of the Œsophagus.

RUMPEL (*Münch. med. Woch.*, April 13th and 20th, 1897) discusses the clinical diagnosis of this affection, not due to any mechanical obstruction. Only some 20 cases have been put on record. The author gives details of the morbid anatomy of two cases observed by Kast, and then describes a case under his own care. The œsophageal tube could be passed from 28 to 30 cm. from the teeth, and through it some 300 c.cm. of fluid could be removed from the dilated œsophagus. The patient could manipulate the tube into the stomach. A second tube was then passed down 30 cm., and 300 c.cm. of clear water poured down it. The same amount of water could then be withdrawn. This fluid, coloured with blue litmus, never changed colour. When these tubes were *in situ* and the 300 c.cm. water had been passed into the œsophagus, none of the fluid could be obtained from the tube going into the stomach. That the second tube did not pass into a diverticulum was shown by the fact that if windows were made into the stomach tube at the level of the dilatation, it was no longer possible to withdraw the fluid passed through the œsophageal tube. Three varieties of diffuse dilatation of the œsophagus are known: (1) spindle-shaped dilatation; (2) a dilatation just above the diaphragm; (3) a dilatation just below the diaphragm (cardiac antrum). The two last-named conditions were excluded here. The diagnosis of spindle-shaped dilatation can be made out only by washing out the œsophagus and measuring the amount of fluid. Very little mention of it is made in textbooks. The passing of the two tubes can be effected without inconvenience to the patient. In carcinomatous stricture the whole amount of fluid could not be withdrawn, as some would escape through the stenosed portion. The author believes that this spindle-shaped dilatation is caused by a spastic contraction of the lower part of the œsophagus. In discussing the treatment, he speaks of the difficulty of overcoming the spasm. In the above case the patient gained 6 kg. in weight by feeding through the tube, but it seems impossible here to give up the tube feeding. The author even thinks of the possibility of operative treatment after other means have been exhausted. He appends two Roentgen photographs to show the position of the tubes; these tubes, previously closed, were made impervious to the rays by introducing shot into them.

(81) Adherent Prepuce a Cause of Convulsions in Children.

J. H. DAREY (*Med. News*, May 15th, 1897) has met with three cases of stupor and convulsions in male children for which no other cause could be assigned than the presence of a prepuce adherent to the glans penis. In all the cases the condition was at once relieved by circumcision or by separation of the adhesions, or by both operations combined.

(82) The Tongue in Facial Paralysis.

FR. SCHULTZE (*Münch. med. Woch.*, June 8th, 1897) draws attention to the fact that in peripheral facial paralysis the base of the tongue on the affected side stands at a lower level than on the other side, and that this may be noticed when the tongue is protruded, or when it is at rest in the mouth. The author relates two illustrative cases, one of which was secondary to ear disease and the other followed upon exposure to a draught. In the first case, with the disappearance of the paralysis the tongue assumed its normal position. This position of the tongue was not due to any asymmetry. The cause of it is not very obvious; most probably it is due to paralysis of the stylo-hyoid muscles and of the hinder part of the m. biventer, both of which muscles are supplied from the facial nerve. No depression of the hyoid bone could be made out in the author's cases. Electrical stimulation, especially of the trunk of the facial, does not produce any raising of the base of the tongue. In central facial paralysis Schultze has not yet observed this change in the tongue.

SURGERY.

(83) Tuberculous Osteo-arthritis of the Shoulder.

DUPLAY (*Semaine Médicale*, March 10th, 1897) relates a case in a patient, aged 32, whose husband suffered from phthisis. There was a considerable atrophy of the head of the humerus, extreme limitation of all movements, and wasting of all muscles about the joint. There were no signs of acute joint disease, either of traumatic or infective origin. The absence of swelling, the slight pain, and the absence of any evidence of alteration in the glenoid cavity were against its being the classical tuberculous disease of the shoulder. Arthritis deformans and arthropathy of nervous origin were excluded. Syphilitic arthritis produces deformity, but never ankylosis. Chronic rheumatism

is especially painful, and is never accompanied by diminution in size of the osseous extremities or by so considerable a muscular atrophy. This dry caries of the shoulder is not so well known as it should be. The affection is more frequent on the right side, and it occurs most often between 10 and 19 years of age. The course is very slow, and at the end of a year or two ankylosis occurs. Intra-articular or extra-articular suppuration is rare. Relapse may occur after apparent cure. The anatomical lesion lies in the head of the bone. The cartilage becomes affected secondarily, or the disease may spread further into the head of the bone, or both processes may be combined. Rarely it may affect the epiphysial line. There is a tendency to the development of fibrous tissue in the tuberculous tissue. The joint cavity being obliterated there is rarely any fluid exudation into the articular cavity. It tends to spontaneous cure. The patient in this case was of rheumatic tendency as seen by other joint affections, etc. Perhaps this association will explain the slow development of the disease. This disease, although tending to spontaneous cure, often gives rise to ankylosis and uselessness of the limb. Treatment by forcible movement must be avoided. Resection is the only curative means, but the fact of pulmonary tuberculosis having been known to arise after the operation must be borne in mind. The author thinks that this disease should be considered apart from ordinary tuberculous disease of the shoulder, owing to the difference in its symptoms and behaviour.

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(84) Injury and Cancer.

Berger (reprint from the *Vierteljahrsschrift f. gerichtl. Med. v. offentl. Sanitätswesen*, xiv, i) considers very fully the connection of malignant disease with injury. His researches have led him to the conclusion that injury is a predisposing factor in the development of cancer, influencing the external manifestation and locality of the disease. The objections to the traumatic origin of cancer—such as, for instance, the rare occurrence of cancer immediately after injury—the negative results of experiments, and the slight value of the patient's report, do not, it is stated, hold good. The form of traumatism predisposing to cancer is not, the author holds, so much a single severe injury as a succession of contusions which give rise to effusions of blood and impair local nutrition. Prolonged or repeated irritation is more prone to lead to cancer when acting on tissues in a condition of senile involution. In considering the relations of malignant disease and traumatism one must bear in mind, not only the purely causative part taken by the injury, but also the influence of injury in promoting the development of cancer. In cases of cancer following injury an etiological relation certainly exists, the degree of which will vary in different instances. The connection between cancer and injury is not an immediate one, but consists rather of an unbroken series of morbid phenomena, each of which is dependent on its predecessor.

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(85) Cavernous Angioma of the Spleen.

Homans (*Annals of Surgery*, part 54) reports the following case. A woman, aged 22 years, suffered from ascites for which she was tapped 5 times, 38 quarts of fluid, which was always blood-stained, in all being removed. A tumour was felt just to the right of the middle line above the umbilicus, and laparotomy was performed. The tumour was situated between the hepatic and splenic flexures of the colon, and was surrounded by the omentum and adherent to the surrounding structures. It was removed, several large vessels going to it requiring ligature; at the same time an accessory spleen and the ovaries were taken away. The tumour was a cavernous angioma, which, it was thought, might have arisen from the omentum. The ovaries contained cysts, some of which had hæmorrhagic contents, but there was no cavernous angiomatous tissue on them or in the broad ligaments. The patient improved for a time, but four months later the fluid had reaccumulated, and as a last resource laparotomy was again performed. Growth like that previously removed was found passing towards the spleen, and these structures were removed. The spleen was of normal shape, but was enlarged, weighing 415 g. On the surface there were a number of dark purple areas which microscopically resembled the original tumour. The patient died 24 hours after the second operation, from which she never recovered. There was no *post-mortem* examination so that the condition of the other abdominal viscera could not be determined.

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(86) Foreign Bodies in the Stomach.

Fricker (*Vratch*, No. 26, 1897) relates the case of a woman, aged 32, who, in a fit of mental derangement caused by the loss of her child swallowed a considerable number of different foreign bodies. Some of them passed away with the motion, some remaining in the stomach. At first there were no symptoms beyond a sensation of something non-evident, Severe pain and vomiting came on later. Hydrotherapy and electricity were tried, but without result. The patient being unable to eat anything, and suffering severe pains became exhausted. On the seventh day of the illness there appeared on the upper part of the left epigastrium a swelling fluctuating in its deeper parts. An abscess near the stomach having been diagnosed, it was decided to operate. An incision three inches long, running parallel to the lower costal margin, was made. After the superficial muscular layers had been divided there appeared the sac of an abscess of the size of a pigeon's egg, in which protruded a sharp-pointed foreign body. Being extracted it was found to be a knittingneedle $4\frac{1}{2}$ inches long, which penetrated the wall of the stomach. After widening the former incision, a cut of about 2 inches long was made in the anterior wall of the anterior wall of the stomach some distance from the abscess below the lesser curvature. A greyish-red fluid escaped, and the presence of other foreign bodies was ascertained, all of which were extracted. There were altogether 37 foreign bodies, with a total weight of $9\frac{1}{4}$ ozs., among them being 2 tablespoons, a fork, the above-mentioned knitting needle, a key, 2 pins, 9 needles, 12 pieces of glass, etc. The mucous membrane in the neighbourhood of the pylorus was swollen and reddened.

MIDWIFERY AND DISEASES OF WOMEN.

(87) Dermoid Ovarian Cyst in Labour.

G. Fieux (*Arch. Clin. de Bordeaux*, May, 1897) has met with a case in which a 3-para, who had had a normal pregnancy, was brought into the Bordeaux Maternity in the second stage of labour, The fœtal head was above the pelvic brim, and a firm, tense tumour of the size of a large orange occupied the vagina, pushing forward the posterior vaginal wall. The cervix was dilated and the membranes had ruptured. Rectal examination showed that the tumour lay between the rectum and the vagina. The tumour was aspirated *per vaginam*, and from the character of its contents the diagnosis of an ovarian dermoid was made; it had also to be incised before the head of the fœtus could pass with the help of forceps. A small recto-vaginal fistula resulted, and, therefore, some stitches were introduced, and both the vagina and rectum were plugged with iodoform gauze. The child lived, and some weeks later laparotomy was performed on the mother, and two dermoids, one in each ovary, were removed successfully. The author comments upon the tendency of such tumours to develop in connection with a pregnancy, and thinks that this supports the theory which regards them as due to parthenogenetic segmentation. It seemed certain that no tumour existed in this case before the onset of the third pregnancy. He strongly advises puncture and aspiration *per vaginam* if the tumour be discovered for the first time during labour; this is better than the dragging out of the head with forceps, or attempts at immediate complete removal of the cyst.

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(88) Vaginal Myomectomy.

Twombly (*Boston Med. and Surg. Journ.*, May 20th, 1897) on the ground of experience recommends the removal of interstitial fibroids becoming submucous, by this operation as soon as the disease is diagnosed. The subperitoneal myoma, even when small, is not suited for vaginal operation; about the treatment of the purely submucous fibroid there need be no doubt, and the remaining or intermediate form can easily be removed through the vagina when not too large. Twombly freely incises the cervix, and removes the growth by simple enucleation, or, if it be bulky, by *morcellement*. Iodoform packing is

advisable if there be hæmorrhage, or if a large cavity be left behind. The cervix must be carefully sewn up at the close of the operation. After the first day a vaginal douche of plain hot water, or of 1 in 5,000 sublimate, should be thrown up for four days. Twombly defends this practice on the ground that 65 per cent. of fibroids are intramural, that when the tumour grows inwards it is usually single, as multiple fibroids are crowded outwards towards the peritoneum, and that the danger of hæmorrhage increases with the size of the tumour. This operation does not cause, but remedies, sterility; it anticipates those tubal affections commoner when the tumour grows large, and also saves the patient from the steadily increasing hæmorrhages which break down her health and greatly increase the danger of an operation when the tumour has grown large. Hence Twombly feels justified in recommending in this class of cases, irrespective of severe symptoms, an operation which is not very difficult or dangerous, involves but little shock, and no irreparable mutilation, and has scarcely any mortality.

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(89) Common Abortion and Tubal Pregnancy.

SKUTSCH (*Centralbl. f. Gynäk.*, No. 25, 1897) lends his authority to support, by a case under his own observation, the theory that in tubal abortion the ovum is not invariably expelled from the ostium of the tube, but may be discharged into the uterus. In his case a complete decidua was discharged; its walls measured 4 millimetres in thickness. Afterwards the ovum was expelled; it bore a minute aperture at its lower pole. Skutsch insists that there had been tubo-uterine or interstitial pregnancy, and that the ovum had been delivered into the uterus. This diagnosis was supported by the detection of a thickening of the right cornu. Tubal gestation is undoubtedly very common, and Skutsch goes so far as to say that though tubo-abdominal abortion is the more frequent complication, next to rupture, tubo-uterine abortion is not rare.

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(90) Rupture of Recto-vaginal Septum in Labour.

DOLÉRIS AND LENOBLE (*Bull. et Mém. de la Soc. Obstét. et Gynéc. de Paris*, April 7th, 1897) report the delivery at term of a very anæmic, nervous, and tuberculous young woman. During pregnancy she had mumps, and severe neuralgic attacks periodically, replacing the absent menstrual flow. Mentally she was very timid, and not only had she suffered from dyspareunia due to vaginismus, but vaginal exploration before and during labour was always attended with severe muscular spasm. The presentation was first position vertex; as there was delay in the second stage the forceps was applied under chloroform. The child was delivered, and a superficial laceration of the perineum sewed up at once with catgut. On the second day flatus, and on the eighteenth fæces, passed out of the vagina. Then the wound in the perineum had given way. The sphincter ani was uninjured, half an inch above it, and a little to the left of the middle line, was a distinct fistulous orifice filled with everted rectal mucous membrane. It was successfully repaired. Doléris and Lenoble found that the rupture occurred in the retroperitoneal sinus, a gap between the perineal muscles and the levator ani. The spasm of the muscles drove the fœtal head against this space, where there is no muscular support, and the septum yielded. They quoted evidence in support of the theory of spontaneous rupture of the septum due to vaginismus, and declared that the injury, in their case, could not have been caused by the forceps.

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(91) Bilateral Axillary Polymastia.

HINTZE (*Centralbl. f. Gynäk.*, No. 13, 1897) found in a puerpera two mammary glands the size of a hen's egg in each axilla. They were quite separate from the normal mammæ. They had the consistence of a puerperal breast, but had no indication of an areola or nipple. There was no lymphangitis or infected wound; and the diagnosis of enlarged axillary lymphatic glands was thus excluded.

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(92) Iodide of Potassium and Lactation.

G. FIEUX (*Rév. Obstét. Internat.*, May 1st, 1897) has tested the effect of iodide of potassium on nursing women. He finds from six observations that the coming of the milk after labour is not delayed, that the course of the lactation is not interfered with, and that the infant does not suffer, as is shown by the increase in weight during the administration of the iodide. There is no reason, therefore, to fear that the administration of iodide of potassium to a syphilitic mother will interfere in any way with her functions as the nurse of her own child. The fears that it will do so are imaginary.

THERAPEUTICS.

(93) The New Tuberculin.

BUSSENIUS (*Deut. med. Woch.*, July 8th, 1897) has used the T. R. tuberculin in 19 cases, comprising 4 cases of lupus, 12 of laryngeal tuberculosis, 2 of uncomplicated pulmonary phthisis, and 1 of asthma. In 15 of the 19 cases, the treatment was completed, with a total of 314 injections; in the 4 remaining cases, 20 injections were given. The largest number of injections given in a single case was 25, the greatest total amount used was 15.276 c.cm., and the largest single injection of the fluid 4 c.cm. The longest duration of treatment was 65, and the shortest 29 days. A short time after the completion of the cure, the reaction was tested with the old tuberculin, but in all the 19 cases with a negative result. Any reaction after T. R. is to be avoided; the body temperature should not rise above $\frac{1}{2}^{\circ}$ C. The object in view is by a gradual increase of the dose, without any considerable local or any general reaction, to make the patient rapidly immune against the larger doses. This was only completely effected in 4 cases. The age of the injection fluid is of great importance in connection with the rise of temperature. Curves obtained showed that any increase in the pulse and breathing depended almost always on the rise of temperature, and that other symptoms also stood in direct relation to it. As regards weight, 7 patients increased in body weight, but 5 lost in weight up to 10 lbs., the remaining ones remaining stationary. The author says that it may be open to question whether it is desirable to continue the system of doubling the dose when the larger quantities are being given. There was never any blood or albumen in the urine. No abscess occurred. The fluid was proved bacteriologically to contain no pyogenic microbes. The syringe was boiled for 10 to 15 minutes before use. In 10 of the 19 cases there was a slight infiltration at the site of the injection. No decrease in the area of dulness was made out in the cases of pulmonary phthisis, whether uncomplicated or not. In tuberculosis of the larynx, etc., no considerable redness or swelling was observed in the infiltrated parts. Occasionally a tendency to cicatrisation of ulcers was seen. The author is unable to say, however, that the new tuberculin gave better results than other treatment applied to the laryngeal disease. He gives details of 3 lupus cases in which the treatment was completed. The results were such as to encourage a further trial of the treatment.—Schultze (*Deut. med. Woch.*, July 8th, 1897) says that the time is as yet too short to give any conclusions as to the value of T. R. He has used it in 9 cases. There was no deterioration in the condition of the patient such as was noted even after small doses of the old tuberculin. In 1 case an apparently tuberculous laryngitis appeared during the treatment, and the general condition of the patient's nutrition made it necessary to discontinue the treatment. Intestinal disturbance occurred in another case, so that the treatment could not be continued. In 4 other cases no noteworthy change was observed. In yet another case a dry pleurisy improved, as well as the patient's general condition. In the remaining 2 cases treated as out-patients, there was an improvement, and in 1 of them a laryngeal perichondritis cleared up.

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(94) Acute Sulphonal Poisoning.

HOPPE-SEYLER AND RITTER (*Münch. med. Woch.*, April 6th, 1897) report the following case. A man, aged 23, previously healthy with the exception of some psychical disturbance and hæmorrhoids, took 50 g. of sulphonal in the morning. He was found fast asleep in the afternoon as well as on the following morning. In the afternoon he was still unconscious, with dilated and fixed pupils and profuse sweating. Pulse was 120 to 130; respirations 32. There was no

cyanosis. Signs of broncho-pneumonia were present. The urine had to be drawn off. The reflexes were entirely abolished. The spleen was enlarged. The breath smelt somewhat of onions. Subcutaneous infusions of 250 to 500 c.cm. of saline solution were given every four hours. On the next day the temperature was 41° C. and the pulse 136. The man died seventy hours after taking the sulphonal from increasing cardiac weakness. No trace of hæmatoporphyrin was ever found even after the most exhaustive examination of the urine, but much indoxyl and urobilin. Unchanged sulphonal was present in the urine. Among the *post-mortem* changes there were reddening of the gullet and respiratory mucous membrane, hyperæmia of the liver, spleen, and kidneys, numerous ecchymoses in the duodenum and a few in the stomach, irregular hyperæmia of the skin, patches of broncho-pneumonia with thrombosed vessels in the lungs. In the kidneys there was an albuminous exudation within the glomerular capsule, and marked necrosis of the cells in the convoluted tubes. Sulphonal was obtained from the blood, liver, and urine. Chronic cases of sulphonal poisoning have often been recorded with symptoms of stupor, vomiting, constipation, or diarrhœa, disturbance of co-ordination, hæmatoporphyrinuria. The mode of origin of hæmatoporphyrin is not exactly known. Sulphonal has a destructive action on the blood pigment. An erythematous, measles-like eruption, as in the above case, or a more diffuse redness of the skin, has previously been observed. Acute sulphonal poisoning is rare.

(95) The Absorption of Iron and its Hypodermic Administration.

Lépine (*Sem. Méd.*, May 26th, 1897) reviews the progress of knowledge since Kobert and Bunge tried to prove in 1892 that inorganic salts of iron were not absorbed by the intestine. Kunkel has shown that after taking the inorganic salts by the mouth the percentage of iron rose in the whole body, especially in the liver. Since then iron has been repeatedly seen in microscopic sections on its way through the intestinal wall, and its eventual recovery in the fæces of healthy animals has been explained. Thus Jacoby found that in animals, after hypodermic or intravenous injections of iron, very little is passed in the urine, while the greater part accumulates in the liver, to be eliminated later by the intestinal mucous membrane, and probably to a less extent by the bile. Absorption from the intestine has therefore been proved, but the cases where the stomach is intolerant of iron are the very ones where it is most necessary. In these it must be given hypodermically. The latest researches show that the citrate of iron is as good as, if not superior to, any other preparation for the purpose. It appears in the urine half an hour after the injection, and is present for twenty-four hours, the maximum excretion taking place two to four hours after. Gloevecke and others have had good results by injecting a 10 per cent. solution into the buttocks or muscles of the back, using 1 c.cm. at a time. The injection causes a sharp pain which lasts for some time, but Lépine finds that by using more (2.5 c.cm.) of a weaker solution (4 per cent.), this inconvenience disappears, and there is only slight tenderness. He relates a striking case of a woman, aged 40, who grew steadily worse with the usual treatment, including feeding with bone marrow, until the hæmoglobin fell to less than one-sixth of the normal, and she appeared on the point of death. Hypodermic injections of 3 to 4 c.cm of the 4 per cent. solution were followed immediately by a marked improvement. Delirium ceased the day after the first injection, and, though previously nothing was retained, four egg-flips were kept down. She had recovered a month later. In spite of the dose being in excess of that usually recommended, no bad effects were noted. There was polyuria, but no albumen. However, the common toxic symptoms produced by large doses of iron taken by the mouth, such as constipation, or sometimes diarrhœa, nausea, and abdominal pain, are much more frequent after hypodermic injections. Thus a little over 3 g. of the citrate when injected has produced vomiting, fever and *malaise*, lasting several hours. Great caution is required if the kidneys are unsound, since even if they are healthy two concentrated injections may lead, not only to the usual harmless polyuria, but to anuria and even hæmaturia and nephritis. The treatment is altogether contraindicated in anæmic patients suffering from hepatic cirrhosis, epistaxis, hæmorrhoids, metrorrhagia, etc., since it predisposes to hæmorrhages.

PATHOLOGY.

(96) The Bactericidal Action of the Blood.

London (*Archives Biol. de l'Institut. Imp. de Med. exp. à St. Petersbourg*, Tome v, No. 1, 1897) contributes a preliminary communication of his researches on this subject. A large number of experiments were made on the blood of rabbits and pigeons with the anthrax bacillus. From them he draws the following conclusions: Both from defibrinated arterial and venous blood of rabbits and pigeons, and from the serum and corpuscles of centrifugalised blood inoculated with anthrax, the number of colonies obtained in gelatine plate cultures shows a tendency to diminish fairly regularly up to a certain point. When this point is passed there is, on the contrary, a tendency to increase in the number of colonies obtained. This rise is often so rapid that after twenty-four hours the number of colonies cannot be counted. In some cases the initial diminution is so rapid that after $1\frac{1}{2}$ to $7\frac{1}{4}$ hours the plates proved sterile, and remained so till the close of the experiment 22 to 73 hours later. In others, after a diminution, the numbers rose again after $2\frac{1}{2}$ to 8 hours. In a third class the plates made after 1 to 7 hours were sterile, bu later colonies reappeared and multiplied Thus the influence of blood media is no constant; some bacilli are killed, other are quite unaffected, while others seem paralysed for a time, but under favour able conditions regain their activity. On an average the lowest number of colonie was reached with specimens taken hours after inoculation of the blood The mean of many experiments showe that at this time the diminution o numbers of the bacilli was from 93 to 10 per cent. The tables given seem t prove that the bactericidal substance are present in a constant quantity, an that the fewer the bacilli inoculated th more of these substances there is to ac on each bacillus individually. Pigeon' blood is more bactericidal than rabbit's which is probably the reason of thei relatively greater natural immunity against anthrax. One of the tables give shows that under the same condition the arterial blood of individual animal differs very slightly in bactericida power. Taking the constituents of th blood, the serum is more bactericida than the corpuscles, and possibly venou than arterial blood, though Fodor foun the contrary. Finally, London sums u the whole literature concerning th origin and constitution of the bacter cidal substance. The special mechanis which communicates the bactericida power to the blood is probably cor tained in the formed elements; by it aid substances are formed which ar active, even in such an inert fluid as th serum. It is uncertain in what cond tion these substances exist first in th formed elements, and afterwards in th serum. Either they have lost all th characters of active biological element or the latter are present at a certa stage of development only. The auth found that broth made from cabbag and radishes, under conditions exclu ing the presence of active biologica substances, acted on anthrax baci bactericidally in a manner exactly sir lar to blood. Hence it is simples suppose that the bactericidal substar are not active agents struggling bacteria, but are inert matter, wh after being seized and assimilated b the bacteria themselves, then exerts i toxic power on them. Thus so-calle bactericidal media contain both nut tive and, in relation to bacteria, tox substances.

(97) Hæmorrhagic Erosions of Stomach.

Mathieu (*Sem. Méd.*, May 5th, p. 17 found in the stomach of a woman, ag 30, dying with excessive hæmatemesi a series of small punctiform erosions o the lesser curvature and posterior wal of the stomach. Histologically the was an acute interstitial gastritis wi extensive glandular destruction, but t muscular coat was intact. The veins the cardiac end of the stomach we varicose, and this condition had favour the occurrence of ulceration as t result of the gastritis. The ulcerati differed only in degree from that typical gastric ulcer. There was atroph cirrhosis of the liver.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(98) Kubisgari.

P. Lucas-Championnière (*Journ. de Méd.*, May 25th, 1897) gives a description of this disease, which is one endemic in some parts of the north of Japan, and concerning which, so far, there is very little information. The disease seems to occur only during the hot season, from May to October, and affects the agricultural population of the villages, more particularly those persons who labour much with horses and cattle. Its geographical distribution is very limited, and it seems to exist only in certain parts of Aomori and Twate. It affects whole families. disappearing in winter, to reappear in spring, affecting the same individuals year after year for many as thirty years. The character of the disease is intermittent, showing daily attacks more or less short, and which continue unless the patient give up his work. They may disappear for a few days and then return, seeming to affect the individual when exhausted or hungry, or after having partaken of a dish called Mochi, which is prepared with a glutinous kind of rice. The symptoms are weakness of vision, objects becoming cloudy or dancing before the eyes. This is followed by diplopia, which is a very usual symptom, and photopsia which is not so common. The examination of the eye shows no change; the pupil reacts to light and accommodation; the ocular movements are unimpaired. The only objective sign which has been discovered in the eyes is some pupillary hyperæmia. These symptoms are accompanied by muscular paresis, more particularly of the upper eyelids and the muscles of the back of the neck. Ptosis or blepharoptosis, which accompanies the visual derangement, is very marked. Paralysis of the neck muscles allows the head to fall downwards and forwards, an effect which has given rise to the name "kubisgari," which means one whose head has fallen. The author quotes one writer as having noticed the peasants attempt to remedy this condition by a band passing under the chin, and attached to another passing down the back to the waistbelt. There may be also paralysis of the upper limbs, with impossibility to close the hand, or of the lower limbs, and accompanied by titubation, ataxy, and loss of the power of walking, or paralysis of the back muscles, so that the patient is bent double, and unable to lift himself up. There may be paralysis of the tongue, which interferes with speech, and other muscles of articulation, causing absolute mutism and inability to open the mouth. In the intervals between the attacks there is no morbid sign if the case is not severe. If it be more marked there may be a certain amount of ptosis and paralysis of the neck in the intervals. It is considered by some, as Miura, that kubisgari is similar to paralytic vertigo observed by Gerlier in the neighbourhood of Geneva. It is also quite possible to mistake "cervical neurasthenia" or "bulbar paralysis without lesion" for this condition. It is suggested that the disease is miasmatic, and certainly its method of recurring in attacks is striking, but there is no enlargement of the spleen, and the blood has been found free from organisms. The fact that it affects those who work hard and among horses is important, and the author suggests that there is some connection between the disease and stable labour. It seems also that in rural Japan stables are part of the dwellings, and flies, etc., pass freely from stable refuse to domestic food. What the connection between the two may be is still an open question. Various methods of treatment, such as leeching, blistering, administration of strychnine, iodide, mercury, quinine. etc., have all been tried without effect. Iodide of potash and arsenic appear to have done good in some cases.

(99) General Paralysis in the Young.

Alzheimer (*Allg. Zeitschr. f. Psychiatrie*, lii, fasc. 3) has collected the recorded cases of general paralysis of the insane occurring in children and young persons. Thirty-eight cases have been reported, and to these the writer adds 3 cases observed by himself, 1 beginning at the age of 9 years. Unlike the disease in adults, it occurs with equal frequency in the two sexes. The onset in 8 cases was in the 13th or 14th year; in 11 cases it was in the 15th or 16th year, while other cases began a little later. In 28 out of 34 cases hereditary syphilis was certain or probable, and in more than half the cases there was some neurotic heredity. The symptoms and pathology were the same as in adults, and the duration of the disease was about $4\frac{1}{2}$ years in most of the cases, but in some was more than seven years.

(100) Aortic Aneurysm.

Gerhardt (*Deut. med. Woch.*, June 10th, 1897) draws attention to two points in this disease emphasised of recent years: (1) The comparatively frequent latency of aortic aneurysm, the disease then giving rise to very few or indefinite symptoms. A paralysis of the left vocal cord may constitute the first means of recognising the aneurysm. Auscultation of the upper part of the left interscapular space may reveal an arteriodiastolic murmur not heard elsewhere, or there may be here, or in the neighbourhood, a systolic murmur due to the beating of the aneurysmal sac on the left bronchus. (2) The relation of syphilis to aneurysm. Gerhardt refers to M. Schmidt's cases where recovery followed antisyphilitic treatment. In 25 cases of aneurysm in the author's clinic there was past syphilis in 9 out of the 17 men. Of other causes traumatism was present in 5, alcohol in 2, overexertion in 3, and anxiety and care in 1. In 8 cases there had been previous rheumatic manifestations. Opposite the third and fourth thoracic vertebræ the large air passages, arteries, and the œsophagus cross. These structures are exposed here to various movements, including the movement downwards of the bronchi owing to the descent of the diaphragm. Here a portion of the aortic aneurysms occur. Syphilitic disease of the air passages is chiefly situated here. Sometimes aortic aneurysm and tracheobronchostenosis occur together. The author also refers to the frequency with which valvular disease, and especially aortic regurgitation, complicates locomotor ataxia, itself very often a parasyphilitic disease. A predisposing *rôle* must be allowed to syphilis in the causation of aneurysm. It has yet to be shown when the treatment by iodides should be supplemented by mercurial inunction.

(101) Nervous Complications of Influenza.

Feinberg (*Neurol. Centralbl.*, July, 1897) reports 2 cases of influenza in which nervous complications occurred: (1) A man, aged 38 years, on the eighth day after onset of influenza, was suddenly seized with severe pain in the back of neck, shoulders, upper part of chest, and right upper limb; there was complete loss of movement in the right arm and some paræsthesia over the whole of the affected part. There was no affection of cranial nerves. The pain lasted four months. On examination a year and a half later, there was marked wasting of the right upper limb, pectoral and trapezius muscles, and also of the sterno-mastoid. The right palpebral fissure and pupil were smaller than the left, and the right eye was shrunken, evidently owing to the communication of the sympathetic nerve with the first dorsal root. There was paralysis of the muscles supplied by the musculo-spiral and median nerves, and weakness of those supplied by the ulnar. Electrical reactions were much diminished but there was no reaction of degeneration. The case was considered to be one of neuritis of the brachial plexus, toxic in origin, and due to the influenza. (2) A man, aged 40 years, five days after the onset of influenza, became suddenly delirious with loss of consciousness, trismus, rigidity of the neck which was slightly retracted, and some rigidity of the limbs. Delirium continued and became very wild; there were frequent tonic spasms of the limbs. After three days improvement began, consciousness returned, and in a few weeks the patient was quite well except for slight weakness of the right upper limb. The writer considers it almost certain that this was a case of hæmorrhagic encephalitis.

SURGERY.

(102) Closure of a Perforating Gastric Ulcer by Omentum.

Braun (*Centralblatt für Chirurgie*, No. 27, 1897) states that two cases—one recorded in this paper, in which the

author fixed a piece of omentum by suture, the other published by Bennett, of St. George's Hospital, in which the omentum was inserted into the opening — indicate that the application of omentum is to be recommended whenever, in an operation for perforating ulcer of the stomach, it is found impossible to practise direct suture. In Braun's case the actual perforation had been preceded by severe and extensive peritonitis, in consequence of which the stomach was bound down by adhesions and could not be brought near the wound in the abdominal wall. The ulcer was surrounded by a large mass of firm tissue, which resembled, and, indeed, as the patient was over 40, excited the suspicion of malignant disease. It was found impossible to close the ulcer by sutures, and in consequence of the extent and density of the adhesions, either to remove a portion of the stomach or to fix it to the external wound and establish a gastric fistula. The idea of stitching an adjacent loop of intestine to the stomach then occurred to the author, but this was rejected in favour of applying a portion of omentum to the open ulcer, and fixing it by sutures. There was no great risk, it is stated, of the omentum being destroyed by the action of the gastric juice, as this structure is composed of living and very vascular tissues, and, as is well known, a gastric ulcer is sometimes occluded by the adhesion of the stomach to some other organ, most frequently the pancreas. The patient made a good and speedy recovery from the operation, which was performed in the winter of 1893, and when last seen, after an interval of about three years and a-half, was in excellent health and quite free from gastric trouble. The ulcer had undoubtedly remained firmly occluded; distressing symptoms of pyloric contraction, which had preceded the operation, had ceased, and there was no longer any reason to suspect cancer.

(103) The Surgery of the Ureter.

Delagénière (*Archiv. Prov. de Chir.*, Nov. 6th, 1897) in a review of operative procedures on the ureter, concludes that this branch of surgery is at present in its infancy, and that up to a recent date the indications for instrumental interference were not even clearly understood. The recent advance in abdominal surgery, especially the new methods of suturing the intestine and stomach, has of late encouraged surgeons to deal freely with the ureter with diminished dread of the supposed fatal results of urinary infiltration. The advance hitherto made in the surgery of the ureter has been developed at the expense of renal surgery, particularly the operation of nephrectomy. In cases of hydronephrosis, instead of establishing a urinary fistula in the loin, or removing the kidney, the surgeon, after incision of the kidney and catheterism of the ureter, may discover the obstacle to the flow of urine, and remove it by direct intervention. In cases of pyelonephritis and pyonephrosis, the gravity of which is often due to insufficiency of the natural drainage of the kidney, restoration of the permeability of the ureter permitting injections, and consequently disinfection of the upper urinary passages, will probably lead to recovery if the ureteral obstacle opposing a free discharge of urine be removed. Ureterotomy, by enabling the surgeon to remove an impacted calculus, will relieve a condition which in some instances has had a fatal result.

(104) Silk or Catgut in Abdominal Section?

Reclus (*Gazette des Hôpitaux*, July 10th, 1897) insists that catgut is better for ligatures than silk, especially in total hysterectomy, where they are left hanging out into the vagina. Silk remains in place indefinitely, and is very liable to become infected. Reclus reports that in the West of France a woman who had undergone hysterectomy fifteen months previously, he himself being the operator, suffers still from suppuration due to a silk thread, which her doctor says has kept up a trifling but intractable suppuration. On that account Reclus has discarded silk.

(105) The Radical Cure of Hernia by Zinc Chloride Injections.

Demars (*Sem. Méd.*, May 8th, 1897) showed six cases of hernia before the Académie des Sciences in support of Lannelongue's method of injecting chloride of zinc (*vide* Epitome, vol. i, 1897, par. 281), three of which were boys aged from 5 to 7 years and three girls aged 6 to 15. In one girl and one boy the hernia was congenital. All the herniæ were cured. In the girl of 15, some months after the cure of a congenital, a direct inguinal hernia appeared. The original operation consisted in three injections of 12 to 15 drops of a 10 per cent. zinc chloride solution into the external pillar of the ring and 3 internally towards the pubes. This case proves the value of the method, since the original weak spot did not give way. It also shows that Malgaigne's theory, that a special predisposition of the abdominal walls is present in cases of hernia is correct. The œdema of the scrotum and testicles following the injections appears to be of no importance. At the same meeting Lannelongue stated that on April 14th, 1897, he had seen all the five cases of inguinal hernia treated by his sclerogenic method, shown before the Academy of Medicine in July, 1896. In all the cure remained complete, and their condition was better than any open operation could obtain. Comparing the open with his operation everything was in favour of the latter, as regards final result, danger of the operation, and the ease and quickness with which it could be performed.

(106) Congenital Obliteration of Hepatic Duct in a Child over 3 months.

Giese (*Jahrbuch f. Kinderheilkunde*, xlii, 1896) examined a very well-nourished female infant, aged 2 months, who had been subject to jaundice from the eighth day. Congenital obliteration of the bile ducts was diagnosed. Abdominal section was performed and proved a failure. Bloody stools were passed, and the child died aged $3\frac{1}{2}$ months. Complete obliteration of the hepatic duct was detected. The liver was greatly enlarged, with hyperplasia of the interacinous connective tissue. Giese has collected 25 similar cases. The usual causes were congenital syphilis, inflammation of the ducts from other disorders, and malformations. The cause cannot always be determined in individual cases; in Giese's patient syphilis was certainly absent. He is opposed, on the ground of pathological evidence, to any operative measures.

MIDWIFERY AND DISEASES OF WOMEN.

(107) Primary Tuberculosis of the Female External Genitals in the Adult.

Erasmo de Paoli (*Atti e Rendiconti della Accad. Med.-Chir. di Perugia*, No. 1, 1897) describes in detail six cases of uncommon lesions of the external genitals in women of adult life. In the first four of these the tuberculosis affected the urethra and its immediate neighbourhood, and there was also more or less marked elephantiasic thickening of the labia majora and minora. In these cases the affected parts were excised, with satisfactory results. In the fifth case the external tuberculous lesions were associated with internal ones of the intestine and peritoneum, and were probably secondary to them through auto-inoculation from the intestinal secretions. The sixth case was one of vulvar and peri-urethral esthiomène, non-specific chronic ulceration of the external genitals. The author concludes that primary tuberculosis of the female external genitals is not so rare as the literature of the subject would seem to show. It occurs not only in infancy but also in adult life. Many cases of so-called vulvar esthiomène, rodent ulcer, vulvar elephantiasis, and polypous productions are really of tuberculous nature. The infection may be by direct inoculation, as by the sexual act. The lesions are first of all localised in the neighbourhood of the meatus urinarius and clitoris, and spread slowly to the surrounding parts. Clinically this form of tuberculosis in adult life is characterised by the association of more or less extended ulceration, with an elephiantiasic thickening of the labia majora and minora and the clitoris; it has a slow course, and may long remain localised in the external genitals. Diffusion of the process to the inguinal lymphatic glands is not so common as might be expected. Histologically the tuberculosis is marked by extensive inflammatory infiltration around the specific lesions, by abundant vascularity of the altered tissues, by the rarity of caseous change, by the tendency to spontaneous repair, and to cicatricial retraction of the tissues. Secondary tuberculosis of the female

external genitals in the adult has a more rapid course and a greater local malignity, with a greater tendency to lymphatic glandular involvment. Energetic surgical interference will in this region give a complete cure. The resection of large portions of the urethra may be practised without disturbing the process of micturition.

(108) Eclampsia and Albuminuria in Pregnancy.

Patay (*Annales de Gynéc. et d'Obstét.*, June, 1897) reports from the Maternity at Rennes nineteen cases of the albuminuria of pregnancy, with only four where convulsions occurred. On the other hand there was one case of eclampsia without albuminuria. In one of the cases of albuminuria there were twins, the mother suffered from dyspnœa, scantiness of urine, and somnolence. Still, not a single convulsion occurred. The twins were expelled; they weighed 2 lbs. 6 oz. and 2 lbs. respectively. The placenta weighed under a pound, and there was not a trace of old or recent hæmorrhage into its substance. On the day after delivery the patient had an attack of right hemiplegia, complete aphasia, and incontinence of urine and fæces. Four months after delivery they persisted.—Favre (*ibid.*) reports a third and fourth case of stricture of the ureter and apparently complete obstruction during pregnancy in cases where there was eclampsia.—Bar and Guyeisse (*ibid.*) describe distinct pathological lesions in the liver and kidneys in thirteen cases of fatal eclampsia. Degeneration of the hepatic cells and vessels seems to be the primary change, the hæmorrhages, already noted, in the substance of the liver are secondary. Changes were found in the fœtal liver and kidneys, but only such as are seen in all infants which succumb to prenatal infection of any kind.

(109) Pelvic Sarcoma in an Infant.

Axel Johannessen (*Norsk Mag. for Laegevidensk.*, No. 3, 1897) describes a case in which he found in the pelvis of a girl of 11 months a tumour occupying the left side of the concavity of the sacrum. The symptoms were difficulty in micturition and defæcation, and the diagnosis was made by rectal examination. The child died, and at the necropsy a resistent tumour of the size of the fist was found behind the rectum, between it and the sacrum and outside the peritoneum. It filled the whole pelvic cavity, and seemed to be attached to the connective tissue. It was a sarcoma, with both round and spindle-shaped cells with large nuclei. It was very vascular.

(110) Stomach Pains from the Presence of a Vaginal Pessary.

M. Wiktor (*Wien. med. Blätter*, No. 17, 1897) found in the case of a widow, 40 years of age, who had suffered for four years from severe gastric pain, that there was a vulcanite pessary in the vagina. The pessary, which was introduced by a midwive thirteen years previously for prolapsus uteri, had never been removed, and had caused no trouble as far as the genital organs were concerned. It was round in shape, and had a diameter of 9 cm., and its surface was roughened. There was a circumscribed area of vaginitis, and on the cervix uteri was an inflammatory patch with absence of the mucous membrane. The pessary was removed, and, after a fortnight's antiseptic treatment of the genitals, the pain in the stomach entirely disappeared. The prolapsus uteri et vaginæ had, however, recurred.

(111) Labour and Placental Anomalies.

Peters (*Monats. f. Geburtsh. u. Gynäk.*, May, 1897) attended a case of placenta prævia lateralis. After twelve hours' labour, as the os was beginning to dilate, he diagnosed a large umbilical vein, almost presenting, yet there was no artery to be felt. The membranes were ruptured when dilatation was nearly complete, and on expression a full-term fœtus was delivered; the brow presented. The child was not asphyxiated. The puzzling condition above noted was due to placenta fenestrata, with bifurcation of the umbilical vein. In a case of breech presentation a well-formed child was delivered with difficulty, and was quite asphyxiated at birth, but was revived. The placenta bore but a single umbilical artery.

THERAPEUTICS.

(112) Treatment of Diphtheria.

Krukenberg (*Münch. med. Woch.*, July 13th, 1897), makes some observations on certain points in the treatment of diphtheria. He has treated 32 cases in which symptoms of laryngeal obstruction were present, with only 2 deaths. If the children had not been previously injected, the serum treatment was commenced at once. The author does not believe that the serum treatment, unless commenced early, will make tracheotomy unnecessary. He thinks that under certain conditions the injections may even increase the danger of suffocation. The suffocative manifestations may be lessened by the use of the steam spray. In only 21 of the 31 cases referred to him for operation was tracheotomy performed. Krukenberg prefers the low operation, and immediately after the introduction of the tube he touches the tracheotomy wound with perchloride of iron. The tube can be kept in a shorter time under the serum treatment, so that it was removed in his cases on the fifth or even on the fourth day. The nursing and feeding of these patients is most important. Rectal feeding may be advisable, and then it is desirable to give the nutrient enemata with the pelvis raised. Difficulty in swallowing may be due to paralysis of the muscles of deglutition. In all cases in which there is difficulty in taking food, the author recommends the use of the steam spray. He dips the inner cannula into oil, as this facilitates the introduction, and prevents secretions drying on it. He strongly advises against introducing feathers or the like into the trachea. If after the tracheotomy the breathing again becomes difficult, and is not relieved by taking out and cleaning the inner tube, the author changes the outer tube. The author gives details of a case in which these measures failed to relieve. A silver catheter was then passed, and the obstruction overcome by blowing vigorously down it. Aspiration through a catheter may also be practised. Notwithstanding the risk run, the author would recommend carrying out this aspiration by means of the mouth rather than by a ballon. In severe cases the aspiration must be repeated every six hours, and in this way the author thinks that life may be saved.

(113) Subcutaneous Injections of Iron in Anæmia.

Lépine (*Sem. Méd.*, May 26th, 1897), after reviewing the results obtained by previous employment of this method, gives his own results in a case of grave anæmia. In this case prolonged treatment with many different preparations of iron and arsenic taken internally produced no effect, and the hæmoglobin sank below a sixth of its normal amount. The patient was reduced to an extremely weak state, and was apparently dying. At this stage Lépine tried subcutaneus injection of a 4 per cent. solution of citrate of iron, 3 to 4 c.cm. (12 to 15 cg. of the salt) of the solution being injected daily. Marked improvement took place almost at once, and the percentage of hæmoglobin rapidly rose. In a month's time the patient was convalescent. Lépine thinks a 4 per cent. solution quite strong enough (most physicians having used a 10 per cent. solution), and points out the danger of producing the toxic effects of iron if stronger solutions are used. Hypodermic injection of 20 cg. of citrate of iron has been known to cause vomiting and fever. Also the kidney is liable to be damaged by too concentrated solutions leading to anuria and hæmaturia, and even nephritis. Hence Lépine thinks this means of administration is contraindicated in cases where the kidneys are not sound.

(114) Opium Alkaloids.

Vámossy (*Deut. med. Woch.*, July 15th, 1897) discusses the action of these alkaloids on the intestinal movements. He chiefly considers how the marked diminution in peristalsis produced by opium is brought about in contradistinction to that of morphine. (1) Morphine. After discussing the various views of different writers, the author relates his own experiments. The morphine was injected into the vein of the rabbit's ear, and the irritability of the intestine and vagus tested, the abdomen having been previously opened under the water bath. Morphine appeared to act by depressing the functions of the centres in the brain. When the morphine was introduced into the intestine, the irritability of the gut was impaired in its

corresponding part. The author thus shows that when the impulses arrive at the intestine, their influence is exerted by paralysing the nerve endings, ganglia, etc., in the intestinal walls. The author could not distinguish any real difference between morphine and the tincture of opium. (2) Narcotine. The author concludes that narcotine hardly diminishes at all the irritability of the bowel, and therefore possess no inhibitory action on intestinal peristalsis. (3) Papaverine. This alkaloid stands next to morphine in its hindering action upon intestinal peristalsis, but the author does not think that this property can be made use of in practice owing to its uncertainty; (4) thebaine increases intestinal irritability, and hence peristalsis; (5) narceine, like narcotine, is also uncertain; it cannot lessen in any considerable degree intestinal peristalsis; (6) codeine increases the intestinal irritability, and hence peristalsis; (7) kryptopin and laudanin only occur in opium in traces. The author's experiments show that they increase intestinal irritability. The author mentions that the alkaloids were obtained from Merck, and their purity was again tested by himself. Finally, he draws attention to the part played by the suprarenal capsules in respect to the intestinal movements, and he maintains that this is a subject worthy of more careful study. The author concludes that opium does not owe its action upon the intestine to alkaloids, which are eventually present only as adjuvants, and that morphine exercises its effect by a local action.

(115) Calomel in Gonorrhœal Conjunctivitis of the Newborn.

PUKALOF (*Vratch*, No. 27, 1897) has treated gonorrhœal conjunctivitis in 57 newborn infants with calomel. The gonococcus of Neisser was found in the discharge in all the cases. The conjunctival mucous membrane having been syringed with a 2 per cent. solution of boric acid, and well dried with absorbent cotton, was dusted with calomel. One day after the first application the discharge and swelling of the mucous membrane diminished, even in severe cases. Sometimes the dusting had to be repeated two to three times. The treatment lasted only a week, and in neglected cases of long standing not more than a fortnight. The results were very satisfactory.

PATHOLOGY.

(116) A Rapid Method of Estimating Iron in the Blood.

ADOLF JOLLES (*Wien. klin. Rundschau*, No. 5) claims to have invented a method by which the exact percentage of iron present in the blood can be estimated within ten minutes. Fifty cubic millimetres of blood are drawn from the forefinger, any excess being removed from the pipette by filter paper, and care being taken at the same time to exclude air bubbles. The blood is washed on to a platinum capsule with a few drops of distilled water, and the whole carefully reduced to ash in the Bunsen flame. The ash is mixed with a decigramme of anhydrous acid sulphate of potassium in powder, which is melted by means of heat. When thoroughly mixed the whole is cooled and washed with hot distilled water into a glass vessel. For comparison a fluid is made containing in each c.cm. 0.00005 gr. of iron and 0.1 gr. of $KHSO_4$. The two fluids are placed in graduated tubes of the same height, which are filled with distilled water to the mark 10. To each is added 1 c.cm. of dilute hydrochloric acid and 4 c.cm. of rhodantmmonium solution (0.75 per cent.). If on looking down through the columns of fluid on a white surface the tints differ enough of the deeper coloured one is let out by a tap at the bottom to produce an equality. The amount of iron can be read off at once and its percentage calculated if the specific gravity of the blood be estimated, as can be rapidly done by Hammerschlag's method. The percentage of hæmoglobin may be deduced by taking the proportion of iron in that body as 0.42 per cent. The author publishes a number of observations in which the results, as checked by older methods, appeared accurate and consistent.

(117) A Tumour Caused by Caterpillar Hairs.

SPITZER (*Wien. klin. Woch.*, 1897, No. 26) records the following case. An otherwise healthy man, aged 62, presented himself at the clinic with a hemispherical tumour of three months' growth occupying the anterior part of the dorsum of the left foot. It was sharply defined, and covered with bluish skin through which light yellow nodules the size of a barleycorn could be seen. It was thought to be malignant in origin, and amputation was proposed. It was decided, however, merely to remove the tumour, which was done; the extensor tendons were involved in the growth. This was found to consist of a number of tubercle-like nodules embedded in a fibrous stroma. They were composed of epithelioid and small round cells, with occasional giant cells. In the centre of each was an accumulation of leucocytes, showing no signs of caseation, and on more careful examination the cause of the disease was found in some sharp cylindrical hairs embedded in the leucocytic mass. Further inquiries now elicited the fact that about six months previously the patient, while working in the fields, had been suddenly seized with pain and burning in the left foot, and that on taking off his boot he found there a large hairy caterpillar (a kind of "woolly bear"). The foot next day was red and swollen, but this soon passed off, and the tumour did not make its appearance for another three months. The hairs of the larva in question (bombyx rubi) are uncommonly thin and composed of chitin, having also barbed ends. They contain a small amount of formic acid, which no doubt in this case gave rise to the initial symptoms of inflammation, while the tumour resulted from the presence of the hairs acting as foreign bodies.

(118) Coronary Thrombosis.

KRONECKER (*Berl. klin. Woch.*, 1897, No. 29) explained at the Berlin Medical Congress his ideas on the causation of death after thrombosis of the coronary arteries. In ligature of the main coronary trunks in dogs he obtained similar results to those of Cohnheim, von Leyden, Michaelis, etc. Accompanying injuries were not the cause of the phenomena observed, because he froze the left coronary artery by an ethyl chloride spray, and the heart's action stopped in the same way. Neither could the heart be saved by immediate thawing of the frozen artery. Death likewise followed the injection of paraffin into the coronary arteries, and even minute embolisms of the small coronary branches were fatal. The injection of milk was fatal, but not of warm dog's blood. Death from coronary thrombosis is therefore not caused by mechanical injury, but by anæmia of the coronary circulation, and even the injection of normal salt solution caused the heart's action to cease. The "fatal spot" in the heart wall of fully grown dogs, various kinds of injury to which cause death, corresponds, according to Kronecker, with a peripheral vasomotor nervous centre for the coronary circulation; but the innervation is not so centralised in rabbits, cats, and monkeys, or in human children and young dogs. When the heart muscle has once been paralysed by withholding the blood supply, it cannot be made to function properly again, because the nervous centres cannot be restored any more than the brain of an animal can, after it has been deprived of blood for some minutes, though convulsions (as in an animal bled to death) may still be observed.

(119) Complete Transposition of the Viscera.

IMERIO MONTEVERDI (*La Pediatria*, No. 5, 1897) has met with an anæmic girl, aged 12, who presented complete transposition of the viscera. A younger brother suffered from congenital hydrocele of the left side, but her parents and her other brothers and sisters were normal. There was cranial asymmetry, the left side showing the greater development. The heart beat was in the fourth intercostal space on the right side; there was evidence that the larger of the bronchi was the left; the liver was on the left, the spleen on the right side; the œsophagus lay to the right of the spine, as determined by auscultation during deglutition; the stomach lay in the right hypochondrium, with its greater curvature looking downwards and to the right, as was made out by Frerichs's method of gaseous distension, and it could be felt that the abdominal aorta was situated at the right side of the spine. It was noteworthy that the patient was not left-handed, had no signs of disturbance of the heart, lungs, or digestive apparatus, and did not write in the so-called "mirror" fashion.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(120) Aphasia.

Karl Bok (*Festschr. des Stuttgart. aerztl. Verein.*, 1897) mentions that the prognosis depends on the site and nature of the lesion. Incurable lesions may preclude improvement even in the slighter cases of aphasia. Extensive progressive lesions are, of course, worse than circumscribed ones. Hæmorrhage, embolism, thrombosis, include the majority of cases of aphasia. If death does not occur, even the worst disturbances of speech may be recovered from; whilst, on the other hand, even slight affections of speech may persist throughout the remainder of life. Age is an important factor. Children may learn to speak again even after extensive damage to the speech centres, whereas small lesions in old people may produce a lasting aphasia. The individual power of learning undoubtedly plays a part in the result. The longer the aphasia has lasted without any tendency to improvement, the worse the prognosis, and this is also the case where the intelligence steadily fails. In the didactic treatment of aphasia it must be taken into account whether the lesion is capable of recovery, whether it has progressed slowly or quickly, and whether the intelligence is involved. It is well to let some time elapse before commencing the treatment, if it is to be ascertained whether the result is due to the treatment. The kind of aphasia, whether motor, sensory, or amnesic, must also be taken into account. The object of treatment is to restore the conduction of impulses along the usual paths or to open up new paths. The treatment of amnesic aphasia lies in a strengthening of the defective recollection of words. The words must be learnt by heart, and then short reading exercises adopted. The exercises should be performed in front of a mirror, in order to recall the recollection of the necessary movements. In motor aphasia, other parts of the brain may take on function. Single sounds, then syllables, and lastly words, are taught. Writing exercises with the left hand should be performed along with the articulation exercises. The patient should be taught to form words from printed letters. The treatment of sensory aphasia is more difficult. The first attempts are made by means of written language. Lip reading should be developed, and reading, writing, and other exercises combined with it. The case may be much complicated by a combination of different forms of aphasia. Much patience is needed. The results so far encourage further efforts. In the absence of complete recovery, a considerable improvement may be obtained.

(121) The Prognostic Value of Urinary Chlorides.

Maignan has recently published a series of observations on the quantitative estimation of urinary chlorides in chronic diseases (*Journ. de Méd.*, April 10th, 1897). In health an adult excretes 10 to 15 grammes of chloride of sodium per diem. In certain diseased conditions this figure may fall to 3, or even none, and the author made a special series of observations on the quantity excreted in tuberculosis, and found that the figures varied from 2.5 to 3.5 grammes, but the same thing may be found in chronic gastritis, gastric ulcer or gastric carcinoma, and in certain acute conditions, such as pneumonia or bronchopneumonia. As regards acute diseases the reduction of chloride is of no prognostic value, and may even be compared to that reduction found in copious diarrhœa or under certain dietetic conditions, and the diminution is often in proportion to the intensity of the disease. It is therefore quite different in chronic diseases, and the progressive diminution of chlorides (when unconnected with special diet) is often of grave prognosis.

(122) Hysteria in the Male.

A. Vogt (*Norsk Mag. f. Laegevidensk.*, No. 1, 1897) reports the case of a working man, aged 42, snddenly attacked by paralysis of the left side of the body, which later extended to the whole of that side. There was no sign of syphilis. The condition lasted for four months without much change. There was polyuria. There was anæsthesia of the left side and paresis of both upper and lower limbs. The left testicle was hyperæsthetic and there were hyperæsthetic spots on the left side of the back. There was diminution of hearing and sight on the left side; on the right there was nothing abnormal. Purely suggestive treatment without any drugs effected a complete cure.

(123) Lumbar Puncture.

Mya (*La Settimana Med.*, January 23rd, 1897) points out that even in the cases where the removal of some liquid may be palliative, it occasionally happens that the sudden diminution of pressure leads to death. In the acute non-tuberculous affections of the meninges, lumbar puncture can have little curative effect. It may be of use in hydrocephalus following a chronic left meningitis. The author's personal experience refers to 33 cases with 80 punctures. In children chloroform was not given, and in some of the cases the patients walked home immediately after operation. Of the 33 cases, 15 were suffering from tuberculous meningitis, 2 staphylococcal serous meningitis, 1 lobar sclerosis (syphilitic), 3 cerebral tumour, 11 chronic hydrocephalus, 1 thrombosis of sinuses after otitis. The author speaks highly of the diagnostic value of lumbar puncture in tuberculous meningitis, and points out how in this disease the liquid exudes at a much quicker rate, for example, 20 to 40 cm. in a few minutes as against 5 to 10 cm. in ordinary cases. The fluid is slightly turbid, and coagulates if left to itself. Microscopically one can see fragments of ependyma and leucocytes in small quantities. The glucose is usually less than normal and may be absent. Tubercle bacilli were found in only 2 cases, and cultures proved sterile. The author relates 1 case of tuberculous meningitis (diagnosed by lumbar puncture and tuberculin injection), which recovered. Of the 15 cases 14 died, so that one cannot speak satisfactorily as to the curative influence of lumbar puncture. The effect of puncture in the other cases is not given in this paper, but will be described in later numbers.

(124) Pseudospastic Paresis with Tremor.

Onuf (*Neurol. Centralbl.*, April, 1897) describes a case of the rare affection to which Fürstner gave the name of "pseudospastic paresis with tremor." A man, aged 40 years, a heavy drinker, was struck on the top of the head by the corner of a trap door. There was immediate paralysis of the face and all the limbs, with loss of sensation, but no loss of consciousness. No external injury could be found. After twenty minutes speech and facial movement were completely recovered; power was recovered more slowly in the arms and legs. After four months power was completely restored, but there were curious tingling sensations in the hands; the most striking and troublesome symptom remaining was the occurrence of a violent trembling and shivering of the whole body on the slightest excitement. The deep reflexes were greatly increased, and any attempt to elicit them caused shivering movements of the limbs; plantar and abdominal reflexes were absent. Gait was high stepping, of spastic type. The pathology of this affection is uncertain. Suggestions have been made that it is a functional disturbance or traumatic neurosis, that it is due to a traumatic lesion of the cervical part of the spinal cord, or that it is due to capillary hæmorrhages in the brain. None of these theories, however, will explain all the cases that have occurred.

(125) Cyclic Hæmaturia of Childhood.

This condition is described by Durante (*Journ. de Méd.*, April 10th, 1897). Hæmaturia in childhood has been observed several times, but has usually been merely a symptom. In some cases which came under the author's observation, nothing but hæmaturia could be discovered, and no cause could be ascertained. His patients were children, and two possibilities were considered: tubercle and malignant growth. No evidence of tubercle could be found after very continued observation. In the same manner, malignant growth was set aside in time, for this condition, as is well known, is rapid in children; whereas in the cases under observation no evidence of growth could be found at the end of two years, and the author there

fore naturally concludes that it could not be present. Both these hypotheses had therefore to be eliminated. No other defect could be found, and thus, by a process of elimination Durante came to the conclusion that the only explanation was a simple or idiopathic renal hæmorrhage analogous to epistaxis. He suggests the idea that the defect consists in a developmental defect in the capillary walls.

SURGERY.

(126) The Surgical Treatment of Gastric Ulcer.

Leube (*Centralbl. für Chirurgie*, No. 28, 1897), at the last Congress of the Deutscher Gesellschaft für Chirurgie, extolled the advantages of the medicinal and dietetic treatment of ulcer of the stomach. In a large proportion of cases treated by the author's method—which consists in rest, low diet, and hot external applications—complete and permanent cure has, it is stated, been effected in the course of three or four weeks. In some few cases, however (about 4 per cent.), it will be found advisable to apply for the aid of the surgeon, in order to make up for the failure of internal treatment, and to avert a fatal result. Surgical intervention, it is held, is positively indicated in cases of small but frequently repeated hæmorrhages from the stomach. A single attack of profuse bleeding is not regarded as an indication for operation. Profuse hæmatemesis, unless caused by the erosion of a coronary artery, seldom causes death. Operative treatment, especially the performance of gastro-enterostomy, is indicated in cases of gastric ulcer, in which intense pain and frequent vomiting lead to the diagnosis of spasmodic stenosis of the pylorus. When these symptoms do not yield to rest and medical treatment, and the patient is threatened with death from inanition, the surgeon should be called in at once. Surgical intervention, the author states, is not generally required in cases of perigastritis and consequent adhesion of the stomach to adjacent parts, but only when the inflammatory adhesions have formed a swelling which can be distinctly felt through the abdominal wall. In such an instance where probably carcinoma would be suspected, exploratory laparotomy should be practised, and, if possible, the tumour removed. Laparotomy is certainly indicated in cases in which the ulcer has opened into the peritoneal cavity. The operation, it is urged, should be performed early, as the prospects of success are very slight if it be delayed until an interval has expired of ten hours from the actual time of the perforation. At the same sitting of the Congress an elaborate review of the surgical treatment of gastric ulcer was given by Mikulicz, who, whilst agreeing in many points with Leube, advocated more frequent surgical intervention on the grounds that the disease, having a tendency to relapse, is more likely to be effectually cured by radical operation than by expectant and medicinal treatment. In cases of open non-complicated ulcer of the stomach, surgical intervention, he holds, is indicated by the presence of symptoms which directly or indirectly threaten the life of the patient (frequent bleeding, increasing emaciation, commencing suppurative perigastritis), and when suitable and prolonged medicinal treatment has after repeated trial given but temporary relief, and the working capacity and comfort of the patient are much disturbed by gastralgia, vomiting, and dyspepsia. Mikulicz, in cases of open gastric ulcer indicating operative interference, is opposed to excision of the affected portion of the stomach; and of the two remaining operations—pyloroplasty and gastro-enterostomy—prefers the former. Prompt surgical intervention, he states, is indicated in cases of perforating ulcer. The success of such intervention would be much favoured, he holds, by an empty state of the stomach at the time of perforation, and by an early operation. The prospects of a good result are four times better when the operation is performed within the first twelve hours than when laparotomy has been delayed beyond this period.

(127) Mixed Tumours of the Soft Palate.

Berger (*Revue de Chirurgie*, July, 1897) publishes the following conclusions derived from careful study of cases of mixed tumours of the soft palate. These growths, he finds, forms a well-marked group of tumours which possess distinctive anatomical and clinical characters. They take origin in the glandular structures of the palate, and are always enclosed within a capsule of connective tissue, which completely isolates them from the surrounding parts. They are made up of (*a*) epithelial elements, the arrangement of which resembles sometimes that of an adenoma, at other times and more frequently that of an epithelioma; (*b*) a stroma presenting varying forms of connective tissue, principally mucoid tissue and cartilage. The author's observations have led him to oppose the theory of the endothelial origin of these growths. Regarded from a clinical point of view these tumours are essentially non-malignant. They never take the same course or lead to the same results as true epitheliomata. This innocent character seems to be due to the suppression of the epithelial constituents of the growth by the development of the mucoid or cartilaginous tissue of the stroma. It is occasionally difficult to distinguish these mixed tumours from sarcomata, which, on the palate, may present analogous characters, such as a slow growth, a distinctly circumscribed form, and relative innocency. The sole reason for anxiety on account of mixed tumours of the palate is their gradual and persistent growth and their tendency to impair through compression the functions of adjacent organs. Their extensions towards the pharynx, the pterygo-maxillary region, and the parotid gland cause some difficulty in their extirpation, which, however, thanks to their investment by a capsule, may be effected by enucleation. Local relapses, when they occur, are always the result of incomplete removal. The author finally alludes to other tumours of the palate, which, though in many respects analogous to the mixed growths, present a malignant aspect, and often perforate the palate and invade the nasal fossæ and the antrum. These growths, it is stated, need further anatomical research.

(128) Ocular Hæmorrhages in Young Subjects and in Adults.

Abadie (*Soc. d'Ophtal. de Paris*, April 6th, 1897) lays stress on two symptoms which he thinks are of importance as bearing on the causation of intraocular hæmorrhages in young subjects: (1) the epistaxis which often precedes or accompanies them; (2) a noticeable diminution in the number of the red corpuscles in the blood. These seem to indicate that the hæmorrhagic process depends on an alteration in the blood. The results of treatment directed to improving its quality have been found by Abadie to be most satisfactory. He strongly recommends a glass of sulphuric lemonade, extract of cinchona 1 gramme, and perchloride of iron 10 to 20 drops, to be taken daily. To favour absorption of the effusion he applies the artificial leech to the temple. Hæmorrhages associated with choroido-retinitis are not to be confused with the above, and require a mercurial treatment.

MIDWIFERY AND DISEASES OF WOMEN.

(129) Sulphate of Quinine in Incomplete Abortion.

Schwab (*Rev. Méd-chir. des Mal. des Femmes*, June 25th, 1897) points out that obstetricians are not agreed as to the best treatment of incomplete abortion, some leaving matters alone unless hæmorrhage or sepsis appear, others proceeding at once to the clearing out of the uterus with finger or curette. He is of opinion that, save in the cases in which the medical man can keep the patient under constant supervision, in which antiseptic precautions have been carried out from the commencement of the abortion, and in which the os is still closed, the uterus ought to be emptied at once. He admits, however, that the curette has its dangers, and that ergot is inconvenient, so he recommends sulphate of quinine. He has used it with success in 7 cases of incomplete abortion. It is quite safe, it does not set up a tetanic condition of the uterine muscle, it may be given in two doses of 8 grains at an interval of ten minutes, and it usually causes emptying of the uterus in about four and a-half hours.

(130) Origin of Adenomyoma and Cystadenoma of the Uterus.

Meyer (*Centralbl. f. Gynäk.*, No. 24. 1897) has continued Recklinghausen's researches, which showed how important

glandular elements naturally lie imbedded in non-glandular portions of the uterus and tube. He exhibited, at a meeting of the Berlin Obstetrical Society, sections displaying glandular structures in the muscular tissue of the uterus in the adult and in newborn children. These structures, sometimes acinous, at others tabular, were histologically identical with the endometrium. But he was also able to produce sections showing adenoma clearly derived from the Wolffian duct. The clinician and pathologist will also be interested to find that Meyer demonstrated a bilateral persistence of the Wolffian duct in the vagina itself of a newborn infant; the left duct bore a strongly branched diverticulum, which left the main channel just before the latter entered the vaginal wall, and ran upwards in the substance of the cervix. This diverticulum has been described as the true termination of the duct, which, some embryologists declare, never enters the vagina. In submucous myoma, endometric glandular tissue is often detected, as Meyer was able to demonstrate. He also showed bilateral adenoma of the tube close to the ovum from an adult who had died of phthisis, and also a complex condition where a cystic adenoma was of endometric tissue, undergoing cancerous degeneration, whilst in the peripheral part of the same uterus lay glandular structures of Wolffian origin.

(131) Gonorrhœa a Cause of Detachment of Placenta.

Maslovsky (*Ann. de Gynéc. et d'Obstét.*, March 1897) reports that a primipara, aged 22 years, was seized with flooding during the ninth month of pregnancy; severe hypogastric pains were present, and large old clots were ultimately expelled. There was an abundant thick vaginal discharge. The fœtal heart sounds could be heard; the presentation was right occipito-posterior. Owing to the presence of very old clots the normal condition of the cervix and other symptoms, Maslovsky diagnosed detachment and not abnormal insertion of the placenta. Delivery was effected; three days later the child had conjunctivitis. Gonococci were found in the uterine mucus and also in the substance of the placenta, where there was evidence of an active inflammatory process affecting the structures impinging on the maternal tissues. Maslovsky terms this form of inflammation "endometritis decidualis gonorrhoïca." There can, at least, be little doubt that changes due to gonorrhœa often prove disastrous to the course of utero-gestation.

(132) Arterial Sclerosis Limited to Female Organs.

Müllerheim (*Zeitsch. f. Geburts. und Gynäk.*, vol. xxxvi, Part II, 1897) has made an important discovery which may throw light on obscure diseases of the uterus and ovaries. A woman died of tuberculous peritonitis. The vessels of the heart, the aorta, and other arteries where atheroma is so frequent showed but little trace of that well-known morbid condition. On the other hand, the ovarian and uterine arteries were calcified throughout nearly their entire length. The secondary branches in the broad ligament were tortuous and extensively calcified. The changes in the uterine walls were very marked, especially in the muscular tissue close to the serous coat, where arterial sclerosis was so advanced that masses of white spots, being collections of diseased arterioles, could be seen on the cut surface of the muscular wall. The change extended inwards as far as the endometrium. The whole uterus seemed as though it had been skilfully injected by an anatomist. Undoubtedly the changes were due to tubercle, which sets up hyperplastic inflammation of blood vessels.

(133) Tubo-uterine Gestation: Successful Operation.

Rosenthal (*Ann. de Gynéc. et d'Obstét.*, March, 1897) removed the uterus and appendages from a woman, aged 28, fifteen weeks after a sudden attack of pain and collapse. Pregnancy had already reached the sixth week when the attack occurred, and afterwards the abdomen began to enlarge. A week before the operation constant abdominal pain set in. A tumour reached to above the umbilicus. The uterus was anteverted; its cavity measured nearly 3 inches; the tumour pressed into the left fornix and was continuous with the uterus; it did not fluctuate. The tumour was a large sac containing a four and a half months' fœtus, which showed signs of life. The placenta lay in its deepest part, and closed the uterine orifice of the left Fallopian tube. The outer part of the sac consisted chiefly of the serous coat of the uterus; between the placenta and the uterine mucous membrane lay a thin septum consisting of muscular tissue. The left tube seemed to run into the sac. Rosenthal believes that the ovum developed in the uterine part of the tubal canal, and that when the sudden attack of collapse occurred the walls of the canal ruptured, but the ovum managed to escape into uterine tissue without tearing through the serous coat of the uterus; hence this was literally an "interstitial" pregnancy. There was a lochia-like discharge on the fifth day; recovery was rapid. The patient had had two children; the younger was sixteen months old when the operation was performed.

THERAPEUTICS.

(134) The Action of Tuberculin.

Kasparek (*Wien. klin. Woch.*, 1897, No. 26) records the results of an important series of investigations into the action of tuberculin on healthy and tuberculous animals. His first object was to determine in some measure the relation between the reactions produced by different varieties of tuberculin. Preparations were made from human and avian tuberculosis by concentrating six to eight weeks old cultures to $\frac{1}{8}$ or $\frac{1}{16}$ their bulk. It was found that eight times the quantity of bird tuberculin was required to produce the same effect in the experimental animals (guinea-pigs) as a given dose of the human product; a good deal depended on the body weight of the animal, and guinea-pigs of as nearly as possible the same weight were selected in consequence. These precautions having been taken, the author was able to demonstrate that the tuberculin reaction was constant in diseased as distinguished from non-tuberculous animals. He next investigated the length of time which elapsed after infection with tubercle bacilli before the reaction was obtainable. When infection was accomplished by the injection of bacilli into the abdominal muscles the reaction appeared in thirty-six to forty-eight hours, at a time when no macroscopic lesion could be detected though the bacilli were multiplying at the seat of injection. The fact that no reaction takes place at first shows that it is an actual tissue change in the animal and not the mere presence of bacilli which renders it so susceptible to the influence of tuberculin. This is confirmed by the fact that the substitution of an equal amount of living tubercle bacilli for the tuberculin gives no reaction whatsoever. When the tuberculous infection was effected by means of inhalation no reaction was obtained till after six daily exposures of an hour each; whenever it was obtained the animal eventually succumbed to tuberculosis. This shows the extraordinary diagnostic value of tuberculin. The last series of experiments consisted in the injection of tuberculin into animals which had been weakened previously by diphtheria toxin. Fever resulted in these cases but was not of the same type as that constituting the tubercle reaction, than which it lasted at least five or six hours longer. Kasparek's conclusions are as follows: (1) The tuberculin reaction occurs very early (thirty-six to thirty-eight hours) in animals infected with tubercle, as soon, in fact, as the slightest amount of tissue change has taken place; (2) the activity of a tuberculin preparation varies with the source from which it is obtained; (3) the fever evoked by tuberculin in animals weakened, for example, by diphtheria toxin is distinguishable from the typical reaction by its greater duration.

(135) The Choice of a Mercurial Treatment.

Fournier (*Sem. Méd.*, June 30th, 1897) gives rules for administering mercury in different cases of syphilis. Leaving aside fumigation, baths, mercurial plasters, etc., as antiquated, there remain three possible methods: (1) Ingestion; (2) inunction; (3) hypodermic injections. The advantages of ingestion are: (*a*) Simplicity; (*b*) it being usually well tolerated by the mouth and intestinal tract; (*c*) its proved activity. The disadvantages are: (*a*) It may upset the digestion; (*b*) it is only tolerated in moderate doses, otherwise diarrhœa and stomatitis appear; (*c*) it is therefore only suitable

where a moderately active and not very rapid method is indicated. The advantages of inunction are: (*a*) it is intensely active; (*b*) it does not, unless exceptionally, upset the digestion; (*c*) it leaves one free to give any other medicine by the stomach. The disadvantages are: (*a*) The trouble and time required are such that few patients will carry it out properly; (*b*) the course cannot be kept secret; (*c*) its curative effects are very unequal, probably depending on the way it is performed; (*d*) it is more likely than any other method to produce stomatitis of a very severe character. As regards hypodermic injections, there are two methods—namely, frequent or daily injections and occasional injections. The advantages of the former are: (*a*) it is an active method, whose activity can be regulated from day to day; (*b*) it does not upset digestion; (*c*) the stomach is free from other medicines. Its disadvantages are: (*a*) The possibility of local complications and the severe pain; (*b*) the impossibility of carrying it out properly outside a hospital. Occasional injections are remarkably active, and sometimes work extraordinary cures not seen in any other treatment—such as the disappearance in a few days of large tuberculous syphilides, tertiary glossitis, gummatous laryngitis, etc. Of the disadvantages, some, such as stomatitis, are common to other methods; some, such as the almost inevitable injection nodules, are not of much importance; and some, such as phlegmonous inflammation, can be avoided by antisepsis. The great and unavoidable disadvantage is the pain. The author found that even a small dose, such as $\frac{1}{130}$th of a grain of calomel, is often extremely painful. Of 400 calomel injections, the pain was bearable in two-fifths, intense in three-fifths, and in one-fifth of the latter intolerable. Many have therefore given up the treatment altogether. This is wrong, as it is very valuable in exceptional cases where a rapid effect is important or which do not yield to other treatment. Such cases are iritis and other ocular affections, ulcerated tuberculous syphilides, spreading gummatous ulcerations, phagedenic chancres, gummatous laryngitis, etc. Exfoliative glossitis also often yields to no other treatment. From the above summary certain indications are evident. (1) As regards the patient himself: if robust, ingestion will probably be most suitable, but if dyspeptic or cachectic this must be avoided; if his dentition is bad the best treatment is the perchloride by the mouth, inunction and occasional injections of large doses being then altogether contra-indicated. Injections are not to be used unless really necessary in workmen and others who live by the use of their limbs. (2) As regards the kind of syphilis: it may be roughly said that ordinary cases should be treated by ingestion, more severe by inunction, and the worst by injections. (3) As regards the object of the treatment: if it is for any particular symptom the course most suited for it must be chosen; if it is to cure the disease the first consideration is that the course must be a long one. Hence, owing to the disadvantages of inunctions and injections, ingestion is by far the best for this purpose, the course being interrupted now and then, but lasting for years.

(136) Maragliano's Serum in Cervical Adenitis associated with Phlyctenular Ophthalmia.

Beccaria Francesce (*Rif. Med.*, June 28th, 1897), in a paper read before the Medical Society of Turin, reports good results obtained by him by this treatment. The patients had no pulmonary lesions and were apyretic, but the strumous and lymphatic constitution was well marked. The best results were obtained when the injections were given every five or six days. The body weight increased under treatment. No rise of temperature ever occurred. In a very few cases the intramuscular injections gave rise to erythema. The subconjunctival injections were not painful, were rapidly absorbed, and gave rise to no irritation. The phlyctenulæ disappeared in four or five days, two injections being sufficient as a rule. Fresh phlyctenulæ or pustules rarely reappeared.

(137) Serum Treatment of Diphtheria.

Papekof (*Vratch*, No. 28, 1897) records the results in 70 cases of diphtheria in which antidiphtheria serum treatment was applied and the obstruction of the air passages had to be relieved by surgical operation. The diphtheria bacillus was found in all cases. In one-half the number tracheotomy, in the the other intubation, was performed. The mortality of the former was 34.3 per cent, that of the latter 31.4 per cent. Intubation being a bloodless operation, performed without narcosis and free from all the complications of an open wound, should be preferred. These operations do not, however, exclude one another; they rather represent one complete surgical remedy for laryngeal obstruction.

PATHOLOGY.

(138) The Etiology of Tumours of the Kidney.

Ricker (*Centralbl. f. allgem. Pathologie*, June 1st, 1897) has devoted two years to the study of this subject, which has received so great an impetus since the discovery of the suprarenal origin of so many kidney growths. In certain cases in which there was an abnormal nearness of the suprarenal body to the kidney he found renal tumours in the suprarenal, and suprarenal tumours in the kidney. No satisfactory explanation is as yet forthcoming of the simple cysts found attached to the capsules of perfectly normal kidneys—for example, in children—but it is possible that some of them may be traced to suprarenal rudiments. Of the non-malignant tumours, he mentions first the tubular adenoma, which appears as a cortical growth apparently arising from the tubules of the medulla, or rather from their "rests." The next group which he considers is the trabecular cystoma, of which he traces the evolution in a continuous series, from the simple kidney cyst with club-shaped epithelium. In this develop trabeculæ, first simply of connective tissue, but later containing capillaries. These tumours thus arise in and from normal kidneys; a small proportion may, however, develop as the result of obstruction of the ducts from senile change. There is also a third variety of kidney tumour, which differs from the last in the following respects: It is subcapsular and of variable size, but rare and solitary, whereas the cystoma is common and often multiple. It is solid in structure, and often shows early degeneration cavities, the cystoma being truly cystic with trabeculæ composed at first of connective tissue and capillaries, later of capillaries alone. It is composed of rows of cells which join freely with capillaries, from which, however, they are separated by thin connective tissue. The cells are polygonal, and generally but not invariably contain fat; they tend to the formation of giant cells. In the trabecular cystoma the cells form a single layer of highly cylindrical epithelium, and invariably contain fat. This last group of kidney tumour Ricker considers to be indubitably suprarenal in origin. He adduces in favour of this view the apparently capillary origin and the great resemblance which the tumours have to the suprarenal body. Although the origin of the trabecular cystoma appears to be purely renal, yet he considers that it has affinities, on the one hand, with the suprarenal tumours—as shown by the fat which it contains—and, on the other, the perivascular sarcomata.

(139) The Action of "X" Rays on Micro-organisms.

Bonomo and Gros (*Giornal. Med. del Regio Esercito*, an. 45, n. 6) have made researches in the military hospital at Rome on this subject. They subjected cultures of various micro-organisms (B. subtilis, B. tuberculosis, B. anthracis, and others) up to the third generation to the influence of the *x* rays, applied vertically, for a period of about three hours each day. Some retardation or diminution of vitality, vegetative and pathogenic, was observed in every case, but the change was for the most part very slight, except in the case of B. anthracis. With this microbe a well-marked diminution in motor activity, modification of chromogenic power and loss of spore-producing property was observed. With this, too, a complete attenuation of pathogenic effects was observed, so that the authors feel it might be possible through successive cultures exposed to the *x* rays to make the B. anthracis innocuous. No such marked results were obtained with the other micro-organisms under the influence of the same rays. In every case such effects as were observed were more noticeable in the later than the earlier cultures.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(140) Acute Nephritis.

Ebstein (*Deut. med. Woch.*, June 10th, 1897) discusses acute nephritis occurring as a complication of chronic gastro-enteritis, and relates a case in a woman aged 27. Here there was no other cause for the disease either in past illnesses or in family predisposition. She had suffered from diarrhœa for nine months, and from pain in the gastric region and loss of appetite for six months. She suffered from tapeworm, but as to whether this was the cause of some of these symptoms there was some doubt. The nephritis arose most acutely, and proved fatal in a few days from eclampsia, coma, and collapse. During the illness small hæmorrhages occurred in the subcutaneous tissue. At the necropsy a tapeworm was found in the intestine. There was a follicular enteritis with ulcers and enlargement of the mesenteric glands. The spleen was quite normal. The kidneys presented the appearances of an acute nephritis. The other organs were healthy. It was only on the third day after admission that a small quantity of albumen appeared in the urine. Later abundant casts were found. The asthmatic attacks present were uræmic in character. As regards any other possible cause for the nephritis, except the gastro-enteritis, it must be mentioned that there was no ground whatever for thinking that the patient had influenza. There were no symptoms of an acute infective illness; there was no fever and no splenic enlargement. The author is of opinion that the suddenly oncoming nephritis was due to an intoxication from the alimentary canal. The severity of the nephritis arising in cholera is well known. In acute intestinal catarrh renal symptoms may appear, but in cases of chronic catarrh the condition of the urine has not been carefully observed. In this case the stools were very light, but contained no fat. The author records this case to draw attention to the possible occurrence of acute nephritis as a complication of chronic gastro-intestinal catarrh.

(141) Swelling of the Parotids in Uræmia.

Richardière (*Journ. de Méd.*, March 10th, 1897) describes this condition, which has not attracted very much attention. Swelling of the parotids is well known in certain intoxications, such as mercury, arsenic, etc., and in uræmia, which may be looked upon as a typical intoxication, it is also observed. The author relates a case of uræmic poisoning with dyspnœa and cephalalgia, in the course of which there was pain at the angle of the jaw, accompanied by swelling of the parotid region. Both parotids were attacked at the same time. The swelling lasted four to five days and then completely disappeared. These parotid complications in uræmia may be due to two causes: greatly increased secretion or chemical modifications thereof. Increased secretion is a frequent occurrence of uræmia, and a large number of cases of ptyalism are recorded, and in a case observed by Barié 900 g. of saliva were secreted in 24 hours. In the author's case there were no increased parotid secretions nor ptyalism, and in this instance, therefore, the parotid lesion would seem to be due to chemical alteration in the saliva. It is known also that in cases of deficient renal action the saliva contains a large amount of urea, and the parotid would therefore seem to have a certain vicarious action in some cases of renal disease.

(142) The Causation of the Presystolic Murmur.

Brockbank (*Med. Chron.*, June, 1897) discusses at length the cause and rhythm of the cardiac murmur ordinarily styled presystolic, but which he prefers to define as a crescendo *bruit* rapidly ascending in pitch, and terminating abruptly with the closure of the mitral valve. He states that two theories of its origin have been put forward. The first was originally suggested by Fauvel in 1843, and holds that the murmur results from the forcing of blood through a stenosed mitral orifice by a hypertrophied left auricle, aided by the aspirating force of the ventricle in diastole. The second, devised by Ormrod in 1864, is that the murmur is produced by blood regurgitating through the stiff rim of the valve orifice before sufficient force is generated in the ventricle to close the valve. The most recent supporter of the first theory is Sansom, of the second Dickinson. The author propounds a third explanation—namely, that the murmur is caused by blood rushing through a gradually but rapidly diminishing stiff-rimmed, narrowed, mitral valve under a progressively increasing pressure. He illustrates this by the effect of compressing with one's teeth or lips an india-rubber tube through which one is blowing. He agrees with Dickinson's view that the accentuated first sound is due to the hard edges of the stenosed valve being forced together by the pressure of ventricular systole. The author claims to be able to differentiate the abrupt wooden quality of this sound from the more ringing accentuated sound produced by the systole of the right ventricle, and often associated with the other. Admitting that the "presystolic" *bruit* is produced by blood rushing through a closing orifice, he next takes up the question whether the closure is the result of auricular or of ventricular action. Even in health he believes it to be due not only to the pressure of the blood, but also to a preliminary contraction of the extreme apex of the ventricle, which he describes as preceding the general systole of that chamber. When the mitral valve is thickened, a greater force is required to close it; and Brockbank regards it as more probable that this should be provided by the ventricle than by the hypertrophied auricle. If the force is ventricular in origin, he considers that some blood will regurgitate through the stiff orifice before the intraventricular blood pressure is raised high enough to overcome the resistance of the diseased valve. He hence concludes that the murmur ordinarily known as presystolic is really early systolic, and is due to regurgitation through a stenosed mitral orifice in the early stages of ventricular systole.

(143) Obesity and Gigantism in a Child of Four.

Capitan and Croizier (*Compt. Rend. Hebd. Soc. de Biologie*, April 2nd, 1897) record the case of a boy, aged 4 years and 4 months, who measured 108 cm. (instead of 92 cm.) in height, and weighed 51 kilogrammes (instead of the normal 14 kilogrammes). He was in other respects quite normal, showed no signs of myxœdema, and had no arthritic heredity. Before his birth his mother had had a child that died in a few months from congenital weakness. At his birth he weighed 10 lbs., in four months 18 lbs., and during a year he increased in weight at the rate of 4 lbs. a month. Latterly he has gained 2 lbs. a month. The authors regarded it as an instance of gigantism with precocious obesity.

SURGERY.

(144) Chronic Contraction of the Prostatic Fibres encircling the Vesical Neck.

At a recent meeting of the American Association of Genito-Urinary Surgeons Eugene Fuller (*Boston Medical and Surgical Journal*, July 15th) read a paper with this title. He stated that the condition to which he referred as chronic contraction of the prostatic fibres encircling the vesical neck represented a pathological change in the part, and was totally different from what Civiale, Roux, Velpeau, and others had termed "neuralgia" or "contraction" of the neck of the bladder. The chronic contraction to which he referred, however, bore a relationship to the functional one in that it represented a pathological state which might apparently result from functional contraction or spasm in cases where, owing to some settled disorder of the sexual apparatus, the rectum, the kidney, or other organ, functional contraction of the vesical neck had existed as a prominent symptom for a long period. The contraction was permanent, rigid, and did not relax, even under profound anæsthesia. If a perineal incision was made in such a case, and the finger passed into the membranous urethra in an attempt to enter the bladder, the finger tip found itself tightly engaged in a ring-like contraction in the deepest portion of the prostatic urethra, where, under normal circumstances, the canal should be wide, funnel-shaped, and elastic, merging itself into the vesical

cavity. The presence of such a contraction, however, could not be detected by means of a good-sized sound passed through the urethra. The condition was not associated with prostatic hypertrophy. After the contraction had been thoroughly ruptured or cut through, little evidence would be left to the feel to indicate the nature of the lesion which previously existed. Fuller had thus far been unable to procure an histological examination of the unusual condition, as all of his patients suffering in this manner had recovered as the result of the operation. The only true lesion dependent on the lesion itself was an inability, either complete or partial, to void urine. This inability was of gradual development, and might at first be intermittent in character, but after a time became permanent. Next came temporary attacks of complete retention. After a time it would be found necessary to employ a catheter and empty the bladder on one or several occasions. Finally all power to urinate naturally was lost. If pain or other symptoms were present, they were due either to the existence of some disorder of the sexual apparatus, kidney, etc., which had acted as the originator of the trouble at the vesical neck, or else to vesical infection, which had resulted from instrumentation or stagnation of urine due to the retention. The only treatment consisted in thoroughly rupturing or cutting through these fibres by means of the fingers or the knife introduced through a perineal incision. Perineal vesical drainage should be practised after the operation. This treatment in his hands had been followed by complete disappearance of all subjective symptoms. Fuller detailed the histories of four cases.

(145) Syphilis Insontium.

LESSER (*Berl. klin. Woch.*, July 12th, 1897) divides unmerited syphilis into (1) congenital syphilis, (2) syphilis contracted in legitimate sexual intercourse; and (3) syphilis contracted by direct or indirect contact with the syphilis virus exclusive of sexual intercourse. It is the last-named group which Lesser chiefly describes here. Of course every extra-genital chancre must not be placed in this group. The author maintains that in a large number of cases of syphilis apparently contracted in shaving, a wound has been subsequently inoculated by kissing. The last group of unmerited syphilis may be divided into that conveyed (1) by direct personal contact; (2) by indirect means; and (3) by and to medical men in their professional work. In the first group are included cases in which syphilis is conveyed from one child to another or from a child to an adult. Here kissing is the most important cause, but syphilis due to suckling also falls under this heading. Many objects may be the means of indirectly conveying syphilis, such as those used for eating and drinking purposes. On the tonsil it is not necessary to have a breach of surface for the infection to take place. In the third subgroup the medical man may be the means of conveying the disease, as in various operations, as by inoculation and injection, by catheterisation of the Eustachian tube, by the use of caustics, etc. Medical men or nurses may contract the disease themselves as in syphilis technica. There are other cases in which the cause of the infection cannot be ascertained. The diagnosis in unmerited syphilis may be very difficult; in the author's opinion the extragenital primary lesion is in the majority of cases overlooked. Again, the non-recognition of the disease may lead to its further transference. Patients with ordinary syphilis mostly know the disease and are more or less careful not to convey it to others. Of course the disease is originally derived from an ordinary case, but unmerited syphilis may under conditions lose the character of a disease of the generative organs. Notwithstanding that the number of cases of syphilis contracted in the ordinary way far exceed those of unmerited syphilis, yet something can be accomplished in prophylaxis by speedy diagnosis and treatment, and especially by preventing the further spread of unmerited syphilis.

(146) Teratoma of the Neck simulating Cystic Bronchocele.

SWOBODA (*Wien. klin. Woch.*, November 12th, 1896) records the case of a child which was born with a tumour of the left side of the neck reaching from the lobe of the ear to the clavicle, and from the middle line in front to the sterno-mastoid, and rendering the circumference of the neck nearly half as large again as the normal. The tumour was hard and elastic, but in one or two places fluctuation could be felt in it. Respiration and swallowing were not obstructed, but after long-continued crying some respiratory stridor could be dectected. The swelling grew rapidly, but the child, though feeding greedily, remained very thin and dyspeptic; attacks of severe dyspnœa came on after prolonged crying or sucking. Fearing the effects of injection or puncture, Swoboda removed the growth, the patient being at the time eleven weeks old. During the operation the child became asphyxiated, and was restored only by artificial respiration. Subsequently it became aphonic, but this passed off in about ten days; the probable cause of these symptoms was crushing of the right recurrent laryngeal nerve by a pair of pressure forceps; otherwise recovery was rapid, and the patient had gained one-twelfth in weight fifty days after the operation. The central fluctuating part of the tumour burst during removal, allowing a puriform fluid to escape; no micro-organisms could, however, be detected either in this or in any portion of the growth. The microscopical structure of the latter was most extraordinary; it consisted mainly of neuroglia with glia cells and ganglion cells, the whole being traversed by bands of connective tissue. It must, therefore, be classified under the teratomata as a ganglionic glioma, a growth which has never before been observed outside the central nervous system. In some parts there was leucocytic and fatty degeneration, and near one edge thyroid tissue was observed; this, however, did not belong to the tumour proper, but had become imprisoned in it in the course of growth. It should be added that the histological investigation was made by Weichselbaum.

MIDWIFERY AND DISEASES OF WOMEN.

(147) Pregnancy and Fibroids.

KEIFFER (*Sem. Méd.*, May 7th, 1897) discussed before the Obstetrical Society of France the special indications for the treatment of pregnancy and parturition when complicated by fibrous tumours of the uterus. In pregnancy there are risks of miscarriage, of hæmorrhage, of premature birth, of abnormal presentations, of placenta prævia, of dystocia through excessive development of the tumour, of various degenerations, of dangerous compression of the pelvic or abdominal organs, of ascites, etc. The premature death of the fœtus forms in conjunction with these accidents an additional source of danger. On the other hand the tumour may follow the physiological modifications of normal uterine tissue, and act like the latter in all respects; in such a case curetting of the uterus after miscarriage is possible. Should the pregnancy reach its normal termination hæmorrhage may be met in the ordinary way, podalic version can be performed or instrumental delivery effected as best suited to the case, or the tumour causing the dystocia may be removed either by laparotomy or *per vaginam*. Extirpation of the whole organ may be possible in the worst cases. Whatever may be the percentage of accidents in such cases, it is enough to show that the woman can be delivered, and may give birth to a living child, to make it easy to refuse hysterectomy. Mere curetting seems to be enough to deprive fibromata complicating pregnancy of most of their dangers. The method of treating severe hæmorrhage by hypodermic and intravenous injections of artificial serum has also contributed largely to this result. Curetting has not only a beneficial action on the tendency to hæmorrhage, but protects the uterus against saprophytic or microbial infections, to which the presence of an imperfectly vascularised neoplasm renders it more prone. As regards general treatment, the diet should be regulated, rest enjoined, and hydrastinine and kindred substances should be administered. In advanced pregnancy, the amount of obstruction by the tumour will determine the procedure necessary for safe delivery. During labour abnormal presentation or the presence of dystocia will indicate whether version should be performed; in the latter condition version is the most advantageous mode of extraction. Removal of the fibroma is advisable when it in itself constitutes the main obstacle to delivery, and when it is subperitoneal, pedunculated, or easy of

access. Either variety of pelvotomy is indicated when the tumour is in the lower uterine segment, and the diameter of the bony pelvis so reduced thereby that the alternative is a Cæsarean section. Total extirpation of the uterus and appendages is indicated (1) when the tumour independently of the pregnancy calls for operation; (2) when pregnancy is arrested and delivery impossible; (3) when there is suppuration following retained placenta; (4) after Cæsarean section necessitated by fibrous tumours.

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(148) Action of the Bacterium Coli Commune on the Endometrium.

T. Morisani has investigated (*Archivio di Ostetricia*, March, 1897) the action of the bacterium coli commune on the lining membrane of the uterus. He first experimented with cultures of the microbe on the uninjured uterine mucous membrane, and after from four to twenty days got negative results. Then he experimented on an irritated endometrium. The irritation was either mechanical (a probe), thermal (hot water), or chemical (nitrate of silver); and the result in every case was death after from fourteen to fifty-two hours from endometritis and septic peritonitis. It is, therefore, evident that the cultures of this bacterium do no damage to an unbroken endometrium; whether this result is due to the uterine secretion which prevents the growth of the micro-organisms, or to phagocytic action is left uncertain. When, however, the mucosa is irritated, a local and general form of infection is set up. Morisani believes the changes to be due to the bacterium and not to the irritation, for in a test case he applied nitrate of silver to the endometrium without the presence of the bacterial culture, and the result was temporary destruction of the tissues without any trace of endometritis or suppuration. In another group of cases the cultures were introduced into the rectum, and in some of these the uterine mucosa was irritated, in others it was not. All the animals died, but only in those with a damaged mucosa were there signs of endometritis.

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(149) Tuberculosis of the Ovary.

Orthmann (*Centralb. f. Gynak.*, No. 22, 1897) endeavours to make this subject fairly clear from a clinical point of view. He has collected 177 cases. Only 57 were carefully submitted to microscopic research; of these 48 seemed to be instances of pure ovarian tuberculosis, bilateral in more than half (27) the cases. The remaining 9 were tuberculous ovarian cysts. In spite of theories of infection from the outer entrance of the genital tract, and notwithstanding the tendency of pathologists to make out primary disease where it has not been detected before, Orthmann declares that primary tuberculosis of the ovary has never been satisfactorily distinguished in woman, though Acconci and Schottländer have experimentally produced it in animals. In the 48 cases above noted as pure tubercle of a previously sound ovary, infection was traced from the Fallopian tube in 26, and from the peritoneum in 22. The disease may appear as tuberculous periöophoritis, disseminated or diffused, and as miliary tubercle of the substance of the ovary (20 out of 48 cases), cheesy tubercle or tuberculous abscess. The two latter are about equally common. The former, much more frequent, may pass undetected by the naked eye, but the disease shows its features very characteristically under the microscope. In the 48 cases, tubercle bacilli were detected 9 times by the microscope and 4 times by experiments on animals. Orthmann describes 4 new cases under his own care. In one there was distinct tuberculosis of the yellow substance in a corpus luteum.

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(150) Veratrum Viride in Puerperal Convulsions.

W. H. Thayer (*Boston Med. and Surg. Journ.*, April 1st, 1897) speaks highly of veratrum viride both in puerperal convulsions and in the convulsions of children. He gives it in full doses—one drachm of the tincture. It was first used in this way by Fearn, of Brooklyn, in 1869, and has since been steadily, if slowly, gaining favour. It reduces the high rate of the pulse to 60 or under without any depression, for the strength of the beat is maintained.

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(151) Retention of Urine and Pregnancy at the Fifth Month.

Lugeol (*Journ. de Méd. de Bordeaux*, April 4th, 1897) has met with a case of retention of urine at the fifth month of pregnancy, in which the usual causes (displacements of the uterus or malformations) were absent. The patient was a widow, 34 years of age, who had remarried six months previously, and was pregnant for the first time. She had the usual signs of pregnancy, but the abdomen was larger than it ought to have been for the term arrived at. A spherical tumour was felt in the middle line reaching as high up as the epigastrium. No fœtal heart was heard. The woman stated that she passed urine in large quantity, and that it even came away involuntarily. Four litres of dark coloured ammoniacal urine were drawn off with the catheter, and the abdominal tumour had disappeared, a five months' pregnant uterus taking its place. The fœtal heart could now be easily heard. Lugeol adduces as a possible cause the habit which the patient had some time ago acquired of retaining her urine for long periods in order to suit her work.

THERAPEUTICS.

(152) The New Tuberculin.

Professor Juan L. Hohr, of Cadiz (*Anales Medicos Gaditanos*, July 15th) reports four cases treated with Koch's new tuberculin. (1) Boy, aged 7 years, suffering from Pott's disease and tuberculous osteitis of the femur. There was a fistula with scanty discharge, with pain in the limb so severe as to prevent sleep, and great weakness. On April 21st 1 c.cm. of the $\frac{1}{500}$ solution, and on the 23rd 2 c.cm., were injected. The immediate result was increase of suppuration and cessation of the pain. Further injections were followed by rise of temperature, sleeplessness, and loss of appetite, and they were discontinued for two or three weeks. The treatment was then resumed, but the febrile symptoms produced were so marked and showed such persistence that it was again abandoned. The sole benefit observed in this case was the total cessation of pain. (2) A man, aged 23, with pulmonary tuberculosis at both apices. Injections of the $\frac{1}{500}$ solution caused increase of cough and diminution of appetite; the febrile reaction caused by the tuberculin continued for some days after the injection. (3) A man, aged 31, with tuberculous adenitis of the cervical glands and ulcers on the neck and shoulders; no chest symptoms. Injections of 1 and 2 c.cm. of the $\frac{1}{500}$ solution were followed by the development of sharp catarrh with abundant discharge and cough. The effect of the tuberculin on the diseased parts in the neck was to set up inflammation in the scars of old ulcers, which quickly broke down, exposing caseous material which was eliminated in a few days. But new points of ulceration appeared in the neck, and at the same time chest symptoms developed to such an extent that it appeared that the disease had been kindled in several foci. On the injections being discontinued the patient regained his strength, and the ulcers healed under surgical treatment. (4) A woman, aged 36, suffering from superficial lupus of the nose and upper lip, which were the seat of scars; the disease was of eight years' standing. There was a fresh patch on the chin and another along the jaw. Injections (1 and 2 c.cm.) of the $\frac{1}{500}$ solution caused disappearance of the redness around the patches, but the patient complained of great weakness and pain in the limbs and of feeling "ill all over." The treatment was therefore discontinued. The author's experience leads him to conclude that the new tuberculin, even in the highest degree of dilution, always causes reaction, though the intensity may vary. Koch's statements cannot, he thinks, be reconciled with clinical facts, and he considers the new tuberculin "impossible" as a therapeutic agent.

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(153) Lesions produced by Thyroid Extract.

H. J. Berkley (*Bulletin of the Johns Hopkins Hospital*, July, 1897) has investigated the various lesions induced by the action of thyroid extract on the cortical nerve cells. Taking into consideration the very grave symptoms of a toxæmic nature observed in so many cases of thyroid administration, more particularly those involving cerebral and vasomotor functions, the author undertook a series of observations with

the view of ascertaining the nature of the lesions. The first portion of the investigation was made upon patients in an insane asylum. In each case a pill containing 5 gr. of fresh sheep's gland was administered daily, which was subsequently increased to two or three, depending upon the results. There was loss of weight, tachycardia, and enfeeblement of the cardiac action in each instance, with increase of cutaneous transpiration, irritability, and more or less mental and motor excitement. This occurred in all cases, no matter how depressed or demented the patients had been previous to the administration. One patient died before the excitement had subsided, with evidence of acute tuberculosis, and the others showed an œdematous condition of the integument of the forehead and cheeks similar to that observed in myxœdema. All showed more or less restlessness, with both mental and motor excitement, and in some instances there was considerable mental improvement, though not in all. In view, therefore, of the effect on the mental condition of the same patients, it was decided to administer thyroid to animals in order to examine their nerve tissues. Five mice and three guinea-pigs were treated with thyroid extract. In the case of the mice there was swelling of the face, some emaciation, and loss of strength. In the guinea-pigs the general symptoms were similar, and in all cases the administration was continued till the animal died. Microscopic examination of the cerebrum was made in all cases, both with the silver phosphomolybdate and other staining methods; no lesion was found of either nerve elements or neuroglia; there was no varicose or atrophied dendrites or loss of gemmulæ. The corpora showed no loss of angularity, and the axôns and appendages were all healthy. No nuclear change in the cells could be ascertained, and the blood vessels were carefully examined without the discovery of any lesion. It would seem from these investigations, so far as they go, that the toxic action of thyroid is of a different nature from that of other conditions, and one which we are not, therefore, in a position to understand.

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(154) Injections of Artificial Serum as a Means of Preventing Death in Burns.

Tommasoli (*Rif. Méd.*, July 5th), recalls the fact that he sent to the Dermatological Congress, held in London in 1896, a note giving an account of trials made by him during a period of three years with artificial serum as a means of treatment in certain skin affections, which he believes to be due to chronic infective intoxication or autointoxication. In some cases—2 of diffuse chronic eczema, 1 of scattered folliculitis, 1 of senile pruritus—a cure had been effected; a case of lichen planus, in which itching was very marked, was cured in thirty-six days. Since then the same treatment has been successful in cases of psoriasis and various pruriginous affections. Tommasoli now reports the results of the same method of treatment in 2 cases of very extensive burns. In one the patient was a woman aged 60, who was burned severely over two-thirds of the front of the body, face, and limbs. Diarrhœa and delirium had set in, and death seemed to be imminent, when Tommasoli determined to try the effect of injections of ordinary artificial serum composed of chloride of sodium and bicarbonate of sodium. The patient, who was burned on December 2nd, came under his care on December 4th. On December 10th a first injection of 300 g. of serum was given. The next day one litre was injected in two doses. On December 12th a litre was injected in one dose, the patient being kept meanwhile in a bath. On December 13th another litre was injected. On December 14th the patient died. The effect of the injections had, however, been distinctly good, the patient passing some hours of freedom from pain after each one. Encouraged by this result Tommasoli adopted the same method in the case of a man aged 20, who was severely burned all over the right side of the front of the chest, the axilla, and the arm, as well as over the whole of the back from the shoulders to the buttocks and over all the right buttock. He was admitted on March 12th, and on the 13th an injection of 250 g. of serum was given. One of 300 g. was given on the 14th, one of 400 g. on the 15th. On the 16th the wounds were dressed with iodoform, but this had to be discontinued in a few days on account of its toxic effects. On the 17th an injection of 400 g. was given, and on the 18th and every subsequent day till April 6th one of 500 g. From the first the patient, though prostrated by pain, held his own; then he improved rapidly, and on May 3rd, when he insisted on leaving the hospital, his general condition was excellent, and the wounds had a healthy appearance. Experiments on rabbits and dogs showed that injections of artificial serum have a very distinct effect in preserving life after severe burns.

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(155) Picric Acid in Eczema.

Gaucher (*Sem. Méd.*, May 26th, 1897) has had very good results in acute vesicular eczema using picric acid. He applies a 1 per cent. solution every other day, and covers the surface with cotton wool soaked in this solution. The dressing is left in place for two days. The acute inflammation subsides rapidly, and itching is relieved. This treatment would probably be useful in other acute skin diseases such as pemphigus, but is useless in chronic eczema.

PATHOLOGY.

(156) Pathogeny of Relapsing Appendicitis.

Mdlle. von Mayer (*Rev. Méd. de la Suisse Rom.*, April 20th, 1897) finds that none of the older theories as to the cause of relapsing appendicitis, such as its being due to tuberculous, dysenteric, or typhoid ulcers, are borne out by statistics. Roux, in 1895, was the first to bring forward the theory that micro-organisms find a suitable nidus in which to remain latent in the adenoid structures of the appendix and in residual cicatrices and adhesions. The author has endeavoured to prove this theory, and has examined 40 appendices directly after removal during life. (1) Bacteriology of the secretions from the lumen, perforations, empyemata, and extra-appendicular abscesses. Plate cultures from these remained sterile in more than half the cases (25). The non-sterile cases produced very diverse organisms, various bacilli and diplococci. (2) Bacteriology of sections: Micro-organisms were found localised in the thickened serosa, in the lymphatic spaces of all the layers of the appendix, and even in the non-ulcerated mucosa, in adhesions, etc., in 51 per cent. of the cases (23 times). These latent organisms were present, not only in appendices removed in the quiescent stage six to eight weeks after an attack, but sometimes in those removed eight months after. On the other hand, cases where no bacteria were present in the tissues (17 cases) included some of those removed only three to six months after, or even during an attack. Either the bacteria had perished or, more probably were absent from the special portions of tissue examined. An acute outbreak always starts in the remains of inflammation; cicatricial foci being more easily penetrated by micro-organisms than healthy tissues. As regards the kind of organism present in the tissues, the B. coli was found in 2 cases, B. coli with other organisms in 1, and the tubercle bacillus in 1. In the remaining 19 cases the bacillus described by Tavel and Lanz in their work on the etiology of peritonitis was present either alone or with the coccus conglomeratus. The author concludes: (1) The principal causes of relapses are micro-organisms, which are latent in the thickened walls of the appendix, in fibrous strictures of it, and in peri-appendicular adhesions. (2) After one attack the whole appendix remains a *locus resistentiæ minoris*, even if there has been an apparently complete *restitutio ad integrum*. There is left either a stricture, a cicatrix, adhesions, or an incomplete restoration of the mucosa, together with constant fatty degeneration of all its tissues, which, infected during the first attack, remain infected, as proved by microscopical examinations. (3) These alterations in structure are accompanied constantly by a new formation and dilatation of vessels, which favour active and passive congestion from slight causes, whereby the tissues lose their power of resistance, and, the latent organisms again becoming pathogenic, a relapse occurs. (4) The organisms found in the secretions generally differ from those in the tissues. This possibly points to symbiosis and a mixed infection during the acute relapse in many cases.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(157) Diagnosis of Diabetes from Stained Specimens of the Blood.

Ludwig Bremer (*Centralbl. f. inn. Med.*, June 5th, 1897) describes a simpler method than the one which he originally proposed. A drop of blood is spread over a third or half a slide, and is then exposed to a temperature of about 135° C. for six to ten minutes. As this latter part of the procedure is important, it is discussed in detail. A temperature of 140° should not be exceeded. When the thermometer registers 130° the gas flame should be taken away from the oven. The optimum of temperature lies about 135°, and below 129° the test becomes unreliable. The slides are then placed in suitable dishes containing the stain. A control specimen must always be made. The eosin methylene blue preparation first used by the author is difficult to make and unreliable. Congo red, methylene blue, Biebrich scarlet, and the Ehrlich-Biondi stain all give excellent results. The first three are used in 1 per cent. watery solution. After an exposure of one and a-half to two minutes to Congo red the diabetic blood is either not stained at all or only indifferently so, while the non-diabetic blood is coloured red. Methylene blue acts in an analogous way, but Biebrich scarlet stains the diabetic but not the non-diabetic blood. Ehrlich-Biondi's stain colours diabetic blood orange and non-diabetic blood intensely violet. Very successful specimens can be made if a contrast stain is used. Thus, specimens may be stained with a 1 per cent. watery methyl green for one and a-half to two minutes, when both specimens appear green, but especially the diabetic blood. The counter stain is a 1 per cent. watery eosin applied for eight to ten seconds. The diabetic blood remains green but the non-diabetic stains red. Many other stains are mentioned, but the results obtained with them are not so good. The specimen may be taken out of the stain so that the staining can be controlled. Rapid washing and then drying are desirable. Whether the difference in reaction is due to the different alkalinity of the blood must still remain an open question.

(158) Musical Murmurs in Heart Disease and Angina Pectoris.

Pecce (*La Rif. Med.*, April 2nd, 1897) draws attention to a special variety of musical heart murmur which he describes as resembling a feeble groan or the chirping of chickens. From certain similar cases described by Capozzi, in which a constant lesion was found—namely, a regular perforation of a free valve—the author was led to diagnose such a condition in the case of a man, aged 30, who was admitted into hospital suffering from anginal attacks. On auscultation a double aortic murmur could be heard, the diastolic part of the murmur being musical, and like the chirping of chickens. The apex beat was in the fifth space, and outside the nipple line. There was no history of rheumatism, but the patient was much exposed to wet and cold. He contracted syphilis at 21. He died in one of the attacks of angina, and *post mortem* the mitral valves were found normal; the aortic valves thickened and stenosis, two cusps being adherent; the third was perforated near the aortic parietes, but not adherent. The coronary arteries were healthy. The aorta was atheromatous. The author looks upon angina pectoris as a neuralgia of the cardiac plexus.

(159) Chronic Anterior Poliomyelitis after Injury.

Erb (*Neurol. Centralbl.*, July, 1897) reports 2 cases of anterior poliomyelitis following injury. A man, aged 56, fourteen days after a fall became weak in the lower limbs, and eighteen months later there was almost complete atrophy and paralysis of the muscles supplied by the sacral plexus, with reaction of degeneration and loss of tendon jerks; while in the part supplied by the lumbar plexus there was slight wasting, fibrillary twitching, and a diminution of electrical reactions with increased tendon jerks. In another case, a man, aged 38, who in supporting a piece of iron received a severe strain to his arms and shoulders, had some difficulty in manual work soon after the injury. The difficulty increased gradually, and four years later there was extensive wasting and weakness of the muscles of shoulders and upper arms, and slightly of forearms, with some reaction of degeneration. Erb pointed out that it has been proved experimentally that repeated or even single shocks to the spinal cord may produce nutritional changes, and so give rise to degeneration.

(160) Varicellous Laryngitis.

Harlez draws attention to this important complication of varicella (*Journ. de Méd.*, June 25th, 1897), confirming the previous observations of Marfan and Hallé, and adding other cases of his own. In all instances the symptoms were those of croup, and in fact such was the original diagnosis of each case; raucous cough, loss of voice, retraction, dyspnœa, suffocative spasms, and asphyxia were constantly present, but in none of these cases was there the least appearance of membrane, and no Loeffler bacilli were ever found. The specific character of the disease was very clear, there being small circular ulcerations on the vocal cords, and often on the epiglottis. The author points out that this complication is more especially met with in children, particularly those of weak constitution, and the younger the child the worse the prognosis. The character of the eruption also bears upon the prognosis, for in one case which recovered the eruption was discrete, while in some of the others it was of the hæmorrhagic variety, and in one instance confluent. In the only case of recovery which came under the author's observation had there been resort to tracheotomy. In all the others death was due to either spasm of the glottis or bronchopneumonia.

SURGERY.

(161) A New Method of Performing Lumbar Nephropexy.

Jonnesco (*Centralblatt für Chirurgie*, No. 30, 1897) holds that no method of nephropexy can be regarded as satisfactory unless, in addition to its freedom from danger, it permits the whole length of the kidney to be secured in the lumbar wound, and causes as little disturbance as possible of the renal parenchyma. Whilst the methods hitherto practised fulfil the first condition, having been attended by a mortality of not more than 1 per cent., they are, in the author's opinion, more or less objectionable by reason of their leaving but a small extent of the surface of the kidney fixed to the abdominal wall, and also of the retention of the deep sutures, which though they did not become septic, are liable to cause severe and persistent pain, and excite the slow formation of scar tissue in the substance of the kidney. The operation described in this paper, which has been performed by the author with good results in 10 cases, is intended (1) to fix in the lumbar region the whole length of the outer surface of the kidney, so that there may be no abnormal bending of any portion of the organ and consequent obstruction to the flow of urine; (2) to increase the strength and the extent of the adhesions by passing the deep sutures under the periosteum of the twelfth rib, or, if this bone be very short, under that of the eleventh rib; (3) to leave the deep sutures in place only for such time as may be required for the formation of adhesions between the kidney and the margins of the wound. The author exposes the kidney by an oblique incision made just below the last rib. After removal of a large portion of the perirenal fat, and incision and partial separation from the renal structure of the fibrous capsule along the outer surface of the kidney, this organ and its capsule, together with all the soft parts on either side of the lumbar wound, and the periosteum of the twelfth or eleventh ribs are traversed by two or three double sutures which are secured by being tied over rolls of gauze. In a recent modification of this operation two deep metallic sutures are used. The margins of the external wound are finally brought together by fine sutures of silk or catgut. The removal of the deep sutures is usually effected about the tenth day. This seems to be really the main point of

difference between this and other recent methods of nephropexy.

(162) The Mechanical Treatment of Hæmarthrosis of the Knee.

SALAGHI (*Archiv. di Ortoped.*, An. 14, N. 4) draws attention to the value of massage and passive movements in the treatment of traumatic hæmorrhage into the knee-joint. Cases of intra-articular fracture or rupture of ligaments are excluded; but in genuine hæmarthrosis from contusion or sudden distortion (for example, in cycling accidents with hyper-abduction of the knee), massage gives excellent results by promoting rapid absorption of blood and lessening the chance of damage to the joint from changes in the effused blood. The author experimented on a rabbit by producing hæmarthrosis in the two knees, massaging one and the leaving the other alone. Judged by the swelling, etc., the lesion was the same in each joint. After a time the knees were examined. In the massaged joint the blood was absorbed, and no changes of importance were detected. In the other joint three hæmatomata were seen in process of organisation; in time they would probably have become loose bodies in the joint.

(163) Treatment of Exophthalmic Goitre.

AT a recent meeting (July 27th) of the Academy of Medicine of Paris (*Progrès Méd.*, July 31st, 1897), a paper by Jaboulay was read dealing with nine cases of section of the cervical sympathetic for exophthalmic goître. The results were good, both with respect to the exophthalmos and to the goître and palpitations. The best effect was obtained in young people in whom presumably the accelerator system of the heart was less developed and more thoroughly modified by the division of the sympathetic. In cases of failure of the treatment, an explanation might be found in the existence of two sympathetic cords in the neck—a not infrequent anomaly. At the same meeting Doyen reported two cases of exophthalmic goître successfully treated by thyroidectomy. He preferred this operation to division of the cervical sympathetic, both on account of its safety and for its beneficial results. Such cases seemed to demonstrate the pathogenic *rôle* played by hypersecretion from the thyroid.

(164) Multiple Abdominal Hydatids treated by Repeated Abdominal Sections.

W. MOORE (*Intercol. Med. Journ. of Australasia*, June 28th, 1897) puts on record an extraordinary case in which on four separate occasions the abdomen was opened for hydatid cysts. The patient was a man, 38 years of age, who had suffered for twelve months from abdominal pains and enlargement, without ascites, jaundice, or vomiting. A number of rounded movable tumours could be felt chiefly in the lower part of the abdomen. At the first laparotomy eighteen cysts (chiefly omental) were removed; at the second, about two months later, ten more were dealt with, some of which were pelvic and retro-peritoneal. On this occasion the incision was made on the right side at the outer border of the rectus. In the third operation soon afterwards the incision was made in a similar position on the left side, and in the fourth the abdomen was opened in the left hypochondrium. Forty-seven cysts in all were removed from all parts of the abdomen, and recovery was on each occasion perfect.

(165) Suppurating Chondro-Osteosarcoma of Breast.

ST. ARNOLD, of Lucerne (*Virchow's Archiv*, vol. cxlviii, part 3, June, 1897), describes an interesting case of this rare disease in a lady aged 67. She had noticed, in the spring of 1895, a swelling in the left breast, but her family doctor believed that it had already existed there for some time. Diagnosis at first was doubtful. The swelling grew steadily and became painful. After travelling the patient consulted a doctor at Zurich, and he diagnosed mammary abscess. As pus escaped he naturally believed, when he had made an incision, that his original opinion was correct. The swelling, however, increased, and fever set in, with extension of inflammation to the circumference of the breast. The patient became exhausted and slightly delirious. Lüning found the breast much swollen and surrounded with dilated veins and lymphatics. In the midst of the swelling was a cavity packed with iodoform gauze. Its walls were very firm. and it discharged fœtid pus. The axillary glands were not enlarged. Lysol was freely applied, but the temperature rose over 105°, and the patient seemed too weak for an operation. At the end of a week after she had been under Lüning's care she seemed worse, and nothing appeared of any avail except to remove the focus of suppuration. The breast was therefore amputated and the wound thoroughly drained. Two days later the fever had disappeared. Two months after the operation the patient was in excellent health, and there was no sign of recurrence. The tumour was very tough and full of small tuberous masses. On examination St. Arnold found that it was a sarcoma containing bone and cartilage.

(166) Perforation of the Gall Bladder.

FUCHS (*Berl. klin. Woch.*, July 26th, 1897) relates an interesting case following upon an acute cholecystitis, and successfully treated by operation. A woman, aged 27, was seized on the fifth day after labour with severe pain in the epigastric region, and radiating into the back. The attack lasted for half an hour, but a second attack occurred a fortnight later, and was followed by slight jaundice. Two days later there was a further attack. The next attack two days afterwards was very severe, and on the following day the patient was very ill. The abdomen was distended, and there was great tenderness and prominence in the region of the gall bladder. The diagnosis of perforation of the gall bladder with a commencing peritonitis was made. The operation was begun by Mikulicz about twenty-four hours after the onset of these severe symptoms. A fibrinous deposit was seen upon the intestines. The greatly distended gall bladder was exposed and punctured, 40 c.cm. of a turbid ill-smelling fluid being drawn off. The gall bladder was then opened, and the finger introduced, when an opening was found near the cystic duct leading into an abscess cavity. Thirty-four stones were extracted from this cavity. The common bile duct was distended, but contained no stone. The abscess cavity was washed out, and a drainage tube inserted. The infected part of the peritoneal cavity was tamponed with iodoform gauze. The patient's progress was very satisfactory. Eleven days after the operation the drainage tube was shortened, and the iodoform gauze tampon discontinued. Eventually the wound closed, so that the patient left her bed about four weeks after the operation. The author would look upon the case as one of acute ("idiopathic") cholecystitis accompanied by severe septic manifestations, and complicated by perforation of the gall bladder. He would appear to think that it arose independently of the gall stones present in the case. A limited fibrino-purulent peritonitis was present. Thus the case is to be placed alongside other cases of perforative peritonitis cured by operation.

MIDWIFERY AND DISEASES OF WOMEN.

(167) Labour in a Case of Complete Transposition of the Viscera.

KARL BODON (*Centralbl. f. Gynäk.*, No. 20, 1827) has carefully observed a case of labour in a young 2-parous woman with the anomaly known as heterotaxy, or transpositio viscerum totalis. The heart was on the right side, as was also the spleen and the stomach (determined by Frerich's method of distension of the stomach); the aorta lay to the right of the spine, and the right bronchus had a larger lumen than the left; the rectum was on the right side and the cæcum on the left, and the liver was also on the left. During pregnancy it was found that the fundus uteri deviated to the left side, and the organ was rotated so that the anterior surface looked towards the left. The woman was not left handed, and her right arm was stronger than the left. She lay most on the right side when sleeping. The labour took place without difficulty, but it was noteworthy that the fœtus presented in the R.O.A. position. There was no transposition of the viscera in the infant.

(168) Primary Tuberculosis of the External Female Genitals.

DE PAOLI (*Annali dell' Univers. di Perugia*, vol. ix, f. 1) reports five cases of

primary tuberculosis of the external female genitals, which is not so rare as generally believed. Children and adults are alike liable to be affected, and this may occur by direct inoculation, for example, through sexual intercourse. The tuberculous lesions are localised in the early stages, by preference, around the urinary meatus and clitoris, whence they are slowly diffused. Clinically it is characterised by more or less extensive ulceration, with elephantiasis-like thickening of the labia. The course is chronic, and the disease may remain for a very long period localised in the external genitalia. The inguinal glands are not affected as often as one might expect. Extensive local disease may exist without causing notable alteration in the general health. Histologically there is a rich inflammatory infiltration and abundant vascularisation of the altered tissues. Caseous degeneration is rare, and there is a tendency to spontaneous repair. Secondary tuberculosis of these parts presents a more rapid course and a greater malignity. Energetic surgical intervention may bring about a complete cure, and resection even of extensive portions of the urethra may be practised without materially disturbing the emission of urine.

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(169) Pregnancy and Syphilis.

Edward P. Davis (*Amer. Journ. Obstet.*, June, 1897) advises inspection of the genital tract before making a diagnosis of syphilis. The anæmia of syphilis was responsible for its most dangerous effect upon pregnancy. If iron and arsenic were given freely, with inunctions of mercury, the woman might be carried through. Anæmia was very important in syphilitic children also. The mother was often in such bad condition that modified milk was better for the child. Syphilis sometimes caused an endometritis, though there might be no other symptoms of the disease.

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(170) Submucous Uterine Fibroid: Operation under Grave Conditions: Ultimate Recovery.

L. Ch. Platon (*Marseille Médical*, March 15th, 1897) has operated upon a patient who had suffered for five years from nearly continuous hæmorrhages and all the classic symptoms of a uterine fibroid. She was profoundly anæmic, and nearly cachectic. Two tumours were felt in the abdomen: one was median, and as large as a man's head, the other was at the left side, and was much smaller. The patient was not operated upon at once, in the hope that her general state of health would improve; but the hæmorrhage continued, and the temperature began to rise, so the abdomen was opened, and the uterus, containing a large submucous fibroid of the fundus, was removed (total abdominal hysterectomy). The smaller tumour felt at the side turned out to be a small ovarian cyst. The patient nearly died on the table, and required hypodermic injections of cognac and of Hayem's artificial serum. These injections had to be repeated several times during the first few days after the operation, and recovery was further delayed by the occurrence of three stitch abscesses in the abdominal wound.

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(171) Is the Vagina in Normal Pregnancy Aseptic?

Goenner (*Centralbl. f. Gynäk.*, No. 24, 1897) has carefully investigated the normal secretion of the vagina in healthy pregnant women. He finds that it contains anaërobic bacteria, not such as cause primary septic endometritis, but those which can be easily introduced from without. As in the case of streptococci which set up puerperal fever, the germs in the vagina do not represent auto-infection, but are brought there by the medical attendant, the midwife, the nurse, or the instruments. Septic endometritis, often indicated by fœtid liquor amnii, may be excited by the bacterium coli.

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(172) The Pneumococcus in Pregnancy.

Vinay (*Revue Obstét. Internationale*, May 21st, 1897) observed a patient who suffered from great gastric irritability during pregnancy. Multiple abscesses appeared during the seventh month; the pneumococcus was found in the pus. The patient died nineteen days after delivery.

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(173) Decidual Tissue in Peritoneum in Normal Pregnancy.

Schmorl (*Monatschrift f. Geburtshülfe u. Gynäk.*, vol. v, 1897, part 1) confirms a very important observation of Pels Leusden that little nodular masses of tissue resembling decidua may be found in the pelvic peritoneum in normal pregnancy. He examined thirty bodies. These nodules were once thought to signify abdominal gestation. He declares that as a rule the peritoneum of Douglas's pouch is thickly studded with these collections of tissue; the ovaries also bear them. The decidua-like material appears to develop in the subserous connective tissue, and undergoes absorption or calcification after delivery. The deposit is typical of pregnancy.

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(174) Accessory Suprarenal Capsules in Pelvis.

Rossa (*Centralbl. f. Gynäk.*, No. 25, 1897) detected two "adrenals" in the left broad ligament of a newborn child delivered at term. They lay in the free border of the infundibulo-pelvic ligament close under the ovary, and were about as big as hemp seeds. The microscope showed the true nature of the growths. Nine similar authentic cases have been reported; the growths were found in infants, children, and adults. They usually lie near the ovarian artery. Before the vertebræ are differentiated the genital and urinary glands lie close together and high up, but in the human species a wide separation follows in the course of development. The genital gland may carry a piece of adrenal tissue down with it. Displaced fœtal elements are one of the sources of new growths, as in Grawitz's tumour, which develop in the kidney substance from adrenal elements. Hence Rossa urges that in future all pure broad ligament tumours, especially if incipient, be carefully examined with a view to ascertain if they contained traces of adrenal tissue.

THERAPEUTICS.

(175) The R-Tuberculin.

Slawyk of Heubner's clinic (*Deut. med. Woch.*, July 22nd, 1897) reports upon 50 injections of the new tuberculin. One child received 23, another 21, and the two remaining ones 2 injections. The smallest quantity injected was $\frac{1}{1000}$ mg., and the largest 6 mg. Full details are then given of the first two cases. The elder child, aged $8\frac{3}{4}$ years, reacted vigorously, whereas the younger and weaker child showed no symptoms. The reaction consisted in fever, sweating, collapse, local redness (and even eventual abscess) of old scars and of the injection site. The patients did not become accustomed to the agent after increasing doses. The highest temperature occurred most often on the day of the injection, but the fever lasted sometimes for several days. The general condition was very little affected by the fever. In one case evening rises of temperature and sweating were noted. A severe collapse once followed an injection, giving rise to grave anxiety. With children a greater caution in the question of dose is required. Doubling the dose is not to be recommended, and not more than 2 mg. should be given. Once a fistulous opening appeared in a scar in the neck leading down to a tuberculous gland, but the tuberculous tissue was not discharged through it. No certain conclusions can be drawn as to the value of this tuberculin as the time is as yet too short. In Case II an improvement in the condition of the lungs was observed, and in the first case the body weight increased, the glands became smaller, and the very enlarged spleen diminished in size. The injections were discontinued in the other two cases for independent reasons. —Wörner (*ibid.*) has treated 8 cases, including 4 of lupus, 1 of scrofulodermia with pelvic abscess, and 3 of early phthisis. In one case of lupus considerable improvement was noted. Two other cases which had been scraped shortly before the tuberculin treatment showed no recurrence. In the case of scrofulodermia rapid cleaning and even healing of long-standing ulcers took place. Little effect was noted in the cases of phthisis. The author is encouraged to a further trial of this remedy in small doses.—Seeligmann (*ibid.*) reports a case of tuberculosis of the skin and generative organs which was improved by the use of tuberculin.

(176) Antistreptococcus Serum in Puerperal Fever.

W. Butler Walsh (*Intercolonial Med. Journ. of Australasia*, April 20th) records the following case: Patient, aged 25, in third labour. All well till fourth day, when nurse (contrary to the author's usual custom) administered a vaginal injection. The same evening the patient had a severe pain in the right inguinal region. Temperature 102°. Hot fomentations were applied, and the temperature fell to 99°, but soon rose again to 103°. The uterus was washed out, and a pessary of iodoform (½ drachm) inserted into it. The temperature fell to 99.8°, but rose again the following day to 104.4°. The uterus was then curetted, and a piece of placenta and hypertrophied decidua, quite hard and adherent, removed. There was free hæmorrhage and collapse. Temperature 95°. The patient was in a critical state for four or five hours, sometimes almost pulseless. Ether was injected hypodermically, and coffee and brandy *per rectum*. Next day temperature in the morning 99.6°, in the evening 99.8°. Three days later the temperature in the morning was 104°, running pulse, gasping respiration, face becoming sunken and yellow. The condition appeared almost hopeless. Ten c.cm. of serum injected at 1 P.M., the temperature being 102°. The temperature and pulse improved considerably for a few hours, but gradually rose again. The next day the temperature was 102.6°. Ten c.cm. of serum again injected. The temperature, pulse, and general condition gradually improved, and the patient steadily recovered. Besides the serum injections, a pessary of iodoform (½ drachm) was on three occasions introduced into the uterus. Brandy and liquid nourishment were freely given, and quinine (grs. 4) every three hours. A slight cellular infiltration round the uterus was noticed about six days after the fever commenced. This was treated by hot antiseptic vaginal douches. No erythema, urticaria, arthralgia, or other unpleasant symptom followed the use of the serum.

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(177) Treatment of Epilepsy.

Percy Bryant (*State Hospitals Bulletin*, October, 1896; *Journ. of Mental Science*, July, 1897) alludes to the repeated failures to find a morbid anatomy for idiopathic epilepsy in the nervous system, and holds that such facts as are known concerning the cause of convulsive seizures, as illustrated by uræmia, etc., point rather to a toxæmic origin than to any pathological change in the brain or spinal cord. The following method of treating epilepsy has been adopted with considerable success during the last five years at the Buffalo State Hospital: The administration of bromides has been abandoned as unnecessarily severe, and as useless in that their good effect is merely temporary; in fact, Bryant goes so far as to say that their exhibition really adds another condition, which has to be contended with, namely that, added to the epilepsy which has not been cured, there is now bromism, developed as a result of treating the former disease. His treatment, briefly, is a combination of a milk diet with suitable exercise and the immediate relief of any symptoms of constipation by cathartics and enemata. A patient suffering from the psychical manifestations of the disease is purged and has all nourishment entirely withdrawn for a sufficient length of time to give the requisite rest to the digestive organs, nothing but water being meanwhile allowed. At the end of two days abnormal hunger disappears. After three or four days of this abstinence—even eight or ten days in the case of violent mania or *status epilepticus*—a small quantity of milk is allowed; this is gradually increased from one to six glasses between morning and evening, and persisted in for several weeks, if not months. The condition of the digestive organs is to be the guide, and not the physical condition of the patient. After two to four months a gradual return to the regular diet is permitted; but an immediate resort to the above is to be had on the reappearance of any symptoms of toxæmia. Drugs aiming at intestinal antisepsis, however, theoretically indicated, are in practice found to be able to exert but feeble antiseptic powers. Chronic idiopathic epilepsy is incurable, and, at the best, only amelioration of the symptoms can be hoped for. It is only during the early stages of the disease that substantial results from treatment can be expected.

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(178) Apenta Bitter Water.

W. S. Bogoslowsky, from clinical observations on the action and value of a constant bitter water, draws the following conclusions (*Transactions* of the Moscow Section of the Society for the Preservation of Public Health, No. VI): Systematic treatment with Apenta water is especially indicated for constipation produced by atony of the bowels, and it has the advantage that its use does not give rise to subsequent constipation. Its action is more gentle than that of some other bitter waters because it contains less calcium sulphate and no magnesium chloride. It is probably owing to this circumstance that it does not cause crampy pains. The efficiency of Apenta as a remedy for the systematic treatment of obesity is clinically established.

PATHOLOGY.

(179) The Pathology of Appendicitis.

Abbe (*Medical Record*, July 10th, 1897) in a paper on the "Appendix 'in the Interval,'" describes a new method of preparing this organ after resection, which, it is stated, shows the causes of appendicitis in its several varieties, and affords an explanation of the clinical symptoms of chronic cases. The removed appendix is distended with alcohol (95 per cent.), and after immersion for twenty-four hours in alcohol of the same strength, is sliced from end to end. Whereas the outside may preserve the cylindrical form of a normal appendix, the interior—if the patient has had one or more attacks—will show one or several of the following conditions: (1) A fæcal concretion blocking the canal; (2) interior ulcerations; (3) cicatricial strictures; (4) multiple strictures with intermediate pockets containing suppurating and catarrhal products, and confined by greatly hypertrophied muscular and mucous coats; (5) partial obliterating appendicitis. The author's study has led him to assign three distinct causes of obstruction of the appendix, which leads to gangrene, perforation, or rupture. Catarrhal inflammation alone, it is believed, may be followed by stricture. A natural point of flexure in the appendix, due usually to localised shortening of the mesentery, may lead to an arrest of its fæcal contents, which, becoming inspissated, grew into a concretion. Thirdly, an otherwise healthy appendix may be effected by circular ulceration, due probably to microbic action. Abbe is a strong advocate of removal of a chronically inflamed appendix. Spontaneous cure certainly may occur, but the patient in the course of the curative process will run the gauntlet of many attacks in which distension of the pockets between the strictured portions may cause fatal results. Moreover, the final obliteration of the canal will not always relieve the patient of pain.

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(180) Primary Carcinoma of Gall Bladder.

Futterer (reprint from *Chicago Medical Reporter*, vol. xii) suggests that one reason why primary carcinoma of the gall bladder is commoner in woman than in man is that the corset presses the costal arch agains the liver, and thus increases the friction between the gall stones and the anterior wall of the gall bladder. In the case on which his communication is based carcinoma arising from the mucous glands at the neck of the gall bladder, which contained calculi, had extended up the hepatic ducts towards the liver, giving rise to intense jaundice. Examination of the liver showed that icteric necrosis had taken place. The intralobular bile channels were closed, probably as a result of the distension of the interlobular bile ducts. The icteric necrosis was limited to the central parts of the hepatic lobules, the peripheral and intermediate zones being normal. In the affected area the liver cells contained bile pigment lodged in the radicles of the biliary system. The limitation of the necrosis to the central zone of the lobules was explained by supposing that since the bile could not enter the interlobular ducts the direction of its current was reversed, and that it passed into the perivascular lymphatics around the central vein of the lobule. It did not appear to have entered the central vein, since its interna was not stained with bile, and there was a single layer of intact liver cells around it.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(181) Chyliform Ascites and Atrophic Hepatic Cirrhosis.

MERKLEN (*Sem. Méd.*, May 12th, 1897) reports a case in which atrophic cirrhosis and chyliform ascites coexisted. The patient, a woman aged 61, in December, 1896, fell on her abdomen and wounded her forehead. A fortnight later she noticed that her abdomen was swelling. Anorexia, diarrhœa, and œdema of the legs followed, and she entered the hospital on February 2nd, when there was anasarca reaching to the scapulæ and extensive ascites with double pleural effusion, but with no enlarged superficial abdominal veins. No diagnosis was made. Paracentesis abdominis was performed, and 19¼ pints of a chyliform liquid removed. It was then found that the liver was small, that the spleen was large, and that there was no abdominal tumour. Merklen, thinking that chyliform ascites was found chiefly in peritoneal cancer and tuberculosis, made a provisional diagnosis of tuberculosis of the peritoneum. The patient died very emaciated, with a sacral bedsore and cerebral symptoms, hardly six weeks after the ascites began. *Post mortem* the liver weighed 32½ oz.; it was "hobnailed," and the hepatic cells were very fatty. The spleen weighed a little over 11 oz. Chyliform liquid was present in the abdomen and left pleura. All other organs appeared healthy. This combination of chylous ascites with hepatic cirrhosis is very rare. As regards the composition of the fluid, true chyliform effusions must be distinguished from those which are milky but non-chylous. The milkiness in the latter is caused by granules of globulin and nucleo-albumin, and the percentage of fat is no more than in ordinary ascites. The author was wrong in drawing conclusions as to the cause, since it may occur in many diverse conditions. Thus Letulle found the following lesions among 23 cases: Simple peritonitis once; tuberculosis of the peritoneum and glands 7 times; cirrhosis of the liver, 3; abdominal cancer, 5; syphilis of the liver, 1; congested cardiac liver, 6 times. A history of traumatism has only once before this been recorded, where chyliform pleural effusion followed being run over by a carriage. The rapid course the disease ran is also exceptional, since cirrhosis usually lasts for months or even a year. Hanot, however, has described a form of hepatic cirrhosis corresponding clinically to this. Its first symptom is ascites rapidly passing on to general anasarca, and death follows in from two to six months with all the symptoms described under the name of "acholia." According to him, the cause of this rapid evolution is an early profound fatty degeneration of the hepatic cells, which was present in this case also, resembling that of phosphorus poisoning. Possibly in this case an infection took place through the frontal wound and caused at once the fatty degeneration of the liver and the chyliform ascites.

(182) The Diagnosis of Tuberculosis by Tuberculin.

LOESCH (*Archives des Sci. Biolog. de l'Institut Impér. de Méd. Expériment. à St. Pétersbourg*, Tome iv, No. 5, 1896), as a result of numerous experiments on healthy and tuberculous animals, finds that after injection of tuberculin for diagnostic purposes, what he terms the blood reaction is a much more constant and reliable sign of tuberculosis than the usually accepted elevation of temperature. This blood reaction consists in a diminution of the number of white corpuscles in the blood of tuberculous animals, which is most marked two to four hours after the injection of tuberculin. The reaction is never met with in healthy animals. Another difference is that leucocytosis is at its maximum the day after the injection in healthy animals, but on the second day in tuberculous ones. From other experiments, which were, however, too few for positive conclusions to be drawn, he believes that mallein in glanders has the same effect on the white corpuscles as tuberculin in tuberculosis.

(183) Murmur heard over the Gastric Area.

MODIGLIANO (*La Clin. Mod.*, February 10th, 1896) reports the case of an emaciated woman, aged 60, in whom one could hear a very loud systolic *bruit* over the gastric area. The heart sounds were healthy, and no *bruit* could be detected over the cardiac area. The gastric *bruit* was loudest to the left of the middle line and during fasting. When the stomach was full it almost disappeared. It could be heard without exercising any pressure by the stethoscope. No new growth or other disease could be detected. Federici has described a similar *bruit* in connection with cancer of the stomach, and *bruits* over the spleen and liver without any cardiac murmurs have recently been described. At the necropsy the stomach was found extensively adherent to the colon and posterior wall of the abdomen, from old peritonitis. It could with difficulty be moved. There was no stenosis of its orifices, nor alteration of its parietes. The heart was normal, and there was no growth in the abdomen. The patient died of inanition. The author supposes that the *bruit* was due to some compression of vessels by the bands of adhesion, and its absence when the stomach was full was owing to the difficulty of conduction of the sound. Evidently this *bruit* is not pathognomonic of cancer.

(184) Actinomycotic Typhlitis.

BONOIN (*Rev. Méd. de la Suisse Rom.*, March 20th, 1897) reports a case of a student, aged 19, who had a well-marked attack of typhlitis in the spring of 1891. He recovered in three weeks under purgatives and poultices. In December, 1891, he had another attack, diagnosed as stercoral, which lasted ten days. After this the bowels remained irregular, and there was occasional pain in the cæcal region. In March, 1892, a swelling again appeared. The temperature became raised, and fluctuation was felt towards the middle of June. Roux operated, and let out some pus of ordinary appearance. The appendix was not removed, being hidden by extensive adhesions. After this the wound, in which a drain was left, did not heal; the abdominal walls round it became thickened, and Roux operated again on October 13th. There was an abscess, the pus from which contained characteristic actinomycotic granules. The indurated abdominal walls were removed with the spoon and scissors down to the muscles, and the remainder cauterised, leaving a huge wound extending from one inferior iliac spine to the other. At the beginning of February, 1893, there was still a fistula leading towards the pelvis. The patient improved for a time, but on August 15th an abscess was found over the right tuberosity of the ischium. This was opened, the pus containing the fungus. Afterwards fresh abscesses formed, hectic supervened, and the patient died on November 25th, 1893. Otto Lanz, in 1892, published two similar cases, and Roux recorded one in 1890.

SURGERY.

(185) Hereditary Syphilis.

V. DÜHRING (*Deut. med. Woch.*, March 25th, 1897) relates his experiences of an investigation carried on in Asia Minor. Healthy children born of syphilitic parents either possess an immunity against syphilis of shorter or longer duration or show parasyphilitic manifestations, such as defective development, malformation, predisposition to infective processes, such as tuberculosis, etc., or develop about puberty the syphilitic lesions known as late genuine hereditary syphilis. In the author's investigations there were some marked exceptions to this immunity against syphilis. This immunity is known not to be permanent, but in some of his cases quite small children born of syphilitic parents, or with obvious traces of their syphilitic origin, have shown signs of acquired syphilis. In a second set of cases there has been proof of hereditary syphilis in the third generation. The lessened malignancy of syphilis amongst most peoples shows that a certain degree of immunity has been extended to more distant generations. Communities into which syphilis has been more recently introduced are affected with a more malignant form of the disease as witnessed by the severity of the symptoms as well as by the frequency of tertiary manifestations; and this is the case in Asia Minor. In his investigations the author was often able to see three generations of a family. He gives details of 4 cases of recently-acquired syphilis in children born of

syphilitic parents. In one case both husband and wife had lost the uvula, and the wife also had a serpiginous rupial eruption on the breast. A daughter, aged 20, had a gumma of the tongue, and her child had a natiform skull and characteristic teeth. A son had a large gumma in the posterior pharyngeal wall. The youngest child of the original couple, aged 3 years, showed condylomata about the mouth and anus; it had been suckled for one year and a-half. Five cases of heretary syphilis in the third generation are also recorded. In malignant syphilis tertiary manifestations are often seen in the early stages of the disease; that is, along with a severe infection there is a pronounced intoxication. This explains how tertiary syphilis may appear to be infective. The appearance of hereditary syphilis in the third generation is due to malignancy. The view that the course of syphilis is dependent upon the origin of the infection deserves further investigation when the heredity of tertiary syphilis and the transmission of a syphilis to a third generation are considered.

(186) Scrotal Anus.

W. D. SUTHERLAND notes a case (*Indian Med. Gaz.*, December, 1896) in which a newborn Hindu infant passed his fæces through a small orifice in the scrotal raphé 2 inches from the normal site of the anus. A probe passed into the orifice followed a canal which led backwards to the place where the anus ought to have been. In this spot an incision was made and an anus formed. The operation was not a success.

(187) Malformed Hands.

D. G. CRAWFORD (*Indian Med. Gaz.*, December, 1896) describes a boy, aged $2\frac{1}{2}$ years, the only child of Hindu parents, whose hands were split up between the metacarpal bones as far as the wrist-joint. Neither the patients nor any other relatives showed this or any other congenital malformation. The right hand had three digits, two of which (thumb and index) formed one claw and were webbed, whilst the third digit, apparently the little finger, constituted the other claw. In the left hand were four digits arranged in two pairs; the members of each claw were webbed. The name "lobster claw" has been given to this type of digital deformity.

MIDWIFERY AND DISEASES OF WOMEN.

(188) Accidental Hæmorrhage.

GOTTSCHALK (*Centralbl. f. Gynäk.*, No. 14, 1897) related an instructive case of partial detachment of the placenta at the February meeting of the Berlin Obstetrical Society. The patient was a primipara aged 28, and suffered from the nephritis of pregnancy. Labour came on at the end of the eighth month. The presentation was right occipito-anterior, with prolapse of an arm. The os having attained the diameter of a florin, the membranes were ruptured in order that combined version might be undertaken. At once thick clots and liquor amnii like pure fluid blood escaped; the membranes remained attached to the lower segment of the uterus. The fingers passed into the uterus detected the lower border of the placenta detached from the membranes. Then it was found that the entire placenta was separate excepting the uppermost part, which was still attached to the uterine wall high up to the left. The amniotic cavity was full of coagula, and there were big clots underneath the placenta. After careful detachment of the upper part of the placenta, the foot was seized and the child delivered with great difficulty, as the uterine contractions were very strong, though the patient was deeply under chloroform; the placenta followed. The child died early in labour; the mother recovered rapidly. Gottschalk believed that hæmorrhage into the amniotic cavity was due to the clot behind the detached placenta being forced through the damaged placental walls by the uterine contractions early in labour when the membranes were still firmly attached to the lower segment. Winter was of an opposite opinion; he contended that as the clots and blood came away when the membranes were ruptured, that showed that the blood came away from under the detached placenta directly pressure was removed and the membranes partly separated below. He had seen that phenomenon repeatedly during version when there was no evidence of rupture of the placenta by the pressure of large clots behind it during a pain.

(189) Tubo-ovarian Congestion Simulating Appendicitis.

JOHN C. MACEVITT (*Brooklyn Med. Journ.*, April, 1897) has met with three cases erroneously diagnosed as appendicitis. There were colicky pains in the right iliac region coming on five days after the end of the menstrual period in a young unmarried woman who had had a similar attack a year previously. There was vomiting, a temperature of 102°, and great tenderness in the right iliac region. A rectal and vaginal examination, however, revealed a sharply retroflexed uterus, with enlarged and very tender ovary and tube on the right side. Under treatment (depletory and analgesic) she recovered, but will be subject to recurrence.

(190) Primary Sarcoma of Fallopian Tube.

JACOBS (*Bull. de la Soc. Belge de Gynéc.*, No. 3, 1897) observed this rare disease in a woman, aged 41. She had once been pregnant twenty-two years previously. There was some abdominal trouble after confinement. In November, 1896, six months before Jacobs operated, she had severe diarrhœa and pain in the left side of the pelvis. Menstruation was perfectly regular, nor was there any intermenstrual discharge. Jacobs found a swelling "as big as an orange" in the left fornix, apparently mobile. But it proved to be strongly adherent to the bladder and the intestines. The right tube was cystic. Jacobs thought it right to remove the uterus, with both appendages; he operated through the abdomen, and sewed the peritoneum over the stump of the cervix. The outer third of the left tube formed a cystic tumour as big as a walnut, the inner third showed signs of interstitial salpingitis. "The tumour presented all the naked-eye characters of sarcoma," but it is not stated whether it was seated in the wall or projected into the tubal canal. The specimen was shown on the day it was removed, and no careful microscopical examination had been made to make sure that it was not an old inflammatory deposit.

(191) Ruptured Tubal Pregnancy Twice within a Year.

CZEMPIN (*Centralbl. f. Gynäk.*, No. 28) reports that a woman, aged 33, had been barren for seven years after marriage. Then she became pregnant. On May 7th, 1896, she was operated upon for rupture of the pregnant right tube. The period returned, and ceased after November 7th. Violent pains set in at the end of last January. On February 1st there was collapse and left tubal pregnancy was diagnosed. On the 3rd abdominal section was performed. There were firm adhesions in the abdominal cavity, the result of the first operation, and a certain amount of clot. The tube bore a long rent occupied by the partly detached placenta, and there was free bleeding at the time. The fœtus lay in the peritoneal cavity. The arrest of hæmorrhage and separation of the tubal sac from dense surrounding adhesions proved very difficult, but the patient recovered.

(192) Saline Injections after Flooding.

AMILLET (*L'Obstétrique*, July 15th, 1897) insists that after grave hæmorrhage in pregnancy or labour a saline intravenous injection is the best method for encountering acute anæmia. A 1 per cent. solution of chloride of sodium is the only available mixture which has no evil influence on the corpuscles. At least 1,500 to 2,000 grammes must be injected. In less serious cases 200 grammes can be injected under the skin; more than one dose may be required. Amillet recommends an intravenous saline injection or a subcutaneous injection before any obstetrical operation is performed on a woman exhausted by loss of blood. When the patient has clearly been revived by these means she must, in any case, be closely watched, as sometimes the good effects do not last. The injections must be repeated if necessary till all danger has passed away.

THERAPEUTICS.

(193 Sulphate of Duboisin.

J. H. SKEE (*Journal of Mental Science*, July, 1897) has used sulphate of duboisin for some time, administering it hypodermically and by the mouth, generally in doses varying from gr. $\frac{1}{100}$ to gr. $\frac{1}{30}$, though he has given as much

as gr. $\frac{1}{2}$ at one time. The hypodermic method is the surer and safer, and is followed by fewer bad consequences. The following is a summary of the effects of the drug in the author's experience: Within 15 to 30 minutes of the hypodermic administration of a single dose aggravation occurs, the pupils become dilated, and the face flushed. Cardiac action becomes more rapid, accompanied by a full and soft pulse. Speech becomes thick, drawling, and slow, and, if the dose be large, inarticulate. The mouth and throat are dry, and the gait ataxic, the general appearance of the patient much resembling that characteristic of alcoholic intoxication. The excitement rapidly passing off is followed by drowsiness and a feeling of calm, which is followed by sleep, varying in duration from three to ten hours. There is no recurrence of excitement when the patients are roused from sleep; the only bad effects are dryness of the throat, and in some cases slight impairment of vision and occasional slight headache. There is no impairment of appetite. This is the general action of a single dose of the drug, except in a certain class of cases to be mentioned later. If given internally there is impairment of the appetite, with a tendency to faintness and vomiting. Continuous administration is not successful; there is quiescence while the patient is under the influence of the drug. There is weak pulse and tendency to faintness. Marked ataxia is also present. Hallucinations of sight and hearing occurred in some of the cases so treated. Loss of weight sets in rapidly, but is easily recovered from. Duboisin was used in all cases in which marked excitement was a symptom. In acute mania its use was not followed by any beneficial results. Single doses, though producing quiet for a time, seemed to cause more excitement after. If continuously administered it induced rest and quietness, but a rapid loss of weight set in, which necessitated the suspension of the drug. In delusional mania it was used only if required for outbursts of excitement; its action was entirely satisfactory. Excitement which would ordinarily have lasted weeks was cut short. Other sedatives did not have this effect. In chronic mania its occasional use was followed by satisfactory results. In general paralysis duboisin was used during violent excitement, both occasionally and continuously, with satisfactory results. On one occasion a congestive seizure followed the exhibition of gr. $\frac{1}{12}$ of the drug. In epilepsy duboisin is not of much use. Its action is uncertain, some cases of epileptic excitement being relieved, while in others the excitement was increased. It does not appear to have any action in altering the frequency of the fits. In melancholia the worst possible results were obtained. In no single case was there the least relief, while in most the excitement was increased. There was a tendency to syncope, and in some cases hallucinations of sight and hearing were observed. In dementia, used occasionally, it gave satisfactory results, ensuring quietness and rest at night. Dangers: If carefully used these are few. Cases of valvular heart disease have received the drug without any bad results. Cardiac failure occurs when it is continuously administered, especially if given internally, and is due to too large a dose being used. One case (acute mania) in which the drug was pushed suffered from a slight convulsive seizure, characterised by twitchings of the muscles of the face and limbs. Increased excitement occurs in some cases not tolerant of the drug. Indications for and against its use: Cases of excitement due to hallucinations and delusions give excellent results. In all forms of chronic insanity with excitement, and in occasional cases of epilepsy, it may be used as a sedative with good results. The author concludes that duboisin should be used only in physically healthy persons. It should never be used, or only very carefully, in debilitated persons. It is not suited to acute mania, and is distinctly injurious in melancholia. Duboisin, Skeen thinks, is preferable to hyoscine or hyoscyamine, as the quiescent state established by its use is of longer duration, and there is less prostration during or after its use than is the case with those drugs. The after-effects are not so marked, and few serious cases occur. Its action in some of the worst cases is described by the patients as soothing rather than prostrating, and it does not interfere with the recovery of those treated with it.

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(194) Treatment of Cerebral Syphilis.

Krauss (*Alienist and Neurologist*, January, 1897; *Journ. of Mental Science*, July) reports the following case: A young woman, with a good family and personal history, contracted syphilis; the exact date is not defined, but it apparently was soon after she had reached the age of 20, and she was treated for primary and secondary symptoms. At the age of 25 she began to complain of sharp, shooting, and continuous pains in the head, which was also tender to the touch; she still had a characteristic roseola. Mercury and potassium iodide in ordinary doses failed to relieve her. On the advice of Krauss, mercurial inunctions and protiodide of mercury internally were pushed to salivation with complete success. In six weeks, however, she relapsed, the symptoms being this time much more severe, accompanied by paresis of the right side, partial aphasia, and several attacks of Jacksonian epilepsy. The treatment consisted in the administration of almost incredible amounts of mercury—hypodermic injections of $1\frac{1}{3}$ grain of the bichloride daily for ten days and inunctions of the yellow oxide ointment. Again recovery took place, and she enjoyed the best of health for three months, when a partial relapse occurred. She was rapidly salivated with $\frac{1}{2}$-grain injections of the bichloride and inunctions of the yellow oxide, the latter this time, applied to the elbow and knee joints. Once again the patient completely recovered, and at the time of report all her symptoms were in abeyance. It is curious to note that, following the inunctions into the knee and elbow joints, pains developed in them, followed by weakness of the hands and a slight degree of leg drop; other joints were free from pain. Krauss was inclined to regard this as a neuritis due to the mercury. He believes the case to have been a specific meningo-encephalitis affecting the frontal and parietal lobes of the left hemisphere, and points out that such cases and gummata, if small and located in the meninges, offer a very fair prognosis, dependent upon the thoroughness and audacity of the treatment; while complete or even partial recovery is extremely doubtful in all cases where the brain substance has been infringed upon, or where embolism or thrombosis or other sequelæ of endarteritis exist.

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(195) The Maragliano Serum.

Hager, in a preliminary communication (*Münch. med. Woch.*, August 3rd, 1897) relates his clinical experience of this serum in the treatment of tuberculosis. A great advantage of the serum treatment over tuberculin is that it does no harm even in advanced cases of tuberculosis. The reports on the value of this serum have been generally favourable. The author would confirm the statement of Maragliano that the serum may have a favourable action on all the specific symptoms of tuberculosis. The serum does not appear to exercise any effect on the tubercle bacillus itself, but neutralises the products of this micro-organism. Among cases of advanced phthisis treated within a year, and mostly confined to bed, only one had succumbed to the disease. The author then discusses the action of the serum on the lupus lesion. It can be painted on the patch, and yet produce its beneficial results. It produces a swelling of the lupus tissues, and in a few days retrogressive changes are present. The neighbouring lymphatic glands become swollen. Three or four paintings usually suffice if the lesion is not too extensive. The cicatricial changes develop themselves speedily under this treatment. A simultaneous injection of the serum hastens the recovery. It is quite possible that Maragliano's method of obtaining the serum may be improved upon, and thus a more efficient serum produced. The author concludes by stating that those trying the preparation as obtained from Merck will not fail to find that this treatment constitutes an advance.

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(196) Guaiacol Injections in Surgical Tubercle.

Grégoire (*Thèse de Paris*, 1897) has studied the action of guaiacol injections in surgical tubercle. The liquid is used as a 1 in 10 to 1 in 20 solution in sterilised olive oil. Rigid antiseptic precautions are required for the injections, the latter being made with a Roux syringe deeply into the granulation

masses, a ½ to 1 c.cm. of the solution being injected at three or four different points. This may be repeated once or twice every week provided there has not been much irritation. The author quotes a number of observations of white swelling, etc., in which an extremely favourable result was obtained. It appears that guaiacol injected into the tuberculous masses induces by its astringent and, at the same time congestive, properties, a tendency to the formation of fibrous tissue, and also limits the infiltrating tendency in the surrounding tissues. Guaiacol may also be used in the form of a dressing in certain open tuberculous conditions: thus gauze steeped in guaiacol solution (in olive oil 1 in 10) and applied to the surface causes decrease of pain and the healthy condition of the tissues. The author points out the importance of carefully watching the effect of the drug in each individual instance, as some patients seem to be susceptible to bad effects.

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(197) Strontium Lactate.

BRONOVSKY (*Vratch*, No. 29, 1897) has clinically investigated the action of strontium lactate upon the kidneys in 13 patients and in animals. The drug was given in 4 cases of acute parenchymatous nephritis, in 3 of chronic diffuse nephritis, in 7 of the same disease with cardiac complications in 3 of them, and with hepatic colic in the fourth, in 1 case of primary interstitial nephritis, and in 1 of secondary interstitial nephritis. Of these 13 cases 3 ended fatally, 1 did not improve, the remainder left the hospital markedly improved. In the experiments on animals the drug was injected into the veins. Bronovsky comes to the following conclusions as to the effect of the drug: (1) The tension in the circulatory system falls. (2) The pulse, at first slow, becomes quicker as the dose is increased, while the respiration remains unaltered throughout the experiment. (3) Large quantities of the drug (16 g. to 30 lbs. of the weight of the animal) irritates the kidneys, and with still increasing dose blood appears in the urine. (4) In some forms of Bright's disease the drug has a diuretic action, and diminishes the amount of albumen. (5) It is improbable that the drug has a direct action upon the renal epithelium.

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(198) The Treatment of Insanity by means of Abscesses produced by the Hypodermic Injection of Turpentine.

G. ALBERTOLLI (*Annali di Freniatria*, 1896; *Journ. of Mental Science*, July, 1897) has made an extensive trial of this method of treatment in various forms of insanity, injecting usually from one to two grammes of turpentine into the external aspect of both thighs. Full details of each experiment are given, and the results recorded are certainly remarkable. The author claims that the treatment is perfectly safe, and that it is one of the most potent means of obtaining improvement, particularly in the acute forms of insanity.

PATHOLOGY.

(199) The Serum Reaction in Colibacillary Infection.

WIDAL AND NOBÉCOURT (*Sem. Méd.*, August 4th, 1897) remark upon the difficulty of obtaining results of diagnostic value with the serum reaction in cases of infection with coli bacilli. This they chiefly attribute the fact that there are many varieties of coli bacilli, and that the test may be applied with a cultivation of a different variety from that causing the infection. The only method of obtaining certain results is to test the serum with cultivations of the actual bacillus causing the infection, as was done by Achard and Bensaude in a case of pyelonephritis. Such a procedure entails the isolation of the bacillus from the tissues of the patient, and would thus deprive the serum reaction of any diagnostic importance. Nevertheless, valuable information is thus obtained with regard to the much disputed question of the pathology of coli infections. From this point of view Widal and Nobécourt carefully investigated the case of a phthisical patient who developed an abscess in the region of the thyroid cartilage. From the pus they isolated a bacillus which possessed biological characters intermediate between those of the coli group on the one hand, and the typhoid bacillus on the other hand. It most closely resembled the group of the so-called paracoli bacilli, to which belong the psittacosis bacillus of Nocard and the calf septicæmia bacillus of Thomassen. Serum obtained from the patient suffering from the abscess in the proportion of 1 in 1,000 agglutinated the bacillus; but there was no evidence that it possessed bactericidal properties. The same serum had no agglutinative action on the typhoid bacillus nor on the bacillus of calf septicæmia. In the proportion of 1 in 150 it agglutinated a paracoli bacillus obtained from the mouth, and in the proportion of 1 in 50 the psittacosis bacillus. Several varieties of the coli bacillus were agglutinated by the serum in the strength of 1 in 20 or 1 in 50, but normal human serum will act in this strength. Serums obtained from different sources were tested with the bacillus above described. Of twelve serums obtained from patients with various diseases, but one produced agglutination, and that only in the strength of 1 in 5. Fourteen serums from typhoid patients were tested. All these, with a power below 1 in 1,000 for the typhoid bacillus, had no effect; while a serum of power 1 in 8,000 for the typhoid bacillus agglutinated Widal and Nobécourt's bacillus in proportion of 1 in 400. In the case of a patient convalescing from typhoid fever the serum, while only possessing the power of 1 in 20 for the typhoid bacillus, agglutinated Widal's bacillus in the proportion of 1 in 12,000. In this case the author believed that a mixed infection had occurred. From the above experiments the authors conclude that the bacillus isolated by them had imparted to the serum of the patient specific agglutinative properties, and that many varieties of the coli bacillus which resemble one another closely in their biological characters are nevertheless quite distinct.

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(200) Infective Disease and Extirpation of the Spleen.

BLUMREICH AND JACOBY (*Berl. klin. Woch.*, May 24th, 1897) relate an experimental research into this subject. They first refer to the changes seen in the spleen in infective processes. They have extirpated the spleen in some 200 guinea-pigs, and subsequently injected virulent diphtheria bacilli or the toxins obtained from them. With the toxins there was no distinct difference between the animals with or without their spleens. In the case of the bacilli, animals deprived of their spleen lived longer than the others. With the injection of virulent anthrax the animals died in about the same time, whether the spleen had been previously extirpated or not; only one animal, and that without its spleen, survived. Different results were obtained with a virulent pyocyaneus toxin and an active cholera culture. In the case of the bacteria the animals without their spleen lived much longer than the others. Thus, both with diphtheria, cholera, and pyocyaneus bacilli the animals deprived of their spleen showed increased resistance, and especially with the two last-named bacilli. It would appear from the author's experiments that this was due to the removal of the spleen from the circulation, and that the blood of animals deprived of their spleen injured the bacteria in greater degree than the normal blood, but that the blood of the splenectomised animals exercised no recognisable injurious effect upon the toxins. In their experiments the authors found a considerable leucocytosis follow upon the splenectomy. Thus three manifestations were observed: (1) Hyperleucocytosis; (2) an increased bactericidal action of the blood; and (3) recovery from infective processes. The authors conclude that the splenectomy produced the hyperleucocytosis, and this latter led to an increased bactericidal action of the blood and to an increased resistance against infection. In the case of anthrax perhaps the microbes multiply so rapidly in the blood as to make the hyperleucocytosis unavailing. The hyperleucocytosis occurs in three or four days, but the authors cannot fix the further limit, as it persisted 2 to 2½ months after the splenectomy. Similar results were obtained if the animals were first injected with virulent pyocyaneus bacilli, and then splenectomised a few hours later. In various infective diseases hyper- or hypoleucocytosis occurs. It would be of interest to know whether the hyper- or hypoleucocytosis has any relation to the splenic enlargement in infective processes, and whether the splenic enlargement, like the hyperleucocytosis, stands in any relation to the prognosis.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(201) The Presystolic Murmur.

KASEM-BECK (*Centralbl. f. inn. Med.*, February 13th, 1897) makes a communication upon the diagnostic value of this murmur and upon some symptoms connected with aneurysm of the heart. The præsystolic murmur has usually been looked upon as diagnostic of mitral stenosis, but in recent times cases have been reported in which such a murmur has been heard during life without this lesion having been found after death. A presystolic murmur has been heard in aortic regurgitation: thus in sixteen out of nineteen such cases mitral stenosis was not found at the necropsy. In other cases where presystolic and diastolic murmurs have been noted an adhesive pericarditis has been found and no combined aortic and mitral disease. In Phear's case with similar murmurs there was no pericarditis, but an enlargement of the left ventricle. A presystolic murmur heard at the apex can be produced in aortic disease by the meeting of the two streams of blood coming respectively from the auricle and from the aorta. A presystolic murmur has even been heard by Picot in hysterical cases. Thus the presystolic murmur is not an absolutely reliable sign of mitral stenosis. The author finally records an instance in which a presystolic murmur was heard in a case of dilatation of the mitral orifice. A man, aged 63, complained of pains in his arms and dyspnœa. A true venous pulse was visible in the thyroid and mammary veins. The powerful apex beat displaced downwards and outwards was felt in the sixth interspace. The right limit of cardiac dulness extended to the right parasternal line, and the left limit to the left mammary line. A presystolic murmur with a muffled first sound was heard at the apex, and the second sound was accentuated. In the tricuspid region the first sound was also muffled, and the second sound was unaccompanied by any murmur. The second pulmonary sound was loud. Arterio-sclerosis was present. At the necropsy there was no narrowing of the mitral orifice, but a relative insufficiency of both orifices, the circumference of the left orifice being 130 mm. and of the right 170 mm. Near the apex there was an aneurysmal bulging of the size of an apple. There was marked general arterio-sclerosis, the vertical branch of the coronary artery being specially involved. The author thinks that the presystolic murmur was due to the ventricular aneurysm. In spite of the relative insufficiency of both orifices there was no systolic murmur. The marked raising of the intercostal spaces following the apex beat along with the small radial pulse is a sure sign of aneurysm of the heart.

(202) The Independence of Congenital Cardiac Malformations and Cyanosis.

G. VARIOT (*Journ. de Clin. et de Thérap. Infant.*, Nos. 20, 21, and 22, 1897) has met with two children suffering from the same anatomical cardiac conditions, namely, interventricular perforation, narrowing of the pulmonary artery, and origin of the aorta from both ventricles; but in one there was marked cyanosis and clubbing of the digits, whilst in the other neither of these phenomena was present. In the second case there was a distinct precordial murmur, which was absent in the first instance, that in which the cyanosis was evident. These facts were opposed both to the theory that the cyanosis is due to mixture of the two bloods, and to the one which looks upon it as the result of hindrance to the pulmonary circulation. Variot regards the cyanosis as due to a hyperglobulia associated in an inconstant manner with congenital cardiac malformations. It is not possible to say why it is present in some cases and absent in others apparently quite similar.

(203) Poisoning by Martius Yellow.

PONTOPPIDAN (*Deut. med. Woch.*, June 3rd, 1897) records a case of poisoning by this substance (Manchester yellow). The patient, aged 50, was a ropemaker, and used this aniline yellow powder for dyeing hemp. After losing his wife he took about 90 g. of this dye with suicidal intent. About an hour later violent vomiting occurred. Some three hours after taking the poison the skin presented a yellowish tinge. A couple of hours later he was admitted into the hospital. He was then intensely yellow all over the body, including the conjunctiva and the buccal mucous membrane. The pupils were moderately dilated, and the pulse good. He was quite conscious, but very restless. Quite suddenly the pulse ceased, and he died very soon after admission. The yellow colour became more intense after death, even the grey hairs being dyed at their base. The urine was yellow. The blood was fluid and of a dark cherry-red colour. The blood cells were normal, and no methæmoglobin was found. At the necropsy, with the exception of the endocardium, the intestinal tract, œsophagus, and the tongue, there was no abnormal coloration in the internal organs. There were some ecchymoses in the intestines, and many in the stomach. The kidneys were engorged. Martius yellow is prepared by the action of nitric acid on alpha naphthylamin, etc. It is used chiefly in the form of a sodic, ammonic, or potassic salt. It is very poisonous. The experiments which have been made on animals have not produced any very similar results to those found in the above case. This is not to be wondered at considering the enormous doses taken by the patient.

(204) Multiple Myeloma.

SEEGELKEN (*Deut. Arch. f. klin. Med.*, vol. 58, p. 276) describes the case of a man, aged 61, in the clinic of Professor Stintzing at Jena. On admission in September, 1895, the patient was seen to be anæmic and emaciated, with considerable thoracic kyphosis and tenderness to pressure in the cervical spine. Nothing abnormal could be made out in the bones of the head, pelvis, or extremities. The cervical lymph glands were slightly enlarged, and there was considerable bronchitis. The blood contained 70 per cent. of the normal proportion of hæmoglobin, and four millions red to nine thousand white corpuscles in the cubic millimetre. The urine contained an albuminous substance, described by Bence Jones in 1848, a few crystals of calcium oxalate and leucocytes. Nervous reflexes and sensation were normal. All movements were possible but difficult, owing to the pain in the thorax and neck. The patient walked stiffly, with short, careful steps. He was a spirit drinker, and had suffered from rheumatism in the joints 8 years ago. Six years ago he had temporary pains in the neck, owing to a fall; but the lasting pains in the neck and chest commenced only about four months before admission. Very little alteration occurred in the symptoms after admission. Spontaneous fractures occurred in the ribs, and at times the temperature rose to about 101° or 102° F. Death took place from bronchopneumonia in July, 1896. The diagnosis lay between osteomalacia and multiple myeloma. The bodies of the cervical vertebræ, the ribs, and the sternum were found at the necropsy to be more or less filled with a dark bluish, very vascular new growth. The other bones were not specially examined. A piece of a rib was decalcified in a solution of picric and nitric acid, and examined microscopically. The new growth was seen to consist of round and spindle cells, enclosing little islets of cartilage and fragments of necrosed tissue. The author calls it chondrosarcoma. Of 14 recorded cases of multiple myeloma 9 were in men and 5 in women. In none of them was the correct diagnosis made during life. It is probably impossible to distinguish some cases of this kind from osteomalacia by examination of the patient's metabolism, such as was carried out in the present instance.

(205) Paræsthetic Neuralgia.

OSLER (*Journ. of Nerv. and Ment. Dis.*, March, 1897) refers to the numerous cases of paræsthetic neuralgia recently recorded by Roth and others, in which there is gradual development of burning pain and uneasy feelings and sometimes anæsthesia in the antero-lateral portion of one thigh. The pain may be sufficient to prevent walking. The condition has been thought to be due to compression of the external cutaneous nerve either by the psoas muscle or otherwise. Osler records three somewhat similar cases where there was monocrural paræsthesia. The patients were men, aged 32, 37, and 60 years respectively, healthy, but of nervous temperament. The illness began with a feeling of numbness or curious sensations in

one leg. One patient stated that his leg felt sometimes as if burnt, sometimes "as if stuffed with foreign matter," and sometimes "as if inflamed and swollen." These symptoms were quickly followed in each patient by inability to walk more than a short distance, owing to the distressing sensations produced in the affected leg. In each case the physical examination was negative. The duration of the affection varied in these cases from one month to eight years.

(206) Cholecystitis in Enteric Fever.

V. DUNGERN (*Münch med. Woch.* June 29th, 1897) first observes that mixed infections are very important in enteric fever, but that the typhoid bacillus may unquestionably be the cause of some complications. Severe complications involving the biliary passages are rare in enteric fever, and here the typhoid bacillus itself is very frequently the cause. As a result of the penetration of the typhoid bacillus into the gall bladder, gall stones may ultimately occur. The author is only acquainted with 4 cases of cholecystitis with or without calculus formation in which the typhoid bacillus was the cause. He gives short details of these 4 recorded cases, and adds the following one: A woman, aged 46, had typhoid fever 14½ years previously. Nearly 5 years afterwards, she had attacks of pain accompanied by vomiting but without jaundice. During the next one or two years she had many attacks, but then remained quite free from them for six years. The attacks then recurred, and a hard swelling was felt in the region of the gall bladder. This swelling was cut down upon by Kraske, and an abscess was opened, and 150 c.cm. of brownish-yellow pus evacuated. The pus was not bile stained. Any connection of the abscess with the gall bladder was not vigorously sought for. No gall stones were found, but occasionally the discharge was stained with bile. The typhoid bacillus was found in the pus in pure culture. It was submitted to all the ordinary tests and gave the serum reaction. It is most probable that the typhoid bacillus penetrated into the gall bladder at the time of the enteric fever, but the interval of 5 years before the first attack of biliary colic is striking. In the last year of the 6 years' interval the patient suffered from a periostitis of the lower jaw which may also have been due to the typhoid bacillus. If the above suppositions are true, the typhoid bacillus retained its vitality for 14½ years. The patient's blood produced immobilisation and agglutination in typhoid bacilli. The typhoid infection has been known to involve the biliary system even without any intestinal lesion. The author then refers to the bacillus coli communis, and its relation to suppuration; this micro-organism may even produce a disease not unlike enteric fever. The typhoid bacilli from the author's case proved themselves to be virulent when injected into animals, but the virulence was slight.

SURGERY.

(207) Operative Treatment of General Suppurative Peritonitis.

J. M. T. FINNEY (*Johns Hopkins Hosp. Bull.*, July, 1897) describes a new operative procedure which he has successfully employed in 5 cases of general suppurative peritonitis, including 1 following perforating typhoid ulcer. He makes a long incision, draws all the coils of intestine outside the abdominal cavity ("practically disembowelling the patient for the time being"), and then thoroughly and systematically wipes out the peritoneal sac with large pledgets of gauze wrung out of hot salt solution, paying special attention to the pelvic portion. Next, the small intestine is cleansed loop by loop and replaced in the abdomen, and the incision closed save at one point, where a gauze drain protrudes. In order that a fair chance of success may be given, the operation should be performed within a few hours of the intestinal perforation which leads to the peritonitis.

(208) Spinal Surgery.

TRAPP, of Helferich's Clinic (*Münch. med. Woch.*, July 6th, 1897) relates an interesting case successfully treated by laminectomy. The extension treatment of Pott's disease with paralysis yields a large proportion of permanent recoveries. There are some cases, however, which resist this treatment. The total number of such cases operated upon is, in the author's opinion, small, and still fewer cases have been cured. Case:—A man, aged 20, fell through 3 metres on to the buttocks. Shortly after this he noticed a prominence over the dorsal spine. As this increased, a weakness in the legs appeared. When admitted some ten months later there was a considerable loss of power in the legs, with increased knee-jerks and ankle clonus. The rectum and bladder were unaffected. Extension was applied, and improvement followed, the spastic symptoms diminishing. Two months later a sudden deterioration in his condition occurred. The spastic paralysis became much more marked, and slight bladder symptoms supervened. There were evening rises of temperature. Laminectomy was performed, the spines and parts of the laminæ of the seventh and eighth dorsal vertebræ were removed. The contents of the spinal canal then protruded at once into the opening. No pulsation could be felt. The dura mater was opened, and one teaspoonful of a thick yellow pus was evacuated. The foot clonus disappeared at once on the right side, and the patellar clonus became less on both sides. In a month's time the legs could be lifted some distance from the bed, and four weeks later he began to attempt to walk. In four months after the operation, in January, 1897, he could walk alone and without support. The development of tuberculous disease is known to follow upon injury. The author then refers to the œdema theory of paralysis in cases of vertebral disease. The sudden increase in the symptoms was probably due to the rupture of a tuberculous focus through the dura mater, which thus produced an increasing compression paraplegia. In this case it is shown that intradural tuberculous disease may be treated by operation with success. Helferich does not remove the whole of the arch, thus leaving greater support for the spinal column. Extension was useful in the after-treatment. A plaster-of-paris case was eventually applied. The importance of the case lies in (1) the behaviour of the paralysis, and (2) the recovery after operation, notwithstanding the intrameningeal site of the abscess. A similar case has not, within the author's knowledge, been put on record.

(209) Hard Chancre of the Ocular Conjunctiva.

VALUDE AND LAUR (*Soc. de Derm. de Syph.*, March 11th, 1897) report a case of the above, occurring in a man 25 years of age, on the inner side of the right eye. For the first fortnight there was simply redness at this spot, then a swelling appeared, which when seen was the size of a bean, and covered on the surface with a membranous exudate. Its consistence was hard, and the neighbouring conjunctiva was much injected, but there was no secretion or pain. The preauricular glands on the affected side, and another at the angle of the jaw, were enlarged, hard, and painless. Pills of protiodide were given, and in three weeks the chancre had disappeared, leaving only a pigmented spot.

MIDWIFERY AND DISEASES OF WOMEN.

(210) Constipation in the Puerperium.

HUBERT (*Revue Médicale*, Louvain, June 30th, 1897) writes on alarming symptoms in childbed, which depend entirely on constipation and disappear when the bowels are opened. No doubt the bowels are naturally slow to act after delivery. Sometimes the retention of fæcal matter simulates metro-peritonitis. Not only is there loss of appetite with foul tongue and breath, but tympanitic distension of the abdomen sets in with rigors, and temperature occasionally as high as 104°. When a purge succeeds all these symptoms vanish. If the constipation be neglected true peritonitis may undoubtedly set in. This complication is not the peritonitis of puerperal infection due to the streptococcus, but a peritonitis of stercoral infection where the offending germ is the bacillus coli, which passing through the intestine infects the serous coat. There is also a later form of constipation in the puerperium, accompanied with hæmorrhages, hæmorrhoids, and great pelvic congestion.

(211) Hernia of a Suppurating Ovary in an Aged Woman.

STOUFFS (*Bulletin de la Soc. Belge de Gynéc. et d'Obstét.*, No. 2, 1897) was called in to see a married woman, aged 68, who had been in great pain for a

fortnight owing to a swelling as large as a walnut in the right groin. It lay outside the external ring, and felt like a strangulated hernia, and as there was no tympanites or vomiting, it was taken for an epiplocele. At the operation nothing was found in the sac except the ovary. Its pedicle was tied, and then it was cut away; the pillars of the ring were united with deep and superficial sutures. Two days later the wound appeared swollen and painful. A few superficial stitches were removed and muco-purulent fluid escaped; at the same time there was a free vaginal discharge. The ovary was found to contain suppurating foci. The wound cicatrised completely in three weeks; the vaginal discharge proved very obstinate. The hernia was probably old; the suppuration of the internal organs in so old a patient was remarkable.

(212) Operation for Tubal Pregnancy: Death.

BLANC (*Archives Générales de Médecine*, September, 1896) reports an abdominal section performed by Blum on a multipara, where a fœtal sac of the left tube had ruptured, pelvic inflammation existing for some time. The right tube was full of blood, and it was thought right to remove it as well as the gestation sac. Free intestinal adhesions were detected and liberated. The pregnancy had lasted about two months; the patient had not suffered from melæna, vomiting, or other sign of disease in the gastro-intestinal tract. On the fourth day tympanites set in, and on the ninth the patient died with symptoms of acute peritonitis. A large perforating ulcer was found at the back of the small intestine at the junction of the duodenum and jejunum. It was a typical duodenal ulcer, but unusually wide, the perforation itself measuring nearly one inch in its widest diameter.

(213) Congenital Absence of Uterus and Vagina.

W. L. BURRAGE (*American Journ. Med. Sci.*, March, 1897) reports the case of a girl of 19, engaged to be married, who had never menstruated and had had no menstrual molimen. The external genital organs, save for the absence of the introitus vaginæ and hymen, were normal in appearance. In the position of the introitus the mucous membrane was redundant and wrinkled, and in the middle was a small opening leading into a pocket 1.5 cm. deep, from which a milky white secretion could be expressed. Careful recto-abdominal examination under anæsthesia revealed no uterus or appendages. At the patient's request an operation was performed, having for its object the separation of the rectum from the bladder and the formation of a canal between the two lined by flaps taken from the nymphæ and perineum. After some delay the artificial vagina healed, and presented a cavity 4.5 cm. deep and 1.5 cm. in diameter. Two years later he and her husband expressed themselves satisfied with the result. They have since adopted a 4-months-old baby.

(214) Precocious Menstruation and Premature Osseous Development.

F. J. CLENDINNEN (*Intercolonial Med. Journ. of Australasia*, May 20th, 1897) has noted a case of menstruation in a girl now nearly 9 years old. It began when she was between 3 and 4 years old, and has continued regularly up to the present time, the discharge lasting three days. She weighed 8 lbs. at birth, and now scales 5 st. 11 lbs. She looks like a child of 11 or 12 years, and has the breasts of a girl of 17 or 18. A skiagram shows that the proximal epiphyses of the phalanges and the distal ones of the metacarpal bones were all completely united to the shafts; the ossification of the carpal bones was complete—that is to say, the skiagraphic appearances of the hand were like those of a woman 18 years of age.

(215) Precocious Maturity.

TOWNSEND (*Boston Med. and Surg. Journ.*, March 11th, 1897) reports the examination of a child 1 year old. She was fat and healthy; the breasts were enlarged, the nipples not developed; the hair on the pubes was a quarter of an inch long. Townsend observed the process of menstruation; about half a drachm of blood lay on her clothing. The child weighed 28 lbs. and was 30 inches in height. At birth she weighed 9 lbs.; when 4 months old she cut her first tooth, and when examined had seven incisors. The breasts were seen to enlarge at the age of 3 months, and at 6 months blood issued from the vulva. The mother declared that the child had ever since then been regular every five weeks.—Morse (*loc. cit.*) observed a similar case; the infant menstruated at 9 months, and when examined—1 year and 3 months old—was quite regular. Her weight then was 36 lbs. (at birth it was 14 lbs.), her height 32½ inches. The breasts were very well developed, the nipples large with a dark pink areola. The cervix and uterus could be plainly made out on digital examination.

THERAPEUTICS.

(216) Airol and its Disadvantages.

AEMMER (*Sem. Méd.*, August 25th, 1897), after using injections of iodoformed oil without benefit in an abscess resulting from hip disease, evacuated the pus and injected 35 c.cm. of a 10 per cent. emulsion of airol in equal parts of olive oil and glycerine. The immediate effects were acute local pain, headache, and coryza, but three days afterwards symptoms of bismuth poisoning supervened—fœtid breath, blackish line on the gums, swelling, tenderness, and ulceration of the lips, gums, and pharynx interfering with mastication and deglutition; headache, anorexia, nausea, and prostration. To relieve these symptoms, which were becoming more serious, it was necessary to open the abscess and remove the emulsion of airol, when they rapidly grew better, but a slate-coloured pigmentation of the buccal mucous membrane persisted for month. Aemmer has found that a certain quantity of airol is dissolved by glycerine, and the intoxication was no doubt favoured thereby. It is, therefore, better not to use glycerine in combination with airol.—Goldfarb (*ibid.*, 1897, cxlvi) has drawn attention to the fact that applications of airol are sometimes very badly tolerated.—Zelenski reports that its use on a burn was followed by intense pain and the formation of large bullæ containing yellow fluid, and that a suppository containing 0.18 gramme of airol introduced into an anal fistula caused suffering comparable to the redhot iron.

(217) Formalin.

GRAZIANI (*Rif. Med.*, July 24th, 1897), as the result of certain experiments with formalin, finds that although this drug cannot be compared with corrosive sublimate as a germicide, it yet has considerable germicidal properties; it is also an antifermentative. Its toxic properties are more marked when given by the mouth than hypodermically. If diluted it has no irritant action, but in stronger doses it causes severe damage to the stomach principally and to the nervous system. Both surgery and hygiene may find it useful, but it is of little use to medicine. It may be used to differentiate the B. coli communis from the typhoid bacillus. It is also an antipyretic.

(218) Treatment of Anosmia.

BIBARD has recently taken up the study of this subject (*Thèse de Paris*, 1897). Among the causes of anosmia he refers to blows on the head, which are much more frequent than is generally supposed as a cause of loss of the sense of smell. They may or may not be accompanied by fracture, for according to the author's observations a severe blow on the back of the head, as from a fall, is quite capable of causing laceration of the Schneiderian membrane or tearing of the olfactory nerves in their passage through the lamina cribosa of the ethmoid. In cases of essential anosmia without nasal lesion the author has found the following treatment produce good results: Nasal irrigation every morning with warm water by means of Weber's siphon; to snuff three times the following powder: sulphate of quinine, 10 cg.; subnitrate of bismuth, 10 g.; thirdly, electricity. In cases of hysterical anosmia the last is the most effective, and is employed in the form of faradisation to the root of the nose, and this must be employed so as to produce actual pain.

(219) Oxygenated Water in Eye Affections.

VACHER (*Soc. Franç. d'Ophtal.*, May, 1897) says that oxygenated water can be employed in eye affections up to 20 volumes. He has used it for eleven years in ulcerating blepharitis, purulent and granular ophthalmia; and to render the lashes aseptic. Also a 6 per cent. solution for lachrymal injections. Without attacking the corneal epithelium, it reveals ulcers by a whitish lather on the denuded surface. It cleans atonic

hypopyon ulcers. Injected into the anterior chamber (strength 3 or 4 volumes) it arrests hæmorrhages of the iris. After extraction of cataract, if there is any infection of the iris, oxygenated water, of 5 volumes' strength, introduced into the anterior chamber aborts suppuration.

(220) Curative Action of Hyperæmia.

BIER (*Münch. med. Woch.*, August 10th, 1897) has chiefly employed passive hyperæmia in a large number of cases, especially in so-called surgical tuberculosis. The extremity is well bandaged up to the disease, and then an elastic bandage is placed above the disease. Bier maintains what he has previously said about this method of treatment, and adds that, combined with conservative operations, he has seen very good results. In some of his former cases he says that the cure is so complete as hardly to show a trace of the former disease. In cases of syphilitic disease and in two of sarcoma the disease rapidly got worse under this treatment. In gonorrhœal articular affections the author has seen good results in 11 cases, so as to warrant its repetition. The inflammatory manifestations and the pain rapidly disappear. He has used this treatment in rheumatism with varying results. The best results were obtained when the hyperæmia was induced in a marked degree. Cases of arthritis deformans and chronic rheumatism at times showed considerable improvement; sometimes, however, it was quite useless. In a case of genuine gout no benefit was seen. Bier was induced to try the treatment by the circumstance that vascular venous engorgement confers a certain degree of immunity against tubercle. He has tried an active hyperæmia by hot air and by hot water. With hot water the effect upon superficial tuberculosis is not as great as with hot air. Lupus will heal quickly if it be so placed that it can be covered by a dry cup, the engorgement thus produced bringing about a rapidly curative effect. The method can have only a limited application here. The effect of passive hyperæmia upon tuberculosis is much greater than that of an active hyperæmia. Hot air gives better results in arthritis deformans and chronic rheumatism than in tuberculosis. The author discusses the question of how hyperæmia is able to influence local disease, and especially infective disease. Whatever the explanation may be, yet the efficacy of the treatment, in the author's opinion, cannot be doubted. The method must be properly carried out. The most important rule is that the hyperæmia should never cause pain; on the other hand, it should rapidly relieve it. Thus, if the bandaging produce pain, it should be loosened. On the other hand, in order to secure success the hyperæmia must be considerable.

(221) Hypodermic Alimentation with Olive Oil.

FORNACE AND MICHELI (*Rif. Med.*, July 14th and 15th, 1897) have been experimenting in 5 cases with hypodermic injections of olive oil (50 c.cm. at a time). In all the cases there was more or less marked saving in the nitrogen eliminated, and a notable increase in weight and improvement in the general condition. Practically none was passed as fat in either the urine or the fæces. No fat embolism was observed. In one case after 30 injections small nodules containing a drop of oil were found in the lymphatics at the site of injection. The authors consider that the nutritive value of these hypodermic injections as higher than that of rectal or vaginal nutritive enemata. No inconveniences followed the use of the olive oil injections, and they were well borne by the patients.

PATHOLOGY.

(222) The Agglutination of Typhoid Bacilli by Chemical Substances.

MALVOZ (*Ann. de l'Institut Pasteur*, July 25th, 1897) has investigated the action of various chemicals upon typhoid bacilli. In the first place he finds that certain bodies such as formalin, corrosive sublimate, peroxide of hydrogen, and strong alcohol, coagulate the bacilli and produce a fairly typical agglutinative reaction, but only when used in concentrated solutions. The essential characteristic of the typhoid serum in this respect is, however, its power of acting when extremely dilute, and the author's next endeavour was to find some chemical substances which should have a comparable action. Chrysoidine, which is stated by Blachstein to agglutinate cholera vibrios, was found by Malvoz to have no action on typhoid bacilli, nor was any reaction obtained with induline and nigrosine; safranine and vesuvine, on the other hand, gave the typical reaction even in very dilute solutions, and the agglutination was rendered more obvious by the slight colouring of the bacilli. Thus 3 drops of a 1 in 1,000 solution of these reagents added to a 1 c.cm. of typhoid emulsion produced the characteristic reaction just as the blood of a typhoid patient would. Mineral acids, phenol, lactic acid, and chloroform have no agglutinating power, while salicylic acid and strong solutions of potassium permanganate give a reaction which is by no means characteristic. Caustic soda and ammonia do not agglutinate bacilli suspended in distilled water, but act on them if in tap water, a difference no doubt associated with the deposition of calcium carbonate. Salimbeni's experiments on the part played by exygen in agglutination are not confirmed by Lambotte. Malvoz finds that an artificial "typhoid" serum can be made by adding 1 c.cm. of a 1 in 1,000 solution of safranine to 9 c.cm. of ox serum. He suggests that as the urine of typhoid patients gives a marked diazo-reaction, the agglutinative power of their serum may be due to a nitrogenous compound allied to vesuvine or safranine. He has further applied his discoveries to the differential diagnosis of bacteria; thus, for instance, a concentrated solution of formalin agglutinates typhoid but not colon bacilli, the difference being visible to the naked eye. Again, 1 in 1,000 safranine serum prepared as above causes agglutination of typhoid bacilli, while the colon bacillus is not affected by a 1 in 100 serum. Some further experiments tend to show that the ciliated envelope of the bacillus is the seat of the chemical changes leading to agglutination. Finally Malvoz suggests that his results may be applied clinically with advantage.

(223) Milk and Ammonia Excretion.

AD. CZERNY AND KELLER (*Centralbl. f. inn. Med.*, August 7th, 1897) state in a preliminary communication that the considerably increased ammonia excretion in suckling infants suffering from gastro-intestinal affections is due to the presence of unusually large quantities of acid in the body. Acids may arise owing to fermentative processes in the intestinal canal or through intermediary metabolism. Milk gives rise to acid production through the fat, milk, sugar, or albuminous matters present in it. The authors have sought to discover by experiment which of these constituents give rise to the greatest ammonia excretion. As feeding with the single constituents was found impossible, they have experimented with various kinds of milk containing different amounts of these constituents. Neither the albuminous matters nor the milk sugar produced it, whereas by diminishing the fat the ammonia excretion became less, and *vice versâ*. The increased ammonia excretion in suckling infants with gastro-intestinal affections is due to the splitting up of fat. The resulting acids are not destroyed in the body, as in these cases the oxidation processes in the body are lessened. Thus a suitable diet in these cases is only such that the nutrient substances contained in it are burnt up in the body.

(224) Exception to Colles's Law.

AN apparent exception to Colles's law is reported by Drennan, of Arkansas (*Journ. of Cutaneous and Genito-Urinary Diseases*, March, 1897). The father contracted syphilis seven years before marriage, and had no treatment whatever till soon after marriage, when he was treated for some tertiary symptoms. The first child was born a year after marriage, and had well marked congenital syphilis. The second child followed two years after the first, and was healthy. Then followed two abortions. Six years after marriage a third child was born with congenital syphilis. Up to this time the mother showed no signs of syphilis, but while suckling the last child she contracted a chancre of the nipple, which was followed by well marked secondary syphilis. Presuming that all the children are by the same father, we have here an exception to Colles's law—namely, that a mother bearing a syphilitic child infected by the father becomes immune from further syphilitic infection.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(225) Influenza.

A. FRAENKEL (*Berl. klin. Woch.*, April 12th, 1897) commences a study of some of the complications of this disease. He first refers to a case in a girl, aged 24, who shortly after an attack of acute rheumatism was readmitted with high fever, irregular and rapid pulse, marked dyspnœa, and earthy appearance. At the necropsy there was an influenzal broncho-pneumonia in the foci of which numerous influenza bacilli were found. The author then refers to putrid pleurisy and complications involving the vascular system in influenza. Influenzal pneumonia may terminate in gangrene. There is almost an entire absence of fibrinous exudation in this form of pneumonia. Frequently there is no rusty sputum. Fraenkel does not deny the frequency of a mixed infection with the pneumococcus in influenzal pneumonia where the influenza prepares the way for this latter micro-organism. It is not obvious why the influenza bacillus does not produce a fibrinous inflammation. When influenza epidemics prevail there is often an increased frequency of genuine pneumonia which stands in no direct relation with the influenza. In pulmonary gangrene in influenza the marked leucocytic infiltration leads to a breaking down of the lung tissue. In some cases the hepatised lung is studded with small foci of softening. In the question of mixed infection it must be remembered that micro-organisms not usually pyogenic may at times produce pus, and this would not be surprising in the case of the influenza bacillus. If breaking down foci abut on the pleural cavity, they may rupture into it and produce a sudden pneumothorax. The symptoms of pneumothorax may not be prominent here or may even be absent, whereas symptoms of the putrid pleurisy appear. Among 272 cases of influenza in the author's clinic 80 had symptoms of broncho-pneumonia, and 6 of these had pulmonary gangrene once with symptoms of pneumothorax. Fraenkel draws attention to (1) the astonishing rapidity with which the pulmonary gangrene and consequent rupture into the pleural cavity may occur, and (2) the characteristic set of symptoms indicating the latter, which may permit of a probable diagnosis before the pulmonary gangrene is obvious or exploratory puncture settles the question. He refers to 3 cases recorded by Rhyner. In one symptoms of pneumonia appeared on the sixth day of the disease, and on the same evening the breath was fetid, and on the next day there was putrid expectoration. In the second case pneumothorax appeared on the twelfth day, and in the third on the twentieth day. The author himself records 2 cases in which the putrid pleurisy appeared very suddenly, and in one case at least very early in the disease. In both cases the empyema was quickly opened, and recovery ensued. In one case ½ litre of stinking pus was also expectorated.

(226) Idiopathic Gastric Crises.

OETTINGER (*Sem. Méd.*, July 14th, 1897) calls attention to a form of gastric crisis characterised by absolute intolerance of food, lasting from a few hours to a few days, and appearing at more or less prolonged intervals, the gastric functions and general health between the attacks being absolutely normal, which was first described by Leyden fifteen years ago under the name of "periodical vomiting." The pain which is generally present causes the illness to have such a resemblance to the crises of locomotor ataxy that Charcot thought most such cases were really unrecognised tabes. Such, however, is not the case. These attacks are rare, but still occur, in other organic nervous diseases, disseminated sclerosis, general paralysis, etc., but are much more common in the neuroses, especially hysteria, when they must be distinguished from ordinary hysterical vomiting. The latter is incessant and may continue for a long time; the former lasts at the most a few days; pain is a prominent symptom, and the vomit is abundant and consists of a hypersecretion of active gastric juice, which is often richer in HCl and chlorine than the normal. This is the rule also in tabes dorsalis, though Hayem has shown that exceptionally there may be hyposecretion. It is, however, when these symptoms are a manifestation neither of organic disease, nor of hysteria or neurasthenia, that the crises are said to be idiopathic ("crises gastriques essentielles"). Even then they are almost always found in nervous and excitable patients. In all cases they constitute a true disease of the gastric nerves, the three cardinal symptoms being pain, vomiting, and disordered secretion. This is supported also by the experiments of Schneyer, who found that stimulation of the vagus causes gastric secretion even in the absence of food. The author compares the hypersecretion in these crises with the sialorrhœa which may occur in locomotor ataxy, with the salivation observed by Klippel in facial neuralgia, and with the variety of asthma where the catarrhal element predominates over the spastic. This disease is probably the same as the intermittent form of Reichmann's disease, and differs only from Rossbach's "gastroxynsis" (Lépine's "gastroxia") in that in the latter vomiting of gastric juice is preceded by headache and a sensation of warmth or burning in the epigastrium.

(227) Cerebral Diplegia.

DERCUM records (*Journal of Nervous and Mental Diseases*, July, 1897) 3 cases of the somewhat rare family type of cerebral diplegia. All the cases were children. On the father's side there was no history of nerve lesion. He had married three times; all the cases were the children of his third wife, she having only one other child who was not affected. An aunt of the mother's was said to be "paralysed" in a similar manner. The mother herself was perfectly healthy, and all the labours were natural, there being no unusual feature of any kind. Of her three affected children, the eldest was normal at birth, and continued well up to 16 months of age. He was able to walk alone and the gait was healthy, and he could speak well for his age. About this time he was seized with a convulsion which was general, and during which he was unconscious. After it he appeared stupid; speech became deficient, and he was weak and helpless. A short time afterwards it was noticed that his legs were becoming stiff and his movements awkward; finally his gait became spastic and tottering, the legs and arms rigid. Only a few words could be spoken, and that indistinctly. Attacks of *petit mal* occurred from time to time; he was markedly stupid and also incontinent. The next child was healthy up to the age of 4; then he was attacked with measles, though slightly. During convalescence he was noticed to be extremely stupid; the arms and legs were weak, more particularly on the right side; he developed a marked spastic diplegia, both legs being exceedingly rigid and the feet completely extended. On attempting to walk he invariably fell, and would then show choreiform and athetoid movements. He was also subject to seizures of *petit mal*. The third patient was a normal child at birth, and remained well till 2 years old. He was then attacked by measles at the same time as Case No. II, and during convalescence he also became diplegic, and subsequently lost the power of walking, though he could use his fingers to some extent. He also exhibited athetoid movements in the same manner as his brothers. All of these cases had a stupid, idiotic appearance, with exaggerated reflexes, though in the last it was less marked. There was no nystagmus though vision appeared to be defective. As already stated, one child out of the four completely escaped, and the author points out the interesting fact that he was not attacked by measles or any other illness. The author is of opinion that such cases present a developmental weakness, feebleness, or instability of the neurons in the motor area. These might develop normally if not interfered with; but should any illness occur, even though slight, their power of resistance being low they would undergo degenerative changes; thus 2 of the cases suffered from measles, and although this disease was slight, it seemed to be amply sufficient to cause arrested development.

(228) Vaccinial Psoriasis.

VIGNAT has made a study (*Thèse de Lyon*, 1897) of this lesion, of which so far very few cases are on record. By the term "vaccinial psoriasis" is understood a form of psoriasis appearing immediately after vaccination in a subject previously

free. The eruption is determined by and localised at the vaccinia inoculation, and the first papules appear on the site of the scarification, from which they spread later. The affection is not to be confounded with a psoriasis involving the scars in a patient already affected with the eruption. The author supposes that in patients affected with vaccinial psoriasis the disease is simply latent, or the arthritic or neurotic element is largely present, and the vaccinia acts as the immediate cause of the eruption, and that possibly any other lesion involving the skin in a manner similar to vaccinia would be equally potent in evoking an eruption.

SURGERY.

(229) Thyroid Treatment as a Means of Consolidation in Fracture.

GABRIEL GAUTHIER (*Lyon Méd.*, June 27th and July 11th) has been led by the remarkable effect of thyroid medication in cases of disordered nutrition of osseous tissue (myxœdema, rickets, etc.), to try the same treatment in cases of retarded consolidation of fractures. Hanau and Steinlein (Frankfort Congress, 1895) had observed that in thyroidectomised dogs in which experimental fractures were made repair was notably delayed, and callus was formed in less amount than in healthy animals, and they threw out the suggestion that "ingestion of thyroid gland might be used by surgeons to promote the formation of callus." Gauthier gives his experience of the mode of treatment in two cases: (1) A strong, healthy country girl, aged 15, broke her left leg (*sic*) in the lower third. The fracture was simple, with over-riding of the fragments, which were easily reduced. The limb was put up in plaster-of-paris. Union did not take place, in spite of the administration of phosphate of lime, rubbing of the ends of the fragments, etc. When 110 days had elapsed without consolidation taking place, Gauthier prepared from the thyroids of young sheep a glycerinated juice, a teaspoonful of which represented 1 gramme (about 15 grains) of thyroid substance. Of this the patient took from six to ten teaspoonfuls a day. During the first two or three days she complained of intense headache, flushing of the face, giddiness, and a feeling of suffocation, but a fortnight after the commencement of the treatment the fracture was consolidated, and a month later she could walk about as well as ever. Careful palpation failed to reveal any abnormality in the thyroid gland. The total amount of thyroid substance taken was 120 grammes. (2) A healthy man, aged 48, suffered a fracture of the radius. The limb was put up in plaster. After three months there was no consolidation. Thyroid treatment was begun, and continued for between three and four weeks, the total amount of active thyroid substance taken being about 160 grammes. Consolidation was then established. In this case, too, the thyroid gland was, as far as could be made out, perfectly normal. Gauthier, while admitting that two cases are insufficient to prove the value of the treatment, thinks the results in the cases which he records suggestive and encouraging. He adds that whenever thyroid treatment is employed the practitioner will do well, whenever possible, to extract the thyroid himself instead of leaving it to the butcher to do so. Young sheep should be chosen for the purpose. That animal has two thyroids; hence two incisions should be made, one on each side of the trachea. If a median incision is made, especially in a very young animal, the operator is likely to take the thymus instead of the thyroid.

(230) Chronic Gonorrhœa.

LEOPOLD CASPER (Reprint from *Berl. klin. Woch.*, 1897, No. 15) gives a careful summary of the modern views on this subject, to which his own contributions are so well known. Gonorrhœa presents no single clinical picture; is not, in fact, a single pathological process, and no one specific can cure its various forms and phases. The urethra is divided both anatomically and physiologically into anterior and posterior portions; the latter is the more frequent seat of the disease, but tends to be shut off from the influence of injections by the contraction of the compressor muscle. Gonorrhœa is a disease produced by the gonococcus; other forms of urethritis may be bacterial or aseptic, the latter resulting from trauma or following a cured gonococcal infection. The therapeutic agents are chemical and mechanical, or the two may be combined. Of the chemical methods, the author particularly recommends washing out through a small French catheter introduced at first with the eye as far as the bulb, with solutions such as pot.permang. from 1 in 5,000 to 1 in 1,000, silver nitrate 1 in 5,000 to 1 in 500, perchloride 1 in 20,000 to 1 in 6,000, zinc sulphate or permanganate 1 in 5,000 to 1 in 1,000, When 200 c.cm. of the fluid have been injected by means of a syringe attached to the catheter, the latter is drawn out a little, and the process repeated, the meatus being compressed by the fingers to prevent escape. Endoscopic treatment is rarely called for; it consists in the direct application with the aid of the endoscope of a caustic fluid such as chloride of zinc or 5 per cent. silver nitrate to a given spot, the focus of the disease. Guyon's instillation method is much more valuable; about 10 c.cm. of $\frac{1}{2}$ to 2 per cent. silver nitrate solution are injected into the urethra by means of a catheter which is withdrawn during the process, so that the fluid is applied drop by drop to the whole inner surface. Casper does not find urethral bougies of much use; pure mechanical means, such as smooth metal sounds and dilators, may, however, be of value. He recommends a sound devised by him which is grooved to contain antiseptic ointments, and so acts both chemically and mechanically. Lohnstein has introduced a dilator which can at the same time be used for irrigation. Casper concludes by discussing the question as to when a patient may be considered cured of gonorrhœa. Theoretically this is not till all discharge has stopped, but a sterile discharge or purely aseptic catarrh may be regarded as sufficient. Patients in this condition may be allowed to marry; if not carefully handled, they may develop sexual neurasthenia.

MIDWIFERY AND DISEASES OF WOMEN.

(231) Central Laceration of Perineum from Prolapsed Arm.

LAMBERTENGHI (*Annali di Ostetricia e Ginecologia*, 1897, p. 22) records an unusual case where this rare accident occurred. The patient was 17; the pregnancy had been normal, the vertex presented in the first position. When the os was fully dilated the head was in the pelvic cavity. It was found that the head could then be moved on an axis drawn from the symphysis pubis to the left ilio-pectineal eminence; hence there was suspicion that a hand had prolapsed. The head advanced slowly, but the vulvar ring did not dilate fully, it held back the head as though it were a very firm gutta-percha band, and extension was thereby greatly impeded. Just as the parietal eminences appeared at the vulva, and rupture of the fourchette and perineum in the usual manner seemed imminent, a rent opened in the centre of the perineum and the right hand protruded. Then the head was delivered through the vulva, and the whole right forearm up to the elbow was forced out of the central laceration. The prolapsed limb was easily disengaged and brought into the vagina. The child was delivered; it was slightly asphyxiated. It weighed over 5 lbs. 8 ozs.; the biparietal diameter was $3\frac{3}{10}$ inches. The central laceration was closed with three deep silkworm gut sutures; they were removed on the sixth day; union was complete by second intention, and the patient made a very good recovery.

(232) A Darning Needle in Ovary and Uterus.

LIEBMAN (*Centralbl. f. Gynäk.*, No. 16, 1897) reports a remarkable case of a a foreign body lying for several years in the internal organs. The patient was 19, and single. She had borne two children, the last two years before examination, to which she submitted on account of hypogastric pains of about four months' duration. The uterus was rather bulky, and painful if moved. A metallic body could be felt apparently connecting the uterus and left ovary, posteriorly and almost at the level of the os internum. The patient then remembered, it appears, that a few years previously she used a sewing needle to fix the top of her skirt; it must, she asserted, have run into her abdomen; she never could find it, and thought no more about it till the pain set in. The

cervix being fixed by means of a volsella, an incision was made into Douglas's pouch, and the peritoneum sutured to each side of the incision. The end of the foreign body lay under soft membranous adhesions, looking like a blue spot. The adhesions were broken down, then, by means of a forceps, the needle was drawn out of the uterus, and pulled downwards out of the ovary. It was the eye end that had stuck in the uterus. Recovery was rapid. The foreign body was part of a big darning needle an inch and a half long. Only about one-fifth of an inch lay in the uterus and in the ovary, so that over an inch lay between those organs, keeping them abnormally apart. It will be seen that the patient's account was untrustworthy.

(233) Treatment ot Congenital Absence of the Vagina.

F. Latouche (*Arch. Provinc. de Chirurgie*, April, 1897) describes a case of complete absence of the vagina; the external genitals were normal, and the uterus and ovaries were absent. The patient was 19 years of age, and well formed in other particulars. The ordinary indications for operation were absent; for example, menstrual retention and ovarian activity; yet the author operated, making an artificial vagina. He supports his procedure by reference to Emmet's case, in which menstruation followed operation, although no uterus could be found. Even if this happy result does not follow in this instance, he thought he was justified in operating to fit the woman, if not for child-bearing at least for her other genital functions, and to prevent injury to the urethra from extra-vaginal coitus. The lot of the patient is thus ameliorated both morally and physically. The operation (splitting of the recto-vesical septum) was followed in this instance by recovery.

(234) Syphilis in Pregnancy.

Murray (New York *Med. News*, June 19th, 1897) first quotes Fournier and Le Pileur as to the results of pregnancy in syphilitic mothers. Fournier's figures are 167 pregnancies, of which only 22 infants survived, the rest being either abortions, stillbirths, or early deaths. Le Pileur quotes 414 pregnancies with 295 deaths. Murray divides syphilis in pregnant women thus: (1) That acquired before pregnancy, in which there is nothing abnormal; (2) infection from a primary chancre of the father at a fruitful coitus, in which the primary sore in the mother appears earlier than in unimpregnated women and is more severe, this form of infection being most fatal to the child; (3) infection from a secondary lesion in the father, which if it occurs in the earlier months of pregnancy usually kills the child, if in the later months there is less danger to the child; (4) syphilis in both parents where the effect on the child is the worst. With regard to the diagnosis, this is often difficult, since the primary sore is often not seen. An examination of the husband should be made whenever possible. If the husband, thinking he is cured, having had no symptoms for some time, impregnates his wife, the disease usually appears in the third month. As regards treatment, Murray prefers inunction combined with tonics, such as iron, arsenic, and strychnine. After birth the child should be treated through the milk by treating the mother with mercury. As the child grows older it is enough to place mercury ointment on a flannel binder. If the mother is too weak to suckle the child must be fed by hand, no wet nurse being of course admissible.

(235) Metrorrhagia and Heart Disease.

Dalché (*Rev. Méd.*, Louvain, June 30th, 1897) finds that menorrhagia is a frequent and almost necessary complication of the earlier stages of certain forms of valvular disease. When asystolism and cardiac cachexia set in, this symptom, as might be expected, is replaced by amenorrhœa. On the other hand, menorrhagia not rarely precedes the physical signs of heart disease; then it continues after they become evident, as long as the compensatory changes in the heart remain available. When breathlessness, vertigo, slight irregular action of the heart, and malleolar œdema appear, the menorrhagia is at its height. This variety of uterine disease is especially common in mitral contraction, less frequent in mitral insufficiency, rare in aortic disease, and rarer in valvular disease of the right heart. In congenital cardiac disease it practically does not exist.

(236) Congenital Prolapsus Uteri and Spina Bifida.

Krause (*Münch. med. Woch.*, No. 18, 1897) examined a child born at term. There was spina bifida, not so extreme but that an operation was thought justifiable on the fourteenth day; the child died a week later. At birth, prolapsus ani and complete procidentia of the uterus existed. Unfortunately no *post-mortem* examination was allowed. Krause notes that in all the only four cases of congenital prolapse of the uterus (Qoisling, Schaeffer, Heil, and Monroe) reported satisfactorily spina bifida was present. He attributes the prolapse to malnutrition affecting the connective and adipose tissue of the pelvis.

THERAPEUTICS.

(237) Chelidonium in Cancer.

A report of a discussion on this subject in the Russian Pirogoff Surgical Society is published in *Vratch*, No. 32, 1897. Shulgin treated 5 cases of cancer by internal administration and subcutaneous injections of extr. chelidonii majoris into the growth. The injections were made at intervals of one and two days with a 50 per cent. solution of the extract during about three months; at the same time 50 g. of the extract were given internally every day for fifty days. Reaction was only local. The growths became more succulent, were breaking down, and a grey fluid and detritus discharged from the interior. A general reaction was noticed in a sixth case, that of an out-patient, a habitual drinker, after 2 injections. Chelidonium must not, in Shulgin's opinion, be regarded as a specific for cancer, but its destructive action upon it cannot be denied.—Religioki made injections at the hospital at Briansk with 15 g. of a 50 per cent. solution every four or five days, not into the substance of the growth but in its neighbourhood, giving at the same time internal doses of 75 to 90 g. daily. He observed a case of cancer of the breast, the size, consistence, and shape of which became totally changed after internal administration of the drug for six weeks, and it could afterwards be easily removed by operation. A microscopic examination showed shrivelling and breaking down of the cells in the growth, one part of the white corpuscles constituting a line of demarcation between the dead and the healthy tissue, the other infiltrating the growth which was being converted into detritus, thus favouring the breaking down of the new growth cells. Chelidonium, he thinks, has a beneficial effect in many cases of cancer.—Minin, who tried the remedy in 4 cases (2 of carcinoma œsophagi, 1 of cancer of the liver, and 1 of cancer of the tongue), found chelidonium of no use.—Trojanof had not seen any benefit from it in cases of inoperable cancer; the patients were made rather worse owing to the general reaction. The diminution in size of the growth is not to be doubted, but this is due to absorption of the products of inflammation set up by the injections.—Turner reserves his opinion, and thinks that in cases of cancer of the lip thorough extirpation has to be preferred.—Vreden thinks that the treatment with chelidonium does not respond to the fundamental condition of therapeutics—"non nocere." The injury caused by the general reaction is undoubted.—Vubbotin, who has tried chelidonium in operable cases considers it worthy of further trial.—Zenenko, in 11 cases of cancer of the alimentary canal, did not notice any benefit from its internal administration in doses of 60 g. to 90 g. The patients complained of increased pains and difficulty of digesting food. The subcutaneous application in some cases of cancer of the breast and lower lip caused local and severe general reaction, with chill and prostration, which lasted for 24 hours. He considers chelidonium to be like caustic—a powerful, local irritant, causing necrosis.—Vertogradof tried the effect of injections (having been made aseptic) upon a healthy man, (himself) and found it caused a powerful local reaction; inflammatory œdema of the size of the palm of the hand, which disappeared after a few days, leaving the skin folded and covered with rhagades, and very painful. On the spot where the injection was made there remained a nodule for a long time. The general reaction is not less

severe.—Ratimoff has noticed cachexia to develop and the patients to lose weight under treatment with chelidonium. The induration of the base of the cancer remains unaltered; the injections are very painful. He also thinks the remedy acts merely as a caustic.

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(238) Treatment of Uræmic Dyspnœa by Ether.

Gallois has recently made a series of observations on this subject (*Thèse de Lille*, 1897). Being rapidly eliminated, ether may be given in fairly large doses at a time without any danger of intoxication, and owing to this fact its employment under various conditions has been recommended. In cases of uræmia with grave dyspnœa 2 c.cm. of ether were injected night and day, as well as a dessertspoonful by the mouth in syrup between each injection. The injections must be made deeply in order to avoid necrosis of the skin. It will be seen from this that a considerable amount of the drug is given, and to this are attributed the good results obtained. A rapid and appreciable improvement is observed; respiration becomes much easier, the sensation of choking disappears, and sleep becomes possible. At the end of a few hours diuresis increases. The patients themselves become so sensible of the beneficial action of ether that they look forward with eagerness to the injections, notwithstanding their somewhat painful character. This treatment must be continued for several days, according to the severity of the case, and as a rule the interval between the injections is increased according as the dyspnœa improves. The drug may be discontinued in a week or so if diuresis have become regular. Much of course depends on the amount of renal tissue available, for in those cases where the kidneys are severely diseased it is as apt to fail as any other method of treatment. The important point which the author emphasises is the amount which it is necessary to give. This may vary from 60 to 96 c.cm. in the twenty-four hours, and the rapid absorption resulting from subcutaneous injection is of importance. This method differs markedly from the small doses of ether given on sugar and recommended by Eichhorst. The author has also studied the question experimentally, for he found that after producing dyspnœa in an animal respiration became much more regular on giving a certain quantity of ether. He further finds that the drug produces no injurious effect on the kidney, nor does it aggravate any existing lesion.

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(239) After-effects of Antitoxic Serum.

Stawell (*Intercol. Med. Journ.*, June 20th, 1897) lays stress on the variety of rashes which may follow the use of antidiphtheria serum, many of which have been shown experimentally to result from the injection of non-immunised or normal horse-serum into the blood of another animal. He quotes the experience of two other Australian physicians who in 100 cases found that urticaria supervened 32 times, and was twice accompanied by joint pains. Stawell himself has repeatedly seen urticaria and erythema, often with some rise of temperature, in such cases; two of his patients, however, suffered from more complex and alarming conditions. In the first a generalised exanthem appeared on the eighth day after injection of the serum; it was associated with conjunctival injection, œdema of the loose tissues about the face, and rise of temperature. Three days later there was pain in the limbs and swelling and tenderness about the joints; a distinct systolic *bruit* could be heard. The whole condition simulated an attack of acute rheumatism in a child, and tallied very closely with the description given by Goodall and Washbourn. In ten days from the onset of the rash all pyrexia and joint pains had disappeared, and in a few weeks a cardiac murmur was no longer audible. The second case was one of marked laryngeal diphtheria in a boy, aged 5, for which intubation had to be performed. Two injections of Behring's serum were given, and thirteen days after the second a general measly rash appeared, with an urticarial eruption down the limbs. The face was puffy, there was marked injection of the conjunctival vessels, the fauces were red and swollen, and the joints enlarged and painful, while the temperature was 102° F. There was no cardiac murmur, and the constitutional disturbance cleared up in about nine days.

PATHOLOGY.

(240) Milky Blood Serum.

Castaigne (*Archiv. Gén. de Méd.*, June, 1897) has examined the clinical conditions under which the blood serum is turbid or milky in appearance. This phenomenon has long been known, but from the recent introduction of serum diagnosis it now acquires fresh interest. The turbidity may be considered in two categories: (1) When it is due to fatty particles; (2) when it is not due to suspended fat, but to molecular albumen. The fatty form is extremely rare, and it is with the second category that the author deals. The lactescence may be physiological, and occur in healthy persons after a meal, without there being albuminuria. The author lays great stress on the association of pathological lactescence of the blood serum with epithelial changes in the kidney. In acute diseases, such as typhoid or pneumonia, the blood serum may be milky, whether there be albuminuria or not, but whenever a necropsy was obtained in these cases there were lesions of the renal epithelium. In 35 cases of acute disease the serum was lactescent in 8, and of these latter 4 were examined *post mortem*, and showed exclusively epithelial changes in the kidneys. In 7 cases of subacute nephritis, 4 showed lactescent blood serum, while in the remaining 3, in which the blood serum was limpid, 2 were examined *post mortem*, and showed changes in the connective tissue of the kidneys. In 18 cases of chronic nephritis, the blood serum was clear in all. He concludes that when the serum is lactescent in the course of nephritis there is a complete absence of arterial or fibrotic change in the kidneys.

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(241) The Cause of Death in Burns and Varnishing in Animals.

Ajello and Parascandolo (*Gazz. degli Osped.*, July 4th, 1897), from experiments made on this subject, find that in each case death is probably due to the same toxic alkaloid, developed rapidly after burns, and somewhat more slowly after varnishing. This alkaloid is not the same as that which is produced from the putrefaction of dead tissues. From the blood muscles, and organs of varnished animals, a toxic principle could be extracted, acting like a ptomaine, and probably formed in the same manner as that which is the cause of death after severe burns.

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(242) Carcinoma of Serous Membrane.

Dock (*Amer. Jour. of the Medical Sciences*, June, 1897) describes a case of carcinoma of the stomach in a man aged 21, with metastases on the peritoneum and pleura. He refers to cases of carcinoma of stomach in two women, aged 21 and 24, under his care, and comments on the somewhat prolonged course that the disease may run in the young. Aspiration of effusions into both pleuræ and into the peritoneal cavity showed that the fluid was milky in character, due to fatty degeneration of the suspended cells. The specific gravity (1010) was in accordance with observed facts that cancerous effusion is of lower specific gravity than tuberculous. The cells in the exudation were of various forms, some containing as many as twenty nuclei. The most remarkable feature was the character of the karyokinetic figures, of which numerous illustrations are given. The mitosis was atypical, but this occurs in pathological conditions other than malignant neoplasms, such as inflamed tissues and innocent growths. Of the occurrence and importance of mitosis in exudations and transudations he could find no record except Riedel's case, in which a diagnosis, confirmed by an necropsy, of malignant disease of the peritoneum was based on the presence of cells showing indirect nuclear division in the effusion. Dock has repeated his observations on the microscopical character of the cells in innocent and malignant effusions, and concludes that there are more cells showing mitotic changes in the latter than in the former. Atypical mitosis was also more frequently present in the effusion of malignant origin. By these differences, which are quantitative and not qualitative, he thinks it would often be possible to make a diagnosis between cancerous and tuberculous effusions. No diagnostic value is attached to the mere size of the cells.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(243) Cirrhosis of the Liver.

J. BARR (*Liverpool Med. Chir. Journ.*, July) publishes a clinical lecture on cirrhosis of the liver, illustrated by two cases recently under his care. The first was an advanced instance of the disease, the second an early stage, and Barr emphasises the importance of diagnosing this—as, indeed, all other affections—at the earliest possible period. As regards the etiology of hepatic cirrhosis, Barr considers that it arises chiefly in those who drink strong and spirituous alcoholic liquors apart from meals and in an undiluted form, wines and beers being more frequently associated with gout and granular kidneys. The disease is most common in middle-aged males, but Barr refers to a case fatal at 2½ years, and one of his own in a patient aged 8, both of which were due to alcohol. With regard to the relation of hypertrophic and atrophic cirrhosis, he does not consider hyperplasia of round cells and connective tissue sufficient to account for the increased size in the former, which he prefers to attribute to engorgement with blood, following tricuspid regurgitation due to cardiac asthenia. Later comes the cicatricial contraction of the newly-formed connective tissue, leaving the hobnail granulations of more or less healthy liver. Diminished functional activity of the gland leads to lessened formation of bile, which never deposits gall stones. With regard to symptoms, Barr remarks that the earliest are those of alcoholism, while gastric catarrh may precede, accompany, or succeed the liver disturbance. The liver is often large at first; the primary atrophic liver is attributed by the author to the absence of cardiac asthenia with tricuspid incompetence. As regards other symptoms, he lays particular stress on dehydration and wasting as a consequence of mechanical obstruction in the liver. With regard to treatment, after excluding the rarer etiological possibilities, Barr recommends that alcohol should be interdicted and the gastritis treated; further, that a large sinapism be applied over the epigastrium and liver. He advises restriction of the fluid ingested if there is portal obstruction, aiming thereby at lessening the work of the heart. As regards drugs, he employs calomel to relieve the hepatic and portal engorgement, but protests against the use of hydragogue cathartics for the purpose of reducing ascites. As diuretics he recommends digitalis with a little nitro-glycerine to diminish peripheral resistance, or salines; copaiba he has found useless. He recommends that paracentesis, if necessary, should be done early, before the abdominal walls are relaxed; if they are allowed to become so, tapping is followed by distressing meteorism. In certain cases venesection and the establishment of a collateral circulation may also be of use.

(244) Dermoid Cysts of the Anterior Mediastinum.

PFLANZ (reprint from the *Zeitschr. f. Heilkunde*, 1896, Bd. xvii) describes a case occurring in a young man, aged 21. In August, 1894, he complained of difficulty of swallowing, and later of pains in the ears and shoulder, and a swelling above the right clavicle. On admission seven months later, the region embracing the manubrium sterni, inner parts of the first two ribs, and clavicle on the right side, was pushed forwards. There was absolute dulness over the upper portion of the sternum and adjacent parts. Above and external to the right sterno-clavicular joint there was a fluctuating swelling as large as a nut. The radial pulses were equal. The larynx was healthy, and there was no hoarseness, palpitation, or vomiting. Temperature normal. Exploratory puncture of the swelling yielded pus. Incision and drainage was practised. The patient was discharged when the wound had healed, but three weeks later the swelling again appeared and was again incised. It was then found that the cavity extended downwards into the chest. Hair, epithelial masses, and fat were syringed out, showing that the disease was a dermoid. The patient again improved, but later it was found necessary to trephine the sternum. The cyst was thus opened and drained, and subsequently the patient made a good recovery, but he returned to America with a small fistulous opening. The author gives details of 24 cases collected from literature. Males were affected in about equal proportion to females. The cyst usually occupied the upper part of the anterior mediastinum, and extended upwards or more frequently downwards and to one side, so as to compress the lung. The size varies, but in one-half the cases it was very considerable. Adhesions to adjacent parts were common. Sometimes only a few cysts are present, but at other times the tumour may be formed by a complicated multiloculated cyst. The cyst wall usually corresponded in structure and function to ordinary skin. These dermoids have been known to be complicated by malignant disease. As regards the origin of these dermoids, the author says that they are to be referred to the thymus gland, including the third branchial cleft. This origin explains the presence of ciliated and cylindrical epithelium. So-called dermoids of the lung have really extended secondarily into the lung. Venous engorgement, so characteristic of mediastinal tumours, is absent. Proof of a dermoid is furnished by external rupture or perforation into a bronchus. Exploratory puncture is a safe means of diagnosis. Incision and drainage constitute one method of treatment. A piece of the sternum or ribs may have to be removed. In cysts opening above, a counter opening must be made in the sternum, as in the above case. A total extirpation of the cyst is one of the most difficult and dangerous of operations. The bony chest wall would have to be removed to a large extent, and injuries to nerves, vessels, as well as wounds of the pleura and pericardium are almost unavoidable.

(245) Hæmaturia in Chronic Nephritis.

DIEULAFOY (*Journ. de Méd.*, March 10th, 1897) insists upon the importance of hæmaturia in the prognosis of chronic nephritis. After pointing out its frequent occurrence in acute nephritis, and its slight importance as regards the future, he shows that its appearance in cases of renal disease, already established, is of grave import. Thus a former pupil of his own, who was the subject of Bright's disease, maintained a high degree of health by means of strict attention to diet and climate for several years. Slight hæmaturia appeared one day, and he rapidly lost ground from that time. The author quotes similar cases, and from these he concludes that any appearance of blood, however slight, in chronic nephritis is the beginning of the end.

(246) Etiology of Lead Poisoning.

PEL (*Centralbl. f. inn. Med.*, June 12th, 1897) draws attention to several cases in which the source of the lead poisoning was exceptional and misleading. Case 1 occurred in a shoemaker, aged 19, who worked in a factory in which tin nails were used for the boots. The patient was in the habit of putting the nails into his mouth. Tin contains lead, and hence the poisoning. Besides pallor and the blue line he had pains in the abdomen, spine, shoulders, and testicles. It must remain unsettled as to whether the testicular pain was a manifestation of the intoxication, and hence a genuine plumbic neuralgia. (2) A man, aged 44, a cigar roller, presented the blue line, constipation, pallor, pains, and neurasthenic symptoms. The board used for rolling the cigars on was covered with tin. The patient cut the cigars with a knife, which he held in his mouth, as it worked best when moistened. The metal cover was indented with the cuts of the knife. Another possible cause of the poisoning lay in the contamination of the hands from the tin, and the conveyance of the poison to the mouth in this way. Case 3 occurred in a diamond worker. Owing to a failure of eyesight he was obliged to adopt another occupation, and five months later he showed signs of acute lead poisoning, consisting of vomiting, colic, constipation, indrawn abdomen, increased vascular tension, typical urine. A blue line was present, as well as bluish black spots on the buccal mucous membrane. The source of the poisoning must be looked for in his previous occupation. Some diamond workers have to fix the small diamonds in a mass of lead. This lead is worked with the fingers, which are moistened from the mouth. There was no other source of lead poisoning in this case.

It is a striking fact that the patient, who had been working in the diamond trade for 15 years, should only develop symptoms five months after he left this occupation. The poison must have been stored away somewhere in the body, and then at length it found an entrance into the blood, from which it was excreted into the alimentary canal. Lead poisoning is rare in the diamond workers, but is known to occur in them. It is noteworthy that at times very small quantities of lead will suffice to produce symptoms of poisoning, whereas at times large doses are inefficient.

SURGERY.

(247) The Treatment of Penetrating Wounds of the Abdomen.

Vulliet (*Rev. Méd. de la Suisse Rom.*, May, June, and July 20th, 1897) on the basis of an analysis of 335 cases of penetrating wounds of the abdomen published since 1890—that is during the antiseptic period—77 of which were treated by the expectant method and 258 by laparotomy, has come to the following conclusions: In the presence of wounds of the abdomen, whether gunshot or caused by stabbing or cutting instruments: (1) The wound must be enlarged to establish the fact of penetration (probing is insufficient). If this is found exploratory laparotomy must be performed at once. (2) It is impossible to decide from the symptoms whether the intestine is perforated or not, slight cases being often accompanied by symptoms of peritonitis, which may be absent in a case of multiple perforations. (3) Sure signs of perforation of the intestine, such as fistula or evacuation of the bullet *per rectum*, are very exceptional. (4) exploratory laparotomy is without danger. (5) Spontaneous healing of intestinal perforations without septic peritonitis is rare as shown by statistics, and more especially by experiments on animals. (6) By operating early the surgeon tries to prevent the occurrence of peritonitis, and does not wait for symptoms. Peritonitis once established, death is almost certain with or without operation. (7) The operation, though often long and difficult, must not be credited with the deaths due to the gravity of the lesions, and it has saved numbers who would have certainly died if left to themselves. The results of laparotomy have recently much improved. (8) If seen for the first time forty-eight hours after the infliction of the wound, and no abdominal symptoms are present, perforation of the intestine can be excluded almost certainly; if signs of peritonitis are present abdominal section and washing out give the only remaining chance of recovery. Deaths in the latter case are due to the expectant treatment and not to the operation. (9) Shock is no contraindication to operation; on the contrary, it is often caused by severe hæmorrhage, and the fear of the patient dying on the table must not preclude an operation which has saved life. In such cases stimulants and intravenous saline injections must be used freely. (10) In most cases the incision should be median and long; this makes exploration more easy and rapid. The cavity should be washed out and drained. (11) The above conclusions apply to civil life when all antiseptic precautions are possible; in war, owing to a lack of experience, the question of operation *versus* the expectant treatment must be considered still unsettled.

(248) The Operative Treatment of Enlarged Prostate.

Erdberg (*St. Petersburg. med. Woch.*, No. 33, 1897) reports a successful case of bilateral resection of the vas deferens for the relief of severe urinary trouble due to hypertrophy of the prostate. In discussing the operative treatment of this disease, he points out that castration is not free from danger, and in about one-third of the cases fails to give any good result. Resection of the vas deferens is preferred to castration, on the following grounds: (1) The former is a less serious operation, and does not necessitate the administration of an anæsthetic or prolonged rest in bed; (2) it is less likely to cause any mental depression, as the visible signs of manhood, though deprived of their function, are still retained; (3) castration may be subsequently practised, although in the author's opinion it is not likely to do good after resection has failed. Relief is more speedily attained by castration, but this, the author holds, is no good reason why the more serious operation should be preferred to resection of the vas deferens.

(249) Treatment of Acute Intussusception.

Gibson (*Medical Record*, July 17th, 1897), in the course of an elaborate paper on the Mortality and Treatment of Acute Intussusception, based on tables of 239 collected cases, advocates as a rule early laparotomy. He points out that, as it is the aim of the surgeon to obtain the greatest diminution of mortality, it would be better to risk the reproach of having done a needless operation than that of having sacrificed a life from non-interference. In discussing the relative indications of a cutting operation and of inflation, the author, though not holding that mechanical distension should be altogether discarded, would very much limit the application of such treatment. It is a serious objection to the use of enemata of fluid or air that, should it not entirely succeed, it delays operative measures. Moreover, distension is an uncertain method, as it may give rise to the deceptive impression that an invagination has been entirely reduced, while an unreduced intussusception, no matter how small, is still an obstruction of undiminished danger. The recognition of the success of reduction of inflation must be very difficult from physical signs alone. Enemata, it is asserted, are distinctly dangerous, and there are many cases on record in which they have caused perforation or rupture of the intestine. Such accidents are not invariably the result of too great force or pressure, nor is the danger of perforation limited to interference in those cases that have lasted for a long time. Intussusception often recurs after reduction by inflation. The author is of opinion that a single attempt to reduce the bowel by injection may be made in the first twenty-four hours, unless the symptoms be very intense. After the first twenty-four hours the usefulness of the inflation treatment becomes much restricted. After the second day, it is believed, the possibility of relief is so small, and the probability of doing harm so great, that a preliminary trial of enemata should, unless under very exceptional circumstances, be omitted. In cases in which inflation is practised, the attempt, if unsuccessful in overcoming the obstruction, should be immediately followed by laparotomy.

MIDWIFERY AND DISEASES OF WOMEN.

(250) Intermenstrual Phenomena and the Relation of Menstruation to Ovulation.

M. Marsh (*American Journ. of Obst.*, July, 1897) sees in intermenstrual pain a phenomenon which may be made to throw some light upon the relation of menstruation to ovulation. In cases of intermenstrual pain or "Mittelschmerz" it has been found that there is congestion of the pelvis at the midpoint of the menstrual cycle between the preceding and succeeding menstruations. This, it is supposed, is due to ovulation, and the pain is occasioned by dehiscence of a follicle in an ovary which is hardened by chronic ovaritis. It is also believed that ovulation and menstruation occur ordinarily at intervals of fourteen days from each other. According to this theory there is a double congestion wave in the menstrual cycle instead of a single one, as stated by Stephenson. It also follows that the ovule escapes from its follicle and enters the uterus about a week later than Pflüger believes.

(251) Picric Acid Dressing of the Umbilical Cord.

Rochon (*Rev. Obstét. Internat.*, August 21st, 1897) points out that three kinds of dressing are applied to the umbilical cord, the oily, the moist, and the dry. To the first he objects that it is imperfectly antiseptic, and is opposed to the keratogenic transformation of the young epidermic elements; the second (moist) method is sufficiently antiseptic, but it delays the fall of the cord, and often leaves an imperfect cicatrix; while the third (dry), by the rapid desiccation of the cord which it causes, produces the danger of premature separation and hæmorrhage. To meet these objections Rochon proposes the use of picric acid in solution. The cord is surrounded by a piece of absorbent cotton soaked in a 1 to 200 solution of picric acid. Thus the decomposition of the cord is prevented and cicatrisation of the umbili-

us is aided. A single dressing may uffice, but it is best to repeat it on the econd or third day.

(252) Hydramnion and One-Yelk Twins.

Maygrier (*L'Obstétrique*, July 15th, 1897) vrites full notes of a 6-para, aged 32, vho began to swell rapidly in the fourth nonth of her seventh pregnancy; there vere also severe pains. There was no loubt of pregnancy. The uterus at the ifth month was very much larger than n normal gestation, and fluctuation was narked, yet no outline of any part of a œtus could be felt, hence twin pregnancy and hydramnion were diagnosed. Labour occurred at the end of the sixth nonth and a cord prolapsed. The membranes were ruptured with the precautions demanded under the circumtances. Maygrier was surprised to ind that only a moderate amount of iquor amnii escaped. A dead male œtus was delivered. The uterus still elt very large, like a cyst. The cord of he delivered fœtus was traced to the ervix, then another bag of membranes, ery tense, was detected. This was carefully ruptured. Over fourteen pints of iquor amnii escaped. The patient felt xtreme relief. A male fœtus was delivered spontaneously within an hour fter the first, and lived for a few hours. The placenta bore two cords; their vessels anastomosed very freely. The stillborn fœtus was practically normal; the econd was big, and its heart was greatly ypertrophied. This condition chiefly nvolved the right ventricle; the liver vas very large. Abnormality of one œtus is usual in one-yelk twin pregnancy, of which hydramnion is a most mportant symptom.

(253) Relapsing Interstitial Keratitis of Uterine Origin.

Koenig (*Soc. Franc. d'Ophtal.*, May, 1897) relates a case which he has followed for two years. A young woman, aged 25 years, for a period of eighteen months has had at each menstrual epoch visual troubles pertaining mostly to one eye, and marked by the appearance of white spots of infiltration in the cornea. The ocular trouble came on eight days before the appearance of the menses, and disappeared on their cessation. On one or two occasions almost the whole cornea was affected, and there was intense pericorneal injection and photophobia, persisting for a month. The patient was of a scrofulous disposition. Vaginal injections and attention to hygienic measures sufficed to disperse the ocular attacks, and the corneæ have regained their transparency.

(254) Labour in a Case of Fixed Lateroflexion of the Cervix.

De Baets (*La Belgique Méd.*, No. 17, 1897) was called to attend a primipara who, four years previously, had suffered from pelvic inflammation. There had always been dysmenorrhœa. The labour began with considerable vomiting, and a vaginal examination revealed a distended lower uterine segment, but no trace of the cervical orifice. After twelve hours of labour pains there was no progress, and the vomiting continued. De Baets introduced his right hand into the vagina, and then found the small os uteri lying high up on the pelvis and at the extremity of the transverse diameter on the left side. An attempt was made to draw the cervix into the axis of the pelvic cavity, but this failed, the cervix being fixed. The patient was much exhausted, and had some eclampti form seizures, so she was given a warm bath and chloral. The same evening dilatation was more advanced, but the cervix was still fixed; as labour went on there occurred a deep laceration of the cervix, with severe hæmorrhage, necessitating plugging the vagina. Finally, on the next day, dilatation was complete, and a stillborn infant was extracted by means of forceps. This was followed by uterine inertia and hæmorrhage, and after the extraction of the placenta a very hot douche had to be given. The author comments upon the rarity of latero-fixation of the cervix, which, in this case, he traces back to left-sided parametritis four years previously. He counsels the treatment of the condition during pregnancy, and in labour advises lateral incision of the cervix according to the method of Dührssen.

(255) Cæsarean Section: Deformity from Stays: Diffuse Enchondroma.

Poncet, of Cluny (*Ann. de Gynéc.*, July, 1897) reported to the Académie de Médecine in the spring a very complex case, which ended fatally. The patient was 23, a very big woman, and exceedingly vain about her figure. She laced tightly, keeping her waist under 18 inches in circumference. She seems to have continued the practice through her pregnancy. Premature labour set in on the 225th day. On exploration the vagina was found blocked with enchondromatous tumours; the cervix could not be reached. Similar new growths were detected in the right labium majus, the right breast, and the abdominal walls in the right lumbar regions. The patient was in bad general health; still, nothing could be done except delivery of the fœtus by abdominal section. Cæsarean section was performed with every precaution, but the child was dead when delivered, and the mother expired four hours later. Pinart rejected Poncet's theory that tight lacing could cause new growths to develop, but insisted that Poncet clearly did his duty in performing Cæsarean section.

THERAPEUTICS.

(256) Treatment of Infantile Paralysis.

Larat gives the result of his experience (*Journ. de Méd.*, July 25th, 1897) of the treatment of this disease. He says that no matter how grave the case may be in appearance, electricity must be employed, and that as soon as diagnosis is made. The chief point is the method employed. Faradisation is not only useless, but positively harmful, for every time a muscle in process of atrophy, and which does not respond to the current, is faradised the tendency to atrophy is increased. It is, therefore, the continued current which should be used, and the following is the method recommended by the author, which has the advantage of being quite painless—a point of great importance in children affected with any nerve lesion. A large disc of tin, the size of the palm of the hand, is covered with chamois leather. This, which should be moistened with tepid water (not salt solution) is placed over the cervico-dorsal region in the case of an upper limb paralysis, or over the dorso-lumbar region when a lower limb is affected. This disc forms the positive pole of the battery. The negative pole consists of a small disc placed in a basin of tepid water in which the extremity of the affected limb is emerged, hand or foot as the case may be, and the ankle or wrist must be covered by water. A current of from 8 to 10 milliampères intensity is passed for about ten minutes. With so large a surface of application the density of the current at any particular point is very slight and the pain *nil*. After ten minutes the current is interrupted a few times, and it is also advisable when interrupting to reverse the current. In this way these interruptions should not exceed the number of 100, and should be made slowly. Later on, when the disease is subsiding, the number of interruptions may be increased and the interval between them shortened. The author points out the only too common fallacy of doing too much in the early history of the case. This treatment must be carried out with great patience, and no decided result must be expected for a long time. The slightest infantile paralysis will require a year's treatment, a bad case several years, but the earlier the treatment is begun the better, and electrical intervention in the very beginning, especially during the febrile period, is of the very greatest importance. The author does not mean it to be supposed that certain cornual cells which bear the full brunt of the disease will subsequently recover, but he is firmly of opinion that the disease is a selective one, that is to say, that side by side are cells severely affected or disorganised, and others only slightly so. These latter may become affected or escape, and this result will depend on electric application. Hence the importance of early treatment.

(257) Serum Treatment of Diphtheria.

Gavrilof (*Vratch*, No. 27 and 28, 1897) records the results of the serum treatment in 7,273 cases of diphtheria, treated and reported by thirty-seven medical men during the epidemic of 1896 in the Penza Government, Russia. Of these 7,273 (3,720 males, and 3,553 females) 856 or 11.77 per cent. died; 415 of the fatal cases, or 10.80 per cent., being males and 441, or 12.41 per cent., females. As regards age, of 931 children under 2 years, 198, or 21.27 per cent., died; of 1,847 between 2 to 5 years, 299, or 16.19 per cent. died; of 2,405 patients between 5 to 10 years, 274, or

11.39 per cent., died, and of 2,069 patients above 10 years 82, or 3.98 per cent., died. Thus the age most affected with diphtheria was between 5 to 10 years; the percentage of mortality decreased with progressive age. Regarding the time from the beginning of the disease till recovery or death, there are statistical observations only of 1,197 patients. In the time between the first and the third day, 27 of them recovered, 14 died; on the fourth and fifth day, 338 recovered, 33 died; between the sixth and tenth day, 633 recovered, 42 died; later 94 recovered, 16 died. In milder cases recovery has been noticed to occur at an earlier period of the disease, and death to take place later, whilst in severe cases recovery occurred late and death took place at a relatively earlier period. The number of injections and the total amount of serum injected did not influence the issue of the disease. In 6,312 cases the injections were made once, in 858 cases twice, and in 71 cases three times and more. Gavrilof is not much satisfied with the results of antidiphtheria serum treatment in severe cases. If the powerlessness of the serum cannot fairly be complained of in severe cases of diphtheria, where besides the specific bacillus other pathogenic bacteria have been found, its impotence in severe cases of "pure" diphtheria suggests a doubt as to its usefulness.

(258) Tannin and its Derivatives in Infantile Diarrhœa.

COMBY (*Médecine Moderne*, July 28th) has given tannin and its derivatives, tannigen and tannalbin, a prolonged trial in the treatment of infantile diarrhœa. Powdered tannin is unsatisfactory, as it gives rise to pain and vomiting, and does not check diarrhœa. Tannigen and tannalbin are compounds which are broken up in the intestine with the liberation of nascent tannin; this has the advantage that the stomach escapes the astringent action of pure tannin. Comby has given tannigen and tannalbin with very satisfactory results in the simple non-infective diarrhœa of children. Not being intestinal antiseptics, they are not adapted for cases of cholera infantum, and should then be combined with calomel or some other antiseptic. Tannigen and tannalbin are tasteless, and may be given for days or weeks without untoward results in quantities of 0.5 g. to 1.5 gr. in the day, according to the age of the child, this quantity being divided into three or four doses.

(259) Intramuscular Injections in Laryngeal Syphilis.

GLÜCK (*Wien. med. Woch.*, Nos. 1, 2, 3, 1897) gives his results of treatment of 30 cases of laryngeal syphilis with perchloride of mercury administered by the intramuscular method. All the cases treated were in the early or late secondary stage, with well-marked general symptoms and various secondary lesions of the larynx. Erosions, or ulcerations of the true cords were present in 12 cases; mucous patches on the cords in 5 cases; catarrh and thickening of cords in 3 cases; swelling, ulceration, or mucous patches on epiglottis in 4 cases; ditto of the arytenoids in 7 cases; chronic laryngeal catarrh in 2 cases, and acute general laryngitis in 1 case. The solution used as a rule was a 5 per cent. solution of the perchloride of mercury. In some cases the strength was gradually increased, and in 2 cases a 3 per cent. solution was employed. The duration of treatment varied from eight days to forty-two, the average being twenty-three and a-half days. The number of injections was from one to eight, averaging about 5.7. The amount of perchloride used varied from 5 to 35 centigrammes, or an average of about 20 centigrammes (equal 3 grains) per patient. This gives an amount of about $\frac{1}{2}$ a grain for each injection, which is rather more than that usually employed, namely, $\frac{1}{3}$ grain. All the above cases were either quite free from laryngeal symptoms at the end of treatment or simply presented slight laryngeal catarrh.

PATHOLOGY.

(260) Primary Neoplasms of the Kidney.

ALLEN AND CHERRY (reprint from *Proc. of Intercol. Med. Cong. of Australasia*, 1897) give a detailed account of the histological characters of 29 cases of primary neoplasm of the kidney in the Melbourne Pathological Museum. Some of their most important conclusions may be thus summarised: Apparently simple lipomata may contain tracts of embryonic cellular tissue, mostly sarcomatous in type; if they contain much sarcoma tissue, of either variety, they are usually progressive and infiltrating, but the presence of islets of fat in sarcomata indicates comparative innocence. As regards adenomata, no definite line can be drawn between the different types; all the author's cases seemed to originate in renal tubes, and not in adrenal or Wolffian inclusions. All stages of transformation may be traced from simple tubes into papilliferous cysts. Sometimes the capsules of these adenomata may take on an alveolar development simulating carcinoma, but no instance was seen of a renal adenoma taking a malignant character. Some sarcomata of the kidney, especially those of the spindle-celled type with much fibrous tissue, may remain small and inactive, even when not encapsuled. The actively-growing tumours may be fairly pure sarcomata or sarcomata copiously admixed with epithelioid growth, which may indeed become their predominant features. Probably most of the epithelial cells in these cases are derived from tubular epithelium; some, however, as in a case described by the authors as "malignant endothelioma," are derived from the endothelium of lymph spaces. Even in tumours most resembling carcinomata histologically, infection takes place in sarcomatous fashion, affecting chiefly the lungs, and the secondary growths here are decidedly sarcomatous with perhaps some development of epithelioid structures such as papillary cysts. Hence the general conclusion may be drawn that, as far as new growths are concerned, the renal epithelium behaves as a mesoblastic and not as on epiblastic formation, and that the tumours most closely resembling carcinoma in structure are not carcinomatous in nature or history. Hence the authors have used the name "sarcoma carcinomatodes" to designate them; they often fungate into the pelvis, and long cylindrical processes come away into the urine, leading to the diagnosis of villous tumour of the bladder. Finally, absence of capsule does not indicate malignity or even progressiveness; a histological structure closely resembling carcinoma, with alveolar arrangement, large epithelioid cells, and bold nuclei, is compatible with clinical innocence. It is curious that the active tumours were commonly single, while the inactive were often multiple or associated with some other form of morbid growth.

(261) Diphtheritic Affections of the Heart.

MOLLARD AND REGAUD (*Ann. de l'Institut Pasteur*, xi, 2) record the effects upon the heart of fatal doses of diphtheria toxin injected into dogs, rabbits, and guinea-pigs. True myocarditis was never observed, and cardiac symptoms were, as a rule, obscured by paralysis and other more marked affections, nor were the macroscopic lesions observed at the necropsies ever unassociated with disease of other organs. The naked-eye appearance of the myocardium did not suggest any microscopic changes such as were actually found. Further examination showed that in every case (18 in all) of experimental diphtheritic intoxication the myocardium was affected. The affection invariably started in, and was sometimes confined to, the muscular tissue, and it commenced in the contractile substance as an impairment of the normal striation, and later attacked the nucleus and protoplasm, leading eventually in some cases to complete destruction of the muscular substance. Lesions of the myocardial vessels were very frequent, the muscular coat of the arterioles being particularly affected; the changes in the smooth muscle were strictly comparable to the contemporary alterations in the cardiac muscular fibres. In acute and subacute cases (surviving at longest seventeen days) no hyperplasia of the connective tissue elements was observed, the sole important change in the connective tissue being leucocytosis. This diffuse interstitial leucocytosis appears to have been no more than a phase in the general leucocytosis which is constant in diphtheria. The nodular interstitial leucocytosis is in relation to the foci of muscular disintegration. The primary muscular lesion leads to leucocytosis. The leucocytes absorb the muscular *débris*, particularly the sarcoplasmic exudations. The foci and disintegration become the foci of phagocytosis. The whole process is similar, both in symptoms and pathological appearances, to that found in human diphtheria.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(262) Tuberculin as a Diagnostic Agent.

Mouton (*Münch. med. Woch.*, June 1st, 1897) maintains that, in regard to human tuberculosis, tuberculin is not a valuable diagnostic agent, although it is of undoubted service in the recognition of bovine tuberculosis. He first refers to the recorded investigations into this subject. The author has injected 12 patients with tuberculin, the dose varying from ½ to 1 mg.; in only 1 case were 3 mg. given. Details are then given of these 12 cases. In 7 cases a reaction followed. Mouton then discusses the questions of (1) how much tuberculin should be injected? (2) what rise of temperature should be looked upon as constituting a reaction? (3) can non-tuberculous patients present a reaction and undoubtedly tuberculous patients give no reaction? and (4) is there any danger in the injection? One to 10 mg. have mostly been used, but generally not more than 5 mg. Much difference of opinion exists about the extent of the rise in temperature to be regarded as a reaction. Koch would appear to look upon 38° C. as insufficient. Non-tuberculous patients have been undoubtedly known to give a reaction, and *vice versâ*. Many clinicians and others agree that there is danger connected with the injections. The author maintains that the injection of tuberculin may certainly give rise to error and to danger. The good results obtained by the use of tuberculin in the diagnosis of bovine tuberculosis has undoubtedly led some clinicians to try it again in human tuberculosis. The diagnosis by tuberculin in cattle is not comparable to that in man. The tuberculin diagnosis may here also give rise to mistakes, and may also be associated with danger, but the latter is not great, and it must be remembered that the diagnosis of tuberculosis in cattle is difficult. As regards the dose, 0.3 to 0.4 tuberculin, according to the size of the animal, will almost certainly give rise to a reaction in tuberculous animals and to no reaction in the non-tuberculous. In advanced tuberculosis no reaction may be obtained. The reaction appears in twelve to fifteen hours, and should last several hours. Only a rise of temperature of more than 1.4° C. has a real diagnostic value, and anything under 0.8° C. is useless. The author does not believe that it is prudent to abandon the view of the possibility of disseminating the tubercle bacilli from the local lesion as a result of tuberculin injections.

(263) Infantile Paralysis.

Falk (*Münch. med. Woch.*, June 8th, 1897) relates a curious case in an infant aged 15 days followed by recovery. The delivery was natural. The infant was illegitimate, but there was no evidence of syphilis. Four days after delivery a few drops of silver nitrate solution had to be put in the infant's eyes for prophylactic purposes. In the eye clinic the conjunctivæ were subsequently painted with sublimate, and a solution of permanganate was used in compresses. Fifteen days after birth the child was noticed no longer to move its extremities. There was a flaccid paralysis of the muscles of the forearms, upper arms, and legs, and a paresis of the fingers and toes. Muscles and nerves reacted normally to the electric current. The paralysis came on without fever, and recovery ensued in the short space of four weeks. A traumatic origin of the paralysis could be absolutely excluded. It was certain that the child moved all its limbs during the first fortnight of life. There was no evidence of any cerebral lesion. The case differed from ordinary infantile paralysis in many particulars, such as the age of the patient, the absence of prodromata, and the rapid recovery. Yet infantile paralysis has been known to come on without prodromal symptoms, and a rapid recovery has also been observed. There was no evidence of a peripheral neuritis. Such a neuritis would be very exceptional at this age, and there was no tenderness of muscles, nor, as far as could be made out, any sensory disturbance. The author concludes that infantile paralysis was the most likely explanation, but the case must remain a very exceptional one.

(264) Diabetes Mellitus.

Lepine (*Sem. Méd.*, August 27th, 1897) shows that clinical observation distinguishes between certain varieties of diabetes mellitus. In the nervous variety the glycosuria is often quite moderate, and may even disappear, leaving behind a simple polyuria. The type developed under the influence of gout in arthritic individuals is associated with an intermittent but abundant glycosuria, and is comparatively benign. Certain diseases of the pancreas, such as calculi of Wirsung's canal and sclerosis of the whole parenchyma, may be followed by a rapid and dangerous diabetes. There are other varieties difficult to classify. Each case is constituted by several pathogenic elements of varying importance. Hyperglycæmia may be caused by lack of the physical storing of glycogen by the hepatic cells (azoamylia), and this condition of the cells may be caused by lesions or irritation of the nervous system, various poisons, ablation of the pancreas, etc. Another cause may lie in the excess of primary proteolysis and in glycogenesis without glycogen. It is a positive fact that in many cases of diabetes there is exaggerated destruction of nitrogen, and some diabetic patients excrete large quantities of sugar after the ingestion of much meat. There is ample justification of the assumption that sugar produced in the organism may be derived directly from albuminoid substances. In certain forms of diabetes the sugar may be lacking. It may disappear either by transformation into fat or by oxidation. The inadequacy of one or other of these two processes may constitute a pathogenic element of diabetes. There may also be a reduction in the amount of the glycolytic ferment, and the renal element must not be overlooked. In pancreatic diabetes there is azoamylia, diminution of the glycolytic ferment, diminished formation of fat, diminished production of sugar. In the nervous variety there is azoamylia, exaggerated hepatic glycogenesis, and diminution of glycolytic ferment. The theory of multiple factors explains the infinite varieties of the disease.

(265) Aortic Aneurysm.

A. Fraenkel (*Deut. med. Woch.*, February 4th and 11th, 1897) discusses the pathology and treatment of this disease on a basis of 30 cases. Death resulted in 7 cases from perforation of the sac into the pleural cavity (1), œsophagus (1), pericardium (1), superior vena cava (2), and the air passages (2). He gives the details of the 2 cases rupturing into the vena cava with one necropsy. The considerable cyanosis limited to the upper part of the body seen in these cases is otherwise only observed in thrombosis of the vena cava. The author draws attention to the pulmonary complications of aneurysm, namely, (1) Fibrinous pneumonia, (2) indurative pneumonia, (3) gangrene of the lung, and (4) phthisis. Among the 30 cases there were 3 of diffuse indurative pneumonia, which lasted less than three months in 2 cases and for one and a-half year in the remaining case. The occurrence of consolidation of the lung may render the diagnosis of aneurysm difficult, and especially when the descending aorta is involved. Pulmonary gangrene is rare, and is caused by ulcerative processes at the site of compression in the trachea or bronchus. The author has seen 3 cases in which the lung was the seat of the most extensive tuberculosis. Of recent times a relationship between these two diseases has been admitted, and the author would lay stress upon the local as well as the more general conditions in the causation of tuberculosis in these cases. The starting point in the production of an aneurysm lies in a lesion of the middle coat. The most recently advanced theory would make it depend on a weakening of the middle coat, a stretching and finally its disappearance being noted. Any structural change may be absent in the early stages. The author thinks that no one cause can be assigned for all cases. Trauma, including immoderately increased blood pressure, arterio-sclerotic changes, loss of elasticity occurring in advanced life, and senile atrophy may be among the causes. In some cases the loss of resistance in the arterial wall is due to causes at present unknown. Syphilis is known to produce disease of the minute vessels in the nervous system. There may be obvious evidence of syphilis present in the body in cases of aneurysm. The author here specially refers to early arterio-sclerosis with gummatous formation in the circulatory

system, and quotes a case. In 11 of his 30 cases there had been previous syphilis. As regards treatment, it must be remembered that aneurysm not so very infrequently comes to a standstill with a considerable diminution in the subjective symptoms. Methods of treatment may be divided into the dangerous and the harmless. Among the former is the introduction of foreign bodies, instruments, etc., into the sac, and these should be avoided in the interest of the patient. Perhaps the Roentgen radiography by revealing the exact anatomical relations of the aneurysmal sac may show that some cases are suited to such treatment. Thus we must fall back upon hygienic, dietetic and medicinal treatment, and this at least will do no harm. A diminution in the sac by clot and the prevention of further extension of the aneurysm are to be aimed at. The author has always employed mercurial inunction in cases with a history of syphilis, and he thinks this treatment has been exceptionally favourable. The patient should remain in bed on milk diet, and with the usual ice bag applied during the treatment.

SURGERY.

(266) Otitis Media and Cervical Abscess.
QUERVAIN (*Sem. Méd.*, August 20th, 1897) in a monograph on this subject points out that infection may spread from the tympanitic cavity in four directions: (1) Upwards through the vault, (2) outwards through the external table of the process, (3) downwards mainly through the lower wall of the mastoid cells, (4) backward along the groove of the mastoid sinus. Infection spreads, not only through necrotic perforations, but also along the lymph and blood vessels of the osseous canaliculi. An unusual mode is through the groove of the transverse sinus and the foramen lacerum posterius. Abscess of the neck usually supervenes after acute otitis and occasionally after chronic otitis media. The otitis may be caused by all the different pyogenic organisms. Perforation of bone depends, not on the form, but on the virulence of the infective agent. In chronic otitis the infection is usually mixed, in the acute variety pure. Pneumococcic abscesses are usually mild in character. The varieties of cervical abscess are: (1) Submastoid, which extends behind the muscles attached to the mastoid process. The digastric fossa is denuded of periosteum, or a perforation is detected at the apex of the process; in the former case the abscess spreads laterally forwards or backwards, in the latter case it is localised. (2) Phlegmonous inflammation of the lateral regions of the neck, descending between the sterno-mastoid and anterior border of trapezius, the abscess being either in the sterno-mastoid sheath or between the superficial and deep cervical fascia. (3) Retromaxillary, submaxillary, or retro-pharyngeal. (4) Abscess of the nape of the neck and back following perforation of the posterior part of the mastoid process or digastric fossa, the pus being lodged in pericranium, intramuscular or subcutaneous. The rarest variety are abscesses located between the pericranium and occipital bone due to perforation through the external table of the mastoid or about the mastoid suture. The insertion of the cervical muscles become detached. In one such case phlegmonous inflammation spread to the iliac region. Purulent collections may form in the temporal region above and in front of the ear. Gangrenous abscess is a special form. Painful œdema may be mistaken for abscess, as may also thrombosis of the transverse sinus, extending through the mastoid foramen or swollen and immobile lymphatic glands. Exit of pus from the ear on pressure on a cervical tumour may mislead. Cervical abscess rarely ends fatally, retro-pharyngeal abscess is the most dangerous. Free trephining of the bone is the proper treatment in all cases, and the abscess should be opened where fluctuation is most marked or in the safest position. Retro-pharyngeal abscess should be opened externally by Koltmann's method.

(267) Intussusception: Nine Inches of Gut passed per Rectum.
LAURENT AND PALEY (*Bull. de la Société Anat. de Paris*, May-June, 1897) record a fatal case of intussusception, the patient apparently refusing operation. A woman, aged 33, had feverish symptoms, headache, and gastric trouble for a few days, when suddenly acute obstruction set in. There was intense pain in the right iliac fossa, where a tender, elongated tumour could be felt. Appendicitis or intussusception was diagnosed. At the end of a fortnight the feverishness abated, and spontaneous diarrhœa set in, the abdomen previously much swollen became flat. Nine days later a very fœtid stool was passed, and in it was found a sloughy mass 25 cm. ($9\frac{3}{4}$ inches) long. It consisted of ileum with part of the cæcum. For a week the patient did well, then vomiting and fœtid diarrhœa set in, and death occurred a few days later. No mention of any necropsy is made. Laurent and Paley observe that this is not the first case where the free elimination of the intussuscepted gut was not followed by ultimate recovery.

(268) Teratoma of the Hard Palate.
G. MUZIO (*Giorn. d. R. Accad. d. Med. di Torino*, Nos. 7-9, July-September, 1897) puts on record the case of a newborn infant unable to suck on account of a buccal tumour which projected from the mouth. It was rounded in form and was attached to the hard palate, and especially to its left half; it had a diameter of about an inch. The soft palate and uvula were normal in form and size. The infant showed no other deformity. The growth was ligatured at its base and removed, and the infant recovered, but died two months later from an unknown cause. The principal part of the tumour consisted of adipose tissue separated by trabeculæ of connective tissue fibres; here and there were large vessels, and near the periphery were a few striated muscular fibres. Its covering consisted of skin with a relatively thick stratum corneum; there were numerous hair-bulbs and arrectores pilorum, along with many sudoriparous glands. On account of its mixed structure the author regards the tumour as a teratoma, and not as a simple lipoma. References of some similar cases are given.

(269) Foreign Bodies in the Peritoneum.
TUFFIER (*Bull. et Mém. de la Soc. de Chir. de Paris*) reports, without giving any clinical details, the exhibition of a specimen of inguinal epiplocele, in the centre of which was a needle.

MIDWIFERY AND DISEASES OF WOMEN.

(270) The Treatment of Placenta Prævia.
G. FIEUX (*Annales de Gynéc.*, August 1897) reports 5 cases of placenta prævia which have come under his notice. In the first two the treatment consisted in the use of the Champetier de Ribes bag and rupture of the membranes; in the next two, packing the vagina very tightly was first tried, and found ineffectual, while rupture of the membranes immediately arrested the hæmorrhage. In the fifth case hæmorrhage occurred at the sixth month of pregnancy, natural rupture of the membranes then occurred, and the gestation nevertheless persisted for seventy days thereafter, a viable child being ultimately born without incident. Fieux, therefore, sums up strongly in favour of rupture of the membranes as the best treatment of placenta prævia. Even when the placenta covers the os uteri, he would still rupture the amniotic sac through the placenta; in fact, this was done in the third case, although the leg of the fœtus was also drawn down into the opening. The rupture need not be immediately followed by complete emptying of the uterus, as is learnt from the fifth case.

(271) Labour Obstructed by Dermoid Cyst.
OSTERMAYER (*Centralbl. f. Gynäk.*, No. 21, 1887) was called in to a case of lingering labour; the patient was 43, and had been delivered six times, without instruments. The head was high up, and a soft body pressed down in Douglas's pouch. Bandl's groove was very marked, so it was clear that the lower segment of the uterus was being exposed to dangerous pressure. The soft swelling filled the sacral hollow, and the head made no advance at each pain. Reposition was attempted, but failed. Then it seemed that there was space for a fœtal head reduced by craniotomy, whilst vaginal incision or puncture of the tumour would involve more danger. The dangerous and increasing pressure on the lower uterine segment precluded the delay which would be entailed by an operation. Ostermayer applied the Simpson-Braun cranioclast, but the head could not be drawn down below the tumour.

He then, after thinking about Cæsarean section, preferred to incise the posterior fornix, and found a few balls of air on introducing his finger into the wound. Over two pints of characteristic greasy mortar-like semi-fluid material escaped. The two edges of the wound were now seized with forceps, the cavity of the cyst washed out with sublimate, and rapidly packed with iodoform gauze, and then the child delivered. The uterus, vagina, and the cyst cavity were now packed with gauze, the latter for the second time. A few days later the edges of the cyst were sewn to the edges of the vaginal wound, as the patient would not be operated upon. The discharge was fœtid and purulent. A month later she was still under observation.

(272) Abscess of the Ovary.

De Vos (*Bull. de la Soc. Belge de Gynéc. et Obsét.*, April 29th, 1897) reports five cases treated in Jacob's wards during the past year. In all but the second total vaginal hysterectomy with removal of the appendages on one or both sides was practised. In the exceptional case pus was detected on puncturing a swelling in the left fornix, then abdominal section was performed, and the left tube and ovary removed; the latter formed a large abscess. A few months later the opposite ovary appeared to be as diseased as was the left at the former operation. De Vos insists that total extirpation of the internal organs is imperative in cases of bilateral disease of the appendages. The patient was a nullipara, and the only objective symptom was free leucorrhœa. In the first case the cervix had been amputated for eipithelioma; an abscess developed in the right ovary and in the left tube, as was detected after the operation, which was rendered necessary by recurrence of the malignant disease in the cicatrix. Suppuration high up the genital tract when a cancer is cut into lower down is not unknown. In the third and fourth cases, and probably in the fifth, the suppuration was originally caused by an abortion.

(273) Gonorrhœal Rheumatism in Pregnancy.

Bégoum (*Journ. de Méd. de Bordeaux*, August, 8th, 1897) reports two new observations which go to prove that the puerperal rheumatism of Lorain is only gonorrhœal rheumatism. One joint usually is affected; the arthritis is very refractory to treatment, and often ends in ankylosis; and bacteriological examination of the fluid in the joint proves its gonorrhœal nature. It does not affect the pregnancy, nor is it affected by it.

(274) Fœtus Amorphus.

A. C. Jacobson (*Brooklyn Med. Journ.*, Aug. 1897) reports the case of a 7-para who gave birth at the fifth month to an infant to whose sacral region was attached by a membranous pedicle a parasitic fœtus amorphus anideus. The liquor amnii was in great excess, measuring several gallons, and the mother was markedly dropsical in her pregnancy. The parasite was the presenting part, and was torn from the autosite during delivery. The placenta showed excessive œdema and was friable; it weighed about 3 pounds. The infant also showed some œdema, and the parasite contained well-developed bones and other anomalous fœtal structures. It was shapeless, and derived its blood supply from the sacral region of the autosite. It had no umbilical cord of its own.

(275) Deciduoma Malignum: Metastatic Deposit in Brain.

Jurasovsky (*Vratschevnia Tapisky*, No. 1, 1897) writes of a case of deciduoma malignum which developed two years after the expulsion of a vesicular mole. An operation proved fatal. The disease was disseminated. A mass of true deciduoma was found in the cerebrum; it was as large as a plum, and lay in the white substance of the right hemisphere under the parietal convolutions which were flattened, and the cerebral substitute around the growth was somewhat softened. No previous case of secondary deciduoma in the cerebrum has been recorded.

(276) Ovariotomy: Three other Independent Lesions.

Svitalsky (*Monatsschrift f. Geburtsh. u. Gynäk.*, April, 1897) reports a case in which double ovariotomy was performed in a patient in whom inflamed appendix had already been diagnosed. At the operation masses of papilloma-like deposit were found disseminated over the peritoneum; the appendix was excised. To the operator's surprise both ovarian tumours were found on examination to be innocent growths. On the third day the patient died, and it was not till the necropsy that the presence of advanced cancer of the stomach was detected; the liver was infected, and of course the deposits in the peritoneum were due to the gastric and not the ovarian tumour. There was tuberculous infiltration of the apices of both lungs. Svitalsky declares that there were absolutely no symptoms of cancer of the stomach.

THERAPEUTICS.

(277) The R-Tuberculin.

Doutrelepont (*Deut. med. Woch.*, August 19th, 1897) has thus treated 15 cases of lupus, 12 in the clinic and 3 as out-patients; 3 of the patients had in addition tuberculous bone disease, and nearly all tuberculous glands. The author found it desirable to increase the dose more slowly than recommended by Koch. He has seen a rise of temperature, etc., when only $\frac{2}{5}$ to $\frac{3}{5}$ mg. was given. The injections were never repeated until the temperature became normal again. In 1 case after $\frac{2}{5}$ mg. there was slight shivering, headache and *malaise*, and in another case a severe headache followed upon $\frac{3}{5}$ mg. In 7 cases a marked reaction was obtained after the injection. Here 20 per cent. of glycerine had been added instead of the saline solution. Doutrelepont confirms Bussenius's view that the age of the tuberculin is of importance in causing a rise of temperature. In 1 case 4 mg. was given as a thirty-eighth injection without any bad effect. Occasionally headache, weariness, vertigo, etc., have been observed. Only in 1 case was any local reaction distinctly visible. No digestive disturbances occurred. In 1 case a slight albuminuria was noted, which disappeared in two days. The patients bore the injections well, and there was never a local abscess. Cicatrisation of the ulcers occurred. Where normal skin covered in the lupus nodule cicatricial tissue rapidly developed in the diseased tissue. The enlarged lymphatic glands became further swollen, and some even suppurated. The author gives details of 5 cases. Previous experience has been in favour of the T. R. treatment of lupus; progressive improvement occurs. Further observations are still needed. The new tuberculin appears to act better on the lupus patch than the old tuberculin. Finally, the author draws attention to the importance of only very gradually increasing the dose.

(278) Treatment of Buboes with Benzoate of Mercury.

Schischa (*Wien. med. Woch.*, Nos. 2 and 3, 1897) gives the results of treatment of 26 cases of bubo with a modification of Welander's method of injection of benzoate of mercury. The method originally used by Welander consisted in multiple injection of the bubo with $\frac{1}{2}$ c.m. of a 1 per cent. solution. This was used both for inflamed and for fluctuating buboes. Schischa waits till there is distinct fluctuation, then expresses the pus through two small punctures, and injects the benzoate of mercury (1 per cent.). Of his 26 cases, 21 were buboes secondary to soft sores, 2 secondary to hard chancres, and 3 were without sores on the genitals. The average time of healing was 21.5 days. Two cases were virulent, and became phagedænic, and took respectively 42 and 82 days to heal. In such cases the author does not consider the method of much use. The advantages claimed for this method of treatment are (1) the avoidance of an open wound; (2) the avoidance of an anæsthetic; (3) the avoidance of the tell-tale scar; (4) the comparative painlessness; (5) the more rapid healing. Only one of Schischa's cases required further incision, and this was a very large bubo.

(279) Orthoform.

A. Einhorn and Heinz (*Münch. med. Woch.*, August 24th, 1897) first of all discuss the chemical constitution of cocaine and its relatives, as in this way they have been able to prepare the new local anæsthetic, orthoform. This body is a white, light powder, without smell or taste. It is only partially soluble in water, but enough is brought into solution to make the fluid anæsthetic. It combines with hydrochloric acid, forming a very soluble body, but this hydro-

chlorate cannot always be used, as it irritates some mucous membranes, such as the conjunctiva. Anæsthesia is only induced in the places with which the orthoform comes in contact. The authors describe a case in which a 10 per cent. ointment was applied to a painful wound on the outer side of the chest. Orthoform acts as an anæsthetic wherever it comes into contact with nerves, and thus it has no effect when applied to the unbroken skin. If it be applied to a burn of the third degree, the anæsthetic effect is remarkable. When compared with boracic acid it was found to be much more efficient. It also allays the pain of ulcers, whether cancerous or other. In one case as much as 50g. was sprinkled on a wound within a week, showing that it is quite harmless. It is strongly disinfectant, hindering decomposition and fermentation. Orthoform was also useful in ulceration of the larynx; after some of the powder was blown in the pain was relieved for 24 hours. In gastric ulcer and carcinoma it was also of service, but much less so in chronic gastric catarrh. For external use the free orthoform is the best, but for internal use the soluble acid salt. Further observation is needed in regard to its action on the mucous membranes of the mouth, nose, and naso-pharynx. As it is non-poisonous it can be applied to large ulcerating surfaces. Internally ½ to 19 of the hydrochlorate has been given several times in the day. Orthoform is stable, nonhygroscopic, and can be added to other remedies.

(280) Treatment of Chronic Gonorrhœa.

DOWD (*Buffalo Med. Journ.*, August, 1897) recommends the following treatment for chronic gonorrhœal urethritis: (1) A solution containing alum, sulphate of zinc, and carbolic acid—½ drachm of each to 6 ounces of distilled water—is applied by means of an Ultzman's syringe and soft catheter, first to the posterior urethra beyond the compressor urethræ muscle, afterwards to the anterior urethra in front of the compressor muscle. On the first day the strength of the above solution is ½ ounce to 7½ ounces of distilled water; on the second day, 6 drachms to 7½ ounces; on the third day, 12 drachms to 7½ ounces; on the fourth day, 12 drachms to 4½ ounces. After this, according to Dowd, the discharge usually ceases, and nothing remains but a few shreds and turbid urine. He then uses weak solutions of silver nitrate applied in the same way, starting with 1 in 12,000, gradually increased in strength to 1 in 6,000 on the fourth day. This is followed by passage of a sterilised sound into the bladder and allowed to remain there five minutes, after which 1 in 5,000 silver nitrate solution is again applied. This manœuvre is repeated every four days till the shreds are free from gonococci and pus. In cases where a morning drop of pus persists after the above treatment, this is due to follicular involvement, which is treated by the application of 10 to 15 per cent. silver solution, the follicles involved being found by the endoscope. If several large shreds persist after repeated use of full-sized sounds, there are probably granular spots which must be treated in the same way with silver nitrate. Dowd does not recommend injections in the early stage of profuse discharge. He thinks that silver nitrate is the best application in chronic cases, and that it will cure 96 per cent. of cases. He draws attention to lubrication of catheters and sounds with glycerine in place of oil, the latter preventing the solution used from coming into contact with the mucous membrane.

(281) The Influence of Antipyrin upon the Hydrochlorate of Quinine.

SANTESSON of Stockholm, referring (*Deut. med. Woch.*, Beil. 2, September, p. 57) to the great want that ever since the beginning of hypodermic treatment has been felt of some way of administering quinine in this way, especially in severe malaria, points out that the difficulty may be overcome by using Laveran's formula (hydrochlorate of quinine 3, antipyrin 2, distilled water 6) giving a 50 per cent. solution, of which the injection is painless. Blum in 1894 used this solution extensively during a severe malarial epidemic in Algiers, and always found it satisfactory. Experiments on animals and on himself lead Santesson to believe that a new salt was formed by chemical transformation, similar but not equivalent to the quinine salt, and with his colleague Sjoquist, he has proved that such a new salt which he calls chinopyrin actually is formed.

PATHOLOGY.

(282) Pseudo-Tuberculosis Hominis Streptothricia.

FLEXNER (*Johns Hopkins Hospital Bulletin*, June, 1897) applies this name to the *post-mortem* appearances found by him in a case from Osler's clinic. The patient was a negro of 70, with consolidation of both lungs, apparently tuberculous in origin. No sputum could be obtained during life. The lungs were not adherent. The left was almost entirely solid, with some commencing disintegration and cavity formation; in the right the consolidation was less extensive and more patchy. Translucent tubercle-like nodules were found scattered irregularly all over the peritoneum and throughout the spleen and liver. Bacteriological examination showed no organisms morphologically resembling the tubercle bacillus. A branching streptothrix was found in considerable quantity, which was at first supposed to be a streptothrix form of this bacillus, a view which was negatived on further examination. It stained best by Gram's method, or with Weigert's modified fibrin stain, and was but faintly coloured by carbol-fuchsin. It could not be cultivated, and although injection killed a guinea-pig in seven weeks, with great emaciation, no micro-organisms or tubercles were found in the body, nor were the lymphatic glands enlarged. Flexner believes that the organism he describes belongs to a new species, which he calls streptothrix pseudo-tuberculosa, and that it can in human beings cause a rapidly spreading and destructive disease resembling galloping phthisis. The lesions in the tissues are of two kinds. In the peritoneal cavity tubercle-like nodules are formed, consisting of epithelioid and lymphoid cells, with an occasional giant cell; central necrosis of the nodules is not uncommon, with some deposition of fibrin. In the lungs tubercles also exist, but are less striking than a diffuse exudation of leucocytes, plasma, and fibrin, which fills the air cells, infiltrates the stroma, and tends to undergo necrosis, producing larger and smaller spreading caseous foci of degeneration. The number of masses of the streptothrix is very great and they are in intimate relation to the pathological process.

(283) Etiology of Chronic Rheumatism.

CHVOSTEK, at the Congress für innere Medicin at Berlin (*Fortschritte der Medicin*, June 15th, 1897) stated that there was no ground for supposing chronic rheumatism to be a disease of bacterial origin. The great variability in the course of the disease is strongly opposed to any such view; the only two characteristic features of the disease are the joint swellings and the transitory duration of these. The most satisfactory explanation is to regard the symptoms as due to toxins, which are produced in the body but are not produced by micro-organisms. Bacterial invasion gives rise to a very different kind of joint inflammation, characterised chiefly by its long duration, and the large amount of swelling which accompanies it.

(284) Spinal Cord Disease in Pernicious Anæmia.

G. v. VOSS (*Deut. Arch. f. klin. Med.*, vol. 58, p. 489) comes to the conclusion that the pathological change found in the columns of Burdach and Goll in some cases of pernicious anæmia is not to be regarded as a chance coincidence, but as a pathological change caused by the disease in question, though since first described by Lichtheim and Minnich, a similar change has been found in other affections. In order to experimentally investigate the relation of the spinal change to pernicious anæmia, Voss produced an artificial anæmia in animals by means of pyrodin and other substances. He was able to keep the anæmic animals alive a considerable time, up to twenty-four weeks, but could not obtain any characteristic change in the spinal cord. He is therefore inclined to think that in cases of pernicious anæmia the degenerative changes in the cord sometimes observed are not the result of mere anæmia, but are more probably the result of hitherto undiscovered chemical agents. A thorough examination of the metabolism in pernicious anæmia might perhaps throw further light on the question.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(285) Lumbar Puncture.

Thiele (*Deut. med. Woch.*, June 10th, 1897), relates his experience in v. Leyden's clinic as to the value of this procedure. The material includes 32 cases with 60 punctures. There was no unpleasant after-effect, and this was chiefly to be ascribed to the fact that the puncture was practised with the patient on his side, and that only one case of cerebral tumour was thus treated. There were 3 cases of epidemic meningitis, 2 of which were fatal. There was no room for doubt as to the diagnosis in these 2 cases, but in the third case, which recovered, there was considerable difficulty. Here at any rate an earlier diagnosis was made possible. The meningococcus was found in the fluid, and was also cultivated from it. There were 7 cases of tuberculous meningitis all fatal. Lumbar puncture was here often of diagnostic value. Only twice was the tubercle bacillus found, but the fluid presented in general characteristic appearances. It was clear or only slightly opalescent, contained an increased amount of albumen, and was more or less rich in cells. A table is appended giving the details of these cases. In 4 cases the diagnosis of serous meningitis (Quincke) was made. Here lumbar puncture was useful in the diagnosis. The nature of a case of hæmorrhagic pachymeningitis was made certain by this procedure. In the remaining cases lumbar puncture did not assist the diagnosis, and it had no clear therapeutic effect. These cases included apoplexy, cerebral tumour, uræmia, cerebral syphilis, etc. In one case there were symptoms of a spastic bulbar palsy, and after death thrombosis of the basilar artery was found. A pressure of 220 was present at the commencement of the puncture, and of 50 at the end. The fluid was clear, and measured 40 c.cm. In another case of spastic paralysis in all four extremities, in which the condition of the head made a chronic hydrocephalus probable, six punctures were practised. From 6 to 20 c.cm. of clear fluid were drawn off. The spasm appeared to be less, but any permanent improvement was doubtful. In 2 cases of chlorosis with cerebral symptoms spinal puncture was also practised. The patients improved, but it could not be said with certainty that the improvement was due to the puncture. The author concludes that spinal puncture is a valuable extension of our means of diagnosis, and that some therapeutic value is probable in cases of serous and sero-purulent meningitis, as well as in the cerebral disturbances of chlorosis.

(286) Causes of Epidemic Typhoid.

F. Harbitz (*Norsk Mag. f. Laegevidensk*, August, 1897) gives the history of a severe epidemic of typhoid fever which attacked Christiania in the autumn of 1896. During August and the first half of September 95 persons were attacked; there was then a period in which few cases occurred, and then in the latter half of October there was a recrudescence of virulence, 146 persons being affected. The cases occurred specially in certain localities, and even in individual buildings such as prisons and hospitals. The author proves satisfactorily that the drinking water could not have been the vehicle of infection, and believes that the milk supply was at fault. All the centres of the outbreak were supplied by the one milk supply association. It was, however, impossible to trace the infection further back, as the association drew its supplies of milk from widely scattered and distant districts.

(287) Chorea.

Marfan (*Sem. Méd.*, July 30th, 1897) discusses the pathogenesis of common chorea and its relation to heart disease, taking as his text 76 cases observed by him during four years. He found that 49 had a hereditary history of neuropathic origin, while 11 came of alcoholic parents. The immediate history of these cases pointed to chorea as almost invariably a secondary disease following some other affection. Foremost among these primary affections was acute articular rheumatism, which accounted for about half the cases. In 46 cases no rheumatic origin could be detected, but in 28 the chorea had been almost immediately preceded by specific febrile diseases, tuberculosis, local suppurations, etc., in 3 instances by undetermined diseases with endocarditis and pericarditis. In 19 cases the neurosis appeared to be primary. Marfan believes chorea to be a neurosis produced by various toxins or micro-organisms, but not necessarily an invariable consequence of some primary or secondary infection by pyogenic organisms. Chorea is a neurosis like hysteria, but not a hysterical disease. Careful distinction must be made between two groups of cardiac disease associated with chorea: (1) Ephemeral disturbances not accompanied by any lesion; (2) endocarditis or pericarditis. Ephemeral cardiac disturbances are due to the fact that the heart takes part in the choreic agitation. There may be hyperkinesis, arythmia, and irregularity or inequality of the heart beat. The murmurs can be distinguished, as their position of maximum intensity is at the left margin of the heart instead of at the apex; they are mainly meso-systolic, vary with respiration and bodily position, and also vary from day to day as regards character, seat, and intensity. Such phenomena are due to true chorea of the heart. True cardiac lesions were found by Marfan in only 14 out of 76 cases. It is to be remembered that all diseases, which apart from rheumatism commonly precede chorea, are apt to give rise to endocarditis and pericarditis. Symptomatic hemichorea is a separate entity, which must be carefully distinguished from this variety. The thre great remedies are rest, and antipyrin or arsenic.

(288) The Visual Field in Toxic Amblyopia.

Salva (*Annales d'Oculist.*, April, 1897) adduces two cases of amblyopia from alcohol and tobacco in which the fields were concentrically contracted. This he takes to be due to other bundles of the nerves fibres, besides those which go to the maculæ, being affected. Under the influence of treatment the fields became almost normal in size. It would seem, then, that shrinkage of the field need not be a late symptom, and not necessarily of bad omen.

(289) Opium Poisoning.

Doernberger (*Münch. med. Woch.*, April 13th, 1897) relates a case in an infant, aged 6 weeks, who was given some "sedative tea" prepared from the unripe capsules of papaver somniferum. On the following day the sleep persisted, and the child was distinctly cyanosed. The pupils were greatly contracted, and the radial pulse could not be felt. A respiratory movement only occurred every one, two, or four minutes. Ether was injected, and artificial respiration adopted. A few hours later there were still pauses in the breathing. In the evening 0.0004 g. atropine sulphate were injected. At night the breathing appeared to have entirely ceased, and was restored only after half an hour's artificial respiration. From this time the infant steadily improved, the respiration becoming regular, and consciousness returning, so that it was well again about 60 hours after taking the opium. It was impossible here to wash out the stomach at once. The author then discusses the dose of atropine to be given in these cases. A small dose is efficient only if given before the coma has developed. Later a larger dose should be administered up to $\frac{5}{10}$ mg. If the breathing improves, and if the pulse can be felt, and is regular, and the cardiac action is stronger, then the good effects of the atropine are obvious. Relapses are possible, as occurred in the above-named case, so that the patient must be kept under observation. The author draws attention to the danger of these soothing preparations for children.

SURGERY.

(290) Renal Surgery.

Albarran (*Gazette Médicale de Paris*, September 11th, 1897) strongly advocates catheterism of the ureter for the cure of hydronephrosis; and, if that be inefficient, failing to empty the kidney, the catheter should be left in and the organ explored by operation. By means of the instrument, the seat and nature of the obstruction may be ascertained, and then uretero-pyelostomy can be performed with relative ease. Nephrectomy should never be the first step in pyonephrosis. As a rule, the general health of the patient and the condition of the opposite kidney contraindicate this

operation, and nephrotomy is the right course. Should it be found advisable later, when health is restored, to remove the kidney, secondary nephrectomy can be done under better conditions. A retained ureteral catheter will greatly shorten the duration of a nephrotomy fistula; and Albarran treats a spontaneous fistula in the same way. He greatly distrusts nephrectomy for malignant tumours, as recurrence is the rule. Partial nephrectomy for adenomata seems to mean the hastening of recurrence; indeed, these growths are of a nature which perhaps justifies total extirpation of the organ. On the other hand, Albarran finds that in unilateral tuberculous disease it is best to remove the kidney as soon as possible. Nephrotomy is merely palliative in renal tuberculosis, counteracting retention when the patient is too ill for operation, and above all when the disease is bilateral. In nephrorrhaphy it is not only useless but dangerous to dissect off a portion of the capsule. The process prolongs and complicates the operation and increases the local sclerosis of the kidney.

(291) Nerve Suture.

C. SICK AND A. SAENGER (*Arch. f. klin. Chir.*, vol. liv, p. 271) relate a case of paralysis of the musculo-spiral nerve which was successfully treated by suture of the peripheral end of the musculo-spiral to the median nerve. The patient was a boy, aged 5, in the Eppendorf Hospital at Hamburg in May, 1893. The severe wound accompanying a fracture of the arm healed up well, but a paralysis of the musculo-spiral nerve was left from the original injury. At the operation for nerve suture in July, 1893, it was found that the two ends of the musculo-spiral nerve were far apart; the median nerve was therefore searched for, and a flap (base upwards) of half the thickness of the nerve was separated from the trunk and sutured at its distal extremity to the peripheral stump of the musculo-spiral. The wound healed up at once, but the paralysis was not at first modified by the operation. The boy was lost sight of after some time, but reappeared at the commencement of 1895, and it was then found that the paralysis of the musculo-spiral had almost entirely disappeared.

(292) A Lumbo-iliac Incision in the Treatment of Suppurative Appendicitis.

GRINDA (*Méd. Mod.*, No. 71, 1897), at the Moscow International Congress, discussed the indications and advantages in the treatment of suppurative appendicitis of an incision made along the external border of the sacro-lumbar mass of muscle, and extended forwards at the lower extremity parallel to and at a distance of about an inch from the crest of the ilium to within a distance of about an inch and a quarter from the antero-superior iliac spine. This incision, it is held, is indicated in every case in which the local signs suggest the existence of a retro-cæcal appendicular abscess. The diagnosis of a purulent collection of this kind would be based on tenderness over the triangle of Petit, there being but little, if any, pain at McBurney's point, on marked fulness and a sensation of resistance in the right flank, and on a clear sound on percussing the right iliac fossa. In cases in which the situation of the purulent collection is not clearly indicated, the surgeon might still perform the lumbo-iliac incision. If the appendix, instead of being placed behind the cæcum, be found on one side or in front it may still be readily exposed, thanks to the iliac position of the incision recommended by the author. This incision, he states, exposes the cæcum and appendix by the most direct and sure way. It is less likely than the ordinary incision to result in infection of the peritoneal cavity, and it enables the surgeon to avoid the dissection—often difficult and dangerous—of any loops of small intestine which may be found interposed between the cæcum and the anterior wall of the abdomen. The situation of the wound allows perfect drainage and tends to secure the patient against the subsequent risk of hernia.

(293) Fixing a Movable Liver.

MICHI (*Gazette Hebdomadaire de Méd. et de Chirurg.*, September 9th, 1887) operated ten years ago on a man subject to movable liver, and the long lapse of time since his recovery has proved that the operation was successful, the liver remaining no more movable than is normal. The incision for the "hepatopexy" was commenced at the free extremity of the right eleventh rib, and carried back to the loin. The ligaments were shortened, the peritoneal envelope cleaned, and a supporting bandage applied.

(294) Operative Treatment of Tuberculous Testis.

S. DUPLAY (*Sem. Méd.*, August 27th, 1897) advocates an operation for primary tuberculous disease of the testicle which aims at removing with the knife all tuberculous foci of testicle or epididymis. Relapses after curetting and cauterisation are frequent. This fact led Duplay first to perform the operation in cases in which there was suppuration; later he performed it successfully in non-suppurating cases. The tuberculous foci are dissected out with a bistoury, whether their seat is in the testicle or epididymis. A free and roomy incision is made, and the tuberculous focus is dissected out as in the case of a neoplastic tumour, no attention being paid to the superficial tissues which may have to be cut out of the way. The foci are removed one by one. Suppurating cavities and fistulæ must be completely removed. If the foci be located in the epididymis the organ must be separated from the vas deferens; if the lesion have invaded the testicle itself the tunica albuginea and the healthy glandular tissue are incised so as to eradicate all diseased tissues; the edges of the albuginea are then sutured with fine catgut, and afterwards the skin is sutured. Duplay has applied the method with success in 10 cases. The first operation was performed seven years ago, and the cure has since remained perfect.

MIDWIFERY AND DISEASES OF WOMEN.

(295) Premonitory Symptoms of Puerperal Infection.

FERRÉ (*L'Obstétrique*, September 15th, 1897) lays stress on the success of intra-uterine treatment for puerperal fever. This success stands in direct ratio to the earliness of intervention. Hence very careful clinical researches have been made in lying-in hospitals in order to detect true prodromata. The true rigor, local pains, and conspicuous pulse and temperature are known to all, and when combined indicate more or less advanced infection. Ferré denies that these symptoms ever come on suddenly, though certain milder types of infection now observed may represent sepsis modified by antiseptic agents. These milder types, however, will assuredly develop into deadly septic infection if neglected. Ferré finds, after long clinical research, that even the severest form is preceded for a day or two by distinct elevation of temperature and pulse, and by insomnia. An evening temperature of about 100° in the axilla, with a fall of about a degree in the morning, without a corresponding drop in a somewhat rapid pulse, is a distinctly suspicious symptom. The rise in the pulse often precedes the rise in the temperature; the observer must therefore make sure that acceleration of the heart's action is accounted for even in a patient who seems otherwise convalescent. Reaction after the fatigue of labour, hæmorrhage, and emotions all send up the pulse. Insomnia, Ferré has noted, is often observed in the earlier stages of infection, distinct want of sleep without restlessness is usual for a day or two before bad septic symptoms. The lochia may remain free from odour in the premonitory stage of puerperal septicæmia, nor are the discharges always fœtid when the disease is established.

(296) Fatal Menstruation.

V. JAWORSKI (*Wien. med. Presse*, 1897, No. 32) records the case of a chlorotic girl, aged 25, who died of the anæmia resulting from profuse menstruation. Menstruation commenced at 14, and was normal till the patient was 19, when it became more frequent and also lasted longer. This continued till about three months before her death, when the loss of blood diminished, and the patient became better during a holiday in the country. On her return the profuse and prolonged menstruation returned, and had lasted sixteen days, when she was admitted to the medical clinic; after four days' ineffectual treatment she was transferred to the gynæcological department. She had all the physical signs, cardiac and other, of intense anæmia. The os uteri was closed, and in the upper part of the vagina was a large blood clot,

n washing out which watery blood owed from the os. No decidual remains could be found in the clots. The ed corpuscles were 1,400,000 in the cubic millimetre, the hæmoglobin 20 per cent. The patient rapidly became worse, and, although the vagina was packed with odoform gauze, died next morning. *Post mortem* there were found gastroptosis and enteroptosis. The left Fallopian tube contained a hard, round, red blood clot the size of a walnut; the right a thick, opaque, inodorous, and sterile fluid. There was no sign of pregnancy, uterine or tubal, the vagina was virginal and the hymen intact. The great arteries were markedly narrowed, so that on Virchow's hypothesis the chlorosis would have been congenital. The author quotes a number of other cases in which death resulted from too profuse menstruation. Some of these were examples of precocious menstruation, others had purpura, and others again hæmophilia. The present case was somewhat exceptional in arising in connection simply with chlorosis.

(297) Gangrene of the Genitals following Forceps application for Deformed Pelvis: Recovery.

F. Bruschi (*Arch. di Ostet. e Ginecol.*, July, 1897) records the clinical history of a patient in a country district who was delivered by means of forceps after the head had been fixed at the pelvic outlet for some hours. The fixation was due to a very prominent coccyx and an unusually high symphysis pubis, and the delay in the use of the forceps was the result of prejudice on the part of the patient's friends. The woman was a 30-year old primipara. The extraction of the fœtus caused a large tear in the œdematous perineum; this was closed by sutures and treated antiseptically as far as the circumstances of the case would permit. Two days later the temperature began to rise; there was incontinence of urine and fæces, and inspection of the external genitals showed commencing gangrene. There also developed endometritis and ulcerative enteritis. The curette was applied locally to the gangrenous area, and the uterus and vagina were douched with corrosive sublimate solution. This treatment had to be repeated on four successive days, and thereafter slow recovery ensued.

(298) Cæsarean Section followed by Vaginal Amputation of the Artificially Inverted Uterus.

V. Duchamp (*Loire Méd.*, No. 9, September 15th, 1897) has had an opportunity of giving effect to a proposal which he made eleven years ago. He has modified the Porro-Cæsarean section by artificially inverting the uterus into the vagina after having emptied it of its contents by the abdominal incision; with the aid of the elastic ligature the body of the organ is then amputated, and the abdominal cavity closed in front by suturing the walls and below by the bringing into contact of the serous surfaces gathered together and united by the elastic ligature. The patient upon whom he was able successfully to demonstrate the simplicity and ease of the operation was a primipara, aged 43 years, with an irregularly formed and slightly flattened pelvis. After he had with some difficulty and a large uterine incision emptied the uterus, he carried out its inversion as follows: A pair of long catch-forceps was introduced *per vaginam* through the cervical canal into the uterine cavity, with this one of the margins of the uterine incision was seized; a second pair of forceps was similarly introduced and attached to the other margin of the incision; and finally both pairs of forceps were drawn down into the vagina and the uterus was brought down with them in an inverted state. The rest of the operation was easy, and save for a slight attack of broncho-pneumonia the recovery was perfect. The infant was extracted alive. Duchamp claims for his modification that it excels Porro's in regard to the complete closure of the serous membrane, and that it does not expose to hæmorrhage as does a hysterectomy. Further it can be performed by any practitioner, and requires no elaborate preparations such as are only possible in a large hospital.

(299) Nervous Diarrhœa in Pregnancy.

Condio (*Centralbl. f. Gynäk.*, No. 29, 1897) has published a monograph in Italian on an interesting complication which he considers to be related to hyperemesis gravidarum. Whilst the latter is more frequent in the higher ranks of life, diarrhœa seems commoner amongst poor pregnant women. Obstetricians note its occurrence in lying-in hospitals in cities where it is hardly ever seen in private practice. Out of 3,674 pregnant women in the Turin Maternity, nervous diarrhœa was observed in 35. No fewer than 21 of these cases occurred in primiparæ. Temperature has little influence on this affection, but errors of diet are more probably among its causes. Nervous diarrhœa begins about the fifth month, and may become formidable; it has been found to continue even in childbed. Nerve tonics are indicated, and as in hyperemesis, premature labour must be induced if the diarrhœa persists and the patient becomes seriously debilitated.

THERAPEUTICS.

(300) R.-Tuberculin in Phthisis.

Spengler, of Davos (*Deut. med. Woch.*, September 2nd) has employed Koch's new preparation in 59 cases, administering 181 c.cm. or 1810 mg. in 922 injections, and without a single unpleasant incident, though reaction was occasionally more marked than usual. In all cases—and some 30 had previously been six or seven months at Davos without benefit—the results were satisfactory. In one patient not perfectly free from mixed infection, Spengler was induced by the low temperature (37.7° to 37.8°) to commence injections, which soon had to be abandoned as useless. He thinks Koch's limit (temperature below 38.0) too high, and that no case of which the temperature in the rectum exceeds 37.7 ought to undergo the treatment unless from reliable investigation of the sputum mixed infection can be absolutely excluded. Temperature to be reliable should be taken under the tongue or in the rectum, and be, he thinks, below 37.2 and 37.5 respectively. The axilla is unreliable in thin consumptives unless the thermometer be applied for twenty minutes.

(301) Actinomycosis Cured by Iodide of Potassium.

Duchamp (*Lyon Médical*, September 12th, 1897) records the case of a carpenter, aged 24, who had suffered for five months from a swelling in the left cheek, which varied from time to time in volume. Abscess formed and fistulous tracts developed, and opened on the cheek. There was marked trismus, and Duchamp suspected that a wisdom tooth might be the cause of the trouble. Under chloroform the wisdom tooth was extracted; its eruption was imperfect. No pus, however, escaped when it was extracted, and the tooth was healthy. None of the fistulous tracts led to the alveolus around the tooth. These tracts were curetted. The swollen soft parts were as tough as wood, and Duchamp now began to suspect actinomycosis. A few days later tracts formed in the neck, reaching to the sternum; those which had been scraped began to cicatrise; but the patient refused any further application of the curette. He took iodide of potassium, beginning with half a drachm daily, and finally taking over a drachm and a half. At first cachexia threatened and the tracts increased, but at the end of two months they all cicatrised; the health was good and the trismus had vanished.

(302) Anesin.

V. Vámossy (*Deut. med. Woch.*, September 2nd, 1897) says that anesin in a 2 per cent. solution does not produce any local irritation or general poisoning. It is a trichlor-pseudo-butyl-alcohol or aceto-chloroform. The author's researches as well as those of Kossa show that it is also a hypnotic, 0.5 g. to 1 g. producing a normal sleep free from unpleasant effects. The author has succeeded in preparing a 2 per cent. watery solution, which has a markedly anæsthetic action. When applied to the tongue it produces a sensation as of a foreign body, and then anæsthesia. The cornea can also be rendered anæsthetic. When injected subcutaneously anesin also acts as a a local anæsthetic. Experiment shows that its use is unattended with danger. Israi found that it quickly produced anæsthesia when applied to the larynx, pharynx, or nasal mucous membrane, and that it produced no unpleasant symptoms. Grósz in the eye clinic concluded that though it would not replace cocaine in the larger operations, yet the absence of mydriasis and the

duration of the anæsthesia speak much in its favour. Anesin does not produce anæsthesia of the iris. Hültl describes its value in operations, both minor and some major, and he concludes that its use is very simple, that the anæsthesia is limited to the infiltration site, and that is harmless. Antal has used it with success in dental operations. Where concentrated solutions of cocaine may be used, as in the larynx, then anesin does not enter into competition with cocaine. In the case of the eye it has the disadvantage of developing its full effects only when brought into actual contact with the tissues, as its power of diffusion is small. In the extirpation of small warts, etc., the patient should not be exposed to the dangers of cocaine when anesin will suffice. Hültl does not use it in the case of inflammatory tissues, as the puncture of the needle is as painful as the incision. The author recommends anesin as a good and harmless local anæsthetic, and he hopes that further researches will confirm this view.

(303) Traumatol.

TISON (*Progrès Médical*, September 11th, 1897) recommends this compound as a powerful antiseptic superior to iodoform and almost free from odour. It is obtained by the action of iodine on cresylol with iodo-cresine. Its colour is violet, and it is insoluble in water, ether, and chloroform, and but feebly soluble in oils. Its density is three times less than that of iodoform. It is a bactericide, or, more strictly speaking, it prevents the multiplication of pathogenic microbes. As an application it answers well for cutaneous ulcers, eczema, ecthyma, etc. Tison finds that it is also a safe agent for antisepsis of the intestines, tolerated in diarrhœa, dysentery, typhoid fever, and tuberculosis. Three grains in a pill, given four times daily, form a sufficient dose.

(304) Local Treatment of Cutaneous Syphilis.

BURET (*France Médicale*, July 30th, 1897) draws attention to the value of local application of mercurial ointments in localised chronic cutaneous syphilides. He quotes two cases, one of persistent papulo-squamous spots on the scrotum of a man in the third year of syphilis, which had resisted a long course of proto-iodide pills and inunction. Local application of mercurial ointment to the scrotum caused a disappearance after the fifth day, and no relapse occurred during seven years. The other case was one of palmar psoriasis which was nearly well in fifteen days after the same local application combined with sublimate pills.

(305) Hydrastis Canadensis.

SAENGER (*Centralblatt für inner. Medicin.*, No. 17, 1897) has for six years been making observations on the effect of hydrastis canadensis on bronchial catarrh. He has arrived at the following conclusions: The cases for which it is most useful are those where the bronchial catarrh is very chronic. It produces marked diminution of cough, makes the bronchial secretion much thinner and less purulent, and so facilitates expectoration. At the same time it improves the constitutional condition. These effects on bronchial catarrh have seemed to be more striking than those produced by any other drug that the writer has used. In phthisis it has proved most beneficial by allaying paroxysmal cough; the use of opiates may thus be avoided in phthisis. No bad effects were observed, when, as in most cases, a dose of ♏ xx to xxx of the fluid extract was given four times a day; but in cardiac cases and in very feeble patients larger doses were found to produce attacks like angina pectoris. The writer has found the fluid extract of hydrastis canadensis more effectual than the somewhat similar preparation hydrastinin.

PATHOLOGY.

(306) The Plague.

OGATA (*Centralb. f. Bakt.*, xxi, 20-21) records an important series of observations made on behalf of the Japanese Government during the recent epidemic of plague in Formosa. In the town to which he went there were 132 cases in a month, with 56.4 per cent. of deaths; the outbreak was apparently preceded by an epidemic of rat plague. Ogata tabulates the differences between the plague bacilli described by Yersin and Kitasato, which must obviously be quite different in nature. His own observations, conducted upon 27 patients and bodies, revealed the presence of a bacillus corresponding to Yersin's, and therefore not to Kitasato's. It was pathogenic for mice, rats, rabbits, guinea-pigs, and cats, while dogs, fowls, and pigeons were refractory. He demonstated its presence in rats dying during the epidemic and in the fleas infesting them, but never succeeded in obtaining it in the blood of a living patient. It could be found in the lymph glands of living sufferers, and in the blood and internal organs of the dead. In susceptible animals it invariable produced a plague-like disease. He isolated it from the urine of one plague patient, aud from the bile and urine of two subjects dead of the disease. It appeared mostly to be conveyed by fleas and mosquitos. The blood, lymph glands, and internal organs of patients and corpses often contained other micro-organisms, particularly staphylococci. The bacillus had but little power of resistance to antiseptics. It was killed at once by 1 in 20 carbolic acid; in 1 in 200 it survives five minutes, but after 15 it can no longer grow on nutritive media. In 1 in 1,000 sublimate solution it perished at once, in 1 in 10,000 not for five minutes. Saturated lime water for five minutes stops its growth permanently, and while sunlight kills it in less than four hours. The author could not detect it in the walls of plague houses.

(307) The Behaviour of Human Milk Diphtheria Toxin.

SCHMID AND PFLANZ (reprint from *Wie klin. Wochenschrift*, 1896, No. 42) have investigated the question whether human milk contains any substances antagonistic to the diphtheria poison such as are found in the blood of newborn children. Ehrlich and Wassemann had previously shown that the milk of immunised animals was antitoxic to the extent of $\frac{1}{15}$ to $\frac{1}{30}$ of the power of the blood serum. The authors compared the results obtained from human milk with those resulting from the use of the serum of the placental blood, as obtained through the cord immediately after birth. These were mixed in varying amounts with lethal doses of diphtheria toxin in order to ascertain the quantity required to prevent the fatal issue. The results of six series of experiments showed that protective substances pass from the blood into the milk of puerperal women, but that the quantity therein present was much less than in the placental (that is, maternal) blood, and that a correspondingly larger amount was required for immunisation. It is well known that infants at the breast seldom contract diphtheria, and it is interesting to ascertain how much of this immunity is congenital and how much derived from the mother's milk. Ehrlich showed that the offspring of a mother immune against abrin retained its resisting power for six to eight weeks, while antitoxic bodies introduced into the organism were got rid of at longest within thirty-four days. The prolongation of the immunity must therefore be attributed to the milk, and the interesting deduction follows that the antitoxic substances taken in with the milk must pass unchanged from the alimentary canal of the infant into its blood. It must hence be concluded that in newborn children, and especially in the offspring of a mother whose blood contains diphtheria antitoxins, there is provided a store of these antitoxins accumulated during uterine life, and that this is replenished from the mother's milk so as to render them less susceptible or even immune to diphtheria. It need hardly be pointed out that this gives a breast-fed child a great advantage over those brought up by artificial means.

(308) Fœtal Typhoid Fever.

J. P. C. GRIFFITH (*Med. News*, May 15th, 1897) reports a case in which a woman suffering from typhoid fever (in the third week) gave birth to a well-developed child. The infant seemed healthy in every respect save for a slight transitory jaundice, but at the age of 7 weeks its blood gave the typical Widal reaction. The writer concludes that either the child had had typhoid fever *in utero* and recovered after a very short attack, or that the agglutinating principle had passed through the placenta from mother to fœtus with the latter having contracted the disease at all. He inclines to the former supposition.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(309) Cyclic Albuminuria.

Lacour records an interesting example of this condition occurring in several members of one family (*Journal de Méd.*, July 25th, 1897). A girl, aged 13, suffered from scarlet fever in the year 1888, and had a notable degree of albuminuria, which disappeared entirely by the thirtieth day. The following year, the general health being impaired, the urine was examined and 0·4 cg. albumen per litre was discovered, but only in the morning. Three hours afterwards none could be found. It reappeared, however, the following morning. This continued for seven years regularly, notwithstanding that there was complete restoration to health. The idea of examining the urine of the other children of the family was conceived, with the result that two out of four showed albuminuria, one being a boy, aged 17, who in 1890 showed albuminuria, but who has since enjoyed perfect health; he shows, however, albuminuria three hours after rising in the morning, which diappears completely. At present he is well grown, strong, and healthy-looking; there is no polyuria, palpitation, cardiac hypertrophy, or increase of pulse tension. The other child, now aged 14, also showed albuminuria at the same time (1890), but in her case the quantity is somewhat greater. Otherwise, the characteristics are the same, except that in her case a saline purgative will cause the albumen to disappear for a day or two. During the last six years this child has enjoyed perfect health. The father of these children suffers from obesity and eczema; the mother is neurasthenic. The author is strongly of opinion that the underlying element in these cases and many others is gout.

(310) Epileptiform Paralysis.

Higier (*Neurol. Centralbl.*, February, 1897) reports a case of paralytic Jacksonian epilepsy in a boy 6 years old. The illness began with a typical epileptic fit. The succeeding attacks, however, consisted of a sudden sensation of pricking in the right leg, accompanied by intense weakness of the limb, causing him to fall sometimes, and disappearing in about fifteen seconds; occasionally the upper extremity also was affected; there was no loss of consciousness. Higier considers that there are several varieties of epilepsy which manifest themselves as transient paralyses: (1) In cases of typical epilepsy, abortive attacks occur with loss of consciousness and relaxation of the muscles, unaccompanied by any convulsions; (2) similar paralysis may occur with Jacksonian epilepsy either after the attack or synchronously with it; (3) partial sensory epilepsy may show itself as temporary deafness or blindness; (4) *migraine ophtalmoplégique*, with its transient paralysis of eye muscles, is certainly epileptic in character; (5) paralytic chorea may be considered as the paralytic variety of a continuous epilepsy with remittent convulsions.

(311) Diphtheria with unusual Complications.

Max Bjorksten (*Finska Läkaresällskapets Handlingar*, xxxix, No. 6, June, 1897) reports the case of a little girl, aged 3 years, who contracted diphtheria from her sister, and showed some unusual complications in the progress of the malady. The attack was a sharp one, and was accompanied by œdema, hepatic enlargement, albuminuria, and a systolic murmur over the cardiac apex; but after about four weeks the patient began to recover, the temperature fell, the murmur disappeared, the albuminuria and œdema diminished, and the general condition improved. Injections of antidiphtheria serum had been given. Suddenly, however, and during the night, incontinence of urine supervened; this was followed by aphasia, right-sided hemiplegia, paralysis of the right facial nerve and of the soft palate. She ultimately recovered. The paralysis of the palate the author regards as due to a peripheral neuritis, but looks upon the other nervous symptoms as cerebral in origin and probably the result of an embolus.

(312) The Cerebral Complications of Actinomycosis.

Bourquin and de Quervain (*Rev. Méd. de la Suisse Rom.*, March 20th, 1897) report a typical case of cervico-facial actinomycosis in a man aged 61. At first localised in the region of the left inferior maxilla, where it was mistaken for periostitis from dental caries, it invaded later the upper part of the neck and the temporal region. Here it caused a subperiosteal abscess, which, spreading to the spheno-maxillary fossa and the back of the orbit, finally infected the meninges through the sphenoidal fissure. A secondary infection by a slender bacillus produced an abscess in the left temporal lobe containing fœtid pus. This abscess burst into the lateral ventricle, which was considerably dilated, and produced coma and death about seven months and a-half after the appearance of the first symptoms. During the first few months nothing pointed to actinomycosis, and the painful second molar was removed and the swelling painted with iodine. Abscesses were opened as they formed, and after a brawny œdema which obscured the limits of the disease had subsided under iodide of potassium, which had an almost specific effect in reducing the swelling of the tissues, a thorough scraping was performed under ether. In spite of this operation, however, cerebral symptoms set in a month later. Clinically the true diagnosis was made about a month after the man was first seen, but the characteristic fungus was not found, though repeatedly sought for, either in the pus from abscesses or in the tissue removed by scraping until a week before death. After death the ray fungus was found everywhere in the pus except in that in the above-mentioned cerebral abscess. The authors have collected eleven other reported cases of actinomycosis with cerebral complications. In all these the cerebral disease was secondary to actinomycosis elsewhere, except in one reported by Bollinger, where there was a primary nodule in the third ventricle and nowhere else, the symptoms being those of cerebral tumour. The disease may affect the brain either by metastasis (seven cases) or by direct extension (four cases). In eight the cerebral affection was caused by the ray fungus itself, in two by a secondary infection by another organism, and in two (including the authors') by a mixed infection, the meninges by actinomycosis and a cerebral abscess by non-actinomycotic organisms. The metastatic form is met with chiefly in cases of a pyæmic character with multiple metastases. Of seven cases in this class the cerebral lesions were caused by actinomycosis itself in five, and by other organisms in two. Direct extension has been observed to pass through the occipital foramen in one case, through the foramen lacerum posterius in three cases when the jugular vein and transverse sinus may become thrombosed. The principal entrance one would expect to be the sphenoidal fissure as being nearest the usual site of actinomycosis. Lastly, the disease may perforate the bones directly. There may be localised pachymeningitis, or a gelatinous tissue between the dura and pia mater, or typical purulent meningitis, the latter being caused by secondary infection. Very much the same applies to the varieties of encephalitis. The prognosis is very grave, worse than in tuberculosis or cerebral abscess, since all known cases have died. The treatment of the cerebral lesions must be limited to large doses of iodide of potassium, unless there are distinct localising signs. If these are present and the abscess is opened the pyogenic membrane must be destroyed by the cautery or by chemicals, since it contains the disease germs.

(313) Bremer's Reaction in Diabetic Blood.

Marie and Le Goff (*Sem. Méd.*, May 5th, 1897) confirm the discovery made by Bremer, of St. Louis, that the red blood corpuscles which stain with acid stains normally in diabetes require basic dyes. Bremer's reagent is prepared as follows. A watery saturated solution of eosin is mixed with a saturated solution of methylene blue, free from zinc (Lépine, however, prefers it with zinc); the resulting precipitate is collected on a filter, a little eosin and methylene blue added, and the whole dissolved in alcohol. A fresh solution must always be used, and added to water just before use. Cover slips smeared with a layer of blood are left in this solution in the warm for five minutes. The red corpuscles of normal blood are stained violet, of diabetic greenish. Lépine, however, has shown that this reaction is

not absolutely characteristic in diabetes, since it may occur in leukæmia. Bremer's latest method is simpler. He stains the smeared cover glasses for from two to five minutes in the incubator in methyl blue or Congo red (acid stains), and then washes them in water. Normal blood is deeply stained blue or red, diabetic blood only slightly or not at all. With Biebrich's scarlet an opposite effect is obtained, the diabetic corpuscles being stained, while the normal are not. In fact, it is found that almost any histological stain will serve to differentiate normal from diabetic blood, provided that, according to its chemical constitution, it has an affinity either for normal or for diabetic red corpuscles. The later method has not yet been tried in leukæmia.

SURGERY.

(314) Perforating Hard and Soft Sores.

COIGNET AND CADE (*Lyon Méd.*, September 5th, 1897) observed perforation in a case of true hard sore. The patient was a hard-worked and rather intemperate factory hand, aged 27. He had a tight congenital phimosis. Two months after contracting gonorrhœa a chancre developed on the dorsum of the prepuce. This sore, a few day later, began to ulcerate. On the third night after the process of ulceration had commenced the glans protruded through the hole thus made in the prepuce. Characteristic secondary symptoms soon appeared. The prepuce was removed, and the patient placed under antisyphilitic treatment. In another case, where the patient was 22, the prepuce became swollen ten days after infection. A week later he noticed that there was a hole in the foreskin. It enlarged, and at the end of another week the glans protruded entirely through it. Over two months after infection Coignet and Cade examined the patient. The edges of the perforating soft sore were nearly healed, apparently without treatment; there were cicatrices of old soft sores on the glans. In the right groin were two small enlarged glands. No secondary symptoms developed, nor had the patient ever suffered from them. The prepuce was removed.

(315) Non-Septic Paralysis of Intestines after Abdominal Section.

ENGSTRÖM (*Centralblatt f. Gynäk*, No. 36, 1897) finds that fatal paralysis of the intestine is not always due to sepsis. Four cases died with this condition on the 3rd, 7th, 8th, and 10th days respectively, after the abdominal operation. In not one was there a trace of peritonitis, which Engström observes would have been the case had sepsis existed, considering that death occurred relatively late. In the last case, the contents of the peritoneal cavity were examined for bacteria and found to be sterile. Engström finds that free nourishment and judicious stimulation of the patient are the best means of warding off fatal results when the bowels are paralysed.

(316) Large Fibro-sarcoma of the Abdominal Wall successfully Treated by Extirpation.

DRUON (*Journ. d. Sc. Méd. de Lille*, No. 34, August 21st, 1897) records the case of a woman, 24 years old, who at the fourth month of her third pregnancy noticed a tumour, the size of a hen's egg, a little above the level of the right inguinal region. After her confinement the tumour grew rapidly, but it did not interfere with the general health, nor was it painful, and the patient suckled her infant. About a year after its first appearance the growth, which had reached a great size, was extirpated. During the operation the peritoneal cavity was opened into, for the fibroma was widely adherent, and the patient lost a great deal of blood. Nevertheless, the patient made a good recovery. The tumour weighed more than 5 kilog.; it was slightly flattened posteriorly, while anteriorly it was divided into two lobes by a median groove. Histologically it was a fibro-sarcoma rather than a true fibroma.

(317) A Case of Congenital Genu Recurvatum.

BILHAUT (*Ann. de Chir. et d'Orthopéd.*, x, No. 9, p. 257, September, 1897) records a case of genu recurvatum which he met with ten years ago and has seen again recently. When first seen, the patient—a male infant, born with difficulty after a labour in which the liquor amnii was markedly scanty—showed an abnormal state of the left knee. The usual projection indicating the patella was replaced by a depression, and in straightening the limb the leg had to be brought from before backwards instead of from behind forwards. The patella was present, but was deeply seated in the groove formed by the flexion forward of the tibia. The usual popliteal space was represented by a smooth surface. There was a certain degree of dislocation forward of the tibia. This Bilhaut reduced, and fixed the leg in an attitude of as complete flexion as possible. Every eight days the fixation was renewed till the infant was taken to the country at the age of 2 months. Now, after ten years, the patient shows scarcely any trace of the original malformation. It is argued, therefore, that early treatment is correct; that it does not necessitate any important traumatism; that it is easily graduated and well borne; and that it puts an end at once to trophic disturbances.

(318) Congenital Hypertrophy of the Sublingual Glands.

J. BRAQUEHAYE AND J. SABRAZES (*Rev. Mens. des Mal. del Enf.*, XV., 429, Sept., 1897) describes a case brought to them as an instance of double tongue. It was that of a boy, aged 6 months, the fourth child of healthy parents. A brother had congenital talipes equino-varus, and a sister was stillborn with hydramnios. A few days after birth a double tumour was noticed under the boy's tongue, which increased in size and interfered with lactation; he also suffered from a double inguinal and an umbilical hernia. At the age of six months the growths were excised, as the infant was passing into a state of athripsia. Histological examination showed that they were hypertrophied sublingual glands, in which some of the *culs-de-sac* were atresic, but in which there was no well-marked interstitial inflammation. The excretory ducts were not blocked. The authors regard it as a true congenital malformation by excess.

(319) Dorsal Nipple in a Man.

GUÉNIOT (*Bullet. de la Soc. Anat. de Paris*, May-June, 1897) observed this condition in a man, aged 48. The nipple lay a hand's breadth internal to the posterior fold of the left axilla, over the scapula, not far from its inferior angle. It was prominent and surrounded by a dark areola about as large as in the normal male nipple; this areola bore long hairs. There were no other supernumerary nipples. The man was very hairy, not only on the thorax and in usual places, but also on the back. There were long tufts of hair in the median line of the loins and sacrum, and similar lateral tufts over the lumbar region. Guéniot traces a relation between supernumerary nipples and free growth of hair in unusual regions. The latter, like the former, may be reversion to ancestral types.

(320) Elephantiasic Œdema of the Lower Limbs.

E. ALBERT WEIL (*France Méd.*, August 20th, 1897) records the case of a washerwoman, 57 years of age, who suffered from great œdema of the lower limbs, which had begun at the age of 20, and had gradually and passively increased. There had been no inflammation and no pain. There was also marked obesity. The condition was attributed to the wearing of very tight garters, and to long standing in the upright posture; it was a mechanical œdema, therefore, of the firm type. The constant electric current was used with good effect in the treatment of the case; a current of about 50 milliampères was employed, and each galvanisation was followed by compression with a bandage. The result of six sittings was decidedly encouraging.

MIDWIFERY AND DISEASES OF WOMEN.

(321) Apoplexy of the Ovary.

MARTIN (*Centralbl. f. Gynäk.*, No. 28, 1897) not long ago demonstrated at the Berlin Obstetrical Society a specimen which gave rise to active discussion. He interpreted it as a hæmatoma of the ovary due to torsion of the pedicle. The ovary was deeply stained by old and recent blood clots. There was a parovarian cyst as big as a plum on the same side, which may account for the twisting. Olshausen denied the correctness of Martin's theory. The recent clot in the ovary could not be explained as the result of a torsion of the pedicle which, if it ever happened, was by no means recent. He thought that the

ovary looked on section as though it was infected with a new growth. Winter denied that there was any positive evidence that the pedicle had become twisted. Martin insisted that sections of the ovary as seen under the microscope showed no sign of sarcoma or carcinoma, and every sign of infiltration with old and recent clot.

(322) Rupture of Abdominal Wound from Coughing.

Svitalsky (*Monatsschr. f. Geburtshülfe u. Gynäk.*, April, 1897) reports this case, where it must above all be remembered that he closed the wound with catgut sutures, in three layers, it is true, but nothing stronger than catgut was used, even for the muscular layer. The patient was aged 33; diseased tubes were removed; there was much coughing during, and more after, the operation. Nevertheless the patient did well till the dressings were seen to be stained pink with a serous exudation on the ninth day. When the dressings were removed, intestine was seen prolapsed outside the wound. It was carefully washed with an antiseptic solution, separated from adhesions to the edge of the wound and adjacent coils, and reduced. The margins of the layers of the wound were vivified and united with deep silk sutures, the skin with finer silk separately. The patient made a good recovery. It is noteworthy that there were no subjective symptoms when the bowel had prolapsed; pulse and temperature were both normal, nor were any signs of obstruction observed.

(323) Peritoneal Symptoms in Breech Presentation.

Crouzat and Lop (*Annales de Gynéc. et d'Obstét.*, June, 1897) were called to see a multipara suffering from severe symptoms. For a fortnight she had been troubled with incessant vomiting, great abdominal tenderness, dry tongue, profound debility, and the facies of peritonitis. The temperature was subnormal, the pulse 140. Lop succeeded in effecting version by external manœuvres. At once all the bad symptoms disappeared, and the patient was delivered normally at term. Grynfelt, in discussing this case, remarked that undoubtedly such grave complications were not the rule in breech presentation, but admits that the treatment proposed by Lop and Crouzat had not been thought of before. Budin knew of a case of breech presentation where hypochondriac pain caused by the fœtal head was overlooked, an imaginary pleurisy being treated with promptness and vigour.

(324) Labour impeded by a Tumour of Fœtal Arm.

Eberhart (*Centralblatt f. Gynäk.*, No. 25, 1897) reports a case of lingering labour, in which at length it was found that the left upper arm was the seat of a large tumour which extended to the thorax. The arm was disarticulated at the shoulder-joint, and the child was delivered. The new growth involved the whole circumference of the humerus, being most developed on its posterior aspect; it reached to the olecranon, and was a cystic lymphangioma. Another tumour, as large as a small apple, lay on the ulnar and extensor aspect of the forearm; but the whole of the left half of the thorax was involved in the primary tumour, which in this region contained very large cysts, some as large as hens' eggs. The impediment to delivery was great, and there was, as might be supposed, considerable difficulty in diagnosing the nature of the dystocia. The tumour is rare in the fœtus, especially on an extremity.

(325) Reel in the Uterus: Vesico-Uterine Fistula.

Walk (*Annales de Gynéc. et d'Obstét.*, March, 1897) removed from the uterus of a woman, aged 30, a reel of cotton which had been left in the vagina for nine years as a pessary to support a prolapsed uterus. For nine months the patient had ceased to feel it in the vagina, whilst during the same period severe hypogastric pains set in. At length urine passed from the vagina. She applied for relief owing to constant pain and miserable discomfort. The reel was extracted. During the process a vesico-uterine fistula was detected.

(326) Labour in a Case of Elongation of the Vaginal Portion of the Cervix Uteri.

H. R. Croston (*Virginia Med. Semi-Monthly*, June 25th, 1897) has had the unusual experience of delivering a woman whose cervix uteri was external to the vagina. The patient was aged 25, and a 6-para. The cervix projected at least 2 inches external to the vulva, a state of affairs which had come about, the patient said, with the advent of the early labour pains. It was not simple uterine prolapse, for the fingers could be passed upwards into the vagina at the sides of the cervix. Forceps were applied and the child delivered in the R.O.P. position without perineal tear, although the head was still in the cervix when it had passed over the perineum and out of the vulva. There was a good recovery, and Croston hopes at a future date to amputate the hypertrophied cervix.

(327) Removal of Ovaries for Membranous Dysmenorrhœa.

Procida (*La Gynécologie*, April 15th, 1897) has carefully summed up the pathology and treatment of this disease, in a thesis published last year in Italy. He admits that the disorder may become, intractable and suggests removal of the ovaries when all palliative treatment has failed, and existence has become insupportable.

(328) Fœtal Inclusion in an Infant aged 11 Months.

Bergkammer (*Centralbl. f. Gynäk.*, No. 14, 1897) relates that a tumour appeared in the hypogastrium of a child aged 10 months. No abnormality was observed at birth. On careful palpation two distinct swellings could be defined, the anterior clearly cystic, the posterior semi-cystic. Urine was freely passed in a full stream. A month later abdominal section was performed; the anterior tumour proved to be a dilated, but otherwise normal, urinary bladder. The second was partly cystic and partly solid; it lay in the true pelvis between the bladder and rectum, and was enucleated from a capsule made up of connective tissue; finally a pedicle could be formed, which was tied and divided. The operation was tedious, lasting an hour and a-half, and the child died of convulsions on the next day. The tumour was a true teratoma, so that it was an example of engastricus, or inclusio fœtalis abdominalis.

(329) Cystic Tumour of the Clitoris.

G. Resinelli (*Annali di Ostetricia*, May, 1897) reports a case of cystic tumour of the clitoris in a woman, aged 42, who had passed the menopause five years previously. The swelling had been noticed by the patient eighteen years ago, but as it had caused her no suffering she had not consulted a medical man. There was now a prolapse of the uterus with hypertrophy of the supravaginal portion of the cervix and a degree of cystocele and rectocele. In the position of the clitoris was a soft elastic swelling 6 c.cm. in length and 10 c.cm in circumference. The prolapse was operated on, and at the same time the tumour of the clitoris was excised, the dorsal artery requiring a ligature. The cyst was covered by mucous membrane, under which was a fibrous capsule, and it contained a pultaceous mass of a yellow colour with an alkaline reaction. Microscopically the contents consisted of pavement epithelial cells, cholesterine, crystals, and oil globules.

THERAPEUTICS.

(330) The Serum Treatment of Tetanus.

Engelmann, of Curschmann's clinic (*Münch. med. Woch.*, 1897, Nos. 32, 33, and 34), records 3 cases of severe tetanus all ending in recovery, 2 of which were treated by Tizzoni-Cattani's antitoxin and 1 by Behring's new serum. Case 1 occurred in a patient, aged 42. Seven days after a wound of the face the first symptoms appeared, and five days later spread to the trunk. Eight days after the onset the disease was fully developed; nine days later the first injection of serum was given, and improvement commenced at once. Five injections in all were given, containing 9 g. of the dried antitoxin. The prognosis was unfavourable, owing to the short incubation period, but the symptoms themselves did not develop very rapidly. Although large doses of the serum were given one after the other, no unfavourable effect was noted. Morphine, chloral, etc., were also used. The wound was, of course, dressed antiseptically. Case 11 occurred in a man, aged 21, apparently without a wound. The first symptom was a feeling of pressure in the back. Rigidity of the legs and trunk soon followed. Six days after the onset the patient pre-

sented the appearance of a most severe case of tetanus. On the thirteenth day the injections were commenced, and a subjective improvement followed at once. Five injections in all were given, containing 9 g. of the dried powder. The comparatively rapid development of the symptoms, the extent of the tetanic spasm, the cyanosis and delirium, showed it to be a severe case with an unfavourable prognosis. The author concludes that although in these two cases of severe tetanus the serum treatment was begun late, yet a distinctly favourable effect was produced by it. Although spontaneous recovery was not absolutely excluded, yet it was extremely unlikely. Case III occurred in a girl, aged 22, who had run a splinter under her nail. The symptoms began on the ninth day, and six days after the onset the diseased was marked. The splinter removed from the finger was inoculated into a mouse, which died of tetanus within twenty-four hours. It was only after large doses of Behring's serum had been injected that improvement ensued; 20 g. of Behring's antitoxin were used without any unpleasant symptom. The author gives in tabular form the details of 34 recorded cases treated with Tizzoni-Cattani's antitoxin, among which were many unfavourable cases. In 17 cases the incubation period was from one to ten days, and only 5 died; the usual mortality in such cases is 90 per cent. Of the 12 recovering, only 5 showed an unfavourable prognosis as far as rapid development of symptoms was concerned. In the cases over ten days the prognosis was more favourable, but in several the rapid development of symptoms and the presence of severe symptoms showed the disease to be very serious. In 21 cases improvement rapidly followed the serum treatment, but in 3 it was only temporary. In 5 cases only was there no improvement at all, and these ended in death. In 3 of these fatal cases the tetanus neonatorum was complicated by sepsis. Thus in 36 cases in all treated by the Tizzoni-Cattani serum, only 8 ended fatally, 3 of which were complicated by septic processes, 4 had insufficient doses given them, and the remaining case died a few hours after coming under treatment. The earlier the treatment is begun the better. The author then analyses 18 cases treated by Behring's serum, the last 5 receiving the new serum. Of the first 13, 6 died and 7 recovered. The author thinks that it may be concluded that owing to the marked effect produced in 3 of the cases recovery was attributable to the large quantities of the serum used, and that the slight effect of the entire absence of it was due to the small quantities used. There is no reason against using large doses. Of the 5 cases treated with the new serum only 1 died, and here death occurred five hours after the treatment was commenced. Of the 4 cases, 1 was severe and 3 of medium severity. The author concludes that (1) both the Tizzoni-Cattani and Behring's latest serum can favourably influence the disease; (2) large doses are harmless; (3) it is desirable to use them early in doses corresponding to the severity of the disease; and (4) no distinction can really be drawn between the Tizzoni-Cattani and Behring's antitoxins.

(331) Intestinal Obstruction Treated by Electricity.

Mingour and Bergonié (*Arch. d'Elect. Méd.*, 1897, No. 52) record the case of a child, aged 5½ years, which was the subject of habitual constipation, and which eventually developed the signs and symptoms of intestinal obstruction with fæcal intoxication. For seven days purges and enemata were administered without result, and the patient became wasted and collapsed, with a weak pulse and a tympanitic abdomen. The face was sunken and the tongue foul; an inguinal hernia which had been present for four years was found normal and not strangulated. The diagnosis of intestinal obstruction by impacted fæces was made. The child's condition being serious and the bowels not having been open for a week, recourse was had to electricity. A large indifferent electrode was placed on the abdomen and used as the positive pole. Into the rectum about a pint of salt solution was injected, and a rectal sound, 4½ in. long, introduced as the negative pole. The current was gradually raised to 20 milliampères and after three minutes to 23; one or two interruptions having been made, a rush of fæcal matter, amounting to about 3 pints, followed, and was succeeded by the immediate recovery of the patient. He has been kept under observation ever since, and has had several further attacks, only one of which necessitated electrical interference. The case is a rare one, and the success of the electrical method after the failure of all other means very noteworthy. The child was injudiciously brought up and fed on an innutritious diet; before its first attack it also indulged immoderately in wine. This latter habit was subsequently broken off, and, indeed, the patient suffered much less from thirst after than before the attack.

(332) Painless Cauterisation with Nitrate of Silver.

E. Saalfeld (*Therap. Monats.*, September), recommends a solution of nitrate of cocaine in cases where local anæsthesia is necessary, for example, for instillation into the urethra (Guyon). Its effect is as satisfactory as that of the hydrochlorate, and it forms no precipitate with the silver salt.

PATHOLOGY.

(333) Microbes in Acute Rheumatism.

Singer, of Vienna (*Berl. klin. Woch.*, 1897, No. 31) has examined 92 cases of acute rheumatism, and in a great number of patients has ascertained the presence of staphylococci and streptococci. He has examined the blood, urine, synovial effusion, and various complications during life. In three necropsies he was twice able to find the same microbes that he found during life; in one of them the synovial effusion was sterile, though the walls of the synovial cavity contained bacteria; in the third case there were hæmorrhages in the periarticular tissue, and in these hæmorrhages he found groups of streptococci. Singer considers that the necropsies explain why arthritic effusions in cases of acute rheumatism are found often to be free from microbes; in such cases the bacteria probably have their seat in the periarticular tissues only. Singer believes that these microbes are the actual cause of acute rheumatism, which shows its pyæmic nature by its relations to erythema multiforme, sorethroat, etc. He therefore does not accept the view that the action of salicylates is actually specific.

(334) Sulphate of Potash and Hepatic Cirrhosis.

Lancereaux (*Bull. de l'Acad. de Méd.*, September 7th, 1897) having been struck by the absence of drunkenness in the subjects of cirrhosis, has investigated the influence of various alcoholic liquors in the production of cirrhosis. In 210 cases of cirrhosis examined by him in thirty-five years, 68 had drunk wine alone to excess, in 126 wine in combination with brandy, rum, or absinthe, in 12 wine and beer, and in 4 wine and cider, had been taken in large quantities. These figures clearly show that, in Paris at any rate, wine, and not alcoholic drinks generally, must be considered the antecedent of cirrhosis. Conversely in Brittany and Normandy, where little wine but much brandy is drunk, cirrhosis is rare. In Hayti, where a great deal of rum and arrack is consumed, hepatic cirrhosis is almost unknown. Lancereaux finds that the poisonous body in wine is sulphate of potash; in Paris plastered wines contain 4 to 6 grammes of this salt per litre, and three litres per diem was the average quantity taken by the cases he investigated. That sulphate of potash alone gives rise to cirrhosis he proved by feeding rabbits, guinea-pigs, and dogs with it. After surviving for six to eighteen months they died, and presented typical venous cirrhosis. While the general consensus of opinion expressed by those who have given alcohol experimentally to animals is that it sets up fatty degeneration in the liver cells, but does not produce cirrhosis. It appears that there is some body other than alcohol in alcoholic drinks which gives rise to cirrhosis, and this Lancereaux believes is the salts of potash, especially the sulphates. Unfortunately an accurate chemical analysis of the stimulating drinks of various countries and of their adulterations is wanting. But it is not improbable that in Germany and England, where beer gives rise to cirrhosis, this beverage contains sulphate of potash. If it were not for its familiarity, the term "alcoholic cirrhosis" should be replaced by "drinker's cirrhosis," inasmuch as there is no reason to incriminate alcohol *per se* as the cause. To prevent the occurrence of cirrhosis, the "plastering" of wine ought to be forbidden by law.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(335) Hypoazoturia.

Reynès (*Sem. Méd.*, July 30th, 1897) discusses the question originated in 1880 by Rommelaere as to the true clinical significance of hypoazoturia. Without gainsaying the undoubted frequency of the diminution of urea in cancerous patients affected with cachexia he insists on the inconstancy of the condition in all cases in which the general condition remains good, the frequency of the condition in non-cancerous patients, and its existence in persons not suffering from degenerative disease, and even in their normal health. The condition is sometimes congenital, and is the outward expression of a physiologically poor constitution, and naturally insufficient metabolic function. Hypoazoturia is neither constant nor specific in cancer, and has no diagnostic value. In 90 non-cancerous cases there were 45 cases of hypoazoturia. The cases observed were nearly all women, and their ages ranged from 15 to 70 years. The 45 cases included those of non-malignant tumours, surgical tuberculosis, and various inflammatory or traumatic affections. In many of these the hypoazoturia could be ascribed to anæmiating and debilitating influences. Appetite was, as a rule, indifferent. The condition may be acquired or congenital; in the latter cases there is a characteristic facies. The appearance in infantile, the limbs small, the flesh soft, the complexion pale, the arteries small and thin. The extremities are cold, the palms perspire, the appetite is poor, the musculo-aponeurotic tissues are weak and given to various forms of ptosis and prolapse. The pelvis is narrow, the uterus small, the menses light-coloured and scanty. The subject may be fat, apathetic, or indolent. Without definite complaint there may be inability to bear the slightest physical or mental strain or excess, nightwork, or traumatism. Such lesions as floating kidney and genital prolapse are common. The English term "renal inadequacy" seems to correspond to hypoazoturia. Treatment should consist in physical and mental rest, moderate exercise, good food, dry friction, hydropathy, but not cold baths. Tepid salt water enemata are invaluable, and materially increase the quantity of urine and the proportion of urea excreted. Opotherapy may do good. Severe operations are badly borne by such patients, and should not be undertaken till the general condition of the subject has been as far as possible improved.

(336) Graves's Disease.

A. Saenger (*Münch. med. Woch.*, April 6th, 1897) remarks that the propriety of operating upon the thyroid in Graves's disease as well as the absence of danger attending such operation require confirmation. He refers to the statistics of recorded cases treated by operation, and draws attention to the not very few deaths which have been known to follow immediately. He reports a case in a woman, aged 28, in which the right lobe of the thyroid gland was removed for Graves's disease. At first the palpitation was a little improved, but the other symptoms remained stationary. A little later all the symptoms were aggravated, and the condition of the patient was worse after than before the operation.

(337) The Diagnosis of Early General Paralysis.

This is the subject of a clinical lecture by Goffroy (*Journ. de Méd.*, May 10th, 1897), in which the author points out the difficulty of forming a diagnosis in some cases. The first patient was one who had been under observation for fourteen years, and who was admitted in the first instance as a case of general paralysis, but whose subsequent history proved the diagnosis to be erroneous, as the case subsequently proved to be one of paralysis agitans, and Goffroy points out that this disease (paralysis agitans) is itself one of great difficulty in diagnosis in some cases. In cases of alcoholism there may be tremor of the tongue, lips, and hands, and a slurred articulation. There may also be—and this is a fact not sufficiently well known—inequality of the pupils. When these symptoms are associated with a certain degree of mental elevation it is obvious that a diagnosis of general paralysis is quite justifiable. In such cases, however, all these symptoms may disappear, more particularly when alcohol is stopped. The author points out that even in such cases the graver diagnosis may be avoided by attention to a few important points; thus, if the inequality of the pupils be accompanied by dilatation or myosis, and if the Argyll-Robertson phenomenon be present, together with loss of the accommodative reflexes, the evidence is in favour of general paralysis, for this association of loss of light reflex has not been observed so far in alcoholism. These signs occur very early in the case, and are consequently of great value in aiding a diagnosis.

(338) Pruritus as a Symptom of General Paralysis.

Sarbo (*Pester Med. Chirurg. Presse*, 1897, No. 37) points out that skin symptoms, so well known in tabes and syringomyelia, have not been described in the course of general paralysis, and records two cases of pruritus in that disease. Both belonged to the class of cases in which no other skin change precedes the irritation, which was, moreover, on each occasion at first local and not general. The nervous system can act in two ways in the causation of pruritus, either, as in the case of pregnancy completing the arc of a reflex action, or producing the irritation as a symptom of its own disease. As an example of the latter he quotes a case of pruritus of the thigh in a neurasthenic male which disappeared entirely with the amelioration of the nervous affection. The first of his general paralytics was a man, aged 35, with a syphilitic history, who had suffered from the disease for a year and a half; from the first he was affected with violent irritation over the whole body, but particularly the face and head, so that he scratched himself till blood came. There was no other cutaneous affection. Four weeks' franklinisation relieved both the psychical condition and the pruritus, which subsequently returned together. The pruritus had lasted six months when the author first saw him; it began behind the ears and spread over the whole body. A month's franklinisation again benefited both the nervous system and the skin, both of which subsequently relapsed. The reason that cases such as these have not got into the textbooks is that the skin symptoms usually appear early and lead the patient to consult a dermatologist while the nervous affection is still in abeyance; later when they came under the care of the neurologist the pruritus has disappeared. The close association of the two is shown by their simultaneous amelioration and relapses. The skin symptoms in general paralysis differ from those in tabes and other affections of peripheral nerves in three respects: they lead to violent scratching instead of mere rubbing, they are not associated with trophic cutaneous lesions, and they are eventually general and not localised. This general distribution may be due to a toxæmia or to the projection of a general disease of the central nervous system. Against the first view is the absence of other affections of the blood and internal organs; in favour of the second are the demonstrable cortical lesions of the disease. In this case the pruritus would resemble the projected sensations in an amputated limb or the projected aura in epilepsy. It is further noteworthy that with the extinction of the functions of the cortex during the progress of the disease the pruritus disappears as well. The author accordingly concludes that pruritus without accompanying skin changes may be a prodromal symptom of general paralysis, and that it diminishes, and eventually disappears, with the progress of mental decay. There is much probability in the view that the pruritus is a projected sensation originating in a cortical lesion.

(339) Unilateral Bradycardia.

E. Moritz (Moscow Congress, 1897) relates a case of cardiac affection—gummatous myocarditis?—occurring in a man, aged 43, with a history of having had syphilis twenty years ago. In the course of four months under anti-syphilitic treatment the symptoms gradually improved. The presence of venous pulsation in the patient's neck enabled Moritz to compare the action of the right side of the heart with that of the left, and he came to the conclusion that at one time the right

side of the heart was contracting two or three times to a single contraction of the left ventricle.

SURGERY.

(340) Calot's Operation without Anæsthesia.

WILLEMS (*Sem. méd.*, July 28th, 1897) advocates that Calot's operation for Pott's curvature (EPITOME, January 30th, 1897, par. 93, and BRITISH MEDICAL JOURNAL, August 7th, p. 336) should be performed without chloroform on the following grounds: (1) Chloroform is the most dangerous part of the method. The child lying on its stomach with the assistants pulling on the four limbs and head, it is impossible to watch the effect of the anæsthetic, while the chest is compressed into a condition of forced expiration. Again, if danger threatens it is impossible to perform artificial respiration if the plaster jacket has been or is being applied. A death under these circumstances was reported recently. (2) The muscular resistance, though at first an obstacle to reduction, is overcome fairly quickly, and is followed by fatigue and relaxation, though six to eight assistants are required, and it is only towards the end before applying the jacket that complete muscular relaxation is required. This fatigue is so marked that young children frequently fall asleep the moment traction is left off. (3) The pain is not nearly so bad as might be expected. It is certainly not acute, and seems to be discomfort rather than pain. From older children one learns that the pulling and compression of their limbs by the assistants' hands gives rise to no more pain than the lesion produced in the tuberculous spinal column. Thus chloroform can be omitted without cruelty, and should be considering its dangers. The only cases where it might be necessary are those in muscular adults or older children. The author has performed the operation without anæsthesia eighteen times on children aged from 2 to 14, in one of whom the curvature had been present for five years with uniformly good results.

(341) The After-history of Radical Cures of Hysteria.

TAILLENS (*Rev. Méd. de la Suisse Rom.*, July 20th, 1897) criticises the usual method of estimating the final result in operations for the radical cure of hernia, most of those cases put down as "cures" being seen for the last time on leaving hospital. This applies to the statistics collected even by such authorities as Bassini, Ferrari, etc. Before saying that a radical cure has been successful two years at least must pass. The author has analysed the cases operated on in Roux's clinic from the beginning of 1890 to the middle of 1894. Of these 401 cases, 324 were followed up for from two to six years after the operation, 288 being inguinal herniæ (120 right, 74 left, and 47 double), 22 femoral (13 right, 5 left, and 2 double), and 14 umbilical. Operations: (1) For inguinal hernia. During the whole period the first steps were the same, namely, dissection of sac as high as possible, ligature, and excision. The sac was not opened unless adhesions were present. From 1890 to 1893, however, the pillars were sutured, the suture passing through some fibres of the internal oblique so as leave nothing behind the cord except fascia transversalis (modified Ferrari), while from the middle of 1893 a slightly modified Bassini was used. At present Ferrari's operation is performed. (2) For femoral hernia. After resection of the sac the opening is closed by one or two sutures, which take up all the soft parts down to the bone, that is, the whole of the crural arch on one side and the pectineal fascia and periosteum on the other. (3) For umbilical hernia. In children the sac is rarely resected, but it is in adults; and, after trimming, the abdominal wound is sutured layer by layer. Formerly silk was always used, but more recently catgut, as it has been found that silk is more likely to produce suppuration. After-history: Relapses occurred 48 times in inguinal hernia (= 16.7 per cent.), 6 times in femoral (= 27.3 per cent.), and not once in umbilical. Thus the latter give the best, and femoral the worst, after-results. The factors influencing relapses are: (*a*) the state of the abdominal walls, especially flaccidity; (*b*) the direction of the hernia; thus indirect give much better results than direct inguinal herniæ; (*c*) the thickness of the cord, a thick cord making it impossible to close the ring satisfactorily except after castration; sex has very little influence, even in inguinal hernia; (*e*) age, the change of relapes increasing steadily with the age, especially after 20; (*f*) the kind of operation; thus in spite of the theoretical advantage of Bassini's operation for inguinal hernia restoring the normal oblique direction of the canal, its results are much inferior to simple suture of the pillars of the ring, for of 235 operations by the latter method relapses occurred in 29 (= 12.3 per cent.), while in 53 by Bassini there were 19 relapses (= 35.8 per cent.); (*g*) the method of healing, first intention giving much fewer relapses than second (257 first with 39 relapses = 15.2 per cent.; 67 second with 15 relapses = 22.4 per cent.) Sequelæ: Among the 324 cases atrophy of the testicle was found in 12 (9 times after simple suture of the pillars = 3.9 per cent.; 3 times after Bassini's operation = 5.8 per cent.), hydrocele of the cord in 3, and varicocele in 3.

(342) The Surgery of Bronchocele.

SHEPHERD (*The Practitioner*, August, 1897) advocates enucleation in the treatment of cystic bronchocele, and states that he has operated by this method on nearly thirty cases, with rapid cure in all. The operation was undertaken in most of these patients for the relief of dyspnœa and dysphagia, and to remove deformity. It is, the author states, a simple one, but occasionally when the cyst is adherent, the bleeding is very profuse and difficult to control. The difficulties of the operation increase with an increasing number of cysts. When the cysts are on both sides two incisions are made, one over each lobe. After a free incision o the skin and fascia, a small cut is made in the gland and the tissue divided until the proper cyst wall is exposed. This, which it is often very difficult to find, may be recognised by its bluish-white colour. The author makes it his practice to puncture the cyst and to let out some of its contents before he enucleates the growth. In this way tension is relaxed, the gland comes more readily out of its bed, and the cyst, as it projected, may be peeled away from the surrounding gland tissue with less risk of lacerating any large vessels. If there are several cysts, one can be reached through the bed of the other, and no fresh incision need be made in the gland tissue. Loss of blood is thus reduced and the danger of the operation diminished. Large cysts, the author states, are often more easily removed than small ones, being often less adherent.

(343) Extirpation of the Gasserian Ganglion for Neuralgia.

MUGNAI (*Il Policlinico*, September 1st, 1897) records the case of a woman, aged 52, suffering from incurable neuralgia of the right superior maxillary nerve. In October, 1895, this nerve was excised by the author. For about fourteen months the patient was entirely free from pain; it then returned not only in the second division of the fifth, but also in the first and third. The author decided to resect the Gasserian ganglion; this was done on January 14th, 1897, by the Krause-Hartley method, viz., temporary excision of the squamous portion of the temporal bone. The operation lasted an hour and three-quarters, and although much collapsed at the time the patient made a rapid recovery, and when seen six months after the operation had no return of the pain, and was better in every way. Sensation had returned over the area of the second and third division of the fifth nerve.

MIDWIFERY AND DISEASES OF WOMEN.

(344) Fœtal Sounds (not Cardiac) audible before Birth.

MEYER of Zürich (*Centralb. f. Gynäk.*, No. 28, 1897) believes that an obstetrician with acute hearing can distinguish not only the heart sounds but also other noises made undoubtedly by the fœtus, and not caused by the uterus or placenta. Already he has reported a case where he diagnosed frequent singultus, and the child showed the same symptom after its birth (*Korrespondenz-Blatt für schweizer Aerzte*, No. 22, 1896). The mother of the child became pregnant again in August, 1896. Labour pains set in at 1 A.M. on May 22nd; the child moved freely. The membranes ruptured at 3.30 A.M.; about 16 ounces of liquor amnii escaped. The fœtal heart sounds were quite audible, towards the left

roin. In the intervals between the ains, Meyer distinguished on applying he stethoscope over the symphysis a ery rapid knocking sound. Over 250 eats were audible to the minute. The ardiac pulsations were about 128. hese anomalous sounds stopped very uddenly as they had begun. At 7.10 .M. the child was delivered; nearly 2 ints of clean liquor amnii escaped. It as a male weighing 8 lbs., and neasuring nearly 20 inches in length. s it cried very rapid tremors of the ower jaw were observed. This chatter- ng of the gums is not unknown in new- orn children. Meyer found that their umber within a given time and their reat clearness and sharpness so that ach beat could be heard notwithstand- ng the rapidity of the movements of he jaw, proved that they were identical vith the sounds heard *in utero*.

(345) Menstruation and Nutrition.

Keller (*Archives Générales de Médecine*, May, 1897) has prepared a monograph of high importance on this subject. He finds that menstruation has an undoubted and quite direct influence on nutrition. There is a marked diminution of urea and of nitrogenous materials incompletely oxidised, and a distinct augmentation of Robin's coefficient of oxidation. The elimination of nitrogenous products in the urine is influenced by relative scantiness of the catamenia. Menstruation is accompanied with a diminution of the destruction of albumens in the system. The oxidation of nitrogenous products attains its maximum. The products of nitrogenous waste are eliminated least freely during the days midway between two normal periods. The elimination steadily increased up to the next period. Menstruation is simply the indication of a periodical movement which runs through the active sexual life of a woman, and is associated with all her functions. Keller insists that his researches confirm those of Goodman, Stephenson, Jacoby, Van Ott, Rabuteau, Hegar, Reinl, and Schrader.

(346) Castration for Mollities Ossium.

Flatau (*Münch. med. Woch.*, No. 7, 1897) describes a successful case where the patient was 47; she married when 26, and had borne six children, the youngest aged 8. Her general health was good, but three years before operation severe pains set in; they were chiefly in the sacrum and thighs. The pelvic deformity became very marked and quite characteristic; even the vaginal inlet was contracted. The uterus was retroverted and held back by adhesions; the appendages could not be satisfactorily explored. The urine was free from sugar or albumen. In August, 1894, the appendages were removed and the uterus fixed by abdominal hysteropexy. Ten days after the operation the pains in the bones had almost disappeared. In February, 1897, the patient was in good health, the pains had never returned, and the deformity of the skeleton had not advanced.

(347) Post-Partum Eclampsia.

Maygrier (*Progrès Méd.*, July 17th, 1897) writes that a primipara, aged 26, was admitted into the Lariboisière Hospital in labour at term. For a month she had been subject to headache and œdema of the legs. Within eight hours after delivery she had a fit, followed by three more within three hours. She was conscious between the attacks. After an interval of four hours a fifth fit came on followed by coma, which terminated within an hour by death. As a rule *post-partum* eclampsia, Maygrier observes, is mild. This case does not support the current theory that in the eclampsia of pregnancy it is advisable to induce premature labour. Maygrier is opposed to this practice; but when labour sets in he terminates it as quickly as possible in the interests of the mother and child.

(348) Papilloma of Labium Majus.

Fraikin (*Gaz. hebd. de Méd. et de Chir.*, February 18th, 1897) exhibited to the Anatomical and Physiological Society of Bordeaux a papilloma, which showed no signs of epitheliomatous change, which he had removed from the left labium majus of a woman, aged 64 years. It had been present for two years, had grown steadily, and was pediculated. The patient enjoyed good general health, and the removal of the tumour by the knife was followed by recovery.

THERAPEUTICS.

(349) The Dangers of Artificial Respiration.

A. Brosch (*Deut. Arch. f. klin. Med.*, vol. lviii, p. 605) narrates that a man, aged 22, fourteen days after his discharge from the hospital as convalescent from diphtheria, was seen to get up suddenly from the dinner table, take a few steps towards the door, and fall down. The doctor was called and found the man apparently dead; he nevertheless tried artificial respiration for a long time, but in vain. At the necropsy food was found in the trachea and bronchi, and the uvula and soft palate were œdematous. Was the entry of food into the air passages during life the cause of death, or was death due to syncope? And did artificial respiration after death cause the entry of some of the gastric contents into the air passages? To throw light on this question Brosch made a number of experiments on dead bodies. He opened the stomach, put fluid into it, closed up the opening again, and ligatured the pylorus; artificial respiration—Silvester's method—was found to cause the aspiration of some of the gastric contents into the air passages. In a control experiment he did not open the stomach, but contented himself with trying the effect of artificial respiration on the natural stomach contents; a similar result was quickly obtained, and the fluid contents of the stomach immediately began to fill the pharynx, flow out of the mouth, and enter the air passages; the fluid food was found in the trachea, main bronchi, and all the branches of the main bronchi. Brosch discusses various methods — preliminary tracheotomy, artificial respiration after the manner of Schüller, Howard, and Marshall Hall — and comes to the conclusion that, when there is reason to fear aspiration of gastric contents—the best way to avoid the possible fatal effects of artificial respiration is, before commencing the movements, to introduce an elastic tube into the œsophagus. This he thinks will likewise help to prevent the falling back of the tongue. The tube should, however, be sufficiently stiff to avoid its being quite easily pressed flat, in which case its lumen would be obliterated and it would be rendered useless. It should also reach at least 15 cm. beyond the pharynx into the œsophagus and 10 cm. of the tube should project from the mouth, and the outside end should be weighted down, so that, if any fluid comes out, it should not flow back into the pharynx again.

(350) Actol as a General Disinfectant.

Marx (*Centralbl. f. Bakt.*, 1897, Nos. 15 and 16) publishes the results of a number of experiments undertaken to discover whether, as appeared possible from the writings of Credé and Beyer, the subcutaneous injection of actol (silver lactate) might lead to general disinfection. He found that doses of $\frac{1}{3}$ grain and upwards always led to a rise of temperature, lasting about a day, while larger quantities caused pain and local necrosis; $\frac{1}{12}$ grain injected into a cold abscess in a child caused some pain, while the temperature rose to 100.8°. To ascertain whether actol converted the serum into an antiseptic fluid, 7 guinea pigs were injected with 0.03 to 0.04 per cent. of their body weight of the drug, and received subsequently, after an interval varying from ten minutes to three hours, half a loop of a virulent cholera culture. In every case the animals succumbed to the infection as rapidly as those used for controlling the results, and the power possessed by their serums of hindering the growth of the bacteria was no greater or more lasting than that of the serum of a healthy animal. Similar experiments with the anthrax bacillus yielded identical results. In order to ascertain whether actol had any power of checking a septicæmia already established, it was injected into other guinea-pigs at varying intervals after these had been infected with anthrax; again no retardation of the lethal process was observed. Marx next essayed to discover whether the serum of animals treated with actol had any bactericidal properties outside the body. Some blood from an animal treated was mixed with an agar plate and sown with a culture of staphylococcus pyogenes aureus; when compared with that upon a plate mixed with blood from a normal animal, the growth of the micro-organism was found to be in no way impeded. This was the case

whether the actol had been injected ten minutes or five days before the blood was drawn. Nor had the serum from an animal injected with actol half an hour previously any restraining influence upon the action of cholera vibrios with which it was introduced into the peritoneal cavity of a guinea-pig. It was found, moreover, that the presence of silver could not be demonstrated in the blood of an animal which had received an actol injection fifty minutes previously. There is thus not the slightest evidence that actol can function as a general disinfectant. It must be remembered that enormous doses were used in the experiments, thus 0.04 per cent. of the body weight would mean in man a dose of about 360 grains. The rise of temperature following the use of the drug is taken by the author to mean a rapid disintegration into silver and lactic acid. He emphasises the fact that, in spite of its failure to produce general antisepsis, actol is shown by some of his experiments to be a most powerful local disinfectant. Thus the two series of researches with anthrax bacilli showed that in the first place it protected the seat of injection completely from the swarms of micro-organisms in the blood, and in the second that it had an actual local bactericidal action in respect of these bacilli. Marx therefore concludes that, in spite of its failure to produce an antitoxic serum, actol is one of the most powerful and at the same time most harmless bactericidal agents at present before the public.

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(351) Intravenous Injections of Arsenic in the Treatment of Psoriasis.

HERXHEIMER (*Semaine Méd.*, clxii, 1897) has employed these injections in 28 cases, in 25 of which no other treatment was adopted. Of these 25, 10 were completely cured, 6 left the hospital much relieved, and 9 were reported as still under treatment, all greatly improved, and 3 nearly cured. The commencing dose is 1 milligramme of arsenious acid, and this is increased daily by 1 milligramme up to 15 milligrammes, the maximum dose, which is repeated daily till the eruption disappears, generally at the end of six or seven weeks. At the end of the first or beginning of the second week the patches become darker in colour, and there is a more abundant production of scales; the eruption then fades and disappears, the pigmentation occasionally persisting. The injections are generally well supported; arsenical zona and diarrhœa were met with in a fortnight in 2 cases, and a venous thrombosis, cured in a fortnight by rest of the affected limb, occurred in a third; slight thrombosis also occurred in another case. The following is the method of procedure: After disinfection of the skin by soap, turpentine, ether, and sublimate, and the application of an Esmarch bandage above the elbow to render the veins prominent, the needle of a Pravaz syringe is introduced as nearly parallel to the skin as possible, and its penetration of the vein ascertained by withdrawing the piston. After the injection of 1 c.cm. of a limpid solution of arsenic of the desired strength the wound is closed with oxide of zinc plaster.

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(352) The Bechterew Treatment in Epilepsy.

DE CESARE (*Rif. Med.*, August 13th, 1897) records 8 cases of epilepsy treated for a period of six weeks with a mixture of bromide of potassium, codein, and adonis vernalis, given twice a day (Bechterew treatment). In 4 cases there was complete suspension of the fits, in the 3 other cases the fits were replaced by infrequent attacks of vertigo, and in the last case there were four attacks of vertigo and two convulsions. In each case the attacks were very much reduced in frequency; no bad results were observed. The digestion was not impaired, the pulse was fuller, the temperature normal, diuresis increased, sleep uninterrupted and calm, and the mental condition unchanged. The author believes the results were due to the combination of drugs and not to the bromide alone.

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(353) The Therapeutic Effect of Artificial Hyperæmia.

BIER (*Münch. med. Woch.*, 1897, No. 32), who for some years has advocated artificial hyperæmia as a successful method of treating tuberculous joints, has tried its effect in other diseases. Syphilitic foci of disease invariably were affected for the worse, and the growth of two sarcomata was rapidly increased. In gonorrhœal articular rheumatism artificial hyperæmia was almost always of marked benefit, but in acute articular rheumatism the results were variable. In chronic rheumatism and arthritis deformans the results were unequal, but generally very good.

PATHOLOGY.

(354) The Origin of Diphtheria Antitoxin.

DZERJGOWSKY (*Archives des Sci. Biolog. de l'Institut Imper. de Méd. expér. à St. Pétersbourg*, Tome V, Nos. 2 et 3, 1897) has estimated the quantity of antitoxin contained in the blood and organs of horses immunised against diphtheria. A. Taking the constituents of the blood he finds that: (1) the fibrin has no antitoxic power; (2) serum obtained normally and that got by expression from the clot from the plasma of the same blood have an equal antitoxic power; (3) the clot from the plasma, therefore, does not retain the active principle; (4) the plasma and the serum have an equal antitoxic power; (5) the red corpuscles compared with the plasma contain traces only of antitoxin (in one case 400, in another 1,100 times less), such traces being possibly due to the corpuscles being not quite freed from serum; (6) serum containing the juice of the white corpuscles is less rich in antitoxin than the plasma; (7) the extract of white corpuscles contains relatively little antitoxin, and the white corpuscles themselves traces or none at all. Hence the white corpuscles cannot be the place where antitoxin is formed, as some have supposed, since in that case serum plus extract of white corpuscles should contain more antitoxin than pure serum. B. Various organs; the serous liquid contained in organs, such as that in the Graafian follicles, and that from the infiltrated muscles where the injections are made, contain as much antitoxin as the blood serum. Possibly hereditary immunity depends on the former fact. None of the organs themselves contain so much as the blood serum, their order as regards the amount of contained antitoxin being: (1) Kidneys; (2) ovaries; suprarenal glands, salivary and lymphatic glands; (3) liver, spleen; (4) thyroid body, trunk muscles, heart muscles, spinal cord, cerebral matter, and bone marrow. All, however, contain more than the formed elements of the blood. Though, from the above facts, it is not possible to decide exactly where the antitoxin is formed, one may suppose either that it formed in variable quantities in the different organs, whence it passes into the serum and accumulates there, causing the serum to be the richest in antitoxin, or that antitoxin is formed originally in the serum, the organs containing it only because they are impregnated with the latter. Again, since the kidneys contain more antitoxin than other organs, one may suppose either, (*a*) that it is formed chiefly in the kidneys, or (*b*) that it is concentrated in them, because, as an abnormal constituent of the serum, it is collected to be excreted in the urine. If (*a*) were true, the venous blood coming from the kidneys should contain more antitoxin than the arterial; but the author has not been able to detect any difference: still the quantity might be too small to be detected by his methods. If (*b*) were true, the urine of immunised horses should contain antitoxin. This is the case; 2.4 c.cm. of the urine neutralising 0.3 c.cm. of normal toxin. The sweat contains still more. This gradual excretion of antitoxin by the sweat and urine explains the loss of immunity, when the injections of toxins are discontinued, that is when the organism does not receive the necessary material (toxin) for the manufacture of antitoxin. The theory of the chemical transformation of toxins into antitoxins is supported by (1) the specific action of the toxins—that is, diphtheritic toxins are neutralised by diphtheritic antitoxins; and (2) Koudrévietsky's experiments. These consisted in killing an animal two hours after injecting a fatal dose of toxin, when toxins alone were found in the kidneys and other organs; while, if the animal were killed twenty to thirty hours after, a certain quantity of antitoxin was present as well. The author concludes, finally, that diphtheria toxin, when injected into an animal, is changed (probably oxydised) in the tissues into antitoxin, and that it then passes into the serum, whence it is gradually excreted in the urine and sweat.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(355) The Serum Diagnosis of Scarlet Fever.

Bates Block (*Journ. Amer. Med. Soc.*, July 3rd, 1897) has considerably extended his researches into this subject (see Epitome, 1897, i, 200). Of 22 cases of typhoid, the serum of which was examined, 18 gave an unmistakable reaction, and 3 a slight one, two of these giving a marked reaction by the dry method. In many of the cases the macroscopic test was used with 1 in 16 blood serum; this was invariably satisfactory, but is inferior to the microscopic, as taking more time and offering greater liability to contamination. Cultures taken from the agglutinated masses grew vigorously, showing that the bacilli had not been killed. By the dried blood method specimens from 39 cases of typhoid were tested and 85 examinations made. In 36 cases the reaction at some time during the disease was sufficient for diagnosis, in 3, 2 of which were doubtfully typhoid, it was not. Of the 85 examinations 72 were sufficiently marked for diagnosis, 13 not; in 3 it was entirely absent, either at a very early or a very late date. In cases tested by both methods the differences were found to be very slight. By both considered together, 107 tests were made in 46 cases of typhoid fever; the percentage of failures in cases was 5.5, in tests 15.88, most of the latter being at a very early or very late stage of the disease. The reaction was found to increase gradually as the disease advanced and to decline with defervescence or during convalescence. The author considers its absence as reasonably certain evidence that a disease is not typhoid fever. Confusing results were obtained with 3 comatose patients, 1 of whom had pernicious malaria, 1 diabetic coma, and the third probably scarlet fever; the serum of each of these, diluted sixteen times agglutinated typhoid bacilli. Differences were noted in the reaction of active blood upon various typhoid cultures, and these differences appeared to be constant. Finally, as to time, in the case of serum diluted with 16 parts of bouillon, thirty minutes suffice, while if the dilution is to the extent of 1 in 50, two hours will, as stated by Welch, be required.

(356) Pulsus Paradoxus.

C. Gerhardt (*Berl. klin. Woch.*, January 4th, 1897) describes the pulsus paradoxus occurring on one side, and an unequal number of pulse beats in the arteries of the arms. A pulse unequal in various parts of the body both in force and number of beats has been styled the pulsus differens. Gerhardt says that he has seen such a case for the first time only recently. Here there were the conditions of the pulsus paradoxus and of the pulsus differens, or a one-sided pulsus paradoxus. The author drew attention many years ago to the intermission of the pulse during inspiration in the third stage of group, and v. Rauchfuss has looked upon this as an indication for tracheotomy. The difference in the radial pulses has been very generally recognised as a special sign of aneurysm, but it is more correct to regard it as a sign of endarteritic changes in the aortic arch, leading to a narrowing of the orifices of the large arteries. Cases, however, are few in which the pulsation of the radial artery cannot be felt at the wrist during inspiration. The author relates a case in a woman, aged 66, with mitral disease, bronchitis, and possible renal disease. The pulse, 80 to 90, was irregular and small. The radial brachial and carotid pulses were less on the left than on the right side, but the femoral pulses were equal. During the height of inspiration the left radial pulse became smaller, and at times could not be felt. A table is given showing that at different times of the day the pulse beats were more frequent on the right than on the left side, and that the pulse rate itself in the same artery also varied. Here it must be taken that at the origin in the aortic arch of the left subclavian and carotid arteries there was a narrowing, due in all probability to atheroma. The patient was breathing at 24 to 40 per minute, so that not every respiration was deep enough to cause a disappearance of the radial pulse during inspiration. The unequal pulse-rate in the radial arteries persisted in spite of treatment with digitalis, etc.

(357) Spinal Puncture.

Wilms, of Leichtenstern's clinic (*Münch. med. Woch.*, January 19th, 1897) has practised lumbar puncture 30 times in 23 cases, and has found Schleich's infiltration anæsthesia of much use for this purpose. In 1 out of 4 cases of cerebro-spinal meningitis the diagnosis was thus made evident, and in 2 others the meningococcus intracellularis was found. In the remaining case a therapeutic effect occurred, for after each of two punctures the stupor disappeared. This patient ultimately recovered, but the other 3 died. In 5 fatal cases the tuberculous meningitis puncture was practised 6 times. The tubercle bacillus was only found once. Most authors have insisted on the diagnostic value of puncture in tuberculous meningitis. Here, also, the author noticed some improvement after the puncture, but it was unfortunately only temporary. In 3 cases the pseudo-meningitis in infective processes 6 punctures were made. There was 1 case of sepsis, 1 of typhoid fever, and 1 of pneumonia. The negative result was of value. The author punctured 1 case of uræmia without any benefit. In a case of syphilitic meningitis clear fluid was obtained, and the same result was noted in another cases of cerebral syphilis (gumma) with spinal meningitis. In both cases recovery ensued after suitable treatment. Puncture was also practised in a case of pronounced chronic hydrocephalus, and in 1 case of delirium tremens. In a case of chlorosis with violent headache there was no increase of pressure any more than in the case of uræmia. In a doubtful case of intracranial syphilis the negative result of the puncture proved of diagnostic help. In a case of cerebral embolism there was only a very slight increase of pressure. Whether the question of pressure will prove of any practical value in distinguishing hæmorrhage from embolism cannot be stated with certainty. In a doubtful case of hæmorrhage or embolism the pressure was only slightly increased. In a cerebellar tumour only a slight increase of pressure was noted, yet there was evidence of intracranial pressure. Death here followed five hours after the puncture. In a case of metastatic intracranial angiosarcoma three punctures were made. A slight therapeutic effect was noted after the second and third puncture, but unpleasant symptoms arose after the first one. In five out of six punctures in cerebro-spinal meningitis the fluid was turbid or purulent. In only one of six punctures in tuberculous meningitis was the fluid distinctly turbid. As regards albumen, the reaction on boiling was marked in inflammatory affections. Sugar was only found in the case of hydrocephalus. The author figures a mercury manometer for registering pressure. The mercury is superior to the water manometer. He has estimated the pressure in thirteen punctures. The pressure was lowest in the typhoid case, with marked cerebral symptoms and weak cardiac action. About 10 mm. mercury is about the normal pressure. In nephritis, embolism, and cerebral tumour the pressure was increased. In the angio-sarcoma it was 50 and 66 mm. Position of the patient, respiration, etc., influence the pressure. The negative result of the puncture may be of diagnostic help. The therapeutic effect is usually but a passing one, but the relief of the vomiting, etc., is of importance. Untoward symptoms may arise in tumours, etc., but they must not always be put down to the puncture.

(358) The Duration of Vaccinal Immunity.

J. Jasiewicz (*Journ. de Clin. et de Thérap. Infant.*, July 29th, 1897) has gathered together some statistics which seem to show that the immunity from vaccination in infancy lasts a much shorter time than is commonly supposed. In the case of 23 children under 6 years of age vaccination was successfully performed in 7, 35 per cent. Jasiewicz, therefore, recommends more frequent revaccination in childhood, and especially in early childhood. He believes that it protects from other infectious diseases as well as variola.

SURGERY.

(359) Primary Sarcoma of the Pleura.

Finley and Bradley of Montreal (*Practitioner*, August, 1897) relate a case in a

man aged 67, who was admitted with pain in the chest, restlessness, and shortness of breath. The symptoms were said to have dated from four weeks previously. There was a flat note over the whole of the left chest, enfeebled or absent breath sounds, and greatly diminished vocal resonance and fremitus; 92 ounces of blood-stained fluid were drawn off. Within a period of three weeks the chest had to be aspirated six times, 354 ounces of fluid being drawn off in all. The patient had alarming syncopal attacks on two occasions, and died a month after admission. Both layers of the left pleura were universally thickened, the inner surface being studded with nodules of a white or reddish colour. One bronchial gland also contained growth. The nodules and gland were shown to be made up of a myeloid sarcoma. There was no growth elsewhere in the body. The chief symptoms during life were a large and rapidly increasing pleural effusion, an afebrile temperature, marked prostration of strength and cardiac weakness. Primary malignant disease of the pleura is extremely rare. The authors give details of 6 recorded cases. There may be a single large growth or a diffuse nodular thickening with a pleural effusion usually blood-stained. In the diffuse cases the signs are essentially those of a unilateral pleural effusion. In 2 cases pressure symptoms were present in the arm, and assisted materially the diagnosis.

(360) The Treatment of Fracture of the Lower Jaw.

Hansy (*Centralbl. f. Chir.*, No. 40, 1897) reports 3 cases of fractured jaw in which he applied with success a strong wire around all the teeth, and twisted both ends together in front of the symphysis. To prevent this ligature from slipping, the anterior and posterior parts were fixed by loops of very thin wire, such as is used for flowers, which were passed between the teeth and firmly secured. The advantages claimed for this method are that the patient is able to separate the jaws without disturbing the fracture, and to chew soft food. The patients treated by the author were able to retain the metallic splint until consolidation had been effected, and did not suffer from any of the troubles—swelling of the gums, loosening of teeth, ulceration of the tongue—which have been regarded as serious objections to the use of the wire ligature. This plan of treatment is of course inapplicable to edentulous subjects.—Mahé (*Revue de Chir.*, October, 1897) advocates very strongly the use of Kingsley's apparatus in cases of fracture of the lower jaw. This consists of a dental splint of vulcanite rubber, to which are attached two curved arms of steel, which, emerging from the mouth, extend over the cheek to the angle of the jaw on either side. These are fixed by a sling of gauze passing beneath the chin from one arm to the other. This apparatus, which was devised about twenty years ago, has been applied with complete success by Maké, who states that by its simplicity and the ease of its construction, by the slight amount of discomfort it causes, by the freedom it affords to the temporo-maxillary articulation, and, consequently, the possibility it permits of an almost normal alimentation, and by the perfect apposition of the fragments it assures, undoubtedly constitutes a method of rendering marked service in most, if not all, of the cases of fracture of the lower jaw.

(361) Appendicitis and Intestinal Obstruction.

De Quervain (*Rev. Méd. de la Suisse Rom.*, May 20th, 1897) calls attention to the fact that the appendicitis may exist without giving rise to any of the usual symptoms, and may be followed by intestinal obstruction, indistinguishable clinically from ordinary cases of ileus whose origin can be discovered only by operation. He reports such a case where all the symptoms of intestinal obstruction were present, and where perityphlitis was not revealed in any way, even on examination *per vaginam* and *per rectum*. After enemata, electricity applied by Boudet's method, etc., had failed to overcome the obstruction, laparotomy showed that the actual cause of the ileus was a kinking of a coil of the ileum, with adhesion of its proximal and distal portions. This adhesion was evidently due to the fact that this coil had recently been near the appendix, which, in spite of the absence of symptoms, was perforated near its insertion into the cæcum, which was covered with fibrin at this spot. The patient recovered.

(362) Ileus due to Hydatid Cyst of the Liver.

Reichold (*Münch. med. Woch.*, April 27th, 1897) relates such a case in a woman. The patient had passed a hard stool three days previously. Shortly afterwards there was severe pain in the epigastrium. Vomiting soon followed. Purgatives were employed without effect. No flakes had been passed. A swelling of about the size of an apple was felt below the ribs on the right side. It was tense and elastic, and moved slightly with respiration. Peristaltic movements could be seen through the abdominal walls. It was thought at first that the tumour was an intussusception. Large rectal injections were given, and the stomach washed out, but without relief. Abdominal section was done on the following day. A cyst was found in connection with the liver measuring 15 cm. long and 3 cm. across. In the manipulation the bowel was set free and the obstruction relieved. The cyst was fixed with sutures and incised, 200 to 250 c.cm. of fluid being evacuated. The fluid was at first clear, but eventually purulent. The cavity was mopped out and then plugged with gauze. Further cysts were opened four days later. The patient left her bed seventeen days after the operation, when the cavity was reduced in size to that of a hazel nut. In all, three cysts were opened, and one of these had suppurated. Hydatid hooklets were found in the fluid. The author refers to the difficulty of diagnosis. Hydatid disease is rare in the patient's locality, and she maintained that the swelling had appeared since her illness began. He discusses the method of treatment, and draws attention to the uncertain and sometimes dangerous procedure of tapping. The cyst should be exposed. The ideal method consists in the removal of the cyst without opening it, but this is rarely possible. In most cases the cyst is incised at once or a little later. The cyst is attached to the abdominal wall before or after it is emptied. Mostly the cyst should be partially emptied with a trocar and then incised, the edges of the opening being attached to the abdominal wall. In the method of operating in two sittings the cyst is attached to the abdominal wall, and then incised some ten days later. This last method was impossible in the case in question owing to the obstruction, and also beause the cyst had suppurated.

MIDWIFERY AND DISEASES OF WOMEN.

(363) Extraction of the Detached Fœtal Head.

Audebert (*Journ. de Méd de Bordeaux*, August 8th, 1897) has found serious difficulty in extracting from the uterus the fœtal head which has been detached from the trunk. The difficulty is due largely to the mobility of the head, but also often to the contraction of the cervical canal and to deformity of the pelvic brim. In a case of which he gives the details the head became accidentally separated during prolonged traction on the body in a breech presentation. The labour was at the sixth month. By means of two pairs of uterine dressing forceps the head was fixed, one pair being attached to a piece of loose skin and the other to the soft tissues of the neck. It was then easy to extract the head by means of a pair of abortion forceps. Audebert then curetted the uterine interior, and the patient made a good recovery. The preliminary fixation of the head by means of narrow and long catch forceps is of great value in aiding extraction.

(364) Fleshy-Mole Twin: Nervous Cough in Pregnancy.

Voigt (*Prager med. Woch.*, No. 23, 1897) was called in to see a woman six months pregnant and 30 years of age. For a few months she had been much troubled with violent fits of coughing, though no physical signs of pulmonary or laryngeal disease could be detected. She had grown very nervous and excitable. A rigor, with rise of temperature to 104° F., had occurred. Voigt diagnosed pregnancy with one living fœtus. There was marked tenderness of the uterus to the left inferiorly. The spleen was swollen. There was no symptom of abortion, but that accident occurred two days later, and a living child, which died in six hours, was expelled

spontaneously. A seemingly healthy placenta was delivered, and the uterus contracted well without hæmorrhage. The local uterine tenderness passed off. Yet there was a temperature of 104° at night, and the spleen continued swollen. On the fourth day a little hæmorrhage set in, and on examining Voigt found a fœtid bright red mass between the patient's thighs; its surface was villous, and it was a typical fleshy mole. The fever and the enlargement of the spleen steadily decreased and disappeared, whilst the fits of nervous coughing ceased at once and for good. The patient gained flesh and soon became strong again. Voigt has failed to find any record of twin pregnancy where one of the ova was a fleshy mole, the other a well-developed fœtus.

(365) Statistics of Eclampsia in Pregnancy and Labour.

Halbertsma (*Nederlands Tijdschrift van Verlosk. en Gynaek*; 8th year, 1897, No. 2) has observed 109 cases, 49 being closely analysed. Of these 31 suffered during pregnancy, and 18 at the beginning of labour. In 7 eclampsia set in before the eighth month of pregnancy, all mothers saved, but 6 children lost; in the case where the child was saved incision of the os (Dührssen's practice) was undertaken. Of eclampsia later on, Halbertsma classes 5 as "light cases," 1 "moderately severe," 1 sufficiently peculiar to be set aside from the rest (spontaneous delivery, pneumonia, gangrene of the lung), and 17 as definite "heavy cases." Out of the 17, 2 are rejected on account of some uncertainty about treatment, whilst in 7 neither Cæsarean section nor Dührssen's incision was practised, and all died, whilst in 8 when one or other of these operations was undertaken 6 were saved. Halbertsma here notes that 1 death followed Cæsarean section, the first he ever performed, many years ago. It was done before the days of antiseptics and precise suturing of the uterine wound; 6 of the 18 cases of eclampsia beginning with labour are classified as "light," 12 as "severe," no less than three quarters being lost. None of the unfavourable cases underwent Cæsarean section or incision of the cervix, and none received timely assistance from more common artificial resources. In 1 the pelvis was contracted, 1 patient was an old primipara. There remain 3 cases that were saved, in 2 incision of the cervix was practised, in the third chloroform and morphine were administered, and when the os was completely dilated the forceps was applied. Halbertsma favours this line of treatment, but states that should it fail the continuance of the fits will be more deadly to mother and child than Cæsarean section.

(366) Triplets and Fibroids of the Uterus.

W. Jepson (*Amer. Gynæc. and Obstet. Journ.*, August, 1897) reports an extraordinary case in which a triplets pregnancy was complicated by the presence of multiple fibroids of the uterus. The patient was a primipara, aged 36, and pregnant about three months. The abdomen, however, was as large as at full term, and was rapidly increasing, and the woman's condition was precarious, so it was decided to open the abdomen. The uterus was found to be studded all over with interstitial and subserous myomata, and it was only after the whole mass had been removed by hysterectomy, and the uterine cavity laid open, that it was discovered that inside it were three fœtuses in two bags of membranes. Their age was three months. The patient made a good recovery. Attached to the uterus were twelve tumours, varying from 1 to 5½ inches in diameter, besides numerous smaller ones.

THERAPEUTICS.

(367) "Rheumatic" Tetanus and the Antitoxic Treatment.

Steiner (*Wien. klin. Woch.*, 1897, No. 36) records two cases of interest from the point of view of etiology and therapeutics respectively. The first occurred in an apparently healthy man of 38 five days after he had contracted a chill by becoming wet to the skin. There was no obvious breach of surface, but the disease ran a subacute course, and after a month showed no signs of improvement; at the end of this time a large purulent crust was sneezed out of the nose, and from that moment the patient rapidly recovered. The crust was, unfortunately, not preserved, but Steiner considers that infection must have taken place by means of dust somehow introduced into the nose; the case would have formerly been classified as one of "rheumatic" tetanus. The second patient was a man, aged 25, in whom the symptoms followed a cut of the left thumb by a fall; here the disease was more acute, and on the sixth day the spasm, pain, sleeplessness, and profuse sweating had rendered him apparently moribund. Tizzoni's serum was injected to the extent of 1,125 immunity units, followed by 300 units next day, and 825 the day after; in all 2.5 grains of the dry substance were administered. Half an hour after the first injection the patient expressed himself relieved, and he thenceforward speedily improved; the last spasm occurred the day after the final injection, but slight rigidity of the left forearm persisted for another fortnight, together with sciatica and more marked rigidity of the adductors of the hip. The curative action of the serum was instanced by the immediate cessation of the excessive sweating, and the return of quiet and sleep, in addition to the marked subjective amelioration. Furthermore, the spasms, which had been excessively violent, ceased at once for eight hours, and those which occurred later were abortive, and for the most part painless. The temperature, which had risen to 101° F., was not at once reduced, showing that its origin must be complex. It should be mentioned that in both cases all the ordinary drugs were ineffectually employed. From them the author draws the following conclusions: (1) An apparently "rheumatic" tetanus was really due to infection through an unusual channel. (2) This was rapidly and spontaneously cured by the expulsion of the principal source of infection—the crust from the nose. (3) Tetanus antitoxin exerts no noxious influence on the organism. (4) In one case at least it appeared rapidly to cut short the disease. (5) The judicious use of the antitoxin will cure cases that would not have got well spontaneously. Steiner strongly recommends its use in conjunction with local or symptomatic treatment. The seat of infection should first be disinfected, preferably with an iodine compound (iodoform); then large quantities of fluid should be given with the object of washing the toxins out of the organism; next physiological antidotes, such as chloral, morphine, and bromide, should be administered; and, finally, the antitoxin injected. The author believes that the latter is not a chemical antidote, but antagonises the toxins in complicated and physiological ways.

(368) The Treatment of Ozæna.

Moure (*Traitement de l'Ozène*, Bordeaux and Paris, 1897) compares the relative value of the different methods of treatment of ozæna. Although none give such good results as were obtained by their inventors (Cheval claimed to have cured 91 per cent. by "interstitial electrolysis"), he protests against the attitude of those who, believing the disease to be incurable, do nothing for it; for though all cases cannot be cured, all can be greatly improved by treatment. The author first rids the nasal cavities of the dry crusts by rubbing the mucosa with cotton wool soaked in phenolised glycerine and fixed on a holder. Afterwards he puts it to the patient whether he is willing to undergo a strict and long course with a view to eventual cure, or whether he wishes simply to get rid of the crusts and smell. In the latter case he prescribes nasal and retronasal douches of 1 or 2 litres of saline, bicarbonate or boracic solutions morning and evening, to be followed by a spray of mentholised oil. If larger quantities of lotion are required, the first douche should be made with one of the above solutions, the last with half a litre of one containing a soluble antiseptic such as carbolic acid, 1 in 20 with glycerine and water. This suffices to do away rapidly with the smell. In the former case he prescribes nasal and retronasal douches of saline solution to be used by the patient. He himself "massages" the mucosa with a plug of cotton wool on a holder soaked in 1 in 15 or 1 in 10 phenolised or iodised glycerine every other day for a fortnight, then twice a week, and then from time to time according to the progress of the case. This massage is always followed by a douche to remove the secretions; the mucosa is then sprayed with a 5 to 25 per cent. silver nitrate solution, and finally an alkaline douche is given to remove the excess of nitrate. This often produces a slight acute

coryza and headache, which usually soon pass off. After a month or two of this treatment, it is possible to discover where the purulent secretion arises, and it is usually found in obstinate cases that the mucosa alone is not at fault, but that frequently one or other of the accessory cavities is involved. Treatment must then be directed specially to this sinus. The frontal or maxillary sinus, especially the latter, can be treated directly, and then a permanent cure can be effected. With the ethmoidal or sphenoidal the most careful treatment, mopping out the cavities, or even cauterisation and curetting, may fail to cure. Such patients must undergo a regular course lasting three or four weeks two or three times a year. General constitutional treatment must not be neglected.

(369) Treatment of Ulcero-Membranous Stomatitis.

MARFAN (*La Médecine Infantile*, September 1st, 1897), in a clinical lecture, describes under the title of ulcero-membranous stomatitis a case of septic gingivitis which by inoculation had produced ulceration of the mucous membrane of the right cheek. This condition is often called aphthous stomatitis, but must be distinguished from it and from diphtheritic stomatitis. It requires vigorous local treatment to prevent complications such as fistula, noma, osteitis. Chlorate of potash given internally is useless, and the treatment which has been employed for 50 years at the Hôpital des Enfants Malades is to rub in finely-powdered chloride of calcium into the affected areas. On the following day the plaques become detached and healing rapidly follows. If, as but rarely happens, this method fails, recourse may be had to a strong solution of carbolic acid (1 in 10), lactic acid (1 in 3), or permanganate of potash (1 in 300) applied by means of a probe covered with cotton wool. The mouth should be washed out at least twice a day as well as after food with boiled water, and the margin of the gums should be touched daily by cotton wool soaked with boracic acid.

(370) The Action of *x* Rays on Pulmonary Tuberculosis.

BERGONIÉ AND MONGOUR (*Arch. d'Elect. Méd.*, August 15th, 1897) have investigated this subject in the following manner. The patient lay in bed, and a vacuum tube was suspended at a distance of 8 inches above the affected part, so that it was exposed for ten minutes at a time to the rays of the antikathode, a Ruhmkorff coil giving a 14-inch spark being employed. The chest was covered with a thin vest, and in no case was any erythema or other untoward cutaneous effect evoked. In 2 cases of acute phthisis in individuals enfeebled by alcohol and privations the rays had absolutely no influence on the local or general condition. In 3 cases of chronic pulmonary tuberculosis the effects varied. In 1 no difference resulted, in the second there was improvement in the general health, but none in the local signs, while in the third there was both local and general improvement lasting for six weeks, and followed by a relapse due to grave digestive troubles. In the 3 unimproved cases the tuberculous process continued its course without any accident or exacerbation attributable to the treatment. In no case did the rays appear to effect any modification in the tubercle bacillus, either as regards number or shape. The authors conclude that these facts encourage the continuance of the treatment which they consider exercises no influence on the bacilli, but has a trophic action upon the pulmonary parenchyma, improving its power of combating the micro-organisms and perhaps increasing phagocytosis.

(371) Antistreptococcus Serum in New Growths.

ZIEMACKI (*St. Petersburg. med. Woch.*, 1897, No. 37) has thus treated 20 cases of inoperable malignant new growth. The serum was obtained from goats and horses, the immunisation being carried out by the injection of living cultures of the streptococcus; for this reason care must be taken to see that the serum is free from this microbe before use. The dose employed varied according to the condition of the patient. Usually 1 c.cm. was given at first and gradually increased. Of the 20 cases, 6 were examples of sarcoma and 14 of carcinoma. In no case was the treatment efficacious, nor did it retard the growth of the tumour. Of the 20 cases, 12 died, 3 were in a hopeless condition, and in 5 the result was unknown. The author cannot confirm the statement that the ulcerating surface rapidly cleans. In one case of lympho-sarcoma a rapid dissemination about the original focus was observed. The only beneficial effect noted was a lessening of the pain. The author contends that the serum injections may be harmful, and he especially instances cases in which unpleasant symptoms (cyanosis, etc.) arose. He concludes that this serum treatment is contra-indicated in weakly and cachectic individuals. It produces no good here and may do much harm. In strong individuals the serum may be used when it may lessen the pain but offers no hope of cure. The author has also treated a few cases with serum from horses which have been previously treated with large doses of arsenic but with no noteworthy result.

PATHOLOGY.

(372) A New Method of Staining Sections of Brain and Spinal Cord.

ALLERHAND (*Neurol. Centralb.*, August, 1897) describes a new method of staining sections of nervous tissues. It is applicable to specimens hardened in alcohol or in chromic acid. The sections, which must be very thin, are first placed in a 50 per cent. solution of liq. ferri perchlor., and left there 15 to 20 minutes. It is better to warm the solution, especially when the specimen has been hardened in alcohol. After washing in water, it is next placed in a 20 per cent. solution of tannin. This solution requires careful preparation; it is useless when fresh; exposure to air and sunlight for three weeks—that is, until the yellow colour changes to dark reddish brown—is necessary before using. The section is left in this solution 1 to 2 hours in a warm incubator, and should then be of a blackish-blue colour. It is now treated by Ral's method, using the solutions, however, of double strength. It is then rapidly washed in water, and finally, after soaking a few minutes in a 0.5 per cent solution of hydrochloric acid passed into alcohol and thence into xylol. The iron and tannin solutions can be used again and again, so that there is little trouble after they are once made. With a little practice the method is easy and certain. The advantages claimed for it over Weigert's method are that it is shorter, cheaper, and simpler, and gives better results; moreover, it is applicable to specimens hardened in alcohol. The nerve cells are particulary well shown by this method.

(373) "Russell's" Corpuscles in the Central Nervous System.

DE GRAZIA (*Rif. Med.*, September 15th, 1897) reports two cases in which he found the bodies described by Russell in connection with cancer present in the central nervous system. The first was a case of paralysis agitans, in a woman, aged 84, where Russell's corpuscles were seen in great numbers in the periphery of the spinal medulla; there were none in the cerebral cortex. The corpuscles were homogeneous, and almost perfectly round in shape. The second case was that of a man, aged 49, suffering from cerebellar glioma. Here the bodies were found chiefly in the cerebral peduncles and pons, around the perivascular and lymphatic spaces, and were most numerous where the degenerative changes were least marked. A central protoplasmic mass and thick membrane could be made out. The author believes the bodies are sporozoic in nature, probably coming from the intestine during the death agony or after death.

(374) Effect of Change of Temperature on the Blood.

FRIEDLAENDER (*Fortschritte der Medicin*, July, 1897), reports the results of some experiments on the effect of heat and cold upon the blood. It was found that after prolonged exposure to cold there was diminution of the red blood corpuscles, increase of white corpuscles, and lowering of specific gravity. There was no alteration in the density of the serum. After short exposure to cold the red corpuscles were increased, as well as the white; and the specific gravity was raised; serum density was unaltered. The effect of warmth was to increase both red and white corpuscles, but especially the latter; and to raise the specific gravity of the blood and the density of the serum. Friedlaender considered that perspiration probably played some part in producing the changes observed.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(375) Renal Hæmaturia without apparent Cause.

Dieulafoy has collected (*Journ. de Méd.*, July 10th, 1897) some instances of hæmaturia of which the explanation is extremely obscure. In some cases there is abundant and repeated hæmaturia without evidence of tubercle, renal calculus, or any ordinary cause. The following case, originally described by Broca, is quoted. A woman, aged 28, without history of hæmophilia or tubercle, was attacked by pain in the right lumbar and hypochondriac regions, and by hæmaturia lasting about six months without intermission, the blood being always intimately mixed with the urine, and, instead of diminishing in quantity, had actually increased. There was persistent renal pain without at the same time the characters of renal colic, nor was there oliguria nor gravel, there not even being any deposit of uric acid. On the face of these symptoms it was at first supposed to be a case of tubercle or cancer. On physical examination, the right kidney was tender but unaltered in size. Hæmaturia was unaltered by exercise of any kind. In appearance the patient looked well and there was no loss of weight; no tubercle bacilli could be found. It was decided to operate, but examination of the kidney failed to show any lesion, and the operation was not continued further. From this time forward the hæmaturia ceased completely, and at the present time there has been no recurrence, and the pain has disappeared. Dieulafoy gives a case of his own somewhat similar in nature. A boy, aged 15, was subject to hæmaturia for two years, coming on without any apparent cause on making the least exertion, or even taking a short walk. A printer by trade, he was unable to work two hours in the erect posture without attack of hæmaturia; it even happened at times that blood appeared when at rest. On examination the patient seemed extremely weak and anæmic, but no physical signs could be obtained or subjective symptom of any particular lesion. He was put on treatment by turpentine in gradually increased doses, and from 6 to 12 capsules daily. The urine gradually lost the sanguineous appearance, and finally the hæmaturia disappeared completely. After two and a half months the cure seemed complete, and now, after five years, there has been no recurrence. The patient can take long walks, work overtime, and take any exercise he likes without the least inconvenience. His general health is excellent, and he continues to take a small amount of turpentine daily. Whatever be the nature of the cases, whether hæmophilic or congestive in character, the fact remains that they are of great importance, and extremely obscure of diagnosis.

(376) Addison's Disease in Childhood.

G. Variot (*Journ. de Clin. et de Thérap. Infant.*, July 29th, 1897) has met with 3 cases of Addison's disease occurring at an unusually early age. In one of these reported some time ago incontinence of urine was a marked symptom. The 2 new cases now put on record were those of a boy aged 14½ years, and a girl aged 15. In the former case the father had died of pulmonary tuberculosis, and the boy showed an intensity of the bronzed pigmentation which was quite extraordinary. The colour was most marked on the dorsal surface of the hands, but it was also very evident on the neck and back, on the face, on the lips, and over the elbows and knees. In the case of the girl the most noteworthy fact was the occurrence of very grave gastro-intestinal symptoms (vomiting and diarrhœa) with fever. There was also delirium, and it seemed as if meningitis was imminent. Both cases were treated with extract of suprarenal capsule, and in the latter instance the gastro intestinal disturbance ceased, and it was thought that the Addisonian pigmentation became less intense. Variot thinks that the period of puberty during which there is a nutritional superactivity predisposes to lesions of the suprarenal glands, and especially to those of a tuberculous nature.

(377) Paralytic Rabies.

Calabrese (*Rif. Med.*, July 26th, 27th, 28th, 29th) records the case of a girl, aged 18, of neuropathic family history, who was bitten on the lips on December 11th by a dog which was apparently healthy. The wound was not cauterised, but simply washed and sewn up. The patient was quite well up to the forty-fifth day after the the bite (January 25th), when she read an account of a case of rabies; the next day she complained of pains in the neck and general *malaise*. January 30th. Some digestive trouble and complained of coldness of lower limbs. January 31st. Complete paraplegia, nasal voice, dysphagia, and catching respiration. February 2nd. Removed to hospital. February 3rd. Temporary recovery of power in limbs. Although she refused to drink or eat, it was possible for her to do both. There was some partial anæsthesia of the arm, thigh, and right foot, and hyperæsthesia over the ovaries and mammæ; contraction of the visual field and disturbances of the colour vision. The knee-jerks were absent. The wound in the lips was absolutely healed and quiescent. February 5th. Delirious; temperature raised; coma set in. February 8th. Death. Portions of the spinal cord and sciatic nerve were excised, and, when injected, gave rise to typical rabies in rabbits, so that although the case resembled hysteria in many respects, there was no doubt as to the presence of genuine rabies. The author refers to 41 published cases of paralytic rabies in man. In the author's case the temperature remained at about 38° C. until February 5th, when it went up suddenly to 40·42° C., but came down during the last thirty-six hours before death. In addition to the gastric disturbances which occurred early in the disease the patient suffered twice from hæmatemesis. The pulse was frequent (120 to 224 per minute) throughout.

(378) Cerebro-spinal Meningitis.

Stoeltzner, of Heubner's clinic (*Berl. klin. Woch.*, April 19th, 1897) relates an interesting case in a child, aged 2½ years, due to the meningococcus intracellularis, in which fluid turbid with pus cells was drawn off by spinal puncture, and in which recovery ensued. The chief symptoms were rigidity of the neck muscles, retracted abdomen, persistent vomiting, hyperæsthesia, etc. The author says that the lumbar puncture showed that the disease was a suppurative meningitis, and that the only form of suppurative meningitis lasting thirty-three days, and ending in recovery, is epidemic cerebro-spinal meningitis. Hot baths were employed in this case, three being given in the day. The bacteriological examination revealed the presence of a diplococcus. This micro-organism was present within the cells, and the colonies presented the characteristic appearances belonging to the meningococcus. By artificial inoculation cerebro-spinal meningitis has been produced in such animals as are liable to epidemics of this disease, and the micro-organism has been recovered from the lesion. The meningococcus has now been found in the cerebro-spinal meningitis of man on many occasions.

SURGERY.

(379) Duration of the Period of Contagion in Syphilis.

Campana (*Il Policlinico*, July, 1897), in a short study of this question, concludes that it is not easy to define the duration of contagion, but in any case it is probably longer than is commonly taught; even tertiary gummatous manifestations may be contagious at the beginning. The duration is in relation to the duration of vascular irritative manifestations, and in proportion to these. This seems established by the recent experiments of Tarnowsky. As long as there are any papular exudative manifestations, contagion certainly exists.

(380) Operative Treatment of Chronic Rheumatism.

Schüller (*Verhandlungen des XV. Congress für innere Medicin zu Berlin*, 1897) describes a form of chronic joint disease of supposed microbic origin, to which is given the name of polyarthritis chronica villosa. This disease, which is characterised by considerable swelling of the affected joint, consists in a chronic inflammatory hyperplasia of the synovial tufts, and differs from arthritis deformans in the absence of any morbid change in the bone and articular car-

tilage. This condition is regarded as quite distinct from acute rheumatism, and as having no etiological relation to either tuberculosis or syphilis. The author reports favourably of his operative treatment in such cases. This consists in opening the affected joint, in excising the enlarged synovial tufts, in washing out the cavity with sublimate solution, and finally by carefully injecting a mixture of guaiacol, iodoform, and glycerine. This treatment, which in several cases was practised on two or three joints in the same patient, results, it is stated, in complete relief from pain, and in decided improvement of the function of the limb, and, in the more recent cases, in full restoration of its movements. In some instances the improvement in the joint thus treated was followed by diminished swelling in other affected joints which had not been submitted to operation.

(381) Early Nervous Symptoms in Pott's Disease.

Grognot has collected (*Journ. de Méd.*, July 10th, 1897) a series of observations of considerable importance on various early symptoms of spinal disease, in order to show the ease with which an erroneous diagnosis may be made. The painful symptoms of the early period of the disease are very variable, and are rarely referred to the vertebral column. They consist in radiating pains following the course of a nerve trunk in the neck, thorax, abdomen, upper or lower extremity, and are characterised according to the individual case by a sensation of constriction, burning, tearing, or stinging. These radiating pains vary considerably, being sometimes intercostal or at other times of the character of girdle pain, and in the lower limb they simulate sciatica. They are apt to alter in position, and on this fact the author lays considerable stress: thus, intercostal pain on one side, which might be confounded with other conditions, more particularly pleuritic, but when appearing in corresponding position on the other side, will give an indication of its probable nature. Pain along the course of one sciatic nerve would warrant the diagnosis of sciatica, but when the opposite side becomes affected a graver lesion must be suspected. More difficult of diagnosis are certain superficial or deep localised areas of pain which do not correspond with any particular nerve distributions, and which may be situated in any part of the trunk. In character, they are dull, indefinite, and erratic in their duration. The importance of these is not great by themselves, but at the same time they have been mistaken for muscular rheumatism. lumbago, etc., and the author states that in some cases they have been explained as reflex from lesion of an internal organ. Sometimes arthralgia is observed appearing suddenly without any premonition, and, according to Grognot, the knee is the joint most frequently attacked. Their duration is variable, and it is not surprising that the diagnosis of rheumatism has been made in such cases, and, if treated accordingly, the result will be *nil*. There may be pains in the limbs very similar to the lightning pains of tabes. In certain cases the pains may come on in crises of extreme violence, and intermittent in character, and many cases have occurred in which a diagnosis of renal colic or intestinal worms has been made, and cases are also quoted in which there have been veritable gastric crises causing considerable difficulty of diagnosis. Such, of course, are exceptional, for generally speaking the referred pain of spinal disease is more constant in character, and usually follows some movement or effort, and they are rarely affected by ordinary treatment. An important fact to bear in mind is that these pseudo-neuralgic pains are more common in adults than in children. It is not uncommon to find these pains accompanied by muscle wasting. There may also be motor symptoms in addition, such as paralysis of irregular distribution in the limbs. In very many cases there will be other indications outside the nervous system of the nature of the disease, such as pulmonary tubercle, tuberculous nephritis, etc.; but the author observes that there may be considerable difficulty in the early stages in arriving at a diagnosis of vertebral disease, and it is at this period that diagnosis is most important.

(382) Roentgen Rays and Foreign Bodies in the Eye.

Friedmann (*Klin. Monats. f. Augen.*, October, 1897) recommends the employment of the Roentgen rays to determine whether a foreign body is present in the eye or orbit, and also its position and size; and gives details of three cases in which they proved of service. It is preferable to use the rays in the bitemporal diameter than antero-posteriorly. The photographic plate is fixed to the temple by means of a bandage, while the vacuum tube is placed 50 cm. from the plate; one and a half minutes are sufficient for the exposure. The rays have shown the presence of foreign bodies where the electro-magnet has failed.

(383) Corneal Tattooing.

De Wecker (*Annales d'Oculistique*, August, 1897) recommends the performance of corneal tattooing not only for cosmetic purposes but from an optical point of view. He holds that by rendering semi-transparent nebulæ opaque diffusion and dazzling is got rid of and vision is materially improved. In some cases it is a useful supplement to an optical iridectomy for central leucoma. Often the nebulæ which require optical tattooing can only be seen by oblique illumination. The tattooing should result in a uniformly black spot, strictly limited to the area of the nebula. — Fröhlich (*Klin. Monats. f. Aug.*, September, 1897) is of opinion that the best results are obtained by the use of a corneal trephine, such as v. Hippel's; this may have a diameter of 3 or 5 mm., and be used to a depth of one-third of a millimetre. This done, he scrapes away with a sharp spoon the enclosed epithelial layer, which is helped by the macerating action of cocaine. The bare surface is then scarified with a small Graefe's knife, any bleeding being stopped by cold irrigation, and the thick paste of Indian ink is rubbed in with the back of a spoon. Finally, a bandage is applied over the closed lips. The advantages claimed for this method in the case of central leucomata are: (1) That the blackened area closely simulates a pupil in shape and size; and (2) that it quickly becomes skimmed over with a transparent layer of epithelium, and being thus protected retains a uniform blackness, which does not decrease with time. This, at least is the result in 7 cases which Fröhlich has had under observation for a year.

MIDWIFERY AND DISEASES OF WOMEN.

(384) Pregnancy and Cancer.

Reismann (*Centralb. f. Gynäk.*, No. 38, 1897) discussed recently, at a society in Buda-Pesth, the duty of the obstetrician in respect to the management of the later stages of pregnancy when uterine cancer, too far advanced for operation, existed. He had under his care a woman, aged 36, in her tenth pregnancy, and subject for some months to fœtid vaginal discharge and hypogastric pain. He found the cervix extensively cancerous, and the parametrium infiltrated. Considering the dangers of delivery by the natural way, and by abdominal section, Reismann intended to wait till labour set in, and then to perform Cæsarean section. Bilásko related a case where birth occurred spontaneously, and the cancerous mass was torn in half during delivery. The puerperium was normal. Von Kézmárszky stated that he had operated on a case of this kind, but without waiting for labour pains. The child died in two days; the mother survived for two months. He was against the practice of waiting till labour commenced, and found that the uterus contracted well enough before the puerperal process had actually set in. What was essential was a sufficiently patulous state of the os to admit of the free escape of the lochia after operation. Tauffer also testified to the contractility of the pregnant uterus before term, as observed by himself at Cæsarean section. In a case of removal of a myomatous uterus during pregnancy, the uterus delivered itself of the fœtus on the operation table. In operable cases of uterine cancer Tauffer prefers Freund's total extirpation of the uterus to the vaginal operation.

(385) The Early Symptoms of Puerperal Infection.

Ferré (*L'Obstétrique*, ii, No. 5, p. 425, September 15th, 1897) points out that the general notion of the sudden onset of marked symptoms of puerperal infection after a longer and shorter period of silent incubation is inexact. Even in the period of incubation important, although attenuated, symptoms may be

present, and their recognition will greatly conduce to successful treatment. These early symptoms are: slight elevations of temperature occurring once (or twice) daily, and usually in the evening; a pulse rate of 80 or more, especially if in the morning, when the temperature is not yet raised; relative or absolute insomnia, which is a very important indication of serious infection and requires careful inquiry; headache, at first intermittent and slight, usually always in association with the other symptoms mentioned; sometimes diminution or suppression of the lochial discharge, although as a rule this is a later manifestation; and, finally, vague impressions of cold, but not usually a distinct rigor. The later symptoms, such as marked rigors, high temperature, local pain, etc., are well known; it is to the recognition of the early symptoms that we must trust for the successful treatment of such cases.

(386) Extirpation of Pregnant Fibroid Uterus.

Marchthurn (*Wien. klin. Woch.*, No. 31, 1897) publishes full reports of 4 cases in Chrobak's wards. Only one ended fatally; the operation was performed in the sixth month. The first of the successful cases was done during labour at term, the second and third at the fifth and third months respectively. Marchthurn tabulates 18 other cases of total extirpation of the gravid myomatous uterus, from 1893 to June, 1897. Of these 15 recovered. Out of the fatal cases 1 (operation at sixth month) sank from collapse, 1 (seventh month) died of sepsis on the third day, and 1 (fifth month) of ileus on the twenty eighth day. One of the successful cases underwent operation during the first month of pregnancy, 1 in the second month, 6 about the third month, 1 in the fourth month, 2 in the fifth month, and 2 in the ninth month. In the 2 remaining cases the stage of pregnancy is not reported. Naturally, many points of importance, such as the size and position of the myoma, cannot easily be explained by statistics. Marchthurn adds 2 cases of myoma confined to the cervix. In the first pregnancy had advanced to the fourth month, enucleation was performed by abdominal section, but the patient died in forty hours. In the second, labour was commencing at term. Castration and conservative Cæsarean section were performed. This brilliant operation proved successful, the child being saved as well as the mother.

(387) Abdominal Panhysterectomy in Pelvic Suppuration.

Jonnesco (*Abstract Report, 12th International Medical Congress, Moscow, 1897*) strongly advises complete removal of the uterus and appendages by abdominal section in cases of suppurative disease of the appendages. He has operated in 14 cases, losing only 2; in 1 the suppuration had extended far into the pelvic connective tissue and in 1 a coil of intestine was accidentally transfixed by an abdominal suture. He maintains that this operation is more surgical than vaginal hysterectomy for the same purpose. The whole parts, uterus and appendages, are taken away at once, so that there is no danger from the opening of suppurating tubes. This process at the same time ensures the ligature of the uterine and ovarian vessels. No forceps or ligatures are applied in the dark. The peritoneum is sewn over the raw parametrium and the stumps of the ligatured vessels. The patient being placed in Trendelenburg's position, the precise extent of the disease can be seen, and the operation conducted in a good light, and manipulations are far easier than when the parts are removed through the vagina. Being thorough in its character, recovery is complete, and adjacent structures such as the ureters, bladder, and rectum escape injury. As the uterus is not large in suppurative affections, the difficulties in avoiding those structures so frequent in fibroids involving the broad ligaments do not exist.

(388) Puerperal Eclampsia and Amaurosis.

Eliachevitsch (*L'Obstétrique*, July 15th, 1897) writes of a woman in her fourth pregnancy who was seized with a bad headache, rapidly followed by complete loss of vision in both eyes. A few hours later convulsions set in. Version was performed and a living child extracted. Leeches were applied behind the ears, and narcotics and pilocarpine administered after the disappearance of the convulsions. The sight was slowly restored. The ophthalmoscope showed that the amaurosis was due to acute albuminuric neuro-retinitis.

THERAPEUTICS.

(389) A New Mechanical Treatment for Phthisis.

Jacoby (reprint from *Münch. med. Wochenschrift*, 1897, Nos. 7 and 8), starting from the fact that phthisis affects first those parts of the lungs worst supplied with blood, argues that the course of the disease may be favourably influenced by improving the flow of blood to the apices. He considers that the deficiency in blood of these parts is largely to be attributed to the influence of gravity, and that its ill-effects result from the absence of the natural protective mechanism, the blood containing alexines and similar necessary bodies. The erect posture is thus favourable to apical phthisis, which is commonest in man and monkeys; similarly, the longer the chest the greater the resistance to the entry of blood into the apices, and the consequent liability to tuberculosis, which is also favoured by the sitting posture. It is curious that kyphosis, although usually of tuberculous origin, leads to pulmonary congestion, and is hence but rarely associated with phthisis. The author's object is to determine the flow of blood to the apices, just as Bier determines it to the region of tuberculous joints; to this end he employs two methods, a thermo-mechanical and a postural, the latter with the object of effecting what he calls an "autotransfusion." The apparatus for the former consists of a bath bed in which the patient lies, so that the shoulders and consequently the apices are the most dependent parts. The thorax is enclosed in a hermetically sealed india-rubber vest, under which hot water is allowed to play through eight tubes, four in front and four behind, connected with a pump. The shoulders and loins are supported by air cushions. The water is passed by a pipe back to the heating apparatus, by which it is maintained at a constant temperature. This is at first 30° to 35° C., but is gradually raised to about 45° C., which is found to give the best results; two baths, each of thirty minutes' duration, were given daily. The immediate results were greater comfort and ease in respiration and expectoration; the headache which followed in some cases was due rather to the position than the treatment, which the author regards as conditioning a hyperæmia of the lungs, particularly the apices. After the hot affusion is over, the patient gets up, is rapidly and thoroughly dried, and his shoulders are wrapped in a Winternitz's moist bandage; he then undergoes the recumbence cure, or autotransfusion. This consists in being supported with the legs and body elevated above the chest for two periods of three hours each per diem. By a hammock device this part of the treatment can also be carried out during sleep. By these combined treatments Jacoby claims that better nutritive conditions are established in the pulmonary parenchyma, further wasting is checked, the tubercle and other bacilli are destroyed, and a more perfect moistening of the bronchial mucous membrane effected. Hence the sticky secretion becomes more fluid, and expectoration much easier. The raising of the legs above the thorax must be gradually increased; hæmoptysis is almost the only contraindication to the treatment. The author gives figures illustrating the apparatus made for him for its performance. Of 12 cases treated by Nahm in this way at the Rupertshain sanatorium, 2 could not continue with it (probably from its being pushed too rapidly), but the others were all improved, though the changes in their symptoms and physical signs varied very considerably. The author concludes his paper with a suggestion that the prophylaxis against phthisis might be greatly aided by a periodical systematic examination of the population; he states that there are at present 1,200,000 sufferers from phthisis in Germany.

(390) The Electrical Introduction of Mydriatics and Myotics.

Pansier (*Arch. d'Elect. Méd.*, June 15th, 1897) recommends the use of electricity in cases in which, through iritis, the iris is refractory to the action of drugs, the inflammation either neutralising their action or preventing their absorption. Thus, for instance, in a case of glaucomatous irido-choroiditis in which the pupil had remained dilated

after the use of atropine, a 1 per cent. solution of eserine was applied night and morning for five days without causing it to contract. Some 1 in 300 solution of eserine sulphate was then instilled. and a moist electrode placed on the eyelid through which a descending current of 2 milliampères was passed for 40 minutes. At the end of this time the pupil had diminished in diameter from 7 mm. to 2 mm. Next morning the dilatation had returned, and was still unaffected by simple instillation; the electrical method was therefore continued, with a good result. To ascertain whether the electricity led to more active absorption of the eserine, or whether it aided its action, the current was on one occasion applied first and and followed by the instillation of 1 per cent. eserine solution; the pupil remained unaffected, showing that the *modus operandi* of electricity must be to facilitate absorption. The current was applied with equal success in two cases of syphilitic iritis in which atropine alone failed to dilate the pupil; here a current of 3 milliampères was employed, the positive pole resting on the nape of the neck. One noticeable point was that both dilatation and contraction of the pupil, when aided by electrical means, were of very short duration, rapidly disappearing. The objection to passing the current through an eyebath filled with a solution of the drug is that its action is apt to be too powerful, and even to lead to symptoms of general intoxication. From the direction of the current employed the author considers the action more probably one of cataphoresis than of electrolysis.

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(391) The Influence of Iron on the Secretion of Gastric Juice.

Buzdygau (*Wien. klin. Woch.*, 1897, No. 31) has sought an experimental solution of the question why all chlorotic and anæmic patients do not bear iron equally well, and why in some cases the metal gives rise to so much gastric disturbance as to render its use impossible. He compared the digestive powers of the stomach in a large number of cases before and after the administration of iron; he made in all 333 observations on 16 patients, mostly anæmic and chlorotic, and found that the cases fell into three groups. The first comprised 3 patients in whom the secretion of gastric juice during digestion was normal; in them iron had no influence on the formation of free HCl. The gastric juice digestive albumin in two to six hours *in vitro*; iron was found in the gastric contents two hours after administration, but had entirely disappeared in seven. The second group, of 7 patients, suffered from gastric insufficiency, both secretory and motor. In 5, all with dilated stomachs, the output of free HCl was uninfluenced by the iron, where no free HCl was present albumin was not digested in twenty-four hours. In the remaining 2 patients the administration of iron caused an increase in the amount of free HCl, which appeared in from two to four hours; iron could still be demonstrated in the stomach six hours after administration. The last group consisted of 6 patients with increased secretion of gastric juice. In every case the use of iron increased the production of free HCl., which reached its maximum in the fourth quarter of an hour after the administration. Digestion *in vitro* was vigorous, and iron was found in the stomach six hours after it had been given. The author concludes that in cases in which the gastric contents are already too acid during digestion iron accentuates the hyperacidity of the gastric juice and aggravates the dyspeptic symptoms which are usually present in anæmia and chlorosis. In these cases the digestive affection must be set right before iron is administered. In cases, however, in which the secretion of HCl is normal or diminished, iron may often do good service in stimulating the gastric mucous membrane to secretion. All the experiments tend to show the value, indeed the necessity, of ascertaining the condition of the stomach before prescribing iron.

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(392) Prevention of Pneumonia following Anæsthesia.

W. F. Whitney (*Boston Med. and Surg. Journ.*, September 23rd, 1897) refers to the frequency with which pneumonia follows ether anæsthesia. It is of the same type as the ordinary fibrinous form, and shows numerous micro-organisms, especially the pneumococcus. The infection, he thinks, takes place from the mouth to the lungs through the air passages. He therefore recommends a thorough aseptic cleansing of the mouth two or three times in the twelve hours preceding anæsthesia. The nose also is to be douched, and the anæsthetic cone sterilized.

PATHOLOGY.

(393) Peripheral Neuritis due to Hepatic Insufficiency.

Gouget (*Rev. de Méd.*, July, 1897) gives a detailed account of the case of a woman of alcoholic habits, aged 33 years, who died from the effects of hepatic cirrhosis. Two weeks before her death she rapidly developed peripheral neuritis of the arms and legs. The toxic coefficient of the urine, as tested on rabbits, was much above the normal. Death took place from exhaustion and delirium. At the necropsy there was fatty cirrhosis of the liver, obsolete tubercle at the apices of both lungs, and sero-fibrinous pleurisy on the left side. Microscopic examination of the peripheral nerves showed degeneration. Although the patient had been addicted to alcoholic excess, it appeared improbable that the neuritis was due to this cause, since she had had no stimulant for the two months previous to the onset of the symptoms. In addition, the simultaneous onset of neuritis in the arms and legs is rare in the alcoholic form. The sero-fibrinous pleurisy could not have given rise to toxic neuritis, and the author concludes that the neuritis was due to hepatic insufficiency. In support of this contention are the facts that the toxic coefficient of the urine was much higher at the time of the onset of neuritis than on her admission to the hospital, and that other signs of hepatic insufficiency, such as repeated epistaxis and progressive somnolence passing into coma, were also present.

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(394) Phagocytosis in Relapsing Fever.

Wanoff (*Centralbl. für Bakter.*, August 21st, 1897) makes an important contribution to the study of phagocytosis. Metchnikoff had been unable to demonstrate the presence of spirilla in the blood in relapsing fever, although Sudakewitch once found them in the vena cava of a monkey killed at the height of a paroxysm. Tictin, after repeating his experiments, came to the conclusion that phagocytosis did not occur in the disease. Wanoff, however, found in the faintly-stained blood taken from a case shortly before death spirilla lying both in the leucocytes and free in the plasma. In the former some took the stain well, others badly and irregularly, while in other leucocytes were many granular masses, probably representing broken-up spirilla. On further investigation he found this appearance constant in the disease, both in man and monkeys. In immunised monkeys spirilla were absent from the plasma, but present in the leucocytes, multinuclear, with lobed nuclei and transitional forms. The only point to be observed in looking for them is not to expect them to be deeply stained. The reagent employed by the author consisted of 20 to 25 c.cm. of Roux's stain for diphtheria bacilli (dahlia and methylene-green with formalin) to which 2 to 4 c.cm. of Tiehl's carbol fuchsin were added. The blood preparations were fixed by heating for 1 to 1½ hour in a dry oven at 110° to 120° C.

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(395) Prenatal Infection.

Edward P. Davis (*Arch. Pediat.*, xiv, 641, September, 1897) describes cases of hæmorrhage from various mucous surfaces and of green stools in the newborn infant, and has specially investigated their bacteriological manifestations. These cases he ascribes to prenatal infection. In the fæces were found the bacillus coli communis, the micrococcus pyogenes aureus, and the micrococcus pyogenes albus. The treatment adopted was copious intestinal irrigation, with normal saline solution, and this was successful in mild cases. A coccus was obtained from the blood of infants with the grave form, which, when injected into the bodies of pregnant guinea-pigs, was found in the young pigs. It most closely resembled the micrococcus tetragenes versatilis associated with yellow fever. The condition is a toxæmia of apparently intestinal origin; but whether the germ gives entrance to the fœtus by the placenta or by the umbilical vessels during birth is uncertain.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(396) The Serum Diagnosis of Typhoid.

Vidal and Sicard (*Ann. de l'Instit. Pasteur*, 1897, No. 5) in a lengthy article review the progress of our knowledge on this subject, and give their own conclusions based upon the study of 63 cases. From only one of these was the reaction absent throughout; this was a patient aged 40, who was admitted on about the twelfth day of the disease, and whose temperature remained high for twelve days subsequently. Eleven days later a relapse came on, and lasted fourteen days; during both attack and relapse puncture of the spleen yielded pure cultures of the typhoid bacillus, which were readily agglutinated by the serums of other typhoid patients. The serum from this case, however, never gave the agglutinating reaction. This disproves Gruber's assertion that the reaction is one of immunity since the patient recovered from both attacks without its manifestation. The reaction has been found as early as the second day (by the authors not before the fifth) and as late as twenty-six years after convalescence; the date of its appearance bears no relation to the severity of the attack. The authors find that on dialysing serum or milk the agglutinating property does not appear in the dialysate till the proteid matters begin to come through; these, however, may commence to appear before the property develops, and as the agglutinating substance can be detected in non-albuminous urine its true nature is still uncertain. A large part of the article is devoted to the study of the measurement of the agglutinating power of typhoid serums. The maximum observed was 1 in 11,000, that is the serum diluted to this extent still gave the reaction; this occurred on the eighth day in a young man aged 22, the subject of an attack of medium severity, convalescence from which was rapid and complete. This patient had been unwell for about twelve days before he came under observation, so that the maximum was probably reached on somewhere near the twentieth day of the disease. The curve of agglutinative power varied greatly and unaccountably in many cases. Thus in 2 which ended fatally the power of agglutination was observed to fall greatly during the few days before death, in 2 others it fell less, while in a fifth it was the same on the day of death as on that of entry to the hospital. In patients who recovered the variations were no less remarkable. A sudden and considerable rise either at the beginning of defervescence or in the last days of the disease was by no means uncommon, while in one instance the agglutinating power sank towards the middle of the disease, rose again during its decline, sank anew at the beginning of defervescence, and finally rose in the second week of defervescence. Even daily variations were frequently met with, and the differences in similar cases could only be explained as idiosyncratic. With regard to the extent to which the serum should be diluted for diagnostic purposes the authors recommend an invariable first trial with a dilution of 1 in 10 followed by as many successively higher dilutions as possible, till the limit of action is reached. If but a small quantity of serum is available the test should always be tried with dilutions of 1 in 10 and 1 in 50; if the agglutinative property is not found with the latter strength many bacteriologists while regarding the case as suspicious hesitate to declare it to be certainly typhoid. The authors' general conclusions may be thus summarised: The agglutinating reaction is one belonging to the period of infection. It can usually be detected in typhoid patients during the first days of the disease, and though sometimes delayed is but exceptionally absent. It is not a vital reaction on the part of the agglomerated microbes, and is subject to important individual variations. From the practical point of view the authors state that a negative reaction obtained with the serum of a suspected patient furnishes a probability against the diagnosis of typhoid, but this is only a probability, especially if the examination is made during the first days of the disease. In such cases the examination should be repeated on successive days. The probability is the greater the later the examination is made during the disease. A positive reaction obtained according to the rules of measurement laid down by them (the serum being diluted never less than ten times) can be considered a pathognomonic sign of typhoid fever.

(397) Tetany of Gastric Origin.

Berlizheimer, of v. Jaksch's clinic (*Berl. klin. Woch.*, September 6th, 1897), says that this form of tetany is very rare, and that only 11 genuine cases are on record. He then relates a case in a man, aged 35, who was admitted with pain in the abdomen. There was some impairment of percussion at the right base, and a hæmorrhagic fluid was drawn off by the exploring needle. The urine contained at one time hæmatoporphyrin, but so albumen or sugar. Later there was some jaundice, and a tumour could be felt in the region of the gall bladder. The stomach was much dilated. Within the week the patient was seized with tetaniform spasm. Trousseau's phenomenon was marked, and there was trismus. With the appearance of the spasm in the upper extremities and cyanosis there was rapid failure of strength, and the patient soon died. The stomach contents were carefully examined for ptomaines, with a negative result. A mouse injected with these contents died in a week of septicæmia due to the staphylococcus. The clinical diagnosis was dilatation of the gall bladder, dilatation of the stomach, and acute tetany; the pathological a suppurating cyst of the pancreas, dilatation of the gall bladder and jaundice by pressure on the ducts, suppurative peritonitis, and dilatation of the stomach. The tetany was here due to reflex irritation from the stomach nerves in consequence of the dilatation. It was not an intoxication, for no diamine or ptomaine could be found in the stomach contents, and the inoculation of animals gave rise to no toxic symptoms. There was no evidence here in support of any infective origin of the tetany, and there was nothing to show that it could be due to the peritonitis.

(398) A Vesicant Acarus.

Méguin (*Bulletin de l'Acad. de Méd.* August 24th, 1897) dwells on the remarkable disease observed in China amongst the poor, who eat a kind of purslane or arache (*atriplex*). The skin on exposed parts becomes œdematous and itches severely. The symptom has been attributed to an acarus which is found on this kind of atriplex. But the parasite has not been actually found in any patient. Méguin, however, believes that the theory about the Chinese disease is correct, for in Mauritius there is an acarus known as holothyrus coccinella (Gervais), which abounds in moss, in the cold and damp highlands of the island. Poultry cannot be reared in those districts as the acarus causes fatal pharyngitis. Native children suffer in the same manner. Some specimens of holothyrus were sent to Méguin. They were all dead. He fixed them by strapping to his forearm. In a few hours they set up severe irritation, œdema, and prurigo. The live holothyrus must be a powerful irritant to mucous membranes. It measures under one-fifth of an inch in length.

SURGERY.

(399) Penetrating Wound of the Heart.

Faralli and Ragnini (*Giorn. Med. del Regio Esercito*, An. 15, n. 8, 9) report the case of a man, aged 37, who received two knife wounds on July 7th, 1895, one in the fourth left intercostal space, and the other under the costal arch of the same side. From the upper wound he lost much blood, and was unconscious for three hours. The wound was dressed, and the patient went on well until the sixth day, when he was seized with an attack of faintness and sweating, with loss of consciousness. Eventually he left the hospital on the forty-fifth day apparently cured, but the faintness recurred upon every strong exertion. Four months later the abdomen began to swell, and in February, 1896, paracentesis was performed and repeated seventeen times. On admission into hospital in March, a double cardiac impulse was noted, one in the fourth space immediately below the nipple, the other in the third space 4 cm. from the sternal line. The beats were not synchronous.

There was a double thrill and murmur. In April the patient had pneumonia, in May peritonitis, for which laparotomy was performed on the 24th, and the patient died on June 4th. At the necropsy the heart was adherent all round to the pericardium. There was a cicatrix in the anterior wall of the right ventricle 1 cm. from the intraventricular septum, and an open communication between the two ventricles having fibrinous deposit on the edges of the orifice. During life the patient had no cyanosis. Two photographs and a bibliography are appended.

(400) Operative Treatment of Congenital Fistula in the Neck.

Von Hacker (*Centralb. f. Chir.*, No. 41, 1897) reports a case of successful removal of a cervical fistula which opened externally near the right sterno-clavicular joint, and internally into the pharynx on the right side of the palato-pharyngeal arch. The lower and cervical portion of this fistula was carefully dissected out and cut away, and then the inner and deeply placed portion was invaginated and removed by the mouth. The author states that it is, as a rule, quite useless to attempt to cure a congenital cervical fistula by any treatment short of total extirpation by the knife. Cauterisation in such instances is contra-indicated by the anatomical fact that the fistula is usually very complicated, and sends off diverticula here and there, all of which are lined by secreting epithelium. Extirpation, however, must be regarded as a serious operation, as the fistula may be closely connected with the large vessels of the neck, and the hypoglossal and glosso-pharyngeal nerves. The operation should not be performed except in cases of retention and consequent inflammatory mischief, and when urgently demanded by the patient. The method devised by the author of invaginating the wall of the upper portion of the fistula, and of excising this by the mouth, will be found likely to overcome the difficulties and danger of a deep dissection, and also prevent cicatricial constriction of the fauces.

(401) Intestinal Obstruction by Biliary Calculi.

Raymond has made a series of observations (*Thèse de Lyon*, 1897), on this form of intestinal obstruction. The writer distinguishes two forms, rapid and slow. The first does not differ from any other form of acute obstruction, and is impossible to diagnose. The second presents certain important peculiarities which will often point to the cause of the obstruction. The calculus being already in the intestine for some time, there is no special hepatic symptom at the onset of occlusion, which thus comes on insidiously by constipation. Secondly, the patient does not take to his bed, and even continues his ordinary vocations for perhaps a week, and may even walk to hospital. So soon as the lower part of the intestine is empty, the constipation becomes absolute. Subsequently, there comes on a feeling of *malaise* and weight, accompanied by colic, loss of appetite, nausea, and prostration, and lastly the classical symptoms of occlusion. The pain is not at first very severe, appearing rather after taking food and without any exact location; subsequently vomiting which does not become fæcaloid for some little time, appears; meteorism is variable, the belly remaining almost always soft though in some cases a tumour may be felt, the position of which is very variable. It may even be as late as the 20th to the 25th day that the symptoms become grave, with typical abdominal facies and suppression of urine. One of the chief characters is remission. So long as the calculus is kept stationary by intestinal spasm the symptoms continue, but when it is allowed to move there is a sudden change for the better in all the symptoms, which are again repeated should the calculus be again gripped. Thus, some cases may present a whole series of attacks of intestinal obstruction, ending favourably should the calculus be expelled *per anum*. The previous history of the case, when obtainable, is of course extremely important, as there is almost always some indication of biliary colic during the passage of the calculus into the intestine, but the author points out that a case of intestinal obstruction where the symptoms cease, to reappear in forty-eight hours to three days, where the vomiting, after having been fæcaloid, ceases to be so, is not likely to be other than due to the presence of biliary calculus.

(402) Cervical Adenophlegmon with Deep Diffuse Cellulitis.

Gustavino Federico (*Pamphlet*, Milan, 1897) records a case of adenophlegmon of the neck in a man, aged 44, and suffering from syphilis. There was danger of suffocation, and the author operated, making an incision along a line from the mastoid process to a point one finger's-breadth external to the right sterno-clavicular joint; the incision began a little below the angle of the jaw, and was about 12 c.cms. in length. The large cavity was packed with sublimate gauze, and the recovery was good. The author believes that the diffusion of an acute deep phlegmon of the lateral region of the neck depends on the septic power of the infecting element, and on the greater or less resistance of the tissues more than on the barrier interposed by the aponeurotic strata of the part. If the inflammation continue to extend in the cellular space an immediate deep and extended incision followed by packing with sublimate gauze constitutes the best curative means both for removing the danger of suffocation, and for effecting a rapid and complete cure.

MIDWIFERY AND DISEASES OF WOMEN.

(403) Laceration of Vaginal Fornix in Labour.

Everke (*Centralbl. f. Gynäk.*, No. 39, 1897) has already reported 3 cases of complete laceration of the posterior vaginal fornix during labour, and now adds a fourth. The patient had one child; the first labour was very lingering. On this occasion the medical attendant applied the forceps and could not extract the child. The mother had a narrow pelvis and the child was dead; on careful exploration, it was found loose in the peritoneal cavity, whence it was drawn out. The patient was greatly collapsed. The wound was drained, but she died. The uterus was found quite intact after death, but the vagina was nearly torn off it and the bladder badly injured. Everke holds that contraction of the pelvis is an important agent in the cause of puerperal laceration of the vagina. The fœtal skull is very firmly pressed against the upper part of the vagina when the pelvis is contracted but the pains strong. If a gynæcologist is called in to a case of this accident, after the child has been delivered he should push any prolapsed intestine upwards over the promontory, draw down the uterus, and sew up the laceration. Suture is the only method for stopping thoroughly the hæmorrhage, often very dangerous in these cases. Should the child be undelivered, it must be extracted first; and if it has slipped into the peritoneal cavity, abdominal section is the most rational means of extraction. Yet this can often be done easily from below, and then of course it cannot be expected that the doctor will open the abdomen in the lying-in room. One objection to that course in this complication is the difficulty of closing the vaginal laceration from above.

(404) Swollen Leg after Labour.

Vinay (*Lyon Médical*, August 8th, 1897) read a paper before a medical society at Lyons on the case of a woman, aged 26, who three years ago was delivered at the end of her first pregnancy of a dead child. There was eclampsia during labour and septic symptoms during the puerperium. Phlebitis of the left femoral vein followed, and persisted for seven months. Recovery was very slow, and the patient at length returned to her occupation as a shop assistant. A month since hard masses, adherent to the skin, developed along the course of the femoral vein and the internal saphena. They were not tender, and were well circumscribed, being distinct from the surrounding œdema. Soulier, in discussing Vinay's case, believed that the primary disease was not phlebitis, but deep lymphangitis.

(405) The Menopause and Senile Involution of Uterus.

Parviainen (*Mitheilung aus der gynäk. Klinik der Professor Engstein*, vol. i, Part II, 1897) has issued a very complete monograph on senile degeneration of the uterus. Many of the histological changes are clearly morbid, and not always can disease be distinguished from natural atrophy. It is important to those who would lay stress on the microscope as a clinical agent to remem-

ber that Parviainen finds that whilst the cilia of the uterine and cervical epithelium grow scanty in sickly women near the menopause, they sometimes remain perfect in women over 60 where the uterine muscular tissue has undergone degenerative changes perceptible to the naked eye. This involution of the muscle is not easy to explain even after careful research, and Parviainen finds no evidence whatever that changes in the blood vessels play the first or most prominent part in bringing on active atrophy. Great care has been taken to distinguish between old women dead from general complaints like typhoid fever, and those dead from local maladies least likely to affect the genito-urinary tract. Menopause histories have been carefully collected from 250 cases. Of early menopauses Parviainen found 2 in women aged 37, 2 where the age was 38, 3 at 39, 12 at 40, 3 at 41, 11 at 42, 6 at 43, and 8 at 44. Then follow high numbers, as might be expected, falling rapidly after 51. The change of life came on in 3 patients at 54, and in the same number at 55, and in 1 at 56, and the same number in patients of the age of 57, 58, and 59 respectively.

(406) Treatment of Hæmorrhage from Cerebral Lacerations.

J. L. Audebert (*Journ. de Méd. de Bordeaux*, September 19th, 1897) reports a case of deep tear of the posterior lip of the cervix in a case of normal labour. The cause of the laceration was not evident, and may have been possibly an unsuspected alteration, œdematous or otherwise, in the structure of the parts. The hæmorrhage was very persistent, but was finally controlled by sutures. The author refers to the various methods of treatment, such as ergotine, vaginal injections, pressure by long catch forceps or dilating bags, vaginal and utero-vaginal plugging, and pressure of the cervix against the symphysis pubis, along with sharp anteflexion of the uterus as practised by Breisky. He regards them all as ineffectual compared to direct suturing of the torn surfaces. This he believes really will occupy less time in its performance than a thorough vaginal plugging, and requires only the most elementary surgical knowledge. It may also prevent later pathological developments.

(407) The Puerperium and Gonorrhœa.

Fritsch (*Centralbl. f. Gynäk.*, No. 31, 1897) has established the fact that chronic latent gonorrhœa in the male may set up the same disease in a woman without any acute symptoms either in the vulvar region or higher up in the genital tract. The urinary passages often escape entirely, more frequently even than has been hitherto supposed. Hence woman is spared from the most prominent and disagreeable symptom in gonorrhœa. The vagina itself may escape infection, the endometrium alone being attacked. In such a case there is little suffering and not always much discharge. Pregnancy goes on unimpeded, but in the puerperium slight fever is observed and gonococci are found in the discharge. In one such case the child showed symptoms of gonorrhœal ophthalmia on the fifth day. There were gonococci in the discharge from the cervix yet none in the urethra. The best injection in these cases is a 1 in 2,000 solution of nitrate of silver.

(408) Cystic Degeneration of Ovary and Urinary Tract.

Nathan-Larrier (*Bull. de la Soc. Anat. de Paris*, May-June, 1897) discovered an extreme form of generalised cystic degeneration in making a necropsy of a woman aged 77. The right ovary bore a cyst of the size of a fœtal head, the left a smaller cyst; the right kidney was in a state of small-cystic degeneration, and was affected with chronic nephritis. A number of small cysts lay on the renal pelvis, also on both ureters, and on the mucous membrane of the bladder at the ureteric orifices. Owing to the condition of the left ureter the corresponding kidney was hydronephrotic. The left hypogastric lymphatic glands were cystic, and three cystic foci lay in the lungs.

THERAPEUTICS.

(409) Treatment of Cardio-Vascular Disease.

Rumpf (*Berl. klin. Woch.*, March 29th and April 5th, 1897) discusses the treatment of this affection. No attempt has been yet made in treatment to counteract the calcareous changes present in the coronary and other arteries of the body. Frequently a commencing cardiac insufficiency may be counteracted by rest, strict limitation of diet, with or without digitalis. There can be no doubt that a diet restricted to $\frac{3}{4}$ up to 1 litre of milk per day may, along with other measures, produce the best results. This can, however, only be carried out for a short time, and the results are less favourable when 2 or 3 litres are allowed. The author has often found that milk suits some of these cases less well than a mixed diet. He calculates out the amount of lime and magnesia salts given when 2 to 3 litres of milk are administered. The corresponding amount of lime salts is not found in the stools, and thus they must pass into the blood. The deposit of lime salts may result from their presence there as well as from altered chemical processes. The amount of lime salts in the blood varies. The author gives a diet consisting of meat (250 g.) and bread, fish, potatoes, and apples (each 100 g.), and this contains a minimum of lime salts. Besides milk, cheese, eggs, cocoa, etc., are rich in these salts. Water may be used in place of milk, and the author recommends a palatable beverage containing, besides carbonic acid, sodic chloride and citrate. Lime salts are chiefly excreted by the bowel and not by the kidneys. The author discusses the means by which the excretion of lime salts may be increased. Copious diuresis has to be considered here. Digitalis has certain contra-indications, and calomel is not always efficient. Diuretin is a valuable addition to our resources. The author relates investigations carried out in cases where it is shown that with a diet containing few lime salts, a diminution of lime salts in the body may be effected. The excretion of lime salts is increased by the use of hydrochloric and lactic acids, and also by the use of organic sodic salts. The author has carried out treatment on these lines in 9 cases. There was mostly an increased diuresis, the favourable effect of which is very generally admitted. Further investigations are required, but it appears probable that the varying richness of the blood and other fluids of the body in lime salts is not a matter of indifference. If they promote coagulation they may thus exercise an unfavourable effect, especialy when the vessels are calcareous. The deposit of lime salts in the coronary arteries is of great importance. Whether by a long-continued loss of lime salts to the body, calcareous deposits in the vessels may diminish, requires further investigation. The patients are often less well when the diuretics are omitted, even if the limited diet is continued. At any rate, by the use of sodic salts a greater amount of phosphate of lime can be brought into solution than without them. In some cases, as in those complicated by granular kidney, the treatment is without effect. The author advocates the new principle of introducing into the body only as much lime salts as are excreted in the urine and stools. The heart must be given as much rest as possible, but light and carefully regulated exercises often increase the power of the heart. The other therapeutic measures are also to be adopted.

(410) Salicylate of Methyl in Articular Rheumatism.

Siredey, who has made extensive study of the use of salicylate of methyl, gives some particular indications as to its use (*Journ. de Méd.*, August 25th, 1897). He first remarks that salicylate of methyl is not to be confounded with essence of wintergreen, as is not infrequently done. This latter product is much less pure and has not the same active property as the former, besides having a most unpleasant odour and being more irritating to the skin. The method of application is simple. The part having been washed is laid upon a sheet of gutta-percha tissue. The salicylate is now applied directly on to the skin over the affected joint, drop by drop, and the gutta-percha tissue is immediately brought over so as to completely envelop the affected part. A flannel bandage is then applied in the ordinary way. A thin layer of cotton wool may be used in some cases if the patient does not find it disagreeable or hot. Should it be the hand or foot the part can of course be completely enveloped as described. It does not seem absolutely necessary, according to the author, to apply salicylate of methyl directly to

the part affected, for, as in the case of the hip where the process of wrapping up to prevent evaporation would be difficult, it seems sufficient to apply it to the thigh immediately below, for the action of the drug is due to its absorption rather than to a merely local effect. The salicylate dressing may be renewed twice in the twenty-four hours if the pains are very severe, and the quantity applied may vary from 50 to 120 drops according to circumstances. It does not seem to produce any unpleasant effect on the skin, merely a slight degree of redness being observed, which is painless and without irritation. In the case of acute polyarticular rheumatism the author finds the application of salicylate of methyl, as above described, to be wellnigh impossible. Under these circumstances he administers it internally in large doses. But in subacute and chronic cases where fewer joints are affected and these distally, salicylate of methyl seems to have extremely satisfactory results, being much more marked than those of salicylate of soda. The pains disappeared in two or three hours after the first application, and the author finds that cases which do not respond to this latter are at once relieved by the methyl. The existence of heart complications seems to be no contra-indication; thus the author has applied it in two cases of severe pericarditis, both of which terminated favourably. The same treatment is recommended for gouty arthritis. In the case of infective arthritis the result was not so good, but in large doses a certain degree of benefit was obtained. It would seem that conditions other than rheumatic are controlled by salicylate of methyl. Thus the lightning pains of tabes, tubercular leprosy, Pott's disease, etc., have in the author's hands been much relieved by the application of this drug.

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(411) Iodide of Potassium in Phthisis.

H. J. Vetlesen (*Norsk Mag. f. Lagevidensk.*, No. 10, October, 1897) following the recommendation of Sticker, has employed iodide of potassium in small doses in the diagnosis of the early stages of pulmonary tuberculosis. In the 27 cases in which it was used it gave a positive reaction in 8 and a negative in 19. In these 8 cases the administration of the iodide (half an ounce of a 1½ per cent. solution thrice daily) was followed in from two to three days by the appearance of cough, or by its exaggeration if already present, by the production or increase of expectoration, and by the detection of *râles* in those parts of the lungs where previously there had only been slight changes in respiration and a little marked lowering of the percussion note. The *râle* was found to be almost photographically limited to the suspected area, and did not extend beyond it. In only 4 of these cases was the bacillus of tubercle found in the expectoration, but in the other three the diagnosis of tubercle was facilitated by the existence of other symptoms, swollen glands in the neck, tuberculous disease of the tibia, etc. In the 19 cases in which the iodide gave no reaction, Vetlesen believes it proven that there was no tuberculosis; and this belief was strengthened by the fact that several of these cases were also tested by the injection of tuberculin, and gave no reaction. The author has kept the patients within his knowledge for two years, and none of them has developed tuberculosis. The conclusion is that iodide of potassium in small doses is an important auxiliary in the diagnosis of the nature and exact position of apical phthisis, especially for practitioners who are not always able to resort to bacteriological examination of the sputum.

PATHOLOGY.

(412) Acquired Immunity.

Gottstein (*Berl. klin. Woch.*, Sept., 1897), whose attacks upon the antitoxin treatment of diphtheria are well known, now challenges the commonly received view as to the immunity acquired by human beings to second attacks of acute specifics. He considers it unjustifiable to conclude that because a man does not have an infectious disease twice he has become immune to it through the first attack; he considers this to be a result of the doctrine of chance, and points out that although the winning of the first prize in a lottery twice by the same person is practically unheard of, no one would think of claiming this as a case of immunity. The author dismisses the prophylactic action of vaccination on the ground that this is not strictly comparable with variolous inoculation, and states that Voges has shown that fowl cholera can lay claim to no specific immunising power, as the same immunity as that conferred by injection of attenuated cultures can be obtained by the aid of serum from healthy animals, and hence that the experimentally established immunity of Pasteur is simply a heightened power of resistance. Human acquired immunity should, according to him, be investigated without reference to experiments on animals. Gottstein proceeds to inquire as to which acute specifics are definitely held to confer immunity, and by collecting the opinions of various authors finds that small-pox, measles, and scarlet fever are alone universally stated to do so. As regards the first two, cases are not uncommon in which the same patient suffers from the disease twice or even more often, and the rarity of this is only in accordance with the law of probabilities. Three factors combine to add to this infrequency. First, many diseases, such as diphtheria, are particularly associated with the early years of life, so that when a patient is exposed to a second infection he has very often passed the age of especial liability. Other affections again, such as cholera, typhus, and recurrent fever occur typically in short infrequent epidemics, so that the subject has but little chance of meeting with them again. Lastly, and this is most important, deadly diseases such as cholera, diphtheria, and plague spare only those who are most resistant, in whom the probability of a recurrence sinks very low. The author then gives a number of examples of the repeated occurrence of infectious diseases in the same individual, and enters into elaborate statistics to show that the frequency of such repeated infections is actually in excess of what might be deduced from the calculation of probabilities. Thus he quotes from Maiselis statistics of 33 second attacks of scarlet fever, 37 of measles, and no fewer than 514 of small-pox, and refers also to the recurrence of syphilis and of whooping-cough. He next attacks the current views as to serum immunity, referring to the experiments which have been made to show that the serum of newborn babies and of adults who have never suffered from diphtheria exercises a protective influence in guinea-pigs against diphtheria toxin. He further points out that, according to Weismann's theory, acquired immunity cannot be transmitted, and hence will not explain family and racial non-susceptibility to disease. This is really a heightened power of resisting resulting from the elimination of the weak in the struggle for existence. He finally suggests that in many of the exanthemata the true cause of immunity may be hardening of the skin, following the rash and preventing cutaneous infection. He illustrates this by the case of vanilla-workers, who, after once recovering from the eczema induced by their trade, are no longer liable to it.

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(413) Free HCl in the Stomach Contents.

Winkler (*Centralbl. f. inn. Med.*, October 2nd, 1897) describes a new test for free hydrochloric in the stomach contents by means of alpha-naphthol. If a small quantity of free hydrochloric acid or filtered normal stomach contents be gently heated with a few drops of alpha-naphthol solution (5 per cent.) and a few granules of dextrose, a bluish-violet colour is developed, rapidly changing to an inky colour. A solution of grape sugar may be previously added to the alcoholic alpha-naphthol solution. Milk sugar may be used instead of dextrose, or even a few drops of milk. Boas has pointed out that three conditions are necessary for a satisfactory test for free hydrochloric acid in the stomach contents: (1) The reaction must be definite and constant; (2) the reaction must be absent when free hydrochloric acid is absent; and (3) the test must give no result with organic acids. With alpha-naphthol 0.04 per 1,000 anhydrous hydrochloric acid give a sure reaction. This test gives no reaction when there is no free hydrochloric acid present, but like Günzburg and Boas's tests it reacts with sulphuric and phosphoric acids. Neither lactic nor acetic acid gives a reaction. Often the addition of alpha-naphthol to the stomach contents produces the reaction, as grape sugar may be present as a result of carbo-hydrate digestion.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(414) Pyloric Obstruction and Hypersecretion of Hydrochloric Acid.

Carle and Fantino, of Turin (*Sem. Méd.*, July 21st, 1897) give the results of operations in 41 cases of retention of food in the stomach not due to malignant disease, and discuss their bearing on the relation between hypersecretion of HCl (hyperchlorhydria) and pyloric stenosis. There are three views of this question: (1) That Reichmann's disease is not a morbid entity, but that its chief symptoms (gastro-succorrhœa) is due always to a partial mechanical obstruction either at or below the pylorus (Hayem); (2) that gastro-succorrhœa may be primary and exist without any obstruction (Debove); (3) that the obstruction is more often functional than organic, and is caused by a primary hyperchlorhydria (Robin). Leaving aside subpyloric obstruction, gastric retention must be caused by either (1) an intrinsic or extrinsic pyloric obstruction, (2) muscular atony; or (3) a permanent pyloric spasm. Among the authors' 41 cases, 9 were inferred to be due to spasm, since, though there was always a large quantity of residual fluid in the stomach, atony was clearly absent, and at the operation the gastric walls were hypertrophied, and there was no organic, pyloric, or subpyloric obstruction. Since in the majority of such cases it is impossible to find a cause for the spasm, and HCl is usually hypersecreted, one can understand Robin and others considering the HCl to be the cause. This view is also supported by the facts that in many cases the spasm ceases and the stomach empties itself when the acid is neutralised by alkalies, and that it has been found experimentally that a moderate acidity (1.2 per 1,000) favours peristalsis and evacuation, while excessive (2.5 per 1,000) causes spasm and retention. The results obtained by the authors' operations, however, show this theory to be wrong. Of the 41 operation cases, 20 had hypersecretion of HCl, of which 18 were examined carefully. Of these 18, 7 were cured of their hyperchlorhydria after the obstruction was relieved by operation, the one exception being a case where the operation did not relieve the obstruction. Cases of permanent functional spasm usually end in organic fibrous stricture, and the gastro-succorrhœa is worse in such cases. The difference of opinion between Robin and Hayem as to the curability of the disease is thus explained. Robin, from clinical observation, found many amenable to medical treatment (cases in early stage), while Hayem, from *post-mortem* examinations and operations, concluded that all depend on mechanical obstruction only removable by operation (cases in final stage). As regards Debove's theory, the authors cannot deny the possible occurrence of gastro-succorrhœa, neither accompanied nor followed by pyloric obstruction, though the results of their operations show it must be rare. The primary stenosis is probably caused reflexly by irritation from lesions which are often slight and escape diagnosis, such as small ulcers or fissures, and inflammation of the pyloric mucosa. Even peripyloritis may be present without symptoms of inflammation. The authors urge that operations should be performed for these cases more frequently than at present. The death-rate is low (since using Murphy's button 20 gastro-enterostomies without a death), and the results as regards restoration to health are excellent, while even in spasmodic cases the patient's life is a misery if his condition is untreated. Pyloroplasty and gastro-enterostomy (posterior) are equally successful in hyperchlorhydria; the former should be chosen in slight functional or cicatrical obstruction with muscular hypertrophy, since it is without the inconvenience of regurgitation of bile which follows the latter for a time. It is of no use, however, in cases of atony with hypochlorhydria, and is very difficult to perform if the pylorus is fixed, or there is peripyloritis. Gastro-enterostomy is then indicated, and has therefore a wider application than pyloroplasty.

(415) Potassium Chlorate Poisoning.

P. Jacob (*Berl. klin. Woch.*, July 5th, 1897) records a fatal case. A patient aged 39 was admitted almost comatose, thirty hours after taking about 25 g. of this drug. The face, ears, fingers, and toes were blue. There was much dyspnœa, and the pulse was thready. Camphor injections were given, and the stomach washed out with water to which sodium bicarbonate had been added. Venesection was performed on two occasions, and 1,000 c.cm. normal saline solution was infused. Some considerable improvement was noted on the third day. 50 c.cm. urine of a brown red colour was drawn off, and was found to contain both albumen and blood. From the time of admission a marked methæmoglobinuria existed, but after the second day a distinct hæmoglobinuria. Six days after taking the poison the patient died suddenly and unexpectedly. Only an incomplete necropsy could be made fifty hours after death. The spleen was enlarged, the lungs deeply engorged with blood, and the kidneys swollen. The changes in the blood were interesting. There was a very marked leucocytosis at first. The red cells were paler than usual, and showed marked degenerative changes. The leucocytosis gradually diminished, so that on the day of death the leucocytes did not exceed the normal, but the changes in the red cells gradually increased, so that eventually hardly a normally coloured red cell was to be seen. The red cells which escaped the destructive changes nearly all showed poikilocytosis. The author's observations thus agree with those of Riess and Krönig. The hyperleucocytosis is a reactive change. The author would go so far as to say that the use of potassium chlorate, even as a gargle, should be entirely given up and forbidden. Even in small doses it is a severe blood poison, and may produce a hæmorrhagic nephritis.

(416) Acetonuria.

Nebelthau (*Centralb. f. inn. Med.*, September 25th, 1897) relates an exceptional case in a woman who was much wasted. There was no evidence of visceral disease, and there was no sugar in the urine. The breath smelt of acetone, and the urine gave a most marked reaction of aceto-acetic acid. There was vomiting, and the vomit also contained acetone. An investigation was made into the metabolism of this case. In the first or comparatively fasting period, acetone, aceto-acetic acid, oxybutyric acid, and ammonia were found. The acetonuria was not so marked as in a severe case of diabetes, but exceeded the amount usually present when the patient is dieted. The amount of urine was small, and hence a considerable excretion of acetone occurred through the lungs. The urine contained during this period albumen and casts. Cases of intestinal intoxication have been recorded where there has been albuminuria with casts as well as acetonuria. The total nitrogenous excretion was very low in the first period; the patient had taken very little food for some three years past. In the second period the vomiting was controlled by means of cocaine and suggested treatment, and a sufficient amount of food was taken. Now there was considerable nitrogenous retention, and the weight increased. With the sufficient nutrition the smell of acetone in the breath, the reaction with ferric chloride in the urine, and the increased ammonia excretion disappeared. It seemed to be a case of hysterical anorexia and vomiting with consequent inanition. Thus a considerable excretion of acetone (4 g. in the day) may exist without producing much disturbance of the general condition.

SURGERY.

(417) Serumtherapy in Surgical Tuberculosis.

Skuetecki (*Gazz. degli Osped.*, October 10th, 1897) reports 7 cases of surgical tuberculosis in which good results followed the use of injections (1 c.cm. on alternate days) of Maragliano serum. The first case was a boy of 7 with tuberculous disease of the iliac bone and vertebræ of two years' duration. Thirty-six injections were given altogether, bringing the temperature down to normal, increasing the appetite and weight (by 4 kgr.), diminishing the night sweats and number of bacilli in the discharges. At the end of this time severe enteritis set in owing to dietetic errors, and the boy died of slow septicæmia. The second case was that of a boy

of 5, with tuberculous disease of the left knee and extensive sinuses. After scraping the boy was given 42 injections of serum and went out cured. In the 5 other cases the results were as satisfactory as in the second case. In no case did any bad effects follow the injections. No cutaneous tuberculosis or engorgement of neighbouring glands was observed. The temperature fell in every case, the weight, appetite, and strength improved, and the tubercle bacilli decreased in number. The author believes the serum has a marked and indisputable antitoxic action.

(418) Recovery without Operation from a Penetrating Gunshot Wound of the Abdomen.

Ruotte (*Archiv. Provin. de Chir.*, October, 1897) publishes a case of gunshot wound of the abdomen, in which recovery followed an expectant treatment, necessitated in the first instance by the absence of skilled help and by the surroundings of the patient, and the objection raised by the parents to removal to hospital. The injury had been caused by the accidental discharge at a distance of a few inches of a gun loaded with large shot. The wound, which was about one inch in length, and had undoubtedly extended into the abdominal cavity, was situated a little below and to the outer side of the umbilicus. Wounding of the intestine was proved by occasional escape of gas, by a greenish discharge from the wound after the third day, which was increased soon after feeding. The patient, a lad aged 12 years, who was treated by a very restricted and fluid diet, by the application of ice to the abdomen, and by the occasional administration of opium, made a speedy recovery without any indications of peritonitis, and was able to return to school within a month from the date of the accident. The author acknowledges that the good result in this case was very exceptional, and unexpected, and expresses his conviction, based upon an extensive experience of gunshot wounds, that even when the peritoneal cavity has been penetrated by multiple projectiles surgical intervention is indicated provided it can be applied under those conditions that are indispensable for its success.

(419) Dupuytren's Contraction.

Féré (*Rev. de Chirurg.*, October) brings forth several facts in support of the view that retraction of the palmar fascia is due to some predisposing constitutional condition, and that traumatism and external irritation play but a subordinate part as mere exciting causes. The symmetry of the lesions, which is one of the most frequent characters of the affection favours this view. Moreover, the contraction is often associated with general conditions marked by trophic disturbances. Rheumatism and herpetism have often been noted in the hereditary and personal antecedents of the subjects of this affection, and many authors have pointed out its occasional association with gout. It has also been observed, though less frequently, in diabetic patients. Allusion is made to its occasional coincidence with induration of the fibrous sheath of the penis, an instance of which is published by the author. Palmar contraction is sometimes met with in cases of nerve affections, such as tabes, epilepsy, and general arthritic paralysis. The author recognises the influence, which however is regarded as only exciting, of traumatism, and points out in favour of such influence the almost constant commencement of the contraction in the fourth and little fingers. A case, however, is here recorded in which the affection commenced on both sides in the thumb.

(420) Gonorrhœal Peritonitis in a Child.

Mejia (*Thèse de Paris*, 1897) publishes a full account of a well-marked case of this disease. A child, aged 5, had suffered for over a fortnight from a very free vaginal discharge. Severe abdominal pain set in a week later, then continual vomiting, and at last the child was brought into hospital; she was clearly moribund. Tympanitic distension was extreme. Pain was so great that palpation was almost useless, yet there seemed to be fluctuation in the hypogastrium and iliac fossæ. After death the peritoneal cavity was found to contain a quantity of pus which contained the gonococcus, also the bacterium coli. The distended intestines were glued together by adhesions, but showed no signs of disease of their muscular and mucous coats. The appendix vermiformis was free from any lesion. The ovaries and tubes were adherent. It is significant that the abdominal orifice of each tube was patent; pus exuded on pressure. The other viscera were healthy, excepting that there was slight œdema of the bases of the lungs.

MIDWIFERY AND DISEASES OF WOMEN.

(421) Structure of the Ovaries in Osteomalacia.

E. Ferroni (*Annali di Ostetricia*, September, 1897) has had an opportunity of examining the ovaries in two cases of osteomalacia, under the care of Mangiagalli. In one case the ovaries alone were removed, and in the other Porro's operation was performed (utero-ovarian amputation). To the naked eye the organs were distinctly larger than normal. Microscopically the Graafian follicles were normal, as were also the small blood vessels in the cortex. Here and there in the cortex were small homogeneous clear points of hyaline degeneration. In the medulla there was a noteworthy increase in the number of vessels, they were distinctly tortuous, and their walls were thickened, especially in the media and adventitia. Here and there dilatation of the vessels could be seen. The vascular walls showed hyaline degeneration, especially of the outer coat, but to some extent also in the middle coat. These characters were similar to those found in other cases by Velits, Orthmann, Flatau, Heyse, and Rossier. The hyaline changes are to be regarded as secondary; the primary alterations are the circulatory alterations, the hyperæmia, the development of the blood vessels, the thickening of their walls, their ectatic condition, etc. In some measure these may be due to the pregnancy which is complicated by the osteomalacia. In a case of rickets complicating labour Ferroni found the same changes in the medulla of the ovaries, but in a slightly less marked degree as compared with osteomalacia.

(422) Acute Prolapse of the Fœtal Membranes in Fifth Month of Pregnancy.

Geyl (*Belgique Méd.*, September 30th, 1897) was called suddenly to see a woman who had been much frightened by the sudden appearance of a tumour at the vulva. The tumour was neither sensitive to pressure nor painful, and it had shown itself during prolonged and difficult defæcation with much straining. She was still nursing her first child, and said she was not pregnant. Vaginal examination, however, showed that the tumour came from the cervical canal, which was slightly dilated, and that the fundus uteri was a little above the level of the umbilicus. The patient was pregnant at the fifth month, and the tumour was formed of the prolapsed fœtal membranes. Seeing that labour was inevitable Geyl ruptured the membranes, but found a contracted internal os. There was complete uterine inertia, and the patient still stoutly maintained that she was not pregnant. Some hours later uterine contractions came on, and a dead female fœtus was delivered by the breech. There was marginal insertion of the cord and some hydramnios, but the mechanism of the prolapse was difficult of explanation.

(423) Puerperal Fever in the Christiania Maternity.

H. Kjelsberg (*Norsk. Mag. f. Laegevidensk.*, September, 1897) in a paper containing the statistics of the Maternity Hospital in Christiania for the five years, 1891-96, gives details of the cases of puerperal infection. In 4,398 cases of labour there were 33 instances of puerperal fever, and 7 of these were fatal. The mortality from this cause was 0.15 per cent., and the total mortality in the hospital was 0.83 per cent. The decrease in the mortality from puerperal fever since 1876 has been very marked. From 1876 to 1883 it was 0.34 per cent.; from 1883 to 1886, 0.23 per cent.; from 1887 to 1890, 0.21 per cent.; and now from 1891 to 1895, 0.15 per cent.

(424) Nodular Forms of Tubular Disease.

Ries (*Journal of Experimental Medicine*, New York, July, 1897) has devoted much labour in the investigation of the nodules in the tube described by Chiari and others. He finds that they have been much too readily taken for purely inflammatory products, and lays stress

on the discovery of von Recklinghausen that Wolffian relics are to be found not only in the mesosalpinx, but also in the substance of the Fallopian tube itself. He divides the nodules into several classes, according to histological features. In some cases they are the result of well-known forms of salpingitis, in others they are epithelial or mesoblastic structures. The most important theory set forward by Ries relates to extrauterine pregnancy. He does not appear to believe in the tubal decidua doctrine, but holds that ectopic gestation, abdominal or tubal, produces epithelioid formations by causing pseudo-membranes to form, and not by any irritation peculiar to the pregnancy.

(425) A New Dressing for the Umbilical Cord.

Rochon (*Sem. Méd.*, August 25th, 1897) strongly recommends the use of picric acid as a dressing for the cord. He states that it ensures antisepsis, obviates the two rapid desiccation which produces a brittle stump liable to cause hæmorrhage on the slightest provocation, does not hinder the separation of the cord on the sixth or seventh day, and leaves then a hard and complete cicatrix. It is furthermore absolutely harmless. The dressing consists merely of a bandage or a wad of absorbent wool soaked in 0.5 per cent. picric acid and then carefully squeezed out, and finally covered with a septic cotton without the interposition of any impermeable material. The dressing should be changed every two or three days, more often if soiled with urine; at a pinch, however, a single dressing will suffice. The more often it is changed the later the separation of the cord, which is usually on the fifth to the seventh day when this method is followed.

(426) Treatment of Hernia of Ovariotomy Cicatrix.

Pavloff (*Bolnitschnaia Gazeta Botkina*, No. 17,1897) had to treat a very bad hernia of an ovariotomy cicatrix. So intimately had the intestine grown to the fibrous neck of the sac that the latter could not be set free and sutured. Pavloff therefore made two curved incisions, about $5\frac{1}{2}$ inches long, through the muscular coats of the parietes on each side of the median line as deep as the aponeurosis. The inner borders of the strips thus dissected up were united with a continuous suture, the outer with interrupted sutures. Thus a bridge was formed over the hernia, and it was drained from below. The wound healed by first intention, and the bridge practically reduced the hernia, excepting the adherent contents at the neck.

(427) Dropsy of the Fœtus.

Pinkus, at a recent meeting of the Berlin Obstetrical Society (*Zeit. f. Geburtsh. u. Gynäk.*, xxxvii, p. 352, September, 1897) showed a six months' fœtus which exhibited marked œdema and a condition of the extremities resembling fœtus rachitis. There was interstitial inflammation of the kidneys (horse shoe), liver, spleen, and lungs; but the bones (as seen by the Roentgen rays) were normal. Pinkus thought that the existence of pulmonary tuberculosis in both parents, and the state of anæmia in the mother, might have some etiological importance in this case.

THERAPEUTICS.

(428) The Serum Treatment of Leprosy.

Buzzi (*Deut. med. Woch.*, October 14th, 1897) reports a case of maculo-tubercular leprosy treated with Carrasquilla's serum. A lad, aged 15, presented well-marked evidence of the disease when he first came under observation. There was hypertrophy of the tissues of the face with disseminated leprous nodules. The ends of the extremities were much thickened, and there were numerous nodules there as well as along the ulnar side of the forearm. Glandular enlargement was also present, and pigmented patches on the extremities and trunk. All available treatment had been tried, but, after temporary improvement, febrile attacks again occurred, with the development of new nodules. The disease steadily progressed. Between February 7th and June 9th, 1897, twenty-six injections of serum obtained from Dr. Carrasquilla were made into the buttocks; 0.2 c.cm. was first used, and this was increased up to $3\frac{1}{4}$ c.cm. The injections were given at first twice and then once a week, and later there were at least two pauses of fourteen days. A local reaction occurred, most marked on the evening of the day of injection, and disappeared in a few days. No abscess was noted. Usually there were no unpleasant general symptoms. On two occasions, however, there were some threatening symptoms of collapse, and the temperature rose to 39° or 40° C., defervescence being accompanied by profuse sweating. Redness and swelling, with subsequent absorption, occurred in the leprous nodules, and there was considerable diminution in the infiltration of the tissues. A new growth of hair appeared on the extensive patches of alopecia upon the head. Leprous ulcers in the mouth healed. In fact, the patient's condition underwent in every way a marked improvement. During the four months after the injections there was some tendency to relapse, but these relapses were much milder than formerly. It cannot be stated whether a permanent cure can be effected in this case, yet the results obtained were much better than under any other treatment. The serum treatment deserves a further trial.

(429) Treatment of Eczema by Picric Acid.

Brousse recommends (*Journ. de Méd.*, October 10th, 1897) the employment of picric acid in some cases of eczema, the indications being an acute attack, either primarily, or supervening on a chronic, particularly should there be any tendency to epidermic ulcerations, and in the seborrhœic or impetiginous eczema of children. But the method is contra-indicated in chronic cases, and generally in those accompanied by epidermic thickening, though, should there be much itching in the latter, it may prove beneficial. The method of employment is as follows: A saturated solution of picric acid (12 g. of the acid dissolved in 1 litre of tepid water allowed to become cold and decanted), is painted on the affected parts with a brush, the application extending slightly beyond the limits of the eczematous area, then covered immediately with absorbent wool, or it may be with a compress soaked in the same solution, and over which the wool is applied. This is allowed to remain on for about two days. An indispensable precaution would seem to be previous cleansing of the skin with some antiseptic, so that no suppurative organisms may be allowed to remain in contact with the diseased skin during the time that it is covered by the wool dressing. The staining due to picric acid may subsequently be removed by washing in a saturated solution of lithia carbonate.

(430) Heat as a Therapeutic Agent.

Bosányi (*Pester med-chir. Presse*, October 24th, 1897) commences a study of this subject. He first refers to the disputed question of the superiority of the natural hot springs over the artificial substitutes. Hot baths have been used with success in puerperal eclampsia, and hot douches and applications have been found of value in certain diseases of women. The author then refers to the treatment of anæmia by diaphoresis and bleeding, which he appears to look upon as a possible substitute for the iron treatment. In the acute infective diseases such as diphtheria, cholera, influenza, hot baths, or the local application of heat, has proved to be of service. Epidemic cerebro-spinal meningitis has been treated with remarkably good results by baths at 36° to 41° C. In certain skin diseases, mostly chronic, the hot bath is a valuable remedy. In some circulatory diseases with dropsy, diaphoretic baths are serviceable. The use of heat as a therapeutic agent has undoubtedly its limits, and under some circumstances is contra-indicated. The author refers to the quickening of vital processes under its action. Chronic diseases are those which are most adapted to this treatment.

(431) Juniper Tar.

Witold de Schulz (*Arch. des Sci. Biol. de l'Institut. Impér. de Méd. Expér. à St. Pétersbourg*, Tome v, Nos. 4 and 5, 1897) states that in the last cholera epidemic in Russia (1892-95), Nencki and others recommended pine tar as a disinfectant. This has drawn widespread attention to the varieties of tar and their properties. Juniper tar (= oil of cade), however, has previously not been worked at from a chemical and disinfecting point of view. It contains (1) hydrocarbons (boiling point 210° to 400° C.), which form its greater part, (2) acetic acid and its homologues, (3) phenols and allied bodies, (4) resinous substances, which

form the residuum after distillation. (*a*) The chief difference between the phenols of coniferous trees (pine and juniper) and others (beech, birch, aspen, etc.) is that the latter contain diphenols and bodies derived from triphenols (pyrogallol), with small quantities of monophenols, while the former contain only diphenols, chiefly derivatives of pyrocatechin (guaiacol and its homologues, methyl- (= creosol) ethyl- and propyl-guaiacol). (*b*) Juniper tar is poorer in phenols than that of pine or aspen. (*c*) It is less acid and has less disinfecting power than the other tars which have been investigated. (*d*) As a 5 per cent. mixture with water its disinfecting action is almost *nil*. (*e*) An alkaline solution (5 per cent. tar in 1 per cent. KOH solution) has a marked disinfecting action, killing a two days' old culture of intestinal bacteria from a body dead of cholera when mixed with it in equal parts in 20 to 30 minutes, a culture of typhoid bacilli in 2, and of B. pyocyaneus in 10 minutes. Still this action is inferior to that of an alkaline solution of pine, birch, or aspen tar. (*f*) Anthrax spores are killed by pure juniper tar in 7 to 9 days, by its 5 per cent. alkaline solution in 24 hours. (*g*) The alkaline solution has but a feeble action on pure cultures of tubercle bacilli, and does not kill them after 24 hours, for all guinea-pigs inoculated with these insufficiently-sterilised cultures died about the 60th day. (*h*) Juniper tar is 9 times as expensive as pine, and $4\frac{1}{2}$ times as birch, and is therefore never likely to be used as a disinfectant.

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(432) Pyramidon.

Feuerstein (*Centralb. f. d. ges. Therap.*, October, 1897) has used this agent in 59 cases. It was given as an antipyretic in 42 cases of phthisis in all the stages of consolidation. The single doses consisted of 0.2, 0.3, and 0.6 g., but the first-named dose was repeated on several occasions. In all the cases the temperature began gradually to come down, reaching its lowest point in about two hours, where it remained for four to six hours, and then began to ascend again. With 0.6 g. given hourly in 0.2 g. doses, a complete defervescence could be obtained. After a dose of 0.3 g., a fall of temperature through 2° C. was observed. After a dose of 0.6 g. the greatest fall of temperature was 3° C., and the least 1° C. The longest duration of the low temperature was six, and the shortest two hours. As an antirheumatic, pyramidon was given in 0.5 g. doses several times in the day, but without much result. There was also no noteworthy result when pyramidon was used as an antineuralgic. In two cases of pains due to locomotor ataxia it was of no value, and in one case of migraine it only produced a temporary result. In all these three cases antipyrin gave rise to a rash which did not appear when pyramidon (an antipyrin derivative) was used. The author looks upon pyramidon as a tolerably certain antipyretic. No unpleasant results were produced by it.

(433) Saline Injections in Infantile Cholera.

Loin, of Brussels (*Sem. Méd.*, clxxvi), in children from 6 weeks to 3 months old, the subjects of infantile cholera resisting all sorts of treatment, has had recourse to subcutaneous injections of normal saline solution in doses of 50 c.cm. morning and evening. After the first or second injection the frequency of the stools diminished, they began to regain their normal consistence and appearance, and in a few days the patients recovered.

PATHOLOGY.

(434) The Distribution of Iron in the Liver.

Lindemann (*Centralbl. f. allgem. Path.*, 1897, No. 12) has investigated this problem in 25 cases of death from various diseases. The hæmosiderin or iron-bearing hæmoglobin derivative is stained in sections by the Prussian blue test. He finds that a moderate reaction is not rare in non-anæmic cases. Furthermore, that in the localisation of the pigment, three types can be distinguished. In the first the iron is most abundant, being found in the liver cells, the liver capillaries, in Kupffer's cells, and in the periportal connective tissue; in the second it is absent from the liver cells; and in the third it is present only in the connective tissue. The reaction was obtained in two-thirds of the cases, the first type being predominant in severe anæmias, the remainder under various other conditions; it was more often absent in children than adults. The author considers that in diseases other than the anæmias the hæmosiderin is brought to the liver from without in the circulation, while in those affections it is probably manufactured actually in the hepatic cells themselves. Kretz (*ibid.*, Nos. 15-16) criticises Lindemann's views on the basis of a much greater number (200) of observations. He finds that the hæmosiderin reaction is very rare in non-cirrhotic livers, not occurring in more than one case in 15 or 20. The iron is deposited in the liver cells, particularly on the side of the bile capillaries and in the connective tissue, both intra- and interacinous; the deposits in the last-named situation are mainly from the lymphatics. The main causes of the deposition are pernicious anæmia, destruction of red corpuscles by poisons, such as arseniuretted hydrogen, marasmus as in alcoholic tabetics, leading to the pigmentation of many organs, and finally hæmorrhages and hæmorrhagic exudates from which the hæmoglobin is absorbed. The hepatic deposition is often accompanied by similar changes in the spleen. Kretz notes its absence in severe anæmia from carcinoma, tuberculosis and suppuration, in repeated loss of blood in most infectious diseases (except typhoid), in which it only seems to appear as a result of extravasation. It is curious also that in mitral disease hæmosiderin can be detected in the lungs but not in the liver, although both are similarly congested. The deposition of iron in the liver is marked in pernicious anæmia and in typhoid, but especially in the pigmented cirrhotic liver of diabetes. The importance of chronic intestinal intoxication as a cause of alterations in the blood is difficult to estimate, but the author considers blood changes as the main cause of the deposition in cirrhosis of the liver. The deposit disappears slowly when its cause has ceased to act; part of the iron is excreted in the blood, part removed by the lymph, and the remainder elaborated on the spot, the liver acting as a storehouse for it.

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(435) The Antitryptic Action of Blood Serum.

Fermi (*Centralb. f. Bakt.*, xxii, 1) pointed out some years ago that, in addition to its better-known properties, blood serum possessed the power of rendering inactive the digestive enzyme trypsin. He now reports the results of further studies in the same direction. That the organism has some power of destroying this body is shown by the fact that it is not eliminated by the bowel or in the urine in man or herbivora, whether the kidneys are sound or not. His experiments fell under three heads. He first injected trypsin beneath the skin and into the veins, and then sought it in the different organs after various lengths of time. Next, he investigated the action of fresh and warmed organs, blood, and blood serum upon trypsin, and finally attempted to discover whether blood serum and fresh organic juices simply held the trypsin in close union or destroyed it and rendered it completely inactive. He found that half an hour after the subcutaneous or intraperitoneal injection of 30 grains of trypsin into a guinea-pig, the ferment could be detected only at the seat of injection, and at no other place. When $7\frac{1}{2}$ grains of trypsin were injected into the jugular vein of a guinea-pig it could be detected in all the organs five minutes later, but not after half an hour. After the daily subcutaneous injection of trypsin for a week no trace could be discovered in a guinea-pig ten minutes after the last injection; in frogs, however, trypsin could be detected an hour, but not five hours, after subcutaneous injection. If trypsin was mixed with finely-chopped pieces of spleen, liver, kidney, and muscle, it was no longer detectable after twenty-four hours, unless the mixture were warmed, and the same result was obtained with blood and serum. Attempts to isolate the ordinary products of tryptic digestion from mixtures of trypsin with fresh organs, blood, and serum, gave entirely negative results. From this it must be concluded that these cause a genuine destruction of trypsin. Pugliese and Coggi have confirmed the author's work, and have further ascertained that blood serum loses its antitryptic power when warmed to 50° C., that this power is greater in the antagonism of trypsin than of pepsin, and that a difference in this respect can often be demonstrated between arterial and venous blood.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(436) Acromegaly.

Hansemann (*Berl. klin. Woch.*, May 17th, 1897) relates a case in a woman aged 46. She had been ill for four years before her death with polyuria, polydipsia, wasting, and weakness. The urine contained as much as 8 per cent. of sugar at times, but was sometimes free from sugar. She suffered from furunculosis and died in coma. Besides hyperostoses from various bones there was a tumour of the hypophysis. The tumour had exercised no pressure except on the optic nerves. It had the composition of an oval-celled sarcoma. The thyroid gland was somewhat enlarged. The pancreas was not atrophied, but microscopically a very considerable increase in the connective tissue was noticed. The diagnosis was not very obvious during night. The thickening of the fingers owing to the hyperostoses and hypertrophy of the cutis, the various exostoses, the thickening of the skull, etc., made it certain later. Tumour of the hypophysis, enlargement of the thyroid and diabetes have been found in other cases of acromegaly. Among 97 recorded cases only 48 are described sufficiently minutely to make them available for use, and in 32 of these manifestations of disease of the hypophysis were present. In 12 out of 15 cases examined after death changes were found in the hypophysis. In the remaining 3 some doubt existed as to the acromegaly. The author does not think it correct to say that acromegaly is the disease caused by morbid changes in the hypophysis, but a connection between these two cannot be denied. Hansemann thinks that too much stress has been laid upon the occurrence of enlargement of the thyroid in acromegaly. Overgrowth of connective tissue in various parts of the body ranks among the manifestations of acromegaly. The author has also noticed a similar overgrowth in certain forms of diabetes. He thinks it possible that a closer relation exists between acromegaly and diabetes. In 97 cases of acromegaly diabetes was noticed in 12, but these were the best observed cases.

(437) Tuberculous Meningitis of Choreic Type.

As is well known, tuberculous meningitis in the adult may manifest itself in great variety of form; thus, there may be apoplectic, epileptic, tetanic, hemiplegic, and comatose symptoms, and even "diarrhœa" and "delirium tremens" have proved to be forms of the disease. Breton has just added his description (*Thèse de Lille*, 1897), of a very remarkable case which came under his notice. The patient was a man with decided tuberculous disease, and who, after an attack of alcoholic excess, was supposed to be suffering from delirium tremens. He was admitted to hospital suffering from a slight degree of delirium. On examination he had all the appearances of chorea. There was marked motor inco-ordination, gesticulation, and inability to keep his face in repose. He could not stand with his heels together, or on one leg; his lower limbs exhibited sudden jerking movements of flexion and extension, and his hands and arms were similarly affected, and it was impossible for him to raise a glass of water to his mouth. The muscles of the face, eyelids, neck, and trunk all exhibited a similar condition. Speech was interrupted and often unintelligible. The patient did not seem able to understand what was said to him. There was a marked degree of internal strabismus of the left eye. The condition of the patient changed rather rapidly, the characteristic movements being interrupted by convulsive seizures. Subsequently the patient relapsed into a comatose condition lasting for three days and terminating fatally. On *post-mortem* examination an ordinary meningitis was discovered without any special distribution.

(438) Meat Poisoning.

Brieger and Kempner (*Deut. med. Woch.*, August 12th, 1897) refer to the researches of Ermengen, in which an epidemic of poisoning by meat was found to be due to a specific anaërobic microbe named by him B. botulinus. The clinical picture was characterised by a decrease and then increase of the salivary and mucous secretion of the mouth, etc., blepharoptosis, mydriasis, diplopia, strabismus, aphonia, constipation, and the absence of cerebral symptoms. Disturbances of breathing and circulation were often added. Ermengen showed that the toxin did not belong to the ptomaines, but to a definite group including the tetanus and diphtheria poisons. The authors have experimented with cultures obtained from Ermengen, and they have been able to separate out the toxin as in the case of other microbes by the Brieger-Boer method. By administering this poison to animals Kempner has been able to obtain a powerful antitoxic serum. The poison in question can be preserved for a long time when protected from light and the air. The pure poison is easily acted upon by ether, alcohol, and oxydising bodies, but is resistant to reducing agents, thus resembling the tetanus and diphtheria poisons. In experimenting with decomposing pig flesh and other decomposing fluids, the authors have never obtained substances acting like the botulinus poison. The reason that specific microbes have not been found is due to the presence of micro-organisms resembling the B. coli communis, which have been regarded as the cause of the symptoms; the presence, however, of a specific poison belonging to the B. coli communis has not been demonstrated. The authors think as the results of their investigations that microbes of the coli type have nothing to do with meat poisoning, but that the poison produced by decomposing albuminous substances is due to microbes not yet discovered. From decomposing blood they have isolated by the Brieger-Boer method a very deadly poison. Thus, suspected food should be examined by this method. The authors refer to one suspected case which the examination proved to be a sepsis due to the streptococcus. Botulinus toxin given to animals in non-lethal doses eventually produces a fatal cachexia, with paralysis and degeneration of parenchymatous organs. The examination of the blood of patients suffering from tabes, myelitis, neuritis, and chronic nervous diseases by this method have as yet given no positive results.

(439) Paralysis in the Course of Scarlet Fever.

The somewhat rare occurrence of various paralyses in the course of scarlet fever has been studied by Alexieff (*Journ. de Méd.*, July 10th, 1897), who has only been able to collect 7 or 8 published cases, together with 2 coming under his own observation. In the first of these a child, aged 4, suffering from nephritis and anasarca, resulting from a slight attack of scarlet fever, suffered from left hemiplegia about three weeks after the eruption, the face, tongue, and upper and lower limbs being affected. In about twelve days a marked improvement set in, progressing to complete recovery. In the second case, a boy aged 7, showed complete paralysis of the right half the body during a slight attack of scarlet fever. The paralysis was of a particularly marked degree, with loss of the right naso-labial fold, complete loss of power in both upper and lower limbs and the right side, loss of knee-jerk and impaired sensation. The patient could understand what was said to him, but there was complete articular aphasia. There were symptoms of endocarditis and broncho-pneumonia with a marked degree of albuminuria. Death occurred on the fourth day. On *post-mortem* examination there was subacute parenchymatous nephritis, degeneration of the cardiac muscle, thrombosis of the left middle cerebral artery, and almost complete softening of the lenticular nucleus and of the posterior portion of the internal capsule.

SURGERY.

(440) Renal Surgery.

Obalinski (*Wien. med. Woch.*, 1897, Nos. 6 and 7) gives details of seven operations on the kidney, and recently performed by him, as the result of which he has arrived at the following conclusions. Most of the symptoms and signs presented, such as pain enlargement of the kidney, and dislocation with simultaneous changes in the urine lead customarily to an indication as to which of the two organs is affected. It is only in exceptional cases that this requires the use of the cystoscope to decide it accord-

ng to which ureter is passing pure and which pathological urine. It is only in exceptionally well-marked and rapidly progressive cases that an accurate diagnosis and certain therapeutic indications can be obtained by means of the ordinary methods of investigation; very often, and particularly in the early stages, direct inspection by exposure or incision of the kidney must be added. If it is difficult to tell whether the kidney or another organ (for example, the gall bladder) is affected, an exploratory laparotomy should be made; if, however, the question is simply the extent of the kidney lesion, exposure of the organ by the retroperitoneal route will suffice. The kidney is so important an organ that it should only be sacrificed when it contains some growth absolutely dangerous to the whole organism, or when the morbid process has rendered it entirely useless. The author recognises only two absolute indications for nephrectomy—enlargement of the kidney by new growth or tubercle. Other conditions, revealed when the organ is exposed or incised, may afford relative indications. Observations made in the course of nephrectomies show that a kidney which before operation can be recognised as enlarged and hard, is as a rule quite or almost functionless, whereby we may often get an indirect insight into the functional capacity of the other kidney. As the modern tendency is conservative and in favour of nephrotomy rather than nephrectomy wherever possible, the separate investigation of the urine of the two sides is seldom called for, particularly as Pawlik's procedure for this purpose is difficult and often uncertain. Obalinski goes so far as to say that nephrectomy is contra-indicated if nephrotomy does not show that the persistence of the organ in the body is a danger to life. Nephrectomy is of course contra-indicated in other conditions, as when the other kidney can be shown to be absent, when both kidneys are affected by the same disease, when the bodily strength does not permit so radical an operation, or when the kidney capsule is tightly adherent to other organs.

(441) Abdominal Contusions.

DEMONS (*Sem. Méd.*, October, 1897) describes three results of abdominal contusions: (1) Injury of the abdominal wall; (2) injury of one or more organs; (3) injury of intra-abdominal organs while the abdominal wall escapes. It is often difficult to determine the force or extent of the injury. Details, even the shape of the wounding agent, are important. Narrow bodies, the action of which is exerted on a small area, reach more deeply by overcoming resistance of the abdominal parietes more easily than larger bodies. Resistance varies with the age, state of obesity, state of relaxation or contraction of the muscles. The direction of the blow is of importance. If perpendicular to the deeper structures, it is most harmful; when parallel, it tends to glide off; when oblique, the force is modified. Fragility varies with the different viscera or with the anatomical or pathological conditions at the time of the accident. Hollow viscera are more vulnerable when distended. Laceration is favoured by morbid changes in the viscera. Immediate symptoms of such an accident vary. Pain is usual, but may be slight or severe, local or general, spontaneous or determined by pressure. Deep-seated localised pain points to a wounded viscus. Sharper pain usually points to contusion of the abdominal wall. Ecchymoses or superficial swelling are of no diagnostic value for deeper injuries. Vomiting or slight tympanites does not afford any reliable evidence of injury. Rigidity of the abdominal walls, though not constant, is an important indication of visceral lesion, and almost characteristic of a wounded viscus. Diagnosis is often easy, but may be very difficult. Fractures of the skull, spine, or limbs may mask other symptoms. With a hollow viscus severe contusion or slight perforation may give the same symptoms. Exploratory laparotomy should not be resorted to in extremely mild or severe cases. Whenever advisable it should be performed as early as is possible within twenty-four hours of the accident.

(442) The Frequency of Complications in Gonorrhœa.

COLOMBINI (Reprint from *Giornale Ital. delle Malatt. Vener. e della Pelle*, 1896, v) records the results of a careful statistical inquiry as to the frequency of local complications in gonorrhœa. He took account not only of epididymitis, prostatitis, etc., manifesting themselves by marked symptoms, but examined each case carefully externally and *per rectum* for the objective signs of disease. He found slight and painless lesions of some sort in 62.5 per cent. of cases examined, and came to the conclusion that posterior urethritis which led to epididymitis affected the whole generative tract on the way. Thus the prostate was frequently tender, and generally or locally enlarged, the vesiculæ seminales hard, better marked than usual, and a little painful, and the prerectal part of the vas deferens converted into a hard and somewhat tender cord. The author summarises investigations into 400 cases, in 160 of which the gonorrhœa was acute, in 180 subacute, and in 60 chronic; in 92 8 per cent. the disease had spread to the posterior urethra. Lesions of the prostate, vesiculæ seminales, or prerectal vas deferens were present in 141 cases, or 35 25 per cent.; of the acute cases, 45, or 28.12 per cent., were affected; of the subacute, 72, or 40 per cent.; and of the chronic, 24, or also 40 per cent. Of the 141 cases, 88 had prostatitis, 5 vesiculitis, 46 both prostatitis and vesiculitis, and 2 both these with pelvic vasitis as well. Of the 45 acute cases, 32 had prostatitis alone, 1 vesiculitis alone, and 15 (? 13) both. Of the 72 subacute cases, 35 had only prostatitis, 4 only vesiculitis, 28 both, and 2 pelvic vasitis as well. Of the 24 chronic cases, 21 had prostatitis only, and 3 vesiculitis as well. It should be stated that all the patients examined were free from the symptoms of complications, so that these were in every case latent. Great care was taken to exclude the possibility of the affections being due to any other cause. As regards prognosis, the author regards this as in general most favourable, but considers it possible that the inflammations may lead eventually to senile prostatic hypertrophy and other troubles of later life.

MIDWIFERY AND DISEASES OF WOMEN.

(443) Lithopædion.

CARL VON SCANZONI (*Prager med. Woch.*, No. 22, 1897) describes the necropsy of a woman, aged 59, who died of chronic Bright's disease in the German University of Prague, last January. She had borne four children to term and had aborted once. Whether the abortion simply meant the expulsion of a decidua only none of the staff could decide, though they suspected so after the *post-mortem* examination. There were some very tough old bands of adhesion between the uterus and the back of Douglas's pouch. The left Fallopian tube was obstructed at its abdominal end and firmly bound to the ovary. The right tube ran out normally from the uterus till at a point about $2\frac{1}{2}$ inches from its origin, where there was a complete and evidently very old solution of continuity. It was connected by a short band with the remainder of the tube, 1 inch long, and ending in an open ostium with well-developed fimbriæ. A stone-like mass, $\frac{3}{5}$ in. in long diameter, hung, attached by a short pedicle, from the occluded proximal extremity of the separated end of the right tube. The mass consisted of ribs, vertebræ, the left scapula, and a distinct left humerus. The longest rib was about 1 cm. in length, so that, allowing for contraction, the fœtus had probably died at the beginning of the third month, when the tubal sac had ruptured. Scanzoni demonstrates the case with a fine drawing of the specimen.

(444) Abscess of Vulvo-Vaginal Gland.

DUGON (*Thèse de Paris*, 1897) has investigated acute inflammation of this gland. He cultivated the pus in 14 cases. In 9 the disease was the first attack; the gonococcus was found in 8, and in 2 of the 8 the pus in the abscess communicated freely with the exterior through the duct, the germ being associated in 1 case with the staphylococcus aureus, and in 1 with the staphylococcus albus. The 1 non-gonorrhœal case out of the 9 was puerperal, and the staphylococcus albus was found. There remained 5 cases where the inflammation was acute, but had occurred before. In 2 the infection was due to a streptococcus alone, in 1 to the gonococcus, in 1 to the bacterium coli and the staphylococcus albus, and in 1 to a streptococcus associated with an anaërobic microbe. The latter appeared as a short bacillus; the pus in

this case was fœtid, and broth and gelatine cultures proved equally fœtid. Undoubtedly inflammation of the valvo-vaginal gland is, in nearly every instance, caused by gonorrhœal infection ascending the duct.

(445) Death of Extrauterine Fœtus from Congenital Cerebral Disease.

Gross (*Archiv f. Kinderheilk.*, vol. xxii, parts i and ii, 1897) gives the short life-history of an infant delivered alive by operation for ectopic gestation (Reismann, *Centralblatt f. Gyn.*, 1896). It measured 17½ inches and weighed 6 lbs. There was a deep curved indentation on the left side of the skull. The right upper and lower extremity showed great loss of power. In a few days right facial palsy came on. Athetosis of the right hand was also noted. When 2 months old the child died of intestinal catarrh. There was atrophy of the left optic nerve, with grey degeneration of the left lateral and both posterior columns. On the other hand there was arrested development of the entire right half of the cord.

(446) Dystocia from Monstrosity.

Mildred E. K. Staley (*Indian Med. Gaz.*, xxxii, 298, August, 1897) reports three cases of fœtal monstrosity complicating labour. The first was one of twins, of which one (the second) consisted of feet and abdomen, the head and upper limbs being represented by small lumps of flesh. It was delivered by means of considerable traction upon the feet. This was then a case of fœtus acephalus. The second was that of an anencephalic fœtus which had to be removed by embryotomy after native midwives had treated the mother (who died soon after delivery) for five days. The third was a labour complicated by the presence of a double-faced monstrosity. It was delivered by podalic version, great difficulty being experienced in extracting the large head with two faces, anterior and posterior.

(447) Ovariotomy Ligatures in the Bladder.

Nijhoff (*Nederl. Tijdschrift voor Verlosk. en Gynäk.*, 1897, Part ii) relates that some six or seven ligatures were applied to the pedicle of an intraligamentous ovarian cyst. Within three months dysuria set in with retention and alkaline urine. The catheter brought away false membrane on two occasions; it consisted of sloughing tissue. There was no fever. At length there were symptoms of stone. The sound and the cystoscope were employed and confirmed the diagnosis. Lithotripsy was practised; four days later some silk threads were passed, they were but little incrusted. But within three months another calculus had developed. Lithotripsy was again performed, and five silk ligatures came away. Nijhoff warns against hurry in dilating the urethra for searching the bladder in these cases, as incontinence of urine of a very intractable character may ensue, and as lithotripsy is often needed, wide dilatation is hardly necessary.

(448) Missed and Irregular Abortion.

Platzer (*Centralbl. f. Gynäk.*, No. 38) exhibited recent and authenticated specimens illustrating irregularities relating to abortion at the April meeting of the Royal Hungarian Medical Association. One was a twin delivered at the fourth month and its fellow expelled two months earlier. He also showed a 3-months fœtus delivered at the seventh month. No flooding was observed about the time of its death or later in the pregnancy. Seven members present related recent cases of undoubted missed abortion with retention of the ovum for four or five months.

(449) Primary Cancer of the Fallopian Tubes.

Watkins (*Amer. Gynec. and Obstet. Journ.*, September, 1897), after describing a new case of innocent papilloma of the tubes, relates another where primary carcinoma was detected in both Fallopian tubes; the specimen is figured, and full pathological details are published. The patient was 45, and had always enjoyed good health until the beginning of August, 1896. Her only confinement occurred twenty-three years previously. For a fortnight she suffered from pain in the pelvis and difficult micturition. Menstruation had been regular and normal though painful; there was no bloody discharge as is frequent in this disease. There was a fibromyoma of the uterus, with a large fluctuating mass on each side. The uterus and appendages were removed; in the drawing they resemble Renaud's specimen figured in the *Trans. Obstet. Soc.*, vol. xxxviii, p. 322. Each tube formed a large convoluted tumour full of cancer. The operation was difficult on account of numerous and firm adhesions. The patient recovered, but died from recurrence of the carcinoma about six months after leaving the hospital.

THERAPEUTICS.

(450) Formol-albumin.

Benedicenti (*Arch. Ital. de Biol.*, Tome xxvii, Fasc. iii, 1897) states that while formalin in solution is not a more active bactericide than perchloride of mercury and other common disinfectants, it may cause sloughing of the skin and tissues, which renders its use in surgery very dangerous. Schleich tried to overcome this disadvantage by combining it with gelatine (Epitome, No. 423, vol. i, 1896). When broken up into small fragments it is then sold as "glutol," and is preferred by Schleich to iodoform and other disinfecting powders as being more soluble and less toxic. Glutol has never had the popularity it deserves in practical surgery, chiefly perhaps on account of its appearance. The author, finding that this glutol is a true chemical compound of formaldehyde with gelatine, has experimented with combinations of formaldehyde with other proteins. Of all these formol-albumin is to be preferred. This is prepared by placing a known weight of Merck's dried albumin in a solution of formaldehyde of known strength. The albumin then absorbs an amount of formaldehyde, depending, up to a certain point, on the length of time it is left in contact with it. If the albumin thus treated is distilled in a current of steam, it breaks up again into formaldehyde and albumin, and it is thus possible to obtain formol-albumin containing any required percentage of formaldehyde. After removing the albumin from the formalin and estimating the percentage of formaldehyde it contains, it is dried and powdered. A white powder is thus obtained with disinfecting properties proportional to the amount of formaldehyde in it. With this experiments were made on rabbits. Wounds either simple or inoculated with fæces, etc., healed excellently when powdered over with the formol-albumin, which kills also virulent cultures of B. anthracis, B. pyocyaneus, staphylococcus aureus, and streptococcus when mixed with or powdered over them. Benedicenti has also prepared formol-casein, which appears to act similarly to formol-albumin, and sero-formalin (from dried coagulated blood serum). The latter, from experiments, seems to be a dangerous substance for wound treatment, since some wounded rabbits treated with it developed toxic symptoms. Formol-albumin, however, is non-toxic, and, as it need contain but very small quantities of formaldehyde to develop its antiseptic property, has no disagreeable smell. It is also much more readily absorbed by the tissues, and is much cheaper than iodoform.

(451) Gaiethol.

De Buck (*Belg. Méd.*, 1897, No. 31) recounts the various attempts which have been made to find a non-irritant substitute for creasote in the treatment of pulmonary tuberculosis. The best hitherto obtained has been guaiacol, which is further valuable as an antipyretic and an analgesic. The author has investigated from all these points of view the utility of a new and closely allied product, to which the name of gaiethol has been given. This contains one atom of carbon more than guaicol

$$C_6H_4 \begin{cases} OC_2H_5 \\ OH \end{cases}$$

and has the formala

being thus the monoethylic ether of pyrocatechin. It forms an oily liquid, insoluble in water or glycerine, but soluble in alcohol, ether, and chloroform. It is precipitated by cold as colourless crystals, which melt at about 26° to 28° C.; it boils at 215° C. In six cases of pulmonary tuberculosis 5, 6 or 7 drops were given three times a day in milk, or 4 g. with a little codeine as often in soup. No greater activity than that of creasote or guaiacol and their ethers was observed, and although the subjective symptoms were somewhat improved, the author does not consider that the drug will play any important part in antituberculous medication. The antipyretic properties were found

to be well marked, but distinctly less than those of guaiacol. The analgesic power is the most conspicuous, and will probably be the principal future indication for the remedy. The author has had considerable success in cases of neuritis and neuralgia painted two or three times a day with 2 to 3 c.cm. of a mixture of equal parts of guaiacol and cqloroform; this is followed by a bandage to prevent evaporation. Another useful form of application is as an ointment with six times its weight of vaseline. For hypodermic injection a 10 per cent. emulsion in glycerine or sterilised oil is recommended. The effect of this is immediate, and lasts three or four hours, while no necrotic or inflammatory sequelæ, such as may occur with guaiacol, have been observed. De Buck recounts a case of extremely painful tuberculous cystitis which was relieved by this emulsion after injections of silver nitrate and corrosive sublimate had failed. He further reports favourable results in the treatment of severe coxalgia by gaiethol, the properties of which thus seem to merit its further clinical employment.

(452) The Tricycle for Graduated Exercise.

Martin Siegfried (*Deut. med. Woch.*, 1897, No. 27) draws attention to the therapeutic use of the tricycle for active or passive exercises in cases of stiffness resulting from joint affections, and in cases of "weak heart," etc. For this purpose he employs a specially-constructed tricycle, the treadles of which are adjustable, and can be fixed so as to revolve in shorter or longer circuits as required for the individual case. For passive exercise of the lower extremities the tricycle can be pushed or dragged by an attendant, so that the patient's lower extremities are involuntarily moved by the revolutions of the treadles on which his feet rest. Siegfried describes cases treated by his method. In cases of joint stiffness treatment by hot baths may be combined with the "cyclotherapy," and in cases with cardiac weakness effervescent baths, like those of Nauheim, may be employed simultaneously. In some cases the patient's back has to be supported during the exercises by an upright rest fixed on to the tricycle.

(453) Kryofin in Influenza.

Bresler (*Therap. Monatshefte*, October, 1897) reports the result of the use of kryofin as an antipyretic in 16 cases of influenza, in some of which antipyrin and phenacetin were also employed for purposes of comparison. Kryofin is a paraphenetedin compound with methylglycolic acid, and hence differs but slightly from phenacetin, which has an acetic acid in the place of the latter. Kryofin is much more readily saponified than phenacetin, and is more speedily and completely acted upon by both the gastric and pancreatic juice; it forms a tasteless and odourless crystalline powder, which is almost insoluble in water. Clinically it is found to prevent a rise of temperature rather than to bring it down; if, therefore, half a gramme be given when a rise may be expected, this is as a rule forestalled. Very few exceptions were found to this, and in the most marked antipyrin was alike ineffectual. One case showed that a gramme of antipyrin acted more rapidly and persistently than half the quantity of kryofin, while half a gramme of phenacetin was quite without result. The subjective condition was much improved by kryofin, and diaphoresis often induced. A dose of 1 gramme (=15 grains) once produced some cyanosis, without subjective discomfort, in a weakly and neurotic woman; the author himself took this quantity twice in a day without a trace of ill-effect. He recommends half-gramme doses as an antipyretic and anti-influenzal remedy, which is to be preferred to equal quantities of antipyrin or phenacetin.

(454) Treatment of Gonorrhœa with Silver Irrigation.

Galewski (*Wien. med. Woch.*, No. 23, 1897) uses a solution of 1 in 1,000 to 1 in 2,000 silver nitrate applied by means of a soft catheter once or twice a day. If this causes much irritation a weaker solution is used at first. Only acute cases were treated, none being more than four days' duration. The author found that in 20 cases 16 were cured in twelve days.

PATHOLOGY.

(455) Gastric Ulcer in a Child 4 months Old.

Hibbard (*Boston Med. and Surg. Journ.*, August 19th, 1897) records the case of a girl who came under observation with diphtheria; the diagnosis was established by bacteriological examination, but there was no visible membrane. Antitoxin treatment was followed by a rash, and six days after admission the temperature rose to 102.5° F.; two days later vomiting and diarrhœa set in; the motions, first green, became brown later; the temperature remained raised; the pulse ranged from 120 to 160, and a fortnight from the onset of the illness the child died of exhaustion. At the necropsy there was bronchitis and broncho-pneumonia, swelling of the renal epithelium, and early interstitial nephritis; bacteriologically the kidney contained streptococci (pure). On the posterior surface of the stomach, nearer the pylorus than the cardiac orifice, there was a circular area 5 cm. in diameter, partially outlined by ulceration, exposing the muscular coat; in the area thus included there are numerous punctate superficial ulcers about the size of a pin's head. Microscopically there was infiltration of the submucosa with small round cells, but no signs of chronic inflammation. The base of the ulcer was necrotic and the vessels in the neighbourhood of the ulcer contained hyaline thrombi. The author appears to regard the ulcer as probably due to thrombosis in the vessels, leading to necrosis and digestion of the mucosa, and to have been an acute rather than a chronic process. It is possible that it was a diphtheritic lesion, but usually this is a more diffuse change.

(456) The Differentiation of Gonococci.

Steinschneider (*Wien. med. Woch.*, Nos. 22 and 23, 1897) gives his latest views on this subject. He first points out that the gonococcus will not grow on the ordinary cultivation media such as agar, gelatine, peptone bouillon, etc., but can be cultivated on serum mixed with agar. The author confirms the good results obtained by Schäffer by combining a watery extract of spleen with serum agar, on which the gonococci grow more abundantly and quicker. He thinks the use of serum spleen agar useful where a quick result is required, but owing to degeneration also taking place more quickly further cultivations are best done on serum media alone. Steinschneider draws attention to other diplococci which microscopically resemble the gonococcus, especially Kiefer's meningococcus occurring in epidemic cerebro-spinal meningitis; this coccus, however, differs from the gonococcus in staining by Gram's method, and in growing well on glycerine agar. He concludes by requiring the following conditions in order to establish a certain diagnosis of the gonococcus: (1) Treated with Gram's method and a contrast stain, the gonococci are found in the cells stained by the contrast stain, but are not stained by Gram's stain; (2) cultures grown on serum agar but not on agar alone; (3) diplococci obtained from such cultures do not stain with Gram's method.

(457) Florence's Reaction.

C. Posner (*Berl. klin. Woch.*, July 12th, 1897) discusses this reaction with spermatic fluid first described by Florence. If a solution of iodine in iodide (iodine 1.65, potassic iodide 2.54, and water 30) be added to spermatic fluid, rhombic or needle-shaped crystals of a dark brown colour rapidly appear. Sometimes the crystals are arranged in rosettes. The importance of this subject from a forensic point of view is obvious. Posner confirms the observations of Florence and others. The reaction is also obtained with dried spermatic fluid, but not if decomposition has taken place. It is also obtained in cases of azoospermia, but not from the fluid obtained from spermatocœle. The author has demonstrated it in the prostatic secretion. Thus the substance producing the reaction must exist in the fluid products of the testes and accessory glands. The reaction does not occur with gonorrhœal pus or other urethral secretion. The author has also obtained the reaction with a glycerine extract of ovarian tissue. Thus the reaction is not exclusively confined to human spermatic fluid, and hence its value is so far limited. The author then discusses which constituent of the spermatic fluid produces the reaction, a subject upon which there is still much doubt. In practice Florence's reaction is valuable, but it must not be looked upon as altogether conclusive.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(458) Inflammation of the Colon.

Delafield contributes an important article on this subject (*Amer. Journ. of the Med. Sciences*, October, 1897), in which he describes five forms of colitis: (1) Acute catarrhal, in which there is production of increased quantity of mucus and serum, but no other alteration. The course is short and the prognosis good; but in children is more severe, and may even be fatal. (2) Acute purulent colitis in which there is a purulent inflammation of the connective tissue coats, with secondary changes in the glandular structures. The patient shows signs of septic poisoning, and the prognosis is usually bad. (3) Acute and productive necrotic colitis. This is a severe form, in which the inflammation principally affects the glandular layer. There is a considerable amount of necrosis, and the growth of new tissue. The symptoms are also septic, and some cases last three or four weeks, while in unfavourable instances the duration may extend extend over three months, and prove fatal. (4) Croupous colitis, in which there are as a rule patches of false membrane, though in some instances there is necrosis of the whole thickness of the colon wall. (5) Amœbic colitis, in which the inflammation is caused by the infection of the connective tissue layer of the colon by the amœba coli. The results to the colon are very variable, and abscess of the liver is a common association. The author points out that in treating these cases it is of great practical importance to discover whether the inflammation is high up or low down in the colon, and also whether there is ulceration or not. If the inflammation is low down the best treatment is irrigation, whereas if high up it can be treated by drugs; while in other instances the two can be combined should the inflammation be general. The method of irrigating consists in throwing in about two quarts of fluid for adults, and in the instances where the colitis is acute, and without necrosis, an infusion of flax seed is recommended by the writer; but should there be accompanying necrosis a solution of corrosive sublimate (1 in 10,000), chloride of zinc or formalin. In cases where the inflammation is in the upper portion of the colon bismuth and opium give very good results, and in necrotic cases large doses of ipecacuanha, small doses of castor oil, nitrate of silver, salol, and naphthalin are the most useful.

(459) Radioscopy of the Thoracic Organs.

Maragliano (*Rif. Med.*, September 11th, 1897) first describes the radioscopic appearances of the healthy lungs and heart. Posteriorly the transparent appearance of healthy lung tissue is better seen than anteriorly. In suitable subjects the movements of the heart could be observed; the systolic ventricular contractions, with elevation of the apex, could be well seen; the heart did not change its position during the systole; no rotation could be observed. During deep inspiration the area of cardiac shadow was narrowed transversely and lengthened at the lower part; evidently in these conditions the heart assumes a more vertical position. In forcible inspiration the fulness of the ventricular pulsation was diminished. The delimitation of the heart, etc., by percussion was found to correspond very exactly with the radioscopic image. As far as pathological conditions of the thoracic viscera are concerned, the author believes that radioscopy will prove of much service in diagnosis—for example, in a young girl presenting no physical signs of tuberculosis, radioscopy revealed a very minute zone of opacity in the left apex. An injection of tuberculin gave the characteristic febrile reaction. Again radioscopy is likely to prove useful in differentiating pleural affections from those below the diaphragm; also in aortic dilatation or deep-seated aneurysm it is likely to be of much service; for example, Bouchard was able to distinguish between cardiac ectopia from old pleurisy and aneurysm by this means.

(460) Acute Nephritis in Children.

Dupeu has collected (*Journ. de Méd.*, July 10th, 1897) a large number of cases of acute nephritis in children. He finds that the affection is in reality more common than is supposed, but fortunately the disease is much more hopeful in its prognosis than in adults. The author looks upon measles as a more frequent cause than is supposed by some authors, for it is definitely stated by some that it is extremely rare in this condition. Irritation and absorption from the skin would seem to be a cause of acute nephritis; thus blistering, the application of turpentine, carbolic acid, etc., may produce nephritis, and it has been known to follow burns, severe electrisation, too hot baths, and inflammatory conditions as eczema, erysipelas, impetigo. Chicken-pox has also been observed to cause nephritis, as first pointed out by Henoch. Others consider it exceptional, but the author quotes Descroizille as stating that the most frequent complication of varicella is nephritis. These cases all seem to terminate favourably. Post-vaccinial nephritis is also described, and acute inflammation of the kidney may even follow tonsillitis, and a case is quoted in which a recurrent tonsillitis was always accompanied by acute nephritis. Lastly, the author states that nephritis may be the result of ordinary gastro-intestinal intoxication, more particularly when there is dilatation of the stomach. This has been observed in children as young as 11 to 16 months fed by the bottle, and in whom vomiting and diarrhœa were prominent symptoms. In these cases there is very marked abnormal fermentation taking place with the production of more or less toxic products which when absorbed are competent to produce nephritis. The duration of these cases varies from two to four weeks, and may be accompanied by all the usual signs of Bright's disease.

(461) Melæna Neonatorum.

L. Fischer (*Münch. med. Woch.*, May 11th, 1897) says that this affection is rare and the mortality considerable, Henoch placing it at from 35 to 60 per cent. The etiology is obscure. The author then records a case which recovered. In the second day of life the infant vomited several teaspoonfuls of thick clotted blood. This was followed by four stools containing blood. The infant was then intensely anæmic, the pulse rapid and hardly to be felt. Later there were two more stools containing blood, but after this there was no more bleeding. The treatment consisted of small doses of iron. The child gradually improved, but remained weakly. It had several attacks of bronchial catarrh and gastro-enteritis during the next four years. Most children who have survived this melæna have been liable to gastro-enteritis, anæmia, and debility. The birth in this case was easy, and the author is inclined to attribute the melæna here to congenital hæmophilia, the mother being very disposed to bleed. The mucous membrane in the alimentary tract of the newly born is very vascular, and hence a slight rise of pressure in the capillary system in hæmophilia would easily lead to a rupture of vessels. The author thinks that the late ligature of the cord may suffice to increase the pressure in the vessels and thus cause the hæmorrhage. This possibly occurred in the above-named case. Fischer, for this reason, warns against the late ligature of the cord. Pott pointed out that these infants do not come from families which are notorious bleeders, but in which there would appear to be a tendency to bleed. The same writer states that this form of hæmophilia disappears as the child gets older.

SURGERY.

(462) The Surgery of Cerebral Tumours.

Bergmann, at the International Congress at Moscow (*Neurol. Centralbl.*, October, 1897), speaking of the surgical treatment of cerebral tumours, warned the advocates of surgical interference that such treatment is no light matter, and is only to be undertaken in carefully selected cases. He protested especially against trephining for diagnostic purposes. The localisation of tumours is at present so difficult that it is scarcely possible to localise them unless they are either in or close to the motor area; as a matter of fact, where the operation is done without previous definite localisation the tumour is seldom found; in six cases operated upon thus by Bergmann

he found the tumour only in one. The dangers of the operation, moreover, are considerable. Loss of blood may be considerable, and even endanger life. Shock often proves fatal. Out of 45 cases, death occurred either during or shortly after the operation in 14 cases. epilepsy may result from the thickening of the pia mater after operation. Further, after incision of the membranes a cerebral hernia may occur, and in spite of treatment may increase till it proves fatal. Hemiplegia is produced by operation in a certain number of cases. Such operations, therefore, have special dangers in spite of the most rigid antisepsis. In almost all successful operations for cerebral tumours, the tumour has been in the motor area, and could be accurately localised by definite and typical symptoms. The surgery of cerebral tumours is at present chiefly the surgery of the motor area. As regards cerebral tumours there is still much uncertainty in diagnosis, and one must agree with Oppenheim's view that cerebellar tumours are not amenable to surgery.

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(463) Excision of the Rectum through the Vagina.

Heydenreich (*Sem. Méd.*, September 17th, 1897) operated in two cases of cancer of the rectum through the vagina. He incised the posterior vaginal wall in the middle line, divided the anterior part of the perineum from before back, and extended the incision all round the anus. From the posterior part of this incision another was carried down to the coccyx. Two vaginal and two posterior flaps were thus formed. The lower end of the rectum was then excised, the healthy edge drawn down and sutured to the skin, and the vaginal, perineal, and ano coccygeal incisions closed with a few stitches. The objections against complete division of the recto-vaginal wall do not stand serious criticism, while the division greatly facilitates resection of the rectum. It is indicated both in cancer reaching to the anus and in other lesions situated higher up, except when the anterior wall is implicated at the point of division, and when the neoplasm does not reach higher than 12 or 15 centimetres above the anus. The method is most advantageous, the hæmorrhage is small and easily controlled, the first incision brings the rectum into view, and it is possible to intervene far above the insertion of the peritoneum. Infiltrated glands can be reached. The operation is shorter and the shock less severe than in Kraske's operation. Fistulæ, fæcal incontinence, and lack of solidity in the bony pelvis are avoided, and the surgeon has plenty of light and room.

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(464) Large Osteoma of the Rectus Femoris.

Vaccari (*Annal. di Medicina Navale*, November, 1897) records the case of a sailor, aged 30, who, after an injury to the thigh, noticed the next day a hard mass in the same leg. The injury consisted in the fall of a heavy weight upon the leg on January 4th, 1897, but probably simply served to direct the patient's attention to the part, as when seen the next day the tumour was already 18 by 3 cm. in size. The man had never been a horse-rider, nor used his muscles in any way likely to produce such a mass. Admitted into hospital on January 21st, the tumour was excised on February 15th, and found to consist of perfectly normal bone tissue, covered with periosteum, and situated in the fibres of the rectus muscle; it was not attached in any way to the femur, and there was no evidence of inflammatory change. The author believes that its presence was due to development of some fragment of embryonal osteogenetic tissue. There is a short bibliography of the subject and two photographs of the osteoma in question.

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(465) New Treatment of Glaucoma.

Jonnesco (*Sem. Méd.*, October 20th, 1897) has recently applied the method of bilateral excision of the cervical sympathetic to the treatment of glaucoma. His first case was that of a man, aged 50, who had suffered from glaucoma for six years and had been blind for two. Directly after bilateral extirpation of the superior cervical ganglion of the sympathetic, the ocular tension, which had been considerably *plus*, fell to below normal. Vision, formerly absent, improved, so that the day after the operation the patient could count fingers at a distance of at least 2 metres, and could guide himself while walking. Improvement was maintained up till the date of publication (nineteen days). In two cases since this the results have been very satisfactory.

MIDWIFERY AND DISEASES OF WOMEN.

(466) Symphysiotomy.

Varnier (*Ann. de Gynéc. et d'Obstét.*, September, 1897) issued at the Moscow Congress a full report of his conclusions in regard to this operation, based on 86 cases performed in 6 years at Paris. The momentary widening of the pelvis, arrived on after Pinard's method, reduces the rate of fœtal mortality in contracted pelvis to the rate of fœtal mortality after forceps delivery where the pelvis is normal. This widening does not cause hæmorrhage, nor any lesion of the sacro-iliac synchondroses liable to compromise the safety or health of the patient. Damage to the bladder and urethra is exceptional, and possibly due to the forceps and imperfect dilatation of the cervix. With antiseptic precautions and a healthy patient free from previous sepsis, the momentary widening of the pelvis involves no more risk than other obstetric operations. Beyond accidental complications, independent of this method of intervention, the mortality of patients after symphysiotomy is chiefly due to puerperal septicæmia. The operation is followed by perfect restoration of functions, but not with any enlargement of the contracted pelvis. It causes no trouble in future labours, and may safely be repeated. Varnier would extend the operation beyond cases of pelvic contraction to cases of dystocia from great bulk of the fœtus or from certain abnormal presentations (brow, etc.) in normal pelves. Symphysiotomy should replace induced premature labour, the forceps, and version in cases of contracted pelvis. Varnier adds that he does not add to this list of older obstetric operations any form of embryotomy practised on the live child, as it is no longer advocated. Symphysiotomy is the only effectual process for enlarging the pelvis. Walcher's "hanging position," which stretches the sacro-iliac synchondroses, is worthless, being all but impracticable on real patients, and experiments on the dead body show that the difference between the extreme of dilatation and compression of the synchondroses as affecting the conjugate diameter of the pelvis amounts to but 6 millimetres (0.234 inch, not quite a quarter of an inch) on an average. Symphysiotomy should be confined to the widening of the bony pelvis. It is dangerous to have recourse to this operation in order to facilitate dilatation of the soft parts. The widening of the pelvis should be momentary; when the soft parts are at fault it has to be kept open for some time. Varnier and Pinard admit that this happened in one of their own cases. Twelve hours were wasted, the wound suppurated, and the patient died of septicæmia. Symphysiotomy must not be attempted for dystocia caused by tumours of the soft parts. *Ante-partum* infection of the mother and distinct evidence of death of the fœtus are also contra-indications.

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(467) Principles of Treatment in Puerperal Eclampsia.

Potter, of Buffalo (*Amer. Journ. of Obstetrics and Diseases of Women and Children*, November, 1897), after practical experience, advocates principles that may be grouped under the following heads: (1) Though the pathogenesis of eclampsia is unsettled, it belongs solely to the pregnant or puerperal state. It is not apoplectic, epileptic, or hysterical in character. (2) It depends on toxæmia due to over-production of toxins and under-elimination by the emunctories. (3) These toxins probably have their origin in the ingesta, in intestinal putrefaction, in fœtal metabolism, one or all. There is coexisting sluggishness, impairment, or suspension of elimination. (4) When the prodromata of eclampsia appear the kidney should be interrogated as to its functions, and all symptoms carefully watched. (5) Treatment is (*a*) preventive and (*b*) curative. Preventive treatment is medicinal and hygienic; curative treatment is medicinal and obstetric. (6) Milk diet and distilled water should be given in the pre-eclamptic stage to dilute the poison, hasten its elimination, and nourish the patient. (7) Blood letting should only be employed in plethora or cyanosis. It is liable to cause anæmia if persisted in or repeated;

red blood corpuscles must not be wasted. Glonoin diminishes vasomotor spasm, hence it may be given freely in appropriate cases. Veratrum viride is a cardiac depressant, and a dangerous remedy if pushed to an extent that will control convulsions. (8) Eclampsia is an expression of a further maternal intolerance of the fœtus; hence, as a primal fœtus the uterus should be speedily emptied of its contents. (9) Medicinal treatment alone is delusive, and, when relied upon exclusively, is fraught with danger both maternal and fœtal. In the prompt induction of labour is found a rational application of science to a desperate condition. (10) Finally, it furnishes in the present state of our knowledge the only basis of expectation for a diminished mortality in a toxæmic disease of high death-rate.

(468) The X Rays in Obstetrical Diagnosis.

Levy and Thurnim (*Deut. med. Woch.*, August 5th, 1897) record a method of measuring the dimensions of the pelvis by means of the Roentgen rays. Previous attempts had been made by means of plates introduced into the vagina, and had failed on account of the limited space and the length of exposure required. The authors place the patient horizontally over a plate 12 by 16 inches in size, and set the tube vertically over the symphysis, and exactly 20 inches above the centre of the plate; an exposure of two to five minutes suffices to give a satisfactory skiagraph, on which the pelvis is faithfully represented. This is measured, and as the distance of the tube from the plate is known, the pelvic dimensions can be accurately computed. To facilitate this Levy has designed an instrument on the principle of the pantagraph, by which the true conjugate can be mechanically determined. The transverse diameters at the brim and outlet can be estimated with equal certainty, and the method has been satisfactorily tested in a number of cases in Landau's clinic. Further investigations have been carried out by the authors on pregnant women with flat pelves in order to ascertain the dimensional relations between the fœtal head and the pelvic outlet, but the results are not at present unobjectionable; further research is being undertaken, and a satisfactory and practical outcome is anticipated.

(469) Fatal Inversion of Uterus in Labour.

Kreitmair (*Münch. med. Woch.*, August 24th, 1897) was called into a labour case where the patient was a primipara, aged 22. The pains lasted about twelve hours, then became weak; flooding set in, yet the child was expelled spontaneously. The cord was twisted twice round its neck. A quarter of an hour later flooding again occurred. The midwife could not detect the fundus above the pubes, and could press the parietes against the promontory. A mass was found protruding from the vulva; the midwife took it for the head of a second child. The flooding became severe, Kreitmair did not arrive till one hour after it had set in, and the patient was then pulseless, restless, and almost delirious. He detected the inversion at once, removed the placenta, and reduced the uterus with the aid of a colleague. The patient died within two hours; subcutaneous saline injections proved useless. The shortness of the twisted cord was the primary cause of the accident, but Kreitmair suspects that the midwife pressed on the atonic uterus when the *post-partum* hæmorrhage set in (she admitted "gentle friction"), and made a partial inversion complete.

(470) Cocaine in the Intractable Vomiting of Pregnancy.

A. Pozzi reports (*Arch. di Ost. e Gyn.*, June, 1897) that at the Obstetrical Clinic at Turin 5 cases of pregnant vomiting which persisted in spite of the hypodermic injection of morphine and the internal administration of cocaine were rapidly cured by Tibone by subcutaneous injections of 0.01 g. of the hydrochlorate of cocaine in the epigastrium, repeated once or twice a day before meals. Food was retained, and neither pulse, respiration, nor temperature was injuriously affected. The general condition gradually improved, the patients gained weight, and the vomiting did not return when the injections were omitted. Pozzi suggests that this treatment may prove useful in other forms of vomiting.

(471) Morbid Milk in a Healthy Woman.

Babeau (*Journ. de Méd. et de Chir. Prat.*, August 10th, 1897) writes of a healthy young woman, temperate, and exposed to no unhealthy external conditions. She has been three times pregnant, and always carried her child to term. None of her three children could be suckled, as severe vomiting set in whenever it took the breast. No medicine checked the gastric irritation, but directly it was fed with good milk from a bottle or suckled by another woman, the trouble ceased and the child thrived. All other infants put to breast by the same patient were at once attacked with vomiting. She, it must be remembered, sought to be a wet nurse, though, of course, she was speedily found unfit for that vocation. The milk was examined. It was found to contain a great excess of albumens, especially lacto-albumen and lacto-proteine.

THERAPEUTICS.

(472) Salophen.

Baqué has recently published (*Journ. de Méd.*, September 10th, 1897) the results of a long series of observations on the use of salophen. In its chemical composition salophen is allied to salol, containing 51 per cent. of salicylic acid and 49 per cent. of acetylparamidophenol, and experimentation shows that it is three times less toxic than salol. The most likely explanation of this fact is that salophen is slowly decomposed in the intestine, so that salicylic acid cannot accumulate; thus the substance is likely to prove preferable to many other drugs, especially in the treatment of long-standing affections. When taken by the mouth it passes through the stomach unaltered, as it undergoes no change in an acid medium, and it is only in the intestine, when exposed to intestinal and pancreatic secretion, that it breaks up. The salicylic acid uniting with glycol is largely eliminated in the urine, either as nascent salicylic acid or as salicylate of sodium. The acid phenol unites to the radical HSO_3, forming a sulphate with that body. A certain amount of salophen is eliminated unchanged. There is evidence, therefore, of the slow decomposition undergone by this substance, so that the organism is continually under its influence. There seem to be very few instances of intolerance, and bad effects are also very rare. Salophen is free from smell or taste, and the most convenient method of administration is in cachet, and it has been suggested to give it in the form of tablets made up with starch. The author states that 6 g. may be given per diem for adults, but, as a rule, 4 seem to suffice; and Marie is quoted as stating that the administration of small quantities at a time and frequently gives the best results, more particularly in cases of acute rheumatism. In this latter disease it has been administered with very marked effect, and, though seemingly inferior to salicylate of soda, seems to be free from the drawbacks of that drug. In chronic rheumatism its action is less marked than other drugs. It seems to be of considerable use in migraine, sciatica, and neuralgic pains, in much the same way as antipyrin or phenacetin. Lastly, the author has found it beneficial in certain diseases of the skin, notably those accompanied by much itching.

(473) Eucasin as a Children's Food.

Baginsky and Sommerfeld (*Therap. Monatshefte*, October, 1897) record a careful study of the effects of substituting eucasin for meat in the dietary of two children with normal digestive powers. The diet was in each case identical; the child was first fed for four days on a mixed diet, of which every constituent was weighed and the elementary principles estimated, and then, for four more, on a precisely similar allowance, the meat being replaced by about two-sevenths of its weight of eucasin; it was finally kept for four more days on the original regimen. Careful statistics are given of the body weight, the quantity and analysis of the urine and fæces, the amount of nitrogen used, wasted, and excreted, and the input and output of fat. It was found that the administration of eucasin led to no digestive disturbance, and that it increased the excretion of nitrogen while markedly diminishing that of uric acid. It could, therefore, be asserted that eucasin was well utilised by the child's organism, at least as well as other proteids such as meat and egg albumen, so that unless hitherto unforseen objections should arise it could well replace those foods. The results are important and significant, particu-

larly as no attempt had hitherto been made to investigate the dietetic value of eucasin for children.

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(474) Diabetic Albuminuria and its Treatment.

Goudart (*Journ. de Méd.*, August 25th, 1897) has recently devoted much attention to this subject: first, the frequency of albuminuria in diabetes is variable and may occur in two forms, functional and that due to grave nephritic disease. In the first form it may be extremely slight, or else may constitute a very marked feature in the case. When slight, proper dieting and small doses of antipyrin combined with a little bicarbonate of soda in the form of a powder may be given every one and a-half hour before each meal. This treatment should not be continued more than three or four days, beyond which time the antipyrin will become injurious. It is well to prescribe some quinine wine and Vichy water at meals. After this treatment the sugar decreases considerably, in other cases it remains unaffected. In the first instance antidiabetic treatment may be set aside and attention devoted to the albuminuria; in the second instance it is advisable to order small doses of arseniate of soda combined with codeia and carbonate of lithia. Most usually the glycosuria diminishes under this treatment, and the albuminuria is then treated in the same manner as above. This line of treatment is usually followed by extremely satisfactory results. After a fortnight or so it is recommended to give phosphates with nux vomica, or later, hypophosphates of lime potash or soda with quinine, etc. Should the quantity of albumen eliminated in twenty-four hours reach 2 to 3 g., the case is practically one of Bright's disease, and the patient is put on milk diet. The author now recommeuds lactate of strontium in small doses.

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(475) Scopolamine in Mental Diseases.

Tomasini (*Atti dell. R. Accad. dell. Scienz. Med.*, Palermo, Ann. 1896) gives his experience of scopolamine as a hypnotic in mental practice. The drug ($C_{17}H_{22}NO_4$) is isomerous with cocaine, but has an action somewhat like that of hyoscyamin. In hypodermic doses of $\frac{1}{4}$ to 1 mgr. it proved a good hypnotic in paroxysmal excitement, but not in habitual insomnia. It produces a calm and quiet natural kind of sleep, and is not followed by any unpleasant effects. Patients soon get habituated to the dose and require larger doses. It has no influence in modifying attacks of epilepsy. It was found especially useful in acute mania.

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(476) Sanose.

Schreiber and Waldvogel, of Ebstein's clinic (*Deut. med. Woch.*, October 7th, 1897) describe this new albuminous preparation, which consists of 80 per cent. casein and 20 per cent. albumose. Mixed with water it resembles milk. Sanose is digested by trypsin and by pepsin and hydrochloric acid at 40° C. It is a white powder, tasteless, and odourless. It can be conveniently given in cocoa or in soup, or it may be mixed with nutrol, which contains maltose, and dextrine as well as pepsin and hydrochloric acid. Sanose is suited to take the place of albuminous preparations, which for any reason are required to replace carbohydrates. A palatable bread with increased albuminous contents can be made by adding 10 per cent. sanose. For those disliking meat, or for those for whom the amount of meat must be limited, or for diabetics disliking aleuronat bread, sanose bread will prove a useful substitute. Given for some time it does not produce diarrhœa, even in those predisposed as the phthisical. The authors then give tables showing the effect on metabolism. There is a sudden increase in the excreted nitrogen, then gradually nitrogenous equilibrium is established, but at a higher figure than before. Sanose is easily absorbed, and is not more expensive than nutrol or eucaine.

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(477) Chloroform as an Anthelmintic.

Carratu (*Giorn. Med. del Regio Esercito*, An. 45) draws attention to the value of the internal administration of chloroform as an anthelmintic in tapeworm. He records 7 cases where this treatment was eminently satisfactory, although the common anthelmintics had failed. The patient is put on mild diet for two days, but not fasting, and is then given 3 to 4 g. of pure chloroform in syrup, in four divided doses every two hours, after which a dose of castor oil is given. No unpleasant effects followed and no symptoms of poisoning. The treatment was described by an American writer in 1888.

PATHOLOGY.

(478) Blastomycetes in Hypertrophied Tonsils.

De Simoni (*Centralbl. f. Bakteriologie*, August 21st, 1897) has investigated 20 tonsils removed from 12 patients with the view of ascertaining the parasite, if any, which leads to chronic hypertrophy. This is ordinarily assumed to be of tuberculous or scrofulous origin, but very little other evidence of tuberculosis can as a rule be found in its subjects. Thus in the author's patients a phthisical parentage was invariably absent, though scrofulous scars were present in some cases. He made preparations and inoculations from all the tonsils, but was unable to obtain any evidence of the tubercle bacillus. Specimens prepared, however, by immersion in absolute alcohol, colouring with lithium carmine, cutting in paraffin, and finally staining by Gram's method, showed round homogeneous bodies singly or in groups which are classed by the author with the blastomycetes described by San Felice in malignant growths and chronic inflammations. They lay mostly between the tissue elements, but some were intracellular; they were as a rule coloured an intense violet by the stain already mentioned, but sometimes showed a deeply-stained centre surrounded by a hyaline or pink cortex. In many instances budding was observed, small daughter forms lying beside the larger elements, and either loosely attached to them or quite free. These blastomycetes were found in greater or less numbers in all the tonsils examined; they were particularly numerous where the enlargement was most marked. In normal tonsils obtained from the *post-mortem* room none could be detected. De Simoni considers that chronic hypertrophy of the tonsils is due to the proliferation of granulations set up by these bodies; he promises details as to their growth and cultivation characters in a future memoir.

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(479) The Action of X Rays upon Tubercle Bacilli.

Bergonié and Ferré (*Arch. d'Elect. Méd.*, September, 1897) report two series of investigations in one of which cultures of tubercle bacilli were exposed for an hour to the action of the Roentgen rays and then injected into guinea-pigs. In the other a similar culture upon glycerinated gelose was exposed to the rays for an hour, and the upper one-fourth grown in a second tube; the remaining three-fourths were similarly exposed again and a corresponding portion transferred to a third tube, and so on until the last tube contained bacilli that had been under the influence of x rays for four hours. All the guinea-pigs died of tuberculosis and all the cultures grew abundantly. The authors were therefore enabled to state at the International Medical Congress that under the conditions specified the rays had no action on either the virulence or the vitality of cultures of tubercle bacilli.

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(480) The Influence of Temperature on Infective Inflammation.

Penzo (*Archiv. Ital. de Biolog.*, Tom. 28, f. 1, Turin) records a series of experiments dealing with the above question. Into the ears of rabbits he injected staphylococcus aureus and streptococcus, he then placed the animal in a thermostat, and so arranged matters that one ear was exposed to hot air (36° to 39° C.) and the other to cold (8° to 11° C.). In the first series the effect of temperature at the outset of inflammation was noticed, in the second series the effect on the later course of the inflammatory process. The author found that cold hinders and retards the appearance of inflammatory infective processes, weakens their manifestations, retards resolution, and renders the sequelæ more troublesome. Heat hastens the development and course of the inflammation, but favours its limitation, resolution, and subsequent effects. Both these modifications are in direct and constant relation with the changes which supervene independently of the nervous system, in the circulation and nutrition of the affected tissues.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(481) Contracted Kidney in Children.

L. Bernhard, of Baginsky's clinic (*Deut. med. Woch.*, May 27th, 1897) refers to the relation between acute infective disease and the kidney. Animals injected with pure cultures of diphtheria show parenchymatous changes in the kidneys, and this bears out what has been found in diphtheria in human kidneys. Any experimental investigation with scarlet fever poison has not been possible. In the scarlet fever nephritis the] changes are chiefly interstitial, but both in diphtheria and scarlet fever the different forms of nephritis are not always pure. When the two diseases are combined, then severe parenchymatous lesions and interstitial changes in the shape of a glomerular nephritis are found. Ziegler's view that granular atrophy of the kidney is due to a primary change in the glomeruli throws much light on the subject, but according to this writer there is a group of renal atrophies unconnected with circulatory changes. As both in acute and chronic nephritis these changes in the glomeruli occur, so, in both, atrophic processes may arise. sometimes local destruction of glomeruli and overgrowth of connective tissue may be found in kidneys where there is no diffuse interstitial change, or, indeed, any severe lesion. The author looks upon this as being a partial contraction of the kidney owing to a past nephritis. He then records two cases of contracted kidney: (1) A boy, aged 14, died of pulmonary phthisis. Here there were marked interstitial changes in both kidneys. The surface of one was smooth, but that of the other granular. The process in both kidneys was the same, but more advanced in one of them. There were three causative factors in this case: (*a*) the tuberculous virus; (*b*) the severe anæmia; and (*c*) the circulatory disturbance produced by the lung disease. (2) A boy, aged 3, died from complications of measles. The one kidney was much larger than the other. In the larger kidney there were small calculi present in the calices. In the smaller kidney there were marked interstitial changes, and the pelvis was dilated. The author thinks that the contracted kidney here was due to calculous disease, and was secondary in character. He refers to another case in which a contracted kidney existed in all probability along with lardaceous disease. The symptoms of contracted kidney are almost the same in the child as in the adult. The common causes of contracted kidney in the adult are mostly absent in children, namely, alcohol, lead, and uric acid. Atheroma of vessels is rare in children, but has been observed. Syphilis is certainly a causative factor, as well as hereditary influences. Of course the disease must be rare in children. It is important to recognise the early symptoms, and thus the nephritis complicating the acute infective diseases must not be lost sight of. The nephritis complicating gastric and intestinal affections must also be borne in mind. After acute illnesses the urine must be repeatedly examined, and with the knowledge thus gained the commencement of the contracted kidney may be recognised and perhaps warded off.

(482) A "New" Symptom of Facial Paralysis.

Bordier and Frenkel (*Sem. Méd.*, September 8th, 1897) call attention, they believe for the first time [though it was described briefly by the late Dr. Hilton Fagge], to a symptom which is observed in severe peripheral paralysis of the portio dura. This consists in the fact that, when the patient tries to close the eyes while looking attentively at an object, the eyelids on the sound side close firmly, while on the paralysed side there is very slight narrowing of the palpebral fissure, and the eyeball is turned upwards and then slightly outwards. The authors consider the chief importance of this symptom to be in prognosis. Thus it is marked only in cases where the R. D. is complete. Where, however, the R. D. is partial—that is, consists in diminished faradic excitability—or absent, and the affected lids can be closed fairly well, the patients can prevent the upward movement of the eyeball by fixing an object attentively. Such cases are slight and easily curable. It is also useful (1) from a diagnostic point of view, as it is never present in central paralysis of the portio dura. More easily recognised differences are, however, always present. (2) To follow the progress of the case, since the deviation of the eyeball becomes less and less as the R. D. becomes less marked. In fact, the physician can learn almost as much about the progress of the case by this symptom as he can by electrical testing of the muscles. The upward and outward movement of the eyeball is produced by the inferior oblique, and the special association of this muscle with the act of forcible closure of the eyelids may be explained anatomically if we accept Mendel's theory that the upper nucleus of the facial nerve reall belongs to the group of nuclei for the common oculo-motor nerve in the floor of the Sylvian aqueduct, while the nucleus for the fibres to the inferior oblique is the most posterior of the lateral group of nuclei of the oculo-motor, and therefore nearest to the nucleus for the fibres for the orbicularis palpebrarum.

(483) Serum Diagnosis of Enteric Fever.

J. C. Da Costa (*N. Y. Med. Journ.*, August 21st, 1897) discusses the serum test by the dried blood method. Wyatt Johnston was the first to advocate the use of dried blood in carrying out Widal's test. The author gives a table showing the results obtained by those working with this method. In his own cases the finger was cleansed and punctured, and three drops of blood were allowed to fall on a clean slide, which was then placed in a slide box. The reaction was obtained in 2 cases, even after eighty-six days. A drop of sterile distilled water is added to one of the drops, and a solution of the blood effected. Six drops of a twenty-four-hours old typhoid bouillon culture are then placed on a cover glass, and a platinum loopful of the blood solution is mixed with it. A hanging drop of the mixture is then examined. The typhoid culture must be pure. Not unless the clump formation is marked, and there is entire loss of motility can the reaction be declared positive. Of 95 positive results obtained by Da Costa in 102 cases clumping and immobilisation occurred within thirty minutes, and in 33 cases at once. In the 7 negative cases the test was applied on the fourth, tenth, twelfth, twenty-ninth, thirty-eighth, and fifty-first of the disease. The earliest time for a positive reaction was on the fourth day. The question of the time when the reaction first appears still remains open to some speculation. In 116 cases other than enteric fever the reaction, which appeared promptly, was positive in 4 cases, in 3 of which there was no previous history of enteric fever. One was a case of valvular disease, 2 of pneumonia, and one of angio-neurotic œdema. The negative results obtained in some cases likely to be confounded with enteric fever are of a certain value in diagnosis. In 25 cases of normal blood the author obtained no positive reaction. Da Costa then refers to 4 cases of septic appendicitis in which the serum test with the colon bacillus gave positive results. From the cases embraced in this report he draws among other the following conclusions: (1) That in more than 90 per cent. of cases of enteric fever a positive reaction may be obtained; (2) that in more than 99 per cent. of these cases examined between the fourth and seventh day inclusive a positive reaction may be obtained; (3) that in more than 3 per cent. of diseases other than enteric fever a reaction is produced indistinguishable from the typical typhoid reaction: and (4) that a negative reaction is obtained with the blood of healthy persons who have not had enteric fever lately.

(484) Unilateral Cerebral Atrophy with Idiocy.

Bourneville (*Archives de Neurol.*, March, 1897) records a case of sclerosis of one cerebral hemisphere in an idiot. The family history showed much alcoholism and neurosis, but the patient appeared quite healthy and intelligent until 5 years old. He was then suddenly seized with right-sided convulsions, and remained in a semiconscious condition with frequent recurrence of convulsions for three months, at the end of which time there was right hemiplegia, and the child was evidently idiotic. At the age of 13, epileptic fits appeared, and occurred occasionally until death at the

age of 21 years. In addition to his mental deficiency, the patient was vicious, irritable, and dirty in his habits. There was marked arrest of development of the whole of the right side of the body. At the necropsy there was atrophy and sclerosis of the whole of the left cerebral hemisphere, and also atrophy of the left cerebral peduncle, corpus albicans and optic tract.

(485) Rheumatic Endocarditis.

Singer (*Wien. klin. Rundschau*, 1897, No. 39) summarises the state of our knowledge as to the relations of this affection. He accepts Hueter's theory that the joint symptoms in rheumatism are due to a toxin conveyed to the periphery in the blood. The primary lesion sometimes is, but more often seems to be, an endocarditis, and the primary infection and seat of entrance of the cause of the endocarditis is frequently by way of the tonsils; of this he gives several illustrative examples. He finds that the endocarditis is not due to a single etiological factor, but may be an inflammation resulting from the presence of various organisms in the blood; these are most often streptococci and staphylococci. Endocarditis is hence in this sense a pyæmic affection, having not only an etiological similarity to true pyæmia, but resembling it also in the tendency to hæmorrhages and metastases, etc. Endocarditis is inseparably related to articular rheumatism; it is the result of the most frequent and most important visceral localisation of the rheumatic virus, and generally, as far as can be ascertained by clinical observation, follows the joint affection, which in some cases it may however precede. Between tonsillitis and endocarditis the same relations can be established as between tonsillitis and rheumatism, so that an apparently primary endocarditis leading to rheumatism may itself develop as a sequela of tonsillitis. From the clinical point of view that associated with rheumatism is the most frequent form of endocarditis. In most cases of endocarditis pus cocci are found to be the cause. Considering the close relations between rheumatism and endocarditis. and their frequent concomitance, it is in the highest degree probable that endocarditis is but a local manifestation of rheumatism, and that their exciting causes are identical. The author has frequently demonstrated the presence of pus cocci in articular rheumatism, and is inclined to attribute to them an etiological significance.

SURGERY.

(486) The Internal Saphena Vein and Varices.

Delbet (*Sem. Méd.*, October 13th, 1897) maintains that in varices of the lower limbs which rupture or are accompanied by ulceration, the valves in the internal saphena vein are always incompetent. This is true also when there is no dilatation of the saphena. Thus in one case where even at the operation (under cocaine) the vein was found to be of absolutely normal size, the author demonstrated this fact by placing manometers in connection with the proximal and peripheral portions of the cut vein, when the pressure rose to 2 cm. of mercury in the central part. This alone proved that the valves were incompetent, as the pressure ought to be zero. The exact figures in the central and peripheral ends respectively were 1.6 and 3.0 while lying down, and 16 and 6 cm. of mercury while standing up and straining. Reasons are given for believing that varicose ulcers are due to differences of pressure in the vein caused by valvular incompetency, and not to arterial sclerosis or to lesions of nerves. This incompetency acts (1) by allowing the venous pressure to equal that in the arterioles, through which capillary circulation is arrested and nutrition suffers; (2) by the formation of a *circulus venosus* in which the blood loses more and more its nutritive qualities. This venous circle has been demonstrated by Trendelenburg. The blood in the saphena following a centrifugal instead of a centripetal course meets in the leg with the anastomoses between the superficial and deep veins, in which the valves are arranged so as to allow the current to set only from the superficial to the deep, and being under pressure flows into the tibial and peroneal veins, whence it goes by the popliteal vein into the femoral. But at the level of the junction of the saphena with the femoral a portion of the blood flows back into the former, and goes the round again. Delbet classifies varices as (1) varices with high pressure, which are those caused by incompetent saphena valves, and generally begin in the thigh; and (2) varices with low pressure, which occur when the saphena is intact, and generally begin in the leg and cause but little trouble. The presence or absence of dilatation depends on the condition of the walls of the veins rather than on the venous pressure. The treatment of high pressure varices consists in preventing the blood from flowing from above downwards by ligaturing the saphena in two places, and excising the intervening portion. Care must be taken to do this above any large collateral branch, otherwise the operation may fail. The radical cure of varices is a myth, but the above operation gives splendid results, high pressure being converted into low, and troublesome or dangerous into slight and unnoticeable varices.

(487) The Differential Diagnosis of Intestinal Obstruction from Gall Stone and of Appendicitis.

Kölliker (*Centralblatt für Chirurgie*, No. 42) reports the case of a woman, aged 58, who came under his care with fæcal vomiting and other symptoms of acute intestinal obstruction. The patient had on previous occasions suffered from appendicitis and also from biliary colic. As the appendicitis was the more recent affection and a swelling could be made out in the ileo-cæcal region, and, also, as no pain had been felt in the region of the liver for some time, the author came to the conclusion that the obstruction was due to perityphlitic exudation. On performing laparotomy, however, he found that the cæcum and appendix were enclosed in a mass of firm adhesions, and on following some much distended loops of small intestine he came on a firm body which completely obstructed the intestinal canal. This on removal, through an incision made on the convex surface of the gut, was found to be a gall stone measuring 4 centimetres in length and 2 in breadth. Reference is made to a case recorded by Sonnenburg, in which a similar difficulty was experienced in determining the cause of acute ileus. Kölliker, while acknowledging that in such cases it would always be found difficult to make a correct diagnosis before the abdomen has been opened, suggests that mobility of the supposed perityphlitic exudation and absence of fever might lead the surgeon to expect an impacted gall stone rather than obstruction resulting from appendicitis.

(488) Painful Peritoneal Adhesions.

Nové-Josserand and Goinard (*Lyon Médical*, November 14th, 1897) relate three cases in young women on whom operations on the internal genitals were succeeded by pain which continued until a second abdominal operation was performed, and division of the peritoneal adhesions was followed by the relief of pain. The authors give a general account of peritoneal adhesions that cause pain. usually due to inflammation of one of the abdominal viscera. They may be set up by laparotomy, but it does not appear probable that contusion of the abdomen, apart from inflammation, has, as Riedel has suggested, set up intraperitoneal adhesions. In addition to giving rise to acute and chronic intestinal obstruction, adhesions may cause much pain. The character of the pain is variable: thus it may be fixed in position and continuous, and not preserve any relation to intestinal movements, or it may be intermittent resembling colic and preceding defæcation, after which physiological act it is relieved for a time. Adhesions may also become more painful during menstruation. By interference with the intestines they may produce constipation, and adhesions attached to the bladder may give rise to cystitis and dysuria. With regard to operative interference, the diagnosis being difficult, the adhesions are sometimes only discovered on opening the abdomen. If their presence be suspected, sufficient time should be allowed to elapse since spontaneous absorption may occur, but if after months of patience the pain gets worse, operation is justified. Against the objection that operation itself is likely to give rise to fresh adhesions, the authors refer to their own good results, and advise, besides scrupulous antiseptic precautions, that after the operation the intestines should be kept in active peristalsis by purgatives and enemata. When the ab-

domen is opened, if the adhesions be in the pelvis the position of Trendelenburg will be found to be useful.

(489) A Bean in the Left Bronchus of a Child.

Klein, Thilges, and P. Koch (*Bull. de la Soc. des Sc. Méd. du Grand Duché de Luxembourg*, p. 91, 1897) record the case of a boy, 9 years of age, who while laughing and playing with his comrades drew into his larynx a bean which he was holding in his mouth. A severe suffocative attack followed, but passed off entirely in a few minutes. A day afterwards, however, the boy complained of oppression in the chest and was feverish. It was found that the left half of the chest was not working well, and that there was pulmonary dulness over the left lung. The right side was normal. It was therefore concluded that the bean had passed into the left bronchus. Tracheotomy was advised, but was refused by the child's parents. During the following night there was a second attack of suffocation, during which the impact of the bean against the glottis (*bruit de drapeau*) was distinctly heard, while a finger placed over the trachea could clearly feel the scraping sensation (*bruit de grelottement*) caused by the foreign body ascending and descending in the tube. Several similar attacks—a hundred according to the parents—followed, and finally, six days after the accident, permission for tracheotomy was given. When the trachea was widely opened the bean, in no way decomposed, was quickly expelled. It measured 11 mm. by 8 mm. and 6 mm., and could only have passed through the larynx under one set of circumstances. Of course it had become swollen during its stay in the respiratory tract. It was noteworthy that it passed into the left bronchus, for it is more usual, from anatomical reasons, for foreign bodies to get into the right. The child made a good recovery.

(490) The Reflexes in Injuries of the Spinal Cord.

Lambret (*Archives Provinciales de Chirurgie*, No. 9, 1897) questions the diagnostic value of any changes in the reflexes with regard either to exaggeration or to abolition, that may occur in a case of serious injury to the spinal cord. The results of physiological research on this question are opposed by those of clinical surgery and of pathology. In the former complete destruction of the cord strictly localised to one part is followed by exaggeration of the reflexes below the seat of injury. It has, however, been proved by numerous cases cited by Bastian and others that such injury usually results not in exaggeration of the inferior reflexes but in their abolition. As a further proof of the uncertainty of the indications afforded by the reflexes in spinal injury, a case is reported by the author in which their complete abolition was caused by simple compression of the cord. In this instance the cord, which itself was sound and intact, had been rapidly compressed by an effusion of blood. Reference is made to a previously recorded case in which abolition of the reflexes followed slow compression of the cord by tuberculous thickening of its membranes at the level of an angular curvature in the middle of the spinal column. This uncertainty of the indications afforded by the reflexes is regarded as an argument in favour of systematic intervention and of exploratory trephining, in cases of fracture of the spine.

MIDWIFERY AND DISEASES OF WOMEN.

(491) Osteomalacia and Roentgen Rays.

Göbel (*Deutsche med. Wochenschrift*, No. 17, 1897) watched for seven years a severe case of mollities ossium in a woman now 50 years old. No less than ten fractures have occurred within five years, both humeri and forearms, the clavicles, and ribs suffering. Repair was extremely slow. She had borne fourteen children, and always required a doctor. Göbel tried to explore a fracture of the humerus with x rays, and was surprised to find that no bone shadows could be obtained, so completely was the injured bone deprived of lime salts. He obtained perfect skiagraphs of the same bone in other patients. The borders of the radius and ulna in the same patient gave a very faint shadow, the axis remaining absolutely diaphanous. The transparent humerus had just been fractured for the third time. The fractures are preceded by sharp local rheumatic pain. Göbel is keeping a close watch on the patient, and when the local pains set in he intends to examine the spot with the rays and to apply a protective apparatus to the affected limb should the shadow of the bone be feeble at the acting point.

(492) A Vaginal Cyst.

Taillefer (*Gaz. Hebd. Méd. et Chir.*, October 7th, 1897) alludes to the theories which have been advanced to explain the origin of vaginal cysts, and brings forward an observation which apparently supports the hypothesis of a congenital origin. It was that of a small vaginal cyst discovered only by the use of the speculum. The patient in whom it occurred, a woman 31 years of age, was suffering from cervical endometritis and a deeply torn cervix. The cyst was on the left half of the anterior vaginal wall about 4 cm. from the vulva. It was extirpated and was found to contain a dark chocolate-coloured and viscous fluid like that seen in ovarian cysts. The wall consisted of a layer of epithelial cells and one of connective tissue containing unstriped muscular fibres; in this respect also it resembled an ovarian cyst. Taillefer believes that his case demonstrates the identity of nature of ovarian and vaginal cysts, and that the latter originate in remnants of the lower part of the Wolffian body, the canal of Gärtner.

(493) Fibroma of Parietes and Pregnancy.

Michaux (*Bull. et Mémoires de la Soc. de Chir. de Paris*, July-August, 1897) describes a case of this disease, so much more prevalent in women than in men. The tumour developed almost immediately after a blow on the abdomen from the shaft of a cart. The patient became pregnant, then the tumour grew very rapidly: when removed eighteen months after the accident it weighed $8\frac{1}{2}$ lbs. It grew in the sheath of the rectus. Notwithstanding its size, it was at no point adherent to the peritoneum.

(494) Vicarious Menstruation after Removal of Ovaries.

Marsi (*Centralbl. f. Gynäk*, No. 38, 1897) observed this phenomenon in a young lady who had undergone vaginal extirpation of the appendages for chronic inflammatory disease. For four months the urine became bloody precisely at the date of the normal period before the operation. Neither at that time nor between the vicarious periods could any trace of pathological products be detected, the deposit in the urine consisting of a few blood corpuscles and vesical epithelial cells.

THERAPEUTICS.

(495) The Serum Treatment of Diphtheria.

Belin (*Münch. med. Woch.*, October 19th, 1897) reports upon the cases recently treated in Koht's clinic in Strassburg. A vigorous local treatment was employed previous to the introduction of the serum treatment, but not since. Five hundred and twenty-nine cases of diphtheria were treated in 1896, and of these only 56, or 10.6 per cent., died. There were among them 286 severe or moderately severe cases, and the mortality among these was 19.6 per cent. (1) Of the 243 slight cases none died. (2) Of 98 severe or moderately severe cases 6 died; 3,000 units of Behring's serum were generally injected in these cases. (3) Of 10 severe septic cases 6 died, but 4 of these were moribund on admission. (4) In 181 cases the larynx was involved, but in 29 of these the disease was relatively mild; 42 recovered without tracheotomy, whereas 132 were tracheotomised. In 99 cases tracheotomy had to be done immediately after admission. Of those not operated upon none died, and among the tracheotomised 44, or 33 per cent., died. The results obtained after tracheotomy showed a very considerable improvement upon past experience; the greatest number of these cases belonged to the severe or severest form of diphtheria. Owing to overcrowding broncho-pneumonia claimed some victims among the tracheotomised. A distinct diminution in the mortality was observed among children admitted on the fourth and fifth days of the disease and later. In 2 fatal cases clotting was found in the heart; the author has observed 4 such cases in all since the introduction of the serum treatment, but never before. The effect of the serum treatment was undoubtedly

favourable. The beneficial action on the local lesion was obvious. In diphtheritic croup the signs of stenosis disappeared much more rapidly than formerly. The general condition of the patient quickly improved, but the good effect on the pulse and temperature was not so obvious. The serum treatment only failed in cases of the severest sepsis, but the author is convinced that even here recovery is not impossible if the treatment be commenced early. Perhaps the doses given were not always large enough. No unfavourable result could be distinctly attributed to the serum treatment except the rash. Some careful observations were made upon the appearance of albumen in the urine and upon an increase in its amount; the idea of the serum exercising some effect on the kidney could not be definitely excluded. A skin eruption was seen in 2.8 per cent. of the cases. In 6 cases it resembled scarlet fever, in 5 urticaria, in 1 measles, and in 3 a polymorphic erythema. The presence of a scarlet fever epidemic made the diagnosis between a scarlet fever and a serum rash at times difficult. Post-diphtheritic paralysis would appear to be more frequent since the serum treatment was introduced; here it was present in 20 out of 529 cases. Relapse is also more frequent; it was noted on 4 occasions. The above evidence distinctly in favour of the serum treatment is the more important as the first experiences of the treatment in this clinic did not speak much in its support.

(496) Anthrax Serum.

SOBERNHEIM (*Berl. klin. Woch.*, October 18th, 1897) makes a preliminary communication on this subject. He could find no immunising substances in the blood either of animals treated with Pasteur's vaccine or of those who had passed through an attack of anthrax. In the case, however, of animals who have been treated for weeks and months with increasing doses of virulent anthrax cultures so that an active immunity is acquired, such protective substances are present in the blood. The serum obtained from a sheep thus treated conveyed a certain degree of immunity when injected into rabbits. The author has also immunised two sheep, first with attenuated and later with virulent cultures of antrax; but the serum when injected into rabbits only delayed the fatal issue, but never prevented it. Even repeated injections of this serum gave no more satisfactory results. The results were the same whether spore-containing bacilli, or old cultures with free spores, or fresh anthrax blood without spores were used. Attempts at cure of the disease were without effect. Much better results were obtained when sheep were used instead of rabbits. In 2 out of 7 animals, 100 to 150 c.cm. normal serum from a lamb were first injected, then a small quantity of a virulent anthrax culture. Both animals succumbed to anthrax in from thirty-two to forty hours. Three other animals were treated with a single dose (50, 100, and 200 c.cm.) of anthrax serum, and twenty-four hours later with a virulent anthrax culture. All these animals recovered. The sixth animal was injected with 20 c.cm. of the anthrax serum and then with the virulent culture. On each day for a week it received 10 c.cm. of anthrax serum, and it recovered. The seventh animal was injected with the virulent culture, and an hour later with 100 c.cm. of anthrax serum; 100 c.cm. were again injected ten hours later, and a similar dose was twice given on the next day. Smaller doses were given later, so that the animal received in all 500 c.cm. of the serum. It recovered. The interest of this last case is obvious, as it shows the cure of an animal by means of anthrax serum. Thus it is possible by means of the serum of an artificially immune animal to confer a sure protection against anthrax upon a fully susceptible animal such as the sheep.

(497) Protargol, a New Remedy for Acute Gonorrhœa.

NEISSER (*Centralbl. f. Dermatol.*, October, 1897) regards the ideal treatment of acute gonorrhœa as one by which the gonococci are killed without the mucous membrane being affected, or, as far as possible, the inflammation and suppuration increased. He considers the best method to be injection, reserving irrigation for cases presenting special difficulties. He states that the best substance for this purpose with which he is acquainted is protargol, a proteid-containing silver compound. This contains 8.3 per cent. of silver, is readily soluble in cold and hot water, and is not precipitated by albumen, dilute sodium chloride, or hydrochloric acid solution, or caustic soda. Ammonium sulphide darkens the solution, but does not precipitate; strong salt solutions precipitate, not silver chloride, but protargol itself. It has a remarkable penetrative power, and excels the best of previous compounds, argentamin, in that, although containing more silver, it can be used in solutions up to the strength of 1 per cent. without causing any irritation. Hence it can be used as a bactericide from the very beginning of an attack of gonorrhœa. It has the further advantage that it can safely be left in contact with the mucous membrane for a protracted period, even up to thirty minutes, by which time the sphincter has usually relaxed and allowed the fluid to flow into the posterior part of the urethra. The author lays down the following rules for treatment with protargol: The gonococcus must first be demonstrated, and it must be ascertained whether the posterior urethra is affected as well as the anterior. Next and at once systematic injection must be begun, the posterior urethra being treated as well, if necessary. Injections should be given thrice daily, the first two remaining in five minutes apiece, the third thirty minutes; if the secretion is considerable this should be changed five or six times. After a few days one injection per diem will often suffice, the protargol being replaced for the other two by astringent fluids. As the treatment is painless it can be conveniently continued for three or four weeks if necessary; even when the gonococci disappear within forty-eight hours the prolonged injections of protargol should be kept up once daily for a week. This is even more necessary when no bacteriological examination is made; if the treatment is too short by one day the good of weeks may be undone. The strength of the protargol solution should be at first $\frac{1}{4}$ per cent., and then increased to $\frac{1}{2}$ to 1 per cent. In chronic cases irritative measures, such as the injection of 1 in 2,000 argentamin may be resorted to; but here again the penetrative power of protargol renders it most valuable. Neisser concludes by expressing his belief that this substance is the best, safest, and most rapid remedy hitherto introduced in the treatment of gonorrhœa.

PATHOLOGY.

(498) Bacteriology of Whooping-cough.

CZAPLEWSKI AND HENSEL (*Deut. med. Woch.*, September 9th, 1897) have examined the sputum in this disease. The denser parts of the sputum are washed in three lots of peptone water. If the sputum is thick this washing is easily effected. Streak cultures are then made, Loeffler's blood serum being the best nutrient medium. The microbe is stained with carbol glycerine fuchsin (Czaplewski) or ordinary carbol fuchsin. A small short bacillus with rounded and swollen ends is found often in pure culture. It resembles the influenza bacillus morphologically, but differs from it in growing on all the ordinary nutrient media. The ends of the authors' bacillus stain more intensely than the other parts. Sometimes it forms longer threads and sometimes several individuals remain together in a chain. It is non-motile and possesses but small resisting powers. In young cultures it stains by Gram's method, but if it be then after-stained with carbol glycerine fuchsin it is coloured red. In severe cases of whooping-cough this bacillus is present in large numbers. It is only occasionally contained within cells. If the sputum is not well washed other microbes, especially the streptococcus, develop, and the isolation of the bacillus becomes difficult. The colonies are not very characteristic; they are somewhat raised, slightly yellowish grey, and resemble to some extent dewdrops. Experiments on animals have as yet been negative. The authors have examined some 30 cases, and the constant presence of this bacillus leads them to publish the results. In some cases the bacillus was found before the patient presented the characteristic symptoms. One of the authors himself developed, while working with the material, an intense coryza with a few spasms of cough on one day. The bacillus was found in few numbers but in pure culture in the nasal secretion.

AN EPITOME OF CURRENT MEDICAL LITERATURE.

MEDICINE.

(499) Elsner's Method.

Jemma, of Maragliano's clinic (*Münch. med. Woch.*, August 17th, 1897), speaks highly of this method of demonstrating the presence of the typhoid bacillus in the stools. None of the methods hitherto proposed for providing a nutrient medium more especially adapted to the growth of the typhoid bacillus as against other microbes, has succeeded so well as Elsner's method. The author then refers to some of the recorded results of this method. He prepares the iodo-potato-gelatine according to Elsner's directions, but he adds the potassic iodide at once instead of immediately before use. The characters of the typhoid colonies on this medium are more or less distinctive, and the presence of the typhoid bacillus is further confirmed by its growth on potato, by its not coagulating milk, and finally by the serum test. By the way, Jemma mentions that the serum test is the most certain as well as the easiest and most rapid to carry out. A table is appended showing the results obtained. These results were positive in 30 out of 33 cases of enteric fever. In 1 of the negative cases the patient was admitted in a slight relapse, in another on the twenty-second, and in the third on the twenty-seventh day of the disease. The temperature fell, and convalescence was established in three or four days in the 2 last cases. The serum test, however, gave positive results in all these 3 cases. The failure to find the typhoid bacillus in these cases was either due to error in technique or to the advanced stage of the disease. When the result was positive, the examination was made in the first two weeks of the fever. In some cases the finding of the typhoid bacillus proved a great help in the diagnosis, and the author specially refers to 1 case of this kind. Jemma maintains that Elsner's method is of considerable clinical value. The time required is, however, an objection.

(500) Brain Tumour and Mental Functions.

Gianelli (*Il Policlinico*, July 15th, 1897) gives the result of an elaborate study of this subject. If hallucination is present, this indicates irritation of the corresponding cortical sensorial centre. The more prominently psychical disorders (for example, torpor, intellectual arrest, and weak memory) assert themselves at the outset, the more likely the growth is in the frontal or prefrontal lobe. Tumours situated in other parts of the brain as a rule only give rise to psychical symptoms at a later period. Tumours of the corpus callosum are (?) always accompanied by mental disturbances. No clue as to the seat of a growth can be had from modifications in the patient's feelings and emotions. Cerebral growths manifesting themselves clinically as progressive paralysis probably have their seat in the frontal lobe. The same is true when ideas of grandeur appear in the course of the development of a cerebral neoplasm. Apparently the nature of the growth, apart from its distribution, has no influence on the production of cerebral psychoses. According to the author's figures, cerebral growths are most often sarcomata, then gliomata and tubercle, his figures being 129, 79, and 69 respectively. He has 77 cases (out of a total of 323 with tumours in various parts of the brain, accompanied by psychical disturbances) in which the tumour was in the frontal lobe, as against 20 (out of 265 unaccompanied by psychical disturbances) of the frontal lobe without psychical symptoms.

(501) Tabes and Aortic Disease.

Ruge and Hütter of Gerhardt's clinic (*Berl. klin. Woch.*, August 30th, 1897) found that in looking up 138 cases of locomotor ataxy, valvular disease was noted in 12, or 8.76 per cent., and marked aortic disease in 9, or 6.5 per cent. Women were affected in equal numbers with men, and the ages varied from 30 to 65. Details are given of these cases. The valvular defect mostly first showed itself after the symptoms of tabes were pronounced, and in one case it developed under observation. In some cases the aortic disease did not reveal its presence by symptoms. In 5 cases there was undoubted syphilis, and in 6 probable syphilis, but in 1 case there was no evidence of this disease. Aortic disease may easily be overlooked in tabes, as it may give rise to no symptoms. The authors then discuss the nature of the relationship between these two diseases, and they maintain that the connecting link between them is syphilis. Syphilis is looked upon as the cause of tabes by many authorities, and syphilis is frequently present in cases of aortic aneurysm. Two of the above cases of aortic disease were complicated with aneurysm. Articular rheumatism was only present in 2 out of the 12 cases.

(502) Etiology of Chorea.

Legay has published (*Thèse de Paris*, 1897) some interesting statistics relative to the origin of chorea, from which it appears that the disease is found in those who have a neurotic heredity with almost always a recent infection. This infection in the majority of cases is rheumatism, but there are many instances of chorea arising from other conditions, more particularly various specific diseases, such as measles, with or without broncho-pneumonia, scarlet fever, typhoid, influenzic bronchitis, tuberculosis, and varicella, even boils with marked glandular enlargement, impetiginous eruptions on the head, and suppurative otitis. All these seem capable of producing chorea.

SURGERY.

(503) Treatment of Spinal Abscess.

Duplay (*Sem. Méd.*, December 3rd, 1897) discusses the evolution and treatment of the large purulent collections symptomatic of Pott's disease. These may coincide with curvature of the spine or may develop without it. In the adult the latter variety is common. The abscesses arise either outside the thoraco-abdominal cavity or within, according to the situation of the tuberculous focus in the vertebral column. When inside they develop gradually, and point far from their origin in various well-known situations. Lannelongue has shown that in these abscesses there is no pyogenic membrane, but there are a number of tuberculous foci, and the abscess spreads from one point to another by a true auto-infection. The prognosis concerning the lesions of the spine and viscera is doubtful, but, owing to modern therapeutics, the treatment of the abscess cavity is more favourable. Operation, especially in children, should not be performed too early, but a spontaneous cure looked for; in adolescents and adults interference should be earlier than in children. Operation consists of (1) injection of alteratives—for example, iodine, camphorated naphthol, iodoform. Of these, Duplay much prefers iodoform, a 1 in 10 ethereal solution. Possible ill effects are pain, gangrene of skin, or iodoform intoxication. To avoid this last, not more than 50 to 100 g. of the solution should be used, even in a large abscess. This treatment gives good results in children; in adults it often fails. It however often causes improvement and should when possible be tried first. (2) Surgical intervention proper should be resorted to when injections have failed, when the lesion is too widespread and too deep seated, or when the skin is thinned or giving way. The morbid tissues must be destroyed as far as they can be reached. One or more incisions are made as near as possible to the bone lesion, the walls are thoroughly curetted, and a 5 per cent. solution of zinc chloride applied or injected. Incisions should be closed, with the exception of a drainage tube, which should reach far into the cavity. Rapid and complete cure often results, or cure is sometimes obtained after a long period if complications can be avoided.

(504) Recurrent Dislocation of the Shoulder.

Burrell and Lovett (*Amer. Journ. of the Med. Sci.*, August, 1897) report two cases of habitual or recurrent dislocation of the shoulder, which were successfully treated by operation. The name "habitual dislocation" is intended to refer only to those cases in which the displacement occurs from causes too slight to affect in this way the normal joint. Pathological evidence, it is stated, renders it probable that in some cases, at least, the recurrence of dislocation of the shoulder may be due to: (1) Laxity of the capsule of the joint; (2) partial fracture of the head of the

humerus; (3) partial fracture of the glenoid cavity; (4) laceration of muscular insertions and rupture of the tendons; (5) abnormality in the shape of the head of the humerus not demonstrably due to fracture, but probably the result of chronic non-suppurative inflammation. In some instances the cause of the recurrence was probably insufficient immobilisation of the arm after a primary displacement. In cases of dislocation the arm should be fixed for at least ten days after reduction in order that the rent in the capsule of the joint may close. The authors hold that the treatment of recurrent dislocation should consist in massage and exercise combined with primary fixation. If this treatment should fail after ten weeks' trial they would resort to operation which should aim at the exposure of the anterior part of the capsule, its partial resection, and shortening by suture. The results in the two cases in which this operation had been performed by Burrell were very satisfactory. In one there had been no recurrence within one year and ten months from the date of operation, and the motions of the joint after this interval were perfect. The subject of the second case at the end of the second month was using his arm freely, and had had no recurrence of the dislocation.

(505) The Use of Gloves in Practical Surgery.

Wölfler (*Beiträge zur klin. Chirurgie*, Bd. xix, Hft. 1) attaches much importance to the use of gloves in surgical work, especially in the examination of cavities such as the vagina and rectum, in dealing with septic wounds during a course of operative surgery on the dead body, and in the performance of any aseptic operation. By this precaution the surgeon may effectually guard both his patients and himself from serious danger, and so prevent in the first place the infection of a fresh and clean wound from the contact of his fingers during an operation on the living subject, and, in the second place, infection of his own fingers by a foul wound or contact with the cadaver. A suitable glove for such purposes must, it is pointed out, fulfil the following conditions: It should be rendered impermeable by the addition of some waterproof substance, either applied as an external layer, or diffused through the whole thickness of its material; such material should be very soft and pliant, and, at the same time, not likely to be readily torn; it should not compress the skin too much, and render the hand warm; and finally, it should be capable of being readily and thoroughly disinfected.

(506) Treatment of Varicose Ulcers.

Turrazza (*Rif. Med.*, October 30th, 1897) has practised with success in 3 cases the method of Mareschi for the radical treatment of varicose ulcers of the legs. This consists in making a circular incision above and below the ulcer down to the fascia, tying the veins and leaving the wound to heal by second intention, or at the most putting in a few loose sutures if it gapes too much. For example, in one of his cases he made a circular incision about 3 centimetres below the lowest point of the ulcer, another 4 centimetres above, tied the veins—9 in all—brought the edges of the wound together with a few sutures, dressed with iodoform gauze. On the thirty-eighth day there was complete cure both of the ulcer and the incision, no œdema or circulatory disturbance of the leg, and a healthy cicatrix.

MIDWIFERY AND DISEASES OF WOMEN.

(507) Puerperal Tetanus.

Rubeska (*Archiv f. Gynäk.*, vol. liv, Pt. I, 1897) describes at length 6 unpublished cases of tetanus in childbed. All ended fatally, and in all definite organic lesions were detected. He also notes 3 other cases recently published by Pipek in a paper written in the Bohemian language; these were also all fatal. Rubeska issued in 1890 an earlier report of 11 cases, none of which recovered. He notes, however, Irving's case (*New York Med. Journ.*, September 17th, 1892), where tetanus set in on the eleventh day after delivery, remained acute for a fortnight, and then passed slowly off, the patient ultimately recovering. The earliest date for the onset of tetanus is the sixth, the latest the eleventh day. It begins in puerperal cases by trismus and dysphagia, and not by tetanic contractions of muscles near the pelvis. Narcotics, antispasmodics, and serum treatment, as well as, in one case, immediate extirpation of the uterus, proved unavailing in the 20 fatal cases collected by Rubeska. He discusses the bacteriology of this form of tetanus. Heyse has shown that streptococcus infection does not predispose to secondary infection of the genital tract by the tetanus bacillus.

(508) Hæmorrhage at Menopause and Cancer.

Pichevin (*Bulletins et Mém. de la Société Obstét. et Gynéc. de Paris*, No. 7, 1897) relates the history of a married but childless woman, aged 50, who had been subject for several years to a small fibroma of the body of the uterus without menorrhagia or disease of the appendages. The periods remained quite regular till November, 1896, then no show was seen till a little appeared last January. Five weeks later a very little blood was seen at the vulva. On March 20th severe hæmorrhage set in, and could not be checked by hot injections, ergot, or any other remedy. Much blood escaped, almost without ceasing, till June 13th. There was never any fœtor. Slight lumbar pain was present throughout. The cervix was quite healthy; the fornices free. The uterine cavity measured just $3\frac{1}{2}$ inches, and the body was as big as a fist. On exploration a fungous mass was found springing from the endometrium posteriorly and to the left ovarian area of about $2\frac{1}{2}$ square inches. It was removed, and found to be the produce of glandular endometritis. There had been no bleeding till this year, when the patient was 50, though the fibroid enlargement was clearly not recent. The microscope proved that the growth was not malignant, nor due to true fungous endometritis, such as Trousseau detected in old women as long ago as 1856. The patient is now free from hæmorrhage. It need hardly be said that the course here pursued was necessary for diagnostic reasons. Doléris, discussing Pichevin's case, said that diagnosis from simple inquiry about the "show" was seldom difficult. Menorrhagia of the menopause appears as a sudden and very free discharge of blood following distinct cessation of the catamenia for two or three months. The discharge occasionally recurred. The bleeding of cancer was insidious, irregular in character, and very frequently appeared in the interval of the period during the last year or two of menstruation.

(509) Ovariotomy for Sarcoma in a Child.

Hoffmann, of West Virginia (*American Journal of Obstetrics*, September, 1897) was consulted about a child twenty-two months of age. She was suffering from acute peritonitis, vomiting was constant, and the temperature high. A tumour filled the left side of the abdomen; at the time it was simply noted that there was dulness over that region. Two months later signs of precocious puberty appeared, the breasts enlarged, and a periodical discharge of blood issued from the vagina. The abdomen became very swollen, emaciation was observed, and when the child was 33 months old another attack of peritonitis occurred. Hoffmann accordingly operated when he found that the complication did not appear likely to subside. The tumour was a cystic sarcoma of the left ovary, containing about 7 pints of fluid; the solid part weighed $2\frac{1}{2}$ lbs. The pedicle was between 2 and 3 inches long; the uterus almost as large as an adult nullipara. There were free parietal adhesions. The patient rallied, but the stomach remained very irritable, and the child died 33 hours after the operation. All, or nearly all, ovarian tumours hitherto removed from infants have been dermoids. Hoffmann finds that his is the first case where the tumour was specified as sarcomatous.

(510) Foreign Bodies in the Uterus.

Neugebauer (Breslau: Preuss und Jünger, 1897) has prepared a special work on 550 cases which he has collected and classified. Of true foreign bodies 63 authentic cases are enumerated, and these included rings, needles and pins, pessaries of all forms and sizes, reels, and yet more remarkable structures; thus in one instance half a pound of hair was withdrawn from the uterus. In another case a leech was found in the uterine cavity. Neugebauer makes out a second class from parasites, a lumbricus in 3, and ecchinococci in 5 cases. Then he describes the results of entry of foreign bodies through perforations in

the uterine wall. Under that category are included bodies not foreign to the organism, but simply foreign to the uterus, such as fæces, pieces of ovarian tumour, and pus from elsewhere. One utero-rectal fistula is noted, and stranger still 1 utero-gastric fistula (Duparcque). In the necropsy of a woman who died with utero-colic fistula during pregnancy, the left arm of the fœtus was found engaged up to the shoulder in the fistulous tract. Coming to operative accidents, Neugebauer records 3 cases where small intestine entered the uterine cavity through surgical wounds. No fewer than 56 cases of uterine calculi are noted. Dermoid tumours, retained products of gestation, and the fœtus in missed labor, are included as physiologically foreign bodies.

(511) Sialorrhœa Cured by the Reduction of a Retroflexed Gravid Uterus.

Audebert (*Revue Obstét. Internationale*, October 1st, p. 230) mentions the case of a young woman, whose first pregnancy had been followed by infectious endometritis and consequent retroflexion, and who soon after conceiving a second time was attacked by severe and exhausting ptyalism, and when Audebert saw her in the third month was extremely emaciated. In addition to what was swallowed or soaked up on her linen 800 grammes of liquid were collected in 24 hours. Her gravid uterus was found in extreme retroflexion, the cervix lying forward above the symphysis. Reduction was effected easily in the genu-pectoral position and prevented from recurring. The sialorrhœa at once diminished and ceased absolutely at the end of three days.

THERAPEUTICS.

(512) Diphtheria Immunisation through the Alimentary Canal.

Escherich (*Wien. klin. Woch.*, 1897, No. 36) records the results of a number of experiments made by him with a view to the establishment of a prophylaxis against diphtheria by internal medication. The most favourable reports of the curative action of diphtheria antitoxin leave a mortality of 10 per cent., and Behring rightly insists that if the disease is to be stamped out it will have to be by prophylactic measures. Apart from the pain and occasional untoward effects of hypodermic injection, it is an expensive method, since it can only be carried out by a physician, and as the prophylaxis lasts but a short time it requires to be repeated every three or four weeks. Escherich was, therefore, led to try whether prophylactic immunisation could be effected through the alimentary canal; it appears from previous researches that the immunity of infants at the breast is brought about in this way, the maternal milk possessing antitoxic properties. The first series of the author's experiments consisted in drawing blood from a healthy child which had a short time previously received a subcutaneous injection of antitoxin, and injecting its serum mixed with varying amounts of diphtheria toxins into guinea-pigs. It was found that these survived, while the control animals speedily succumbed. Next, the research was repeated in a precisely similar manner, except that the child received the antitoxin by the mouth instead of under the skin. The result was now quite different, the experimental animals dying just as soon as the control. In the case, however, of one breast baby, though not of others, the serum appeared to have acquired some slight antitoxic properties. It was thought that the failure of the oral method of administration might be due to the action of the acid in the gastric juice, but no better results followed the administration of the antitoxin in keratin capsules or *per rectum*. Prophylaxis by means of the administration of antitoxin by the alimentary canal must hence fail, for the antitoxic property is not communicated to the serum of the patient. The same applies to the oral administration of antitoxin for curative purposes. Escherich finally investigated the cause of these bodies not getting into the blood; they must be destroyed either in the intestinal epithelium or in the liver. He excluded the former by injecting the antitoxin into the walls of the intestine between the folds of the mesentery. None got into the blood, and he hence concludes that antitoxin is so changed or destroyed in the liver as to be prevented from entering the blood and there acting.

(513) Injections of Calomel in Syphilis.

Anthony (*Chicago Medical Record*, October, 1897) recommends this form of treatment in certain cases. The author follows Neisser in preferring subcutaneous injection to intramuscular, owing chiefly to the danger of embolism frem wounding a deep vein. He recommends it in iritis, throat lesions which will not yield to other methods of treatment, gummata of the palate, visceral lesions of all kinds, periostitis, and rebellious facial eruptions. It should not be used in old age, in Bright's disease, diabetes, alcoholism, or in pregnancy. The dose of calomel employed is 0.05 gramme suspended in olive oil previously sterilised by boiling over a water bath for 15 minutes. Each dose of calomel is separately weighed and mixed with the oil at the time of injection. The syringe is sterilised by rinsing first in absolute alcohol and afterwards with hot water. The injections are made in the gluteal region, every seven days, for about five injections. After this, internal medication should be substituted for two months, when the injection may be resumed if necessary.

(514) Treatment of Articular Rheumatism in Children by Roentgen Rays.

Sokoloff (*Vratch*, No. 46, 1897) reports 4 cases in which this treatment was highly successful. The method used was to place the child, covered with bedclothes, at a distance of 50 to 60 centimetres from the tube, and to expose it to the action of the rays from 10 to 20 minutes. The first case was that of a girl 9 years of age, suffering from acute pain and swelling of the wrist and finger-joints, and of both knee-joints, in whom the symptoms disappeared after two exposures. In the second case, that of a girl 14 years of age, the pain and swelling of a knee-joint disappeared after a single exposure. In the third case, that of a girl 5 years old, the disease affected the knee- and ankle-joints, and was cured after three exposures. In the latter case the swelling was seen to diminish visibly during the exposure to the action of the rays. This was corroborated by measuring the joints at the time. In four days the circumference of the ankle-joints decreased by 3 centimetres. The last case was that of a girl 13 years of age, who had suffered from chronic rheumatism, and had had a damaged heart for 5 years. Latterly she had an acute exacerbation with an intensely painful and swollen knee-joint, which was flexed to an angle of about 45°. After every exposure to the rays the angle of flexion increased, and the pain was alleviated, and after four exposures disappeared altogether.

(515) Serumtherapy in Erysipelas and Pyæmia.

Parascandolo (*Wien. klin. Woch.*, Nos. 38 and 39, 1897) records a new series of systematic researches into this subject. The first point investigated was the relation of streptococcus pyogenes to that of erysipelas. He finds that the serum of an animal immunised in respect of one of these organisms prevents the growth of a culture of the same organism *in vitro*, and also cures animals into which such a culture has been injected. Neither microbe has, however, these actions in respect of the other; thus, the serum of an animal immunised against pyogenes has no curative effect upon another suffering from erysipelas. The author hence concludes that these organisms are specifically different, and that "anti-streptococcic" serum for the treatment of erysipelas must be prepared from cultures of streptococcus erysipelatosus; the serumtherapy of pyæmic diseases is hence placed on a new and firmer basis by the establishment of the differentiation of the streptococci causing them. The next question studied was the comparative value of various nutritive media for cultivating the organisms; the author finds that peptonised beef bouillon with the addition of sugar forms the best of these as regards the rapidity of growth. For increasing the virulence of the cocci no method is found to be more potent than to grow them on this peptonised bouillon containing 2 per cent. of glucose. The greatest virulence obtained by the author was such that one-millionth of a cubic centimetre of the culture killed a guinea-pig weighing 400 g. in forty-eight hours; no one has been able to confirm Marmorek's statement that a toxicity of 100 times this strength can be reached. Parascandolo further finds that the best method of immunisation is by the use of the toxins of virulent

organisms and not of their cultures. Lastly, he states that the serum of animals immunised by toxins, whether of staphylococcus pyogenes albus, aureus citreus, streptococcus pyogenes, or erysipelatosus, is a more valuable remedial agent than that of animals immunised by the cultures of the same organisms.

PATHOLOGY.

(516) Polyadenoma of the Stomach.

Hayem (*La Presse Méd.*, August 4th, 1897) describes a new variety of gastric polyadenoma, which is constructed on the type of Brunner's glands in the duodenum. The varieties of polyadenoma of the stomach previously recognised are two—(*a*) those that are polypoid, and (*b*) those consisting of thickened folds of the mucous membrane, the constituent gland tubes being greatly lengthened, but never invading the muscularis mucosæ. This form also commonly occurs in a nodule, and is then often associated with chronic gastritis and with cancer elsewhere on the stomach wall. Hayem describes two cases of adenomatous growth resembling Brunner's glands, and chiefly affecting the submucosa. It appears to be derived from the glandular *cul-de-sacs* of the mucosa, but it rapidly passes through the muscularis mucosæ and develops in the submucous tissue. This form of adenoma is related in an interesting manner with gastric ulcer and with malignant disease. In the first of his two cases a man died from a perforating gastric ulcer which was directly due to an adenoma of this form. The adenoma gave rise to atrophy and separation of the muscular coat, and then itself underwent infection and ulceration. In the second case in which a latent gastric ulcer had been succeeded by the development of carcinoma, the pylorus eventually became acutely obstructed by an adenoma of the type of Brunner's glands. The relation of the adenoma and the ulcer could not be determined, but the adenoma existed before the ulcer underwent cancerous change, since the adenoma could be seen to be undergoing carcinomatous change. Hayem regards these adenomata as benignant tumours, which, however, may become malignant, and places them in a transitional stage between innocent and malignant growths.

(517) The Etiology of Foot and Mouth Disease.

Babes and Proca (*Centralblatt für Bakteriologie*, 1897, Nos. 22, 23) have come to the conclusion that Siegel's bacillus is not the specific one of the disease, as the experiments upon it are not absolutely unobjectionable; it causes another and much more severe affection. Further, their own bacillus (first isolated by their colleague, Starcovici) must be excluded as being pathogenic for animals which do not contract foot and mouth disease. They therefore approached the subject in another way by making cultivations from the saliva and vesicles of animals suffering from this complaint. In these they constantly found a mould living symbiotically with a fluorescent bacillus allied to B. pyocyaneus. By altering the physical and chemical conditions of the medium the bacillus could be isolated, and was found when injected to cause moderate local suppuration, but no general infection. It has not been found possible to grow the mould alone, but its culture characteristics resemble those of aërobacterium luteum; the spores formed have the appearance of clostridium. Subcutaneous injection of cultures into the rabbit's ear was followed by fever, and in five or six days by a vesicular eruption rapidly becoming pustular, and eventually leading to the formation of small ulcers. Injection into the blood stream caused more rapid and violent symptoms of a similar nature in rabbits, mice, calves, and pigs; in guinea-pigs only an ulcer or abscess appeared at the site of injection, in the other animals the affection was strictly comparable to the natural foot and mouth disease. In sheep, lambs, a goat, asses, pigeons, and fowls injection produced no result. These experiments render it probable that the outbreaks of the disease following the injection of Siegel's and other bacilli were accidental or due to errors of experiment. The new fungus grows best at a low temperature, and on media containing sugar forms characteristic colonies looking like groups of crystals; it has a very varied cycle of generations. First of all there are tubes or capsules containing rows of structures resembling cocci bacilli, next are formed isolated encapsuled rods rather larger than the colon bacillus, then the clostridium-like spores, then large round protoplasmic masses forming chains or moderately-branched joints; and, finally, on potato smooth homogeneously yeast-like cells. The fungus was found in 5 out of 8 infected animals, but in only 1 of 11 healthy. Before it can finally be accepted as the cause of foot-and-mouth disease, its relation to the vesicles must be demonstrated, and unexceptionable experiments upon cattle demonstrated; the great difficulties to be overcome are its close symbiosis with the bacterium and its own variability of form.

(518) Kaolinosis.

Hlava (*Wien. klin. Rundschau*, 1897, No. 37) describes the condition of the lungs of a general paralytic, aged 42, who had been a potter during the last thirty years of his life. The lungs were very heavy, weighing 30 and 33 ounces, and of a greenish-grey colour. On section numerous nodules were seen, with greenish-grey connective tissue strands, some of which showed a markedly grey colour in the centre. In the normal lung tissue there were many greenish-brown patches of hepatisation. There was a little fresh broncho-pneumonia in the lower lobes, and the rest of the lungs were emphysematous, and in great part œdematous. The bronchial glands were indurated, particularly on the left side, and appeared mottled-green on section; the surrounding connective tissue was sclerotic and adherent to surrounding organs. Analysis of the ash of the right lung showed that nearly one-half of it consisted of silicate of aluminium (kaolin), of which nearly half an ounce was present. Microscopical investigation demonstrated the presence of three kinds of pigments in the lungs; coal dust was found in small quantity, and granules of ferric oxide to a slightly greater extent, but the bulk of the foreign matter consisted of very large crystalline particles, which were present alike in the bronchi, in their neighbourhood, and in the alveolar epithelium, the freshly-formed nodules, and the sclerosed connective tissue being equally affected. The pathological tissue changes—in addition to a recent catarrhal pneumococcus pneumonia—consisted in sclerotic inflammation with early interstitial changes. The bronchi were dilated, and mucous membrane catarrhally inflamed. The bronchial glands were sclerosed and filled with granular pigment. There could thus be no doubt that the kaolin dust had led to chronic inflammation, which was eventually associated with the formation of multiple hard nodules and with emphysema; there was absolutely no sign of tuberculosis.

(519) Bacillus Coli and Infantile Enteritis.

Lesage (*Sem. Méd.*, October 20th, 1897) found that in 40 out of 50 cases of infantile diarrhœa due to the B. coli cultures of the bacillus derived from any case were agglutinated by the serum of the patient or of any one of the 39 cases. This is only true during the acute period, for the length of time when this reaction is obtained is short, and agglutination disappears after a few days, which possibly explains its absence in 10 cases. The reaction is wanting in chronic enteritis, and feeble or wanting in an acute exacerbation of a chronic illness. It is therefore an indication of the reaction of the organism against acute intoxication. When the latter is prolonged the organism loses its power to react and the prognosis becomes very grave. The above facts go to show that all the B. coli of infantile enteritis are of the same kind. Thus the various kinds of B. coli of the adult (in dysentery, varieties of diarrhœa, etc.) are not agglutinated by serum from infants suffering from colibacillary infection, nor by antitoxic serum obtained from a horse immunised by their toxins. This serum reaction is a means of diagnosis more reliable than any chemical test since among the B. coli of infantile enteritis some coagulate milk, others do not; some give the indol reaction, others do not, etc. The most convenient method for diagnostic and prognostic purposes is to use the antitoxic serum of a horse rendered immune by these varieties of a probably identical bacillus.

AN EPITOME
OF
CURRENT MEDICAL LITERATURE.

MEDICINE.

(520) Leprosy.

Sticker (*Münch. med. Woch.*, 1897, Nos. 39 and 40) relates his experience obtained in India and Egypt. He first discusses the pathogenesis of the disease. He states that (1) lepers eliminate with the nasal secretion the leprous bacillus often in extraordinary numbers, and during the greatest period of the disease, and (2) the front part of the nasal mucous membrane, and mostly that covering the nasal sputum, is the place which leprosy first, and perhaps always, attacks. The author has examined 143 lepers from this point of view. In 55 out of 57 cases of tubercular leprosy the leprous bacillus was found in the nasal secretion, and yet in only 2 cases were there any leprous nodules in the nose. In 45 out of 68 cases of anæsthetic leprosy, and in 27 out of 28 of the mixed form, the bacillus was also found. Only one examination was usually made, and not more than two or three cover glass preparations. In 23 out of 153 cases there was evidence of disease in the bronchi, but in only 14 of these were leprous bacilli found in the sputum. In 10 out of 27 cases in which the exudation from ulcers was examined, the leprous bacilli was found. In 21 cases the bacillus was demonstrated in the secretion of the fauces on 9 occasions. The author thus concludes that the nose is the chief place from which the leprous bacillus is given up, and that in the nose the first effect of the leprous bacillus is produced. In the exceptional cases where no bacilli were found, there were always present the most marked traces of a nasal lesion, which in an active state would produce secretion. The nasal lesions are varied. In the first stage the mucous membrane may look healthy, or at most there is slight increase of a slimy secretion. The first visible change is a simple dry catarrh in circumscribed patches, which eventually present a raw surface. In advanced cases shallow or deep ulcers are visible in one or both sides of the septum. Sometimes there is a hard swelling only, which may be extended to adjacent parts, and produce a nasal stenosis. Perforation of the sputum, or even more destructive changes, may occur, so that the whole nose may be eaten away. The secretion is mucoid, purulent, or of a characteristic slimy character; the last named contains most bacilli. The author gives a table showing the nature of the nasal legion in his cases. Leprosy can spread from the nose to other parts by way of the lymphatics, or more rarely by the blood. In the tubercular form the lesions mostly affect the face and alæ of the nose, and even in the anæsthetic form early changes may be seen in the face. The author has found the leprous bacilli in the blood in 4 cases. Finally, he draws attention to the importance of the nasal treatment, not only on account of the patient himself, but also in order to prevent the spread of the disease.

(521) Serum Diagnosis of Relapsing Fever.

Loeventhal, of Moscow (*Deut. med. Woch.*, August 26th, 1897), says that the presence of specific bacterial products in the blood during the apyretic stage of relapsing fever, as shown by Gabritschewsky, led this author to make use of a serum test. The technique is easy, but as no cultivation of the spirillum has yet been made, the test can only be applied when there are cases available from which spirilla containing blood can be obtained. The two sorts of blood are intimately mixed together and placed in the warm incubator, a control specimen being always made. The spirilla gradually become motionless and collect together in masses. The reaction is usually complete in half an hour. If none occur within two to two hours and a half relapsing fever as the cause of the preceding febrile attack may be excluded. Gabritschewsky shows that the reaction is a specific one. In 14 cases of fever due to different causes the author examined the blood, but never succeeded in getting a positive reaction where relapsing fever was absent. He has also applied the test to 39 cases admitted into the relapsing pavilion, and obtained a positive reaction in 30. Details are then given of some 6 cases. Loeventhal has also examined the blood for prognostic purposes on 80 occasions. The 9 cases giving negative results turned out to be cases of typhoid fever 5, acute pneumonia 2, influenza 1, and intermittent fever 1. A case bearing the chief characteristics of the disease—namely (1) the characteristic duration of the attack, (2) the critical fall, (3) the greatly enlarged spleen, and (4) the marked muscular pains, is almost undoubtedly relapsing fever, even though no spirilla are found in the blood. It is in the more doubtful cases that the serum test will be of great value. A previous attack of enteric fever does not interfere with the serum test for relapsing fever, and the author quotes a case in which the blood showed both reactions. Widal's reaction turned out to be negative in a number of cases of relapsing fever which had never had typhoid fever. The following conclusions are submitted: (1) A diagnosis can be made without waiting for a relapse: (2) the recognition of the first apyretic stage may be made so that antispirillum treatment may be used to ward off further attacks; (3) in abortive attacks the serum test may be very useful; (4) if the test is negative, and other conditions allow of it, the patient can be sent home before the end of the fortnight, the usual observation period.

(522) General Neuro-fibromatosis.

Feindel has taken up the study of this somewhat rare disease (*Journ. de Méd.*, March 10th, 1897). It is characterised by the existence of tumours, pigmentation of the skin, and certain mental phenomena, together with alteration of motility and sensation. The tumours are both cutaneous and in connection with nerves, and vary in number and size; thus there may be only a few or the skin may be almost covered. Some may be about the size of the head of a pin, others as large as a walnut. They are of variable consistence, and have many of the features of mollusca. They may be found anywhere except on the face, the palms of the hands, the soles of the feet, and genitals. They may form indurations of a rosary-like character along the nerve trunks. The pigmentation may be in the form of small spots, or large areas may be coloured. The patient may have loss of memory, and may show a certain amount of difficulty in comprehension. Motor derangement consists in a slowing of movements, heaviness of the limbs, tremors and epileptiform seizure, while sensory disorders consist in vague anæsthesia, painful cramp. The beginning of this singular disease is variable, being sometimes congenital, but also appearing in adult life or advanced age. At the same time it should always be looked upon as of congenital origin, as it would seem to depend on some malformation of the skin nerves and central nervous system. It has also been found to show heredity and even family distribution. Its latency for many years would seem to indicate some influence to cause it to develop. Thus traumatism, arsenical intoxication, and some specific infections, such as measles and scarlet fever, have apparently in some cases caused its appearance. Thus constituted neurofibrosis sometimes remains stationary for a long time, sometimes progresses though slowly, and the majority of patients seem to die in a condition of extreme marasmus. There is also evidence to show that some of the tumours take on a malignant character, which of course affects the prognosis.

SURGERY.

(523) Splenectomy for Injury.

Bernhard (*Münch. med. Woch.*, November 23rd, 1897) relates a successful case of splenectomy performed for rupture of the spleen without external wound. Some 160 cases of splenectomy have been reported for various conditions. The mortality has been 89 per cent. in cases of leukæmia and 36 per cent. in other cases. In 28 cases the spleen was ruptured and prolapsed into the wound, and the results of the splenectomy here were favourable. There are only 6 cases on record in which the spleen has been extirpated for rupture without external wound, and 5 of these died. The author then reports his case in a lad, aged 19, over whom a waggon passed. The patient was admitted shortly afterwards, when marked anæmia, collapse, nausea, retention of urine, etc., were noted. In the most dependent parts of the distended abdomen there was dulness on percussion as well as over the left hypochondrium. The diagnosis of

profuse intraperitoneal bleeding due to rupture of the spleen was made. Splenectomy was performed, the clots removed, and the peritoneal cavity washed out. Intravenous transfusion was done before the operation, and the cannula left *in situ*, so that the transfusion could be continued during the operation if the pulse became bad. The diagnosis was made owing to the nature of the injury, the signs of abdominal hæmorrhage and the percussion dulness in the splenic region. Extirpation of the spleen could alone arrest the hæmorrhage. The transfusion had much to do with the favourable result. The recovery, as far as the anæmia was concerned, was prolonged. A few days after the operation the hæmoglobin stood at 25 per cent., and rose in four weeks to 50 per cent., and in four months to 85 per cent. The number of red cells stood at two and a-half to three millions shortly after the operation, and rose in four months to four millions. There was no swelling of glands, no enlargement of the thyroid, and no signs of leukæmia. The absence of the spleen was the cause of the slow regeneration of the blood.

(521) Hydrarthrosis.

CAVAZZANI (*La Clin. Mod.*, November 17th, 1897) lays especial stress on the treatment of the disease. Like most authors, he has seen good effects from blistering a ignipuncture; of less powerful counter-irritants he mentions a 10 to 20 per cent. solution of nitric acid painted on the previously oiled skin, and left to dry. In binding the knee he lays stress on placing a good layer of wool in the popliteal space, so as to protect the vessels. Of more radical measures he speaks highly of paracentesis and injections of 5 per cent. carbolic in quantities of 1 to 6 c.cm. according to the case. A single injection of a few drops very often cured small interphalangeal hydrarthroses. In cases which do not mend under this treatment, and where there is reason to fear fungous granulation the author has seen much benefit accrue from injections of 5 c.cm. of a 2 per cent. oily solution of aristol.

(525) The Cure of Vesical Exstrophy by Marginal Suture.

DURET, of Lille (*Journ. des Sc. Méd. de Lille*, xx, No. 48, November 27th, 1897), emphasises the importance of early operative interference in exstrophy of the bladder. The longer operation is delayed the more difficult it becomes on account of deformities and retractions. He has operated on two cases, a female infant and a male child. The treatment is divided into four periods: The first is that of dissection of the exstrophied organ and freshening of the margins; the second is that of reduction of the bladder and suture of its borders; the third includes the freshening and closure of the epispadiac urethra; and in the fourth period the closure of the muscular and cutaneous abdominal wall is performed, as well as autoplasty of the skin of the penis. In some cases all these procedures are unnecessary, but in complete or in complicated exstrophy every step in the treatment is important.

(526) Use of the Roentgen Rays in the Determination of the Direction and Form of Fistulous Tracts.

ARNOZAN AND BERGONIÉ (*Journ. de Méd. de Bordeaux*, November 21st, 1897) describe a new use for the Roentgen rays. In the case of a young girl suffering from a pleural fistula, the result of an empyema which had been operated upon, the new photography was the means of making clear the form and direction of the tract. A hollow sound was passed into the fistula, and into it was inserted a thread of lead, with the result that on the screen the course of the fistula in all its length was rendered evident. Antiseptic precautions were taken.

(527) Chronic Atypical Polyarthritis Commencing in Infancy.

PORCELLI (*La Clin. Mod.*, Au 3, n. 44) records an atypical form of joint disease beginning in a child, aged 3 months. The disease began with painless swellings over the joints, leading eventually to ankylosis. In addition to these chronic joint lesions some of the ribs were fractured spontaneously. The corresponding muscles underwent secondary atrophy. There was no paralysis or spasm. There was albuminuria and increase in the salts of the urine, with the exception of the urea, which was diminished. No heart affections could be detected. The family history showed a well-marked neuro-arthritic diathesis. The author does not believe in the neuritic or microbic theories of rheumatism, at any rate as far as this case is concerned, but believes it to be an example of diseased tissue metabolism. The exact pathology of rheumatism is yet to seek.

MIDWIFERY AND DISEASES OF WOMEN.

(528) Acquired Atresia of Cervix in Labour.

MEYER (*Centralbl. f. Gynäk.*, No. 34, 1897) was called in to a woman, aged 32, who had been about 36 hours in labour, yet the os remained closed. She had been delivered at term three times, the last confinement being two and a half-years previously. There had been a yellow vaginal discharge from the fifth to the beginning of the ninth month, when it suddenly stopped. Meyer found the uterus rather tense. The head evidently presented, the vagina seemed unusually short, but on careful exploration the relations of the fornices to the cervix were found to be normal. No os externum could be detected. The fœtal head pushed forward a membrane about one-fifth of an inch thick. At one point, which felt raw and seemed to have puzzled the obstetrician, an excoriation between one and two square centimetres broad was detected by aid of the speculum. The membrane was pierced with a sound, and cut open wide enough to admit the forefinger, when about a cupful of liquor amnii escaped. Immediately afterwards some very glairy dark-brown mucus came away; it was so tenacious that it could be drawn down and twisted out by means of the finger. The opening was dilated so as to admit two fingers, and labour allowed to continue, but at the end of 24 hours dilatation had advanced very slowly, and Meyer made four deep incisions, introduced the forceps, and delivered the child. At that stage of the labour Bandl's ring was felt very plainly, and the mother's temperature was 101.5°. Both she and the child were saved. The septum over the os was formed of false membranes, the result of adhesive vaginitis.

(529) Incomplete Abortion: The Curette Denounced.

MAYGRIER (*Annales de Gynéc. et d'Obstét.*, August, 1897) maintains that interference is needed in incomplete abortion whenever hæmorrhage or sepsis is clearly present, whenever the abortion is gemellar, whenever there is suspicion about the cause of the abortion, and whenever the retention lasts for several days even if there be no hæmorrhage or sepsis. No patient should be left alone and no case discharged from hospital till all the ovum and its appendages have been discharged. Maygrier is an extreme advocate of removal of all fragments by aid of the finger alone. He objects strongly to an unintelligent mechanism like the curette. The most experienced gynæcologists have managed to perforate the uterus when using this instrument.

(530) Placenta Prævia: Death at Seventh Month.

CHARLES, of Liége (*Journ. d'Accouchements*, September 19th, 1897) reports this case, where the patient was 24, but had borne two children, the youngest only 9 months old. Pregnancy came on very quickly, and proceeded well till two attacks of flooding came on at a few days' interval during the middle of the sixth month. One night, a month later, profuse hæmorrhage set in during sleep. Her doctor was called in and found her very ill; the uterine contractions were little marked; the placenta occupied the os, which was beginning to dilate. He injected caffeine and ether after applying a tampon, and then transfused 750 grammes of salt solution. She was at once sent into the maternity of Liége, and on arrival was found to be moribund. The tampon had arrested hæmorrhage. Transfusion was again performed, a litre and a half (over two pints and a half) of saline solution being injected. Charles dwells on the responsibility of the obstetrician in all cases where a complication in labour causes shock. His patient was probably doomed by the time that her doctor arrived. Having lost blood twice before she could not tolerate the sudden hæmorrhage, which woke her up and added mental to purely physical shock. Stopping the hæmorrhage and counteracting the shock,

especially by transfusion, was clearly the duty of the attendant. Active obstetrical manœuvres only kill the patient more quickly under these conditions; they must be delayed till the shock has passed away. On the same principle reduction of an inverted uterus should not be attempted too speedily.

(531) Hairpin Swallowed and Detected per Vaginam.

Stankiewicz (*Monats. f. Geburts. und Gynäk.*, August, 1897) relates very circumstantially how a country girl ran after a cow, with a hairpin in her mouth, and suddenly swallowed it. Five days later she applied to a hospital. One point of the hairpin could be felt through the posterior vaginal fornix. It appeared to be free in Douglas's pouch. An incision was made in the posterior vaginal wall, but the position of the pin could not be further determined. Stankiewicz at once opened the abdominal walls. Without any difficulty, the operator found one point of the hairpin sticking out of a coil of small intestine. He fixed a forceps on it, and manœuvred so that the hairpin was extracted. The gut slipped down, and he could not succeed in finding the puncture through which the pin had protruded, so completely had it been closed by contraction of the muscular coat of the intestine. The abdominal wound was closed without drainage, and the patient was discharged in good health within three weeks.

(532) Fatal Inversion of Uterus from Traction on Cord.

Rapazewski (*Monats. f. Geburts. und Gynäk.*, August, 1897) was called in to a woman whom he had delivered a year and a-half previously with forceps at a twin labour. On this occasion it was reported to him that the child was dead and the mother dying. It happened that a village midwife had pulled violently on the cord in endeavouring to extract the placenta. Rapazewski found the patient pulseless and lying in a pool of blood. A mass as big as a child's head projected out of the vulva. It was a total inversion of the uterus. The placenta still adhered partially to the uterus, with fragments of the membranes. The uterus was pressed into the vagina, when without further manipulation it reduced itself suddenly. The patient, however, lost consciousness and died.

THERAPEUTICS.

(533) Orthoform.

Neumeyer (*Münch. med. Woch.*, November 2nd, 1897) refers to the investigations of Einhorn and Heinz, which led to the discovery of orthoform. This anæsthetic has basic properties, and can be combined with acids, and especially with hydrochloric acid. The base was used in powder form, and the hydrochlorate in solution. The author has employed orthoform (1) in painful defects occurring in the upper air passages, as in tuberculous ulceration of the larynx; (2) in operations as a local anæsthetic; (3) in pain due to gastric ulceration, whether simple or malignant; (4) in urethral pain; (5) in painful defects in the skin; and (6) in neuralgias as in tabes, etc. The author has found, as a result of considerable experience, that orthoform exercises an excellent local anæsthetic action. One application often sufficed to lull pain for hours or even days. The remedy must be applied directly to the nerve endings, as in ulcers, to produce this effect. Thus in painful angina of the throat, the application of orthoform was without effect, as it does not act on an intact mucous membrane. Orthoform acted promptly in stomach affections such as ulcer and carcinoma, but here, also, there must be a breach of surface. The same applies to the urethral mucous membrane. In neuralgias it was without action. In the treatment of affections of the upper air passages orthoform is to be preferred to cocaine in ulceration where a long lasting effect is to be desired. Cocaine is superior to orthoform in case the mucous membrane is intact. It is suggested that orthoform may be of service in the diagnosis of gastric ulceration. It is absolutely without poisonous effect; thus doses of 3 to 4 g. produced no unpleasant symptoms. Locally only a very slight burning sensation, of short duration, was sometimes noted. Apparently sensations of touch, temperature, and taste are not affected by orthoform. Where long contact is necessary to ensure the powder being dissolved, solutions already made are preferable, but the powder is less irritating on the surface of a wound.

(534) "Stomoosins."

Centanni (*Rif. Med.*, September 16th, 17th, 21st, and 22nd, 1897), in a long and elaborate contribution, describes his researches on the subject of the purification of vaccines. He has succeeded in isolating certain immunising substances from the pneumococcus of pneumonia, which he calls "stomoosins" (from the Greek στομόω=to close an aperture), whose property it is to unite with certain molecules in the body (stomoosites), and so form a more or less stable chemical body whereby immunity is established, the idea being that these molecules are, as it were, open chains, which become closed by union with the stomoosins. These stomoosins are again divided into ischio-stomoosins, described as immunising bodies with strong specific character, innocuous, of rapid action, and having strong affinity for the tissues, which retain them for a long time; anischo-stomoosins, differing from the former in that they have little affinity for the tissues; poly-stomoosins, having a protective action against several toxic and infective principles. These three groups are each preformed in the vaccinal culture. Their methods of production and properties when isolated are respectively described. Experiments were made with endovenous, subcutaneous, and intraperitoneal injections of the stomoosins of pneumococcus, the result of which are given in detail; and, finally, there is an account of certain tentative proceedings with stomoosin preparations and pneumonia.

(535) The New Tuberculin.

Stempel (*Münch. med. Woch.*, November 30th, 1897) reports upon 23 cases treated in Mosler's clinic with the new tuberculin, 235 injections being given in all. Only early cases of phthisis were selected, and the tubercle bacillus was also found in the sputum. In only 4 cases was the maximum dose of 20 mg. reached, most stopping at 8, 10, or 12 mg. The injections were given every second pay; $\frac{1}{500}$ mg. was used at first, and the dose was doubled each time if there were no contraindications. With the larger doses a local redness was occasionally seen, and much pain was complained of for one to two days. Once urticaria was observed, but there was never any local abscess or infiltration. The general symptoms were often marked. The temperature rose to 38° C., and in 2 cases to 40° C. In 2 patients there was nausea and vomiting; here the injections were omitted for a few days, and then the last dose repeated. With the larger doses there was pain in the head, vertigo, etc. In 2 of the 23 cases there was a very considerable improvement. In 6 cases the improvement was very slight at first, and then the patient's condition remained stationary. In 3 others only 5 injections were given, and here no conclusions could be drawn. In another 8 cases no change could be made out. In the remaining 4 cases the patient's condition became worse. The author does not necessarily attribute this to the tuberculin; in 2 of these cases, however, where the injections had to be omitted, the patients improved a little. In 2 out of the 23 cases there was laryngeal phthisis. In no case did the expectoration entirely disappear, and tubercle bacilli were still present in the sputum. It is very difficult to draw conclusions from these cases as to the specific action of tuberculin. There was no lasting unpleasant symptoms, but there was no cure. The results were not very different from those observed in many cases owing to improved conditions of living, hygienic and dietetic measures, etc.

(536) Phenocol in Malaria.

It is reported (*Sem. Méd.*, No. 54, November 17th, 1897, ccxiv) that experiments made under ministerial order in certain hospitals in Algiers have shown that phenocol, though no substitute for quinine as an antiperiodic in impaludism, has valuable analgesic properties, and in small doses distributed over the twenty-four hours, or preferably administered from three to five hours before the access, alleviates the pains of the ague fit, and in certain cases refractory to quinine has even shortened its duration. It should, however, be added that Quirogne has found that, even in moderate doses, phenocol has the disadvantage of causing symptoms of collapse.

PATHOLOGY.

(537) Pathology of Syphilis.

Stassano (*France Méd.*, August 6th and 13th, 1897) puts forward some new views on the pathology of syphilis. He draws attention to the gradual tendency of the parts affected by syphilis to become immune to further attacks, chiefly as regards the skin. The early secondary lesions invade the skin symmetrically; later eruptions are more and more limited as parts of the skin previously affected become immunised. The primary chancre he regards not as a local result of the syphilitic virus but as a secondary lesion caused in the following way. The swelling of the inguinal glands forms the first line of defence against the syphilitic virus, and owing to the barrier caused by them the virus is diverted into the blood vessels of the same region instead of getting into the general lymphatic circulation. The virus takes action in the superficial capillaries of the skin and mucous membrane, resulting in the formation of the chancre. This view of the secondary nature of the chancre is supported by (1) its vascular origin; (2) the authentic occurrence of cases where chancre is absent, and further by the fact that in these cases secondary lesions are also absent, the subjects having a natural immunity of skin and mucous membrane against the virus; (3) a solution of continuity is not necessary for the formation of a chancre, as is shown by chancres of the tonsil, where such solution of continuity cannot occur. The method of infection, according to him, is as follows: During an infective coitus there is extravasation of lymph and leucocytes by retarded lymphatic circulation; the extravasated leucocytes, carrying the syphilis microbes with them, migrate across the mucous membrane, and are thus transformed into propagators of the disease instead of acting as phagocytes. Stassano points out that the severity of the disease depends inversely on the amount of adenitis, this being directly proportional to the strength of the phagocytes, and showing strong reaction of the organism against the virus. This explains the greater severity of the disease in adults compared with young people, the glandular activity being more marked in the latter. In tertiary syphilis there is formed an additional toxin having necrotic powers, and causing affections of internal organs, thus differing from the toxin of early syphilis. Concerning the symmetrical character of tabes dorsalis compared with other tertiary nervous lesions, he explains this by a slower process of immunity occurring in cases which have only had very mild secondaries. Concerning the absence of skin affections in the early stages of hereditary syphilis, he thinks this due to placental transmission of immunisation of skin and mucous membranes acquired by the mother following eruptions which she has had before or during gestation. He does not, however, explain cases in which the mother shows no secondary eruptions. This hereditary immunity is usually of short duration, and about the second or third month eruptions usually appear on the infant. Sometimes, however, it may persist by a process of auto-inoculation, so that infants who escape eruptions in the first three months are generally free altogether from them. This immunity is, however, confined mainly to the skin. With regard to serumtherapy, Stassano points out what a powerful microbe we have to deal with, although not a definitely known one. It resembles the tubercle bacillus in its power of resistance to phagocytes, and the power of transmission by sexual cells from one generation to another. Like the bacillus of influenza, it combines great toxic power with limited extension of its zones of infection, whereby it avoids exhausting its nourishment, and also a general invasion of the organism in which it might succumb. The toxin exercises its morbid action at long intervals, and eventually conquers the resistance which is established in the early stages in the diseased tissues. Like the bacillus of diphtheria, it has great necrotic powers. Having to do with such an organism, Stassano says, How can we expect to get any curative effect from the few cubic centimetres of blood which we can withdraw from a syphilitic patient? Moreover, there is a great extent of tissue to render invulnerable, and great stability is necessary to give power of resistance against the repeated attacks of the toxins continually produced. Inoculation with tertiary serum is out of the question, because of the necrotic power of its toxin; in fact, Stassano thinks no serum obtained from syphilitics of any use. Finally, he concludes by suggesting that a combination of the empirical treatment and certain serums might be carried out, with a view to exalting the natural defence of the organism by phagocytes. He considers that mercury acts in this way.

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(538) Leucin and Tyrosin in the Urine.

Kirkbride (*Centraib. f. inn. Med.*, October 16th, 1897) relates a case of erysipelas in which these bodies were found in the urine. Leucin and tyrosin have been known to occur in the urine where there was no evidence of a severe hepatic lesion, as in typhoid fever, variola, leukæmia, etc. It has even been stated that they may be present in healthy urine. The microscope test for these bodies is not absolutely characteristic, hence there may be doubt in regard to some recorded observations. In the author's case the presence of leucin and tyrosin was proved both microscopically and chemically. A patient, aged 18, was admitted with facial erysipelas on the third day of the disease. The urine then contained albumen and a few formed elements, but no casts. On the eighth and ninth days of the disease the urine showed crystals of leucin and tyrosin. The urine was centrifugalised, and the deposit extracted with warm alcohol. The filtrate was evaporated nearly to dryness, and numerous crystals of leucin were obtained. Scherer's test gave a positive reaction after the deposit has been freed from impurities. Tyrosin was also extracted after the treatment with alcohol, by means of hot water to which a little ammonia was subsequently added. The filtrate was evaporated down, and allowed to crystallise out. Hoffmann's test gave a positive reaction. The urine at this time was acid, contained albumen, peptone, urobilin, and numerous hyaline and granular casts, renal epithelium, and a few leucocytes. As the urine was preserved in formalin the possibility of these bodies appearing as a product of decomposition of albumen after the urine was passed was excluded.

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(539) Cattle Malaria.

Celli and Santori (*Centralb. f. Bakt.*, 1897, Nos. 15 and 16) report their investigations on a disease which attacks foreign cattle living in the Campagna, but spares those indigenous to the district. It is characterised by fever, great anæmia, an enlarged spleen, and bloody urine, and is very frequently fatal. The authors found in the red blood corpuscles of animals affected by and dead of the disease a small body assuming two types, according to whether its movements were amœboid or from place to place in the corpuscle. Culture experiments failed, but on one occasion they succeeded in inoculating a healthy calf with the disease, and in demonstrating the foreign bodies in the blood during its continuance. They consider the bodies to be endocorpuscular parasites; they are occasionally pear-shaped, and may be double, whence Smith, of Texas, has given the name of Pyrosoma bigeminum to one of the stages in their as yet incompletely studied developmental history. Although in some severe cases the disease is accompanied by hæmoglobinuria, this is not a constant concomitant nor even a frequent one, so that the name of cattle hæmoglobinuria or hæmatinuria does not afford a characteristic definition. A rapid and certain diagnosis can, however, be made by the examination of the blood, whereby cases can also be detected which would otherwise escape observation. The disease appears to be identical with that described by Babes in Roumania as cattle hæmoglobinuria; by Smith and others as Texas fever; by Krogius in Finland as hæmoglobinuria; and by Sanfelice and Loi in Sardinia as hæmatinuria. When one considers the above-mentioned clinical characters, together with the characteristics of the parasite, the *post-mortem* appearances, the communicability from one animal to another of the same kind and race, and the further circumstances that the disease develops only in malarial neighbourhoods and seasons, and is most favourably influenced by quinine, its resemblance to human malaria is seen to be very marked. The authors propose, therefore, that it be henceforth known as cattle malaria.

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